ODOT PID 75119 KYTC Project Item No. 6-17 Preferred Alternative Verification Report (PAVR) (May 2011)

Appendix B Value Engineering Report

This report consists of three parts. Click <u>HERE</u> to access Parts 1 and 2.



Kentucky Transportation Cabinet



State of Ohio Department of Transportation

BRENT SPENCE BRIDGE REPLACEMENT/REHABILITATION PROJECT

ODOT Project HAM-71/75-0.00/0.22, PID 75119 KYTC PROJECT ITEM NO. 6-17 Project Development Process Step 6

FINAL - Value Engineering Study Report

October 2009

Design Engineering Consultant



Value Engineering Consultant



Lewis & Zimmerman Associates



Lewis & Zimmerman Associates 9861 Broken Land Parkway Suite 254 Columbia, Maryland 21046 Tel: 301.984.9590 Fax: 410.381.0109 email: info@tza.com www.tza.com

Ms. G. Jeanne Braxton Value Engineering Coordinator, Management Analyst Supvr. II State of Ohio, Department of Transportation 1980 West Broad Street Columbus, Ohio 43223

re: ODOT Project HAM-71/75-0.00/0.22, PID 75119 KYTC Project Item No. 6-17 Brent Spence Bridge Replacement/Rehabilitation Project Final Value Engineering Study Report

Dear Ms. Braxton:

Lewis & Zimmerman Associates is pleased to submit 15 copies of the referenced final report on the value engineering (VE) study that took place on 24 - 26 August, 2009. The VE study focused on the project documents being developed by Parsons Brinckerhoff.

During the workshop the team identified and developed several betterments, alternatives, and design suggestions which provide opportunities to improve the value of the project. Of particular interest are those alternatives related to improving access to central business districts and adjacent communities in Covington, KY and Cincinnati, OH; increasing the utilization of the existing Clay Wade Bailey Bridge; reducing impacts to 4(f) and 6(f) resources; and adjusting lane configurations to reduce the width of the new bridge by one lane per deck as detailed in Section Two of this report.

We appreciate this opportunity to work with you and the ODOT, KYTC, and FHWA participants on this important project for the Ohio-Kentucky-Indiana Regional Council of Governments, and the cities of Covington, Kentucky, and Cincinnati, Ohio. Please feel free to contact me should you or any reviewer have questions concerning the information presented.

Sincerely yours,

LEWIS AND ZIMMERMAN ASSOCIATES, INC. an ARCADIS company

Havens

Stephen G. Havens, PE, CVS Senior Project Manager

Attachment

Date: October 23, 2009

Contact: Stephen Havens

Phone: 608.438.8227

Email: shavens@lza.com

Our ref: MY096502.0000 **Table of Contents**

TABLE OF CONTENTS

SECTION ONE - EXECUTIVE SUMMARY

Introduction	1
Project Description	2
Project Schedule and Construction Costs	5
Concerns and Objectives	6
Results of the Study	7
Implementation	- 9
Summary of VE Alternatives`	10

SECTION TWO - STUDY RESULTS

Introduction	14
Key Issues	15
Study Objectives	16
Results of the Study	16
Evaluation of Alternatives and Design Suggestions	18
Value Engineering Alternatives	19

SECTION THREE - PROJECT DESCRIPTION

87
88
88
90
90
91
92

SECTION FOUR - VALUE ANALYSIS & CONCLUSIONS

Introduction	100
Preparation Effort	100
Value Engineering Workshop Effort	102
Post Workshop Effort	105
Value Engineering Workshop Agenda	106
Value Engineering Workshop Participants	110
Economic Data	118
Cost Model	119
Function Analysis	122
Creative Idea Listing and Evaluation of Ideas	126



EXECUTIVE SUMMARY

INTRODUCTION

This value engineering (VE) study report documents the events and results of the VE study conducted by Lewis & Zimmerman Associates, Inc. (LZA) for the Ohio Department of Transportation (ODOT) and the Kentucky Transportation Cabinet (KYTC). The subject of the study was the Brent Spence Bridge Replacement/Rehabilitation Project (ODOT Project HAM-71/75-0.00/0.22, PID 75119 and KYTC Project Item No. 6-17). The project is being planned for ODOT and KYTC by a team led by Parsons Brinckerhoff.

The VE workshop was conducted August 24 - 26, 2009, at the Kentucky Transportation Cabinet District 6 Office in Ft. Mitchell, Kentucky and followed the six-phase VE Job Plan:

- Information Phase
- Function Identification and Analysis Phase
- Creative Phase
- Evaluation Phase
- Development Phase
- Presentation Phase

The multidisciplinary team comprised professionals with highway design, geometrics, structural engineering, traffic control, construction, transportation engineering, and geotechnical engineering experience and a working knowledge of VE procedures. The following is a list of the VE team members:

<u>Participant</u>	Specialization	Affiliation
Stefan Spinosa	Highway Design	ODOT District #8 Project Manager
John Eckler	Highway Design	KYTC District #6 Project Manager
Rob Hans	Highway Design	KYTC District #6 Chief Engineer
John Otis	Highway Design	ODOT District #8 Production
Walter Bernau	Construction/MOT	ODOT District #8 Construction
Reynaldo Stargell	MOT	ODOT C.O. Traffic Engineering
Jay Hamilton	Traffic	ODOT District #8 Planning & Programming
J.C. Pyles	Structures	KYTC Structural Design Office
Chris Howard	Structures	ODOT District #8 Production
Jeff Crace	Structures	ODOT C.O. Structural Engineering
Darrin Beckett	Geotechnical	KYTC C.O. Division of Materials
Joe Smithson	Geotechnical	ODOT District #8 Production
Kevin Rust	Construction	KYTC District #6 Construction
Nasby Stroop	Construction	KYTC C.O. Construction
Keith Smith	Environmental	ODOT District #8 Planning and Programming
Bernadette DuPont	Transportation	Kentucky FHWA
Scott Wolf	Transportation	Kentucky FHWA
Siamak Shafaghi	VE Coordinator	KYTC C.O. Production
Jeanne Braxton	VE Coordinator	ODOT C.O. Office of Production
Stephen Havens, CVS	VE Team Leader	Lewis & Zimmerman Associates

PROJECT DESCRIPTION

The project is located along a seven mile segment of I-75 within the Commonwealth of Kentucky and the State of Ohio. The southern limit of the project is 2,300 feet south of the midpoint of the interchange of I-75 and Dixie Highway (US 127/US 42/US 25) in Kentucky (KY SLM 187.2 +/-). The northern limit of the project is 1,500 feet north of the midpoint of the interchange of I-75 and the Western Hills Viaduct in Ohio (OH SLM 2.70 +/-). The eastern and western limits of the project follow the existing alignment of I-75. In Kentucky, the project area is a 1,500-ft.-wide corridor centered on I-75 south of the City of Covington. See Figure 1: Project Area below.



Figure 1: Project Area

The comparative analysis (ODOT Project Development Process Step 5) led to the recommendation of carrying forward two feasible alternatives. The two feasible alternatives consist of Alternative E and a combination of Alternatives C and D (Hybrid Alternative CD). Based on the analysis completed and feedback as part of community input, it was also recommended that certain design elements of Alternative G be incorporated into the two feasible alternatives in Step 6 of the Ohio Department of Transportation's Project Development Process (See Section 7.7 of the Conceptual Alternative Study). Additionally, the two feasible alternatives will be designed to provide three lanes in each direction on I-75.

HYBRID ALTERNATIVE CD

Hybrid Alternative CD uses the existing I-71/I-75 alignment from the southern project limits at the Dixie Highway Interchange north to the Kyle's Lane Interchange. The Dixie Highway and Kyle's Lane interchanges would be modified slightly to accommodate a collector-distributor roadway, which would be constructed along both sides of I-71/I-75 between the two interchanges. North of the Kyle's Lane Interchange, the alignment shifts to the west to accommodate additional I-71/I-75 travel lanes. Between Kyle's Lane and KY 12th Street, six lanes would be provided in each direction for a total of 12 travel lanes. Near KY 12th Street, the alignment separates into three routes for I-71, I-75 and a local collector-distributor roadway.

Access into Covington from the interstate would be accomplished by the local collector-distributor roadway; at KY 12th Street for northbound traffic and at KY 9th Street for southbound traffic. Direct access to I-71 from Covington would be provided at Pike Street with traffic to I-75 northbound using the collector-distributor roadway through downtown Cincinnati and connecting at the Ezzard Charles merge. Access for southbound interstate traffic is located at KY 12th Street. Bullock Street would be extended north from Pike Street to KY 9th, 5th, and 4th streets and Jillian's Way would be extended north from Pike Street to KY 9th, 5th, 4th, and 3rd streets. A U-turn before the KY 9th Street intersection would allow local southbound traffic to turn and travel northbound to KY 3rd, 4th, and 5th streets.

A new double deck bridge would be built just west of the existing Brent Spence Bridge to carry northbound and southbound I-75 (three lanes in each direction), two lanes for southbound I-71 and two lanes for southbound local traffic. The existing Brent Spence Bridge would be rehabilitated to carry two lanes for northbound I-71 and three lanes for northbound local traffic.

Hybrid Alternative CD reconfigures I-75 through the I-71/I-75/US 50 Interchange and eliminates all direct access to and from I-75 from KY 12th Street to just south of Ezzard Charles Drive in the northbound direction. Hybrid Alternative CD also eliminates direct access to I-75 southbound between KY 9th Street and the Western Hills Viaduct. US 50 would be realigned to provide a parallel roadway and access to and from the interstate would be via the collector-distributor roadway.

In Ohio, the northbound collector-distributor roadway would carry local traffic from the existing bridge and provide access ramps to OH 2nd Street, US 50 westbound, and OH 5th Street before reconnecting to I-75 just south of Ezzard Charles Drive. The northbound ramps from OH 6th, 9th Streets and Freeman Avenue to I-75 would be removed requiring traffic from these three points to utilize a new local roadway parallel to the northbound collector-distributor roadway for access to I-75 just before Ezzard Charles Drive. The southbound collector-distributor roadway would maintain access to I-71, downtown city streets as well as connecting to access ramps from OH 9th Street and US 50 eastbound. The collector-distributor roadway would continue south over the new bridge into Covington. Downtown

3

Cincinnati traffic would cross over I-75 and run parallel between I-75 northbound and the northbound collector-distributor roadway. The three-lane collector-distributor roadway into Cincinnati would carry traffic to OH 7th Street, OH 2nd Street and I-71 northbound. Access to OH 5th Street would be removed.

Between Ezzard Charles Drive and the Western Hills Viaduct, northbound I-75 would have five lanes, southbound I-75 would have two lanes, and the local southbound collector-distributor roadway would have four lanes, for a total of 11 travel lanes. The northbound ramps from OH 6th and 9th streets to I-75 would be removed requiring traffic from these two points to utilize a new local roadway parallel to the northbound collector-distributor roadway for access to northbound I-75. Ramps from Freeman Avenue, Winchell Avenue just north of Ezzard Charles Drive to the Interstate, and to Western Avenue would be eliminated.

Hybrid Alternative CD also improves Western and Winchell Avenues to facilitate traffic flow and increase capacity. The ramps to Western Avenue and from Winchell Avenue just north of Ezzard Charles Drive would be removed. The Western Hills Viaduct Interchange would be reconfigured to provide a full movement interchange.

See attached sketches in Section Three which show Alternatives C and D.

ALTERNATIVE E

Alternative E uses the existing I-71/I-75 alignment from the southern project limits at the Dixie Highway Interchange north to the Kyle's Lane Interchange. The Dixie Highway and Kyle's Lane interchanges would be modified slightly to accommodate a collector-distributor roadway, which would be constructed along both sides of I-71/I-75 between the two interchanges. North of the Kyle's Lane Interchange, the alignment shifts to the west to accommodate additional I-71/I-75 travel lanes. Between Kyle's Lane and KY 12th Street, six lanes would be provided in each direction for a total of 12 travel lanes. Near KY 12th Street, the northbound alignment separates into two routes; one for interstate traffic and one for a local collector-distributor roadway. Near KY 9th Street, the interstate separates into I-71 and I-75 only routes.

In Alternative E, there are two access points into Covington for both northbound and southbound traffic. In the northbound direction, access would be provided by the local collector-distributor roadway at KY 12th Street and KY 5th Street. In the southbound direction, access would be provided by the local collector-distributor roadway at KY 5th Street, and off of I-71 and I-75 at KY 9th Street. Bullock Street would be extended north from Pike Street to KY 5th and KY 9th streets. Jillian's Way would be extended north from Pike Street to KY 9th, 5th, and 4th streets and allow for access to the existing Brent Spence Bridge.

Access to the interstate system from Covington would be provided by local city streets. In the northbound direction, access to I-75 would be provided at KY 9th Street, access to I-71 would be provided at KY 5th Street. Access to I-75 northbound would also be provided at KY 4th by the local collector-distributor roadway across the lower deck of the existing Brent Spence Bridge and through downtown Cincinnati before connecting just south of the Linn Street Bridge. In the southbound direction, access to I-75/I-71 would be provided at KY 5th Street.

A new double deck bridge would be built just west of the existing Brent Spence Bridge to carry northbound and southbound I-71 and I-75 traffic. On the upper deck, I-71 southbound would have

4

three lanes and I-71 northbound would have two lanes. On the lower deck, I-75 would have three northbound and three southbound lanes. The existing Brent Spence Bridge would be rehabilitated to carry northbound and southbound local traffic with two lanes in each direction.

In Ohio, Alternative E reconfigures I-75 through the I-71/I-75/US 50 Interchange and eliminates some of the existing access points along I-75. Existing ramps to I-71, US 50 and downtown Cincinnati would be reconfigured. The existing direct connections between I-75 to westbound and from eastbound US 50 would be maintained in Alternative E. US 50 would be reconfigured to eliminate left-hand entrances and exits. The OH 5th Street overpass would be eliminated and the Sixth Street Expressway would be reconfigured as a two-way, six-lane elevated roadway with a new signalized intersection for US 50 access and egress. Access between southbound I-71 (Fort Washington Way) and northbound I-75 would be provided near OH 9th Street as a direct connection. Both I-75 southbound and the local southbound collector-distributor roadway would have access to northbound I-71 (Fort Washington Way).

A local collector-distributor roadway would carry local traffic northbound from the existing Brent Spence Bridge and provide access to OH 2nd, 5th, and 9th streets, Winchell Avenue and access from OH 4th and 6th streets before reconnecting to I-75 just south of the Linn Street overpass. The northbound ramp from OH 9th Street to I-75 would be removed requiring traffic from this point to utilize a new local roadway parallel to I-75 and access the interstate at Bank Street. Southbound I-75 traffic would separate from the local collector-distributor roadway near Ezzard Charles Drive. The southbound collector-distributor roadway would carry traffic over I-75 to OH 7th Street, allowing traffic to either; access downtown at 7th Street, travel south to OH 5th and 2nd streets, or travel across the existing Brent Spence Bridge into Covington. Access to the local southbound collectordistributor roadway would be provided at Western Avenue and at OH 4th and 8th streets.

Alternative E also improves Western and Winchell avenues to facilitate traffic flow and increase capacity. The ramps to Western Avenue and from Winchell Avenue just north of Ezzard Charles Drive would be removed. The northbound ramp from Freeman Avenue to I-75 would remain but the southbound ramp to Freeman would be eliminated. Between Ezzard Charles Drive and the Western Hills Viaduct, southbound I-75 would have six lanes; northbound I-75 would have five lanes, and one auxiliary lane to the Western Hills Viaduct. The Western Hills Viaduct Interchange would be reconfigured to provide a full movement interchange.

See attached sketches in Section Three which show Alternative E.

PROJECT SCHEDULE AND CONSTRUCTION COSTS

The following is the schedule for the Brent Spence Bridge Replacement/Rehabilitation Project, which follows construction of the Mill Creek Expressway and Thru the Valley projects.

- Completion of preliminary design and NEPA process 2011
- Detailed design 2011
- Right of way acquisition 2012 2014
- Construction begins 2015
- Midpoint of Construction June 2017
- Completion of Construction 2020

The total estimated project costs are construction costs which include a design contingency, a construction inflation factor, right-of-way for roadway and utility relocations, major utility, and total project development costs. The table below summarizes the total estimated project costs.

Alternative	Construction Costs (millions)	Construction Costs Inflation (59.5%) (millions)	Real Estate Costs (millions)	Utility Costs (millions)	Real Estate Utility Costs (millions)	Project Development Costs	Total Estimated Costs (millions)
Hybrid Alternative CD	\$1,261.7	\$750.7	\$18.0	\$39.4	\$1.0	\$210.4	\$2,281.2
Alternative E	\$1,431.6	\$851.8	\$15.4	\$39.4	\$1.0	\$236.3	\$2,575.5

CONCERNS AND OBJECTIVES

Concerns

The following conceptual alternative issues were compiled based upon information provided during the design overview and the Conceptual Alternatives Evaluation Matrix found on pages 173-184 of the Conceptual Alternatives Study (CAS) prepared by Parsons Brinckerhoff, dated April 2009:

Hybrid Alternative CD

- Would not maintain all existing connections would remove local connections to I-75 by using a collector-distributor system from KY 12th Street to just south of Ezzard Charles Drive
- US 50 would remain geometrically deficient in several locations requiring a design exception
- Four acres of floodplain would be impacted by the proposed alignment
- Approximately two acres of Section 6(f) Parks (Goebel Park) would be impacted by the proposed alignment
- Five Section 4(f) resources would be impacted by the proposed alignment including Goebel Park, Lewisburg Historic District, Longworth Hall, Harriet Beecher Stowe Elementary School, and Queensgate Playground

Alternative E

- The proposed local collector-distributor roadway would be geometrically deficient in several locations requiring a design exception
- 35 businesses would be displaced in Ohio impacting up to 363 employees compared with approximately 30 businesses and 190 to 283 employees impacted by Hybrid Alternative CD

Both Alternatives (Hybrid Alternative CD and Alternative E)

- I-71 would remain geometrically deficient requiring a design exception
- The proposed alignments would require relocation of a radio tower in Goebel Park in Covington, KY
- Three wetland areas totaling 0.59 acres would be impacted in Kentucky
- Eight woodlots with potential Indiana Bat habitat and two woodlots with marginal Indiana Bat Habitat have been identified which would have an impact on construction start dates in these areas
- Harriet Beecher Stowe Elementary School would have potential visual and noise impacts
- The eastern portion of Longworth Hall would be impacted by the proposed alignment
- Notre Dame Academy School tennis courts would be impacted in Kentucky
- The contractor would have limited space for access and logistics
- The proposed alignments would require impacts to a portion of the Duke Energy Sub-station near Longworth Hall
- The proposed alignments may impact the Willow Run Sewer structure during construction

Objectives

The VE team was tasked with the following objectives:

- Identify betterments to improve the quality and function of the facility
- Identify cost reduction ideas

To meet these objectives, the VE team focused on the key elements associated with the project, paying particular attention to the advantages and disadvantages between the Purpose and Need Elements, Engineering Elements, Section 4(f) and 6(f) Resources, and Business Property Acquisitions identified in the Conceptual Alternatives Evaluation Matrix (pages 173-184) of the Conceptual Alternatives Study (CAS) prepared by Parsons Brinckerhoff, dated April 2009.

Additionally, the VE team focused on the CAS recommendation (page 172) that the following beneficial design features of Alternative G be carried forward for further analysis and incorporated into the feasible alternatives CD and E:

- Access to north end of Clay Wade Bailey Bridge from I-75 southbound using a collectordistributor roadway and US 50 eastbound;
- Two access points into Covington;
- Access from a northbound collector-distributor roadway from KY to I-71 northbound in Ohio; and
- An access ramp just north of Ezzard Charles Drive for Freeman Avenue and local traffic to I-75 northbound.

RESULTS OF THE STUDY

The VE team developed 11 VE alternatives and 10 design suggestions. The greatest opportunities for improved value centered on the rerouting of traffic to I-471 during construction; improving access to the central business districts and adjacent communities of both Covington, KY and Cincinnati, OH;

increasing the use of the existing Clay Wade Bailey Bridge; reducing impacts to 4(f) and 6(f) resources; and adjusting lane configurations to reduce the width of the new bridge by one lane per deck.

Rerouting of Traffic to I-471 during Construction

Three VE alternatives provide different lane configurations for adding a fourth lane on I-471 southbound that will support rerouting of traffic during construction of either Hybrid Alternative CD or Alternative E. The alternatives include replacement of the existing outside shoulder with a full depth pavement lane which could be used for future expansion of I-471 to four-lanes (Alt. No. MOT-1A), and two options (Alt. Nos. MOT-1B or MOT-1C) that would provide a temporary fourth lane by using the existing inside shoulder which would be adequate for carrying traffic in its existing condition.

Improve Access to Central Business Districts and Adjacent Communities

In Hybrid Alternative CD, three VE alternatives are recommended to improve access to central business districts and adjacent communities. Providing a shorter route for emergency response from the Fire Station at 5th Street and Central Avenue to the Fort Washington Way Trench similar to Alternative E would shorten the response distance by nearly one mile (Alt. No. P-7). Providing a direct connection from the southbound collector-distributor to 2nd Street in Ohio and adding an additional connection to the US 42/3rd Street Intersection would increase the use of the Clay Wade Bailey Bridge by local traffic. This alternative would improve local access to Covington, KY from Ohio (Alt. No. P-8). Adding a drop lane from the collector-distributor and merging this with the frontage road between 9th Street and Linn Street would provide a more direct access to the Museum Center and Amtrak railroad from Kentucky and Fort Washington Way (Alt. No. S-1).

In Alternative E, replacing the 5th Street northbound ramp to I-71 in Kentucky with an indirect ramp connection from the collector-distributor roadway to I-71 in Ohio would improve access from KY 12th, Pike, 9th, 5th, and 4th Streets to I-71 northbound (Alt. No. P-3).

Reduce Impacts to 4(f) and 6(f) Resources

In all options, significant construction and right-of-way cost avoidances may be realized by widening one-half mile of I-71/I-75 on the east side from 2,000 feet south of KY 12th St. to 4,500 feet south of KY 12th St. This would possibly eliminate the need for excavation and/or a proposed retaining wall on the west side of I-71/I-75 in Kentucky in the "Cut in the Hill" Section (Alt. No. R-1). Additionally, the use of tie-back retaining walls in selected areas from Kyle's Lane to approximately 7,000 feet north of Kyle's Lane and other applicable areas on the west side of I-75 southbound in Kentucky would reduce right-of-way acquisition requirements.

Reduce the Width of the New Bridge by One Lane

Since the proposed new bridge design for Hybrid Alternative CD calls for 10 travel lanes between the two 6-lane decks, adjusting the lane configurations on each deck would save one lane per deck and reduce the overall bridge width by 12 ft. (Alt. No. S-6A).

Since the proposed new bridge design for Alternative E calls for 11 travel lanes between the two 6-lane decks, adjusting the lane configurations on each deck and eliminating the third lane for I-71 southbound would save one lane per deck and reduce the overall bridge width by 12 ft. (Alt. No. S-6B).

IMPLEMENTATION

This VE report is a formalization of the draft materials provided to the project team during the outbriefing discussion which occurred on August 26, 2009. The project team should conduct a formal implementation meeting in which the alternatives and design suggestions are considered and their disposition established in an implementation report. To that end, the Summary of VE Alternatives table should help record the results. An electronic copy of this table is being provided for your convenience.



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SUMMARY OF VALUE ENGINEERING ALTERNATIVES

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PROJECT:	ODOT HAM-71/75-0.00/0.22, PID 75119, KYTC Pr	oject Item No. 6	-17			
			PRESENT V	VORTH OF COST SA	VINGS	
ALT. NO.	DESCRIPTION	ORIGINAL COST	ALTERNATIVE COST	INITIAL COST SAVINGS	RECURRING COST SAVINGS	TOTAL PW LCC SAVINGS
	MAINTENANCE OF TRAFFIC (MOT)					
MOT-1A	For all options in Kentucky, replace the outside shoulders on I-471 southbound with full depth pavement to support rerouting of traffic during construction.	\$0	\$2,868,946	(\$2,868,946)		(\$2,868,946)
MOT-1B	For all options in Kentucky, use the inside shoulders on I-471 southbound with 12-ftwide travel lanes and no inside shoulder to support rerouting of traffic during construction.	\$0	\$843,260	(\$843,260)		(\$843,260)
MOT-1C	For all options in Kentucky, use the inside shoulders on I-471 southbound with 11.5-ftwide travel lanes and a 2-ftwide inside shoulder to support rerouting of traffic during construction.	\$0	\$920,106	(\$920,106)		(\$920,106)
MOT-2	For all options in Ohio, add alternative Newport Exit Signing from I-71 via US27 to reroute traffic during construction.	DESIGN SUGGESTION				
MOT-4A	For all options, use Ohio Option 1 as a contractor lay- down area for use during construction of the main river crossing.	\$0	\$3,100,000	(\$3,100,000)		(\$3,100,000)
МОТ-4В	For all options, use Ohio Option 2 as a contractor lay- down area for use during construction of the main river crossing.	\$0	\$789,500	(\$789,500)		(\$789,500)
MOT-4C	For all options, use Kentucky Option 1 as a contractor lay-down area for use during construction of the main river crossing.	DESIGN SUGGESTION				
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SUMMARY OF VALUE ENGINEERING ALTERNATIVES

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PROJECT:	ODOT HAM-71/75-0.00/0.22, PID 75119, KYTC Project Item No. 6-17 PRESENT WORTH OF COST SAVINGS					
ALT. NO.	DESCRIPTION	ORIGINAL COST	ALTERNATIVE COST	INITIAL COST SAVINGS	RECURRING COST SAVINGS	TOTAL PW LCC SAVINGS
	ROADWAY (R)					
R-1	For all options, realign Section 1 near the cut in the hill to the east to reduce right-of-way and excavation requirements.	DESIGN SUGGESTION				
R-2	Specify that recycled concrete pavement is acceptable for use as sub-grade stabilization in Kentucky.	DESIGN SUGGESTION				
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SUMMARY OF VALUE ENGINEERING ALTERNATIVES

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PROJECT:	CT: ODOT HAM-71/75-0.00/0.22, PID 75119, KYTC Project Item No. 6-17 PRESENT WORTH OF COST SAVINGS					
ALT. NO.	DESCRIPTION	ORIGINAL COST	ALTERNATIVE COST	INITIAL COST SAVINGS	RECURRING COST SAVINGS	TOTAL PW LCC SAVINGS
	PAVEMENT/RAMPS (P)					
Р-3	In Alternative E, replace the 5th Street northbound ramp to I-71 in Kentucky with an indirect ramp connection from the collector-distributor roadway to I- 71 in Ohio.	\$398,710	\$863,892	(\$465,182)		(\$465,182)
P-5	Eliminate the KY 9th Street intersection with the collector-distributor roadway from all options.	DESIGN SUGGESTION				
P-7	For the Hybrid Alternative CD, identify a shorter route for emergency responses from the Fire Station at 5th Street and Central Avenue to the Fort Washington Way Trench.	DESIGN SUGGESTION				
Р-8	For the Hybrid Alternative CD, provide a direct connection from southbound collector-distributor roadway to 2nd Street in Ohio and add an additional connection to the US 42/3rd Street intersection to improve access and increase the use of the Clay Wade Bailey Bridge.	\$0	\$1,437,344	(\$1,437,344)		(\$1,437,344)
P-10	For the Hybrid Alternative CD, provide access from Winchell Avenue just north of Ezzard Charles Drive to northbound I-75.	\$0	\$999,433	(\$999,433)		(\$999,433)
P-11	For the Hybrid Alternative CD, update the cost estimate to reflect the additional lane on the I-75 mainline.	DESIGN SUGGESTION				
P-13	For Alternative E, shift the collector-distributor roadway to minimize impacts to Goebel Park and avoid relocating the radio station tower.	DESIGN SUGGESTION				



SUMMARY OF VALUE ENGINEERING ALTERNATIVES

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PROJECT:	ODOT HAM-71/75-0.00/0.22, PID 75119, KYTC Project Item No. 6-17 PRESENT WORTH OF COST SAVINGS					
ALT. NO.	DESCRIPTION	ORIGINAL COST	ALTERNATIVE COST	INITIAL COST SAVINGS	RECURRING COST SAVINGS	TOTAL PW LCC SAVINGS
	STRUCTURES (S)					
S-1	For Hybrid Alternative CD, provide an exit from the northbound collector-distributor roadway to Ezzard Charles Drive similar to that shown in the Alternative E design.	DESIGN SUGGESTION				
S-2	With all options, use tie-back walls on the west side of southbound KY I-75 and in other applicable areas in Kentucky to reduce excavation and right-of-way requirements.	DESIGN SUGGESTION				
S-4	With all options, provide a means to mitigate potential structural impacts to Willow Run Sewer during construction.	DESIGN SUGGESTION				
S-6A	For the Hybrid Alternative CD, adjust the lane configurations on each deck on the new bridge to save one lane per deck.	\$567,401,472	\$513,809,472	\$53,592,000		\$53,592,000
S-6B	For Alternative E, make the traffic operations directional on each deck on the new bridge to save one lane per deck.	\$567,401,472	\$513,809,472	\$53,592,000		\$53,592,000
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Norevenu Section Two

STUDY RESULTS

INTRODUCTION

The results of this value engineering study conducted on the Brent Spence Bridge Replacement/ Rehabilitation Project portray the benefits that can be realized by KYTC, ODOT, the Ohio-Kentucky-Indiana Regional Council of Governments, and the cities of Covington, Kentucky, and Cincinnati, Ohio. During the course of the study, many ideas for potential value enhancement were conceived and evaluated by the team for technical feasibility, applicability to the project, and the ability to meet the owner's project value objectives. Research performed on those ideas considered to have potential to enhance the value of the project resulted in the development of individual alternatives identifying specific changes to the project as a whole, or individual elements that comprise the project. These may be in the form of VE alternatives (accompanied by cost estimates) or design suggestions (without cost estimates). For each alternative developed the following information has been provided:

- A summary of the original design;
- A description of the proposed change to the project;
- Sketches and design calculations, if appropriate;
- A capital cost comparison and life cycle discounted present worth cost comparison of the alternative and original design, if appropriate;
- A descriptive evaluation of the advantages and disadvantages of selecting the alternative; and
- A brief narrative to compare the original design and the proposed change and provide a rationale for implementing the change into the project.

A composite markup of 59.5%, as described in Section Four of the report, was used to generate the cost for the construction items being compared.

Each design suggestion contains the same information as the VE alternatives, except that no cost information is included. Design suggestions are presented to bring attention to areas of the design that, in the opinion of the VE team, should be changed or included for reasons other than cost. Examples of these reasons may include improved traffic flow, ease of maintenance, ease of construction, safer working conditions, and reduced project risk. In addition, some ideas cannot be quantified in terms of cost with the design information provided; these are also presented as design suggestions and are intended to improve the quality of the project.

Each alternative or design suggestion developed is identified with an alternative number (Alt. No.) that can be tracked through the value analysis process and facilitate referencing between the Creative Idea Listing and Evaluation worksheets, the alternatives, and the Summary of Value Engineering Alternatives table. The Alt. No. includes a prefix that refers to one of the following major project elements:

PROJECT ELEMENT	PREFIX
Maintenance of Traffic	МОТ
Roadway	R
Pavement	Р
Structures	S

Summaries of the alternatives are provided on the Summary of Value Engineering Alternatives tables. The tables are divided into project elements for the reviewer's convenience and are used to divide the results section. The complete documentation of the developed alternatives and design suggestions follows the Summary of Value Engineering Alternatives tables.

KEY ISSUES

Two alternatives, including a Hybrid Alternative CD and Alternative E were selected as feasible alternatives for further development as part of the ODOT Project Development Process (PDP) for Major Projects, PDP Step 6. The following conceptual alternative issues were compiled based upon information provided during the design overview and the Conceptual Alternatives Evaluation Matrix found on pages 173-184 of the Conceptual Alternatives Study (CAS) prepared by Parsons Brinckerhoff, dated April 2009:

Hybrid Alternative CD

- Would not maintain all existing connections would remove local connections to I-75 by using a collector-distributor system from KY 12th Street to just south of Ezzard Charles Drive
- US 50 would remain geometrically deficient in several locations requiring a design exception
- Four acres of floodplain would be impacted by the proposed alignment
- Approximately two acres of Section 6(f) Parks (Goebel Park) would be impacted by the proposed alignment
- Five Section 4(f) resources would be impacted by the proposed alignment including Goebel Park, Lewisburg Historic District, Longworth Hall, Harriet Beecher Stowe Elementary School, and Queensgate Playground

Alternative E

- The proposed local collector-distributor roadway would be geometrically deficient in several locations requiring a design exception
- 35 businesses would be displaced in Ohio impacting up to 363 employees compared with approximately 30 businesses and 190-283 employees impacted by Hybrid Alternative CD

Both Alternatives (Hybrid Alternative CD and Alternative E)

- I-71 would remain geometrically deficient requiring a design exception
- The proposed alignments would require relocation of a radio tower in Goebel Park in Covington, KY
- Three wetland areas totaling 0.59 acres would be impacted in Kentucky

- Eight woodlots with potential Indiana Bat habitat and two woodlots with marginal Indiana Bat Habitat have been identified which would have an impact on construction start dates in these areas
- Harriet Beecher Stowe Elementary School would have potential visual and noise impacts
- The eastern portion of Longworth Hall would be impacted by the proposed alignment
- Notre Dame Academy School tennis courts would be impacted in Kentucky
- The contractor would have limited space for access and logistics
- The proposed alignments would require impacts to a portion of the Duke Energy Sub-station near Longworth Hall
- The proposed alignments may impact the Willow Run Sewer structure during construction

STUDY OBJECTIVES

The VE team was tasked with the following objectives:

- Identify betterments to improve the quality and function of the facility
- Identify cost reduction ideas

To meet these objectives, the VE team focused on the key elements of the project, paying particular attention to the advantages and disadvantages between the Purpose and Need Elements, Engineering Elements, Section 4(f) and 6(f) Resources, and Business Property Acquisitions identified in the Conceptual Alternatives Evaluation Matrix (pages 173-184) of the CAS.

Additionally, the VE team focused on the CAS recommendation (page 172) that the following beneficial design features of Alternative G be carried forward for further analysis and incorporated into the feasible alternatives CD and E:

- Access to the north end of Clay Wade Bailey Bridge from I-75 southbound using a collectordistributor roadway and US 50 eastbound;
- Two access points into Covington;
- Access from a northbound collector-distributor from KY to I-71 northbound in Ohio; and
- An access ramp just north of Ezzard Charles Drive for Freeman Avenue and local traffic to I-75 northbound.

RESULTS OF THE STUDY

Research of the ideas identified as having potential for enhancing the value of the project resulted in the development of 11 VE alternatives and 10 design suggestions for consideration by the project team. The greatest opportunities for improved value centered on the rerouting of traffic to I-471 during construction; improving access to central business districts and adjacent communities of both Covington, KY and Cincinnati, OH; increasing the use of the existing Clay Wade Bailey Bridge; reducing impacts to 4(f) and 6(f) resources; and adjusting lane configurations to reduce the width of the new bridge by one lane per deck.

Rerouting of Traffic to I-471 during Construction

Three VE alternatives provide different lane configurations for adding a fourth lane on I-471 southbound that would support rerouting of traffic during construction of either Hybrid Alternative CD or Alternative E. The alternatives include replacement of the existing outside shoulder with a full depth pavement lane

which could be used for future expansion of I-471 to four-lanes (Alt. No. MOT-1A), and two options (Alt. Nos. MOT-1B or MOT-1C) that would provide a temporary fourth lane by using the existing inside shoulder which would be adequate for carrying traffic in its existing condition.

Improve Access to Central Business Districts and Adjacent Communities

In the Hybrid Alternative CD, three VE alternatives are recommended to improve access to central business districts and adjacent communities. Providing a shorter route for emergency response from the Fire Station at 5th Street and Central Avenue to the Fort Washington Way Trench similar to Alternative E would shorten the response distance by nearly one mile (Alt. No. P-7). Providing a direct connection from the southbound collector-distributor to 2nd Street in Ohio and adding an additional connection to the US 42/3rd Street Intersection would increase the use of the Clay Wade Bailey Bridge by local traffic. This alternative would improve local access to Covington, KY from Ohio (Alt. No. P-8). Adding a drop lane from the collector-distributor and merging this with the frontage road between 9th Street and Linn Street would provide a more direct access to the Museum Center and Amtrak railroad from Kentucky and Fort Washington Way (Alt. No. S-1).

In Alternative E, replacing the 5th Street northbound ramp to I-71 in Kentucky with an indirect ramp connection from the collector-distributor roadway to I-71 in Ohio would improve access from KY 12th, Pike, 9th, 5th, and 4th Streets to I-71 northbound (Alt. No. P-3).

Reduce Impacts to 4(f) and 6(f) Resources

In all options, significant construction and right-of-way cost avoidance may be realized by widening onehalf mile of I-71/I-75 on the east side from 2,000 ft. south of KY 12th St. to 4,500 ft. south of KY 12th Street. This would possibly eliminate the need for excavation and/or a proposed retaining wall on the west side of I-71/I-75 in Kentucky in the "Cut in the Hill" Section (Alt. No. R-1). Additionally, the use of tieback retaining walls in selected areas from Kyle's Lane to approximately 7,000 feet north of Kyle's lane and other applicable areas on the west side of I-75 southbound in Kentucky would reduce right-of-way acquisition requirements.

Reduce the Width of the New Bridge by One Lane

Since the proposed new bridge design for Hybrid Alternative CD calls for 10 travel lanes between the two 6-lane decks, adjusting the lane configurations on each deck would save one lane per deck and reduce the overall bridge width by 12 ft. (Alt. No. S-6A).

Since the proposed new bridge design for Alternative E calls for 11 travel lanes between the two 6-lane decks, adjusting the lane configurations on each deck and eliminating the third lane for I-71 southbound would save one lane per deck and reduce the overall bridge width by 12 ft. (Alt. No. S-6B).

Summary

Each of the aforementioned alternatives should be given careful consideration for the potential cost savings and/or schedule improvement that they offer compared to the tradeoffs which may include additional rerouting of traffic during construction.

EVALUATION OF ALTERNATIVES AND DESIGN SUGGESTIONS

When reviewing the study results, the project team should consider each part of an alternative or design suggestion on its own merit. There may be a tendency to disregard an alternative because of a concern about one part of it. Each area within an alternative or design suggestion that is acceptable should be considered for use in the final design, even if the entire alternative or design suggestion is not implemented. Variations of these alternatives and design suggestions by the owner or designer are encouraged.

All alternatives and design suggestions were developed independently of each other to provide a broad range of options to consider for implementation. Therefore, some of them are "mutually exclusive," so acceptance of one may preclude the acceptance of another. In addition, some of the alternatives may be interrelated, so acceptance of one or more may not yield the total of the cost savings shown for each alternative. Design suggestions could also be interrelated thus precluding a part of one or more suggestions from being implemented if another design suggestion is also implemented.

The project team should evaluate all alternatives carefully in order to select the combination of ideas with the greatest beneficial impact on the project. Once this has been accomplished, the total cost savings resulting from the VE study can be calculated based on implementing a revised, all-inclusive design solution.



SUMMARY OF VALUE ENGINEERING ALTERNATIVES

PROJECT:	ODOT HAM-71/75-0.00/0.22, PID 75119, KYTC Pro	i ject Item No. 6-17 Present worth of cost savings					
ALT. NO.	DESCRIPTION	ORIGINAL COST	ALTERNATIVE COST	INITIAL COST SAVINGS	RECURRING COST SAVINGS	TOTAL PW LCC SAVINGS	
	MAINTENANCE OF TRAFFIC (MOT)						
MOT-1A	For all options in Kentucky, replace the outside shoulders on I-471 southbound with full depth pavement to support rerouting of traffic during construction.	\$0 -	\$2,868,946	(\$2,868,946)		(\$2,868,946)	
MOT-1B	For all options in Kentucky, use the inside shoulders on I-471 southbound with 12-ftwide travel lanes and no inside shoulder to support rerouting of traffic during construction.	\$0	\$843,260	(\$843,260)		(\$843,260)	
MOT-1C	For all options in Kentucky, use the inside shoulders on I-471 southbound with 11.5-ftwide travel lanes and a 2-ftwide inside shoulder to support rerouting of traffic during construction.	\$0	\$920,106	(\$920,106)		(\$920,106)	
MOT-2	For all options in Ohio, add alternative Newport Exit Signing from I-71 via US27 to reroute traffic during construction.	DESIGN SUGGESTION					
MOT-4A	For all options, use Ohio Option 1 as a contractor lay- down area for use during construction of the main river crossing.	\$0	\$3,100,000	(\$3,100,000)		(\$3,100,000)	
MOT-4B	For all options, use Ohio Option 2 as a contractor lay- down area for use during construction of the main river crossing.	\$0 	\$789,500	(\$789,500)		(\$789,500)	
MOT-4C	For all options, use Kentucky Option 1 as a contractor lay-down area for use during construction, of the main river crossing.	DESIGN SUGGESTION					
		22					

VALUE ENGINEERING ALTERNATIVE

PROJECT: HAM-71/75-0.00/0.22, PID 75119 ALTERNATIVE NO.: Ohio Department of Transportation **MOT-1A PROJECT ITEM NO. 6-17** Kentucky Transportation Cabinet DESCRIPTION: FOR ALL OPTIONS IN KENTUCKY, REPLACE THE 1 of 5 SHEET NO .: **OUTSIDE SHOULDER ON I-471 SOUTHBOUND WITH** FULL DEPTH PAVEMENT TO SUPPORT REROUTING OF TRAFFIC DURING CONSTRUCTION **ORIGINAL DESIGN:** The original design includes the rerouting of traffic to I-471 southbound during construction with no mention of replacing the existing outside shoulders with full-depth pavement. **ALTERNATIVE:** Replace the outside shoulders on I-471 Southbound with full-depth pavement to support rerouting of traffic during construction. **ADVANTAGES: DISADVANTAGES:** Prevents shoulder failure during construction Added pavement adds cost to the current project for thereby preventing significant traffic delays temporary lanes during construction Provides full-depth shoulders for any future construction requirements or detours **DISCUSSION:** I-471 crosses over the river running south into I-275 and then to I-75. I-275 has extra capacity available. Only I-471 needs shoulder work. Ramp work will be required at I-71/I-471, I-471/I-275, and I-275/I-75 in Kentucky. Replacement of the outside shoulders on I-471 Southbound with full-depth pavement will prevent the failure of shoulders during construction as well as provide additional capacity for future construction requirements or

COST SUMMARY		NITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST	
ORIGINAL DESIGN	\$	0		\$	0
ALTERNATIVE	\$	2,868,946		\$	2,868,946
SAVINGS (Original minus Alternative)	\$	(2,868,946)		\$	(2,868,946)

detours.





PROJECT: HAM-71/75-0.00/.022, PID 75119 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet ALT. NO.:

MOT-1A

SHEET NO.: 3 of 5

Use of outside shoulder on I-471 for travel lane

Use 10 ft. outside shoulder on southbound I-471 for an 11½ ft. travel lane, and reduce the other three southbound travel lanes from 12 ft. down to 11½ ft. This leaves no room for a shoulder on the outside.

- Cost to remove outside shoulders. These shoulders are not full depth and would have to be removed.
- Cost to replace full depth outside shoulders
- Remove white edge line and two lines of skips
- Place three skip lines, edge lines and three lines of pavement markers





PROJECT: HAM-71/75-0.00/0.22, PID 75119					ALTERNATIVE NO.:		MOT-1A	
State of Ohio	, Departme	ent of Transf	portation					
PROJECT ITE	M NO. 6-1	7						
Kentucky Transp	portation C	ion Cabinet			SHEET NO.:		5 of 5	
PROJECT ITEM		ORIGINAL ESTIMATE		MATE	ALT	ΙΜΑΤΕ		
ITEM	UNITS	no. of Units	COST/ UNIT	TOTAL	no. of Units	COST/ UNIT	TOTAL	
Pavement Removal	SY				29,333	22.96	673,486	
Full Depth Pavement	SY				29,333	35.36	1,037,215	
Edge Line Removal	LF				26,400	0.47	12,408	
Edge Line Replacement	LF				26,400	0.31	8,184	
Skip Line Removal	LF				19,800	0.47	9,306	
Skip Line Replacement	LF				19,800	0.31	6,138	
Pavement Markers Removal	EA				990	17.50	17,325	
Pavement Markers Replacement	EA				990	35.00	34,650	
Subtotal							1,798,712	
Markup (%) at 59.50%							1,070,234	
TOTAL							2,868,946	

VALUE ENGINEERING ALTERNATIVE

	•						
PROJECT:	HAM-71/75-0.00/0.22, PID 75 Ohio Department of Transport	5119 ation	ALTERN	ALTERNATIVE NO.:			
	PROJECT ITEM NO. 6-17 <i>Kentucky Transportation Cabin</i>	net		MU1-ID			
DESCRIPTION:	FOR ALL OPTIONS IN KEN SHOULDER ON I-471 SOUT REROUTING OF TRAFFIC	NTUCKY, USE THE IN THBOUND TO SUPPO DURING CONSTRU(NSIDE SHEET I RT CTION	NO.: 1 of 5			
ORIGINAL D	ESIGN:						
The origina	l design includes the rerouting of	f traffic to I-471 southbo	und during construction	n <i>.</i>			
		,					
ALTERNATIV	E:						
Use the insi	de shoulder in lieu of the outside	shoulder on I-471 south	bound to support rerou	ting of traffic during			
ADVANTAGE	S:	DISADVANT	AGES:				
No full-	depth pavement replacement	• Require	s travel near drainage s	tructures			
required • Maintain	ns 12-ftwide lanes during	No insic	le shoulder provided du	iring construction			
construc	tion						
DISCUSSION							
I-471 crosse	s over the river running south in	to I-275 and then to I-75.	I-275 has extra capac	ity. Only I-471			
needs should	ler work. Ramp work will be rea	quired at 1-71/1-471, 1-47	1/1-275, and 1-275/1-75	in Kentucky.			
Therefore, u replacement.	se an inside shoulder/lane shift a	s a detour during constru	ction to prevent full-de	epth pavement			
COST SUMMAR	/	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST			
ORIGINAL E	DESIGN	\$ 0		\$	0		
ALTERNATI	/E	\$ 863,260		\$ 863,2	60		
SAVINGS (O	riginal minus Alternative)	\$ (863,260)		\$ (863,26	50)		





PROJECT: HAM-71/75-0.00/.022, PID 75119 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet

ALT. NO.:

MOT-1B

SHEET NO.: 3 of 5

Use of inside shoulder on I-471 for travel lane

Use 12 ft. inside shoulder on southbound I-471 for a 12 ft. travel lane. This option provides no shoulder for this lane.

- Cost to remove rumble strips
- Remove yellow edge line
- Paint a skip line, edge line and place one line of pavement markers



PROJECT: HAM-71/75-0.00/0.22, PID 75119 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet

ALTERNATIVE NO .: MOT-1B

4 of 5

SHEET NO .:

Rumble Strip (Remove & Petch) 5 miles * 5280 /mile * 454 × 24 5/ mile = HORASE

Edge Line (Remove & Replace) 5 Miles × 5280 Hmile = 26,400 LF

Skip Line (Replace) Smiles ¥5280 Hmile ¥25% = 6600 LF

Farement Marker (Remarc & Replace) 5 Miles ¥ 5280 ft/mile ¥ /80F1 = 330 Markevs



PROJECT: HAM-71/75-0.00/0.22, PID 75119					ALTERNATIVE NO.:			
State of Ohic PROJECT ITE				MOT-1B				
Kentucky Trans	abinet			SHEET NO.:		5 of 5		
PROJECT ITEM		c	RIGINAL EST	IMATE	ALTERNATIVE ESTIMATE			
ITEM	UNITS	NO. OF UNITS	COST/ UNIT	TOTAL	no. of units	COST/ UNIT	TOTAL	
Edge Line Removal	LF				26,400	0.47	12,408	
Edge Line Replacement	LF			1	26,400	0.31	8,184	
Skip Line Removal	LF				26,400	0.47	12,408	
Skip Line Replacement	LF				6,600	0.31	2,046	
Pavement Markers Removal	EA				330	17.50	5,775	
Pavement Markers Replacement	EA				330	35.00	11,550	
Partial Depth JPC Repair	SF				14,080	34.72	488,858	
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					_			
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							.	
					-			
	-							
Management (Management of the second								
Subtota							541,229	
Markup (%) at 59.50%						-	322,031	
TOTAL							863,260	
PROJECT:	HAM-71/75-0.00/0.22, PID 75	ALTERN	ALTERNATIVE NO.:					
---	--	--	---	----------------------------------	--			
	Ohio Department of Transporta PROJECT ITEM NO. 6-17 Kentucky Transportation Cabin		MOT-1C					
DESCRIPTION:	FOR ALL OPTIONS IN KEN SHOULDER ON I-471 SOUT REROUTING OF TRAFFIC WITH 11.5-FTWIDE TRAV INSIDE SHOULDER	ISIDE SHEET N RT TION FTWIDE	10.: 1 of 5					
ORIGINAL D	DESIGN: (See attached sketch)							
The origina	l design includes the rerouting of	f traffic to I-471 southbou	and during construction					
ALTERNATIV Use the insi	E: (See attached sketch) de shoulder in lieu of the outside	shoulder on I-471 south	bound to support rerout	ting of traffic during				
constructior	n. Use 11.5-ftwide lanes during	construction.						
ADVANTAGE		DISADVANTA	NGES:					
No full- requiredMaintai	depth pavement replacement l ns a 2-ftwide inside shoulder	Narrowe accomm	er travel lanes are neces odate the 2-ftwide ins	sary to ide shoulder				
DISCUSSION	:							
I-471 crosse needs should	es over the river running south int der work. Ramp work will be rea	to I-275 then to I-75. I-2 quired at I-471/I-71, I-47	75 can carry extra capa 1/I-275, and I-275/I-75	city. Only I-471 in Kentucky.				
Therefore, u replacement	se an inside shoulder/lane shift a	s a detour during constru	ction to prevent full-de	pth pavement				
COST SUMMAR	Y	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST				
ORIGINAL	DESIGN	\$ 0		\$ 0				
ALTERNATI	VE	\$ 920,106		\$ 920,106				
SAVINGS (C	Driginal minus Alternative)		\$ (920,106)					





PROJECT: HAM-71/75-0.00/.022, PID 75119 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet ALT. NO.:

MOT-1C

SHEET NO.: 3 of 5

Use of inside shoulder on I-471 for travel lane with narrower lane

Use 12 ft. inside shoulder on southbound I-471 for an $11\frac{1}{2}$ ft. travel lane and reduce the other three southbound travel lanes from 12 ft. to $11\frac{1}{2}$ ft. This leaves 2 ft. for a shoulder on the inside.

- Cost to remove rumble strips
- Remove yellow edge line and two lines of skips
- Paint three skip lines, edge lines, and place three lines of pavement markers





State of Ohio, PROJECT ITE	Departme M NO. 6-1	ent of Transf 7	portation				MOT-1C
Rentucky Transp	ortation C	abinet	abinet				
	T						MATE
ITEM	UNITS	UNITS	UNIT	TOTAL	UNITS	UNIT	TOTAL
Rumble Strip Removal	SF				14,080	34.72	488,858
Edge Line Removal	LF				26,400	0.47	12,408
Edge Line Replacement	LF				26,400	0.31	8,184
Skip Line Removal	LF				19,800	0.47	9,306
Skip Line Replacement	LF				19,800	0.31	6,138
Pavement Markers Removal	EA				990	17.50	17,325
Pavement Markers Replacement	EA				990	35.00	34,650
							-
· · ·				·			
			aler av start				
Subtotal						-	576,869
Markup (%) at 59.50%							343,237
TOTAL							920,106

PROJECT:

HAM-71/75-0.00/0.22, PID 75119

PROJECT:	HAM-71/75-0.00/0.22, PID 75	119	ALTERN	ALTERNATIVE NO.:				
	Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet			MOT-2				
DESCRIPTION:	FOR ALL OPTIONS IN OHI NEWPORT EXIT SIGNING REROUTE TRAFFIC DURIN	VE SHEET N 7 TO	10.: 1 of 2					
ORIGINAL D	JESIGN:			-				
The origina removes 1-7 downtown (The propose	The original design includes a proposed Maintenance of Traffic (MOT) Scheme for all alternatives which removes 1-71 southbound (SB) traffic (with the potential of also removing 1-71 northbound traffic) from downtown Covington/Cincinnati Brent Spence Bridge via a detour using I-471 and I-275 in Northern Kentucky. The proposed detour will require upgrades to I-471 and I-275 to accommodate the increased traffic.							
ALTERNATIVE: (See attached sketch)								
Provide alte Entertainme Taylor Sout bound traffi	rnative signing on I-71 SB in Oh ent District (NED) to use the Thir hgate Bridge (US 27). If I-71 nor c on I-71 northbound and I-71 so	io for traffic bound for l d Street exit in Downtov thbound traffic is maint outhbound could be signe	Newport, KY and the Newport, KY and the New wn Cincinnati and acces ained along the existing ed to use the Second Str	ewport s Newport via the corridor, Newport eet Exit as well.				
ADVANTAGE	:5:	DISADVANT	AGES:					
 Reduces congestion on the I-471/I-71 southbound combined MOT route and I- 471/KY 8 interchange by removing Newport bound traffic, especially during peak hour and event traffic scenarios Uses available capacity on Taylor Southgate Bridge Alternative signing could remain as a permanent installation for I-71 southbound Additional Newport bound traffic using the Third Street exit in downtown Cincinnati may cause operational issues and increased congestion on the downtown street network The alternative Newport/NED signing idea was not very well received by the City of Cincinnati during prior meetings regarding the I-471/KY 8 								
DISCUSSION	:			,				
The low cos combined I considering Additionally	t of providing additional signing 471/I-71 southbound MOT route the backups/congestion at the I-4 r, I-71 southbound signing could	could have a dramatic in by removing Newport b 71/KY 8 interchange du remain as a permanent i	npact to traffic flow and bound traffic. This is esp bring peak hour and ever nstallation.	I safety to the becially true when at traffic scenarios.				
COST SUMMAR	Ŷ	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST				
ORIGINAL [DESIGN							
ALTERNATIV	/E	D	ESIGN SUGGESTIO	N				
SAVINGS (O	riginal minus Alternative)							

					SKETCH	LA
PROJECT: H C F	IAM-71/7 Dhio Depa PROJECT Kentucky T	75-0.00/ artment of FITEM Franspor	0.22, PID 75119 of Transportation NO. 6-17 otation Cabinet	<u></u>	ALTERNATIVE	NO.: _{MOT} -Z
ORIGINAL DESIG	IN 🗌	ALTERN		вотн	SHEET NO.:	Z of Z
ORIGINAL DESIG	TO REMOVE FROM COMBINED (-44) /	ALTERN TRATE CERMIN FOR NEW PORT XY CERMIN	ATIVE DESIGN	BOTH D	SHEET NO.:	Z of Z Signal could be as To ALLEN LIFT FROM ACCESS TO TAYLOR ACCESS TO TAYLOR ACCESS TO TAYLOR ACCESS TO TAYLOR ACCESS TO TAYLOR
		and the second se	The Contraction		1-471 58	tond touted

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PROJECT:	HAM-71/75-0.00/0.22, PID 75	ALTERN	ATIVE NO.:		
	Ohio Department of Transporta PROJECT ITEM NO. 6-17 Kentucky Transportation Cabir	Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet			
DESCRIPTION:	FOR ALL OPTIONS, USE O CONTRACTOR LAYDOWN CONSTRUCTION OF THE	HIO OPTION 1 AS A AREA FOR USE DU MAIN RIVER CROSS	SHEET N RING ING	0.: 1 of 3	
ORIGINAL D	DESIGN:				
The origina	l designs make no mention of co	ntractor lay-down areas	for the bridge constructi	on.	
ALTERNATIV	E: (See attached sketch)				
Use Ohio O potential co	ption 1 and designate the hilltop ntractor lay-down area. The cont	between I-71/75/Mehrin ractor would use Mehrin	ng Way and the railroad ng Way to access the site	to the east as a e.	
ADVANTAGE	:5:	DISADVANT	AGES:		
 Provides a laydown area near the construction site Provides a large area Provides a potential green space at completion of project Requires right-of-way acquisition May interfere with traffic along Mehring Way when materials are being moved May have to use numerous surface streets to access the lay-down area 					
DISCUSSION	:				
The contract hilltop betw minimal imp the project.	tor will need a lay-down area wh een I-71/I-75/Mehring Way and pact to traffic. This area also has	en constructing the new the railroad was identifie the potential of being re	I-71/75 bridge over the ed as an area close to the claimed as green space	Ohio River. The site having at the completion of	
COST SUMMAR	Y	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST	
ORIGINAL	DESIGN	\$ 0		\$ 0	
ALTERNATI	VE	\$ 3,100,000	_	\$ 3,100,000	

\$

SAVINGS (Original minus Alternative)

(3,100,000)

(3,100,000)

\$

				SKEICH	
PROJECT:	HAM-71/7 Ohio Depa PROJECT Kentucky T	'5-0.00/0.22, PID 75119 <i>rtment of Transportation</i> TTEM NO. 6-17 <i>transportation Cabinet</i>		ALTERNATIVE N	10.: 4 A
ORIGINAL DE	sign 🗌	ALTERNATIVE DESIGN	вотн 🗌	SHEET NO .:	2 of 3
	Exr Z- Work Srta	stin's 75 Lay down area 600'x 500'	R/R + + + + + + + + + + + + +	Mehring Way	
	Oh,	o River			



PROJECT: HA	M-71/75-0.00/0.22,	, PID 75119			ALTERNATI	VE NO.:		
	State of Ohio, Depa	rtment of Trai	nsportation					
PR	OJECT ITEM NO	. 6-17					MOT-4A	
Ker	ILUCKY I ransportatio	on Cabinet			SHEET NO.:		3 of 3	
						COST/		
ITEM	UN	UNITS	UNIT	TOTAL	UNITS	UNIT	TOTAL	
Property Take	Acr	res			6.9	450,000.00	3,100,000	
	-							
				· · · · · · · · · · · · · · · · · · ·				
· · · · · · · · · · · · · · · · · · ·								
				·····				
	C. Line I						2 100 000	
							3,100,000	
Markup (%) at	59.50%						included	
	TOTAL						3,100,000	

PROJECT: HAM-71/75-0.00/0.22, PID 75119 ALTERNATIVE NO.: Ohio Department of Transportation PROJECT ITEM NO. 6-17 MOT-4B DESCRIPTION: FOR ALL OPTIONS, USE OHIO OPTION 2 AS A
CONTRACTOR LAY-DOWN AREA FOR USE DURING
CONSTRUCTION OF THE MAIN RIVER CROSSING SHEET NO.: 1 of 3 ORIGINAL DESIGN: The original designs make no mention of contractor lay-down areas for the bridge construction. ALTERNATIVE:

Use Ohio Option 2 and designate the east quadrant of the Duke Energy parking lot as a contractor lay-down area. The existing lot is accessible from Mehring Way.

ADVANTAGES:

- Less expensive right-of-way cost
- The new parking area can remain undisturbed
- Near the construction site
- Minimal surface streets to use to access the lay-down area

DISADVANTAGES:

- Requires temporary right-of-way acquisition
- Area to the west of the Duke Energy Substation would require pavement and fencing
- Smaller than other areas proposed

DISCUSSION:

The contractor will need a lay-down area when constructing the new I-71/I-75 bridge over the Ohio River. The east quadrant of the Duke Energy parking lot is smaller than other areas but will have a lower right-of-way cost and will only be needed during construction. Access to the work site is optimal.

If this site is selected, consideration should be given to closing Mehring Way during bridge construction.

COST SUMMARY	11	NITIAL COST	PRESENT WORTH RECURRING COSTS	PRI LIF	ESENT WORTH E-CYCLE COST
ORIGINAL DESIGN	\$	0	\$	\$	0
ALTERNATIVE	\$	789,500	\$	\$	789,500
SAVINGS (Original minus Alternative)	\$	(789,500)	\$	\$	(789,500)

SKETCH PROJECT: HAM-71/75-0.00/0.22, PID 75119 ALTERNATIVE NO.: 40 Ohio Department of Transportation **PROJECT ITEM NO. 6-17** Kentucky Transportation Cabinet вотн 🗌 of 3 ORIGINAL DESIGN ALTERNATIVE DESIGN SHEET NO .: Existins I-75 Temporamy 300' lay down area Mehrini 200' 100 ' 400' Lot Work Site Duke Substation Ohio Rivin



PROJECT: HAM-71/75-0.00/0.22, PID 75119					ALTERNATIVE NO.:		
St	ate of Ohio, Departm	ent of Trans	portation				
PRO	JECT ITEM NO. 6-	17					MOT-4B
Kentucky Transportation Cabinet						•	3 of 3
PROJE	СТ ІТЕМ	C	RIGINAL EST	IMATE	AL	TERNATIVE EST	ΙΜΑΤΕ
ITEM	UNITS	no. of units	COST/ UNIT	TOTAL	NO. OF UNITS	COST/ UNIT	TOTAL
Temporary Take	Acres				1.4	450,000.00	630,000
Parking Area & Fence	LS				1	100,000.00	100,000
						<u></u>	
							·
					-		
······							
· · · · · · · · · · · · · · · · · · ·	Subtotal						730.000
Markup (%) at	59.50%						59,500
	TOTAL			<u></u>		-	789,500

		R2 110		
PROJECT:	HAM-71/75-0.00/0.22, PID 75119 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet		ALTERN	MOT-4C
DESCRIPTION:	FOR ALL OPTIONS, USE CONTRACTOR LAY-DO CONSTRUCTION OF TH	I AS A SHEET N URING SING	NO.: 1 of 2	
ORIGINAL D	ESIGN:	2		
The original	designs make no mention of	contractor lay-down areas	for the bridge construct	ion.
ALTERNATIV				
Designate th Street to the	e area bordered by Crescent A south in Kentucky as a contra	Avenue to the west, 3 ³⁵ Str actor lay-down area.	eet to the north, 1-75 to t	he east, and 4"
ADVANTAGE	5:	DISADVAN	TAGES:	
 Uses exi Close to Good aco interstate 	sting right-of-way the construction site cess to the lay-down area fron	• Smalle	r than other areas propos	sed
DISCUSSION:				
The contractor area is an exi haul distance	or will need a lay-down area w sting right-of-way owned by f from the lay-down area to the	when constructing the new KYTC. It is close to the s e new bridge.	/ I-71/I-75 bridge over th outh approach of the new	ne Ohio River. This v bridge with a short
COST SUMMARY		INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL D	ESIGN			
ALTERNATIV	E]	DESIGN SUGGESTIO	N
SAVINGS (O	riginal minus Alternative)			





SUMMARY OF VALUE ENGINEERING ALTERNATIVES

PROJECT:		ODOT HAM-71/75-0.00/0.22, PID 75119, KYTC Project Item No. 6-17 PRESENT WORTH OF COST SAVINGS								
	ALT. NO.	DESCRIPTION	ORIGINAL COST	ALTERNATIVE COST	INITIAL COST SAVINGS	RECURRING COST SAVINGS	TOTAL PW LCC SAVINGS			
		PAVEMENT/RAMPS (P)					1			
	P-3	In Alternative E, replace the 5th Street northbound ramp to I-71 in Kentucky with an indirect ramp connection from the collector-distributor roadway to I 71 in Ohio.	\$398,710	\$863,892	(\$465,182)		(\$465,182)			
	P-5	Eliminate the KY 9th Street intersection with the collector-distributor roadway from all options.	DESIGN SUGGESTION							
	P-7	For the Hybrid Alternative CD, identify a shorter route for emergency responses from the Fire Station at 5th Street and Central Avenue to the Fort Washington Way Trench.	DESIGN SUGGESTION							
	P-8	For the Hybrid Alternative CD, provide a direct connection from southbound collector-distributor roadway to 2nd Street in Ohio and add an additional connection to the US 42/3rd Street intersection to improve access and increase the use of the Clay Wade Bailey Bridge.	\$0	\$1,437,344	(\$1,437,344)		(\$1,437,344)			
	P-10	For the Hybrid Alternative CD, provide access from Winchell Avenue just north of Ezzard Charles Drive to northbound 1-75.	\$0	\$999,433	(\$999,433)		(\$999,433)			
	P-11	For the Hybrid Alternative CD, update the cost estimate to reflect the additional lane on the I-75 mainline.	DESIGN SUGGESTION							
	P-13	For Alternative E, shift the collector-distributor roadway to minimize impacts to Goebel Park and avoid relocating the radio station tower.	DESIGN SUGGESTION							
		and the second								

VALUE ENGINEERING ALTERNATIVE

	VALUE EN	NGINEERING	G ALTERNAT				
PROJECT:	HAM-71/75-0.00/0.22, PID 7 Ohio Department of Transpor PROJECT ITEM NO. 6-17 Kentucky Transportation Cabi	5119 tation inet	ALTERNATIVE NO.: P-3				
DESCRIPTION: IN ALTERNATIVE E, REPLACE THE 5TH STREET SHEET NO.: 1 of NORTHBOUND RAMP TO I-71 IN KENTUCKY WITH AN INDIRECT RAMP CONNECTION FROM THE CONNECTOR-DISTRIBUTOR ROADWAY TO I-71 IN OHIO							
ORIGINAL D	ESIGN: (See attached sketch)						
In Alternativ	ve E, a loop ramp provides a dir	ect connection from KY	5 th Street to I-71 northb	ound.			
ALTERNATIV Remove the	E: (See attached sketch) loop ramp at KY 5 th Street and	replace it with a ramp co	onnection from the north	abound collector-			
distributor re	Dadway to I-71 northbound in O	hio.					
ADVANTAGE	S:	DISADVANT	AGES:				
 Provides including Excess rimitigate Park 	access for all of Covington g 12 th , Pike, 9 th , 5 th , and 4 th Stree ight-of-way area could be used the right-of-way take in Goebel	• Require ets to	s additional structural co	osts			
DISCUSSION:							
This alternati distributor ro allow access excess right-o	ve removes direct access from I adway to I-71 northbound. By r from KY 12 th , Pike, 9 th , 5 th , and of-way to be given to the city of	KY 5 th Street but replace noving this access point 4 th Streets to I-71 north Covington for an expan	s this access with access to the connector distribu bound. A secondary bended park area.	from the collector- itor system, it will efit would allow			
COST SUMMARY		INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST			
ORIGINAL D	ESIGN	\$ 398,710		\$ 398,710			
ALTERNATIV	E	\$ 863,892		\$ 863,892			
SAVINGS (Or	iginal minus Alternative)	\$ (465,182)		\$ (465,182)			



CALCULATIONS PROJECT: HAM-71/75-0.00/0.22, PID 75119 ALTERNATIVE NO.: ρ_{-3} Ohio Department of Transportation **PROJECT ITEM NO. 6-17** Kentucky Transportation Cabinet 3 of 4 SHEET NO .: Remove Loop Kamp Assume 1000' total length 325' structure 675' × 26/9 = 1950 sy parent and 325 × 26/9 = 939 54 structure area. New Comection from NB C-D to I-71 NB Assume 1500' length of new + widered structure. 1500 × 26 ×/9 = 4333 sy structure cost. Use 14' travel way 4' left sh, 8' right sh 26' total width Ramp.



PROJECT: HAM-71/75	-0.00/0.22, PII	D 75119			ALTERNATIN	/E NO.:	
State of C	portation						
PROJECT I	ITEM NO. 6-1	.7					P-3
Kentucky Tro	ansportation C	abinet			SHEET NO.:		4 of 4
PROJECT ITEM		0	RIGINAL ESTIM	ATE	ALT	ERNATIVE ESTI	MATE
ITEM	UNITS	NO. OF UNITS	COST/ UNIT	TOTAL	no. of Units	COST/ UNIT	TOTAL
Ramp Pavement	SY	1,950	68.00	132,600			
Ramp Structure	SY	939	125.00	117,375	4,333	125.00	541,625
						· · ·	
							••••••••••••••••••••••••••••••••••••••
	· · · · · · · · · · · · · · · · · · ·						
			v - 2, · · ·				
	· · · · · · · · · · · · · · · · · · ·						
Subt	otal			249,975			541,625
Markup (%) at 59.5	50%			148,735			322,267
TO	TAL			398,710			863,892

PROJECT:	HAM-71/75-0.00/0.22, PID 75	5119			ALTERNATIVE NO.:		
	PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet				P-5		
DESCRIPTION:	ELIMINATE THE KENTUC INTERSECTION WITH TH ROADWAY FROM ALL OP	CKY 9TH STREE E COLLECTOR TIONS	T -DISTI	RIBUTOR	Sheet NO.	.: 1 of 2	
ORIGINAL D	ESIGN:						
Currently, F KY 9 th Stree	Hybrid Alternative CD, and Alter et on both sides of I-71/I-75.	mative E show the	collect	or-distributor t	oadway in	tersecting with	
ALTERNATIV	E: (See attached sketch)						
Eliminate th	e KY 9 th Street intersection with	the collector-dist	ributor i	roadway from a	all options		
ADVANTAGE	S:	DISAD	VANTA	GES:			
 Neighborhood retains its appeal for the residents Improves level of service and operation of the collector distributor roadway Reduces access along KY 9th Street Eliminates an indirect access point for the C Covington 9th Street would likely have a dead end on b sides of I-71/I-75 					t for the City of l end on both		
DISCUSSION							
In the past, t the potential eliminated, t	he residents of the area around 9 for a significant increase in traff he collector-distributor roadway	th Street in Coving fic through the rest operation would b	ton did dential be impro	not desire to h neighborhood oved.	ave this co . If this cor	nnectivity due to nnection is	
There is a po Street to be r	ossibility that the profile grade of routed underneath and remain op	the collector-distreen. This should be	ibutor 1 e invest	oadway could igated.	be raised a	allowing 9 th	
COST SUMMARY	/	INITIAL COS	r	PRESENT WO	ORTH COSTS	PRESENT WORTH LIFE-CYCLE COST	
ORIGINAL D	DESIGN						
ALTERNATIV	/E		DE	SIGN SUGG	ESTION		
SAVINGS (O	riginal minus Alternative)						



PROIECT: HAM-71/75-0.00/0.22, PID 75119 ALTERNATIVE NO .: **Ohio Department of Transportation P-7 PROJECT ITEM NO. 6-17** Kentucky Transportation Cabinet DESCRIPTION: IN THE HYBRID ALTERNATIVE CD, IDENTIFY A SHEET NO .: 1 of 1 SHORTER ROUTE FOR EMERGENCY RESPONSES FROM THE FIRE STATION AT 5TH STREET AND CENTRAL AVENUE TO THE FORT WASHINGTON WAY TRENCH **ORIGINAL DESIGN:** Currently, access to the Fort Washington Way Trench is from the Linn Street/US 50 Interchange. **ALTERNATIVE:** Provide access to the Fort Washington Way Trench via 6th Street as proposed in Alternative E. **ADVANTAGES: DISADVANTAGES:** Provides a quicker response route to • Additional capacity may be needed on Central incidents Avenue A two-way connection is provided from • Additional capacity may be required at the Central Central Avenue/6th Street west Avenue/6th Avenue intersection Eliminates US 50 eastbound to 5th Street • The city street grid may not be able to infrastructure accommodate the traffic pattern changes **DISCUSSION:** Currently, from 5th Street and Central Avenue in downtown Cincinnati, an emergency response unit would need to travel north on Central Avenue to west on 6th Street; exit at Linn Street, turn left on Linn Street, then turn left onto 6th Street eastbound to the Fort Washington Way Trench. If a solution similar to Alternative E is provided, the response route would be north on Central Avenue to west on 6th Street to the south ramp at Fort Washington Way. The distance saved would be approximately 4,800 ft. PRESENT WORTH PRESENT WORTH COST SUMMARY **INITIAL COST RECURRING COSTS** LIFE-CYCLE COST **ORIGINAL DESIGN**

DESIGN SUGGESTION

ALTERNATIVE

SAVINGS (Original minus Alternative)

52

PROJECT: HAM-71/75-0.00/0.22, PID 75119 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet

ALTERNATIVE NO.: **P-8**

SHEET NO.: 1 of 6

DESCRIPTION: FOR THE ALTERNATE CD HYBRID, PROVIDE A DIRECT SHEET I CONNECTION FROM THE SOUTHBOUND COLLECTOR -DISTRIBUTOR ROADWAY TO 2ND STREET IN OHIO AND ADD AN ADDITIONAL CONNECTION TO US 42/3RD STREET

ORIGINAL DESIGN: (Sketch attached)

The original Alternate CD Hybrid includes a free flow exit ramp from the proposed southbound collectordistributor roadway to 2nd Street in Cincinnati. Alternate CD Hybrid does not include a connection to US 42/3rd Street which provides access to the Clay Wade Bailey Bridge.

ALTERNATIVE: (Sketch attached)

Construct a ramp from the 2nd Street free-flow exit ramp which will terminate at the US 42/3rd Street Intersection. The ramp will branch off of the 2nd Street ramp near the existing Artimis Building, and continue for approximately 600 ft., terminating at the US 42/3rd Street Intersection.

ADVANTAGES:

- Provides access to the Clay Wade Bailey Bridge
- Reduces congestion on the proposed Ohio River Bridge and existing Brent Spence Bridge by allowing traffic to cross the river using the Clay Wade Bailey Bridge
- Improves functionality of the City of Cincinnati street grid
- May have subsequent cost savings in the amount of collector-distributor required per the Conceptual Alternative Study

DISADVANTAGES:

- The proposed ramp will add construction cost to the project
- The US 42/3rd Street intersection may need to be reconstructed to support the increased traffic volume
- The intersection on the Kentucky side of the Clay Wade Bailey Bridge may need to be reconstructed to support the increased traffic volume

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST	
ORIGINAL DESIGN	\$ 0		\$	U
ALTERNATIVE	\$ \$1,437,344		\$	\$1,437,344
SAVINGS	\$ (1,437,344)		\$	(1,437,344)

PROJECT:	HAM-71/75-0.00/0.22, PID 75119 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet	ALTERNATIVE NO.: P-8
DESCRIPTIO	N: FOR THE ALTERNATE CD HYBRID, PROVIDE A DIRECT CONNECTION FROM THE SOUTHBOUND COLLECTOR - DISTRIBUTOR ROADWAY TO 2ND STREET IN OHIO AND ADD AN ADDITIONAL CONNECTION TO US 42/3RD STREET	SHEET NO.: 2 of 6

DISCUSSION:

The main reason for the addition of this ramp is to provide direct access from the southbound collectordistributor to the Clay Wade Bailey Bridge and take advantage of available capacity. Providing an alternative route across the Ohio River could reduce congestion on the existing Brent Spence Bridge as well as the proposed Ohio River Bridge. This ramp can also improve the functionality of the City of Cincinnati street grid.

The design year southbound ADT across the Clay Wade Bailey Bridge is 11,190 vehicles without the additional direct access ramp. The bridge is not currently operating at its full traffic capacity. The VE Team recommends performing a traffic study to determine the impact of this proposed increase in utilization of the Clay Wade Bailey Bridge.



PROJECT: HAM-71/75-0.000.22, PID 75119
Ohio Department of Transportation
PROJECT: THEM NO.6-17
Restructly Transportation Cabinet
SHEET NO: 4 of 6
Provement
• Length of proposed ramp = 600'
Graded from schemptic sheet)
• Lone width of proposed ramp = 16'
(Per ODOT L and 0 botwee 1)
• Shoulder width of proposed ramp = 6' outside + 3' inside = 9'
(Per ODOT L and 0 botwee 1)
• Shoulder width of proposed ramp = 6' outside + 3' inside = 9'
(Per ODOT L and 0 botwee 1)
• Shoulder width of proposed ramp = 6' outside + 3' inside = 9'
(Per ODOT L and 0 volume 1)
• Shoulder width of proposed ramp = 6' outside + 3' inside = 9'
(Per ODOT L and 0 volume 1)
• Shoulder width of proposed ramp = 6' outside + 3' inside = 9'
(Per ODOT L and 0 volume 1)
• Shoulder width of proposed ramp = 6' outside y (16' + 9')
= 15,000^{-2'}

$$\approx 1667$$
 Sq. yd.
Cost of ramp pavement
per the concultant's estimate = \$68/59! yd.
So cost of 1000'
Emissionate in cleantion from chut of ramp to interaction = 35'
• Approximate generation of the 10' (constraint free defeet)
• Longth = 600'
Prove ment is 10' (constraint free defeet)
• Longth = 600'
Prove consultant's = \$6/cu, yd. So \$43,000 x \$46
estimate.
Cost of consultant's = \$6/cu, yd. So \$43,000 x \$46
estimate.
(Per Consultant's estimate = \$6/cu, yd. So \$43,000 x \$46
estimate.
Constraint 2' (cost of 2' (10' (cost)) = 100'

			CALC	ULATIONS	
PROJECT:	HAM-71/75-0.00/0.2 Ohio Department of T PROJECT ITEM NO Kentucky Transportat	2, PID 75119 Transportation D. 6-17 ion Cabinet	· · ·	ALTERNATIVE	10.: P-8
	****			SHEET NO .:	5 of 6
Widened to accon new ra:	structure nodate the np	w:dth =	12° 285′ 50	area = (285') = 3420	(12') , ^{,,,,,,,,}
mainline gr. ramp speec	d = 50 mph d = 40 mph		(ost per estimate	$\frac{\text{consultant's}}{5150 \times 3420^{\circ'}} = $$	150/5q.F+.
			20	= \$513,000	
			́.		
	- -				
. .					



PROJECT: HAM-71/75-0.00	/0.22, PI	D 75119			ALTERNATI	/E NO.:	
State of Ohio, .	Departme	ent of Transf	portation				
PROJECT ITEM	4 NO. 6-1	17					P-8
Kentucky Transpo	ortation C	'abinet			SHEET NO.:		6 of 6
PROJECT ITEM		0	RIGINAL ESTI	MATE	ALT	ERNATIVE ESTI	MATE
ITEM	UNITS	NO. OF UNITS	COST/ UNIT	TOTAL	NO. OF UNITS	COST/ UNIT	TOTAL
				-	-		
Ramp Pavement (Includes 13-inch reinforced concrete pavement, 6-inch aggregate base, and subgrade comp.)	SY				1,667	68.00	113,356
Embankment	CY				43,000	6.00	258,000
Guardrail, Type 5	FT				1,200	14.00	16,800
Widened Structure	SF				3,420	150.00	513,000
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MUNA							
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					-		
Subtotal							901,156
Markup (%) at 59.50%							536,188
TOTAL					•		1,437,344

PROJECT: HAM-71/75-0.00/0.22, PID 75119 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet

ALTERNATIVE NO.:

P-10

1 of 3

DESCRIPTION: FOR THE HYBRID ALTERNATIVE CD, PROVIDE ACCESS SHEET NO.: FROM WINCHELL AVENUE JUST NORTH OF EZZARD CHARLES DRIVE TO NORTHBOUND I-75

ORIGINAL DESIGN:

The Hybrid Alternative CD design does not provide access from Winchell Avenue north of Ezzard Charles Drive to northbound I-75.

ALTERNATIVE:

Provide access from the Winchell Avenue north of Ezzard Charles Drive to northbound I-75.

ADVANTAGES:

• Provides quicker access to northbound I-75 directly from Winchell Avenue without having to travel 7,000 ft to the north of the Western Hills Viaduct

DISADVANTAGES:

- Requires design and construction of an additional access ramp
- May require structural work at Liberty Street

DISCUSSION:

Adding a ramp to northbound I-75 from Winchell Avenue north of Ezzard Charles Drive will reduce the amount of traffic on Winchell Avenue and allow quicker access for local traffic to northbound I-75. The current daily hourly vehicles for this movement is 750 at the peak hour. An additional cost of approximately one million dollars must be weighed against the need and benefit achieved by adding this ramp.

This alternative will require a study of potential structural work which may be required at Liberty Street.

COST SUMMARY	1	NITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST	
ORIGINAL DESIGN	\$	0		\$	0
ALTERNATIVE	\$	999,433		\$	999,433
SAVINGS (Original minus Alternative)	\$	(999,433)		\$	(999,433)

CALCULATIONS HAM-71/75-0.00/0.22, PID 75119 PROJECT: ALTERNATIVE NO .: P-0 Ohio Department of Transportation **PROJECT ITEM NO. 6-17** Kentucky Transportation Cabinet Z of Z вотн П ORIGINAL DESIGN ALTERNATIVE DESIGN SHEET NO .: Given: DExisting traffic currently using entrance tamp for NB IR 75, north of Equard Charles Dr. per. 9/10/08 costified traffic (ODOT, Office at Tech. Services) ALE AM DHV = 510 ALLE PM DHV = 750 2) Ramp width per ODOT LED = 25 ft. 3) Cost estimates per ODOT CI Estimator 4) Required ramp length = 1400 ft. Assumption : D Structure at Liberty can be widered to accompdate additional lang. 2) Additional lane can be built between IR 75 and Winchelle 3) Any required retaining wates or noise walls will not change. 4) 16 ft. elevation from Winchelle to IR 75 Calculation : 1) Additional studure width required over Liberty Street 12 ft wide × 200 ft long × 125.00 #/A+2 (ITEN 506) = 30000 000 2) Now samp from just north of Espard Charles to north of Liberty 1400 ft × 25 ft × 14d × 68 4/d2 (2100, 122) = 264, 4414, 500 3) Additional needed fill 1400 At x 25 It x 16 It , 10 x 6.0 8/43 (Item 345) = 62,222 Total Estimate \$ 626,665



PROJECT: HAM-71/75-0.	00/0.22, PI	D 75119	<u> </u>		ALTERNATIN	/E NO.:	
State of Ohi	o, Departme	ent of Trans	portation				
PROJECT IT	EM NO. 6-1	17					P-10
Kentucky Trans	sportation C	abinet			SHEET NO.:		3 of 3
PROJECT ITEM		c	RIGINAL ESTI	MATE	ALT	ERNATIVE ESTI	MATE
ITEM	UNITS	NO. OF UNITS	COST/ UNIT	TOTAL	NO. OF UNITS	COST/ UNIT	TOTAL
Now Domp	SV				3.888	68.00	264 384
Embankment					10 370	6.00	62 220
New Structure (added 12-ft lane)	SF				2.400	125.00	300.000
							<u> </u>
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<u>. 6 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 </u>					~		
Subtota	al						626 604
Markup (%) at 59.50%	%						372.829
ΤΟΤΑ							999 433

PROJECT:	HAM-71/75-0.00/0.22, PID 75 Ohio Department of Transporte PROJECT ITEM NO. 6-17 Kentucky Transportation Cabin	119 ation set	ALTERNA	ATIVE NO.: P-11					
DESCRIPTION:	FOR THE HYBRID ALTERN COST ESTIMATE TO REFL ON THE I-75 MAINLINE	NATIVE CD, UPDATE JECT AN ADDITIONA	THE SHEET N L LANE	O.: 1 of 2					
ORIGINAL D	ESIGN:								
In the Conce two lanes so	eptual Alternative Study (CAS), buthbound on I-75.	Alternatives C and D we	re evaluated with two la	anes northbound and					
ALTERNATIV	E:								
Update the cost estimate in the Hybrid Alternative CD to include three lanes northbound and three lanes southbound on I-75 to match Alternative E.									
ADVANTAGE	S:	DISADVANTA	GES:						
• Matches Alternat	the number of lanes provided w ive E	ith • None ide	ntified						
DISCUSSION:									
As a result o alternative. T each directio	f recommendations confirmed in The new Hybrid Alternative CD v n. This update is required to show	the CAS, Alternatives C will be further designed a w the change in the base	and D will be combine nd evaluated with three cost for Hybrid Alterna	ed into a hybrid e lanes for I-75 in tive CD.					
COST SUMMARY	(INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST					
ORIGINAL E	DESIGN			L					
ALTERNATIV	'E	DI	ESIGN SUGGESTION	V					
SAVINGS (O	riginal minus Alternative)		······································						



PROJECT: HAM-71/75-0.00/0.22, PID 75119						ALTERNATIVE NO.:		
State of Ohio,			D 44					
PROJECT ITEM NO. 6-17							P-11	
Kentucky Transpo	ıbinet			SHEET NO.: 2 of 2				
PROJECT ITEM		ORIGINAL ESTIMATE			ALTERNATIVE ESTIMATE			
ITEM	UNITS	NO. OF UNITS	COST/ UNIT	TOTAL	NO. OF UNITS	COST/ UNIT	TOTAL	
	OV				10.000	68.00	1 242 956	
Mainline Travel Lanes		 			18,292	125.00	1,243,830	
Tier I Bridge Area	Cr				67,531	125.00	8,441,373	
Tier 2 Bridge Area	SF				58,555	150.00	8,783,250	
Tier 3 Bridge Area	SF				56,232	175.00	9,840,600	
Main River (Difference Between Alt. CD and Alt. E)	LS	1	289,036,800	289,036,800	1	355,737,600	355,737,600	
· · · ·								

					······································			
Subtotal				289,036,800			384,046,681	
Markup (%) at 59.50%				171,976,896			228,507,775	
TOTAL				461,013,696			612,554,456	

VALUE ENGINEERING ALTERNATIVE	
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PROJECT:	HAM-71/75-0.00/0.22, PID 75	5119	ALTERN	ALTERNATIVE NO.:			
	Ohio Department of Transport. PROJECT ITEM NO. 6-17 Kentucky Transportation Cabin	ation net	•	P-13			
DESCRIPTION:	FOR ALTERNATIVE E, SH DISTRIBUTOR ROADWAY GOEBEL PARK AND AVOI STATION TOWER	R- SHEET N CTS TO E RADIO	IO.: 1 of 2				
ORIGINAL D	ESIGN: (See attached sketch) al design for Alternative E, the a	current local street/collect	tor-distributor roadway	just north of 9 th			
Street in Ke	indexy requires the relocation of						
ALTERNATIV	E: (See attached sketch)						
Shift the loc distributor r	al street/collector-distributor roa badway above the local street to	adway to the north in a st avoid impact to the radio	acked configuration wit tower and Goebel Parl	h the collector- c.			
ADVANTAGE	S:	DISADVANTAGES:					
Avoids nMinimiz	radio tower relocation res impact to Goebel Park	• The intersection of the new local street with 9 th Street under an overhead structure may limit sight distance					
DISCUSSION							
Shifting the difficult relo Goebel Park	local street/collector distributor a cation of an AM radio station ar , which is a Section 6f resource.	roadway to the west to m ntenna. The shift may also	iss the radio tower will b have a benefit of redu	avoid a costly and cing impacts to			
COST SUMMARY		INITIAL COST	RECURRING COSTS	LIFE-CYCLE COST			
ORIGINAL	DESIGN						
ALTERNATIV	<u>′E</u>	DESIGN SUGGESTION					
SAVINGS (O	riginal minus Alternative)						




SUMMARY OF VALUE ENGINEERING ALTERNATIVES

PROJECT:	: ODOT HAM-71/75-0.00/0.22, PID 75119, KYTC Project Item No. 6-17 PRESENT WORTH OF COST SAVINGS							
ALT. NO.	DESCRIPTION	ORIGINAL COST	ALTERNATIVE COST	INITIAL COST SAVINGS	RECURRING COST SAVINGS	TOTAL PW LCC SAVINGS		
in the second	STRUCTURES (S)	A constraint of the second	-					
S-1	For Hybrid Alternative CD, provide an exit from the northbound collector-distributor roadway to Ezzard Charles Drive similar to that shown in the Alternative E design.		DESI	GN SUGGESTIC	DN			
S-2	With all options, use tie-back walls on the west side of southbound KY I-75 and in other applicable areas in Kentucky to reduce excavation and right-of-way requirements.	DESIGN SUGGESTION						
S-4	With all options, provide a means to mitigate potential structural impacts to Willow Run Sewer during construction.	DESIGN SUGGESTION						
S-6A	For the Hybrid Alternative CD, adjust the lane configurations on each deck on the new bridge to save one lane per deck.	\$567,401,472 \$513,809,472 \$53,592,000 \$53,59				\$53,592,000		
S-6B	For Alternative E, make the traffic operations directional on each deck on the new bridge to save one lane per deck.	\$567,401,472	\$513,809,472	\$53,592,000		\$53,592,000		
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PROJECT:	HAM-71/75-0.00/0.22, PID 75119	ALTERNATIVE NO.:		
	Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet	S	-1	
DESCRIPTION:	PROVIDE AN EXIT FROM THE NORTHBOUND COLLECTOR-DISTRIBUTOR ROADWAY TO EZZARD CHARLES AND INCLUDE IN THE HYBRID ALTERNATIVE CD DESIGN SIMILAR TO THAT SHOWN IN THE ALTERNATIVE E DESIGN	SHEET NO.:	1 of 3	
ORIGINAL D	ESIGN:			

In the Hybrid Alternative CD design, the collector-distributor roadway carries Northern Kentucky traffic across the Brent Spence Bridge to Ohio exits to 2nd Street east and 6th Street/US 50 west, and then merges with northbound I-75 below Ezzard Charles Drive. There is no direct access to the Museum Center except to take 6th Street west to Freeman Avenue, travel north on Freeman Avenue to Winchell Avenue, and then cross Ezzard Charles Drive to the Museum Entrance.

ALTERNATIVE:

Add a drop lane from the collector-distributor roadway and merge this with the frontage road between 9th Street and Linn Street. This frontage road merges with Freeman Avenue and crosses Ezzard Charles Drive.

ADVANTAGES:

- More direct access to the Museum Center and Amtrak railroad from Kentucky and Fort Washington Way
- A portion of traffic currently exiting at 5th Street and 6th Street will now use the new exit to access the Museum Center and reduce congestion

DISADVANTAGES:

- This alternative would create a braided merge between the collector-distributor road and oncoming traffic from 6th Street and 9th Street
- A design exception may be required for the length of the collector-distributor roadway deceleration lane which requires 400 feet minimum

DISCUSSION:

A certified travel analysis is recommended to determine the potential benefit of the proposed new exit. No additional right-of-way or retaining walls will be required other than what is already proposed for the Hybrid Alternative CD Frontage Road (i.e., Queens Gate Park). Utility and cultural impacts would remain unchanged also.

The design year average daily traffic (ADT) for the new collector-distributor roadway is 42,770 based upon Alternative C traffic data. The design year ADT for Winchell Avenue from 9th Street to Freeman Avenue is 10,520. An unknown percentage of collector-distributor traffic will be added to Winchell Avenue.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST		
ORIGINAL DESIGN					
ALTERNATIVE	DESIGN SUGGESTION				
SAVINGS (Original minus Alternative)		- 10 11 11 10	-		





PROJECT:	HAM-71/75-0.00/0.22, PID 75	ALTE	ALTERNATIVE NO.:			
	Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet			S-2		
DESCRIPTION:	WITH ALL OPTIONS, USE ON THE WEST SIDE OF I-7 OTHER APPLICABLE ARE WAY ACQUISTION REQUI	IG WALLS SHEE D IN HT-OF-	ET NO.: 1 of 2			
ORIGINAL D	ESIGN:					
The original 75 southbou	l design identifies "Potential Imp and in Kentucky.	act" areas outside of the	existing right-of-wa	y on the west side of I-		
ALTERNATIV	E: (See attached sketch)					
Use tie-back and in other requirement	c retaining walls in selected areas applicable areas on the west side s.	from Kyle's Lane to ap of southbound I-75 in F	proximately 7,000 ft Kentucky to reduce r	t. north of Kyle's Lane ight-of-way acquisition		
ADVANTAGE	S:	DISADVANTA	AGES:			
 Reduces Improve Reduces Reduces Reduces properties 	 Reduces right-of-way acquisition Improves stability of cut slopes Reduces excavation Reduces long term maintenance costs Reduces potential for damage to adjacent properties Increases construction costs for tieback walls Increases design effort May require subterranean easement 					
DISCUSSION	: ···					
Tieback reta way areas. B apply to app	ining walls could be used in area ased upon the "Potential Right-c roximately 2,500 linear ft.	s where there is potentia of-Way Impacts" identifie	l for impact outside ed in Alternatives C	of existing right-of- D and E, this would		
COST SUMMARY	Y	INITIAL COST	PRESENT WORTH RECURRING COST	PRESENT WORTH S LIFE-CYCLE COST		
ORIGINAL [DESIGN					
ALTERNATI	/E	D	ESIGN SUGGEST	ION		
SAVINGS (O	riginal minus Alternative)					



PROJECT:	HAM-71/75-0.00/0.22, PID 75119	ALTERNATIVE NO	D.:
	Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet	S	-4
DESCRIPTION:	WITH ALL OPTIONS, PROVIDE A MEANS TO MITIGATE POTENTIAL STRUCTURAL IMPACTS TO THE 12-FT. BY 14-FT. WILLOW RUN COMBINED SEWER DURING CONSTRUCTION	SHEET NO.:	1 of 1

ORIGINAL DESIGN:

Hybrid Alternative CD shows a mechanically stabilized embankment (MSE) wall located directly above the Willow Run Combined Sewer between 9th Street and 5th Street in Covington, KY. Alternative E has a lesser impact but still has a wall located over the sewer.

ALTERNATIVE:

Considering the age of the Willow Run Combined Sewer, its present condition and poor soil conditions, the project should minimize loading over the sewer to avoid damage and/or replacement of the facility at a cost to the project. Avoid construction over the sewer as much as feasible and consider alternative means to minimize impacts to the facility sewer lining.

ADVANTAGES:

- Eliminates the need to rehabilitate or replace the sewer
- Reduced impact will reduce delays caused by potentially unknown utility issues

DISADVANTAGES:

- May be more costly than conventional construction
- May create vertical and/or horizontal alignment and design issues

DISCUSSION:

The existing Willow Run Combined Sewer is a brick lined structure in poor condition. The soils in the project area are soft and are anticipated to undergo significant settlement due to the new highway loading. The settlement would be potentially damaging to the sewer.

The design team should avoid construction over the sewer as much as feasible and consider the use of a lightweight fill or structural means to protect the sewer lining where impact is unavoidable.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST			
ORIGINAL DESIGN						
ALTERNATIVE	DESIGN SUGGESTION					
SAVINGS (Original minus Alternative)						

PROJECT: HAM-71/75-0.00/0.22, PID 75119 Ohio Department of Transportation PROJECT ITEM NO. 6-17

Kentucky Transportation Cabinet

ALTERNATIVE NO.:

S-6A

DESCRIPTION: FOR THE HYBRID ALTERNATE CD, MAKE THE TRAFFIC SHEET NO.: 1 of 5 OPERATIONS DIRECTIONAL ON EACH DECK ON THE NEW BRIDGE TO SAVE ONE LANE PER DECK

ORIGINAL DESIGN: (See attached sketch)

The original design calls for a new 127-ft.-wide, two-level bridge including six lanes for I-75 (three lanes for northbound and three lanes for southbound) on the upper deck and four lanes (two lanes for southbound local traffic and two lanes for southbound I-71 traffic on the lower deck).

ALTERNATIVE: (See attached sketch)

Reduce the deck width by 12-feet by providing a new 115-ft.-wide, two-level bridge including five lanes (three lanes for southbound I-75 and two lanes for southbound I-71) on the upper deck and five lanes (two lanes for southbound local traffic and three lanes for northbound I-71).

ADVANTAGES:

- Matches deck width to lane requirements
- Reduces new bridge overall width
- Reduces encroachment into the historic area to the west of the structure

DISADVANTAGES:

- Limits future expansion on the lower deck by converting shoulders to lanes
- Adds complexity to the geometry at the north end of the bridge

DISCUSSION:

The new two-level bridge may be reconfigured to five lanes per deck to reduce the overall width thus limiting future expansion by converting shoulders to lanes.

COST SUMMARY		INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST	
ORIGINAL DESIGN	\$	567, 401,472		\$	567, 401,472
ALTERNATIVE	\$	513,809,472		\$	513,809,472
SAVINGS (Original minus Alternative)	\$	53,592,000		\$	53,592,000





CALCULATIONS PROJECT: HAM-71/75-0.00/0.22, PID 75119 ALTERNATIVE NO .: 5-64 Ohio Department of Transportation **PROJECT ITEM NO. 6-17** Kentucky Transportation Cabinet 4 SHEET NO .: of S reduce deck by 12' each level Longth From alt 'E' estimate 1. 444,6725F Alf. E/127' proposed deck = 3501 L.F. M 2] evels = 1750 L.F. par level " SFreduction = 12 width x 1750' 1000/ hx2 date =42,000 5.5



PROJECT: HAM-71/75-0	.00/0.22, PI	D 75119			ALTERNATI	VE NO.:	
State of Oh	io, Departme	ent of Trans	portation				
PROJECT 11 Kentucky Tran	'EM NO. 6-1 Sportation C	l7 abinet			SHEET NO.:	:	S-6A 5 of 5
PROJECT ITEM	<i>op o</i>	(ORIGINAL ESTI/	MATE	AL	TERNATIVE EST	IMATE
ITEM	UNITS	NO. OF UNITS	COST/ UNIT	TOTAL	no. of Units	COST/ UNIT	TOTAL
0514 R-MC-STRC Bridge - Main	SF	444,672	800.00	355,737,600	402,672	800.00	322,137,600
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and a second and a second a s							
Subto	tal			355.737.600			322,137,600
Markup (%) at 59.50	%			211,663,872		-	191,671,872
TOTA	AL			567,401,472		-	513,809,472

PROJECT: HAM-71/75-0.00/0.22, PID 75119 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet

ALTERNATIVE NO.:

S-6B

DESCRIPTION: FOR THE HYBRID ALTERNATE CD, MAKE THE TRAFFIC SHEET NO.: OPERATIONS DIRECTIONAL ON EACH DECK ON THE NEW BRIDGE TO SAVE ONE LANE PER DECK

1 of 4

ORIGINAL DESIGN: (See attached sketch)

The original design calls for a new 127-ft.-wide, two-level bridge including six lanes for I-71 (two lanes for northbound I-71 and three lanes for southbound I-71 with one unused lane) on the upper deck and six lanes (three lanes for northbound I-75 and three lanes for southbound I-75) on the lower deck.

ALTERNATIVE: (See attached sketch)

Reduce the deck width by 12 ft. by providing a new 115-ft.-wide, two-level bridge including five lanes (three lanes for southbound I-75 and two lanes for southbound I-71) on the upper deck and five lanes (three lanes for northbound I-75 and two lanes for northbound I-71) on the lower deck.

ADVANTAGES:

- Matches deck width to lane requirements
- Reduces new bridge overall width
- Reduces encroachment into the historic area to the west of the structure
- Uses more existing bridge capacity

DISADVANTAGES:

- Limits future expansion on the lower deck by converting shoulders to lanes
- Eliminates one lane for I-71 southbound

DISCUSSION:

The new two-level bridge may be reconfigured to five lanes per deck to reduce the overall width thus limiting future expansion by converting shoulders to lanes.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PR LI	RESENT WORTH FE-CYCLE COST
ORIGINAL DESIGN	\$ 567, 401,472		\$	567, 401,472
ALTERNATIVE	\$ 513,809,472		\$	513,809,472
SAVINGS (Original minus Alternative)	\$ 53,592,000		\$	53,592,000



CALCULATIONS HAM-71/75-0.00/0.22, PID 75119 PROJECT: 5-6B ALTERNATIVE NO.: Ohio Department of Transportation **PROJECT ITEM NO. 6-17** Kentucky Transportation Cabinet 3 of 4 SHEET NO .: reduce deck by 12' each) evel Longth From alt 'E' estimate 1. 444, 672 SF Alt E /127' proposed deck = 3501 L.F. M. 2 Tours = 1750 L.F. par level is streduction = 12' width x 1750' longth x 2 date = 42,000 5.E



PROJECT: HAM-71/75-0.00/0.22, PID 75119					ALTERNATIVE NO.:			
PR	State of Ohio,	Departme	ent of Transp 17	portation				S-6B
Kentucky Transportation Cabinet						SHEET NO.:		5-00 4 of 4
PROJ	ECT ITEM		0	RIGINAL ESTIN	ИАТЕ	ALT	ERNATIVE EST	IMATE
ITEM		UNITS	NO. OF UNITS	COST/ UNIT	TOTAL	no. Of Units	COST/ UNIT	TOTAL
0514 R-MC-STRC Br	idge - Main	SF	444,672	800.00	355,737,600	402,672	800.00	322,137,600
							·	
	Subtotal				355,737,600			322,137,600
Markup (%) at	59.50%				211,663,872			191,671,872
	TOTAL				567,401,472			513,809,472



SUMMARY OF VALUE ENGINEERING ALTERNATIVES

PROJECT:	CT: ODOT HAM-71/75-0.00/0.22, PID 75119, KYTC Project Item No. 6-17 PRESENT WORTH OF COST SAVINGS					
ALT. NO.	DESCRIPTION	ORIGINAL COST	ALTERNATIVE COST	INITIAL COST SAVINGS	RECURRING COST SAVINGS	TOTAL PW LCC SAVINGS
	ROADWAY (R)					
R-1	For all options, realign Section 1 near the cut in the hill to the east to reduce right-of-way and excavation requirements.		DES	IGN SUGGESTIC	DN .	
R-2	Specify that recycled concrete pavement is acceptable for use as sub-grade stabilization in Kentucky.	DESIGN SUGGESTION				
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PROJECT: HAM-71/75-0.00/0.22, PID 75119 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet

ALTERNATIVE NO .:

SHEET NO .:

R-1

1 of 3

DESCRIPTION: FOR ALL OPTIONS, REALIGN SECTION 1 TO THE EAST TO REDUCE RIGHT-OF-WAY AND EXCAVATION REQUIREMENTS

ORIGINAL DESIGN: (see attached sketch)

In the original design, all widening of I-75 is shown to the west side of the existing centerline in the Kentucky "Cut in the Hill" section.

ALTERNATIVE: (see attached sketch)

Construct some of the I-75 widening to the east side of existing centerline; specifically 2,000 ft. south of 12th Street to 4,500 ft south of 12th Street. Also, explore where I-75 gets close to Highland Avenue. However, it is less desirable here due to slope stability issues.

ADVANTAGES:

- Eliminates expensive walls on west side in "Hill" section
- Better use of existing right-of-way
- Less disruption to existing storm facilities

DISADVANTAGES:

- Maintenance of traffic becomes more complicated because Stage 1 work is now on both sides of the interstate
- Highland Avenue section has slope stability and flooding issues
- Geometry may be less desirable with the new hospital, now a restriction at the northern end
- May interfere with the proposed light rail corridor

DISCUSSION:

This item should be investigated to determine if significant cost avoidance can be realized by eliminating excavation and/or the retaining wall on the west side of I-71/I-75 in Kentucky in the "Cut in the Hill" section. Approximately one-half mile could be widened on the east side which would save construction and right-of way costs. The same principle may apply where I-71/I-75's alignment gets close to Highland Avenue. However, in this location, the costs may be offset because tieback walls would likely be necessary and there are drainage concerns. The centerline of I-71/I-75 could only be shifted here about 40 ft. The centerline could be shifted 200 ft. in "Hill" section. Additionally, in the "Cut in the Hill" section, the centerline could be shifted to preserve the proposed light rail corridor.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST			
ORIGINAL DESIGN						
ALTERNATIVE	DESIGN SUGGESTION					
SAVINGS (Original minus Alternative)						



Prepared by



Prepared by PARSONS BRINCKERHOFF

PROJECT: HAM-71/75-0.00/0.22, PID 75119 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet

ALTERNATIVE NO.:

SHEET NO .:

R-2

1 of 1

DESCRIPTION: SPECIFY THAT RECYCLED CONCRETE PAVEMENT IS ACCEPTABLE FOR USE AS SUB-GRADE STABILIZATION IN KENTUCKY

ORIGINAL DESIGN:

Presently, KYTC Standard Specifications do not permit the use of recycled concrete pavement as subgrade stabilization. The ODOT Specifications permit the use of recycled concrete as granular fill provided the contractor processes the material correctly.

ALTERNATIVE:

Provide a Special Provision for the Kentucky portion of the project allowing the reuse of the concrete pavement as granular fill in subgrade stabilization applications and consider this in the pavement design.

ADVANTAGES:

- Reduces waste generation
- Known availability of material

DISADVANTAGES:

- Large area needed for processing
- Removal of reinforcing steel from the concrete is time consuming
- Potential long-term maintenance issue (drainage clogging)
- Material quality to meet specifications may be difficult
- Limited number of contractors may be available that can process material to a gradation specification

DISCUSSION:

Providing the contractor an option to reuse the concrete pavement permits the contractor to decide the economic advantages of reusing the concrete pavement. However, forcing the contractor to reuse the concrete pavement may result in an increased cost due to processing and material storage issues.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN			
ALTERNATIVE]	DESIGN SUGGESTION	Ţ
SAVINGS (Original minus Alternative)			

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Section Three

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PROJECT DESCRIPTION

NEED AND PURPOSE

The Brent Spence Bridge Replacement/Rehabilitation Project is needed to improve the operational characteristics within the I-71/I-75 corridor for both local and through traffic. In the Greater Cincinnati, Ohio/Northern Kentucky region, the I-71/I-75 corridor suffers from congestion and safety-related issues as a result of inadequate capacity to accommodate current traffic demand. The purpose of this project is to:

- Improve traffic flow and level of service (LOS),
- Improve safety
- Correct geometric deficiencies, and
- Maintain connections to key regional and national transportation corridors.

Traffic Flow and Level of Service

Traffic analyses completed for the *Existing and Future Conditions Report* (February 2006) determined that approximately 160,000 vehicles per day use the Brent Spence Bridge and traffic volumes are projected to increase to approximately 200,000 vehicles per day in 2035. A major cause of congestion is the inability of the interstate facility to handle current and future travel demand. In 2005, traffic data and the current and design year 2035 level of service on I-75 were analyzed. For current traffic, during the AM peak hour, 48 percent of the freeway segments analyzed operated at LOS D or worse. During the PM peak hour, 63 percent of the I-75 freeway segments analyzed were at LOS D or worse. For design year 2035, during the AM peak hour, 64 percent of the freeway segments were at LOS D or worse and during the PM peak hour, 95 percent of the freeway segments were at LOS D or worse.

Congestion problems are area wide and not limited to spot locations. These failures are occurring in both Ohio and Kentucky. The level of congestion on I-75 is the primary reason for commuter delays and longer travel times that are currently being experienced within the corridor.

Safety

Crash rates for the I-71/I-75 corridor exceed the Kentucky and Ohio statewide averages. Within Kenton County, Kentucky, crash rates along I-71/I-75 average 1.30 accidents per million vehicle miles traveled, which is 1.67 times higher than the statewide average. The average crash rate for the Ohio section of I-71 in the study area is 3.22 accidents per million vehicle miles traveled, which is 1.7 times higher than the statewide average. Within the overall study area, I-75 has a crash rate of 2.91 accidents per million vehicle miles, which is approximately 1.5 times higher than the statewide average rate.

The ODOT Highway Safety Program (HSP) identifies and ranks all crash locations on the state system based on crash rate, frequency, density, severity, and other analytical factors. The 2005-2007 HSP list includes two highway segments within the study area which are ranked in the top 100, most notably, the section of I-71 from mile post 0.60 to mile post 1.10 is ranked seventh.

Geometric Deficiencies

The geometric design features of I-71 and I-75 within the study area do not meet current standards for an interstate highway facility. Design deficiencies include:

- Substandard vertical alignments with limited stopping distances,
- Acceleration and deceleration lanes that are not of sufficient length for anticipated traffic volumes and movements,
- Narrow shoulders that present safety hazards, make maintenance of traffic difficult; and contribute to traffic delays when crashes, vehicle breakdowns, or scheduled roadwork require lane restrictions.

National, Regional, and Local System Linkage

The I-71/I-75 corridor in the Greater Cincinnati/Northern Kentucky area is a significant transportation corridor, not only for local access and mobility needs, but also for regional, statewide, and national access and mobility needs. This corridor is recognized in county and regional transportation plans, as are the recommendations for needed improvements. In addition, I-71 and I-75 are key links in the national transportation system in terms of people movement, freight movement, and national defense. Transportation plans and recommendations at all levels recognize that these facilities now operate at or below capacity and therefore, need to be upgraded to modern standards to maintain these important transportation links.

PROJECT LOCATION

The project study area is located along a seven mile segment of I-75 within the Commonwealth of Kentucky and the State of Ohio. The southern limit of the project is 2,300 feet south of the midpoint of the interchange of I-75 and Dixie Highway (US 127/US 42/US 25) in Kentucky (Exit 188). The northern limit of the project is 1,500 feet north of the midpoint of the interchange of I-75 and the Western Hills Viaduct in Ohio (Exit 2B). The eastern and western limits of the study area follow the existing alignment of I-75. In Kentucky, the study area is a 1500-ft.-wide corridor centered on I-75 south of the City of Covington. See Figure 1: Project Area on the following page.

EXISTING CONDITIONS

I-75 connects the Greater Cincinnati/Northern Kentucky region with Detroit, Michigan to the north and Miami, Florida to the south. It also connects with I-74 and US 50 to the east and west. I-75 and the railroads that run parallel to it through this region are among the nation's busiest. This transportation system is the backbone of commerce and travel through the region. According to Federal Highway Administration (FHWA) estimates, I-75 is one of the busiest trucking routes in North America with truck traffic approaching six billion miles annually. In addition, more than 250 freight trains per day pass through or have destinations within the I-75 corridor. The interstate portions of this transportation system are nearly 50 years old and significant safety and capacity problems exist.

The built environment surrounding I-75 and the Brent Spence Bridge is characterized by highly disturbed, dense urban development with historic districts and properties nearby. I-75 in Cincinnati is a typical downtown freeway with closely spaced ramps and poor roadway geometry. Within the past few years several reconstruction and rehabilitation projects were performed in the area.

The National Bridge Inventory lists the Brent Spence Bridge as functionally obsolete due to the capacity, sight distance, and safety concerns associated with its current configuration. These concerns have led to this project being considered a top priority by KYTC, ODOT, the Ohio-Kentucky-Indiana Regional Council of Governments, and the cities of Covington, Kentucky, and Cincinnati, Ohio.



Figure 1: Project Area

FEASIBLE ALTERNATIVES

The comparative analysis led to the recommendation of carrying forward two feasible alternatives. The two feasible alternatives consist of Alternative E and a combination of Alternatives C and D (Hybrid Alternative CD). Based on the analyses completed and feedback as part of community input, it was also recommended that certain design elements of Alternative G be incorporated into the two feasible alternatives in Step 6 of the ODOT's Project Development Process. Additionally, the two feasible alternatives would be designed to provide three lanes in each direction on I-75.

Alternative G was eliminated from further consideration due to the high costs, and residential and business displacements associated with this alternative. However, the following beneficial design features of Alternative G would be carried forward for further analysis and incorporated into Alternative E and Hybrid Alternative CD:

- Access to the north end of Clay Wade Bailey Bridge from I-75 southbound using a collectordistributor roadway and US 50 eastbound;
- Two access points into Covington;
- Access from a northbound collector-distributor roadway from KY to I-71 northbound in Ohio; and
- An access ramp just north of Ezzard Charles Drive for Freeman Avenue and local traffic to I-75 northbound.

HYBRID ALTERNATIVE CD

Hybrid Alternative CD south of KY 12th Street has six lanes northbound and six lanes southbound. A local collector-distributor roadway is provided from KY 12th Street to the Ohio River. A new double deck bridge would be built just west of the existing Brent Spence Bridge for I-75 (three lanes in each direction), two lanes for southbound I-71 and two lanes for southbound local traffic. The existing Brent Spence Bridge would be rehabilitated to carry two lanes for northbound I-71 and three lanes for northbound local traffic. Hybrid Alternative CD reconfigures I-75 through the I-71/I-75/US 50 Interchange and eliminates all access to and from I-75 from KY 12th Street to just south of Ezzard Charles Drive in the northbound direction. Between Ezzard Charles Drive and the Western Hills Viaduct, northbound I-75 would have five lanes, southbound I-75 would have two lanes, and the local southbound collector-distributor roadway would have four lanes, for a total of 11 travel lanes. Western and Winchell Avenues would be improved to carry local traffic.

Access to downtown Cincinnati would be made through a series of collector-distributor roadways that would require a decision point outside of the downtown area. In the northbound direction just north of the existing Brent Spence Bridge, the collector-distributor roadway lane configuration is combined on a single structure between the Ohio (OH) 2nd Street diverge and the OH 5th Street diverge. Using a single structure in this area simplifies the vertical geometric design, and reduces costs. A negative aspect to combining the lane configuration onto a single structure is that it would introduce a weave movement north of OH 5th Street from traffic coming from I-71 southbound traveling towards the Western Hills Viaduct. Upon analyzing the weave movement, no degradation of level of service was noted.

In the southbound direction, the collector-distributor roadway remains west of I-75. Traffic entering from Western Avenue would have access to I-71 northbound and US 50 eastbound by using a weave condition. The ramp access to OH 5th Street would remain.

Hybrid Alternative CD requires approximately 22.2 acres of additional right-of-way. This is the second least amount of land impacted by the conceptual alternatives. Hybrid Alternative CD would displace 16 residential units and 35 businesses. Approximately 300 employees would be affected by this alternative. Hybrid Alternative CD, as with Alternative E would impact Longworth Hall which includes 21 businesses. Hybrid Alternative CD would impact three wetland areas, 10 woodlots and one potential threatened and endangered species habitat area, four community resources, three historic resources, and five Section 4(f) properties. Hybrid Alternative CD would be compatible with existing land use plans and would not have a negative impact on community cohesion. Hybrid Alternative CD would be constructed within the existing interstate corridor and not bisect neighborhoods in Kentucky or Ohio. Alternative CD would support the Queensgate redevelopment plans and help Cincinnati facilitate its economic renewal goals.

Since the alignment of Hybrid Alternative CD would be located just west of the existing Brent Spence Bridge, it would impact a portion of the Duke Energy West End substation and require the relocation of 52 individual utility facilities. Hybrid Alternative CD would directly impact four Section 4(f) resources: Goebel Park, the Lewisburg Historic District, Longworth Hall, and the Queensgate playground and ballfields. Hybrid Alternative CD could have noise and visual impacts on one Section 4(f) resource, the Harriet Beecher Stowe Elementary School (Fox 19 Television Station).

Alternative C would encroach upon the Lewisburg Historic District along its eastern border and directly impact 0.83 acres of the historic district. It would displace 10 residences adjacent to the west side of I-71/I-75, one of which is a non-contributing property to the historic district. Alternative C would directly impact 0.25 acres of Longworth Hall resource including the building and historic boundary.

ALTERNATIVE E

Alternative E south of KY 12th Street has six lanes northbound and six lanes southbound. It provides two access points into Covington for both northbound and southbound traffic. A local collectordistributor roadway would be provided from KY 12th Street to the Ohio River. A new double deck bridge would be built just west of the existing Brent Spence Bridge to carry northbound and southbound I-71 and I-75 traffic. On the upper deck, I-71 southbound would have three lanes and I-71 northbound would have two lanes. On the lower deck, I-75 would have three northbound and three southbound lanes. The existing Brent Spence Bridge would be rehabilitated to carry northbound and southbound local traffic with two lanes in each direction as this number of lanes provides an acceptable level of service.

In Ohio, Alternative E reconfigures I-75 through the I-71/I-75/US 50 Interchange and eliminates some of the existing access points along I-75. The existing direct connections between I-75 to westbound US 50 and from eastbound US 50 would be maintained in Alternative E. Between Ezzard Charles Drive and Western Hills Viaduct, southbound I-75 would have six lanes, northbound I-75 would have five lanes, and there would be one auxiliary lane to the Western Hills Viaduct. Western and Winchell avenues would be improved to carry local traffic.

The alignment of Alternative E is similar to Hybrid Alternatives CD in that it provides a new bridge alignment just west of the existing Brent Spence Bridge. Alternative E provides two direct access points to Covington in both the northbound and southbound directions. In the northbound direction,

access would be provided by the local collector-distributor roadway at KY 12th Street and KY 5th Street. In the southbound direction, access would be provided by the local collector-distributor roadway at KY 5th Street, and off of I-71 and I-75 at KY 9th Street. Access to the interstate system from Covington would be provided by local city streets. In the northbound direction, access to I-75 would be provided at KY 9th Street, access to I-71 would be provided at KY 5th Street. Access to I-75 northbound would also be provided at KY 4th and 5th Streets through the local collector-distributor roadway across the lower deck of the existing Brent Spence Bridge. In the southbound direction, access to I-71/I-75 would be provided at KY 5th Street and KY 12th Street. All access to downtown Cincinnati from I-75 would be provided by a collector-distributor roadway that would require a decision point outside of the downtown area, KY 12th Street for northbound traffic and just south of Ezzard Charles Drive for southbound traffic. Access to I-75 northbound would be provided at OH 4th and 6th streets through the local collector-distributor roadway and at OH 9th Street through Winchell Avenue. Southbound I-75 access would be provided at Western Avenue, OH 8th Street, and OH 4th Street through the local collector-distributor roadway across the upper deck of the existing Brent Spence Bridge.

When compared to Hybrid Alternative CD, Alternative E is expected to have similar environmental impacts. Alternative E would impact three wetland areas, 10 woodlots and one potential threatened and endangered species habitat area. Alternative E would impact three community resources, two historic resources, one historic district, and four Section 4(f) properties. This is slightly fewer impacts than other conceptual alternatives. Alternative E would displace 19 residential units and 39 businesses, which is the fewest number of people displaced among alternatives. Alternative E, as with Hybrid Alternative CD, would impact Longworth Hall which includes 21 businesses. In addition, the 19 residential units estimated to be displaced to build Alternative E is expected to result in the fewest number of people displaced.

Alternative E would be compatible with existing land use plans and would not have a negative impact on community cohesion. Alternative E would be constructed within the existing interstate corridor and not bisect neighborhoods in Kentucky or Ohio. Alternative E would support the Queensgate redevelopment plans and help Cincinnati facilitate its economic renewal goals. Since the alignment of Alternative E would be located just west of the existing Brent Spence Bridge, it would impact a portion of the Duke Energy West End substation and require the relocation of 52 individual utility facilities. Alternative E would directly impact three Section 4(f) resources Goebel Park, the Lewisburg Historic District, and Longworth Hall. It could also have noise and visual impacts on one Section 4(f) resource, the Harriet Beecher Stowe Elementary School (Fox 19 Television Station).

Alternative E would encroach upon the Lewisburg Historic District along its eastern border and impact 0.98 acres of the historic district. It would displace 11 residences adjacent to the west side of I-71/I-75, one of which is a non-contributing property to the historic district. Alternative E would impact 0.54 acres of Longworth Hall resource including the building and historic boundary. The eastern end of the building would be demolished. It is expected that individual Section 4(f) evaluations would be prepared for the Lewisburg Historic District and Longworth Hall due to the adverse effects of Alternative E.

PROJECT SCHEDULE AND CONSTRUCTION COSTS

The following is the schedule for the Brent Spence Bridge Replacement/Rehabilitation Project, which follows construction of the Mill Creek Expressway and Thru the Valley projects.

- Completion of preliminary design and NEPA process 2011
- Detailed design 2011
- Right-of-way acquisition 2012 2014
- Construction begins 2015
- Midpoint of Construction June 2017
- Completion of Construction 2020

The total estimated project costs are construction costs which include a design contingency, a construction inflation factor, right-of-way for roadway and utility relocations, major utility, and total project development costs. The table below summarizes the total estimated project costs.

Alternative	Construction Costs (millions)	Construction Costs Inflation (59.5%) (millions)	Real Estate Costs (millions)	Utility Costs (millions)	Real Estate Utility Costs (millions)	Project Development Costs	Total Estimated Costs (millions)
Hybrid Alternative CD	\$1,261.7	\$750.7	\$18.0	\$39.4	\$1.0	\$210.4	\$2,281.2
Alternative E	\$1,431.6	\$851.8	\$15.4	\$39.4	\$1.0	\$236.3	\$2,575.5

Total Cost Estimates for Mainline Alternatives in Projected Build Year Dollars



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To The Bridge Spence Clay Wade Bailey Bridge		
LEGEND Interstate 75 Interstate 71 Collector - Distributor US 50 Local Road Existing Right of Way Potential Impact Limits Queensgate South Development (NOT part of this project) Regional Rail Plan Corridor (NOT part of this project)		
Base: 2004 Aerial Photograph		STAL M

Prepared by DE PARSONS BRINCKERHOFF





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LEGEND Interstate 75 Interstate 71 Collector - Distributor US 50 Local Road Existing Right of Way Potential Impact Limits Queensgate South Development	
(NOT part of this project) Regional Rail Plan Corridor (NOT part of this project) Base: 2004 Aerial Photograph	

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LEGEND Interstate 75 Interstate 71 Collector - Distributor US 50 Local Road Existing Right of Way Potential Impact Limits Queensgate South Development (NOT part of this project) Regional Rail Plan Corridor (NOT part of this project)	
Base: 2004 Aerial Photograph	

Property by PARSONS BRINCKERHOFF

PROSPECTOR STREET



Section Four
VALUE ANALYSIS AND CONCLUSIONS

INTRODUCTION

This section describes the value analysis (VA) procedure used during the VE workshop on the Brent Spence Bridge Replacement/Rehabilitation Project facilitated by Lewis & Zimmerman Associates, Inc., for ODOT and KYTC. The workshop was conducted August 24 - 26, 2009 at the Kentucky Transportation Cabinet, District 6 Office in Fort Mitchell, Kentucky. The project team provided the drawings and cost estimates for the workshop.

A systematic approach was used in the VE study, which is divided into three parts: (1) Preparation Effort, (2) Workshop Effort, and (3) Post-Workshop Effort. A task flow diagram outlining each of the procedures included in the VE study is attached for reference.

Following this description of the procedure, separate narratives and supporting documentation identify the following:

- VE workshop agenda
- VE workshop participants
- Economic data
- Cost model
- Function analysis
- Creative ideas and evaluations

PREPARATION EFFORT

Preparation for the workshop consisted of scheduling workshop participants and tasks and providing necessary project documents for team members to review before attending the workshop. The study documents listed below and available on the project website

(http://www.brentspencebridgecorridor.com/studydocuments.html) were used as the basis for generating VE alternatives and for determining the cost implications of the selected VE alternatives:

- Brent Spence Bridge Conceptual Alternatives Study, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated April 2009;
- Brent Spence Bridge Conceptual Alternatives C, D, and E with Typical Sections, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated April 2009;
- Brent Spence Bridge Replacement/Rehabilitation Project Advisory Committee Meeting Minutes #5, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated February 25, 2008;
- Brent Spence Bridge MOT/Constructability Report, Stages 1-5, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff;
- Brent Spence Bridge Potential Right-of-Way Impacts Drawings, Alternatives C, D, and E, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff;
- Brent Spence Bridge Potential Utilities Impacts Drawings, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff;

Value Engineering Study Task Flow Diagram

Preparation Effort





Post-Workshop Effort



- Brent Spence Bridge Phase I History/Architectural Survey Ohio, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated June 2007;
- Brent Spence Bridge Phase I History/Architectural Survey Kentucky, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated June 2007;
- Brent Spence Bridge Travel Lane Evaluation Study, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated April 2007;
- Alternative C and D (Cost) Estimate BSB Sections 1-5, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated 11/05/08;
- Alternative E (Cost) Estimate BSB Sections 1-5, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated 11/05/08;
- Brent Spence Bridge Travel Lane Evaluation Study, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated April 2007;
- Brent Spence Bridge Kentucky Conceptual Stage Relocation Report, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated February 2007;
- Brent Spence Bridge Planning Study Report, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated September 2006;
- Brent Spence Bridge Purpose and Need Report, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated May 2006;
- Brent Spence Bridge Existing and Future Conditions Report, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated February 2006;
- Brent Spence Bridge Red Flag Summary, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated December 2005; and
- Brent Spence Bridge Public Involvement Plan, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated October 2005.

Information relating to the project's purpose and need, owner concerns, project stakeholder concerns, design criteria, project constraints, funding sources and availability, regulatory agency approval requirements, and the project's schedule and costs is very important as it provides the VE team with insight about how the project has progressed to its current state.

To prepare for this exercise, the VE team studied the study documents listed above provided by the project team. The VE Team Leader also prepared basic cost models using the Alternative C and D and Alternative E(Cost) Estimates BSB Sections 1-5, prepared by Parsons Brinckerhoff, dated 11/05/08 to distribute the total project cost among the various deliverables. The VE team used the cost models to help identify higher cost elements and elements providing little or no value to the overall project objectives.

VALUE ENGINEERING WORKSHOP EFFORT

The VE workshop was a 3-day effort beginning with the design overview at 8:00 AM on Monday, August 24, 2009 and concluding with the VE Presentation at 2:00 PM on Wednesday, August 26, 2009. During the workshop, the VE Job Plan was followed in compliance with Federal Highway Administration guidelines for conducting a VE study. The Job Plan guided the search for alternatives to mitigate or eliminate high-cost drivers, secondary functions providing little or no value, and potential project issues or risks. Alternatives to specifically address the project team concerns and enhance value by reducing costs, improving construction schedule, and delivering required functional objectives were also considered. The Job Plan includes six phases:

• Information Phase

- Function Identification and Analysis Phase
- Creativity Phase
- Evaluation Phase
- Development Phase
- Presentation Phase

Information Phase

At the beginning of the study, the decisions that have influenced the project's design have to be reviewed and understood. For this reason, the workshop began with a detailed discussion and review of the project documents including an overview by the project team. The overview highlighted the information provided in the documentation reviewed by the VE team before the workshop and expanded on it to include a history of the project's development and any underlying influences that caused the design to develop to its current state. During this presentation, VE team members were given the opportunity to ask questions and obtain clarification about the information provided.

Function Identification and Analysis Phase

Having gained some information on the project, the VE team proceeded to define the functions provided by the project, identifying the costs to provide these functions, and determining whether the value provided by the functions has been optimized. Function analysis is a means of evaluating a project to see if the expenditures actually perform the requirements of the project or if there are disproportionate amounts of money spent on support functions. Elements performing support functions add cost to the project but have a relatively low worth to the basic function.

Function is defined as the intended use of a physical or process element. The team attempted to identify functions in the simplest manner using measurable noun/verb word combinations. To accomplish this, the team first looked at the project in its entirety and randomly listed its functions, which were recorded on Random Function Analysis Worksheets (provided in this section). Then the individual functions of the major components of the project depicted on the cost model were identified.

After identifying the functions, the team classified the functions according to the following:

Abbreviation	Type of Function	Definition
НО	Higher Order	The primary reason the project is being considered or project goal.
В	Basic	A function the must occur for the project to meet its higher order functions.
S	Secondary	A function that occurs because of the concept or process selected and may or may not be necessary.
RS	Required Secondary	A secondary function that may not be necessary to perform the basic function but must be included to satisfy other requirements or the project cannot proceed.
G	Goal	Secondary goal of the project.
О	Objective	Criteria to be met.
LO	Lower Order	A function that serves as a project input.

Higher order and basic functions provide value, while secondary functions tend to reduce value. The goal of the next job phase is to reduce the impact of secondary functions and thereby enhance project value.

The VE team used the cost model previously prepared to seek out the areas where most of the project funds are being applied. Because of the magnitude of these high-cost elements or functions, they also became initial targets for value enhancement.

Overall, these exercises stimulated the VE team members to focus on apparently low value areas and initially channel their creative idea development in these places.

Creativity Phase

This phase involved the creation and listing of ideas. The VE Team began by identifying the highest cost project elements with a high absolute cost compared to other elements in the project, and secondary functions providing little or no value. Then, using the classic brainstorming technique, the VE team began to generate as many ideas as possible to provide the necessary functions at a lower total life cycle cost, or to improve the quality of the project. Innovative ideas for reducing costs and delivering required functional objectives were encouraged. At this stage of the process, the VE team was looking for a large quantity of ideas and free association of ideas. A Creative Idea Listing worksheet was generated and organized by the project element being addressed.

The project team may wish to review these creative lists since they may contain ideas that were not pursued by the VE team but can be further evaluated for potential use in the design.

Evaluation Phase

Since the goal of the Creativity Phase was to conceive as many ideas as possible without regard for technical merit or applicability to the project goals, the Evaluation Phase focused on identifying those ideas that do respond to the project value objectives and are worthy of additional research and development before being presented to the owner. The selection process consisted of the VE team evaluating the ideas originated during the Creativity Phase. The following criteria were identified and used as a basis during the evaluation of each idea.

- No lane shall be over capacity
- No lane shall have substantial unused capacity
- No lane shall have more than two destinations
- No lane shall have more than one merge, diverge, or weave as a result of a local entrance or exit
- Lane endings shall end on the right of through lanes to avoid weaves
- Lane beginnings shall begin on the right of through lanes to avoid weaves
- All lanes could operate as separate, independent roadways relevant to other local roadways
- The new design shall meet FHWA noise abatement criteria (NAC) as outlined in 23 (CFR), Part 772
- The new design shall be developed in accordance with the geometric design criteria requirements of both KYTC and ODOT (See Conceptual Alternatives Study Table 4, pages 33-36)

The VE team rated each idea by consensus according to the following approach. A scale of 1 to 5 was used, with 5 or 4 indicating an idea with the greatest potential to be technically sound and provide cost

savings or improvements in other areas of the project with minimal risk, 3 indicating an idea that provides marginal value but could be used if the project was having budget problems, 2 indicating an idea with a major technical flaw, and 1 indicating an idea that does not respond to project requirements. Generally, ideas rated 4 and 5 are pursued in the next phase and presented to the owner during the Presentation Phase.

The team also used the designation "DS" to indicate a design suggestion, which is an idea that may not have specific quantifiable cost savings but may reduce project risk, improve constructability, help to minimize claims, enhance operability, ease maintenance, reduce schedule time, or enhance project value in other ways. Design suggestions could also increase a project's cost but provide value in areas not currently addressed. These are also developed in the next phase of the VE process.

Development Phase

In this phase, each highly rated idea was expanded into a workable solution designated as a VE alternative. The development consisted of describing the current design and the alternative solution, describing the advantages and disadvantages of the proposed alternative solution, and writing a brief narrative to compare the original design to the proposed change and provide a rationale for implementing the idea into the design. Sketches and design calculations, where appropriate, were also prepared in this part of the study. The VE alternatives are included in Section Two of this report.

Presentation Phase

The presentation was held at 2:00 PM on Wednesday, August 26, 2009. The goal of the presentation was to provide the attendees with an overview of the suggestions for value enhancement resulting from the VE study and afford them the opportunity to ask questions to clarify specific aspects of the alternatives presented.

POST-WORKSHOP EFFORT

The post-workshop portion of the VE study consisted of the preparation of this VE Study Report. Members of the project team will analyze each alternative and prepare a short response, recommending incorporation of the alternative into the project, offering modifications before implementation, or presenting reasons for rejection. LZA is available at your convenience as you review the alternatives. Please do not hesitate to call on us for clarification or further information as you consider an implementation approach.

VALUE ENGINEERING WORKSHOP AGENDA

Lewis & Zimmerman Associates, Inc. will conduct a four-day value engineering (VE) workshop August 24-26, 2009 for the Brent Spence Bridge Replacement/Rehabilitation Project (ODOT HAM-71/75-0.00/0.22 PID 75119, KYTC Project Item No. 6-17).

The VE workshop will be conducted at:

Kentucky Transportation Cabinet District 6 Office 421 Buttermilk Pike Ft. Mitchell, Kentucky 41017

Alfred B. Craig and Duane Phelps from Parsons Brinckerhoff will share a detailed presentation of the project at the beginning of the VE workshop and be available by telephone during the workshop to answer any questions.

The following persons shall be in attendance as VE Team Members:

ODOT Project Manager	Stefan Spinosa, District 8 Production
KYTC Project Manager	John Eckler, District 6 Highway Design
KYTC Project Manager	Rob Hans, District 6 Chief Engineer
ODOT Highway Design	John Otis, District 8 Production
ODOT Maintenance of Traffic	Walter Bernau, District 8 Construction
ODOT Maintenance of Traffic	Reynaldo Stargell C. O. Traffic Engineering (1st/4th day)
ODOT Traffic Control	Jay Hamilton, District 8 Planning/Programming
KYTC Structures	J.C. Pyles, Structural Design Office
ODOT Structures	Chris Howard, District 8 Production
ODOT Structures	Jeff Crace; C.O. Structural Engineering (1st/4th day)
KYTC Geotech	Darrin Beckett, C.O. Division of Materials
ODOT Geotech	Joe Smithson, District 8 Production
KYTC Construction	Kevin Rust, District 6 Construction
KYTC Construction	Nasby Stroop, C.O. Construction
ODOT Construction	Joe Bassil, District 8 Construction
ODOT Environmental	Keith Smith, District 8 Planning/Programming
Real Estate - TBA	
ODOT Program Manager	Scott Phinney, C.O. Systems Planning & Prog. Mgmt. (on call)
ODOT Estimating	C.O. Office of Estimating (on call)
Ohio FHWA	Mark Vonder Embse, Transportation Area Engr. & VE Coordinator
Kentucky FHWA	Bernadette DuPont
Kentucky FHWA	Scott Wolf
ODOT VE Coordinator	Jeanne Braxton, C.O. Office of Production (1st/4th day)
KYTC VE Coordinator	Siamak Shafaghi (1st day)
VE Facilitator	Steve Havens, P.E., C.V.S., Lewis & Zimmerman Associates
Design Group – Parsons Brinckerhoff	Alfred B. Craig (Project Manager)
	Duane Phelps (Design Lead)

AGENDA

Monday, August 24, 2009

7:45 am – 8:00 am	VE Team Informal Gathering	(VE Team)
VE team gathers for i VE team prepare que	nformal introductions stions for Parsons Brinckerhoff	
8:00 am – 8:10 am	Welcome, Introduction and Objectives	(All Participants)
Welcome: Opening R Overview of the VE F Review VE Workshop	emarks and Introduction of Participants Process, Workshop Organization and Agenda p Objectives and Goals	
8:10 am - 10:30 am	Design Team Detailed Presentation	(All Participants)
Overview, Scope, and Key Design Issues for Development Plan Re Design Team fields V	l Project Requirements all Disciplines view and Updated Opinion of Probable Project Cost E Team questions	
10:30 am – 12:00 pm	Function Analysis Phase	(VE Team)
Identify Project Const Identify basic and sec Analyze cost model(s) Identify and Quantify	raints and Key Issues ondary functions) and worth assignments Project Risks	
12:00 pm – 1:00 pm	Lunch	
1:00 pm – 4:15 pm	Creative Phase	(VE Team)
4:15 pm – 4:30 pm	Daily Wrap-up Session	(VE Team)
Tuesday, August 25, 2009		
8:00 am – 10:00 am	Complete Creative Phase	(VE Team)
Brainstorm to generate	e ideas through free association. Defer judgment.	
10:00 am – 12:00 pm	Evaluation Phase	(VE Team)
Establish the criteria for ideas for development.	or evaluation and rate each idea on a scale of 1 to 5, ic Assign ideas rated 4 or higher to team members for	lentifying the "best" development.

12.00 pm 1.00	nm	Lunch
12.00 pm - 1.00	pm	Lunca

1:00 pm – 4:15 pm	Development Phase	(VE Team)
The VE team develops and written justification designs will be prepared	creative ideas into value engineering alternatives wins. Initial and life-cycle cost estimates comparing bad	ith sketches, calculations aseline and proposed
4:15 pm – 4:30 pm	Daily Wrap-up Session	(VE Team)
Wednesday, August 26, 2009		
8:00 am – 12:00 pm	Development Phase (continued)	(VE Team)
The VE team continues calculations and written proposed designs will b	developing creative ideas into value engineering all justifications. Initial and life-cycle cost estimates of e prepared.	ternatives with sketches, comparing baseline and
12:00 pm – 1:00 pm	Lunch	
1:00 pm – 2:00 pm	Complete Development Phase	(VE Team)
The VE team summarized outbriefing presentation	es the findings into the Summary of Potential Savin	gs and prepares for the
2:00 pm – 3:00 pm	Presentation Phase	(All Participants)
The VE team presents the representatives. A draft	ne value engineering alternatives to the design team copy of the Summary of Potential Savings will be o	and the ODOT listributed.
3:00 pm – 3:30 pm	Wrap-up/Adjourn	(VE Team)

OUTLINE FOR VE TEAM PRESENTATION

The design is influenced by outside input from many sources. In order to perform its work most efficiently, the value engineering team needs to understand the factors that have influenced the RFP development. The object is to avoid duplication of efforts and to aid the team in becoming familiar with the project.

To achieve this objective, the Project Team is asked to give a brief overview at the beginning of the VE workshop session. To assist the Project Team, we have outlined the information that, as a minimum, should be addressed:

- Scope of the Designer's effort
- Existing site conditions
- Design concepts for project (including alignment, right-of-way, maintenance of traffic, environmental mitigation, erosion and sedimentation control, structures, etc).
- Constraints
- Summary of cost estimate
- Construction phasing
- Pertinent information from public participation
- Issues/Concerns/Risks

VALUE ENGINEERING WORKSHOP PARTICIPANTS

The VE team was organized to provide specific expertise in the unique project elements involved with the Brent Spence Bridge Replacement/Rehabilitation Project. The multidisciplinary team comprised professionals with highway design, geometrics, structural engineering, traffic control, construction, transportation engineering, and cost estimating experience and a working knowledge of VE procedures. The following is a list of the VE team members:

Specialization	Affiliation
Highway Design	ODOT District #8 Project Manager
Highway Design	KYTC District #6 Project Manager
Highway Design	KYTC District #6 Chief Engineer
Highway Design	ODOT District #8 Production
Construction/MOT	ODOT District #8 Construction
MOT	ODOT C.O. Traffic Engineering
Traffic	ODOT District #8 Planning & Programming
Structures	KYTC Structural Design Office
Structures	ODOT District #8 Production
Structures	ODOT C.O. Structural Engineering
Geotechnical	KYTC C.O. Division of Materials
Geotechnical	ODOT District #8 Production
Construction	KYTC District #6 Construction
Construction	KYTC C.O. Construction
Environmental	ODOT District #8 Planning and Programming
FHWA	Kentucky FHWA
FHWA	Kentucky FHWA
VE Coordinator	KYTC C.O. Production
VE Coordinator	ODOT C.O. Office of Production
VE Team Leader	Lewis & Zimmerman Associates
	Specialization Highway Design Highway Design Highway Design Construction/MOT MOT Traffic Structures Structures Structures Structures Geotechnical Geotechnical Construction Construction Environmental FHWA FHWA VE Coordinator VE Coordinator VE Team Leader

DESIGNER'S PRESENTATION

An overview of the project was presented at 8:00 AM on August 24, 2009 by the design team from Parsons Brinckerhoff. The purpose of this design overview, in addition to being an integral part of the Information Phase of the VE study, was to bring the VE team "up to speed" regarding the overall project specifics. Additionally, the overview afforded the project team the opportunity to highlight in greater detail those areas of the project requiring additional or special attention. An attendance list for the design presentation is attached.

VALUE ENGINEERING TEAM'S PRESENTATION

The VE Team's presentation was held at 2:00 PM on August 26, 2009. The purpose of the meeting was to provide the attendees with an overview of the suggestions for value enhancement resulting from the VE study and afford them the opportunity to ask questions to clarify specific aspects of the alternatives

presented. Copies of the Draft Summary of Value Engineering Alternatives were provided to the attendees. An attendance list for the meeting is attached.

111



MEETING PARTICIPANTS

PROJECT: HAM-71/75-0.00/0.22, I Ohio Department of Tran PROJECT ITEM NO. Kentucky Transportation	PID 75119 DA nsportation 6-17 & Cabinet	ATE: AUGUST 24, 2009
NAME & E-MAIL (please print)	ORGANIZATION/TITLE	PHONE/FAX
STEPHEN HAVENS, (VS em shavens @ Iza.com	LZA - ARCADIS-US VE TEAM LEADER	ph 608-438-8227 mob fx
Keith Smith emkeith, smith @ dot, state. uh. us	ODOT District & Acting Planning & Env. Eng.	ph 573 933 6590 mob fx
John Otis em John. Otis@dot.state.oh. us	OPOT District 8 Transportation Engineer 2	ph <i>513-933-6199</i> mob fx
em Walter Bernan	0007 Diz 8	ph 5/3 933-6578 mob 5/3 520-0298
Stefan Spinosa em.	ODOT Dist 8	ph 513-933-6639 mob
steten. spinose & dot. state. oh us	SS Project Manager	TX
em doug miller e dot state	ODor Dist. 3 Production Administration	ph 5/3 - 73 7 - 260 3 mob F fx 5/3 - 933 - 8252
Joe Smithson	ODOT District 8	ph 513-933-6707 mob
JOC. Smithsor & dot. state. oh. us	Geotechnical Engineer	tx 5/3-933-8252
em (Craco) distributorita	DADT - C.O. Bridge	r ph 614 - 5486 - 2)44 mob
Jell. 21462 & 261. 51412.04.0	s Nesign	tX
John Eckler em [] the contract	KYTC - DG Design	ph 857 - 341 - 2700 mob fr
Reynaldo Starge II	ODOT C.O. Traffic	ph 614-644-8177
em reynaldo.stargell@dot.state.oh.us	Transportation Engineer	fx 614-644-8199

DESIGNER'S PRESENTATION

MEETING PARTICIPANTS

PROJECT: HAM-71/75-0.00/0.22, I Ohio Department of Tran PROJECT ITEM NO. Kentucky Transportation	PID 75119 DATE: nsportation 6-17 n Cabinet	AUGUST 24, 2009
NAME & E-MAIL (please print)	ORGANIZATION/TITLE	PHONE/FAX
FRED CRAIG @ PBNDRLD	PBESONS BENKCORPHOFE	ph 5136392121 mob fx
em PHELPSD@PBWORLD.com	PARSONS BRINCHERHOFF	ph 513-639-2138 mob fx 513-421-1040
G. JEANNE BRAXTON	ODOT- C.O. PRODUCTION	ph 6/4-466-1373
ET SEANNE BRAXTON @DOT. STATE.OH.	VALUE EIGUREER COORD.	fx 614-752-6405
CHRISTOPHER HOWARD em ODOT D-8 CHRISTOPHER HOWARDE OH.US	UDUT - D8 PRODUCTION	ph 513-43]-6605 mob fx
Masby Stroop em nasby, stroop CKY-sav	KYIC - C.C. Cunstruction	ph 573 Z-576 4/-4/783 mob fx
em JC. Pyles	KyTE-Stuctores	ph 502.564-4560 mob fx
Kevin Rust em Kevin.rust@Ky.gov	KYTC D-6 Construction and Maintenance	ph 839-341-2700 mob fx 859-341-3661
VALERIE ROBBINS em robbins v@poworld.com	PARSONS BRINCKERHOFF PLANNER	ph 513.639.2153 mob fx
em bernedette, dupint Edotique	FHWA-Ky TRANSPORTHERN SPECICILI	ph 5.2-223-6729 mob fx
em Swith wolf @ dot.gov	FHWA-KY TRANSPORTATION ENGINEER	ph(502)223 - 6734 mob 5 fx (502)223 - 6735

DESIGNER'S PRESENTATION

MEETING PARTICIPANTS

PROJECT: HAM-71/75-0.00/0.22, P Ohio Department of Tran	PID 75119 DATE:	AUGUST 24, 2009	
PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet			
NAME & E-MAIL (please print)	ORGANIZATION/TITLE	PHONE/FAX	
Darrin Beckett	KYTC Gestech Brunch	ph 502-564-2374	
en darrin. Decketta ky.gov	Transportation Eng. Specialist	tx 502-564-4839	
ROB HANS	KYTC D.G	ph 859 341-2707 x256	
em Robert. Hans Ce Ky. Gov	Chief District Engineer	fx 559 341-3661	
SIAMAK SHAFAGHI	KYTC-VE	ph (5a2) 564 - 3280	
em Siamak. Shafaqhi@KY.gov	CENTRAL OFFICE	fx(502)564-3324	
JAY HAMILTON	010T 28	ph373 933 C584 mob	
em jay, ham it toredot, state. th. is	PLANNING	fx573932.93/	
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VE TEAM PRESENTATION

PROJECT: HAM-71/75-0.00/0.22, PID 7511 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet	19 DATE: ,	AUGUST 26, 2009
NAME - E:MAIL (please print)	ORGANIZATION: TITLE	PHONE:
JAY HAMILTON	ODOT DIST. 8 PLANNING	ph 573 933 6584
em jay ham ton od ot state. oh, us	TRAFFIC PLANNING ENGL	fx 5739329366
Andy Fluegemann emandy, fluegemenn @ dot. state.ob.us	ODOT D-8 Acting Planning Administration	ph <i>573 9336597</i> mob fx
Doug MILLER	ODOT D-8	ph 513 933-6603
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em Siamak. Shafaghi @ KY.gov	KITC	fx (502) 564-332-f
Keith Smith	000T D-8	ph 513 933 6590
em keith. sm. the edot. shite. uh. us	Hoting Planning & Eas. Eng	fx
seff Crace	OBOF C.U.	ph 614-486-2744 mob
em off.craco @dot.stale.oh.us	Structures	fx
G. JEANNE BRAXTON	ODOT-C.O. MODUCTION	ph 6/4-466-1373
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John Eckler	KYTC D6 Desyin	ph 859 - 341-2700 mob
em John. Ecklar @ Ky. yar		fx
Stacee Hans	KYTC D6 Environmental	ph(859) 341- 2700 mob
em Stacee, Hans@ky.gov		fx
Bob Yeagen		ph second second
em Robert. Yeager EKY, gav	KYTC in the state	fx



PROJECT: HAM-71/75-0.00/0.22, PID 7511 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet	DATE: AUGUST 26, 2009	
NAME - E:MAIL (please print)	ORGANIZATION: TITLE	PHONE:
em stefen Spinosa edof. stat.oh.u	ODOTOB	ph 513-533-6639 mob fx
Joe Smithson em Joe.smithson@dot.state.oh.us	ODOT DS	ph 5/3 -933-6707 mob fx
em Welter Bernan Codot utati da. cus	0007 DB	ph <i>S13 933-6513</i> mob fx
John Otis em John, Otis@dot.state.oh.u,	ODOT D8	ph 5/3-933-6/99 mob fx
CHRISTOPHER HOWARD em Christopher. Howard e Dot. STATE a	ODOT D-3	ph 513-933-6605 mob fx
Scott WOLF em scott.wolf@dot.gov	FHWA - KY TRANSPORTOTION ENGINEER	ph (502) 223-6734 mob fx (502) 223-6735
em jc. Pylesoscy. Ga	LTC - Div Stra	ph 502 56 4452 0 mob fx
Nasby Stroop em nusby. Stroop e Ky. gov	KTK-C.O. Construction	ph 5-2-564- 4 780 mob fx
em Kavin. rustæky, gov	KATC D-6 Construction	ph 859-341-2700 mob 859-370-115-2 fx 859-341-3661
em darrin. beckettakyigou	KYTC - C.O. Geotechnical Branch	ph 502-564-2374 mob fx 502-564-4839

VE TEAM PRESENTATION

PROJECT: HAM-71/75-0.00/0.22, PID 7511 Ohio Department of Transportation PROJECT ITEM NO. 6-17 Kentucky Transportation Cabinet	l9 DATE: .	AUGUST 26, 2009
NAME - E:MAIL (please print)	ORGANIZATION: TITLE	PHONE:
ERAIG E PSWORLD.COM	PB	ph 513-639-2138 mob fx
ERED CRAIG em CRAIG @ PBUORLD.com	PB	ph 513-639-2121 mob fx
em shavenselza.com	LZA VE TEAM LEADER	ph mob <i>608 - 438-8227</i> fx
em		ph mob fx

117

ECONOMIC DATA

The comparisons of life cycle costs between the VE alternatives and the current design solutions were performed on the basis of discounted present worth. To accomplish this, the VE team developed economic criteria to use in its calculations based on information gathered from the Alternative C and D, and Alternative E (Cost) Estimates BSB Sections 1-5, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated 11/05/08. The following parameters were used when calculating discounted present worth:

Year of Analysis:	2008
Construction Start Date:	2015
Construction Mid-Point:	June 2017
Construction Completion:	2020
Construction Duration:	5 seasons
Contingency (Inflation Cost Percentage):	59.5%

The VE Team used a 59.5% markup as the baseline when preparing VE alternative cost worksheets based upon the Brent Spence Bridge Conceptual Alternatives Study Section 6.4.3.

COST MODEL

The VE team leader prepared Cost Histograms or Pareto charts for the project that follows this page. The Cost Histograms display the major construction elements in descending order of magnitude identified in Alternative C and D, and Alternative E (Cost) Estimate BSB Sections 1-5, ODOT PID 75119, KYTC Project Item No. 6-17, prepared by Parsons Brinckerhoff, dated 11/05/08.

From the Alternative C and D cost models it can be seen that approximately 97.5% of the \$2.28 billion estimated construction cost is represented by the following project elements:

٠	Structures	38.85%
•	Roadway	23.20%
٠	Design Engineering	18.92%
•	General Conditions	5.39%
•	Pavement	3.98%
•	Maintenance of Traffic	3.02%
٠	Noise Barrier	2.13%
•	Retaining Walls	2.06%

From the Alternative E cost models it can be seen that approximately 99.1% of the \$2.58 billion estimated construction cost is represented by the following project elements:

•	Structures	40.43%
٠	Roadway	22.19%
•	Design Contingency	18.94%
٠	General Conditions	5.30%
•	Pavement	3.79%
٠	Maintenance of Traffic	2.66%
•	Retaining Walls	2.48%
•	Noise Barrier	2.01%
•	Drainage	1.31%

This cost model information was used to help prioritize the areas of focus during the creative phase of the workshop.



COST HISTOGRAM

PROJECT: HAM-71/75-0.00	NO.22, PID 75119						
Project Item N	o. 6-17						
BSB Alt CD - Total Project Summary	,				COST	PERCENT	CUM. PERCENT
Structures					578,785,850	40.43%	40.43%
Roadway					317,663,500	22.19%	62.62%
Design Contingency					271,155,020	18.94%	81.56%
General Conditions					75,837,205	5.30%	86.86%
Pavement				1	54,276,700	3.79%	90.65%
Maintenance of Traffic					38,050,000	2.66%	93.31%
Retaining Walls					35,494,648	2.48%	95.78%
Noise Barrier					28,707,653	2.01%	97.79%
Drainage					18,683,261	1.31%	99.09%
Lighting					9,640,432	0.67%	99.77%
Erosion Control					2,122,949	0.15%	99.92%
Traffic Control					1,195,086	0.08%	100.00%
			Subtota	1 \$	1,431,612,303	100.00%	
	Escalation to	Mid Construction @	59.50%	\$	851,809,320		
			Subtotal	\$	2,283,421,623		
			Project Development	\$	236,300,000		
			Right-of-Way	\$	16,400,000		
			Utility Relocations	\$	39,400,000		
			_			Comp	59.50%
		. <u></u>	Tota	\$	2,575,521,623	Mark-up:	
Structures							0.85
Boodway							
Hoadway		and film principalities and					
Design Contingency			Marine Conference State				
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General Conditions							
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Retaining Walls							
Noise Barrier							
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FUNCTION ANALYSIS

A random function analysis of the Brent Spence Bridge Replacement/Rehabilitation Project was performed to (1) understand the project purpose and need, (2) define the requirements for each project element, (3) ensure a complete and thorough understanding by the VE team of the basic functions needed to attain the given project purpose and need, (4) identify other goals, and (5) identify secondary functions that should be addressed by the VE team. The Random Function Analysis worksheet completed by the team for the project in its entirety and the various elements follow.

The key opportunity areas for potential value engineering betterments and cost avoidance established during the function analysis session includes the following:

- Maintenance of Traffic
 - Reroute Traffic
 - o Identify Contractor Lay-Down Area
- Roadway
 - o Adjust Roadway Alignment
 - Reduce Right-of-Way
 - o Reduce Excavation Requirements
 - Protect Slope
- Pavement
 - o Improve Emergency Response Vehicle Access
 - Minimize Impacts to Parks/Historic Areas
 - Improve Access to Cincinnati/Covington
 - o Increase Utilization of Clay Wade Bailey Bridge
- Structures
 - o Use Tie-Back Walls
 - o Mitigate Willow Run Sewer Structural Impacts
 - Reduce New Bridge Width

RANDOM FUNCTION ANALYSIS

PROJECT: HAM-71/75-0.00/0.22, PID 75119 Ohio Department of Transportation Project Item No. 6-17 Kentucky Transportation Cabinet	-	SHEET NO.:	1 of 3
		FUNCTION	
DESCRIPTION	VERB	NOUN	KIND
TOTAL PROJECT (NEEDS & PURPOSE)	Improve	Level of Service	НО
	Improve	Traffic Flow	НО
	Increase	Capacity	В
	Enhance	Safety	HO
	Correct	Geometric Deficiencies	RS
	Meet	Current Design Standards	В
	Reduce	Crash Rates	НО
	Improve	Key Connections	RS
	Improve	Access	G
	Increase	Distance Between Access Points	RS
	Maintain	Local Access Connections	RS
	Increase	Design Speed	0
	Meter	Ramps	S
	Accommodate	Trucks	RS
	Separate	Local Traffic	RS
PAVEMENT	Replace	Damaged Pavement (Full Depth)	RS
	Replace	Ramps	RS
	Add	Lanes	RS
Function defined as: Action Verb Kind: B = Measurable Noun S = RS =	Basic HO = Secondary LO = Required Secondary O =	Higher Order G = C Lower Order Objective	Goal

RANDOM FUNCTION ANALYSIS



HAM-71/75-0.00/0.22, PID 75119 Ohio Department of Transportation Project Item No. 6-17 Kentucky Transportation Cabinet

PROJECT:

SHEET NO.: 2 of 3

		FUNCTION	
DESCRIPTION	VERB	NOUN	KIND
STRUCTURES	Separate	Grade	RS
	Span	Riverway	В
	Span	Railroad	B
	Span	Utilities	В
	Span	Historic Sites	RS
	Access	Community	HO
	Connect	Points	В
	Convey	Traffic	В
	Retain	Soil	RS
	Construct	Facility	RS
	Rehabilitate	Existing Facility	G
·			
ROADWAY	Prepare	Roadway	B
	Remove	Pavement	RS
	Excavate	Soil/Rock	RS
	Excavate	Hazardous Materials	RS
	Borrow/Fill	Embankment	RS
	Install	Permanent Barriers	RS
	Treat	Sub-grade	RS
	Salvage	Existing Pavement	G
DRAINAGE	Transfer	Stormwater	В
	Control	Discharge	RS

- Action Verb Measurable Noun
- B ≕ Basic
- S == Secondary
- RS = Required Secondary
- LO = Lower Order O = Objective

RANDOM FUNCTION ANALYSIS



HAM-71/75-0.00/0.22, PID 75119 Ohio Department of Transportation

PROJECT:

. î i

SHEET NO.: 3 of 3

Project Item No. 6-17 Kentucky Transportation Cabinet **FUNCTION** DESCRIPTION VERB NOUN KIND **DRAINAGE** (Continued) Separate Sanitary RS Sewage Stormwater Manage В Quality Stormwater Manage В Quantity Traffic MAINTENANCE OF TRAFFIC Maintain В Maintain Interchange RS Access Reroute Traffic RS Assure Safety В Maintain 3 lanes in Ohio RS 2 lanes in KY Maintain RS **GENERAL** Reduce Right-of-Way G Avoid Utilities G Relocate Utilities RS Gasline Avoid G

Function defined as:	Action Verb Measurable Noun	Kind:	B = S = RS =	Basic Secondary Required Secondary	HO = Higher Order LO = Lower Order O = Objective	G = Goal	
----------------------	--------------------------------	-------	--------------------	--	--	----------	--

During the Creativity Phase, numerous ideas were generated for the Brent Spence Bridge Replacement/ Rehabilitation Project using conventional brainstorming techniques. These ideas were recorded and are shown with their corresponding ranking on the attached Creative Idea Listing Worksheets. For the convenience of tracking an idea through the VA process, the ideas were grouped according to the following project elements and numbered in the order in which they were conceived. The following letter prefixes were used to identify the project elements.

PROJECT ELEMENT	PREFIX
Maintenance of Traffic	МОТ
Roadway	R
Pavement	Р
Structures	S

Creative Idea Evaluation

After discussing each idea, the team evaluated the ideas by consensus. This effort produced 11 ideas rated 4 or 5 to research and develop into VE alternatives and 10 ideas to develop as design suggestions to be included in the Section Two of the report. Ideas that were not developed further may have been combined with another related idea or discarded as a result of additional research indicating the concept as not being cost effective or technically feasible. The project team is encouraged to review the Creative Idea Listing and Evaluation worksheet since it may suggest additional ideas that can be applied to the design.

CREATIVE IDEA LISTING



SHEET NO.:

1 of 3

RATING

5

5

5

DS

2

DS

1

2

DS

DS

3

3

4

2

Project Item No. 6-17 Kentucky Transportation Cabinet	
IDEA DESCRIPTION	
MAINTENANCE OF TRAFFIC (MOT)	
For all options in Kentucky, replace the shoulders on I-471 southbound with full depth pavement to support rerouting of traffic during construction.	
For all options in Kentucky, replace the shoulders on I-471 southbound with full depth pavement to support rerouting of traffic during construction.	
For all options in Kentucky, replace the shoulders on I-471 southbound with full depth pavement to support rerouting of traffic during construction.	
For all options in Ohio, add alternative Newport exit signing from I-71 via US 27 to reroute traffic during construction.	
For all options, identify northbound and southbound locations for safe pull-off for overweight vehicle enforcement.	
For all options, indentify acceptable contractor lay-down areas and access routes for use during constructions.	
Develop a staging strategy which would allow the new bridge to be constructed later or as a separate project, if needed.	_
Consider banning truck access during construction.	
ROADWAY (R)	
For all options, realign Section 1 near the hill to the east to reduce excavation requirements.	
Specify that recycled concrete pavement is acceptable for use as sub-grade stabilization in Kentucky.	
PAVEMENT/RAMPS (P)	
For all options, eliminate the braid on northbound I-75 between Kyle's Lane and Dixie Highway.	
Incorporate the Alternative E design in Kentucky with the Hybrid Alternative CD design in Ohio to provide two direct interstate access points in Covington.	
In Alternative E, replace the 5 th Street northbound ramp to I-71 in Kentucky with an indirect ramp connection from the collector-distributor roadway to I-71 in Ohio.	
For all options, improve access to Covington from I-71/I-75 by changing 4 th and 5 th streets from one-way pairs to two-way traffic west of Main Street.	

HAM-71/75-0.00/0.22, PID 75119

Ohio Department of Transportation

PROJECT:

NO.

MOT-1A

MOT-1B

MOT-1C

MOT-2

MOT-3

MOT-4

MOT-5

MOT-6

R-1

R-2

P-1

P-2

P-3

P-4

Rating: $1 \rightarrow 2$ = Not to be developed $3 \rightarrow 4$ = Varying degrees of development potential5 = Most likely to be developedDS = Design suggestionABD = Already being done

CREATIVE IDEA LISTING



SHEET NO.:

2 of 3

Ohio Department of Transportation Project Item No. 6-17

PROJECT:

Kentucky Transportation Cabinet

HAM-71/75-0.00/0.22, PID 75119

NO.	IDEA DESCRIPTION	RATING
	PAVEMENT/RAMPS (Continued)	
P-5	Eliminate the KY 9 th Street intersection with the collector-distributor roadway from all options.	· DS
P-6	Add a ramp to access northbound I-75 from 6 th Street in Ohio in the Hybrid Alternative CD design.	2
. P-7	In the Hybrid Alternative CD, identify a shorter route for emergency responses from the Fire Station at 5 th Street and Central Avenue to the Fort Washington Way Trench.	DS
P-8	In the Hybrid Alternative CD, provide a direct connection from the southbound collector-distributor to 2 nd Street in Ohio and add an additional connection to the US 42/3 rd Street Intersection to improve access and increase the utilization of the Clay Wade Bailey Bridge.	4
P-9	Clarify the negative impacts to I-71/I-75 interstate access in Covington by providing collector-distributor roadway access from Kentucky to northbound I-71 in Ohio.	Combine with P-3
P-10	In the Hybrid Alternative CD, provide access from Winchell Avenue just north of Ezzard Charles Drive to northbound I-75.	4
P-11	In the Hybrid Alternative CD, update the cost estimate to reflect the additional lane on the I-75 mainline.	DS
P-12	Use a shorter barrier design or provide short length crossovers for emergency vehicle access on one-way section areas on bridges and mainlines.	2
P-13	In Alternative E, shift the collector-distributor roadway to minimize impacts to Goebel Park and avoid relocating the radio station tower.	DS
P-14	Provide improvements to Alternative E to reduce business impacts in Ohio.	ABD
P-15	Adjust the profile of the collector-distributor roadways under Kyle's Lane to provide adequate vertical clearance under the haunched girders.	ABD
P-16	Provide an emergency crossover between Ezzard Charles Drive and 12 th Street in Kentucky.	2
	STRUCTURES (S)	
S-1	In the Hybrid Alternative CD, provide an exit from northbound I-75 to Ezzard Charles Drive similar to that shown in the Alternative E design.	DS
S-2	With all options, use tie-back walls on the west side of southbound KY I-75 and in other applicable areas in Kentucky to reduce excavation and right-of-way requirements.	DS

Rating: $1 \rightarrow 2$ = Not to be developed DS = Design suggestion $3\rightarrow 4$ = Varying degrees of development potential 5 = Most likely to be developed ABD = Already being done

CREATIVE IDEA LISTING



DS = Design suggestion

ABD = Already being done

Appendix C Property Maps







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ALTERNATIVE E PROPERTY MAPS

MAP ID	PAGE #	PIDN OR PARCEL ID	OWNER	ADDRESS	ADDRESS CONT.	LAND USE CLASS	MARKET LAND	MARKET IMPROVEMENT	MARKET TOTAL	TOTAL ACRES	TAKEN ACRES	TAKEN PERCENT
KY-001	1	028-10-16-014.00	PARK 75 PROPERTY OWNERS ASSN	222 GRANDVIEW DR		commercial	0	0	0	1.13	0.02	1.65%
KY-002	1	028-10-16-011.00	PARK 75 PROPERTY OWNERS ASSN	250 GRANDVIEW DR		commercial	0	0	0	5.55	0.01	0.10%
KY-003	2	028-30-08-001.00	FT MITCHELL POINTE COUNCIL OF	45-A MAPLE AVE W		residential	0	0	0	4.14	0.25	6.04%
KY-004	2	028-30-08-027.01	FT MITCHELL HOTEL LLC	2100 DIXIE HWY		commercial	1,500,000	2,600,000	4,100,000	6.92	0.11	1.60%
KY-005	2	028-30-04-005.00	BEECHWOOD INDEPENDENT SCHOOL	50 BEECHWOOD RD		commercial	1,000,000	9,126,900	10,126,900	16.64	0.10	0.59%
KY-006	3	028-30-10-001.00	CENTRAL CHURCH OF NAZARENE	2006 PIECK LN		commercial	301,000	700,000	1,001,000	2.86	0.44	15.41%
KY-007	3	028-30-10-001.02	CENTRAL CHURCH OF NAZARENE	2006-A PIECK LN		commercial	60,000	248,000	308,000	1.11	0.15	13.37%
KY-008	3	028-30-12-006.00	SAM PROPERTIES	1971 PIECK LN		residential	40,000	140,000	180,000	0.27	0.27	100.00%
KY-009	3	028-30-12-005.00	KITO PROPERTIES I LLC	1975 PIECK LN		residential	35,000	164,000	199,000	0.44	0.06	13.66%
KY-010	3	041-20-00-151.00	JAHNKE MARK A & SHERRY L	51 RIVARD DR		residential	30,000	150,000	180,000	0.49	0.00	0.14%
KY-011	3	041-20-00-151.02	OSTERHAGE SUSAN K & WILLIAM J	45 RIVARD DR		residential	30,000	150,000	180,000	0.27	0.27	100.00%
KY-012	3	027-40-15-009.00	FORT WRIGHT PLAZA LLC	1949-2001 DIXIE HWY		commercial	1,000,000	841,500	1,841,500	9.71	0.42	4.32%
KY-013	3	041-20-00-002.00	HOSPITALILITY ASSOS OF	1945 DIXIE HWY		commercial	415,000	1,135,000	1,550,000	1.93	1.93	100.00%
KY-014	3	041-20-00-003.00	EMPIRE ENTERPRISES LLC	1937 DIXIE HWY		commercial	376,000	874,000	1,250,000	2.07	0.09	4.53%
KY-015	3	041-20-00-003.01	B V GRIFFITH INC	1939 DIXIE HWY		commercial	180,000	470,000	650,000	1.03	0.01	0.71%
KY-016	3	041-20-00-006.00	WESSELS CONST & DEV CO INC	1885 DIXIE HWY		commercial	295,000	1,505,000	1,800,000	1.02	0.12	12.16%
KY-017	4	041-20-00-080.01	MCKINLEY GUSTIN A &	11 HIGHVIEW DR		vacant - res	30,000	0	30,000	1.20	0.01	0.45%
KY-018	4	041-20-00-080.02	KALAPASEV NENAD S &	15 HIGHVIEW DR		residential	30,000	118,000	148,000	0.58	0.58	100.00%
KY-019	4	041-20-00-015.00	STOLZ JOHN & MARCELLA	HIGHVIEW DR		vacant - res	500	0	500	0.08	0.08	100.00%
KY-020	4	041-20-20-006.01	WALLACE JAMES E	1598 MARCELLA DR		residential	30,000	97,100	127,100	0.37	0.01	1.70%
KY-021	4	041-20-20-005.03	JOHNSON MARY M	1596 MARCELLA DR		residential	30,000	110,000	140,000	0.57	0.06	10.11%
KY-022	4	041-20-20-005.02	HORSTKAMP VERA S TRUSTEE	1594 MARCELLA DR		residential	30,000	90,000	120,000	0.35	0.07	19.17%
KY-023	4	041-20-20-004.03	BROPHY JOHN H	1952 MARCELLA DR		residential	30,000	90,000	120,000	0.34	0.08	22.29%
KY-024	4	041-20-00-007.00	FT WRIGHT CITY	1881 DIXIE HWY		commercial	474,000	2,126,000	2,600,000	1.36	0.37	27.18%
KY-025	4	041-20-00-009.01	KUCHLE REALTY CO LLC	1817-25 DIXIE HWY		vacant - com	639,500	0	639,500	1.72	0.02	1.39%
KY-026	5	041-20-01-003.01	AUTOMANAGE LLC	700 WRIGHTSUMMIT PKWY		vacant - com	1,204,500	0	1,204,500	4.50	0.25	5.53%
KY-027	5	041-20-01-003.02	SISTERS OF NOTRE DAME OF	WRIGHTSUMMIT PKWY		vacant - com	317,000	0	317,000	1.27	0.11	8.94%
KY-028	5	041-20-00-001.01	SISTERS OF NOTRE DAME OF	1601-A DIXIE HWY		vacant - com	143,000	0	143,000	0.68	0.26	38.46%
KY-029	5	041-20-00-001.00	SISTERS OF NOTRE DAME OF	1601 DIXIE HWY		commercial	1,890,000	54,500,000	56,390,000	42.69	0.97	2.26%
KY-030	5	041-40-00-005.00	OLT REAL ESTATE HOLDINGS II	505 ST JOSEPH LN		residential	60,000	215,000	275,000	0.44	0.44	100.00%
KY-031	5	041-40-00-001.03	DICKMAN JEANNE & DALE VINCENT	504 ST JOSEPH LN		commercial	60,000	215,000	275,000	0.59	0.14	23.69%
KY-032	5	041-40-00-001.04	WACHS DANIEL G	502 ST JOSEPH LN		residential	70,000	232,500	302,500	0.94	0.94	100.00%
KY-033	5	041-40-00-009.00	OLT REAL ESTATE LLC	1200-04 ELBERTA CIR		commercial	135,000	250,000	385,000	3.58	1.16	32.43%
KY-034	5	041-20-20-004.01	TERREL SYDNEY J	1590 MARCELLA DR		residential	30,000	90,000	120,000	0.34	0.09	27.85%
KY-035	5	041-20-20-003.01	WIGGER RALPH P & REBECCA L	1588 MARCELLA DR		residential	30,000	90,000	120,000	0.28	0.09	32.68%
KY-036	5	041-20-20-002.01	RALEIGH JOHNNY & BELLE R	1586 MARCELLA DR		residential	30,000	90,000	120,000	0.18	0.02	10.50%
KY-037	6	041-40-00-016.00	ALBERS ROBERT & JANEY	1208 FAR HILLS DR		vacant - res	45,000	0	45,000	1.91	0.02	1.24%
KY-038	6	041-40-00-017.00	DICKMAN ROBERT G	1132-34-35-37 CEDER RIDGE LN		residential	300,000	1,540,000	1,840,000	9.54	1.76	18.46%
KY-039	6	041-30-00-020.01	GRAY DAVID & HAZEL	507 SCENIC DR		residential	45,000	140,000	185,000	0.45	0.45	100.00%
KY-040	6	041-30-00-020.02	WALL TERRANCE M JR	508 SCENIC DR		residential	100,000	200,000	300,000	0.26	0.26	100.00%
KY-041	6	041-30-00-020.09	BEUTTEL WILLIAM C & JANE	506 SCENIC DR		residential	60,000	105,000	165,000	0.32	0.32	100.00%
KY-042	6	041-30-00-106.00	SANITATION DISTRICT #1 OF	500 SCENIC DR		vacant - res	50,000	0	50,000	3.42	0.28	8.04%
KY-043	6	041-30-00-020.03	BARRETT ROBIN	510 SCENIC DR		residential	60,000	100,000	160,000	0.28	0.28	100.00%
KY-044	6	041-30-00-020.04	UTLEY FORREST G	512 SCENIC DR		residential	100,000	195,000	295,000	0.61	0.00	0.31%
KY-045	7	055-11-33-005.00	SAINT ELIZABETH MEDICAL	MONROE ST		vacant - com	15,000	0	15,000	3.03	0.41	13.69%
KY-046	7	041-33-08-005.00	RABE CLIFFORD L	609 WATKINS ST		residential	5,000	120,000	125,000	0.27	0.06	22.37%
KY-047	7	041-33-08-004.00	RABE TAMMY O	607 WATKINS ST		residential	5,000	55,000	60,000	0.13	0.13	100.00%
KY-U48	8	040-44-09-026.01	HENSON MONA G &	612 121H ST W		residential	5,000	50,000	55,000	0.12	0.12	100.00%
KY-049	8	040-44-09-026.00		610 121H SI W		residential	5,000	/0,000	/5,000	0.06	0.06	100.00%
KY-050	8	040-44-09-025.00		608 12 FH ST W		residential	5,000	87,000	92,000	0.06	0.06	100.00%
KY-051	8	040-44-09-024.00	WHEELER SAM	DUD 12TH ST W		residential	5,000	29,900	34,900	0.05	0.05	100.00%
KY-052	8	040-44-09-023.00	FROELICHER CHARLOTTE & MARIE	604 121H ST W		residential	5,000	50,000	55,000	0.06	0.06	100.00%
KY-053	8	040-44-09-020.00	GREFER JEFFREY & LORI	605 111H SI W		residential	5,000	24,000	29,000	0.06	0.06	100.00%
KY-054	8	040-44-09-019.00				residential	5,000	50,000	55,000	0.12	0.12	100.00%
KY-055	8	040-44-08-017.01				residential	5,000	29,000	34,000	0.05	0.05	100.00%
кү-056	8	040-44-08-017.02	GREFER JEFF & LUKI	W IZ HILL 800	1	residential	5,000	27,000	32,000	0.05	0.05	100.00%

ALTERNATIVE E PROPERTY MAPS

MAP ID	PAGE #	PIDN OR PARCEL ID	OWNER	ADDRESS	ADDRESS CONT.	LAND USE CLASS	MARKET LAND	MARKET IMPROVEMENT	MARKET TOTAL	TOTAL	TAKEN ACRES	TAKEN PERCENT
KY-057	8	040-44-08-018.00	GREEER JEEEREY M & LORI A	610-12 11TH ST W		residential	5.000	3.000	8.000	0.11	0.11	100.00%
KY-065	8	040-44-06-027.00	LEWISBURG ENTERPRISES LLC	610-18 PIKE ST		commercial	150.000	0	150.000	0.31	0.31	100.00%
KY-066	8	040-44-06-025.00	LEWISBURG ENTERPRISES LLC	620 LEWIS ST		vacant - res	10,000	0	10,000	0.12	0.12	100.00%
KY-067	8	040-44-06-024.00	C E O ASSOCIATES	622 LEWIS ST		residential	5.000	26.500	31.500	0.11	0.01	9.09%
KY-076	8	040-44-06-013.00	STANDARD CLUB OF COVINGTON	643 LAUREL ST		commercial	27,000	63,500	90,500	0.34	0.10	28.21%
KY-077	8	040-44-06-012.00	STANDARD CLUB OF COVINGTON	643 LAUREL ST		commercial	17.000	3.000	20.000	0.23	0.06	24.04%
KY-078	8	040-44-06-002.00	WILDER DARRELL & MARY	639 9TH ST W		residential	5,000	45,000	50,000	0.11	0.11	100.00%
KY-079	8	040-44-06-003.00	SCHULTE JOSEPH M	641-5 9TH ST W		commercial	15,000	37,500	52,500	0.17	0.17	100.00%
KY-080	8	040-44-06-006.00	ASAP PROPERTIES LLC	906 BAKER ST		residential	5.000	44,200	49.200	0.06	0.01	12.00%
KY-081	8	040-44-06-005.00	CHASTAIN MATTHEW	904 BAKER ST		residential	5.000	51.000	56.000	0.06	0.06	100.00%
KY-082	8	040-44-06-004.00	JMG PROPERTIES	902 BAKER ST		residential	5.000	20.000	25.000	0.05	0.05	100.00%
KY-083	8	040-44-05-006.00	COLE VIRGIL & FREDA D	905 BAKER ST		residential	5.000	40.000	45.000	0.10	0.01	9.20%
KY-084	8	040-44-05-005.00	GONIC CHARLIE SR	901 BAKER ST		residential	5,000	30,000	35,000	0.06	0.06	100.00%
KY-085	8	040-44-05-004.00	BRINEY KEVIN S	719 9TH ST W		residential	5,000	20,000	25,000	0.09	0.01	7 67%
KY-086	8	040-44-05-002.00	BOY MARK W	721-23 9TH ST W		residential	5,000	70,000	75 000	0.19	0.00	2 42%
KY-087	8	040-44-03-019.00	RIESS PHILLIP I	720 9TH ST W		residential	5,000	40,000	45,000	0.13	0.00	0.50%
KY-088	8	040-44-03-020.00		716 9TH ST W		residential	5,000	42,000	43,000	0.06	0.00	4 33%
KY-089	8	040-44-03-020.00	KENNEDY IIM	714 9TH ST W		residential	5,000	35,000	40,000	0.05	0.00	5 20%
KY-090	8	040-44-03-022.00		712 9TH ST W		vacant - res	4 000	55,000	4 000	0.05	0.00	10.40%
KY-091	0 8	040-44-03-022.00	KENTLICKY FEDERAL SAVINGS &	710 9TH ST W		residential	5,000	52 000	57,000	0.05	0.01	12 17%
KV-002	0 8	040-44-03-023.00	BISHOP GEORGIA G	708 9TH ST W		residential	5,000	24,000	29,000	0.00	0.01	12.17%
KV-003	0 8	040-44-03-024.00	SETTER TIMOTHY L& MARDIS JOHN	706 9TH ST W		residential	5,000	40.000	45,000	0.07	0.01	12.14%
KY-001	0 8	040-44-03-025.00		700 9TH ST W		residential	5,000	40,000	43,000	0.05	0.01	12.40%
KV-005	0 8	040-44-03-020.00	STEINEORT BARBARA	702 9TH ST W		residential	5,000	43,300	48,500	0.05	0.01	10.83%
KT-095	0	040-44-03-027.00				residential	5,000	40,000	45,000	0.00	0.01	10.03%
KT-090	0	040-44-04-033.00		872 CRESCENT AVE		residential	6,000	39,000	45,000	0.06	0.06	100.00%
KT-097	0	040-44-04-032.00		870 CRESCENT AVE		residential	4,000	12,000	10,000	0.08	0.06	100.00%
KT-098	0	040-44-04-031.00		866 CRESCENT AVE		residential	4,000	50,000	40,000	0.10	0.10	100.00%
KT-033	0	040-44-04-030.00		860 CRESCENT AVE		residential	4,000	32,000	42,000	0.07	0.07	100.00%
KT-100	0	040-44-04-023.00		862 CRESCENT AVE		residential	4,000	38,000	42,000	0.10	0.10	100.00%
KT-101	0	040-44-04-028.00		860 CRESCENT AVE		residential	4,000	42,000	46,000	0.08	0.08	100.00%
KT-102	0	040-44-04-027.00		856 CRESCENT AVE		residential	4,000	31,000	35,000	0.08	0.08	100.00%
KT-105	0 0	040-44-04-026.00		850 CRESCENT AVE		residential	4,000	21,000	23,000	0.07	0.07	100.00%
KT-104	0	040-44-04-025.00		854 CRESCENT AVE		residential	4,000	36,000	60,000	0.05	0.02	44.00%
KT-105	0	040-44-04-024.00		852 CRESCENT AVE		residential	4,000	21 000	40,000	0.00	0.00	100.00%
KT-100	0	040-44-04-023.00		848 CRESCENT AVE		residential	4,000	11 500	35,000	0.00	0.00	100.00%
KT-107	0	040-44-04-022.00		846 CRESCENT AVE		residential	5,000	11,500	16,500	0.05	0.05	100.00%
KT-106	°	040-44-04-021.00		840 CRESCENT AVE		residential	5,000	40,000	45,000	0.03	0.03	100.00%
KY-109	8	040-44-04-020.00		844 CRESCENT AVE		residential	4,000	31,000	35,000	0.06	0.00	7.17%
KY-110	8	040-44-04-017.00		834 CRESCENT AVE		residential	4,000	31,000	35,000	0.08	0.03	34.75%
KY-111	8	040-44-04-016.00		832 CRESCENT AVE		residential	4,000	36,000	40,000	0.05	0.05	100.00%
KY-112	8	040-44-04-015.00		830 CRESCENT AVE		vacant - res	20,000	0	20,000	0.09	0.09	100.00%
KY-113	8	040-44-04-012.00		826 CRESCENT AVE		commercial	20,000	0	20,000	0.04	0.04	100.00%
KY-114	8	040-44-04-013.00		826 CRESCENT AVE		commercial	10,000	100 800	10,000	0.09	0.09	100.00%
KT-115	0	040-44-04-012.00		824 CRESCENT AVE		residential	5,000	100,800	111,800	0.06	0.06	100.00%
KY-110	8	040-44-04-011.00		822 CRESCENT AVE		residential	10,000	83,000	93,000	0.06	0.06	100.00%
KY-117	8	040-44-04-010.01		820 CRESCENT AVE		residential	5,000	35,000	40,000	0.06	0.06	100.00%
NT-110	0	040-44-04-009.00		816 CRESCENT AVE		residential	5,000	35,000	40,000	0.05	0.03	100.00%
KY-119	8	040-44-04-008.00		816 CRESCENT AVE		residential	5,000	30,000	35,000	0.06	0.06	100.00%
KY-120	8	040-44-04-007.00		812 CRESCENT AVE		residential	4,000	6,900	10,900	0.11	0.11	100.00%
KY-121	8	040-44-04-005.00		810 CRESCENT AVE		vacant - res	1,500	0	1,500	0.05	0.05	100.00%
KY-122	8	040-44-04-004.00		BUS CRESCENT AVE		residential	5,000	40,000	45,000	0.06	0.06	100.00%
KY-123	8	040-44-04-003.00		BUD CRESCENT AVE		residential	5,000	40,000	45,000	0.06	0.06	100.00%
KY-124	8	040-44-04-002.00		804 CRESCENT AVE		residential	5,000	/,000	12,000	0.06	0.06	100.00%
KY-125	8	040-44-20-007.01		540 WATKINS ST		residential	5,000	73,500	78,500	0.15	0.05	32.13%
KY-126	8	040-44-19-013.00	CULUMBIA SUSSEX CORP	JILLIANS WAY		commercial	1,000,000	3,200,000	4,200,000	4.11	0.22	5.27%
кү-127	8	040-44-19-004.00	PIKE PRO LLC	555 PIKE ST		commercial	105,000	112,000	217,000	0.35	0.35	100.00%

ALTERNATIVE E PROPERTY MAPS

						LAND USE		MARKET		TOTAL	TAKEN	TAKEN
MAP ID	PAGE #	PIDN OR PARCEL ID	OWNER	ADDRESS	ADDRESS CONT.	CLASS	MARKET LAND	IMPROVEMENT	MARKET TOTAL	ACRES	ACRES	PERCENT
KY-134	8	040-44-11-001.00	OAKLAND PROPERTIES INC	902-26 WILLOW RUN		commercial	150,000	485,000	635,000	0.94	0.94	100.00%
KY-135	8	040-44-11-002.00	FAIRHAVEN RESCUE MISSION INC	603 9TH ST W		residential	5,000	25,000	30,000	0.06	0.01	20.17%
KY-136	8	040-44-11-003.00	FAIRHAVEN RESCUE MISSION INC	601 9TH ST W		mixed	10,000	65,000	75,000	0.05	0.01	24.20%
KY-137	8	040-44-10-010.01	ATSINGER EDWARD G III TRUSTEE	620 9TH ST W		tower	0	0	0	0.34	0.34	100.00%
KY-138	8	040-44-10-010.00	COVINGTON CITY OF	847 PHILADELPHIA		commercial	133,500	116,500	250,000	2.62	0.84	32.03%
KY-140	9	040-44-03-047.00	AXUT BUILDING LLC	803-09 CRESCENT AVE		residential	50,000	0	50,000	0.22	0.01	5.18%
KY-141	9	040-44-03-048.00	AXUT BUILDING LLC	801 CRESCENT AVE		vacant - res	10,000	0	10,000	0.07	0.04	55.43%
KY-142	9	040-43-02-014.00	VISIONS DEVELOPMENT GROUP LLC	731 CRESCENT AVE		residential	15,000	235,000	250,000	0.06	0.06	100.00%
KY-143	9	040-43-02-014.03	VISIONS DEVELOPMENT GROUP LLC	729 CRESCENT AVE		residential	15,000	235,000	250,000	0.06	0.06	100.00%
KY-144	9	040-43-02-014.02	VISIONS DEVELOPMENT GROUP LLC	727 CRESCENT AVE		residential	15,000	235,000	250,000	0.06	0.06	100.00%
KY-145	9	040-43-02-014.01	VISIONS DEVELOPMENT GROUP LLC	725 CRESCENT AVE		residential	15,000	235,000	250,000	0.09	0.09	100.00%
KY-146	9	040-43-02-013.00	BECKER FAMILY LTD PTN	643-723 CRESCENT AVE		vacant - res	70,000	0	70,000	2.16	1.67	77.12%
KY-147	9	040-43-02-012.00	MANN ROBERT J & JULIE	641 CRESCENT AVE		residential	5,000	55,000	60,000	0.05	0.05	100.00%
KY-148	9	040-43-02-011.00	AXUT BUILDING LLC	637-39 CRESCENT AVE		vacant - res	10,000	0	10,000	0.10	0.10	100.00%
KY-149	9	040-43-02-010.00	JOHNSON DAVID	635 CRESCENT AVE		residential	10,000	20,000	30,000	0.08	0.08	100.00%
KY-150	9	040-43-02-009.05	AXUT BUILDING LLC	627-33 CRESCENT AVE		vacant - res	52,000	0	52,000	0.22	0.22	100.00%
KY-151	9	040-43-03-022.00	BEZOLD CLEMENT L JR	630 CRESCENT AVE		vacant - res	1,000	0	1,000	0.06	0.06	100.00%
KY-152	9	040-43-03-023.00	WURZELBACHER JAMIE J	628 CRESCENT AVE		vacant - res	9,000	0	9,000	0.05	0.05	100.00%
KY-153	9	040-43-03-024.00	WURZELBACHER JAMIE J	624 CRESCENT AVE		vacant - res	4,000	0	4,000	0.06	0.06	100.00%
KY-154	9	040-43-02-009.04	COTTON JOSEPH W & NORMA	625 CRESCENT AVE		residential	5,000	20,000	25,000	0.05	0.05	100.00%
KY-155	9	040-43-02-009.03	MATTINGLY KELLY S	623 CRESCENT AVE		vacant - res	5,000	0	5,000	0.05	0.05	100.00%
KY-156	9	040-43-02-009.02	MATTINGLY KELLY S	621 CRESCENT AVE		residential	5.000	40.000	45.000	0.03	0.03	100.00%
KY-157	9	040-43-02-009.01	MATTINGLY KELLY S	619 CRESCENT AVE		residential	5.000	40.000	45.000	0.04	0.04	100.00%
KY-158	9	040-43-02-008.00	MURNAN ALBERT F & PHYLIS D	615-17 CRESCENT AVE		residential	20.000	36,900	56,900	0.08	0.08	100.00%
KY-159	9	040-43-02-007.00		611-13 CRESCENT AVE		residential	20,000	40,000	60,000	0.15	0.15	100.00%
KY-160	9	040-43-02-006-00	MATTINGLY KELLY S	609 CRESCENT AVE		residential	5 000	60,000	65,000	0.05	0.05	100.00%
KY-161	9	040-43-02-005-00		607 CRESCENT AVE		residential	6,000	00,000	6,000	0.05	0.05	100.00%
KV-162	9	040-43-02-003.00	ROBERTS CONNIE	605 CRESCENT AVE		residential	5,000	50.000	55,000	0.05	0.05	100.00%
KT-102	0	040 42 02 002 00		601 02 CRESCENT AVE		residential	5,000	94 200	00,000	0.05	0.05	100.00%
KT-105	0	040 42 02 029 00		EO2 CRESCENT AVE		commorcial	42 000	15,000	55,200	0.11	0.11	100.00%
KT-104	0	040 42 02 002 00		A21 E20 CRESCENT AVE		commercial	220,000	569,000	880,000	0.55	0.33	19 22%
KT-105	9	040-43-02-002.00				vacant rac	320,000	303,000	809,000	0.88	0.10	100.00%
KT-100	9	040-43-02-017.00				vacant - res	5,000	45.000	50,000	0.08	0.08	100.00%
KT-107	9	040-43-02-018.00	MARTIN DONALD R			residential	5,000	45,000	50,000	0.06	0.06	100.00%
KT-100	9	040-43-02-019.00				residential	5,000	30,000	55,000	0.00	0.08	100.00%
KY-169	9	040-43-02-020.00				residential	5,000	45,000	50,000	0.04	0.04	100.00%
KY-170	9	040-43-02-021.00		632-34 WESTERN AVE		residential	5,000	60,000	65,000	0.12	0.12	100.00%
KY-1/1	9	040-43-02-022.00		630 WESTERN AVE		residential	5,000	50,000	55,000	0.07	0.07	100.00%
KY-1/2	9	040-43-02-023.00	MCQUEARY MICHAEL & DEBORAH	628 WESTERN AVE		vacant - res	3,000	0	3,000	0.05	0.05	100.00%
KY-1/3	9	040-43-02-024.00	MCQUEARY MICHAEL L & DEBORAH	624 WESTERN AVE		vacant - res	2,000	0	2,000	0.04	0.04	100.00%
KY-174	9	040-43-02-025.00	MCMURRAY THOS P	622 WESTERN AVE		residential	5,000	50,000	55,000	0.07	0.07	100.00%
KY-175	9	040-43-02-026.00	C P L E ASSOCIATES	618-20 WESTERN AVE		residential	4,000	0	4,000	0.07	0.03	37.57%
KY-176	9	040-43-02-027.00	NELSON JAMES A	616 WESTERN AVE		residential	10,000	75,000	85,000	0.07	0.01	7.43%
KY-177	9	040-34-03-005.00	COVINGTON CITY OF	670 4TH ST W		commercial	850,000	200,000	1,050,000	0.73	0.73	100.00%
KY-178	9	040-34-03-003.00	COVINGTON CITY OF	669-71 3RD ST W		commercial	1,000,000	112,000	1,112,000	0.50	0.50	100.00%
KY-179	9	040-34-03-002.00	THIRD STREET LLC	673-75 3RD ST W		commercial	250,000	50,000	300,000	0.30	0.01	3.10%
KY-180	9	040-34-02-001.00	RUSK HEATING & AIR COND INC	664-66 3RD ST W		commercial	475,000	215,000	690,000	0.72	0.72	100.00%
KY-181	9	040-34-02-012.00	COVINGTON CITY OF	687 2ND ST W		vacant - res	35,000	0	35,000	0.34	0.34	100.00%
KY-182	9	040-34-02-011.00	COVINGTON CITY OF	689 2ND ST W		commercial	150,000	100,000	250,000	0.81	0.13	16.33%
KY-183	10	040-34-03-008.00	COVINGTON CITY OF	610-A 2ND ST W		vacant - res	7,000	0	7,000	6.17	1.59	25.79%
KY-184	9	040-43-05-003.00	COVINGTON CITY OF	501 PHILADELPHIA ST		recreation	500,000	650,000	1,150,000	5.64	0.00	0.07%

ALTERNATIVE	E PROPERT	Y MAPS
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MAP ID	PAGE #	PIDN OR PARCEL ID	OWNER	ADDRESS	ADDRESS CONT.	LAND USE CLASS	MARKET LAND	MARKET IMPROVEMENT	MARKET TOTAL	TOTAL ACRES	TAKEN ACRES	TAKEN PERCENT
OH-001	10	013700030078	DUKE ENERGY OHIO INC	Front Street		Industrial	919000	1,041,800	1,960,800	11.04	3.74	33.89%
OH-002	10	013700030020	DUKE ENERGY OHIO INC	646 Mehring Way		Industrial	464,200	671,100	1,135,300	4.28	0.93	21.67%
OH-003	10	013700030059	HILLTOP CONCRETE CORP	612 Mehring Way		Industrial	92,640	3,740	96,380	0.04	0.04	100.00%
OH-004	10	013700030060	HILLTOP CONCRETE CORP	612 Mehring Way		Industrial	0	0	0	0.05	0.03	54.95%
OH-005	10	013700030054	HILLTOP BASIC RESOURCES	Augusta Avenue		Vacant - Ind	45,140	0	45,140	0.37	0.01	1.97%
OH-006	10	013700030044	CORMAN ROBERT	603 W Pete Rose Way		Commercial	104,550	33,760	138,310	1.29	0.15	11.74%
PART OF	OH-006	013700030045	CORMAN ROBERT	603 W Pete Rose Way		Commercial	0	0	0	0.18	0.00	0.89%
OH-008	10	013700030053	HILLTOP CONCRETE CORP	Augusta Avenue		Vacant - Ind	39,940	0	39,940	0.06	0.06	100.00%
OH-016	12	014700050121	LONGWORTH HALL LLC	700 Pete Rose Way		Commercial	996,580	6,651,110	7,647,690	2.02	0.94	46.40%
PART OF	OH-016	014700050126	LONGWORTH HALL LLC	700 W PETE ROSE WAY		Commercial	0	0	0	0.07	0.07	100.00%
PART OF	OH-016	014700050127	LONGWORTH HALL LLC	700 W PETE ROSE WAY		Commercial	0	0	0	0.11	0.11	100.00%
PART OF	OH-016	014700050128	LONGWORTH HALL LLC	700 W PETE ROSE WAY		Commercial	0	0	0	0.10	0.10	100.00%
PART OF	OH-016	014700050120	LONGWORTH HALL LLC	700 W PETE ROSE WAY		Commercial	0	0	0	0.48	0.23	47.85%
PART OF	OH-016	014700050124	LONGWORTH HALL LLC	700 W PETE ROSE WAY		Commercial	0	0	0	0.05	0.05	100.00%
PART OF	OH-016	014700050125	LONGWORTH HALL LLC	701 W PETE ROSE WAY		Commercial	0	0	0	0.62	0.04	7.21%
PART OF	OH-016	014700050119	LONGWORTH HALL LLC	700 W PETE ROSE WAY		Commercial	0	0	0	0.09	0.03	28.54%
OH-024	12	014700050140	CENTRAL RAILROAD CO OF			Railroad	0	0	0	1.46	0.07	4.67%
OH-025	12	014700050123	CENTRAL RAILROAD CO OF			Railroad	0	0	0	0.07	0.07	100.00%
OH-026	12	014700050051	COVINGTON & CINCINNATI			Railroad	0	0	0	0.03	0.01	50.55%
OH-027	12	014700050050	COVINGTON & CINCINNATI			Railroad	0	0	0	0.01	0.00	27.40%
OH-028	12	014700050049	KNOCK INVESTMENTS LLC	750 W THIRD ST		Industrial	217360	0	217360	0.01	0.00	9.09%
OH-029	12	014700050149	CSX TRANSPORATION INC	500 WATER ST		Railroad	0	0	0	0.14	0.14	100.00%
OH-030	12	014700050148	LONGWORTH HALL LLC	5 3rd Street		Vacant - Ind	4,010	0	4,010	0.03	0.03	100.00%
OH-031	12	014700050152	NORTON OUTDOOR ADVERTISING	62 3rd Street		Vacant - Ind	0	0	0	0.06	0.06	100.00%
OH-032	12	014700050153	CINCINNATI CITY OF	62 3rd Street		Vacant - Ind	0	0	0	0.06	0.06	100.00%
OH-033	12	014700050054	LONGWORTH HALL LLC	5 3rd Street		Vacant - Ind	10,990	0	10,990	0.06	0.06	100.00%
OH-034	12	014700070212	CALDWELL REALTY CO	690 3rd Street		Industrial	459000	651,900	1,110,900	0.27	0.12	45.27%
OH-035	12	014700070225	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	1,103,700	4,096,300	5,200,000	1.203	0.64	53.62%
PART OF	OH-035	014700070226	TOWNVIEW 56TH STREET LLC	359 Gest St		Commercial	0	0	0	0.02	0.02	100.00%
PART OF	OH-035	014700070214	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.03	0.03	100.00%
PART OF	OH-035	014700070215	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.03	0.03	100.00%
PART OF	OH-035	014700070216	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.03	0.03	100.00%
PART OF	OH-035	014700070177	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.18	0.18	100.00%
PART OF	OH-035	014700070161	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.10	0.05	53.63%
PART OF	OH-035	014700070715	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.08	0.01	12.53%
PART OF	OH-035	014700070256	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.27	0.01	2.39%
PART OF	OH-035	014700070258	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.56	0.01	2.19%
OH-045	12	014700070268	DUKE ENERGY OHIO INC	Gest Street		Commercial	1,058,700	3,083,900	4,142,600	6.50	0.11	1.75%
OH-046	12	014700070267	CALDWELL REALTY CO	500 Gest Street		Industrial	909,300	1,401,220	2,310,520	2.33	0.21	9.06%
OH-047	12	014700040199	CALDWELL REALTY CO	P O BOX 28606		Industrial	0	0	0	0.88	0.24	26.69%
OH-048	12	014600050180	CALDWELL REALTY CO	P O BOX 28606		Industrial	0	0	0	0.42	0.07	15.42%
OH-049	12	014600050025	CINCINNATI CITY OF	500 Gest Street			0	0	0	1.09	0.06	5.90%
OH-050	12	013600030241	TAPPAN PROPERTIES Fox 19 Station	635 Seventh Street		Commercial	766,800	2,933,200	3,700,000	2.56	0.09	3.61%
OH-051	12	014500030229	CITY OF CINCINNATI	801 PLUM ST		ROW	0	0	0	0.07	0.05	70.97%
OH-052	12	014500030230	CITY OF CINCINNATI	801 PLUM ST		ROW	0	0	0	0.07	0.05	71.90%
OH-053	12	014500030231	CITY OF CINCINNATI	801 PLUM ST		ROW	0	0	0	0.04	0.03	72.47%
OH-054	12	014500030232	CITY OF CINCINNATI	801 PLUM ST		ROW	0	0	0	0.04	0.03	72.65%
OH-055	12	014500030247	UNION BAPTIST CHURCH	619 CENTRAL AVE		Residential	1,782,530	2,556,530	4,339,060	1.33	0.02	1.69%
OH-056	12	014500030246	STARGEL ROGENA TR	405 W SEVENTH ST		Commercial	1,001,400	902,300	1,903,700	0.74	0.06	8.61%
OH-057	12	014600060115	AUTOMATIC DATA PROCESSING	500 7th Street		Commercial	4,339,600	1,910,400	6,250,000	6.76	0.64	9.50%
OH-059	13	013600030060	CINCINNATI CITY OF	705 Cutter		ROW	0	0	0	0.06	0.00	2.45%
OH-060	13	013600020211	AAIG OF CINCINNATI LLC	800 W 8TH ST		Commercial	821300	1,975.700	2,797.000	1.17	0.03	2.32%
OH-061	13	013600010238	LINN STREET INVESTMENT LL	801 Linn Street		Commercial	873,000	812,530	1,685,530	1.97	0.11	5.35%
OH-062	13	013900030242	FULLER PROPERTIES LLC	900 W EIGHTH ST		Commercial	1,020.770	1,196.970	2,217.740	7.45	0.11	1.53%
OH-063	13	013600020249	CINCINNATI CITY OF	904 Cutter Street		Transportation	108.980	36.260	145.240	1.13	0.07	6.61%
OH-064	13	013600020056	CINCINNATI CITY OF	706 Ninth Street		Municipal	5,000	0	5,000	5.23	0.21	4.00%
PART OF	OH-064	013600020055	CINCINNATI CITY OF	706 Ninth Street		Municipal	2,500	Ĵ	2,200	2.25		
PART OF	OH-064	013600020054	CINCINNATI CITY OF	710 9th Street		Municipal	İ					

ALTERNATIVE E PROPERTY N	MAPS

							MARKET	MARKET		TOTAL	TAKEN	TAKEN
MAP ID	PAGE #	PIDN OR PARCEL ID	OWNER	ADDRESS	ADDRESS CONT.	LAND USE CLASS	LAND	IMPROVEMENT	MARKET TOTAL	ACRES	ACRES	PERCENT
PART OF	OH-064	013600020053	CINCINNATI CITY OF	710 9th Street		Municipal						
PART OF	OH-064	013600020214	CINCINNATI CITY OF	909 Cutter Street		Municipal						
PART OF	OH-064	013600020023	CINCINNATI CITY OF	717 Richmond Street		Municipal						
PART OF	OH-064	013600020022	CINCINNATI CITY OF	719 Richmond Street		Municipal						
PART OF	OH-064	013600020021	CINCINNATI CITY OF	721 Richmond Street		Municipal						
PART OF	OH-064	013600020020	CINCINNATI CITY OF	723 Richmond Street		Municipal						
PART OF	OH-064	013600020019	CINCINNATI CITY OF	723 Richmond Street		Municipal						
PART OF	OH-064	013600020018	CINCINNATI CITY OF	723 Richmond Street		Municipal						
PART OF	OH-064	013600020017	CINCINNATI CITY OF	731 Richmond Street		Municipal						
PART OF	OH-064	013600020016	CINCINNATI CITY OF	733 Richmond Street		Municipal						
PART OF	OH-064	013600020015	CINCINNATI CITY OF	735 Richmond Street		Municipal						
PART OF	OH-064	013600020014	CINCINNATI CITY OF	737 Richmond Street		Municipal						
PART OF	OH-064	013600020013	CINCINNATI CITY OF	739 Richmond Street		Municipal						
PART OF	OH-064	013600020012	CINCINNATI CITY OF	741 Richmond Street		Municipal						
PART OF	OH-064	013600020011	CINCINNATI CITY OF	743 Richmond Street		Municipal						
PART OF	OH-064	013600020010	CINCINNATI CITY OF	745 Richmond Street		Municipal						
PART OF	OH-064	013600020009	CINCINNATI CITY OF	747 Richmond Street		Municipal						
PART OF	OH-064	013600020008	CINCINNATI CITY OF	749 Richmond Street		Municipal						
PART OF	OH-064	013400060067	CINCINNATI CITY OF	750 Richmond Street		Municipal						
PART OF	OH-064	013400060066	CINCINNATI CITY OF	752 Richmond Street		Municipal						
PART OF	OH-064	013400060065	CINCINNATI CITY OF	754 Richmond Street		Municipal						
PART OF	OH-064	013400060064	CINCINNATI CITY OF	756 Richmond Street		Municipal						
PART OF	OH-064	013400060063	CINCINNATI CITY OF	Richmond Street		Municipal						
OH-066	14	013500030008	EZZARD CHARLES ASSOCIATES	850 Ezzard Charles Dr		Residential	216,000	817,120	1,033,120	2.13	0.00	0.01%
OH-067	14	013900030012	CINCINNATI CITY OF	991 Gest St		ROW	C	0	0	0.07	0.06	76.14%
OH-068	14	014200010080	CINCINNATI CITY OF	801 PLUM ST		ROW	C	0	0	1.00	0.30	29.75%
PART O	F OH-68	014200010079	CINCINNATI CITY OF	956 Gest St		ROW						
PART O	F OH-68	014200010078	CINCINNATI CITY OF	1024 Freeman Ave		ROW						
PART O	F OH-68	014200010077	CINCINNATI CITY OF	1030 Freeman Ave		ROW						
PART O	F OH-68	014200010076	CINCINNATI CITY OF	1018 Freeman Ave		ROW						
PART O	F OH-68	014200010075	CINCINNATI CITY OF	801 PLUM ST		ROW						
PART O	F OH-68	014200010074	CINCINNATI CITY OF	1014 Freeman Ave		ROW						
PART O	F OH-68	014200010073	CINCINNATI CITY OF	1012 Freeman Ave		ROW						
PART O	F OH-68	014200010072	CINCINNATI CITY OF	1040 Freeman Ave		ROW						
PART O	F OH-68	014200010071	CINCINNATI CITY OF	1008 Freeman Ave		ROW						
PART O	F OH-68	014200010070	CINCINNATI CITY OF	1044 Freeman Ave		ROW						
PART O	F OH-68	014200010069	CINCINNATI CITY OF	1046 Freeman Ave		ROW						
OH-069	14	014200020015	ROTHSCHILD HANNAH C ET AL	931 DERRICK TURNBOW AVE		ROW	C	0 0	0	0.04	0.00	1.35%
OH-070	15	018500060113	1130 FINDLAY STREET LLC	1130 Findlay St		Industrial	237,740	1,222,260	1,460,000	1.72	0.00	0.01%
OH-071	15	018500060123	LOFTSPRING HARRIS &	1905 DALTON ST		Commercial	C	0	0	0.12	0.03	21.64%
OH-072	15	018500060116	MPEMR LLC	1850 DALTON AVE		Industrial	51,580	310,960	362,540	0.54	0.05	9.24%
OH-075	15	018500060022	LEIN LLC	2020 DALTON AVE		Commercial	68,650	355,150	423,800	0.42	0.13	30.30%
OH-076	15	018400060258	BUDIG REALTY LLC	1100 GEST ST		Vacant - Industrial	0	0	0	0.08	0.00	5.73%
OH-077	15	018400060256	BUDIG REALTY LLC	1100 GEST ST		Vacant - Industrial	0	0	0	0.14	0.08	62.26%
OH-078	15	018400060236	BUDIG REALTY LLC	1100 GEST ST		Vacant - Industrial	0	0	0	0.05	0.05	100.00%
OH-079	15	018400060250	BUDIG REALTY LLC	1100 GEST ST		Vacant - Industrial	0	0	0	0.06	0.06	100.00%
OH-080	15	018400060114	BUDIG REALTY LLC	1161 Harrison Ave		Vacant - Industrial	41,700	0	41,700	0.11	0.11	100.00%
OH-081	16	018700080133	MARTIN MEDIA	2402 Spring Grove Ave		Vacant - Commercial	8,500	0 0	8,500	0.10	0.06	57.17%
OH-082	16	018700080071	BLACKBURN-IVEY KAREN L	2408 Spring Grove Ave		Commercial	C	0	0	0.05	0.02	39.66%
OH-083	16	018700080070	BLACKBURN-IVEY KAREN L	2408 Spring Grove Ave		Commercial	C	0	0	0.05	0.02	37.36%
OH-084	16	018700080069	BLACKBURN-IVEY KAREN L	2408 Spring Grove Ave	l	Commercial	19,280	100,720	120,000	0.06	0.02	35.28%
OH-085	16	018700080159	BLACKBURN-IVEY KAREN L	2408 Spring Grove Ave	<u> </u>	Commercial	C	0	0	0.06	0.02	33.28%
OH-086	16	018700080067	CREATIVE DISPLAYS INC	2412 Spring Grove Ave		Vacant - Commercial	5,700	0	5,700	0.06	0.02	28.48%
OH-087	16	018700080122	SPRING GROVE SHEET METAL	2428 Spring Grove Ave	<u> </u>	Industrial	47,940	153,820	201,760	0.07	0.01	18.62%
OH-088	16	018700080066	SPRING GROVE SHEET METAL	2428 Spring Grove Ave	<u> </u>	Industrial	0	0	0	0.07	0.01	10.42%
OH-089	16	18700080065	SPRING GROVE SHEET METAL	2428 Spring Grove Ave	<u> </u>	Industrial	0	0	0	0.08	0.00	5.88%
OH-090	16	018700080064	SPRING GROVE SHEET METAL	2428 Spring Grove Ave		Industrial	0	0	0	0.03	0.00	5.13%
OH-091	16	018700080063	SPRING GROVE SHEET METAL	2428 Spring Grove Ave		Industrial	0	0	0	0.07	0.00	4.15%

Normal Normal Network Normal Network Normal Network Normal Network Normal Network Normal Network 0190 16 0570000101 SMRTW NATERA & JOANTE 3250000001 SMRTW NATERA & JOANTE 3250000001 SMRTW NATERA 3250000001 SMRTW NATERA 3250000001 SMRTW NATERA 3250000001 SMRTW NATERA 32500000001 SMRTW NATERA 32500000001 SMRTW NATERA 325000000000 SMRTW NATERA 325000000000000000000000000000000000000													
And Mark 10 And Mark 10 And Mark 10 And Mark 10 Char Mark 10 <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>MARKET</th> <th>MARKET</th> <th></th> <th>TOTAL</th> <th>TAKEN</th> <th>TAKEN</th>								MARKET	MARKET		TOTAL	TAKEN	TAKEN
0H-09 16 Distructions Male delta Serie (MFAL) 272 Spring from Ave Instantial 0 0 0 10.08 0.08 0.08 10.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08	MAP ID	PAGE #	PIDN OR PARCEL ID	OWNER	ADDRESS	ADDRESS CONT.	LAND USE CLASS	LAND	IMPROVEMENT	MARKET TOTAL	ACRES	ACRES	PERCENT
0H-99 16 D1970009101 MHT WALT & A DAMAY 2140 Sering Store Are Commercial 60.03 T 17,99 224.60 0.01 0.00	OH-092	16	018700080062	SPRING GROVE SHEET METAL	2428 Spring Grove Ave		Industrial	0	0	0	0.08	0.00	1.88%
04-09 15 0970001002 Addmit MPDA 215 McMitten Are Macht Commercial 4.00 0.10 <td>OH-093</td> <td>16</td> <td>018700080101</td> <td>SMITH WALTER A & JOANN E</td> <td>2440 Spring Grove Ave</td> <td></td> <td>Commercial</td> <td>60,630</td> <td>173,990</td> <td>234,620</td> <td>0.07</td> <td>0.00</td> <td>0.76%</td>	OH-093	16	018700080101	SMITH WALTER A & JOANN E	2440 Spring Grove Ave		Commercial	60,630	173,990	234,620	0.07	0.00	0.76%
0H 19 15 0977001002 MARTIN MERGIA 2117 Modifices Ave Media Vecent - Commercial 3.000 0 3.000 0.13 0.001 </td <td>OH-094</td> <td>16</td> <td>009700010024</td> <td>MARTIN MEDIA</td> <td>2315 McMicken Ave</td> <td></td> <td>Vacant - Commercial</td> <td>4,200</td> <td>0</td> <td>4,200</td> <td>0.20</td> <td>0.06</td> <td>31.52%</td>	OH-094	16	009700010024	MARTIN MEDIA	2315 McMicken Ave		Vacant - Commercial	4,200	0	4,200	0.20	0.06	31.52%
01.068 15 00770010020 DBMARC MASTORYER R. 2219 MALLER AVE Network	OH-095	16	009700010023	MARTIN MEDIA	2317 McMicken Ave		Vacant - Commercial	3,000	0	3,000	0.10	0.03	31.39%
001-097 16 00570001002 IRTRAMAD (DIRKITOHER # & 2121 WMACKICH AVX Residential 10,200 84,700 101,800 0.12 0.13 100,000 01-098 16 00570001000 LAINT HOUAS W 2121 WMACKICH AVX Residential 112,700 101,000 0.01 100,000 01-09 16 00770001002 LAINT HOUAS W 2124 WMACKICH AVX Residential 12,730 101,000 0.01 0.000 0.0000 01-10 16 00770001005 LENGER ALTERD JR & 2230 MMASKIGH AVX Residential 12,730 101,400 0.01 0.01 0.0000 01-10 16 00770001015 LENGER ALTERD JR & 2331 MMASKIGH AVX Residential 12,730 103,70 0.02 0.02 100,000 01-10 16 00770001015 LENGER ALTERD JR & 2331 MMASKIGH AVX Residential 12,730 103,70 0.02 0.02 100,000 0.01 100,000 0.01 100,000 0.01 100,000 0.01 100,000 0	OH-096	16	009700010022	MARTIN MEDIA	2319 McMicken Ave		Vacant - Commercial	3,400	0	3,400	0.14	0.09	63.96%
0H-980 16 0070000000 LADS THOMAS W 2123 WACKICKN AVE Readential 12,230 20,278 37,550 0.10 0.10 0.10 0.0005 0H-90 16 00700001003 SMITH LLIN K 2128 MACKICKN AVE Readential 16.00 10.0005	OH-097	16	009700010021	BIERMAN CHRISTOPHER R &	2321 W MCMICKEN AVE		Residential	19,200	84,700	103,900	0.12	0.12	100.00%
94109 15 00079001013 SMITH ELLYN K 2125 WMMMCRR WCE Residential 18.000 102,500 0.11 100,005 014100 16 000790010105 SMITH ELLYN K 2424 Centrul Prevay Vacart. Res. 6,740 0 6,742 0.1 6,102 0.0 1.0 0.0005 014100 12 000790010103 SERGER ALTRED JIN A 2357 CUERE CENT ALTRED JIN A 2241 MMMCR AN PC Residential 112,700 0.22 0.22 0.00 0.01	OH-098	16	009700010020	EADS THOMAS W	2323 W MCMICKEN AVE		Residential	17,230	20,270	37,500	0.10	0.10	100.00%
0+10 15 099700010103 SMITH ELLEW K 2486 Certal Parkway Vecant - Res 4,820 0 4,820 0.6 0.00 1000 100 0+10 16 009700010105 ESKER ALFED JJ K 2333 MoMAcen Ave Vecant - Res 6,740 0 6,748 0.11 0.01 0.0000 0+100 16 009700010105 ESKER ALFED JJ K 2333 MoMAcen Ave Periader Alexan - Res 6,740 0 6,748 0.11 0.01 0.0000 0+100 16 00970001015 ESKER ALFED JJ K 2333 MoMAcen Ave Periader Alexan - Residertial 217070 8377 15.640 0.22 10.22 10.20 <td>OH-099</td> <td>16</td> <td>009700010019</td> <td>SMITH ELLEN K</td> <td>2325 W MCMICKEN AVE</td> <td></td> <td>Residential</td> <td>18,000</td> <td>104,900</td> <td>122,900</td> <td>0.11</td> <td>0.11</td> <td>100.00%</td>	OH-099	16	009700010019	SMITH ELLEN K	2325 W MCMICKEN AVE		Residential	18,000	104,900	122,900	0.11	0.11	100.00%
0H-10 16 009700010017 BEHGER ALVERD JR & 2533 Michaen Ave Vacant - Res 6,740 0 6,740 0.11 100.00% 0H-10 16 00970010105 DEIS ARE M 2333 Michaen Ave Residential 112,730 104,430 111,140 0.22 0.21 100.00% 0H-10 16 00970010101 MICRAT PIRED IR 2334 Michaen Ave Residential 112,730 104,430 0.22 0.21 100.00% 0H-10 16 00970010011 MICRAT PIRED IR 2344 Michaen Ave Residential 12,700 0.89,770 116,460 0.22 0.21 100.00% 0H-10 16 00970010010 Residential 22,800 0.15 0.15 0.05 0.05 0.15 0.00 0.10 100.00% 0H-10 16 00970010001 Russ Kasters Res 2.239 Michaen Ave Residential 12,800 0.15 0.15 0.00 0.00 0.00 0.00 0.00	OH-100	16	009700010018	SMITH ELLEN K	2348 Central Parkway		Vacant - Res	4,820	0	4,820	0.06	0.06	100.00%
0H-100 15 00070001015 BERGER ALVERD JR & 2335 Muldiclen Ave Residential 12,70 10,430 0.22 0.22 0.02 <th0.02< th=""> 0.02 0.02 <th< td=""><td>OH-101</td><td>16</td><td>009700010017</td><td>BERGER ALFRED J JR &</td><td>2567 QUEEN CITY AVE</td><td></td><td>Vacant - Res</td><td>6,740</td><td>0</td><td>6,740</td><td>0.11</td><td>0.11</td><td>100.00%</td></th<></th0.02<>	OH-101	16	009700010017	BERGER ALFRED J JR &	2567 QUEEN CITY AVE		Vacant - Res	6,740	0	6,740	0.11	0.11	100.00%
0H-103 16 009700010015 DEES BACKR M 235 MUNICLEN AVE Residential 12,730 104,400 117,160 0.22 0.22 100.00% 0H-105 16 00970001013 MCCARTY TERSA E 2341 MUNICLEN AVE Residential 27.070 89,770 116,840 0.22 0.22 100.00% 0H-105 16 00970001013 GRAPHE COMMUNICATIONS 2351 WINCLEN AVE Commercial 2,600 117,150 117,700 0.22 0.22 10.00% 0H-105 16 00970001013 GRAPHE COMMUNICATIONS 2351 WINCLEN AVE Residential 11,840 0.10 0.10 10.00% 0H-10 16 00970010009 FRANCE MAUREER & EDEBORAH 2355 WINCLEN AVE Residential 16,200 5,800 121,400 0.10 1.00 0.00 2.75% 0H+110 16 00970010007 CORRETA & Z342 (NITALINE N 2365 WINCLEN AVE Residential 16,200 5,800 1.00 0.00 2.75% 0H+11 16 00970010025 SINGH HARDET K 2374 (NITALINE N Commercial 3,590 0.0 0.00	OH-102	16	009700010016	BERGER ALFRED J JR &	2333 McMicken Ave		Vacant - Res	6,740	0	6,740	0.11	0.11	100.00%
0H-104 15 00070001034 EREGRATARED JR & 2341 MCM/CKEN AVE Residential 12.000 // 72.707 19.707 19.708 0.21 0.021 100.00% 0H-105 16 00070001031 GRAHIC COMMUNICATIONS 2351 W MCM/CKEN AVE Commercial 0 0 0 0.10 0.12 0.12 100.00% 0H-107 16 00070010031 GRAHIC COMMUNICATIONS 2351 W MCM/CKEN AVE Residential 1.5400 95.300 0.121.40 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.00 0.15 1.00.00% 0.15 1.00.00% 0.11 1.6 00070010030 GRAHIC COMMUNICATIONS 2351 W MCM/CKEN AVE Residential 1.8.600 95.000 0.10 0.00 0.15 1.00.00% 0.0070010030 GRAHIC COMMUNICATIONS 2351 W MCM/CKEN AVE Residential 1.8.600 95.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	OH-103	16	009700010015	IDEIS BAKER M	2335 McMicken Ave		Residential	12,730	104,430	117,160	0.22	0.22	100.00%
0H-106 16 00970001003 MCCARTY TERSA E 243 W MCMICKEN AVE Encidential 27,070 87,770 116,640 0.22 0.22 100.00% 0H-106 16 00970001001 GRAPHIC COMMUNICATIONS 2351 W MCMICKEN AVE Commercial 22,00 177,500 197,700 0.25 0.25 10.00 MO 0H-108 16 00970001000 Reindential 12,840 96,300 11.240 0.10 0.10 0.00 0.01 10.00 MO 0H-10 16 00970001000 Reindential 12,620 66,050 90,000 0.15 0.15 10.00 MO 0H-11 16 00970001000 CONTRERAS STRGIO 285 W MCMICKIN AVE Reidential 15,620 66,200 82,700 0.10 0.00 2.700 0H+11 16 00970001022 SIR6H HARDEFT K 2376 CENTRAL PW Commercial 3,900 0.4 0.00 2.700 10.00 M 0.04 10.00 M 0.04 10.00 M 0.04 10.00 M 0.04 10.00 M <td>OH-104</td> <td>16</td> <td>009700010014</td> <td>BERGER ALFRED J JR &</td> <td>2341 McMicken Ave</td> <td></td> <td>Residential</td> <td>18,050</td> <td>74,870</td> <td>92,920</td> <td>0.21</td> <td>0.21</td> <td>100.00%</td>	OH-104	16	009700010014	BERGER ALFRED J JR &	2341 McMicken Ave		Residential	18,050	74,870	92,920	0.21	0.21	100.00%
OH-106 16 00970001012 GRAPHIC COMMUNICATIONS 2315 W MCMICKTN AVE Commercial 0 0 0 0.12 0.12 10.000% 0H-107 16 00970001010 BURRS ENINGTINE & DELOBAHI 2355 W MCMICKTN AVE Residential 15.840 95,300 11.2,140 0.10 0.10 0.00 0.11 10.000% 0H-108 16 00970001000 SMTIN LATOSHA 2355 W MCMICKTN AVE Residential 15.620 5.840 2.200 0.18 0.01 0.00 0.01 0.00 0.00 0.01 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.01 0.00 0.00 0.00 0.01 0.00 0.01 0.00 0.01 0.00 0.01 0.00 0.01 0.00 0.00 0.01 0.00 0.01 0.00 0.00 0.00 0.00 0.00	OH-105	16	009700010013	MCCARTY TERESA E	2343 W MCMICKEN AVE		Residential	27,070	89,770	116,840	0.22	0.22	100.00%
0h:100 15 00970001001 GRAPHIC COMMUNICATIONS 2551 W MCMICERN AVE Commercial 15,80 112,140 0.05 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.00 0.01 0.00 0.01 0.00 0.01 0.00 0.01 0.00 0.01 0.00 0.01 0.00 0.01 0.00 0.01 0.00 0.01 0.00 0.00 0.01 0.00	OH-106	16	009700010012	GRAPHIC COMMUNICATIONS	2351 W MCMICKEN AVE		Commercial	0	0	0	0.12	0.12	100.00%
0H-108 15 0097001000 FRANCE MALKERN & 2355 W MCMICKEN AVE Residential 15,840 96,300 112,140 0.10 0.10 0.100 0005 0H-108 15 009700010008 SMITH LATOSHA 2351 W MCMICKEN AVE Residential 118,620 66,4200 82,820 0.10 0.0.4 46,0155 0H-111 16 009700010005 CONTERENAS SIGIO 2354 W MCMICKEN AVE Residential 15,600 5,800 0.20 0.0.00 0.2705K 0H-112 16 009700010225 SINGH HARDET K 2376 CENTRAL PW Commercial 3,500 0 3,590 0.02 100.00K 0H-115 16 009700010223 SINGH HARDET K 2376 CENTRAL PW Commercial 3,500 0 4,010 0.04 100.00K 0H-113 16 00970010023 SINGH HARDET K 2316 CENTRAL PW Commercial 3,500 0 3,80 0.04 100.00K 0H-115 16 00970010023 SINGH HARDET K 2316 CENTRAL PW Commercial </td <td>OH-107</td> <td>16</td> <td>009700010011</td> <td>GRAPHIC COMMUNICATIONS</td> <td>2351 W MCMICKEN AVE</td> <td></td> <td>Commercial</td> <td>26,200</td> <td>171,500</td> <td>197,700</td> <td>0.25</td> <td>0.25</td> <td>100.00%</td>	OH-107	16	009700010011	GRAPHIC COMMUNICATIONS	2351 W MCMICKEN AVE		Commercial	26,200	171,500	197,700	0.25	0.25	100.00%
0h:10 15 0977001009 FMARC MAUREEN & 2339 W MCMICREN AVE Residential 15,23 64,060 90,000 0.15 100.005 0H:11 16 09700010007 CONTREAS SERGIO 2355 W MCMICREN AVE Residential 15,000 5,800 22,000 0.18 0.05 25,745 0H:112 16 09700010225 INGH HARDET K 2374 CENTRAL PW Commercial 3,590 0.02 0.02 100.005 0H:13 16 09700010225 INGH HARDET K 2374 CENTRAL PW Commercial 3,590 0.02 0.04 100.005 0H:14 16 0970001022 INGH HARDET K 2376 CENTRAL PW Commercial 2,100 15,430 0.04 10.00 10.0005 0H:14 16 0970001025 INGH HARDET K 2384 CENTRAL PW Commercial 2,900 1,930 0.03 0.03 10.01 100.005 0H:14 16 0970001002 INGH HARDET K 2384 CENTRAL PW Commercial 2,900 1,800 0.00 <td>OH-108</td> <td>16</td> <td>009700010010</td> <td>BURNS ERNESTINE & DEBORAH</td> <td>2355 W MCMICKEN AVE</td> <td></td> <td>Residential</td> <td>15,840</td> <td>96,300</td> <td>112,140</td> <td>0.10</td> <td>0.10</td> <td>100.00%</td>	OH-108	16	009700010010	BURNS ERNESTINE & DEBORAH	2355 W MCMICKEN AVE		Residential	15,840	96,300	112,140	0.10	0.10	100.00%
0+111 16 0970001008 SMTH LATOSHA 2361 W MCMICKEN AVE Residential 16,200 64,200 82,200 0.10 0.04 46.018 094111 16 09700010005 DEEDING ROBERT & 2403 W MCMICKEN AVE Residential 25,700 112,00 137,800 0.00 0.02 270% 094113 16 09700010224 SINGH HARDEET K 237 G CINTRAL PW Commercial 3,900 0.0 4,010 0.04 0.04 100.00% 09115 16 09700010224 SINGH HARDEET K 2376 CINTRAL PW Commercial 4,010 0 4,010 0.04 0.00 100.00% 09114 16 09700010025 SINGH HARDEET K 2310 CINTRAL PW Commercial 3,880 0 3,880 0.03 8,00 0.04 100.00% 09113 16 09700010004 FROCHSEGK ROBERT W 2384 CENTRAL PW Commercial 3,800 0.04 0.00 0.04 100.00% 09113 16 097000100027 SINGH HA	OH-109	16	009700010009	FRANCE MAUREEN &	2359 W MCMICKEN AVE		Residential	21,940	68,060	90,000	0.15	0.15	100.00%
OH-111 16 0097000007 CONTRERAS SERGIO 2369 WMCMCKN AVE Residential 15,200 12,200 10,00 27,704 0H-112 16 00970001025 SINGH HARDET K 237 CENTRAL PW Commercial 3,590 0.0 3,580 0.00 0.00 100.00% 0H-115 16 00970001025 SINGH HARDET K 237 CENTRAL PW Commercial 3,980 0.04 0.04 100.00% 0H-115 16 00970001225 SINGH HARDET K 2376 CENTRAL PW Commercial 3,980 0.03 0.03 0.00 0.00 100.00% 0H-116 16 00970001025 SINGH HARDET K 2316 CENTRAL PW Commercial 1.09 0.03 0.03 0.03 0.03 0.00 100.00% 0.01 100.00% 0.01 100.00% 0.01 0.00 0.01 100.00% 0.01 0.01 0.00 0.01 100.00% 0.05 0.05 100.00% 0.05 0.05 100.00% 0.05 100.00% 0.01	OH-110	16	009700010008	SMITH LATOSHA	2361 W MCMICKEN AVE		Residential	18,620	64,200	82,820	0.10	0.04	46.01%
0H-112 16 0970002006 DERDING ROBERT & 2403 WMCMCEN AVE Residential 25,00 112,200 113,7800 0.00 2.70% 0H-113 16 00970001224 SINCH HARDET K 237 CENTRAL PW Commercial 3.980 0 3.980 0.04 0.00 100.00% 0H-115 16 00970001224 SINCH HARDET K 237 CENTRAL PW Commercial 3.880 0 3.980 0.01 0.00 100.00% 0H-115 16 009700012024 SINCH HARDET K 2310 CENTRAL PW Commercial 3.880 0 3.880 0.03 0.001 100.00% 0H-118 16 00970001004 FISCHTESCR ROBERT K 2316 CENTRAL PW Residential 9.900 71,900 8.800 0.01 0.001 100.00% 0H-120 16 00970001022 SINCH HARDET K Ada Street Commercial 210 0.01 0.001 0.001 0.001 0.001 0.001 0.000 0.00 0.00 0.00 0.00 <t< td=""><td>OH-111</td><td>16</td><td>009700010007</td><td>CONTRERAS SERGIO</td><td>2365 W MCMICKEN AVE</td><td></td><td>Residential</td><td>16,200</td><td>5,800</td><td>22,000</td><td>0.18</td><td>0.05</td><td>25.74%</td></t<>	OH-111	16	009700010007	CONTRERAS SERGIO	2365 W MCMICKEN AVE		Residential	16,200	5,800	22,000	0.18	0.05	25.74%
OH-113 16 0970010225 SINGH HARDEET K 234 CENTRAL PW Commercial 3,590 0.0 3,590 0.02 10.000 0H-113 16 09700010224 SINGH HARDEET K 2376 CENTRAL PW Commercial 3,980 0 3,980 0.04 0.04 10.000% 0H-115 16 09700010223 SINGH HARDEET K 2376 CENTRAL PW Commercial 21,900 15,430 37,330 0.10 10.000% 0H-117 16 09700010003 SINGH HARDEET K 2386 CENTRAL PW Commercial 3,880 0 3,880 0.03 0.03 10.000% 0H-118 16 0970001003 SINGH HARDEET K 2386 CENTRAL PW Commercial 3,880 0 3,880 0.04 0.04 10.000% 0H-120 16 0970001003 RUFFASCM 238 CENTRAL PW Residential 5,200 800 6,000 0.5 10.000% 0H-121 16 0970001002 RUFFASCM Residential 1,200 0.05 <td< td=""><td>OH-112</td><td>16</td><td>009700010006</td><td>OBERDING ROBERT &</td><td>2403 W MCMICKEN AVE</td><td></td><td>Residential</td><td>25,700</td><td>112,100</td><td>137,800</td><td>0.10</td><td>0.00</td><td>2.70%</td></td<>	OH-112	16	009700010006	OBERDING ROBERT &	2403 W MCMICKEN AVE		Residential	25,700	112,100	137,800	0.10	0.00	2.70%
OH-114 16 00970010224 SINCH HARDET K 2376 CLNTRAL PW Commercial 3,980 0 3,980 0.04 0.04 100.00% OH-115 16 00970010223 SINGH HARDET K 2378 CLNTRAL PW Commercial 21,100 15,430 37,330 0.10 0.10 100.00% OH-116 16 00970010025 SINGH HARDET K 2384 CLNTRAL PW Commercial 21,900 15,430 37,330 0.10 0.10 100.00% OH-118 16 00970010024 FISCHESR ROBERT W 2318 CENTRAL PW Residential 9,000 71,500 88.0 0.04 0.04 100.00% OH-120 16 009700010027 SINGH HARDET K Ads Stret Commercial 9,000 71,500 80.0 0.05 0.00 0.05 100.00% OH-120 16 00970001002 RICHARD BOWDEN LIC 2322 CENTRAL PW Residential 9,000 2,000 1,000 0.05 0.05 100.00% OH-124 16 009700010028<	OH-113	16	009700010225	SINGH HARDEET K	2374 CENTRAL PW		Commercial	3,590	0	3,590	0.02	0.02	100.00%
OH-115 16 0970001022 SINGH HARDET K 2370 CENTRAL PW Commercial 4,010 0 4,010 0.04 10.00 0H-116 16 09700010223 SINGH HARDET K 2310 CENTRAL PW Commercial 3,880 0 3,733 0.10 0.10 00.0005 0H-117 16 09700010005 SINGH HARDET K 2384 CENTRAL PW Commercial 3,880 0.04 0.04 0.004 100.00% 0H-118 16 00970001003 RUF LARDET K Ada Street Commercial 210 0 10 0.01 0.000 0H-121 16 0970001003 RUF LASON 2320 CENTRAL PW Residential 5,000 800 6,000 0.05 0.05 100.09% 0H-122 16 09700010001 INSCA RONALD G 2322 Central Parkway Vacant - Commercial 9,000 2,000 1.000 0.05 0.05 100.09% 0H-122 16 09900010001 INSCA RONALD TR 2406 Central Parkway Vacant - Commercial	OH-114	16	009700010224	SINGH HARDEET K	2376 CENTRAL PW		Commercial	3,980	0	3,980	0.04	0.04	100.00%
OH-116 16 0970010223 SINGH HARDEET K 2130 CENTRAL PW Commercial 21,900 15,330 7,330 0.10 100.00% 0H-117 16 0970010005 SINGH HARDEET K 2384 CENTRAL PW Commercial 3,880 0 3.880 0.03 0.003 00.00% 0H-118 16 0970010024 FISCHESSER ROBERT W 2316 CENTRAL PW Residential 9,900 71,900 81.800 0.04 0.04 100.00% 0H-120 16 09700010003 RUFH ARD EVK Ads Street Commercial 210 0 210 0.01 100.00% 0H-120 16 09700010002 RICHARD BOWDEN LLC 2312 Central Parkway Residential 12,200 14,800 27,000 0.05 0.005 0.000 <td>OH-115</td> <td>16</td> <td>009700010222</td> <td>SINGH HARDEET K</td> <td>2378 CENTRAL PW</td> <td></td> <td>Commercial</td> <td>4,010</td> <td>0</td> <td>4,010</td> <td>0.04</td> <td>0.04</td> <td>100.00%</td>	OH-115	16	009700010222	SINGH HARDEET K	2378 CENTRAL PW		Commercial	4,010	0	4,010	0.04	0.04	100.00%
OH-111 16 09700010005 SINGH HARDEET K 234 CENTRAL PW Commercial 3.880 0 3.880 0.03 100.00% 0H-118 16 09700010004 FISCHESSER ROBERT W 2316 CENTRAL PW Residential 9,900 71,900 81,800 0.04 100.00% 0H-120 16 09700010022 SINGH HARDEET K Ada Street Commercial 210 0 100 0.01 0.01 0.01 0.01 0.01 0.001 0.001 0.001 0.01 0.001 0.001 0.001 0.001 0.001 0.001 0.000 0.005 0.05 100.00% 0.012 16 09700010001 INSCO RONALD G 2320 CENTRAL PW Residential 9,000 2,000 11,000 0.05 0.05 100.00% 0H-122 16 09800050094 HARDCORN ANDREA TR 2406 CENTRAL PW Vacant - Res 3,420 0 3,420 0.66 0.00 0.18% 0H-123 16 09800050093 HARDCORN ANDREA TR 2406 C	OH-116	16	009700010223	SINGH HARDEET K	2310 CENTRAL PW		Commercial	21,900	15,430	37,330	0.10	0.10	100.00%
OH-118 16 09370001004 FISCHESSER ROBERT W 2216 CENTRAL PW Residential 9.900 71.900 81.800 0.04 0.04 100.00% 0H-119 16 00970001003 RUF JASON 2318 Central Parkway Residential 5.200 800 6.000 0.05 0.0.5 100.00% 0H-120 16 00970001002 RICHARD BOWDEN LLC 2320 CENTRAL PW Residential 12,200 14,800 27,000 0.05 0.05 100.00% 0H-122 16 00980005005 BAKEN IRENE 2404 CENTRAL PW Vacant - Res 3,420 0 3,420 0.06 0.00 0.18% 0H-124 16 09800050059 HARDCORN ANDREA L TR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.00 0.05% 0H-125 16 09800050059 HARDCORN ANDREA L TR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.00 0.05% 0H-127 16 0980	OH-117	16	009700010005	SINGH HARDEET K	2384 CENTRAL PW		Commercial	3,880	0	3,880	0.03	0.03	100.00%
OH-10 16 00970010227 SINGH HARDET K Ada Street Commercial 210 0 210 0.01 100.00% OH-120 16 009700010002 RUFF JASON 2318 Central Parkway Residential 5,200 800 6,000 0.05 0.0.05 OH-121 16 009700010001 RUFF JASON 2318 Central Parkway Residential 9,000 2,000 0.05 0.05 100.00% OH-124 16 009700010001 INSCO ROMALD G 2322 Central Parkway Residential 9,000 2,000 0.13 (0.00 0.05 0.0.05 0.000 OH-124 16 009800050095 HARDCORN ANDREA LTR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.000 0.097 OH-125 16 009800050092 HARDCORN ANDREA LTR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.06 0.00 0.078 OH-126 16 009800050093 HARDCORN ANDREA LTR 2406 Sentra	OH-118	16	009700010004	FISCHESSER ROBERT W	2316 CENTRAL PW		Residential	9,900	71,900	81,800	0.04	0.04	100.00%
OH-120 16 0097001003 RUFF JASON 2318 Central Parkway Residential 5,200 800 6,000 0.05 100.00% OH-121 16 009700010002 RICHARD BOWDEN LLC 2320 CENTAIL PW Residential 12,200 14,800 27,000 0.05 0.05 100.00% OH-122 16 00970001001 INSCO RONALD G 2322 Central Parkway Residential 9,000 2,000 0.05 0.05 100.00% OH-122 16 009800050093 HARDCORN ANDREA LTR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.00 0.09% OH-125 16 009800050093 HARDCORN ANDREA LTR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.006 0.00 0.07% OH-127 16 009800050093 HARDCORN ANDREA LTR 2406 Central Parkway Vacant - Commercial 2,900 0 2,000 0.046 0.04 10.00% OH-127 16 00980005016 <t< td=""><td>OH-119</td><td>16</td><td>009700010227</td><td>SINGH HARDEET K</td><td>Ada Street</td><td></td><td>Commercial</td><td>210</td><td>0</td><td>210</td><td>0.01</td><td>0.01</td><td>100.00%</td></t<>	OH-119	16	009700010227	SINGH HARDEET K	Ada Street		Commercial	210	0	210	0.01	0.01	100.00%
OH-121 16 00970010002 RICHARD BOWDEN LLC 2320 CENTRAL PW Residential 12,200 14,800 27,000 0.05 0.005 0H-122 16 009700010001 INSCO RONALD G 2322 Central Parkway Residential 9,000 2,000 11,000 0.05 0.05 100.00% 0H-124 16 009800050095 BAKER IRENE 2404 CENTRAL PW Vacant - Res 3,420 0 3,420 0.06 0.00 0.18% 0H-124 16 009800050093 HARDCORN ANDREA L TR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.00 0.99% 0H-126 16 009800050092 HARDCORN ANDREA L TR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.00 0.99% 0H-127 16 00980005016 SCHUCK HARDLA 2408 Fargo Al Vacant - ces 10,490 0 10,440 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.00 </td <td>OH-120</td> <td>16</td> <td>009700010003</td> <td>RUFF JASON</td> <td>2318 Central Parkway</td> <td></td> <td>Residential</td> <td>5,200</td> <td>800</td> <td>6,000</td> <td>0.05</td> <td>0.05</td> <td>100.00%</td>	OH-120	16	009700010003	RUFF JASON	2318 Central Parkway		Residential	5,200	800	6,000	0.05	0.05	100.00%
OH-122 16 00970001001 INSC RONALD G 2322 Central Parkway Residential 9,000 2,000 11,000 0.05 0.005 0H-123 16 009800050095 BAKER IRENE 2404 CENTRAL PW Vacant - Res 3,420 0 3,420 0.06 0.006 0.18% 0H-124 16 009800050093 HARDCORN ANDREA LTR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.00 0.99% 0H-125 16 009800050093 HARDCORN ANDREA LTR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.00 0.99% 0H-125 16 099800050052 HARDCORN ANDREA LTR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.00 0.67% 0H-127 16 099800501616 SCHULTE GERHARD B 2409 W MCMICKEN AVE Residential 11,730 71,500 83,230 0.03 0.03 100.00% 0H-132 16 0998005010	OH-121	16	009700010002	RICHARD BOWDEN LLC	2320 CENTRAL PW		Residential	12,200	14,800	27,000	0.05	0.05	100.00%
OH-123 16 009800050095 BAKER IRENE 2404 CENTRAL PW Vacant - Res 3,420 0 3,420 0.06 0.00 0.18% OH-124 16 009800050094 HARDCORN ANDREA L TR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.00 0.99% OH-125 16 009800050092 HARDCORN ANDREA L TR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.00 0.99% OH-126 16 009800050092 HARDCORN ANDREA L TR 2406 Central Parkway Vacant - Commercial 2,900 0 0.00 0.00 0.67% OH-127 16 009700010161 SPENCER PAMELA 2408 Fargo Al Vacant - Res 10,490 0.04 0.04 0.04 100.00% OH-129 16 00980005016 SCHUCK HARDID A 2400 McMicken Ave Residential 11,730 71,500 83,230 0.03 0.03 100.00% OH-130 16 09800050104 ROBERTS SHI	OH-122	16	009700010001	INSCO RONALD G	2322 Central Parkway		Residential	9,000	2,000	11,000	0.05	0.05	100.00%
OH-124 16 009800050094 HARDCORN ANDREA L TR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.00 0.59% 0H-125 16 009800050093 HARDCORN ANDREA L TR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.00 0.99% 0H-126 16 009800050092 HARDCORN ANDREA L TR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.06 0.00 0.07% 0H-127 16 009700010161 SEPNCER PAMELA 2408 Fargo Al Vacant - res 10,409 0.04 0.04 100.00% 0H-127 16 00980005016 SCHUCK HAROLD A 2409 MCMICKEN AVE Residential 11,730 71,500 83,230 0.03 100.00% 0H-130 16 009800050105 ROBERTS SHIRLE ANN McMillan Ave Vacant - Res 6,530 0 2,680 0.03 0.03 100.00% 0H-131 16 009800050104 SPENCER JOE & ODESSA	OH-123	16	009800050095	BAKER IRENE	2404 CENTRAL PW		Vacant - Res	3,420	0	3,420	0.06	0.00	0.18%
OH-125 16 009800050093 HARDCORN ANDREA LTR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.05 0.00 0.99% OH-126 16 009800050092 HARDCORN ANDREA LTR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.06 0.00 0.6703 OH-127 16 009800050116 SPENCER PAMELA 2408 Fargo Al Vacant - es 10,490 0 10,490 0.04 100.00% OH-128 16 009800050116 SCHULTE GERHARD B 2409 WCMICKEN AVE Residential 11,730 71,500 83,230 0.03 0.03 100.00% OH-129 16 009800050106 ROBERTS SHIRLEE ANN McMillan Ave Vacant - Res 2,680 0 2,680 0.03 0.03 100.00% OH-131 16 009800050105 HOMECOMINGS FINANCIAL 2402 Fargo Al Vacant - Res 2,890 0 2,890 0.03 0.03 100.00% OH-133 16 009800050103	OH-124	16	009800050094	HARDCORN ANDREA L TR	2406 Central Parkway		Vacant - Commercial	2,900	0	2,900	0.05	0.00	0.59%
OH-126 16 009800050092 HARDCORN ANDREA LTR 2406 Central Parkway Vacant - Commercial 2,900 0 2,900 0.06 0.00 0.67% OH-127 16 009700010161 SPENCER PAMELA 2408 Fargo Al Vacant - res 10,490 0 10,490 0.04 0.04 100.00% OH-128 16 00980005016 SCHULTE GERHARD B 2409 W MCMICKEN AVE Residential 8,400 35,000 43,400 0.04 0.04 100.00% OH-129 16 00980005016 ROBERTS SHIRLEE ANN 2400 MCMICKEN AVE Residential 11,730 71,500 83,230 0.03 100.00% OH-130 16 009800050105 HOMECOMINGS FINANCIAL 2402 Fargo Al Vacant - Res 2,880 0 2,880 0.03 100.00% OH-131 16 009800050104 SPENCER JOE & ODESSA 2404 Fargo Al Vacant - Res 2,890 0 2,890 0.03 100.00% OH-132 16 009800050103 ROLAND CAROL SUE 24	OH-125	16	009800050093	HARDCORN ANDREA L TR	2406 Central Parkway		Vacant - Commercial	2,900	0	2,900	0.05	0.00	0.99%
OH-127 16 009700010161 SPENCER PAMELA 2408 Fargo Al Vacant - res 10,490 0 10,490 0.04 0.04 100.00% OH-128 16 009800050116 SCHULTE GERHARD B 2409 W MCMICKEN AVE Residential 8,400 35,000 43,400 0.04 0.04 100.00% OH-129 16 009800050078 SCHUCK HAROLD A 2400 McMicken Ave Residential 11,730 71,500 83,230 0.03 100.00% OH-130 16 009800050106 ROBERTS SHIRLEE ANN McMillan Ave Vacant - Res 2,680 0 2,680 0.03 0.03 100.00% OH-131 16 009800050105 HOMECOMINGS FINANCIAL 2402 Fargo Al Vacant - Res 6,530 0 6,530 0.04 0.04 100.00% OH-132 16 009800050104 SPENCER JOE & ODESSA 2404 Fargo Al Vacant - Res 7,380 0 7,380 0.03 0.03 100.00% OH-133 16 009800050103 ROLAND	OH-126	16	009800050092	HARDCORN ANDREA L TR	2406 Central Parkway		Vacant - Commercial	2.900	0	2.900	0.06	0.00	0.67%
OH-128 16 09800050116 SCHULTE GERHARD B 2409 W MCMICKEN AVE Residential 8,400 35,000 43,400 0.04 0.04 100.00% OH-129 16 09800050178 SCHUCK HAROLD A 2400 McMicken Ave Residential 11,730 71,500 83,230 0.03 0.03 100.00% OH-130 16 09800050106 ROBERTS SHIRLEE ANN McMillan Ave Vacant - Res 2,680 0 2,680 0.03 0.03 100.00% OH-131 16 09800050105 HOMECOMINGS FINANCIAL 2402 Fargo Al Vacant - Res 2,680 0 2,680 0.03 0.03 100.00% OH-132 16 09800050103 ROLAND CAROL SUE 2404 Fargo Al Vacant - Res 2,890 0 2,890 0.03 0.03 100.00% OH-133 16 09800050103 ROLAND CAROL SUE 2406 FARGO AL Vacant - Res 2,890 0 2,7380 0.03 0.03 100.00% OH-134 16 09800050100	OH-127	16	009700010161	SPENCER PAMELA	2408 Fargo Al		Vacant - res	10,490	0	10,490	0.04	0.04	100.00%
OH-129 16 009800050078 SCHUCK HAROLD A 2400 McMicken Ave Residential 11,730 71,500 83,230 0.03 0.03 100.00% OH-130 16 009800050106 ROBERTS SHIRLEE ANN McMillan Ave Vacant - Res 2,680 0 2,680 0.03 0.03 100.00% OH-131 16 009800050105 HOMECOMINGS FINANCIAL 2402 Fargo AI Vacant - Res 6,530 0 6,530 0.04 0.04 100.00% OH-132 16 009800050104 SPENCER JOE & ODESSA 2404 Fargo AI Vacant - Res 2,890 0 2,890 0.03 0.03 100.00% OH-133 16 009800050103 ROLAND CAROL SUE 2406 FARGO AL Vacant - Res 7,380 0 7,380 0.04 100.00% OH-133 16 009800050100 SHEPHERD ZACHARIAH 1059 RUSH ST Residential 9,630 49,860 59,490 0.08 0.08 100.00% OH-135 16 00980050102 KINNEY PATRICI	OH-128	16	009800050116	SCHULTE GERHARD B	2409 W MCMICKEN AVE		Residential	8.400	35.000	43,400	0.04	0.04	100.00%
OH-130 16 09800050106 ROBERTS SHIRLEE ANN McMillan Ave Vacant - Res 2,680 0 2,680 0.03 0.03 100.00% OH-131 16 09800050105 HOMECOMINGS FINANCIAL 2402 Fargo Al Vacant - Res 6,530 0 6,530 0.04 0.04 100.00% OH-132 16 09800050104 SPENCER JOE & ODESSA 2404 Fargo Al Vacant - Res 2,890 0 2,890 0.03 0.03 100.00% OH-133 16 09800050103 ROLAND CAROL SUE 2406 FARGO AL Vacant - Res 7,380 0 0.04 100.00% OH-134 16 09800050104 ROLAND CAROL SUE 2406 FARGO AL Vacant - Res 7,380 0 0.01 100.00% OH-135 16 0980050100 SHEPHERD ZACHARIAH 1059 RUSH ST Residential 9,630 49,860 59,490 0.08 0.08 100.00% OH-135 16 0980050102 KINNEY PATRICIA G & 1055 Rush Street Vacant - Res <t< td=""><td>OH-129</td><td>16</td><td>009800050078</td><td>SCHUCK HAROLD A</td><td>2400 McMicken Ave</td><td></td><td>Residential</td><td>11.730</td><td>71,500</td><td>83.230</td><td>0.03</td><td>0.03</td><td>100.00%</td></t<>	OH-129	16	009800050078	SCHUCK HAROLD A	2400 McMicken Ave		Residential	11.730	71,500	83.230	0.03	0.03	100.00%
OH-131 16 09800050105 HOMECOMINGS FINANCIAL 2402 Fargo Al Vacant - Res 6,530 0 6,530 0.04 0.04 100.00% OH-132 16 09800050104 SPENCER JOE & ODESSA 2404 Fargo Al Vacant - Res 2,890 0 2,890 0.03 0.03 100.00% OH-133 16 09800050103 ROLAND CAROL SUE 2406 FARGO AL Vacant - Res 7,380 0 7,380 0.04 0.04 100.00% OH-134 16 09800050103 ROLAND CAROL SUE 2406 FARGO AL Vacant - Res 7,380 0 7,380 0.04 0.04 100.00% OH-135 16 0980050100 SHEPHERD ZACHARIAH 1059 RUSH ST Residential 9,630 49,860 59,490 0.08 0.08 100.00% OH-135 16 0980050110 SHEPHERD ZACHARIAH 1055 Rush Street Vacant - Res 860 0 860 0.03 0.03 100.00% OH-137 16 0980050111 ALLENDORF L	OH-130	16	009800050106	ROBERTS SHIRLEE ANN	McMillan Ave		Vacant - Res	2,680	0	2,680	0.03	0.03	100.00%
OH-132 16 009800050104 SPENCER JOE & ODESSA 2404 Fargo Al Vacant - Res 0,300 0,300 0,300 0,000 100.00% 0H-133 16 009800050103 ROLAND CAROL SUE 2406 FARGO AL Vacant - Res 7,380 0 7,380 0.04 0.04 100.00% 0H-134 16 009800050103 ROLAND CAROL SUE 2406 FARGO AL Vacant - Res 7,380 0 7,380 0.04 0.04 100.00% 0H-135 16 009800050100 SHEPHERD ZACHARIAH 1059 RUSH ST Residential 9,630 49,860 59,490 0.08 0.08 100.00% 0H-136 16 009800050102 KINNEY PATRICIA G & 1055 Rush Street Vacant - Res 860 0 860 0.03 100.00% 0H-137 16 009800050111 ALLENDORF LOUISE 4334 NORTH BEND RD Vacant - Res 540 0 0.00 0.00 100.00% 0H-138 16 009800050110 ALLENDORF LOUISE 2423 McMicken Ave	OH-131	16	009800050105	HOMECOMINGS FINANCIAL	2402 Fargo Al		Vacant - Res	6 530	0	6 530	0.04	0.04	100.00%
OH-133 16 09800050103 ROLAND CAROL SUE 2406 FARGO AL Vacant - Res 7,380 0 7,380 0.04 0.04 100.00% OH-134 16 09800050100 ROLAND CAROL SUE 2406 FARGO AL Vacant - Res 7,380 0 7,380 0.04 0.04 100.00% OH-134 16 09800050100 SHEPHERD ZACHARIAH 1059 RUSH ST Residential 9,630 49,860 59,490 0.08 0.08 100.00% OH-135 16 09800050102 KINNEY PATRICIA G & 1055 Rush Street Vacant - Res 860 0 860 0.03 0.03 100.00% OH-137 16 09800050111 ALLENDORF LOUISE 4334 NORTH BEND RD Vacant - Res 540 0 0 0.00 100.00% OH-138 16 09800050110 ALLENDORF LOUISE 2423 McMicken Ave Vacant - Res 540 0 540 0.00 0.00 100.00% OH-138 16 09800050110 ALLENDORF LOUISE 2423	OH-132	16	009800050104	SPENCER JOE & ODESSA	2404 Fargo Al		Vacant - Res	2,890	0	2,890	0.03	0.03	100.00%
OH-134 16 09800050204 ROLAND CAROL SUE 2406 FARGO AL Vacant - Res 0 0 0.01 0.01 0.01 OH-135 16 09800050100 SHEPHERD ZACHARIAH 1059 RUSH ST Residential 9,630 49,860 59,490 0.08 0.08 100.00% OH-136 16 09800050102 KINNEY PATRICIA G & 1055 Rush Street Vacant - Res 860 0 860 0.03 0.03 100.00% OH-137 16 09800050111 ALLENDORF LOUISE 4334 NORTH BEND RD Vacant - Res 0 0 0 0.00 100.00% OH-138 16 09800050110 ALLENDORF LOUISE 2423 McMicken Ave Vacant - Res 540 0 540 0.00 0.00 0.00% OH-138 16 09800050110 ALLENDORF LOUISE 2423 McMicken Ave Vacant - Res 540 0 540 0.00 0.00 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00%<	OH-133	16	009800050103	ROLAND CAROL SUF	2406 FARGO AL		Vacant - Res	7,380	0	7,380	0.04	0.04	100.00%
OH-135 16 009800050100 SHEPHERD ZACHARIAH 1059 RUSH ST Residential 9,630 49,860 59,490 0.08 0.08 100.00% OH-136 16 009800050102 KINNEY PATRICIA G & 1055 Rush Street Vacant - Res 860 0 860 0.03 0.03 100.00% OH-137 16 009800050111 ALLENDORF LOUISE 4334 NORTH BEND RD Vacant - Res 0 0 0.00 0.000 100.00% OH-138 16 009800050110 ALLENDORF LOUISE 2423 McMicken Ave Vacant - Res 540 0 540 0.00 0.000 100.00% OH-138 12 1470070133 CITY OF CINCINNATI 602 W. Fourth St. Commercial 0 0 0 0.00 0.00%	OH-134	16	009800050204	ROLAND CAROL SUE	2406 FARGO AL	1	Vacant - Res	0	0	0	0.01	0.01	100.00%
OH-136 16 009800050102 KINNEY PATRICIA G & 1055 Rush Street Vacant - Res 860 0 860 0.03 100.00% 0H-137 16 009800050111 ALLENDORF LOUISE 4334 NORTH BEND RD Vacant - Res 0 0 0 0.00 100.00% 0H-138 16 009800050110 ALLENDORF LOUISE 2423 McMicken Ave Vacant - Res 540 0 540 0.00 0.00 100.00% No Label 12 14700070133 CITY OF CINCINNATI 602 W. Fourth St. Commercial 0 0 0.00 0.00 0.00%	OH-135	16	009800050100	SHEPHERD ZACHARIAH	1059 RUSH ST		Residential	9.630	49,860	59,490	0.08	0.08	100.00%
OH-137 16 009800050111 ALLENDORF LOUISE 4334 NORTH BEND RD Vacant - Res 0 0 0.00 0.00 100.00% 0H-138 16 009800050110 ALLENDORF LOUISE 2423 McMicken Ave Vacant - Res 540 0 540 0.00 100.00% No Label 12 14700070133 CITY OF CINCINNATI 602 W. Fourth St. Commercial 0 0 0.00 0.00% 0.00%	OH-136	16	009800050102	KINNEY PATRICIA G &	1055 Rush Street	<u> </u>	Vacant - Res	860	.3,000	860	0.00 F0 0	2.00 F0 0	100.00%
OH-138 16 0.09800050110 ALLENDORF LOUISE 2423 McMicken Ave Vacant - Res 540 0 540 0.00 100.00% No Label 12 14700070133 CITY OF CINCINNATI 602 W. Fourth St. Commercial 0 0 0.00 0.00% 0.00%	OH-137	16	009800050111	ALLENDORE LOUISE	4334 NORTH BEND RD		Vacant - Res	000	0	000	0.00	0.00	100.00%
No Label 12 1470070133 CITY OF CINCINATI 602 W. Fourth St. Commercial 0 0 0 0 0.000	OH-138	16	009800050110	ALLENDORE LOUISE	2423 McMicken Ave		Vacant - Res	540	0	540	0.00	0.00	100.00%
	No Label	12	14700070133	CITY OF CINCINNATI	602 W. Fourth St.		Commercial	0	0	0	0.00	0.00	0.00%







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				ALTERN	IATIVE I PROPERTY MAPS							
						LAND USE		MARKET		TOTAL	TAKEN	TAKEN
MAP ID	PAGE #	PIDN OR PARCEL ID	OWNER	ADDRESS	ADDRESS CONT.	CLASS	MARKET LAND	IMPROVEMENT	MARKET TOTAL	ACRES	ACRES	PERCENT
KY-001	1	028-10-16-014.00	PARK 75 PROPERTY OWNERS ASSN	222 GRANDVIEW DR		commercial	0	0	0	1.13	0.02	1.65%
KY-002	1	028-10-16-011.00	PARK 75 PROPERTY OWNERS ASSN	250 GRANDVIEW DR		commercial	0	0	0	5.55	0.01	0.10%
KY-003	2	028-30-08-001.00	FT MITCHELL POINTE COUNCIL OF	45-A MAPLE AVE W		residential	0	0	0	4.14	0.25	6.04%
KY-004	2	028-30-08-027.01	FT MITCHELL HOTEL LLC	2100 DIXIE HWY		commercial	1,500,000	2,600,000	4,100,000	6.92	0.11	1.60%
KY-005	2	028-30-04-005.00	BEECHWOOD INDEPENDENT SCHOOL	50 BEECHWOOD RD		commercial	1,000,000	9,126,900	10,126,900	16.64	0.10	0.59%
KY-006	3	028-30-10-001.00	CENTRAL CHURCH OF NAZARENE	2006 PIECK LN		commercial	301,000	700,000	1,001,000	2.86	0.44	15.41%
KY-007	3	028-30-10-001.02	CENTRAL CHURCH OF NAZARENE	2006-A PIECK LN		commercial	60,000	248,000	308,000	1.11	0.15	13.37%
KY-008	3	028-30-12-006.00	SAM PROPERTIES	1971 PIECK LN		residential	40,000	140,000	180,000	0.27	0.27	100.00%
KY-009	3	028-30-12-005.00	KITO PROPERTIES I LLC	1975 PIECK LN		residential	35,000	164,000	199,000	0.44	0.06	13.66%
KY-010	3	041-20-00-151.00	JAHNKE MARK A & SHERRY L	51 RIVARD DR		residential	30,000	150,000	180,000	0.49	0.00	0.14%
KY-011	3	041-20-00-151.02	OSTERHAGE SUSAN K & WILLIAM J	45 RIVARD DR		residential	30,000	150,000	180,000	0.27	0.27	100.00%
KY-012	3	027-40-15-009.00	FORT WRIGHT PLAZA LLC	1949-2001 DIXIE HWY		commercial	1,000,000	841,500	1,841,500	9.71	0.42	4.32%
KY-013	3	041-20-00-002.00	HOSPITALILITY ASSOS OF	1945 DIXIE HWY		commercial	415,000	1,135,000	1,550,000	1.93	1.93	100.00%
KY-014	3	041-20-00-003.00	EMPIRE ENTERPRISES LLC	1937 DIXIE HWY		commercial	376,000	874,000	1,250,000	2.07	0.09	4.53%
KY-015	3	041-20-00-003.01	B V GRIFFITH INC	1939 DIXIE HWY		commercial	180,000	470,000	650,000	1.03	0.01	0.71%
KY-016	3	041-20-00-006.00	WESSELS CONST & DEV CO INC	1885 DIXIE HWY		commercial	295.000	1.505.000	1.800.000	1.02	0.12	12.16%
KY-017	4	041-20-00-080.01	MCKINLEY GUSTIN A &	11 HIGHVIEW DR		vacant - res	30.000	0	30.000	1.20	0.01	0.45%
KY-018	4	041-20-00-080.02	KALAPASEV NENAD S &	15 HIGHVIEW DR		residential	30.000	118.000	148.000	0.58	0.58	100.00%
KY-019	4	041-20-00-015.00	STOLZ JOHN & MARCELLA	HIGHVIEW DR		vacant - res	500	0	500	0.08	0.08	100.00%
KY-020	4	041-20-20-006.01	WALLACE IAMES F	1598 MARCELLA DR		residential	30,000	97 100	127 100	0.37	0.01	1 70%
KY-021	4	041-20-20-005-03		1596 MARCELLA DR		residential	30,000	110 000	140 000	0.57	0.06	10 11%
KY-021	4	041-20-20-005.02	HORSTKAMP VERA S TRUSTEE	1594 MARCELLA DR		residential	30,000	90,000	120,000	0.37	0.07	19.17%
KV-022	4	041-20-20-004-03				residential	30,000	90,000	120,000	0.33	0.08	22 20%
KY-023	4	041-20-20-004.03	ET WRIGHT CITY			commercial	474.000	2 126 000	2 600 000	1 36	0.00	22.25%
KT-024	4	041-20-00-007.00				vacant com	629 500	2,120,000	620 500	1.30	0.07	1 20%
KT-023	4	041-20-00-003.01				vacant - com	1 204 500	0	1 204 500	1.72	0.02	1.35% E E 2%
KT-020	5	041-20-01-003.01				vacant - com	217.000	0	217.000	4.30	0.23	9.04%
KT-027	5	041-20-01-003.02	SISTERS OF NOTRE DAME OF			vacant com	142,000	0	142,000	1.27	0.11	20.94%
KT-020	5	041-20-00-001.01	SISTERS OF NOTRE DAME OF			vacant - com	1 800 000	E4 E00 000	145,000 F6 200 000	0.08	0.28	2 26%
KT-029	5	041-20-00-001.00				commercial	1,890,000	34,300,000	30,390,000	42.09	0.97	2.20%
KY-030	5	041-40-00-005.00		505 ST JOSEPH LN		residential	60,000	215,000	275,000	0.44	0.44	100.00%
KY-031	5	041-40-00-001.03	DICKMAN JEANNE & DALE VINCENT	504 ST JOSEPH LN		commercial	60,000	215,000	275,000	0.59	0.14	23.69%
KY-032	5	041-40-00-001.04	WACHS DANIEL G	502 ST JUSEPH LN		residential	70,000	232,500	302,500	0.94	0.94	100.00%
KY-033	5	041-40-00-009.00		1200-04 ELBERTA CIR		commercial	135,000	250,000	385,000	3.58	1.16	32.43%
KY-034	5	041-20-20-004.01	TERREL SYDNEY J	1590 MARCELLA DR		residential	30,000	90,000	120,000	0.34	0.09	27.85%
KY-035	5	041-20-20-003.01	WIGGER RALPH P & REBECCA L	1588 MARCELLA DR		residential	30,000	90,000	120,000	0.28	0.09	32.68%
KY-036	5	041-20-20-002.01	RALEIGH JOHNNY & BELLE R	1586 MARCELLA DR		residential	30,000	90,000	120,000	0.18	0.02	10.50%
KY-037	6	041-40-00-016.00	ALBERS ROBERT & JANEY	1208 FAR HILLS DR		vacant - res	45,000	0	45,000	1.91	0.02	1.24%
KY-038	6	041-40-00-017.00	DICKMAN ROBERT G	1132-34-35-37 CEDER RIDGE LN		residential	300,000	1,540,000	1,840,000	9.54	1.76	18.46%
KY-039	6	041-30-00-020.01	GRAY DAVID & HAZEL	507 SCENIC DR		residential	45,000	140,000	185,000	0.45	0.45	100.00%
KY-040	6	041-30-00-020.02	WALL TERRANCE M JR	508 SCENIC DR		residential	100,000	200,000	300,000	0.26	0.26	100.00%
KY-041	6	041-30-00-020.09	BEUTTEL WILLIAM C & JANE	506 SCENIC DR		residential	60,000	105,000	165,000	0.32	0.32	100.00%
KY-042	6	041-30-00-106.00	SANITATION DISTRICT #1 OF	500 SCENIC DR		vacant - res	50,000	0	50,000	3.42	0.28	8.04%
KY-043	6	041-30-00-020.03	BARRETT ROBIN	510 SCENIC DR		residential	60,000	100,000	160,000	0.28	0.28	100.00%
KY-044	6	041-30-00-020.04	UTLEY FORREST G	512 SCENIC DR		residential	100,000	195,000	295,000	0.61	0.00	0.31%
KY-045	7	055-11-33-005.00	SAINT ELIZABETH MEDICAL	MONROE ST		vacant - com	15,000	0	15,000	3.03	0.41	13.69%
KY-049	8	040-44-09-026.00	EUBANKS REBECCA	610 12TH ST W		residential	5,000	70,000	75,000	0.06	0.00	5.17%
KY-050	8	040-44-09-025.00	CUMMINGS HEIDI	608 12TH ST W		residential	5,000	87,000	92,000	0.06	0.06	100.00%
KY-051	8	040-44-09-024.00	WHEELER SAM	606 12TH ST W		residential	5,000	29,900	34,900	0.05	0.05	100.00%
KY-052	8	040-44-09-023.00	FROELICHER CHARLOTTE & MARIE	604 12TH ST W		residential	5,000	50,000	55,000	0.06	0.06	100.00%
KY-053	8	040-44-09-020.00	GREFER JEFFREY & LORI	605 11TH ST W		residential	5,000	24,000	29,000	0.06	0.06	100.00%
KY-054	8	040-44-09-019.00	GIER THOMAS C & DANINE B	609 11TH ST W		residential	5,000	50,000	55,000	0.12	0.00	1.42%
KY-055	8	040-44-08-017.01	FINAN JOSEPH L	606 11TH ST W		residential	5,000	29,000	34,000	0.05	0.05	100.00%
KY-056	8	040-44-08-017.02	GREFER JEFF & LORI	608 11TH ST W		residential	5,000	27,000	32,000	0.05	0.05	100.00%
KY-057	8	040-44-08-018.00	GREFER JEFFREY M & LORI A	610-12 11TH ST W		residential	5,000	3,000	8,000	0.11	0.01	9.55%
KY-065	8	040-44-06-027.00	LEWISBURG ENTERPRISES LLC	610-18 PIKE ST		commercial	150,000	0	150,000	0.31	0.31	100.00%
KY-066	8	040-44-06-025.00	LEWISBURG ENTERPRISES LLC	620 LEWIS ST		vacant - res	10,000	0	10,000	0.12	0.03	21.08%

				ALTERI	NATIVE I PROPERTY MAPS							
						LAND USE		MARKET		TOTAL	TAKEN	
MAP ID	PAGE #	PIDN OR PARCEL ID	OWNER	ADDRESS	ADDRESS CONT.	CLASS	MARKET LAND	IMPROVEMENT	MARKET TOTAL	ACRES	ACRES	PERCENT
KY-067	8	040-44-06-024.00		622 LEWIS ST		residential	5,000	26,500	31,500	0.11	0.11	100.00%
KY-068	8	040-44-06-023.00	C E O ASSOCIATES INC	624 LEWIS ST		residential	5,000	27,000	32,000	0.10	0.10	100.00%
KY-069	8	040-44-06-022.00	GRONEMAN ALLEN	626 LEWIS ST		residential	5,000	35,000	40,000	0.10	0.10	100.00%
KY-070	8	040-44-06-021.00	GIGLIO EMIL F & THERESA L	628 LEWIS ST		residential	5,000	24,000	29,000	0.09	0.09	100.00%
KY-071	8	040-44-06-020.00	LOUDEN KATHERINE	630 LEWIS ST		residential	5,000	35,000	40,000	0.08	0.08	100.00%
KY-072	8	040-44-06-019.00	MARTIN JOSEPH C	632-634 LEWIS ST		commercial	20,000	85,000	105,000	0.17	0.02	10.18%
KY-073	8	040-44-03-018.00	BOSSE DOUGLAS & DEREK &	636-40 LEWIS ST		commercial	25,000	68,000	93,000	0.26	0.00	0.08%
KY-074	8	040-44-07-015.01	ROMAN CATHOLIC BISHOP OF COV	639-41 LEWIS ST		vacant - com	31,000	0	31,000	0.28	0.28	100.00%
KY-075	8	040-44-07-015.02	ST JOHNS CHURCH	652-54 PIKE ST		commercial	100,000	0	100,000	0.55	0.07	13.09%
KY-076	8	040-44-06-013.00	STANDARD CLUB OF COVINGTON	643 LAUREL ST		commercial	27,000	63,500	90,500	0.34	0.01	2.38%
KY-078	8	040-44-06-002.00	WILDER DARRELL & MARY	639 9TH ST W		residential	5,000	45,000	50,000	0.11	0.01	7.45%
KY-079	8	040-44-06-003.00	SCHULTE JOSEPH M	641-5 9TH ST W		commercial	15,000	37,500	52,500	0.17	0.00	1.29%
KY-096	8	040-44-04-033.00	BIRMINGHAM TIMOTHY H	872 CRESCENT AVE		residential	6,000	39,000	45,000	0.06	0.06	100.00%
KY-113	8	040-44-04-014.00	T L C PROPERTIES INC	826 CRESCENT AVE		commercial	20,000	0	20,000	0.04	0.04	100.00%
KY-114	8	040-44-04-013.00	COVINGTON CITY OF	826 CRESCENT AVE		commercial	10,000	0	10,000	0.09	0.01	13.78%
KY-115	8	040-44-04-012.00	MAYHEW AMANDA E	824 CRESCENT AVE		residential	5,000	106,800	111,800	0.06	0.06	100.00%
KY-116	8	040-44-04-011.00	RUEDEBUSCH ROBERT L	822 CRESCENT AVE		residential	10,000	83,000	93,000	0.06	0.06	100.00%
KY-117	8	040-44-04-010.01	CLAXTON FELECIA	820 CRESCENT AVE		residential	5,000	35,000	40,000	0.06	0.06	100.00%
KY-118	8	040-44-04-009.00	JOHNSON CHARLES M & LILLIAN	818 CRESCENT AVE		residential	5,000	35,000	40,000	0.05	0.05	100.00%
KY-119	8	040-44-04-008.00	HLE PROPERTIES LLC	816 CRESCENT AVE		residential	5,000	30,000	35,000	0.06	0.06	100.00%
KY-120	8	040-44-04-007.00	JOHNSON DAVID	812 CRESCENT AVE		residential	4,000	6,900	10,900	0.11	0.11	100.00%
KY-121	8	040-44-04-005.00	HLE PROPERTIES LLC	810 CRESCENT AVE		vacant - res	1,500	0	1,500	0.05	0.05	100.00%
KY-122	8	040-44-04-004.00	HLE PROPERTIES LLC	808 CRESCENT AVE		residential	5,000	40,000	45,000	0.06	0.06	100.00%
KY-123	8	040-44-04-003.00	BECKER PATRICIA M	806 CRESCENT AVE		residential	5,000	40,000	45,000	0.06	0.06	100.00%
KY-124	8	040-44-04-002.00	RAHEMI FATNA	804 CRESCENT AVE		residential	5,000	7,000	12,000	0.06	0.06	100.00%
KY-125	8	040-44-20-007.01	JLD MANAGEMENT LLC	540 WATKINS ST		residential	5,000	73,500	78,500	0.15	0.15	100.00%
KY-126	8	040-44-19-013.00	COLUMBIA SUSSEX CORP	JILLIANS WAY		commercial	1,000,000	3,200,000	4,200,000	4.11	0.43	10.34%
KY-127	8	040-44-19-004.00	PIKE PRO LLC	555 PIKE ST		commercial	105,000	112,000	217,000	0.35	0.35	100.00%
KY-128	8	040-44-19-003.00	COLUMBIA SUSSEX CORP	537 PIKE ST		vacant - com	1,200,000	0	1,200,000	0.36	0.10	27.50%
KY-131	8	040-44-18-017.00	MARSHALL ROBERT G & BLANCHE	500 PIKE ST		commercial	50,000	28,000	78,000	0.21	0.01	4.51%
KY-132	8	040-44-18-018.00	MACKE JAMES E	512-20 PIKE ST		commercial	115,000	296,000	411,000	0.38	0.07	18.81%
KY-133	8	040-44-12-001.00	KRONE BRUCE A TRUSTEE	550 PIKE ST		commercial	472,500	1,014,000	1,486,500	2.17	0.39	17.98%
KY-134	8	040-44-11-001.00	OAKLAND PROPERTIES INC	902-26 WILLOW RUN		commercial	150,000	485,000	635,000	0.94	0.06	6.15%
KY-137	8	040-44-10-010.01	ATSINGER EDWARD G III TRUSTEE	620 9TH ST W		tower	0	0	0	0.34	0.34	100.00%
KY-138	8	040-44-10-010.00	COVINGTON CITY OF	847 PHILADELPHIA		commercial	133,500	116,500	250,000	2.62	0.59	22.63%
KY-139	8	040-44-10-010.02	SANDERS ROBT E TRUSTEE OF	9TH ST W		commercial	40,900	0	40,900	0.02	0.01	42.50%
KY-146	9	040-43-02-013.00	BECKER FAMILY LTD PTN	643-723 CRESCENT AVE		vacant - res	70,000	0	70,000	2.16	0.63	29.04%
KY-147	9	040-43-02-012.00	MANN ROBERT J & JULIE	641 CRESCENT AVE		residential	5,000	55,000	60,000	0.05	0.05	100.00%
KY-148	9	040-43-02-011.00	AXUT BUILDING LLC	637-39 CRESCENT AVE		vacant - res	10,000	0	10,000	0.10	0.10	100.00%
KY-149	9	040-43-02-010.00	JOHNSON DAVID	635 CRESCENT AVE		residential	10,000	20,000	30,000	0.08	0.08	100.00%
KY-150	9	040-43-02-009.05	AXUT BUILDING LLC	627-33 CRESCENT AVE		vacant - res	52,000	0	52,000	0.22	0.22	100.00%
KY-151	9	040-43-03-022.00	BEZOLD CLEMENT L JR	630 CRESCENT AVE		vacant - res	1,000	0	1,000	0.06	0.06	100.00%
KY-152	9	040-43-03-023.00	WURZELBACHER JAMIE J	628 CRESCENT AVE		vacant - res	9,000	0	9,000	0.05	0.05	100.00%
KY-153	9	040-43-03-024.00	WURZELBACHER JAMIE J	624 CRESCENT AVE		vacant - res	4,000	0	4,000	0.06	0.06	100.00%
KY-154	9	040-43-02-009.04	COTTON JOSEPH W & NORMA	625 CRESCENT AVE		residential	5,000	20,000	25,000	0.05	0.05	100.00%
KY-155	9	040-43-02-009.03	MATTINGLY KELLY S	623 CRESCENT AVE		vacant - res	5,000	0	5,000	0.05	0.05	100.00%
KY-156	9	040-43-02-009.02	MATTINGLY KELLY S	621 CRESCENT AVE		residential	5,000	40,000	45,000	0.03	0.03	100.00%
KY-157	9	040-43-02-009.01	MATTINGLY KELLY S	619 CRESCENT AVE		residential	5,000	40,000	45,000	0.04	0.04	100.00%
KY-158	9	040-43-02-008.00	MURNAN ALBERT E & PHYLIS D	615-17 CRESCENT AVE		residential	20,000	36,900	56,900	0.08	0.08	100.00%
KY-159	9	040-43-02-007.00	HANAUER MARK R	611-13 CRESCENT AVE		residential	20,000	40,000	60,000	0.15	0.01	3.40%
KY-164	9	040-43-03-028.00	HUE ENTERPRISES INC	502 CRESCENT AVE		commercial	43,000	15,000	58,000	0.33	0.33	100.00%
KY-177	9	040-34-03-005.00	COVINGTON CITY OF	670 4TH ST W		commercial	850,000	200,000	1,050,000	0.73	0.73	100.00%
KY-178	9	040-34-03-003.00	COVINGTON CITY OF	669-71 3RD ST W		commercial	1,000,000	112,000	1,112,000	0.50	0.50	100.00%
KY-179	9	040-34-03-002.00	THIRD STREET LLC	673-75 3RD ST W		commercial	250,000	50,000	300,000	0.30	0.03	9.17%
KY-180	9	040-34-02-001.00	RUSK HEATING & AIR COND INC	664-66 3RD ST W		commercial	475,000	215,000	690,000	0.72	0.72	100.00%
KY-181	9	040-34-02-012.00	COVINGTON CITY OF	687 2ND ST W		vacant - res	35,000	0	35,000	0.34	0.34	100.00%

ALTERNATIVE I PROPERTY MAPS

			LAND USE MARKET TOTAL TAKEN							TAKEN	TAKEN	
MAP ID	PAGE #	PIDN OR PARCEL ID	OWNER	ADDRESS	ADDRESS CONT.	CLASS	MARKET LAND	IMPROVEMENT	MARKET TOTAL	ACRES	ACRES	PERCENT
KY-182	9	040-34-02-011.00	COVINGTON CITY OF	689 2ND ST W		commercial	150,000	100,000	250,000	0.81	0.14	16.91%
KY-183	10	040-34-03-008.00	COVINGTON CITY OF	610-A 2ND ST W		vacant - res	7,000	0	7,000	6.17	1.59	25.81%
	ALTERNATIVE I PROPERTY MAPS											
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							MARKET	MARKET		TOTAL	TAKEN	TAKEN
MAP ID	PAGE #	PIDN OR PARCEL ID	OWNER	ADDRESS	ADDRESS CONT.	LAND USE CLASS	LAND	IMPROVEMENT	MARKET TOTAL	ACRES	ACRES	PERCENT
OH-001	10	013700030078	DUKE ENERGY OHIO INC	Front Street		Industrial	919000	1,041,800	1,960,800	11.04	3.73	33.83%
OH-002	10	013700030020	DUKE ENERGY OHIO INC	646 Mehring Way		Industrial	464,200	671,100	1,135,300	4.28	0.90	20.91%
OH-003	10	013700030059	HILLTOP CONCRETE CORP	612 Mehring Way		Industrial	92,640	3,740	96,380	0.04	0.04	100.00%
OH-004	10	013700030060	HILLTOP CONCRETE CORP	612 Mehring Way		Industrial	0	0	0	0.05	0.03	54.95%
OH-005	10	013700030054	HILLTOP BASIC RESOURCES	Augusta Avenue		Vacant - Ind	45,140	0	45,140	0.37	0.01	1.97%
OH-006	10	013700030044	CORMAN ROBERT	603 W Pete Rose Way		Commercial	104,550	33,760	138,310	0.30	0.09	30.20%
Part of OH-006	10	013700030045	CORMAN ROBERT	603 W Pete Rose Way		Commercial	0	0	0	0.18	0.00	0.89%
OH-008	10	013700030053	HILLTOP CONCRETE CORP	Augusta Avenue		Vacant - Ind	39,940	0	39,940	0.06	0.06	96.76%
OH-009	12	013700030028	CORMAN ROBERT	603 W Pete Rose Way		Vacant - Ind	68,640	0	68,640	0.04	0.04	100.00%
OH-010	12	013700030029		603 W Pete Rose Way		Vacant - Ind	0	0	0	0.03	0.03	98.82%
OH-011	12	013700030030		603 W Pete Rose Way		Vacant - Ind	0	0	0	0.03	0.02	/6.26%
OH-012	12	013700030031		603 W PETE ROSE WY		Vacant	68640	0	68,640	0.03	0.01	44.38%
OH-013	12	013700030032		603 W Pete Rose Way		vacant - Ind	0	0	0	0.05	0.00	9.53%
OH-014	12	013700030046		603 W Pete Rose Way		Vacant - Ind	0	0	0	0.18	0.00	0.89%
OH-015	12	014700060068		Pete Rose Way		Commercial	555,460	43,900	599,360	1.31	0.03	2.60%
UH-UI6	12	014700050121		700 Pete Rose Way		Commercial	996,580	6,651,110	7,647,690	2.26	0.50	22.04%
Part of OH-016	12	014700050126		700 W PETE ROSE WAY		Commercial	0	0	0	0.07	0.07	100.00%
Part of OH 016	12	014700050127		700 W PETE ROSE WAY	-	Commercial	0	0	0	0.11	0.11	100.00%
Part of OH 016	12	014700050128		700 W PETE ROSE WAY	-	Commercial	0	0	0	0.10	0.10	40.40%
Part of OH 016	12	014700050120		700 W PETE ROSE WAY		Commercial	0	0	0	0.48	0.15	40.40%
Part of OH 016	12	014700050124		700 W PETE ROSE WAY		Commercial	0	0	0	0.05	0.03	7 210/
Part of OH 016	12	014700050125		701 W PETE ROSE WAY	-	Commercial	0	0	0	0.02	0.04	10.220/
	12	014700050119		700 W PETE ROSE WAT		Pailroad	0	0	0	0.09	0.02	2 5 5 2 %
OH-024	12	014700050140	CENTRAL RAILROAD CO OF			Railroad	0	0	0	1.40	0.04	2.55%
OH-025	12	014700050123				Railroad	0	0	0	0.07	0.07	100.00%
OH-020	12	014700050031		500 WATER ST		Railroad	0	0	0	0.03	0.00	100.00%
OH-025	12	014700050145		5 3rd Street		Vacant - Ind	4 010	0	4 010	0.14	0.14	100.00%
OH-030	12	014700050148		62 3rd Street		Vacant - Industrial	4,010	0	4,010	0.05	0.05	100.00%
OH-032	12	014700050152		62 3rd Street		Vacant - Industrial	0	0	0	0.00	0.00	100.00%
0H-033	12	014700050054		5 3rd Street		Vacant - Ind	10 990	0	10 990	0.00	0.06	100.00%
OH-033	12	014700050054		690 3rd Street		Industrial	459000	651 900	1 110 900	0.00	0.00	26 18%
OH-035	12	014700070212	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	1 103 700	4 096 300	5 200 000	0.27	0.07	100.00%
Part of OH-035	12	014700070226	TOWNVIEW 56TH STREET LLC	359 Gest St		Commercial	1,105,700	4,050,500	3,200,000	0.20	0.20	100.00%
Part of OH-035	12	014700070214	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.03	0.03	100.00%
Part of OH-035	12	014700070215	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.03	0.03	100.00%
Part of OH-035	12	014700070216	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.03	0.03	100.00%
Part of OH-035	12	014700070177	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.18	0.18	100.00%
Part of OH-035	12	014700070161	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.10	0.06	54.13%
Part of OH-035	12	014700070715	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.08	0.00	2.77%
Part of OH-035	12	014700070256	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.27	0.01	3.65%
Part of OH-035	12	014700070258	TOWNVIEW 56TH STREET LLC	360 Gest St		Commercial	0	0	0	0.56	0.02	3.53%
OH-045	12	014700070268	DUKE ENERGY OHIO INC	Gest Street		Commercial	1,058,700	3,083,900	4,142,600	6.50	0.20	3.06%
OH-046	12	014700070267	CALDWELL REALTY CO	500 Gest Street		Industrial	909,300	1,401,220	2,310,520	2.33	0.41	17.46%
OH-047	12	014700040199	CALDWELL REALTY CO	P O BOX 28606		Industrial	0	0	0	0.88	0.24	26.69%
OH-048	12	014600050180	CALDWELL REALTY CO	P O BOX 28606		Industrial	0	0	0	0.42	0.06	13.88%
OH-050	12	013600030241	TAPPAN PROPERTIES Fox 19 Station	635 Seventh Street		Commercial	766,800	2,933,200	3,700,000	2.56	0.38	14.71%
OH-051	12	014500030229	CITY OF CINCINNATI	801 PLUM ST		ROW	0	0	0	0.07	0.01	18.28%
OH-052	12	014500030230	CITY OF CINCINNATI	801 PLUM ST		ROW	0	0	0	0.07	0.02	20.60%
OH-053	12	014500030231	CITY OF CINCINNATI	801 PLUM ST		ROW	0	0	0	0.04	0.01	18.96%
OH-054	12	014500030232	CITY OF CINCINNATI	801 PLUM ST		ROW	0	0	0	0.04	0.01	17.26%
OH-056	12	014500030246	STARGEL ROGENA TR	405 W SEVENTH ST		Commercial	1,001,400	902,300	1,903,700	0.74	0.05	7.39%
OH-057	12	014600060115	AUTOMATIC DATA PROCESSING	500 7th Street		Commercial	4,339,600	1,910,400	6,250,000	7.00	0.06	0.90%
OH-058	13	013600030059	CINCINNATI CITY OF	709 Cutter Street		ROW	0	0	0	0.04	0.02	37.93%
OH-059	13	013600030060	CINCINNATI CITY OF	705 Cutter		ROW	0	0	0	0.06	0.01	. 19.79%
OH-060	13	013600010211	AAIG OF CINCINNATI LLC	800 W 8TH ST		Commercial	821300	1,975,700	2,797,000	1.17	0.01	0.99%
OH-063	13	013600020249	CINCINNATI CITY OF	904 Cutter Street		Commercial	108,980	36,260	145,240	1.13	0.01	0.55%
OH-064	13	013600020056	CINCINNATI CITY OF	706 Ninth Street		Park	5,000	0	5,000	5.23	0.28	5.33%
PART OF OH	-064	013600020055	CINCINNATI CITY OF	706 Ninth Street								

	ALTERNATIVE I PROPERTY MAPS											
MAP ID	PAGE #	PIDN OR PARCEL ID	OWNER	ADDRESS	ADDRESS CONT.	LAND USE CLASS	MARKET	MARKET	MARKET TOTAL	TOTAL ACRES	TAKEN ACRES	TAKEN PERCENT
PART OF OH	-064	013600020054	CINCINNATI CITY OF	710 9th Street								
PART OF OH	-064	013600020053	CINCINNATI CITY OF	710 9th Street					1			
PART OF OH	-064	013600020214	CINCINNATI CITY OF	909 Cutter Street								
PART OF OH	-064	013600020023	CINCINNATI CITY OF	717 Richmond Street								
PART OF OH	1-064	013600020022	CINCINNATI CITY OF	719 Richmond Street								
PART OF OH	1-064	013600020021	CINCINNATI CITY OF	721 Richmond Street								
PART OF OH	1-064	013600020020	CINCINNATI CITY OF	723 Bichmond Street								
PART OF OH	1-064	013600020019	CINCINNATI CITY OF	723 Richmond Street								
PART OF OH	1-064	013600020018	CINCINNATI CITY OF	723 Richmond Street								
PART OF OH	-064	013600020017	CINCINNATI CITY OF	731 Richmond Street								
PART OF OH	-064	013600020016	CINCINNATI CITY OF	733 Richmond Street								
PART OF OH	-064	013600020015	CINCINNATI CITY OF	735 Richmond Street								
PART OF OH	1-064	013600020014	CINCINNATI CITY OF	737 Richmond Street								
PART OF OH	1-064	013600020013	CINCINNATI CITY OF	739 Bichmond Street								
PART OF OH	1-064	013600020013	CINCINNATI CITY OF	741 Richmond Street								
PART OF OH	1-064	013600020012	CINCINNATI CITY OF	743 Richmond Street								
PART OF OH	1-064	013600020011	CINCINNATI CITY OF	745 Richmond Street								
PART OF OH	1-064	013600020010	CINCINNATI CITY OF	743 Richmond Street								
PART OF OH	1-004	013600020003	CINCINNATI CITY OF	749 Richmond Street								
PART OF OH	1-064	013000020008	CINCINNATI CITY OF	750 Richmond Street								
PART OF OH	1-004	013400060067	CINCINNATI CITY OF	752 Richmond Street								
	1.064	012400060065	CINCINNATI CITY OF	752 Richmond Street					ł			-
PART OF OH	1-004	013400000003	CINCINNATI CITY OF	754 Richmond Street								
PART OF OH	1-064	013400060064	CINCINNATI CITY OF	Pickmand Street								
PART OF UR	12	013400060063		Richmond Street		Commercial	148.000	2 217 600	2 466 500	1 7 2	0.01	0.20%
	13	013500010075		850 Court Street		Bosidential	216.000	917 120	2,400,300	2.12	0.01	0.23/0
	13	013300030008		001 Cost St		POW	210,000	0 017,120	1,035,120	2.13	0.01	76 149/
	14	013300030012		901 DUIM CT		ROW			0	1.00	0.00	22 220/
DAPT OF OL	14	014200010080		DES Cost St		ROW		0	0	1.00	0.55	55.52/0
PART OF OF	1-00	014200010079	CINCINNATI CITY OF	1024 Frooman Avo		ROW						
PART OF OF	1-00	014200010078	CINCINNATI CITY OF	1024 Freeman Ave		ROW						
PART OF OF	1-08	014200010077	CINCINNATI CITY OF	1018 Freeman Ave		ROW						
PART OF OF	1-68	014200010076		1018 Freeman Ave		ROW						
PART OF OF	1-68	014200010075	CINCINNATI CITY OF	801 PLUW ST		ROW						
PART OF OF	H-68	014200010074	CINCINNATI CITY OF	1014 Freeman Ave		ROW						
PART OF OF	1-68	014200010073	CINCINNATI CITY OF	1012 Freeman Ave		ROW						
PART OF OF	H-68	014200010072		1040 Freeman Ave		ROW						-
PART OF OF	H-68	014200010071		1008 Freeman Ave		ROW						-
PART OF OF	H-68	014200010070	CINCINNATI CITY OF	1044 Freeman Ave		RUW						-
PART OF OF	1-68	014200010069	CINCINNATI CITY OF	1046 Freeman Ave		ROW						
OH-069	14	014200020015	ROTHSCHILD HANNAH C ET AL	931 DERRICK TURNBOW AVE		ROW	(0 0	0	0.04	0.00	1.35%
OH-070	15	018500060113	1130 FINDLAY STREET LLC	1130 Findlay St		Industrial	237,740	1,222,260	1,460,000	1.72	0.00	0.01%
OH-071	15	018500060123	LOFTSPRING HARRIS &	1905 DALTON ST		Commercial	(0 0	0	0.12	0.03	21.64%
OH-072	15	018500060116	MPEMR LLC	1850 DALTON AVE		Industrial	51,580	310,960	362,540	0.54	0.05	9.24%
OH-073	15	018500060122	MPEMR LLC	1850 DALTON AVE		Industrial	(0 0	0	0.04	0.00	2.05%
OH-074	15	018500060120	CINCINNATI CITY OF	Dalton Ave		ROW	(0 0	0	0.03	0.00	12.33%
OH-075	15	018500060022	LEIN LLC	2020 DALTON AVE		Commercial	68,650	355,150	423,800	0.42	0.15	34.90%
OH-076	15	018400060258	BUDIG REALTY LLC	1100 GEST ST		Vacant - Industrial	(0 0	0	0.08	0.04	53.33%
OH-077	15	018400060256	BUDIG REALTY LLC	1100 GEST ST		Vacant - Industrial	(0 0	0	0.14	0.14	100.00%
OH-078	15	018400060236	BUDIG REALTY LLC	1100 GEST ST		Vacant - Industrial	(0 0	0	0.05	0.05	100.00%
OH-079	15	018400060250	BUDIG REALTY LLC	1100 GEST ST		Vacant - Industrial	(0 0	0	0.06	0.06	100.00%
OH-080	15	018400060114	BUDIG REALTY LLC	1161 Harrison Ave	1	Vacant - Industrial	41,700	0 0	41,700	0.11	0.11	100.00%
OH-081	16	018700080133	MARTIN MEDIA	2402 Spring Grove Ave		Vacant - Commercial	8,500	0 0	8,500	0.10	0.07	66.12%
OH-082	16	018700080071	BLACKBURN-IVEY KAREN L	2408 Spring Grove Ave		Commercial	(0 0	0	0.05	0.00	2.95%
OH-083	16	018700080070	BLACKBURN-IVEY KAREN L	2408 Spring Grove Ave		Commercial	(0 0	0	0.05	0.00	3.83%
OH-084	16	018700080069	BLACKBURN-IVEY KAREN L	2408 Spring Grove Ave		Commercial	19,280	100,720	120,000	0.06	0.00	4.26%
OH-085	16	018700080159	BLACKBURN-IVEY KAREN L	2408 Spring Grove Ave		Commercial	(0 0	0	0.06	0.00	4.35%
OH-086	16	018700080067	CREATIVE DISPLAYS INC	2412 Spring Grove Ave		Vacant - Commercial	5,700	0 0	5,700	0.06	0.00	1.15%
OH-132	16	018700090127	ALBI HOLDINGS PLL	2201 Spring Grove Ave		Industrial	70,620	824,720	895,340	0.73	0.13	18.48%
OH-133	16	018700090123	DUKE ENERGY OHIO INC	2229 Spring Grove Ave		Industrial	46,900	201,100	248,000	0.54	0.11	21.19%

ALTERNATIVE I PROPERTY MAPS

MAP ID	PAGE #	PIDN OR PARCEL ID	OWNER	ADDRESS	ADDRESS CONT.	LAND USE CLASS	MARKET	MARKET IMPROVEMENT	MARKET TOTAL	TOTAL	TAKEN ACRES	TAKEN PERCENT
OH-134	16	018700090004	E & T REAL ESTATE HOLDING	1220 Harrison Ave		Industrial	74,000	41,000	115,000	2.38	0.44	18.68%
OH-135	16	018700090156	L & N RAIL	500 Water St		Industrial	0	0	0	2.32	0.02	0.83%
No label	12	14700070133	CITY OF CINCINNATI	602 W. Fourth St.		Commercial	0	0	0	0.00	0.00	0.00%

Appendix D Drainage Criteria Forms (LD-35)

ODOT Form LD-35 (Modified for Kentucky) Revised January 2006

Kentucky Kenton County	I-71 / I-' Route	75		
AFECTED	(Attach Ty	pical Section)		Durol /
ROADWAYS:		Route	Average Daily Traffic	Urban
INTERSTATE OR OTH L/A FACILITIES	ER	I-71, I-75	I-75 (Dixie Highway to 12 th Street) - 221,780 ADT (2035) I-75 (12 th Street to Bridge) - 79,500 ADT (2035) I-71 - 77,900 ADT (2035)	Urban
ARTERIALS AND COLLECTORS		US 42 (Dixie Highway), West 3 rd St., West 4 th St., West 5 th St., West 9 th St., West 11 th St., West 12 th St, Collector-Distributor	C-D – 75,510 ADT (2035) US 42 - 24,070 ADT (2035) 12 th St. – 12,060 ADT (2035) 9 th St. – 5,460 ADT (2035) 4 th St. – 16,510 ADT (2035)	Urban
LOCALS		East Orchard Rd., Rivard Dr., Kyles Ln., Bullock St., Jillians Way, Pike St., Lewis St., Crescent Ave., Philadelphia St.	Kyles Ln. – 27,500 ADT (2035) Bullock St. – 16,550 ADT (2035) Jillians Way – 17,540 ADT (2035) Pike St. – 16,310 ADT (2035)	Urban
CLEAR ZONE		30 ft		
All Units are English	n:			

GENERAL PROJECT INFORMATION

PIPE POLICY:

The Pipe Policy of KYTC will be used for this project. See *KYTC Drainage Guidance Manual; KYTC Drainage Manual, 2009 Edition, DR 705* for Storm Sewers; and *KYTC Standard Drawings*. Pipe is bid as "xx inch Culvert Pipe" or "xx inch Storm Sewer Pipe". Pipe materials are not specified on plans. The contractor selects pipe material based on fill heights and pH shown on pipe sheets. Pipe is furnished and installed in conformance with *KYTC Standard Specifications for Road and Bridge Construction, Section 701*.

POST CONSTRUCTION BMP POLICY:

A detailed Post Construction BMP policy doesn't exist for KYTC at this time. Follow a combination of KPDES permit requirements under *KYR100000* and KYTC guidelines in *KYTC Drainage Manual, 2009 Edition, DR 200*; and *KYTC Drainage Guidance Manual, Chapter 10 - Erosion Control* (These can be found on the KYTC Drainage website at http://transportation.ky.gov/design/drainage/drainage.html). For water quality regulations, see *KAR 401, Chapter 5*. General Erosion Control requirements can be found in *KYTC Standard Specifications for Road and Bridge Construction, Section 701, Sections 212 and 213*. Karst Guidelines can be found in *KYTC Drainage Manual, 2009 Edition, DR 200*. See updated version of KYTC *Special Note 11F* for turf reinforcing mat specifications. Otherwise, defer to municipal separate storm sewer systems (MS4) and local criteria if possible.

For KYTC projects, designers do not develop detailed Erosion Control Plans for general erosion control. Rather, the designer conservatively estimates erosion control quantities using KYTC formulas. The contractor and resident engineer develop a detailed Erosion Control Plan including placements for erosion control structures such as silt traps, silt fence, etc. and submit it to the Kentucky Division of Water. For additional general erosion control information, contact Danny Jasper or Stephen Bowling in KYTC Central Office Construction at (502) 564- 4780.

Section A. Roadway Culverts

1. DESIGN STORM RETURN INTERVAL (DR-04.300, Table 4-1 Return Interval; Table 402-1, Design Storm Return Interval):

a.	ADT<400 (Local Roads)	<u>Design</u> 10 Year	<u>Check</u> 100 Year
b.	400 <adt<1700 (collector)<="" td=""><td>10Year, 25 Year</td><td>100 Year</td></adt<1700>	10Year, 25 Year	100 Year
c.	1700 <adt<5000 (arterial)<="" td=""><td>25 Year</td><td>100 Year</td></adt<5000>	25 Year	100 Year
d.	ADT>5,000 (Interstate)	50 Year	100 Year

- 2. BANKFULL DESIGN Yes No (Circle yes if at least one culvert has bankfull design) attach a list of culverts with bankfull designs
- 3. FLOOD PLAIN CULVERT(S) NEEDED? Yes (No) (Circle yes if at least one culvert has flood plain culverts) *attach a list of culverts with flood plain culverts*
- 4. DURABILITY SERVICE LIFE <u>75</u> Year attach a list of culverts with their durability service life if multiple culverts have different frequencies.
- 5. ABRASIVE SITE? Yes (No) (Circle yes if at least one culvert has an abrasive site) attach a list of culverts with their abrasive site assumptions if multiple culverts are different
- 6. ALLOWABLE HEADWATER BASED UPON (DR-06.300, Hydraulic Design):
 - a. Allowable increase in flow depth for the 5-year storm.
 - b. Shoulder elevation, ditch break-over, and elevation of development for the design storm.
 - c. Normal 100-year flow plus one foot for drainage areas greater than one square mile.

Additionally, sound judgment must be applied to the selection of the allowable headwater elevation and to the discharge with which the elevation is to be associated for any upstream control. For example, for nuclear power plants use a 500-year design storm. For houses, buildings with equipment, and other valuable property use a 100-year design storm. For farmland and barns use a 25-year design storm.

- Note: Chapter 6 of *KYTC Drainage Guidance Manual* (Culverts and Headwalls) is currently being revised and should be released by the end of the year. Check KYTC Drainage website for updates.
- 7. METHOD USED TO ESTIMATE DESIGN DISCHARGE (Q) (DR-04.400 Discharge Methods):
 - a. Rational Method for drainage areas 0 to 200 acres.
 - b. Regional Method (see USGS Water Resources Investigations Report 03-4180, "Estimating the Magnitude of Peak Flows for Streams in Kentucky for Selected Recurrence Intervals," 2003) for drainage areas 201 acres to 1000 square miles. Use Urbanization Technique for areas with greater than 15% development.
- 8. MAPPING USED TO DELINEATE DRAINAGE AREAS (DR-03.220, Drainage Area):
 - a. Drainage area < 50 acres: As long as it is legible, display drainage areas based on survey Digital Terrain Model.
 - b. 50 acres < Drainage area < 10,000 acres: USGS Topographic Quadrangle Map.

c. Drainage area >10,000 acres: 15 min. USGS quad sheets if appropriate, county maps may be used.

9. MANNING'S "n" USED FOR (DR-705-4, Pipe Roughness):

a.	Smooth pipe	0.012

b. Corrugated pipe $(1/2" \times 2^{1}/2" \text{ corrugations})$: 0.024

See Kentucky Standard Drawing RDI-035-01, "Coatings, Linings, and Pavings for Non-Structural Plate Pipe" for pipe coating and paving requirements.

10. ENTRANCE LOSS COEFFICIENT (K_e) (FHWA's Hydraulic Design Series (HDS-5), *Hydraulic Design* of Highway Culverts, Table 12 – Entrance Loss Coefficients):

		Coefficient Ke
a.	Pipe, Concrete:	-
	Projecting from fill, socket end (groove-end)	0.2
	Projecting from fill, sq. cut end	0.5
	Headwall or headwall and wingwalls	
	Socket end of pipe (groove-end)	0.2
	Square-edge	0.5
	Rounded (radius = $D/12$)	0.2
	Mitered to conform to fill slope	0.7
	End-Section conforming to fill slope	0.5
	Beveled edges, 33.7° or 45° bevels	0.2
	Side- or slope-tapered inlet	0.2
b.	Pipe or Pipe-Arch Corrugated Metal:	
	Projecting from fill (no headwall)	0.9
	Headwall or headwall and wingwalls square-edge	0.5
	Mitered to conform to fill slope, paved or unpaved slope	0.7
	End-Section conforming to fill slope	0.5
	Beveled edges, 33.7° or 45° bevels	0.2
	Side- or slope-tapered inlet	0.2
c.	Box, Reinforced Concrete:	
	Headwall parallel to embankment (no wingwalls)	
	Square-edged on 3 edges	0.5
	Rounded on 3 edges to radius of D/12 or B/12	
	or beveled edges on 3 sides	0.2
	Wingwalls at 30° to 75° to barrel	
	Square-edged at crown	0.4
	Crown edge rounded to radius of $D/12$ or beveled top edge	0.2
	Wingwall at 10° to 25° to barrel	
	Square-edged at crown	0.5
	Wingwalls parallel (extension of sides)	
	Square-edged at crown	0.7
	Side- or slope-tapered inlet	0.2

11. MINIMUM COVER (top of pipe to subgrade) FOR (DR-06.240, Culvert Pipe):

a. 12" from the top of pipe to subgrade with a desirable cover of at least 24".

- 12. MAXIMUM COVER FOR (DR-06.240, Culvert Pipe):
 - a. Circular pipe: 120 feet.

b. Non-circular pipe: 10 feet.

See Kentucky Standard Drawings RDI-001-08 to RDI-012-02 and RDP-001-05 for specific cover heights.

13. OUTLET PROTECTION (DR 1005-1, Energy Dissipater Guidelines):

a.	Culvert with Headwall	<u>Froude Number</u> ≤ 1.5 >1.5 (Pipe D < 48") >1.5 (Pipe D > 48")	<u>Comment</u> Place 25' – 30' Riprap Place 25' – 30' Riprap Design Riprap Transition
b.	Protruding Culvert	≤ 1.5 >1.5 (Pipe D < 48") 1.5 - 3.0 > 3.0	Place 25' – 30' Riprap Place 25' – 30' Riprap Design Riprap - Lined Basin Design SAF Dissipater

14. HEADWALL TYPE (Table 606-1, KYTC Standard Culvert Headwalls):

		Standard Drawing	Culvert Shape	Size Ranges	Skew
a.	Safety Headwalls: Sloped Box Outlet Type 1	RDB-100	Circular	15" to 24"	0°, 15°, 30°
	Sloped & Flared Box Inlet-Outlet	RDB-105	Circular	18" to 36"	0°, 15°, 30°
	Sloped Box Inlet Type	1 RDB-110	Elliptical, Pipe Arch	15" to 18"	0^{o}
	Sloped Box Inlet Type	2 RDB-111	Pipe Arch	15"	0^{o}
	Metal End Section Type 1 and 2	RDB-150	Circular, Elliptical, Pipe Arch	15" to 72"	$0^{ m o}$
	Metal End Section Type 3 and 4	RDB-155	Circular, Elliptical, Pipe Arch	15" to 72"	0^{o}
	Sloped & Parallel Headwalls	RDH-030	Circular, Elliptical, Pipe Arch	12" to 21"	0^{o}
b.	Non-Safety Headwalls	5:			
	Concrete Headwall	RDH-005 RDH-010	Circular, Elliptical, Pipe Arch	12" to 27"	0^{o}
	Sloped & Flared Headwall	RDH-020	Circular, Elliptical, Pipe Arch	12" to 27"	0^{o}
	U-Type Headwall	RDH-050	Circular	12" to 36"	0^{o}
	Pipe Culvert Headwalls	RDH-110 RDB-120	Circular, Elliptical, Pipe Arch	30" to 108"	0°, 15°, 30°, 45°
	Steel Pipe Arch R Headwalls R	DH-400, RDH-405, DH-410, RDH-415	Structural Plate Pipe Arch	See Std. Dw	0°, 15°, g. 30°, 45°
	Double & Triple Culve Headwalls	rt RDH-500	Circular	18" and 24"	0^{o}

Double & Triple Pipe	e RDH-510, RDH-520,			
Culvert Headwall	s RDH-530	Circular	30" to 48"	0^{o}
Precast Box Culvert	RDH-1000, RDH-1005,			0°, 15°,
Headwalls	RDH-1010, RDH-1015	Box	See Std. Dwg.	30°, 45°

15. **RESPONSIBILITIES:**

- a. See *Kentucky Drainage Guidance Manual*, DR-01.300, Pages 11-12.
- 16. SIZE LIMITS (DR-06.240, Culvert Pipe):
 - a. Cross Drain Pipes: <u>18" to 144"</u>

Pipes less than 30" shall not be used where fill heights over the top of the pipe are more than 30 feet. Larger sizes may be used in limited application after review by the Drainage Section and approval by the Director, Division of Highway Design.

b. Median Drain Pipes: <u>15" to 30"</u>

Section B. Storm Sewers

- 1. DESIGN STORM FREQUENCY (DR 706-1, Design and Check Storms):
 - a. Storm Sewer System <u>10 Year</u> Design Storm
 - b. Pipes located in Sags <u>25 Year</u> Design Storm

The 100-year storm is used as an aid in sizing pipe and to ensure that off-site impact is acceptable.

- 2. STORM SEWER HYDRAULICS (DR 707-7):
 - a. Convey the 10-year storm at a depth equal to or less than 80% of the diameter or rise for pipes not located in a sag condition. If project restrictions will not allow this, design the system for pressure flow and ensure that the resulting hydraulic grade line elevations will not surcharge into the roadway.
 - b. Convey the 25-year storm at a depth equal to or less than 80% of the diameter or rise for pipes located in sags which have no exit except through the pipe. If project restrictions will not allow this, design the system for pressure flow and ensure that the resulting hydraulic grade line elevations will not surcharge into the roadway.
 - c. Keep Hydraulic Grade Line elevations for the 100-year (check storm) below levels that will cause damage to adjacent property.
 - d. The above is based on a Manning's "n" pipe roughness of 0.012. See *Kentucky Standard Drawing RDI-035-01, "Coatings, Linings, and Pavings for Non-Structural Plate Pipe*" for pipe coating and paving requirements.
- 3. METHOD TO ESTIMATE DESIGN DISCHARGE (Q) (DR 704-2, Calculating Discharge to Inlets):
 - a. Rational Method
 - b. SCS Peak Flow Method
 - c. SCS Hydrographs Method

Section B. Storm Sewers - Continued

4. COEFFICIENT OF RUNOFF "C" FOR (DR-04.420, Table 4-2, Runoff Coefficients):

a.	All water-tight roof surfaces	0.75 - 0.95
b.	Bituminous or concrete pavement	$\underline{0.80-0.95}$
c.	Traffic bound pavements	0.70 - 0.90
d.	Gravel pavements	0.35 - 0.70
e.	Impervious soils (heavy)	0.40 - 0.65
f.	Impervious soils, with turf	0.30 - 0.55
g.	Slightly pervious soils	0.15 - 0.40
h.	Slightly pervious soils, with turf	0.10 - 0.30
i.	Moderately pervious soils	$\underline{0.05-0.20}$

- j. Moderately pervious soils, with turf 0.00 0.10
- 5. STORM SEWER OPEN CHANNEL DESIGN PROCEDURE:
 - a. *Kentucky Drainage Guidance Manual*, DR 706-5, Pages 4-6.
- 6. MINIMUM TIME TO INLETS (DR 704-2, Calculating Discharge to Inlets): <u>8</u> minutes Inlet maximum spread is based on maximum intensity of 4 in/hr. 8 minutes is for storm sewer sizing.
- 7. MINIMUM COVER OVER SEWERS (DR 707-5, Physical Pipe Requirements):
 - a. If under pavement: 12" from the tope of pipe to subgrade.
 - b. If not under pavement: 12" from the top of pipe to the top of ground.
- 8. MINIMUM VELOCITY FOR DESIGN FLOW <u>2</u> f.p.s. (DR 707-7, Storm Sewer Hydraulics)
- 9. MAXIMUM ACCESS POINT SPACING (DR 707-4):
 - a. 12'' 24'' pipe diameter: <u>300</u> ft.
 - b. 27" 36" pipe diameter: <u>400</u> ft.
 - c. $42^{\circ}-54^{\circ}$ pipe diameter: <u>500</u> ft.
 - d. ≥ 60 " pipe diameter: <u>1000 ft.</u>
- 10. MINIMUM PIPE SIZE (DR 707-5, Physical Pipe Requirements):
 - a. Not Under Traffic, lengths <25': <u>12"</u>
 - b. Not Under Traffic, lengths ≥ 25 ': <u>15</u>"
 - c. Under Traffic, all lengths: <u>18"</u>, where flow from two or more curb or drop inlets is transported under the pavement to join the main trunk line on the opposite side of the road, or the inlet end of a pipe has a headwall or the pipe is projecting and subject to possible debris problems

Section C. Roadway Ditches

- 1. METHOD USED TO ESTIMATE DESIGN DISCHARGE (Q) (DR-05.220, Normal Roadway Ditches):
 - a. Rational Method
- 2. DESIGN STORM FREQUENCY (DR-04.300, Table 4-1 Return Interval): <u>10</u> Year
- 3. DESIGN PROCEDURE:
 - a. *Kentucky Drainage Guidance Manual*, DR-05.340, Pages 20 to 22.
- 4. PERMISSIBLE SHEAR STRESS FOR VARIOUS PROTECTION MEASURES (from proposed Chapter 5 of *KYTC Drainage Guidance Manual* (Culverts and Headwalls)). Chapter 5 is currently being revised and should be released by the end of the year. Check KYTC Drainage website for updates.

a.	Grass Lining (Seed or Sod) ¹	<u> 1.0 psf</u>
b.	Turf Reinforcing Mat Type 1 ²	<u>6.0</u> psf
c.	Turf Reinforcing Mat Type 2 ²	<u>8.0</u> psf
d.	Turf Reinforcing Mat Type 3 ²	<u>10.0</u> psf
e.	Channel Lining Class II ³	<u>2.5</u> psf
f.	Channel Lining Class III ³	<u>5.0</u> psf
g.	Channel Lining Class IV ³	<u>5.0</u> psf
h.	Channel Lining Class IA (Mattress Units) ³	<u>35.0</u> psf

Notes:

- 1. Assuming Class C vegetation.
- 2. Assuming vegetated conditions.

3. Alternate methods as described in HEC-15 and Hydrain HYCHL documentation are also acceptable.

Turf Reinforcing Mat values are based on ECTC-FHWA Type 5A thru 5C and KYTC Design Memo 2-09. For Type IA linings, 35 psf is more appropriate for larger gabions and questionable for 6-inch D_{50} gabions. Based on HYCHL, 5 psf for Type IA linings is appropriate for 2-inch D_{50} gabions.

5. MANNING'S ROUGHNESS COEFFICIENTS "n" (DR-05.340, Table 5-4):

			Depth Ranges		
		<u>(</u>	<u>) – 0.5 ft.</u>	0.5 - 2.0 ft.	> 2.0 ft.
a.	Rigid:	Concrete	0.015	0.013	0.013
		Grouted Riprap	0.040	0.030	0.028
		Stone Masonry	0.042	0.032	0.030
		Soil Cement	0.025	0.022	0.020
		Asphalt	0.018	0.016	0.016
b.	Unlined:	Bare Soil	0.023	0.020	0.020
		Rock Cut	0.045	0.035	0.025
C	Temporary:	Woven Paper	0.016	0.015	0.015
с.	romporary.	Jute Net	0.028	0.022	0.019
		Fiberglass Roving	0.028	0.022	0.019
d.	Straw w/ Net		0.065	0.033	0.025

Section C. Roadway Ditches - Continued

				Depth Ranges		
e.	Curled Wood N	Iat	<u>0 – 0.5 ft.</u> 0.066	$\frac{0.5 - 2.0 \text{ ft.}}{0.035}$	$\frac{> 2.0 \text{ ft.}}{0.028}$	
f.	Synthetic Mat		0.036	0.025	0.021	
g.	Gravel	1-inch D ₅₀	0.044	0.033	0.030	
0		2-inch D ₅₀	0.066	0.041	0.034	
h.	Riprap	6-inch D ₅₀	0.104	0.069	0.035	
		12-inch D_{50}		0.078	0.040	

6. DITCH CONFIGURATION (DR-05, Channels and Ditches):

- a. The geometry of a normal roadway ditches is determined by the category of highway. Normal roadway ditch dimensions for Interstate Highways and projects designed with full safety shall be an 18 foot ditch on a 6:1 side slope from the edge of the shoulder. This provides a useable ditch depth of 18".
- b. A special ditch is designed to exceed the geometrics of a normal roadway ditch as described on a typical section. It may be deeper or wider or both deeper and wider than the prescribed geometrics for a roadway ditch.
- c. A surface ditch is cut into the original ground and, more or less, parallels the toe of a fill to protect the fill from the surface water washing against it. A surface ditches has a 2' minimum flat bottom with 2:1 or 3:1 side slopes. A berm extends from the roadway fill slope to the surface ditch for 10' for a surface ditch with 3:1 side slopes or for 15' for a surface ditch with 2:1 side slopes.

7. LOCATION OF DROP INLETS IN CHANNELS (DR 707-3, Inlets in Channels):

- a. Where the channel capacity is unable to contain the design storm due to either of the following situations:
 - Depth in channel becomes deep enough to violate freeboard criteria for roadside channels.
 - Depth in channel becomes deep enough to violate allowable shear stress criteria for the channel.
- b. In sag locations created by the surrounding grade.
- c. Where convenient outlet points are available to dispose of water.
- d. Other considerations include:
 - Locate inlets in channels in a manner that will maintain existing drainage patterns.

- Check headwater elevations over grates and in channels for the 100-year check storm to ensure damage to surrounding property is not occurring.

e. Types:

- DBI Type 1: Located on rural projects where traversal by a pedestrian or bicyclist is not anticipated.

- DBI Type 2: Wider version of Type 1 for 30" and 36" pipes.

- DBI Type 3: Pedestrian and bicycle safe.
- DBI Type 4: Wider version of Type 3 for 30" and 36" pipes.
- DBI Type 7: For use with larger sized pipes.
- DBI Type 10: For use as a valley gutter with a paved ditch.
- DBI Type 14, DBI Type 15: Rural "yard drain" type inlets.

Section C. Roadway Ditches – Continued

8. MINIMUM LONGITUDINAL SLOPE (DR-05, Channels and Ditches): <u>0.50%</u> desirable minimum

In areas where the surrounding terrain is flat enough to prevent the use of minimum grade, best engineering judgment should be used in determining the minimum slopes.

9. METHOD USED TO LOCATE EXISTING FARM TILE CROSSED BY HIGHWAYS? N/A

- 10. MINIMUM WIDTH OF DITCH LININGS:
 - a. Turf reinforcing mats <u>min 4.0</u> ft. Refer to KYTC Design Memo 02-09
- 11. DESIGN FREQUENCY DEPTH (DR-05, Channels and Ditches):
 - a. Ditch shall be sufficient to carry the design flow without encroaching on the highway shoulder.
 - b. The depth of flow in surface ditches shall be further limited such that the design year discharge does not overtop the ditch bank.

Section D. Median Ditches

- 1. DITCH CONFIGURATIONS (DR-05.230, Median Ditches):
 - a. Median ditches are typically V-shaped.
- 2. WIDTH BETWEEN PAVEMENT EDGES (DR-05.230, Median Ditches):
 - a. Median ditch geometry is based on the median width established for the project.
- 3. SHEAR STRESS FOR VARIOUS PROTECTION MEASURES (DR-05.340, Table 5-3):

a.	Grass Lining (Seed or Sod) ¹	<u> </u>
b.	Turf Reinforcing Mat Type 1 ²	<u>6.0</u> psf
c.	Turf Reinforcing Mat Type 2 ²	<u>8.0</u> psf
d.	Turf Reinforcing Mat Type 3 ²	<u>10.0</u> psf
e.	Channel Lining Class II ³	<u>2.5</u> psf
f.	Channel Lining Class III ³	<u>5.0</u> psf
g.	Channel Lining Class IV ³	<u>5.0</u> psf
h.	Channel Lining Class IA (Mattress Units) ³	<u>35.0</u> psf

Notes:

1. Assuming Class C vegetation.

2. Assuming vegetated conditions.

3. Alternate methods as described in HEC-15 and Hydrain HYCHL documentation are also acceptable.

Turf Reinforcing Mat values are based on ECTC-FHWA Type 5A thru 5C and KYTC Design Memo 2-09. For Type IA linings, 35 psf is more appropriate for larger gabions and questionable for 6-inch D_{50} gabions. Based on HYCHL, 5 psf for Type IA linings is appropriate for 2-inch D_{50} gabions.

Section D. Median Ditches – Continued

- 4. METHOD USED TO ESTIMATE DESIGN DISCHARGE (Q) (DR-05.230, Median Ditches):
 - a. Rational Method
- 5. LOCATION OF DROP INLETS IN CHANNELS (DR 707-3, Inlets in Channels):
 - a. Where the channel capacity is unable to contain the design storm due to either of the following situations:
 - Depth in channel becomes deep enough to violate freeboard criteria.
 - Depth in channel becomes deep enough to violate allowable shear stress criteria for the channel.
 - b. In sag locations created by the surrounding grade.
 - c. Where convenient outlet points are available to dispose of water.
 - d. Maximum Access Point Spacing (DR 707-4): 12" - 24" pipe diameter: 27" - 36" pipe diameter: 400 ft. 400 ft. 400 ft. 500 ft. 500 ft. 1000 ft.
- 6. TYPES OF MEDIAN INLETS (DR-702-6, Drop Box Inlets):
 - a. Drop Box Inlet Type 5 on projects where pedestrian or bicycle traffic is not anticipated.
 - b. Drop Box Inlet Type 6 on projects where pedestrian or bicycle traffic is anticipated.
- 7. MINIMUM LONGITUDINAL SLOPE (DR-05.230, Median Ditches): <u>0.50%</u> desirable minimum In areas where the surrounding terrain is flat enough to prevent the use of minimum grade, best engineering judgment should be used in determining the minimum slopes.

Section E. Drainage for Curbed Pavements

- 1. CONTROLS TO DETERMINE INLET SPACING (DR 706-1, Design and Check Storms):
 - a. Design inlet spacing for maximum spread based on maximum intensity of 4 in/hr.
 - b. Design storm frequency <u>10</u> Year
 - b. Check storm frequency <u>25</u> Year (where the storm sewer is the only outlet)
- 2. METHOD TO DETERMINE TIME TO FIRST INLET (DR 704-2, Calculating Discharge to Inlets):
 - a. Sum of overland flow and gutter flow.
 - b. Minimum time of 8 minutes shall be used for storm sewer pipe design.
- 3. ALLOWABLE SPREAD FOR PAVEMENT INLETS (DR-707-1, Table 707-1):
 - a. Interstate or Parkway All Speeds <u>0</u> feet of encroachment into driving lane
 - b. Non Interstate or Parkway (ADT>1500) >45 mph <u>3</u> feet of encroachment into driving lane <45 mph <u>6</u> feet of encroachment into driving lane
 - c. Non Interstate or Parkway (ADT<1500) All Speeds <u>6</u> feet of encroachment into driving lane

Section E. Drainage for Curbed Pavements - Continued

- 4. MANNING'S "n" USED FOR (DR 705-4, Table 705-2 Manning's n Coefficients):
 - a. Asphalt 0.013 0.017
 - b. Brick 0.012 0.018
 - c. Concrete 0.011 0.020

The standard Manning's"n" used for design is 0.015.

- 5. TYPES OF INLETS (DR 702-5, Curb Box Inlets):
 - a. Curb Box Inlet Type A (Includes Manhole Access) Pipe vault expands away from center line.
 - b. Curb Box Inlet Type B (Does Not Include Manhole Access) Pipe vault expands toward center line. Typically 10' curb openings are used. Curb Box Inlets Type B are used for bridge end drainage, in urban areas where a narrow inlet is needed because of existing utilities and limited right of way behind the inlet, and in storage lanes of narrow raised medians.
 - c. Curb Box Inlet Type F used with standard curb shape in situations where very little capacity is needed or a lack of space prevents use of larger inlets.
 - d. Median Barrier Box Inlet used with median barrier

6. INLET DRAWDOWN BELOW NORMAL GUTTER:

- a. Curb Box Inlet Type A: <u>2"</u> minimum
- b. Curb Box Inlet Type B: <u>4</u>" minimum
- c. Median Barrier Box Inlet: <u>4"</u> minimum

Form LD-35 Revised January 2006

Hamilton	I-71/I-75	0.00/0.22		
County	Route	Section		
	(Attach Typical Sec	tion)		
AFFECTED ROADWAYS:		Route	Average Daily Traffic	Rural / Urban
INTERSTATE OR OTHER L/A FACILITIES		I-71, I-75, U.S. 50	I-75 (Bridge to Ezzard Charles) 79,500 ADT (2035) I-75 (Ezzard Charles to Bank St) 89,160 ADT (2035) I-75 (Bank St. to Western Hills Via.) 118,840 ADT (2035) I-71 - 129,220 ADT (2035) U.S. 50 - 45,260 ADT (2035)	Urban
ARTERIALS AND COLLECTORS	West 3 rd St., W 9 Western Western Grove A	¹ St., West 5 th St., West 7 th st., W 6 th St. Viaduct , Ave., Winchell Ave., Hills Viaduct, Spring Ave., Central Ave. Parkway	5 th St. – 12,910 ADT (2035) 6 th St. – 4,860 ADT (2035) 7 th St. – 17,020 ADT (2035) 9 th St. – 10,280 ADT (2035)	Urban
LOCALS	Linn St. Charles Bank St	, Gest St., John St., Ezzard , Bank St., Harrison Ave., ., Findlay St.	Linn St. – 10,440 ADT (2035) Gest St. – 7,430 ADT (2035) Ezzard Charles – 3,500 ADT (2035) Findlay St. – 3,400 ADT (2035) Bank St. – 6,290 ADT (2035)	Urban
CLEAR ZONE		30 ft		
All Units are English:				

GENERAL PROJECT INFORMATION

PIPE POLICY:

The Pipe Policy of ODOT will be used for this project. (See Section 1002 for additional information) If a policy other than ODOT's is being used, the following material types are permitted: In addition to the ODOT policy, the City of Cincinnti "Supplement to State of Ohio Department of Transportation Construction and Material Specifications" (January 1, 2008) should be followed.

(Please attach a copy of the written pipe policy. In lieu of a written policy, documentation of locally funded construction practices may be provided)

POST CONSTRUCTION BMP POLICY:

The Post Construction BMP Policy of ODOT will be used for this project (*The BMP Criteria that is current and valid at the beginning of Step 7 shall be used. Later revisions may be applied in future steps*). In locations where the highway drainage is discharged directly to a combined sewer system operated by The Metropolitan Sewer District of Greater Cincinnati, detention design will be required per MSD's regulations in place at the beginning Step 7 of the PDP. Other BMP will not be required for the areas tributary to those outfalls. If a policy other than ODOT's is being used, the following BMP's are permitted:

N/A

PROJECT SPECIFIC INFORMATION AFFECTING DRAINAGE:

The proposed work on I-71/I-75 consists of re-aligning the interstates to a new bridge to the West of the existing Brent Spence Bridge. Drainage impacts will be to the local roads and ramps which need to be re-aligned and/or widened to accommodate increased traffic.

Section A. Roadway Culverts (Type A Conduits)

- 1. DESIGN STORM FREQUENCY (1004.2):
 - a. Mainline <u>50</u> Year
 - b. Crossroads 25 & 10 Year
- 2. BANKFULL DESIGN Yes No (Circle yes if at least one culvert has bankfull design) *attach a list of culverts with bankfull designs*
- 3. FLOOD PLAIN CULVERT(S) NEEDED? Yes (No) (Circle yes if at least one culvert has flood plain culverts) *attach a list of culverts with flood plain culverts*
- 4. DURABILITY SERVICE LIFE <u>75</u> Year attach a list of culverts with their durability service life if multiple culverts have different frequencies.
- 5. ABRASIVE SITE? Yes (No) (Circle yes if at least one culvert has an abrasive site) attach a list of culverts with their abrasive site assumptions if multiple culverts are different
- 6. MAXIMUM ALLOWABLE HEADWATER FOR DESIGN STORM (1006.2):
 - a. 2 feet below the near, low edge of the pavement for drainage areas 1000 acres or greater and 1 foot below for culverts draining less than 1000 acres.
 - b. 2 feet above the inlet crown of the culvert or above a tailwater elevation that submerges the inlet crown in flat to rolling terrain.
 - c. 4 feet above the inlet crown of a culvert in a deep ravine.
- 7. METHOD USED TO ESTIMATE DESIGN DISCHARGE (Q) (1003):
 - a. Rational Method.
 - b. USGS Water Resources Investigations Reports 93-135 (for ungaged small urban streams in Ohio) or 89-4126 (for rural unregulated streams in Ohio) should be used within the limits prescribed in each of the reports.
- 8. SCALE OF TOPOGRAPHIC MAPPING USED TO DELINEATE DRAINAGE AREAS (1101.1):
 - a. USGS mapping (7.5 minute quadrangle).
 - b. For smaller areas, or where using the rational method, use aerial topography (low-flight mapping), and smaller scale maps (1"=50' to 1"=800') may be more appropriate.

9. MANNING'S "n" USED FOR (1105.6.5):

- a. Smooth pipe <u>0.012</u>
- b. Corrugated pipe:

$2-^{2}/_{3}$ " x $^{1}/_{2}$ ":	Full flow	0.0250 to 0.0225
3" x 1":	Full flow	0.0281 to 0.0260
6" x 2":	Full flow	0.0332 to 0.0300

10. ENTRANCE LOSS COEFFICIENT (k_e) (1105.6.6, table 1105-1):

- a. Corrugated pipe: HW-2.1 Headwall <u>0.9</u> Full Headwall <u>0.25 (beveled)</u>
 b. Smooth Concrete pipe HW-2.2 Headwall <u>0.2</u> Full Headwall <u>0.2</u>.
 d. Box Shape Full Headwall <u>0.4</u>.
- 11. MINIMUM COVER (top of pipe to subgrade) FOR (1008):
 - a. Rigid pipe: <u>9" from the top of pipe to top of sub-grade or finish grade for pipe not under</u> pavements. Absolute minimum of 15" from top of pipe to pavement surface.
 - b. Flexible pipe: <u>12</u>" from the top of pipe to top of sub-grade, <u>18</u>" from the top of pipe to top of sub-grade or finish grade for pipe not under pavements

12. MAXIMUM COVER FOR (1008):

- a. Rigid pipe: <u>As per L&D Section 1008.2.2 & Figures 1008-10 to 1008-14.</u>
- b. Flexible pipe: <u>As per L&D Section 1008, Tables 1008-1 to 9 & 1008-15 to 21.</u>
- 13. MAXIMUM ALLOWABLE CULVERT OUTLET VELOCITY (1002.2.2) :
 - a. Bare earth channel <u>5 f.p.s.</u>
 - b. Rock channel protection <u>20 f.p.s.</u>
 - c. Use <u>energy dissipaters</u> for velocities in excess of 20 f.p.s.
- 14. HEADWALL TYPE (1106.2):
 - a. Half height headwalls: HW-2.1 and HW-2.2
 - b. Full height headwalls: HW-1.1
- 15. CONTACT WILL BE MADE WITH COUNTY ENGINEER TO ESTABLISH:
 - a. Ditch cleanout grades and watersheds.
 - b. County Engineer culvert approval form LD-33.
- 16. MINIMUM PIPE SIZE (1002.3.1, Figure 1002-1):
 - a. Freeway or limited access facility: <u>24" to 42"</u>
 - b. Other highways: <u>15" to 36"</u>

Section B. Storm Sewers (Type B & C Conduits)

- 1. DESIGN FREQUENCY (Just Full) <u>10</u> YEAR (1104.4.1)
- 2. HYDRAULIC GRADIENT SHALL NOT EXCEED (1104.4.2):
 - a. <u>12</u>" inches below edge of pavement for <u>25</u> year frequency storm.
 - b. Pavement catch basin grate or lip of inlet for <u>25</u> year frequency storm.
 - c. A point in a depressed pavement sag that would result in an impassible highway for a <u>50</u> year frequency storm.
 - d. Other: <u>Storm sewers for all highways shall satisfy a 50-year check to preclude flooding of</u> <u>buildings or extensive flooding of private property.</u>
 - e. The above is based on:
 - i. A pipe roughness "n" = 0.015 for pipe sizes 60" and under and 0.013 for larger sizes.
 - ii. <u>The intensity "i" used to check discharge for a 25-year frequency shall be the same for</u> <u>all sewer runs as calculated for the last, or downstream run in a continuous sewer</u> <u>system.</u>
- 3. METHOD USED TO ESTIMATE DESIGN DISCHARGE (Q) (1003):
 - a. Rational Method
- 4. COEFFICIENT OF RUNOFF "C" FOR (1101.2.3):
 - a. Pavement and paved shoulders 0.9
 - b. Berms and slopes (4:1 and flatter) 0.5
 - c. Berms and slopes (steeper than 4:1) 0.7
 - d. Contributing areas:

Residential 0.3-0.7 Woods 0.3 Cultivated 0.3-0.6

- 5. METHOD USED TO DETERMINE TIME TO FIRST CATCH BASIN OR PAVEMENT INLET (1101.2):
 - a. *Location and Design Manual*, Volume II Section 1101.2.2
 - b. *Location and Design Manual*, Volume II Figure 1101-1
- 6. MINIMUM TIME TO (1104.4.4):
 - a. Ditch catch basin <u>15</u> minutes
 - b. Pavement inlet or catch basin <u>10</u> minutes

Section B. Storm Sewers (Type B & C Conduits) - Continued

- 7. MINIMUM COVER OVER SEWERS (1104.2.1):
 - a. Rigid pipe:
 - i. Type B conduit (under pavement or paved shoulder): 9" from top of pipe to bottom of pavement sub-base. 15" from top of rigid pipe to pavement surface (absolute).
 - ii. Type C conduit (beyond pavement or paved shoulder): 18"
 - b. Flexible pipe:
 - i. Type B conduit (under pavement or paved shoulder): <u>12</u>" from top of pipe to bottom of pavement sub-base. 24" from top of flexible pipe to the pavement surface (absolute).
 - ii. Type C conduit (beyond pavement or paved shoulder): 24"
- 8. DESIRABLE MINIMUM VELOCITY FOR DESIGN FLOW <u>3</u> f.p.s. (1104.2.1).
- 9. MAXIMUM LENGTH BETWEEN MANHOLES OR SUITABLE CLEANOUT POINTS (1104.2.2):
 - a. Under 36"diameter: <u>300 ft.</u>
 - b. 36" 60" diameter: 500 ft.
 - c. Over 60" diameter: <u>750 ft. to 1000 ft.</u>
- 10. MINIMUM PIPE SIZE UNDER PAVEMENT (1104.4.6):
 - a. Freeway or limited access facility _____15"
 - b. Other highways <u>12"</u>
- 11. PROCEDURE TO FOLLOW WHEN EXISTING PRIVATE DRAINS ARE CUT BY PROPOSED

SEWERS OR DITCHES: <u>Furnish District Deputy Director with names and addresses of affected property</u> owners prior to drainage review so that appropriate provision of directive 22A can be followed.

Section C. Roadway Ditches

- 1. METHOD USED TO ESTIMATE DESIGN DISCHARGE (Q) (1003):
 - a. Rational Method.
 - b. USGS Method.
- 2. DESIGN FREQUENCY TO DETERMINE (1102.3.1 or 1102.4):

ADT >2000:

- a. Depth of flow determination <u>10</u> year
- b. Shear Stress determination (for protection and width of protection) <u>5</u> year

ADT <2000:

- c. Depth of flow determination <u>5</u> year
- d. Shear Stress determination (for protection and width of protection) <u>2</u> year

Section C. Roadway Ditches - Continued

3. METHOD USED TO DETERMINE TIME OF FLOW TO DITCH (1101.2):

See Location and Design, Volume II. Section 1101.2.2 and Figure 1101-1. (15 minute minimum)

4. ALLOWABLE SHEAR STRESS FOR DITCH LINING (1102.3):

Permanent Ditch Protection:

- a. Seed lining <u>0.40</u> psf.
- b. Sod or other temporary ditch protection <u>1.0</u> psf.
- c. Turf Reinforcing Mat (SS836), Type 1 <u>2.0</u> psf.
- d. Turf Reinforcing Mat (SS836), Type 2 3.0 psf.
- e. Turf Reinforcing Mat (SS836), Type 3 <u>5.0</u> psf.
- f. RCP, Type B 6.0 psf.
- g. RCP, Type C <u>4.0</u> psf.
- h. RCP, Type D <u>2.0</u> psf.

Temporary Ditch Protection (Item 670):

- a. Mat, Type A <u>1.25</u> psf.
- b. Mat, Type B <u>1.50</u> psf.
- c. Mat, Type C <u>2.00</u> psf.
- d. Mat, Type E <u>2.25</u> psf.
- e. Mat, Type F <u>0.45</u> psf.
- f. Mat, Type G <u>1.75</u> psf.

Tied Concrete Block Mat (Item 601)

- a. Type 1 <u>3.0</u> psf.
- b. Type 2 <u>5.0</u> psf.
- c. Type 3 <u>7.0</u> psf.
- 5. MANNING'S "n" USED FOR (1102.3):
 - a. Seed lining 0.03
 - b. Sod, jute, or other temporary linings 0.04
 - c. Turf reinforcing mats 0.04
 - d. Tied Concrete Block Matting 0.03

Section C. Roadway Ditches - Continued

e. Rock channel protection _0.06 (ditches), 0.04 (large channels)

6. DITCH CONFIGURATION (1102.2):

- a. <u>20' radius</u> for roadway, with <u>16''</u> inch minimum depth
- b. <u>20' radius</u> for toe of embankment, with <u>12''</u> inch minimum depth

7. TYPE OF DITCH CATCH BASIN (1102.3.4):

- a. CB-4, CB-5, CB-8
- b. CB 2-2-A located in rural areas, outside of the clear zone or behind the guardrail.
- c. CB 2-2-B used where minor, non-clogging flows are involved such as yard sections and small triangular areas at bridge terminals.
- 8. MINIMUM LONGITUDINAL SLOPE OF DITCHES IN CUT SECTIONS (1102.1):
 - a. <u>0.50%</u> desirable minimum
 - b. <u>0.25%</u> absolute minimum

9. METHOD USED TO LOCATE EXISTING FARM TILE CROSSED BY HIGHWAYS?

- a. Field inspection / aerial photos.
- b. Inquiry of property owners.
- c. County and District Engineers.
- d. Department of Natural Resources / Soil Conservation Service.

10. MINIMUM WIDTH OF DITCH LININGS (1102.3.1):

- a. Sod <u>7.5 ft.</u> ft.
- b. Temporary linings <u>7.5 ft.</u> ft.
- c. Turf reinforcing mats 7.5 ft. ft.

11. DESIGN FREQUENCY DEPTH SHALL NOT EXCEED (1102.3.1):

- a. An elevation of 1' below the edge of pavement for the design discharge.
- b. The depth of flow in toe of slope ditches shall be further limited such that the design year discharge does not overtop the ditch bank.

Section D. Median Ditches

- 1. DITCH CONFIGURATIONS (1102.2.3):
 - a. Depressed Median: <u>8' or 4' rounding, depending on the width of the median</u>.
 - b. Type of barrier: <u>B</u>, B1, C1, D
- 2. WIDTH BETWEEN PAVEMENT EDGES 21 to 50 ft.
- 3. ALLOWABLE SHEAR STRESS FOR DITCH LINING (1102.3):

Permanent Ditch Protection:

- a. Seed lining <u>0.40</u> psf.
- b. Sod or other temporary ditch protection <u>1.0</u> psf.
- c. Turf Reinforcing Mat (SS836), Type 1 <u>2.0</u> psf.
- d. Turf Reinforcing Mat (SS836), Type 2 3.0 psf.
- e. Turf Reinforcing Mat (SS836), Type 3 <u>5.0</u> psf.

Temporary Ditch Protection (Item 670):

- a. Mat, Type A <u>1.25</u> psf.
- b. Mat, Type B <u>1.50</u> psf.
- c. Mat, Type C <u>2.0</u> psf.
- d. Mat, Type E <u>2.25</u> psf.
- e. Mat, Type F <u>0.45</u> psf.
- f. Mat, Type G <u>1.75</u> psf.

Tied Concrete Block Mat (Item 601)

- a. Type 1 <u>3.0</u> psf.
- b. Type 2 <u>5.0</u> psf.
- c. Type 3 <u>7.0</u> psf.

4. METHOD USED TO ESTIMATE DESIGN DISCHARGE (Q) (1101.2):

a. Rational Method

5. CATCH BASIN SPACING WILL BE DETERMINED BY HYDRAULIC ANALYSIS USING (1102.3.4):

- a. <u>5</u> year frequency and "n" = <u>0.03</u> for velocity
- b. <u>10</u> year frequency and "n" = <u>0.03</u> for depth
- c. Controls:
 - i. Design frequency depth shall not exceed:

Section D. Median Ditches - Continued

- (1) An elevation of 1' below the edge of pavement for the design discharge.
- d. Catch basin spacing, depressed median, fill section:

	Median Width	84'	60'	40'	
i.	Desirable maximum	1250 ft.	1000 ft.	800 ft.	<u> </u>
ii.	Absolute maximum	1500 ft.	1250 ft.	1000 ft.	<u>.</u>

6. TYPE OF MEDIAN CATCH BASIN OR INLET (1102.3.4):

a. Standard CB No. 4 for depressed medians wider than 40'.

7. MINIMUM LONGITUDINAL SLOPE OF DEPRESSED EARTH MEDIAN:

a. Slope at 0.50% desired minimum 0.25% absolute minimum.

Section E. Drainage for Curbed Pavements

1. CONTROLS FOR THE DETERMINATION OF INLET OR CATCH BASIN SPACING (1103):

- a. Design storm frequency <u>10</u> year
- b. Check storm frequency <u>50</u> year (for underpasses or depressed roadways where the storm sewer is the only outlet)
- c. METHOD USED TO DETERMINE TIME TO FIRST CATCH BASIN OR PAVEMENT INLET:
 - i. Overland flow and Gutter Flow.
 - ii. Absolute minimum time of 10 minutes shall be used.
- d. Maximum spread of flow into traveled lane: <u>0-8</u> ft. (table 1103-1)

Outside lane width greater than 12 feet: 0-8 ft. (table 1103-1)

Total allowable spread on pavement: <u>0-8</u> ft. (table 1103-1)

- e. Maximum depth of flow at curb <u>5</u> in.
- f. Manning's "n" for:
 - i. Reinforced concrete pavement <u>0.015</u>
 - ii. Asphaltic concrete pavement 0.015
 - iii. Paved shoulders 0.015
- 2. TYPE OF INLET OR CATCH BASIN PROPOSED FOR (1103):
 - a. Continuous grades: <u>Inlet No. 3, CB. No. 3, 3A, CB-2A-XX (where XX is length of opening),</u> <u>CB-6.</u>

Section E. Drainage for Curbed Pavements - Continued

- b. Sags: Inlet No. 3, CB No. 3, 3A
- 3. INLET LIP OF CURB OPENING INLET WILL BE DEPRESSED <u>2</u> INCHES BELOW NORMAL GUTTER.
 - a. A local depression of <u>2</u> inches will be used to determine spacing of combination grate and curb opening catch basins or pavement inlets for a curb pavement section.
 - b. A local depression of $\frac{1}{2}$ inches will be used to determine spacing of combination grate and curb opening catch basins for a combination curb and gutter section.

Appendix E Utility Coordination

Rick Anton/RealEstate/D08/ODOT

06/05/2009 10:49 AM

To "Jeffrey Ballinger" <jballinger2@cinci.rr.com</p> Spinosa/Contracts/D08/ODOT cc Brenda Russell/Construction/D08/ODOT

Subject Re: HAM-71/75-0.00/0.22 PID75119Link

Thanks Jeff, for now we are looking for an estimate.

Stefan, Please see the below email from AT&T Fiber Optic.

Rick Anton, TTS ODOT, District 8 Utility Coordinator 505 South State Route 741 Lebanon, Ohio 45036-9518 Direct Phone Line: 513.933.6624 Fax: 513.933.8252

"Jeffrey Ballinger" < iballinger2@cinci.rr.com>

06/01/2009 03:28 PM

To <<u>Rick.Anton@dot.state.oh.us</u>> сс Subject HAM-71/75-0.00/0.22 PID75119

Rick

at&t is located at 358 Gest Street Part of the impacted Line went over the at&t office location at&t has a lease at this location for 20 Years broken down by 5 year renewable They think the next renew date 12/21/11

at&t fiber on the property are covered under the lease The fiber in the road right of way are there by permit The majority of the core cable in this area was just placed in 2007 and 2008 areas was placed joint with the water main the city was placing

Did not know if at this time if you needed this on a 75-1 or just a estimate for a budget at&t is looking into replacement of the existing core cables placed in 1988 so if this goes I will be in contact with you to work around these projects

The total is \$33,685,000

If you need anything else just call 614-216-1160

Thanks Jeff

Capital Driver	20XX	Burden	Totals	Comments
Building Purchase	\$1,500	\$0	\$1,500	Replaces the current POP building.
Building Renovation	\$750	\$0	\$750	Capital to renovate the new building to meet network central office standards.
DC Power/Alarms	\$700	\$27	\$727	DC power and alarm equipment.
Telemetry	\$90	\$3	\$93	Telemetry equipment.
NSDNET	\$80	\$3	\$83	NSDNET equipment.
Sync	\$160	\$6	\$166	Sync equipment.
Signaling	\$120	\$5	\$125	SS7 signaling equipment.
Core Transport	\$16,017	\$610	\$16,627	Core transport in support of ULH and etc.
Core STE/MUX	\$394	\$15	\$409	Core multiplex and service terminating equipment in support of POP function.
Core OSP	\$750	\$29	\$779	Core OSP in support of ULH migration and POP to POP network architecture.
Metro Titan/COE	\$2,000	\$76	\$2,076	Metro COE equipment in support of local services.
Metro Switch	\$2,000	\$76	\$2,076	Metro switch in support of local services.
Metro OSP	\$2,170	\$83	\$2,253	Metro OSP in support of local rings .
Metro Transport	\$5,800	\$221	\$6,021	Metro electronics to support fiber/rings
	\$0	\$0	\$0	
	\$0	\$0	\$0	
	\$0	\$0	\$0	
	\$0	\$0	\$0	
Totals	\$32,531	\$1,154	\$33,685	

All numbers x1000

RECEIVED AUG 1 0 2009

August 4, 2009

Mr. Rick Anton District 8 Utility Coordinator Ohio Department of Transportation 505 South S.R. 741 Lebanon, Ohio 45036

Cincinnati Bell[™]

221 E. Fourth St. P.O. Box 2301 Cincinnati, Ohio 45201-2301

Stefan 8/10/09

TO

Dear Mr. Anton:

This letter is in regards to your letter dated March 2, 2009 concerning the potential utility impacts for the HAM-71/75-0.00/0.22 PID 75119 project. I have determined the cost of each item number based on our current structures in the field. The following costs are for structures only, and include conduit, manholes and pull-boxes. Item number 2-20 would require us to place 2 new duct systems along 3rd Street from Vine Street to west of I-75 (**Cost \$1,175,000**). Item number 2-24 would require us to place a new duct system under I-75 from W. 8th Street to W. Court Street (**Cost \$87,000**). Item 2-27 would require us to place a new duct system under I-75 from the intersection of W. Court and Linn Street over to Freeman Avenue (**Cost \$284,000**). Item 3-2 would require us to place a new duct system under I-75 from Winchell Avenue (near old manhole 335) headed west to Wade Avenue west of Western Avenue (near manhole 9389). then north to the intersection of Dalton Street and Western Avenue (**Cost \$442,000**). Item number 3-5 would require us to place a new duct system from Poplar and Winchell under 1-75 over Western Avenue north of Poplar (**Cost \$32,000**). Item 3-12 would require us to place a new duct system from the intersection of Spring Grove and Queen City under 1-75 over to McMillian south of Rush Street (near manhole 6635), (**Cost \$159,000**). All facilities for our main duct system are there by permit.

The aforementioned costs are estimated and do not include any fieldwork or intensive records research to determine exactly what is required. Costs could change once preliminary plans are issued.

A copy of this letter has been sent to John Webster (566-8055) of our West District Office to determine the cable and splicing costs.

Sincerely,

Mark Conner Specialist - Conduit Engineering

cc: John Webster File

West End Substation Project Scope

West End Substation Replace the East Yard

JAN. 2012

Civil Scope:

Install 30 tower foundations for the new East yard

Install 9 breaker foundations in the new East yard

Install 2 breaker foundations in the West yard for CB 947 and CB 953

Install ground mat in the new substation area

Install crushed stone surface in the new substation area

Install foundation for a new building addition extending 30ft north of the existing building running from column row 3 to column row 11

Install a steel support structure and the new building addition floor which will be at elevation 522'-0"

Install the new steel building approximately 30ft x 144ft

Structural Scope:

Install 30 - 4ft x 4ft x 65ft tower columns

Install 44 - 4ft x 4ft x 36ft beams

Install 42 - 2ft x 4ft x 36ft beams

Install 5 - 4ft x 4ft x 16ft beams

Install 22 - 2000A 115kV breaker line and bus disconnect switches

Install 2 motor operated line disconnects with a manual ground switches for F1385 & F1389

Install 11 - 138kV CCVTs (F1286, F1587, bus 1,2 & 4, TB12 & 13)

Install wave traps for F1286 and F1587

Install 15 surge arresters for the overhead and cable circuits

Install 11 structures for CBs similar to the structure for CB 949

Install 11 - 3000A 138kV 40kA CBs with 6 sets of 2000/5 CT's

Install a stairs and platforms to provide access to CBs and equipment

Install bundled 954MCM AL cable from the East tower to the West tower for a bus ties

Install 5in. AL tube main bus and 4in. AL tube bus between breakers

Install cap and pin equivalent high creep insulators for the buses

Install a cable tray system to run new control cable from the sub to the new 138kV relay room Electrical Scope:

Install dual PVD bus differential packages for 138kV bus 2, 3, 4 and 5

Install 4 - 138kV bus 4 and bus 5 differential test switch cabinets

Install SEL451 control and breaker failure relays for the 11 new breakers and 5 existing breakers

Install 3 dual SEL421 relay packages for F1286, F1587 and F5985

Install 2 SEL421/SEL311L relay packages for F1385 and F1389

Install an annunciator for the new 138kV relay room

Install a synchronizing panel

Install a RuggedCom switch

Install a D20 RTU for the transmission substation

Install a DFR for the transmission substation

Install 2 new dc distribution panels in the new 138kV relay room; connect 1 to each existing battery

Install control cable from the new substation equipment to the new 138kV relay room

Remove the existing 138kV line relays and the bus 1 and 2 relays located in the existing control room

West End Substation Reconnect the 13kV Transformers and Buses

Civil Scope:

Install 3 new transformer foundations to elevation 513'-0" that incorporate oil containment and foundations for steel deadend structures and masonry firewalls (similar to existing at bank 7 & 8) including foundations for grounding banks and low voltage bus

Install foundations for 15kV cable bus from the 3 new transformers to the new switchgear

Install oil containment and foundations for steel deadend structure and masonry firewalls for old TB9 now new TB11

Structural Scope:

Install 2 - 138kV motor operated air break switches for new TB 12 and TB13

Relocate ABS950 for TB 10

Install 4 deadend towers for TB10, TB11, TB12 and TB14

Relocate TB10 and GRD TB 10 to the new foundation

Remove TB9 and Grd TBs 9-1 and 9-2

Install 3 new 132-13.0kV 67MVA LTC transformers TB11, TB12 and TB14 with new GRD banks

Install 3000 amp 15kV cable bus from the 4 - 67MVA transformers to the new switchgear

Install new switchgear in the new building; re-use the 3000 amp 15kV drawout breakers from buses 11, 21, 31 and 41 in the new cells

Install 2000 amp 15kV cable bus from the new switchgear to the top floor switch house for bus ties 10-12-17, 20-22-16, 30-32-19 and 40-42-15

Install 2000 amp cable bus and re-use the cable tray from CB 106 and CB 305 for new cable for bus ties 10-19 and 17-30

Install 2000 amp cable bus and re-use the cable tray from CB 206 and CB 405 for new cable for bus ties 17-20 and 19-40

Install 2000 amp cable bus for bus ties 12-16, 16-42, 15-22 and 15-32

Install control cable from the transformers to the new 138kV relay room

Remove the reactors from the old 12-22 bus tie and the 32-42 bus tie

Remove the equipment for buses 11, 21, 31 and 41 in the West switch house and the tie cables to the upper floor switch house

Electrical Scope:

Install 4 dual TPU relay packages for the 4 - 67MVA transformers

Install 4 SEL551 protection packages for the 4 GRD transformers

Install PVD differential and SEL487 differential bus relays packages for the 4 new switchgear buses

Install PVD differential and SEL487 differential bus relay packages for the 10-19, 12-16, 15-22, 15-32, 16-42, 17-20, 17-30, and the 19-40 bus ties

Re-connect and re-use the CO-7/ CO-8 CO-11 relays for the 10-12-17, 15-40-42, 16-20-22, and 19-30-32 bus ties

Install a PLC to control the LTCs and the capacitor breakers

West End Substation Reconfigure the 13kV System

Demolish the West switch house after removing the 12kV breakers and disconnecting banks 9 and 10

Reroute circuit 1385 and 1389 to the new East yard

Build a manhole around F1385 and F1389 in Augusta St East of the existing Brent Spence bridge

Install 1600ft. of 8in. pipe from the manhole to the new East yard cable termination locations

Install 2000MCM cable and cable terminations for each circuit

Join the existing cable and pipe to the new cable and pipe in the new manhole

Perform HV acceptance testing of the cable circuits

Reroute circuit 1286 and 1587 to the new East yard

Remove tower 101 for the new bridge, Erect (2) double-circuit heavy-angle structures to reroute F1286 and F1587. Routes are over and about buildings. Conductors are similar to existing conductor. Estimate: (2) structures, (2) foundations, (2000')-159kCM ACSR 12/7static, (6000') - 795kCM ACSR 45/7.

Charles Substation Replace Circuit 1385 and 1389 Relays

Replace the F1385 HCB/LCB relay schemes with a SEL421/SEL311L relay package

Replace the F1389 dual LCB relay package with a SEL421/SEL311L relay package

Mitchell Ave Substation Replace Circuit 1286 Relays

Replace the F1286 relays and carrier equipment with a standard dual SEL421/SEL451 relay package

Crescent Substation Replace Circuit 1587 Relays

Replace the F1587 relays and carrier equipment with a standard dual SEL421/SEL451 relay package

Wilder Substation Replace Circuit 5985 Relays

Replace the F5985 relays and carrier equipment with a standard dual SEL421/SEL451 relay package

West End Substation Remove the 138kV East Yard

Remove the oil from the equipment

Remove the existing East 138kV substation equipment and structures, including TB's 7 & 8 and the 138kV breakers

Abandon the foundations in place; they will be removed as part of the site remediation

pretivering Eng. - in 11 do sporst Per West End Substation Replace the East Yard \$12,000,000 West End Substation Reconnect the 13kV Transformers and Buses \$13,500,000 West End Substation Reconfigure the 13kV System \$ 250,000 Reroute circuit 1385 and 1389 to the new East yard \$ 2,750,000 Reroute circuit 1286 and 1587 to the new East yard \$ 1,050,000 Charles Substation Replace Circuit 1385 and 1389 Relays 500,000 S Mitchell Ave Substation Replace Circuit 1286 Relays \$ 250,000 **Crescent Substation Replace Circuit 1587 Relays** \$ 250,000 Wilder Substation Replace Circuit 5985 Relays 250,000 Ś West End Substation Remove the 138kV East Yard 350,000

portos. \$31,150,000

AN RE Estimate - Just inore pritties. Sunnak 2011 Last marce - 2013 Last marce - 2013 Last marce - 2013



"Schwiers, Thomas" <Thomas.Schwiers@cincinnat i-oh.gov> 03/09/2009 11:46 AM

To <Rick.Anton@dot.state.oh.us>

cc "Franklin, Rob" <Rob.Franklin@cincinnati-oh.gov>

bcc

Subject HAM_ 71/75-0.00/0.22 PID 75119

Rick:

After receiving your letter of March 2, 2009 I put together some cost per foot to relocate some of our sewer lines. I thought this might be the best way to go given that there is no definite alignment set which would tell us the footage we need to relocate along with the manholes. In many cases we may be able to relocate a manhole to provide access to our sewer rather than relocating the line.

Tom Schwiers

	1025
244-5187 175&71	Widening.doc

MSD

Response for HAM -71/75-0.00/0.22 PID 75119

In general, it may be easier to modify the existing manholes leaving the sewers were they are than to try and relocate them. Using Table 30 provided in your letter of March 2, 2009 I wish to offer the following:

Item 2-9: The 72 inch sewer is our Mill Creek East Branch Interceptor sewer which runs 75% full on dry days. Originally this sewer was installed by tunneling. To relocate this sewer would cost \$3000.00 per lineal foot with shafts costing \$750,000.00 per shaft. The sewer in located in City Street R/W or if we cross private property it is in an easement. The 66 inch is an outfall sewer to the river to relocate this sewer could involve the relocation of a CSO. Estimated cost of sewer relocation would be \$1600.00 per foot with manholes costing \$25,000.00

Item 2-17: In addition to the three sewers mentioned there is a 24 inch sanitary and a 66 inch combined along the east side of Central Ave. in an easement. The 48 inch is in the street R/w and the 60 inches are in an easement. Relocation Cost for 24 inch is \$650.00 per foot, 60 inch is \$1500.00, 66 inch \$1600.00 with manholes costing \$20,000 to \$25,000 each.

Item 2-22; To relocate this sewer would cost \$1100.00 per foot. It might be easier to relocate manholes out of the widening.

Item 2-25: To relocate this line you would be looking at \$2400.00 per foot with manholes costing \$20,000.00. Sewer is in easement.

Item 2-29: With this line we may get by with adjusting manholes.

Item 2-30: The 60 inch sewer is in street R/W, Relocation cost would be \$1600.00 per foot with manholes costing \$18,000.00. As for the 72 inch it appears this line was abandoned when 75 was built.

Item 3-1: The 30 inch sewer is in street R/W and to relocate the sewer would require the sewer to be jacked and bored under the expressway at a cost of \$1100.00 per foot with manholes \$12,000 to \$15,000.00

Item 3-8: The 30 inch sewer is in street R/w cost to relocate similar to Item 3-1.


DHIO DEPARTMENT OF TRANSPORTATION District 5 / 505 S. St. Rt. 741 * Lebanon, of 45036 * (800) 831-2142

James G. Beasiey, P.E., P.S. Director

Ted Strickland Governor

Hans R. Jindal, P.E. District 8 Deputy Director

March 2, 2009

Mr. Mark Conner Cincinnati Bell Telephone 201 East 4th Street, Bldg 343 Cincinnati, Ohio 45202

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. Conner:

ODOT is requesting that Cincinnati Bell Telephone look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with Cincinnati Bell Telephone and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to Cincinnati Bell Telephone Facilities.

I am also sending the above enclosed material to Dick Selm.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Rick Anton District 8 Utility Coordinator



HIO DEPARTMENT OF TRANSPORTATION

DISTRICT & * SOE 5. ELERT. 741 * LEBANON, OF 45036 * (800) 831-2142

James G. Beasiey, P.E., P.S. Director

Ted Strickland Governor

Hans R. Jindal, P.E. District & Deputy Director

March 2, 2009

Mr. Dick Selm Cincinnati Bell Telephone 201 East 4th Street, Bldg 343 Cincinnati, Ohio 45202

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. Selm:

ODOT is requesting that Cincinnati Bell Telephone look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with Cincinnati Bell Telephone and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to Cincinnati Bell Telephone Facilities.

I am also sending the above enclosed material to Mark Conner.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Rick Anton

Rick Anton District 8 Utility Coordinator



IO DEPARTMENT OF TRANSPORTATION

STRICT E * 505 S. ST. RT. 741 * LEBANON, OH 45036 * (800) 831-2142

James G. Beasiey, P.E., P.S. Director

Ted Strickland Governor

Hans R. Jindal, P.E. District 8 Deputy Director

March 2, 2009

Mr. Jeff Ballinger AT&T Fiber 4435 Aicholtz Road, Suite 300 Cincinnati, Ohio 45245

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. Ballinger:

ODOT is requesting that AT&T Fiber look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with AT&T Fiber and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to AT&T Fibers Facilities.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Rick Anton

Rick Anton District 8 Utility Coordinator



James G. Beasiey, P.E. P.S. Director

Ted Strickland Governor

Hans R. Jindal, P.E. District 8 Deputy Director

March 2, 2009

Mr. Al Guest MCI/Verizon 120 Ravine Street Akron, Ohio 44303

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. Guest:

ODOT is requesting that MCI/Verizon look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with MCI/Verizon and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to MCI/Verizon Facilities.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Rick Anton

Rick Anton District 8 Utility Coordinator



HIO DEPARTMENT OF TRANSPORTATION

DISTRICT 8 * 505 S. ST. RT. 741 * LEBANON, OH 45036 * (800) 831-2142

James G. Beasley, P.E., P.S. Director

Ted Strickland Governor

Hans R. Jindal, P.E. District & Deputy Director

March 2, 2009

Mr. Tim Taylor Level 3 Communications 400 Pike Street, Suite 300 Cincinnati, Ohio 45202

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. Taylor:

ODOT is requesting that Level 3 Communications look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with Level 3 Communications and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to Level 3 Communications Facilities.

I am also sending the above enclosed material to Keith Osborn.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Rich Anton

Rick Anton District 8 Utility Coordinator



James G. Beasiey, P.E., F.S. Director

Ted Strickland Governor

Hans R. Jindal, P.E. District 8 Deputy Director

March 2, 2009

Mr. Keith Osborn Level 3 Communications, LLC 1025 Eldorado Blvd, Suite 33A-524 Broomfield, CO 80021

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. Osborn:

ODOT is requesting that Level 3 Communications look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with Level 3 Communications and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to Level 3 Communications Facilities.

I am also sending the above enclosed material to Tim Taylor.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Rich Anton

Rick Anton District 8 Utility Coordinator



HIO DEPARTMENT OF TRANSPORTATION

DISTRICT 8 ' 505 S. ST. RT. 741 ' LEBANON, OH 45036 ' (800) 831-2142

James G. Beasley, P.E., P.S. Director

Ted Strickland Governor

Hans R. Jindal, P.E. District 8 Deputy Director

March 2, 2009

Mr. Rob Franklin Metropolitan Sewer District 1600 Gest Street Cincinnati, Ohio 45204

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. Franklin:

ODOT is requesting that Metropolitan Sewer District look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with Metropolitan Sewer District and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to Metropolitan Sewer District Facilities.

I am also sending the above enclosed material to Tom Schwiers.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Anton

Rick Anton District 8 Utility Coordinator



James G. Beasley, P.E., P.S.

Ted Strickland Governor

Hans R. Jindal, P.E. District & Deputy Director

March 2, 2009

Mr. Tom Schwiers Metropolitan Sewer District 1600 Gest Street Cincinnati, Ohio 45204

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. Schwiers:

ODOT is requesting that Metropolitan Sewer District look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with Metropolitan Sewer District and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to Metropolitan Sewer District Facilities.

I am also sending the above enclosed material to Rob Franklin.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Rich Anton

Rick Anton District 8 Utility Coordinator



HID DEPARTMENT OF TRANSPORTATION

DISTRICT B * 505 S. ST. RT. 741 * LEBANON, OH 45036 * (800) 831-2142

James G. Beasley, P.E., P.S. Director

Ted Strickland Governor

Hans R. Jindal, P.E. District 8 Deputy Director

March 2, 2009

Mr. Jason DeLaet Cincinnati Water Works 4747 Spring Grove Ave Cincinnati, Ohio 45232

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. DeLaet:

ODOT is requesting that Cincinnati Water Works look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with Cincinnati Water Works and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to Cincinnati Water Works Facilities.

I am also sending the above enclosed material to Russell Weber.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Rich Anton

Rick Anton District 8 Utility Coordinator



DHID DEPARTMENT OF TRANSPORTATION

DISTRICT 8 * 505 S. ST. RT. 741 * LEBANON, OH 45036 * (800) 831-2142

James G. Beasiey, P.E., P.S. Director

Ted Strickland Governor

Hans R. Jindal, P.E. District 8 Deputy Director

March 2, 2009

Mr. Russell Weber Cincinnati Water Works 4747 Spring Grove Ave Cincinnati, Ohio 45232

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. Weber:

ODOT is requesting that Cincinnati Water Works look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with Cincinnati Water Works and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to Cincinnati Water Works Facilities.

I am also sending the above enclosed material to Jason DeLaet.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Rich Anton

Rick Anton District 8 Utility Coordinator



HIG DEPARTMENT OF TRANSPORTATION

и District 8 * 505 S. St. Rt. 741 * Lebanon, OH 45036 * (800) 831-2142

James G. Beasley, P.E., P.S. Director

Ted Strickland Governor

Hans R. Jindal, P.E. District 8 Deputy Director

March 2, 2009

Mr. Gary Hebbler Duke Gas 139 East 4th Street, Room 460A Cincinnati, Ohio 45202

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. Hebbeler:

ODOT is requesting that Duke Gas look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with Duke Gas and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to Duke Gas Facilities.

I am also sending the above enclosed material to Laura Mate'.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Rich Anton

Rick Anton District 8 Utility Coordinator



HIG DEPARTMENT OF TRANSPORTATION

DISTRICT 8 * 505 S. ST. RT. 741 * LEBANON. OH 45036 * (800) 831-2142

James G. Beasley, P.E., P.S. Director

Ted Strickland Governor

Hans R. Jindal, P.E. District & Deputy Director

March 2, 2009

Ms. Laura Mate' Duke Gas 139 East 4th Street, Room 460A Cincinnati, Ohio 45202

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Ms. Mate':

ODOT is requesting that Duke Gas look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with Duke Gas and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to Duke Gas Facilities.

I am also sending the above enclosed material to Gary Hebbler.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Rich Anton

Rick Anton District 8 Utility Coordinator



DHID DEPARTMENT OF TRANSPORTATION

DISTRICT 5 * 505 S. ST. RT. 741 * LEBANON. OH 45036 * (800) 831-2142

James G. Beasley, P.E., P.S. Directo:

Ted Strickland Governor

Hans R. Jindal, P.E. District 8 Deputy Director

March 2, 2009

Mr. Jim Farley Duke Electric 139 East 4th Street, 5th Floor Main Cincinnati, Ohio 45202

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. Farley:

ODOT is requesting that Duke Electric look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with Duke Electric and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to Duke Electric's Facilities.

I am also sending the above enclosed material to Tom Birkenhauer and Aaron Wright.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Rich Anton

Rick Anton District 8 Utility Coordinator



James G. Beasiey, P.E., P.S. Directo:

Ted Strickland Governor

Hans R. Jindal, P.E. District 8 Deputy Director

March 2, 2009

Mr. Aaron Wright Duke Electric 139 East 4th Street, Room 467A Cincinnati, Ohio 45202

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. Wright:

ODOT is requesting that Duke Electric look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with Duke Electric and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to Duke Electric's Facilities.

I am also sending the above enclosed material to Tom Birkenhauer and Jim Farley.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

& Anton

Rick Anton District 8 Utility Coordinator



HIO DEPARTMENT OF TRANSPORTATION

DISTRICT 8 * 505 S. ST. RT. 741 * LEBANON, OH 45036 * (800) E31-2142

James G. Beasley, P.E., P.S. Director

Ted Strickland Governor

Hans R. Jindal, P.E. District 8 Deputy Director

March 2, 2009

Mr. Tom Birkenhauer Duke Electric 139 East 4th Street, Room 467A Cincinnati, Ohio 45202

Subject: Potential Utility Impacts

Reference: HAM-71/75-0.00/0.22 PID 75119

Dear Mr. Birkenhauer:

ODOT is requesting that Duke Electric look over the enclosed material to give us an estimate of the cost to relocate your facilities using today's dollars. Also, please indicate if your facilities are there by permit or on your own easement.

Enclosed is a map showing the potential impacts with Duke Electric and our project. Using Table 30 (Utility Impacts in Ohio) and map sheets 5, 6 & 7 of 7, you will find the potential impacts to Duke Electric's Facilities.

I am also sending the above enclosed material to Aaron Wright and Jim Farley.

Any questions please call 513-933-6624 or email me at rick.anton@dot.state.oh.us.

Rick Anton

Rick Anton District 8 Utility Coordinator

Appendix F Highway Capacity Analysis



HCS RESULTS 2035 ALTERNATIVE E

EXHIBIT 1 of 11

 Intersection Merge/Diverge Freeway Segment Weave Segment 	LOS A-D LOS E LOS F
CROSS REFERENCE	TEXT STYLE
Intersection = I-# Ramp Junction = R-# Freeway Segment = F-# Weave Segment = W-#	AM/PM Traffic Volumes (X) = # of lanes Weave Segment Length * = Constrained Traffic

LOS GUIDE









PB PARSONS BRINCKERHOFF



Ν

2035 Alternative E

			EXHI
CALE	Intersection = I-# Ramp Junction = R-# Freeway Segment = F-# Weave Segment = W-#	AM/PM Traffic (X) = # of lane Weave Segmen * = Constraine	Volumes es t Length ed Traffic
	CROSS REFERENCE	TEXT ST	YLE

HCS RESULTS 2035 ALTERNATIVE E

LOCATION TYPE

Merge/Diverge

Intersection

 \triangle

HIBIT 5 of 11

LOS GUIDE

LOS A-D LOS E



2035 Alternative E

	LOCATION TYPE	LOS GUIDE
	 Intersection Merge/Diverge Freeway Segment Weave Segment 	LOS A-D LOS B LOS F
	CROSS REFERENCE	TEXT STYLE
Ξ	Intersection = I-# Ramp Junction = R-# Freeway Segment = F-# Weave Segment = W-#	AM/PM Traffic Volumes (X) = # of lanes Weave Segment Length * = Constrained Traffic

HCS RESULTS 2035 ALTERNATIVE E

EXHIBIT 6 of 11





2035 Alternative E

	HCS RESULTS		EXHI
J SCALE			
N N	Intersection = I-# Ramp Junction = R-# Freeway Segment = F-# Weave Segment = W-#	AM/PM Traffic X = # of land Weave Segment * = Constraine	: Volumes es t Length ed Traffic
	CROSS REFERENCE	TEXT ST	YLE
	☐ Freeway Segment ✓ Weave Segment	LOS	P
	Freeway Seament	108	

2035 ALTERNATIVE E

LOCATION TYPE

 \bigcirc Intersection

Merge/Diverge

HIBIT 8 of 11

LOS GUIDE

LOS A-D LOS E





2035 Alternative E

	LOCATION TYPE	LOS GUIDE
	 Intersection Merge/Diverge Freeway Segment Weave Segment 	LOS A-D LOS B LOS P
	CROSS REFERENCE	TEXT STYLE
E	Intersection = I-# Ramp Junction = R-# Freeway Segment = F-# Weave Segment = W-#	AM/PM Traffic Volumes (X) = # of lanes Weave Segment Length * = Constrained Traffic

HCS RESULTS 2035 ALTERNATIVE E

EXHIBIT 9 of 11



PB PARSONS BRINCKERHOFF



HCS RESULTS 2035 ALTERNATIVE E EXHIBIT 11 of 11

LOCATION TYPE	LOS GUIDE
 Intersection Merge/Diverge Freeway Segment Weave Segment 	LOS A-D LOS B LOS F
CROSS REFERENCE	TEXT STYLE
Intersection = I-# Ramp Junction = R-# Freeway Segment = F-# Weave Segment = W-#	AM/PM Traffic Volumes (X) = # of lanes Weave Segment Length * = Constrained Traffic



		OHIO Ohio River KENTUCKY
	LOCATION TYPE	LOS GUIDE
	 Intersection Merge/Diverge Freeway Segment Weave Segment 	LOS A-D LOS E LOS P
	CROSS REFERENCE	TEXT STYLE
71 75 Distributor	Intersection = I-# Ramp Junction = R-# Freeway Segment = F-#	AM/PM Traffic Volumes (X) = # of lanes Weave Segment Length

HCS RESULTS 2035 ALTERNATIVE I

1 of 10



7340/*10120 8910/8270 F-17	6) 6	MATCHLINE SEE SHEET 3 OF 10
		OHIO Ohio River KENTUCKY
	LOCATION TYPE	LOS GUIDE
	 Intersection Merge/Diverge Freeway Segment Weave Segment 	LOS A-D LOS B LOS F
)	CROSS REFERENCE	TEXT STYLE
e 71 e 75 -Distributor d	Intersection = I-# Ramp Junction = R-# Freeway Segment = F-# Weave Segment = W-#	AM/PM Traffic Volumes (X) = # of lanes Weave Segment Length * = Constrained Traffic

HCS RESULTS 2035 ALTERNATIVE I

EXHIBIT 2 of 10



PB PARSONS BRINCKERHOFF



Ramp from Liberty to IR-471	Ramp to Liberty from IR-471	
*6005514490 ••55	30 56,90 3 71240 *6,67,5680 (4) 2 3 (2) (2) (3) (2) (3) (2) (3) (3) (2) (3) (3) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4	OHO Ohio River KENTUCKY
	LOCATION TYPE	LOS GUIDE
	 Intersection Merge/Diverge Freeway Segment Weave Segment 	LOS A-D LOS B LOS F
)	CROSS REFERENCE	TEXT STYLE
ə 71 ə 75 Distributor d	Intersection = I-# Ramp Junction = R-# Freeway Segment = F-# Weave Segment = W-#	AM/PM Traffic Volumes X = # of lanes Weave Segment Length * = Constrained Traffic
		FXHIRIT

HCS RESULTS 2035 ALTERNATIVE I 4 of 10



-38 3/B 1-39 8/B 1-44 8/B Elm	th St. - W. 4th St. W. 3rd St. 2nd St.	Chu KENTUCKY	OHIO
	LOCATION TYPE	LOS GU	IDE
	 Intersection Merge/Diverge Freeway Segment Weave Segment 	LOS A LOS J LOS J	-D B P
1	CROSS REFERENCE	TEXT ST	YLE
e 71 e 75 Distributor d	Intersection = I-# Ramp Junction = R-# Freeway Segment = F-# Weave Segment = W-#	AM/PM Traffic (X) = # of land Weave Segmen * = Constraine	: Volumes es t Length ed Traffic
			EXHIBIT

HCS RESULTS 2035 ALTERNATIVE I

5 of 10







Weste Ave. 9550/7120	u (a) MATCHLINE SEE SHEET 9 OF 10		
Winche Ave.	11	OHIO Ohio River KENTUCKY	
	<pre> Intersection Merge/Diverge Freeway Segment Weave Segment </pre>		Î
)	CROSS REFERENCE	TEXT STYLE	
e 71 e 75 Distributor d	Intersection = I-# Ramp Junction = R-# Freeway Segment = F-# Weave Segment = W-#	AM/PM Traffic Volumes (X) = # of lanes Weave Segment Length * = Constrained Traffic	
	HCS RESUL	rs <i>EXHIBIT</i>	

2035 ALTERNATIVE 1 8 d

8 of 10



PB BRINCKERHOFI


Prepared by **PB** BRINCKERHOFF

KENTUCKY TRANSPORTATION CABINET

LOCATION TYPE LOS GUIDE
 Intersection Merge/Diverge Freeway Segment Weave Segment
CROSS REFERENCE TEXT STYLE
71 75 istributor Ramp Junction = R-# Freeway Segment = F-# Weave Segment = W-# XM/PM Traffic Volumes (X) = # of lanes Weave Segment Length * = Constrained Traffic

HCS RESULTS 2035 ALTERNATIVE I

EXHIBIT 10 of 10



Propared by. PARSONS BRINCKERHOFF

		OHIO Ohio River KENTUCKY
6	LOCATION TYPE	LOS GUIDE
	 Intersection Merge/Diverge Freeway Segment Weave Segment 	LOS A-D LOS E LOS F
	CROSS REFERENCE	TEXT STYLE
tributor	Intersection = I-# Ramp Junction = R-# Freeway Segment = F-#	AM/PM Traffic Volumes (X) = # of lanes Weave Segment Length
	Weave Segment = W-#	* = Constrained Traffic

HCS RESULTS 2035 NO BUILD EXHIBIT **1 of 9**



Freeared by.





PARSONS BRINCKERHOFF







Freeared by. PARSONS BRINCKERHOFF



Freeared by. PARSONS BRINCKERHOFF



PARSONS BRINCKERHOFF

		Chio Chio Chio River KENTUCKY
	LOCATION TYPE Intersection Merge/Diverge Freeway Segment Weave Segment	LOS GUIDE LOS A-D LOS E LOS F
	CROSS REFERENCE	TEXT STYLE
ributor	Intersection = I-# Ramp Junction = R-# Freeway Segment = F-# Weave Segment = W-#	AM/PM Traffic Volumes (X) = # of lanes Weave Segment Length * = Constrained Traffic

HCS RESULTS 2035 NO BUILD EXHIBIT 9 of 9 Appendix G Signal Warrants

Intersection:	Dixie Highway and I-71/75 NB Ramps				
City/State:	Covington, KY				
Date:	7/8/2010	Performed By: AMW			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	180		440	1820	2440	180	2260
8:00 - 9:00 AM	155		505	902	1562	155	1407
9:00 - 10:00AM	155		505	902	1562	155	1407
10:00 - 11:00 AM	155		505	902	1562	155	1407
11:00 - 12:00 PM	155		505	902	1562	155	1407
12:00 - 1:00 PM	155		505	902	1562	155	1407
1:00 - 2:00 PM	155		505	902	1562	155	1407
2:00 - 3:00 PM	155		505	902	1562	155	1407
3:00 - 4:00 PM	155		505	902	1562	155	1407
4:00 - 5:00 PM	270		1100	750	2120	270	1850
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	1690	0	5580	9786	17056	1690	15366

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C)							
	Prepared by Parsons Brinckerhoff							
Intersection City/State:	: Dixie Highway and I- Covington, KY	71/75 NB Rai	nps					
Date	7/8/2010		Performed by:	AMW				
Warrant 1 -	- Eight-Hour Vehicular	r Volume						
	Number of lanes of m	noving traffic	for moving traffic on e	each approa	ach:			
	Major Street:	2	Minor Street:	2				
	-							
	Vehicles per hour on	major street	(total of both approac	hes):				
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	1407				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	1407				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	1407				
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	1407				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1850				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	2260	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	1407	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	1407	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	1407	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	1407	11:00 - 12:00 PM	0				
	Vahialaa nar haur an	highor volum	o minor atroat approx	ach (ana dir	castion only):			
					ection only).			
	12.00 - 1.00 AM	0	12.00 - 1.00 FM	155				
	1.00 - 2.00 AM	0	1.00 - 2.00 PM	100				
	2.00 - 3.00 AM	0	2.00 - 3.00 PM	100				
	3.00 - 4.00 AM	0	3.00 - 4.00 PM	100				
	4.00 - 5.00 AM	0	4.00 - 5.00 PM	270				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	180	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	155	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	155	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	155	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	155	11:00 - 12:00 PM	0				
	Is the intersection usi	ng the reduc	ed volume criteria bas	sed on spee	ed			
	or population?	No						
	A. Is the Minimu	m Vehicul	ar Volume Warra	nt Met?	No			
					N/			
	B. Is the Interrup	otion of Co	ntinuous Traffic	Met?	Yes			
	Combination of	Warrante	A and B Criteria	Met?	No			
		litione A and	R aro both not opticifi	od)				
1		nuono A anu		cuj				

Intersection: Dixie Highway and I-71/75 NB Ramps City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	W. 5th Street and Crescent Avenue				
City/State:	Covington, KY				
Date:	7/8/2010	Performed By: AMW			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	250		50	150	450	250	200
8:00 - 9:00 AM	244		46	107	397	244	153
9:00 - 10:00AM	244		46	107	397	244	153
10:00 - 11:00 AM	244		46	107	397	244	153
11:00 - 12:00 PM	244		46	107	397	244	153
12:00 - 1:00 PM	244		46	107	397	244	153
1:00 - 2:00 PM	244		46	107	397	244	153
2:00 - 3:00 PM	244		46	107	397	244	153
3:00 - 4:00 PM	244		46	107	397	244	153
4:00 - 5:00 PM	400		70	150	620	400	220
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	2602	0	488	1156	4246	2602	1644

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

Signal Warrant Analysis_W 5th and Crescent Warrant 1

Manual of Uniform Traffic Control Devices							
	Worksheet for Signal Warrants (Section 4C)						
		Prepared b	v Parsons Brincl	kerhoff			
Intersection:	W. 5th Street and Cr	escent Avenu	е				
City/State:	Covington, KY						
Date	7/8/2010		Performed by:	AMW			
Warrant 1 -	Eight-Hour Vehicula	<u>r Volume</u>					
	Number of lanes of n	noving traffic f	or moving traffic on e	ach approa	ach:		
	Major Street:	1	Minor Street:	1			
	Vahielee ner heur en	maior atract (tatal of both annuage	haa);			
	12:00 1:00 AM			nes): 152			
	12.00 - 1.00 AM	0	12.00 - 1.00 PM	153			
	2.00 - 2.00 AM	0	2.00 - 2.00 PM	153			
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	153			
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	220			
	5:00 - 6:00 AM	Õ	5:00 - 6:00 PM	0			
	6:00 - 7:00 AM	Õ	6:00 - 7:00 PM	0			
	7:00 - 8:00 AM	200	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	153	8:00 - 9:00 PM	0			
	9:00 - 10:00AM	153	9:00 - 10:00PM	0			
	10:00 - 11:00 AM	153	10:00 - 11:00 PM	0			
	11:00 - 12:00 PM	153	11:00 - 12:00 PM	0			
	Vehicles per hour on	higher-volum	e minor street approa	ich (one dir	ection only):		
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	244			
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	244			
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	244			
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	244			
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	400			
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7:00 - 8:00 AM	250	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	244	8:00 - 9:00 PM	0			
	9:00 - 10:00AM	244	9:00 - 10:00PM	0			
	10:00 - 11:00 AM	244	10:00 - 11:00 PM	0			
	11:00 - 12:00 PM	244	11:00 - 12:00 PM	0			
			al l				
	is the intersection us	ing the reduce	ed volume criteria bas	sed on spee	a		
	or population?	NO					
	A la tha Minimu	m Vahiaula	r Volumo Worro	nt Mat2	No		
	A. IS the Minimu	m venicula	ir volume warra	nt wet?	NO		
	B. Is the Interrup	otion of Co	ntinuous Traffic	Met?	NO		
	Combination of	Warrants A	and B Criteria	Net?	No		
	(Use only when Cond	ditions A and E	3 are both not satisifie	ed)			

Intersection: W. 5th Street and Crescent Avenue City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Pike Street and Bullock Street				
City/State:	Covington, KY				
Date:	7/8/2010	Performed By: AMW			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		410	1240	280	1930	410	1520
8:00 - 9:00 AM		379	257	311	947	379	568
9:00 - 10:00AM		379	257	311	947	379	568
10:00 - 11:00 AM		379	257	311	947	379	568
11:00 - 12:00 PM		379	257	311	947	379	568
12:00 - 1:00 PM		379	257	311	947	379	568
1:00 - 2:00 PM		379	257	311	947	379	568
2:00 - 3:00 PM		379	257	311	947	379	568
3:00 - 4:00 PM		379	257	311	947	379	568
4:00 - 5:00 PM		780	290	680	1750	780	970
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	4222	3586	3448	11256	4222	7034

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C)					
	F	repared b	by Parsons Brinc	kerhoff	
Intersection City/State: Date	i: Pike Street and Bullo Covington, KY 7/8/2010	ck Street	Performed by:	AMW	
14/2000-01/4			2		
warrant 1 -	- Eight-Hour Venicular	volume			
	Number of lanes of m	oving traffic	for moving traffic on e	each approa	ach:
	Major Street:	2	Minor Street:	2	_
	Vehicles per hour on	maior street	(total of both approac	hes):	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	568	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	568	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	568	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	568	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	970	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	1520	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	568	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	568	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	568	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	568	11:00 - 12:00 PM	0	
	Vehicles per hour on	higher-volum	ne minor street approa	ach (one di	rection only):
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	379	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	379	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	379	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	379	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	780	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	410	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	379	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	379	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	379	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	379	11:00 - 12:00 PM	0	
	Is the intersection usi	na the reduc	ed volume criteria bas	sed on spe	ed
	or population?	No		·	
	A. Is the Minimu	n Vehicul	ar Volume Warra	nt Met?	Νο
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	No
	Combination of	Narrants A	A and B Criteria I	Met?	No
	(Use only when Cond	itions A and	B are both not satisifi	ed)	

Intersection: Pike Street and Bullock Street City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Pike Street and Jillians Way	
City/State:	Covington, KY	
Date:	7/8/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	590		1260	280	2130	590	1540
8:00 - 9:00 AM	307		298	295	900	307	593
9:00 - 10:00AM	307		298	295	900	307	593
10:00 - 11:00 AM	307		298	295	900	307	593
11:00 - 12:00 PM	307		298	295	900	307	593
12:00 - 1:00 PM	307		298	295	900	307	593
1:00 - 2:00 PM	307		298	295	900	307	593
2:00 - 3:00 PM	307		298	295	900	307	593
3:00 - 4:00 PM	307		298	295	900	307	593
4:00 - 5:00 PM	410		400	640	1450	410	1040
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	3456	0	4044	3280	10780	3456	7324

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

Signal Warrant Analysis_Pike and Jillians Warrant 1

Manual of Uniform Traffic Control Devices						
Worksheet for Signal Warrants (Section 4C)						
	P	repared b	y Parsons Brincl	kerhoff		
Intersection:	Pike Street and Jillian	is Way				
City/State:			Domformood by "	A B 4) A /		
Date	//8/2010		Performed by:	AIVIVV		
Warrant 1 -	Eight-Hour Vehicular	Volume				
	Number of lanes of m	oving traffic	for moving traffic on e	ach approa	ach:	
	Major Street:	2	Minor Street:	1	_	
	Vahielas par bour an	major stroot	(total of both approach	hoc):		
	12.00 - 1.00 AM		12.00 - 1.00 PM	593		
	1.00 - 2.00 AM	0	1.00 - 2.00 PM	593		
	2·00 - 2·00 ΔM	0	2.00 - 2.00 PM	503		
	2:00 - 0:00 AM	0	2:00 - 3:00 PM	503		
	4·00 - 5·00 ΔM	0	4:00 - 5:00 PM	1040		
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0		
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0		
	7.00 = 8.00 AM	1540	7:00 - 8:00 PM	0		
	8·00 - 9·00 ΔM	503	8.00 - 0.00 PM	0		
	0.00 = 0.00 AM	503	0.00 - 3.00 T M	0		
	10.00 - 11.00 AM	503	10.00 - 11.00 PM	0		
	11.00 - 12.00 PM	593	11.00 - 12.00 PM	0		
	11.00 - 12.00 1 10	595	11.00 - 12.001 10	0		
	Vehicles per hour on	hiaher-volum	ne minor street approa	nch (one dir	ection only):	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	307		
	1.00 - 2.00 AM	0	1.00 - 2.00 PM	307		
	2.00 - 3.00 AM	0	2:00 - 3:00 PM	307		
	3.00 - 4.00 AM	Õ	3.00 - 4.00 PM	307		
	4.00 - 2.00 AM	0	4.00 - 2.00 PM	410		
	5:00 - 6:00 AM	0 0	5:00 - 6:00 PM	0		
	6:00 - 7:00 AM	0 0	6:00 - 7:00 PM	0 0		
	7:00 - 8:00 AM	590	7:00 - 8:00 PM	0 0		
	8:00 - 9:00 AM	307	8:00 - 9:00 PM	0		
	9.00 - 10.00AM	307	9:00 - 10:00PM	0		
	10.00 - 11.00 AM	307	10.00 - 11.00 PM	Ő		
	11:00 - 12:00 PM	307	11:00 - 12:00 PM	0		
	Is the intersection using	ng the reduc	ed volume criteria bas	sed on spee)d	
		NU				
	A. Is the Minimur	n Vehicul	ar Volume Warra	nt Met?	Νο	
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	No	
	•					
	Combination of N	Narrants A	A and B Criteria N	Net?	No	
	(Use only when Cond	itions A and	B are both not satisifie	ed)		

Intersection: Pike Street and Jillians Way City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	W. 12th Street and Bullock Street	t
City/State:	Covington, KY	
Date:	7/8/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		380	220	230	830	380	450
8:00 - 9:00 AM		327	107	188	622	327	295
9:00 - 10:00AM		327	107	188	622	327	295
10:00 - 11:00 AM		327	107	188	622	327	295
11:00 - 12:00 PM		327	107	188	622	327	295
12:00 - 1:00 PM		327	107	188	622	327	295
1:00 - 2:00 PM		327	107	188	622	327	295
2:00 - 3:00 PM		327	107	188	622	327	295
3:00 - 4:00 PM		327	107	188	622	327	295
4:00 - 5:00 PM		550	90	290	930	550	380
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	3546	1166	2024	6736	3546	3190

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C)					
	F	Prepared b	y Parsons Brinc	kerhoff	
Intersection City/State: Date	: W. 12th Street and B Covington, KY 7/8/2010	ullock Street	Performed by:	AMW	
Warrant 1 .	- Fight-Hour Vehicular	Volume			
Warrant		Volume			
	Number of lanes of m	ioving traffic	for moving traffic on e	each appro	ach:
	Major Street.	I	Minor Street.	Z	_
	Vehicles per hour on	maior street	(total of both approac	hes):	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	295	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	295	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	295	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	295	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	380	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	450	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	295	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	295	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	295	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	295	11:00 - 12:00 PM	0	
	Vahialaa nar haur an	highor volum	o minor streat approx	aab (ana di	raction ank/
					rection only).
	12.00 - 1.00 AM	0	12.00 - 1.00 PM	327	
	2·00 - 2·00 ΔM	0	2.00 - 2.00 PM	327	
	2.00 - 3.00 AM	0	2:00 - 3:00 T M	327	
	4·00 - 5·00 ΔM	0	4:00 - 5:00 PM	550	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	380	7:00 - 8:00 PM	0	
	8.00 - 9.00 AM	327	8:00 - 9:00 PM	0	
	9.00 - 10.00AM	327	9·00 - 10·00PM	0	
	10.00 - 11.00 AM	327	10.00 - 11.00 PM	0	
	11:00 - 12:00 PM	327	11:00 - 12:00 PM	0	
	ls the intersection usi	na the reduc	ad voluma critaria bas	sed on sne	ed
	or population?	No		seu on spe	
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Νο
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	Νο
	Combination of V	Narrante	A and B Criteria I	Mot?	No
	(Use only when Cond	itions A and	B are both not satisifi	ed)	
	,, ,				

Intersection: W. 12th Street and Bullock Street City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	W. 12th Street and Jillians Way	
City/State:	Covington, KY	
Date:	7/8/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	250		450	570	1270	250	1020
8:00 - 9:00 AM	316		282	341	939	316	623
9:00 - 10:00AM	316		282	341	939	316	623
10:00 - 11:00 AM	316		282	341	939	316	623
11:00 - 12:00 PM	316		282	341	939	316	623
12:00 - 1:00 PM	316		282	341	939	316	623
1:00 - 2:00 PM	316		282	341	939	316	623
2:00 - 3:00 PM	316		282	341	939	316	623
3:00 - 4:00 PM	316		282	341	939	316	623
4:00 - 5:00 PM	550		330	510	1390	550	840
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	3328	0	3036	3808	10172	3328	6844

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? <u>No</u>

	Manu	al of Unif	orm Traffic Cont	rol Devic	es
	Works	Sheet for S	Signal Warrants (Section	4C)
	•			Kennon	
Intersection	: W. 12th Street and Ji	lians Way			
City/State:	Covington, KY				
Date	7/8/2010		Performed by:	AMW	
Warrant 1 -	Eight-Hour Vehicular	Volume			
	Number of longer of m	an in a taaffi a	f		h-
	Number of lanes of m		for moving traffic on e	acn approa	ach:
	Major Street:	1	Minor Street:	Z	_
	Vehicles per hour on	major street	(total of both approac	hes):	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	623	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	623	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	623	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	623	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	840	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	1020	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	623	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	623	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	623	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	623	11:00 - 12:00 PM	0	
	Vahielee waa heere ee				mention and a
	venicies per nour on	nigner-volur	te minor street approa	ach (one di	rection only):
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	316	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	316	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	310	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	316	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	550	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	250	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	316	8:00 - 9:00 PM	U	
	9:00 - 10:00AM	316	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	316	10:00 - 11:00 PM	0	
	11.00 - 12.00 F IVI	510	11.00 - 12.00 FM	U	
	Is the intersection usi	ng the reduc	ed volume criteria bas	sed on spe	ed
	or population?	No			
	A. Is the Minimur	n Vehicul	ar Volume Warra	nt Met?	Yes
	B is the Interrup	tion of Co	ntinuous Traffic	Met?	No
	e. is the interrup			inici i	
	Combination of N	Narrants A	A and B Criteria	Net?	Yes
	(Use only when Cond	itions A and	B are both not satisifi	ed)	

Intersection: W. 12th Street and Jillians Way City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Kyles Lane and I-71/75 SB Ramp)S
City/State:	Covington, KY	
Date:	7/8/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		490	740	870	2100	490	1610
8:00 - 9:00 AM		453	546	664	1663	453	1210
9:00 - 10:00AM		453	546	664	1663	453	1210
10:00 - 11:00 AM		453	546	664	1663	453	1210
11:00 - 12:00 PM		453	546	664	1663	453	1210
12:00 - 1:00 PM		453	546	664	1663	453	1210
1:00 - 2:00 PM		453	546	664	1663	453	1210
2:00 - 3:00 PM		453	546	664	1663	453	1210
3:00 - 4:00 PM		453	546	664	1663	453	1210
4:00 - 5:00 PM		870	890	1120	2880	870	2010
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	4984	5998	7302	18284	4984	13300

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

Prepared by Parsons Brinckerhoff Intersection: Kyles Lane and I-71/75 SB Ramps City/State: Covington, KY Date 7/8/2010 Performed by: AMW Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 1210 1:00 - 2:00 AM 0 12:00 - 1:00 PM 1210 2:00 - 3:00 PM 1210 3:00 - 4:00 AM 0 2:00 - 3:00 PM 1210 2:00 - 3:00 PM 1210 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1210 2:00 - 3:00 PM 2010 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 8:00 - 9:00 PM 0 8:00 - 9:00 AM 1210 1:00 - 1:00 PM 0 10:00 - 11:00 PM 0 10:00 - 11:00 AM 1210 1:00 - 1:00 PM 0 11:00 - 12:00 PM	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C)						
Intersection: Kyles Lane and I-71/75 SB Ramps City/State: Covington, KY Date 7/8/2010 Performed by: AMW Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 1210 1:00 - 2:00 AM 0 1:00 - 2:00 PM 1210 2:00 - 3:00 PM 1210 2:00 - 3:00 AM 0 2:00 - 3:00 PM 1210 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1210 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1210 3:00 - 6:00 PM 0 6:00 - 7:00 PM 1210 3:00 - 6:00 AM 0 6:00 - 7:00 PM 0 0 6:00 - 7:00 PM 0 10:00 - 10:00 PM 0 10:00 - 10:00 PM 10 10:00 - 10:00 PM 0 10:00 - 10:00 PM 11:00 - 12:00 PM 0 10:00 - 11:00 AM 1210 11:00 - 12:00 PM 0 10:00 - 11:00 PM 10 10:00 - 10:00 PM 0 10:00 - 10:00 PM 10		Pr	epared b	y Parsons Brinc	kerhoff	,	
Date 7/8/2010 Performed by: AMW Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 1210 1:00 - 2:00 AM 0 1:00 - 2:00 PM 1210 20 20 3:00 - 4:00 AM 0 2:00 - 3:00 PM 1210 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1210 3:00 - 4:00 PM 1210 4:00 - 5:00 AM 0 3:00 - 4:00 PM 0 6:00 - 7:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 5:00 - 6:00 PM 0 <t< th=""><th>tersection: Ky ty/State: Co</th><th>/les Lane and I-71/75 ovington, KY</th><th>5 SB Ramps</th><th></th><th></th><th></th><th></th></t<>	tersection: Ky ty/State: Co	/les Lane and I-71/75 ovington, KY	5 SB Ramps				
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4.00 - 5.00 AM 0 4.00 - 5.00 FM 870 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 490 7:00 - 8:00 PM 0 8:00 - 9:00 AM 453 8:00 - 9:00 PM 0 9:00 - 10:00AM 453 9:00 - 10:00PM 0 10:00 - 11:00 AM 453 10:00 - 11:00 PM 0 11:00 - 12:00 PM 453 11:00 - 12:00 PM 0	3.0	00 - 4.00 AM	0	3.00 - 4.00 F M	455		
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9:00 - 10:00 AM 453 9:00 - 10:00 PM 0 10:00 - 11:00 AM 453 10:00 - 11:00 PM 0 11:00 - 12:00 PM 453 11:00 - 12:00 PM 0	7.0	00 - 0.00 AW	490	7.00 - 0.00 PIVI 9:00 0:00 PM	0		
10:00 - 11:00 AM 453 10:00 - 11:00 PM 0 11:00 - 12:00 PM 453 11:00 - 12:00 PM 0	0.0	00 - 9.00 AW	453	0.00 - 9.00 FIM	0		
11:00 - 12:00 PM 453 11:00 - 12:00 PM 0	9.0	00 - 10.00AW	400	9.00 - 10.00FM	0		
	10	:00 - 12:00 PM	453 453	11:00 - 12:00 PM	0		
Is the intersection using the reduced volume criteria based on speed or population? No	ls or	the intersection usin population? N	g the reduce o	ed volume criteria ba	sed on spee	ed	
A. Is the Minimum Vehicular Volume Warrant Met? Yes	Α.	. Is the Minimum	Vehicula	ar Volume Warra	Int Met?	Yes	
B. Is the Interruption of Continuous Traffic Met? Yes	B	. Is the Interrupt	ion of Co	ntinuous Traffic	Met?	Yes	
Combination of Warrants A and B Critoria Mot?	C	ombination of M	larrante l	A and B Critoria	Mot?	Vos	
(Use only when Conditions A and B are both not satisified)		lse only when Condit	ions A and	B are both not satisifi	ied)	1 69	

Intersection: Kyles Lane and I-71/75 SB Ramps City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Kyles Lane and I-71/75 NB Ramps			
City/State:	Covington, KY			
Date:	7/8/2010	Performed By: AMW		

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	420		910	1450	2780	420	2360
8:00 - 9:00 AM	361		731	841	1933	361	1572
9:00 - 10:00AM	361		731	841	1933	361	1572
10:00 - 11:00 AM	361		731	841	1933	361	1572
11:00 - 12:00 PM	361		731	841	1933	361	1572
12:00 - 1:00 PM	361		731	841	1933	361	1572
1:00 - 2:00 PM	361		731	841	1933	361	1572
2:00 - 3:00 PM	361		731	841	1933	361	1572
3:00 - 4:00 PM	361		731	841	1933	361	1572
4:00 - 5:00 PM	680		1220	1170	3070	680	2390
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	3988	0	7978	9348	21314	3988	17326

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices					
Worksheet for Signal Warrants (Section 4C)						
	F	repared b	by Parsons Brinc	kernott		
Intersection	: Kyles Lane and I-71/7	5 NB Ramp	S			
City/State:	Covington, KY	-				
Date	7/8/2010		Performed by:	AMW		
Warrant 1	Fight Hour Vahioular	Volumo				
warrant i -		volume				
	Number of lanes of m	oving traffic	for moving traffic on e	each approa	ach:	
	Major Street:	2	Minor Street:	2	_	
	Vehicles per hour on	maior street	(total of both approac	hes):		
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	1572		
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	1572		
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	1572		
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	1572		
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	2390		
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0		
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0		
	7:00 - 8:00 AM	2360	7:00 - 8:00 PM	0		
	8:00 - 9:00 AM	1572	8:00 - 9:00 PM	0		
	9:00 - 10:00AM	1572	9:00 - 10:00PM	0		
	10:00 - 11:00 AM	1572	10:00 - 11:00 PM	0		
	11:00 - 12:00 PM	1572	11:00 - 12:00 PM	0		
	Vehicles per hour on	higher-volum	ne minor street approa	ach (one dir	ection only):	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	361		
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	361		
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	361		
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	361		
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	680		
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0		
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0		
	7:00 - 8:00 AM	420	7:00 - 8:00 PM	0		
	8:00 - 9:00 AM	361	8:00 - 9:00 PM	0		
	9:00 - 10:00AM	361	9:00 - 10:00PM	0		
	10:00 - 11:00 AM	361	10:00 - 11:00 PM	0		
	11:00 - 12:00 PM	361	11:00 - 12:00 PM	0		
	Is the intersection usi	na the reduc	ed volume criteria bas	sed on snee	he	
	or population?	No				
	A. Is the Minimu	n Vehicul	ar Volume Warra	nt Met?	Yes	
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	Yes	
	Combination of	Narrants /	A and B Criteria	Met?	Yes	
	(Use only when Cond	itions A and	B are both not satisifi	ed)		

Intersection: Kyles Lane and I-71/75 NB Ramps City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Dixie Highway and I-71/75 SB Ramps			
City/State:	Covington, KY			
Date:	7/8/2010	Performed By: AMW		

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		160	500	1210	1870	160	1710
8:00 - 9:00 AM		247	467	690	1404	247	1157
9:00 - 10:00AM		247	467	690	1404	247	1157
10:00 - 11:00 AM		247	467	690	1404	247	1157
11:00 - 12:00 PM		247	467	690	1404	247	1157
12:00 - 1:00 PM		247	467	690	1404	247	1157
1:00 - 2:00 PM		247	467	690	1404	247	1157
2:00 - 3:00 PM		247	467	690	1404	247	1157
3:00 - 4:00 PM		247	467	690	1404	247	1157
4:00 - 5:00 PM		620	900	600	2120	620	1500
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	2756	5136	7330	15222	2756	12466

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No
Intersection: Dixie Highway and I-71/75 SB Ramps City/State: Covington, KY Date 7/8/2010 Performed by: AMW Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 1157 1:00 - 2:00 AM 0 1:00 - 2:00 PM 1157 2:00 - 3:00 AM 0 2:00 - 3:00 PM 1157 2:00 - 3:00 AM 0 2:00 - 3:00 PM 1157 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1157 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1157 3:00 - 6:00 AM 0 6:00 - 7:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 6:00 - 7:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 1157 8:00 - 9:00 PM 0 8:00 - 9:00 PM 0 8:00 - 9:00 AM 1157 9:00 - 10:00PM 0 10:00 - 11:00 AM 1157 10:00 - 11:00	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff							
City/State: Covington, KY Date 7/8/2010 Performed by: AMW Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 1157 1:00 - 2:00 AM 0 1:00 - 2:00 PM 1157 1:00 - 2:00 AM 0 1:00 - 2:00 PM 1157 2:00 - 3:00 AM 0 2:00 - 3:00 PM 1157 1:00 - 2:00 AM 0 1:00 - 2:00 PM 1157 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1157 1:00 - 5:00 PM 1050 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 0 6:00 - 7:00 PM 0 8:00 - 9:00 AM 1157 8:00 - 9:00 PM 0 0 9:00 - 10:00AM 1157 9:00 - 10:00PM 0 9:00 - 10:00AM 1157 9:00 - 10:00PM 0 11:00 - 12:00 PM 0 11:00 - 12:00 PM 0					1/75 SB Dor	Divio Highway and LZ	Intersection	
Date 7/8/2010 Performed by: AMW Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 1157 1:00 - 2:00 AM 0 12:00 - 1:00 PM 1157 2:00 - 3:00 AM 0 2:00 - 3:00 PM 1157 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1157 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1157 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1157 4:00 - 5:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 PM 0 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 1710 7:00 - 8:00 PM 0 8:00 - 9:00 PM 0 9:00 - 10:00AM 1157 8:00 - 9:00 PM 0 0 10:00 - 11:00 PM 0 10:00 - 11:00 AM 1157 10:00 - 11:00 PM 0 11:00 - 12:00 PM 0				nps		Covington KY	City/State	
Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 1157 1:00 - 2:00 AM 0 1:00 - 2:00 PM 1157 2:00 - 3:00 AM 0 2:00 - 3:00 PM 1157 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1157 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1157 4:00 - 5:00 AM 0 5:00 - 6:00 PM 0 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 1157 8:00 - 9:00 PM 0 8:00 - 9:00 AM 1157 9:00 - 10:00PM 0 9:00 - 10:00AM 1157 9:00 - 10:00PM 0 11:00 - 12:00 PM 1157 11:00 - 12:00 PM 0			ΔΜ\Λ/	Performed by:		7/8/2010	Date	
Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 1157 1:00 - 2:00 AM 0 1:00 - 2:00 PM 1157 1:00 - 2:00 AM 0 2:00 - 3:00 PM 1157 2:00 - 3:00 AM 0 2:00 - 3:00 PM 1157 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1157 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1157 4:00 - 5:00 PM 1500 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 1710 7:00 - 8:00 PM 0 0 9:00 - 10:00AM 1157 9:00 - 10:00AM 1157 9:00 - 10:00PM 0 0 10:00 - 11:00 PM 0 9:00 - 11:00 AM 1157 10:00 - 11:00 PM 0 11:00 - 12:00 PM 0 <			,	i enemied by:		1,0,2010	Dato	
Number of lanes of moving traffic for moving traffic on each approach: Major Street:Major Street:2Vehicles per hour on major street (total of both approaches): $12:00 - 1:00 \text{ AM}$ 0 $12:00 - 1:00 \text{ PM}$ 1157 $1:00 - 2:00 \text{ AM}$ 0 $1:00 - 2:00 \text{ PM}$ 1157 $2:00 - 3:00 \text{ AM}$ 0 $2:00 - 3:00 \text{ PM}$ 1157 $3:00 - 4:00 \text{ AM}$ 0 $3:00 - 4:00 \text{ PM}$ 1157 $4:00 - 5:00 \text{ AM}$ 0 $3:00 - 4:00 \text{ PM}$ 1157 $4:00 - 5:00 \text{ AM}$ 0 $5:00 - 6:00 \text{ PM}$ 1500 $5:00 - 6:00 \text{ AM}$ 0 $5:00 - 6:00 \text{ PM}$ 0 $6:00 - 7:00 \text{ AM}$ 0 $6:00 - 7:00 \text{ PM}$ 0 $7:00 - 8:00 \text{ AM}$ 1710 $7:00 - 8:00 \text{ PM}$ 0 $8:00 - 9:00 \text{ AM}$ 1157 $8:00 - 9:00 \text{ PM}$ 0 $9:00 - 10:00\text{ AM}$ 1157 $9:00 - 10:00\text{ PM}$ 0 $10:00 - 11:00 \text{ AM}$ 1157 $11:00 - 12:00 \text{ PM}$ 0					<u>Volume</u>	Eight-Hour Vehicular	Warrant 1 -	
Major Street: 2 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 1157 1:00 - 2:00 AM 0 1:00 - 2:00 PM 1157 2:00 - 3:00 AM 0 2:00 - 3:00 PM 1157 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1157 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1157 4:00 - 5:00 AM 0 4:00 - 5:00 PM 1500 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 1710 7:00 - 8:00 PM 0 8:00 - 9:00 AM 1157 8:00 - 9:00 PM 0 9:00 - 10:00AM 1157 9:00 - 10:00PM 0 10:00 - 11:00 AM 1157 10:00 - 11:00 PM 0 11:00 - 12:00 PM 1157 11:00 - 12:00 PM 0		roach:	each approa	for moving traffic on e	ving traffic	Number of lanes of m		
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6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 1710 7:00 - 8:00 PM 0 8:00 - 9:00 AM 1157 8:00 - 9:00 PM 0 9:00 - 10:00AM 1157 9:00 - 10:00PM 0 10:00 - 11:00 AM 1157 10:00 - 11:00 PM 0 11:00 - 12:00 PM 1157 11:00 - 12:00 PM 0			0	5:00 - 6:00 PM	0	5:00 - 6:00 AM		
7:00 - 8:00 AM 1710 7:00 - 8:00 PM 0 8:00 - 9:00 AM 1157 8:00 - 9:00 PM 0 9:00 - 10:00AM 1157 9:00 - 10:00PM 0 10:00 - 11:00 AM 1157 10:00 - 11:00 PM 0 11:00 - 12:00 PM 1157 11:00 - 12:00 PM 0			0	6:00 - 7:00 PM	0	6:00 - 7:00 AM		
8:00 - 9:00 AM 1157 8:00 - 9:00 PM 0 9:00 - 10:00AM 1157 9:00 - 10:00PM 0 10:00 - 11:00 AM 1157 10:00 - 11:00 PM 0 11:00 - 12:00 PM 1157 11:00 - 12:00 PM 0			0	7:00 - 8:00 PM	1710	7:00 - 8:00 AM		
9:00 - 10:00AM 1157 9:00 - 10:00PM 0 10:00 - 11:00 AM 1157 10:00 - 11:00 PM 0 11:00 - 12:00 PM 1157 11:00 - 12:00 PM 0			0	8:00 - 9:00 PM	1157	8:00 - 9:00 AM		
10:00 - 11:00 AM 1157 10:00 - 11:00 PM 0 11:00 - 12:00 PM 1157 11:00 - 12:00 PM 0			0	9:00 - 10:00PM	1157	9:00 - 10:00AM		
11:00 - 12:00 PM 1157 11:00 - 12:00 PM 0			0	10:00 - 11:00 PM	1157	10:00 - 11:00 AM		
			0	11:00 - 12:00 PM	1157	11:00 - 12:00 PM		
Vehicles per hour on higher-volume minor street approach (one direction only).		direction only).	ach (one dir	e minor street annro	iaher-volum	Vehicles per hour on l		
$12\cdot00 = 1\cdot00 \text{ AM}$ 0 $12\cdot00 = 1\cdot00 \text{ PM}$ 247		,	247 247					
1:00 - 2:00 AM 0 1:00 - 2:00 PM 247		,	247	1:00 - 2:00 PM	Ő	1.00 - 2.00 AM		
2.00 - 3.00 AM 0 $2.00 - 3.00 PM$ 247		,	247	2:00 - 3:00 PM	Ő	2.00 - 3.00 AM		
3:00 - 4:00 AM 0 3:00 - 4:00 PM 247		,	247	3:00 - 4:00 PM	Ő	3:00 - 4:00 AM		
4:00 - 5:00 AM 0 4:00 - 5:00 PM 620)	620	4:00 - 5:00 PM	0	4:00 - 5:00 AM		
5:00 - 6:00 AM 0 5:00 - 6:00 PM 0			0	5:00 - 6:00 PM	0	5:00 - 6:00 AM		
6:00 - 7:00 AM 0 6:00 - 7:00 PM 0			0	6:00 - 7:00 PM	0	6:00 - 7:00 AM		
7:00 - 8:00 AM 160 7:00 - 8:00 PM 0			0	7:00 - 8:00 PM	160	7:00 - 8:00 AM		
8:00 - 9:00 AM 247 8:00 - 9:00 PM 0			0	8:00 - 9:00 PM	247	8:00 - 9:00 AM		
9:00 - 10:00AM 247 9:00 - 10:00PM 0			0	9:00 - 10:00PM	247	9:00 - 10:00AM		
10:00 - 11:00 AM 247 10:00 - 11:00 PM 0			0	10:00 - 11:00 PM	247	10:00 - 11:00 AM		
11:00 - 12:00 PM 247 11:00 - 12:00 PM 0			0	11:00 - 12:00 PM	247	11:00 - 12:00 PM		
Is the intersection using the reduced volume criteria based on speed		beed	sed on spe	ed volume criteria bas	a the reduce	Is the intersection usir		
or population? No					0	or population?		
A. Is the Minimum Vehicular Volume Warrant Met? Yes		? Yes	nt Met?	ar Volume Warra	n Vehicula	A. Is the Minimur		
B. Is the Interruption of Continuous Traffic Met? Yes		Yes	Met?	ntinuous Traffic	ion of Co	B. Is the Interrup		
Combination of Warrants A and B Critoria Mot?		Vee	Mot2	and B Critoria I	larrante l	Combination of V		
(Use only when Conditions A and B are both not satisified)		162	ed)	B are both not satisifi	ions A and	(Use only when Condi		

Intersection: Dixie Highway and I-71/75 SB Ramps City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	W. 4th Street and Crescent Avenue				
City/State:	Covington, KY				
Date:	7/19/2010	Performed By: AMW			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		1210		490	1700	1210	490
8:00 - 9:00 AM		1212		290	1502	1212	290
9:00 - 10:00AM		1212		290	1502	1212	290
10:00 - 11:00 AM		1212		290	1502	1212	290
11:00 - 12:00 PM		1212		290	1502	1212	290
12:00 - 1:00 PM		1212		290	1502	1212	290
1:00 - 2:00 PM		1212		290	1502	1212	290
2:00 - 3:00 PM		1212		290	1502	1212	290
3:00 - 4:00 PM		1212		290	1502	1212	290
4:00 - 5:00 PM		1310		440	1750	1310	440
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	12216	0	3250	15466	12216	3250

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? <u>No</u>

Signal Warrant Analysis_W 4th and Crescent Warrant 1

	Man	ual of Unifo	orm Traffic Contr	rol Device	es				
	Worksheet for Signal Warrants (Section 4C)								
	Prepared by Parsons Brinckerhoff								
Intersection:	W. 4th Street and Cr	escent Avenu	е						
City/State:	Covington, KY								
Date	7/19/2010		Performed by:	AMW					
Warrant 1 -	Eight-Hour Vehicula	<u>r Volume</u>							
	Number of lanes of n	noving traffic f	or moving traffic on e	each approa	ich:				
	Major Street:	1	Minor Street:	1	_				
	Vahialaa nar haur an	major streat (total of both approad	hoo);					
				nes). 200					
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	290					
	2:00 - 2:00 AM	0	2.00 - 2.00 PM	290					
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	290					
	4.00 - 5.00 AM	0	4:00 - 5:00 PM	230 440					
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0					
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0					
	7:00 - 8:00 AM	490	7:00 - 8:00 PM	0					
	8:00 - 9:00 AM	290	8:00 - 9:00 PM	0					
	9:00 - 10:00AM	290	9:00 - 10:00PM	0					
	10:00 - 11:00 AM	290	10:00 - 11:00 PM	0					
	11:00 - 12:00 PM	290	11:00 - 12:00 PM	0					
				-					
	Vehicles per hour on	higher-volum	e minor street approa	ach (one dir	ection only):				
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	1212					
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	1212					
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	1212					
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	1212					
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1310					
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0					
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0					
	7:00 - 8:00 AM	1210	7:00 - 8:00 PM	0					
	8:00 - 9:00 AM	1212	8:00 - 9:00 PM	0					
	9:00 - 10:00AM	1212	9:00 - 10:00PM	0					
	10:00 - 11:00 AM	1212	10:00 - 11:00 PM	0					
	11:00 - 12:00 PM	1212	11:00 - 12:00 PM	0					
	Is the intersection us	ing the reduce	ed volume criteria bas	sed on spee	ed				
	or population?	NO							
		m Vahiaula		nt Mata	Na				
	A. IS the Minimu	m venicula	ir volume warra	nt wiet?	NO				
	B. Is the Interrup	otion of Co	ntinuous Traffic	Met?	Νο				
	Combination of	Warrants A	and B Criteria	Met?	No				
	(Use only when Cond	ditions A and F	3 are both not satisifie	ed)					

Intersection: W. 4th Street and Crescent Avenue City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Pike Street and Bullock Street	
City/State:	Covington, KY	
Date:	7/19/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		1040	710	470	2220	1040	1180
8:00 - 9:00 AM		1042	66	422	1530	1042	488
9:00 - 10:00AM		1042	66	422	1530	1042	488
10:00 - 11:00 AM		1042	66	422	1530	1042	488
11:00 - 12:00 PM		1042	66	422	1530	1042	488
12:00 - 1:00 PM		1042	66	422	1530	1042	488
1:00 - 2:00 PM		1042	66	422	1530	1042	488
2:00 - 3:00 PM		1042	66	422	1530	1042	488
3:00 - 4:00 PM		1042	66	422	1530	1042	488
4:00 - 5:00 PM		2040	80	770	2890	2040	850
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	11416	1318	4616	17350	11416	5934

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manı Works	ual of Unif	orm Traffic Conti Signal Warrants (rol Devic Section	es 4C)
	F	Prepared b	by Parsons Brinc	kerhoff	,
Intersection City/State: Date	: Pike Street and Bullo Covington, KY 7/19/2010	ck Street	Performed by:	AMW	
Warrant 1 -	Fight-Hour Vehicular	Volume			
<u></u>		<u> </u>			
	Major Street:	ioving traffic	Minor Street:	ach approa	acn: —
	Vehicles per hour on	major street	(total of both approac	hes):	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	488	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	488	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	488	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	488	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	850	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	1180	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	488	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	488	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	488	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	488	11:00 - 12:00 PM	0	
	Vahialaa narhauran		a minar atract annua	aab (ana dir	ention only is
	venicles per nour on	nigner-volum			ection only):
	12.00 - 1.00 AIVI	0	12.00 - 1.00 PM	1042	
	1:00 - 2:00 AIVI	0	1:00 - 2:00 PM	1042	
	2:00 - 3:00 AIVI	0	2:00 - 3:00 PM	1042	
	3:00 - 4:00 AIVI	0	3:00 - 4:00 PM	1042	
	4:00 - 5:00 AIVI	0	4:00 - 5:00 PM	2040	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	1040	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	1042	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	1042	9:00 - 10:00PM	0	
	10:00 - 11:00 AM 11:00 - 12:00 PM	1042 1042	10:00 - 11:00 PM 11:00 - 12:00 PM	0	
	Is the intersection usi	na the reduc	ed volume criteria bas	sed on spec	ed
	or population?	No			
	A. Is the Minimu	m Vehicul	ar Volume Warra	nt Met?	No
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	No
	Combination of V	Warrante	Δ and B Criteria I	Met?	No
	(Use only when Cond	litions A and	B are both not satisifi	ed)	

Intersection: Pike Street and Bullock Street City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Pike Street and Jillians Way	
City/State:	Covington, KY	
Date:	7/19/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	720		800	310	1830	720	1110
8:00 - 9:00 AM	377		144	349	870	377	493
9:00 - 10:00AM	377		144	349	870	377	493
10:00 - 11:00 AM	377		144	349	870	377	493
11:00 - 12:00 PM	377		144	349	870	377	493
12:00 - 1:00 PM	377		144	349	870	377	493
1:00 - 2:00 PM	377		144	349	870	377	493
2:00 - 3:00 PM	377		144	349	870	377	493
3:00 - 4:00 PM	377		144	349	870	377	493
4:00 - 5:00 PM	500		290	760	1550	500	1050
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	4236	0	2242	3862	10340	4236	6104

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C)						
	P	repared b	by Parsons Brinc	kerhoff			
Intersection	: Pike Street and Jillian	s Wav					
City/State:	Covington, KY	,					
Date	7/19/2010		Performed by:	AMW			
Warrant 1 .	- Fight-Hour Vehicular	Volume					
Warrant	Eight Hour Verhould	Volume					
	Number of lanes of m	oving traffic	for moving traffic on e	each approa	ach:		
	Major Street:	2	Minor Street:	2	_		
	Vehicles per hour on	major street	(total of both approac	hes):			
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	493			
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	493			
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	493			
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	493			
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1050			
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7:00 - 8:00 AM	1110	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	493	8:00 - 9:00 PM	0			
	9:00 - 10:00AM	493	9:00 - 10:00PM	0			
	10:00 - 11:00 AM	493	10:00 - 11:00 PM	0			
	11:00 - 12:00 PM	493	11:00 - 12:00 PM	0			
	Vehicles per hour on	higher-volun	ne minor street annroa	ach (one dir	rection only).		
	12·00 - 1·00 AM		12.00 - 1.00 PM	377	couori oniy).		
	1.00 - 2.00 AM	0	1.00 - 2.00 PM	377			
	2.00 - 3.00 AM	0	2:00 - 3:00 PM	377			
	3.00 - 4.00 AM	0	3.00 - 4.00 PM	377			
	4.00 - 2.00 AM	0	4:00 - 5:00 PM	500			
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7.00 - 8.00 ΔΜ	720	7:00 - 8:00 PM	0			
	8.00 - 9.00 AM	377	8:00 - 9:00 PM	0			
	9·00 - 10·00ΔM	377	0.00 - 3.00 T M	0			
	10.00 - 11.00 AM	377	10.00 - 11.00 PM	0			
	11:00 - 12:00 PM	377	11:00 - 12:00 PM	0			
	Is the intersection using	na the reduc	ed volume criteria bas	sed on spea	ed		
	or population?	No					
	A. Is the Minimur	n Vehicul	ar Volume Warra	nt Met?	No		
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	Νο		
	Combination of V	Narrante	Δ and B Criteria	Mot?	No		
	(Use only when Cond	itions A and	B are both not satisifi	ed)			

Intersection: Pike Street and Jillians Way City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	W. 12th Street and Bullock Street				
City/State:	Covington, KY				
Date:	7/19/2010	Performed By: AMW			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		990	250	260	1500	990	510
8:00 - 9:00 AM		966	121	218	1305	966	339
9:00 - 10:00AM		966	121	218	1305	966	339
10:00 - 11:00 AM		966	121	218	1305	966	339
11:00 - 12:00 PM		966	121	218	1305	966	339
12:00 - 1:00 PM		966	121	218	1305	966	339
1:00 - 2:00 PM		966	121	218	1305	966	339
2:00 - 3:00 PM		966	121	218	1305	966	339
3:00 - 4:00 PM		966	121	218	1305	966	339
4:00 - 5:00 PM		1670	100	330	2100	1670	430
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	10388	1318	2334	14040	10388	3652

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manu Works	ual of Unife sheet for S	orm Traffic Cont Signal Warrants (rol Devic Section	es 4C)
	F	repared b	y Parsons Brinc	Kennon	
Intersection	: W. 12th Street and B	ullock Street			
City/State:			Dorformod by:	A N // A /	
Dale	1/19/2010		Fenomed by.	AIVIVV	
Warrant 1 ·	Eight-Hour Vehicula	· Volume			
	Number of lanes of m		for moving traffic on e	eacn approa	acn:
	Major Street.	I	Minor Street.	Z	_
	Vehicles per hour on	maior street	(total of both approac	hes):	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	339	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	339	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	339	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	339	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	430	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	510	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	339	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	339	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	339	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	339	11:00 - 12:00 PM	0	
	Vahialaa nar haur an	highervolum	a minor street approx	aab (ana dii	raction only);
					ection only).
	12.00 - 1.00 AM	0	12.00 - 1.00 PIVI	900	
	1.00 - 2.00 AIVI	0	1.00 - 2.00 PIVI	900	
	2.00 - 3.00 AIVI 2:00 - 4:00 AM	0	2.00 - 3.00 PIVI 2:00 4:00 PM	900	
	3.00 - 4.00 AIVI	0	3.00 - 4.00 PIVI	900	
	4.00 - 5.00 AM	0	4.00 - 5.00 FIM	0	
	5.00 - 6.00 AIVI	0	5.00 - 0.00 PIVI	0	
	0.00 - 7.00 AIVI	0	0.00 - 7.00 PIVI	0	
	7.00 - 0.00 AIVI	990	7.00 - 0.00 PIVI	0	
	0.00 - 9.00 AIVI	900	0.00 - 9.00 PIVI	0	
	9.00 - 10.00AIVI	900	9.00 - 10.00PW	0	
	11:00 - 12:00 PM	966 966	11:00 - 12:00 PM	0	
	le the interpetion we	na tho roduo	nd volumo oritoria bor	and on one	ad
	or population?	No			50
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	No
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	No
	Osmbinstiss. (1	Name		1-10	Na
		warrants A	and B Criteria I	viet?	NO
	(Use only when Cond	itions A and	B are both not satisifi	ed)	

Intersection: W. 12th Street and Bullock Street City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	W. 12th Street and Jillians Way	
City/State:	Covington, KY	
Date:	7/8/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	250		610	670	1530	250	1280
8:00 - 9:00 AM	316		416	403	1135	316	819
9:00 - 10:00AM	316		416	403	1135	316	819
10:00 - 11:00 AM	316		416	403	1135	316	819
11:00 - 12:00 PM	316		416	403	1135	316	819
12:00 - 1:00 PM	316		416	403	1135	316	819
1:00 - 2:00 PM	316		416	403	1135	316	819
2:00 - 3:00 PM	316		416	403	1135	316	819
3:00 - 4:00 PM	316		416	403	1135	316	819
4:00 - 5:00 PM	550		520	600	1670	550	1120
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	3328	0	4458	4494	12280	3328	8952

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? <u>No</u>

	Manu	al of Unif	orm Traffic Cont	rol Devic	es	
	vvorks	repared b	ov Parsons Brinc	Section -	46)	
			<u>, , , , , , , , , , , , , , , , , , , </u>			
Intersection	: W. 12th Street and Ji	llians Way				
Date	7/8/2010		Performed by:	AMW		
Duto	1,0,2010		r onornoù by:	,		
Warrant 1	- Eight-Hour Vehicular	Volume				
	Number of lanes of m	oving traffic	for moving traffic on e	each approa	ach:	
	Major Street:	2	Minor Street:	2	_	
	Vehicles per hour on	major street	(total of both approac	hes):		
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	819		
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	819		
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	819		
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	819		
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1120		
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0		
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0		
	7:00 - 8:00 AM	1280	7:00 - 8:00 PM	0		
	8:00 - 9:00 AM	819	8:00 - 9:00 PM	0		
	9:00 - 10:00AM	819	9:00 - 10:00PM	0		
	10:00 - 11:00 AM	819	10:00 - 11:00 PM	0		
	11:00 - 12:00 PM	819	11:00 - 12:00 PM	0		
	Vehicles per hour on	hiaher-volum	ne minor street approa	ach (one dir	rection only):	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	316		
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	316		
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	316		
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	316		
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	550		
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0		
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0		
	7:00 - 8:00 AM	250	7:00 - 8:00 PM	0		
	8:00 - 9:00 AM	316	8:00 - 9:00 PM	0		
	9:00 - 10:00AM	316	9:00 - 10:00PM	0		
	10:00 - 11:00 AM	316	10:00 - 11:00 PM	0		
	11:00 - 12:00 PM	316	11:00 - 12:00 PM	0		
	Is the intersection usi	ng the reduc	ed volume criteria bas	sed on spee	ed	
	or population?	No				
	A. Is the Minimu	n Vehicul	ar Volume Warra	nt Met?	Yes	
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	Νο	
	Combination of 1	Norrente	A and D Critaria	Mat 2	Vaa	
			A and B Criteria I		tes	
	(Use only when Cond	nons A and	D are Doin Hot Satisin	eu)		

Intersection: W. 12th Street and Jillians Way City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Kyles Lane and I-71/75 SB Ramp)S
City/State:	Covington, KY	
Date:	7/19/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		690	810	850	2350	690	1660
8:00 - 9:00 AM		591	595	690	1876	591	1285
9:00 - 10:00AM		591	595	690	1876	591	1285
10:00 - 11:00 AM		591	595	690	1876	591	1285
11:00 - 12:00 PM		591	595	690	1876	591	1285
12:00 - 1:00 PM		591	595	690	1876	591	1285
1:00 - 2:00 PM		591	595	690	1876	591	1285
2:00 - 3:00 PM		591	595	690	1876	591	1285
3:00 - 4:00 PM		591	595	690	1876	591	1285
4:00 - 5:00 PM		1140	970	1150	3260	1140	2120
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	6558	6540	7520	20618	6558	14060

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manu Works	ual of Unif	orm Traffic Conti Signal Warrants (rol Devic	es 4C)	
	F	Prepared b	ov Parsons Brinc	kerhoff	40)	
			<u>, , , , , , , , , , , , , , , , , , , </u>			
Intersection	: Kyles Lane and I-71/7	75 SB Ramp	S			
City/State:	Covington, KY		Porformed by:	A N // A /		
Dale	1119/2010		Fenomed by.	AIVIVV		
Warrant 1	- Eight-Hour Vehicular	Volume				
			r , , , , , , , , , , , , , , , , , , ,			
	Number of lanes of m	loving traffic	for moving traffic on e	each approa	ach:	
	Major Street:	2	Minor Street:	Z	—	
	Vehicles per hour on	maior street	(total of both approac	hes):		
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	1285		
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	1285		
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	1285		
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	1285		
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	2120		
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0		
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0		
	7:00 - 8:00 AM	1660	7:00 - 8:00 PM	0		
	8:00 - 9:00 AM	1285	8:00 - 9:00 PM	0		
	9:00 - 10:00AM	1285	9:00 - 10:00PM	0		
	10:00 - 11:00 AM	1285	10:00 - 11:00 PM	0		
	11:00 - 12:00 PM	1285	11:00 - 12:00 PM	0		
	Vehicles per hour on	hiaher-volum	e minor street annroa	ach (one dir	ection only).	
	12·00 - 1·00 ΔM		12.00 - 1.00 PM	591	couon only).	
	1.00 - 2.00 AM	0	1.00 - 2.00 PM	591		
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	591		
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	591		
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1140		
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0		
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0		
	7:00 - 8:00 AM	690	7:00 - 8:00 PM	0		
	8:00 - 9:00 AM	591	8:00 - 9:00 PM	0		
	9:00 - 10:00AM	591	9:00 - 10:00PM	0		
	10:00 - 11:00 AM	591	10:00 - 11:00 PM	0		
	11:00 - 12:00 PM	591	11:00 - 12:00 PM	0		
	Is the intersection usi	na the reduc	ed volume criteria bas	sed on spee	ed	
	or population?	No				
	A. Is the Minimu	m Vehicul	ar Volume Warra	nt Met?	Yes	
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	Yes	
	······································					
	Combination of	Narrants A	A and B Criteria	Met?	Yes	
	(Use only when Cond	itions A and	B are both not satisifi	ed)		

Intersection: Kyles Lane and I-71/75 SB Ramps City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Kyles Lane and I-71/75 NB Ramp)S
City/State:	Covington, KY	
Date:	7/19/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	440		1120	1660	3220	440	2780
8:00 - 9:00 AM	394		863	959	2216	394	1822
9:00 - 10:00AM	394		863	959	2216	394	1822
10:00 - 11:00 AM	394		863	959	2216	394	1822
11:00 - 12:00 PM	394		863	959	2216	394	1822
12:00 - 1:00 PM	394		863	959	2216	394	1822
1:00 - 2:00 PM	394		863	959	2216	394	1822
2:00 - 3:00 PM	394		863	959	2216	394	1822
3:00 - 4:00 PM	394		863	959	2216	394	1822
4:00 - 5:00 PM	720		1460	1320	3500	720	2780
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	4312	0	9484	10652	24448	4312	20136

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manu Worke	al of Unif	orm Traffic Cont	rol Devic	es 4C)	
	F	Prepared b	by Parsons Brinc	kerhoff	+0)	
Intersection City/State:	: Kyles Lane and I-71/7 Covington, KY	75 NB Ramps	s			
Date	7/19/2010		Performed by:	AMW		
W		Malana				
warrant 1	- Eight-Hour vehicular	volume				
	Number of lanes of m	oving traffic	for moving traffic on e	each approa	ach:	
	Major Street:	2	Minor Street:	2	_	
	Vehicles per hour on	maior street	(total of both approac	hes).		
	12.00 - 1.00 AM		12.00 - 1.00 PM	1822		
	1.00 - 2.00 AM	Õ	1.00 - 2.00 PM	1822		
	2:00 - 3:00 AM	Õ	2:00 - 3:00 PM	1822		
	3.00 - 4.00 AM	Õ	3:00 - 4:00 PM	1822		
	4:00 - 5:00 AM	Õ	4:00 - 5:00 PM	2780		
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0		
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0		
	7·00 - 8·00 ΔM	2780	7:00 - 8:00 PM	0		
	8·00 - 9·00 AM	1822	8:00 - 9:00 PM	0		
	0.00 - 3.00 AM	1822	0.00 - 0.00 T M	0		
	10.00 - 11.00 AM	1822	10.00 - 11.00 PM	0		
	10.00 - 11.00 AW	1822	11.00 - 12.00 PM	0		
	11.00 - 12.00 FIVI	1022	11.00 - 12.00 FIM	0		
	Vehicles per hour on	higher_volum	ne minor street annros	ach (ana dir	ection only):	
					cealon only).	
	1.00 - 2.00 AM	0	1.00 - 2.00 PM	304		
	2:00 - 2:00 AM	0	2:00 2:00 PM	304		
	2:00 - 3:00 AM	0	2:00 - 3:00 T M	304		
	4:00 5:00 AM	0	4:00 5:00 PM	720		
	4.00 - 5.00 AM	0	4.00 - 5.00 T M	720		
	6:00 - 0:00 AM	0	6:00 - 0.00 PM	0		
	0.00 - 7.00 AIVI	140	0.00 - 7.00 FM	0		
	7.00 - 0.00 AIVI 9:00 0:00 AM	204	7.00 - 0.00 PM	0		
		304		0		
	9.00 - 10.00AIVI	394	9.00 - 10.00P1VI	0		
	11:00 - 12:00 PM	394 394	11:00 - 12:00 PM	0		
				Ũ		
	Is the intersection usi	ng the reduc	ed volume criteria bas	sed on spee	ed	
	or population?	No				
	A. Is the Minimu	n Vehicul	ar Volume Warra	nt Met?	Yes	
	D le the letter	41		M-40	Vee	
	в. is the interrup		ontinuous Traffic	iviet ?	tes	
	Combination of V	Narrants A	A and B Criteria	Met?	Yes	
	(Liso only when Cond	itions A and	R aro both not opticifi	od)		
	(Use only when Cond	IUUIS A dilu		eu)		

Intersection: Kyles Lane and I-71/75 NB Ramps City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Dixie Highway and I-71/75 SB Ramps				
City/State:	Covington, KY				
Date:	7/19/2010	Performed By: AMW			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		190	660	1510	2360	190	2170
8:00 - 9:00 AM		272	601	863	1736	272	1464
9:00 - 10:00AM		272	601	863	1736	272	1464
10:00 - 11:00 AM		272	601	863	1736	272	1464
11:00 - 12:00 PM		272	601	863	1736	272	1464
12:00 - 1:00 PM		272	601	863	1736	272	1464
1:00 - 2:00 PM		272	601	863	1736	272	1464
2:00 - 3:00 PM		272	601	863	1736	272	1464
3:00 - 4:00 PM		272	601	863	1736	272	1464
4:00 - 5:00 PM		680	1170	740	2590	680	1910
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	3046	6638	9154	18838	3046	15792

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C)										
	F	repared b	y Parsons Brincl	kerhoff	,						
Intersection: City/State:	Dixie Highway and I-7 Covington, KY	′1/75 SB Rar	nps								
Date	7/19/2010		Performed by:	AMW							
Warrant 1 -	Eight-Hour Vehicular	Volume									
	Number of lanes of moving traffic for moving traffic on each approach:										
	Major Street:	ິ2	Minor Street:	2	_						
	Vehicles per hour on	major street ((total of both approacl	nes):							
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	1464							
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	1464							
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	1464							
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	1464							
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1910							
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0							
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0							
	7:00 - 8:00 AM	2170	7:00 - 8:00 PM	0							
	8:00 - 9:00 AM	1464	8:00 - 9:00 PM	0							
	9:00 - 10:00AM	1464	9:00 - 10:00PM	0							
	10:00 - 11:00 AM	1464	10:00 - 11:00 PM	0							
	11:00 - 12:00 PM	1464	11:00 - 12:00 PM	0							
	Vehicles per hour on	higher-volum	e minor street approa	ich (one dir	ection only):						
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	272							
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	272							
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	272							
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	272							
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	680							
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0							
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0							
	7:00 - 8:00 AM	190	7:00 - 8:00 PM	0							
	8:00 - 9:00 AM	272	8:00 - 9:00 PM	0							
	9:00 - 10:00AM	272	9:00 - 10:00PM	0							
	10:00 - 11:00 AM	272	10:00 - 11:00 PM	0							
	11:00 - 12:00 PM	272	11:00 - 12:00 PM	0							
	Is the intersection usi or population?	ng the reduce No	ed volume criteria bas	ed on spee	∂d						
	A. Is the Minimu	n Vehicula	ar Volume Warra	nt Met?	Yes						
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	Yes						
	Combination of 1	Nomente	and D Critaria	1.042	Vaa						
	(Use only when Cond	itions A and I	A and B Criteria N B are both not satisifie	net : ed)	Tes						

Intersection: Dixie Highway and I-71/75 SB Ramps City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Dixie Highway and I-71/75 NB Ramps				
City/State:	Covington, KY				
Date:	7/19/2010	Performed By: AMW			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	280		540	2110	2930	280	2650
8:00 - 9:00 AM	248		550	977	1775	248	1527
9:00 - 10:00AM	248		550	977	1775	248	1527
10:00 - 11:00 AM	248		550	977	1775	248	1527
11:00 - 12:00 PM	248		550	977	1775	248	1527
12:00 - 1:00 PM	248		550	977	1775	248	1527
1:00 - 2:00 PM	248		550	977	1775	248	1527
2:00 - 3:00 PM	248		550	977	1775	248	1527
3:00 - 4:00 PM	248		550	977	1775	248	1527
4:00 - 5:00 PM	380		1210	810	2400	380	2020
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	2644	0	6150	10736	19530	2644	16886

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

Non-Kened by Parsons Brinckerhoff Intersection For Divide Highway and I-71/75 NB Ramps City/State: Covington, KY Date 7/19/2010 Performed by: AMW Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 PM 15:27 1:00 - 2:00 AM 0 0:20 - 1:00 PM 15:27 3:00 - 4:00 AM 0 0:20 - 1:00 PM 15:27 3:00 - 4:00 AM 0 0:20 - 1:00 PM 15:27 3:00 - 4:00 AM 0 0:20 - 1:00 PM 15:27 3:00 - 4:00 AM 0 0:20 - 1:00 PM 15:27 3:00 - 4:00 AM 0 0:00 - 1:00 PM 15:27 4:00 - 5:00 PM 0 8:00 - 9:00 PM 0 8:00 - 9:00 PM 0 9:00 - 1:00 PM 0 1:00 - 1:00 PM 15:27 1:00 - 1:00 PM 0		Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C)									
Intersection: Dixie Highway and I-71/75 NB Ramps City/State: Covington, KY Date 7/19/2010 Performed by: AMW Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 1527 10:00 - 2:00 AM 0 12:00 - 1:00 PM 1527 2:00 - 3:00 AM 0 2:00 - 3:00 PM 1527 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1527 3:00 - 4:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 5:00 - 6:00 PM 0 7:00 - 8:00 AM 0 5:00 - 6:00 PM 0 9:00 - 10:00 AM 1527 9:00 - 10:00 PM 0 9:00 - 10:00 AM 1527 9:00 - 10:00 PM 0 10:00 - 11:00 AM 1527 10:00 - 11:00 PM 0 11:00 - 12:00 PM 1527 11:00 - 11:00 PM 0 11:00 - 12:00 PM 1527 11:00 - 11:00 PM 248 2:00 - 3:00 AM 0 2:00 - 3:00 PM 248 2:00 - 3:00 AM 0 3:00 - 4:00 PM 248 2:00 - 3:00 AM 0 3:00 - 4:00 PM 248 3:00 - 4:00 AM 0 3:00 - 6:00 PM 0 7:00 - 8:00 AM 0 2:00 - 3:00 PM 248 3:00 - 4:00 AM 0 3:00 - 6:00 PM 0 7:00 - 8:00 AM 0 4:00 - 5:00 PM 248 3:00 - 4:00 AM 0 5:00 - 6:00 PM 0 7:00 - 8:00 AM 0 2:00 - 3:00 PM 248 3:00 - 4:00 AM 0 4:00 - 5:00 PM 248 3:00 - 4:00 AM 0 4:00 - 5:00 PM 248 3:00 - 4:00 AM 0 4:00 - 5:00 PM 0 7:00 - 8:00 AM 0 4:00 - 5:00 PM 0 7:00 - 8:00 AM 0 4:00 - 5:00 PM 0 7:00 - 8:00 AM 248 9:00 - 1:00 PM 248 3:00 - 4:00 AM 248 1:00 - 1:00 PM 248 3:00 - 4:00 AM 248 1:00 - 1:00 PM 248 3:00 - 4:00 AM 248 9:00 - 1:00 PM 248 3:00 - 1:00 AM 248 9:00 - 1:00 PM 248 3:00 - 1:00 AM 248 9:00 - 1:00 PM 248 3:00 - 1:00 AM 248 9:00 - 1:00 PM 248 3:00 - 1:00 PM 248 1:00 - 1:00 PM 248 3:00 - 1:00 PM 248 1:00 - 1:00 PM 248 3:00 - 1:00 PM 248 1:00 - 1:00 PM 248 3:00 - 1:00 PM 248 1:00 - 1:00 PM 248 3:00 - 1:00 PM 248 1:00 - 1:00 PM 248 3:00 - 1:00 PM 248 1:00 - 1:00 PM 248 3:00 - 1:00 PM 248 1:00 - 1:00 PM 248 3:00 - 1:00 PM 248 1:00 - 1:00 PM 248 3:00 - 1:00 PM 248 1:00 - 1:00 PM 248 3:00 - 1:00 PM 248 1:00 - 1:00 PM 248 3:00 - 1:00 PM 248 1:00 - 1:00 PM 248 3:00 - 1:00 PM 248 1:00 - 1:00 PM 248 3:00 - 1:0		F	Prepared b	y Parsons Brincl	kerhoff	+0)					
Date 7/19/2010 Performed by: AMW Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 1527 1:00 - 2:00 AM 0 12:00 - 1:00 PM 1527 1:00 - 2:00 AM 0 2:00 - 3:00 PM 1527 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1527 3:00 - 4:00 AM 0 5:00 - 8:00 PM 1527 3:00 - 5:00 AM 0 6:00 - 7:00 PM 0 <	Intersection: City/State:	itersection: Dixie Highway and I-71/75 NB Ramps									
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10:00 - 11:00 AM 1527 10:00 - 11:00 PM 0 11:00 - 12:00 PM 1527 11:00 - 12:00 PM 0 Vehicles per hour on higher-volume minor street approach (one direction only): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 248 1:00 - 2:00 AM 0 1:00 - 2:00 PM 248 2:00 - 3:00 AM 0 2:00 - 3:00 PM 248 3:00 - 4:00 AM 0 3:00 - 4:00 PM 248 3:00 - 4:00 AM 0 3:00 - 4:00 PM 248 3:00 - 6:00 AM 0 3:00 - 4:00 PM 248 4:00 - 5:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 280 7:00 - 8:00 PM 0 8:00 - 9:00 AM 248 9:00 - 10:00PM 0 9:00 - 10:00AM 248 10:00 - 11:00 PM 0 10:00 - 11:00 AM 248 10:00 - 11:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 Is the intersect		9:00 - 10:00AM	1527	9:00 - 10:00PM	0						
11:00 - 12:00 PM 1527 11:00 - 12:00 PM 0 Vehicles per hour on higher-volume minor street approach (one direction only): 12:00 - 1:00 PM 248 1:00 - 2:00 AM 0 12:00 - 1:00 PM 248 2:00 - 3:00 AM 0 2:00 - 3:00 PM 248 3:00 - 4:00 AM 0 3:00 - 4:00 PM 248 3:00 - 4:00 AM 0 3:00 - 4:00 PM 248 4:00 - 5:00 AM 0 4:00 - 5:00 PM 380 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 280 7:00 - 8:00 PM 0 8:00 - 9:00 AM 248 9:00 - 10:00PM 0 9:00 - 10:00AM 248 9:00 - 10:00PM 0 10:00 - 11:00 AM 248 10:00 - 11:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 7 A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is th		10:00 - 11:00 AM	1527	10:00 - 11:00 PM	0						
Vehicles per hour on higher-volume minor street approach (one direction only): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 248 1:00 - 2:00 AM 0 1:00 - 2:00 PM 248 2:00 - 3:00 AM 0 2:00 - 3:00 PM 248 3:00 - 4:00 AM 0 3:00 - 4:00 PM 248 4:00 - 5:00 AM 0 3:00 - 4:00 PM 248 4:00 - 5:00 AM 0 4:00 - 5:00 PM 380 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 280 7:00 - 8:00 PM 0 8:00 - 9:00 AM 248 9:00 - 10:00PM 0 9:00 - 10:00AM 248 9:00 - 10:00PM 0 9:00 - 11:00 AM 248 10:00 - 11:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B criteria Met? Y		11:00 - 12:00 PM	1527	11:00 - 12:00 PM	0						
12:00 - 1:00 AM 0 12:00 - 1:00 PM 248 1:00 - 2:00 AM 0 1:00 - 2:00 PM 248 2:00 - 3:00 AM 0 2:00 - 3:00 PM 248 3:00 - 4:00 AM 0 3:00 - 4:00 PM 248 3:00 - 4:00 AM 0 3:00 - 4:00 PM 248 4:00 - 5:00 AM 0 4:00 - 5:00 PM 248 4:00 - 5:00 AM 0 5:00 - 6:00 PM 0 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 280 7:00 - 8:00 PM 0 8:00 - 9:00 AM 248 8:00 - 9:00 PM 0 9:00 - 10:00AM 248 9:00 - 10:00PM 0 10:00 - 11:00 AM 248 10:00 - 11:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes (Use only when Conditions A and B are both not		Vehicles per hour on	higher-volum	e minor street approa	ich (one dir	ection only):					
1:00 - 2:00 AM 0 1:00 - 2:00 PM 248 2:00 - 3:00 AM 0 2:00 - 3:00 PM 248 3:00 - 4:00 AM 0 3:00 - 4:00 PM 248 4:00 - 5:00 AM 0 4:00 - 5:00 PM 380 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 248 7:00 - 8:00 PM 0 8:00 - 9:00 AM 248 9:00 - 10:00 PM 0 9:00 - 10:00AM 248 9:00 - 10:00PM 0 9:00 - 11:00 AM 248 10:00 - 11:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes (Use only when Conditions A and B are both not satisified) Yes		12:00 - 1:00 AM	0	12:00 - 1:00 PM	` 248	5,					
2:00 - 3:00 AM 0 2:00 - 3:00 PM 248 3:00 - 4:00 AM 0 3:00 - 4:00 PM 248 4:00 - 5:00 AM 0 4:00 - 5:00 PM 380 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 280 7:00 - 8:00 PM 0 8:00 - 9:00 AM 248 8:00 - 9:00 PM 0 9:00 - 10:00AM 248 9:00 - 10:00PM 0 9:00 - 11:00 AM 248 10:00 - 11:00 PM 0 10:00 - 12:00 PM 248 11:00 - 12:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes Combination of Warrants A and B are both not satisified)		1:00 - 2:00 AM	0	1:00 - 2:00 PM	248						
3:00 - 4:00 AM 0 3:00 - 4:00 PM 248 4:00 - 5:00 AM 0 4:00 - 5:00 PM 380 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 280 7:00 - 8:00 PM 0 8:00 - 9:00 AM 248 8:00 - 9:00 PM 0 9:00 - 10:00AM 248 9:00 - 10:00PM 0 10:00 - 11:00 AM 248 10:00 - 11:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes (Use only when Conditions A and B are both not satisified) Yes		2:00 - 3:00 AM	0	2:00 - 3:00 PM	248						
4:00 - 5:00 AM 0 4:00 - 5:00 PM 380 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 280 7:00 - 8:00 PM 0 7:00 - 8:00 AM 248 8:00 - 9:00 PM 0 9:00 - 10:00AM 248 9:00 - 10:00PM 0 9:00 - 11:00 AM 248 10:00 - 11:00 PM 0 10:00 - 12:00 PM 248 11:00 - 12:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes (Use only when Conditions A and B are both not satisified) Yes		3:00 - 4:00 AM	0	3:00 - 4:00 PM	248						
5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 280 7:00 - 8:00 PM 0 8:00 - 9:00 AM 248 8:00 - 9:00 PM 0 9:00 - 10:00AM 248 9:00 - 10:00PM 0 10:00 - 11:00 AM 248 10:00 - 11:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 1s the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes (Use only when Conditions A and B are both not satisified) Yes		4:00 - 5:00 AM	0	4:00 - 5:00 PM	380						
6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 280 7:00 - 8:00 PM 0 8:00 - 9:00 AM 248 8:00 - 9:00 PM 0 9:00 - 10:00AM 248 9:00 - 10:00PM 0 10:00 - 11:00 AM 248 10:00 - 11:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes (Use only when Conditions A and B are both not satisified) Yes		5:00 - 6:00 AM	0	5.00 - 6.00 PM	0						
7:00 - 8:00 AM 280 7:00 - 8:00 PM 0 8:00 - 9:00 AM 248 8:00 - 9:00 PM 0 9:00 - 10:00AM 248 9:00 - 10:00PM 0 10:00 - 11:00 AM 248 10:00 - 11:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes (Use only when Conditions A and B are both not satisified) Yes		6.00 - 2.00 AM	0	6:00 - 7:00 PM	0						
1.00 0.00 AM 248 8:00 - 9:00 PM 0 9:00 - 10:00AM 248 9:00 - 10:00PM 0 10:00 - 11:00 AM 248 10:00 - 11:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes (Use only when Conditions A and B are both not satisified) Yes		7:00 - 8:00 AM	280	7:00 - 8:00 PM	0						
9:00 - 10:00 AM 248 9:00 - 10:00 PM 0 10:00 - 11:00 AM 248 10:00 - 11:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes (Use only when Conditions A and B are both not satisified)		8.00 - 9.00 AM	248	8:00 - 9:00 PM	0						
10:00 - 11:00 AM 248 10:00 - 11:00 PM 0 11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes (Use only when Conditions A and B are both not satisified) Yes		9.00 - 10.00AM	248	9.00 - 10.00PM	0						
11:00 - 12:00 PM 248 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes (Use only when Conditions A and B are both not satisified) Yes		10.00 - 11.00 AM	240	10.00 - 11.00 PM	0						
Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes (Use only when Conditions A and B are both not satisified)		11:00 - 12:00 PM	248	11:00 - 12:00 PM	0						
or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes (Use only when Conditions A and B are both not satisified)		Is the intersection usi	ing the reduce	ed volume criteria bas	ed on spee	ed					
A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes (Use only when Conditions A and B are both not satisified)		or population?	No								
B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes (Use only when Conditions A and B are both not satisified)		A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Yes					
Combination of Warrants A and B Criteria Met? Yes		B. Is the Interrup	otion of Co	ntinuous Traffic	Met?	Yes					
(Use only when Conditions A and B are both not satisified)		Combination of	Warranta /	and B Critaria	lot2	Voc					
		(Use only when Conc	litions A and I	B are both not satisified	ed)	162					

Intersection: Dixie Highway and I-71/75 NB Ramps City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	W. 9th Street and Jillians Way	
City/State:	Covington, KY	
Date:	7/19/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	470		710	280	1460	470	990
8:00 - 9:00 AM	198		744	257	1199	198	1001
9:00 - 10:00AM	198		744	257	1199	198	1001
10:00 - 11:00 AM	198		744	257	1199	198	1001
11:00 - 12:00 PM	198		744	257	1199	198	1001
12:00 - 1:00 PM	198		744	257	1199	198	1001
1:00 - 2:00 PM	198		744	257	1199	198	1001
2:00 - 3:00 PM	198		744	257	1199	198	1001
3:00 - 4:00 PM	198		744	257	1199	198	1001
4:00 - 5:00 PM	400		920	450	1770	400	1370
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	2454	0	7582	2786	12822	2454	10368

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manu Works F	ual of Unif sheet for \$ Prenared b	orm Traffic Cont Signal Warrants (Ny Parsons Brinc	rol Devic Section	es 4C)
	•			Kernon	
Intersection	: W. 9th Street and Jilli	ans Way			
City/State:			Domformood by u	A B 4\A/	
Date	//19/2010		Performed by:	AIVIVV	
Warrant 1 -	Eight-Hour Vehicular	· Volume			
	Number of lanes of m	oving traffic	for moving traffic on e	each approa	ach:
	Major Street:	1	Minor Street:	2	_
	Vehicles per hour on	major street	(total of both approac	hes):	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	1001	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	1001	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	1001	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	1001	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1370	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	990	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	1001	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	1001	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	1001	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	1001	11:00 - 12:00 PM	0	
	Vehicles per hour on	higher-volum	e minor street annros	ach (ana dir	rection only):
					ection only).
	12.00 - 1.00 AM	0	1:00 - 1.00 PM	190	
	2:00 - 2:00 AM	0	2:00 2:00 PM	100	
	2.00 - 3.00 AM	0	2.00 - 3.00 PM	190	
	3.00 - 4.00 AM	0	4:00 - 4:00 PM	190	
	4.00 - 5.00 AM	0	4.00 - 5.00 PM	400	
	5.00 - 0.00 AM	0	5.00 - 0.00 PM	0	
	0.00 - 7.00 AN	470	0.00 - 7.00 FM	0	
	7.00 - 0.00 AN	470	7.00 - 0.00 PM	0	
	0.00 - 9.00 AIVI	190	0.00 - 9.00 PM	0	
	9:00 - 10:00AIVI	198	9:00 - 10:00PW	0	
	11:00 - 12:00 PM	198	11:00 - 12:00 PM	0	
	Is the intersection usi	na the reduc	ed volume criteria bas	sed on snee	ed
	or population?	No			
	A. Is the Minimu	m Vehicul	ar Volume Warra	nt Met?	No
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	Yes
	Combination of V	Warrants	A and B Criteria	Met?	Yes
	(Use only when Cond	litions A and	B are both not satisifi	ed)	

Intersection: W. 9th Street and Jillians Way City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	W. 9th Street and Bullock Street					
City/State:	Covington, KY					
Date:	7/19/2010	Performed By: AMW				

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		1450	220	260	1930	1450	480
8:00 - 9:00 AM		1433	205	247	1885	1433	452
9:00 - 10:00AM		1433	205	247	1885	1433	452
10:00 - 11:00 AM		1433	205	247	1885	1433	452
11:00 - 12:00 PM		1433	205	247	1885	1433	452
12:00 - 1:00 PM		1433	205	247	1885	1433	452
1:00 - 2:00 PM		1433	205	247	1885	1433	452
2:00 - 3:00 PM		1433	205	247	1885	1433	452
3:00 - 4:00 PM		1433	205	247	1885	1433	452
4:00 - 5:00 PM		1920	310	450	2680	1920	760
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	14834	2170	2686	19690	14834	4856

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manı Works	ual of Unif sheet for \$	orm Traffic Contr Signal Warrants (rol Devic Section	es 4C)
	F	repared b	by Parsons Brinc	kernoff	
Intersection	: W. 9th Street and Bu	llock Street			
City/State:	Covington, KY				
Date	7/19/2010		Performed by:	AMW	
Warrant 1 -	Fight-Hour Vehicular	Volume			
<u>Trantant i</u>		Terunio			
	Number of lanes of m	oving traffic	for moving traffic on e	each approa	ach:
	Major Street:	1	Minor Street:	3	_
	Vehicles per hour on	maior street	(total of both approac	hes):	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	452	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	452	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	452	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	452	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	760	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	480	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	452	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	452	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	452	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	452	11:00 - 12:00 PM	0	
	Vehicles per hour on	higher-volum	ne minor street approa	ach (one di	rection only):
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	1433	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	1433	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	1433	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	1433	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1920	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	1450	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	1433	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	1433	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	1433	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	1433	11:00 - 12:00 PM	0	
	Is the intersection usi	na the reduc	ed volume criteria bas	sed on spee	ed
	or population?	No			
	A. Is the Minimu	m Vehicul	ar Volume Warra	nt Met?	Νο
	B is the Interrun	tion of Co	ntinuous Traffic	Mot?	No
	D. IS the interrup			MCC (
	Combination of	Narrants A	A and B Criteria	Met?	No
	(Use only when Cond	itions A and	B are both not satisifi	ed)	

Intersection: W. 9th Street and Bullock Street City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	W. 5th Street and Jillians Way	
City/State:	Covington, KY	
Date:	7/19/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	1430		240		1670	1430	240
8:00 - 9:00 AM	1179		142		1321	1179	142
9:00 - 10:00AM	1179		142		1321	1179	142
10:00 - 11:00 AM	1179		142		1321	1179	142
11:00 - 12:00 PM	1179		142		1321	1179	142
12:00 - 1:00 PM	1179		142		1321	1179	142
1:00 - 2:00 PM	1179		142		1321	1179	142
2:00 - 3:00 PM	1179		142		1321	1179	142
3:00 - 4:00 PM	1179		142		1321	1179	142
4:00 - 5:00 PM	1460		50		1510	1460	50
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	12322	0	1426	0	13748	12322	1426

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? <u>No</u>
	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C)						
	F	Prepared b	y Parsons Brinc	kerhoff			
Intersection City/State:	: W. 5th Street and Jill Covington, KY	ians Way	De ferre ed hur	0 B 4) 0 /			
Date	7/19/2010		Performed by:	AIVIVV			
Warrant 1 -	- Eight-Hour Vehicula	r Volume					
			c				
	Number of lanes of m	noving traffic	for moving traffic on e	each approa	ach:		
	Major Street:	2	Minor Street:	1	_		
	Vehicles per hour on	major street	(total of both approac	hes):			
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	[´] 142			
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	142			
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	142			
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	142			
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	50			
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7:00 - 8:00 AM	240	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	142	8:00 - 9:00 PM	0			
	9:00 - 10:00AM	142	9:00 - 10:00PM	0			
	10:00 - 11:00 AM	142	10:00 - 11:00 PM	0			
	11:00 - 12:00 PM	142	11:00 - 12:00 PM	0			
		1. ¹ . 1 1					
	venicies per nour on	nigner-volum	ie minor street approa		ection only):		
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	1179			
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	1179			
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	1179			
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	1179			
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1460			
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7:00 - 8:00 AM	1430	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	1179	8:00 - 9:00 PM	0			
	9:00 - 10:00AM	1179	9:00 - 10:00PM	0			
	10:00 - 11:00 AM	1179 1170	10:00 - 11:00 PM	0			
	11.00 - 12.00 PW	1179	11.00 - 12.00 FIM	0			
	Is the intersection usi or population?	ng the reduce No	ed volume criteria bas	sed on spee	ed		
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Νο		
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	Νο		
	Combination of	Warrants /	A and B Criteria	Met?	No		
	(Use only when Conc	litions A and	B are both not satisifi	ed)			

Intersection: W. 5th Street and Jillians Way City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	W. 4th Street and Jillians Way	
City/State:	Covington, KY	
Date:	7/19/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	330		880		1210	330	880
8:00 - 9:00 AM	365		552		917	365	552
9:00 - 10:00AM	365		552		917	365	552
10:00 - 11:00 AM	365		552		917	365	552
11:00 - 12:00 PM	365		552		917	365	552
12:00 - 1:00 PM	365		552		917	365	552
1:00 - 2:00 PM	365		552		917	365	552
2:00 - 3:00 PM	365		552		917	365	552
3:00 - 4:00 PM	365		552		917	365	552
4:00 - 5:00 PM	540		770		1310	540	770
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	3790	0	6066	0	9856	3790	6066

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C)						
	F	Prepared b	by Parsons Brinc	kerhoff			
Intersection City/State:	: W. 4th Street and Jilli Covington, KY	ans Way	Dorformed by:	0 N 4) 0 /			
Dale	//19/2010		Performed by:	AIVIVV			
Warrant 1	- Eight-Hour Vehicular	<u>Volume</u>					
		an in a traffic	fan marine haffin an a		h -		
	Number of lanes of m		for moving traffic on e	acn approa	ach:		
		2		I	_		
	Vehicles per hour on	major street	(total of both approac	hes):			
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	552			
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	552			
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	552			
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	552			
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	770			
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7:00 - 8:00 AM	880	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	552	8:00 - 9:00 PM	0			
	9:00 - 10:00AM	552	9:00 - 10:00PM	0			
	10:00 - 11:00 AM	552	10:00 - 11:00 PM	0			
	11:00 - 12:00 PM	552	11:00 - 12:00 PM	0			
	Vahialaa nar haur an	highervolum	a minor atract approx	aab (ana dii	rection only);		
					ection only).		
	12.00 - 1.00 AIVI	0	12.00 - 1.00 PM	300			
	1.00 - 2.00 AN	0	1.00 - 2.00 FM	265			
	2.00 - 3.00 AIVI	0	2.00 - 3.00 PM	300			
	3.00 - 4.00 AN	0	3.00 - 4.00 FM	505			
	4.00 - 5.00 AM	0	4.00 - 5.00 PM	040			
	5.00 - 0.00 AW	0	5.00 - 0.00 PM	0			
	0.00 - 7.00 AW	220		0			
	7.00 - 0.00 AW	365	7.00 - 0.00 FM	0			
	0.00 - 9.00 AW	305	0.00 - 9.00 FM	0			
	9.00 - 10.00AW	303	9.00 - 10.00FW	0			
	11:00 - 12:00 PM	365	11:00 - 12:00 PM	0			
	Is the intersection usi or population?	ng the reduc No	ed volume criteria bas	sed on spe	ed		
	A. Is the Minimu	n Vehicul	ar Volume Warra	nt Met?	No		
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	No		
	Openal black the second	Namesti			Na		
		itions A and	A and B Criteria I	viet?	NO		
		nions A anu		eu)			

Intersection: W. 4th Street and Jillians Way City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection: W. 4th Street and Crescent Avenue				
City/State:	Covington, KY			
Date:	7/8/2010	Performed By: AMW		

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		90	290	410	790	90	700
8:00 - 9:00 AM		63	265	155	483	63	420
9:00 - 10:00AM		63	265	155	483	63	420
10:00 - 11:00 AM		63	265	155	483	63	420
11:00 - 12:00 PM		63	265	155	483	63	420
12:00 - 1:00 PM		63	265	155	483	63	420
1:00 - 2:00 PM		63	265	155	483	63	420
2:00 - 3:00 PM		63	265	155	483	63	420
3:00 - 4:00 PM		63	265	155	483	63	420
4:00 - 5:00 PM		100	420	220	740	100	640
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	694	2830	1870	5394	694	4700

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

Signal Warrant Analysis_W 4th and Crescent Warrant 1

	Man	ual of Unifo	orm Traffic Conti	rol Devic	es			
	Worksheet for Signal Warrants (Section 4C)							
		Prepared b	v Parsons Brinc	kerhoff				
			,					
Intersection:	W. 4th Street and Cr	escent Avenu	e					
City/State:	Covington, KY							
Date	7/8/2010		Performed by:	AMW				
Warrant 1 -	Eight-Hour Vehicula	<u>r Volume</u>						
	Number of lanes of n	noving traffic f	for moving traffic on e	each approa	ich:			
	Major Street:	1	Minor Street:	1	_			
	Vahialaa nar haur an	major streat (total of both approad	hoo);				
				nes). 420				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	420				
	2:00 - 2:00 AM	0	2:00 - 2:00 PM	420				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	420				
	4.00 - 5.00 AM	0	4:00 - 5:00 PM	420 640				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	Ő	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	700	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	420	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	420	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	420	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	420	11:00 - 12:00 PM	0				
	Vehicles per hour on	higher-volum	e minor street approa	ach (one dir	ection only):			
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	63	.,			
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	63				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	63				
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	63				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	100				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	90	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	63	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	63	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	63	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	63	11:00 - 12:00 PM	0				
	Is the intersection us	ing the reduce	ed volume criteria bas	sed on spee	b;			
	or population?	NO						
	A la tha Minimu	m Vahiauk		nt Mata	No			
	A. IS the winning	m venicula			NO			
			. –					
	B. Is the Interrup	otion of Co	ntinuous Traffic	Met?	NO			
	_							
	Combination of	Warrants A	A and B Criteria	Met?	No			
	(Use only when Cond	ditions A and I	B are both not satisified	ed)				

Intersection: W. 4th Street and Crescent Avenue City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection: W. 5th Street and Crescent Avenue				
City/State:	Covington, KY			
Date:	7/8/2010	Performed By: AMW		

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	250		90	250	590	250	340
8:00 - 9:00 AM	250		83	154	487	250	237
9:00 - 10:00AM	250		83	154	487	250	237
10:00 - 11:00 AM	250		83	154	487	250	237
11:00 - 12:00 PM	250		83	154	487	250	237
12:00 - 1:00 PM	250		83	154	487	250	237
1:00 - 2:00 PM	250		83	154	487	250	237
2:00 - 3:00 PM	250		83	154	487	250	237
3:00 - 4:00 PM	250		83	154	487	250	237
4:00 - 5:00 PM	440		130	210	780	440	340
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	2690	0	884	1692	5266	2690	2576

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

Signal Warrant Analysis_W 5th and Crescent Warrant 1

	Manu	ual of Unifo	orm Traffic Conti	ol Devic	es
	Work	sheet for S	ignal Warrants (Section 4	4C)
	F	Prepared b	v Parsons Brinc	kerhoff	
	-		,		
Intersection:	W. 5th Street and Cr	escent Avenu	e		
City/State:	Covington, KY				
Date	7/8/2010		Performed by:	AMW	
Warrant 1 -	Eight-Hour Vehicula	<u>r Volume</u>			
	Number of lanes of m	noving traffic f	or moving traffic on e	each approa	ach:
	Major Street:	1	Minor Street:	1	_
	Vahialaa nar haur on	major streat (total of both approach	hoo):	
				nes). 227	
	12.00 - 1.00 AM	0	1:00 - 2:00 PM	237	
	2.00 - 2.00 AM	0	2:00 - 2:00 PM	237	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	237	
	4·00 - 5·00 AM	0	4:00 - 5:00 PM	340	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	040	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	340	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	237	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	237	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	237	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	237	11:00 - 12:00 PM	0	
				-	
	Vehicles per hour on	higher-volum	e minor street approa	ach (one dir	ection only):
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	250	.,
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	250	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	250	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	250	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	440	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	250	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	250	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	250	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	250	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	250	11:00 - 12:00 PM	0	
	Is the intersection us	ing the reduce	ed volume criteria bas	sed on spee	ed
	or population?	NO			
	A la tha Minimu	w Vehievde		nt Mat2	No
	A. IS the Minimu	m venicula	ar volume warra	nt wiet?	NO
	B. Is the Interrup	otion of Co	ntinuous Traffic	Met?	Νο
	Combination of	Warrants A	and B Criteria	Met?	No
	(Use only when Cond	litions A and I	B are both not satisifie	ed)	

Intersection: W. 5th Street and Crescent Avenue City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Pike Street and Bullock Street	
City/State:	Covington, KY	
Date:	7/8/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		1040	780	480	2300	1040	1260
8:00 - 9:00 AM		715	221	563	1499	715	784
9:00 - 10:00AM		715	221	563	1499	715	784
10:00 - 11:00 AM		715	221	563	1499	715	784
11:00 - 12:00 PM		715	221	563	1499	715	784
12:00 - 1:00 PM		715	221	563	1499	715	784
1:00 - 2:00 PM		715	221	563	1499	715	784
2:00 - 3:00 PM		715	221	563	1499	715	784
3:00 - 4:00 PM		715	221	563	1499	715	784
4:00 - 5:00 PM		1530	260	1120	2910	1530	1380
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	8290	2808	6104	17202	8290	8912

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? <u>No</u>

	Manu Works	al of Unif	orm Traffic Cont Signal Warrants (rol Devic Section	es 4C)
	F	Prepared b	by Parsons Brinc	kerhoff	10)
Intersection: City/State: Date	: Pike Street and Bullo Covington, KY 7/8/2010	ck Street	Performed by:	AMW	
			,		
Warrant 1 -	Eight-Hour Vehicular	<u>Volume</u>			
	Number of lanes of m	oving traffic	for moving traffic on e	each approa	ach:
	Major Street:	2	Minor Street:	3	_
	Vehicles per hour on	maior street	(total of both approac	hes):	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	784	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	784	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	784	
	3.00 - 4.00 AM	0	3:00 - 4:00 PM	784	
	4:00 - 5:00 AM	0 0	4:00 - 5:00 PM	1380	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0 0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	1260	7:00 - 8:00 PM	0 0	
	8:00 - 9:00 AM	784	8:00 - 9:00 PM	0	
	9.00 - 10.00AM	784	9.00 - 10.00PM	0 0	
	10.00 - 11.00 AM	784	10.00 - 11.00 PM	0	
	11:00 - 12:00 PM	784	11:00 - 12:00 PM	0	
	Vehicles per hour on	higher-volum	ne minor street approa	ach (one dir	rection only):
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	715	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	715	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	715	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	715	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1530	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	1040	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	715	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	715	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	715	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	715	11:00 - 12:00 PM	0	
	Is the intersection usi or population?	ng the reduc No	ed volume criteria bas	sed on spee	ed
	A. Is the Minimu	n Vehicul	ar Volume Warra	nt Met?	Yes
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	No
	Combination of	Warrants /	A and B Criteria	Met?	Yes
	(Use only when Cond	itions A and	B are both not satisified	ed)	

Intersection: Pike Street and Bullock Street City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Pike Street and Jillians Way	
City/State:	Covington, KY	
Date:	7/8/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	1730		880	470	3080	1730	1350
8:00 - 9:00 AM	924		280	501	1705	924	781
9:00 - 10:00AM	924		280	501	1705	924	781
10:00 - 11:00 AM	924		280	501	1705	924	781
11:00 - 12:00 PM	924		280	501	1705	924	781
12:00 - 1:00 PM	924		280	501	1705	924	781
1:00 - 2:00 PM	924		280	501	1705	924	781
2:00 - 3:00 PM	924		280	501	1705	924	781
3:00 - 4:00 PM	924		280	501	1705	924	781
4:00 - 5:00 PM	1000		470	1090	2560	1000	1560
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	10122	0	3590	5568	19280	10122	9158

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

Signal Warrant Analysis_Pike and Jillians Warrant 1

	Manual of Uniform Traffic Control Devices						
	Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
	ŀ	repared b	y Parsons Brinci	kerhoff			
Intersection:	Pike Street and Jilliar	ns Way					
City/State:	Covington, KY	,					
Date	7/8/2010		Performed by:	AMW			
Warrant 1 -	Eight-Hour Vehicula	r Volume					
<u>Indirunt i</u>		Terunio					
	Number of lanes of m	noving traffic	for moving traffic on e	ach approa	ich:		
	Major Street:	2	_Minor Street:	3	-		
	Vehicles per hour on	major street	(total of both approacl	hes):			
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	781			
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	781			
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	781			
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	781			
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1560			
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7:00 - 8:00 AM	1350	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	781	8:00 - 9:00 PM	0			
	9:00 - 10:00AM	781	9:00 - 10:00PM	0			
	10:00 - 11:00 AM	781	10:00 - 11:00 PM	0			
	11:00 - 12:00 PM	781	11:00 - 12:00 PM	0			
	Vehicles per hour on	higher-volum	e minor street approa	nch (one dir	rection only).		
	12.00 - 1.00 AM	0	12.00 - 1.00 PM	924	coulor only).		
	1:00 - 2:00 AM	Õ	1:00 - 2:00 PM	924			
	2:00 - 3:00 AM	Õ	2:00 - 3:00 PM	924			
	3.00 - 4.00 AM	õ	3:00 - 4:00 PM	924			
	4:00 - 5:00 AM	õ	4:00 - 5:00 PM	1000			
	5:00 - 6:00 AM	Õ	5:00 - 6:00 PM	0			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7·00 - 8·00 ΔM	1730	7:00 - 8:00 PM	0			
	8·00 - 9·00 ΔM	024	8:00 - 0:00 PM	0			
	$9.00 - 10.00 \Delta M$	024	9.00 - 10.00PM	0			
	10.00 - 10.00AM	924	10.00 - 11.00 PM	0			
	11:00 - 12:00 PM	924 924	11:00 - 12:00 PM	0			
	le the intersection usi	na the reduce	ad volume criteria bas	ed on shee	24		
	or population?	No					
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Yes		
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	No		
	Combination of	Nomente	and D Critaria	1.042	Vaa		
		Itions A and	A and B Criteria M B are both not satisifi	· 19iv A	Tes		
	Cose only when oone						

Intersection: Pike Street and Jillians Way City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	W. 12th Street and Bullock Street				
City/State:	Covington, KY				
Date:	7/8/2010	Performed By: AMW			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		990	280	270	1540	990	550
8:00 - 9:00 AM		750	132	267	1149	750	399
9:00 - 10:00AM		750	132	267	1149	750	399
10:00 - 11:00 AM		750	132	267	1149	750	399
11:00 - 12:00 PM		750	132	267	1149	750	399
12:00 - 1:00 PM		750	132	267	1149	750	399
1:00 - 2:00 PM		750	132	267	1149	750	399
2:00 - 3:00 PM		750	132	267	1149	750	399
3:00 - 4:00 PM		750	132	267	1149	750	399
4:00 - 5:00 PM		1270	120	460	1850	1270	580
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	8260	1456	2866	12582	8260	4322

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? <u>No</u>

Prepared by Parsons Brinckerhoff Intersection: W. 12th Street and Bullock Street City/State: Covington, KY Date 7/8/2010 Performed by: AMW Warrant 1 - Elaht-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 PM 399 1:00 - 2:00 AM 0 12:00 - 1:00 PM 399 2:00 - 3:00 AM 0 2:00 - 3:00 PM 399 2:00 - 3:00 AM 0 4:00 - 6:00 PM 399 2:00 - 1:00 AM 0 4:00 - 6:00 PM 399 3:00 - 4:00 AM 0 5:00 - 7:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 399 9:00 - 10:00 PM 0 7:00 - 1:00 AM 399 9:00 - 10:00 PM 0 7:00 - 1:00 AM 399 9:00 - 10:00 PM 0 1:00 - 1:00 AM 399		Manı Works	al of Unif	orm Traffic Cont Signal Warrants (rol Devic Section	es 4C)
Intersection: W. 12th Street and Bullock Street: City/State: Covington, KY Date 7/8/2010 Performed by: AMW Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 1 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 1:00 - 1:00 PM 399 2:00 - 3:00 AM 0 1:00 - 2:00 PM 399 2:00 - 3:00 AM 0 2:00 - 3:00 PM 399 2:00 - 4:00 AM 0 5:00 - 4:00 PM 399 3:00 - 4:00 AM 0 5:00 - 6:00 PM 0 0:00 - 7:00 AM 0 5:00 - 6:00 PM 0 0:00 - 7:00 AM 0 5:00 - 7:00 PM 0 0:00 - 7:00 AM 0 5:00 - 7:00 PM 0 0:00 - 10:00 AM 399 9:00 - 10:00 PM 0 0:00 - 10:00 AM 399 9:00 - 10:00 PM 0 1:00 - 12:00 PM 399 1:00 - 12:00 PM 0 1:00 - 12:00 PM 0 1:00 - 2:00 PM 750 1:00 - 1:00 AM 0 1:00 - 7:00 PM 0 <td< th=""><th></th><th>F</th><th>repared b</th><th>y Parsons Brinc</th><th>kerhoff</th><th></th></td<>		F	repared b	y Parsons Brinc	kerhoff	
Warrant 1. Eight-Hour Vehicular Volume Major Street: 1 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 1:2:00 - 1:00 PM 399 1:00 - 2:00 AM 0 1:00 - 2:00 PM 399 2:00 - 3:00 AM 0 2:00 - 1:00 PM 399 2:00 - 5:00 AM 0 2:00 - 1:00 PM 399 4:00 - 5:00 AM 0 4:00 - 5:00 PM 399 4:00 - 5:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 5:00 - 7:00 PM 0 7:00 - 8:00 AM 5:00 - 7:00 PM 0 0 7:00 - 8:00 AM 399 9:00 - 10:00 PM 0 7:00 - 10:00 AM 399 9:00 - 10:00 PM 0 1:00 - 12:00 PM 399 10:00 - 10:00 PM 750 1:00 - 12:00 PM 399 10:00 - 12:00 PM 750 1:00 - 12:00 PM 0 1:00 - 12:00 PM 750 1:00 - 10:00 AM 0 2:00 - 1:00 PM 750 1:00 - 10:00 AM 0 0:00 - 7:00 PM<	Intersection City/State: Date	: W. 12th Street and B Covington, KY 7/8/2010	ullock Street	Performed by:	AMW	
Number of lanes of moving traffic for moving traffic on each approach: Major Street: 1 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 1:200 - 1:00 AM 0 1:200 - 1:00 PM 399 1:00 - 2:00 AM 0 1:00 - 2:00 PM 399 2:00 - 3:00 AM 0 2:00 - 3:00 PM 399 2:00 - 5:00 AM 0 2:00 - 4:00 PM 399 4:00 - 5:00 AM 0 4:00 - 5:00 PM 399 4:00 - 5:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 9:00 - 10:00 AM 399 9:00 - 10:00 PM 0 9:00 - 10:00 AM 399 9:00 - 10:00 PM 0 1:00 - 12:00 PM 399 11:00 - 12:00 PM 0 Vehicles per hour on higher-volume minor street approach (one direction only): 1:2:00 - 1:00 PM 750 1:00 - 2:00 AM 0 1:00 - 2:00 PM 750 1:00 - 2:00 AM 0 2:00 - 1:00 PM 750 1:00 - 10:00 AM 0 2:00 - 1:00 PM 750	Warrant 1 -	Fight-Hour Vehicular	Volume			
Number of lanes of moving traffic for moving traffic on each approach: Major Street: 1 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 -1:00 AM 0 12:00 -1:00 PM 399 1:00 - 2:00 AM 0 12:00 -1:00 PM 399 2:00 -3:00 AM 0 2:00 -3:00 PM 399 2:00 -3:00 AM 0 3:00 -4:00 PM 399 4:00 -5:00 AM 0 5:00 -6:00 PM 6 5:00 -6:00 AM 0 5:00 -6:00 PM 0 6:00 -7:00 AM 0 5:00 -9:00 PM 0 7:00 -8:00 AM 550 7:00 -8:00 PM 0 7:00 -8:00 AM 399 8:00 -9:00 PM 0 9:00 -10:00AM 399 9:00 -10:00PM 0 10:00 -11:00 AM 399 10:00 -11:00 PM 0 10:00 -10:00AM 399 10:00 -10:00PM 0 10:00 -2:00 AM 0 12:00 -1:00 PM 750 10:00 -2:00 AM 0 12:00 -1:00 PM 750 10:00 -2:00 AM 0 3:00 -4:00 PM	Warrant 1		Volume			
Major Gracet. Immo Gracet. Immo Gracet. Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 399 1:00 - 2:00 AM 0 2:00 - 3:00 PM 399 399 300 4:00 AM 0 2:00 - 3:00 PM 399 2:00 - 3:00 AM 0 2:00 - 3:00 PM 399 3:00 4:00 AM 0 3:00 - 4:00 PM 399 4:00 - 5:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 399 8:00 - 9:00 PM 0 0 0:00 - 1:00 PM 0 0 0:00 - 1:00 PM 0 1:00 - 1:1:00 PM 0 1:1:00 - 1:1:00 AM 399 1:0:00 - 1:0:0 PM 0 1:1:00 - 1:0:0 AM 0 1:2:00 - 1:0:0 PM 0 1:2:00 - 1:0:0 PM 0 1:2:00 - 1:0:0 AM 0 1:2:00 - 1:0:0 PM 750 1:0:0 - 2:0:0 AM 0 1:0:0 - 2:0:0 PM 0 1:0:0:0 - 1:0:0 AM 0 1:0:0 - 1:0:0 AM 1:0:0 - 1:0:0 PM 0 1:0		Number of lanes of m	oving traffic	for moving traffic on e	each approa	ach:
Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 PM 399 12:00 - 1:00 AM 0 1:00 - 2:00 PM 399 1:00 - 2:00 AM 0 1:00 - 2:00 PM 399 1:00 - 5:00 AM 0 3:00 - 4:00 PM 399 1:00 - 5:00 AM 0 4:00 PM 399 4:00 - 5:00 AM 0 6:00 - 7:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 0 6:00 - 7:00 PM 0 9:00 - 10:00AM 399 9:00 - 10:00PM 0 9:00 - 11:00 AM 399 9:00 - 11:00 PM 0 11:00 - 12:00 PM 399 11:00 - 12:00 PM 750 10:00 - 2:00 AM 0 1:00 - 2:00 PM 750 10:00 - 2:00 AM 0 1:00 - 2:00 PM 750 10:00 - 10:00 AM 0 3:00 - 4:00 PM 750 10:00 - 10:00 AM 0 3:00 - 4:00 PM 750 10:00 - 10:00 AM 0 5:00 PM 1270 5:00 AM 0			1		Z	_
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1:00 - 2:00 AM 0 1:00 - 2:00 PM 399 2:00 - 3:00 AM 0 2:00 - 3:00 PM 399 3:00 -4:00 AM 0 3:00 -4:00 PM 399 4:00 - 5:00 AM 0 4:00 - 5:00 PM 0 6:00 -7:00 AM 0 6:00 -7:00 PM 0 7:00 -8:00 AM 550 7:00 -8:00 PM 0 8:00 -9:00 AM 399 8:00 -9:00 PM 0 9:00 -10:00AM 399 9:00 - 10:00PM 0 10:00 - 11:00 AM 399 10:00 - 11:00 PM 0 11:00 - 12:00 PM 399 11:00 - 12:00 PM 0 Vehicles per hour on higher-volume minor street approach (one direction only): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 750 1:00 - 2:00 AM 0 12:00 - 1:00 PM 750 1:00 - 2:00 AM 0 1:00 - 2:00 PM 0 2:00 - 3:00 AM 0 1:00 - 2:00 PM 750 1:00 - 5:00 AM 0 1:00 - 1:20 1:00 - 1:20 1:00 - 1:20 1:00 - 1:20 1:00 - 1:20 1:00 - 1:20 1:00 - 1:20 1:00 - 1:20 1:00 - 1:20 1:00 - 1:00 1:00 - 1:00 1:00 - 1:		12:00 - 1:00 AM	0	12:00 - 1:00 PM	´ 399	
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6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 399 8:00 - 9:00 PM 0 8:00 - 9:00 AM 399 9:00 - 10:00PM 0 10:00 - 10:00AM 399 9:00 - 10:00PM 0 10:00 - 11:00 AM 399 10:00 - 11:00 PM 0 11:00 - 12:00 PM 399 11:00 - 12:00 PM 0 Vehicles per hour on higher-volume minor street approach (one direction only): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 750 10:00 - 2:00 AM 0 12:00 - 3:00 PM 750 2:00 - 3:00 AM 0 2:00 - 3:00 PM 750 3:00 - 4:00 AM 0 2:00 - 5:00 PM 750 3:00 - 4:00 AM 0 3:00 - 4:00 PM 750 4:00 - 5:00 AM 0 6:00 - 7:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 990 7:00 - 8:00 PM 0 9:00 - 10:00AM 750 9:00 - 10:00PM 0 9:00 - 10:00AM 750 9:00 - 10:00PM 0 9:00 - 10:00AM 750		5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
7:00 - 8:00 AM 550 7:00 - 8:00 PM 0 8:00 - 9:00 AM 399 8:00 - 9:00 PM 0 9:00 - 11:00 AM 399 9:00 - 10:00PM 0 10:00 - 11:00 AM 399 10:00 - 11:00 PM 0 11:00 - 12:00 PM 399 11:00 - 12:00 PM 0 Vehicles per hour on higher-volume minor street approach (one direction only): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 750 1:00 - 2:00 AM 0 12:00 - 1:00 PM 750 750 750 750 1:00 - 2:00 AM 0 12:00 - 1:00 PM 750 750 750 750 2:00 - 1:00 AM 0 12:00 - 1:00 PM 750 750 750 750 2:00 - 3:00 AM 0 2:00 - 3:00 PM 750 8:00 PM 0		6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
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Vehicles per hour on higher-volume minor street approach (one direction only): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 750 1:00 - 2:00 AM 0 1:00 - 2:00 PM 750 2:00 - 3:00 AM 0 2:00 - 3:00 PM 750 3:00 - 4:00 AM 0 3:00 - 4:00 PM 750 3:00 - 4:00 AM 0 3:00 - 4:00 PM 750 4:00 - 5:00 AM 0 4:00 - 5:00 PM 1270 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 990 7:00 - 8:00 PM 0 8:00 - 9:00 AM 750 8:00 - 9:00 PM 0 9:00 - 10:00AM 750 9:00 - 10:00PM 0 9:00 - 11:00 AM 750 10:00 - 11:00 PM 0 11:00 - 12:00 PM 750 11:00 - 12:00 PM 0 11:00 - 12:00 PM 750 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? No B. Is the Interruption of Continuous Traffic M		11:00 - 12:00 PM	399	11:00 - 12:00 PM	0	
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6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 990 7:00 - 8:00 PM 0 8:00 - 9:00 AM 750 8:00 - 9:00 PM 0 9:00 - 10:00AM 750 9:00 - 10:00PM 0 9:00 - 11:00 AM 750 10:00 - 11:00 PM 0 10:00 - 11:00 AM 750 10:00 - 11:00 PM 0 11:00 - 12:00 PM 750 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? No B. Is the Interruption of Continuous Traffic Met? No (Use only when Conditions A and B are both not satisified) No		5·00 - 6·00 ΔM	0	5:00 - 6:00 PM	0	
7:00 - 8:00 AM 990 7:00 - 8:00 PM 0 8:00 - 9:00 AM 750 8:00 - 9:00 PM 0 9:00 - 10:00AM 750 9:00 - 10:00PM 0 10:00 - 11:00 AM 750 10:00 - 11:00 PM 0 11:00 - 12:00 PM 750 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? No B. Is the Interruption of Continuous Traffic Met? No (Use only when Conditions A and B are both not satisified) No		6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
A. Is the Minimum Vehicular Volume Warrant Met? No B. Is the Interruption of Continuous Traffic Met? No Combination of Warrants A and B are both not satisified) No		7·00 - 8·00 ΔΜ	990	7:00 - 8:00 PM	0	
9:00 - 10:00AM 750 9:00 - 10:00PM 0 10:00 - 11:00 AM 750 10:00 - 11:00 PM 0 11:00 - 12:00 PM 750 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? No B. Is the Interruption of Continuous Traffic Met? No Combination of Warrants A and B Criteria Met? No (Use only when Conditions A and B are both not satisified)		8·00 - 0.00 ΔM	750	8.00 - 0.00 T M	0	
10:00 - 11:00 AM 750 10:00 - 11:00 PM 0 11:00 - 12:00 PM 750 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? No B. Is the Interruption of Continuous Traffic Met? No Combination of Warrants A and B Criteria Met? No (Use only when Conditions A and B are both not satisified) No		9·00 - 10·00ΔM	750	0.00 - 0.00 T M	0	
10:00 - 11:00 - 12:00 PM 750 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? No B. Is the Interruption of Continuous Traffic Met? No Combination of Warrants A and B Criteria Met? No (Use only when Conditions A and B are both not satisified) No		10·00 - 11·00 ΔM	750	10.00 - 10.001 M	0	
Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? No B. Is the Interruption of Continuous Traffic Met? No Combination of Warrants A and B Criteria Met? No (Use only when Conditions A and B are both not satisified)		11:00 - 12:00 PM	750	11:00 - 12:00 PM	0	
A. Is the Minimum Vehicular Volume Warrant Met? No B. Is the Interruption of Continuous Traffic Met? No Combination of Warrants A and B Criteria Met? No (Use only when Conditions A and B are both not satisified)		le the intersection usi	na the roduc	ed volume critoria bac	ed on enc	ed
A. Is the Minimum Vehicular Volume Warrant Met?NoB. Is the Interruption of Continuous Traffic Met?NoCombination of Warrants A and B Criteria Met?No(Use only when Conditions A and B are both not satisified)No		or population?	No			
B. Is the Interruption of Continuous Traffic Met? No Combination of Warrants A and B Criteria Met? No (Use only when Conditions A and B are both not satisified) No		A. Is the Minimu	n Vehicul	ar Volume Warra	nt Met?	No
Combination of Warrants A and B Criteria Met? No		B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	Νο
(Use only when Conditions A and B are both not satisified)		Combination of V	Narrante	Δ and B Criteria	Met?	No
		(Use only when Cond	itions A and	B are both not satisifi	ed)	

Intersection: W. 12th Street and Bullock Street City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.

for Urban Locations - Warrant 3B 1400 Two or more on both streets Two or more on one street, one on 1200 the other One on both streets 1000 Minor Street Vehicles per hour 800 600 400 200 0 0 200 400 600 800 1000 1200 1400 1600 1800 2000 Major Street Vehicles per Hour Is Peak Hour Volume Warrant Met? No

Peak Hour volume warrant - Major and Minor Streets

Intersection:	W. 12th Street and Jillians Way	
City/State:	Covington, KY	
Date:	7/8/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	1140		630	780	2550	1140	1410
8:00 - 9:00 AM	909		254	440	1603	909	694
9:00 - 10:00AM	909		254	440	1603	909	694
10:00 - 11:00 AM	909		254	440	1603	909	694
11:00 - 12:00 PM	909		254	440	1603	909	694
12:00 - 1:00 PM	909		254	440	1603	909	694
1:00 - 2:00 PM	909		254	440	1603	909	694
2:00 - 3:00 PM	909		254	440	1603	909	694
3:00 - 4:00 PM	909		254	440	1603	909	694
4:00 - 5:00 PM	1200		260	660	2120	1200	920
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	9612	0	2922	4960	17494	9612	7882

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manı Works	ual of Unifesheet for S	orm Traffic Conti Signal Warrants (rol Devic	es 4C)
	F	Prepared b	y Parsons Brinc	kerhoff	
Intersection City/State: Date	: W. 12th Street and Ji Covington, KY 7/8/2010	llians Way	Performed by:	AMW	
Warrant 1 -	Fight-Hour Vehicular	Volume			
<u>vvariant i -</u>		Volume			
	Number of lanes of m	oving traffic	for moving traffic on e	each approa	ach:
	Major Street:	2	Minor Street:	3	_
	Vehicles per hour on	maior street	(total of both approac	hes)	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	694	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	694	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	694	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	694	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	920	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	1410	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	694	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	694	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	694	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	694	11:00 - 12:00 PM	0	
	venicies per nour on	nigner-volum	le minor street approa		ection only):
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	909	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	909	
	2.00 - 3.00 AIVI	0	2:00 - 3:00 PM	909	
	3.00 - 4.00 AN	0	3.00 - 4.00 PM	909 1200	
	4.00 - 5.00 AM	0	4.00 - 5.00 PM	1200	
	5.00 - 0.00 AM	0	5.00 - 0.00 PM	0	
	7:00 8:00 AM	1140	7:00 - 7:00 PM	0	
	7.00 - 0.00 AM	000	8.00 - 8.00 PM	0	
	0.00 - 9.00 AW	909	0.00 - 9.00 FM	0	
	10.00 - 11.00 AM	909	10.00 - 11.00 PM	0	
	11:00 - 12:00 PM	909	11:00 - 12:00 PM	0	
	Is the intersection usi or population?	ng the reduc	ed volume criteria bas	sed on spee	ed
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Yes
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	No
	Combination of	Norrante	A and B Cuitaria	Mot 2	No
	(Use only when Cond	itions A and	A and B Criteria I B are both not satisifi	viet : ed)	NO

Intersection: W. 12th Street and Jillians Way City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Kyles Lane and I-71/75 SB Ramps				
City/State:	Covington, KY				
Date:	7/8/2010	Performed By: AMW			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		690	810	850	2350	690	1660
8:00 - 9:00 AM		591	595	690	1876	591	1285
9:00 - 10:00AM		591	595	690	1876	591	1285
10:00 - 11:00 AM		591	595	690	1876	591	1285
11:00 - 12:00 PM		591	595	690	1876	591	1285
12:00 - 1:00 PM		591	595	690	1876	591	1285
1:00 - 2:00 PM		591	595	690	1876	591	1285
2:00 - 3:00 PM		591	595	690	1876	591	1285
3:00 - 4:00 PM		591	595	690	1876	591	1285
4:00 - 5:00 PM		1140	970	1150	3260	1140	2120
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	6558	6540	7520	20618	6558	14060

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? <u>No</u>

Nergared by Parsons Brinckerhoff Intersection: Kyles Lane and I-71/75 SB Ramps City/State: Covington, KY Date 7/8/2010 Performed by: AMW Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 1285 3:00 - 2:00 AM 0 2:00 - 3:00 PM 1285 3:00 - 4:00 AM 0 3:00 - 4:00 PM 1285 3:00 - 4:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 1285 8:00 - 9:00 PM 0 8:00 - 9:00 AM 1285 8:00 - 9:00 PM 0 1:00 - 1:100 AM 1285 9:00 - 11:00 PM 0 1:00 - 1:100 AM 1285 1:00 - 11:00 PM 0 1:00 - 1:00 AM 0 1:200 - 11:00 PM 0 1:00 - 1:00 AM 0 1:200 - 11:00 PM 0 1:00 - 1:00 AM 0 1:200 - 11:00 PM 0 1:00 - 1:00 AM 0 1:200 - 1:00 PM 591 1:00 - 2:00 PM 0 1:00 - 2:00 PM 0 1:00 - 2:00 PM 0 1:00 - 1:00 AM 0 3:00 - 4:00 PM 10 1:00 - 2:00 PM 591 1:00 - 1:00 AM 0 5:00 - 6:00 PM 0 1:00 - 1:00 AM 0 5:00 - 6:00 PM 0 1:00 - 1:00 AM 0 5:00 - 6:00 PM 0 1:00 - 1:00 AM 0 5:00 - 6:00 PM 591 1:00 - 1:00 AM 0 5:00 - 6:00 PM 0 1:00 - 1:00 AM 0 5:00 - 6:00 PM 0 1:00 - 1:00 AM 0 5:00 - 7:00 PM 0 1:00 - 1:00 AM 0 5:00 - 7:00 PM 0 1:00 - 1:00 AM 591 9:00 - 10:00PM 0 1:00 - 1:00		Manu Work	ual of Unif	orm Traffic Conti Signal Warrants (rol Devic	es 4C)
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11:00 - 12:00 PM 12:03 11:00 - 12:00 PM 0 Vehicles per hour on higher-volume minor street approach (one direction only): 12:00 - 1:00 PM 591 1:00 - 2:00 AM 0 1:00 - 2:00 PM 591 2:00 - 3:00 AM 0 2:00 - 3:00 PM 591 3:00 - 4:00 AM 0 2:00 - 3:00 PM 591 3:00 - 4:00 AM 0 3:00 - 4:00 PM 591 4:00 - 5:00 AM 0 4:00 - 5:00 PM 591 4:00 - 5:00 AM 0 4:00 - 5:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 690 7:00 - 8:00 PM 0 8:00 - 9:00 AM 591 8:00 - 9:00 PM 0 9:00 - 10:00AM 591 9:00 - 10:00PM 0 10:00 - 11:00 AM 591 10:00 - 11:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No <td></td> <td>10:00 - 11:00 AM</td> <td>1280</td> <td>10:00 - 11:00 PM</td> <td>0</td> <td></td>		10:00 - 11:00 AM	1280	10:00 - 11:00 PM	0	
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12:00 - 1:00 AM 0 12:00 - 1:00 PM 591 1:00 - 2:00 AM 0 1:00 - 2:00 PM 591 2:00 - 3:00 AM 0 2:00 - 3:00 PM 591 3:00 - 4:00 AM 0 3:00 - 4:00 PM 591 3:00 - 4:00 AM 0 3:00 - 4:00 PM 591 4:00 - 5:00 AM 0 4:00 - 5:00 PM 591 4:00 - 5:00 AM 0 4:00 - 5:00 PM 0 6:00 - 7:00 AM 0 6:00 PM 0 7:00 - 8:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 690 7:00 - 8:00 PM 0 8:00 - 9:00 AM 591 9:00 - 10:00PM 0 9:00 - 10:00AM 591 9:00 - 10:00PM 0 10:00 - 11:00 AM 591 10:00 - 11:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes <td></td> <td>Vehicles per hour on</td> <td>higher-volum</td> <td>e minor street annros</td> <td>ach (ana dir</td> <td>ection only):</td>		Vehicles per hour on	higher-volum	e minor street annros	ach (ana dir	ection only):
1:00 - 1:00 AM 0 1:00 - 2:00 FM 391 1:00 - 2:00 AM 0 1:00 - 2:00 PM 591 2:00 - 3:00 AM 0 2:00 - 3:00 PM 591 3:00 - 4:00 AM 0 3:00 - 4:00 PM 591 4:00 - 5:00 AM 0 4:00 - 5:00 PM 1140 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 690 7:00 - 8:00 PM 0 8:00 - 9:00 AM 591 8:00 - 9:00 PM 0 9:00 - 10:00AM 591 9:00 - 10:00PM 0 10:00 - 11:00 AM 591 9:00 - 10:00PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes (Incombination of Warrants A and B Criteria Met?					501 (UNE UN	ection only).
1:00 - 2:00 - 3:00 PM 0 2:00 - 3:00 PM 591 2:00 - 3:00 AM 0 3:00 - 4:00 PM 591 3:00 - 4:00 AM 0 3:00 - 4:00 PM 591 4:00 - 5:00 AM 0 4:00 - 5:00 PM 1140 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 690 7:00 - 8:00 PM 0 8:00 - 9:00 AM 591 8:00 - 9:00 PM 0 9:00 - 10:00AM 591 9:00 - 10:00PM 0 9:00 - 11:00 AM 591 10:00 - 11:00 PM 0 10:00 - 11:00 AM 591 10:00 - 12:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		12.00 - 1.00 AM	0	1:00 - 2:00 PM	501	
3:00 - 4:00 AM 0 3:00 - 4:00 PM 591 4:00 - 5:00 AM 0 4:00 - 5:00 PM 1140 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 690 7:00 - 8:00 PM 0 8:00 - 9:00 AM 591 8:00 - 9:00 PM 0 9:00 - 10:00AM 591 9:00 - 10:00PM 0 9:00 - 10:00AM 591 9:00 - 10:00PM 0 10:00 - 11:00 AM 591 10:00 - 11:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		2:00 - 2:00 AM	0	2.00 - 2.00 PM	501	
4:00 - 5:00 AM 0 4:00 - 5:00 PM 1140 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 690 7:00 - 8:00 PM 0 8:00 - 9:00 AM 591 8:00 - 9:00 PM 0 9:00 - 10:00AM 591 9:00 - 10:00PM 0 10:00 - 11:00 AM 591 10:00 - 11:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes (Use onlymbra Conditions A and B Criteria Met? Yes		2:00 - 3:00 AM	0	2:00 - 3:00 F M 3:00 - 4:00 PM	501	
5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 690 7:00 - 8:00 PM 0 8:00 - 9:00 AM 591 8:00 - 9:00 PM 0 9:00 - 10:00AM 591 9:00 - 10:00PM 0 9:00 - 11:00 AM 591 10:00 - 11:00 PM 0 10:00 - 11:00 AM 591 11:00 - 12:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes (Use aphymber Conditions A and B criteria Met? Yes		4·00 - 5·00 ΔM	0	4.00 - 5.00 PM	1140	
6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 690 7:00 - 8:00 PM 0 8:00 - 9:00 AM 591 8:00 - 9:00 PM 0 9:00 - 10:00AM 591 9:00 - 10:00PM 0 10:00 - 11:00 AM 591 10:00 - 11:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Yes (Incombination of Warrants A and B Criteria Met? Yes		5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
7:00 - 8:00 AM 690 7:00 - 8:00 PM 0 8:00 - 9:00 AM 591 8:00 - 9:00 PM 0 9:00 - 10:00AM 591 9:00 - 10:00PM 0 10:00 - 11:00 AM 591 10:00 - 11:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes (Incombination of Warrants A and B Criteria Met? Yes		6·00 - 7·00 ΔM	0	6:00 - 7:00 PM	0	
A:00 - 0:00 AM 591 8:00 - 9:00 PM 0 9:00 - 10:00AM 591 9:00 - 10:00PM 0 10:00 - 11:00 AM 591 10:00 - 11:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		7:00 - 8:00 AM	690	7:00 - 8:00 PM	0	
9:00 - 10:00 AM 591 9:00 - 10:00 PM 0 10:00 - 11:00 AM 591 10:00 - 11:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		8·00 - 9·00 ΔM	590	8.00 - 0.00 T M	0	
10:00 - 11:00 AM 591 10:00 - 11:00 PM 0 11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		9·00 - 10·00ΔM	591	9.00 - 3.00 T M	0	
11:00 - 12:00 PM 591 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		10.00 - 10.00AM	501	10.00 - 11.00 PM	0	
Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		11:00 - 12:00 PM	591	11:00 - 12:00 PM	0	
A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		Is the intersection usi	ng the reduc	ed volume criteria bas	sed on spee	ed
A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		or population?	No			
B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		A. Is the Minimu	m Vehicul	ar Volume Warra	nt Met?	Yes
Combination of Warrants A and B Criteria Met? Yes		B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	Yes
(Lee only when Conditions A and D are both not estimized)		Combination of	Warrante	A and B Critoria	Mot2	Voc
USE ONV WHEN CONDITIONS A AND B ARE NOT NOT SATISTIED)		(Use only when Conc	litions A and	B are both not satisifi	ed)	1 (3

Intersection: Kyles Lane and I-71/75 SB Ramps City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Kyles Lane and I-71/75 NB Ramp	05
City/State:	Covington, KY	
Date:	7/8/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	440		1120	1660	3220	440	2780
8:00 - 9:00 AM	394		863	959	2216	394	1822
9:00 - 10:00AM	394		863	959	2216	394	1822
10:00 - 11:00 AM	394		863	959	2216	394	1822
11:00 - 12:00 PM	394		863	959	2216	394	1822
12:00 - 1:00 PM	394		863	959	2216	394	1822
1:00 - 2:00 PM	394		863	959	2216	394	1822
2:00 - 3:00 PM	394		863	959	2216	394	1822
3:00 - 4:00 PM	394		863	959	2216	394	1822
4:00 - 5:00 PM	720		1460	1320	3500	720	2780
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	4312	0	9484	10652	24448	4312	20136

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manu	al of Unif	orm Traffic Cont	rol Devic	es	
	Works	Sheet for S Prenared b	Signal Warrants (Section 4	4C)	
	•			Kernon		
Intersection	: Kyles Lane and I-71/7	75 NB Ramp	S			
City/State:			Dorformod by:	A N // A /		
Dale	778/2010		Performed by.	AIVIVV		
Warrant 1 -	Eight-Hour Vehicular	· Volume				
	Number of lense of m	oving troffic	for moving troffic on a	ach annra	a h	
	Major Stroot:		Minor Stroot:	acii appioa	acii.	
		2		Z	_	
	Vehicles per hour on	major street	(total of both approac	hes):		
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	1822		
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	1822		
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	1822		
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	1822		
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	2780		
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0		
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0		
	7:00 - 8:00 AM	2780	7:00 - 8:00 PM	0		
	8:00 - 9:00 AM	1822	8:00 - 9:00 PM	0		
	9:00 - 10:00AM	1822	9:00 - 10:00PM	0		
	10:00 - 11:00 AM	1822	10:00 - 11:00 PM	0		
	11:00 - 12:00 PM	1822	11:00 - 12:00 PM	0		
	Vehicles per hour on	hiaher-volum	e minor street approa	ach (one dir	rection only):	
	12.00 - 1.00 AM	0	12.00 - 1.00 PM	394		
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	394		
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	394		
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	394		
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	720		
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0		
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0		
	7.00 - 8.00 AM	440	7:00 - 8:00 PM	0		
	8:00 - 9:00 AM	394	8:00 - 9:00 PM	Õ		
	9:00 - 10:00AM	394	9:00 - 10:00PM	Õ		
	10:00 - 11:00 AM	394	10:00 - 11:00 PM	0		
	11:00 - 12:00 PM	394	11:00 - 12:00 PM	0		
	Is the intersection usi	na the reduc	ed volume criteria bas	sed on spec	be	
	or population?	No				
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Yes	
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	Yes	
	- · · · · · · · · · · · · · · · · · · ·					
	Combination of	Narrants /	A and B Criteria	Met?	Yes	
	(Use only when Cond	itions A and	B are both not satisified	ed)		

Intersection: Kyles Lane and I-71/75 NB Ramps City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Dixie Highway and I-71/75 SB Ra	amps
City/State:	Covington, KY	
Date:	7/8/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		190	660	1510	2360	190	2170
8:00 - 9:00 AM		272	601	863	1736	272	1464
9:00 - 10:00AM		272	601	863	1736	272	1464
10:00 - 11:00 AM		272	601	863	1736	272	1464
11:00 - 12:00 PM		272	601	863	1736	272	1464
12:00 - 1:00 PM		272	601	863	1736	272	1464
1:00 - 2:00 PM		272	601	863	1736	272	1464
2:00 - 3:00 PM		272	601	863	1736	272	1464
3:00 - 4:00 PM		272	601	863	1736	272	1464
4:00 - 5:00 PM		680	1170	740	2590	680	1910
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	3046	6638	9154	18838	3046	15792

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manu Works F	ual of Unif sheet for S Prepared b	orm Traffic Cont Signal Warrants (V Parsons Brinc	rol Devic Section 4 kerhoff	es 4C)	
Intersection	Divio Highway and L	71/75 SP Por	<u>, , , , , , , , , , , , , , , , , , , </u>			
City/State:	Covington KY	1/15 SD Rai	nps			
Date	7/8/2010		Performed by:			
Date	110/2010		r chonned by.			
Warrant 1 -	Eight-Hour Vehicular	<u>Volume</u>				
	Number of lanes of m	oving traffic	for moving traffic on e	each approa	ach:	
	Major Street:	2	Minor Street:	2	_	
	Vehicles per hour on	major street	(total of both approac	hes):		
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	1464		
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	1464		
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	1464		
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	1464		
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1910		
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0		
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0		
	7:00 - 8:00 AM	2170	7:00 - 8:00 PM	0		
	8:00 - 9:00 AM	1464	8:00 - 9:00 PM	0		
	9:00 - 10:00AM	1464	9:00 - 10:00PM	0		
	10:00 - 11:00 AM	1464	10:00 - 11:00 PM	0		
	11:00 - 12:00 PM	1464	11:00 - 12:00 PM	0		
	Vehicles per hour on	higher-volum	e minor street annroa	ach (one dir	rection only).	
				272 272	cettori ority).	
	1.00 - 2.00 AM	0	1:00 - 2:00 PM	272		
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	272		
	3:00 - 4:00 AM	õ	3:00 - 4:00 PM	272		
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	680		
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0		
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0		
	7:00 - 8:00 AM	190	7:00 - 8:00 PM	0		
	8:00 - 9:00 AM	272	8:00 - 9:00 PM	0		
	9:00 - 10:00AM	272	9:00 - 10:00PM	0		
	10:00 - 11:00 AM	272	10:00 - 11:00 PM	0		
	11:00 - 12:00 PM	272	11:00 - 12:00 PM	0		
	Is the intersection usi	na the reduc	ed volume criteria bas	sed on spee	ed	
	or population?	No		·		
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Yes	
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	Yes	
	Combination of V	Warrante	A and B Criteria	Met?	Yes	
	(Use only when Cond	litions A and	B are both not satisifi	ed)	100	

Intersection: Dixie Highway and I-71/75 SB Ramps City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	Dixie Highway and I-71/75 NB Ra	amps
City/State:	Covington, KY	
Date:	7/8/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	280		540	2110	2930	280	2650
8:00 - 9:00 AM	248		550	977	1775	248	1527
9:00 - 10:00AM	248		550	977	1775	248	1527
10:00 - 11:00 AM	248		550	977	1775	248	1527
11:00 - 12:00 PM	248		550	977	1775	248	1527
12:00 - 1:00 PM	248		550	977	1775	248	1527
1:00 - 2:00 PM	248		550	977	1775	248	1527
2:00 - 3:00 PM	248		550	977	1775	248	1527
3:00 - 4:00 PM	248		550	977	1775	248	1527
4:00 - 5:00 PM	380		1210	810	2400	380	2020
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	2644	0	6150	10736	19530	2644	16886

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manı Works	ual of Unifesheet for S	orm Traffic Conti Signal Warrants (rol Devic	es 4C)
	F	Prepared b	y Parsons Brinc	kerhoff	
Intersection: City/State:	: Dixie Highway and I- Covington, KY	71/75 NB Rar	nps		
Date	7/8/2010		Performed by:	AMW	
Warrant 1 -	Eight-Hour Vehicula	<u>r Volume</u>			
	Number of lanes of m	noving traffic	for moving traffic on e	each approa	ach:
	Major Street:	2	Minor Street:	2	
	-				
	Vehicles per hour on	major street	(total of both approac	hes):	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	1527	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	1527	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	1527	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	1527	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	2020	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	2650	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	1527	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	1527	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	1527	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	1527	11:00 - 12:00 PM	0	
	Vehicles per hour on	higher-volum	e minor street annros	ach (one dir	ection only):
					ection only).
	12.00 - 1.00 AM	0	1:00 - 2:00 PM	240	
	2:00 - 2:00 AM	0	2:00 - 2:00 PM	240	
	2:00 - 3:00 AM	0	2:00 - 3:00 T M	240	
	1:00 - 5:00 AM	0	1:00 - 5:00 PM	240	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 8:00 AM	280	7:00 - 7:00 F M	0	
	7.00 - 0.00 AM	200	8.00 - 8.00 PM	0	
	0.00 - 9.00 AM	240	0.00 - 9.00 T M	0	
	9.00 - 10.00AW	240	9.00 - 10.00F M	0	
	11:00 - 12:00 PM	248	11:00 - 12:00 PM	0	
	Is the intersection usi or population?	ng the reduce	ed volume criteria bas	sed on spee	ed
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Yes
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	Yes
	Combination of	Warrants A	A and B Criteria	Met?	Yes
	(Use only when Conc	litions A and	B are both not satisifi	ed)	

Intersection: Dixie Highway and I-71/75 NB Ramps City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	W. 9th Street and Jillians Way	
City/State:	Covington, KY	
Date:	7/8/2010	Performed By: AMW

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	340		200	300	840	340	500
8:00 - 9:00 AM	287		61	170	518	287	231
9:00 - 10:00AM	287		61	170	518	287	231
10:00 - 11:00 AM	287		61	170	518	287	231
11:00 - 12:00 PM	287		61	170	518	287	231
12:00 - 1:00 PM	287		61	170	518	287	231
1:00 - 2:00 PM	287		61	170	518	287	231
2:00 - 3:00 PM	287		61	170	518	287	231
3:00 - 4:00 PM	287		61	170	518	287	231
4:00 - 5:00 PM	310		120	310	740	310	430
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	2946	0	808	1970	5724	2946	2778

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No
	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C)						
	F	Prepared k	by Parsons Brinc	kerhoff			
Intersection City/State: Date	: W. 9th Street and Jilli Covington, KY 7/8/2010	ans Way	Performed by:	AMW			
			,				
Warrant 1 -	Eight-Hour Vehicular	<u>Volume</u>					
	Number of lanes of m	ovina traffic	for moving traffic on e	ach annro:	ach.		
	Major Street:		Minor Street:	3			
		•			—		
	Vehicles per hour on	major street	(total of both approac	hes):			
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	231			
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	231			
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	231			
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	231			
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	430			
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7:00 - 8:00 AM	500	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	231	8:00 - 9:00 PM	0			
	9:00 - 10:00AM	231	9:00 - 10:00PM	0			
	10:00 - 11:00 AM	231	10:00 - 11:00 PM	0			
	11:00 - 12:00 PM	231	11:00 - 12:00 PM	0			
					<i>e</i> 1 X		
	Vehicles per hour on	higher-volun	ne minor street approa	ach (one di	ection only):		
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	287			
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	287			
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	287			
	3.00 - 4.00 AM	0	3.00 - 4.00 PIVI	207			
	4.00 - 5.00 AN	0	4.00 - 5.00 FM	0			
	5.00 - 0.00 AW	0	5.00 - 0.00 FIM	0			
	0.00 - 7.00 AN	240	7:00 9:00 PM	0			
	7.00 - 0.00 AIVI 8:00 0:00 AM	340 297	7.00 - 0.00 FIVI 8:00 0:00 PM	0			
	9.00 - 9.00 AM	207	0.00 - 9.00 FM	0			
	10.00 - 11.00 AM	207	10.00 - 10.001 M	0			
	11:00 - 12:00 PM	287	11:00 - 12:00 PM	0			
	Is the intersection usi or population?	ng the reduc No	ed volume criteria bas	sed on spee	ed		
	A. Is the Minimu	n Vehicul	ar Volume Warra	nt Met?	Νο		
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	Νο		
	Combination of	Narrants .	A and B Criteria I	Met?	No		
	(Use only when Cond	itions A and	B are both not satisifi	ed)			

Intersection: W. 9th Street and Jillians Way City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.

Peak Hour volume warrant - Major and Minor Streets for Urban Locations - Warrant 3B



Intersection:	W. 9th Street and Bullock Street				
City/State:	Covington, KY				
Date:	7/8/2010	Performed By: AMW			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		800	240	250	1290	800	490
8:00 - 9:00 AM		536	114	155	805	536	269
9:00 - 10:00AM		536	114	155	805	536	269
10:00 - 11:00 AM		536	114	155	805	536	269
11:00 - 12:00 PM		536	114	155	805	536	269
12:00 - 1:00 PM		536	114	155	805	536	269
1:00 - 2:00 PM		536	114	155	805	536	269
2:00 - 3:00 PM		536	114	155	805	536	269
3:00 - 4:00 PM		536	114	155	805	536	269
4:00 - 5:00 PM		1180	250	260	1690	1180	510
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	6268	1402	1750	9420	6268	3152

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? <u>No</u>

	Manu Works	al of Unif	orm Traffic Cont Signal Warrants (rol Devic Section	es 4C)
	F	Prepared b	by Parsons Brinc	kerhoff	
Intersectior City/State: Date	n: W. 9th Street and Bul Covington, KY 7/8/2010	llock Street	Performed by:	AMW	
Warrant 1	- Eight-Hour Vehicular	· Volume			
			1		I-
	Number of lanes of m	ioving traffic	for moving traffic on e Minor Street	acn approa	acn:
		•			—
	Vehicles per hour on	major street	(total of both approac	hes):	
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	269	
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	269	
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	269	
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	269	
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	510	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0	
	7:00 - 8:00 AM	490	7:00 - 8:00 PM	0	
	8:00 - 9:00 AM	269	8:00 - 9:00 PM	0	
	9:00 - 10:00AM	269	9:00 - 10:00PM	0	
	10:00 - 11:00 AM	269	10:00 - 11:00 PM	0	
	11:00 - 12:00 PM	269	11:00 - 12:00 PM	0	
	Vahielee ner heur en		a minor atract annua	aab (ana dir	ention only).
	venicies per nour on	nigner-volum	1e minor street approa	ach (one air	ection only):
	12.00 - 1.00 AIVI	0	12.00 - 1.00 PM	500	
	1.00 - 2.00 AN	0	1.00 - 2.00 FM	530	
	2.00 - 3.00 AM	0	2.00 - 3.00 PM	536	
	3.00 - 4.00 AM	0	3.00 - 4.00 PM	1120	
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0	
	6·00 - 7·00 ΔM	0	6:00 - 7:00 PM	0	
	7·00 - 8·00 ΔM	800	7:00 - 8:00 PM	0	
	8·00 - 9·00 ΔM	536	8:00 - 9:00 PM	0	
	9.00 - 10.00AM	536	9.00 - 10.00PM	0	
	10.00 - 11.00 AM	536	10.00 - 11.00 PM	0 0	
	11:00 - 12:00 PM	536	11:00 - 12:00 PM	0	
	Is the intersection usi or population?	ng the reduc No	ed volume criteria bas	sed on spee	ed
	A. Is the Minimu	n Vehicul	ar Volume Warra	nt Met?	Νο
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	No
	Combination of	Nousets	A and D Cuitauia		No
	(Use only when Cond	itions A and	A and B Criteria I	viet : ed)	NO
		aono / anu	E are set not satisfil		

Intersection: W. 9th Street and Bullock Street City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.

Peak Hour volume warrant - Major and Minor Streets for Urban Locations - Warrant 3B



Intersection:	W. 5th Street and Jillians Way				
City/State:	Covington, KY				
Date:	7/8/2010	Performed By: AMW			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	560		780		1340	560	780
8:00 - 9:00 AM	340		585		925	340	585
9:00 - 10:00AM	340		585		925	340	585
10:00 - 11:00 AM	340		585		925	340	585
11:00 - 12:00 PM	340		585		925	340	585
12:00 - 1:00 PM	340		585		925	340	585
1:00 - 2:00 PM	340		585		925	340	585
2:00 - 3:00 PM	340		585		925	340	585
3:00 - 4:00 PM	340		585		925	340	585
4:00 - 5:00 PM	430		530		960	430	530
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	3710	0	5990	0	9700	3710	5990

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C)						
	F	repared b	y Parsons Brinc	kerhoff	•		
Intersection City/State: Date	i: W. 5th Street and Jilli Covington, KY 7/8/2010	ans Way	Performed by:	AMW			
Warrant 1 ·	- Eight-Hour Vehicular	Volume					
	Number of lanes of m	oving traffic	for moving traffic on e	each approa	ach:		
	Major Street.	Ζ	winor Street:	Z	_		
	Vehicles per hour on	maior street	(total of both approac	hes):			
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	585			
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	585			
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	585			
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	585			
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	530			
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7:00 - 8:00 AM	780	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	585	8:00 - 9:00 PM	0			
	9:00 - 10:00AM	585	9:00 - 10:00PM	0			
	10:00 - 11:00 AM	585	10:00 - 11:00 PM	0			
	11:00 - 12:00 PM	585	11:00 - 12:00 PM	0			
	Vahialaa nar haur an	highor volun	a minor streat approx	aab (ana dii	castion only):		
					ection only).		
	12.00 - 1.00 AM	0	12.00 - 1.00 PM	340			
	2:00 - 2:00 AM	0	2:00 - 2:00 PM	340			
	2.00 - 3.00 AM	0	2:00 - 3:00 PM	340			
	4·00 - 5·00 ΔM	0	4:00 - 5:00 PM	430			
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	-30 0			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7:00 - 8:00 AM	560	7:00 - 8:00 PM	0			
	8.00 - 9.00 AM	340	8:00 - 9:00 PM	0			
	9.00 - 10.00AM	340	9.00 - 10.00PM	0			
	10.00 - 11.00 AM	340	10:00 - 11:00 PM	0			
	11:00 - 12:00 PM	340	11:00 - 12:00 PM	0			
	Is the intersection usi or population?	ng the reduc No	ed volume criteria bas	sed on spe	ed		
	A. Is the Minimu	n Vehicul	ar Volume Warra	nt Met?	Νο		
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	No		
		Narrants A	A and B Criteria I	viet?	NO		
	(Use only when Cond	mons A and		eu)			

Intersection: W. 5th Street and Jillians Way City/State: Covington, KY

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.

Peak Hour volume warrant - Major and Minor Streets for Urban Locations - Warrant 3B



Intersection:	Findlay Street & Western Avenue				
City/State:	Cincinnati, Ohio				
Date:	7/8/2010	Performed By: JRL			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		670	140	110	920	670	250
8:00 - 9:00 AM		414	112	69	595	414	181
9:00 - 10:00AM		414	112	69	595	414	181
10:00 - 11:00 AM		414	112	69	595	414	181
11:00 - 12:00 PM		414	112	69	595	414	181
12:00 - 1:00 PM		414	112	69	595	414	181
1:00 - 2:00 PM		414	112	69	595	414	181
2:00 - 3:00 PM		414	112	69	595	414	181
3:00 - 4:00 PM		414	112	69	595	414	181
4:00 - 5:00 PM		410	250	80	740	410	330
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	4392	1286	742	6420	4392	2028

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff									
Intersection: City/State: Date	ntersection: Findlay Street & Western Avenue City/State: Cincinnati, Ohio Date 7/8/2010 Performed by: JRL								
Warrant 1 -	Eight-Hour Vehicular	· Volume							
	Number of longe of moving traffic for moving traffic an each approach.								
	Major Street:	2	_Minor Street:	1 1					
) -					
	venicies per nour on	major street (total of both approact	101): 101					
	12.00 - 1.00 AM	0	12.00 - 1.00 PIVI	101					
	1.00 - 2.00 AM	0	1.00 - 2.00 PIVI	101					
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	101					
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	101					
	4.00 - 5.00 AM	0	4.00 - 5.00 PIVI	330					
	5.00 - 6.00 AIVI	0	5.00 - 6.00 PIVI	0					
	0.00 - 7.00 AN	250	0.00 - 7.00 PIVI	0					
	7.00 - 0.00 AM	200	2.00 - 0.00 PIVI	0					
	0.00 - 9.00 AW	191	0.00 - 9.00 FM	0					
	9.00 - 10.00AM	101	9.00 - 10.00FM	0					
	11:00 - 11:00 AM	101	10.00 - 11.00 PM	0					
	11.00 - 12.00 FIVI	101	11.00 - 12.00 FIVI	0					
	Vehicles per hour on	higher-volum	e minor street annroa	ch (one dir	rection only):				
	12.00 - 1.00 AM	ngnei-volum 0	12.00 - 1.00 PM		ection only).				
	12.00 - 1.00 AM	0	1.00 - 2.00 PM	-1- Λ1Λ					
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	414					
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	414 414					
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	410					
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0					
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0					
	7:00 - 8:00 ΔM	670	7:00 - 8:00 PM	0					
	8·00 - 9·00 ΔM	41A	8:00 - 9:00 PM	0					
	9.00 - 10.00AM	414	9.00 - 3.00 T M	0					
	10·00 - 11·00 ΔM	414	10.00 - 11.00 PM	0					
	11:00 - 12:00 PM	414	11:00 - 12:00 PM	0					
	Is the intersection usi or population?	ng the reduce No	ed volume criteria bas	ed on spee	ed				
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Νο				
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	No				
	Combination of V	Warrants A	A and B Criteria M	/let?	Νο				



Intersection:	Findlay Street & Western Avenue				
City/State:	Cincinnati, Ohio				
Date:	7/8/2010	Performed By: JRL			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		270	220	120	610	270	340
8:00 - 9:00 AM		614	114	53	781	614	167
9:00 - 10:00AM		614	114	53	781	614	167
10:00 - 11:00 AM		614	114	53	781	614	167
11:00 - 12:00 PM		614	114	53	781	614	167
12:00 - 1:00 PM		614	114	53	781	614	167
1:00 - 2:00 PM		614	114	53	781	614	167
2:00 - 3:00 PM		614	114	53	781	614	167
3:00 - 4:00 PM		614	114	53	781	614	167
4:00 - 5:00 PM		350	200	70	620	350	270
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	5532	1332	614	7478	5532	1946

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

Intersection: Findlay Street & Western Avenue City/State: Cincinnati, Ohio Date 7/8/2010 Performed by: JRL Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Minor Street: 1 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 167 1:00 - 2:00 AM 0 1:00 - 2:00 PM 167 2:00 - 3:00 AM 0 2:00 - 3:00 PM 167 3:00 - 4:00 AM 0 3:00 - 4:00 PM 167 3:00 - 4:00 AM 0 3:00 - 4:00 PM 167 3:00 - 6:00 AM 0 6:00 - 7:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 0:00 - 10:00AM 167 9:00 - 10:00PM 0 0:00 - 11:00 AM 167 10:00 - 11:00 PM 0 10:00 - 11:00 AM 167 10:00 - 11:00 PM 0 11:00 - 12:00 PM 167 11:00 - 12:00 PM 0 10:00 - 10:00AM 0 12:00 - 1:00 P		Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff							
Warrant 1 - Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Minor Street: 1 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 PM 167 1:00 - 2:00 AM 0 12:00 - 1:00 PM 167 1:00 - 2:00 AM 0 2:00 - 3:00 PM 167 1:00 - 2:00 AM 0 2:00 - 3:00 PM 167 1:00 - 2:00 AM 0 3:00 - 4:00 PM 167 3:00 - 4:00 AM 0 3:00 - 4:00 PM 167 3:00 - 4:00 AM 0 5:00 F:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 6:00 - 7:00 AM 167 8:00 - 9:00 PM 0 9:00 - 10:00AM 167 9:00 - 10:00PM 0 11:00 - 12:00 PM 167 11:00 - 12:00 PM 0 11:00 - 12:00 PM 167 11:00 - 12:00 PM 0 11:00 - 12:00 PM 167 11:00 - 12:00 PM 0 10:00 - 11:00 AM 0 12:00 - 3:00 PM 0 <t< th=""><th>Intersection: City/State: Date</th><th>Findlay Street & We Cincinnati, Ohio 7/8/2010</th><th>stern Avenue</th><th>Performed by:</th><th>JRL</th><th></th><th></th></t<>	Intersection: City/State: Date	Findlay Street & We Cincinnati, Ohio 7/8/2010	stern Avenue	Performed by:	JRL				
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Major Street: 2 Minor Street: 1 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 167 1:00 - 2:00 AM 0 1:00 - 2:00 PM 167 1:00 - 2:00 AM 0 1:00 - 2:00 PM 167 3:00 - 4:00 AM 0 3:00 - 4:00 PM 167 1:00 - 5:00 AM 0 4:00 - 5:00 PM 167 4:00 - 5:00 AM 0 3:00 - 4:00 PM 167 1:00 - 2:00 PM 0 1:00 - 2:00 PM 167 4:00 - 5:00 AM 0 5:00 - 6:00 PM 0 0 1:00 - 2:00 PM 0 6:00 - 7:00 AM 0 5:00 - 6:00 PM 0 0 0 1:00 - 1:00 PM 0 9:00 - 10:00AM 167 9:00 - 10:00PM 0 0 1:00 - 12:00 PM 0 11:00 - 12:00 PM 167 11:00 - 12:00 PM 0 1 1:00 - 2:00 PM 614 1:00 - 2:00 AM 0 12:00 - 1:00 PM 614 1:00 - 2:00 PM 614 1:00 - 2:00 AM 0 3:00 - 4:00 PM 614 3:00 - 4:00 PM 614 1:00 - 2:00		Number of lanes of r	noving traffic f	or moving traffic on e	ach annros	ach:			
Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 167 1:00 - 2:00 AM 0 2:00 - 3:00 PM 167 2:00 - 3:00 AM 0 2:00 - 3:00 PM 167 3:00 - 4:00 AM 0 3:00 - 4:00 PM 167 3:00 - 4:00 AM 0 3:00 - 4:00 PM 167 4:00 - 5:00 AM 0 4:00 - 5:00 PM 0 6:00 - 7:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 340 7:00 - 8:00 PM 0 8:00 - 9:00 AM 167 8:00 - 9:00 PM 0 9:00 - 10:00AM 167 9:00 - 10:00PM 0 10:00 - 11:00 AM 167 10:00 - 11:00 PM 0 11:00 - 12:00 PM 167 11:00 - 12:00 PM 614 10:00 - 1:00 AM 0 12:00 - 1:00 PM 614 10:00 - 1:00 AM 0 3:00 - 4:00 PM 614 10:00 - 2:00 AM 0 3:00 - 6:00 PM 614 10:00 - 3:00 AM 0 3:00 - 6:00 PM		Major Street:	2	_Minor Street:	1				
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Vehicles per hour on higher-volume minor street approach (one direction only): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 614 1:00 - 2:00 AM 0 1:00 - 2:00 PM 614 2:00 - 3:00 AM 0 2:00 - 3:00 PM 614 3:00 - 4:00 AM 0 2:00 - 3:00 PM 614 3:00 - 4:00 AM 0 3:00 - 4:00 PM 614 4:00 - 5:00 AM 0 3:00 - 4:00 PM 614 4:00 - 5:00 AM 0 4:00 - 5:00 PM 350 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 270 7:00 - 8:00 PM 0 8:00 - 9:00 AM 614 8:00 - 9:00 PM 0 9:00 - 10:00AM 614 9:00 - 10:00PM 0 10:00 - 11:00 AM 614 10:00 - 11:00 PM 0 11:00 - 12:00 PM 614 11:00 - 12:00 PM 0 11:00 - 12:00 PM 614 11:00 - 12:00 PM 0		11.00 12.001 W	107	11.00 12.001 W	0				
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1:00 - 2:00 AM 0 1:00 - 2:00 PM 614 2:00 - 3:00 AM 0 2:00 - 3:00 PM 614 3:00 - 4:00 AM 0 3:00 - 4:00 PM 614 4:00 - 5:00 AM 0 4:00 - 5:00 PM 614 4:00 - 5:00 AM 0 4:00 - 5:00 PM 614 6:00 - 7:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 270 7:00 - 8:00 PM 0 8:00 - 9:00 AM 614 8:00 - 9:00 PM 0 9:00 - 10:00AM 614 9:00 - 10:00PM 0 10:00 - 11:00 AM 614 10:00 - 11:00 PM 0 11:00 - 12:00 PM 614 11:00 - 12:00 PM 0 11:00 - 12:00 PM 614 11:00 - 12:00 PM 0		12.00 - 1.00 AM	0	12.00 - 1.00 PM	614				
2:00 - 3:00 AM 0 2:00 - 3:00 PM 614 3:00 - 4:00 AM 0 3:00 - 4:00 PM 614 4:00 - 5:00 AM 0 4:00 - 5:00 PM 350 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 5:00 - 6:00 PM 0 7:00 - 8:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 270 7:00 - 8:00 PM 0 8:00 - 9:00 AM 614 8:00 - 9:00 PM 0 9:00 - 10:00AM 614 9:00 - 10:00PM 0 10:00 - 11:00 AM 614 10:00 - 11:00 PM 0 11:00 - 12:00 PM 614 11:00 - 12:00 PM 0 11:00 - 12:00 PM 614 11:00 - 12:00 PM 0		1:00 - 2:00 AM	0	1:00 - 2:00 PM	614				
3:00 - 4:00 AM 0 3:00 - 4:00 PM 614 4:00 - 5:00 AM 0 4:00 - 5:00 PM 350 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 270 7:00 - 8:00 PM 0 8:00 - 9:00 AM 614 8:00 - 9:00 PM 0 9:00 - 10:00AM 614 9:00 - 10:00PM 0 10:00 - 11:00 AM 614 10:00 - 11:00 PM 0 11:00 - 12:00 PM 614 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No		2:00 - 3:00 AM	0	2:00 - 3:00 PM	614				
4:00 - 5:00 AM 0 4:00 - 5:00 PM 350 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 270 7:00 - 8:00 PM 0 8:00 - 9:00 AM 614 8:00 - 9:00 PM 0 9:00 - 10:00AM 614 9:00 - 10:00PM 0 10:00 - 11:00 AM 614 10:00 - 11:00 PM 0 11:00 - 12:00 PM 614 11:00 - 12:00 PM 0		3:00 - 4:00 AM	0	3:00 - 4:00 PM	614				
5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 270 7:00 - 8:00 PM 0 8:00 - 9:00 AM 614 8:00 - 9:00 PM 0 9:00 - 10:00AM 614 9:00 - 10:00PM 0 10:00 - 11:00 AM 614 10:00 - 11:00 PM 0 11:00 - 12:00 PM 614 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No		4:00 - 5:00 AM	0	4:00 - 5:00 PM	350				
6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 270 7:00 - 8:00 PM 0 8:00 - 9:00 AM 614 8:00 - 9:00 PM 0 9:00 - 10:00AM 614 9:00 - 10:00PM 0 10:00 - 11:00 AM 614 10:00 - 11:00 PM 0 11:00 - 12:00 PM 614 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No		5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
7:00 - 8:00 AM 270 7:00 - 8:00 PM 0 8:00 - 9:00 AM 614 8:00 - 9:00 PM 0 9:00 - 10:00AM 614 9:00 - 10:00PM 0 10:00 - 11:00 AM 614 10:00 - 11:00 PM 0 11:00 - 12:00 PM 614 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No		6:00 - 7:00 AM	Õ	6:00 - 7:00 PM	0				
8:00 - 9:00 AM 614 8:00 - 9:00 PM 0 9:00 - 10:00AM 614 9:00 - 10:00PM 0 10:00 - 11:00 AM 614 10:00 - 11:00 PM 0 11:00 - 12:00 PM 614 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No		7:00 - 8:00 AM	270	7.00 - 8.00 PM	0				
9:00 - 10:00AM 614 9:00 - 10:00PM 0 10:00 - 11:00 AM 614 10:00 - 11:00 PM 0 11:00 - 12:00 PM 614 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No		8.00 - 9.00 AM	614	8.00 - 9.00 PM	0				
10:00 - 11:00 AM61410:00 - 11:00 PM011:00 - 12:00 PM61411:00 - 12:00 PM0Is the intersection using the reduced volume criteria based on speed or population?No		9.00 - 10.00AM	614	9.00 - 10.00PM	0				
11:00 - 12:00 PM 614 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No		10:00 - 11:00 AM	614	10:00 - 11:00 PM	0				
Is the intersection using the reduced volume criteria based on speed or population? No		11:00 - 12:00 PM	614	11:00 - 12:00 PM	0				
		Is the intersection us or population?	ing the reduce No	d volume criteria bas	ed on spee	ed			
A. Is the Minimum Vehicular Volume Warrant Met? No		A. Is the Minimu	Νο						
B. Is the Interruption of Continuous Traffic Met? No		B. Is the Interru	ption of Cor	ntinuous Traffic	Met?	Νο			
Combination of Warrants A and B Criteria Met? No		Combination of	Warrants A	and B Criteria M	/let?	Νο			



Intersection:	Findlay Street & Western Avenue)
City/State:	Cincinnati, Ohio	
Date:	7/8/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		280	360	160	800	280	520
8:00 - 9:00 AM		283	158	84	525	283	242
9:00 - 10:00AM		283	158	84	525	283	242
10:00 - 11:00 AM		283	158	84	525	283	242
11:00 - 12:00 PM		283	158	84	525	283	242
12:00 - 1:00 PM		283	158	84	525	283	242
1:00 - 2:00 PM		283	158	84	525	283	242
2:00 - 3:00 PM		283	158	84	525	283	242
3:00 - 4:00 PM		283	158	84	525	283	242
4:00 - 5:00 PM		450	270	100	820	450	370
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	2994	1894	932	5820	2994	2826

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff							
Intersection: City/State: Date	Findlay Street & Wes Cincinnati, Ohio 7/8/2010	tern Avenue	Performed by:	JRL				
Warrant 1 -	Eight-Hour Vehicular	<u>Volume</u>						
	Number of longe of m	oving troffic f	or moving traffic on a	ach annrac	och.			
	Major Street:	2	_Minor Street:	1 1				
	Vehicles per hour on	maior street (*	total of both approach	hes).				
			12.00 - 1.00 DM	1105). 242				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	242				
	2:00 - 2:00 AM	0	2:00 - 2:00 PM	242				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	242				
	1:00 - 5:00 ΔM	0	1:00 - 5:00 PM	370				
	4.00 - 5.00 AM	0	5:00 - 6:00 PM	0				
	5.00 - 0.00 AM	0	5.00 - 0.00 FM	0				
	7:00 - 7:00 AM	520	7:00 8:00 PM	0				
	8:00 - 0:00 AM	242	8:00 - 0:00 PM	0				
	0.00 = 3.00 AW	242	0.00 - 9.00 T M	0				
	10.00 - 10.00AW	242	10:00 - 10:00FM	0				
	10.00 - 11.00 AW	242	10.00 - 11.00 PM	0				
	11.00 - 12.00 FIVI	242	11.00 - 12.00 FIVI	0				
	Vahielas par baur an	highor volum	minor stroot approa	och (ono dir	action only):			
				ווט שווט) ווטו בפר	ection only).			
	12.00 - 1.00 AM	0	12.00 - 1.00 FIVI	200				
	2:00 2:00 AM	0	2:00 - 2:00 PM	203				
	2.00 - 3.00 AM	0	2.00 - 3.00 FIVI	200				
	3.00 - 4.00 AM	0	3.00 - 4.00 PN	203				
	4.00 - 5.00 AM	0	4.00 - 5.00 PIVI	450				
	5:00 - 6:00 AM	0	5:00 - 6:00 PIVI	0				
	0.00 - 7.00 AW	280	0.00 - 7.00 PIVI	0				
	7:00 - 8:00 AM	280	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	283	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	283	9:00 - 10:00PM	0				
	11:00 - 12:00 PM	283 283	11:00 - 12:00 PM	0				
	Is the intersection usi or population?	ng the reduce No	d volume criteria bas	ed on spee	ed			
	A. Is the Minimu	m Vehicula	r Volume Warra	nt Met?	No			
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	No			
	Combination of	Warrants A	and B Criteria	/let?	Νο			
	(Use only when Cond	itions A and E	3 are both not satisifier	ed)				



Intersection:	Gest Street & Freeman Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/8/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	560	700	250	340	1850	700	590
8:00 - 9:00 AM	358	350	259	232	1199	358	491
9:00 - 10:00AM	358	350	259	232	1199	358	491
10:00 - 11:00 AM	358	350	259	232	1199	358	491
11:00 - 12:00 PM	358	350	259	232	1199	358	491
12:00 - 1:00 PM	358	350	259	232	1199	358	491
1:00 - 2:00 PM	358	350	259	232	1199	358	491
2:00 - 3:00 PM	358	350	259	232	1199	358	491
3:00 - 4:00 PM	358	350	259	232	1199	358	491
4:00 - 5:00 PM	420	530	430	280	1660	530	710
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	3844	4030	2752	2476	13102	4094	5228

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State: Date	Gest Street & Freem Cincinnati, Ohio 7/8/2010	an Avenue	Performed by:	JRL			
Warrant 1 -	Eight-Hour Vehicula	r Volume					
	Number of lanes of r Major Street:	noving traffic f	or moving traffic on e _Minor Street:	ach approa	ach:		
	Vehicles per hour on 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 11:00 - 12:00 PM Vehicles per hour on 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 1:00 - 10:00AM 1:00 - 10:00AM 1:00 - 10:00AM 1:00 - 11:00 AM 1:00 - 10:00AM 1:00 - 10:00AM 1:00 - 11:00 AM 1:00 - 11:00 AM	2 major street (0 0 0 0 0 0 590 491 491 491 491 491 491 491 491 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	total of both approact 12:00 - 1:00 PM 1:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 10:00 - 11:00 PM 11:00 - 12:00 PM 2:00 - 3:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 10:00 - 11:00 PM 10:00 - 10:00PM 10:00 - 10:00PM 10:00 - 11:00 PM 10:00 - 11:00 PM	 hes): 491 491 491 710 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ection only): ed No No		
	Combination of (Use only when Con-	Warrants A ditions A and E	and B Criteria M are both not satisifie	/let? ed)	Νο		



Intersection:	Gest Street & Freeman Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/8/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	570	380	440	550	1940	570	990
8:00 - 9:00 AM	325	0	531	263	1119	325	794
9:00 - 10:00AM	325	0	531	263	1119	325	794
10:00 - 11:00 AM	325	0	531	263	1119	325	794
11:00 - 12:00 PM	325	0	531	263	1119	325	794
12:00 - 1:00 PM	325	0	531	263	1119	325	794
1:00 - 2:00 PM	325	0	531	263	1119	325	794
2:00 - 3:00 PM	325	0	531	263	1119	325	794
3:00 - 4:00 PM	325	0	531	263	1119	325	794
4:00 - 5:00 PM	440	450	600	430	1920	450	1030
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	3610	830	5288	3084	12812	3620	8372

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff							
Intersection: City/State: Date	Gest Street & Freema Cincinnati, Ohio 7/8/2010	an Avenue	Performed by:	JRL				
Warrant 1 -	Eight-Hour Vehicular	· Volume						
	Number of lanes of m	oving traffic f	for moving traffic on e	ach annros	ach:			
	Major Street:	2	Minor Street:	2	_			
	Vehicles per hour on	maior street	(total of both approacl	nes):				
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	794				
	1.00 - 2.00 AM	0	1.00 - 2.00 PM	794				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	794				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	794				
	3.00 - 4.00 AM	0	3.00 - 4.00 FM	1020				
	4.00 - 5.00 AM	0	4.00 - 5.00 PW	1030				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	990	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	794	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	794	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	794	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	794	11:00 - 12:00 PM	0				
	Vehicles per hour on	higher-volum	e minor street annroa	ich (one dir	ection only):			
				225	ection only).			
	12.00 - 1.00 AM	0	12.00 - 1.00 FIVI	325				
	1.00 - 2.00 AM	0	1.00 - 2.00 PIVI	323				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	325				
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	325				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	450				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	570	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	325	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	325	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	325	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	325	11:00 - 12:00 PM	0				
	Is the intersection usi or population?	ng the reduce No	ed volume criteria bas	ed on spee	ed			
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Yes			
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	No			
	Combination of	Warrants A	A and B Criteria N	/let?	Yes			
	(Use only when Conc	litions A and	B are both not satisifie	ed)				



Intersection:	Gest Street & Freeman Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	540	810	240	390	1980	810	630
8:00 - 9:00 AM	332	413	251	270	1266	413	521
9:00 - 10:00AM	332	413	251	270	1266	413	521
10:00 - 11:00 AM	332	413	251	270	1266	413	521
11:00 - 12:00 PM	332	413	251	270	1266	413	521
12:00 - 1:00 PM	332	413	251	270	1266	413	521
1:00 - 2:00 PM	332	413	251	270	1266	413	521
2:00 - 3:00 PM	332	413	251	270	1266	413	521
3:00 - 4:00 PM	332	413	251	270	1266	413	521
4:00 - 5:00 PM	460	610	410	390	1870	610	800
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	3656	4724	2658	2940	13978	4724	5598

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff									
Intersection: City/State: Date	Gest Street & Freen Cincinnati, Ohio 7/9/2010	nan Avenue	Performed by:	JRL						
Warrant 1 -	Eight-Hour Vehicula	ar Volume								
	Number of lanes of moving traffic for moving traffic on each approach:									
	Major Street:	2	_Minor Street:	2	_					
	Vehicles per hour or 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 11:00 - 12:00 PM Vehicles per hour or 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 10:00 - 11:00 AM 11:00 - 12:00 PM	n major street (0 0 0 0 0 0 0 0 0 0 0 0 0	total of both approacl 12:00 - 1:00 PM 1:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 11:00 - 12:00 PM 2:00 - 3:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 5:00 - 6:00 PM 8:00 - 9:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 10:00 - 11:00 PM 10:00 - 11:00 PM 10:00 - 11:00 PM	hes): 521 521 521 521 521 800 0 0 0 0 0 0 0 0 0 0 0 0	ection only):					
	or population?	No								
	A. Is the Minimu	ım Vehicula	r Volume Warra	nt Met?	Νο					
	B. Is the Interru	ption of Co	ntinuous Traffic	Met?	Νο					
	Combination of (Use only when Con	Warrants A ditions A and E	and B Criteria M are both not satisifie	Met? ed)	Νο					



Intersection:	Western Hills Viaduct LOWER DECK & Spring Grove			
City/State:	Cincinnati, Ohio			
Date:	7/9/2010	Performed By: JRL		

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	440		520	760	1720	440	1280
8:00 - 9:00 AM	276		650	528	1454	276	1178
9:00 - 10:00AM	276		650	528	1454	276	1178
10:00 - 11:00 AM	276		650	528	1454	276	1178
11:00 - 12:00 PM	276		650	528	1454	276	1178
12:00 - 1:00 PM	276		650	528	1454	276	1178
1:00 - 2:00 PM	276		650	528	1454	276	1178
2:00 - 3:00 PM	276		650	528	1454	276	1178
3:00 - 4:00 PM	276		650	528	1454	276	1178
4:00 - 5:00 PM	220		1550	840	2610	220	2390
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	2868	0	7270	5824	15962	2868	13094

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff							
Intersection: City/State:	ection: Western Hills Viaduct LOWER DECK & Spring Grove State: Cincinnati, Ohio							
Date	7/9/2010		Performed by:	JRL				
Warrant 1 -	Eight-Hour Vehicular	<u>Volume</u>						
	Number of lanes of m	oving traffic t	for moving traffic on e	ach annroa	ch.			
	Major Street:	2	Minor Street:	2	_			
	Vahialaa nar haur an	major atract	(total of both approach					
				1470				
	12.00 - 1.00 AM	0	12.00 - 1.00 PM	1170				
	1.00 - 2.00 AM	0	1.00 - 2.00 PM	11/0				
	2.00 - 3.00 AIVI	0	2.00 - 3.00 FIVI	1170				
	3.00 - 4.00 AIVI	0	3.00 - 4.00 PM	2200				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	2390				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	1280	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	1178	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	1178	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	1178	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	1178	11:00 - 12:00 PM	0				
	Vehicles per hour on	hiaher-volum	e minor street approa	ch (one dire	ection only):			
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	276				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	276				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	276				
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	276				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	220				
	5:00 - 6:00 AM	Õ	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	440	7:00 - 8:00 PM	0				
	8.00 - 9.00 AM	276	8:00 - 0:00 PM	0				
	0.00 - 9.00 AW	270	0.00 - 9.00 FM	0				
	9.00 - 10.00AIVI	270	9.00 - 10.00FIVI	0				
	11:00 - 12:00 PM	276	11:00 - 12:00 PM	0				
	le the intersection usi	na tha raduc	ad valuma critaria bas	od on spoo	d			
	or population?	No	su volume chiena bas	eu on spee	u			
	A. Is the Minimu	m Vehicula	ar Volume Warraı	nt Met?	Yes			
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	Yes			
	Combination of	Narranta	and B Critoria M	lot?	Vos			
		itions A and	R are both not satisifie	iel í vd)	162			
	Cose only when cond			,u)				

Brent Spence Bridge Signal Warrant Analysis_I-26 Western Hills Viaduct LOWER DECK & Spring Grove -

2005.xlsx



Intersection:	Western Hills Viaduct LOWER DECK & Spring Grove			
City/State:	Cincinnati, Ohio			
Date:	7/9/2010	Performed By: JRL		

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	410		740	1080	2230	410	1820
8:00 - 9:00 AM	324		913	714	1951	324	1627
9:00 - 10:00AM	324		913	714	1951	324	1627
10:00 - 11:00 AM	324		913	714	1951	324	1627
11:00 - 12:00 PM	324		913	714	1951	324	1627
12:00 - 1:00 PM	324		913	714	1951	324	1627
1:00 - 2:00 PM	324		913	714	1951	324	1627
2:00 - 3:00 PM	324		913	714	1951	324	1627
3:00 - 4:00 PM	324		913	714	1951	324	1627
4:00 - 5:00 PM	310		2130	1040	3480	310	3170
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	3312	0	10174	7832	21318	3312	18006

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State:	Western Hills Viaduc Cincinnati, Ohio	LOWER DE	CK & Spring Grove	IDI			
Dale	779/2010		Penomed by.	JKL			
Warrant 1 -	Eight-Hour Vehicular	<u>Volume</u>					
	Number of lanes of m	oving traffic	for moving traffic on e	ach approa	ich:		
	Major Street:	ິ2	Minor Street:	2	_		
	Vehicles per hour on	maior street	(total of both approact	nes).			
			12.00 - 1.00 PM	1627			
	1.00 - 2.00 AM	0	1:00 - 2:00 PM	1627			
	2:00 - 2:00 AM	0	2:00 - 2:00 PM	1627			
	2:00 - 3:00 AM	0	2.00 - 3.00 FIVI	1627			
	3.00 - 4.00 AM	0	3.00 - 4.00 PM	2170			
	4.00 - 5.00 AM	0	4.00 - 5.00 PN	3170			
	5.00 - 6.00 AIVI	0	5.00 - 6.00 PIVI	0			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7:00 - 8:00 AM	1820	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	1627	8:00 - 9:00 PM	0			
	9:00 - 10:00AM	1627	9:00 - 10:00PM	0			
	10:00 - 11:00 AM	1627	10:00 - 11:00 PM	0			
	11:00 - 12:00 PM	1627	11:00 - 12:00 PM	0			
	Vehicles per hour on	higher-volum	e minor street approa	ch (one dir	ection only).		
	12.00 - 1.00 AM		12.00 - 1.00 PM	324	cotion only).		
	1.00 - 2.00 AM	0	1:00 - 2:00 PM	324			
	2.00 - 3.00 AM	0	2:00 - 3:00 PM	324			
	3.00 - 4.00 AM	0	2:00 - 1:00 PM	324			
	4:00 - 5:00 AM	0	1:00 - 5:00 PM	310			
	4.00 - 5.00 AM	0	4.00 - 5.00 T M	510			
	5.00 - 0.00 AM	0	5.00 - 0.00 FIM	0			
	7.00 9.00 AM	410	7:00 PIN	0			
	7.00 - 0.00 AN	410	7.00 - 0.00 PIVI	0			
	8:00 - 9:00 AM	324	8:00 - 9:00 PIVI	0			
	9:00 - 10:00AM	324	9:00 - 10:00PM	0			
	10:00 - 11:00 AM 11:00 - 12:00 PM	324 324	10:00 - 11:00 PM 11:00 - 12:00 PM	0			
	11.00 12.001 1	021	11.00 12.001 M	Ŭ			
	Is the intersection usi	ng the reduce	ed volume criteria bas	ed on spee	ed		
	or population?	No					
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Yes		
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	Yes		
	Combination of	Narrante A	A and B Criteria M	/let?	Yes		
					103		
	(Use only when Conc	nions A and	D are Doin not SatiSifie	su)			

Brent Spence Bridge Signal Warrant Analysis_I-26 Western Hills Viaduct LOWER DECK & Spring Grove - 2035

Alt E.xlsx



Intersection:	Western Hills Viaduct LOWER DECK & Spring Grove			
City/State:	Cincinnati, Ohio			
Date:	7/9/2010	Performed By: JRL		

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	400		570	890	1860	400	1460
8:00 - 9:00 AM	228		703	605	1536	228	1308
9:00 - 10:00AM	228		703	605	1536	228	1308
10:00 - 11:00 AM	228		703	605	1536	228	1308
11:00 - 12:00 PM	228		703	605	1536	228	1308
12:00 - 1:00 PM	228		703	605	1536	228	1308
1:00 - 2:00 PM	228		703	605	1536	228	1308
2:00 - 3:00 PM	228		703	605	1536	228	1308
3:00 - 4:00 PM	228		703	605	1536	228	1308
4:00 - 5:00 PM	160		1650	940	2750	160	2590
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	2384	0	7844	6670	16898	2384	14514

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff							
Intersection: City/State:	ction: Western Hills Viaduct LOWER DECK & Spring Grove							
Date	7/9/2010		Performed by:	JRL				
Warrant 1 -	Eight-Hour Vehicular	Volume						
	Number of lanes of m	oving traffic t	or moving traffic on e	ach annroa	ch.			
	Major Street:	2	_Minor Street:	2	_			
	Vehicles per hour on i	maior street	total of both approach	nes):				
	12.00 - 1.00 AM	0	12.00 - 1.00 PM	1308				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	1308				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	1308				
	3.00 - 4.00 AM	0	2:00 - 4:00 PM	1308				
	4.00 - 5.00 AM	0	4:00 - 5:00 PM	2590				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	2000				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 7:00 AM	1460	7.00 PIN	0				
	2:00 - 0:00 AM	1400	2:00 - 0:00 PM	0				
	0.00 - 9.00 AW	1300	0.00 - 9.00 FIVI	0				
	9.00 - 10.00AW	1306	9.00 - 10.00PM	0				
	10:00 - 11:00 AM	1308	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	1308	11:00 - 12:00 PM	0				
	Vahielas par hour on l	aighar volum	a minor streat approa	ch (ana dir	action only):			
					ection only).			
	12.00 - 1.00 AM	0	12.00 - 1.00 PIVI	220				
	1.00 - 2.00 AM	0	1.00 - 2.00 PN	220				
	2.00 - 3.00 AM	0	2.00 - 3.00 PIVI	220				
	3.00 - 4.00 AM	0	3.00 - 4.00 PIVI	220				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	160				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	400	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	228	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	228	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	228	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	228	11:00 - 12:00 PM	0				
	Is the intersection usir	na the reduce	ed volume criteria bas	ed on spee	d			
	or population?	No			-			
	A le the Minimur	n Vohioul	ar Volumo Warra	nt Mot2	Voc			
					162			
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	Yes			
	Combination of V	Narrante /	and B Criteria	let?	Yes			
					103			
	(Use only when Cond	itions A and	B are both not satisifie	ea)				

Brent Spence Bridge Signal Warrant Analysis_I-26 Western Hills Viaduct LOWER DECK & Spring Grove - 2035

Alt I.xlsx



Intersection:	9th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		430	500	20	950	430	520
8:00 - 9:00 AM		644	392	46	1082	644	438
9:00 - 10:00AM		644	392	46	1082	644	438
10:00 - 11:00 AM		644	392	46	1082	644	438
11:00 - 12:00 PM		644	392	46	1082	644	438
12:00 - 1:00 PM		644	392	46	1082	644	438
1:00 - 2:00 PM		644	392	46	1082	644	438
2:00 - 3:00 PM		644	392	46	1082	644	438
3:00 - 4:00 PM		644	392	46	1082	644	438
4:00 - 5:00 PM		1490	630	130	2250	1490	760
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	7072	4266	518	11856	7072	4784

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No
	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State: Date	9th Street & Central Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL			
Warrant 1 -	Eight-Hour Vehicula	ar Volume					
	Number of lanes of I	noving traffic fo	or moving traffic on e	ach approa	ich:		
	Major Street:	4	Minor Street:	4	_		
	Vehicles per hour or 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 9:00 - 10:00 AM 9:00 - 10:00 AM 10:00 - 11:00 AM 11:00 - 12:00 PM Vehicles per hour or 12:00 - 1:00 AM 1:00 - 2:00 AM	n major street (t 0 0 0 0 0 520 438 438 438 438 438 438	- total of both approacl 12:00 - 1:00 PM 1:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 11:00 - 12:00 PM 2:00 - 1:00 PM 1:00 - 2:00 PM	hes): 438 438 438 760 0 0 0 0 0 0 0 0 0 0 0 0 0	ection only):		
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	644			
	4:00 - 5:00 AM 5:00 - 6:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 8:00 - 9:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 11:00 - 12:00 PM	0 0 430 644 644 644 644	4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 8:00 - 9:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 11:00 - 12:00 PM	1490 0 0 0 0 0 0 0 0			
	Is the intersection us or population?	sing the reduce No	d volume criteria bas	ed on spee	ed		
	A. Is the Minimu	ım Vehicula	r Volume Warra	nt Met?	Νο		
	B. Is the Interru	ption of Cor	ntinuous Traffic	Met?	No		
	Combination of (Use only when Con	Warrants A ditions A and B	and B Criteria M are both not satisifie	/let? ed)	Νο		



Intersection: 9th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	9th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		290	350	20	660	290	370
8:00 - 9:00 AM		486	314	45	845	486	359
9:00 - 10:00AM		486	314	45	845	486	359
10:00 - 11:00 AM		486	314	45	845	486	359
11:00 - 12:00 PM		486	314	45	845	486	359
12:00 - 1:00 PM		486	314	45	845	486	359
1:00 - 2:00 PM		486	314	45	845	486	359
2:00 - 3:00 PM		486	314	45	845	486	359
3:00 - 4:00 PM		486	314	45	845	486	359
4:00 - 5:00 PM		870	380	70	1320	870	450
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	5048	3242	450	8740	5048	3692

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State: Date	9th Street & Central Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL			
Warrant 1 -	Eight-Hour Vehicula	<u>ir Volume</u>					
	Number of lanes of r	noving traffic for	or moving traffic on e	ach approa	ach:		
	Major Street:	4	Minor Street:	4	_		
	Vehicles per hour or 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 8:00 - 9:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 11:00 - 12:00 PM	n major street (* 0 0 0 0 0 0 370 359 359 359 359	total of both approac 12:00 - 1:00 PM 1:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 8:00 - 9:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM	hes): 359 359 359 450 0 0 0 0 0 0 0 0			
	Vehicles per hour or	higher-volume	e minor street approa	ach (one dir	ection only):		
	1:00 - 2:00 AM 2:00 - 3:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 8:00 - 9:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 11:00 - 12:00 PM Is the intersection us or population?	0 0 0 0 290 486 486 486 486 486 500 No	1:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 8:00 - 9:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 11:00 - 12:00 PM	486 486 486 870 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ed		
	A. Is the Minimu	m Vehicula	r Volume Warra	nt Met?	Νο		
	B. Is the Interru	ption of Co	ntinuous Traffic	Met?	Νο		
	Combination of (Use only when Con	Warrants A ditions A and E	and B Criteria I are both not satisifie	Met? ed)	Νο		



Intersection: 9th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	9th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		310	420	30	760	310	450
8:00 - 9:00 AM		546	290	36	872	546	326
9:00 - 10:00AM		546	290	36	872	546	326
10:00 - 11:00 AM		546	290	36	872	546	326
11:00 - 12:00 PM		546	290	36	872	546	326
12:00 - 1:00 PM		546	290	36	872	546	326
1:00 - 2:00 PM		546	290	36	872	546	326
2:00 - 3:00 PM		546	290	36	872	546	326
3:00 - 4:00 PM		546	290	36	872	546	326
4:00 - 5:00 PM		1230	500	140	1870	1230	640
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	5908	3240	458	9606	5908	3698

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State: Date	9th Street & Central Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL			
Warrant 1 -	Eight-Hour Vehicul	<u>ar Volume</u>					
	Number of lanes of	moving traffic fo	or moving traffic on e	ach approa	ich:		
	Major Street:	4	Minor Street:	4	_		
	Major Street: Vehicles per hour of 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 8:00 - 9:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 11:00 - 12:00 PM Vehicles per hour of 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 6:00 - 7:00 AM 6:00 - 7:00 AM 6:00 - 9:00 AM 8:00 - 9:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 10:00 - 11:00 AM	4 n major street (t 0 0 0 0 0 0 450 326 326 326 326 326 326 326 326 326 326	Minor Street: otal of both approacl 12:00 - 1:00 PM 1:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 8:00 - 9:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 11:00 - 12:00 PM 2:00 - 3:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 8:00 - 9:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM	4 hes): 326 326 326 326 640 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ection only):		
	Is the intersection u	sing the reduce	d volume criteria bas	ed on spee	ed		
	A. Is the Minimu	um Vehicula	r Volume Warra	nt Met?	No		
	B. Is the Interru	ption of Cor	tinuous Traffic	Met?	No		
	Combination of (Use only when Cor	Warrants A	and B Criteria M are both not satisifie	/let? ed)	Νο		



Intersection: 9th Street & Central Avenue City/State: Cincinnati, Ohio

<u> Warrant 3B - Peak Hour</u>

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	7th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	2120		410		2530	2120	410
8:00 - 9:00 AM	890		254		1144	890	254
9:00 - 10:00AM	890		254		1144	890	254
10:00 - 11:00 AM	890		254		1144	890	254
11:00 - 12:00 PM	890		254		1144	890	254
12:00 - 1:00 PM	890		254		1144	890	254
1:00 - 2:00 PM	890		254		1144	890	254
2:00 - 3:00 PM	890		254		1144	890	254
3:00 - 4:00 PM	890		254		1144	890	254
4:00 - 5:00 PM	690		350		1040	690	350
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	9930	Ō	2792	0	12722	9930	2792

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? <u>No</u>

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State: Date	7th Street & Central Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL			
Warrant 1 -	Eight-Hour Vehicula	<u>ir Volume</u>					
	Number of lanes of r Major Street:	moving traffic fo 3	or moving traffic on e Minor Street:	ach approa	nch: —		
	Vehicles per hour or 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 9:00 - 10:00 AM 9:00 - 10:00 AM 10:00 - 11:00 AM 11:00 - 12:00 PM Vehicles per hour or 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM	n major street (t 0 0 0 0 0 0 0 410 254 254 254 254 254 254 254 254 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	total of both approact 12:00 - 1:00 PM 1:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 11:00 - 12:00 PM 12:00 - 1:00 PM 1:00 - 2:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM	hes): 254 254 254 254 350 0 0 0 0 0 0 0 0 0 0 0 0 0	ection only):		
	7:00 - 8:00 AM 8:00 - 9:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 11:00 - 12:00 PM	2120 890 890 890 890 890	7:00 - 8:00 PM 8:00 - 9:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 11:00 - 12:00 PM	0 0 0 0			
	Is the intersection us or population?	ing the reduce No	d volume criteria bas	ed on spee	ed		
	A. Is the Minimu	m Vehicula	r Volume Warra	nt Met?	No		
	B. Is the Interru	ption of Cor	ntinuous Traffic	Met?	No		
	Combination of (Use only when Con	Warrants A ditions A and B	and B Criteria N are both not satisifie	//et? ed)	No		



Intersection: 7th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	7th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	2200		630		2830	2200	630
8:00 - 9:00 AM	876		320		1196	876	320
9:00 - 10:00AM	876		320		1196	876	320
10:00 - 11:00 AM	876		320		1196	876	320
11:00 - 12:00 PM	876		320		1196	876	320
12:00 - 1:00 PM	876		320		1196	876	320
1:00 - 2:00 PM	876		320		1196	876	320
2:00 - 3:00 PM	876		320		1196	876	320
3:00 - 4:00 PM	876		320		1196	876	320
4:00 - 5:00 PM	700		500		1200	700	500
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	9908	0	3690	0	13598	9908	3690

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State: Date	7th Street & Central / Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL			
Warrant 1 -	Eight-Hour Vehicula	r Volume					
	Number of lanes of n	noving traffic fo	or moving traffic on e	ach approa	ach:		
	Major Street:	3	Minor Street:	4	_		
	Vehicles per hour on 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 8:00 - 9:00 AM 9:00 - 10:00 AM 10:00 - 11:00 AM 11:00 - 12:00 PM Vehicles per hour on 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM	major street (1 0 0 0 0 0 0 630 320 320 320 320 320 320 320 0 0 0	- total of both approacl 12:00 - 1:00 PM 1:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 9:00 - 10:00 PM 10:00 - 11:00 PM 11:00 - 12:00 PM 12:00 - 1:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM	hes): 320 320 320 500 0 0 0 0 0 0 0 0 0 0 0 0	ection only):		
	4:00 - 3:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 8:00 - 9:00 AM	0 0 2200 876 876	4:00 - 3:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 8:00 - 9:00 PM	0 0 0 0			
	10:00 - 11:00 AM	876	10:00 - 11:00 PM	0			
	11:00 - 12:00 PM Is the intersection us or population?	876 ing the reduce No	11:00 - 12:00 PM d volume criteria bas	0 sed on spee	ed		
	A. Is the Minimu	m Vehicula	r Volume Warra	nt Met?	Νο		
	B. Is the Interrup	otion of Cor	ntinuous Traffic	Met?	No		
	Combination of (Use only when Cond	Warrants A ditions A and E	and B Criteria M are both not satisifie	/let? ed)	Νο		



Intersection: 7th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	7th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	2220		390		2610	2220	390
8:00 - 9:00 AM	938		234		1172	938	234
9:00 - 10:00AM	938		234		1172	938	234
10:00 - 11:00 AM	938		234		1172	938	234
11:00 - 12:00 PM	938		234		1172	938	234
12:00 - 1:00 PM	938		234		1172	938	234
1:00 - 2:00 PM	938		234		1172	938	234
2:00 - 3:00 PM	938		234		1172	938	234
3:00 - 4:00 PM	938		234		1172	938	234
4:00 - 5:00 PM	750		320		1070	750	320
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	10474	0	2582	0	13056	10474	2582

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State: Date	7th Street & Central Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL			
Warrant 1 -	Eight-Hour Vehicula	<u>ir Volume</u>					
	Number of lanes of r Major Street:	noving traffic fo 3	or moving traffic on e _Minor Street:	ach approa	ich: _		
	Major Street: Vehicles per hour or 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 3:00 - 4:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 11:00 - 12:00 PM Vehicles per hour or 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 6:00 - 7:00 AM 9:00 - 10:00AM 1:00 - 11:00 AM 1:00 - 2:00 AM 1:00 - 2:00 AM 1:00 - 5:00 AM 1:00 - 5:00 AM 1:00 - 10:00AM 1:00 - 11:00 AM 1:00 - 11:00 AM 1:00 - 12:00 PM	3 major street (1 0 0 0 0 0 0 0 390 234 234 234 234 234 234 234 234 234 234	Minor Street: total of both approacl 12:00 - 1:00 PM 1:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 11:00 - 12:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 3:00 - 6:00 PM 6:00 - 7:00 PM 5:00 - 6:00 PM 8:00 - 9:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 10:00 - 10:00PM 10:00 - 10:00PM 10:00 - 11:00 PM 10:00 - 11:00 PM	4 hes): 234 234 234 234 320 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ection only):		
	or population?	No					
	A. Is the Minimu	ım Vehicula	r Volume Warra	nt Met?	Νο		
	B. Is the Interru	ption of Cor	ntinuous Traffic	Met?	Νο		
	Combination of (Use only when Con	Warrants A ditions A and B	and B Criteria M are both not satisifie	/let? ed)	No		



Intersection: 7th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	6th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		540	310		850	540	310
8:00 - 9:00 AM		577	195		772	577	195
9:00 - 10:00AM		577	195		772	577	195
10:00 - 11:00 AM		577	195		772	577	195
11:00 - 12:00 PM		577	195		772	577	195
12:00 - 1:00 PM		577	195		772	577	195
1:00 - 2:00 PM		577	195		772	577	195
2:00 - 3:00 PM		577	195		772	577	195
3:00 - 4:00 PM		577	195		772	577	195
4:00 - 5:00 PM		1460	330		1790	1460	330
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	6616	2200	0	8816	6616	2200

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State: Date	6th Street & Central Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL			
Warrant 1 -	Eight-Hour Vehicula	ar Volume					
	Number of lanes of	moving traffic fo	or moving traffic on e	ach approa	ach:		
	Major Street:	2	Minor Street:	4	_		
	Wajor Street. 2 Wintor Street. 4 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 195 1:00 - 2:00 AM 0 1:00 - 2:00 PM 195 2:00 - 3:00 AM 0 2:00 - 3:00 PM 195 3:00 - 4:00 AM 0 3:00 - 4:00 PM 195 4:00 - 5:00 AM 0 3:00 - 4:00 PM 195 4:00 - 5:00 AM 0 4:00 - 5:00 PM 330 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 5:00 - 8:00 PM 0 7:00 - 8:00 AM 310 7:00 - 8:00 PM 0 8:00 - 9:00 AM 195 8:00 - 9:00 PM 0 9:00 - 10:00AM 195 9:00 - 10:00PM 0 10:00 - 11:00 AM 195 10:00 - 11:00 PM 0 11:00 - 12:00 PM 195 11:00 - 12:00 PM 0 Vehicles per hour on higher-volume minor street approach (one direction only): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 577 1:00 - 2:00 AM 0 1:00 - 2:00 PM 577 2:00 - 3:00 AM						
	4:00 - 5:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 8:00 - 9:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM	0 0 540 577 577 577	4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 8:00 - 9:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM	1460 0 0 0 0 0 0 0			
	11:00 - 12:00 PM Is the intersection us or population? A. Is the Minimu	577 sing the reduce No um Vehicula	11:00 - 12:00 PM d volume criteria bas r Volume Warra	0 ed on spee nt Met?	ed No		
	B. Is the Interru	ption of Cor	ntinuous Traffic	Met?	Νο		
	Combination of (Use only when Con	Warrants A	and B Criteria M are both not satisifie	/let? ed)	No		



Intersection: 6th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	6th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	820	540	400		1760	820	400
8:00 - 9:00 AM	396	659	262		1317	659	262
9:00 - 10:00AM	396	659	262		1317	659	262
10:00 - 11:00 AM	396	659	262		1317	659	262
11:00 - 12:00 PM	396	659	262		1317	659	262
12:00 - 1:00 PM	396	659	262		1317	659	262
1:00 - 2:00 PM	396	659	262		1317	659	262
2:00 - 3:00 PM	396	659	262		1317	659	262
3:00 - 4:00 PM	396	659	262		1317	659	262
4:00 - 5:00 PM	560	1150	360		2070	1150	360
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	4548	6962	2856	0	14366	7242	2856

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff									
Intersection: City/State: Date	6th Street & Central Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL						
Warrant 1 -	Eight-Hour Vehicula	<u>r Volume</u>								
	Number of lanes of moving traffic for moving traffic on each approach:									
	Major Street:	2	Minor Street:	4	_					
	Vehicles per hour on 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 11:00 - 12:00 PM Vehicles per hour on 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 8:00 - 9:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM	major street (0 0 0 0 0 0 0 0 262 262 262 262 262 262	total of both approact 12:00 - 1:00 PM 1:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 11:00 - 12:00 PM 2:00 - 3:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 5:00 - 8:00 PM 8:00 - 9:00 PM 9:00 - 11:00 PM 10:00 - 11:00 PM	hes): 262 262 262 262 360 0 0 0 0 0 0 0 0 0 0 0 0 0	ection only):					
	Is the intersection us or population?	ing the reduce	ed volume criteria bas	ed on spee	ed					
	A. Is the Minimu	m Vehicula	ır Volume Warra	nt Met?	No					
	B. Is the Interru	otion of Co	ntinuous Traffic	Met?	No					
	Combination of (Use only when Cond	Warrants A ditions A and E	A and B Criteria A 3 are both not satisifie	/let? ed)	Νο					



Intersection: 6th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	6th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		370	290		660	370	290
8:00 - 9:00 AM		463	184		647	463	184
9:00 - 10:00AM		463	184		647	463	184
10:00 - 11:00 AM		463	184		647	463	184
11:00 - 12:00 PM		463	184		647	463	184
12:00 - 1:00 PM		463	184		647	463	184
1:00 - 2:00 PM		463	184		647	463	184
2:00 - 3:00 PM		463	184		647	463	184
3:00 - 4:00 PM		463	184		647	463	184
4:00 - 5:00 PM		1180	290		1470	1180	290
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	5254	2052	0	7306	5254	2052

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State: Date	6th Street & Central A Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL			
Warrant 1 -	Eight-Hour Vehicular	<u>r Volume</u>					
	Number of lanes of m	noving traffic f	or moving traffic on e	ach approa	ach:		
	Major Street:	2	_Minor Street:	4	_		
				,			
	Vehicles per hour on	major street (total of both approach	nes):			
	12:00 - 1:00 AM	0	12:00 - 1:00 PIVI	184			
	1.00 - 2.00 AM	0	1.00 - 2.00 PIVI	104			
	2.00 - 3.00 AM	0	2.00 - 3.00 PIVI	104			
	3.00 - 4.00 AM	0	3.00 - 4.00 PM	200			
	4.00 - 5.00 AM	0	4.00 - 5.00 PM	290			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7:00 - 8:00 AM	290	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	184	8:00 - 9:00 PM	0			
	9:00 - 10:00AM	184	9:00 - 10:00PM	0			
	10.00 - 11.00 AM	184	10.00 - 11.00 PM	0			
	11:00 - 12:00 PM	184	11:00 - 12:00 PM	0			
	Vehicles per hour on	higher-volum	e minor street approa	ch (one dir	ection only):		
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	463			
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	463			
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	463			
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	463			
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1180			
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0			
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0			
	7:00 - 8:00 AM	370	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	463	8:00 - 9:00 PM	0			
	9:00 - 10:00AM	463	9:00 - 10:00PM	0			
	11:00 - 12:00 PM	463	11:00 - 12:00 PM	0			
	Is the intersection usi or population?	ng the reduce No	ed volume criteria bas	ed on spee	ed		
	A. Is the Minimu	m Vehicula	r Volume Warra	nt Met?	Νο		
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	Νο		
	Combination of V (Use only when Conc	Warrants A litions A and E	A and B Criteria M 3 are both not satisifie	/let? ed)	No		



Intersection: 6th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	5th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	1730		300	90	2120	1730	390
8:00 - 9:00 AM	632		249	89	970	632	338
9:00 - 10:00AM	632		249	89	970	632	338
10:00 - 11:00 AM	632		249	89	970	632	338
11:00 - 12:00 PM	632		249	89	970	632	338
12:00 - 1:00 PM	632		249	89	970	632	338
1:00 - 2:00 PM	632		249	89	970	632	338
2:00 - 3:00 PM	632		249	89	970	632	338
3:00 - 4:00 PM	632		249	89	970	632	338
4:00 - 5:00 PM	650		480	200	1330	650	680
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	7436	0	2772	1002	11210	7436	3774

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State: Date	5th Street & Central Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL			
Warrant 1 -	Eight-Hour Vehicula	<u>ir Volume</u>					
	Number of lanes of r	noving traffic for	or moving traffic on e	ach approa	ich:		
	Major Street:	2	Minor Street:	4	_		
	Vehicles per hour on 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 9:00 - 10:00 AM 10:00 - 11:00 AM 11:00 - 12:00 PM Vehicles per hour on 12:00 - 1:00 AM	n major street (f 0 0 0 0 0 0 390 338 338 338 338 338 338 338	- total of both approact 12:00 - 1:00 PM 2:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 11:00 - 12:00 PM	hes): 338 338 338 680 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ection only):		
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	632			
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	632			
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	632			
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	000			
	5.00 - 6.00 AM	0	5.00 - 6.00 PM	0			
	7:00 - 8:00 AM	1730	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	632	8:00 - 9:00 PM	0			
	9:00 - 10:00AM	632	9:00 - 10:00PM	0 0			
	10:00 - 11:00 AM	632	10:00 - 11:00 PM	0			
	11:00 - 12:00 PM	632	11:00 - 12:00 PM	0			
	Is the intersection us or population?	ing the reduce No	d volume criteria bas	ed on spee	ed		
	A. Is the Minimu	m Vehicula	r Volume Warra	nt Met?	Νο		
	B. Is the Interru	ption of Cor	ntinuous Traffic	Met?	Νο		
	Combination of (Use only when Con-	Warrants A ditions A and B	and B Criteria M are both not satisifie	/let? ed)	Νο		



Intersection: 5th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	5th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	1790		620	510	2920	1790	1130
8:00 - 9:00 AM	711		482	271	1464	711	753
9:00 - 10:00AM	711		482	271	1464	711	753
10:00 - 11:00 AM	711		482	271	1464	711	753
11:00 - 12:00 PM	711		482	271	1464	711	753
12:00 - 1:00 PM	711		482	271	1464	711	753
1:00 - 2:00 PM	711		482	271	1464	711	753
2:00 - 3:00 PM	711		482	271	1464	711	753
3:00 - 4:00 PM	711		482	271	1464	711	753
4:00 - 5:00 PM	630		890	280	1800	630	1170
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	8108	0	5366	2958	16432	8108	8324

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff							
Intersection: City/State: Date	: 5th Street & Central A Cincinnati, Ohio 7/9/2010	Venue	Performed by:	JRL				
Warrant 1 -	Eight-Hour Vehicular	<u>Volume</u>						
	Number of lanes of m	oving traffic	for moving traffic on e	ach annros	ach:			
	Major Street:	2	Minor Street:	4				
	Vehicles per hour on	maior street	(total of both approact	nes):				
	12.00 - 1.00 AM		12.00 - 1.00 PM	753				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	753				
	2:00 - 2:00 AM	0	2:00 - 2:00 PM	753				
	2:00 - 3:00 AM	0	2.00 - 3.00 FIVI	753				
	3.00 - 4.00 AM	0	3.00 - 4.00 PM	1170				
	4.00 - 5.00 AM	0	4.00 - 5.00 PN	0				
	5.00 - 6.00 AIVI	0	5.00 - 6.00 PIVI	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PIVI	0				
	7:00 - 8:00 AM	1130	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	753	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	753	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	753	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	753	11:00 - 12:00 PM	0				
	venicies per nour on	nigner-volum	ie minor street approa	cn (one air	ection only):			
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	711				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	711				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	711				
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	711				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	630				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	1790	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	711	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	711	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	711	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	711	11:00 - 12:00 PM	0				
	Is the intersection usi	na the rodue	ad volume critoria bac	ed on ener	ad			
	or population?	No		eu on spee	^{cu}			
	Δ Is the Minimu	m Vehicul	ar Volume Warra	nt Mot2	Vas			
		in venieur			105			
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	No			
	Combination of	Nomente	A and D Cuitauia	1	Vaa			
	Complination of	warrants /	A and B Criteria N	net :	IES			
	(Use only when Cond	itions A and	B are both not satisifie	ed)				



Intersection: 5th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	5th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	1520		410	80	2010	1520	490
8:00 - 9:00 AM	612		331	84	1027	612	415
9:00 - 10:00AM	612		331	84	1027	612	415
10:00 - 11:00 AM	612		331	84	1027	612	415
11:00 - 12:00 PM	612		331	84	1027	612	415
12:00 - 1:00 PM	612		331	84	1027	612	415
1:00 - 2:00 PM	612		331	84	1027	612	415
2:00 - 3:00 PM	612		331	84	1027	612	415
3:00 - 4:00 PM	612		331	84	1027	612	415
4:00 - 5:00 PM	540		590	190	1320	540	780
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	6956	0	3648	942	11546	6956	4590

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State: Date	5th Street & Central A Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL			
Warrant 1 -	Eight-Hour Vehicular	<u>Volume</u>					
	Number of lanes of m	oving traffic f	for moving traffic on e	ach annroa	ach.		
	Major Street:	2	Minor Street:	4			
	Vehicles per hour on	major street	(total of both approach	nes).			
			12.00 - 1.00 DM	165). /15			
	1.00 - 2.00 AM	0	12.00 - 1.00 T M	415			
	2:00 - 2:00 AM	0	2:00 - 2:00 PM	415			
	2:00 - 3:00 AM	0	2:00 - 2:00 PM	/15			
	4·00 - 5·00 ΔM	0	1:00 - 5:00 PM	780			
	4.00 - 5.00 AM	0	4.00 - 5.00 PM	00			
	5.00 - 0.00 AM	0	5.00 - 0.00 FM	0			
	7:00 8:00 AM	400	7:00 - 7:00 FM	0			
	8.00 - 8.00 AM	490	8:00 - 0:00 PM	0			
	0.00 - 3.00 AM	415	0.00 = 9.00 I M	0			
	10.00 - 10.00AM	415	10:00 - 10:00FM	0			
	10.00 - 11.00 AM	415	10.00 - 11.00 PW	0			
	11.00 - 12.00 FIVI	415	11.00 - 12.00 FIVI	0			
	Vahielas par bour an	highor volum	o minor stroot approa	ch (ono dir	action only):		
				612	ection only).		
	12.00 - 1.00 AM	0	12.00 - 1.00 FW	612			
	2:00 2:00 AM	0	2:00 - 2:00 PM	612			
	2.00 - 3.00 AM	0	2.00 - 3.00 FIVI	612			
	3.00 - 4.00 AM	0	3.00 - 4.00 PN	510			
	4.00 - 5.00 AM	0	4.00 - 5.00 PIVI	540			
	5.00 - 6.00 AM	0	5.00 - 6.00 PIVI	0			
	0.00 - 7.00 AM	1520	0.00 - 7.00 PIVI	0			
	7:00 - 8:00 AM	1520	7:00 - 8:00 PM	0			
	8:00 - 9:00 AM	612	8:00 - 9:00 PIVI	0			
	9:00 - 10:00AM	612	9:00 - 10:00PM	0			
	11:00 - 12:00 PM	612	11:00 - 12:00 PM	0			
	Is the intersection usi or population?	ng the reduce No	ed volume criteria bas	ed on spee	ed		
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Νο		
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	Νο		
	Combination of V	Narrants A	A and B Criteria M	/let?	No		
	(Use only when Cond	itions A and	B are both not satisifie	ed)			



Intersection: 5th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.



Intersection:	4th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		300	270	100	670	300	370
8:00 - 9:00 AM		421	447	80	948	421	527
9:00 - 10:00AM		421	447	80	948	421	527
10:00 - 11:00 AM		421	447	80	948	421	527
11:00 - 12:00 PM		421	447	80	948	421	527
12:00 - 1:00 PM		421	447	80	948	421	527
1:00 - 2:00 PM		421	447	80	948	421	527
2:00 - 3:00 PM		421	447	80	948	421	527
3:00 - 4:00 PM		421	447	80	948	421	527
4:00 - 5:00 PM		840	1020	130	1990	840	1150
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	4508	4866	870	10244	4508	5736

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No
Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State: Date	4th Street & Central Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL		
warrant 1 -	Eight-Hour Vehicula	ar volume				
	Number of lanes of Major Street:	moving traffic f	or moving traffic on e Minor Street:	ach approa	uch: 	
	Major Street: Vehicles per hour or 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 9:00 - 10:00AM 9:00 - 10:00AM 10:00 - 11:00 AM 11:00 - 12:00 PM Vehicles per hour or 12:00 - 1:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 3:00 - 4:00 AM 5:00 - 6:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 5:00 - 9:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 10:00 - 11:00 AM	2 n major street (0 0 0 0 0 0 370 527 527 527 527 527 527 527 527 527 527	Minor Street: total of both approacl 12:00 - 1:00 PM 1:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 11:00 - 12:00 PM 2:00 - 3:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 10:00 - 11:00 PM 10:00 - 11:00 PM 10:00 - 10:00PM 10:00 - 11:00 PM 10:00 - 11:00 PM 10:00 - 11:00 PM 10:00 - 11:00 PM	4 hes): 527 527 527 1150 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ection only):	
	or population?	NO				
	A. Is the Minimu	um Vehicula	r Volume Warra	nt Met?	Νο	
	B. Is the Interru	ption of Co	ntinuous Traffic	Met?	No	
	Combination of (Use only when Con	Warrants A	and B Criteria M are both not satisifie	/let? ed)	No	

Intersection: 4th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.

Peak Hour volume warrant - Major and Minor Streets for Urban Locations - Warrant 3B



Intersection:	4th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		560	310	220	1090	560	530
8:00 - 9:00 AM		762	525	188	1475	762	713
9:00 - 10:00AM		762	525	188	1475	762	713
10:00 - 11:00 AM		762	525	188	1475	762	713
11:00 - 12:00 PM		762	525	188	1475	762	713
12:00 - 1:00 PM		762	525	188	1475	762	713
1:00 - 2:00 PM		762	525	188	1475	762	713
2:00 - 3:00 PM		762	525	188	1475	762	713
3:00 - 4:00 PM		762	525	188	1475	762	713
4:00 - 5:00 PM		1660	1310	280	3250	1660	1590
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	8316	5820	2004	16140	8316	7824

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? <u>No</u>

Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C)										
	Prepared by Parsons Brinckerhoff									
Intersection: City/State: Date	4th Street & Central Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL						
Warrant 1 -	Eight-Hour Vehicula	<u>r Volume</u>								
	Number of lange of moving traffic for moving traffic on each approach:									
	Major Street:	2	Minor Street:	4						
			—		_					
	Vehicles per hour on	major street (total of both approac	hes):						
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	713						
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	713						
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	713						
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	713						
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1590						
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0						
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0						
	7:00 - 8:00 AW	530	7:00 - 8:00 PM	0						
	8:00 - 9:00 AW	713	8:00 - 9:00 PIVI	0						
	9.00 - 10.00AIVI	713	9.00 - 10.00PINI	0						
	11:00 - 11:00 AW	713	10.00 - 11.00 FM	0						
	11.00 - 12.00 FIVI	715	11.00 - 12.00 FW	0						
	Vehicles per hour on	higher-volum	e minor street annroa	ich (one dir	ection only):					
			12.00 - 1.00 PM	762	ection only).					
	1·00 - 2·00 ΔM	0	1:00 - 2:00 PM	762						
	2.00 - 2.00 AM	0	2:00 - 2:00 PM	762						
	3.00 - 4.00 AM	0	2:00 - 5:00 P M	762						
	4:00 - 5:00 AM	Ő	4:00 - 5:00 PM	1660						
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0						
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0						
	7:00 - 8:00 AM	560	7:00 - 8:00 PM	0						
	8:00 - 9:00 AM	762	8:00 - 9:00 PM	0						
	9:00 - 10:00AM	762	9.00 - 10.00PM	0						
	10.00 - 11.00 AM	762	10.00 - 11.00 PM	0						
	11:00 - 12:00 PM	762	11:00 - 12:00 PM	0						
	Is the intersection us	ing the reduce	ed volume criteria bas	ed on spee	ed					
	or population?	No								
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Yes					
	B. Is the Interrup	otion of Co	ntinuous Traffic	Met?	No					
	Combination of	Warrante /	and B Criteria	let?	No					
	(Use only when Cond	ditions A and I	B are both not satisifi	ed)						



Intersection: 4th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.

Peak Hour volume warrant - Major and Minor Streets for Urban Locations - Warrant 3B



Intersection:	4th Street & Central Avenue	
City/State:	Cincinnati, Ohio	
Date:	7/9/2010	Performed By: JRL

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		430	190	130	750	430	320
8:00 - 9:00 AM		638	344	108	1090	638	452
9:00 - 10:00AM		638	344	108	1090	638	452
10:00 - 11:00 AM		638	344	108	1090	638	452
11:00 - 12:00 PM		638	344	108	1090	638	452
12:00 - 1:00 PM		638	344	108	1090	638	452
1:00 - 2:00 PM		638	344	108	1090	638	452
2:00 - 3:00 PM		638	344	108	1090	638	452
3:00 - 4:00 PM		638	344	108	1090	638	452
4:00 - 5:00 PM		1320	810	180	2310	1320	990
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	6854	3752	1174	11780	6854	4926

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? <u>No</u>

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff						
Intersection: City/State: Date	4th Street & Central Cincinnati, Ohio 7/9/2010	Avenue	Performed by:	JRL			
Warrant 1 -	Eight-Hour Vehicula	<u>ir Volume</u>					
	Number of lanes of r	noving traffic f	or moving traffic on e	ach annroa	ach.		
	Major Street:	2	_Minor Street:	4	_		
	Vehicles per hour on 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 4:00 - 5:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 9:00 - 10:00 AM 9:00 - 10:00 AM 10:00 - 11:00 AM 11:00 - 12:00 PM Vehicles per hour on 12:00 - 3:00 AM 2:00 - 3:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 8:00 - 9:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 11:00 - 12:00 PM	n major street (0 0 0 0 0 0 0 0 0 452 452 452 452 452 452 452 452 452 452	total of both approacl 12:00 - 1:00 PM 1:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 11:00 - 12:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 5:00 - 6:00 PM 8:00 - 9:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 10:00 - 11:00 PM 10:00 - 10:00PM 10:00 - 11:00 PM 10:00 - 12:00 PM	nes): 452 452 452 452 990 0 0 0 0 0 0 0 0 0 0 0 0 0	ection only):		
	or population.						
	A. Is the Minimu	ım Vehicula	r Volume Warra	nt Met?	Νο		
	B. Is the Interru	ption of Co	ntinuous Traffic	Met?	No		
	Combination of (Use only when Con	Warrants A ditions A and E	and B Criteria M are both not satisifie	/let? ed)	Νο		



Intersection: 4th Street & Central Avenue City/State: Cincinnati, Ohio

Warrant 3B - Peak Hour

The peak hour volume warrant is also intended for application when traffic conditions are such that for one hour of the day minor street traffic suffers undue traffic delay in entering or crossing the main street.

The peak hour volume warrant is satisfied when the plotted point representing vehicles per hour on the higher volume minor street for one hour falls above the curve in Figure 4C-3.

Figure 4C-4 may be used if the 85th percentile speed of the major street exceeds 40 mph or when the intersection lies within a built-up area of an isolated community having a population less than 10,000.

Peak Hour volume warrant - Major and Minor Streets for Urban Locations - Warrant 3B



Intersection:	3rd Street & Clay Wade Bailey Bridge				
City/State:	Cincinnati, Ohio				
Date:	7/9/2010	Performed By: JRL			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	500		230	180	910	500	410
8:00 - 9:00 AM	268		264	321	853	268	585
9:00 - 10:00AM	268		264	321	853	268	585
10:00 - 11:00 AM	268		264	321	853	268	585
11:00 - 12:00 PM	268		264	321	853	268	585
12:00 - 1:00 PM	268		264	321	853	268	585
1:00 - 2:00 PM	268		264	321	853	268	585
2:00 - 3:00 PM	268		264	321	853	268	585
3:00 - 4:00 PM	268		264	321	853	268	585
4:00 - 5:00 PM	300		550	790	1640	300	1340
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	2944	0	2892	3538	9374	2944	6430

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff									
Intersection: City/State: Date	ersection: 3rd Street & Clay Wade Bailey Bridge y/State: Cincinnati, Ohio te 7/9/2010 Performed by: JRL								
Warrant 1 -	Eight-Hour Vehicula	r Volume							
	Major Street:	2	_Minor Street:	2	—				
	Vehicles per hour on	maior street (total of both approac	hes):					
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	585					
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	585					
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	585					
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	585					
	4:00 - 5:00 AM	Ő	4:00 - 5:00 PM	1340					
	5:00 - 6:00 AM	Õ	5:00 - 6:00 PM	0					
	6:00 - 7:00 AM	0 0	6:00 - 7:00 PM	0					
	7:00 - 8:00 ΔM	410	7:00 - 8:00 PM	0					
	8:00 - 9:00 AM	585	8:00 - 9:00 PM	0					
	9·00 - 10·00ΔM	585	9.00 - 10.00PM	0					
	10.00 - 11.00 AM	585	10.00 - 11.00 PM	0					
	11:00 - 12:00 PM	585	11:00 - 12:00 PM	0					
				-					
	Vehicles per hour on	higher-volum	e minor street approa	ich (one dir	ection only):				
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	268	5,				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	268					
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	268					
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	268					
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	300					
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0					
	6:00 - 7:00 AM	Õ	6:00 - 7:00 PM	0					
	7:00 - 8:00 AM	500	7:00 - 8:00 PM	0					
	8.00 - 9.00 AM	268	8:00 - 9:00 PM	0					
	9·00 - 10·00ΔM	268	9.00 - 10.00PM	0					
	10.00 - 11.00 AM	200	10.00 - 11.00 PM	0					
	11:00 - 12:00 PM	268	11:00 - 12:00 PM	0					
	Is the intersection us or population?	ing the reduce No	ed volume criteria bas	ed on spee	ed				
	A. Is the Minimu	m Vehicula	r Volume Warra	nt Met?	No				
	B. Is the Interrup	otion of Co	ntinuous Traffic	Met?	No				
	Combination of	Warrants A	and B Criteria M	/let?	No				
	(Use only when Cond	litions A and E	3 are both not satisifie	ed)					



Intersection:	3rd Street & Clay Wade Bailey Bridge				
City/State:	Cincinnati, Ohio				
Date:	7/9/2010	Performed By: JRL			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	600		230	200	1030	600	430
8:00 - 9:00 AM	459		262	564	1285	459	826
9:00 - 10:00AM	459		262	564	1285	459	826
10:00 - 11:00 AM	459		262	564	1285	459	826
11:00 - 12:00 PM	459		262	564	1285	459	826
12:00 - 1:00 PM	459		262	564	1285	459	826
1:00 - 2:00 PM	459		262	564	1285	459	826
2:00 - 3:00 PM	459		262	564	1285	459	826
3:00 - 4:00 PM	459		262	564	1285	459	826
4:00 - 5:00 PM	400		600	980	1980	400	1580
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	4672	0	2926	5692	13290	4672	8618

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff										
Intersection: City/State: Date	: 3rd Street & Clay Wa Cincinnati, Ohio 7/9/2010	de Bailey Bri	dge Performed by:	JRL							
Warrant 1 -	Eight-Hour Vehicular	<u>Volume</u>									
	Number of lanes of moving traffic for moving traffic on each approach:										
	Major Street:	2	Minor Street:	2	_						
	Vehicles per hour on i	maior street	(total of both approach	nes):							
	12.00 - 1.00 AM	0	12:00 - 1:00 PM	826							
	1.00 - 2.00 AM	0	1.00 - 2.00 PM	826							
	2.00 2.00 AM	0	2:00 2:00 PM	826							
	2.00 - 3.00 AM	0	2.00 - 3.00 PIVI	020							
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	826							
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1580							
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0							
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0							
	7:00 - 8:00 AM	430	7:00 - 8:00 PM	0							
	8:00 - 9:00 AM	826	8:00 - 9:00 PM	0							
	9:00 - 10:00AM	826	9:00 - 10:00PM	0							
	10:00 - 11:00 AM	826	10:00 - 11:00 PM	0							
	11:00 - 12:00 PM	826	11:00 - 12:00 PM	0							
	Vahielee ner heur en l	a lada a sua luura	a minar atreat annua	ah (ana din							
	venicies per nour on i	ngner-volum	te minor street approa	cn (one aire	ection only):						
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	459							
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	459							
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	459							
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	459							
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	400							
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0							
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0							
	7:00 - 8:00 AM	600	7:00 - 8:00 PM	0							
	8:00 - 9:00 AM	459	8:00 - 9:00 PM	0							
	9:00 - 10:00AM	459	9.00 - 10.00PM	0							
	10.00 - 11.00 AM	450	10:00 - 11:00 PM	0							
	11:00 - 12:00 PM	459	11:00 - 12:00 PM	0							
	Is the intersection usir	ng the reduc	ed volume criteria bas	ed on spee	d						
	or population?	No									
	A. Is the Minimur	n Vehicul	ar Volume Warra	nt Met?	Yes						
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	No						
	Combination of V	Varrante	Δ and B Criteria Ν	let?	Yes						
	(Use only when Cond	tions A and	B are both not satisified	ad)	163						



Intersection:	3rd Street & Clay Wade Bailey Bridge				
City/State:	Cincinnati, Ohio				
Date:	7/9/2010	Performed By: JRL			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	680	200	260	320	1460	680	580
8:00 - 9:00 AM	538	52	284	618	1492	538	902
9:00 - 10:00AM	538	52	284	618	1492	538	902
10:00 - 11:00 AM	538	52	284	618	1492	538	902
11:00 - 12:00 PM	538	52	284	618	1492	538	902
12:00 - 1:00 PM	538	52	284	618	1492	538	902
1:00 - 2:00 PM	538	52	284	618	1492	538	902
2:00 - 3:00 PM	538	52	284	618	1492	538	902
3:00 - 4:00 PM	538	52	284	618	1492	538	902
4:00 - 5:00 PM	400	260	550	900	2110	400	1450
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	5384	876	3082	6164	15506	5384	9246

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff								
Intersection: City/State: Date	: 3rd Street & Clay Wa Cincinnati, Ohio 7/9/2010	de Bailey Bri	idge Performed by:	JRL					
Warrant 1 -	Eight-Hour Vehicular	Volume							
	Number of lanes of m	oving traffic	for moving traffic on e	ach approa	ich:				
	Major Street:	2	Minor Street:	2	_				
	Vehicles per hour on	major street	(total of both approach	nes):					
	12:00 - 1:00 AM	, 0	12:00 - 1:00 PM	⁹⁰²					
	1.00 - 2.00 AM	0	1.00 - 2.00 PM	902					
	2.00 - 3.00 AM	Ő	2:00 - 3:00 PM	902					
	3:00 - 1:00 AM	0	2:00 - 4:00 PM	902					
	4:00 5:00 AM	0	4:00 5:00 PM	1450					
	4.00 - 5.00 AM	0	4.00 - 5.00 FIVI	1450					
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0					
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0					
	7:00 - 8:00 AM	580	7:00 - 8:00 PM	0					
	8:00 - 9:00 AM	902	8:00 - 9:00 PM	0					
	9:00 - 10:00AM	902	9:00 - 10:00PM	0					
	10:00 - 11:00 AM	902	10:00 - 11:00 PM	0					
	11:00 - 12:00 PM	902	11:00 - 12:00 PM	0					
	Vehicles per hour on	hiaher-volum	ne minor street approa	ich (one dir	ection only):				
	12.00 - 1.00 AM	0	12.00 - 1.00 PM	538					
	1.00 - 2.00 AM	0	1.00 - 2.00 PM	538					
	2.00 - 3.00 AM	Õ	2:00 - 3:00 PM	538					
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	538					
	3.00 - 4.00 AM	0	3.00 - 4.00 FIVI	400					
	4.00 - 5.00 AM	0	4.00 - 5.00 PM	400					
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0					
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0					
	7:00 - 8:00 AM	680	7:00 - 8:00 PM	0					
	8:00 - 9:00 AM	538	8:00 - 9:00 PM	0					
	9:00 - 10:00AM	538	9:00 - 10:00PM	0					
	10:00 - 11:00 AM	538	10:00 - 11:00 PM	0					
	11:00 - 12:00 PM	538	11:00 - 12:00 PM	0					
	Is the intersection using or population?	ng the reduc No	ed volume criteria bas	ed on spee	ed				
	A. Is the Minimur	n Vehicul	ar Volume Warra	nt Met?	Yes				
	B. Is the Interrup	tion of Co	ontinuous Traffic	Met?	Yes				
	• • • • •				X				
	Combination of V	Narrants A	A and B Criteria N	/iet?	Yes				
	(Use only when Cond	mons A and	D are both not satisifie	eu)					



Intersection:	McMillian Street & Central Parkway				
City/State:	Cincinnati, Ohio				
Date:	7/9/2010	Performed By: JRL			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	300	630	1530	210	2670	630	1740
8:00 - 9:00 AM	539	395	601	328	1863	539	929
9:00 - 10:00AM	539	395	601	328	1863	539	929
10:00 - 11:00 AM	539	395	601	328	1863	539	929
11:00 - 12:00 PM	539	395	601	328	1863	539	929
12:00 - 1:00 PM	539	395	601	328	1863	539	929
1:00 - 2:00 PM	539	395	601	328	1863	539	929
2:00 - 3:00 PM	539	395	601	328	1863	539	929
3:00 - 4:00 PM	539	395	601	328	1863	539	929
4:00 - 5:00 PM	1340	710	610	620	3280	1340	1230
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	5952	4500	6948	3454	20854	6282	10402

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff							
Intersection: City/State: Date	McMillian Street & C Cincinnati, Ohio 7/9/2010	entral Parkway	/ Performed by:	JRL				
Warrant 1 -	Eight-Hour Vehicula	<u>ir Volume</u>						
	Number of lanes of r	noving traffic fo	or moving traffic on e	ach approa	ch:			
	Major Street:	3	Minor Street:	3	_			
	Vehicles per hour or 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 5:00 - 6:00 AM 6:00 - 7:00 AM 7:00 - 8:00 AM 8:00 - 9:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 11:00 - 12:00 PM Vehicles per hour or 12:00 - 1:00 AM 1:00 - 2:00 AM 2:00 - 3:00 AM 3:00 - 4:00 AM 6:00 - 7:00 AM 6:00 - 7:00 AM 6:00 - 7:00 AM 8:00 - 9:00 AM 9:00 - 10:00AM 10:00 - 11:00 AM 11:00 - 12:00 PM	n major street (* 0 0 0 0 0 0 0 1740 929 929 929 929 929 929 929 929 929 92	total of both approact 12:00 - 1:00 PM 1:00 - 2:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 6:00 - 7:00 PM 7:00 - 8:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 10:00 - 11:00 PM 11:00 - 12:00 PM 2:00 - 3:00 PM 3:00 - 4:00 PM 4:00 - 5:00 PM 6:00 - 7:00 PM 5:00 - 6:00 PM 6:00 - 7:00 PM 8:00 - 9:00 PM 9:00 - 10:00PM 10:00 - 11:00 PM 10:00 - 11:00 PM 10:00 - 10:00PM 10:00 - 11:00 PM 10:00 - 12:00 PM	hes): 929 929 929 1230 0 0 0 0 0 0 0 0 0 0 0 0 0	ection only):			
	or population?	No			-			
	A. Is the Minimu	ım Vehicula	r Volume Warra	nt Met?	Yes			
	B. Is the Interru	ption of Co	ntinuous Traffic	Met?	Yes			
	Combination of (Use only when Con	Warrants A ditions A and E	and B Criteria N are both not satisifie	/let? ed)	Yes			



Yes

Intersection:	McMillian Street & Central Parkway				
City/State:	Cincinnati, Ohio				
Date:	7/9/2010	Performed By: JRL			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	350		2390	300	3040	350	2690
8:00 - 9:00 AM	528		988	455	1971	528	1443
9:00 - 10:00AM	528		988	455	1971	528	1443
10:00 - 11:00 AM	528		988	455	1971	528	1443
11:00 - 12:00 PM	528		988	455	1971	528	1443
12:00 - 1:00 PM	528		988	455	1971	528	1443
1:00 - 2:00 PM	528		988	455	1971	528	1443
2:00 - 3:00 PM	528		988	455	1971	528	1443
3:00 - 4:00 PM	528		988	455	1971	528	1443
4:00 - 5:00 PM	1290		1130	890	3310	1290	2020
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	5864	0	11424	4830	22118	5864	16254

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff										
Intersection: City/State: Date	McMillian Street & C Cincinnati, Ohio 7/9/2010	entral Parkway	/ Performed by:	JRL							
Warrant 1 -	Eight-Hour Vehicula	<u>r Volume</u>									
	Number of lanes of moving traffic for moving traffic on each approach:										
	Major Street:	3	_Minor Street:	3							
	Vahielas par bour an	major street (total of both approach	ooc).							
			12.00 - 1.00 DM	1//3							
	12.00 - 1.00 AM	0	1:00 - 2:00 PM	1//3							
	2:00 - 2:00 AM	0	2:00 - 2:00 PM	1//3							
	2.00 - 3.00 AM	0	2:00 - 3:00 T M	1//3							
	3.00 - 4.00 AW	0	3.00 - 4.00 PM	2020							
	4.00 - 5.00 AM	0	4.00 - 5.00 PM	2020							
	5.00 - 0.00 AW	0	5.00 - 0.00 FIVI	0							
	0.00 - 7.00 AIVI	2600	7:00 - 7.00 FIVI	0							
	7.00 - 0.00 AIVI 8:00 0:00 AM	2090	7.00 - 0.00 FIVI 8:00 0:00 PM	0							
	0.00 - 9.00 AIVI	1443	0.00 - 9.00 FIVI	0							
	9.00 - 10.00AIVI	1443	9.00 - 10.00PM	0							
	10.00 - 11.00 AIVI	1443	10.00 - 11.00 PN	0							
	11:00 - 12:00 PW	1443	11:00 - 12:00 PM	0							
		highervolum	minor atroat approa	ob (opo dir	action only):						
					ection only).						
	12.00 - 1.00 AM	0	12.00 - 1.00 FIVI	520							
	1.00 - 2.00 AIVI	0	1.00 - 2.00 PIVI	020 520							
	2.00 - 3.00 AIVI	0	2.00 - 3.00 PIVI	520 500							
	3.00 - 4.00 AM	0	3.00 - 4.00 PIVI	526							
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1290							
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0							
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0							
	7:00 - 8:00 AM	350	7:00 - 8:00 PM	0							
	8:00 - 9:00 AM	528	8:00 - 9:00 PM	0							
	9:00 - 10:00AM	528	9:00 - 10:00PM	0							
	10:00 - 11:00 AM	528	10:00 - 11:00 PM	0							
	11:00 - 12:00 PM	528	11:00 - 12:00 PM	0							
	la the interpetion up	ing the reduce	d volumo oritorio boo	od on once	ad a state of the						
	or population?	No		sed on spee	su						
	A. Is the Minimu	m Vehicula	r Volume Warra	nt Met?	Yes						
	B. Is the Interrup	otion of Co	ntinuous Traffic	Met?	Yes						
	Combination of	Warrante A	and B Criteria	let?	Yes						
					169						
	(Use only when Cond	ditions A and E	are both not satisifie	ed)							



Intersection:	McMillian Street & Central Parkway				
City/State:	Cincinnati, Ohio				
Date:	7/9/2010	Performed By: JRL			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	400	720	1540	200	2860	720	1740
8:00 - 9:00 AM	662	458	651	306	2077	662	957
9:00 - 10:00AM	662	458	651	306	2077	662	957
10:00 - 11:00 AM	662	458	651	306	2077	662	957
11:00 - 12:00 PM	662	458	651	306	2077	662	957
12:00 - 1:00 PM	662	458	651	306	2077	662	957
1:00 - 2:00 PM	662	458	651	306	2077	662	957
2:00 - 3:00 PM	662	458	651	306	2077	662	957
3:00 - 4:00 PM	662	458	651	306	2077	662	957
4:00 - 5:00 PM	1600	820	660	610	3690	1600	1270
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	7296	5204	7408	3258	23166	7616	10666

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff							
Intersection: City/State: Date	McMillian Street & C Cincinnati, Ohio 7/9/2010	entral Parkway	, Performed by:	JRL				
Warrant 1 -	Eight-Hour Vehicula	r Volume						
	Number of lanes of r	noving traffic fo	or moving traffic on e	ach approa	ich:			
	Major Street:	3	_Minor Street:	3	_			
	Vehicles per hour on	maior street (1	total of both approac	hes):				
	12.00 - 1.00 AM	0	12.00 - 1.00 PM	957				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	957				
	2:00 - 2:00 AM	0	2:00 - 2:00 PM	957				
	2:00 - 3:00 AM	0	2:00 - 3:00 T M	957				
	4:00 5:00 AM	0	3.00 - 4.00 FM	1070				
	4.00 - 5.00 AM	0	4.00 - 5.00 PIVI	1270				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	1740	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	957	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	957	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	957	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	957	11:00 - 12:00 PM	0				
	Vahielas par haur an	higher volum	minor street approx	ch (ono dir	action only):			
					ection only).			
	12.00 - 1.00 AM	0	12.00 - 1.00 PIVI	002				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	662				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	662				
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	662				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1600				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	720	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	662	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	662	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	662	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	662	11:00 - 12:00 PM	0				
	Is the intersection us or population?	ing the reduce No	d volume criteria bas	ed on spee	ŀd			
	A. Is the Minimu	m Vehicula	r Volume Warra	nt Met?	Yes			
	B. Is the Interru	otion of Cor	ntinuous Traffic	Met?	Yes			
	Combination of	Warrants A	and B Criteria M	Net?	Yes			
	(Use only when Con	ditions A and E	are both not satisifie	ed)				



Intersection:	McMillian Street & Central Parkway				
City/State:	Cincinnati, Ohio				
Date:	7/9/2010	Performed By: JRL			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		1460	530	640	2630	1460	1170
8:00 - 9:00 AM		575	872	402	1849	575	1274
9:00 - 10:00AM		575	872	402	1849	575	1274
10:00 - 11:00 AM		575	872	402	1849	575	1274
11:00 - 12:00 PM		575	872	402	1849	575	1274
12:00 - 1:00 PM		575	872	402	1849	575	1274
1:00 - 2:00 PM		575	872	402	1849	575	1274
2:00 - 3:00 PM		575	872	402	1849	575	1274
3:00 - 4:00 PM		575	872	402	1849	575	1274
4:00 - 5:00 PM		740	2100	780	3620	740	2880
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	6800	9606	4636	21042	6800	14242

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff							
Intersection: City/State: Date	McMillian Street & Ce Cincinnati, Ohio 7/9/2010	entral Parkwa	y Performed by:	JRL				
Warrant 1 -	Eight-Hour Vehicular	Volume						
	Number of lanes of m	oving traffic f	for moving traffic on e	ach annroa	ch:			
	Major Street:	2	Minor Street:	2	_			
	Vehicles per hour on	maior street	(total of both approach	nes):				
				103/.				
	12.00 - 1.00 AM	0	12.00 - 1.00 FIVI	1274				
	1.00 - 2.00 AM	0	1.00 - 2.00 PM	1274				
	2.00 - 3.00 AM	0	2.00 - 3.00 PIVI	1274				
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	1274				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	2880				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	1170	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	1274	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	1274	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	1274	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	1274	11:00 - 12:00 PM	0				
	Vahiolog par hour op	highervolum	a minor atract approx	ah (ana dir	action only)			
		nignei-volum			ection only).			
	12.00 - 1.00 AM	0	12.00 - 1.00 PIVI	575				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	575				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	575				
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	5/5				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	740				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	1460	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	575	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	575	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	575	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	575	11:00 - 12:00 PM	0				
	Is the intersection usi	na the reduce	ad volume criteria bac	ad on spec	d			
	or population?	No	eu volume enteña bas	eu on spee	u			
	A. Is the Minimur	n Vehicula	ar Volume Warra	nt Met?	Yes			
	B. Is the Interrup	tion of Co	ntinuous Traffic	Met?	Yes			
	Combination of V	Narrants A	A and B Criteria M	let?	Yes			
	(Use only when Cond	itions A and	B are both not satisifie	ed)				



Intersection:	Western Hills Viaduct & I-75 Ramps				
City/State:	Cincinnati, Ohio				
Date:	7/9/2010	Performed By: JRL			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	1130	1220	3180	500	6030	1220	3680
8:00 - 9:00 AM	597	383	1298	941	3219	597	2239
9:00 - 10:00AM	597	383	1298	941	3219	597	2239
10:00 - 11:00 AM	597	383	1298	941	3219	597	2239
11:00 - 12:00 PM	597	383	1298	941	3219	597	2239
12:00 - 1:00 PM	597	383	1298	941	3219	597	2239
1:00 - 2:00 PM	597	383	1298	941	3219	597	2239
2:00 - 3:00 PM	597	383	1298	941	3219	597	2239
3:00 - 4:00 PM	597	383	1298	941	3219	597	2239
4:00 - 5:00 PM	1140	520	1150	2090	4900	1140	3240
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	7046	4804	14714	10118	36682	7136	24832

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

Intersection: Western Hills Viaduct & I-75 Ramps City/State: Cincinnati, Ohio Date 7/9/2010 Performed by: JRL Varrant 1- Eight-Hour Vehicular Volume Number of lanes of moving traffic for moving traffic on each approach: Major Street: 2 Minor Street: 2 Vehicles per hour on major street (total of both approaches): 12:00 - 1:00 AM 0 12:00 - 1:00 PM 2239 12:00 - 3:00 AM 0 2:00 - 3:00 PM 2239 2:00 - 3:00 AM 0 3:00 - 4:00 PM 2239 3:00 - 4:00 AM 0 3:00 - 4:00 PM 2239 3:00 - 4:00 AM 0 5:00 - FM 0 2:239 4:00 - 5:00 AM 0 5:00 - FM 0 6:00 - 7:00 AM 0 5:00 PM 0 6:00 - 7:00 AM 0 6:00 PM 0 7:00 - 8:00 AM 0 5:00 - 7:00 PM 0 7:00 - 8:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 2239 8:00 - 9:00 PM 0 1:00 - 11:00 AM 2239 11:00 - 11:00 PM 0 11:00 - 11:00 AM 2239 11:00 - 11:00 PM 0 11:00 - 11:00 AM 2239 11:00 - 11:00 PM 0 11:00 - 11:00 AM 2239 11:00 - 11:00 PM 597 1:00 - 2:00 AM 0 1:00 - 2:00 PM 597 1:00 - 2:00 AM 0 5:00 PM 0 1:00 - 2:00 AM 0 5:00 PM 0 1:00 - 10:00 AM 597 8:00 PM 0 1:00 - 10:00 AM 597 9:00 - 10:00PM 597 4:00 -5:00 AM 0 5:00 PM 0 1:00 - 10:00 AM 597 9:00 - 10:00PM 0 1:00 - 12:00 PM 597 1:00 - 12:00 PM 0 1:00 - 12:00 PM 597 1:00 - 12:00 PM 0 1:00 - 12:00 PM 597 1:00 - 12:00 PM 0 1:00 - 12:00 PM 597 1:00 - 12:00 PM 0 1:00 - 12:00 PM 597 1:00 - 12:00 PM 0 1:00 - 12:00 PM 597 1:00 - 12:00 PM 0 1:00 - 12:00 PM 597 1:00 - 12:00 PM 0 1:00 - 12:00 PM 597 1:00 - 12:00 PM 0 1:00 - 12:00 PM 597 1:00 - 12:00 PM 0 1:00 - 12:00 PM 597 1:00 - 12:00 PM 0 1:00 - 12:00 PM 597 1:00 - 12:00 PM 0 1:00 - 12:00 PM 597 1:00 - 12:00 PM 0 1:0		Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff								
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2:00 - 3:00 AM 0 2:00 - 3:00 PM 597 3:00 - 4:00 AM 0 3:00 - 4:00 PM 597 4:00 - 5:00 AM 0 4:00 - 5:00 PM 1140 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 1220 7:00 - 8:00 PM 0 7:00 - 8:00 AM 1220 7:00 - 8:00 PM 0 8:00 - 9:00 AM 597 8:00 PM 0 9:00 - 10:00AM 597 9:00 - 10:00PM 0 9:00 - 11:00 AM 597 10:00 - 11:00 PM 0 10:00 - 12:00 PM 597 11:00 - 12:00 PM 0 11:00 - 12:00 PM 597 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		1:00 - 2:00 AM	0	1:00 - 2:00 PM	597					
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4:00 - 5:00 AM 0 4:00 - 5:00 PM 1140 5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 1220 7:00 - 8:00 PM 0 8:00 - 9:00 AM 597 8:00 - 9:00 PM 0 9:00 - 10:00AM 597 9:00 - 10:00PM 0 9:00 - 11:00 AM 597 10:00 - 11:00 PM 0 10:00 - 11:00 AM 597 10:00 - 11:00 PM 0 11:00 - 12:00 PM 597 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes		3:00 - 4:00 AM	0	3:00 - 4:00 PM	597					
5:00 - 6:00 AM 0 5:00 - 6:00 PM 0 6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 1220 7:00 - 8:00 PM 0 8:00 - 9:00 AM 597 8:00 - 9:00 PM 0 9:00 - 10:00AM 597 9:00 - 10:00PM 0 10:00 - 11:00 AM 597 10:00 - 11:00 PM 0 11:00 - 12:00 PM 597 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes		4:00 - 5:00 AM	0	4:00 - 5:00 PM	1140					
6:00 - 7:00 AM 0 6:00 - 7:00 PM 0 7:00 - 8:00 AM 1220 7:00 - 8:00 PM 0 8:00 - 9:00 AM 597 8:00 - 9:00 PM 0 9:00 - 10:00AM 597 9:00 - 10:00PM 0 10:00 - 11:00 AM 597 10:00 - 11:00 PM 0 11:00 - 12:00 PM 597 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes		5:00 - 6:00 AM	0	5:00 - 6:00 PM	0					
7:00 - 8:00 AM12207:00 - 8:00 PM08:00 - 9:00 AM5978:00 - 9:00 PM09:00 - 10:00AM5979:00 - 10:00PM010:00 - 11:00 AM59710:00 - 11:00 PM011:00 - 12:00 PM59711:00 - 12:00 PM0Is the intersection using the reduced volume criteria based on speed or population?NoA. Is the Minimum Vehicular Volume Warrant Met? YesB. Is the Interruption of Continuous Traffic Met? YesCombination of Warrants A and B Criteria Met? Yes		6:00 - 7:00 AM	0	6:00 - 7:00 PM	0					
8:00 - 9:00 AM 597 8:00 - 9:00 PM 0 9:00 - 10:00AM 597 9:00 - 10:00PM 0 10:00 - 11:00 AM 597 10:00 - 11:00 PM 0 11:00 - 12:00 PM 597 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		7:00 - 8:00 AM	1220	7:00 - 8:00 PM	0					
9:00 - 10:00AM 597 9:00 - 10:00PM 0 10:00 - 11:00 AM 597 10:00 - 11:00 PM 0 11:00 - 12:00 PM 597 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		8:00 - 9:00 AM	597	8:00 - 9:00 PM	0					
10:00 - 11:00 AM 597 10:00 - 11:00 PM 0 11:00 - 12:00 PM 597 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		9:00 - 10:00AM	597	9:00 - 10:00PM	0					
11:00 - 12:00 PM 597 11:00 - 12:00 PM 0 Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		10:00 - 11:00 AM	597	10:00 - 11:00 PM	0					
Is the intersection using the reduced volume criteria based on speed or population? No A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		11:00 - 12:00 PM	597	11:00 - 12:00 PM	0					
A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		Is the intersection usi	na the reduce	ed volume criteria bas	ed on spee	d				
A. Is the Minimum Vehicular Volume Warrant Met? Yes B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		or population?	No							
B. Is the Interruption of Continuous Traffic Met? Yes Combination of Warrants A and B Criteria Met? Yes		A. Is the Minimu	m Vehicula	ar Volume Warrai	nt Met?	Yes				
Combination of Warrants A and B Criteria Met? Yes		B. Is the Interrup	otion of Co	ntinuous Traffic	Met?	Yes				
		Combination of	Warrants A	and B Criteria M	let?	Yes				
(Use only when Conditions A and B are both not satisified)		(Use only when Conc	litions A and F	B are both not satisifie	ed)					



Intersection:	Western Hills Viaduct UPPER DECK & I-75 SB Off-Ramp			
City/State:	Cincinnati, Ohio			
Date:	7/9/2010	Performed By: JRL		

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM		260	1560	320	2140	260	1880
8:00 - 9:00 AM		354	666	273	1293	354	939
9:00 - 10:00AM		354	666	273	1293	354	939
10:00 - 11:00 AM		354	666	273	1293	354	939
11:00 - 12:00 PM		354	666	273	1293	354	939
12:00 - 1:00 PM		354	666	273	1293	354	939
1:00 - 2:00 PM		354	666	273	1293	354	939
2:00 - 3:00 PM		354	666	273	1293	354	939
3:00 - 4:00 PM		354	666	273	1293	354	939
4:00 - 5:00 PM		500	770	530	1800	500	1300
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	0	3592	7658	3034	14284	3592	10692

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No

	Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerhoff							
Intersection: City/State:	Western Hills Viaduc Cincinnati, Ohio	t UPPER DE	CK & I-75 SB Off-Ran	np				
Date	7/9/2010		Performed by:	JRL				
Warrant 1 -	Eight-Hour Vehicula	r Volume						
		ouine troffic	for moving traffic on a		ah.			
	Major Street	2	Minor Street	2 ach approa 2	ICH.			
		2			_			
	Vehicles per hour on	major street	(total of both approach	nes):				
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	939				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	939				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	939				
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	939				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1300				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	1880	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	939	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	939	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	939	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	939	11:00 - 12:00 PM	0				
	X 1 1 1 1 1 1 1 1 1 1							
	Vehicles per hour on	higher-volum	e minor street approa	ch (one dir	ection only):			
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	354				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	354				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	354				
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	354				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	500				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	260	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	354	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	354	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	354	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	354	11:00 - 12:00 PM	0				
	Is the intersection usi	na the reduc	ed volume criteria bas	ed on snee	h			
	or population?	No		ou on opec				
	A. Is the Minimu	m Vehicula	ar Volume Warra	nt Met?	Yes			
	B. Is the Interrup	otion of Co	ntinuous Traffic	Met?	Yes			
	Combination of	Norrente	and D Critaria	1012	Vac			
			A and B Criteria N		res			
	(Use only when Cond	ations A and	B are both not satisifie	ea)				

Brent Spence Bridge Signal Warrant Analysis_I-50 Western Hills Viaduct UPPER DECK & I-75 SB Off-Ramp -2035 Alt I.xlsx



Intersection:	Western Hills Viaduct UPPER DECK & I-75 NB Off-Ramp				
City/State:	Cincinnati, Ohio				
Date:	7/9/2010	Performed By: JRL			

	Minor (EB/NB)	Minor (WB/SB)	Major(EB/NB)	Major(WB/SB)	Total	Minor	Total
	Approach	Approach	Approach	Approach			Major
12:00 - 1:00 AM					0	0	0
1:00 - 2:00 AM					0	0	0
2:00 - 3:00 AM					0	0	0
3:00 - 4:00 AM					0	0	0
4:00 - 5:00 AM					0	0	0
5:00 - 6:00 AM					0	0	0
6:00 - 7:00 AM					0	0	0
7:00 - 8:00 AM	760		570		1330	760	570
8:00 - 9:00 AM	379		617		996	379	617
9:00 - 10:00AM	379		617		996	379	617
10:00 - 11:00 AM	379		617		996	379	617
11:00 - 12:00 PM	379		617		996	379	617
12:00 - 1:00 PM	379		617		996	379	617
1:00 - 2:00 PM	379		617		996	379	617
2:00 - 3:00 PM	379		617		996	379	617
3:00 - 4:00 PM	379		617		996	379	617
4:00 - 5:00 PM	370		1070		1440	370	1070
5:00 - 6:00 PM					0	0	0
6:00 - 7:00 PM					0	0	0
7:00 - 8:00 PM					0	0	0
8:00 - 9:00 PM					0	0	0
9:00 - 10:00PM					0	0	0
10:00 - 11:00 PM					0	0	0
11:00 - 12:00 PM					0	0	0
Total	4162	0	6576	0	10738	4162	6576

Does the 85th Percentile Speed/Posted Speed Limit exceed 40 mph on the major street?

No

Does the intersection lie within a built-up area of an isolated community having a population of less than 10,000? No
Brent Spence Bridge Signal Warrant Analysis_I-51 Western Hills Viaduct UPPER DECK & I-75 NB Off-Ramp - 2035 Alt I.xlsx

Warrant 1

Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) Prepared by Parsons Brinckerboff								
		-repared t	by Parsons Brinci	kemon				
Intersection: City/State:	Western Hills Viaduo	t UPPER DE	CK & I-75 NB Off-Rar	np				
Date	7/9/2010		Performed by:	JRL				
warrant 1 -	Eight-Hour venicula	<u>r volume</u>						
	Number of lanes of n	noving traffic	for moving traffic on e	ach approa	ach:			
	Major Street:	2	Minor Street:	2	_			
	Vehicles per hour on	maior street	(total of both approach	nes).				
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	617				
	1:00 - 2:00 AM	0 0	1:00 - 2:00 PM	617				
	2:00 - 3:00 AM	0 0	2:00 - 3:00 PM	617				
	3:00 - 4:00 AM	Õ	3:00 - 4:00 PM	617				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	1070				
	5:00 - 6:00 AM	Õ	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	570	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	617	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	617	9:00 - 10:00PM	0 0				
	10:00 - 11:00 AM	617	10.00 - 11.00 PM	0				
	11:00 - 12:00 PM	617	11:00 - 12:00 PM	0				
	Vehicles per hour on	higher-volun	ne minor street approa	ch (one dir	ection only):			
	12:00 - 1:00 AM	0	12:00 - 1:00 PM	379				
	1:00 - 2:00 AM	0	1:00 - 2:00 PM	379				
	2:00 - 3:00 AM	0	2:00 - 3:00 PM	379				
	3:00 - 4:00 AM	0	3:00 - 4:00 PM	379				
	4:00 - 5:00 AM	0	4:00 - 5:00 PM	370				
	5:00 - 6:00 AM	0	5:00 - 6:00 PM	0				
	6:00 - 7:00 AM	0	6:00 - 7:00 PM	0				
	7:00 - 8:00 AM	760	7:00 - 8:00 PM	0				
	8:00 - 9:00 AM	379	8:00 - 9:00 PM	0				
	9:00 - 10:00AM	379	9:00 - 10:00PM	0				
	10:00 - 11:00 AM	379	10:00 - 11:00 PM	0				
	11:00 - 12:00 PM	379	11:00 - 12:00 PM	0				
	Is the intersection us	ing the reduc	ed volume criteria bas	ed on shee	h			
	or population?	No	ed volume chiena bas	ieu on spee				
					N.			
	A. Is the Minimu	m Vehicul	ar Volume Warra	nt Met?	Yes			
	B is the Interru	ntion of Cr	ntinuous Traffic	Mot?	No			
				MCL (
	Combination of	Warrants .	A and B Criteria M	/let?	Νο			
	(Use only when Cond	ditions A and	B are both not satisifie	ed)				

Brent Spence Bridge Signal Warrant Analysis_I-51 Western Hills Viaduct UPPER DECK & I-75 NB Off-Ramp -2035 Alt I.xlsx



Appendix H Maintenance of Traffic Phasing Plan



U.S. Department of Transportation Federal Highway Administration

Maintenance of Traffic Analysis

Once work begins in mainline I-75, it will be critical to manage the maintenance of traffic (MOT) operations between other projects taking place along I-75 and between the Commonwealth of Kentucky and the State of Ohio. The MOT plan developed for the I-75 corridor reconstruction requires coordination among projects and between the two states along the entire eight-mile corridor length. Within Kentucky, the project involves the reconstruction of I-71/I-75 from south of the Dixie Highway interchange to the Ohio River bridges. Construction within Kentucky also includes the construction of collector distributor (C-D) roadway between the Dixie Highway and Kyles Lane interchanges and a C-D roadway between KY 12th Street and the Ohio River along with local roadway improvements. Within Ohio, the project involves the reconstruction of I-71 from the Ohio River bridges to north of the Western Hills Viaduct (WHV). Construction within Ohio also includes the construction of a C-D roadway from the Ohio River bridges to the zzard Charles Drive overpass, reconstruction of the I-75/US 50 interchange, along with local roadway improvements.

General Overview and Delivery Options

The general MOT plan involves constructing the western portion of the I-75 corridor first, including the new bridge over the Ohio River. As the construction of the new bridge may exceed three years, it is on the project's critical path for maintaining significant MOT operations. The work on the western portion of the corridor also includes replacing and lengthening the overpasses if they are not constructed in an earlier contract package. Once the western portion is constructed, southbound I-75 traffic will be diverted to the widened area, crossing the new bridge on the bottom deck (future southbound C-D roadway), and utilizing the widened portion of the interstate in Kentucky. Northbound I-75 traffic will remain in its current location, leaving a large work area available to the contractor to construct new I-75 pavement and local access ramps in Ohio. The final MOT phase involves shifting northbound I-75 to the future southbound I-75 location on the upper deck of new Ohio River Bridge, allowing the construction of northbound interstate and C-D roadways between KY 12th Street and the connections to FWW and OH 2nd Street, in addition to the rehabilitation of the existing Brent Spence Bridge.

I-75 Corridor Context

The Brent Spence Bridge is part of the larger I-75 Improvement Program which extends from south of Dixie Highway in Kentucky to I-275 in Ohio. This program is subdivided into three major projects; the Mill Creek Expressway project, the Thru the Valley project, and the Brent Spence Bridge Replacement/Rehabilitation project. These Kentucky and Ohio projects are being developed under the Ohio Department of Transportation's (ODOT's) Major Project Development Process (PDP) and will utilize phased construction. The Mill Creek Expressway project will be constructed first, the Thru the Valley project will be constructed second, and the Ohio portion of the Brent Spence Bridge will be third. The construction sequencing for each of these projects will need to be coordinated. Maintenance of traffic, lane continuity, and geometric design will dictate construction termini that are different from the termini used for the planning and preliminary design efforts. Kentucky may begin its portion of the Brent Spence Bridge uto budget constraints in Kentucky's Six-Year Transportation Plan. It is critical that phasing and connections of the main span with the Kentucky and Ohio approaches be coordinated between the two states. The delivery method



Date: 5-6-11

should have a strong foundation in community awareness, maintenance of traffic, constructability, and safety.

Creative phasing will allow for less complicated maintenance of traffic plans, while improving the interim performance and operational nature of the I-71/I-75 corridor. Building the entire Brent Spence Bridge Replacement/Rehabilitation project in one phase would shorten the amount of time the public is affected; however, available funds may not permit this approach. Further refinements in the staging of the work will develop details of the phasing and funding plans, as well as coordination with the larger I-75 corridor. The integration and coordination of all I-75 construction projects is recommended.

Regional Projects

The construction of the Brent Spence Bridge Replacement/Rehabilitation project will have implications on the Greater Cincinnati Region beyond the I-75 Improvement Program. The Greater Cincinnati Region interstate system (Figure 1) includes I-71, I-74, I-75, I-275, and I-471. I-71 and I-75 share the same alignment within Kentucky and split in the Cincinnati Central Business District (CBD) in Ohio running north/south. I-74 from Indiana connects to I-75 just north of the Brent Spence Bridge project limits. I-471 connects I-71 to I-275 running just east of the Cincinnati CBD across the Ohio River along the east side of the City of Newport in Kentucky. I-275 is the longest looped expressway in the United States at 84 miles traveling through three adjacent states.



Figure 1: Greater Cincinnati Regional Map



U.S. Department of Transportation Federal Highway Administration

During construction of the Brent Spence Bridge Replacement/Rehabilitation project, I-275 and I-471 will be utilized as the primary MOT detour routes for interstate traffic.

There are several local projects either scheduled for construction or under consideration for construction, which can provide additional MOT relief. Many of these projects are located in Kentucky and will provide alternative travel routes for local commuters. It is anticipated that these alternative routes will then provide more space on the interstate systems for regional and national through traffic.

Kentucky Six Year Plan Projects

The Commonwealth of Kentucky has several projects that if constructed, would help with MOT operations during the construction of the Brent Spence Bridge Replacement/Rehabilitation project. These involve routes I-471 in Campbell County; KY 8 in Newport; KY 9 in Newport; and KY 4th Street in Covington. These routes could be used as important congestion relief routes during construction.

I-471 & KY 8 Project

The Kentucky Transportation Cabinet (KYTC) has two projects on I-471 between the Ohio River and I-275, which include adding an additional travel lane between the Ohio River and Memorial Parkway, and widening the ramp from southbound I-471 to westbound I-275. The first is a pavement rehabilitation project in which the pavement will be removed and replaced full width in northbound and southbound directions. both the The second project is а reconstruction/realignment of the southbound I-471 exit ramp to KY 8 which includes an additional lane to Memorial Parkway. Currently, the pavement rehabilitation project is scheduled to begin before the KY 8 exit ramp project. It is recommended that KYTC widen I-471 in both the north and south directions as part of their pavement rehabilitation project. This widening recommendation is included in the southbound I-471 exit ramp to KY 8 project's initial Phase 1 design. As part of the I-471 pavement rehabilitation project, the ramp from southbound I-471 to westbound I-275 should be widened from one lane to two. This widening of I-471 and the ramp to I-275 will facilitate the diversion of I-71 traffic to I-471, lessening the traffic volumes in the Brent Spence Bridge project corridor.

KYTC's southbound I-471 exit ramp to KY 8 project was developed to reduce the congestion on southbound I-471, as traffic backs up across the Ohio River Bridge into Ohio because of the inadequate exit ramp to KY 8. This project will enhance capacity when I-71 is diverted to I-471 during the construction of the Brent Spence Bridge Corridor.

KY 9 Reconstruction Project

KYTC is designing the realignment/reconstruction of KY 9 from south of 11th Street to the Taylor-Southgate Bridge, including the connection to KY 8 (Veteran's Bridge) into Covington. This project provides a direct route between I-275 and Cincinnati without having to navigate through the City of Newport's city street grid. This route will have limited connections and traffic signals, enabling a lower travel time between I-275 and Cincinnati. It will also facilitate the movement of motorists to and from I-275 who desire to access Covington, helping to reduce the traffic volumes in the Brent Spence Bridge construction corridor. By constructing this route, KYTC will provide an efficient north-south alternate that can be used as an alternative route



during construction of the Brent Spence Bridge Corridor. In addition, it can be used to relieve traffic from the I-471 & KY 8 Project during its construction.

Fourth Street in Covington

KYTC has a Congestion Mitigation and Air Quality (CMAQ) project along KY 4th Street in Covington at the intersection with Philadelphia Street and the connections to I-75. The purpose of this project is to widen the connection of KY 4th Street to the I-75 ramps, allowing an enhanced capacity in order to reduce the congestion on KY 4th Street. In the PM peak hour, KY 4th Street traffic is congested from east of the Clay Wade Bailey Bridge to I-75. This is primarily due to the bottleneck where the three lanes of KY 4th Street are reduced to two lanes at the connection to the I-75 ramps. The project will eliminate this bottleneck by extending the third lane, and removing the forced left turn lane from KY 4th Street to Philadelphia Street. This will allow the fourth lane to provide additional capacity and also eliminate the forced weaving that currently exists at the KY 4th Street and Philadelphia Street intersection.

This project will increase the capacity of KY 4th Street and improve an important Ohio River crossing option that will be needed for the Brent Spence Bridge Corridor project's maintenance of traffic. An improved KY 4th Street will provide another option rather than the Brent Spence Bridge for motorists wishing to access west Covington and the cities of Park Hills, Ludlow, Bromley, and Villa Hills.

Potential Projects

Within the Commonwealth of Kentucky, there are three potential projects, which if constructed would add significant benefit during the Brent Spence Bridge Corridor construction and provide long term benefit to the local communities. These projects include the reconstruction of the Main Street/KY 4th Street intersection at the south end of the Clay Wade Bailey Bridge, Main Street Widening in Covington, and the Veterans Memorial Bridge over the Licking River. Each of these projects would provide improved access routes that could provide congestion relief routes during construction.

Main Street/Fourth Street intersection at the Clay Wade Bailey Bridge

Currently, the south end of the Clay Wade Bailey Bridge in Covington does not align well with Main Street. There is a center lane on the bridge that aligns with the northbound left turn lane on Main Street, rendering this center lane practically useless. The southbound Clay Wade Bailey predominate movement is a right turn onto westbound KY 4th Street. In the PM peak hour, traffic backs up across the bridge into Ohio because the right turn traffic blocks the through lane.

In conjunction with KYTC's current CMAQ project on KY 4th Street described above, it is recommended that KYTC consider reconfiguring this intersection to provide dual right turn lanes from the bridge onto KY 4th Street, at least temporarily during the Brent Spence Bridge Corridor projects' duration. This would help reduce travel time and congestion, making the Clay Wade Bailey Bridge a more convenient alternate route for those traveling south into Covington and Newport, as well as cities beyond.

Main Street Widening in Covington

In an effort to increase capacity and improve the utilization of the Clay Wade Bailey Bridge, the Central Area Loop Study for Covington discussed modifying Main Street between KY 5th Street



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and KY 4th Street. It is recommended that the northwest radius at KY 5th Street and Main Street be modified to accommodate dual left turns from KY 5th Street onto Main Street northbound. It is also recommended that the eastern column on the railroad bridge bent south of KY 4th Street be relocated to allow two through lanes onto the Clay Wade Bailey Bridge into Cincinnati.

Upgrading this section of Main Street would increase the capacity of northbound Main Street by allowing two through lanes onto the Clay Wade Bailey Bridge. This would allow the bridge to provide an efficient alternate route during MOT operations the construction of the Brent Spence Bridge Corridor.

Veterans Memorial Bridge over the Licking River

Both the City of Newport and the City of Covington have requested that KYTC replace the Veterans Memorial Bridge. This three lane bridge is aligned with KY 4th Street in Covington, which is one way west except for the block between Garrard Street and the bridge. Eastbound KY 5th Street traffic has to make turns at both the Garrard Street intersections and at KY 4th Street to access the bridge. This imposes unnecessary delays and congestion on the local road network. In Newport, a yoke is used to direct traffic to the one-way street grid. The use of a yoke in Covington would be problematic due to the historic properties located within the area that would be impacted by construction of a yoke.

Both cities would like the bridge replaced in a manner that would provide seamless connections to their one-way street grids. The major problem involves a historic property at the intersection of KY 5th and Garrard streets, preventing a direct route to Newport.

During construction, alternate routes include the Ohio River bridges into Newport and Covington, as well as a reconstructed KY 9 connecting I-275 and Cincinnati. Improving the Veterans Memorial Bridge connection will reduce travel time and congestion between these cities, making them a more attractive alternate route for I-275 motorists, as well as those traveling between the west and east sides of the region.

Construction Staging Areas

Due to the size and scope of the Brent Spence Bridge Replacement/Rehabilitation project, it will be necessary to establish construction staging areas for the contractors' materials and equipment. Failure to accommodate staging areas will result in increased project costs due to the delays for the contractor in hauling equipment and materials from an off-site location. It is recommended that the staging areas be established in both Ohio and Kentucky to the extent possible. Potential staging areas have been identified in both Kentucky and Ohio.

In Kentucky, there are two convenient and inexpensive staging areas (Figure 2). The first is located at the southeast quadrant of KY 3rd Street and Crescent Avenue (K-1). The properties which contain existing buildings will need to be acquired and demolished as part of the project. Since these properties will be acquired, they can be used as a



Figure 2: Kentucky Staging Areas



construction staging area. The new Ohio River bridge/approach structures will be constructed overhead, leaving the at-grade area available for staging. This area is easily accessible from both I-75 and the city street grid of Covington. A second staging area is located at the southeast quadrant of KY 5th Street and I-71/I-75, west of the KY 5th Street exit ramp (K-2). It is approximately 2.5 acres in size. This area is within the existing right of way and is available to be used until the final phase of construction. The KY 5th Street ramp will be removed and relocated during the final construction phase. The KY 5th Street ramp could be relocated in an earlier phase thus allowing this staging area to remain in use during the entire project.

In Ohio, locating staging areas is more complicated due to the development adjacent to the I-75 corridor. Four possible staging areas were identified, one on the east side of the I-75 corridor and the three on the west side. The most convenient site for a construction staging area is along the river adjacent to the existing Brent Spence Bridge (O-1). Area O-1 is east of the existing bridge and contains the material yard for an existing, viable concrete plant. Even thought this location is convenient, it is not considered an advantageous option due to the potential of contractors utilizing the



Figure 3: Ohio Staging Areas

concrete plant during construction. West of the bridge has an existing and proposed Duke Energy substation, historic Longworth Hall property, and a coal yard. The best options for a staging area are on the west side of I-75.

They include:

- 1) A parking lot between Mehring Way and Pete Rose Way (O-2). This property is owned by Duke Energy.
- 2) The northern portion of the Longworth Hall parking lot that lies outside the historic district (O-3).
- 3) A vacant lot in the southwest quadrant of Linn Street and Gest Street (O-4).

Portions of sites O-2 and O-3 will be acquired for the Brent Spence Bridge Replacement/Rehabilitation project. The remaining areas of O-2 and O-3 along with O-4 will not be acquired. These parcels would need to be acquired separately as a temporary easement. This would increase the project costs but is necessary to avoid higher construction costs that would result if the contractor has to haul in equipment and materials from a more remote location. Each of the three sites has excellent access from the City of Cincinnati street grid, as well as from Kentucky utilizing the Clay Wade Bailey Bridge and OH 3rd Street in Cincinnati. Areas O-3 and O-4 also have rail access.

Brent Spence Bridge Construction/MOT Phasing Plan

For the purpose of this maintenance of traffic analysis, the project was divided into four primary construction phases. Each phase is interdependent across both the Commonwealth of Kentucky and the State of Ohio. This assumes that both states will commence construction in



reasonably the same time period. The construction between Kentucky 12th Street and Ohio 9th Street must be interdependent as the construction of the New Ohio River Bridge and approach structures are dependent on each other for MOT. The construction south of Kentucky 12th street and north of Ohio 9th Street can be done independent of the middle section; however, lane continuity will be a critical concern if they are constructed independent of the rest of the project.

Construction Phase Durations

The timeframe to construct each phase of the project will be influenced by many factors. These factors include, but are not limited to the following:

- 1) Maintenance of Traffic requirements
- 2) Weather, including Ohio River elevation
- 3) Available labor, equipment, and material resources
- 4) Work area constraints, including access and storage areas
- 5) Volume of traffic
- 6) Political directives, including allowable work hours
- 7) Number of construction contracts, including design-build
- 8) Pavement type

For the purpose of this maintenance of traffic analysis, standard practice construction methods and durations for the above mentioned factors were utilized, unless noted otherwise.

Maintenance of Traffic Phasing

The Brent Spence Bridge Replacement/Rehabilitation project MOT phasing is divided into four primary construction phases with Phase 2 containing a sub phase. Ramp status by each phase is included in Attachment A.

Phases 1 and 2

Phases 1 and 2 are combined due to the extensive time it will require to construct the new bridge over the Ohio River. The new bridge, depending upon the type selected, will require 2.5-3.5 years to construct. This estimate is based upon past experiences with similar long structures over major rivers.

The remaining work identified in phases 1 and 2 includes construction of roadway and structures primarily on the west side of the I-75 corridor, though some construction can commence on the east side if the contractor desires. During these phases, the primary construction focus is on the structures/roadway widening along southbound I-75 in Covington and Cincinnati. It also includes the significant widening along southbound I-75 in Kentucky between Kyles Lane and KY 12th Street (known locally as the "Cut-in-the-Hill").

During Phase 1, the southbound I-71/I-75 exit ramp to KY 5th Street will be closed along with the KY 4th Street ramp to I-71/I-75. Access to the KY 5th Street ramp will be restored during Phase 2B. The connection from KY 4th Street to southbound I-71/I-75 will be restored during Phase 2 by utilizing the new local frontage road connected to the entrance ramp at KY 12th Street.



During Phase 1, the I-71 and US 50 traffic links with I-75 will remain in place. During Phase 2, the I-71 traffic links will remain in place with I-75; however, the US 50 links with I-71 and I-75 will be closed. To maintain the US 50 links with I-71 and I-75 as long as possible, a MOT sub phase (Phase 2B) has been incorporated into Phase 2. Phase 2B involves the removal of the west bridge abutments of the overpass structures for OH 5th Street and OH 6th Street located along the west side of the I-75 corridor that are in the way of completing roadway pavement required for Phase 3 MOT operations. A temporary crossover in Ohio will be constructed during Phase 2B to replace the Kentucky Pike Street exit from I-75 southbound. The temporary crossover will provide access from I-75 southbound to the new KY 5th Street and KY 9th/Pike Streets exit ramps.

During Phase 1 and 2, the I-75 southbound ramp to OH 5th Street will remain open during the closure of the I-75 southbound ramp to OH 7th Street. During all phases, either the southbound OH 5th Street ramp or the OH 7th Street ramp will be maintained.

The reconstruction of the Linn Street and Ezzard Charles Drive overpasses needed to be coordinated with the reconstruction of the Freeman Avenue Interchange. During Phase 1, both the Linn Street and Ezzard Charles Drive overpasses will be constructed while maintaining traffic at the Freeman Avenue interchange. Upon completion of these two overpasses, Linn Street and Ezzard Charles Drive will be the detour route during the closure of the Freeman Avenue interchange. During Phase 1, the OH 7th Street and OH 9th Street viaducts reconstruction should follow the Linn Street overpass reconstruction to maintain a detour route across I-75.

The Western Hills Viaduct Interchange construction cannot begin until the Hopple Street Interchange is complete. The Hopple Street Interchange is the next adjacent interchange to the north which will be reconstructed as part of the Mill Creek Expressway Project.

Phases 1 and 2 combined will require approximately 3.5 years. During Phase 1, there is approximately 804,000 square feet (s.f.) of structures and 2,781,000 s.f. of roadway to be constructed. During Phase 2 (including Phase 2B), there is approximately 202,000 s.f. of structures and 3,732,000 s.f. of roadway to be constructed. The structure quantities for Phases 1 and 2 do not include the new Ohio River Bridge quantities. The critical path item during Phase 1 and 2 is the construction of the new bridge over the Ohio River. The remaining structures and roadway construction can be accomplished with significant float during the 3.5 years to minimize disruptions to traffic.

Phase 3

In Phase 3, the southbound I-75 traffic will be diverted to the new widening on the west side of the I-75 corridor and the lower deck of the new bridge over the Ohio River. In addition, the new structures north of US 50/OH 6th Street will have been completed and will be open to traffic, including the critical connection at OH 7th Street. This allows the US 50/OH 6th Street viaduct to be closed, as well as the closure of southbound access to Fort Washington Way. The southbound I-71 movement from FWW/OH 3rd Street to southbound I-75 will be closed. Southbound I-71 traffic will be detoured to southbound I-471. The northbound I-71 connection to FWW/OH 2nd Street will remain open. This maintenance of traffic plan opens a large work area between the relocated southbound I-75 and the existing northbound I-75 in both Ohio and Kentucky.



In Phase 3, the I-75 southbound ramps to KY 5th, KY 9th, and Pike streets will be open. The northbound access from I-71/I-75 to Covington will be maintainened.

A significant amount of structures work will be completed in Phase 3. This includes the following structures:

- 1) Center portion of I-75 over Orchard Drive
- 2) Center portion of I-75 over Rivard Drive
- 3) SB portion of I-75 between KY 12th Street and Pike Street
- 4) SB portion of I-75 over KY 9th Street
- 5) Remainder of approaches to the new Ohio River bridge
- 6) I-71 to US 50
- 7) Fort Washington Way to US 50
- 8) SB I-75 to OH 5th Street
- 9) US 50 to OH 5th Street
- 10) Northern portion of SB 75 to FWW
- 11) Northern portion of SB I-75 to OH 2nd Street
- 12) Northern portion of US 50 to FWW
- 13) Northern portion of US 50 to OH 2nd Street
- 14) I-75 NB and SB approaches
- 15) SB I-75 to Clay Wade Bailey Bridge
- 16) Clay Wade Bailey Bridge to NB I-75
- 17) FWW to SB I-75
- 18) Oh 3rd Street to SB I-75
- 19) US 50 to FWW
- 20) OH 6th Street viaduct

In addition to the structures work, there will be a substantial amount of grade work including the reconstruction of the center of I-75 throughout the corridor in both Kentucky and Ohio. Reconstruction of the Western Hills Viaduct is anticipated to begin in this phase. In total, there are approximately 731,000 s.f. of structures work and 2,964,000 s.f. of grade work to be completed in Phase 3. Using accelerated construction rates experienced on other projects, Phase 3 will be completed within approximately 2.0 years.

Phase 4

The final phase of construction occurs with both northbound and southbound I-75 traffic utilizing the new Ohio River Bridge. The remaining work is located on the east side of the I-75 corridor. Phase 4 includes all structures work located east of the existing I-75 centerline, as well as the remaining work at the Western Hills Viaduct. Rehabilitation of the existing Brent Spence Bridge and the construction of the associated bridge approaches will be performed during this phase. The northbound I-71 connection to FWW/OH 2nd Street will be closed and all I-71 traffic will be detoured to I-471.

In Phase 4, Covington access from KY 4th and Pike streets to northbound I-71/I-75 will be closed due to the rehabilitation of the existing Brent Spence Bridge and associated construction. The Clay Wade Bailey Bridge will become the primary access route for motorist to gain access to I-71 and I-75 northbound. Access to I-71 northbound will be via OH 2nd Street. Access to I-



75 northbound will be via a new temporary ramp connection at the intersection of OH 3rd Street and Clay Wade Bailey Bridge. The new temporary ramp connection will provide a direct ramp connection to I-75 northbound. During Phase 4, a new temporary ramp connection from I-75 southbound to the OH 3rd Street and Clay Wade Bailey Bridge intersection will also utilized to provide access to the Cincinnati riverfront area and to the City of Covington.

There are approximately 1,079,000 s.f. of structures and 1,321,000 s.f. of roadway to be constructed in this final phase. Phase 4 will be completed within approximately 2.5 years.

Summary

The total duration for the I-75 corridor reconstruction is estimated to be eight years, utilizing standard practice construction methods and durations. The actual duration will be influenced by the factors previously listed. Expedited construction techniques can be utilized to minimize the durations for each phase and roadway closures. Once final design is completed, including the size and type of the various structures, a refined construction duration estimate will be determined utilizing a more detailed critical path schedule. It is also recommended that contractor input be obtained to assist in identifying areas where the design can be modified to improve construction efficiencies. A summary of construction durations and quantities are listed in the table below.

Phase	Vooro	Quantities	Per Phase
FlidSe	Tears	Structures (s.f.)	Roadway (s.f.)
Phases 1 and 2	3.5 years	1,006,000	6,513,000
Phase 3	2.0 years	731,000	2,964,000
Phase 4	2.5 years	1,079,000	1,321,000
Total	8.0 years	2,816,000	10,798,000

Construction Durations



	LEGEND	
	CONSTRUCTION AVAILABLE THIS PHASE	CONSTRUCTION CRITICAL FOR NEXT PHASE
PERMANENT BRIDGE		
PERMANENT ROADWAY		
TEMPORARY BRIDGE		







CONSTRUCTION CRITICAL FOR NEXT PHASE CONSTRUCTION AVAILABLE THIS PHASE

XX **→**



F-F		

LEGEND							
	CONSTRUCTION AVAILABLE THIS PHASE	CONSTRUCTION CRITICAL FOR NEXT PHASE					
PERMANENT BRIDGE							
PERMANENT ROADWAY							
TEMPORARY BRIDGE							







SECTION U-U

LEGEND CONSTRUCTION CRITICAL FOR NEXT PHASE CONSTRUCTION AVAILABLE THIS PHASE PERMANENT BRIDGE PERMANENT ROADWAY TEMPORARY BRIDGE

ROAD / RAMP CLOSED TRAFFIC MAINTAINED / DIRECTION OF TRAFFIC XX

CONSTRUCTION COMPLETE

(Z





	LEGEND	
	CONSTRUCTION AVAILABLE THIS PHASE	CONSTRUCTION CRITICAL FOR NEXT PHASE
PERMANENT BRIDGE		
PERMANENT ROADWAY		
TEMPORARY BRIDGE		







SECTION U-U

LEGEND CONSTRUCTION CRITICAL FOR NEXT PHASE CONSTRUCTION AVAILABLE THIS PHASE PERMANENT BRIDGE PERMANENT ROADWAY TEMPORARY BRIDGE

ROAD / RAMP CLOSED

XX

TRAFFIC MAINTAINED / DIRECTION OF TRAFFIC

CONSTRUCTION COMPLETE



	LEGEND	
	CONSTRUCTION AVAILABLE THIS PHASE	CONSTRUCTION CRITICAL FOR NEXT PHASE
PERMANENT BRIDGE		
PERMANENT ROADWAY		
TEMPORARY BRIDGE		







SECTION U-U

LEGEND CONSTRUCTION CRITICAL FOR NEXT PHASE CONSTRUCTION AVAILABLE THIS PHASE PERMANENT BRIDGE PERMANENT ROADWAY TEMPORARY BRIDGE

ROAD / RAMP CLOSED

XX

TRAFFIC MAINTAINED / DIRECTION OF TRAFFIC

CONSTRUCTION COMPLETE

Appendix I Cost Estimate

Project Costs - Construction, Right of Way and Utilities (in millions)

					ALTERN	IATIVE E				ALTERNATIVE I								
				Construction									Construction					
Construction Contract #	Segment Description	Today's Cost with 25% Contingency	Mid-Year of Construction	Inflation Rate ¹	Inflation Costs	Total Const.	Right-of-Way with Inflation	Utilities with Inflation	Combined Construction, Right of Way and Utilities Total	To 25	oday's Cost with 5% Contingency	Mid-Year of Construction	Inflation Rate ¹	Inflation Costs	Total Const.	Right-of-Way with Inflation	Utilities with Inflation	Combined Construction, Right of Way and Utilities Total
KY-2	Kyles Lane Bridge Replacement	\$7.2	7/16/18	46.50%	\$3.4	\$10.6	\$0.0	\$0.0	\$10.6		\$7.2	7/16/18	46.50%	\$3.4	\$10.6	\$0.0	\$0.0	\$10.6
КҮ-3	Dixie Highway Bridge Replacement	\$7.8	1/15/16	29.70%	\$2.3	\$10.1	\$0.0	\$0.0	\$10.1		\$7.8	1/15/16	29.70%	\$2.3	\$10.1	\$0.0	\$0.0	\$10.1
КҮ-5	I-75 Reconstruction from Mile Point 187.2 to Mile Point 189.5	\$71.5	1/14/20	57.60%	\$41.2	\$112.7	\$5.5	\$0.0	\$118.2		\$71.5	1/14/20	57.60%	\$41.2	\$112.7	\$5.5	\$0.0	\$118.2
КҮ-6	I-75 Reconstruction from Mile Point 189.5 to the South Termini of the 12 th Street Interchange	\$33.2	7/16/19	53.80%	\$17.9	\$51.1	\$4.2	\$0.0	\$55.3		\$33.2	7/16/19	53.80%	\$17.9	\$51.1	\$4.2	\$0.0	\$55.3
КҮ-7	I-75 Reconstruction from the South Termini of 12 th Street Interchange to the New Bridge over the Ohio River	\$273.6	1/14/20	57.60%	\$157.6	\$431.2	\$15.6	\$0.0	\$446.8		\$242.5	1/14/20	57.60%	\$139.7	\$382.2	\$10.5	\$0.0	\$392.7
		A	= /4 = /4 +	20 500/	40.0	<u> </u>	40.0	40.0	45.5		44.5	= / + = / + +	20 500	40.0	<u> </u>	40.0	40.0	A
OH-1	I-/1/I-4/1 Ramp Modifications	\$4.6	//16/14	20.50%	\$0.9	\$5.5	\$0.0	\$0.0	\$5.5		\$4.6	//16/14	20.50%	\$0.9	\$5.5	\$0.0	\$0.0	\$5.5
OH-1A OH-2	Linn Street Bridge Replacement and Gest Street reconstruction	\$12.3	12/8/15	29.20%	\$3.6	\$3.0	\$0.1	\$0.8	\$16.8		\$10.8	12/8/15	29.20%	\$3.1	\$3.0	\$0.02	\$0.8	\$3.0
он-з	Ezzard Charles Drive Bridge Replacement; Western Avenue Reconstruction; Freeman Avenue Interchange Reconstruction; Winchell Street Reconstruction; and the Court Street Cul- de-sac, 9th St Entrance Ramp Construction	\$23.3	7/16/16	32.90%	\$7.6	\$30.9	\$0.03	\$0.2	\$31.1		\$23.0	7/16/16	32.90%	\$7.5	\$30.5	\$0.04	\$0.2	\$30.7
OH-4	7 th /8 th /9 th Street Interchange, 6th St North Reconstruction	\$40.6	7/16/16	32.90%	\$13.3	\$53.9	\$7.8	\$0.0	\$61.7		\$30.0	7/16/16	32.90%	\$9.8	\$39.8	\$4.6	\$0.0	\$44.4
ОН-5	Western Hills Viaduct Interchange Reconstruction from Findlay Street to the northern terminus of the corridor	\$160.1	3/2/19	51.30%	\$82.1	\$242.2	\$4.6	\$0.2	\$247.0		\$84.9	3/2/19	51.30%	\$43.5	\$128.4	\$1.3	\$0.2	\$129.9
OH-6	I-75 Reconstruction from North of Linn Street to Findlay Street	\$24.8	1/15/20	57.60%	\$14.3	\$39.1	\$0.0	\$2.2	\$41.3		\$31.5	1/15/20	57.60%	\$18.1	\$49.6	\$0.0	\$2.2	\$51.8
ОН-7	I-75 Reconstruction from the New Bridge over the Ohio River to North of Linn Street	\$411.5	1/14/20	57.60%	\$237.0	\$648.5	\$13.4	\$89.7	\$751.6		\$373.1	1/14/20	57.60%	\$214.9	\$588.0	\$13.7	\$89.7	\$691.4
КУ- Л	New Obio River Bridge - Alternative 1	\$414.8	6/1/17	37.60%	¢155.9	\$570.7	\$0.0	\$0.0	\$570.7		\$111.8	6/1/17	37.60%	\$155 Q	\$570.7	\$0.0	\$0.0	\$570.7
	New Ohio River Bridge - Alternative 3	\$474.2	1/1/18	41.00%	\$194.4	\$668.6	\$0.0	\$0.0	\$668.6		\$474.2	1/1/18	41.00%	\$194.4	\$668.6	\$0.0	\$0.0	\$668.6
	New Ohio River Bridge - Alternative 6	\$458.5	1/1/18	41.00%	\$187.8	\$646.3	\$0.0	\$0.0	\$646.3		\$458.5	1/1/18	41.00%	\$187.8	\$646.3	\$0.0	\$0.0	\$646.3
КҮ-8	Rehabilitation of the Existing Brent Spence Bridge	\$40.6	1/14/21	65.50%	\$26.5	\$67.1	\$0.0	\$0.0	\$67.1		\$40.6	1/14/21	65.50%	\$26.5	\$67.1	\$0.0	\$0.0	\$67.1

-1.

1. Based on mid year of anticipated construction duration



Estimate Alt E KY cont 2

Estimated Cost: \$7,209,761.51 Contingency: 46.50% Estimated Total: \$10,562,300.61

Base Date: 01/01/15 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt E KY cont 2			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Group 0001: Pavement Remova	I			
	0.00	LS	\$0.00000	\$0.00
0343 202E23000	2,373.00	SY	\$8.00000	\$18,984.00
			Total for Group 0001: \$18,9	984.00
Group 0002: Excavation - Rock	1 10/ 00	CV	\$30,0000	¢33 120 00
MAJOR COST DRIVERS, ROADWAY	1,104.00	CT	\$30.00000	φ33,120.00
			Total for Group 0002: \$33,	120.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0344 203E10000	9,936.00	CY	\$8.00000	\$79,488.00
			Total for Group 0003: \$79,4	488.00
Group 0004: Excavation - Hazar	dous			
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0004:	\$0.00
				ψ0.00
Group 0005: Fill - Embankment (includes	wasting	excess excavation)	* • • • •
0007 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0345 203E20000 EMBANKMENT	11,040.00	CY	\$6.00000	\$66,240.00
			Total for Group 0005: \$66,2	240.00
Group 0006: Fill - Lime Modified	Soil			
0010 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0346 205E10050	0.00	CY	\$7.00000	\$0.00
0347 205E10300	0.00	TON	\$5.00000	\$0.00
LIME			Total for Group 0006:	\$0.00
Group 0007: Fill Borrow				
0011 A-MC-RDWY	0.00	CY	\$8.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Croup 0007:	¢0.00
				φυ.υυ
Group 0008: Concrete Barrier				
0012 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0465 622E10060	0.00	FT	\$110.00000	\$0.00
7.20. TUAINI Thursday, December 00, 0040				

Thursday, December 02, 2010

Estimate: Alt E KY cont 2			PB /	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SLOPE	, TYPE B		Total for Group 0008:	\$0.00
Group 0009: Subgrade Treatmen	t - Lime			
0014 A-MC-RDWY MAJOR COST DRIVERS. ROADWAY	1.00	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300	0.00	TON	\$10.00000	\$0.00
0350 206E11000 CURING COAT	0.00	SY	\$1.00000	\$0.00
0351 206E20000 TEST ROLLING	0.00	HOUR	\$4.00000	\$0.00
			Total for Group 0009:	\$0.00
Group 0010: Subgrade Treatmen	t - Ceme	ent		
0016 A-MC-RDWY	3,309.00	SY	\$2.50000	\$8,272.50
MAJOR COST DRIVERS, ROADWAY			Total for Group 0010: \$8,	272.50
Group 0011: Subgrade Treatmen	t - Under	rcut & E	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
			Total for Group 0011:	\$0.00
Group 0012: Other Roadway Cos	sts			
0019 A-OC-RDWY OTHER COSTS, ROADWAY Contingency	0.00	LS	\$0.00000	\$0.00
0020 201E11000 CLEARING AND GRUBBING	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800 TREE REMOVED 18" SIZE	0.00	EACH	\$250.00000	\$0.00
0022 201E23000 TREE REMOVED 30" SIZE	0.00	EACH	\$405.00000	\$0.00
0023 201E24800 TREE REMOVED 48" SIZE	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT		\$0.00
0029 202E38000 GUARDRAIL REMOVED	0.00	FT		\$0.00
	0.00	EACH		\$0.00
0031 202E58000 MANHOLE REMOVED	0.00	EACH		\$0.00
	0.00	EACH		\$0.00
0033 202E75000	0.00	FT		\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

7:28:10AM

Estimate: Alt E KY cont 2				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0035 204E10000	0.00	SY	\$0.81000	\$0.00
SUBGRADE COMPACTION		FT		\$0.00
0037 606E13000	0.00	FT	\$14.00000	\$0.00
GUARDRAIL, TYPE 5 0038 606E22000	0.00	EACH		\$0.00
ANCHOR ASSEMBLY, TYPE B-9	8	БАСН		\$0.00
ANCHOR ASSEMBLY, TYPE E-9	98	EAGIT		\$0.00
0040 606E26500 ANCHOR ASSEMBLY, TYPE T	0.00	EACH		\$0.00
0041 606E35000	0.00	EACH		\$0.00
0042 606E35100	0.00	EACH		\$0.00
0043 606E60010	, TYPE 2 0.00	EACH		\$0.00
IMPACT ATTENUATOR, TYPE 1	-98 (BIDIRECTION	AL) FT		\$0.00
FENCE, TYPE 47	0.00			φ0.00
0423 304E20000 AGGREGATE BASE	0.00	CY		\$0.00
0424 601E32100 ROCK CHANNEL PROTECTION	0.00 , TYPE B WITH FIL	CY TER		\$0.00
0425 607E40500 GATE, TYPE 47	0.00	EACH		\$0.00
0426 625E32000 GROUND ROD	0.00	EACH		\$0.00
For Fencing 0466	0.00		\$0.00000	\$0.00
			Total for Group 00	12: \$0.00
Crown 0014: Cooding & Mul	obios (Coddia			
Group 0014: Seeding & Mul	cning / Sodair	ig LS	00000 02	00.02
MAJOR COST DRIVERS, EROSI	I.00	L5	\$0.00000	\$0.00
0467 659E10000 SEEDING AND MULCHING	1,328.00	SY	\$1.00000	\$1,328.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000	\$0.00
			Total for Group 0014:	\$1,328.00
Group 0015: Rock Channel	Protection			
0047 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
0469 601E32000	24.00	CY	\$75.00000	\$1,800.00
ROCK CHANNEL PROTECTION	, TYPE A WITH FIL	TER	Total for Group 0015:	\$1,800.00
			·	
Group 0016: Erosion Contro	ol - Item 832			
0048 B-MC-ERCO 7:28:10AM	1.00	LS	\$0.00000	\$0.00

Estimate: Alt E KY cont 2			PB	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
MAJOR COST DRIVERS, EROSION C	ONTROL			
0470 832E10000 STORM WATER POLLUTION PREVEN	1.00 ITION PLAN	LS	\$20,000.00000	\$20,000.00
0471 832E20000 EROSION CONTROL	3,000.00	EACH	\$1.00000	\$3,000.00
			Total for Group 0016: \$23,	000.00
Group 0017: Other Erosion Cont	trol Costs			
0049 670E00700	0.00	SY		\$0.00
DITCH EROSION PROTECTION	1 00	1.5	00000 02	\$0.00
OTHER COSTS, EROSION CONTROL	1.00	E	\$0.00000	\$0.00
0051 659E00100 SOIL ANALYSIS TEST	0.00	EACH	\$0.00000	\$0.00
0052 659E00300 TOPSOIL	0.00	CY		\$0.00
0053 659E14000	0.00	SY		\$0.00
0054 659E15000	0.00	SY	\$0.71000	\$0.00
0055 659E20000	0.00	TON		\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000	0.00	MSF	\$0.00000	\$0.00
MOWING			Total for Group 0017:	\$0.00
Group 0018: Underdrains	1.00		\$0,00000	¢0,00
MAJOR COST DRIVERS, DRAINAGE	1.00	L3	\$0.00000	\$0.00
0062 605E05100 4" SHALLOW PIPE UNDERDRAINS	1,223.00	FT	\$8.00000	\$9,784.00
			Total for Group 0018: \$9,	784.00
Group 0019: Culverts - Type A:	< 5'			
0474 C-MC-DRNG	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG	0.00	FT	\$350.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete F	Pipe up to 60'	,		
0481 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	EACH	\$1,500.00000	\$0.00
Concrete Masonry			Total for Group 0019:	\$0.00
Group 0021: Culverts Type A: 5	' - 10'			
0067 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	0.00	FT	\$550,00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	0.00		ψ330.00000	ψ0.00
7:28:10AM				

Estimate: Alt E KY cont 2				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
Pipe Structures - Reinforced Concrete 5' 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	-10' 66" to 7 0.00	78" EACH	\$2,000.00000	\$0.00
Ŭ			Total for Group 002	21: \$0.00
Group 0022: Culverts, Type A: 10)' - 20'			
0486 C-MC-DRNG MAJOR COST DRIVERS DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pi	0.00 ipe 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for Group 002	22: \$0.00
Group 0024: BMP's	1.00	10	00000 02	00.02
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Group 002	24: \$0.00
Group 0025: Closed Storm Syste	m			
0077 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	190.00	FT	\$75.00000	\$14,250.00
0523 604E00800 CATCH BASIN NO 34	4.00	EACH	\$1,500.00000	\$6,000.00
0524 604E31500 MANHOLE, NO. 3	0.00	EACH	\$3,000.00000	\$0.00
0525 604E36601 PRECAST REINFORCED CONCRETE (2.00 OUTLET AS	EACH PER PLAN	\$1,250.00000	\$2,500.00
0526 Special Pump Station (Storm)	0.00	LS	\$6,400,000.00000	\$0.00
0527 Special Stormcentors	0.00	EACH	\$5,750.00000	\$0.00
0529 Special	0.00	LS	\$109,000.00000	\$0.00
Retention basin improvements			Total for Group 0025: \$	22,750.00
Group 0026: Other Drainage Cos	sts			
0078 C-OC-DRNG OTHER COSTS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Group 002	26: \$0.00
Group UU27: Mainline - Travel La	nes	19	¢0.0000	¢0.00
MAJOR COST DRIVERS, PAVEMENT	1.00		φυ.υυυυυ Φοο σοσοσ	\$U.UU
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Con	0.00 npaction	SY	\$68.00000	\$0.00
7:28:10AM				

Estimate: Alt E KY cont 2			PB A	mericas, Inc.
Line # <u>Item Number</u> <u>Description</u> Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0027:	\$0.00
Group 0028: Mainline - Outside	Shoulder			
0100 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT 0495 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Compa	1.00	LS	\$0.00000	\$0.00
	0.00	SY	\$68.00000	\$0.00
	houlder		Total for Group 0028:	\$0.00
0115 D-MC-PVMT	1.00	LS	\$0.0000	\$0.00
MAJOR COST DRIVERS, PAVEMENT 0496 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Comp	0.00		\$00000	¢0.00
	ompaction	51	\$68.00000	\$0.00
Crown 0024, Domno (including o	houldoro)		Total for Group 0030:	\$0.00
			00000 02	¢0.00
0122 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT 0497 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Compa	1.00	LO	\$0.00000	φ 0. 00
	0.00 ompaction	SY	\$68.00000	\$0.00
Group 0032: Non - Mainline Lan			Total for Group 0031:	\$0.00
	1 00	IS	\$0.0000	\$0.00
MAJOR COST DRIVERS, PAVEMENT	0.000.00	20	\$0.00000 #44.00000	¢0.00
Asphalt	3,309.00	SY	\$41.00000	\$135,669.00
Includes 3" 448, 9" 301, 6" Agg base ar	nd Subgrade (Compaction	Total for Group 0032: \$135,6	69.00
Group 0041: Other Pavement C	osts			
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Group 0041:	\$0.00
Group 0042: Water Works				
0164 E-MC-WATR MAJOR COST DRIVERS. WATER LIN	0.00 E	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS WATER LINE	0.00	LS	\$0.00000	\$0.00
,			Total for Group 0042:	\$0.00
Group 0043: Sanitary Line				
0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY S	0.00 SEWER	LS	\$0.00000	\$0.00
7:28:10AM				

Estimate: Alt E KY cont 2			PB A	mericas, Inc.
Line # Item Number 0	Quantity	<u>Units</u>	Unit Price	Extension
<u>Description</u> Supplemental Description				
			Total for Group 0043	\$0.00
				ψ0.00
Group 0044: Lighting - Full Intercha	ange			
0173 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	0.00	EACH	\$469,000.00000	\$0.00
			Total for Group 0044:	\$0.00
Group 0045: Lighting Partial Inter	change	`		
0288 G-MC-I TNG	0.00	;	\$0,0000	\$0.00
MAJOR COST DRIVERS, LIGHTING	0.00			¢0.00
			Total for Group 0045:	\$0.00
Group 0046: Lighting - Continuous	Roadw	/ay		
0176 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG	1,510.00	FT	\$35.00000	\$52,850.00
			Total for Group 0046: \$52,8	350.00
Group 0047: Other Lighting Costs				
0177 G-OC-LTNG	0.00	LS	\$0.0000	\$0.00
OTHER COSTS, LIGHTING				Φ <u>Ω</u> ΩΩ
				φ0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV OTHER COSTS, TRAFFIC SURVEILLANC	0.00 E	LS	\$0.00000	\$0.00
	_		Total for Group 0048:	\$0.00
Group 0049: Signs				
0179 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CONT 0501 J-MC-TRAF	ROL 0.29	MILE	\$250,000.00000	\$72,500.00
Signs			Total for Group 0049: \$72,5	500.00
			1	
Group 0050: Pavement Marking	1 00	10	00000 02	00.02
MAJOR COST DRIVERS, TRAFFIC CONT	ROL	LO	φυ.υυυυυ	φ U. UU
0502 644E00100 EDGE LINE	0.11	MILE	\$3,000.00000	\$330.00
0503 644E00200 LANE LINE	0.16	MILE	\$2,000.00000	\$320.00
			Total for Group 0050: \$6	350.00

Group 0051: Other Traffic Control Costs
Estimate: Alt E KY cont 2			PB	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0208 J-OC-TRAF	1.00	LS	\$0.00000	\$0.00
Group 0052: Signals - Intersect	ions		Total for Group 0051	\$0.00
0212 K-MC-SGNL	2.00	EACH	\$175,000.00000	\$350,000.00
MAJOR COST DRIVERS, SIGNALS			Total for Group 0052: \$350	,000.00
Group 0053: Other Traffic Signa	al Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0053	\$0.00
0214 L-MC-LSCP	1 00	15	\$0.0000	\$0.00
MAJOR COST DRIVERS, LANDSCAP	PING 1.00	15	\$0,00000	\$0.00
OTHER COSTS, LANDSCAPING	1.00	LO	T () (O O O O O O O O O O	φ0.00
			Total for Group 0054	\$0.00
Group 0055: Retaining Walls \$1	125 + \$10/	ft for ca	ps, barriers and testing	
0216 M-MC-WALL MAJOR COST DRIVERS, RETAINING	1.00 WALLS	LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	0.00	SF	\$135.00000	\$0.00
			Total for Group 0055	\$0.00
Group 0056: Other Retaining W	all Costs		A	\$ 0.00
0217 M-OC-WALL OTHER COSTS, RETAINING WALLS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0056	\$0.00
Group 0057: Building Demolitio	n 1.00	10	00000 02	00.02
MAJOR COST DRIVERS, BUILDING I	DEMOLITION		\$0.0000	\$0.00
0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOLIT	1.00 TON	LS	\$0.00000	\$0.00
0533 202E56101 BUILDING DEMOLISHED, AS PER PL Large Commercial	0.00 _AN	EACH	\$30,000.00000	\$0.00
0534 202E56101 BUILDING DEMOLISHED, AS PER PL Small Commercial	0.00 _AN	EACH	\$15,000.00000	\$0.00
0535 202E56101 BUILDING DEMOLISHED, AS PER PL Large Residential	0.00 _AN	EACH	\$12,000.00000	\$0.00
0536 202E56101 BUILDING DEMOLISHED, AS PER PL Small Residential	0.00 _AN	EACH	\$7,500.00000	\$0.00
0537 202E98100	0.00	EACH	\$8,500.00000	\$0.00
7'78'1()AM				

7:28:10AM Thursday, December 02, 2010

Estimate: Alt E KY cont 2			PB A	Americas, Inc.
Line # Item Number Qu Description Supplemental Description	<u>uantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
REMOVAL MISC.: Radio Tower				
			Total for Group 0057:	\$0.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR MAJOR COST DRIVERS, NOISE BARRIER	1.00	LS	\$0.00000	\$0.00
0505 P-MC-NSBR Noise Barrier	0.00	LS	\$400.00000	\$0.00
			Total for Group 0058:	\$0.00
Group 0059: Other Noise Barrier Co	sts			
0221 P-OC-NSBR OTHER COSTS NOISE BARRIER	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR MAJOR COST DRIVERS NOISE BARRIER	0.00	LS	\$0.00000	\$0.00
			Total for Group 0059:	\$0.00
Group 0060: New Structures				
0222 R-MC-STRC	1.00	LS	\$0.00000	\$0.00
0506 R-MC-STRC 31, Tior 1 Structures to 25' Height	313.00	SF	\$125.00000 \$	3,914,125.00
0507 R-MC-STRC Removal of Existing Structures pop-complex	0.00	SF	\$12.00000	\$0.00
0508 R-MC-STRC 24, Standard Removal of Existing Structures abo	939.00 ve aver	SF	\$17.00000	\$423,963.00
0509 R-MC-STRC	0.00	SF	\$30.00000	\$0.00
Removal of Existing Structures complex to ve 0513 R-MC-STRC	ery comp 0.00	olex SF	\$150.00000	\$0.00
0516 R-MC-STRC	0.00	SF	\$200.00000	\$0.00
Ther 3 Structures 50 to 75 Height			Total for Group 0060: \$4,338,	088.00
Group 0061: Rehabilitated Structure	S			
0223 R-MC-STRC	0.00	SF	\$45.00000	\$0.00
MAJOR COST DRIVERS, STRUCTURES			Total for Group 0061:	\$0.00
Group 0062: Other Structure Costs				
0224 R-OC-STRC	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, STRUCTURES Contingency				
			Total for Group 0062:	\$0.00
Group 0063: Temporary Road and F	Paven	nent Costs		
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTENANCE C	1.00 F TRA	LS FFIC	\$0.00000	\$0.00

Estimate: Alt E KY cont 2		PB A	mericas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
Description Supplemental Description			
			A a a a
		Total for Group 0063:	\$0.00
Group 0064: Portable Concre	ete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Group 0064:	ድር በባ
			ψ0.00
Group 0065: Impact Attenuat	tors		
0227 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
WAJOR COST DRIVERS, WAINTE		Total for Group 0065:	\$0.00
			·
Group 0066: Sheeting			6
0229 S-MC-MNTC MAJOR COST DRIVERS, MAINTE	1.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
Group 0067: Temporary Sign	nale		
0230 S-MC-MNTC	0.00 LS	\$0.0000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	T () () 0 0007	# 0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Ligh	nting		
0231 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Group 0068.	\$0.00
			Ç 0100
Group 0069: Innovative Cont	tracting Incentatives		
0232 S-MC-MNTC MAJOR COST DRIVERS, MAINTE	0.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
,		Total for Group 0069:	\$0.00
Group 0070: Other MOT Cos	oto		
0233 S-OC-MNTC	100 IS	\$0,0000	\$0.00
OTHER COSTS, MAINTENANCE	OF TRAFFIC	\$5.00000 \$500,000,0000	¢0.00
OTHER COSTS, MAINTENANCE	OF TRAFFIC	\$500,000.00000	\$145,000.00
		Total for Group 0070: \$145,0	00.00
Group 0071: Wetland Constr	ruction		
0234 T-MC-WTLD	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, WETLA		\$0,0000	\$0.00
MAJOR COST DRIVERS, WETLA	ND CONSTRUCTION	ψυ.υυυυ	φ0.00
		Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate: Alt E KY cont 2				PB Americas, Inc.
Line # Item Number	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
<u>Description</u> Supplemental Description				
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELI	0.00 ANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS	0.00 S COSTS	LS	\$0.00000	\$0.00
0237 100E00300	0.00	LS	\$10,000.00000	\$0.00
SPECIAL - PREMIUM ON RAILRO	ADS' PROTECTIV	/E PUBL	IC LIABILITY AND PROPERTY DAMAGE	1
0238 623E10000 CONSTRUCTION LAYOUT STAKE 0.5%	1.00 S	LS	\$26,797.62000	\$26,797.62
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$107,190.47000	\$107,190.47
0240 619E16020 FIELD OFFICE, TYPE C	19.00	MNTH	\$2,500.00000	\$47,500.00
0242 624E10000 MOBILIZATION	1.00	LS	\$200,000.00000	\$200,000.00
0511 103E05000	1.00	LS	\$26,797.62000	\$26,797.62
PREMIUM FOR CONTRACT PERF 0.5%	ORMANCE BON	D AND F	OR PAYMENT BOND	
0518	0.00		\$0.00000	\$0.00
0519	0.00		\$0.00000	\$0.00
0520	0.00		\$0.00000	\$0.00
0521	0.00		\$0.00000	\$0.00
0532	0.00		\$0.00000	\$0.00
			Total for Group 0072:	\$408,285.71

Group 0073: Design Contingency Costs

0243 V-MC-CNTG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, CONTING	ENCY COSTS			
0244 V-OC-CNTG	1.00	LS	\$1,441,952.30000	\$1,441,952.30
OTHER COSTS, CONTINGENCY CO	OSTS			
25%				
			Total for Group 0073	8: \$1,441,952,30
				φ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

Group 0074: Inflation Contingency

•		0 1				
0266	V-OC-CNTG		0.00	LS	\$0.00000	\$0.00
OTH	HER COSTS, CONTINGENCY	COSTS				
					Total for Croup 0074:	¢0 00

Total for Group 0074: \$0.00

Estimate Alt E KY cont 3

Estimated Cost: \$7,818,842.99 Contingency: 29.70% Estimated Total: \$10,141,039.36

Base Date: 01/01/15 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt E KY cont 3			PB A	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Group 0001: Pavement Remova	I			
	0.00	LS	\$0.00000	\$0.00
0343 202E23000	2,006.00	SY	\$8.00000	\$16,048.00
			Total for Group 0001: \$16,	048.00
Group 0002: Excavation - Rock	4 000 00	0)/	# 20.0000	* =0.000.00
MAJOR COST DRIVERS, ROADWAY	1,960.00	CY	\$30.00000	\$58,800.00
			Total for Group 0002: \$58,	800.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0344 203E10000	17,640.00	CY	\$8.00000	\$141,120.00
EXCAVATION			Total for Group 0003: \$141,	120.00
Croup 0004: Execution Hozar	daua			
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY		-	Total for Croup 0004	۹ ۵ ۵
				φ0.00
Group 0005: Fill - Embankment (includes	wasting	g excess excavation)	
0007 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0345 203E20000 EMBANKMENT	19,600.00	CY	\$6.00000	\$117,600.00
			Total for Group 0005: \$117,	600.00
Group 0006: Fill - Lime Modified	Soil			
0010 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY 0346 205E10050	0.00	CY	\$7.00000	\$0.00
LIME STABILIZED EMBANKMENT 0347 205E10300	0.00	TON	\$5.00000	\$0.00
LIME			Total for Group 0006:	\$0.00
				ψ0.00
Group 0007: Fill - Borrow	0.00	0)/	#0 00000	\$ 0.00
MAJOR COST DRIVERS, ROADWAY	0.00	CY	\$8.00000	\$0.00
			Total for Group 0007:	\$0.00
Group 0008: Concrete Barrier				
	1.00	LS	\$0.00000	\$0.00
0465 622E10060	0.00	FT	\$110.00000	\$0.00
7:29:02AM				Daga 2 of 12

Estimate: Alt E KY cont 3				PB Americas, Inc.
<u>Line #</u> <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SLOP	E, TYPE B		Total for Group	o 0008: \$0.00
Group 0009: Subgrade Treatme	nt - Lime			
0014 A-MC-RDWY MAJOR COST DRIVERS. ROADWAY	1.00	LS	\$0.00000	\$0.00
0348 206E10000 LIME STABILIZED SUBGRADE	0.00	SY	\$1.85000	\$0.00
0349 206E10300	0.00	TON	\$10.00000	\$0.00
0350 206E11000	0.00	SY	\$1.00000	\$0.00
0351 206E20000	0.00	HOUR	\$4.00000	\$0.00
			Total for Group	0009: \$0.00
Group 0010: Subgrade Treatme	nt - Ceme	nt		
0016 A-MC-RDWY	533.00	SY	\$2.50000	\$1,332.50
MAJOR COST DRIVERS, ROADWAY			Total for Group 007	10: \$1,332.50
Group 0011: Subgrade Treatme	nt - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS ROADWAY	1.00	LS	\$0.00000	\$0.00
			Total for Group	0011: \$0.00
Group 0012: Other Roadway Co	osts			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT		\$0.00
0029 202E38000	0.00	FT		\$0.00
0030 202E42206	0.00	EACH		\$0.00
	0.00	EACH		\$0.00
	0.00	EACH		\$0.00
0033 202E75000	0.00	FT		\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

7:29:02AM

Estimate: Alt E KY cont 3			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
PROOF ROLLING				
0035 204E10000	0.00	SY	\$0.81000	\$0.00
0036 451E30000	0.00	FT		\$0.00
0037 606E13000 GUARDRAIL TYPE 5	0.00	FT	\$14.00000	\$0.00
0038 606E22000 ANCHOR ASSEMBLY, TYPE B-98	0.00	EACH		\$0.00
0039 606E22010 ANCHOR ASSEMBLY, TYPE E-98	0.00	EACH		\$0.00
0040 606E26500 ANCHOR ASSEMBLY, TYPE T	0.00	EACH		\$0.00
0041 606E35000 BRIDGE TERMINAL ASSEMBLY.	0.00 TYPE 1	EACH		\$0.00
0042 606E35100 BRIDGE TERMINAL ASSEMBLY,	0.00 TYPE 2	EACH		\$0.00
0043 606E60010		EACH		\$0.00
0044 607E15000 FENCE, TYPE 47	0.00	FT		\$0.00
0423 304E20000 AGGREGATE BASE	0.00	CY		\$0.00
0424 601E32100 ROCK CHANNEL PROTECTION, ⁻ For Fencing	0.00 TYPE B WITH FIL	CY TER		\$0.00
0425 607E40500 GATE, TYPE 47 For Fencing	0.00	EACH		\$0.00
0426 625E32000 GROUND ROD For Fencing	0.00	EACH		\$0.00
0466	0.00		\$0.00000	\$0.00
			Total for Group 0012:	\$0.00
Group 0014: Seeding & Mulc	hing / Soddir	ng		
0045 B-MC-ERCO MAJOR COST DRIVERS_EROSIC	1.00	LS	\$0.00000	\$0.00
0467 659E10000 SEEDING AND MULCHING	0.00	SY	\$1.00000	\$0.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000	\$0.00
			Total for Group 0014:	\$0.00
Group 0015: Rock Channel F	Protection			
		LS	\$0.00000	\$0.00
0469 601E32000 ROCK CHANNEL PROTECTION	0.00	CY	\$75.00000	\$0.00
			Total for Group 0015:	\$0.00
Group 0016: Erosion Control	- Item 832			
0048 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
7:29:02AM				

Estimate: Alt E KY cont 3			PB A	Americas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
MAJOR COST DRIVERS, EROSIO	N CONTROL			
0470 832E10000 STORM WATER POLILITION PREV	1.00 FNTION PLAN	LS	\$20,000.00000	\$20,000.00
0471 832E20000 EROSION CONTROL	10,000.00	EACH	\$1.00000	\$10,000.00
			Total for Group 0016: \$30,	000.00
Group 0017: Other Erosion Co	ontrol Costs			
	0.00	SY		\$0.00
0050 B-OC-ERCO OTHER COSTS, EROSION CONTR	1.00	LS	\$0.00000	\$0.00
0051 659E00100	0.00	EACH	\$0.00000	\$0.00
0052 659E00300 TOPSOIL	0.00	CY		\$0.00
0053 659E14000	0.00	SY		\$0.00
0054 659E15000 INTER-SEEDING	0.00	SY	\$0.71000	\$0.00
0055 659E20000	0.00	TON		\$0.00
0056 659E31000 LIME	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000 MOWING	0.00	MSF	\$0.00000	\$0.00
			Total for Group 0017:	\$0.00
Crown 0010, Underdreine				
	1.00	15	00000 08	\$0.00
MAJOR COST DRIVERS, DRAINAG	GE		\$0.00000	φ0.00
4" SHALLOW PIPE UNDERDRAINS	0.00 S	FI	\$8.00000	\$0.00
			Total for Group 0018:	\$0.00
Group 0019: Culverts - Type	A: < 5'			
0474 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	0.00 GE	LS	\$0.00000	\$0.00
0480 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	0.00 GE	FT	\$350.00000	\$0.00
Pipe Structures - Reinforced Concre 0481 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	ete Pipe up to 60' 0.00	EACH	\$1,500.00000	\$0.00
Concrete Masonry				•
			Total for Group 0019:	\$0.00
Group 0021: Culverts, Type A	.: 5' - 10'			
0067 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	0.00 GE	FT	\$550.00000	\$0.00
7:29:02AM				

Estimate: Alt E KY cont 3			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Pipe Structures - Reinforced Concrete 5'- 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	0.00 0.00	78" EACH	\$2,000.00000	\$0.00
			Total for Group 0021:	\$0.00
Group 0022: Cuiverts, Type A: 10) - 20		# 2.2222	A0 00
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pi	0.00 pe 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonny	0.00	EACH	\$1,500.00000	\$0.00
			Total for Group 0022:	\$0.00
Group 0024: BMP's				
0076 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Group 0024:	\$0.00
Group 0025: Closed Storm Syste	m			
0077 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0489 603E13400	0.00	FT	\$75.00000	\$0.00
0523 604E00800 CATCH BASIN NO 34	0.00	EACH	\$1,500.00000	\$0.00
0524 604E31500 MANHOLE, NO, 3	0.00	EACH	\$3,000.00000	\$0.00
0525	0.00		\$0.00000	\$0.00
Pump Station (Storm)	0.00	15	\$6,400,000.00000	\$0.00
0527 Special Stormceptors	0.00	EACH	\$5,750.00000	\$0.00
0529 Special Retention basin improvements	0.00	LS	\$109,000.00000	\$0.00
			Total for Group 0025:	\$0.00
Group 0026: Other Drainage Cos	ts			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
			Total for Group 0026:	\$0.00
Group 0027: Mainline - Travel La	nes			
0095 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Poinforced Constants Devemant	0.00	SY	\$68.00000	\$0.00
Includes 6" Agg Base and Subgrade Con	npaction			

Estimate: Alt E KY cont 3			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
			Total for Group 0027:	\$0.00
Group 0028: Mainline - Outside	Shoulder			
0100 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement	0.00	SY	\$68.00000	\$0.00
Group 0030: Mainline - Inside S	houlder		Total for Group 0028:	\$0.00
		15	00000 02	ወ በቃ
MAJOR COST DRIVERS, PAVEMENT	1.00	20	\$0.0000	φ0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Co	0.00	SY	\$68.00000	\$0.00
			Total for Group 0030:	\$0.00
Group 0031: Ramps (including s	shoulders)	1		
0122 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	0.00	SY	\$68.00000	\$0.00
Group 0032: Non - Mainline Lan	Des		Total for Group 0031:	\$0.00
0132 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, PAVEMENT	533.00	SY	\$41,00000	\$21 853 00
Asphalt	e el Oute enere ele (φ21,000.00
includes 3 448, 9 301, 6 Agg base al	na Subgrade (Jompaction	Total for Group 0032: \$21,8	353.00
Group 0041: Other Pavement C	osts			
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Group 0041:	\$0.00
Group 0042: Water Works				
0164 E-MC-WATR MAJOR COST DRIVERS, WATER LIN	0.00 E	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Group 0042:	\$0.00
Group 0043: Sanitary Line				
0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY S	0.00 SEWER	LS	\$0.00000	\$0.00
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Estimate: Alt E KY cont 3			PB A	mericas, Inc.
Line # Item Number	Quantity	<u>Units</u>	Unit Price	Extension
<u>Description</u> Supplemental Description				
			Total for Group 0043:	\$0.00
Group 0044: Lighting - Full Interc	hange			
0173 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING 0499 G-MC-LTNG	0.00	EACH	\$469,000.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING			Total for Group 0044:	¢0 00
				φ0.00
Group 0045: Lighting - Partial Inte	erchange	;		
0288 G-MC-LTNG	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING			Total for Group 0045:	\$0.00
				~ ~~~~
Group 0046: Lighting - Continuou	us Roadw	/ay		
0176 G-MC-LTNG MAJOR COST DRIVERS. LIGHTING	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG	840.00	FT	\$35.00000	\$29,400.00
Lighting - Continuous			Total for Group 0046: \$29.4	100.00
			····· ····· ····· ····· ····· ····· ····	
Group 0047: Other Lighting Cost	S			
0177 G-OC-LTNG OTHER COSTS, LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group 0047:	\$0.00
	0.00	10	00000 02	00 0 2
OTHER COSTS, TRAFFIC SURVEILLA	NCE	LO	\$0.00000	φ0.00
			Total for Group 0048:	\$0.00
Group 0049 [.] Signs				
0179 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CO	NTROL	MILE	\$250,000,00000	\$40.000.00
Signs	0.10			φ+0,000.00
			Total for Group 0049: \$40,0	00.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CO	NTROL	MILE	\$3,000,00000	\$540.00
	0.10		\$2,000,00000	¢0.00 00
LANE LINE	0.13	MILE	\$2,000.00000	\$260.00
			Total for Group 0050: \$8	300.00

Group 0051: Other Traffic Control Costs

Estimate: Alt E KY cont 3				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0208 J-OC-TRAF OTHER COSTS TRAFFIC CONTROL	1.00	LS	\$0.00000	\$0.00
Group 0052: Signals - Intersect	ions		Total for Group 00	051: \$0.00
0212 K-MC-SGNL	2.00	EACH	\$175,000.00000	\$350,000.00
MAJOR COST DRIVERS, SIGNALS			Total for Group 0052: \$3	350,000.00
Group 0053: Other Traffic Signa	al Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group 00)53: \$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP MAJOR COST DRIVERS, LANDSCAF	1.00 PING	LS	\$0.00000	\$0.00
0215 L-OC-LSCP OTHER COSTS, LANDSCAPING	1.00	LS	\$0.00000	\$0.00
			Total for Group 00)54: \$0.00
Group 0055: Retaining Walls \$	125 + \$10/	ft for cap	s, barriers and testing	
0216 M-MC-WALL MAJOR COST DRIVERS RETAINING	1.00 SWALLS	LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	0.00	SF	\$135.00000	\$0.00
			Total for Group 00)55: \$0.00
Group 0056: Other Retaining W	/all Costs			
0217 M-OC-WALL OTHER COSTS. RETAINING WALLS	1.00	LS	\$0.00000	\$0.00
			Total for Group 00)56: \$0.00
Group 0057: Building Demolitio	n			
0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING	1.00 DEMOLITION	LS	\$0.00000	\$0.00
0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOLIT	1.00 FION	LS	\$0.00000	\$0.00
0532 202E56101 BUILDING DEMOLISHED, AS PER PI Large Commercial	0.00 LAN	EACH	\$30,000.00000	\$0.00
0533 202E56101 BUILDING DEMOLISHED, AS PER PI Small Commercial	0.00 LAN	EACH	\$15,000.00000	\$0.00
0534 202E56101 BUILDING DEMOLISHED, AS PER PI Large Residential	0.00 LAN	EACH	\$12,000.00000	\$0.00
0535 202E56101 BUILDING DEMOLISHED, AS PER PI Small Residential	0.00 LAN	EACH	\$7,500.00000	\$0.00
0536 202E98100	0.00	EACH	\$8,500.00000	\$0.00

7:29:02AM Thursday, December 02, 2010

Estimate: Alt E KY cont 3			PB A	mericas, Inc.
Line # Item Number Qu Description Supplemental Description	<u>iantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
REMOVAL MISC.: Radio Tower				
			Total for Group 0057:	\$0.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR MAJOR COST DRIVERS, NOISE BARRIER	1.00	LS	\$0.0000	\$0.00
0505 P-MC-NSBR Noise Barrier	0.00	LS	\$400.00000	\$0.00
			Total for Group 0058:	\$0.00
Group 0059: Other Noise Barrier Co	sts			
0221 P-OC-NSBR	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR MAJOR COST DRIVERS NOISE BARRIER	0.00	LS	\$0.00000	\$0.00
			Total for Group 0059:	\$0.00
Group 0060: New Structures				
0222 R-MC-STRC MAJOR COST DRIVERS_STRUCTURES	1.00	LS	\$0.00000	\$0.00
0506 R-MC-STRC Tier 1 Structures to 25' Height	0.00	SF	\$125.00000	\$0.00
0507 R-MC-STRC Removal of Existing Structures non-complex	0.00	SF	\$12.00000	\$0.00
0508 R-MC-STRC 17,6 Standard Removal of Existing Structures above	629.00	SF	\$17.00000	\$299,693.00
0509 R-MC-STRC	0.00	SF	\$30.00000	\$0.00
Removal of Existing Structures complex to ve 0513 R-MC-STRC 30,9	ry comp 973.00	SF	\$150.00000 \$	4,645,950.00
Tier 2 Structures 25' to 50' Height 0516 R-MC-STRC	0.00	SF	\$200.00000	\$0.00
Tier 3 Structures 50' to 75' Height			Total for Group 0060: \$4,945,6	643.00
Croup 0061, Debebiliteted Structure	•			
0223 R-MC-STRC	S 0.00	SF	\$45.00000	\$0.00
MAJOR COST DRIVERS, STRUCTURES			Total for Group 0061:	\$0.00
			·	
Group 0062: Other Structure Costs				6
0224 R-OC-STRC OTHER COSTS, STRUCTURES	0.00	LS	\$0.00000	\$0.00
Comingency			Total for Group 0062:	\$0.00
Group 0063: Temporary Road and F	aven	nent Costs		
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTENANCE O	1.00 F TRAF	LS FFIC	\$0.00000	\$0.00

Estimate: Alt E KY cont 3		PB A	mericas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
Description Supplemental Description			
			* • • •
		Total for Group 0063:	\$0.00
Group 0064: Portable Conc	rete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT	TENANCE OF TRAFFIC	Total for Croup 0064:	¢0.00
		Total for Group 0064.	φ0.00
Group 0065: Impact Attenua	ators		
0227 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT		Total for Group 0065:	\$0.00
			Q OICC
Group 0066: Sheeting			
0229 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
0 0007 T 0			
Group 0067: Temporary Sig	jnals	#0.00000	\$ 0.00
MAJOR COST DRIVERS, MAINT	0.00 LS FENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Lig	abting		
0231 S-MC-MNTC	0.00 LS	\$0.0000	\$0.00
MAJOR COST DRIVERS, MAINT			¢0.00
		Total for Group 0068:	\$0.00
Group 0069: Innovative Cor	ntracting Incentatives		
0232 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT	ENANCE OF TRAFFIC	Total for Group 0069:	¢0.00
		Total for Group 0009.	φ0.00
Group 0070: Other MOT Co	osts		
0233 S-OC-MNTC	1.00 LS	\$0.00000	\$0.00
0512 S-OC-MNTC	0.16 MILE	\$500,000.00000	\$80,000.00
OTHER COSTS, MAINTENANCE	E OF TRAFFIC	Total for Group 0070: \$80 (
			00.00
Group 0071: Wetland Const	truction		
0234 T-MC-WTLD	0.00 LS	\$0.00000	\$0.00
0360 T-MC-WTLD	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, WETL	AND CONSTRUCTION	Total for Group 0071	\$0.00
		101a1101 G100p 0071.	ψ0.00

Group 0072: Misc. Costs

Estimate: Alt E KY cont 3				PB Americas, Inc.
Line # Item Number	Quantity	<u>Units</u>	Unit Price	Extension
<u>Description</u> Supplemental Description				
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELL/	0.00 ANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS	0.00 COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILROA LIABILITY INSURANCE	0.00 DS' PROTECTIV	LS /E PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY DAM	\$0.00
0238 623E10000 CONSTRUCTION LAYOUT STAKES 0.5%	1.00	LS	\$29,162.98000	\$29,162.98
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$116,651.93000	\$116,651.93
0240 619E16020 FIELD OFFICE, TYPE C	19.00	MNTH	\$2,500.00000	\$47,500.00
0242 624E10000 MOBILIZATION	1.00	LS	\$200,000.00000	\$200,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERFC 0.5%	1.00 DRMANCE BON	LS D AND F	\$29,162.98000 FOR PAYMENT BOND	\$29,162.98
0518	0.00		\$0.00000	\$0.00
0519	0.00		\$0.00000	\$0.00
0520	0.00		\$0.00000	\$0.00
0521	0.00		\$0.00000	\$0.00
			Total for Group 007	72: \$422,477.89
Group 0073: Design Continger	ncy Costs			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTING	1.00 ENCY COSTS	LS	\$0.00000	\$0.00
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY CO 25%	1.00 DSTS	LS	\$1,563,768.60000	\$1,563,768.60
			Total for Group 0073	: \$1,563,768.60
Group 0074: Inflation Continge	ency			
0266 V-OC-CNTG OTHER COSTS. CONTINGENCY C	0.00 DSTS	LS	\$0.00000	\$0.00
	-		Total for Gro	oup 0074: \$0.00

Estimate Alt E KY cont 5

Estimated Cost: \$71,530,905.30 Contingency: 57.60% Estimated Total: \$112,732,706.75

Base Date: 01/01/15 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt E KY cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Group 0001: Pavement Remova	al			
	0.00	LS	\$0.00000	\$0.00
0343 202E23000	212,051.00	SY	\$8.00000	\$1,696,408.00
PAVEMENT REMOVED			Total for Group 0001:	\$1,696,408.00
Group 0002: Excavation - Rock			* ***	
0003 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	146,868.00	CY	\$30.00000	\$4,406,040.00
			Total for Group 0002:	\$4,406,040.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0344 203E10000	342,692.00	CY	\$8.00000	\$2,741,536.00
EXCAVATION			Total for Group 0003:	\$2,741,536.00
Group 0004: Excavation - Hazar	rdous			
0006 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
			Total for Grou	up 0004: \$0.00 qu
Group 0005: Fill - Embankment	(includes	wasting e	excess excavation)	
0007 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0345 203E20000	489,560.00	CY	\$6.00000	\$2,937,360.00
EMBANKMENI			Total for Group 0005:	\$2,937,360.00
Crown 0000 Fill Linne Medified			·	
0010 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY	0.00	CY	\$7,0000	\$0.00
LIME STABILIZED EMBANKMENT	0.00		\$5,00000	00.00
LIME	0.00	TON	\$5.0000	\$0.00
			I otal for Grou	0006: \$0.00 קג
Group 0007: Fill - Borrow				
0011 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	0.00	CY	\$8.00000	\$0.00
			Total for Grou	up 0007: \$0.00
Group 0008: Concrete Barrier				
0012 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY 0465 622E10060	20,800.00	FT	\$110.00000	\$2,288,000.00
7:31:24AM				Dage 2 of 12

Estimate: Alt E KY cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SLC	DPE, TYPE B		Total for Group 0008:	\$2,288,000.00
Group 0009: Subgrade Treatm	ent - Lime			
0014 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00 Y	LS	\$0.00000	\$0.00
0348 206E10000 LIME STABILIZED SUBGRADE	0.00	SY	\$1.85000	\$0.00
0349 206E10300	0.00	TON	\$10.00000	\$0.00
0350 206E11000	0.00	SY	\$1.00000	\$0.00
0351 206E20000	0.00	HOUR	\$4.00000	\$0.00
TEST KOLLING		_	Total for Grou	up 0009: \$0.00
Group 0010: Subgrade Treatm	ent - Ceme	nt		
0016 A-MC-RDWY	298,491.00	SY	\$2.50000	\$746,227.50
MAJOR COST DRIVERS, ROADWA	ſ		Total for Group 0010): \$746,227.50
Group 0011: Subgrade Treatm	ent - Unde	rcut &	Backfill	
0017 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
			Total for Grou	up 0011: \$0.00
Group 0012: Other Roadway (Costs			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
0020 201E11000 CLEARING AND GRUBBING	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT		\$0.00
0029 202E38000	0.00	FT		\$0.00
0030 202E42206	0.00	EACH		\$0.00
0031 202E58000	0.00	EACH		\$0.00
0032 202E58100	0.00	EACH		\$0.00
0033 202E75000	0.00	FT		\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Estimate: Alt E KY cont 5				PB Americas, Inc.
Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Description				
Supplemental Description				
PROOF ROLLING		a 14		
0035 204E10000 SUBGRADE COMPACTION	0.00	SY	\$0.81000	\$0.00
0036 451E30000	0.00	FT		\$0.00
SPECIAL - PRESSURE RELI	EF JOINT, TYPE A	гт	\$14,00000	¢74 000 00
GUARDRAIL, TYPE 5	5,300.00	FI	\$14.00000	\$74,200.00
0038 606E22000	0.00	EACH		\$0.00
ANCHOR ASSEMBLY, TYPE	B-98	FACH		\$0.00
ANCHOR ASSEMBLY, TYPE	E-98	LAON		φ0.00
0040 606E26500	0.00	EACH		\$0.00
0041 606E35000	0.00	EACH		\$0.00
BRIDGE TERMINAL ASSEME	BLY, TYPE 1			•
0042 606E35100	0.00	EACH		\$0.00
0043 606E60010	0.00	EACH		\$0.00
IMPACT ATTENUATOR, TYP	E 1-98 (BIDIRECTION	AL)		\$ 0.00
FENCE, TYPE 47	0.00	FI		\$0.00
For Fencing				
	0.00	CY		\$0.00
For Fencing				
0424 601E32100	0.00	CY		\$0.00
ROCK CHANNEL PROTECTI	ON, TYPE B WITH FIL	IER		
0425 607E40500	0.00	EACH		\$0.00
GATE, TYPE 47				
0426 625E32000	0.00	EACH		\$0.00
GROUND ROD				
For Fencing	0.00		\$0,0000	\$0.00
0+00	0.00		Total for Group 0012:	\$74.200.00
				Ŧ ,
Group 0014: Seeding & M	/lulching / Soddir	ng		
0045 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ER	OSION CONTROL	SV	\$1,00000	\$133 774 00
SEEDING AND MULCHING	100,774.00	01	\$1.00000	φ100,774.00
0531 660E25000	0.00	SY	\$15.00000	\$0.00
SODDING STAKED			Total for Group 0014	\$133 774 00
				¢100,774.00
Group 0015: Rock Chann	nel Protection			
0047 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ER	OSION CONTROL	0)/	¢75,00000	¢4.4.400.00
ROCK CHANNEL PROTECTI	ON. TYPE A WITH FIL	TER	\$75.00000	\$14,400.00
	,		Total for Group 0015:	\$14,400.00
			•	-
Group 0016: Erosion Cor	ntrol - Item 832			
0048 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
7:31:24AM				

Line # Item Number Quantity Units Unit Price	Extension
<u>Description</u> Supplemental Description	
MAJOR COST DRIVERS, EROSION CONTROL	
0470 832E10000 1.00 LS \$50,000.00000 S	\$50,000.00
0471 832E20000 300,000.00 EACH \$1.00000 \$3 EROSION CONTROL	300,000.00
Total for Group 0016: \$350,00	00.00
Group 0017: Other Frasian Control Casts	
	\$0.00
DITCH EROSION PROTECTION	φ0.00
0050 B-OC-ERCO 1.00 LS \$0.00000 OTHER COSTS, EROSION CONTROL	\$0.00
0051 659E00100 0.00 EACH \$0.00000	\$0.00
0052 659E00300 0.00 CY	\$0.00
0053 659E14000 0.00 SY	\$0.00
REPAIR SEEDING AND MULCHING 0054 659E15000 0.00 SY \$0.71000	\$0.00
INTER-SEEDING	φ0.00
0055 659E20000 0.00 TON COMMERCIAL FERTILIZER	\$0.00
0056 659E31000 0.00 ACRE \$0.00000	\$0.00
0057 659E35000 0.00 MGAL \$5.00000	\$0.00
0058 659E40000 0.00 MSF \$0.00000 MOWING	\$0.00
Total for Group 0017: \$	60.00
	00.00
MAJOR COST DRIVERS, DRAINAGE	Ф 0.00
0062 605E05100 29,635.00 FT \$8.00000 \$2 4" SHALLOW PIPE UNDERDRAINS	237,080.00
Total for Group 0018: \$237,08	30.00
Group 0019: Culverts - Type $A : < 5'$	
0474 C-MC-DRNG 0.00 LS \$0.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	too 00
MAJOR COST DRIVERS, DRAINAGE	\$30,100.00
Pipe Structures - Reinforced Concrete Pipe up to 60" 0481 C-MC-DRNG 2.00 EACH \$1.500.00000	\$3.000.00
MAJOR COST DRIVERS, DRAINAGE	.
Total for Group 0019: \$33,10	00.00
Group 0021: Culverts, Type A: 5' - 10'	* ~ ~~
MAJOR COST DRIVERS, DRAINAGE	\$0.00
0476 C-MC-DRNG 36.00 FT \$550.00000 S MAJOR COST DRIVERS, DRAINAGE	\$19,800.00
7:31:24AM Thursday, December 02, 2010 Pa	ge 5 of 12

Estimate: Alt E KY cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
Pipe Structures - Reinforced Concrete 5' 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	- <i>10' 66" to 7</i> 1.00	78" EACH	\$2,000.00000	\$2,000.00
			Total for Group 00	21: \$21,800.00
Group 0022: Culverts, Type A: 10)' - 20'			
0486 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE MAJOR COST DRIVERS, DRAINAGE	0.00	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for Gro	up 0022: \$0.00
Group 0024: BMP's	1.00	1.0	\$0,0000	¢0.00
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Gro	up 0024: \$0.00
Group 0025: Closed Storm Syste	m			
0077 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	11,994.00	FT	\$75.00000	\$899,550.00
0523 604E00800 CATCH BASIN NO 3A	84.00	EACH	\$1,500.00000	\$126,000.00
0524 604E31500 MANHOLE, NO. 3	20.00	EACH	\$3,000.00000	\$60,000.00
0525 604E36601	13.00 III ET AS	EACH PER PLAN	\$1,250.00000	\$16,250.00
0526 Special Pump Station (Storm)	0.00	LS	\$6,400,000.00000	\$0.00
0527 Special Stormcentors	0.00	EACH	\$5,750.00000	\$0.00
0529 Special Retention basin improvements	0.00	LS	\$109,000.00000	\$0.00
			Total for Group 0025:	\$1,101,800.00
Group 0026: Other Drainage Cos	sts			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, DRAINAGE			Total for Gro	up 0026: \$0.00
Group 0027: Mainline - Travel La	nes			
0095 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Con-	171,479.00 mpaction	SY	\$68.00000	\$11,660,572.00
7:31:24AM				

Estimate: Alt E KY cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0027:	\$11,660,572.00
Group 0028: Mainline - Outside S	Shoulder			
	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement	38,883.00	SY	\$68.00000	\$2,644,044.00
Includes 6" Agg base and Subgrade Col	mpaction		Total for Group 0028:	\$2,644,044.00
Group 0030: Mainline - Inside Sh	noulder			
0115 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Col	38,377.00 mpaction	SY	\$68.00000	\$2,609,636.00
	,		Total for Group 0030:	\$2,609,636.00
Group 0031: Non - Mainline Lan	20			
0532 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, PAVEMENT 0533 D-MC-PVMT Asphalt	3,441.00	SY	\$41.00000	\$141,081.00
Includes 3" 448, 9" 301, 6" Agg base an	d Subgrade (Compaction	Total for Group 003	1: \$141,081.00
Group 0036: Ramps (including s	houlders))		
0122 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	46,310.00	SY	\$68.00000	\$3,149,080.00
Includes 6" Agg base and Subgrade Col	mpaction		Total for Group 0036:	\$3,149,080.00
			· ·	
Group 0041: Other Pavement Co		19	00000	00.02
OTHER COSTS, PAVEMENT	1.00	LO	\$0.00000 T () ()	\$0.00
			I otal for Gro	up 0041: \$0.00
Group 0042: Water Works				
	0.00	LS	\$0.00000	\$0.00
0165 E-OC-WATR	0.00	LS	\$0.00000	\$0.00
UTHER COSTS, WATER LINE			Total for Gro	up 0042: \$0.00
Croup 0042: Sonitor Line				
0170 F-MC-SANI	0 00	LS	\$0 00000	\$0.00
MAJOR COST DRIVERS, SANITARY S	EWER	20	ψ0.00000	ψ0.00
7·31·24AM				

7:31:24AM Thursday, December 02, 2010

Estimate: All E KY cont 5			PB A	Americas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0043:	\$0.00
Group 0044: Lighting - Full Interc	change			
0173 G-MC-LTNG MAJOR COST DRIVERS LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG MA IOR COST DRIVERS, LIGHTING	2.00	EACH	\$469,000.00000	\$938,000.00
MAJOR COOT DRIVERO, EIOTTINO			Total for Group 0044: \$938,	000.00
Group 0045: Lighting - Partial Int	erchange	;		
0288 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	0.00	LS	\$0.00000	\$0.00
	D 1		Total for Group 0045:	\$0.00
Group 0046: Lighting - Continuoi	us Roadv	vay	A a a a a a a a a a a	* •••••
0176 G-MC-LING MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LING Lighting - Continuous	13,415.00	FT	\$35.00000	\$469,525.00
			Total for Group 0046: \$469,	525.00
Group 0047: Other Lighting Cost	S			
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
			Total for Group 0047:	\$0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV	1.00	LS	\$537,486.54000	\$537,486.54
OTHER COSTS, TRAFFIC SURVEILLA	INCE		Total for Group 0048: \$537,	486.54
Group 0049: Signs				
0179 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CO 0501 J-MC-TRAF Signs	NTROL 2.54	MILE	\$250,000.00000	\$635,000.00
0.9.10			Total for Group 0049: \$635,	000.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CO 0502 644E00100	NTROL 18.30	MILE	\$3,000.00000	\$54,900.00
EDGE LINE 0503 644E00200	17.93	MILE	\$2,000.00000	\$35,860.00
LANE LINE			Total for Group 0050: \$90,	760.00

Group 0051: Other Traffic Control Costs

Line # tem Number Quantity Units Unit Price Extension 0206 J-OC-TRAF 1.00 LS \$0.00000000000000000000000000000000000	Estimate: Alt E KY cont 5			PB A	Americas, Inc.
1000 J-OC-TRAF 1.00 LS \$0.0000 \$0.00 OTHER COSTS, TRAFFIC CONTROL Total for Group 0051: \$0.00 Group 0051: \$0.00 Group 0052: Signals - Intersections \$0.000 \$0.00 Total for Group 0052: \$0.00 MAJOR COST DRIVERS, SIGNALS 1.00 LS \$0.00000 \$0.00 Group 0053: Other Traffic Signal Costs \$0.0000 \$0.00 \$0.00 OTHER COSTS, SIGNALS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, LANDSCAPING 1.00 LS \$0.00000 \$0.00 OTHER COSTS, REtaining Walls \$125 + \$10/ft for caps, barriers and testing \$0.00 \$0.00 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS \$0.00000 \$1,197,450.00 \$1,197,450.00 Group 0056: Other Retaining Wall Costs \$0.0000 \$0.00 \$0.00 0217 MAOC-DEMO	Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
Total for Group 0051: \$0.00 Group 0052: Signals - Intersections 0212 KMC-SONL 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, SIGNALS 0213 K-OC-SONL 1.00 LS \$0.00000 \$0.00 Group 0053: Other Traffic Signal Costs \$0.00 \$0.00 \$0.00 0213 K-OC-SONL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, SIGNALS 1.00 LS \$0.00000 \$0.00 0214 LANC-LSCP 1.00 LS \$0.0000 \$0.00 0214 LANC-LSCP 1.00 LS \$0.0000 \$0.00 0214 LANC-LSCP 1.00 LS \$0.0000 \$0.00 0215 LOCLSCP 1.00 LS \$0.0000 \$0.00 0216 M-MC-WALL 8.00000 \$0.00 \$0.00 \$0.00 0216 M-MC-WALL 8.070.00 \$F \$135.00000 \$1,197,450.00 Group 0055: Chr Reta	0208 J-OC-TRAF OTHER COSTS_TRAFFIC CONTRO	1.00	LS	\$0.00000	\$0.00
Cloup 0052. Signals - Intersections 1.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, SIGNALS 1.00 LS \$0.00000 \$0.00 Group 0053: Other Traffic Signal Costs 0213 \$4.00-SGNL \$0.00 \$0.00 0213 K-OC-SGNL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, SIGNALS 1.00 LS \$0.00000 \$0.00 Group 0054: Landscaping 0214 LMC-LSCP 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, LANDSCAPING 1.00 LS \$0.00000 \$0.00 0214 LMC-LSCP 1.00 LS \$0.00000 \$0.00 OTHER COSTS, REtaining Walls \$125 + \$10/ft for caps, barriers and testing 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 \$0.00 Group 0055: Cother Retaining Wall Costs \$217 M-CCWALL \$1.07,450.00 \$0.00 \$0.00 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000	Group 0052: Signals Intersec	tions		Total for Group 0051:	\$0.00
Total for Group 0052: \$0.00 Group 0053: Other Traffic Signal Costs 0213 K-OC-SGNL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, SIGNALS 1.00 LS \$0.00000 \$0.00 Group 0054: Landscaping 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 0215 LOCALSCP 1.00 LS \$0.00000 \$0.00 Orter Costs, LANDSCAPING 1.00 LS \$0.00000 \$0.00 Group 0055: Retaining Walls \$125 + \$10/ft for caps, barriers and testing \$0.00 \$0.00 0216 M-MC-WALL 8.870.00 \$F \$135.0000 \$0.00 Retaining Walls 1.00 LS \$0.00000 \$0.00 Group 0055: \$11,197,450.00 Group 0056: Other Retaining Wall Costs \$0.0000 \$0.00 Total for Group 0056: \$0.00 Group 0056: \$0.00 \$0.00	0212 K-MC-SGNL	1.00	LS	\$0.00000	\$0.00
Group 0053: Other Traffic Signal Costs 0213 K-OC-SGNL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, SIGNALS Total for Group 0053: \$0.00 Group 0053: \$0.00 S0.00 Group 0054: Landscaping 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, LANDSCAPING 1.00 LS \$0.00000 \$0.00 OTHER COSTS, LANDSCAPING Total for Group 0054: \$0.00 \$0.00 \$0.00 OTHER COSTS, LANDSCAPING Total for Group 0054: \$0.00 \$0.00 Group 0055: Retaining Walls \$125 + \$10/ft for caps, barriers and testing \$0.00 \$0.00 0216 M-MC-WALL 8,070.00 \$F \$135.00000 \$1,197,450.00 Retaining Walls SP \$135.00000 \$0.00 \$0.00 Group 0056: Other Retaining Wall Costs \$0.00000 \$0.00 \$0.00 OTHER COSTS, Building Demolition \$0.00000 \$0.00 \$0.00 0219 M-C-DEMO 1.00 LS \$0.00000 \$22,500.00 0219 M-C-DEMO 1.00	MAJOR COST DRIVERS, SIGNALS			Total for Group 0052:	\$0.00
0213 K-OC-SGNL 1.00 LS \$0.0000 \$0.00 OTHER COSTS, SIGNALS Total for Group 0053: \$0.00 Group 0054: Landscaping 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 0215 LOC-LSCP 1.00 LS \$0.00000 \$0.00 0216 LOC-LSCP 1.00 LS \$0.00000 \$0.00 0216 M-CC-SCP 1.00 LS \$0.00000 \$0.00 0216 M-MC-WALL 1.00 LS \$0.00000 \$0.00 MALOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 Retaining Walls Total for Group 0055: \$1,197,450.00 S0.00 \$0.00 Group 0056: Other Retaining Wall Costs \$0.00000 \$0.00 \$0.00 \$0.00 071HER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 \$0.00 071HER COSTS, BUILDING DEMOLITION LS <td>Group 0053: Other Traffic Sigr</td> <td>nal Costs</td> <td></td> <td></td> <td></td>	Group 0053: Other Traffic Sigr	nal Costs			
Total for Group 0053: \$0.00 Group 0054: Landscaping 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 0215 LOC-LSCP 1.00 LS \$0.00000 \$0.00 0215 LOC-LSCP 1.00 LS \$0.000000 \$0.00 0216 M-DC-USCP 1.00 LS \$0.00000 \$0.00 Group 0055: Retaining Walls \$125 + \$10/ft for caps, barriers and testing \$0.00 \$0.00 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 6504 M-MC-WALL 8.870.00 \$F \$135.00000 \$1,197,450.00 Retaining Walls 8870.00 SF \$135.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, BUILDING DEMOLITION 1.00 LS \$0.000	0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
Group 0054: Landscaping 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 0215 LOC-LSCP 1.00 LS \$0.00000 \$0.00 0216 LOC-LSCP Total for Group 0054: \$0.00 0216 M-MC-WALL 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 8,870.00 SF \$135.00000 \$1,197,450.00 Retaining Walls 8,870.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.0000 \$0.00 O217 M-OC-DEMO 1.00 LS				Total for Group 0053:	\$0.00
0214 L-MC-LSCP 1.00 LS \$0.0000 \$0.00 0215 LOC-LSCP 1.00 LS \$0.0000 \$0.00 0216 LOC-LSCP 1.00 LS \$0.00000 \$0.00 0216 M-MC-WALL 1.00 LS \$0.00000 \$0.00 0216 M-MC-WALL 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 0.00 LS \$0.00000 \$0.00 0504 M-MC-WALL 8,870.00 SF \$135.00000 \$1,197,450.00 Group 0056: Other Retaining Wall Costs 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, BUIDING DEMOLITION LS \$0.00000 \$0.00 \$0.00 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 0344 202E56101 S	Group 0054: Landscaping				
0215 LOC-USCP 1.00 LS \$0.00000 \$0.00 OTHER COSTS, LANDSCAPING 1.00 LS \$0.00000 \$0.00 Group 0055: Retaining Walls \$125 + \$10/ft for caps, barriers and testing 0216 M-MC-WALL 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$1,197,450.00 Retaining Walls 8,870.00 SF \$135.00000 \$1,197,450.00 Group 0056: Other Retaining Wall Costs 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.000000 \$0.00 OTHER COSTS, BUILDING DEMOLITION 1.00 LS \$0.000000 \$0.00 OTHER COSTS, BUILDING DEMOLITION 2.00 EACH \$12,000	0214 L-MC-LSCP MAJOR COST DRIVERS LANDSCA	1.00	LS	\$0.00000	\$0.00
Total for Group 0054: \$0.00 Group 0055: Retaining Walls \$125 + \$10/ft for caps, barriers and testing 0216 M-MC-WALL 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 0504 M-MC-WALL 8,870.00 SF \$135.00000 \$1,197,450.00 Retaining Walls 8,870.00 SF \$135.00000 \$1,197,450.00 Group 0056: Other Retaining Wall Costs 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 Group 0057: Building Demolition 1.00 LS \$0.00000 \$0.00 0218 N-MC-DEMO 1.00 LS \$0.000000 \$0.00 034 202256101 0.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000	0215 L-OC-LSCP OTHER COSTS, LANDSCAPING	1.00	LS	\$0.00000	\$0.00
Group 0055: Retaining Walls \$125 + \$10/ft for caps, barriers and testing 0216 M-MC-WALL 1.00 LS \$0.00000000000000000000000000000000000				Total for Group 0054:	\$0.00
0216 M-MC-WALL 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 8,870.00 SF \$135.00000 \$1,197,450.00 Retaining Walls Total for Group 0055: \$1,197,450.00 S0.00 \$0.00 Group 0056: Other Retaining Wall Costs 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 Group 0057: Building Demolition Total for Group 0056: \$0.00 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 0534 202E56101 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN Large Residential 2.00 EACH \$15,000.00000 \$24,000.00 0536 202E56101 0.00 EACH \$15,000.00000 \$24,000.00 BUILDI	Group 0055: Retaining Walls \$	6125 + \$10/	ft for ca	ps, barriers and testing	
0504 M-MC-WALL 8,870.00 SF \$135.0000 \$1,197,450.00 Retaining Walls Total for Group 0055: \$1,197,450.00 Group 0056: Other Retaining Wall Costs 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 Group 0057: Building Demolition 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, BUILDING DEMOLITION 1.00 LS \$0.00000 \$0.00 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 OTHER COSTS, BUILDING DEMOLITION 0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 0534 202E56101 2.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$24,000.00 0535 202E56101 2.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED	0216 M-MC-WALL MAJOR COST DRIVERS RETAININ	1.00 IG WALLS	LS	\$0.00000	\$0.00
Total for Group 0055: \$1,197,450.00 Group 0056: Other Retaining Wall Costs 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS Total for Group 0056: \$0.00 Group 0057: Building Demolition Total for Group 0056: \$0.00 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 0534 202E56101 3.00 EACH \$7,500.0000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN Small Residential \$202E56101 \$200 \$24,000.00 0536 202E56101 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN Small Commercial \$0.00 \$0.00 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.0000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.0000 \$30,000.00	0504 M-MC-WALL Retaining Walls	8,870.00	SF	\$135.00000 \$	51,197,450.00
Group 0056: Other Retaining Wall Costs \$0.0000 \$0.000 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS Total for Group 0056: \$0.00 Group 0057: Building Demolition 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, BUILDING DEMOLITION 1.00 LS \$0.00000 \$0.00 0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 OTHER COSTS, BUILDING DEMOLITION 1.00 LS \$0.00000 \$0.00 0534 202256101 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.0000 \$0.00 Smail Commercial 0537				Total for Group 0055: \$1,197,	450.00
0217 M-OC-WALL OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 Total for Group 0056: \$0.00 Group 0057: Building Demolition 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, BUILDING DEMOLITION 0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 0534 202E56101 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN Small Residential 2.00 EACH \$12,000.00000 \$24,000.00 0535 202E56101 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN Large Residential 0.00 EACH \$15,000.00000 \$0.00 0536 202E56101 1.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN Large Commercial 0.00 EACH \$30,000.0000 \$0.00 0538 202E98101 1.00 EACH \$30,000.0000 \$30,000.00 0538 202E98100 0.0	Group 0056: Other Retaining \	Nall Costs			
Total for Group 0056: \$0.00 Group 0057: Building Demolition 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, BUILDING DEMOLITION 0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 071HER COSTS, BUILDING DEMOLITION 1.00 LS \$0.00000 \$22,500.00 0534 202E56101 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN Smail Residential \$22,500.00 \$24,000.00 \$24,000.00 0536 202E56101 0.00 EACH \$12,000.00000 \$20.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 530,000.00000 \$0.00 \$0.00 \$30,000.000 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.0000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.02E56101 1.00 EACH \$30,000	0217 M-OC-WALL OTHER COSTS RETAINING WALLS	1.00	LS	\$0.00000	\$0.00
Group 0057: Building Demolition 0218 N-MC-DEMO 1.00 LS \$0.00000 MAJOR COST DRIVERS, BUILDING DEMOLITION 00 LS \$0.00000 0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 OTHER COSTS, BUILDING DEMOLITION 1.00 LS \$0.000000 \$22,500.00 0534 202E56101 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN Small Residential \$202E56101 \$2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$15,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$15,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH <		0		Total for Group 0056:	\$0.00
0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, BUILDING DEMOLITION 1.00 LS \$0.00000 \$0.00 0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 OTHER COSTS, BUILDING DEMOLITION 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 50.00 \$0.00 \$30,000.00 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.0000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.0000 \$30,000.00 BUILD	Group 0057: Building Demolitie	on			
NARE CONTROL Description Description State \$0.00000000000000000000000000000000000	0218 N-MC-DEMO MAJOR COST DRIVERS BUILDING	1.00 DEMOLITION	LS	\$0.00000	\$0.00
0534 202E56101 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN Small Residential 2.00 EACH \$12,000.00000 \$24,000.00 0535 202E56101 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN Large Residential 0.00 EACH \$15,000.00000 \$24,000.00 0536 202E56101 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN Large Commercial 0.00 EACH \$15,000.00000 \$0.00 0537 202E56101 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN Large Commercial 1.00 EACH \$30,000.00000 \$30,000.00 0538 202E98100 0.00 EACH \$8,500.00000 \$0.00	0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOL	1.00	LS	\$0.00000	\$0.00
0535 202E56101 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$15,000.00000 \$24,000.00 0536 202E56101 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 0.00 EACH \$30,000.00000 \$30,000.00 0537 202E56101 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$30,000.00000 \$0.00 0538 202E98100 0.00 EACH \$8,500.000000 \$0.00	0534 202E56101 BUILDING DEMOLISHED, AS PER F Small Residential	3.00 PLAN	EACH	\$7,500.00000	\$22,500.00
0536 202E56101 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN \$30,000.00000 \$30,000.00000 \$30,000.00000 0537 202E56101 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.00000 \$30,000.00 0538 202E98100 0.00 EACH \$8,500.00000 \$0.00	0535 202E56101 BUILDING DEMOLISHED, AS PER F Large Residential	2.00 PLAN	EACH	\$12,000.00000	\$24,000.00
0537 202E56101 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN Large Commercial 0538 202E98100 0.00 EACH \$8,500.00000 \$0.00	0536 202E56101 BUILDING DEMOLISHED, AS PER F Small Commercial	0.00 PLAN	EACH	\$15,000.00000	\$0.00
0538 202E98100 0.00 EACH \$8,500.00000 \$0.00	0537 202E56101 BUILDING DEMOLISHED, AS PER F Large Commercial	1.00 PLAN	EACH	\$30,000.00000	\$30,000.00
	0538 202E98100	0.00	EACH	\$8,500.00000	\$0.00

Estimate: Alt E KY cont 5				PB Americas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
REMOVAL MISC.: Radio Tower				
			Total for Group 0057:	\$76,500.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR	1.00	LS	\$0.00000	\$0.00
0505 P-MC-NSBR	ER 58,304.00	SF	\$25.00000	\$1,457,600.00
Noise Barrier			Total for Group 0058: \$1	,457,600.00
Group 0059: Other Noise Barrier	Costs			
0221 P-OC-NSBR	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR	0.00	LS	\$0.00000	\$0.00
WAJOR COST DRIVERS, NOISE DARRI			Total for Group	0059: \$0.00
Group 0060 [.] New Structures				
0222 R-MC-STRC	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, STRUCTURES	5 77,961.00	SF	\$125.00000	\$9,745,125.00
Tier 1 Structures to 25' Height 0507 R-MC-STRC	0.00	SF	\$12.00000	\$0.00
Removal of Existing Structures non-comp 0508 R-MC-STRC	lex 51,915.00	SF	\$17.00000	\$882,555.00
Standard Removal of Existing Structures 0509 R-MC-STRC	above aver 0.00	age complex SF	\$30.00000	\$0.00
Removal of Existing Structures complex t 0513 R-MC-STRC	o very comp 0.00	SF	\$150.00000	\$0.00
Tier 2 Structures 25' to 50' Height 0516 R-MC-STRC	0.00	SF	\$200.00000	\$0.00
Tier 3 Structures 50' to 75' Height			Total for Group 0060: \$10	627 680 00
				,027,000.00
Group 0061: Rehabilitated Structu	ures	05	¢45,0000	00 0 0
MAJOR COST DRIVERS, STRUCTURES	0.00 S	55	\$45.00000	\$0.00
			I otal for Group	0061: \$0.00
Group 0062: Other Structure Cos	ts			
0224 R-OC-STRC OTHER COSTS, STRUCTURES	0.00	LS	\$0.00000	\$0.00
Contingency			Total for Group	0062: \$0.00
Group 0063: Temporary Road an	d Paven	nent Cost	ts	
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTENANC	1.00 E OF TRAF	LS FIC	\$0.00000	\$0.00

Estimate: Alt E KY cont 5		PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	Quantity Units	Unit Price	<u>Extension</u>
		Total for Group 0063:	\$0.00
Group 0064: Portable Conc	crete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAIN	TENANCE OF TRAFFIC	Total for Group 0064:	\$0.00
Group 0065: Impact Attenu	ators		
0227 S-MC-MNTC MAJOR COST DRIVERS. MAIN	1.00 LS TENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0065:	\$0.00
Group 0066: Sheeting			
0229 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAIN	TENANCE OF TRAFFIC	Total for Group 0066:	\$0.00
			+
Group 0067: Temporary Sig	gnals	\$ 0,00000	\$0.00
MAJOR COST DRIVERS, MAIN	TENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Lig	ghting		
0231 S-MC-MNTC		\$0.00000	\$0.00
		Total for Group 0068:	\$0.00
Group 0069: Innovative Co	ntracting Incentatives		
0232 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAIN	TENANCE OF TRAFFIC	Total for Group 0069:	\$0.00
			ψ0.00
Group 0070: Other MOT Co	osts		
0233 S-OC-MNTC OTHER COSTS, MAINTENANC	1.00 LS E OF TRAFFIC	\$0.00000	\$0.00
0512 S-OC-MNTC OTHER COSTS, MAINTENANC	2.54 MILE E OF TRAFFIC	\$500,000.00000 \$	1,270,000.00
,		Total for Group 0070: \$1,270,0	00.00
Group 0071: Wetland Cons	struction		
0234 T-MC-WTLD	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, WETL 0360 T-MC-WTLD	AND CONSTRUCTION 0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, WETL	AND CONSTRUCTION	Total for Group 0071	\$0.00
			ψ0.00

Group 0072: Misc. Costs

Estimate: Alt E KY cont 5				PB Americas, Inc.
Line # Item Number Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Supplemental Description				
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELI	0.00 ANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS	0.00 S COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILRO/ LIABILITY INSURANCE	0.00 ADS' PROTECTI	LS VE PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY	\$0.00 \$0.00
0238 623E10000 CONSTRUCTION LAYOUT STAKE 0.5%	1.00 S	LS	\$271,430.70000	\$271,430.70
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$1,085,722.80000	\$1,085,722.80
0240 619E16020 FIELD OFFICE, TYPE C	44.00	MNTH	\$2,500.00000	\$110,000.00
0242 624E10000 MOBILIZATION	1.00	LS	\$1,200,000.00000	\$1,200,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERF 0.5%	1.00 ORMANCE BON	LS ID AND F	\$271,430.70000 FOR PAYMENT BOND	\$271,430.70
0518	0.00		\$0.00000	\$0.00
0519	0.00		\$0.00000	\$0.00
0520	0.00		\$0.00000	\$0.00
0521	0.00		\$0.00000	\$0.00
			Total for Group 0	072: \$2,938,584.20
Group 0073: Design Continge	ency Costs			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTIN	1.00 GENCY COSTS	LS	\$0.00000	\$0.00
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY (25%	1.00 COSTS	LS	\$14,306,181.06000	\$14,306,181.06
			Total for Group 00	73: \$14,306,181.06
Group 0074: Inflation Conting	ency			
0266 V-OC-CNTG OTHER COSTS, CONTINGENCY (0.00 COSTS	LS	\$0.00000	\$0.00
			Total for	Group 0074: \$0.00

PID	KY-5	County	Kenton	Route	75	Section	This R/W Acquisition cost estimat
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Macro View												At	tributes			
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
-Residential	3.31	x	\$82,451.65	\$272,750	+	855500	+	N/A	\$855,500.00	=	\$1,128,250.05	17	6	11	5	Estimate the total number of acres involved in the
-Commercial	6.68	x	\$147,451.64	\$985,065	+	1135000	+	N/A	\$1,135,000.00	=	\$2,120,065.42	19	1	18	1	project and allocate those acres into the four
-Industrial	0	х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	categories snown.
-Agricultural	0	х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Relocation	Unit (Displacement)	x	*RHP	/*RSP	+	Move Cost	+	Reestabli	shment	=	Total Non Labor RAP Costs	Estima	te amount of time all RAP parcels	e necessary	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
-Residential Owner Occupant Tenant	3 14	X X	\$34 \$10	↓,000),000	++	\$6,000 \$1,750				= =	\$120,000 \$164,500	Estimat acq	e number of year uisition begins =	s until projec	ct wide R/W 3.5	card data. Add structure values from the auditors tax cards only if the structures are taken.
Owner Owner Tenant	1				× ×	\$15,000 \$15,000	++	\$10,C \$10,C	000	=	\$25,000 \$25,000					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on
-Personal Property	0				X	\$1,000				=	\$0					impacts of the project on structures.
{[(Total Cost of Acquisition Cost)x	0.90]x0.025}+{[(Total o Cost)x0.10]x1.50	of Acqu } = Co	uisition Cost)x0.1 ntingency	15]x1.20}+{[(Total	of Ac	quisition	(Conting (Incidentals, Admin. Re	gency eview & Appropriation	n)	1145031.203	*RHP - Re	placement Housi	ng Payment		Relocation Cost Estimates must consider the
								Total Non Lab	or R/W Costs		\$4,727,846.67	*NPO - No	on-Profit Organiza	ation		complexity of the move process. All move estimates
											<u> </u>					that involve a business or a mulit-tenant residential structure should use the services of a relocation
Labor (External)	Unit (Parcels)	x	Unit	Price	=	Total Cost							- to Dropowod by		Data	Assistance professionnal to accurately gauge costs.
Titles	36	Х	\$2	400	=	\$14,400						V Cost Estin	hate Prepared by	/	Date	
Appraisal -Simple	12	x	\$7	750	=	\$9,000						Joseph Ku	uehnle		2/15/2011	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
-Detalled	24	X	\$4,	,500	=	\$108,000	1				This R/W Cost Estin	mate was per	rformed at Step		6	complexity of the project and the talent necessary to
Appraisal Review -Simple	10		¢ı	500		¢6.000					of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The person making the cost estimate may adjust the
-Detailed	24	$\left \begin{array}{c} \\ \\ \\ \\ \\ \end{array} \right $	φυ \$2	, 000	_	\$0,000 \$48,000										figures given for the particular project being estimated
Negotiations	36	$\frac{1}{x}$.100	+	\$39.600	1									to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment
Relocations -Personal Property	0	x	\$1	,500	=	\$0										alternative, the step in the PDP process and the person(s) performing the estimate.
-Residential -Commercial/Farm/*NPO	17	X	\$5, \$5	,200	=	\$88,400 \$5,600						Tot	tal Labor Costs	\$353	3,200.00	Comments
Closings	36	$\frac{1}{x}$		400	<u> </u>	Φ0,000 \$14,400										Cost/Unit were generated from auditors tax card data.
Project Management	36	$\frac{1}{x}$		550	╞	\$19,400 \$19,800					۲	Total Non La	abor R/W Costs	\$4,72	27,846.67	
Asbestos Testing & Abatement					<u> </u>	ψ.0,000	1							.		
		Tota	l Labor Cos	ts		\$353,200						Inflatio	on Adjustments	\$416	6,645.83	
*NPO = Non-Profit Organization												Т	otal R/W Costs	\$5,49	97,692.50	

Macro View		_			
Labor (External)	Unit (Parcels)	X	Unit Price	=	Total Cost
Titles	36	Х	\$400	=	\$14,400
Appraisal			* •		
-Simple	12	X	\$750	=	\$9,000
-Detailed	24	Х	\$4,500	=	\$108,000
Appraisal Review					
-Simple	12	Х	\$500	=	\$6,000
-Detailed	24	х	\$2,000	=	\$48,000
Negotiations	36	Х	\$1,100	=	\$39,600
Relocations					
-Personal Property	0	Х	\$1,500	=	\$0
-Residential	17	Х	\$5,200	=	\$88,400
-Commercial/Farm/*NPO	1	Х	\$5,600	=	\$5,600
Closings	36	Х	\$400	=	\$14,400
Project Management	36	Х	\$550	=	\$19,800
Asbestos Testing & Abatement		Х		=	
		Tota	al Labor Costs		\$353,200
*NPO = Non-Profit Organization					-

	Att	ributes			1 J
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$1,128,250.05	17	6	11	5	Estimate the total number of acres involved in the
\$2,120,065.42	19	1	18	1	project and allocate those acres into the four
\$0.00	0	0	0	0	categories shown.
\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor RAP Costs	Estimat	te amount of time all RAP parcels	e necessary s = (months)	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
\$120,000 \$164,500	Estimate acqu	e number of year uisition begins =	rs until projec	t wide R/W 3.5	Add structure values from the auditors tax cards only if the structures are taken.
\$25,000 \$25,000 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures.
1145031.203	*RHP - Re	placement Hous	ing Payment		Relocation Cost Estimates must consider the
\$4,727,846.67 *NPO - Non-Profit Organization					complexity of the move process. All move estimates
					structure should use the services of a relocation
This R/V	V Cost Estim	ate Prepared b	y	Date	Assistance professionnal to accurately gauge costs.
	Joseph Ku	lehnle		2/15/2011	Instructions for Labor Cost Estimates
This R/W Cost Estir	mate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The person making the cost estimate may adjust the
					figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate.
	Tot	al Labor Costs	\$353	3,200.00	Comments
ī	Fotal Non La	bor R/W Costs	\$4,72	27,846.67	Cost/Unit were generated from auditors tax card data.
	Inflatio	n Adjustments	\$416	645.83	
	т	otal R/W Costs	\$5,49	07,692.50	

	Att	ributes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$1,128,250.05	17	6	11	5	Estimate the total number of across involved in the
\$2,120,065.42	19	1	18	1	project and allocate those acres into the four
\$0.00	0	0	0	0	categories shown.
\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor RAP Costs	Estimat	e amount of time all RAP parcels	e necessary t s = (months)	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
	Estimate	e number of year	s until projec	t wide R/W	card data.
\$120,000 \$164,500	acqu	uisition begins =		3.5	Add structure values from the auditors tax cards only if the structures are taken.
\$25,000 \$25,000 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the
1145031.203	*RHP - Rej	placement Hous	ing Payment		impacts of the project on structures.
\$4 727 846 67	*RSP - Rer *NPO - No	nt Supplemental	Payment ation		Relocation Cost Estimates must consider the complexity of the move process. All move estimates
ψ+,727,0+0.07					that involve a business or a mulit-tenant residential
					Assistance professionnal to accurately gauge costs.
This R/V	V Cost Estim	ate Prepared by	у	Date	
	Joseph Ku	ehnle		2/15/2011	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
This R/W Cost Estir	mate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The
					figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate.
	Tot	al Labor Costs	\$353	3,200.00	Comments
ī	Fotal Non La	bor R/W Costs	\$4,72	27,846.67	Cost/Unit were generated from auditors tax card data.
	Inflatio	n Adjustments	\$416	645.83	
	Т	otal R/W Costs	\$5,49	7,692.50	

Estimate Alt E KY cont 6

Estimated Cost: \$33,202,743.20 Contingency: 53.80% Estimated Total: \$51,065,819.04

Base Date: 01/01/15 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt E KY cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
Group 0001: Pavement Remova	al			
	0.00	LS	\$0.00000	\$0.00
0343 202E23000	52,245.00	SY	\$8.00000	\$417,960.00
PAVEMENT REMOVED			Total for Group 0001	: \$417,960.00
Group 0002: Excavation - Rock				
0003 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	331,350.00	CY	\$30.00000	\$9,940,500.00
			Total for Group 0002:	\$9,940,500.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0344 203E10000 EXCAVATION	331,350.00	CY	\$8.00000	\$2,650,800.00
			Total for Group 0003:	\$2,650,800.00
Group 0004: Excavation - Hazar 0006 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	rdous 1.00	LS	\$0.00000 Total for Grou	\$0.00 up 0004: \$0.00
Group 0005: Fill - Embankment	(includes	wasting	excess excavation)	
0007 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0345 203E20000	662,700.00	CY	\$6.00000	\$3,976,200.00
EMBANKMENT			Total for Group 0005:	\$3.976.200.00
				+-,
Group 0006: Fill - Lime Modified		19	00000 02	00.02
MAJOR COST DRIVERS, ROADWAY	1.00		\$0.00000	\$0.00
U346 205E10050 LIME STABILIZED EMBANKMENT	0.00	CY	\$7.00000	\$0.00
0347 205E10300 LIME	0.00	TON	\$5.00000	\$0.00
			Total for Grou	ıp 0006: \$0.00
Group 0007: Fill - Borrow				
0011 A-MC-RDWY	0.00	CY	\$8.00000	\$0.00
MAJOR COST DRIVERS, ROADWAT			Total for Grou	ıp 0007: \$0.00
Group 0008: Concrete Barrier				
0012 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0465 622E10060	3,600.00	FT	\$110.00000	\$396,000.00
7:33:14AM Thursday, December 02, 2010				Page 2 of 12

Estimate: Alt E KY cont 6				PB Americas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SL	OPE, TYPE B		Total for Group 0008:	\$396,000.00
Group 0009: Subgrade Treatm	nent - Lime			
0014 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300	0.00	TON	\$10.00000	\$0.00
0350 206E11000	0.00	SY	\$1.00000	\$0.00
CURING COAT 0351 206E20000	0.00	HOUR	\$4.00000	\$0.00
TEST ROLLING			Total for Group	0009: \$0.00
	81 883 00	ent SY	\$2,50000	\$204 707 50
MAJOR COST DRIVERS, ROADWA	AY	01	Tatal fan Oneum 0040.	¢204,707.50
			Total for Group 0010:	\$204,707.50
Group 0011: Subgrade Treatm	nent - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS, ROADWA	1.00	LS	\$0.00000	\$0.00
			Total for Group	0011: \$0.00
Group 0012: Other Roadway	Costs			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
0020 201E11000	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT		\$0.00
0029 202E38000	0.00	FT		\$0.00
0030 202E42206	0.00	EACH		\$0.00
ANCHOR ASSEMBLY REMOVED 0031 202E58000	0.00	EACH		\$0.00
MANHOLE REMOVED 0032 202E58100	0.00	EACH		\$0.00
CATCH BASIN REMOVED 0033 202E75000	0.00	FT		\$0.00
FENCE REMOVED 0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Estimate: Alt E KY cont 6				PB Americas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
PROOF ROLLING				
0035 204E10000	0.00	SY	\$0.81000	\$0.00
0036 451E30000 SPECIAL - PRESSURE RELIEF	0.00	FT		\$0.00
0037 606E13000	1,250.00	FT	\$14.00000	\$17,500.00
GUARDRAIL, TYPE 5 0038 606E22000	0.00	EACH		\$0.00
ANCHOR ASSEMBLY, TYPE B-9	8			00.02
ANCHOR ASSEMBLY, TYPE E-9	0.00	EACH		Φ0.00
0040 606E26500 ANCHOR ASSEMBLY TYPE T	0.00	EACH		\$0.00
0041 606E35000	0.00	EACH		\$0.00
0042 606E35100	, TYPE 1 0.00	EACH		\$0.00
BRIDGE TERMINAL ASSEMBLY	, TYPE 2	FACH		\$0.00
IMPACT ATTENUATOR, TYPE 1	-98 (BIDIRECTION	AL)		φ0.00
0044 607E15000 FENCE, TYPE 47 For Fencing	0.00	FT		\$0.00
0423 304E20000	0.00	CY		\$0.00
For Fencing				
		CY		\$0.00
For Fencing		IER		
0425 607E40500 GATE, TYPE 47 For Fencing	0.00	EACH		\$0.00
0426 625532000	0.00	EACH		\$0.00
GROUND ROD For Fencing				
0466	0.00		\$0.00000	\$0.00
			Total for Group 0012:	\$17,500.00
Group 0014: Seeding & Mul	china / Soddir	na		
0045 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, EROSI	ION CONTROL	<u>C</u> \/	¢4.0000	¢c7.co5.o0
SEEDING AND MULCHING	67,695.00	51	\$1.00000	\$67,695.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000	\$0.00
			Total for Group 0014:	\$67,695.00
Group 0015: Rock Channel	Protection			
0047 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, EROSI	ION CONTROL	CV	\$75,00000	00.0002
ROCK CHANNEL PROTECTION	, TYPE A WITH FIL	TER	\$75.00000	\$900.00
			Total for Group 00 ²	15: \$900.00
Group 0016: Frasion Contro) - Item 832			
0048 B-MC-FRCO	1 00	LS	\$0,0000	\$0.00
7:33:14AM				φ0.00

Estimate: Alt E KY cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
MAJOR COST DRIVERS FROSION				
0470 832E10000	1.00	LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	300,000.00	EACH	\$1.00000	\$300,000.00
			Total for Group 0016:	\$350,000.00
Group 0017: Other Erosion Co	ontrol Costs			
0049 670E00700	0.00	SY		\$0.00
	1 00	19	00000 02	00.02
OTHER COSTS, EROSION CONTR	OL 1.00	LO	\$0.00000	φ0.00
0051 659E00100 SOIL ANALYSIS TEST	0.00	EACH	\$0.00000	\$0.00
0052 659E00300	0.00	CY		\$0.00
0053 659E14000	0.00	SY		\$0.00
REPAIR SEEDING AND MULCHING	6 0 00	CV	¢0.71000	00 0 2
INTER-SEEDING	0.00	51	\$0.71000	\$0.00
	0.00	TON		\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000	0.00	MSF	\$0.00000	\$0.00
MOWING			Total for Group	0017: \$0.00
Group 0018: Underdrains				
0059 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0062 605E05100 4" SHALLOW PIPE LINDERDRAINS	10,850.00	FT	\$8.00000	\$86,800.00
			Total for Group 0018:	\$86,800.00
Group 0019: Culverts - Type A	N: < 5 [°]		* 0.0000	\$ 0.00
MAJOR COST DRIVERS, DRAINAG	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	37.00 E te Pipe up to 60"	FT	\$350.00000	\$12,950.00
0481 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	1.00	EACH	\$1,500.00000	\$1,500.00
Concrete Masonry			Total for Group 0019:	\$14.450.00
				,
Group 0021: Culverts, Type A	: 5' - 10'			
0067 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	0.00	FT	\$550.00000	\$0.00
7:33:14AM Thursday, December 02, 2010				Page 5 of 12

Estimate: Alt E KY cont 6			PB Americas, Inc.	
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
Pipe Structures - Reinforced Concrete 5'- 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	10' 66" to 7 0.00	78" EACH	\$2,000.00000	\$0.00
			Total for	Group 0021: \$0.00
Group 0022: Culverts, Type A: 10)' - 20'			
0486 C-MC-DRNG MAJOR COST DRIVERS DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pi	0.00 pe 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for	Group 0022: \$0.00
Group 0024: BMP's	4.00	1.0	\$ 0,0000	\$ 0.00
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for	Group 0024: \$0.00
Group 0025: Closed Storm System	m			
0077 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	3,608.00	FT	\$75.00000	\$270,600.00
0523 604E00800 CATCH BASIN, NO. 3A	14.00	EACH	\$1,500.00000	\$21,000.00
0524 604E31500 MANHOLE, NO. 3	1.00	EACH	\$3,000.00000	\$3,000.00
0525 604E36601			\$1,250.00000	\$0.00
0526 Special Pump Station (Storm)	0.00 0.00	LS	\$6,400,000.00000	\$0.00
0527 Special Stormceptors	0.00	EACH	\$5,750.00000	\$0.00
0529 Special Retention basin improvements	0.00	LS	\$109,000.00000	\$0.00
			Total for Group	0025: \$294,600.00
Group 0026. Other Drainage Cos	ts			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, DRAINAGE			Total for	Group 0026: \$0.00
Group 0027: Mainline - Travel La	nes			
	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Con	59,563.00 npaction	SY	\$68.00000	\$4,050,284.00
7:33:14AM				

Estimate: Alt E KY cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0027: \$	4,050,284.00
Group 0028: Mainline - Outside S	Shoulder			
0100 D-MC-PVMT MAIOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement	8,534.00	SY	\$68.00000	\$580,312.00
Includes 6" Agg base and Subgrade Cor	mpaction		Total for Group 0028:	\$580,312.00
Group 0030: Mainline - Inside Sh	oulder			
0115 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement	11,410.00	SY	\$68.00000	\$775,880.00
Includes 6" Agg base and Subgrade Cor	npaction		Total for Group 0030:	\$775,880.00
Group 0031: Ramps (including sl	houlders)			
0122 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	2,376.00	SY	\$68.00000	\$161,568.00
Includes 6" Agg base and Subgrade Cor	npaction		Total for Group 0031:	\$161,568.00
Group 0032: Non - Mainline Lane	es			
0132 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	0.00	SY	\$41.00000	\$0.00
Includes 3" 448, 9" 301, 6" Agg base and	d Subgrade (Compaction	Total for Group	0032: \$0.00
Group 0041: Other Pavement Co	osts		\$ 0,00000	* 0.00
OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Group	0041: \$0.00
Group 0042: Water Works				
0164 E-MC-WATR MAJOR COST DRIVERS, WATER LINE	0.00	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Group	0042: \$0.00
Group 0043: Sanitary Line				
0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY S	0.00 EWER	LS	\$0.00000	\$0.00
7:33·14AM				
Estimate: Alt E KY cont 6			PB A	Americas, Inc.
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Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Description Supplemental Description				
			Total for Oracin 0042	¢ 0.00
			Total for Group 0043:	\$0.00
Group 0044: Lighting - Full Interc	change			
	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	0.00	EACH	\$469,000.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING			Total for Group 0044.	\$0.00
				ψοιοσ
Group 0045: Lighting - Partial Int	erchange)		
0288 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group 0045:	\$0.00
Group 0046: Lighting - Continuo	ue Roadu			
0176 G-MC-LTNG	1.00	LS	\$0,0000	\$0.00
MAJOR COST DRIVERS, LIGHTING	2 600 00	 	\$25,0000	¢126.000.00
Lighting - Continuous	3,000.00	ГІ	\$35.00000	φ120,000.00
			Total for Group 0046: \$126,	000.00
Group 0047: Other Lighting Cost	S			
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, LIGHTING			Total for Group 0047:	\$0.00
				ψ0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV OTHER COSTS, TRAFFIC SURVEILLA	1.00 NCE	LS	\$246,872.97000	\$246,872.97
			Total for Group 0048: \$246,	872.97
Group 0040: Signs				
0179 I-MC-TRAF	1.00	IS	\$0,0000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CO	NTROL		\$0.00000 \$050.0000	¢0.00
Signs	0.68	MILE	\$250,000.00000	\$170,000.00
			Total for Group 0049: \$170,	000.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CO 0502 644E00100	NTROL 2 92	MILE	\$3,000,00000	\$8,760.00
EDGE LINE	7.40		\$2,000,00000	¢14 290 00
LANE LINE	7.19		φ Ζ, 000.00000	φ14,380.00
			Total for Group 0050: \$23,	140.00

Group 0051: Other Traffic Control Costs

Estimate: Alt E KY cont 6			PB A	mericas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0208 J-OC-TRAF OTHER COSTS TRAFFIC CONTROL	1.00	LS	\$0.00000	\$0.00
Group 0052: Signals - Intersect	ions		Total for Group 0051:	\$0.00
0212 K-MC-SGNL	0.00	LS	\$175.00000	\$0.00
MAJOR COST DRIVERS, SIGNALS			Total for Group 0052:	\$0.00
Group 0053: Other Traffic Signa	al Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0053:	\$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP MAJOR COST DRIVERS LANDSCAP	1.00	LS	\$0.00000	\$0.00
0215 L-OC-LSCP OTHER COSTS, LANDSCAPING	1.00	LS	\$0.00000	\$0.00
			Total for Group 0054:	\$0.00
Group 0055: Retaining Walls \$1	25 + \$10/	ft for ca	os, barriers and testing	
0216 M-MC-WALL	1.00	LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	0.00	SF	\$135.00000	\$0.00
			Total for Group 0055:	\$0.00
Group 0056: Other Retaining W	all Costs			
0217 M-OC-WALL	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, RETAINING WALLS			Total for Group 0056:	\$0.00
Group 0057: Building Demolition	n			
0218 N-MC-DEMO MAJOR COST DRIVERS BUILDING [LS	\$0.00000	\$0.00
0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOLIT	1.00	LS	\$0.00000	\$0.00
0532 202E56101 BUILDING DEMOLISHED, AS PER PL Large Commercial	0.00 .AN	EACH	\$30,000.00000	\$0.00
0533 202E56101 BUILDING DEMOLISHED, AS PER PL Small Commercial	0.00 _AN	EACH	\$15,000.00000	\$0.00
0534 202E56101 BUILDING DEMOLISHED, AS PER PL Large Residential	1.00 _AN	EACH	\$12,000.00000	\$12,000.00
0535 202E56101 BUILDING DEMOLISHED, AS PER PL Small Residential	4.00 .AN	EACH	\$7,500.00000	\$30,000.00
0536 202E98100	0.00	EACH	\$8,500.00000	\$0.00
(5.5 T4AIVI				

7:33:14AM Thursday, December 02, 2010

Estimate: Alt E KY cont 6			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
REMOVAL MISC.: Radio Tower				
			Total for Group 0057: \$42,0	00.00
Crown 0059: Naisa Darrian				
Group 0058: Noise Barrier			* 2 22222	\$ 0.00
MAJOR COST DRIVERS. NOIS	1.00 SE BARRIER	LS	\$0.00000	\$0.00
0505 P-MC-NSBR Noise Barrier	0.00	LS	\$400.00000	\$0.00
			Total for Group 0058:	\$0.00
Group 0059: Other Noise I	Barrier Costs			
0221 P-OC-NSBR	1 00	IS	\$0,00000	\$0.00
OTHER COSTS, NOISE BARR	lier	10	\$0.0000	¢0.00
MAJOR COST DRIVERS, NOIS	0.00 SE BARRIER	LS	\$0.00000	\$0.00
			Total for Group 0059:	\$0.00
Group 0060: New Structur	es			
0222 R-MC-STRC	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, STR	UCTURES	0E	\$125,00000	¢0.00
Tier 1 Structures to 25' Height	0.00	35	\$125.00000	Ф 0.00
0507 R-MC-STRC	0.00	SF	\$12.00000	\$0.00
0508 R-MC-STRC	0.00	SF	\$17.00000	\$0.00
Standard Removal of Existing S	Structures above avera	age complex	\$30,0000	00.02
Removal of Existing Structures	complex to very comp	blex	\$30.00000	φ0.00
0513 R-MC-STRC	0.00	SF	\$150.00000	\$0.00
0516 R-MC-STRC	0.00	SF	\$200.00000	\$0.00
Tier 3 Structures 50' to 75' Heig	Int		Total for Group 0060:	\$0.00
				·
Group 0061: Rehabilitated	Structures			
0223 R-MC-STRC MAJOR COST DRIVERS. STR	0.00 UCTURES	SF	\$45.00000	\$0.00
			Total for Group 0061:	\$0.00
Group 0062: Other Structu	ure Costs			
0224 R-OC-STRC	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, STRUCTURE	S	-	••••••	
Conungency			Total for Group 0062:	\$0.00
0 0000 T D			•	
Group 0063: Temporary R	oad and Paver	nent Costs		
0225 S-MC-MNTC MAJOR COST DRIVERS, MAII	1.00 NTENANCE OF TRAF	LS FFIC	\$0.00000	\$0.00

Estimate: Alt E KY cont 6		PB A	mericas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
Description Supplemental Description			
			Aa a a
		Total for Group 0063:	\$0.00
Group 0064: Portable Concre	ete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Group 0064:	ድር በባ
			ψ0.00
Group 0065: Impact Attenua	tors		
0227 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
		Total for Group 0065:	\$0.00
Group 0066: Sheeting		#0.00000	# 0.00
MAJOR COST DRIVERS, MAINTE	1.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
Group 0067: Temporary Sign	nals		
0230 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Tatal (an One on Operation	*0 00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Ligh	nting		
0231 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Group 0068:	\$0.00
		· · · · · · · · · · · · · · · · · · ·	<i>↓ • • • • •</i>
Group 0069: Innovative Cont	tracting Incentatives		
0232 S-MC-MNTC MAJOR COST DRIVERS, MAINTE	0.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0069:	\$0.00
Group 0070: Other MOT Cos	oto		
0233 S-OC-MNTC	100 IS	\$0,00000	\$0.00
OTHER COSTS, MAINTENANCE	OF TRAFFIC	¢5.00000	¢0.00
OTHER COSTS, MAINTENANCE	OF TRAFFIC	\$500,000.00000	\$340,000.00
		Total for Group 0070: \$340,0	00.00
Group 0071: Wetland Constr	ruction		
0234 T-MC-WTLD	0.00 LS	\$0.0000	\$0.00
		\$0,0000	\$0.00
MAJOR COST DRIVERS, WETLA	ND CONSTRUCTION	φ0.0000	φ0.00
		Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate: Alt E KY cont 6				PB Americas, Inc.
Line # Item Number	Quantity	<u>Units</u>	Unit Price	Extension
Description Supplemental Description				
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELL	0.00 ANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS	0.00 COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILROA LIABILITY INSURANCE	0.00 DS' PROTECTIV	LS /E PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY DAMA	\$0.00 AGE
0238 623E10000 CONSTRUCTION LAYOUT STAKES 0.5%	1.00	LS	\$124,670.85000	\$124,670.85
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$498,683.39000	\$498,683.39
0240 619E16020 FIELD OFFICE, TYPE C	32.00	MNTH	\$2,500.00000	\$80,000.00
0242 624E10000 MOBILIZATION	1.00	LS	\$800,000.00000	\$800,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERFO 0.5%	1.00 DRMANCE BON	LS D AND F	\$124,670.85000 FOR PAYMENT BOND	\$124,670.85
0518	0.00		\$0.00000	\$0.00
0519	0.00		\$0.00000	\$0.00
0520	0.00		\$0.00000	\$0.00
0521	0.00		\$0.00000	\$0.00
			Total for Group 0072:	\$1,628,025.09
Group 0073: Design Continge	ncy Costs			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTING	1.00 SENCY COSTS	LS	\$0.00000	\$0.00
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY C 25%	1.00 OSTS	LS	\$6,640,548.64000	\$6,640,548.64
			Total for Group 0073:	\$6,640,548.64
Group 0074: Inflation Continge	ency			
0266 V-OC-CNTG OTHER COSTS, CONTINGENCY C	0.00 OSTS	LS	\$0.00000	\$0.00
,	-		Total for Gro	up 0074: \$0.00

PID	KY-6	County	Kenton	Route	75	Section	This R/W Acquisition cost estimation
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Macro View												At	tributes			
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
-Residential	3.37	Х	\$96,480.75	\$325,140	+	2085000	+	N/A	\$2,085,000.00	=	\$2,410,140.13	8	4	4	5	Estimate the total number of cores involved in the
-Commercial	0.41	Х	\$4,950.50	\$2,030	+	0	+	N/A	\$0.00	=	\$2,029.71	1	0	1	0	project and allocate those acres into the four
-Industrial	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	I	\$0.00	0	0	0	0	categories snown.
-Agricultural	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Relocation	Unit (Displacement)	x	*RHF	P/*RSP	+	Move Cost	+	Reestabli	shment	=	Total Non Labor RAP Costs	Estima	te amount of tim all RAP parcel	e necessary s = (months)	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
-Residential Owner Occupant Tenant	5 18	X X	\$34 \$10	4,000),000	+ +	\$6,000 \$1,750					\$200,000 \$211,500	Estimat acq	e number of year uisition begins =	rs until projec	ct wide R/W 3.5	Add structure values from the auditors tax cards only if the structures are taken.
-Commerical/Farm/NPO Owner Tenant	0 0				X X	\$15,000 \$15,000	+ +	\$10,0 \$10,0	000	=	\$0 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on
-Personal Property	0				Х	\$1,000				=	\$0					Major Projects) and requires some knowledge of the impacts of the project on structures
{[(Total Cost of Acquisition Cost)x0.90]x0.025}+{[(Total of Acquisition Cost)x0.15]x1.20}+{[(Total of Acquisition Cost)x0.10]x1.50} = Contingency				Contingency (Incidentals, Admin. Review & Appropriation) 850289.866 *RHP - Replacement Housing Payment *RSP - Rept Supplemental Payment				Relocation Cost Estimates must consider the								
								Total Non Lab	or R/W Costs	,	\$3,673,959.70	*NPO - No	nt Supplemental	ation		complexity of the move process. All move estimates
Macro View																structure should use the services of a relocation
Labor (External)	Unit (Parcels)	X	Unit	Price	=	Total Cost					This R/V	V Cost Estin	nate Prepared b	v	Date	Assistance professionnal to accurately gauge costs.
Titles	9	Х	\$4	400	Ш	\$3,600								5	Dato	
Appraisal -Simple	4	x	\$	750	=	\$3,000						Chris Cle	mons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
-Detailed	5	Х	\$4	,500	=	\$22,500					This R/W Cost Estin	mate was pe	rformed at Step		6	talent. Labor costs estimates should reflect the
Appraisal Review -Simple -Detailed	4	x	\$:	500	=	\$2,000					of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The person making the cost estimate may adjust the figures given for the particular project being estimated
	5	Х	\$2	,000	=	\$10,000										to reflect local labor costs. It is critical that the
Negotiations	9	Х	\$1	,100	=	\$9,900										estimate be labeled to reflect the alignment
Relocations -Personal Property -Residential	0	X	\$1 \$5	,500	=	\$0										alternative, the step in the PDP process and the person(s) performing the estimate.
-Commercial/Farm/*NPO	23	X	\$5 \$5	,200 600	=	\$119,000 \$0						То	tal Labor Costs	\$192	2,450.00	Comments
Closings	23	X	00 \$2	400	-	Ψ0 \$9.200										Cost/Unit were generated from auditors tax card data.
Project Management	23	X	φ- \$	550	_	\$12,200 \$12,650					-	Total Non La	abor R/W Costs	\$3,67	73,959.70	
Ashestos Testing & Abstement	23	X	ψ·		-	ψ12,000										
Aspestos resting & Abatement		Tota	al Labor Cos	ts		\$192 450						Inflatio	on Adjustments	\$317	7,045.60	
*NPO - Non-Profit Organization						÷·• <u>-</u> ,.00						Т	otal R/W Costs	\$4,18	33,455.30	
							I									
						P.D.P.	R/	W Cost E	stimator	•						

Labor (External)	Unit (Parcels)	Х	Unit Price	=	Total Cost
Titles	9	Х	\$400	=	\$3,600
Appraisal					
-Simple	4	Х	\$750	=	\$3,000
-Detailed	5	Х	\$4,500	=	\$22,500
Appraisal Review					
-Simple	4	х	\$500	=	\$2,000
-Detailed	5	х	\$2,000	=	\$10,000
Negotiations	9	Х	\$1,100	=	\$9,900
Relocations					
-Personal Property	0	Х	\$1,500	=	\$0
-Residential	23	Х	\$5,200	=	\$119,600
-Commercial/Farm/*NPO	0	Х	\$5,600	=	\$0
Closings	23	Х	\$400	=	\$9,200
Project Management	23	Х	\$550	=	\$12,650
Asbestos Testing & Abatement		Х		=	
		Tota	al Labor Costs		\$192,450
*NPO = Non-Profit Organization					-

Total Non Labor Acquisition Costs Parcel Count Total Takes Partial Takes No. of Structures \$2,410,140.13 8 4 4 5 \$2,029.71 1 0 1 0 \$0.00 0 0 0 0 \$0.00 0 0 0 0 \$0.00 0 0 0 0 \$0.00 0 0 0 0 \$0.00 0 0 0 0 \$0.00 Estimate amount of time necessary to relocate all RAP parcels = (months) 24 \$200,000 Estimate number of years until project wide R/W acquisition begins = 3.5 \$0 0 0 0 0 \$0 0 0 0 0 0 \$0 0 0 0 0 0 0 \$0 0 0 0 0 0 0 0 \$0 0 0 0 0 0 <		Att	ributes			
\$2,410,140.13 8 4 4 5 \$2,029,71 1 0 1 0 \$0.00 0 0 0 0 \$0.00 0 0 0 0 \$0.00 0 0 0 0 \$0.00 0 0 0 0 Total Non Labor RAP Costs Estimate amount of time necessary to relocate all RAP parcels = (months) 24 \$200,000 Estimate number of years until project wide R/W \$211,500 acquisition begins = 3.5 \$0 0 0 0 0 \$0 0 0 0 0 \$0 0 0 0 0 \$0 0 0 0 0 0 \$0 0 0 0 0 0 \$0 0 0 0 0 0 \$0 0 0 0 0 0 \$0 0 0 0 0 0 \$0 0 0 0 0 0	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
S2,029.71 1 0 1 0 S0.00 0 0 0 0 0 \$0.00 0 0 0 0 0 0 Total Non Labor RAP Costs Estimate amount of time necessary to relocate all RAP parcels = (months) 24 24 24 24 24 24 24 24 24 2500,000 35.0 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.6	\$2,410,140.13	8	4	4	5	Ectimate the total number of acres involved in the
\$0.00 0 0 0 \$0.00 0 0 0 0 \$0.00 0 0 0 0 Total Non Labor RAP Costs Estimate amount of time necessary to relocate all RAP parcels = (months) 24 \$200,000 Estimate number of years until project wide RW acquisition begins = 3.5 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 0 \$0 0 0 0 0 0 \$0 0 0 0 0 0 \$0 0 0 0 0 0 \$1,573,959,70 'NPO - Non-Profit Organization 0 0 0	\$2,029.71	1	0	1	0	project and allocate those acres into the four
\$0.00 0 0 0 Total Non Labor RAP Costs Estimate amount of time necessary to relocate all RAP parcels = (months) 24 \$200,000 \$211,500 Estimate number of years until project wide RW acquisition begins = 3.5 \$0 \$0 \$0 acquisition begins = 3.5 \$0 \$0 "RHP - Replacement Housing Payment "RSP - Rent Supplemental Payment "RSP - Rent Supplemental Payment "RSP - Rent Supplemental Payment Damages must be assessed by a pre-qualified expert with experience in Before & Alter analysis. This uselange on structures are taken. \$0 \$0 "RHP - Replacement Housing Payment "RSP - Rent Supplemental Payment "RSP - Rent Supplemental Payment "NPO - Non-Profit Organization Damages must be assessed by a pre-qualified expert with experience in Before & Alter analysis. This usestance projects. Alter on structures. This R/W Cost Estimate Prepared by Date Date This R/W Cost Estimate was performed at Step of the PDP for MAJOR Projects using fits R/W Cost Estimate was performed at Step of the PDP for MAJOR Projects using fits R/W Cost Estimate was performed at Step of the PDP for MAJOR Projects using fits R/W Cost Estimate was performed at Step of the PDP for §192,450.00 Comments Cost/Unit were generated from auditors tax card data. Cost/Unit were generated from auditors tax card data. <td>\$0.00</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>categories shown.</td>	\$0.00	0	0	0	0	categories shown.
Total Non Labor Estimate amount of time necessary to relocate all RAP parcels = (months) 24 \$200,000 Estimate number of years until project wide RW acquisition begins = 3.5 \$0 acquisition begins = 3.5 \$0 Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project and the realter. \$0 *RHP - Replacement Housing Payment *RSP - Rent Supplemental Payment *NPO - Non-Profit Organization Relocation Cost Estimates must consider the complexity of the move process. All move estimates that involve a business or a multi-tenant residential structure should use the services of a relocation Assistance professionnal to accurately gauge costs. This R/W Cost Estimate was performed at Step 6 Instructions for Labor Cost Estimates of the PDP for MAJOR Projects using of the PDP for MAJOR Projects using Total Labor Costs \$192,450.00 Comments Cost/Unit were generated from auditors tax card data. Cost/Unit were generated from auditors tax card data.	\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
RAP Costs all RAP parcels = (months) 24 S200,000 Estimate number of years until project wide RW acquisition begins = 3.5 \$0 acquisition begins = 3.5 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 \$0 0 0 0 \$0 1 RHP - Replacement Housing Payment This R/W Cost Estimate Prepared by Date This R/W Cost Estimate Prepared by Date 0 Assistance professionnal to accurately gauge costs. This R/W Cost Estimate was performed at Step 6 0 1 0 of the PDP for MAJOR Projects using 0 0 1 of the PDP for MAJOR Projects using 0 0 0 of the PDP for MAJOR Projects using 0 0 0 0 0	Total Non Labor	Estima	te amount of tim	e necessary	to relocate	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base
S200,000 Estimate number of years until project wide RW s200,000 acquisition begins = 3.5 \$0	RAP Costs		all RAP parcel	s = (months)	24	unit prices on a project sales data book instead of tax
\$200,000 acquisition begins = 3.5 \$0 Add structure values from the auditors tax cards only if the structures are taken. \$0 Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures. 850289.866 *RHP - Replacement Housing Payment *RSP - Rent Supplemental Payment *NPO - Non-Profit Organization *NPO - Non-Profit Organization *NPO - Non-Profit Organization This R/W Cost Estimate Prepared by Date Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step6 6 of the PDP for	* ****	Estimate	e number of yea	rs until projec	t wide R/W	
\$0 Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures. 850289.866 *RHP - Replacement Housing Payment *RSP - Rent Supplemental Payment *NPO - Non-Profit Organization Relocation Cost Estimates must consider the complexity of the move process. All move estimates that involve a business or a mulit-tenant residential structure should use the services of a relocation Assistance professionnal to accurately gauge costs. This R/W Cost Estimate Prepared by Date Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step6 6 of the PDP for MAJORProjects using	\$200,000 \$211,500	acqu	uisition begins =		3.5	Add structure values from the auditors tax cards only if the structures are taken.
\$0 S0 \$0 with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures. 850289.866 *RHP - Replacement Housing Payment *RSP - Rent Supplemental Payment *RPO - Non-Profit Organization *NPO - Non-Profit Organization *NPO - Non-Profit Organization This R/W Cost Estimate Prepared by Date Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step 6 of the PDP for MAJOR MAJOR Projects using Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and talent. Labor costs estimates should reflect the complexity of the project and the talent necessary to acquire the right of way in a timely manner. The person making the cost estimate may adjust the figures given for the particular project being estimated to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate. Total Labor Costs \$192,450.00 Cost/Unit were generated from auditors tax card data.						Damages must be assessed by a pre-gualified expert
S0 usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures. 850289.866 *RHP - Replacement Housing Payment *RSP - Rent Supplemental Payment *RSP - Rent Supplemental Payment *NPO - Non-Profit Organization *NPO - Non-Profit Organization This R/W Cost Estimate Prepared by Date Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step	\$0 ¢0					with experience in Before & After analysis. This
30 *RHP - Replacement Housing Payment *RSP - Rent Supplemental Payment *RSP - Rent Supplemental Payment \$3,673,959.70 *NPO - Non-Profit Organization This R/W Cost Estimate Prepared by Date Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step 6 of the PDP for MAJOR Projects using 6 of the PDP for MAJOR Total Labor Costs \$192,450.00 Total Labor Costs \$192,450.00 Cost/Unit were generated from auditors tax card data.	\$U \$0					usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the
850283.866 KRP - Replacement Possing Payment *RSP - Rent Supplemental Payment *NPO - Non-Profit Organization *NPO - Non-Profit Organization Relocation Cost Estimates must consider the complexity of the move process. All move estimates that involve a business or a mulit-tenant residential structure should use the services of a relocation Assistance professionnal to accurately gauge costs. This R/W Cost Estimate Prepared by Date Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step6 6 of the PDP for MAJOR Projects using	ψ0			in a Doursont		impacts of the project on structures.
\$3,673,959.70 *NPO - Non-Profit Organization \$3,673,959.70 *NPO - Non-Profit Organization Complexity of the move process. All move estimates that involve a business or a mulit-tenant residential structure should use the services of a relocation Assistance professionnal to accurately gauge costs. This R/W Cost Estimate Prepared by Date Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step 6 of the PDP for MAJOR Projects using 6 complexity of the project and the talent necessary to acquire the right of way in a timely manner. The person making the cost estimate may adjust the figures given for the particular project being estimated to reflect tocal labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate. Total Labor Costs \$192,450.00 Cost/Unit were generated from auditors tax card data.	850289.866	*RSP - Rei	nt Supplemental	Payment		Relocation Cost Estimates must consider the
This R/W Cost Estimate Prepared by Date Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step 6 of the PDP for MAJOR Projects using 6 correlation 6 correlation 6 correlation 6 correlation 6 of the PDP for MAJOR Projects using 6 coreflect local labor costs 1 figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate. Comments 53 673 050 70	\$3,673,959.70	*NPO - No	n-Profit Organiza	ation		complexity of the move process. All move estimates that involve a business or a mulit-tenant residential
This R/W Cost Estimate Prepared by Date Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step 6 of the PDP for MAJOR Projects using 6 Date 6 This R/W Cost Estimate was performed at Step 6 of the PDP for MAJOR Projects using 0 Total Labor Costs \$192,450.00 Total Labor Costs \$192,450.00 Cost/Unit were generated from auditors tax card data.						structure should use the services of a relocation Assistance professionnal to accurately dauge costs
Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step of the PDP for 6 MAJOR Projects using	This R/	V Cost Estim	ate Prepared b	у	Date	
Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step of the PDP for 6 MAJOR Projects using End to the project and the talent necessary to acquire the right of way in a timely manner. The person making the cost estimate may adjust the figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate. Total Labor Costs \$192,450.00 Total Labor Costs \$192,450.00						
This R/W Cost Estimate was performed at Step 6 of the PDP for MAJOR Projects using		Chris Clei	mons		8/4/2010	Labor costs are a function of time, distance, and
of the PDP for MAJOR Projects using acquire the right of way in a timely manner. The person making the cost estimate may adjust the figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate. Total Labor Costs \$192,450.00 Total Labor Costs \$192,450.00 Cost/Unit were generated from auditors tax card data.	This R/W Cost Esti	mate was per	formed at Step		6	talent. Labor costs estimates should reflect the complexity of the project and the talent necessary to
Total Labor Costs \$192,450.00 Total Labor Costs \$192,450.00 Comments Cost/Unit were generated from auditors tax card data.	of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The
Total Labor Costs \$192,450.00 Total Labor Costs \$192,450.00 Comments Cost/Unit were generated from auditors tax card data.						figures given for the particular project being estimated
Total Labor Costs \$192,450.00 Comments Comments Cost/Unit were generated from auditors tax card data.						to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment
Total Labor Costs \$192,450.00 Comments Total Ner Labor B/W Costo \$3,673,050,70 Cost/Unit were generated from auditors tax card data.						alternative, the step in the PDP process and the
Total Labor Costs \$192,450.00 Comments Total Non Labor B/W Costs \$3,673,050,70 Cost/Unit were generated from auditors tax card data.						person(s) performing the estimate.
Cost/Unit were generated from auditors tax card data.		Tot	al Labor Costs	\$192	2,450.00	Comments
		Total Non La	bor R/W Costs	\$3.67	3,959.70	Cost/Unit were generated from auditors tax card data.
				÷-,•·	, -	
Inflation Adjustments \$317,045.60		Inflatio	n Adjustments	\$317	7,045.60	
Total R/W Costs \$4,183,455.30		T	otal R/W Costs	\$4,18	3,455.30	

	Att	ributes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$2,410,140.13	8	4	4	5	Estimate the total number of across involved in the
\$2,029.71	1	0	1	0	project and allocate those acres into the four
\$0.00	0	0	0	0	categories shown.
\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor RAP Costs	Estimat	te amount of time all RAP parcels	e necessary s = (months)	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
	Estimate	e number of year	rs until projec	t wide R/W	card data.
\$200,000 \$211,500	acqu	uisition begins =		3.5	Add structure values from the auditors tax cards only if the structures are taken.
\$0 \$0 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the
050000.000	*RHP - Rei	placement Hous	ing Payment		impacts of the project on structures.
030209.000	*RSP - Rei	nt Supplemental	Payment		Relocation Cost Estimates must consider the
\$3,673,959.70	"NPO - No	n-Profit Organiza	ation		that involve a business or a mulit-tenant residential
					Assistance professionnal to accurately gauge costs.
This R/W	V Cost Estim	ate Prepared by	у	Date	
	Chris Cler	mons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
This R/W Cost Estir	mate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The
					person making the cost estimate may adjust the figures given for the particular project being estimated
					to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment
					alternative, the step in the PDP process and the person(s) performing the estimate.
	Tot	al Labor Costs	\$192	2,450.00	Comments
٦	Fotal Non La	bor R/W Costs	\$3,67	3,959.70	Cost/Unit were generated from auditors tax card data.
	Inflatio	n Adjustments	\$317	7,045.60	
	T	otal R/W Costs	\$4,18	3,455.30	
					-

Estimate Alt E KY cont 7

Estimated Cost: \$273,619,105.99 Contingency: 57.60% Estimated Total: \$431,223,711.04

Base Date: 01/01/15 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt E KY cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
Group 0001: Pavement Remova	al			
0001 A-MC-RDWY	0.00	LS	\$0.00000	\$0.00
0343 202E23000 PAVEMENT REMOVED	129,338.00	SY	\$8.00000	\$1,034,704.00
			Total for Group 0001: \$	51,034,704.00
Group 0002: Excavation - Rock				
0003 A-MC-RDWY MAJOR COST DRIVERS. ROADWAY	80,360.00	CY	\$30.00000	\$2,410,800.00
			Total for Group 0002: \$	2,410,800.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0344 203E10000 FXCAVATION	120,540.00	CY	\$8.00000	\$964,320.00
			Total for Group 0003:	\$964,320.00
Group 0004 [.] Excavation - Hazar	rdous			
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group	0004: \$0.00
Group 0005: Fill - Embankment	(includes	wasting	excess excavation)	
0007 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY 0345 203E20000	268,200.00	CY	\$6.00000	\$1,609,200.00
EMBANKMENT			Total for Group 0005: \$	1 609 200 00
				,,000,200.00
Group 0006: Fill - Lime Modified	I Soil		¢0.0000	¢0.00
MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0346 205E10050 LIME STABILIZED EMBANKMENT	0.00	CY	\$7.00000	\$0.00
0347 205E10300 LIME	0.00	TON	\$5.00000	\$0.00
			Total for Group	0006: \$0.00
Group 0007: Fill - Borrow				
0011 A-MC-RDWY	67,300.00	CY	\$8.00000	\$538,400.00
			Total for Group 0007:	\$538,400.00
Group 0008: Concrete Barrier				
0012 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY 0465 622E10060	6,150.00	FT	\$110.00000	\$676,500.00
7:34:38AM				

Estimate: Alt E KY cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE S	LOPE, TYPE B		Total for Group 0008:	\$676,500.00
Group 0009: Subgrade Treat	ment - Lime			
0014 A-MC-RDWY MAJOR COST DRIVERS, ROADW	1.00 /AY	LS	\$0.00000	\$0.00
0348 206E10000 LIME STABILIZED SUBGRADE	0.00	SY	\$1.85000	\$0.00
0349 206E10300	0.00	TON	\$10.00000	\$0.00
0350 206E11000 CUBING COAT	0.00	SY	\$1.00000	\$0.00
0351 206E20000 TEST ROLLING	0.00	HOUR	\$4.00000	\$0.00
			Total for Group	0009: \$0.00
Group 0010: Subgrade Treat	ment - Ceme	ent		
0016 A-MC-RDWY	162,575.00	SY	\$2.50000	\$406,437.50
MAJOR COST DRIVERS, ROADW	AT		Total for Group 0010:	\$406,437.50
Group 0011: Subgrade Treat	ment - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS, ROADW	1.00 /AY	LS	\$0.00000	\$0.00
			Total for Group	0011: \$0.00
Group 0012: Other Roadway	Costs			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
0020 201E11000 CLEARING AND GRUBBING	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800 TREE REMOVED 18" SIZE	0.00	EACH	\$250.00000	\$0.00
0022 201E23000 TREE REMOVED 30" SIZE	0.00	EACH	\$405.00000	\$0.00
0023 201E24800 TREE REMOVED 48" SIZE	0.00	EACH	\$772.00000	\$0.00
0026 202E11000 STRUCTURE REMOVED	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200 PIPE REMOVED OVER 24"	0.00	FT		\$0.00
0029 202E38000 GUARDRAIL REMOVED	0.00	FT		\$0.00
0030 202E42206	0.00	EACH		\$0.00
0031 202E58000 MANHOLE REMOVED	0.00	EACH		\$0.00
0032 202E58100	0.00	EACH		\$0.00
0033 202E75000	0.00	FT		\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Estimate: Alt E KY cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
PROOF ROLLING				
0035 204E10000 SUBGRADE COMPACTION	0.00	SY	\$0.81000	\$0.00
0036 451E30000	0.00 NIT TYPE A	FT		\$0.00
0037 606E13000 GUARDRAIL TYPE 5	4,200.00	FT	\$14.00000	\$58,800.00
0038 606E22000 ANCHOR ASSEMBLY, TYPE B-98	0.00	EACH		\$0.00
0039 606E22010 ANCHOR ASSEMBLY, TYPE E-98	0.00	EACH		\$0.00
0040 606E26500 ANCHOR ASSEMBLY, TYPE T	0.00	EACH		\$0.00
0041 606E35000 BRIDGE TERMINAL ASSEMBLY	0.00 TYPE 1	EACH		\$0.00
0042 606E35100 BRIDGE TERMINAL ASSEMBLY	0.00 TYPE 2	EACH		\$0.00
0043 606E60010		EACH		\$0.00
0044 607E15000 FENCE, TYPE 47 For Fencing	0.00	FT		\$0.00
0423 304E20000 AGGREGATE BASE For Fencing	0.00	CY		\$0.00
0424 601E32100 ROCK CHANNEL PROTECTION, For Fencing	0.00 TYPE B WITH FIL	CY TER		\$0.00
0425 607E40500 GATE, TYPE 47 For Fencing	0.00	EACH		\$0.00
0426 625E32000 GROUND ROD For Fencing	0.00	EACH		\$0.00
0466	0.00		\$0.00000	\$0.00
			Total for Group 0012:	\$58,800.00
Group 0014: Seeding & Mulc	hing / Soddir	ng		
0045 B-MC-ERCO MAJOR COST DRIVERS, EROSIO	1.00 N CONTROL	LS	\$0.00000	\$0.00
0467 659E10000 SEEDING AND MULCHING	35,254.00	SY	\$1.00000	\$35,254.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000	\$0.00
			Total for Group 0014:	\$35,254.00
Group 0015: Rock Channel F	Protection			
0047 B-MC-ERCO MAJOR COST DRIVERS, EROSIO	1.00 N CONTROL	LS	\$0.00000	\$0.00
0469 601E32000 ROCK CHANNEL PROTECTION.	12.00 TYPE A WITH FIL	CY TER	\$75.00000	\$900.00
·····,			Total for Group 001	5: \$900.00
Group 0016: Erosion Control	- Item 832			
0048 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
7:34:38AM				

Estimate: Alt E KY cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
MAJOR COST DRIVERS, EROSION	CONTROL			4-0 000 00
0470 832E10000 STORM WATER POLLUTION PREVE	1.00 ENTION PLAN	LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	170,000.00	EACH	\$1.00000	\$170,000.00
			Total for Group 0016: \$2	20,000.00
Group 0017: Other Erosion Co	ntrol Costs			
0049 670E00700	0.00	SY		\$0.00
0050 B-OC-ERCO	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, EROSION CONTRO 0051 659E00100	DL 0.00	EACH	\$0.00000	\$0.00
SOIL ANALYSIS TEST	0.00	CV	••••••	¢0.00
TOPSOIL	0.00	CT		\$0.00
0053 659E14000 REPAIR SEEDING AND MULCHING	0.00	SY		\$0.00
0054 659E15000 INTER-SEEDING	0.00	SY	\$0.71000	\$0.00
0055 659E20000	0.00	TON		\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000	0.00	MSF	\$0.00000	\$0.00
MOWING			Total for Group 00	17: \$0.00
Group 0018: Underdrains				
0059 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0062 605E05100 4" SHALLOW PIPE LINDERDRAINS	11,295.00	FT	\$8.00000	\$90,360.00
			Total for Group 0018: \$	90,360.00
Group 0019: Culverts - Type A	: < 5'			
0474 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	FT	\$350.00000	\$0.00
Pipe Structures - Reinforced Concrete	e Pipe up to 60'	, FACH	\$1 500 00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	Ξ	E/(OIT	ψ1,000.00000	φ0.00
Control of Masoning			Total for Group 00	19: \$0.00
Group 0021: Culverts, Type A:	5' - 10'			
0067 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0476 C-MC-DRNG	0.00	FT	\$550.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	=			
7:34:38AM				

Estimate: Alt E KY cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Pipe Structures - Reinforced Concrete 5	5'-10' 66" to	78"		
0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	0.00	EACH	\$1,500.00000	\$0.00
			Total for Group	o 0021: \$0.00
Group 0022: Culverts, Type A: 1	0' - 20'			
0486 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete F	0.00 Pipe 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for Group	o 0022: \$0.00
Group 0024: BMP's	1 0 0		A A AAAAA	* •••••
0076 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Group	o 0024: \$0.00
Group 0025: Closed Storm Syste	em			
0077 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	23,930.00	FT	\$75.00000	\$1,794,750.00
0523 604E00800	150.00	EACH	\$1,500.00000	\$225,000.00
0524 604E31500	35.00	EACH	\$3,000.00000	\$105,000.00
0525 604E36601	1.00	EACH	\$1,250.00000	\$1,250.00
PRECAST REINFORCED CONCRETE 0526 Special	OUTLET, AS	S PER PLAN	\$6.400.000.00000	\$6.400.000.00
Pump Station (Storm)	6.00		¢5,750,00000	¢24,500,00
Stormceptors	0.00	EACH	\$5,750.00000	\$34,500.00
0529 Special Retention basin improvements	1.00	LS	\$109,000.00000	\$109,000.00
			Total for Group 0025: S	\$8,669,500.00
Group 0026: Other Drainage Co	sts			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, DRAINAGE			Total for Grou	0026: \$0.00
				·
Group 0027: Mainline - Travel La	anes			
0095 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Co	61,502.00 ompaction	SY	\$68.00000	\$4,182,136.00
7:34:38AM Thursday, December 02, 2010				Page 6 of 12

Estimate: Alt E KY cont 7				PB Americas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
			Total for Group 0027:	\$4,182,136.00
Group 0028: Mainline - Outside S	Shoulder			
0100 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement	13,630.00	SY	\$68.00000	\$926,840.00
includes of Agg base and Subgrade Cor	πρασιοπ		Total for Group 0028	8: \$926,840.00
Group 0030: Mainline - Inside Sh	oulder			
0115 D-MC-PVMT MAJOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement	15,649.00	SY	\$68.00000	\$1,064,132.00
Includes 6" Agg base and Subgrade Cor	mpaction		Total for Group 0030:	\$1,064,132.00
Group 0031: Ramps (including sl	houlders)			
0122 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	27,291.00	SY	\$68.00000	\$1,855,788.00
includes 6 Agg base and Subgrade Cor	πραστιοπ		Total for Group 0031:	\$1,855,788.00
Group 0032: Non - Mainline Lane	es			
0132 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	44,394.00	SY	\$41.00000	\$1,820,154.00
Includes 3" 448, 9" 301, 6" Agg base and	d Subgrade (Compaction	Total for Group 0032:	\$1,820,154.00
Group 0041: Other Pavement Co	osts			
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Grou	up 0041: \$0.00
Group 0042: Water Works	0.00		# 0.0000	A 0.00
MAJOR COST DRIVERS, WATER LINE	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Grou	up 0042: \$0.00
Group 0043: Sanitary Line 0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY S	0.00 EWER	LS	\$0.00000	\$0.00

Estimate: Alt E KY cont 7			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0043:	\$0.00
Group 0044: Lighting - Full Interc	hange			
0173 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG MAJOR COST DRIVERS LIGHTING	2.00	EACH	\$469,000.00000	\$938,000.00
			Total for Group 0044: \$938,	00.00
Group 0045: Lighting - Partial Inte	erchange	;		
0288 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group 0045:	\$0.00
Group 0046: Lighting - Continuou	is Roadw	/ay	t o occoro	* •••••
0176 G-MC-LING MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG Lighting - Continuous	6,195.00	FT	\$35.00000	\$216,825.00
			Total for Group 0046: \$216,	825.00
Group 0047: Other Lighting Costs	S			
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, LIGHTING			Total for Group 0047:	\$0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV	1.00	LS	\$2,083,872.78000 \$	2,083,872.78
OTHER COSTS, TRAFFIC SURVEILLAR	NCE		Total for Group 0048: \$2,083,	872.78
Group 0049: Signs				
0179 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
0501 J-MC-TRAF	1.17	MILE	\$250,000.00000	\$292,500.00
Olgrio			Total for Group 0049: \$292,	500.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CON 0502 644E00100	21.70	MILE	\$3,000.00000	\$65,100.00
0503 644E00200	12.57	MILE	\$2,000.00000	\$25,140.00
			Total for Group 0050: \$90,	240.00

Group 0051: Other Traffic Control Costs

Estimate: Alt E KY cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0208 J-OC-TRAF	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, TRAFFIC CONTROL			Total for	Group 0051: \$0.00
Group 0052: Signals - Intersect	ions 7.00	LS	\$175,000.00000	\$1,225,000.00
			Total for Group 0	052: \$1,225,000.00
Group 0053: Other Traffic Signa	al Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for	Group 0053: \$0.00
Group 0054: Landscaping	1.00	10	00000 02	00.02
MAJOR COST DRIVERS, LANDSCAP	PING	10	\$0.00000	\$0.00
0215 L-OC-LSCP OTHER COSTS, LANDSCAPING	1.00	LS	\$0.00000	\$0.00
			Total for	Group 0054: \$0.00
Group 0055: Retaining Walls \$1	125 + \$10/	ft for ca	ps, barriers and testin	g
0216 M-MC-WALL	1.00	LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	124,855.00	SF	\$135.00000	\$16,855,425.00
			Total for Group 00	55: \$16,855,425.00
Group 0056: Other Retaining W	all Costs			
0217 M-OC-WALL	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, RETAINING WALLS			Total for	Group 0056: \$0.00
Group 0057: Building Demolition	n			
		LS	\$0.00000	\$0.00
0219 N-OC-DEMO	1.00	LS	\$0.00000	\$0.00
0532 202E98100 REMOVAL MISC.: Radio Tower	1.00	EACH	\$8,500.00000	\$8,500.00
0533 202E56101 BUILDING DEMOLISHED, AS PER PL Small Residential	59.00 _AN	EACH	\$7,500.00000	\$442,500.00
0534 202E56101 BUILDING DEMOLISHED, AS PER PL Small Commercial	7.00 _AN	EACH	\$15,000.00000	\$105,000.00
0535 202E56101 BUILDING DEMOLISHED, AS PER PL Large Commercial	0.00 _AN	EACH	\$30,000.00000	\$0.00
0536 202E56101	4.00	EACH	\$12,000.00000	\$48,000.00
7:34:38AM				

Estimate: Alt E KY cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
BUILDING DEMOLISHED, AS PER PI Large Residential	_AN			
			Total for Group 0057: \$	604,000.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR MAJOR COST DRIVERS, NOISE BAF	1.00 RRIER	LS	\$0.00000	\$0.00
0505 P-MC-NSBR Noise Barrier	47,992.00	SF	\$25.00000	\$1,199,800.00
			Total for Group 0058: \$1	,199,800.00
Group 0059: Other Noise Barrie	er Costs			
0221 P-OC-NSBR OTHER COSTS, NOISE BARRIER	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR MAJOR COST DRIVERS, NOISE BAR	0.00 RRIER	LS	\$0.00000	\$0.00
,			Total for Group (059: \$0.00
Group 0060: New Structures				
0222 R-MC-STRC MAJOR COST DRIVERS_STRUCTUR	1.00 RES	LS	\$0.00000	\$0.00
0506 R-MC-STRC Tier 1 Structures to 25' Height	254,430.00	SF	\$125.00000	\$31,803,750.00
0507 R-MC-STRC Removal of Existing Structures non-co	4,744.00	SF	\$12.00000	\$56,928.00
0508 R-MC-STRC Standard Removal of Existing Structur	175,222.00 es above aver	SF age comple	\$17.00000 ex	\$2,978,774.00
0509 R-MC-STRC Removal of Existing Structures complete	113,347.00 ex to verv com	SF	\$30.00000	\$3,400,410.00
0513 R-MC-STRC Tier 2 Structures 25' to 50' Height	491,540.00	SF	\$150.00000	\$73,731,000.00
0516 R-MC-STRC Tier 3 Structures 50' to 75' Height	239,227.00	SF	\$200.00000	\$47,845,400.00
0			Total for Group 0060: \$159	,816,262.00
Group 0061: Rehabilitated Stru	ctures			
0223 R-MC-STRC MAJOR COST DRIVERS, STRUCTUR	0.00 RES	SF	\$45.00000	\$0.00
			Total for Group (061: \$0.00
Group 0062: Other Structure Co	osts			
0224 R-OC-STRC OTHER COSTS, STRUCTURES Contingency	0.00	LS	\$0.00000	\$0.00
			Total for Group (062: \$0.00
Group 0063: Temporary Road a	and Paver	nent Co	sts	
0225 S-MC-MNTC		LS	\$0.00000	\$0.00
WAJOR COST DRIVERS, WAINTENA	NUE UF TRAP			

Estimate: Alt E KY cont 7		PB A	mericas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
Description Supplemental Description			
			AA AA
		Total for Group 0063:	\$0.00
Group 0064: Portable Concre	ete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Croup 0064:	¢0 00
		Total for Group 0004.	Ф 0.00
Group 0065: Impact Attenuat	tors		
0227 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE		Total for Group 0065:	\$0.00
			+ - -
Group 0066: Sheeting			
0229 S-MC-MNTC MAJOR COST DRIVERS, MAINTE	1.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
Crown 0067. Townson, Sign			
Group 0067: Temporary Sign		00000 02	00.02
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	\$0.00000	φ0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Ligh	ntina		
0231 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Croup 0068:	ድር በር
		Total for Group 0008.	Ф 0.00
Group 0069: Innovative Cont	tracting Incentatives		
0232 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE		Total for Group 0069:	\$0.00
			,
Group 0070: Other MOT Cos	sts		• • • • •
0233 S-OC-MNTC OTHER COSTS, MAINTENANCE	1.00 LS OF TRAFFIC	\$0.00000	\$0.00
0512 S-OC-MNTC	1.17 MILE	\$500,000.00000	\$585,000.00
OTHER COOTS, MAINTENANCE		Total for Group 0070: \$585,0	00.00
	<i></i>	• • •	
Group 0071: Wetland Constr	ruction	A a a aaaa	* •••••
MAJOR COST DRIVERS, WETLA	0.00 LS ND CONSTRUCTION	\$0.0000	\$0.00
0360 T-MC-WTLD MAJOR COST DRIVERS WETLA	0.00 LS	\$0.00000	\$0.00
		Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate: Alt E K	Y cont 7				PB Americas, Inc.
Line # Item N Description Supplemen	<u>lumber</u> <u>1</u> Ital Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
0235 U-MC MAJOR CC	-MISC IST DRIVERS, MISCELLANE	0.00 EOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC- OTHER CC	MISC STS, MISCELLANEOUS CO	0.00 DSTS	LS	\$0.00000	\$0.00
0237 100E0 SPECIAL -	0300 PREMIUM ON RAILROADS NSURANCE	0.00 PROTECTIV	LS VE PUBL	\$10,000.00000 IC LIABILITY AND PROPERT	\$0.00 Y DAMAGE
0238 623E1 CONSTRU(0.5%	0000 CTION LAYOUT STAKES	1.00	LS	\$1,052,355.75000	\$1,052,355.75
0239 614E1 MAINTAINI 2%	1000 NG TRAFFIC	1.00	LS	\$4,209,423.01000	\$4,209,423.01
0240 619E1 FIELD OFF	6020 ICE, TYPE C	44.00	MNTH	\$2,500.00000	\$110,000.00
0242 624E1 MOBILIZAT	0000 ION	1.00	LS	\$2,000,000.00000	\$2,000,000.00
0511 103E0 PREMIUM 0.5%	5000 FOR CONTRACT PERFORM	1.00 MANCE BON	LS D AND F	\$1,052,355.75000 OR PAYMENT BOND	\$1,052,355.75
				Total for Group	0072: \$8,424,134.51
Group 0073	: Design Contingency	y Costs			
0243 V-MC- MAJOR CC	CNTG ST DRIVERS, CONTINGEN	1.00 CY COSTS	LS	\$0.00000	\$0.00
0244 V-OC- OTHER CC 25%	CNTG STS, CONTINGENCY COS	1.00 TS	LS	\$54,723,821.20000	\$54,723,821.20
				Total for Group 0	073: \$54,723,821.20
Group 0074	: Inflation Contingend	су			
0266 V-OC-		0.00 TS	LS	\$0.00000	\$0.00
O THER OC				Total fo	or Group 0074: \$0.00

PID	KY-7	County	Kenton	Route	75	Section	This R/W Acquisition cost estimat
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Macro View												At	tributes			
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/A <u>cre</u>)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
-Residential	8.78	х	\$66,719.36	\$585,796	+	3126200	+	N/A	\$3,126,200.00	=	\$3,711,995.98	97	69	28	63	Estimate the total number of acres involved in the
-Commercial	4.86	X	\$593,135.38	\$2,882,638	+	1176500	+	N/A	\$1,176,500.00	=	\$4,059,137.95	17	9	8	7	project and allocate those acres into the four
-Industrial	0	X	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	categories shown.
-Other	0.36	Х	\$7,723.48	\$2,780	+	0	+	N/A	\$0.00	=	\$2,780.45	3	1	2	1	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Relocation	Unit (Displacement)	x	*RHF	P/*RSP	+	Move Cost	+	Reestabli	ishment	=	Total Non Labor RAP Costs	Estima	ite amount of tim all RAP parce!	e necessary f	to relocate	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
-Residential Owner Occupant Tenant	53 31	X X	\$34 \$1(4,000 0,000	++	\$6,000 \$1,750				= =	\$2,120,000 \$364,250	Estimat acq	e number of year ruisition begins =	rs until projec	t wide R/W	Add structure values from the auditors tax cards only if the structures are taken.
-Commerical/Farm/NPO Owner Tenant	2 4				x x	\$15,000 \$15,000	+ +	\$10,0 \$10,1	000 000	=	\$50,000 \$100,000					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on
-Personal Property	0				Х	\$1,000				=	\$0					Major Projects) and requires some knowledge of the impacts of the project on structures.
{[(Total Cost of Acquisition Cost)x0).90]x0.025}+{[(Total o Cost)x0.10]x1.50}	of Acc } = Co	quisition Cost)x0. ontingency	15]x1.20}+{[(Total o	of Ac	quisition	()	Contine (Incidentals, Admin. Re Total Non Lab	gency eview & Appropriatic	on)	2740304.819 *RHP - Replacement Housing Payment *RSP - Rent Supplemental Payment *NPO - Non-Profit Organization		Relocation Cost Estimates must consider the complexity of the move process. All move estimates			
Macro View					_						II	J				 that involve a business or a mulit-tenant residential structure should use the services of a relocation Assistance professionnal to accurately gauge costs.
Labor (External)	Unit (Parcels)	X	Unit	Price	=	Total Cost	4			ļ	This R/V	N Cost Estin	nate Prepared b	y	Date	
Titles	117		<u>م</u> ط	400	=	\$46,800	-			ļ						╢╓━━━━━━
Appraisal -Simple	6	х	\$-	750	=	\$4,500						Chris Cle	mons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
-Detailed	111	Х	\$4	,500	=	\$499,500					This R/W Cost Estin	mate was pe	rformed at Step		6	talent. Labor costs estimates should reflect the
Appraisal Review		T									of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The
-Simple -Detailed	4	X	\$5	500	=	\$2,000 \$10,000										figures given for the particular project being estimated
Negotiations	117	X	<u>Ψ</u> _, \$1	,000	- _	\$128,700										to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment
Relocations -Personal Property	0	X	\$1	,500	=	\$0										alternative, the step in the PDP process and the person(s) performing the estimate.
-Commercial/Farm/*NPO	6 8	X	ຸມູ່ 5	,200 5.600	=	\$436,800 \$33,600				l		То	tal Labor Costs	\$1,27	′3,050.00	Comments
Closings	117	X	\$4	400	=	\$46,800				ļ		Tatal Non L		¢12.1	40,400,00	Cost/Unit were generated from auditors tax card data.
Project Management	117	Х	\$!	550	=	\$64,350				ļ				¢١٥,۱4	48,469.20	Goebel Park and other properties that do not fit the
Asbestos Testing & Abatement		X		I	<u>[</u> =	[!]			ļ		Inflatio	on Adjustments	\$1,18	32,564.57	main categories.
		Tota	al Labor Cos	ts		\$1,273,050				ļ		-		<u> </u>		1
*NPO = Non-Profit Organization]			ļ			otal R/W Costs	\$15,00	J4,083.77	
						P.D.P.	R/	/W Cost E	stimator	٢						

Macro View	-	-		-		
Labor (External)	Unit (Parcels)	X	Unit Price	=	Total Cost	
Titles	117	Х	\$400	=	\$46,800	
Appraisal -Simple	6	x	\$750	=	\$4,500	
-Detailed	111	Х	\$4,500	=	\$499,500	
Appraisal Review						
-Simple	4	Х	\$500	=	\$2,000	
-Detailed	5	х	\$2,000	=	\$10,000	
Negotiations	117	Х	\$1,100	=	\$128,700	
Relocations						
-Personal Property	0	Х	\$1,500	=	\$0	
-Residential	84	Х	\$5,200	=	\$436,800	
-Commercial/Farm/*NPO	6	Х	\$5,600	=	\$33,600	
Closings	117	Х	\$400	=	\$46,800	
Project Management	117	Х	\$550	=	\$64,350	
Asbestos Testing & Abatement		=				
	Total Labor Costs					
*NPO = Non-Profit Organization						

	Att	ributes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$3,711,995.98	97	69	28	63	Estimate the total number of acros involved in the
\$4,059,137.95	17	9	8	7	project and allocate those acres into the four
\$0.00	0	0	0	0	categories shown.
\$2,780.45	3	1	2	1	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor	Estima	te amount of time	e necessary	to relocate	tax card data. Cost Estimates prepared at Step 4
RAP Costs		all RAP parcel	s = (months)	24	unit prices on a project sales data book instead of tax
	Estimate	e number of year	rs until projec	ct wide R/W	card data.
\$2,120,000 \$364.250	acqu	uisition begins =		3.5	Add structure values from the auditors tax cards only if the structures are taken.
400 ., 200					Demograp must be appreced by a pro-gualified expert
\$50,000					with experience in Before & After analysis. This
\$100,000					usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the
۵ 0					impacts of the project on structures.
2740304.819	*RSP - Re	placement Hous	Ing Payment Payment		Relocation Cost Estimates must consider the
\$13,148,469.20	*NPO - No	n-Profit Organiza	ation		complexity of the move process. All move estimates that involve a business or a mulit-tenant residential
					structure should use the services of a relocation
This R/V	V Cost Estim	ate Prepared b	у	Date	
	Chris Clei	mons		8/4/2010	Instructions for Labor Cost Estimates
This R/W Cost Estin	mate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			complexity of the project and the talent necessary to acquire the right of way in a timely manner. The
					person making the cost estimate may adjust the
					to reflect local labor costs. It is critical that the
					estimate be labeled to reflect the alignment alternative, the step in the PDP process and the
					person(s) performing the estimate.
	Tot	al Labor Costs	\$1,27	3,050.00	Comments
	Total Non La	bor R/W Costs	\$13,14	48,469.20	Cost/Unit were generated from auditors tax card data. Changed "Agriculture" category to "Other" to include Goebel Park and other properties that do not fit the
	Inflatio	n Adjustments	\$1,18	32,564.57	main categories.
	T	otal R/W Costs	\$15,6	04,083.77	
					-

	Att	ributes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$3,711,995.98	97	69	28	63	Estimate the total number of acres involved in the
\$4,059,137.95	17	9	8	7	project and allocate those acres into the four
\$0.00	0	0	0	0	categories shown.
\$2,780.45	3	1	2	1	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor RAP Costs	Estimat	all RAP parcels	e necessary s = (months)	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
\$2,120,000 \$364,250	Estimate acqu	e number of year uisition begins =	s until projec	ct wide R/W 3.5	card data. Add structure values from the auditors tax cards only if the structures are taken.
\$50,000 \$100,000 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures
2740304.819	*RHP - Rej	placement Housi	ing Payment		Polocation Cost Estimatos must consider the
\$13,148,469.20	*NPO - No	nt Supplemental	Payment		complexity of the move process. All move estimates that involve a business or a mulit-tenant residential
					structure should use the services of a relocation
This R/W	/ Cost Estim	ate Prepared by	y	Date	
	Chris Cler	nons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
This R/W Cost Estir	nate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The
					figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate.
	Tot	al Labor Costs	\$1,27	3,050.00	Commonio
	Fotal Non La	bor R/W Costs	\$13,14	48,469.20	Cost/Unit were generated from auditors tax card data. Changed "Agriculture" category to "Other" to include Goebel Park and other properties that do not fit the
	Inflatio	n Adjustments	\$1,18	2,564.57	main categories.
	т	otal R/W Costs	\$15,60	04,083.77	

Estimate Alt E KY cont 8

Estimated Cost: \$40,553,981.01 Contingency: 65.50% Estimated Total: \$67,116,838.57

Base Date: 01/01/15 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt E KY cont 8			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Group 0001: Pavement Remova	al			
0001 A-MC-RDWY	0.00	LS	\$0.00000	\$0.00
0343 202E23000	0.00	SY	\$8.00000	\$0.00
			Total for Group 0001:	\$0.00
Group 0002: Excavation - Rock	0.00	<u>CV</u>	¢20.0000	¢0.00
MAJOR COST DRIVERS, ROADWAY	0.00	CY	\$30.00000	\$0.00
			Total for Group 0002:	\$0.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0344 203E10000	0.00	CY	\$8.00000	\$0.00
EXCAVATION			Total for Group 0003:	\$0.00
Group 0004: Excavation - Haza	rdous			
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0004:	\$0.00
				ψ0.00
Group 0005: Fill - Embankment	(includes	wasting	excess excavation)	.
0007 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0345 203E20000 EMBANKMENT	0.00	CY	\$6.00000	\$0.00
			Total for Group 0005:	\$0.00
Group 0006: Fill - Lime Modified	l Soil			
0010 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0346 205E10050	0.00	CY	\$7.00000	\$0.00
0347 205E10300	0.00	TON	\$5.00000	\$0.00
LINE			Total for Group 0006:	\$0.00
Group 0007: Fill - Borrow				
0011 A-MC-RDWY	0.00	CY	\$8.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0007.	\$0.00
				ψ0.00
Group 0008: Concrete Barrier			# C 2222	- 00.00
MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0465 622E10060 7:35:50AM	0.00	FI	\$110.00000	\$0.00
			-	

Estimate: Alt E KY cont 8				PB A	mericas, Inc.
<u>Line #</u> <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>		Extension
CONCRETE BARRIER, SINGLE SLOPE,	TYPE B		Total fo	or Group 0008:	\$0.00
Group 0009: Subgrade Treatment	t - Lime				
0014 A-MC-RDWY MAJOR COST DRIVERS. ROADWAY	1.00	LS	\$0.00000		\$0.00
0348 206E10000 LIME STABILIZED SUBGRADE	0.00	SY	\$1.85000		\$0.00
0349 206E10300	0.00	TON	\$10.00000		\$0.00
0350 206E11000	0.00	SY	\$1.00000		\$0.00
0351 206E20000	0.00	HOUR	\$4.00000		\$0.00
TEST KOLLING			Total fo	or Group 0009:	\$0.00
Group 0010: Subgrade Treatment	t - Ceme	nt			
0016 A-MC-RDWY	0.00	SY	\$2.50000		\$0.00
MAJOR COST DRIVERS, ROADWAY			Total fo	or Group 0010.	\$0.00
					+ • • • • •
Group 0011: Subgrade Treatment	t - Undei	rcut & E	Backfill		
0017 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000		\$0.00
			Total fo	or Group 0011:	\$0.00
Group 0012: Other Roadway Cos	ts				
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000		\$0.00
	0.00	LS	\$856,500.00000		\$0.00
0021 201E21800	0.00	EACH	\$250.00000		\$0.00
0022 201E23000	0.00	EACH	\$405.00000		\$0.00
0023 201E24800	0.00	EACH	\$772.00000		\$0.00
0026 202E11000	0.00	LS	\$9,310.13000		\$0.00
0034 204E45000	0.00	HOUR	\$126.59000		\$0.00
0035 204E10000	0.00	SY	\$0.81000		\$0.00
SUBGRADE COMPACTION 0037 606E13000	0.00	FT	\$14.00000		\$0.00
GUARDRAIL, TYPE 5 0466	0.00		\$0.00000		\$0.00
0.00	0.00		Total fo	or Group 0012:	\$0.00
Group 0014: Sooding & Mulahing	/ C odd:-				
	/ JUUUII	iy Te	ድ <u>ስ በበበባ</u>		<u></u> ቁስ ስስ
MAJOR COST DRIVERS, EROSION COI	NTROL	L3	φ0.00000		φ0.00
7:35:50AM					

Estimate: Alt E KY cont 8			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0467 659E10000 SEEDING AND MULCHING	0.00	SY	\$1.00000	\$0.00
0531 660E25000	0.00	SY	\$15.00000	\$0.00
SODDING STAKED			Total for Group 0014:	\$0.00
Group 0015: Rock Channel F	Protection			
0047 B-MC-ERCO MAJOR COST DRIVERS, EROSIO	1.00 N CONTROL	LS	\$0.00000	\$0.00
0469 601E32000 ROCK CHANNEL PROTECTION, 1	0.00 TYPE A WITH FIL	CY TER	\$75.00000	\$0.00
	k		Total for Group 0015:	\$0.00
Group 0016: Erosion Control	- Item 832			
0048 B-MC-ERCO MAJOR COST DRIVERS, EROSIO	1.00 N CONTROL	LS	\$0.00000	\$0.00
0470 832E10000 STORM WATER POLILITION PRE	1.00 VENTION PLAN	LS	\$20,000.00000	\$20,000.00
0471 832E20000 EROSION CONTROL	2,000.00	EACH	\$1.00000	\$2,000.00
			Total for Group 0016: \$22,	00.00
Group 0018: Underdrains				
0059 C-MC-DRNG MAJOR COST DRIVERS, DRAINA	1.00 GE	LS	\$0.00000	\$0.00
0062 605E05100 4" SHALLOW PIPE UNDERDRAIN	0.00 S	FT	\$8.00000	\$0.00
Group 0010: Culvorte Type	۸ ۲.		Total for Group 0018:	\$0.00
0474 C-MC-DRNG	A. < J	19	00000 02	\$0.00
MAJOR COST DRIVERS, DRAINA	.GE	===	\$0.00000 \$050.00000	φ0.00
0480 C-MC-DRNG MAJOR COST DRIVERS, DRAINA Pipe Structures - Reinforced Concr	.GE ete Pipe un to 60'	⊢। ,	\$350.00000	\$0.00
0481 C-MC-DRNG MAJOR COST DRIVERS, DRAINA Concrete Masonry	0.00 GE	EACH	\$1,500.00000	\$0.00
			Total for Group 0019:	\$0.00
Group 0021: Culverts, Type A	4: 5' - 10'			
0067 C-MC-DRNG MAJOR COST DRIVERS. DRAINA	1.00 .GE	LS	\$0.00000	\$0.00
0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINA	0.00 GE	FT	\$550.00000	\$0.00
0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINA Concrete - Headwalls/wingwalls	0.00 GE	EACH	\$1,500.00000	\$0.00
			Total for Group 0021:	\$0.00

Estimate: Alt E KY cont 8				PB A	mericas, Inc.
<u>Line # Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>		Extension
Group 0022: Culverts, Type A: 10	0' - 20'				
0486 C-MC-DRNG	1.00	LS	\$0.00000		\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete P	0.00	FT	\$1,400.00000		\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000		\$0.00
			Total fo	or Group 0022:	\$0.00
Group 0024: BMP's	1 00	10	00000 02		00.02
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000		φ 0.00
			Total fo	or Group 0024:	\$0.00
Group 0025: Closed Storm Syste	em				
0077 C-MC-DRNG	1.00	LS	\$0.00000		\$0.00
0489 603E13400 30" CONDUIT, TYPE B (Average size)	0.00	FT	\$75.00000		\$0.00
0523 604E00800	0.00	EACH	\$1,500.00000		\$0.00
0524 604E31500	0.00	EACH	\$3,000.00000		\$0.00
0525 604E36601	0.00	EACH	\$0.00000		\$0.00
0526 Special	001LE1, AS 0.00	LS	\$6,400,000.00000		\$0.00
Pump Station (Storm) 0527 Special	0.00	EACH	\$5,750.00000		\$0.00
Stormceptors 0529 Special	0.00	LS	\$10.900.00000		\$0.00
Retention basin improvements			Tatalf		ФО ОО
			Total I	or Group 0025:	\$0.00
Group 0026: Other Drainage Cos	sts				
0078 C-OC-DRNG OTHER COSTS DRAINAGE	1.00	LS	\$0.00000		\$0.00
			Total for	or Group 0026:	\$0.00
Group 0027: Mainline - Travel La	anes				
0095 D-MC-PVMT	1.00	LS	\$0.00000		\$0.00
0494 D-MC-PVMT	0.00	SY	\$68.00000		\$0.00
13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Col	mpaction				
			Total for	or Group 0027:	\$0.00
Group 0028: Mainline - Outside S	Shoulder				
0100 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000		\$0.00
7:35:50AM					

Estimate: Alt E KY cont 8			F	B Americas, Inc.
Line # Item Number Qu Description Supplemental Description	<u>antity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0495 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Arg base and Subgrade Compact	0.00	SY	\$59.00000	\$0.00
includes of Ayy base and Subgrade Compact	1011		Total for Group 002	8: \$0.00
Group 0030: Mainline - Inside Should	der			
0115 D-MC-PVMT MAJOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Compact	0.00	SY	\$59.00000	\$0.00
			Total for Group 003	0: \$0.00
Group 0031: Ramps (including shoul	ders)			
0122 D-MC-PVMT MAJOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Arg base and Subgrade Compact	0.00	SY	\$68.00000	\$0.00
includes of Agy base and Subgrade Compact	1011		Total for Group 003	1: \$0.00
Group 0032: Non - Mainline Lanes				
0132 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	0.00	SY	\$40.00000	\$0.00
Includes 3" 448, 9" 301, 6" Agg base and Sub	grade (Compaction	Total for Group 003	2: \$0.00
Group 0041: Other Pavement Costs				
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Group 004	1: \$0.00
Group 0042: Water Works				
0164 E-MC-WATR MAJOR COST DRIVERS, WATER LINE	0.00	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Group 004	2: \$0.00
Group 0043: Sanitary Line				
0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY SEWEI	0.00 २	LS	\$0.00000	\$0.00
	·		Total for Group 004	3: \$0.00
Group 0044: Lighting - Full Interchan	ge			
0173 G-MC-LTNG MAJOR COST DRIVERS. LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	0.00	EACH	\$469,000.00000	\$0.00
Thursday, December 02, 2010				Page 6 of 11

Estimate: Alt E KY cont 8			PB A	mericas, Inc.
<u>Line #</u> <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
MAJOR COST DRIVERS, LIGHTING			Total for Group 0044:	\$0.00
Group 0045: Lighting - Partial Inte	erchange)		
0288 G-MC-LTNG MAJOR COST DRIVERS. LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group 0045:	\$0.00
Group 0046: Lighting - Continuou	s Roadw	/ay		
0176 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG	3,492.00	FT	\$35.00000	\$122,220.00
Lighting - Continuous			Total for Group 0046: \$122,	220.00
Group 0047: Other Lighting Costs				
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, LIGHTING			Total for Group 0047:	\$0.00
One was 0040. Traffin Our willow as				T
0178 H-OC-SURV	1.00	LS	\$309.731.25000	\$309.731.25
OTHER COSTS, TRAFFIC SURVEILLAN	ICE		Total for Group 0049: \$200	721.25
			Total for Group 0048. \$309,	131.23
Group 0049: Signs	1.00		¢0,0000	¢0.00
MAJOR COST DRIVERS, TRAFFIC CON	ITROL		\$0.00000	\$0.00
Signs	0.00	MILE	\$250,000.00000	\$165,000.00
			Total for Group 0049: \$165,0	000.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF MAJOR COST DRIVERS, TRAFFIC CON	1.00 ITROL	LS	\$0.00000	\$0.00
0502 644E00100 EDGE LINE	1.32	MILE	\$3,000.00000	\$3,960.00
0503 644E00200 LANE LINE	0.99	MILE	\$2,000.00000	\$1,980.00
			Total for Group 0050: \$5,9	940.00
Group 0051: Other Traffic Control	Costs			
0208 J-OC-TRAF OTHER COSTS_TRAFFIC CONTROL	1.00	LS	\$0.00000	\$0.00
			Total for Group 0051:	\$0.00
Group 0052: Signals - Intersection	าร			
0212 K-MC-SGNL	1.00	LS	\$0.00000	\$0.00
7:35:50AM				

Estimate: Alt E KY cont 8			PB A	mericas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
MAJOR COST DRIVERS, SIGNALS			Total for Group 0052:	\$0.00
Group 0053: Other Traffic Signal	Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0053:	\$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP	1.00	LS	\$0.00000	\$0.00
0215 L-OC-LSCP	1.00	LS	\$0.00000	\$0.00
Officie COSTS, LANDSCAPING			Total for Group 0054:	\$0.00
Group 0055: Retaining Walls \$12	5 + \$10/	ft for ca	os, barriers and testing	
0216 M-MC-WALL	1.00	LS	\$0.00000	\$0.00
0504 M-MC-WALL	0.00	SF	\$135.00000	\$0.00
Retaining Walls			Total for Group 0055:	\$0.00
Group 0056: Other Retaining Wa	ll Costs			
0217 M-OC-WALL	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, RETAINING WALLS			Total for Group 0056:	\$0.00
Crown 00EZ, Duilding Domalition			·	
	4.00		#0.0000	¢0.00
MAJOR COST DRIVERS, BUILDING DE	MOLITION	LS	\$0.00000	\$0.00
0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOLITIC	1.00 N	LS	\$0.00000	\$0.00
0538 202E56101 BUILDING DEMOLISHED, AS PER PLAI Large Commercial	0.00 N	EACH	\$30,000.00000	\$0.00
0539 202E56101 BUILDING DEMOLISHED, AS PER PLAI	0.00 N	EACH	\$15,000.00000	\$0.00
0540 202E56101 BUILDING DEMOLISHED, AS PER PLAI	0.00 N	EACH	\$12,000.00000	\$0.00
0541 202E56101 BUILDING DEMOLISHED, AS PER PLAI	0.00 N	EACH	\$7,500.00000	\$0.00
Small Residential 0542 202E98100 REMOVAL MISC.:	0.00	EACH	\$8,500.00000	\$0.00
Radio Tower			Total for Group 0057:	\$0.00
Group 0058: Noise Barrier				A
0220 P-MC-NSBR 7:35:50AM	1.00	LS	\$0.00000	\$0.00

Estimate: Alt E KY cont 8				PB Americas, Ir	۱C.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extensio	<u>on</u>
MAJOR COST DRIVERS, NOISE BA	RRIER		\$ 100 0000	0 0	~~
Noise Barrier	0.00	LS	\$400.00000	\$0.0	00
			Total f	or Group 0058: \$0.00	
Group 0059: Other Noise Barri	er Costs				
0221 P-OC-NSBR OTHER COSTS, NOISE BARRIER	1.00	LS	\$0.00000	\$0.0	00
0368 P-MC-NSBR MAJOR COST DRIVERS, NOISE BA	0.00 RRIER	LS	\$0.00000	\$0.0	00
			Total f	or Group 0059: \$0.00	
Group 0060: New Structures					
0222 R-MC-STRC MAJOR COST DRIVERS, STRUCTU	1.00 RES	LS	\$0.00000	\$0.0	00
0506 R-MC-STRC Tier 1 Structures to 25' Height	0.00	SF	\$125.00000	\$0.0	00
0507 R-MC-STRC Removal of Existing Structures non-co	0.00 xelama	SF	\$12.00000	\$0.0	00
0508 R-MC-STRC	0.00	SF	\$17.00000	\$0.0	00
0509 R-MC-STRC	0.00	SF	\$30.00000	\$0.0	00
0513 R-MC-STRC	ex to very comp 0.00	SF	\$150.00000	\$0.0	00
Tier 2 Structures 25' to 50' Height 0516 R-MC-STRC	0.00	SF	\$200.00000	\$0.0	00
Tier 3 Structures 50' to 75' Height			Total f	or Group 0060: \$0.00	
Group 0061: Rehabilitated Stru	ictures		¢0.0000	\$ 0.4	00
MAJOR COST DRIVERS, STRUCTU	RES	LS	\$0.00000	\$U.I	00
0533 511E34434 CLASS S CONCRETE, BRIDGE DEC new bridge deck on existing beams	170,177.00 K	SF	\$35.00000	\$5,956,195.(00
	1.00	LS	\$22,000,000.00000	\$22,000,000.0	00
0536 Structural rapair/rehabilitation	1.00	LS	\$1,000,000.00000	\$1,000,000.0	00
0537 202E11301 PORTIONS OF STRUCTURE REMO Briodae deck removal	170,177.00 VED, AS PER I	SF PLAN	\$10.00000	\$1,701,770.0	00
Direage door removal			Total for Group (0061: \$30,657,965.00	
Group 0062: Other Structure C	osts				
0224 R-OC-STRC OTHER COSTS, STRUCTURES	0.00	LS	\$0.00000	\$0.0	00
0534	0.00		\$0.00000	\$0.0	00
			Total f	or Group 0062: \$0.00	

Group 0063: Temporary Road and Pavement Costs

Estimate: Alt E KY cont 8		PB A	mericas, Inc.
Line # Item Number Description	Quantity Unit	<u>Unit Price</u>	Extension
Supplemental Description			
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTEI	1.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0063:	\$0.00
Group 0064: Portable Concre	te Barrier (PCB)		
0226 S-MC-MNTC MAJOR COST DRIVERS, MAINTEI	1.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0064:	\$0.00
Group 0065: Impact Attenuate	ors		
0227 S-MC-MNTC MAJOR COST DRIVERS MAINTER	1.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0065:	\$0.00
Group 0066: Sheeting			
0229 S-MC-MNTC MAJOR COST DRIVERS, MAINTEI	1.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
Group 0067: Temporary Signa	als		
0230 S-MC-MNTC MAJOR COST DRIVERS, MAINTEI	0.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Light	ting		
0231 S-MC-MNTC MAJOR COST DRIVERS, MAINTEI	0.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0068:	\$0.00
Group 0069: Innovative Contr	racting Incentativ	/es	
0232 S-MC-MNTC MAJOR COST DRIVERS, MAINTEI	0.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0069:	\$0.00
Group 0070: Other MOT Cost	ts		
0233 S-OC-MNTC OTHER COSTS, MAINTENANCE C	1.00 LS DF TRAFFIC	\$0.00000	\$0.00
0512 S-OC-MNTC OTHER COSTS, MAINTENANCE C	0.00 MILE DF TRAFFIC	E \$5,000,000.00000	\$0.00
		Total for Group 0070:	\$0.00
Group 0071: Wetland Constru	uction		
0234 T-MC-WTLD MAJOR COST DRIVERS, WETLAN	0.00 LS ID CONSTRUCTION	\$0.00000	\$0.00
0360 T-MC-WTLD MAJOR COST DRIVERS, WETLAN	0.00 LS ID CONSTRUCTION	\$0.00000	\$0.00
		Total for Group 0071:	\$0.00

Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Description				
Supplemental Description				

Group 0072: Misc. Costs

•					
0235 U	-MC-MISC	0.00	LS	\$0.00000	\$0.00
MAJOF	R COST DRIVERS, MISCELLANEOUS	COST	5		
0236 U	-OC-MISC	0.00	LS	\$0.00000	\$0.00
OTHEF	R COSTS, MISCELLANEOUS COSTS				
0237 10	D0E00300	0.00	LS	\$10,000.00000	\$0.00
SPECI/ LIABILI	AL - PREMIUM ON RAILROADS' PRC ITY INSURANCE	TECTI	/E PUBLIC LIA	BILITY AND PROPERTY DAM	IAGE
0238 62	23E10000	1.00	LS	\$156.414.28000	\$156.414.28
CONST				¢,	¢
0.5%	INCOMENTON EATOOT OTAKED				
0.5%					
0239 61	14E11000	0.00	LS	\$0.00000	\$0.00
MAINT	AINING TRAFFIC				
2%					
0240 61	19E16020	19.00	MNTH	\$2,500,00000	\$47.500.00
FIELD	OFFICE, TYPE C			• ,	÷ ,
0242 62	24E10000	1.00	LS	\$800,000.00000	\$800,000.00
MOBIL	IZATION			. ,	. ,
0511 10	03E05000	1.00	IS	\$156 414 28000	\$156 414 28
					\$100,111.20
	UNIFOR CONTRACT PERFORMANC			ATIVIENT DOIND	
0.5%					
				Total for Group 0072	• \$1 160 328 56
					ψ.,

Group 0073: Design Contingency Costs

0243	V-MC-CNTG	1.00	LS	\$0.00000	\$0.00
MAJ	JOR COST DRIVERS, CONTINGEN	CY COSTS			
0244	V-OC-CNTG	1.00	LS	\$8,110,796.20000	\$8,110,796.20
OTH	HER COSTS, CONTINGENCY COST	S			
25%	6				
				Total for Group 0073:	\$8,110,796.20
					, , ,

Group 0074: Inflation Contingency

•	• •				
0266	V-OC-CNTG	0.00	LS	\$0.00000	\$0.00
OTH	HER COSTS, CONTINGENCY COSTS				
				Total for Group 0074:	\$0.00

Estimate Alt E OH cont 2

Estimated Cost: \$12,341,802.99 Contingency: 29.20%

Estimated Total: \$15,945,609.46

Linn St Bridge Replacement and Gest St Reconstruction Base Date: 07/22/10 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: District: 8 Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt E OH cont 2			PB A	mericas, Inc.		
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension		
Group 0001: Pavement Removal						
	0.00	LS	\$0.00000	\$0.00		
0343 202E23000	15,372.00	SY	\$8.00000	\$122,976.00		
			Total for Group 0001: \$122,9	976.00		
Group 0002: Excavation - Rock	0.00	CV	¢20,0000	00.02		
MAJOR COST DRIVERS, ROADWAY	0.00	CT	\$30.00000	\$0.00		
			Total for Group 0002:	\$0.00		
Group 0003: Excavation - Soil						
0004 A-MC-RDWY MAJOR COST DRIVERS. ROADWAY	1.00	LS	\$0.00000	\$0.00		
0344 203E10000 EXCAVATION	9,087.00	CY	\$8.00000	\$72,696.00		
			Total for Group 0003: \$72,6	696.00		
Group 0004: Excavation - Hazard	dous					
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00		
MAJOR COST DRIVERS, ROADWAY			Total for Group 0004:	\$0.00		
Crown 0005; Fill Embankmont (includes westing evenes events)						
	1.00	LS	\$0.0000	\$0.00		
MAJOR COST DRIVERS, ROADWAY	9 087 00	CY	\$6,00000	\$54 522 00		
EMBANKMENT	0,007.00	01	Total for Croup 0005: \$54.	500,00		
			10tal 101 Group 0005. \$54,5	522.00		
Group 0006: Fill - Lime Modified	Soil					
0010 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00		
0346 205E10050 LIME STABILIZED EMBANKMENT	0.00	CY	\$7.00000	\$0.00		
0347 205E10300 LIME	0.00	TON	\$5.00000	\$0.00		
			Total for Group 0006:	\$0.00		
Group 0007: Fill - Borrow						
0011 A-MC-RDWY	0.00	CY	\$8.00000	\$0.00		
MAJOR COST DRIVERS, ROADWAT			Total for Group 0007:	\$0.00		
Group 0008: Concrete Barrier						
0012 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00		
MAJOR COST DRIVERS, ROADWAY 0465 622E10060	0.00	FT	\$110.00000	\$0.00		
2:57:02PM						

Wednesday, December 01, 2010

Estimate: Alt E OH cont 2			PB /	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
CONCRETE BARRIER, SINGLE SLOP	E, TYPE B		Total for Group 0008:	\$0.00
Group 0009: Subgrade Treatme	nt - Lime			
0014 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
	0.00	SY	\$1.85000	\$0.00
0349 206E10300 LIME	0.00	TON	\$10.00000	\$0.00
0350 206E11000 CUBING COAT	0.00	SY	\$1.00000	\$0.00
0351 206E20000 TEST ROLLING	0.00	HOUR	\$4.00000	\$0.00
			Total for Group 0009:	\$0.00
Group 0010: Subgrade Treatme	nt - Ceme	ent		
0016 A-MC-RDWY	13,837.00	SY	\$2.50000	\$34,592.50
			Total for Group 0010: \$34,	592.50
Group 0011: Subgrade Treatme	nt - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
			Total for Group 0011:	\$0.00
Group 0012: Other Roadway Co	osts			
0019 A-OC-RDWY OTHER COSTS, ROADWAY Contingency	0.00	LS	\$0.00000	\$0.00
0020 201E11000 CLEARING AND GRUBBING	0.00	LS	\$2,200.00000	\$0.00
0021 201E21800 TREE REMOVED 18" SIZE	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800 TREE REMOVED 48" SIZE	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT	\$0.00000	\$0.00
0029 202E38000	0.00	FT	\$0.00000	\$0.00
0030 202E42206	0.00	EACH	\$0.00000	\$0.00
0031 202E58000	0.00	EACH	\$0.00000	\$0.00
	0.00	EACH	\$0.00000	\$0.00
0033 202E75000	0.00	FT	\$0.00000	\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Wednesday, December 01, 2010

Estimate: Alt E OH cont 2				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
PROOF ROLLING				
0035 204E10000 SUBGRADE COMPACTION	0.00	SY	\$0.81000	\$0.00
0036 451E30000		FT	\$0.00000	\$0.00
0037 606E13000	0.00	FT	\$14.00000	\$0.00
GUARDRAIL, TYPE 5 0038 606E22000	0.00	EACH	\$1,411.29597	\$0.00
ANCHOR ASSEMBLY, TYPE B-9 0039 606E22010	0.00	EACH	\$1,712.52574	\$0.00
ANCHOR ASSEMBLY, TYPE E-9 0040 606E26500	0.00	EACH	\$487.23435	\$0.00
ANCHOR ASSEMBLY, TYPE T	0.00	FACH	\$969 12750	\$0.00
BRIDGE TERMINAL ASSEMBLY	, TYPE 1	EROIT	\$303.12730	\$0.00
0042 606E35100 BRIDGE TERMINAL ASSEMBLY	0.00 , TYPE 2	EACH	\$338.36354	\$0.00
0043 606E60010		EACH	\$3,439.05897	\$0.00
0044 607E15000 FENCE, TYPE 47	0.00	FT	\$0.00000	\$0.00
0423 304E20000 AGGREGATE BASE	0.00	CY	\$0.00000	\$0.00
For Fencing 0424 601E32100 ROCK CHANNEL PROTECTION	0.00 , TYPE B WITH FIL	CY TER	\$0.00000	\$0.00
For Fencing 0425 607E40500 GATE, TYPE 47	0.00	EACH	\$731.31641	\$0.00
0426 625E32000 GROUND ROD	0.00	EACH	\$0.00000	\$0.00
For Fencing 0466	0.00		\$0.00000	\$0.00
			Total for Grou	ıp 0012: \$0.00
Group 0014 [.] Seeding & Mul	china / Soddir	na		
0045 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, EROSI 0467 659E10000	ON CONTROL 2,746.00	SY	\$1.00000	\$2,746.00
0531 660E25000	0.00	SY	\$15.00000	\$0.00
SODDING STAKED			Total for Group 00)14: \$2,746.00
Group 0015: Pook Chappel	Protoction			
	1 00	15	00000	\$0.00
MAJOR COST DRIVERS, EROSI	ION CONTROL		¢25.00000	\$0.00
ROCK CHANNEL PROTECTION	, TYPE A WITH FIL	TER	\$75.00000	\$0.00
			Total for Grou	ıp 0015: \$0.00
Group 0016: Erosion Contro	ol - Item 832			
0048 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
2:57:02PM				

Line # Item Number Description Supplemental DescriptionQuantityUnitsUnit PriceExtensionMAJOR COST DRIVERS, EROSION CONTROL 0470 STORM WATER POLLUTION PREVENTION PLAN\$20,000.00000\$20,000.000471 0471 832E20000 EROSION CONTROLLS\$20,000.00000\$20,000.000471 0471 832E20000 EROSION CONTROL6,000.00EACH\$1.00000\$6,000.000471 EROSION CONTROL6,000.00EACH\$1.00000\$6,000.00Total for Group 0016: \$26,000.00OU49 670E00700 DITCH EROSION PROTECTION0050 DITCH EROSION PROTECTION0.00SY\$0.0000000050 OTHER COSTS, EROSION CONTROL1.00LS\$0.00000\$0.000051 OD51 OSUL ANALYSIS TEST0.00EACH\$0.00000\$0.00
MAJOR COST DRIVERS, EROSION CONTROL 0470 832E10000 1.00 LS \$20,000.00000 \$20,000.00 STORM WATER POLLUTION PREVENTION PLAN 0471 832E20000 6,000.00 EACH \$1.00000 \$6,000.00 0471 832E20000 6,000.00 EACH \$1.00000 \$6,000.00 EROSION CONTROL Total for Group 0016: \$26,000.00 Group 0017: Other Erosion Control Costs Total for Group 0016: \$26,000.00 0049 670E00700 0.00 SY \$0.00000 \$0.00 DITCH EROSION PROTECTION 0.00 SY \$0.00000 \$0.00 \$0.00 0050 B-OC-ERCO 1.00 LS \$0.00000 \$0.00 \$0.00 0051 659E00100 0.00 EACH \$0.00000 \$0.00
0470 832E10000 1.00 LS \$20,000.00000 \$20,000.00 STORM WATER POLLUTION PREVENTION PLAN 0471 832E20000 6,000.00 EACH \$1.00000 \$6,000.00 EROSION CONTROL Total for Group 0016: \$26,000.00 \$6,000.00 Group 0017: Other Erosion Control Costs Total for Group 0016: \$26,000.00 0049 670E00700 0.00 SY \$0.00000 \$0.00 DITCH EROSION PROTECTION 0050 B-OC-ERCO 1.00 LS \$0.00000 \$0.00 0051 659E00100 0.00 EACH \$0.00000 \$0.00 SOIL ANALYSIS TEST 0.00 EACH \$0.00000 \$0.00
0471 832E20000 EROSION CONTROL 6,000.00 EACH \$1.00000 \$6,000.00 Total for Group 0016: \$26,000.00 Group 0017: Other Erosion Control Costs 0049 670E00700 0.00 SY \$0.00000 \$0.00 DITCH EROSION PROTECTION 0050 B-OC-ERCO 1.00 LS \$0.00000 \$0.00 0051 659E00100 0.00 EACH \$0.00000 \$0.00 SOIL ANALYSIS TEST 0.00 EACH \$0.00000 \$0.00
Total for Group 0016: \$26,000.00 Group 0017: Other Erosion Control Costs 0049 670E00700 0.00 SY \$0.00000 \$0.00 DITCH EROSION PROTECTION 0050 B-OC-ERCO 1.00 LS \$0.00000 \$0.00 0051 659E00100 0.00 EACH \$0.00000 \$0.00 SOIL ANALYSIS TEST 0.00 EACH \$0.00000 \$0.00
Group 0017: Other Erosion Control Costs 0049 670E00700 0.00 SY \$0.00000 \$0.00 DITCH EROSION PROTECTION 1.00 LS \$0.00000 \$0.00 0050 B-OC-ERCO 1.00 LS \$0.00000 \$0.00 0051 659E00100 0.00 EACH \$0.00000 \$0.00 SOIL ANALYSIS TEST 0.00 EACH \$0.00000 \$0.00
0049 670E00700 0.00 SY \$0.0000 \$0.00 DITCH EROSION PROTECTION 1.00 LS \$0.0000 \$0.00 0050 B-OC-ERCO 1.00 LS \$0.00000 \$0.00 OTHER COSTS, EROSION CONTROL 0.00 EACH \$0.00000 \$0.00 SOIL ANALYSIS TEST 0.00 EACH \$0.00000 \$0.00
DITCH EROSION PROTECTION 0050 B-OC-ERCO 1.00 LS \$0.00000 \$0.00 OTHER COSTS, EROSION CONTROL 0.00 EACH \$0.00000 \$0.00 SOIL ANALYSIS TEST 0.00 EACH \$0.00000 \$0.00
0051 659E00100 0.00 EACH \$0.00000 \$0.00 SOIL ANALYSIS TEST
SOIL ANALYSIS TEST
0052 659E00300 0.00 CY \$0.00000 \$0.00 TOPSOIL
0053 659E14000 0.00 SY \$0.00000 \$0.00
REPAIR SEEDING AND MOLCHING 0054 659E15000 0.00 SY \$0.71000 \$0.00 INTER-SEEDING 0.00 SY \$0.71000 \$0.00
0055 659E20000 0.00 TON \$410.06813 \$0.00
0056 659E31000 0.00 ACRE \$0.00000 \$0.00
0057 659E35000 0.00 MGAL \$5.00000 \$0.00
0058 659E40000 0.00 MSF \$0.00000 \$0.00 MOWING
Total for Group 0017: \$0.00
Group 0018: Underdrains
0059 C-MC-DRNG 1.00 LS \$0.00000 \$0.00 MA IOR COST DRIVERS DRAINAGE
0062 605E05100 4,644.00 FT \$8.0000 \$37,152.00
Total for Group 0018: \$37,152.00
Group 0019: Culverts - Type A: $< 5'$
0474 C-MC-DRNG 0.00 LS \$0.00000 \$0.00
0480 C-MC-DRNG 0.00 FT \$350.00000 \$0.00
MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pipe up to 60"
0481 C-MC-DRNG 0.00 EACH \$1,500.00000 \$0.00 MAJOR COST DRIVERS, DRAINAGE
Concrete Masonry Total for Group 0019: \$0.00
Group 0021: Culverts, Type A: 5' - 10'
0067 C-MC-DRNG 1.00 LS \$0.00000 \$0.00
MAJOR COST DRIVERS, DRAINAGE 0476 C-MC-DRNG 0.00 FT \$550.00000 \$0.00 MAJOR COST DRIVERS, DRAINAGE
2:57:02PM

Wednesday, December 01, 2010

Estimate: Alt E OH cont 2			PB /	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
Pipe Structures - Reinforced Concrete 5'- 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	- <i>10' 66" to</i> 0.00	78" EACH	\$1,500.00000	\$0.00
			Total for Group 0021:	\$0.00
Group 0022: Culverts, Type A: 10)' - 20'			
0486 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pine Structures - Reinforced Concrete Pi	0.00	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	EACH	\$1,500.00000	\$0.00
Concrete Masonry			Total for Group 0022:	\$0.00
Group 0024: BMP's				
0076 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Group 0024:	\$0.00
Group 0025: Closed Storm Syste	m			
0077 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT, TYPE B (Average size)	1,647.00	FT	\$75.00000	\$123,525.00
0523 604E00800 CATCH BASIN, NO. 3A	21.00	EACH	\$1,500.00000	\$31,500.00
0524 604E31500 MANHOLE, NO. 3	3.00	EACH	\$3,000.00000	\$9,000.00
0525 0526 Special	0.00	LS	\$0.00000 \$6,400,000.00000	\$0.00 \$0.00
Pump Station (Storm) 0527 Special	0.00	EACH	\$5,750.00000	\$0.00
Stormceptors 0529 Special	0.00	LS	\$109,000.00000	\$0.00
Retention basin improvements			Total for Group 0025: \$164,	025.00
Group 0026: Other Drainage Cos	ts			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, DRAINAGE			Total for Group 0026:	\$0.00
Group 0027: Mainline - Travel La	nes			
0095 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Con	0.00 npaction	SY	\$68.00000	\$0.00
Estimate: Alt E OH cont 2			PB A	mericas, Inc.
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Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
			Total for Group 0027:	\$0.00
Group 0028: Mainline - Outside	Shoulder			
0100 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	. 1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Aca base and Subgrade Co	0.00	SY	\$68.00000	\$0.00
Croup 0020: Mainling Incide S	houldor		Total for Group 0028:	\$0.00
Group 0030. Mainine - Inside S			¢0.0000	¢0.00
MAJOR COST DRIVERS, PAVEMENT	. 1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement	0.00	SY	\$68.00000	\$0.00
Includes 6" Agg base and Subgrade Co	ompaction		Total for Group 0030:	\$0.00
Group 0031: Ramps (including	shoulders)			
0122 D-MC-PVMT MAJOR COST DRIVERS. PAVEMENT	. 1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	0.00	SY	\$68.00000	\$0.00
Group 0032: Non - Mainline Lar	nes		Total for Group 0031:	\$0.00
0132 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, PAVEMENT 0498 D-MC-PVMT	13,837.00	SY	\$41.00000	\$567,317.00
Asphalt Includes 3" 448, 9" 301, 6" Agg base a	nd Subarade (Compaction		
	5	,	Total for Group 0032: \$567,3	317.00
Group 0041: Other Pavement C	osts			
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Group 0041:	\$0.00
Group 0042: Water Works				
0164 E-MC-WATR MAJOR COST DRIVERS. WATER LIN	0.00 E	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
,			Total for Group 0042:	\$0.00
Group 0043: Sanitary Line	0.00		¢0.0000	#0.00
MAJOR COST DRIVERS, SANITARY	0.00 SEWER	LƏ	ΦΟ.ΟΟΟΟΟ	\$U.UU
2:57:02PM				

Estimate: Alt E OH cont 2			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0043:	\$0.00
Group 0044: Lighting - Full Interc	change			
0173 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	0.00	EACH	\$469,000.00000	\$0.00
			Total for Group 0044:	\$0.00
Group 0045: Lighting - Partial Int	erchange	;		
0288 G-MC-LTNG MAJOR COST DRIVERS LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group 0045:	\$0.00
Group 0046: Lighting - Continuo	us Roadw	/ay		
0176 G-MC-LTNG MAJOR COST DRIVERS LIGHTING	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG	2,640.00	FT	\$35.00000	\$92,400.00
			Total for Group 0046: \$92,4	400.00
Group 0047: Other Lighting Cost	S			
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
			Total for Group 0047:	\$0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV OTHER COSTS TRAFFIC SURVEILLA	0.00 NCF	LS	\$0.00000	\$0.00
			Total for Group 0048:	\$0.00
Group 0049: Signs				
0179 J-MC-TRAF MAJOR COST DRIVERS. TRAFFIC CO	1.00 NTROL	LS	\$0.00000	\$0.00
0501 J-MC-TRAF Signs	0.50	MILE	\$250,000.00000	\$125,000.00
0532	0.00		\$0.00000 Total for Group 0049: \$125.0	
Group 0050: Pavement Marking	1.00	1.0	# 0.0000	\$ 0.00
0200 J-MC-TRAF MAJOR COST DRIVERS, TRAFFIC CO	1.00 NTROL	LS	\$0.00000	\$0.00
EDGE LINE	1.04		\$3,000.00000	\$3,120.00
0503 644E00200 LANE LINE	1.09	MILE	\$2,000.00000	\$2,180.00
			I otal for Group 0050: \$5,3	300.00

			PE	B Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Group 0051: Other Traffic Con	trol Costs			
0208 J-OC-TRAF	1.00	LS	\$0.00000	\$0.00
	~ L		Total for Group 005	1: \$0.00
Group 0052: Signals - Intersec	tions			
0212 K-MC-SGNL MAJOR COST DRIVERS, SIGNALS	1.00	LS	\$175,000.00000	\$175,000.00
			Total for Group 0052: \$175	5,000.00
Group 0053: Other Traffic Sign	nal Costs			
0213 K-OC-SGNL OTHER COSTS SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0053	3: \$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP	1.00	LS	\$0.00000	\$0.00
0215 L-OC-LSCP	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, LANDSCAPING			Total for Group 0054	4: \$0.00
Group 0055: Retaining Walls \$	5125 + \$10/	ft for ca	ps, barriers and testing	
0216 M-MC-WALL	1.00	LS	\$0.00000	\$0.00
	0 14/41 1 0			
MAJOR COST DRIVERS, RETAININ 0504 M-MC-WALL	G WALLS 11,840.00	SF	\$135.00000	\$1,598,400.00
MAJOR COST DRIVERS, RETAININ 0504 M-MC-WALL Retaining Walls	G WALLS 11,840.00	SF	\$135.00000 Total for Group 0055: \$1,598	\$1,598,400.00 3,400.00
MAJOR COST DRIVERS, RETAININ 0504 M-MC-WALL Retaining Walls Group 0056: Other Retaining \	G WALLS 11,840.00 Wall Costs	SF	\$135.00000 Total for Group 0055: \$1,598	\$1,598,400.00 3,400.00
MAJOR COST DRIVERS, RETAININ 0504 M-MC-WALL Retaining Walls Group 0056: Other Retaining V 0217 M-OC-WALL OTHER COSTS, RETAINING WALLS	G WALLS 11,840.00 Wall Costs 1.00	SF LS	\$135.00000 Total for Group 0055: \$1,598 \$0.00000	\$1,598,400.00 3,400.00 \$0.00
MAJOR COST DRIVERS, RETAININ 0504 M-MC-WALL Retaining Walls Group 0056: Other Retaining V 0217 M-OC-WALL OTHER COSTS, RETAINING WALLS	G WALLS 11,840.00 Wall Costs 1.00	SF LS	\$135.00000 Total for Group 0055: \$1,598 \$0.00000 Total for Group 0056	\$1,598,400.00 3,400.00 \$0.00 6: \$0.00
MAJOR COST DRIVERS, RETAININ 0504 M-MC-WALL Retaining Walls Group 0056: Other Retaining V 0217 M-OC-WALL OTHER COSTS, RETAINING WALLS Group 0057: Building Demolitie	G WALLS 11,840.00 Wall Costs 1.00 S	SF	\$135.00000 Total for Group 0055: \$1,598 \$0.00000 Total for Group 0056	\$1,598,400.00 3,400.00 \$0.00 6: \$0.00
MAJOR COST DRIVERS, RETAININ 0504 M-MC-WALL Retaining Walls Group 0056: Other Retaining V 0217 M-OC-WALL OTHER COSTS, RETAINING WALLS Group 0057: Building Demolitie 0218 N-MC-DEMO MA IOR COST DRIVERS, BUILDING	G WALLS 11,840.00 Wall Costs 1.00 S	SF LS LS	\$135.00000 Total for Group 0055: \$1,598 \$0.00000 Total for Group 0056 \$0.00000	\$1,598,400.00 3,400.00 \$0.00 6: \$0.00 \$0.00
MAJOR COST DRIVERS, RETAININ 0504 M-MC-WALL Retaining Walls Group 0056: Other Retaining V 0217 M-OC-WALL OTHER COSTS, RETAINING WALLS Group 0057: Building Demolitie 0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING 0219 N-OC-DEMO	G WALLS 11,840.00 Wall Costs 1.00 S On 5 DEMOLITION 1.00	SF LS LS	\$135.00000 Total for Group 0055: \$1,598 \$0.00000 Total for Group 0056 \$0.00000 \$0.00000 \$0.00000	\$1,598,400.00 3,400.00 \$0.00 6: \$0.00 \$0.00 \$0.00
MAJOR COST DRIVERS, RETAININ 0504 M-MC-WALL Retaining Walls Group 0056: Other Retaining V 0217 M-OC-WALL OTHER COSTS, RETAINING WALLS Group 0057: Building Demolitie 0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING 0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOL 0534 202E98100 REMOVAL MISC.: Badio Towor	G WALLS 11,840.00 Wall Costs 1.00 S On DEMOLITION 1.00 ITION 0.00	SF LS LS LS EACH	\$135.00000 Total for Group 0055: \$1,598 \$0.00000 Total for Group 0056 \$0.00000 \$0.00000 \$8,500.00000	\$1,598,400.00 3,400.00 \$0.00 6: \$0.00 \$0.00 \$0.00 \$0.00
MAJOR COST DRIVERS, RETAININ 0504 M-MC-WALL Retaining Walls Group 0056: Other Retaining V 0217 M-OC-WALL OTHER COSTS, RETAINING WALLS Group 0057: Building Demolitie 0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING 0219 N-OC-DEMO 01HER COSTS, BUILDING DEMOL 0534 202E98100 REMOVAL MISC.: Radio Tower 0535 202E56101 BUILDING DEMOLISHED, AS PER F Small Residential	G WALLS 11,840.00 Wall Costs 1.00 S DN 1.00 DEMOLITION 1.00 TION 0.00 PLAN	SF LS LS EACH EACH	\$135.00000 Total for Group 0055: \$1,598 \$0.00000 Total for Group 0056 \$0.00000 \$0.00000 \$8,500.00000 \$7,500.00000	\$1,598,400.00 3,400.00 \$0.00 5: \$0.00 \$0.00 \$0.00 \$0.00 \$0.00
MAJOR COST DRIVERS, RETAININ 0504 M-MC-WALL Retaining Walls Group 0056: Other Retaining Walls 0217 M-OC-WALL OTHER COSTS, RETAINING WALLS Group 0057: Building Demolitie 0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING 0219 N-OC-DEMO 0519 N-OC-DEMO 0534 202E98100 REMOVAL MISC.: Radio Tower 0535 202E56101 BUILDING DEMOLISHED, AS PER F Small Residential 0536 202E56101 BUILDING DEMOLISHED, AS PER F Small Commercial	G WALLS 11,840.00 Wall Costs 1.00 S DDN 1.00 DEMOLITION 1.00 1.00 0.00 PLAN 0.00 0.00	SF LS LS LS EACH EACH	\$135.00000 Total for Group 0055: \$1,598 \$0.00000 Total for Group 0056 \$0.00000 \$0.00000 \$0.00000 \$8,500.00000 \$7,500.00000 \$15,000.00000	\$1,598,400.00 3,400.00 \$0.00 6: \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00
MAJOR COST DRIVERS, RETAININ 0504 M-MC-WALL Retaining Walls Group 0056: Other Retaining V 0217 M-OC-WALL OTHER COSTS, RETAINING WALLS Group 0057: Building Demolitie 0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING 0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOL 0534 202E98100 REMOVAL MISC.: <i>Radio Tower</i> 0535 202E56101 BUILDING DEMOLISHED, AS PER F <i>Small Residential</i> 0536 202E56101 BUILDING DEMOLISHED, AS PER F <i>Small Commercial</i> 0537 202E56101 BUILDING DEMOLISHED, AS PER F	G WALLS 11,840.00 Wall Costs 1.00 S Dn 1.00 DEMOLITION 1.00 1.00 0.00 PLAN 0.00 PLAN 0.00 0.00 PLAN	SF LS LS EACH EACH EACH	\$135.00000 Total for Group 0055: \$1,598 \$0.00000 Total for Group 0058 \$0.00000 \$0.00000 \$0.00000 \$15,000.00000 \$12,000.00000 \$12,000.00000	\$1,598,400.00 3,400.00 \$0.00 6: \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00

Estimate: Alt E OH cont 2			PB A	Americas, Inc.
Line # Item Number Qu Description Supplemental Description	<u>uantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
Large Residential 0538 202E56101 BUILDING DEMOLISHED, AS PER PLAN	0.00	EACH	\$30,000.00000	\$0.00
			Total for Group 0057:	\$0.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR	1.00	LS	\$0.00000	\$0.00
0505 P-MC-NSBR	0.00	LS	\$25.00000	\$0.00
Noise Barrier			Total for Group 0058:	\$0.00
Group 0059: Other Noise Barrier Co	sts			
0221 P-OC-NSBR	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, NOISE BARRIER			Total for Group 0059:	\$0.00
				ψ0.00
Group 0060: New Structures				
0222 R-MC-STRC MAJOR COST DRIVERS, STRUCTURES	1.00	LS	\$0.00000	\$0.00
0506 R-MC-STRC 40,	364.00	SF	\$125.00000 \$	5,045,500.00
0507 R-MC-STRC	0.00	SF	\$12.00000	\$0.00
Removal of Existing Structures non-complex0508R-MC-STRC57,	459.00	SF	\$17.00000	\$976,803.00
Standard Removal of Existing Structures abo 0509 R-MC-STRC	ve avera	age complex SF	\$30.0000	\$0.00
Removal of Existing Structures complex to ve	ery comp	blex		
0513 R-MC-STRC Tier 2 Structures 25' to 50' Height	0.00	SF	\$150.00000	\$0.00
0516 R-MC-STRC Tier 3 Structures 50' to 75' Height	0.00	SF	\$200.00000	\$0.00
			Total for Group 0060: \$6,022,	303.00
Crown 0001. Debebiliteted Structure	-			
Group 0061: Renabilitated Structure	S	SE	\$45,00000	የበ በያ
MAJOR COST DRIVERS, STRUCTURES	0.00	56	\$45.00000	φ0.00
			Total for Group 0061:	\$0.00
Group 0062: Other Structure Costs				
0224 R-OC-STRC OTHER COSTS, STRUCTURES Contingency	0.00	LS	\$0.00000	\$0.00
			Total for Group 0062:	\$0.00
Group 0063. Temporary Road and E) gi/om	ent Coste		
0225 S-MC-MNTC MAJOR COST DRIVERS MAINTENIANCE C	1.00 F TRAF	LS FIC	\$0.00000	\$0.00
2:57:02PM Wednesday, December 01, 2010			Ρ	age 10 of 12

Estimate: Alt E OH cont 2			PB Ar	mericas, Inc.
<u>Line #</u> <u>Item Number</u> <u>Description</u> Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0063:	\$0.00
Group 0064: Portable Concrete	Barrier (P	CB)		
0226 S-MC-MNTC MAJOR COST DRIVERS, MAINTENAN	1.00 NCE OF TRAF	LS FFIC	\$0.00000	\$0.00
			Total for Group 0064:	\$0.00
Group 0065: Impact Attenuators				
0227 S-MC-MNTC MAJOR COST DRIVERS, MAINTENAN	1.00 NCE OF TRAF	LS FFIC	\$0.00000	\$0.00
			Total for Group 0065:	\$0.00
Group 0066: Sheeting				
0229 S-MC-MNTC MAJOR COST DRIVERS, MAINTENAN	1.00 NCE OF TRAF	LS FFIC	\$0.00000	\$0.00
			Total for Group 0066:	\$0.00
Group 0067: Temporary Signals	1			
0230 S-MC-MNTC	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTENAN	NCE OF TRAF	FIC	Total for Group 0067:	\$0.00
				ψ0.00
Group 0068: Work Zone Lighting	g			
0231 S-MC-MNTC MAJOR COST DRIVERS, MAINTENAN	0.00 NCE OF TRAF	LS FFIC	\$0.00000	\$0.00
			Total for Group 0068:	\$0.00
Group 0069: Inpovative Contrac	tina Incon	itativas		
0232 S-MC-MNTC	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTENAN	NCE OF TRAF	FIC	Total for Group 0069:	\$0.00
				ψ0.00
Group 0070: Other MOT Costs				
0233 S-OC-MNTC OTHER COSTS, MAINTENANCE OF T	1.00 RAFFIC	LS	\$0.00000	\$0.00
0512 S-OC-MNTC OTHER COSTS, MAINTENANCE OF T	0.50 RAFFIC	MILE	\$500,000.00000	\$250,000.00
0533	0.00		\$0.00000 Total for Croup 0070: \$250.0	\$0.00
				00.00
Group 0071: Wetland Construct	ion			
0234 T-MC-WTLD MAJOR COST DRIVERS WETLAND (0.00	LS	\$0.00000	\$0.00
0360 T-MC-WTLD MAJOR COST DRIVERS WETLAND C		LS	\$0.00000	\$0.00
			Total for Group 0071:	\$0.00

Estimate: Alt E OH cont 2				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
Group 0072: Misc. Costs				
0235 U-MC-MISC		LS	\$0.00000	\$0.00
0236 100E00300 SPECIAL - PREMIUM ON RAILROA LIABILITY INSURANCE	0.00 DS' PROTECTIV	LS /E PUBL	\$10,000.00000 IC LIABILITY AND PROPERT	Y DAMAGE \$0.00
0237 U-OC-MISC OTHER COSTS, MISCELLANEOUS	0.00 COSTS	LS	\$0.00000	\$0.00
0238 623E10000 CONSTRUCTION LAYOUT STAKES 0.5%	1.00 S	LS	\$46,752.15000	\$46,752.15
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$187,008.59000	\$187,008.59
0240 619E16020 FIELD OFFICE, TYPE C	17.00	MNTH	\$2,500.00000	\$42,500.00
0242 624E10000 MOBILIZATION	1.00	LS	\$200,000.00000	\$200,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERF(0.5%	1.00 DRMANCE BON	LS D AND F	\$46,752.15000 OR PAYMENT BOND	\$46,752.15
			Total for Grou	p 0072: \$523,012.89
Group 0073: Design Continge	ncy Costs			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTING	1.00 SENCY COSTS	LS	\$0.00000	\$0.00
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY C 25%	1.00 OSTS	LS	\$2,468,360.60000	\$2,468,360.60
			Total for Group	0073: \$2,468,360.60
Group 0074: Inflation Continge	ency			
0266 V-OC-CNTG	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, CONTINGENCE C	0010		Total fo	or Group 0074: \$0.00

PID	89056	County	HAM	Route	75	Section	1.04	This R/W Acquisition cost estimation
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Macro View												At	tributes				
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates	
-Residential	0	х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	Estimate the total number of acres involved in the	
-Commercial	0.25	X	\$330,153.78	\$\$82,538	+	0	+	N/A	\$0.00	=	\$82,538.45	3	0	3	0	project and allocate those acres into the four	
-Industrial	0	X	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	categories shown.	
-Agricultural	0	X	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors	
Relocation	Unit (Displacement)	x	*RHF	₽/*RSP	+	Move Cost	+	Reestabli	shment	=	Total Non Labor RAP Costs	Estima	te amount of time all RAP parcel	e necessary s = (months)	to relocate 18	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax	
-Residential Owner Occupant Tenant	0 0	X X	\$3 ² \$1(4,000 0,000	++	\$6,000 \$1,750				=	\$0 \$0	Estimate acq	e number of year luisition begins =	s until projec	ct wide R/W 1.75	card data. Add structure values from the auditors tax cards only if the structures are taken.	
-Commerical/Farm/NPO Owner Tenant	0				X X	\$15,000 \$15,000	++	\$10,0 \$10,0	000 000	=	\$0 \$0			Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the			
-Personal Property	0				X	\$1,000				=	\$0					impacts of the project on structures.	
{[(Total Cost of Acquisition Cost)x	0.90]x0.025}+{[(Total o Cost)x0.10]x1.50	of Acq)} = Cc	uisition Cost)x0. ontingency	15]x1.20}+{[(Total	of Ac	quisition	(Contine (Incidentals, Admin. Re	gency eview & Appropriatic	on)	29094.80186	*RHP - Re	placement Hous	ing Payment	:	Relocation Cost Estimates must consider the	
		_						Total Non Lab	or R/W Costs		\$111,633.25	*NPO - Nc	on-Profit Organiza	ation		complexity of the move process. All move estimates	
					—						<u>ı </u>	<u> </u>				that involve a business or a mulit-tenant residential structure should use the services of a relocation	
Macro View	Unit (Parcels)	x	Unif	t Price		Total Cost	1			1					ر	Assistance professionnal to accurately gauge costs.	
Titles	3	X	\$,400	=	\$1,200				ļ	This R/W	V Cost Estim	nate Prepared by	У	Date		
Appraisal -Simple	0	x	\$	750	=	\$0						Chris Cle	mons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and	
-Detailed	3	Х	\$4	,500	=	\$13,500				ļ	This R/W Cost Estir	mate was per	rformed at Step		6	talent. Labor costs estimates should reflect the complexity of the project and the talent necessary to	
Appraisal Review -Simple	0	x	\$,500	=	\$0					of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The person making the cost estimate may adjust the	
-Detailed	3	Х	\$2	.,000	=	\$6,000				I						to reflect local labor costs. It is critical that the	
Negotiations	3	Х	\$1	,100	=	\$3,300										estimate be labeled to reflect the alignment	
Relocations -Personal Property -Residential	0 0	x x	\$1 \$5	,500 5,200	=	\$0 \$0						Ta	tel Labor Costs	302	2 950 00	alternative, the step in the PDP process and the person(s) performing the estimate.	
-Commercial/Farm/*NPO	0	Х	\$5	,600	=	\$0				I			al Labor Costs	φζυ	,850.00	Comments	
Closings	3	Х	\$/	400	=	\$1,200				ļ	-	Total Non La	abor R/W Costs	\$11 [.]	1.633.25	Cost/Onit were generated norn additors tax card data.	
Project Management	3	X	\$£	550	=	\$1,650	4			I				Ļ	.,		
Asbestos Testing & Abatement		X			<u> </u>	<u> </u>				I		Inflatic	on Adjustments	\$8,	,447.48		
		Tota	I Labor Cos	ts		\$26,850				I		T	Cotal P/W Costs	\$14	6 020 73		
*NPO = Non-Profit Organization						′	J			I				ψιτς	3,830.73		
						P.D.P.	R/	/W Cost E	stimator	ſ							

Labor (External)	Unit (Parcels)	X	Unit Price	=	Total Cost
Titles	3	Х	\$400	=	\$1,200
Appraisal					
-Simple	0	Х	\$750	=	\$0
-Detailed	3	х	\$4,500	=	\$13,500
Appraisal Review					
-Simple	0	х	\$500	=	\$0
-Detailed	3	х	\$2,000	=	\$6,000
Negotiations	3	Х	\$1,100	=	\$3,300
Relocations					
-Personal Property	0	Х	\$1,500	=	\$0
-Residential	0	Х	\$5,200	=	\$0
-Commercial/Farm/*NPO	0	Х	\$5,600	=	\$0
Closings	3	Х	\$400	=	\$1,200
Project Management	3	Х	\$550	=	\$1,650
Asbestos Testing & Abatement		Х		=	
		Tota	al Labor Costs		\$26,850
*NPO = Non-Profit Organization	-				-

	All	indutes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$0.00	0	0	0	0	
\$82,538.45	3	0	3	0	project and allocate those acres involved in the
\$0.00	0	0	0	0	categories shown.
\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor	Estima	te amount of time	e necessary	to relocate	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base
RAP Costs		all RAP parcel	s = (months)	18	unit prices on a project sales data book instead of tax
	Estimate	e number of year	s until projec	ct wide R/W	card data.
\$0 \$0	acqı	uisition begins =		1.75	Add structure values from the auditors tax cards only if the structures are taken.
\$0					Damages must be assessed by a pre-qualified expert
\$0					usually occurs at Step 4 for Minor projects (Step 6 on
\$0					Major Projects) and requires some knowledge of the impacts of the project on structures.
29094.80186	*RHP - Re	placement Hous	ing Payment		Relocation Cost Estimates must consider the
\$111,633.25	*NPO - No	n-Profit Organiza	ation		complexity of the move process. All move estimates
					structure should use the services of a relocation
	V Cost Estim	ato Propored b	.,	Data	Assistance professionnal to accurately gauge costs.
	V COST ESTIM	late Frepareu b	y	Date	
	Chris Clei	mons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
This R/W Cost Estir	mate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The
					person making the cost estimate may adjust the figures given for the particular project being estimated
					to reflect local labor costs. It is critical that the
					alternative, the step in the PDP process and the person(s) performing the estimate.
	Tot	al Labor Costs	\$26	,850.00	Cost/Unit were generated from auditors tay card data
T	Fotal Non La	bor R/W Costs	\$111	1,633.25	
	Inflatio	n Adjustments	\$8,	447.48	
	Т	otal R/W Costs	\$146	6,930.73	

	Att	ributes						
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates			
\$0.00	0	0	0	0	Estimate the total number of acres involved in the			
\$82,538.45	3	0	3	0	project and allocate those acres into the four			
\$0.00	0	0	0	0	categories shown.			
\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors			
Total Non Labor RAP Costs	Estimat	te amount of time all RAP parcels	e necessary f s = (months)	c relocatetax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must ba unit prices on a project sales data book instead of				
\$0 \$0	Estimate acqu	e number of year uisition begins =	s until projec	ot wide R/W 1.75	card data. Add structure values from the auditors tax cards only if the structures are taken.			
\$0 \$0 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures.			
29094.80186	*RHP - Rej *RSP - Rei	placement Hous	ing Payment Payment		Relocation Cost Estimates must consider the			
\$111,633.25	*NPO - No	n-Profit Organiza	ation		complexity of the move process. All move estimates that involve a business or a mulit-tenant residential structure should use the services of a relocation Assistance professionnal to accurately gauge costs.			
This R/W	/ Cost Estim	ate Prepared by	у	Date				
	Chris Cler	mons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and			
This R/W Cost Estir	nate was per	formed at Step		6	talent. Labor costs estimates should reflect the			
of the PDP for	MAJOR	Projects using			complexity of the project and the talent necessary to acquire the right of way in a timely manner. The person making the cost estimate may adjust the figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate.			
	Tot	al Labor Costs	\$26	,850.00	Comments			
1	Fotal Non La	bor R/W Costs	\$111	1,633.25	Cosvonit were generated norn auditors tax card data.			
	Inflatio	n Adjustments	\$8,	447.48				
	T	otal R/W Costs	\$146	5,930.73				

PB Americas, Inc.

Estimate Alt E OH cont 3

Estimated Cost: \$23,264,774.05

Contingency: 32.90%

Estimated Total: \$30,918,884.71

OH-3 Ezzard Charles - Bridge Replacement, Western Ave Reconst., Freeman, Winchell, Court, 9th

Base Date: 07/22/10

Spec Year: 10

Unit System: E

Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE

Highway Type: 451

Urban/Rural Type: URBAN CLASS

Season: SUMMER

County: HAMILTON

Midpoint of Latitude:

Midpoint of Longitude:

District: 8

Federal/State Project Number:

Estimate Type: C1

Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt E OH cont 3				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Group 0001: Pavement Remova	l			
0001 A-MC-RDWY	0.00	LS	\$0.00000	\$0.00
0343 202E23000	21,262.00	SY	\$8.00000	\$170,096.00
			Total for Group 0001: \$	6170,096.00
Group 0002: Excavation - Rock	0.00		¢20.0000	* 0.00
MAJOR COST DRIVERS, ROADWAY	0.00	CY	\$30.00000	\$0.00
			Total for Group 0	002: \$0.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY MAJOR COST DRIVERS. ROADWAY	1.00	LS	\$0.00000	\$0.00
0344 203E10000 EXCAVATION	74,822.00	CY	\$8.00000	\$598,576.00
			Total for Group 0003: \$	598,576.00
Group 0004: Excavation - Hazar	dous			
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0	0004: \$0.00
Group 0005: Fill Embankmont (includos	wasting	overes overvation)	
0007 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY	74 822 00	CY	\$6,00000	\$448 932 00
EMBANKMENT	1,022100	0.	Total for Croup 0005:	\$448,022,00
				9440,932.00
Group 0006: Fill - Lime Modified	Soil			
0010 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0346 205E10050 LIME STABILIZED EMBANKMENT	0.00	CY	\$7.00000	\$0.00
0347 205E10300 LIME	0.00	TON	\$5.00000	\$0.00
			Total for Group 0	0006: \$0.00
Group 0007: Fill - Borrow				
0011 A-MC-RDWY	0.00	CY	\$8.00000	\$0.00
			Total for Group 0	0007: \$0.00
Group 0008: Concrete Barrier				
0012 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY 0465 622E10060	2,420.00	FT	\$110.00000	\$266,200.00
3:07:32PM				

Estimate: Alt E OH cont 3				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SLOP	PE, TYPE B		Total for Group 0008:	\$266,200.00
Group 0009: Subgrade Treatme	ent - Lime			
0014 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300 LIME	0.00	TON	\$10.00000	\$0.00
0350 206E11000 CUBING COAT	0.00	SY	\$1.00000	\$0.00
0351 206E20000 TEST ROLLING	0.00	HOUR	\$4.00000	\$0.00
			Total for Group	0009: \$0.00
Group 0010: Subarada Treatma	ont - Come	nt		
0016 A-MC-RDWY	32,714.00	SY	\$2.50000	\$81,785.00
MAJOR COST DRIVERS, ROADWAY	·		Total for Group 0010	• \$ 81 785 00
				σ. φστ,705.00
Group 0011: Subgrade Treatme	ent - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
			Total for Group	0011: \$0.00
Group 0012: Other Roadway Co	osts			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
0020 201E11000	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
1REE REMOVED, 18" SIZE 0022 201E23000 TREE REMOVED 20" SIZE	0.00	EACH	\$405.00000	\$0.00
0023 201E24800	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200 PIPE REMOVED OVER 24"	0.00	FT	\$0.00000	\$0.00
0029 202E38000	0.00	FT	\$0.00000	\$0.00
0030 202E42206	0.00	EACH	\$0.00000	\$0.00
0031 202E58000	0.00	EACH	\$0.00000	\$0.00
0032 202E58100	0.00	EACH	\$0.00000	\$0.00
0033 202E75000	0.00	FT	\$0.00000	\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Estimate:	Alt E	OH	cont 3
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Estimate: Alt E OH cont 3			PB	Americas, Inc.
Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Description Supplemental Description				
0035 204E10000	0.00	SY	\$0.81000	\$0.00
SUBGRADE COMPACTION 0036 451E30000	0.00	FT	\$0.0000	\$0.00
SPECIAL - PRESSURE RELIEF	JOINT, TYPE A		*	* 0.00
GUARDRAIL, TYPE 5	0.00	FI	\$14.00000	\$0.00
0038 606E22000	0.00	EACH	\$1,411.29597	\$0.00
0039 606E22010	0.00	EACH	\$1,712.52574	\$0.00
ANCHOR ASSEMBLY, TYPE E-9	98	FACU	¢ 407 00 405	¢0.00
ANCHOR ASSEMBLY, TYPE T	0.00	ЕАСП	\$407.23433	\$0.00
0041 606E35000	0.00	EACH	\$969.12750	\$0.00
0042 606E35100	0.00	EACH	\$338.36354	\$0.00
BRIDGE TERMINAL ASSEMBLY	7, TYPE 2		¢2 /20 05907	ድር በር
IMPACT ATTENUATOR, TYPE 1	-98 (BIDIRECTION	AL)	\$3,433.03037	φ0.00
0044 607E15000	0.00	FT	\$0.00000	\$0.00
For Fencing				
0423 304E20000	0.00	CY	\$0.00000	\$0.00
For Fencing				
	0.00 TYPE B WITH FIL	CY	\$0.00000	\$0.00
For Fencing				
0425 607E40500	0.00	EACH	\$731.31641	\$0.00
For Fencing				
0426 625E32000 GROUND ROD	0.00	EACH	\$0.00000	\$0.00
For Fencing				
0466	0.00		\$0.00000 Total for Croup 0012	\$0.00 • • • • • • •
				φ0.00
Group 0014: Seeding & Mul	lching / Soddir	ng		
0045 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, EROS	ION CONTROL	SV	\$1,0000	\$21 752 00
SEEDING AND MULCHING	21,752.00	51	\$1.00000	φ21,752.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000	\$0.00
SODDING STAKED			Total for Group 0014: \$21.	752.00
			· · · · · · · · · · · · · · · · · · ·	
Group 0015: Rock Channel	Protection			
0047 B-MC-ERCO		LS	\$0.00000	\$0.00
0469 601E32000	0.00	CY	\$75.00000	\$0.00
ROCK CHANNEL PROTECTION	, TYPE A WITH FIL	TER	Total for Oracing 0045	. <u> </u>
			i otal for Group 0015	Φ 0.00
Group 0016: Erosion Contro	ol - Item 832			
0048 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
3:07:32PM				

Estimate: Alt E OH cont 3				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
MAJOR COST DRIVERS, EROSIC	N CONTROL			
0470 832E10000 STORM WATER POLILITION PRE	1.00	LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	35,000.00	EACH	\$1.00000	\$35,000.00
			Total for Gro	oup 0016: \$85,000.00
Group 0017: Other Erosion C	Control Costs			
	0.00	SY	\$0.00000	\$0.00
0050 B-OC-ERCO OTHER COSTS EROSION CONT	1.00 ROI	LS	\$0.00000	\$0.00
0051 659E00100	0.00	EACH	\$0.00000	\$0.00
0052 659E00300 TOPSOIL	0.00	CY	\$0.00000	\$0.00
0053 659E14000	0.00	SY	\$0.00000	\$0.00
0054 659E15000	0.00	SY	\$0.71000	\$0.00
0055 659E20000	0.00	TON	\$410.06813	\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000 WATER	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000	0.00	MSF	\$0.00000	\$0.00
MOWING			Total fo	or Group 0017: \$0.00
Group 0018: Underdrains	4.00		¢0,0000	\$ 0.00
MAJOR COST DRIVERS, DRAINA	GE	LS	\$0.00000	\$0.00
4" SHALLOW PIPE UNDERDRAIN	27,245.00 IS	FI	\$8.00000	\$217,960.00
			Total for Grou	ıp 0018: \$217,960.00
Group 0019: Culverts - Type	A: < 5'			
0474 C-MC-DRNG MAJOR COST DRIVERS, DRAINA	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG MAJOR COST DRIVERS, DRAINA	0.00	FT	\$350.00000	\$0.00
Pipe Structures - Reinforced Concr 0481 C-MC-DRNG	ete Pipe up to 60' 0 00	, FACH	\$1,500,00000	\$0.00
MAJOR COST DRIVERS, DRAINA Concrete Masonry	GE		¢ ,,	
·			Total fo	or Group 0019: \$0.00
Group 0021: Culverts, Type	A: 5' - 10'			
0067 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, DRAINA 0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINA	0.00 GE	FT	\$550.00000	\$0.00
3:07:32PM				

Estimate: Alt E OH cont 3			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Pipe Structures - Reinforced Concrete 5'-1 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	0' 66" to 1 0.00	78" EACH	\$1,500.00000	\$0.00
5			Total for Group 0021:	\$0.00
Group 0022: Culverts, Type A: 10'	- 20'			
0486 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pip	0.00 e 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for Group 0022:	\$0.00
Group 0024: BMP's	1.00	10	\$0,0000	* ~ ~~
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Group 0024:	\$0.00
Group 0025: Closed Storm System	n			
0077 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	1,679.00	FT	\$75.00000	\$125,925.00
0523 604E00800	28.00	EACH	\$1,500.00000	\$42,000.00
0524 604E31500 MANHOLE NO 3	4.00	EACH	\$3,000.00000	\$12,000.00
0526 Special Rumo Station (Storm)	0.00	LS	\$6,400,000.00000	\$0.00
0527 Special Stormcontors	0.00	EACH	\$5,750.00000	\$0.00
0529 Special	0.00	LS	\$109,000.00000	\$0.00
0533 604E36601 PRECAST REINFORCED CONCRETE OI	0.00 LITLET AS		\$0.00000 N	\$0.00
	01221,710	, , , , , , , , , , , , , , , , , , , ,	Total for Group 0025: \$179,9	925.00
Group 0026: Other Drainage Cost	S			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, DRAINAGE			Total for Group 0026:	\$0.00
Group 0027: Mainline - Travel Lan	es			
0095 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, PAVEMENT 0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Comp	0.00 paction	SY	\$68.00000	\$0.00
3:07:32PM Wednesday, December 01, 2010				Page 6 of 12

Estimate: Alt E OH cont 3			P	B Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 002	27: \$0.00
Group 0028: Mainline - Outside	Shoulder			
0100 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Co	0.00 mpaction	SY	\$68.00000	\$0.00
			Total for Group 002	28: \$0.00
Group 0030: Mainline - Inside Sl	noulder			
0115 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Co	0.00 mpaction	SY	\$68.00000	\$0.00
			Total for Group 003	80: \$0.00
Group 0031: Ramps (including s	houlders)			
0122 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Co	8,088.00	SY	\$68.00000	\$549,984.00
	,		Total for Group 0031: \$54	9,984.00
Group 0032: Non - Mainline Lan	es			
0132 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	24,626.00	SY	\$41.00000	\$1,009,666.00
Includes 3" 448, 9" 301, 6" Agg base an 0534 202E56101 BUILDING DEMOLISHED, AS PER PL/	nd Subgrade (0.00 AN	Compaction EACH	\$30,000.00000	\$0.00
Large Commercial 0535 202E56101 BUILDING DEMOLISHED, AS PER PL/	0.00 AN	EACH	\$12,000.00000	\$0.00
Large Residential 0536 202E56101 BUILDING DEMOLISHED, AS PER PL/	0.00 AN	EACH	\$15,000.00000	\$0.00
Small Commercial 0537 202E56101 BUILDING DEMOLISHED, AS PER PL/	0.00 AN	EACH	\$7,500.00000	\$0.00
Small Residential 0538 202E98100 REMOVAL MISC.:	0.00	EACH	\$8,500.00000	\$0.00
Radio Tower			Total for Group 0032: \$1,00	9,666.00
Group 0041: Other Pavement Co	nsts			
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00

Estimate: Alt E OH cont 3			PB A	mericas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
			Total for Group 0041:	\$0.00
Group 0042: Water Works				
0164 E-MC-WATR MAJOR COST DRIVERS, WATER L	0.00	LS	\$0.00000	\$0.00
0165 E-OC-WATR	0.00	LS	\$0.00000	\$0.00
			Total for Group 0042:	\$0.00
Group 0043: Sanitary Line				•••••
0170 F-MC-SANI MAJOR COST DRIVERS, SANITAR	0.00 Y SEWER	LS	\$0.00000	\$0.00
			Total for Group 0043:	\$0.00
Group 0044: Lighting - Full Int	erchange			
0173 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	0.00	EACH	\$469,000.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING	5		Total for Group 0044:	\$0.00
Group 0045: Lighting Partial	Intorchange	`		
0288 G-MC-LTNG	0.00	; LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING	3		Total for Group 0045:	00.02
				φ0.00
Group 0046: Lighting - Continu	uous Roadw	/ay		
0176 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	1.00 G	LS	\$0.00000	\$0.00
0500 G-MC-LTNG Liahting - Continuous	3,696.00	FT	\$35.00000	\$129,360.00
5 5			Total for Group 0046: \$129,	360.00
Group 0047: Other Lighting Co	osts			
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
UTHER COSTS, LIGHTING			Total for Group 0047:	\$0.00
Croup 0049: Troffic Surveillen	~			
0178 H-OC-SURV	0.00	LS	\$0,00000	\$0.00
OTHER COSTS, TRAFFIC SURVEI	LLANCE		Total far Oraun 0049	ድ ድር በር
			Total for Group 0048:	Φ 0.00
Group 0049: Signs				
0179 J-MC-TRAF MAJOR COST DRIVERS, TRAFFIC	1.00 CONTROL	LS	\$0.00000	\$0.00
0501 J-MC-TRAF Signs	0.70	MILE	\$250,000.00000	\$175,000.00
3:07:32PM				

Estimate: Alt E OH cont 3				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
			Total for Group 0049:	\$175,000.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
0502 644E00100	4.04	MILE	\$3,000.00000	\$12,120.00
0503 644E00200	0.85	MILE	\$2,000.00000	\$1,700.00
			Total for Group 0050:	\$13,820.00
Group 0051: Other Traffic Contr	ol Costs			
0208 J-OC-TRAF	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, TRAFFIC CONTROL			Total for Group	0051: \$0.00
Group 0052: Signals - Intersection	ons			
0212 K-MC-SGNL	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, SIGNALS			Total for Group	0052: \$0.00
Group 0053: Other Traffic Signa	l Costs			
0213 K-OC-SGNL	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, SIGNALS			Total for Group	0053: \$0.00
				\$5551 \$5155
Group 0054: Landscaping	4.00	10	# 0.0000	* •••••
MAJOR COST DRIVERS, LANDSCAPI	1.00 NG	LS	\$0.00000	\$0.00
OTHER COSTS, LANDSCAPING	1.00	LS	\$0.00000	\$0.00
			I otal for Group	0054: \$0.00
Group 0055: Retaining Walls \$1	25 + \$10/	ft for cap	s, barriers and testing	
0216 M-MC-WALL MAJOR COST DRIVERS, RETAINING	1.00 WALLS	LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	33,465.00	SF	\$135.00000	\$4,517,775.00
Ũ			Total for Group 0055: \$4	,517,775.00
Group 0056: Other Retaining Wa	all Costs			
0217 M-OC-WALL OTHER COSTS RETAINING WALLS	1.00	LS	\$0.00000	\$0.00
			Total for Group	0056: \$0.00
Group 0057: Buildina Demolitior	ı			
0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING D	1.00 EMOLITION	LS	\$0.00000	\$0.00
3:07:32PM				

Estimate: Alt E OH cont 3				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOLT	1.00 TION	LS	\$0.00000	\$0.00
Croup 0058: Noise Parrier			Total for Group	0057: \$0.00
0220 P-MC-NSBR	1.00	LS	\$0.00000	\$0.00
0505 P-MC-NSBR	13,370.00	SF	\$25.00000	\$334,250.00
Noise Damei			Total for Group 0058:	\$334,250.00
Group 0059: Other Noise Barrie	er Costs			
0221 P-OC-NSBR OTHER COSTS, NOISE BARRIER	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR MAJOR COST DRIVERS, NOISE BAR	0.00 RRIER	LS	\$0.00000	\$0.00
			Total for Group	0059: \$0.00
Group 0060: New Structures				
0222 R-MC-STRC MAJOR COST DRIVERS, STRUCTU	1.00 RES	LS	\$0.00000	\$0.00
0506 R-MC-STRC Tier 1 Structures to 25' Height	63,551.00	SF	\$125.00000	\$7,943,875.00
0507 R-MC-STRC Removal of Existing Structures non-co	2,637.00	SF	\$12.00000	\$31,644.00
0508 R-MC-STRC Standard Removal of Existing Structure	28,124.00	SF	\$17.00000	\$478,108.00
0509 R-MC-STRC	0.00	SF	\$30.00000	\$0.00
Removal of Existing Structures comple 0513 R-MC-STRC	ex to very comp 0.00	SF	\$150.00000	\$0.00
0516 R-MC-STRC	0.00	SF	\$200.00000	\$0.00
			Total for Group 0060: \$8	3,453,627.00
Group 0061: Rehabilitated Stru	ctures			
0223 R-MC-STRC MAJOR COST DRIVERS, STRUCTU	0.00 RES	SF	\$45.00000	\$0.00
			Total for Group	0061: \$0.00
Group 0062: Other Structure C	osts			
0224 R-OC-STRC OTHER COSTS, STRUCTURES	0.00	LS	\$0.00000	\$0.00
Comingency			Total for Group	0062: \$0.00
Group 0063: Temporary Road	and Paver	nent Costs		
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTENA	1.00 NCE OF TRAF	LS	\$0.00000	\$0.00

Estimate: Alt E OH cont 3		PB A	Americas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
Description Supplemental Description			
			* • • • •
		Total for Group 0063:	\$0.00
Group 0064: Portable Concr	ete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Crown 0064	<u> </u>
			Φ0.00
Group 0065: Impact Attenua	tors		
0227 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE		Total for Group 0065:	\$0.00
		·	
Group 0066: Sheeting			^
0229 S-MC-MNTC MAJOR COST DRIVERS, MAINTE	1.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
Group 0067: Temporany Sig	nale		
0230 S-MC-MNTC	0.00 1.5	\$0.0000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC		\$0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Ligh	nting		
0231 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Group 0068:	\$0.00
			ψ0.00
Group 0069: Innovative Con	tracting Incentatives		
0232 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
		Total for Group 0069:	\$0.00
	- 1 -		
Group 0070: Other MOT Cos	5IS	00000 02	¢0.00
OTHER COSTS, MAINTENANCE	OF TRAFFIC	\$0.00000	φ0.00
0512 S-OC-MNTC OTHER COSTS, MAINTENANCE	0.70 MILE OF TRAFFIC	\$500,000.00000	\$350,000.00
,		Total for Group 0070: \$350,	000.00
Group 0071: Matland Canat	ruction		
		00000 02	\$0.00
MAJOR COST DRIVERS, WETLA		\$0.00000 #0.00000	ψ0.00
0360 T-MC-WILD MAJOR COST DRIVERS, WETLA	0.00 LS	\$0.00000	\$0.00
		Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate: Alt E OH cont 3				PB Americas, Inc.
Line # Item Number	Quantity	<u>Units</u>	<u>Unit Price</u>	Extension
Description Supplemental Description				
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELL	0.00 ANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS	0.00 S COSTS	LS	\$0.00000	\$0.00
0237 100E00300	0.00	LS	\$10,000.00000	\$0.00
SPECIAL - PREMIUM ON RAILROA LIABILITY INSURANCE	ADS' PROTECTIV	/E PUBL	IC LIABILITY AND PROPERTY DAMAC	<u> SE</u>
0239 623E10000 CONSTRUCTION LAYOUT STAKE 0.5%	1.00 S	LS	\$88,018.54000	\$88,018.54
0240 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$352,074.16000	\$352,074.16
0241 619E16020 FIELD OFFICE, TYPE C	32.00	MNTH	\$2,500.00000	\$80,000.00
0242 624E10000 MOBILIZATION	1.00	LS	\$400,000.00000	\$400,000.00
0511 103E05000	1.00	LS	\$88,018.54000	\$88,018.54
PREMIUM FOR CONTRACT PERF 0.5%	ORMANCE BON	D AND F	OR PAYMENT BOND	
0518	0.00		\$0.00000	\$0.00
0519	0.00		\$0.00000	\$0.00
0520	0.00		\$0.00000	\$0.00
0521	0.00		\$0.00000	\$0.00
0532	0.00		\$0.00000	\$0.00
			Total for Group 0072:	\$1,008,111.24

Group 0073: Design Contingency Costs

0243 V-MC-CNTG MAJOR COST DRIVERS, CONTINGENCY	1.00 COSTS	LS	\$0.00000	\$0.00
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY COSTS 25%	1.00	LS	\$4,652,954.81000	\$4,652,954.81
			Total for Group 0073:	\$4,652,954.81

Group 0074: Inflation Contingency

•					
0266	V-OC-CNTG	0.00) LS	\$0.00000	\$0.00
OTH	HER COSTS, CONTINGENCY	COSTS			
				Total for Croup 0074:	¢0 00

Total for Group 0074: \$0.00

PID	89065	County	HAM	Route	75	Section	1.15	This R/W Acquisition cost estimation
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Macro View												At	tributes			
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
-Residential	8.71	х	\$2.33	\$20	+	0	+	N/A	\$0.00	=	\$20.29	1	0	1	0	Estimate the total number of across involved in the
-Commercial	0.07	Х	\$96,828.08	\$6,778	+	0	+	N/A	\$0.00	=	\$6,777.97	1	0	1	0	project and allocate those acres into the four
-Industrial	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	categories snown.
-Park	0.21	Х	\$955.66	\$201	+	0	+	N/A	\$0.00	=	\$200.69	1	0	1	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Relocation	Unit (Displacement)	x	*RHF	P/*RSP	+	Move Cost	+	Reestabli	shment	=	Total Non Labor RAP Costs	Estima	te amount of time all RAP parcels	e necessary s = (months)	to relocate 18	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
-Residential Owner Occupant Tenant	0 0	x x	\$34 \$10	4,000),000	+ +	\$6,000 \$1,750				= =	\$0 \$0	Estimat acq	e number of year uisition begins =	rs until projec	ct wide R/W 1.75	Add structure values from the auditors tax cards only if the structures are taken.
-Commerical/Farm/NPO Owner Tenant	0 0				x x	\$15,000 \$15,000	+ +	\$10,C \$10,C	000	= =	\$0 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on
-Personal Property	0				Х	\$1,000				=	\$0					impacts of the project on structures.
{[(Total Cost of Acquisition Cost)x0.90]x0.025}+{[(Total of Acquisition Cost)x0.15]x1.20}+{[(Total of Acquisition Cost)x0.10]x1.50} = Contingency			quisition	(Contine Incidentals, Admin. Re	gency view & Appropriatio	on)	2467.129346	*RHP - Re *RSP - Re	placement Hous	ing Payment		Relocation Cost Estimates must consider the			
								Total Non Lab	or R/W Costs		\$9,466.08	*NPO - No	on-Profit Organiza	ation		complexity of the move process. All move estimates
Macro View																structure should use the services of a relocation
Labor (External)	Unit (Parcels)	X	Unit	Price	=	Total Cost					This P/M	N Cost Estin	ato Proparod b	N.	Data	Assistance professionnal to accurately gauge costs.
Titles	3	Х	\$4	400	=	\$1,200						V COSt EStin	iale Frepareu b	у	Dale	
Appraisal -Simple	1	x	\$	750	=	\$750						Chris Cle	mons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
-Detailed	2	Х	\$4	,500	=	\$9,000					This R/W Cost Estir	mate was pe	rformed at Step		6	talent. Labor costs estimates should reflect the complexity of the project and the talent necessary to
Appraisal Review -Simple -Detailed	1	x	\$	500	=	\$500					of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The person making the cost estimate may adjust the figures given for the particular project being estimated
	2	Х	\$2	,000	=	\$4,000										to reflect local labor costs. It is critical that the
Negotiations	2	X	\$1	,100	=	\$2,200										estimate be labeled to reflect the alignment alternative, the step in the PDP process and the
Relocations -Personal Property -Residential	0 0	x x	\$1 \$5	,500 ,200	=	\$0 \$0						То	tal Labor Costs	\$20	500.00	person(s) performing the estimate.
	0	Х	\$5	,600	=	\$0								φ 2 0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Comments Cost/Unit were generated from auditors tax card data.
Closings	3	X	\$4 61	400	=	\$1,200 \$1,050					٦	Total Non La	abor R/W Costs	\$9,	,466.08	Changed "Agriculture" category to "Park" to include
Ashestos Testing & Abstement	3		φ.	550	=	φ1,000										the Queensgate Ball Fields.
Aspesios resulty & Abalement		Tota	al Labor Cos	ts		\$20,500						Inflatio	on Adjustments	\$1,	,827.93	
*NPO - Non-Profit Organization		1012				Ψ20,000						т	otal R/W Costs	\$31	,794.01	
								_						<u> </u>		
						P.D.P.	R/	W Cost E	stimator	-						

Labor (External)	Unit (Parcels)	X	Unit Price	=	Total Cost
Titles	3	Х	\$400	=	\$1,200
Appraisal					
-Simple	1	Х	\$750	=	\$750
-Detailed	2	Х	\$4,500	=	\$9,000
Appraisal Review					
-Simple	1	х	\$500	=	\$500
-Detailed	2	х	\$2,000	=	\$4,000
Negotiations	2	Х	\$1,100	=	\$2,200
Relocations					
-Personal Property	0	Х	\$1,500	=	\$0
-Residential	0	Х	\$5,200	=	\$0
-Commercial/Farm/*NPO	0	Х	\$5,600	=	\$0
Closings	3	Х	\$400	=	\$1,200
Project Management	3	Х	\$550	=	\$1,650
Asbestos Testing & Abatement		Х		=	
		Tota	al Labor Costs		\$20,500
*NPO = Non-Profit Organization					

	Ati	ributes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$20.29	1	0	1	0	
\$6,777.97	1	0	1	0	Project and allocate those acres into the four
\$0.00	0	0	0	0	categories shown.
\$200.69	1	0	1	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor RAP Costs	Estima	te amount of time	e necessary	to relocate	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
	Estimate	e number of veal	s until proiec	t wide R/W	card data.
\$0 \$0	acq	uisition begins =	· · · · · · · · · · · · · · · · · · ·	1.75	Add structure values from the auditors tax cards only if the structures are taken.
\$0 \$0 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures.
2467.129346	*RHP - Re *RSP - Re	placement Hous	ing Payment		Relocation Cost Estimates must consider the
\$9,466.08	*NPO - No	n-Profit Organiza	ation		complexity of the move process. All move estimates
					structure should use the services of a relocation
This R/V	V Cost Estim	ate Prepared b	y	Date	Assistance professionnal to accurately gauge costs.
				- / - /	Instructions for Lober Cost Estimates
	Chris Clei	mons		8/4/2010	Labor costs are a function of time, distance, and
This R/W Cost Estin	mate was per	formed at Step		6	complexity of the project and the talent necessary to
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The
					figures given for the particular project being estimated
					to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment
					alternative, the step in the PDP process and the
	_				person(s) performing the estimate.
	Tot	al Labor Costs	\$20	,500.00	Comments
-	Total Non La	bor R/W Costs	\$9,	466.08	Cost/Unit were generated from auditors tax card data. Changed "Agriculture" category to "Park" to include the Queensgate Ball Fields.
	Inflatio	n Adjustments	\$1,	827.93	
	т	otal R/W Costs	\$31	,794.01	

	Att	ributes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$20.29	1	0	1	0	Estimate the total number of some involved in the
\$6,777.97	1	0	1	0	project and allocate those acres into the four
\$0.00	0	0	0	0	categories shown.
\$200.69	1	0	1	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor RAP Costs	Estimat	te amount of time	e necessary t	to relocate	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
	Estimate	e number of year	s until projec	t wide R/W	card data.
\$0 \$0	acqu	uisition begins =		1.75	Add structure values from the auditors tax cards only if the structures are taken.
\$0 \$0 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures.
2467.129346	*RHP - Re	placement Hous	ng Payment		Relocation Cost Estimates must consider the
\$9,466.08	*NPO - No	n Supplemental n-Profit Organiza	ation		complexity of the move process. All move estimates
					structure should use the services of a relocation
This R/W	/ Cost Estim	ate Prepared by	<i>y</i>	Date	Assistance professionnal to accurately gauge costs.
	Chris Cler	mons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
This R/W Cost Estir	nate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The
					person making the cost estimate may adjust the figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate.
	Tot	al Labor Costs	\$20	,500.00	Comments
1	Fotal Non La	bor R/W Costs	\$9 ,	466.08	Cost/Unit were generated from auditors tax card data. Changed "Agriculture" category to "Park" to include the Queensgate Ball Fields.
	Inflatio	n Adjustments	\$1,	827.93	
	T	otal R/W Costs	\$31	,794.01	

Estimate Alt E OH cont 4

Estimated Cost: \$40,561,231.89 Contingency: 32.90%

Estimated Total: \$53,905,877.18

OH-4 Seventh St, Eigth St, Ninth Street and 6th St northbound entrance ramps Base Date: 07/22/10 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: District: 8 Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt E OH cont 4			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Group 0001: Pavement Remova	I			
0001 A-MC-RDWY MAJOR COST DRIVERS ROADWAY	0.00	LS	\$0.00000	\$0.00
0343 202E23000 PAVEMENT REMOVED	8,349.00	SY	\$8.00000	\$66,792.00
			Total for Group 0001: \$66,	792.00
	0.00	CY	\$30,00000	\$0.00
MAJOR COST DRIVERS, ROADWAY	0.00	01		¢0.00
			Total for Group 0002:	\$0.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0344 203E10000 EXCAVATION	11,864.00	CY	\$8.00000	\$94,912.00
			Total for Group 0003: \$94,	912.00
Group 0004: Excavation - Hazar	dous			
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0004:	\$0.00
Group 0005: Fill - Embankment (includes	wasting	excess excavation)	
0007 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY 0345 203E20000	11.864.00	СҮ	\$6.00000	\$71.184.00
EMBANKMENT	,	•	Total for Group 0005: \$71	194.00
				104.00
Group 0006: Fill - Lime Modified	Soil			*
MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0346 205E10050 LIME STABILIZED EMBANKMENT	0.00	CY	\$7.00000	\$0.00
0347 205E10300 LIME	0.00	TON	\$5.00000	\$0.00
			Total for Group 0006:	\$0.00
Group 0007: Fill - Borrow				
0011 A-MC-RDWY	0.00	CY	\$8.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0007:	\$0.00
Group 0008: Constate Parrier				
0012 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY 0465 622E10060	2,905.00	FT	\$110.00000	\$319.550.00
3:27:42PM				

Estimate: Alt E OH cont 4				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
CONCRETE BARRIER, SINGLE SLOPE	E, TYPE B		Total for Group 0008:	\$319,550.00
Group 0009: Subgrade Treatmer	nt - Lime			
0014 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300 LIME	0.00	TON	\$10.00000	\$0.00
0350 206E11000 CUBING COAT	0.00	SY	\$1.00000	\$0.00
0351 206E20000 TEST ROLLING	0.00	HOUR	\$4.00000	\$0.00
			Total for Group	0009: \$0.00
Group 0010: Subgrade Treatmer	nt - Ceme	ent		
0016 A-MC-RDWY	8,083.00	SY	\$2.50000	\$20,207.50
MAJOR COST DRIVERS, ROADWAY			Total for Group 0010): \$20,207.50
Group 0011: Subgrade Treatmer	nt - Under	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS_ROADWAY	1.00	LS	\$0.00000	\$0.00
			Total for Group	0011: \$0.00
Group 0012: Other Roadway Co	sts			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
0020 201E11000 CLEARING AND GRUBBING	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT	\$0.00000	\$0.00
0029 202E38000	0.00	FT	\$0.00000	\$0.00
0030 202E42206	0.00	EACH	\$0.00000	\$0.00
0031 202E58000 MANIHOLE DEMOVED	0.00	EACH	\$0.00000	\$0.00
	0.00	EACH	\$0.00000	\$0.00
0033 202E75000	0.00	FT	\$0.00000	\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Estimate:	Alt E	OH	cont 4
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Estimate: Alt E OH cont 4			PB	Americas, Inc.
Line # Item Number	Quantity	<u>Units</u>	Unit Price	Extension
Description				
Supplemental Description				
PROOF ROLLING	0.00	0)/	\$ 0.04000	\$ 0.00
0035 204E10000 SUBGRADE COMPACTION	0.00	SY	\$0.81000	\$0.00
0036 451E30000 SPECIAL - PRESSURE RELIEF	0.00 JOINT, TYPE A	FT	\$0.00000	\$0.00
0037 606E13000	0.00	FT	\$14.00000	\$0.00
0038 606E22000	0.00	EACH	\$1,411.29597	\$0.00
0039 606E22010	98 0.00	EACH	\$1,712.52574	\$0.00
ANCHOR ASSEMBLY, TYPE E- 0040 606E26500	98 0.00	EACH	\$487.23435	\$0.00
ANCHOR ASSEMBLY, TYPE T	0.00	FACH	\$969 12750	00.02
BRIDGE TERMINAL ASSEMBLY	(, TYPE 1	EAOU	\$000.0005.1	\$0.00
BRIDGE TERMINAL ASSEMBLY	0.00 (, TYPE 2	EACH	\$338.36354	\$0.00
0043 606E60010 IMPACT ATTENUATOR, TYPE 1	0.00 1-98 (BIDIRECTION	EACH AL)	\$3,439.05897	\$0.00
0044 607E15000	0.00	FΤ	\$0.00000	\$0.00
For Fencing	0.00		# 2.00000	\$ 0.00
AGGREGATE BASE	0.00	CY	\$0.00000	\$0.00
For Fencing 0424 601E32100	0.00	CY	\$0.00000	\$0.00
ROCK CHANNEL PROTECTION For Fencing	I, TYPE B WITH FIL	TER		
0425 607E40500	0.00	EACH	\$731.31641	\$0.00
For Fencing				
0426 625E32000	0.00	EACH	\$0.00000	\$0.00
GROUND ROD				
0466	0.00		\$0.0000	\$0.00
0100	0.00		Total for Group 0012	· ¢0.00
				. φ0.00
Group 0014: Seeding & Mu	Iching / Soddir	ng		
0045 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
0467 659E10000	3,553.00	SY	\$1.00000	\$3,553.00
SEEDING AND MULCHING 0531 660E25000	0.00	SY	\$15.0000	\$0.00
SODDING STAKED			Total for Group 0014: \$2	552 00
			τοιαιτοι Group 0014. φο	,000.00
Group 0015: Rock Channel	Protection			
0047 B-MC-ERCO MAJOR COST DRIVERS, EROS	1.00 SION CONTROL	LS	\$0.00000	\$0.00
0469 601E32000 ROCK CHANNEL PROTECTION	0.00 TYPE A WITH FI	CY TER	\$75.00000	\$0.00
	.,		Total for Group 0015	: \$0.00
Group 0016. Frasian Contre	nl - Item 832			
			•• ••••	*
0048 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
3:27:42PM				

Estimate: Alt E OH cont 4				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
MAJOR COST DRIVERS, EROSION CO	ONTROL			
		LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	6,000.00	EACH	\$1.00000	\$6,000.00
			Total for Group 0016:	\$56,000.00
Group 0017: Other Erosion Cont	rol Costs			
0049 670E00700	0.00	SY	\$0.00000	\$0.00
DITCH EROSION PROTECTION	1 00	10	00000 02	00.02
OTHER COSTS, EROSION CONTROL	1.00	LO	\$0.00000	ψ0.00
0051 659E00100 SOIL ANALYSIS TEST	0.00	EACH	\$0.00000	\$0.00
0052 659E00300 TOPSOIL	0.00	CY	\$0.00000	\$0.00
0053 659E14000 REPAIR SEEDING AND MULCHING	0.00	SY	\$0.00000	\$0.00
0054 659E15000 INTER-SEEDING	0.00	SY	\$0.71000	\$0.00
0055 659E2000 COMMERCIAL FERTILIZER	0.00	TON	\$410.06813	\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000 WATER	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000	0.00	MSF	\$0.00000	\$0.00
MOWING			Total for Group	0017: \$0.00
Croup 0018: Underdreine				
	1 00	19	\$0,0000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	1.00		\$0.00000	\$0.00
4" SHALLOW PIPE UNDERDRAINS	6,974.00	FI	\$8.00000	\$55,792.00
			Total for Group 0018:	\$55,792.00
Group 0019 [.] Culverts - Type A [.] <	: 5'			
0474 C-MC-DRNG	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG	0.00	FT	\$350.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	ine un to 60'	,		
0481 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	EACH	\$1,500.00000	\$0.00
Concrete Masonry			Total for Group	0019: \$0.00
				Ŧ - - -
Group 0021: Culverts, Type A: 5'	- 10'			
0067 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0476 C-MC-DRNG	0.00	FT	\$550.00000	\$0.00
WAJOR COST DRIVERS, DRAINAGE				
3:27:42PM				

Estimate: Alt E OH cont 4			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Pipe Structures - Reinforced Concrete 5'- 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	- <i>10' 66" to</i> 0.00	78" EACH	\$1,500.00000	\$0.00
			Total for Group 0021:	\$0.00
Group 0022: Culverts, Type A: TC) - 20	10	¢0.0000	¢ 0.00
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pi	0.00 pe 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonny	0.00	EACH	\$1,500.00000	\$0.00
Concrete Masonry			Total for Group 0022:	\$0.00
Group 0024: BMP's				
0076 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Group 0024:	\$0.00
Group 0025: Closed Storm Syste	m			
0077 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	55.00	FT	\$75.00000	\$4,125.00
0523 604E00800 CATCH BASIN, NO. 3A	7.00	EACH	\$1,500.00000	\$10,500.00
0524 604E31500 MANHOLE, NO. 3	1.00	EACH	\$3,000.00000	\$3,000.00
0525 0526 Special	0.00	LS	\$0.00000 \$6,400,000.00000	\$0.00 \$0.00
Pump Station (Storm) 0527 Special	0.00	EACH	\$5,750.00000	\$0.00
Stormceptors 0529 Special	0.00	LS	\$109,000.00000	\$0.00
Retention basin improvements			Total for Group 0025: \$17,	625.00
Group 0026: Other Drainage Cos	te			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, DRAINAGE			Total for Group 0026:	\$0.00
Group 0027: Mainline - Travel La	nes			
0095 D-MC-PVMT	1_00	LS	\$0 0000	\$0.00
MAJOR COST DRIVERS, PAVEMENT	0.00	0)(#0000000	
13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Con	0.00 npaction	σĭ	\$68.00000	\$U.UU

Estimate: Alt E OH cont 4			PB A	mericas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
			Total for Group 0027:	\$0.00
Group 0028: Mainline - Outside	Shoulder			
0100 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00 Г	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade C	0.00 ompaction	SY	\$68.00000	\$0.00
Croup 0020: Mainling Inside S	`houldor		Total for Group 0028:	\$0.00
Group 0050. Mainline - Inside S		10	¢0,0000	ድር በሳ
MAJOR COST DRIVERS, PAVEMENT	Γ	LO	\$0.00000	φ0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement	0.00	SY	\$68.00000	\$0.00
Includes 6" Agg base and Subgrade C	ompaction		Total for Group 0030:	\$0.00
Group 0031: Ramps (including	shoulders)			
0122 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00 Г	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	2,932.00	SY	\$68.00000	\$199,376.00
	ompaolion		Total for Group 0031: \$199,3	376.00
Group 0032: Non - Mainline Lar	nes			
0132 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00 Г	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	5,151.00	SY	\$41.00000	\$211,191.00
Includes 3" 448, 9" 301, 6" Agg base a	nd Subgrade (Compaction	Total for Group 0032: \$211,	191.00
Group 0041: Other Pavement C	Costs			
0163 D-OC-PVMT OTHER COSTS PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Group 0041:	\$0.00
Group 0042: Water Works	0.00		# 0.00000	\$ 0.00
MAJOR COST DRIVERS, WATER LIN	0.00 IE	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Group 0042:	\$0.00
Group 0043: Sanitary Line	0.00		¢0.00000	# ~ ~~
MAJOR COST DRIVERS, SANITARY	0.00 SEWER	LS	ΦΟ.ΟΟΟΟΟ	\$0.00

Estimate: Alt E OH cont 4			PB A	Americas, Inc.
Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
<u>Description</u> Supplemental Description				
			T () () D () ()	AA AA
			Total for Group 0043:	\$0.00
Group 0044: Lighting - Full Interch	ange			
	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	0.00	EACH	\$469,000.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING			Total for Group 0044:	\$0.00
Group 0045: Lighting - Partial Inte	rchange	2		
0288 G-MC-LTNG	0.00	, LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING		-		#0.00
			Total for Group 0045:	\$0.00
Group 0046: Lighting - Continuous	s Roadw	/ay		
0176 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG	3,168.00	FT	\$35.00000	\$110,880.00
Lighting - Continuous			Total for Group 0046: \$110	880.00
				000.00
Group 0047: Other Lighting Costs				
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
			Total for Group 0047:	\$0.00
Group 0048: Traffic Surveillance	0.00		¢0.00000	
OTHER COSTS, TRAFFIC SURVEILLANG	CE	LS	\$0.00000	\$0.00
			Total for Group 0048:	\$0.00
Group 0049: Signs				
0179 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CON 0501 J-MC-TRAF Signs	TROL 0.60	MILE	\$250,000.00000	\$150,000.00
Olgria			Total for Group 0049: \$150,	000.00
Group 0050: Pavement Marking	1.00		#0.00000	¢0.00
MAJOR COST DRIVERS, TRAFFIC CON	TROL	LO	\$0.0000	Φ 0.00
0502 644E00100 EDGE LINE	2.13	MILE	\$3,000.00000	\$6,390.00
0503 644E00200	1.09	MILE	\$2,000.00000	\$2,180.00
			Total for Group 0050: \$8,	570.00

Group 0051: Other Traffic Control Costs

Estimate: Alt E OH cont 4			PB A	mericas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0208 J-OC-TRAF	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, TRAFFIC CONTROL			Total for Group 0051:	\$0.00
Group 0052: Signals - Intersect	ions		#0.0000	* ~ ~~
MAJOR COST DRIVERS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0052:	\$0.00
Group 0053: Other Traffic Signa	al Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0053:	\$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP	1.00	LS	\$0.00000	\$0.00
0215 L-OC-LSCP	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, LANDSCAPING			Total for Group 0054:	\$0.00
Group 0055: Potaining Walls \$	125 + \$10/	ft for oar	e barriors and tasting	
0216 M-MC-WALL	/۱۵۵ ب ۲۵۵ ا	IL IUI Cap		\$0.00
MAJOR COST DRIVERS, RETAINING	WALLS	SE	\$135,00000	\$556 875 00
Retaining Walls	4,123.00	51		
			Total for Group 0055: \$556,	875.00
Group 0056: Other Retaining W	all Costs			
0217 M-OC-WALL OTHER COSTS. RETAINING WALLS	1.00	LS	\$0.00000	\$0.00
,			Total for Group 0056:	\$0.00
Group 0057: Building Demolitio	n			
0218 N-MC-DEMO	1.00	LS	\$0.00000	\$0.00
0219 N-OC-DEMO	1.00	LS	\$0.00000	\$0.00
0532 202E98100	10N 0.00	EACH	\$8,500.00000	\$0.00
REMOVAL MISC.: Radio Tower				
0533 202E56101 BUILDING DEMOLISHED, AS PER PL Small Residential	0.00 _AN	EACH	\$7,500.00000	\$0.00
0534 202E56101 BUILDING DEMOLISHED, AS PER PL Small Commercial	1.00 _AN	EACH	\$15,000.00000	\$15,000.00
0535 202E56101 BUILDING DEMOLISHED, AS PER PL Large Residential	0.00 _AN	EACH	\$12,000.00000	\$0.00
0536 202E56101	1.00	EACH	\$30,000.00000	\$30,000.00
3:27:42PM				

Estimate: Alt E OH cont 4			PI	3 Americas, Inc.
Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
<u>Description</u> Supplemental Description				
				_
Large Commercial				
			Total for Group 0057: \$4	5,000.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, NOISE BARRIE	R	10	¢25,00000	م م
Noise Barrier	0.00	LS	\$25.00000	\$0.00
			Total for Group 005	3: \$0.00
Group 0059: Other Noise Barrier (Costs			
0221 P-OC-NSBR	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, NOISE BARRIER	0.00		\$0.00000 \$0.00000	¢0.00
MAJOR COST DRIVERS, NOISE BARRIE	0.00 R	LS	\$0.00000	\$0.00
			Total for Group 005	9: \$0.00
Group 0060: New Structures				
0222 B-MC-STRC	1 00	IS	\$0,00000	\$0.00
MAJOR COST DRIVERS, STRUCTURES	1.00	2.5	\$0.00000 \$105 0000	\$0.00
0506 R-MC-STRC Tier 1 Structures to 25' Height	0.00	SF	\$125.00000	\$0.00
0507 R-MC-STRC	0.00	SF	\$12.00000	\$0.00
0508 R-MC-STRC	35,729.00	SF	\$17.00000	\$1,457,393.00
Standard Removal of Existing Structures a 0509 R-MC-STRC	bove avera	age complex SF	\$30,00000	\$0.00
Removal of Existing Structures complex to	very comp	blex	\$450.00000	¢20.004.000.00
Tier 2 Structures 25' to 50' Height	9,364.00	55	\$150.00000	\$26,904,600.00
0516 R-MC-STRC Tier 3 Structures 50' to 75' Height	0.00	SF	\$200.00000	\$0.00
			Total for Group 0060: \$28,36	1,993.00
One on 2001, Databilitate d Chryster				
Group 0061: Renabilitated Structu	res	0	¢45,00000	00.03
MAJOR COST DRIVERS, STRUCTURES	0.00	35	\$45.00000	φ0.00
			Total for Group 006	1: \$0.00
Group 0062: Other Structure Cost	5			
0224 R-OC-STRC	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, STRUCTURES				
Comingency			Total for Group 0062	2: \$0.00
Group 0063: Temporary Road and	Paver	nent Costs		A = = = 1
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTENANCE	1.00 E OF TRAF	FIC	\$0.00000	\$0.00

Estimate: Alt E OH cont 4		PB /	Americas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
Description Supplemental Description			
			Aa a a
		Total for Group 0063:	\$0.00
Group 0064: Portable Concre	ete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Group 0064:	¢0.00
		Total for Group 0004.	Ф 0.00
Group 0065: Impact Attenua	tors		
0227 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE		Total for Group 0065:	\$0.00
		•	
Group 0066: Sheeting			A A A A
0229 S-MC-MNTC MAJOR COST DRIVERS, MAINTE	1.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
Group 0067: Temporary Sign	nale		
0230 S-MC-MNTC		\$0.0000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC		¢0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Ligh	nting		
0231 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Group 0068:	\$0.00
			ψ0.00
Group 0069: Innovative Cont	tracting Incentatives		
0232 S-MC-MNTC MAJOR COST DRIVERS MAINTE	0.00 LS	\$0.00000	\$0.00
		Total for Group 0069:	\$0.00
	- 1 -		
	5IS	00000 02	00.02
OTHER COSTS, MAINTENANCE	OF TRAFFIC	\$0.00000	φ0.00
0512 S-OC-MNTC OTHER COSTS, MAINTENANCE	0.60 MILE OF TRAFFIC	\$500,000.00000	\$300,000.00
, ,		Total for Group 0070: \$300,	000.00
Group 0071: Watland Const	ruction		
		00000 08	\$0.00
MAJOR COST DRIVERS, WETLA	ND CONSTRUCTION	\$0.00000	ψ0.00
0360 T-MC-WILD MAJOR COST DRIVERS, WETLA	0.00 LS ND CONSTRUCTION	\$0.00000	\$0.00
		Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate: Alt E OH cont 4				PB Americas, Inc.
Line # Item Number	Quantity	<u>Units</u>	Unit Price	Extension
Description Supplemental Description				
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELLAN	0.00 IEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS C	0.00 OSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILROADS LIABILITY INSURANCE	0.00 S' PROTECTIV	LS /E PUBLI	\$10,000.00000 IC LIABILITY AND PROPERTY DAM/	\$0.00 AGE
0238 623E10000 CONSTRUCTION LAYOUT STAKES 0.5%	1.00	LS	\$153,247.50000	\$153,247.50
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$612,990.01000	\$612,990.01
0240 619E16020 FIELD OFFICE, TYPE C	32.00	MNTH	\$2,500.00000	\$80,000.00
0242 624E10000 MOBILIZATION	1.00	LS	\$800,000.00000	\$800,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERFOR 0.5%	1.00 MANCE BON	LS D AND F	\$153,247.50000 OR PAYMENT BOND	\$153,247.50
0518	0.00		\$0.00000	\$0.00
0519	0.00		\$0.00000	\$0.00
0520	0.00		\$0.00000	\$0.00
0521	0.00		\$0.00000	\$0.00
			Total for Group 0072:	\$1,799,485.01
Group 0073: Design Contingend	cy Costs			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTINGE	1.00 NCY COSTS	LS	\$0.00000	\$0.00
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY COS 25%	1.00 STS	LS	\$8,112,246.38000	\$8,112,246.38
Crown 0074, Inflation Continues			Total for Group 0073:	\$8,112,246.38
Group 0074: Inflation Continger	ю			
0266 V-OC-CNTG OTHER COSTS, CONTINGENCY COS	0.00 STS	LS	\$0.00000	\$0.00

Total for Group 0074: \$0.00

PID	89067		County	HAM		Route		75	Section		0.63	This R	/W Acquisitic	on cost es	timate is p
lacro View												Att	tributes		
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structure Impacted
Residential	0.02	Х	############	\$26,845	+	0	+	N/A	\$0.00	=	\$26,845.33	1	0	1	0
Commercial	0.8	Х	\$659,087.22	\$527,270	+	4843600	+	N/A	\$4,843,600.00	II	\$5,370,869.78	3	0	3	2
Industrial	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	H	\$0.00	0	0	0	0
Agricultural	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	II	\$0.00	0	0	0	0
Relocation	Unit (Displacement)	x	*RHP/	/*RSP	+	Move Cost	+	Reestabli	shment	=	Total Non Labor	Estimat	te amount of time	e necessary	to relocate

Relocation	0	X	*RHP/*RSP	+	Move Cost	+	Reestablishment	=	Total Non Labor	
	(Displacement)					l .	Recotablicition	_	RAP Costs	all RAP parcels = (months)
-Residential										Estimate number of years until project w
Owner Occupant	0	Х	\$34,000	+	\$6,000			=	\$0	accuration begins - 1.74
Tenant	0	Х	\$10,000	+	\$1,750			=	\$0	
-Commerical/Farm/NPO										
Owner Topont	1			Х	\$15,000	+	\$10,000	=	\$25,000	
Tenant	0			Х	\$15,000	+	\$10,000	=	\$0	
-Personal Property	0			Х	\$1,000			II	\$0	
{[(Total Cost of Acquisition Cost)x0.90]x0.025}+{[(Total of Acquisition Cost)x0.15]x1.20}+{[(Total of Acquisition Cost)x0.10]x1.50} = Contingency					(Contingency (Incidentals, Admin. Review & Appropriation)		1902694.575	*RHP - Replacement Housing Payment	
							Total Non Labor R/W Costs		\$7,325,409.68	*NPO - Non-Profit Organization

Macro View					
Labor (External)	Unit (Parcels)	X	Unit Price	=	Total Cost
Titles	4	Х	\$400	=	\$1,600
Appraisal -Simple	1	x	\$750	=	\$750
-Detailed	3	х	\$4,500	=	\$13,500
Appraisal Review					
-Simple	1	х	\$500	=	\$500
-Detailed	3	х	\$2,000	=	\$6,000
Negotiations	4	Х	\$1,100	=	\$4,400
Relocations					
-Personal Property	0	Х	\$1,500	=	\$0
-Residential	0	Х	\$5,200	=	\$0
-Commercial/Farm/*NPO	1	Х	\$5,600	=	\$5,600
Closings	4	Х	\$400	=	\$1,600
Project Management	4	Х	\$550	=	\$2,200
Asbestos Testing & Abatement		Х		=	
		Tot	al Labor Costs		\$36,150
*NPO = Non-Profit Organization					

Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates	
\$26,845.33	1	0	1	0	Estimate the total number of earce involved in the	
\$5,370,869.78	3	0	3	2	project and allocate those acres into the four	
\$0.00	0	0	0	0	categories snown.	
\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors	
Total Non Labor RAP Costs	Estimat	te amount of time	e necessary	to relocate	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base	
	Estimate		s = (monuns)	t wide R/W	card data.	
\$0 \$0	acqu	uisition begins =		1.75	Add structure values from the auditors tax cards only if the structures are taken.	
\$25,000 \$0 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the	
1902694.575	*RHP - Rej *RSP - Rej	placement Hous	ing Payment		Relocation Cost Estimates must consider the	
\$7,325,409.68	*NPO - No	n-Profit Organiza	ation		complexity of the move process. All move estimates that involve a business or a mulit-tenant residential	
					structure should use the services of a relocation Assistance professionnal to accurately gauge costs.	
This R/W	V Cost Estim	ate Prepared b	y	Date		
	Chris Cler	mons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and	
This R/W Cost Estir	mate was per	formed at Step		6	talent. Labor costs estimates should reflect the	
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The person making the cost estimate may adjust the	
					figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate.	
	Tot	al Labor Costs	\$36	,150.00	Comments	
1	Total Non La	bor R/W Costs	\$7,32	Cost/Unit were generated from auditors tax card dat 25,409.68		
	Inflatio	n Adjustments	\$449	9,055.14		
	Т	otal R/W Costs	\$7,81	0,614.82		

Acquisition Costs	Count	Total Takes	Takes	Structures Impacted	Estimates
\$26,845.33	1	0	1	0	Estimate the total number of acres involved
\$5,370,869.78	3	0	3	2	project and allocate those acres into the for
\$0.00	0	0	0	0	categories shown.
\$0.00	0	0	0	0	Assign an average unit price for each categ
Total Non Labor	Estima	te amount of time	e necessary	to relocate	tax card data. Cost Estimates prepared at (Step 7 on Major Projects) and thereafter m
RAP Costs		all RAP parcel	s = (months)	18	unit prices on a project sales data book inst
	Estimate	e number of year	rs until projec	ct wide R/W	card data.
\$0 \$0	acqı	uisition begins =		1.75	Add structure values from the auditors tax of if the structures are taken.
\$25,000					Damages must be assessed by a pre-qualit
\$0					usually occurs at Step 4 for Minor projects (
\$0					Major Projects) and requires some knowled impacts of the project on structures.
1902694.575	*RHP - Re *RSP - Re	placement Hous	ing Payment		Relocation Cost Estimates must consider th
\$7,325,409.68	*NPO - No	n-Profit Organiza	ation		complexity of the move process. All move of
					structure should use the services of a relocation
					Assistance professionnal to accurately gauge
This R/V	N Cost Estim	hate Prepared by	у	Date	L
	Chris Cle	mons		8/4/2010	Instructions for Labor Cost Estima Labor costs are a function of time, distar
This R/W Cost Esti	mate was per	formed at Step		6	talent. Labor costs estimates should ref
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely mann
		-			person making the cost estimate may ac figures given for the particular project being
					to reflect local labor costs. It is critical t
					estimate be labeled to reflect the align alternative, the step in the PDP process
					person(s) performing the estimate
	Tot	al Labor Costs	\$36	,150.00	Comments
					Cost/Unit were generated from auditors tax
			¢7 20	05 400 68	
	Total Non La	bor R/W Costs	φ1,32	13,409.00	
	Total Non La Inflatio	bor R/W Costs	\$44	9,055.14	

P.D.P. R/W Cost Estimator

Estimate Alt E OH cont 5

Estimated Cost: \$160,063,863.43 Contingency: 51.30% Estimated Total: \$242,176,625.37

OH-5 Reconstruct I-75 from Findlay to the Northern Terminus of the Corridor Base Date: 07/22/10 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: District: 8 Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt E OH cont 5				PB Americas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
Group 0001: Pavement Remova	al			
	0.00	LS	\$0.00000	\$0.00
0343 202E23000	121,484.00	SY	\$8.00000	\$971,872.00
PAVEMENT REMOVED			Total for Group 0001:	\$971,872.00
Group 0002: Excavation - Rock				
0003 A-MC-RDWY MAJOR COST DRIVERS. ROADWAY	0.00	CY	\$30.00000	\$0.00
0532 203E10001 EXCAVATION AS PER PLAN	9,835.00	CY	\$30.00000	\$295,050.00
			Total for Group 0002:	\$295,050.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0344 203E10000 EXCAVATION	132,253.00	CY	\$8.00000	\$1,058,024.00
			Total for Group 0003: \$	51,058,024.00
Group 0004: Excavation - Hazar	rdous		·	
0006 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
			Total for Group	0004: \$0.00
Group 0005: Fill - Embankment	(includes	wasting	excess excavation)	
	1.00	LS	\$0.00000	\$0.00
0345 203E20000	273,627.00	CY	\$6.00000	\$1,641,762.00
EMBANKMENT			Total for Group 0005: \$	61,641,762.00
Group 0006 [.] Fill - Lime Modified	Soil			
0010 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY 0346 205E10050	0.00	CY	\$7.00000	\$0.00
LIME STABILIZED EMBANKMENT	0.00	TON	\$5,00000	\$0.00
LIME	0.00		Tatal fan Oraun	
			Total for Group	0006: \$0.00
Group 0007: Fill - Borrow				
0011 A-MC-RDWY MAJOR COST DRIVERS. ROADWAY	131,539.00	CY	\$8.00000	\$1,052,312.00
			Total for Group 0007: \$	51,052,312.00
Group 0008: Concrete Barrier				
0012 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
3:42:13PM				_

Estimate: Alt E OH cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
MAJOR COST DRIVERS, ROADWAY	18 3/0 00	FT	\$110.0000	\$2 017 400 00
CONCRETE BARRIER, SINGLE SLOP	PE, TYPE B		T () (O	\$2,017,400.00
			Total for Group 0008:	\$2,017,400.00
Group 0009: Subgrade Treatme	ent - Lime			
0014 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0348 206E10000 LIME STABILIZED SUBGRADE	0.00	SY	\$1.85000	\$0.00
0349 206E10300	0.00	TON	\$10.00000	\$0.00
0350 206E11000	0.00	SY	\$1.00000	\$0.00
0351 206E20000	0.00	HOUR	\$4.00000	\$0.00
TEST ROLLING			Total for Grou	ıp 0009: \$0.00
Group 0010: Subarada Traatma	ont Come	nt		
		sint SV	\$2 50000	\$058 130 00
MAJOR COST DRIVERS, ROADWAY	363,232.00	51	φ2.50000	\$900,100.00
			Total for Group 0010): \$958,130.00
Group 0011: Subgrade Treatment - Undercut & Backfill				
0017 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAT			Total for Grou	ıp 0011: \$0.00
Group 0012: Other Peadway C	oete			
	0.00	10	00000 02	00.02
OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
0020 201E11000	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800	0.00	EACH	\$772.00000	\$0.00
1REE REMOVED, 48" SIZE 0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
STRUCTURE REMOVED 0028 202E35200	0.00	FT	\$0.00000	\$0.00
PIPE REMOVED, OVER 24" 0029 202E38000	0.00	FT	\$0.00000	\$0.00
GUARDRAIL REMOVED 0030 202E42206	0.00	EACH	\$0.00000	\$0.00
ANCHOR ASSEMBLY REMOVED	0.00		# 0.00000	40.00
MANHOLE REMOVED	0.00	EACH	\$0.00000	\$0.00
0032 202E58100 CATCH BASIN REMOVED	0.00	EACH	\$0.00000	\$0.00
0033 202E75000	0.00	FT	\$0.00000	\$0.00
Estimate: Alt E OH cont 5				PB Americas, Inc.
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<u>Line #</u> <u>Item Number</u> <u>Description</u> Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
FENCE REMOVED	0.00		¢126 50000	00.02
PROOF ROLLING	0.00	HOUR	\$126.59000	\$0.00
0035 204E10000	0.00	SY	\$0.81000	\$0.00
SUBGRADE COMPACTION				
0036 451E30000	0.00	FT	\$0.00000	\$0.00
OO37 606E13000	1 863 00	FT	\$14,00000	\$26.082.00
GUARDRAIL, TYPE 5	1,005.00		\$14.00000	\$20,002.00
0038 606E22000	0.00	EACH	\$1,411.29597	\$0.00
ANCHOR ASSEMBLY, TYPE B-98				
	0.00	EACH	\$1,712.52574	\$0.00
ANCHOR ASSEMBLY, TYPE E-98	0.00	FACH	\$487 23435	\$0.00
ANCHOR ASSEMBLY, TYPE T	0.00	LAON	ψ+07.20+00	ψ0.00
0041 606E35000	0.00	EACH	\$969.12750	\$0.00
BRIDGE TERMINAL ASSEMBLY, TY	′PE 1			
0042 606E35100	0.00	EACH	\$338.36354	\$0.00
BRIDGE TERMINAL ASSEMBLY, TY	'PE 2	EACH	¢2 420 05907	00.02
IMPACT ATTENIJATOR TYPE 1-98			\$3,439.03697	\$0.00
0044 607E15000	0.00	FT	\$0.00000	\$0.00
FENCE, TYPE 47			••••••	••••
For Fencing				
0423 304E20000	0.00	CY	\$0.00000	\$0.00
AGGREGATE BASE				
0424 601E32100	0.00	CY	\$0,0000	\$0.00
ROCK CHANNEL PROTECTION. TY	PE B WITH FIL	TER	\$0.00000	\$0.00
For Fencing				
0425 607E40500	0.00	EACH	\$731.31641	\$0.00
GATE, TYPE 47				
For Fencing	0.00		00000 02	00.02
GROUND ROD	0.00	LAGH	\$0.00000	φ0.00
For Fencing				
0466	0.00		\$0.00000	\$0.00
			Total for Gro	oup 0012: \$26,082.00
				•
Group 0014: Seeding & Mulchi	ing / Soddir	ng		
	1.00	15	00000 02	00.02
MAJOR COST DRIVERS, EROSION	CONTROL	20	φ0.00000	ψ0.00
0/67 659E10000	0.00	SV	\$1,00000	00.02

467 659E10000	0.00	SY	\$1.00000	\$0.00
SEEDING AND MULCHING				
531 660E25000 SODDING STAKED	0.00	SY	\$15.00000	\$0.00
			Total for Group 0014:	\$0.00

Group 0015: Rock Channel Protection

0047 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, EF	ROSION CONTROL			
0469 601E32000	24.00	CY	\$75.00000	\$1,800.00
ROCK CHANNEL PROTECT	ION, TYPE A WITH FIL	TER		

Total for Group 0015: \$1,800.00

Estimate: Alt E OH cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
Group 0016: Erosion Control -	Item 832			
0048 B-MC-ERCO MAJOR COST DRIVERS, EROSION	1.00 CONTROL	LS	\$0.00000	\$0.00
0470 832E10000 STORM WATER POLILITION PREVE	1.00 NITION PLAN	LS	\$50,000.00000	\$50,000.00
0471 832E2000	120,000.00	EACH	\$1.00000	\$120,000.00
ERUSION CONTROL			Total for Group 0016:	\$170,000.00
Group 0017: Other Erosion Cor	ntrol Costs			
	0.00	SY	\$0.00000	\$0.00
0050 B-OC-ERCO	1.00	LS	\$0.00000	\$0.00
0051 659E00100	0.00	EACH	\$0.00000	\$0.00
0052 659E00300	0.00	CY	\$0.00000	\$0.00
0053 659E14000	0.00	SY	\$0.00000	\$0.00
REPAIR SEEDING AND MULCHING 0054 659E15000	0.00	SY	\$0.71000	\$0.00
0055 659E20000	0.00	TON	\$410.06813	\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000	0.00	MSF	\$0.00000	\$0.00
MOWING			Total for Group	0017: \$0.00
Group 0018: Underdrains				
0059 C-MC-DRNG MAJOR COST DRIVERS. DRAINAGE	1.00	LS	\$0.00000	\$0.00
0062 605E05100 4" SHALLOW PIPE UNDERDRAINS	62,408.00	FT	\$8.00000	\$499,264.00
			Total for Group 0018:	\$499,264.00
Group 0019: Culverts - Type A:	< 5'			
0474 C-MC-DRNG	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	FT	\$350.00000	\$0.00
Pipe Structures - Reinforced Concrete 0481 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	Pipe up to 60" 0.00	EACH	\$1,500.00000	\$0.00
			Total for Group	0019: \$0.00
Group 0021: Culverts, Type A:	5' - 10'			
0067 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
3:42:13PM Wednesday, December 01, 2010				Page 5 of 12

Estimate: Alt E OH cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete S	0.00 5'-10' 66" to	FT 78"	\$550.00000	\$0.00
0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	0.00	EACH	\$1,500.00000	\$0.00
			Total for Group	0021: \$0.00
Group 0022: Culverts, Type A: 1	0' - 20'			
0486 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete I	0.00 Pipe 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for Group	0022: \$0.00
Group 0024: BMP's	1 00	15	\$0,0000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	1.00	20	Total for Group	0024: \$0.00
Group 0025: Closed Storm Syste	em			
0077 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	12,495.00	FT	\$75.00000	\$937,125.00
0523 604E00800 CATCH BASIN NO 3A	126.00	EACH	\$1,500.00000	\$189,000.00
0524 604E31500 MANHOLE, NO. 3	13.00	EACH	\$3,000.00000	\$39,000.00
0526 Special Pump Station (Storm)	0.00	LS	\$6,400,000.00000	\$0.00
0527 Special Stormceptors	0.00	EACH	\$5,750.00000	\$0.00
0529 Special Retention basin improvements	0.00	LS	\$109,000.00000	\$0.00
0533 604E36601 PRECAST REINFORCED CONCRETE	2.00 OUTLET, AS	EACH S PER PLAN	\$1,250.00000 N	\$2,500.00
			Total for Group 0025: \$	1,167,625.00
Group 0026: Other Drainage Co	sts			
0078 C-OC-DRNG OTHER COSTS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Group	0026: \$0.00
Group 0027: Mainline - Travel La	anes			
0095 D-MC-PVMT MAJOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT	67,878.00	SY	\$68.00000	\$4,615,704.00
3:42:13PM				

Estimate: Alt E OH cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
13" Reinforced Concrete Pavement	manaatian			
includes o Agy base and Subgrade Co	трасион		Total for Group 0027:	\$4,615,704.00
Crever 0000 Mainline Outside				
Group 0028: Mainline - Outside 3	5noulder	19	00000 02	00.02
MAJOR COST DRIVERS, PAVEMENT	04.404.00		\$0.00000	\$0.00
13" Reinforced Concrete Pavement	21,164.00	SY	\$68.00000	\$1,439,152.00
Includes 6" Agg base and Subgrade Co	mpaction		Total for Group 0028:	\$1.439.152.00
				<i>•••••••••••••••••••••••••••••••••••••</i>
Group 0030: Mainline - Inside Sh	noulder		#0 00000	\$ 0.00
MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Co.	15,864.00	SY	\$68.00000	\$1,078,752.00
			Total for Group 0030:	\$1,078,752.00
Group 0031: Ramps (including s	houlders)		
0122 D-MC-PVMT	1.00	, LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, PAVEMENT 0497 D-MC-PVMT	33.743.00	SY	\$68.00000	\$2,294,524.00
13" Reinforced Concrete Pavement	mnaction			* , - ,
	mpaolion		Total for Group 0031:	\$2,294,524.00
Group 0032: Non - Mainline Lan	96			
0132 D-MC-PVMT	1.00	LS	\$0.0000	\$0.00
MAJOR COST DRIVERS, PAVEMENT	244 603 00	SY	\$41,00000	\$10 028 723 00
Asphalt	d Subarada i	Composition	φ+1.00000	¥10,020,720.00
includes 3 440, 9 301, 0 Agg base an	u Subyraue (Compaction	Total for Group 0032: S	\$10,028,723.00
Crown 0041: Other Devement C	anta			
0163 D-OC-PVMT	1 00	IS	\$0,0000	\$0.00
OTHER COSTS, PAVEMENT		20	Total far Ora	··· 0044: © 0.00
			Total for Grou	up 0041: \$0.00
Group 0042: Water Works				
0164 E-MC-WATR MAJOR COST DRIVERS, WATER LINE	0.00	LS	\$0.00000	\$0.00
0165 E-OC-WATR	0.00	LS	\$0.00000	\$0.00
			Total for Grou	up 0042: \$0.00
Group 0043: Sanitary Line				
0170 F-MC-SANI	0.00	LS	\$0.00000	\$0.00
3:42:13PM Wednesday, December 01, 2010				Page 7 of 12

Estimate: Alt E OH cont 5			PB	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
MAJOR COST DRIVERS, SANITARY	SEWER			
			Total for Group 0043	: \$0.00
Group 0044: Lighting - Full Inte	rchange			
0173 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	1.00	EACH	\$469,000.00000	\$469,000.00
			Total for Group 0044: \$469	,000.00
Crawn 0045: Lighting Dortiol I				
0288 G-MC-LTNG	nterchange	e LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING			Total for Group 0045	: \$0.00
Group 0046: Lighting - Continue	ous Roadv	vay		
0176 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG Lighting - Continuous	10,720.00	FT	\$35.00000	\$375,200.00
			Total for Group 0046: \$375	,200.00
Group 0047: Other Lighting Cos	sts			
0177 G-OC-LTNG OTHER COSTS, LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group 0047	: \$0.00
Group 0048: Traffic Surveillanc	۵			
0178 H-OC-SURV	1.00	LS	\$1,210,022.02000	\$1,210,022.02
OTHER COSTS, TRAFFIC SORVEILL			Total for Group 0048: \$1,210	,022.02
Group 0049: Signs				
0179 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
0501 J-MC-TRAF	2.03	MILE	\$250,000.00000	\$507,500.00
elgile			Total for Group 0049: \$507	,500.00
Group 0050: Pavement Marking	g			
0200 J-MC-TRAF		LS	\$0.00000	\$0.00
0502 644E00100 EDGE LINE	10.98	MILE	\$3,000.00000	\$32,940.00
0503 644E00200 LANE LINE	11.91	MILE	\$2,000.00000	\$23,820.00
			Total for Group 0050: \$56	,760.00

Estimate: Alt E OH cont 5				PB Americas, Inc.
<u>Line #</u> <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Group 0051: Other Traffic Con	trol Costs			
0208 J-OC-TRAF	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, TRAFFIC CONTRO			Total for Group	0051: \$0.00
Group 0052: Signals - Intersec	tions			
0212 K-MC-SGNL MAJOR COST DRIVERS, SIGNALS	4.00	LS	\$175,000.00000	\$700,000.00
			Total for Group 0052:	\$700,000.00
Group 0053: Other Traffic Sigr	nal Costs			
0213 K-OC-SGNL	1.00	LS	\$0.00000	\$0.00
OTHER OCOTO, OIONALO			Total for Group	0053: \$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP	1.00	LS	\$0.00000	\$0.00
0215 L-OC-LSCP	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, LANDSCAPING			Total for Group	0054: \$0.00
Group 0055: Retaining Walls \$	6125 + \$10/	ft for ca	ps. barriers and testing	
0216 M-MC-WALL	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, RETAININ 0504 M-MC-WALL	G WALLS 278,121.00	SF	\$135.00000	\$37,546,335.00
Retaining Walls			Total for Group 0055: \$3	7,546,335.00
Group 0056: Other Retaining V	Wall Costs			
0217 M-OC-WALL OTHER COSTS RETAINING WALLS	1.00	LS	\$0.00000	\$0.00
			Total for Group	0056: \$0.00
Group 0057: Building Demolitie	on			
		LS	\$0.00000	\$0.00
0219 N-OC-DEMO		LS	\$0.00000	\$0.00
0534 202E98100 REMOVAL MISC.: Radio Tower	0.00	EACH	\$8,500.00000	\$0.00
0535 202E56101 BUILDING DEMOLISHED, AS PER F Small Residential	10.00 PLAN	EACH	\$7,500.00000	\$75,000.00
0536 202E56101 BUILDING DEMOLISHED, AS PER F Small Commercial	4.00 PLAN	EACH	\$15,000.00000	\$60,000.00
0537 202E56101 BUILDING DEMOLISHED, AS PER F	5.00 PLAN	EACH	\$12,000.00000	\$60,000.00
0.40.40DM				

3:42:13PM Wednesday, December 01, 2010

Estimate: Alt E OH cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Large Residential 0538 202E56101 BUILDING DEMOLISHED, AS PER Large Commercial	0.00 PLAN	EACH	\$30,000.00000	\$0.00
			Total for Group 0057:	\$195,000.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR MAJOR COST DRIVERS, NOISE B	1.00 ARRIER	LS	\$0.00000	\$0.00
0505 P-MC-NSBR Noise Barrier	0.00	LS	\$25.00000	\$0.00
			Total for Group	0058: \$0.00
Group 0059: Other Noise Bar	rier Costs			
0221 P-OC-NSBR	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, NOISE B			Total for Group	0059: \$0.00
Group 0060: New Structures				
0222 R-MC-STRC	1.00	LS	\$0.00000	\$0.00
0506 R-MC-STRC	URES 147,873.00	SF	\$125.00000	\$18,484,125.00
Tier 1 Structures to 25' Height 0507 R-MC-STRC	0.00	SF	\$12.00000	\$0.00
Removal of Existing Structures non- 0508 R-MC-STRC	-complex 100,928.00	SF	\$17.00000	\$1,715,776.00
Standard Removal of Existing Struc 0509 R-MC-STRC	tures above avera 130,786.00	age complex SF	\$30.00000	\$3,923,580.00
Removal of Existing Structures com 0513 R-MC-STRC	plex to very comp 177,985.00	olex SF	\$150.00000	\$26,697,750.00
Tier 2 Structures 25' to 50' Height 0516 R-MC-STRC	0.00	SF	\$200.00000	\$0.00
Tier 3 Structures 50' to 75' Height			Total for Group 0060: \$5	0 821 231 00
				0,021,201.00
Group 0061: Rehabilitated St		SE	\$45,00000	00.02
MAJOR COST DRIVERS, STRUCT	URES	36	φ45.00000 Τ () () Ο	\$0.00
			Total for Group	0061: \$0.00
Group 0062: Other Structure	Costs			
0224 R-OC-STRC OTHER COSTS, STRUCTURES Contingency	0.00	LS	\$0.00000	\$0.00
			Total for Group	0062: \$0.00
Group 0063: Temporary Road	d and Paver	nent Costs	3	
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTE	1.00 NANCE OF TRAF	LS FFIC	\$0.00000	\$0.00
3:42:13PM Wednesday, December 01, 2010				Page 10 of 12

Estimate: Alt E OH cont 5			PB AI	mericas, Inc.
Line # <u>Item Number</u> Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0063:	\$0.00
Group 0064: Portable Concrete	Barrier (P	CB)		
0226 S-MC-MNTC MAJOR COST DRIVERS, MAINTENAL	1.00 NCE OF TRAF	LS FFIC	\$0.00000	\$0.00
· · · · · · · · · · · · · · · · · · ·			Total for Group 0064:	\$0.00
Group 0065: Impact Attenuators	5			
0227 S-MC-MNTC	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTENA	NCE OF TRAF	FIC	Total for Group 0065:	\$0.00
Group 0066: Sheeting				
0229 S-MC-MNTC MAJOR COST DRIVERS MAINTENAL	1.00 NCE OF TRAF	LS	\$0.00000	\$0.00
		110	Total for Group 0066:	\$0.00
Group 0067: Temporary Signals	3			
0230 S-MC-MNTC	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTENA	NCE OF TRAF	FIC	Total for Group 0067:	\$0.00
Crown 0069, Work Zono Lightin	~			• • • •
	g 0.00	10	00000 02	ድር በር
MAJOR COST DRIVERS, MAINTENA	NCE OF TRAF	FIC	\$0.00000	φ0.00
			Total for Group 0068:	\$0.00
Group 0069: Innovative Contract	cting Incen	tatives		
0232 S-MC-MNTC MAJOR COST DRIVERS. MAINTENA	0.00 NCE OF TRAF	LS FFIC	\$0.00000	\$0.00
		-	Total for Group 0069:	\$0.00
Group 0070: Other MOT Costs				
0233 S-OC-MNTC	1.00	LS	\$0.00000	\$0.00
0512 S-OC-MNTC		MILE	\$500,000.00000 \$1	,015,000.00
OTTER COSTS, MAINTENANCE OF	INAFFIC		Total for Group 0070: \$1,015,0	00.00
Group 0071: Wetland Construct	tion			
0234 T-MC-WTLD	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, WETLAND 0360 T-MC-WTLD	CONSTRUCT 0.00	ION LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, WETLAND	CONSTRUCT	ION	Total for Group 0071:	\$0.00
Group 0072: Misc. Costs				

stimate:	Alt E OH cont 5				PB Americas, Inc.
<u>Line #</u> Des Sup	<u>Item Number</u> <u>cription</u> plemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0235 MAJ	U-MC-MISC IOR COST DRIVERS, MISCELLANE	0.00 OUS COST	LS S	\$0.00000	\$0.00
0236 OTH	U-OC-MISC IER COSTS, MISCELLANEOUS COS	0.00 STS	LS	\$0.00000	\$0.00
0237 SPE LIAE	100E00300 CIAL - PREMIUM ON RAILROADS' I BILITY INSURANCE	1.00 PROTECTI	LS VE PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY	\$10,000.00 \$10,000.00
0238 CON <i>0.59</i>	623E10000 NSTRUCTION LAYOUT STAKES %	1.00	LS	\$611,061.12000	\$611,061.12
0239 MAI 5%	614E11000 NTAINING TRAFFIC	1.00	LS	\$2,444,244.48000	\$2,444,244.48
0240 FIEI	619E16020 D OFFICE, TYPE C	65.00	MNTH	\$2,500.00000	\$162,500.00
0242 MOI	624E10000 BILIZATION	1.00	LS	\$2,000,000.00000	\$2,000,000.00
0511 PRE <i>0.5</i> 9	103E05000 MIUM FOR CONTRACT PERFORM %	1.00 ANCE BON	LS ID AND F	\$611,061.12000 OR PAYMENT BOND	\$611,061.12
				Total for Group C	072: \$5,838,866.72

Group 0073: Design Contingency Costs

0243 V-MC-CNTG MAJOR COST DRIVERS, CONTINGENCY	1.00 COSTS	LS	\$0.00000	\$0.00
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY COSTS	1.00	LS	\$32,012,772.69000	\$32,012,772.69
2070			Total for Group 0073:	\$32,012,772.69

Group 0074: Inflation Contingency

0266	V-OC-CNTG	0.00	LS	\$0,0000	\$0.00
0200		0.00	20	\$0.00000	φ0.00
ОТЦ	ED COSTS CONTINICENCY COSTS				
	ER COSTS, CONTINGENCT COSTS				
				T () (0) 007 (\$ 0.00
				$\int \Delta t dt for (\frac{1}{2} r \partial t dt for) (\frac{1}{2} r \partial t dt for)$	C (1)(1)

Total for Group 0074: \$0.00

PID	89069	County	HAM	Route	75	Section	1.9	This R/W Acquisition cost estima
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Macro View												At	tributes			
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
-Residential	2.18	х	\$128,297.57	\$279,689	+	782660	+	N/A	\$782,660.00	=	\$1,062,348.70	31	27	4	15	Estimate the total number of acres involved in the
-Commercial	1.1	X	\$93,288.38	\$102,617	+	642800	+	N/A	\$642,800.00	=	\$745,417.22	23	8	15	4	project and allocate those acres into the four
-Industrial	0.39	X	\$142,576.25	\$55,605	+	0	+	N/A	\$0.00	=	\$55,604.74	13	3	10	0	categories shown.
-Agricultural	0	X	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Relocation	Unit (Displacement)	x	*RHF	?/*RSP	+	Move Cost	+	Reestabli	shment	=	Total Non Labor RAP Costs	Estima	ite amount of tim	e necessary	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
-Residential		T										Estimat	e number of yea	rs until projec	ct wide R/W	card data.
Owner Occupant Tenant	14 27	X X	\$34 \$1(4,000 0,000	+ +	\$6,000 \$1,750				=	\$560,000 \$317,250	acq	uisition begins =		2	Add structure values from the auditors tax cards only if the structures are taken.
-Commerical/Farm/NPO Owner Tenant	2 2				x x	\$15,000 \$15,000	++	\$10,0 \$10,0	000 000	=	\$50,000 \$50,000					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on
-Personal Property	0				X	\$1,000				=	\$0					Major Projects) and requires some knowledge of the
{[(Total Cost of Acquisition Cost)x	0.90]x0.025}+{[(Total o Cost)x0.10]x1.50	of Ac } = C	quisition Cost)x0. Contingency	.15]x1.20}+{[(Total	of Ac	cquisition		Contine (Incidentals, Admin. Re	gency eview & Appropriation	on)	656838.157	*RHP - Re	placement Hous	ing Payment		Relocation Cost Estimates must consider the
							Ň	Total Non Lab	or R/W Costs	,	\$3,497,458.82	*RSP - Re *NPO - No	nt Supplemental	Payment ation		complexity of the move process. All move estimates
					—					_	<u> </u>					that involve a business or a mulit-tenant residential structure should use the services of a relocation
Macro View	Unit (Dereele)	V		Drice		Tetal Cost	1								<u> </u>	Assistance professionnal to accurately gauge costs.
	67	$\frac{1}{x}$		400		\$26 800	-			I	This R/W	V Cost Estin	nate Prepared b	у	Date	
Approicel		+	<u> </u>	100	<u> </u>	Ψ20,000				I					2/4/2040	Instructions for Labor Cost Estimates
-Simple	12	X	\$7	750	=	\$9,000				I		Chris Cie	mons		8/4/2010	Labor costs are a function of time, distance, and
-Detailed	55	х	\$4	r, 5 00	=	\$247,500				I	This R/W Cost Estir	mate was pe	rformed at Step		6	talent. Labor costs estimates should reflect the
Appraisal Review		1				1	1			I	of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The
-Simple	12	x	\$!	500	=	\$6,000				ļ	l		 			person making the cost estimate may adjust the
-Detailed	55	Х	\$2	.,000	=	\$110,000				I	<u> </u>					to reflect local labor costs. It is critical that the
Negotiations	67	X	\$1	,100	=	\$73,700										estimate be labeled to reflect the alignment
Relocations -Personal Property	0	x	\$1	,500	=	\$0										alternative, the step in the PDP process and the person(s) performing the estimate.
-Residential -Commercial/Farm/*NPO	41		\$5, \$5	,200	=	\$213,200 I						То	tal Labor Costs	\$77:	2,250.00	Comments
Closings	67	$\frac{1}{x}$	φυ, \$,000	$\frac{1}{1}$	⇒∠∠,400 ¢26,800										Cost/Unit were generated from auditors tax card data.
Droject Management	67	$\frac{1}{x}$	Ψ [¬] s	+00 -550	+	\$20,000 \$36,850					7	Total Non La	abor R/W Costs	\$3,49	97,458.82	
Ashestos Testing & Abatement		$\frac{1}{x}$			$\frac{1}{1}$	ψ00,000	1									
		Tot	tal Labor Cos	its		\$772,250	1					Inflatio	on Adjustments	\$350),116.12	
*NPO = Non-Profit Organization		_				<u> </u>	1					Т	otal R/W Costs	\$4,61	9,824.94	
~					—		יי			-				<u> </u>	ı	'
						P.D.P.	K/	W Cost E	stimator	ſ						

Labor (External)	Unit (Parcels)	X	Unit Price	=	Total Cost
Titles	67	Х	\$400	=	\$26,800
Appraisal	10		#75 0		#0 000
-Simple	12	X	\$750	=	\$9,000
-Detailed	55	Х	\$4,500	=	\$247,500
Appraisal Review					
-Simple	12	х	\$500	=	\$6,000
-Detailed	55	х	\$2,000	=	\$110,000
Negotiations	67	Х	\$1,100	=	\$73,700
Relocations					
-Personal Property	0	Х	\$1,500	=	\$0
-Residential	41	Х	\$5,200	=	\$213,200
-Commercial/Farm/*NPO	4	х	\$5,600	=	\$22,400
Closings	67	Х	\$400	=	\$26,800
Project Management	67	Х	\$550	=	\$36,850
Asbestos Testing & Abatement		Х		=	
		Tota	al Labor Costs		\$772,250
*NPO = Non-Profit Organization	-				

Total No. Labor Acquisition Costs Porcel Count Total Takes Partial Takes No. of Structures impacted \$1.082,348.70 31 27 4 15 \$745,417.22 23 8 15 4 15 \$55,604.74 13 3 10 0 0 \$50,00 0 0 0 0 0 Assign an average unit price for each category. Total Non Labor RAP Costs Estimate amount of time necessary to relocate all RAP parcels = (months) 24 Estimate number of years until project wide RW 3560,000 24 Segn on Major Projects) and thereather must base are data. Add structure values from the auditors tax cards only if the structure are taken. \$50,000 \$317,250 acquisition begins = 2 \$50,000 *RHP - Replacement Housing Payment 'RSP - Rent Supplemental Payment 'RSP - Rent Suppl		Att	ributes			P			
\$1.082.348.70 31 27 4 15 \$745.417.22 23 8 15 4 \$55.604.74 13 3 10 0 \$0.00 0 0 0 0 \$0.00 0 0 0 0 Total Non Labor RAP Costs Estimate amount of time necessary to relocate all RAP parcels = (months) 24 \$60.000 \$317.260 acquisition begins = 2 \$50.000 \$317.260 acquisition begins = 2 \$50.000 \$30.000 *RHP - Replacement Housing Payment "RSP - Rent Supplemental Payment "RSP - Rent Supplemental Payment "RSP - Rent Supplemental Payment "NPO - Non-Profit Organization Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for liner ovejects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures. This R/W Cost Estimate Prepared by of the PDP for MAJOR_Projects using Date for the particular project being estimate that involve a business or a function of time, distance, and talent. Labor costs are a function of the diagnment atternative, the step in the PDP ince diagnet the stimate for the PDP for This R/W Cost Estimate was performed at Step of the PDP for MAJOR_Projects using Cornnexts Total Non Labor R/W Costs \$3,497,458.82	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates			
\$745,417.22 23 8 15 4 \$55,604.74 13 3 10 0 \$30.00 0 0 0 0 0 Total Non Labor RAP Costs Estimate amount of time necessary to relocate all RAP parcels = (months) 24 S56,0.00 Estimate number of years until project wide RVW acquisition begins = 2 \$50,000 Estimate number of years until project wide RVW acquisition begins = 2 \$50,000 Estimate number of years until project wide RVW acquisition begins = 2 \$50,000 S50,000 Damages must be assessed by a pre-qualified expert with experince in Before & After analysis. This usually occurs at Step 4 for Minor Projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures. \$66838.157 "RHP - Replacement Housing Payment "RSP - Rent Supplemental Payment "RSP - Rent Supplemental Payment "RSP - Rent Supplemental Payment "NPO - Non-Profit Organization Date This R/W Cost Estimate Prepared by Date Instructions for Labor Cost Estimates that invoke us business or a multicentant residential structure should use the services of a relocation Assistance professionnal to accurately gauge costs. This R/W Cost Estimate Prepared by Date Instructions for Labor Cost Estimate to file total labor cost estimate may adjust the figure given for the patincluar project	\$1,062,348.70	31	27	4	15	Estimate the total number of acres involved in the			
\$55,604.74 13 3 10 0 \$50,000 0 0 0 0 Total Non Labor RAP Costs Estimate amount of time necessary to relocate all RAP parcels = (months) 24 \$56,0.00 Estimate number of years until project wide RVW acquisition begins = 2 \$50,000 Estimate number of years until project wide RVW acquisition begins = 2 \$50,000 Estimate number of years until project wide RVW acquisition begins = 2 \$50,000 Estimate number of years until project wide RVW acquisition begins = 2 \$50,000 Estimate number of years until project wide RVW acquisition begins = 2 \$50,000 Estimate number of years until project wide RVW acquisition begins = 2 \$50,000 Estimate Project Si and tequies some knowledge of the impacts of the project on structures. Relocation Cost Estimate Project (Si QEP 6 on Major Projects) and tequies some knowledge of the impacts of the project on structures. This RW Cost Estimate Prepared by Date Othe PDP for MAJOR Projects wide Project Si and tequite the ant residential structure should use the services of a relocation Assistance project scient and way in a timely manner. The person maining the cost estimates may adjust the figure given for the particular project betal the complexity of the project and the talent necess	\$745,417.22	23	8	15	4	project and allocate those acres into the four			
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656838.157 *RHP - Replacement Housing Payment *RSP - Rent Supplemental Payment *NPO - Non-Profit Organization Relocation Cost Estimates must consider the complexity of the move process. All move estimates that involve a business or a multi-tenant residential structure should use the services of a relocation Assistance professionnal to accurately gauge costs. This R/W Cost Estimate Prepared by Date Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step 6 of the PDP for MAJOR Projects using 6 of the PDP for MAJOR Projects using 6 complexity of the project and the talent necessary to acquire the right of way in a timely manner. The person making the cost estimate may adjust the figures given for the PDP process and the person(s) performing the estimate. Total Labor Costs \$772,250.00 Convents \$350,116.12 Inflation Adjustments \$350,116.12 Total R/W Costs \$4,619,824.94	\$0					Major Projects) and requires some knowledge of the impacts of the project on structures			
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This R/W Cost Estimate Prepared by Date Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step 6 of the PDP for MAJOR Projects using — End to the PDP for MAJOR Projects using — End to the PDP for MAJOR Projects using — End to the PDP for MAJOR Projects using — End to the PDP for MAJOR Projects using — End to the PDP for MAJOR Projects using End to the PDP for to the particular project being estimated to reflect local labor costs. It is critical that the estimate he labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate. Cost/Unit were generated from auditors tax card data. Inflation Adjustments \$350,116.12 Total R/W Costs \$4,619,824.94						structure should use the services of a relocation			
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Chris Clemons 8/4/2010 This R/W Cost Estimate was performed at Step of the PDP for MAJOR Projects using	This R/M	V Cost Estim	ate Prepared b	У	Date				
This R/W Cost Estimate was performed at Step 6 of the PDP for MAJOR Projects using 6 content acquire the right of way in a timely manner. The person making the cost estimate may adjust the figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate. Total Labor Costs \$772,250.00 Comments Cost/Unit were generated from auditors tax card data. Inflation Adjustments \$350,116.12 Total R/W Costs \$4,619,824.94		Chris Cler	mons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and			
of the PDP for MAJOR Projects using Complexity of the project and the talent necessary to acquire the right of way in a timely manner. The person making the cost estimate may adjust the figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate. Total Labor Costs \$772,250.00 Total Non Labor R/W Costs \$3,497,458.82 Inflation Adjustments \$350,116.12 Total R/W Costs \$4,619,824.94	This R/W Cost Estir	mate was per	formed at Step		6	talent. Labor costs estimates should reflect the			
Total Labor Costs \$772,250.00 Total Non Labor R/W Costs \$3,497,458.82 Inflation Adjustments \$350,116.12 Total R/W Costs \$4,619,824.94	of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The			
Total Labor Costs \$772,250.00 Total Non Labor R/W Costs \$33,497,458.82 Inflation Adjustments \$350,116.12 Total R/W Costs \$4,619,824.94						person making the cost estimate may adjust the figures given for the particular project being estimated			
Total Labor Costs \$772,250.00 Total Non Labor R/W Costs \$3,497,458.82 Inflation Adjustments \$350,116.12 Total R/W Costs \$4,619,824.94						to reflect local labor costs. It is critical that the			
Total Labor Costs \$772,250.00 Total Non Labor R/W Costs \$3,497,458.82 Inflation Adjustments \$350,116.12 Total R/W Costs \$4,619,824.94						alternative, the step in the PDP process and the			
Total Labor Costs\$772,250.00Total Non Labor R/W Costs\$3,497,458.82Inflation Adjustments\$350,116.12Total R/W Costs\$4,619,824.94						person(s) performing the estimate.			
Total Non Labor R/W Costs \$3,497,458.82 Inflation Adjustments \$350,116.12 Total R/W Costs \$4,619,824.94		Tot	al Labor Costs	\$772	2,250.00	Comments			
Inflation Adjustments \$350,116.12 Total R/W Costs \$4,619,824.94	1	Fotal Non La	bor R/W Costs	\$3,49	97,458.82	Cost/Unit were generated from auditors tax card data.			
Total R/W Costs \$4,619,824.94		Inflatio	n Adjustments	\$350	0,116.12				
		Т	otal R/W Costs	\$4,61	9,824.94				
						-			

	Att	ributes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$1,062,348.70	31	27	4	15	Estimate the total number of serves involved in the
\$745,417.22	23	8	15	4	project and allocate those acres into the four
\$55,604.74	13	3	10	0	categories shown.
\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor RAP Costs	Estimate amount of time necess			to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
\$560,000 \$317,250	Estimate acqu	e number of year uisition begins =	s until projec	ct wide R/W 2	card data. Add structure values from the auditors tax cards only if the structures are taken.
\$50,000 \$50,000 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures.
656838.157	*RHP - Rej *RSP - Rej	placement Hous	ing Payment		Relocation Cost Estimates must consider the
\$3,497,458.82	*NPO - No	n-Profit Organiza	complexity of the move process. All move estimates		
					structure should use the services of a relocation
This R/V	V Cost Estim	ate Prepared b	y	Date	Assistance professionnal to accurately gauge costs.
	Chris Cler	mons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
This R/W Cost Estir	mate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The person making the cost estimate may adjust the figures given for the particular project being estimated
					to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate.
	Tot	al Labor Costs	\$772	2,250.00	Comments
٦	Fotal Non La	bor R/W Costs	\$3,49	7,458.82	Cost/Unit were generated from auditors tax card data.
	Inflatio	n Adjustments	\$350),116.12	
	Т	otal R/W Costs	\$4,61	9,824.94	

Estimate Alt E OH cont 6

Estimated Cost: \$24,818,545.94 Contingency: 57.60% Estimated Total: \$39,114,028.40

OH-6 Reconstruction from North of Linn St to Findlay St Base Date: 07/22/10 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: District: Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt E OH cont 6				PB Americas, Inc.			
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>			
Group 0001: Pavement Removal							
0001 A-MC-RDWY	0.00	LS	\$0.00000	\$0.00			
0343 202E23000	72,055.00	SY	\$8.00000	\$576,440.00			
			Total for Group 0001: \$	576,440.00			
Group 0002: Excavation - Rock	0.00		¢00.0000	* 0.00			
MAJOR COST DRIVERS, ROADWAY	0.00	Cr	\$30.00000	\$0.00			
Group 0003 [,] Excavation - Soil			Total for Group 0	002: \$0.00			
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00			
MAJOR COST DRIVERS, ROADWAY 0344 203E10000	121,755.00	CY	\$8.00000	\$974,040.00			
EXCAVATION			Total for Group 0003: \$	974,040.00			
Group 0004: Excavation - Hazar	dous						
0006 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00			
			Total for Group 0	004: \$0.00			
Group 0005: Fill - Embankment	(includes	wasting	excess excavation)				
0007 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00			
0345 203E20000	121,755.00	CY	\$6.00000	\$730,530.00			
EMBANKMENT			Total for Group 0005: \$	730,530.00			
Group 0006: Fill Lime Modified	Soil						
0010 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00			
MAJOR COST DRIVERS, ROADWAY 0346 205E10050	0.00	CY	\$7.00000	\$0.00			
LIME STABILIZED EMBANKMENT 0347 205E10300	0.00	TON	\$5.00000	\$0.00			
LIME			Total for Group O				
				000. φ0.00			
Group 0007: Fill - Borrow			A 0.0000	* •••••			
0011 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	0.00	CY	\$8.00000	\$0.00			
			Total for Group 0	007: \$0.00			
Group 0008: Concrete Barrier							
0012 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00			
0465 622E10060	4,953.00	FT	\$110.00000	\$544,830.00			
4:07:47PM				Dama 2 of 42			

Estimate: Alt E OH cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SLC	PE, TYPE B		Total for Group 0008:	\$544,830.00
Group 0009: Subgrade Treatm	ent - Lime			
0014 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300 LIME	0.00	TON	\$10.00000	\$0.00
0350 206E11000 CURING COAT	0.00	SY	\$1.00000	\$0.00
0351 206E20000 TEST ROLLING	0.00	HOUR	\$4.00000	\$0.00
			Total for Group	0009: \$0.00
Group 0010: Subgrade Treatm	ent - Ceme	ent		
	93,609.00	SY	\$2.50000	\$234,022.50
MAJOR COST DRIVERS, ROADWAT			Total for Group 0010:	\$234,022.50
Group 0011: Subgrade Treatm	ent - Unde	rcut &	Backfill	
0017 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
			Total for Group	0011: \$0.00
Group 0012: Other Roadway C	oete			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
0020 201E11000	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT	\$0.00000	\$0.00
0029 202E38000	0.00	FT	\$0.00000	\$0.00
0030 202E42206	0.00	EACH	\$0.00000	\$0.00
0031 202E58000	0.00	EACH	\$0.00000	\$0.00
0032 202E58100	0.00	EACH	\$0.00000	\$0.00
0033 202E75000	0.00	FT	\$0.00000	\$0.00
FENCE REMOVED 0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Estimate:	Alt E	OH	cont 6
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Estimate: Alt E OH cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
0035 204E10000	0.00	SY	\$0.81000	\$0.00
SUBGRADE COMPACTION	0.00	ET	00000 02	00.02
SPECIAL - PRESSURE RELIEF	JOINT, TYPE A	ГІ	\$0.00000	φ0.00
0037 606E13000	2,291.00	FT	\$14.00000	\$32,074.00
0038 606E22000 ANCHOR ASSEMBLY TYPE B-9	0.00	EACH	\$1,411.29597	\$0.00
0039 606E22010	0.00	EACH	\$1,712.52574	\$0.00
0040 606E26500	0.00	EACH	\$487.23435	\$0.00
ANCHOR ASSEMBLY, TYPE T	0.00	FACH	\$969 12750	\$0.00
BRIDGE TERMINAL ASSEMBLY	, TYPE 1	EXCIT	φ000.12100	φ0.00
0042 606E35100 BRIDGE TERMINAL ASSEMBLY	0.00 TYPE 2	EACH	\$338.36354	\$0.00
0043 606E60010	0.00	EACH	\$3,439.05897	\$0.00
IMPACT ATTENUATOR, TYPE 1 0044 607E15000	-98 (BIDIRECTION 0.00	AL) FT	\$0.00000	\$0.00
FENCE, TYPE 47			••••••	
0423 304E20000 AGGREGATE BASE	0.00	CY	\$0.00000	\$0.00
For Fencing 0424 601E32100	0.00	CY	\$0.00000	\$0.00
ROCK CHANNEL PROTECTION	, TYPE B WITH FIL	TER		
0425 607E40500 GATE, TYPE 47	0.00	EACH	\$731.31641	\$0.00
For Fencing 0426 625E32000	0.00	EACH	\$0.00000	\$0.00
GROUND ROD				
0466	0.00		\$0.00000	\$0.00
			Total for Gro	oup 0012: \$32,074.00
Croup 0014: Sooding & Mul	obing / Soddir			
Group 0014: Seeding & Mul	ching / Soddir	ig	¢0,0000	¢0.00
MAJOR COST DRIVERS, EROS	I.00	LS	\$0.00000	\$0.00
	0.00	SY	\$1.00000	\$0.00
0531 660E25000	0.00	SY	\$15.00000	\$0.00
SODDING STAKED			Total f	or Group 0014: \$0.00
Group 0015: Rock Channel	Protection			
0047 B-MC-ERCO MAJOR COST DRIVERS_EROS	1.00	LS	\$0.00000	\$0.00
0469 601E32000		CY	\$75.00000	\$0.00
ROCK CHANNEL PROTECTION			Total f	or Group 0015: \$0.00
				• •
Group 0016: Erosion Contro	ol - Item 832			
0048 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
4:07:47 PM Wednesday, December 01, 2010				Page 4 of 12

Estimate: Alt E OH cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
MAJOR COST DRIVERS, EROSIC	N CONTROL			
0470 832E10000 STORM WATER POLILITION PRE	1.00	LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	35,000.00	EACH	\$1.00000	\$35,000.00
			Total for Gro	oup 0016: \$85,000.00
Group 0017: Other Erosion C	Control Costs			
0049 670E00700	0.00	SY	\$0.00000	\$0.00
0050 B-OC-ERCO	1.00 ROI	LS	\$0.00000	\$0.00
0051 659E00100	0.00	EACH	\$0.00000	\$0.00
0052 659E00300 TOPSOIL	0.00	CY	\$0.00000	\$0.00
0053 659E14000	0.00	SY	\$0.00000	\$0.00
0054 659E15000	0.00	SY	\$0.71000	\$0.00
0055 659E20000	0.00	TON	\$410.06813	\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000 WATER	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000 MOWING	0.00	MSF	\$0.00000	\$0.00
			Total fo	or Group 0017: \$0.00
Group 0018: Underdrains	4.00		¢0,0000	\$ 0.00
MAJOR COST DRIVERS, DRAINA	1.00 .GE	LS	\$0.00000	\$0.00
0062 605E05100 4" SHALLOW PIPE UNDERDRAIN	51,204.00 S	FT	\$8.00000	\$409,632.00
			Total for Grou	p 0018: \$409,632.00
Group 0019: Culverts - Type	A: < 5'			
0474 C-MC-DRNG MAJOR COST DRIVERS DRAINA	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG MAJOR COST DRIVERS, DRAINA	0.00 .GE	FT	\$350.00000	\$0.00
Pipe Structures - Reinforced Concr	rete Pipe up to 60"	, EACH	\$1 500 00000	\$0.00
MAJOR COST DRIVERS, DRAINA Concrete Masonry	.GE	E/(OIT	ψ1,000.00000	φ0.00
,			Total fo	or Group 0019: \$0.00
Group 0021: Culverts, Type A	A: 5' - 10'			
0067 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINA	0.00 GE	FT	\$550.00000	\$0.00
4:07:47PM				

Estimate: Alt E OH cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
Pipe Structures - Reinforced Concrete 5'- 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	-10' 66" to 7 0.00	78" EACH	\$1,500.00000	\$0.00
			Total for	Group 0021: \$0.00
Group 0022: Culverts, Type A: 10)' - 20'			
0486 C-MC-DRNG MAJOR COST DRIVERS DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pi	0.00 pe 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for	Group 0022: \$0.00
Group 0024: BMP's	1.00	1.0	# 0,0000	\$ 0.00
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for	Group 0024: \$0.00
Group 0025: Closed Storm Syste	m			
0077 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	7,258.00	FT	\$75.00000	\$544,350.00
0523 604E00800 CATCH BASIN, NO. 3A	70.00	EACH	\$1,500.00000	\$105,000.00
0524 604E31500 MANHOLE, NO. 3	7.00	EACH	\$3,000.00000	\$21,000.00
0525 604E36601			\$0.00000	\$0.00
0526 Special Pump Station (Storm)	0.00 0.00	LS	\$6,400,000.00000	\$0.00
0527 Special Stormceptors	0.00	EACH	\$5,750.00000	\$0.00
0529 Special Retention basin improvements	0.00	LS	\$109,000.00000	\$0.00
			Total for Group	0025: \$670,350.00
Group 0026: Other Drainage Cos	ts			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, DRAINAGE			Total for	Group 0026: \$0.00
Group 0027: Mainline - Travel La	nes			
	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Con	68,710.00	SY	\$68.00000	\$4,672,280.00
4:07:47PM				

Estimate: Alt E OH cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0027: \$	64,672,280.00
Group 0028: Mainline - Outside S	Shoulder			
	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement	11,609.00	SY	\$68.00000	\$789,412.00
includes o Agg base and Subgrade Cor	πραστιοπ		Total for Group 0028:	\$789,412.00
Group 0030: Mainline - Inside Sh	oulder			
0115 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement	13,290.00	SY	\$68.00000	\$903,720.00
Includes 6" Agg base and Subgrade Cor	mpaction		Total for Group 0030:	\$903,720.00
Group 0031: Ramps (including sl	houlders)	1		
0122 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	0.00	SY	\$68.00000	\$0.00
Includes 6" Agg base and Subgrade Cor	mpaction		Total for Group	0031: \$0.00
0132 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, PAVEMENT	0.00	SY	\$41,00000	\$0.00
Asphalt	d Subarada (Commonstian	ψ-1.00000	φ0.00
includes 3 446, 9 301, 6 Agg base and	u Subgrade (Jompaction	Total for Group	0032: \$0.00
Group 0041: Other Pavement Co	osts			
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Group	0041: \$0.00
Group 0042: Water Works				
0164 E-MC-WATR MAJOR COST DRIVERS, WATER LINE	0.00	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Group	0042: \$0.00
Group 0043: Sanitary Line				
0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY S	0.00 EWER	LS	\$0.00000	\$0.00
4:07:47PM				

Estimate: Alt E OH cont 6			PE	3 Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0043	3: \$0.00
Group 0044: Lighting - Full Intere	change			
0173 G-MC-LTNG MAJOR COST DRIVERS. LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG MAJOR COST DRIVERS LIGHTING	0.00	EACH	\$469,000.00000	\$0.00
			Total for Group 0044	4: \$0.00
Group 0045: Lighting - Partial Int	terchange	9		
0288 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group 0048	5: \$0.00
Group 0046: Lighting - Continuo	us Roadw	vay		
0176 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG	0.00	FT	\$138.00000	\$0.00
			Total for Group 0046	6: \$0.00
Group 0047: Other Lighting Cost	ts			
0177 G-OC-LTNG	4,276.00	LS	\$35.00000	\$149,660.00
OTHER COSTS, LIGHTING			Total for Group 0047: \$149	9,660.00
Group 0048: Troffic Surveillance				
0178 H-OC-SURV	1.00	LS	\$185,954.41000	\$185,954.41
OTHER COSTS, TRAFFIC SURVEILLA	NCE		Total for Group 0048: \$185	5,954.41
Croup 0040: Signa				
0179 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CC 0501 J-MC-TRAF	NTROL 0.81	MILE	\$250,000.00000	\$202,500.00
Signs			Total for Group 0049: \$202	2.500.00
			····· ···· ···· ···· ··· ··· ··· ··· ·	, *
	1 00	19	00000	ድስ ስስ
MAJOR COST DRIVERS, TRAFFIC CC	NTROL		φυ.υυυυυ Φο οροορ	φ 0.00
EDGE LINE	4.88	MILE	\$3,000.00000	\$14,640.00
0503 644E00200 LANE LINE	6.47	MILE	\$2,000.00000	\$12,940.00
			Total for Group 0050: \$27	7,580.00

Group 0051: Other Traffic Control Costs

Estimate: Alt E OH cont 6			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0208 J-OC-TRAF OTHER COSTS_TRAFFIC CONTROL	1.00	LS	\$0.00000	\$0.00
Group 0052: Signals Intersecti	005		Total for Group 0051:	\$0.00
0212 K-MC-SGNL	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, SIGNALS			Total for Group 0052:	\$0.00
Group 0053: Other Traffic Signa	l Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0053:	\$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP MAJOR COST DRIVERS, LANDSCAPI	1.00 NG	LS	\$0.00000	\$0.00
0215 L-OC-LSCP OTHER COSTS, LANDSCAPING	1.00	LS	\$0.00000	\$0.00
			Total for Group 0054:	\$0.00
Group 0055: Retaining Walls \$1	25 + \$10/	ft for ca	ps, barriers and testing	
0216 M-MC-WALL MAJOR COST DRIVERS, RETAINING	1.00 WALLS	LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	7,780.00	SF	\$135.00000 \$	1,050,300.00
			Total for Group 0055: \$1,050,3	300.00
Group 0056: Other Retaining W	all Costs			
0217 M-OC-WALL OTHER COSTS, RETAINING WALLS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0056:	\$0.00
Group 0057: Building Demolition	า			
0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING D	1.00 EMOLITION	LS	\$0.00000	\$0.00
0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOLITI	1.00 ON	LS	\$0.00000	\$0.00
0532 202E98100 REMOVAL MISC.: <i>Radio Tower</i>	0.00	EACH	\$8,500.00000	\$0.00
0533 202E56101 BUILDING DEMOLISHED, AS PER PL Small Residential	0.00 AN	EACH	\$7,500.00000	\$0.00
0534 202E56101 BUILDING DEMOLISHED, AS PER PL Small Commercial	0.00 AN	EACH	\$15,000.00000	\$0.00
0535 202E56101 BUILDING DEMOLISHED, AS PER PL Large Residential	0.00 AN	EACH	\$12,000.00000	\$0.00
0536 202E56101	0.00	EACH	\$30,000.00000	\$0.00
4·()/·47PM				

4:07:47PM Wednesday, December 01, 2010

Estimate: Alt E OH cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
BUILDING DEMOLISHED, AS PER PL	AN			
Large Commercial			Total for Grou	ID 0057: \$0.00
				φ 0007. φ0.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR MAJOR COST DRIVERS, NOISE BARI	1.00 RIER	LS	\$0.00000	\$0.00
0505 P-MC-NSBR Noise Barrier	40,012.00	SF	\$25.00000	\$1,000,300.00
Noise Damei			Total for Group 0058:	\$1,000,300.00
Croup 0050: Other Noise Parrie	r Cooto			
		19	00000 م	00.02
OTHER COSTS, NOISE BARRIER	1.00	LO	\$0.00000	\$0.00
0368 P-MC-NSBR MAJOR COST DRIVERS, NOISE BARI	0.00 RIER	LS	\$0.00000	\$0.00
			Total for Grou	ıp 0059: \$0.00
Group 0060: New Structures				
0222 R-MC-STRC	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, STRUCTUR	ES 36 980 00	SF	\$125,00000	\$4 622 500 00
Tier 1 Structures to 25' Height	0.00	0	\$120.00000	¢ 1,022,000.00
Removal of Existing Structures non-con	nplex	5F	\$12.00000	\$0.00
0508 R-MC-STRC Standard Removal of Existing Structure	30,310.00 s above avera	SF ade complex	\$17.00000	\$515,270.00
0509 R-MC-STRC	0.00	SF	\$30.00000	\$0.00
0513 R-MC-STRC	0.00	SF	\$150.00000	\$0.00
Tier 2 Structures 25' to 50' Height 0516 R-MC-STRC	0.00	SF	\$200.00000	\$0.00
Tier 3 Structures 50' to 75' Height			Total for Group 0060:	\$5 137 770 00
				ψ5,157,770.00
Group 0061: Rehabilitated Struc	tures			
0223 R-MC-STRC MAJOR COST DRIVERS, STRUCTUR	0.00 ES	SF	\$45.00000	\$0.00
			Total for Grou	ıp 0061: \$0.00
Croup 0062: Other Structure Co	oto			
	SIS		¢0,0000	¢0.00
OTHER COSTS, STRUCTURES	0.00	LS	\$0.00000	\$0.00
Contingency			Total for Grou	up 0062: \$0.00
				.p 000_1 \$0100
Group 0063: Temporary Road a	nd Paven	nent Costs		
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTENAN	1.00 ICE OF TRAF	LS FFIC	\$0.00000	\$0.00

Estimate: Alt E OH cont 6		PB /	Americas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
Description Supplemental Description			
			* • • • •
		Total for Group 0063:	\$0.00
Group 0064: Portable Conci	rete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT	ENANCE OF TRAFFIC	Tatal for Crown 0004	¢ 0.00
		Total for Group 0064.	ФО.ОО
Group 0065: Impact Attenua	ators		
0227 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT	ENANCE OF TRAFFIC	Total for Group 0065:	\$0.00
			+ • • • •
Group 0066: Sheeting			
0229 S-MC-MNTC MAJOR COST DRIVERS MAINT	1.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
0 0007 T 0			
Group 0067: Temporary Sig	inals	* 0.0000	\$ 0.00
MAJOR COST DRIVERS, MAINT	0.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Lig	Inting		
0231 S-MC-MNTC	0.00 IS	\$0,0000	\$0.00
MAJOR COST DRIVERS, MAINT	ENANCE OF TRAFFIC	<i></i>	φ0.00
		Total for Group 0068:	\$0.00
Group 0069: Innovative Cor	ntracting Incentatives		
0232 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT	ENANCE OF TRAFFIC	Total for Croup 0060:	¢0.00
		Total for Group 0069.	Φ0.00
Group 0070: Other MOT Co	osts		
0233 S-OC-MNTC	1.00 LS	\$0.00000	\$0.00
0512 S-OC-MNTC	OF TRAFFIC 0.81 MILE	\$500,000.00000	\$405,000.00
OTHER COSTS, MAINTENANCE	OF TRAFFIC	Total for Croup 0070, \$405	000.00
		10tai 10t G10up 0070. \$405,	000.00
Group 0071: Wetland Const	truction		
0234 T-MC-WTLD		\$0.00000	\$0.00
0360 T-MC-WTLD	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, WETLA	AND CONSTRUCTION	Total for Croup 0071:	\$0.00
		10tal 101 Group 007 1.	φ0.00

Group 0072: Misc. Costs

Estimate: Alt E OH cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELLA	0.00 NEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS (0.00 COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILROAE LIABILITY INSURANCE	0.00 DS' PROTECTIV	LS VE PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY DAMA	\$0.00
0238 623E10000 CONSTRUCTION LAYOUT STAKES 0.5%	1.00	LS	\$93,906.97000	\$93,906.97
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$375,627.90000	\$375,627.90
0240 619E16020 FIELD OFFICE, TYPE C	44.00	MNTH	\$2,500.00000	\$110,000.00
0242 624E10000 MOBILIZATION	1.00	LS	\$400,000.00000	\$400,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERFO	1.00 RMANCE BON	LS D AND F	\$93,906.97000 OR PAYMENT BOND	\$93,906.97
0518	0.00		\$0.00000	\$0.00
0519	0.00		\$0.00000	\$0.00
0520	0.00		\$0.00000	\$0.00
0021	0.00		Total for Group 0072:	\$1,073,441.84
Group 0073: Design Contingen	icy Costs			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTING	1.00 NCY COSTS	LS	\$0.00000	\$0.00
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY CC 25%	1.00 DSTS	LS	\$4,963,709.19000	\$4,963,709.19
			Total for Group 0073:	\$4,963,709.19
Group 0074: Inflation Continge	ncy			
0266 V-OC-CNTG OTHER COSTS, CONTINGENCY CC	0.00 STS	LS	\$0.00000	\$0.00
			Total for Gro	up 0074: \$0.00

Estimate Alt E OH cont 7

Estimated Cost: \$411,459,793.70 Contingency: 57.60%

Estimated Total: \$648,460,634.87

OH-7 Reconstruction of the New Bridge over the Ohio to North of Linn St Base Date: 07/22/10 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: 8 Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt E OH cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
Group 0001: Pavement Remova	al			
0001 A-MC-RDWY MAJOR COST DRIVERS ROADWAY	0.00	LS	\$0.00000	\$0.00
0343 202E23000 PAVEMENT REMOVED	117,932.00	SY	\$8.00000	\$943,456.00
			Total for Group 0001:	\$943,456.00
Group 0002: Excavation - Rock	0.00	٢٧	¢30,000,00	00.02
MAJOR COST DRIVERS, ROADWAY	0.00		\$30.00000 T. () () O	\$0.00 0000 0 0 00
			Total for Group	0002: \$0.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0344 203E10000 EXCAVATION	193,736.00	CY	\$8.00000	\$1,549,888.00
			Total for Group 0003: \$	1,549,888.00
Group 0004: Excavation - Hazar	dous			
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group	0004: \$0.00
Group 0005: Fill - Embankment	(includes	wasting	excess excavation)	
0007 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY 0345 203E20000	197,488.00	CY	\$6.00000	\$1,184,928.00
EMBANKMENT	,		Total for Group 0005. \$	1 184 028 00
				1,104,920.00
Group 0006: Fill - Lime Modified	Soil		#0.0000	4 0.00
MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0346 205E10050 LIME STABILIZED EMBANKMENT	0.00	CY	\$7.00000	\$0.00
0347 205E10300 LIME	0.00	TON	\$5.00000	\$0.00
			Total for Group	0006: \$0.00
Group 0007: Fill - Borrow				
0011 A-MC-RDWY	3,752.00	CY	\$8.00000	\$30,016.00
MAJOR COST DRIVERS, ROADWAT			Total for Group 0007:	\$30,016.00
Group 0008: Concrete Barrier				
0012 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY 0465 622E10060	11,155.00	FT	\$110.00000	\$1,227,050.00
4:27:11PM				

Estimate: Alt E OH cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SLO	OPE, TYPE B		Total for Group 0008:	\$1,227,050.00
Group 0009: Subgrade Treatm	nent - Lime			
0014 A-MC-RDWY	1.00 Y	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300 LIME	0.00	TON	\$10.00000	\$0.00
0350 206E11000 CURING COAT	0.00	SY	\$1.00000	\$0.00
0351 206E20000	0.00	HOUR	\$4.00000	\$0.00
			Total for Gro	up 0009: \$0.00
Group 0010: Subgrade Treatm	nent - Ceme	ent		
0016 A-MC-RDWY	122,406.00	SY	\$2.50000	\$306,015.00
MAJOR COST DRIVERS, ROADWA	Ŷ		Total for Group 001	0: \$306,015.00
Group 0011: Subgrade Treatm	nent - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS ROADWA	1.00 Y	LS	\$0.00000	\$0.00
			Total for Gro	up 0011: \$0.00
Group 0012: Other Beadway	Costs			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
1REE REMOVED, 18" SIZE 0022 201E23000 TREE REMOVED 20" SIZE	0.00	EACH	\$405.00000	\$0.00
0023 201E24800	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200 PIPE REMOVED OVER 24"	0.00	FT	\$0.00000	\$0.00
0029 202E38000	0.00	FT	\$0.00000	\$0.00
0030 202E42206 ANCHOR ASSEMBLY REMOVED	0.00	EACH	\$0.00000	\$0.00
	0.00	EACH	\$0.00000	\$0.00
0032 202E58100 CATCH BASIN REMOVED	0.00	EACH	\$0.00000	\$0.00
0033 202E75000	0.00	FT	\$0.00000	\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Estimate:	Alt E	OH cont 7	
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Estimate: Alt E OH cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
PROOF ROLLING				
0035 204E10000	0.00	SY	\$0.81000	\$0.00
0036 451E30000 SPECIAL - PRESSURE RELIEF	0.00 OINT TYPE A	FT	\$0.00000	\$0.00
0037 606E13000 GUARDRAIL TYPE 5	14,675.00	FT	\$14.00000	\$205,450.00
0038 606E22000 ANCHOR ASSEMBLY, TYPE B-9	0.00	EACH	\$1,411.29597	\$0.00
0039 606E22010	0.00	EACH	\$1,712.52574	\$0.00
0040 606E26500 ANCHOR ASSEMBLY TYPE T	0.00	EACH	\$487.23435	\$0.00
0041 606E35000 BRIDGE TERMINAL ASSEMBLY	0.00 TYPE 1	EACH	\$969.12750	\$0.00
0042 606E35100 BRIDGE TERMINAL ASSEMBLY	0.00 TYPE 2	EACH	\$338.36354	\$0.00
		EACH	\$3,439.05897	\$0.00
0044 607E15000 FENCE, TYPE 47	0.00	FT	\$0.00000	\$0.00
0423 304E20000 AGGREGATE BASE	0.00	CY	\$0.00000	\$0.00
0424 601E32100 ROCK CHANNEL PROTECTION, For Fencing	0.00 TYPE B WITH FIL	CY TER	\$0.00000	\$0.00
0425 607E40500 GATE, TYPE 47 For Fencing	0.00	EACH	\$731.31641	\$0.00
0426 625E32000 GROUND ROD	0.00	EACH	\$0.00000	\$0.00
0466	0.00		\$0.00000	\$0.00
			Total for Grou	ıp 0012: \$205,450.00
Group 0014: Seeding & Mule	ching / Soddir	ng		
0045 B-MC-ERCO MAJOR COST DRIVERS, EROSI	1.00 ON CONTROL	LS	\$0.00000	\$0.00
0467 659E10000 SEEDING AND MULCHING	35,073.00	SY	\$1.00000	\$35,073.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000	\$0.00
			Total for Gro	oup 0014: \$35,073.00
Group 0015: Rock Channel	Protection			
0047 B-MC-ERCO		LS	\$0.00000	\$0.00
0469 601E32000		CY	\$75.00000	\$0.00
NOON GHANNEL FROTECTION,			Total f	or Group 0015: \$0.00
Group 0016. Frasion Contro	l - Item 832			
0048 B-MC-ERCO	1 00_	1.5	\$0.0000	00.02
4:27:11PM	1.00	20	φυ.υυυυυ	φ0.00

Estimate: Alt E OH cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
MAJOR COST DRIVERS, EROSION	CONTROL			
0470 832E10000 STORM WATER POLLUTION PREV	1.00 ENTION PLAN	LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	42,000.00	EACH	\$1.00000	\$42,000.00
			Total for Gro	oup 0016: \$92,000.00
Group 0017: Other Erosion Co	ontrol Costs			
0049 670E00700	0.00	SY	\$0.00000	\$0.00
0050 B-OC-ERCO	1.00	LS	\$0.00000	\$0.00
0051 659E00100 SOIL ANALYSIS TEST	0.00	EACH	\$0.00000	\$0.00
0052 659E00300 TOPSOIL	0.00	CY	\$0.00000	\$0.00
0053 659E14000 REPAIR SEEDING AND MULCHING	0.00	SY	\$0.00000	\$0.00
0054 659E15000 INTER-SEEDING	0.00	SY	\$0.71000	\$0.00
0055 659E20000 COMMERCIAL FERTILIZER	0.00	TON	\$410.06813	\$0.00
0056 659E31000 LIME	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000 WATER	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000 MOWING	0.00	MSF	\$0.00000	\$0.00
			Total fo	or Group 0017: \$0.00
Group 0018: Underdrains				
0059 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0062 605E05100	75,225.00	FT	\$8.00000	\$601,800.00
			Total for Grou	ıp 0018: \$601,800.00
Group 0019: Culverts - Type A	.: < 5'			
0474 C-MC-DRNG	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG	E 0.00	FT	\$350.00000	\$0.00
Pipe Structures - Reinforced Concret	E ■ Pipe up to 60	,		
0481 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	0.00 E	EACH	\$1,500.00000	\$0.00
Concrete Masonry			Total fo	or Group 0019: \$0.00
Group 0021: Culverts, Type A	5' - 10'			
0067 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, DRAINAG 0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	E 0.00	FT	\$550.00000	\$0.00
4:27:11PM				

Estimate: Alt E OH cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
Pipe Structures - Reinforced Concrete 5' 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	-10' 66" to 1 0.00	78" EACH	\$1,500.00000	\$0.00
			Total for	Group 0021: \$0.00
Group 0022: Culverts, Type A: 10)' - 20'			
0486 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pl	0.00	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for	Group 0022: \$0.00
Group 0024: BMP's	4.00	1.0	\$ 0,0000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for	Group 0024: \$0.00
Group 0025: Closed Storm Syste	m			
0077 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	12,454.00	FT	\$75.00000	\$934,050.00
0523 604E00800 CATCH BASIN NO 3A	128.00	EACH	\$1,500.00000	\$192,000.00
0524 604E31500 MANHOLE, NO, 3	9.00	EACH	\$3,000.00000	\$27,000.00
0525 604E36601	0.00 ET AS		\$0.00000	\$0.00
0526 Special Pump Station (Storm)	0.00	LS	\$6,400,000.00000	\$0.00
0527 Special Stormcentors	0.00	EACH	\$5,750.00000	\$0.00
0529 Special Retention basin improvements	0.00	LS	\$109,000.00000	\$0.00
			Total for Group 0	025: \$1,153,050.00
Group 0026: Other Drainage Cos	sts			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, DRAINAGE			Total for	Group 0026: \$0.00
Group 0027: Mainline - Travel La	nes			
0095 D-MC-PVMT MAJOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Cor	39,260.00 npaction	SY	\$68.00000	\$2,669,680.00
4:27:11PM				

Estimate: Alt E OH cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0027:	\$2,669,680.00
Group 0028: Mainline - Outside	Shoulder			
0100 D-MC-PVMT MAJOR COST DRIVERS. PAVEMENT	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement	8,453.00	SY	\$68.00000	\$574,804.00
includes of Agy base and Subgrade Co	прасион		Total for Group 0028	8: \$574,804.00
Group 0030: Mainline - Inside St	noulder			
0115 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement	8,932.00	SY	\$68.00000	\$607,376.00
Includes 6" Agg base and Subgrade Co	mpaction		Total for Group 0030): \$607,376.00
Group 0031: Ramps (including s	houlders)			
0122 D-MC-PVMT MAJOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	29,120.00	SY	\$68.00000	\$1,980,160.00
Includes 6" Agg base and Subgrade Co	mpaction		Total for Group 0031:	\$1,980,160.00
Group 0032: Non - Mainline Lan	es			
0132 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	36,641.00	SY	\$41.00000	\$1,502,281.00
Includes 3" 448, 9" 301, 6" Agg base an	d Subgrade (Compaction	Total for Group 0032:	\$1,502,281.00
Group 0041: Other Pavement Co	osts			
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Grou	ıp 0041: \$0.00
Group 0042: Water Works				
0164 E-MC-WATR MAJOR COST DRIVERS, WATER LINE	0.00	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Grou	ıp 0042: \$0.00
Group 0043: Sanitary Line 0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY S	0.00 EWER	LS	\$0.00000	\$0.00
4·27·11PM				

Estimate: Alt E OH cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group	0043: \$0.00
Group 0044: Lighting - Full Inter	change			
0173 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	3.00	EACH	\$469,000.00000	\$1,407,000.00
			Total for Group 0044: \$	1,407,000.00
Group 0045: Lighting - Partial In	terchange	•		
0288 G-MC-LTNG MAJOR COST DRIVERS. LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group	0045: \$0.00
Group 0046: Lighting - Continue	ous Roadv	vay		
0176 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG	17,952.00	FT	\$35.00000	\$628,320.00
Lighting - Continuous			Total for Group 0046:	\$628,320.00
Group 0047: Other Lighting Cos	ts			
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, LIGHTING			Total for Group	0047: \$0.00
	_		·	·
0178 H-OC-SURV	1 00	IS	\$3 143 783 86000	\$3 143 783 86
OTHER COSTS, TRAFFIC SURVEILL	ANCE		Total for Group 0048: ¢	2 1 1 2 7 2 2 96
				3,143,703.00
Group 0049: Signs				
0179 J-MC-TRAF MAJOR COST DRIVERS, TRAFFIC CO	1.00 DNTROL	LS	\$0.00000	\$0.00
0501 J-MC-TRAF Signs	3.40	MILE	\$250,000.00000	\$850,000.00
			Total for Group 0049:	\$850,000.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF MAJOR COST DRIVERS, TRAFFIC CO	1.00 ONTROL	LS	\$0.00000	\$0.00
0502 644E00100 EDGE LINE	16.60	MILE	\$3,000.00000	\$49,800.00
0503 644E00200	12.50	MILE	\$2,000.00000	\$25,000.00
			Total for Group 0050	: \$74,800.00

Group 0051: Other Traffic Control Costs

Estimate: Alt E OH cont 7			P	B Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0208 J-OC-TRAF	1.00	LS	\$0.00000	\$0.00
Croup 0052: Signala Interpart	iono		Total for Group 005	1: \$0.00
0212 K-MC-SGNL MAJOR COST DRIVERS, SIGNALS	6.50	EACH	\$175,000.00000	\$1,137,500.00
			Total for Group 0052: \$1,13	7,500.00
Group 0053: Other Traffic Signa	al Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
,			Total for Group 005	3: \$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP	1.00	LS	\$0.00000	\$0.00
0215 L-OC-LSCP	1.00	LS	\$0.00000	\$0.00
			Total for Group 005	4: \$0.00
Group 0055: Retaining Walls \$1	125 + \$10/	ft for ca	ps, barriers and testing	
0216 M-MC-WALL	1.00	LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	38,655.00	SF	\$135.00000	\$5,218,425.00
			Total for Group 0055: \$5,21	8,425.00
Group 0056: Other Retaining W	all Costs			
0217 M-OC-WALL	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, RETAINING WALLS			Total for Group 005	6: \$0.00
Group 0057: Building Demolitio	n			
0218 N-MC-DEMO	1.00	LS	\$0.00000	\$0.00
0219 N-OC-DEMO	1.00	LS	\$0.00000	\$0.00
0534 202E98100 REMOVAL MISC.: Radio Tower	0.00	EACH	\$8,500.00000	\$0.00
0535 202E56101 BUILDING DEMOLISHED, AS PER PL	0.00 _AN	EACH	\$7,500.00000	\$0.00
0536 202E56101 BUILDING DEMOLISHED, AS PER PL	3.00 _AN	EACH	\$15,000.00000	\$45,000.00
0537 202E56101 BUILDING DEMOLISHED, AS PER PL	0.00 _AN	EACH	\$12,000.00000	\$0.00
0538 202E56101	1.00	EACH	\$30,000.00000	\$30,000.00
4:27:11PM				

Estimate:	Alt E OH cont 7				PB Americas, Inc.
<u>Line #</u> Des <u>Sup</u>	<u>Item Number</u> <u>cription</u> plemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
BUI	LDING DEMOLISHED, AS PER PLAI	N			
Lai	ge Commercial			Total for Group 005	7: \$75,000.00
Croup	0059: Noice Parrier				
Group	0058: Noise Barrier	4.00		\$ 0,0000	\$ 0.00
MA.	IOR COST DRIVERS, NOISE BARRI	IER	L3	\$0.00000	\$0.00
0505 Nois	P-MC-NSBR se Barrier	0.00	LS	\$25.00000	\$0.00
				Total for Group	p 0058: \$0.00
Group	0059: Other Noise Barrier	Costs			
0221	P-OC-NSBR	1.00	LS	\$0.00000	\$0.00
0368	IER COSTS, NOISE BARRIER P-MC-NSBR	0.00	LS	\$0.00000	\$0.00
MA	IOR COST DRIVERS, NOISE BARRI	IER		Total for Grou	o 0059: \$0.00
_					
Group	0060: New Structures				
0222 MA、	R-MC-STRC IOR COST DRIVERS, STRUCTURE	1.00 S	LS	\$0.00000	\$0.00
0506 Tier	R-MC-STRC 1 Structures to 25' Height	13,862.00	SF	\$125.00000	\$1,732,750.00
0507	R-MC-STRC	0.00	SF	\$12.00000	\$0.00
0508	R-MC-STRC	417,592.00	SF	\$17.00000	\$7,099,064.00
Star 0509	ndard Removal of Existing Structures R-MC-STRC	above avera 267.265.00	age complex SF	\$30,0000	\$8.017.950.00
Ren	noval of Existing Structures complex t	to very comp	blex	¢	¢0,0 ,000.00
0513 Tier	2 Structures 25' to 50' Height	258,057.00	SF	\$150.00000	\$38,708,550.00
0516 Tier	R-MC-STRC 1, 3 Structures 50' to 75' Height	165,330.00	SF	\$200.00000	\$233,066,000.00
	5			Total for Group 0060: \$2	88,624,314.00
Group	0061: Rehabilitated Struct	ures			
0223	R-MC-STRC	0.00	SF	\$45.00000	\$0.00
MA	JOR COST DRIVERS, STRUCTURE	5		Total for Grou	0061: \$0.00
Group	0062: Other Structure Cos	ts			
0224 OTH Con	R-OC-STRC IER COSTS, STRUCTURES tingency	0.00	LS	\$0.00000	\$0.00
	-			Total for Group	p 0062: \$0.00
Group	0063: Temporarv Road an	d Paven	nent Cost	6	
0225	S-MC-MNTC	1.00	LS	\$0.00000	\$0.00

Estimate: Alt E OH cont 7		PB A	mericas, Inc.
<u>Line #</u> <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u> <u>Units</u>	Unit Price	<u>Extension</u>
		Total for Group 0063:	\$0.00
Group 0064: Portable Concrete	Barrier (PCB)		
0226 S-MC-MNTC MAJOR COST DRIVERS, MAINTENA	1.00 LS ANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0064:	\$0.00
Group 0065: Impact Attenuators	S		
0227 S-MC-MNTC MAJOR COST DRIVERS, MAINTENA	1.00 LS NCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0065:	\$0.00
Group 0066: Sheeting			
0229 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTENA	INCE OF TRAFFIC	Total for Group 0066:	\$0.00
	-		
Group 0067: Temporary Signal	S	00000	ድር በባ
MAJOR COST DRIVERS, MAINTENA	NCE OF TRAFFIC	T () (O 0007	φ0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Lightin	ıg		
0231 S-MC-MNTC MAJOR COST DRIVERS. MAINTENA	0.00 LS NCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0068:	\$0.00
Group 0069: Innovative Contra	cting Incentatives		
0232 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTENA	INCE OF TRAFFIC	Total for Group 0069:	\$0.00
Croup 0070, Other MOT Costs			
0233 S-OC-MNTC	100 IS	\$0.0000	\$0.00
OTHER COSTS, MAINTENANCE OF	TRAFFIC	\$500,000,0000	1 700 000 00
OTHER COSTS, MAINTENANCE OF	TRAFFIC	Tatal fan Onsens 0070, ¢4 700 (
		Total for Group 0070: \$1,700,0	00.00
Group 0071: Wetland Construct	tion		
0234 T-MC-WTLD MAJOR COST DRIVERS. WETLAND	0.00 LS CONSTRUCTION	\$0.00000	\$0.00
0360 T-MC-WTLD MAJOR COST DRIVERS WETLAND	0.00 LS CONSTRUCTION	\$0.00000	\$0.00
		Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate: Alt E OH cont 7				PB Americas, Inc.
<u>Line #</u> <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELLA	0.00 NEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS	0.00 COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILROAI LIABILITY INSURANCE	1.00 DS' PROTECTIV	LS /E PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY I	\$10,000.00 DAMAGE
0238 623E10000 CONSTRUCTION LAYOUT STAKES 0.5%	1.00	LS	\$1,587,610.85000	\$1,587,610.85
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$6,350,443.40000	\$6,350,443.40
0240 619E16020 FIELD OFFICE, TYPE C	44.00	MNTH	\$2,500.00000	\$110,000.00
0242 624E10000 MOBILIZATION	1.00	LS	\$2,000,000.00000	\$2,000,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERFC 0.5%	1.00 RMANCE BON	LS D AND F	\$1,587,610.85000 OR PAYMENT BOND	\$1,587,610.85
Group 0073: Design Continger	ncy Costs		Total for Group 007	72: \$11,645,665.10
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTING	1.00 ENCY COSTS	LS	\$0.00000	\$0.00
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY CO 25%	1.00 DSTS	LS	\$82,291,958.74000	\$82,291,958.74
			Total for Group 007	73: \$82,291,958.74
Group 0074: Inflation Continge	ncy			
0266 V-OC-CNTG OTHER COSTS, CONTINGENCY CO	0.00 DSTS	LS	\$0.00000	\$0.00
			Total for	Group 0074: \$0.00

PID	89068	County	HAM	Route	75	Section	0.22	This R/W Acquisition cost estima
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Macro View												At	tributes				
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates	
-Residential	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	Estimate the total number of acres involved in the	
-Commercial	1.65	Х	\$542,378.85	\$894,925	+	6684870	+	N/A	\$6,684,870.00	=	\$7,579,795.10	11	3	8	3	project and allocate those acres into the four	
-Industrial	5.66	Х	\$153,756.16	\$870,260	+	3740	+	N/A	\$3,740.00	=	\$873,999.87	15	6	9	1	categories snown.	
-Agricultural	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors	
Relocation	Unit (Displacement)	x	*RHP	/*RSP	+	Move Cost	+	Reestabli	shment	=	Total Non Labor RAP Costs	Estima	te amount of tim all RAP parcel	e necessary s = (months)	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax	
-Residential Owner Occupant Tenant	0 0	x x	\$34 \$10	,000 ,000	+ +	\$6,000 \$1,750				=	\$0 \$0	Estimat acq	e number of yea uisition begins =	rs until projec	ct wide R/W 2	Add structure values from the auditors tax cards only if the structures are taken.	
-Commerical/Farm/NPO Owner Tenant	3 22				x x	\$15,000 \$15,000	++	\$10,0 \$10,0)00)00	=	\$75,000 \$550,000					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on	
-Personal Property	0				Х	\$1,000				=	\$0					Major Projects) and requires some knowledge of the impacts of the project on structures.	
{[(Total Cost of Acquisition Cost)x0	0.90]x0.025}+{[(Total o Cost)x0.10]x1.50	of Acc } = Cc	quisition Cost)x0. ² ontingency	15]x1.20}+{[(Total	of Ac	quisition	(Conting Incidentals, Admin. Re	gency view & Appropriatio	on)	2979962.726	*RHP - Re	placement Hous	ing Payment		Relocation Cost Estimates must consider the	
								Total Non Lab	or R/W Costs		\$12,058,757.69	*NPO - No	on-Profit Organiz	ation		complexity of the move process. All move estimates	
•• • •												4				structure should use the services of a relocation	
Labor (External)	Unit (Parcels)	X	Unit	Price	=	Total Cost					TI: DA				Data	Assistance professionnal to accurately gauge costs.	
Titles	26	Х	\$4	00	=	\$10,400						V COST ESTIN	hate Prepared b	У	Date		
Appraisal -Simple	3	x	\$7	750	=	\$2,250						Chris Cle	mons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and	
-Detailed	23	Х	\$4,	500	=	\$103,500					This R/W Cost Estir	mate was pe	rformed at Step		6	complexity of the project and the talent necessary to	
Appraisal Review -Simple	3	x	\$5	500	=	\$1,500					of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The person making the cost estimate may adjust the	
-Detailed	23	х	\$2,	000	=	\$46,000										to reflect local labor costs. It is critical that the	
Negotiations	26	Х	\$1,	100	=	\$28,600										estimate be labeled to reflect the alignment	
Relocations -Personal Property -Residential	0 0	x x	\$1, \$5,	500 200	=	\$0 \$0										alternative, the step in the PDP process and the person(s) performing the estimate.	
-Commercial/Farm/*NPO	25	х	\$5,	600	=	\$140,000						To	tal Labor Costs	\$356	6,950.00	Comments	
Closings	26	Х	\$4	100	=	\$10,400					-	Fotal Non La	abor R/W Costs	\$12.0	58 757 69	Cost/Unit were generated from auditors tax card data.	
Project Management	26	Х	\$5	550	=	\$14,300							1501 1777 00313	ψ12,0	30,737.03		
Asbestos Testing & Abatement		Х			=							Inflatio	on Adjustments	\$1,01	8,088.03		
		Tota	al Labor Cost	S		\$356,950							atal B/W Casta	¢12.4	22 705 72		
*NPO = Non-Profit Organization														φ13,4	JJ,I JJ.I Z		
						P.D.P.	R/	W Cost E	stimator	-							

Macro View									
Labor (External)	Unit (Parcels)	Х	Unit Price	=	Total Cost				
Titles	26	Х	\$400	=	\$10,400				
Appraisal -Simple -Detailed	3	x	\$750	=	\$2,250				
	23	Х	\$4,500	=	\$103,500				
Appraisal Review									
-Simple	3	х	\$500	=	\$1,500				
-Detailed	23	Х	\$2,000	=	\$46,000				
Negotiations	26	Х	\$1,100	=	\$28,600				
Relocations									
-Personal Property	0	Х	\$1,500	=	\$0				
-Residential	0	Х	\$5,200	=	\$0				
-Commercial/Farm/*NPO	25	Х	\$5,600	=	\$140,000				
Closings	26	Х	\$400	=	\$10,400				
Project Management	26	Х	\$550	=	\$14,300				
Asbestos Testing & Abatement		Х		=					
		Total Labor Costs							
*NPO = Non-Profit Organization									

	Att	ributes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$0.00	0	0	0	0	Estimate the total number of acres involved in the
\$7,579,795.10	11	3	8	3	project and allocate those acres into the four
\$873,999.87	15	6	9	1	categories shown.
\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor RAP Costs	Estimat	te amount of tim	e necessary s = (months)	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
\$0 \$0	Estimate acqu	e number of year uisition begins =	rs until projec	ct wide R/W 2	card data. Add structure values from the auditors tax cards only if the structures are taken.
\$75,000 \$550,000 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures
2979962.726	*RHP - Re	placement Hous	ing Payment		Polocation Cost Estimatos must consider the
\$12,058,757.69	*NPO - No	nt Supplemental n-Profit Organiza	Payment ation	complexity of the move process. All move estimates	
					structure should use the services of a relocation
This R/V	/ Cost Estim	ate Prepared b	у	Date	Assistance professionnal to accurately gauge costs.
	Chris Cler	mons		8/4/2010	Instructions for Labor Cost Estimates
This R/W Cost Estir	mate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The person making the cost estimate may adjust the
<u>. </u>					figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate.
	Tot	al Labor Costs	\$356	6,950.00	Comments
1	Total Non Labor R/W Costs \$12,058,757.69				Costronit were generated from auditors tax card data.
	Inflatio	n Adjustments			
	T	otal R/W Costs			

	Att	ributes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$0.00	0	0	0	0	Estimate the total number of agree involved in the
\$7,579,795.10	11	3	8	3	project and allocate those acres into the four
\$873,999.87	15	6	9	1	categories shown.
\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor RAP Costs	Estimat	e amount of time all RAP parcels	e necessary f s = (months)	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
\$0 \$0	Estimate acqu	e number of year uisition begins =	s until projec	ct wide R/W 2	card data. Add structure values from the auditors tax cards only if the structures are taken.
\$75,000 \$550,000 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures
2979962.726	*RHP - Rej	placement Hous	ing Payment		Impacts of the project on structures.
\$12,058,757.69	*RSP - Rer *NPO - No	nt Supplemental n-Profit Organiza	Payment ation		Relocation Cost Estimates must consider the complexity of the move process. All move estimates
II.					structure should use the services of a relocation
This R/W	/ Cost Estim	ate Prepared by	y	Date	Assistance professionnal to accurately gauge costs.
	Chris Cler	mons		8/4/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
This R/W Cost Estir	nate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The person making the cost estimate may adjust the
					figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment alternative, the step in the PDP process and the person(s) performing the estimate.
	Tot	al Labor Costs	\$356	6,950.00	Comments
٦	「otal Non La	bor R/W Costs	\$12,0	58,757.69	Cost/Unit were generated from auditors tax card data.
	Inflatio	n Adjustments	\$1,01	8,088.03	
	Т	otal R/W Costs	\$13,43		

Estimate Alt I KY cont 2

Estimated Cost: \$7,209,761.51 Contingency: 46.50% Estimated Total: \$10,562,300.61

Base Date: 01/01/15 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10
Estimate: Alt I KY cont 2			PB A	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Group 0001: Pavement Remova	I			
0001 A-MC-RDWY	0.00	LS	\$0.00000	\$0.00
0343 202E23000	2,373.00	SY	\$8.00000	\$18,984.00
			Total for Group 0001: \$18,9	984.00
Group 0002: Excavation - Rock	1 104 00	CV	00000 052	¢22 120 00
MAJOR COST DRIVERS, ROADWAY	1,104.00	CI	\$30.00000	\$33,120.00
			Total for Group 0002: \$33,	120.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0344 203E10000 EXCAVATION	9,936.00	CY	\$8.00000	\$79,488.00
			Total for Group 0003: \$79,	488.00
Group 0004: Excavation - Hazar	dous 1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0004:	\$0.00
Croup 0005: Fill Embankmant ('includes	weating	overe everyotion)	
0007 A-MC-RDWY		LS	\$0.0000	\$0.00
MAJOR COST DRIVERS, ROADWAY	11 040 00	CY	\$6,0000	\$66 240 00
EMBANKMENT	11,040.00	01		\$00,240.00
			Total for Group 0005: \$66,	240.00
Group 0006: Fill - Lime Modified	Soil			
0010 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0346 205E10050 LIME STABILIZED EMBANKMENT	0.00	CY	\$7.00000	\$0.00
0347 205E10300 LIME	0.00	TON	\$5.00000	\$0.00
			Total for Group 0006:	\$0.00
Group 0007: Fill - Borrow				
0011 A-MC-RDWY	0.00	CY	\$8.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0007:	\$0.00
				┬ - 2 ♥ ♥
	1.00	15	\$0.0000	\$0_00
MAJOR COST DRIVERS, ROADWAY	0.00	ET	\$110,0000	φ0.00 Φ0.00
7:22:04AM	0.00	ГТ	φιισ.υυυυυ	Φ0.00
Thursday, December 02, 2010				Daga 2 of 12

Estimate: Alt I KY cont 2			PB /	Americas, Inc.
<u>Line #</u> <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
CONCRETE BARRIER, SINGLE SLOPE,	, TYPE B		Total for Group 0008:	\$0.00
Group 0009: Subgrade Treatment	t - Lime			
0014 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300	0.00	TON	\$10.00000	\$0.00
0350 206E11000	0.00	SY	\$1.00000	\$0.00
0351 206E20000	0.00	HOUR	\$4.00000	\$0.00
			Total for Group 0009:	\$0.00
Group 0010: Subgrade Treatment	t - Ceme	nt		
0016 A-MC-RDWY	3,309.00	SY	\$2.50000	\$8,272.50
MAJOR COST DRIVERS, ROADWAY			Total for Group 0010: \$8,	272.50
Group 0011: Subgrade Treatment	t - Undei	rcut & I	Backfill	
0017 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
			Total for Group 0011:	\$0.00
Group 0012: Other Roadway Cos	ts			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT		\$0.00
0029 202E38000	0.00	FT		\$0.00
0030 202E42206	0.00	EACH		\$0.00
0031 202E58000	0.00	EACH		\$0.00
0032 202E58100	0.00	EACH		\$0.00
0033 202E75000	0.00	FT		\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

7:22:04AM

Estimate: Alt I KY cont 2				PB Americas, Inc.
Line # <u>Item Number</u> <u>Description</u> Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
PROOF ROLLING				
0035 204E10000	0.00	SY	\$0.81000	\$0.00
SUBGRADE COMPACTION 0036 451E30000		FT		\$0.00
0037 606E13000	0.00	FT	\$14.00000	\$0.00
GUARDRAIL, TYPE 5 0038 606E22000	0.00	EACH		\$0.00
ANCHOR ASSEMBLY, TYPE B 0039 606F22010	-98	FACH		\$0.00
ANCHOR ASSEMBLY, TYPE E	-98	2/10/1		\$0.00
0040 606E26500 ANCHOR ASSEMBLY TYPE T	0.00	EACH		\$0.00
0041 606E35000 BRIDGE TERMINAL ASSEMBL	0.00 Y. TYPE 1	EACH		\$0.00
0042 606E35100	0.00	EACH		\$0.00
BRIDGE TERMINAL ASSEMBL 0043 606E60010	Y, TYPE 2 0.00	EACH		\$0.00
IMPACT ATTENUATOR, TYPE	1-98 (BIDIRECTION	AL)		*
0044 607E15000 FENCE, TYPE 47 For Fencing	0.00	FI		\$0.00
0423 304E20000 AGGREGATE BASE	0.00	CY		\$0.00
0424 601E32100 ROCK CHANNEL PROTECTION	0.00 N, TYPE B WITH FIL	CY TER		\$0.00
0425 607E40500 GATE, TYPE 47	0.00	EACH		\$0.00
0426 625E32000 GROUND ROD	0.00	EACH		\$0.00
For Fencing	0.00		\$0,0000	¢0.00
0466	0.00		Total for Group 00	\$0.00 12∙ \$0.00
				ΤΖ. ΦΟ.ΟΟ
Group 0014: Seeding & Mu	Iching / Soddir	ng		
0045 B-MC-ERCO MAJOR COST DRIVERS FRO	1.00 SION CONTROL	LS	\$0.00000	\$0.00
0467 659E10000 SEEDING AND MULCHING	1,328.00	SY	\$1.00000	\$1,328.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000	\$0.00
			Total for Group 0014:	\$1,328.00
Group 0015: Rock Channe	I Protection			
0047 B-MC-ERCO		LS	\$0.00000	\$0.00
0469 601E32000	24.00	CY	\$75.00000	\$1,800.00
ROCK CHANNEL PROTECTIO	N, TYPE A WITH FIL	IEK	Total for Group 0015:	\$1,800.00
Croup 0016: Erosion Contr	al Itam 000			
			#0.0000	* ••••
0048 B-IVIG-ERGO 7:22:04AM	1.00	LS	\$0.00000	\$0.00

Estimate: Alt I KY cont 2			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
MAJOR COST DRIVERS, EROSION CO	ONTROL			
0470 832E10000 STORM WATER POLILITION PREVEN	1.00 ITION PLAN	LS	\$20,000.00000	\$20,000.00
0471 832E20000 EROSION CONTROL	3,000.00	EACH	\$1.00000	\$3,000.00
			Total for Group 0016: \$23,0	00.00
Group 0017: Other Frosion Cont	rol Costs			
0049 670E00700	0.00	SY		\$0.00
DITCH EROSION PROTECTION	1.00		\$0,0000	¢0.00
OTHER COSTS, EROSION CONTROL	1.00	LS	\$0.00000	\$0.00
0051 659E00100	0.00	EACH	\$0.00000	\$0.00
0052 659E00300 TOPSOIL	0.00	CY		\$0.00
	0.00	SY		\$0.00
0054 659E15000 INTER-SEEDING	0.00	SY	\$0.71000	\$0.00
0055 659E20000	0.00	TON		\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000 MOWING	0.00	MSF	\$0.00000	\$0.00
			Total for Group 0017:	\$0.00
Group 0018: Underdrains	4.00		* 2 2222	* • • • •
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0062 605E05100 4" SHALLOW PIPE UNDERDRAINS	1,223.00	FT	\$8.00000	\$9,784.00
			Total for Group 0018: \$9,7	784.00
Group 0010: Culverte Type A:	< 5'			
0474 C-MC-DBNG	0.00	15	\$0,0000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	0.00		\$0.00000 \$050.0000	¢0.00
MAJOR COST DRIVERS, DRAINAGE	0.00	FI	\$350.00000	\$0.00
Pipe Structures - Reinforced Concrete F	Pipe up to 60"		\$1 500 00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	0.00	LACH	\$1,000.00000	φ0.00
Concrete Masonry			Total for Group 0019:	\$0.00
Group 0021: Culverts, Type A: 5	' - 10'			
0067 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	0.00	CT.	¢==0.0000	¢0.00
MAJOR COST DRIVERS, DRAINAGE	0.00	FI	000000	\$U.UU
7:22:04AM				

Estimate: Alt I KY cont 2				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
Pipe Structures - Reinforced Concrete 5 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	'-10' 66" to 7 0.00	78" EACH	\$2,000.00000	\$0.00
			Total for C	Group 0021: \$0.00
Group 0022: Culverts, Type A: 10	0' - 20'			
0486 C-MC-DRNG MAJOR COST DRIVERS. DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete P	0.00 ipe 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
Crown 0024: DMD's			Total for C	Group 0022: \$0.00
Group 0024: BMP S	1 00	19	00000 02	00.02
MAJOR COST DRIVERS, DRAINAGE	1.00	LJ	\$0.00000	\$0.00
			lotal for C	Froup 0024: \$0.00
Group 0025: Closed Storm Syste	em			
0077 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT, TYPE B (Average size)	190.00	FT	\$75.00000	\$14,250.00
0523 604E00800 CATCH BASIN NO 3A	4.00	EACH	\$1,500.00000	\$6,000.00
0524 604E31500 MANHOLE NO 3	0.00	EACH	\$3,000.00000	\$0.00
0525 604E36601	2.00 OUTLET AS		\$1,250.00000	\$2,500.00
0526 Special Pump Station (Storm)	0.00	LS	\$6,400,000.00000	\$0.00
0527 Special	0.00	EACH	\$5,750.00000	\$0.00
0529 Special Potention basin improvements	0.00	LS	\$109,000.00000	\$0.00
Relention basin improvements			Total for Group	0025: \$22,750.00
Group 0026: Other Drainage Cos	sts			
0078 C-OC-DRNG OTHER COSTS DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for C	Group 0026: \$0.00
Group 0027: Mainline - Travel La	ines			
0095 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Cor	0.00 mpaction	SY	\$68.00000	\$0.00
7:22:04AM				

Estimate: Alt I KY cont 2			PB A	mericas, Inc.
Line # <u>Item Number</u> Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0027:	\$0.00
Group 0028: Mainline - Outside	Shoulder			
0100 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement	0.00	SY	\$68.00000	\$0.00
Includes 6" Agg base and Subgrade Co	ompaction		Total for Group 0028:	\$0.00
		19	00000 02	00.02
MAJOR COST DRIVERS, PAVEMENT	1.00	LO	\$0.0000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement	0.00	SY	\$68.00000	\$0.00
Includes 6" Agg base and Subgrade Co	ompaction		Total for Group 0030:	\$0.00
Group 0031: Ramps (including s	shoulders)			
0122 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	0.00	SY	\$68.00000	\$0.00
Includes 6" Agg base and Subgrade Co	ompaction		Total for Group 0031:	\$0.00
Group 0032: Non - Mainline Lan	ies	10	#0.0000	* 0.00
MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	3,309.00	SY	\$41.00000	\$135,669.00
Includes 3" 448, 9" 301, 6" Agg base ai	nd Subgrade (Compaction	Total for Group 0032: \$135,6	69.00
Group 0041: Other Pavement C	osts			
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Group 0041:	\$0.00
Group 0042: Water Works	0.00		#0.00000	¢0.00
MAJOR COST DRIVERS, WATER LIN	0.00 E	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Group 0042:	\$0.00
Group 0043: Sanitary Line 0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY S	0.00 SEWER	LS	\$0.00000	\$0.00
7:22:04AM				

Estimate: Alt I KY cont 2			PB A	mericas, Inc.
Line # Item Number C	Quantity	<u>Units</u>	Unit Price	Extension
Description Supplemental Description				
			T () () 0 0040	\$ 0.00
			Total for Group 0043:	\$0.00
Group 0044: Lighting - Full Intercha	ange			
0173 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	0.00	EACH	\$469,000.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING			Total for Group 0044:	\$0.00
Group 0045: Lighting - Partial Interd	change	;	#0.00000	\$ 0.00
0288 G-MC-LING MAJOR COST DRIVERS, LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group 0045:	\$0.00
Group 0046: Lighting - Continuous	Roadw	/av		
0176 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING	510.00	FT	\$35,00000	\$52 850 00
Lighting - Continuous	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		\$55.00000 	ψ02,000.00
			Total for Group 0046: \$52,8	350.00
Group 0047: Other Lighting Costs				
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, LIGHTING			Total for Group 0047:	\$0.00
				ÇOIGO
Group 0048: Traffic Surveillance				
0178 H-OC-SURV OTHER COSTS, TRAFFIC SURVEILLANCI	0.00 E	LS	\$0.00000	\$0.00
			Total for Group 0048:	\$0.00
Group 0049: Signs				
0179 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CONTI 0501 J-MC-TRAF	ROL 0.29	MILE	\$250,000.00000	\$72,500.00
Signs			Total for Group 0049: \$72.6	500.00
				00.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF MAJOR COST DRIVERS TRAFFIC CONTI	1.00 ROL	LS	\$0.00000	\$0.00
0502 644E00100	0.11	MILE	\$3,000.00000	\$330.00
0503 644E00200	0.16	MILE	\$2,000.00000	\$320.00
			Total for Group 0050: \$6	350.00

Group 0051: Other Traffic Control Costs

Line # Item Number Quantity Units Unit Price Description Supplemental Description Image: Supplemental Description Image: Supplemental Description	<u>Extension</u>
0208 J-OC-TRAF 1.00 LS \$0.00000	\$0.00
Total for Group 0051: S	\$0.00
Group 0052: Signals - Intersections	
0212 K-MC-SGNL 2.00 EACH \$175,000.00000 \$ MAJOR COST DRIVERS, SIGNALS	350,000.00
Total for Group 0052: \$350,00	00.00
Group 0053: Other Traffic Signal Costs	
0213 K-OC-SGNL 1.00 LS \$0.00000 OTHER COSTS SIGNALS	\$0.00
Total for Group 0053: S	\$0.00
Group 0054: Landscaping	
0214 L-MC-LSCP 1.00 LS \$0.00000	\$0.00
0215 L-OC-LSCP 1.00 LS \$0.00000	\$0.00
Total for Group 0054: \$	\$0.00
Group 0055: Retaining Walls \$125 \pm \$10/ft for case, barriers and testing	
0216 M-MC-WALL 1.00 LS \$0.00000	\$0.00
MAJOR COST DRIVERS, RETAINING WALLS 0504 M-MC-WALL 0.00 SF \$135.00000	\$0.00
Retaining Walls	\$0.00
	ψ0.00
Group 0056: Other Retaining Wall Costs	\$ 0.00
OTHER COSTS, RETAINING WALLS	\$0.00
Total for Group 0056: S	\$0.00
Group 0057: Building Demolition	
0218 N-MC-DEMO 1.00 LS \$0.00000 MAJOR COST DRIVERS, BUILDING DEMOLITION	\$0.00
0219 N-OC-DEMO 1.00 LS \$0.00000 OTHER COSTS, BUILDING DEMOLITION	\$0.00
0533 202E56101 0.00 EACH \$30,000.00000 BUILDING DEMOLISHED, AS PER PLAN Large Commercial	\$0.00
0534 202E56101 0.00 EACH \$15,000.00000 BUILDING DEMOLISHED, AS PER PLAN Small Commercial	\$0.00
0535 202E56101 0.00 EACH \$12,000.00000 BUILDING DEMOLISHED, AS PER PLAN Large Residential	\$0.00
0536 202E56101 0.00 EACH \$7,500.00000 BUILDING DEMOLISHED, AS PER PLAN Small Residential	\$0.00
0537 202E98100 0.00 EACH \$8,500.00000	\$0.00

Estimate: Alt I KY cont 2			PB A	Americas, Inc.
Line # Item Number Qu Description Supplemental Description	<u>uantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
REMOVAL MISC.: Radio Towor				
			Total for Group 0057:	\$0.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR MAJOR COST DRIVERS, NOISE BARRIER	1.00	LS	\$0.00000	\$0.00
0505 P-MC-NSBR Noise Barrier	0.00	LS	\$400.00000	\$0.00
			Total for Group 0058:	\$0.00
Group 0059: Other Noise Barrier Co	sts			
0221 P-OC-NSBR OTHER COSTS NOISE BARRIER	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR MAJOR COST DRIVERS NOISE BARRIER	0.00	LS	\$0.00000	\$0.00
			Total for Group 0059:	\$0.00
Group 0060: New Structures				
0222 R-MC-STRC	1.00	LS	\$0.00000	\$0.00
0506 R-MC-STRC 31, Tigr 1 Structures to 25' Height	313.00	SF	\$125.00000 \$	3,914,125.00
0507 R-MC-STRC Pomoval of Existing Structures non-complex	0.00	SF	\$12.00000	\$0.00
0508 R-MC-STRC 24, Standard Removal of Existing Structures abo	939.00	SF	\$17.00000	\$423,963.00
0509 R-MC-STRC	0.00	SF	\$30.00000	\$0.00
Removal of Existing Structures complex to ve 0513 R-MC-STRC	ery comp 0.00	SF	\$150.00000	\$0.00
0516 R-MC-STRC	0.00	SF	\$200.00000	\$0.00
Ther 3 Structures 50 to 75 Height			Total for Group 0060: \$4,338,	088.00
Group 0061: Rehabilitated Structure	S			
0223 R-MC-STRC	0.00	SF	\$45.00000	\$0.00
MAJOR COST DRIVERS, STRUCTURES			Total for Group 0061:	\$0.00
Group 0062: Other Structure Costs				
0224 R-OC-STRC	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, STRUCTURES Contingency				
			Total for Group 0062:	\$0.00
Group 0063: Temporary Road and F	Paven	nent Costs		
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTENANCE C	1.00 F TRAI	LS FFIC	\$0.00000	\$0.00

Estimate: Alt I KY cont 2		PB A	Americas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
Description Supplemental Description			
			* • • • •
		Total for Group 0063:	\$0.00
Group 0064: Portable Concre	ete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Group 0064:	¢0.00
		10tal 101 G10up 0004.	φ0.00
Group 0065: Impact Attenuat	tors		
0227 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE		Total for Group 0065:	\$0.00
			•
Group 0066: Sheeting			
0229 S-MC-MNTC MAJOR COST DRIVERS, MAINTE	1.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
Crown 0067. Tomporon (Sign			
Group 0067. Temporary Sign		00000 02	¢0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	\$0.00000	φ0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Ligh	ntina		
0231 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total far Crown 0069	<u> </u>
		Total for Group 0068:	ФО.ОО
Group 0069: Innovative Cont	tracting Incentatives		
0232 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE		Total for Group 0069:	\$0.00
			+ • • • • •
Group 0070: Other MOT Cos	sts		
0233 S-OC-MNTC OTHER COSTS. MAINTENANCE	1.00 LS OF TRAFFIC	\$0.00000	\$0.00
0512 S-OC-MNTC	0.29 MILE	\$500,000.00000	\$145,000.00
OTHER COSTS, MAINTENANCE	UF TRAFFIC	Total for Group 0070: \$145,	000.00
• • • • • • • • •			
Group 0071: Wetland Constr	ruction		
0234 T-MC-WTLD MAJOR COST DRIVERS, WETLA	0.00 LS ND CONSTRUCTION	\$0.00000	\$0.00
0360 T-MC-WTLD		\$0.00000	\$0.00
		Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate: Alt I KY cont 2				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELI	0.00 ANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS	0.00 S COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILRO/ LIABILITY INSURANCE	0.00 ADS' PROTECTIV	LS VE PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY DAMAGE	\$0.00
0238 623E10000 CONSTRUCTION LAYOUT STAKE 0.5%	1.00 S	LS	\$26,797.62000	\$26,797.62
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$107,190.47000	\$107,190.47
0240 619E16020 FIELD OFFICE, TYPE C	19.00	MNTH	\$2,500.00000	\$47,500.00
0242 624E10000 MOBILIZATION	1.00	LS	\$200,000.00000	\$200,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERF 0.5%	1.00 ORMANCE BON	LS D AND F	\$26,797.62000 OR PAYMENT BOND	\$26,797.62
0518	0.00		\$0.00000	\$0.00
0519	0.00		\$0.00000	\$0.00
0520	0.00		\$0.00000	\$0.00
0521	0.00		\$0.00000	\$0.00
0532	0.00		\$0.00000	\$0.00
			Total for Group 0072:	\$408,285.71

Group 0073: Design Contingency Costs

0243 V-MC-CNTG MAJOR COST DRIVERS, CONTINGENCY	1.00 COSTS	LS	\$0.00000	\$0.00
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY COSTS 25%	1.00	LS	\$1,441,952.30000	\$1,441,952.30
			Total for Group 0073:	\$1,441,952.30

Group 0074: Inflation Contingency

•					
0266	V-OC-CNTG	0.00) LS	\$0.00000	\$0.00
OTH	HER COSTS, CONTINGENCY	COSTS			
				Total for Croup 0074:	¢0 00

Total for Group 0074: \$0.00

Estimate Alt I KY cont 3

Estimated Cost: \$7,818,842.99 Contingency: 29.70% Estimated Total: \$10,141,039.36

Base Date: 01/01/15 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt I KY cont 3 PB Americas, Inc.				
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Group 0001: Pavement Remova	l			
0001 A-MC-RDWY	0.00	LS	\$0.00000	\$0.00
	2,006.00	SY	\$8.00000	\$16,048.00
			Total for Group 0001: \$16,	048.00
Group 0002: Excavation - Rock	1 000 00	<u></u>	¢20,0000	¢со 000 00
MAJOR COST DRIVERS, ROADWAY	1,960.00	CΥ	\$30.00000	\$58,800.00
			Total for Group 0002: \$58,	800.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0344 203E10000	17,640.00	CY	\$8.00000	\$141,120.00
EXCAVATION			Total for Group 0003: \$141,	120.00
Group 0004: Excavation - Hazar	doue			
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0004:	\$0.00
				ψ0.00
Group 0005: Fill - Embankment (includes	wasting	g excess excavation)	••••
0007 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0345 203E20000 EMBANKMENT	19,600.00	CY	\$6.00000	\$117,600.00
			Total for Group 0005: \$117,	600.00
Group 0006: Fill - Lime Modified	Soil			
0010 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0346 205E10050	0.00	CY	\$7.00000	\$0.00
0347 205E10300	0.00	TON	\$5.00000	\$0.00
LIME			Total for Group 0006:	\$0.00
			· · · · · · · · · · · · · · · · · · ·	+ - -
Group 0007: Fill - Borrow	0.00	CV	00000 82	00 00
MAJOR COST DRIVERS, ROADWAY	0.00	C1		φ0.00
			Total for Group 0007:	\$0.00
Group 0008: Concrete Barrier				
0012 A-MC-RDWY MAJOR COST DRIVERS. ROADWAY	1.00	LS	\$0.00000	\$0.00
0465 622E10060	0.00	FT	\$110.00000	\$0.00
1:29:35AM				Dere 9 of 10

Estimate: Alt I KY cont 3			PE	3 Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SLOP	PE, TYPE B		Total for Group 0008	3: \$0.00
Group 0009: Subgrade Treatme	ent - Lime			
0014 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0348 206E10000 LIME STABILIZED SUBGRADE	0.00	SY	\$1.85000	\$0.00
0349 206E10300	0.00	TON	\$10.00000	\$0.00
0350 206E11000	0.00	SY	\$1.00000	\$0.00
0351 206E20000	0.00	HOUR	\$4.00000	\$0.00
			Total for Group 000	9: \$0.00
Group 0010: Subgrade Treatme	ent - Ceme	nt		
0016 A-MC-RDWY	533.00	SY	\$2.50000	\$1,332.50
MAJOR COST DRIVERS, ROADWAY			Total for Group 0010: \$	1,332.50
Group 0011: Subgrade Treatme	ent - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS ROADWAY	1.00	LS	\$0.00000	\$0.00
			Total for Group 001	1: \$0.00
Group 0012. Other Roadway Co	osts			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
0020 201E11000	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT		\$0.00
0029 202E38000	0.00	FT		\$0.00
	0.00	EACH		\$0.00
	0.00	EACH		\$0.00
0032 202E58100	0.00	EACH		\$0.00
0033 202E75000	0.00	FT		\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

7:29:35AM

Line # ten Number Quantity Units Unit Price Extension PROOF ROLLING 0005 20.001 50.001 50.001 50.001 0035 2046RABE COMPACTION 0.00 FT \$0.001 50.001 0036 45163000 0.00 FT \$0.001 \$0.001 0037 506E22000 0.00 FT \$14.00000 \$0.001 0038 606E22000 0.00 EACH \$0.001 \$0.001 0036 506E22000 0.001 EACH \$0.001 \$0.001 0041 606E20500 0.001 EACH \$0.001 \$0.001 0042 607E7607 0.001 EACH \$0.001 \$0.001 00431 607E7607 0.001 <	Estimate: Alt I KY cont 3			PB A	mericas, Inc.
Description Supplemental Description PROOF ROLLING 0.00 SY \$0.81000 \$0.00 038 204E10000 0.00 FT \$0.00 038 500E1000 0.00 FT \$0.00 038 500E1000 0.00 FT \$14.00000 \$0.00 038 500E22000 0.00 EACH \$0.00 \$0.00 0406 500E22010 0.00 EACH \$0.00 \$0.00 0404 600E22010 0.00 EACH \$0.00 \$0.00 0404 600E25010 0.00 EACH \$0.00 \$0.00 0404 600E25010 0.00 EACH \$0.00 \$0.00 0404 600E25010 0.00 EACH \$0.00 \$0.00 0416 600E25010 0.00 EACH \$0.00 \$0.00 0424 601E32100 0.00 CY \$0.00 \$0.00 0425 601E4100 0.00 CY \$0.00 <	Line # Item Number	Quantity	<u>Units</u>	Unit Price	Extension
Subplemental Lescription PROOF ROLLING 0.00 SV \$0.81000 \$0.00 SUBGRADE ConNACTION 0.00 FT \$0.00 \$0.00 SPECIAL- PRESSURE RELIEF JOINT, TYPE A \$0.00 \$0.00 \$0.00 \$0.00 OWAR GORDAN, TYPE G 0.00 FT \$14.00000 \$0.00 OWAR GORDAN, TYPE G 0.00 EACH \$0.00 \$0.00 ANCHOR ASSEMBLY, TYPE F 0.00 EACH \$0.00 \$0.00 OWAR GORDANSTRON 0.00 EACH \$0.00 \$0.00 ANCHOR ASSEMBLY, TYPE T 0.00 EACH \$0.00 \$0.00 OWAR GORDANSTRON, TYPE T 0.00 EACH \$0.00 \$0.00 OWAR GORDANSTRON, TYPE T 0.00 EACH \$0.00 \$0.00 OWAR GORDANSTRON, TYPE T 0.00 EACH \$0.00 \$0.00 OWAR GORDANTERMENT, TYPE T 0.00 FT \$0.00 \$0.00 OWAR GORDANTERMENT, TYPE T 0.00 FT \$0.00 \$0.00 OWAR GORDANTERMENT	<u>Description</u>				
PPROF ROLLING 0.00 SV \$0.81000 \$0.00 SUBGRADE COMPACTION 0.00 FT \$0.00 0036 \$0.00 \$0.00 \$0.00 SPECIAL - PRESSUBE RELIEF JOINT, TYPE A 0.00 FT \$14.00000 \$0.00 0037 \$06252000 0.00 EACH \$0.00 \$0.00 ANCHOR ASSEMBLY, TYPE B-08 0.00 EACH \$0.00 \$0.00 0040 \$06252010 0.00 EACH \$0.00 \$0.00 OND4 506252010 0.00 EACH \$0.00 \$0.00 \$0.00 OND4 506252010 0.00 EACH \$0.00 \$0.00 \$0.00 OND4 50625300 0.00 EACH \$0.00 \$0.00 \$0.00 \$0.00 OND4 50625300 0.00 EACH \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	Supplemental Description				
0035 20421000 0.00 SY \$0.81000 \$0.00 0036 45153000 0.00 FT \$0.00 0976 606213000 0.00 FT \$14.00000 \$0.00 0976 606213000 0.00 FT \$14.00000 \$0.00 0037 606213000 0.00 FA \$14.00000 \$0.00 0038 606222010 0.00 EACH \$0.00 \$0.00 0038 60622010 0.00 EACH \$0.00 \$0.00 0040 60628000 0.00 EACH \$0.00 \$0.00 0041 60628000 0.00 EACH \$0.00 \$0.00 0042 60628001 0.00 EACH \$0.00 \$0.00 0043 60628000 0.00 FT \$0.00 \$0.00 0043 60628100 0.00 FT \$0.00 \$0.00 1042 60123100 0.00 CY \$0.00 \$0.00 10	PROOF ROLLING				
SUBGRADE COMPACTION 0.00 FT \$0.00 OSE 44513000 0.00 FT \$14,00000 \$0.00 GUARDRAL: TYPE 5 0.00 FACH \$0.00 \$0.00 O38<64522000	0035 204E10000	0.00	SY	\$0.81000	\$0.00
000000000000000000000000000000000000	SUBGRADE COMPACTION	0.00	ET		00.02
0037 606E13000 0.00 FT \$14.00000 \$0.00 0038 606E2200 0.00 EACH \$0.00 ANCHOR ASSEMBLY, TYPE B-98 0.00 EACH \$0.00 0040 606E22010 0.00 EACH \$0.00 ANCHOR ASSEMBLY, TYPE T 0.00 EACH \$0.00 0041 606E23500 0.00 EACH \$0.00 ANCHOR ASSEMBLY, TYPE T 0.00 EACH \$0.00 BRIDGE TERMINAL ASSEMBLY, TYPE 1 0.00 EACH \$0.00 BRIDGE TERMINAL ASSEMBLY, TYPE 1 0.00 EACH \$0.00 BRIDGE TERMINAL ASSEMBLY, TYPE 1 0.00 EACH \$0.00 MACHOR ASSEMBLY, TYPE 198 (BIDRCTIONAL) \$0.00 FOR Facing \$0.00 0423 606E0010 0.00 CY \$0.00 \$0.00 0424 601532100 0.00 CY \$0.00 \$0.00 6025 6020 0.00 CACH \$0.00 \$0.00 60242 602652300 0.00 EACH	SPECIAL - PRESSURE RELIEF J	OINT, TYPE A	ГІ		φ0.00
GUARDRAIL, TYPE 5 0.00 EACH \$0.00 0038<60522000	0037 606E13000	0.00	FT	\$14.00000	\$0.00
0000 0000 EACH \$000 \$000 0030 506E22010 000 000 EACH \$000 0040 606E22010 0.00 EACH \$0.00 0040 606E26500 0.00 EACH \$0.00 0041 606E35000 0.00 EACH \$0.00 041 606E35100 0.00 EACH \$0.00 08106E FRMINAL ASSEMBLY, TYPE 1 \$0.00 EACH \$0.00 0423 607E3000 0.00 CY \$0.00 0423 607E32000 0.00 CY \$0.00 0424 601522100 0.00 CY \$0.00 0425 602540500 0.00 EACH \$0.00 0426 625523000 0.00	GUARDRAIL, TYPE 5	0.00	EACH		00.02
0039 606E22010 0.00 EACH \$0.00 ANCHOR ASSEMBLY, TYPE E-38 0.00 EACH \$0.00 0041 606E26500 0.00 EACH \$0.00 0041 606E35000 0.00 EACH \$0.00 0041 606E35000 0.00 EACH \$0.00 0042 606E35010 0.00 EACH \$0.00 0043 606E60010 0.00 EACH \$0.00 0043 606E60010 0.00 EACH \$0.00 0044 607E15000 0.00 CY \$0.00 0423 20428 50.00 \$0.00 CY \$0.00 7 For Fencing 0.00 CY \$0.00 \$0.00 \$0.00 9425	ANCHOR ASSEMBLY, TYPE B-98	8	LACH		φ0.00
ANCHOR ASSEMBLY, TYPE 1 50.00 0040 60525600 0.00 EACH \$0.00 BRIDGE TERMINAL ASSEMBLY, TYPE 1 0.00 EACH \$0.00 0041 60525000 0.00 EACH \$0.00 BRIDGE TERMINAL ASSEMBLY, TYPE 2 0.00 EACH \$0.00 0043 60560010 0.00 EACH \$0.00 MPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL) \$0.00 FOR Fencing \$0.00 0423 304250000 0.00 CY \$0.00 AGREGATE BASE \$0.00 CY \$0.00 For Fencing 0425 607E40500 0.00 EACH \$0.00 GROUND ROD For Fencing \$0.00 S0.000 \$0.00 GROUND ROD \$0.00 \$0.00 For Fencing 0.00 S0.00000 \$0.00 \$0.00 \$0.00 GROUND ROD For Fencing \$0.00 \$0.00 \$0.00 \$0.00 Group 0014: Seeding & Mulching / Sodding \$0.00 \$0.00 \$0.00 \$	0039 606E22010	0.00	EACH		\$0.00
Anchor Assemble Y, TYPE T Dot Encircle Source 0041 606255000 0.00 EACH \$0.00 BRIDGE TERMINAL ASSEMBLY, TYPE 1 0.00 EACH \$0.00 BRIDGE TERMINAL ASSEMBLY, TYPE 2 0.00 EACH \$0.00 0041 606255100 0.00 EACH \$0.00 0043 60662010 0.00 EACH \$0.00 0043 60626010 0.00 EACH \$0.00 0044 607E15000 0.00 FT \$0.00 0423 30426000 0.00 CY \$0.00 0423 607E300 0.00 CY \$0.00 0424 60152100 0.00 CY \$0.00 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER For Fencing \$0.00 \$0.00 0426 62552000 0.00 EACH \$0.00 \$0.00 GROUND ROD For Fencing \$0.000 \$0.00 \$0.00 \$0.00 0456 B-MC-ERCO 1.00	0040 606E26500	0.00	EACH		\$0.00
0041 606E35000 0.00 EACH \$0.00 0842 606E35100 0.00 EACH \$0.00 0843 606E36100 0.00 EACH \$0.00 0443 606E63010 0.00 EACH \$0.00 0443 607E15000 0.00 FACH \$0.00 0444 607E15000 0.00 CY \$0.00 7607 Fencing \$0.00 CY \$0.00 0423 304E20000 0.00 CY \$0.00 7607 Fencing \$0.00 CY \$0.00 0424 601E32100 0.00 CY \$0.00 7607 Fencing \$0.00 CY \$0.00 0425 607E40500 0.00 EACH \$0.00 6426 0.00 \$0.0000 \$0.00 \$0.00 6426 0.00 \$0.0000 \$0.00 \$0.00 6426 0.00 \$0.0000 \$0.00 \$0.00 60426	ANCHOR ASSEMBLY, TYPE T	0.00	2/10/1		\$0100
BRIDGE TERMINAL ASSEMBLY, TYPE 1 0.00 EACH \$0.00 BRIDGE TERMINAL ASSEMBLY, TYPE 2 \$0.00 \$0.00 BRIDGE TERMINAL ASSEMBLY, TYPE 2 \$0.00 043 60560010 0.00 FACH \$0.00 \$0.00 044 607215000 0.00 FT \$0.00 \$0.00 6423 304E20000 0.00 CY \$0.00 \$0.00 6423 304E20000 0.00 CY \$0.00 \$0.00 6424 601E32100 0.00 CY \$0.00 \$0.00 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER For Fencing \$0.00 \$0.00 \$0.00 6725 627640500 0.00 EACH \$0.00 \$0.00 6707 For Fencing \$0.00 \$0.00 \$0.00 \$0.00 670426 62553200 0.00 EACH \$0.00 \$0.00 6707 For Fencing \$0.00 \$0.00 \$0.00 \$0.00 67046 62553200 0.00 \$0.00 \$0.00 </td <td>0041 606E35000</td> <td>0.00</td> <td>EACH</td> <td></td> <td>\$0.00</td>	0041 606E35000	0.00	EACH		\$0.00
BRIDGE TERMINAL ASSEMBLY, TYPE 2 0.00 EACH \$0.00 0043 60660010 0.00 EACH \$0.00 10044 607E15000 0.00 FT \$0.00 10044 607E15000 0.00 FT \$0.00 10044 607E15000 0.00 CY \$0.00 10044 607E3000 0.00 CY \$0.00 10042 601E32100 0.00 CY \$0.00 10042 601E32100 0.00 CY \$0.00 10042 601E32100 0.00 EACH \$0.00 10042 601E42000 0.00 EACH \$0.00 10042 601E32100 0.00 EACH \$0.00 10042 602E32000 0.00 EACH \$0.00 10042 602E12000 0.00 S0.00000 \$0.00 10042 602E12000 0.00 SY \$1.00000 \$0.00 10045 B-MC-ERCO 1.00 LS \$0.000	BRIDGE TERMINAL ASSEMBLY, 0042 606E35100	1YPE 1 0.00	EACH		\$0.00
0043 606E60010 0.00 EACH \$0.00 MMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL) 0.00 FT \$0.00 0444 607E15000 0.00 FT \$0.00 0423 304E20000 0.00 CY \$0.00 AGGREGATE BASE 50.00 AGGREGATE BASE \$0.00 For Fencing 0425 607E40500 0.00 CY \$0.00 0425 607E40500 0.00 EACH \$0.00 \$0.00 0425 607E40500 0.00 EACH \$0.00 \$0.00 GROUND ROD For Fencing 0.00 \$0.000 \$0.00 \$0.00 0466 0.00 \$0.0000 \$0.00 \$0.00 GROUND ROD For Fencing 0.00 \$0.00 \$0.00 0456 50.000 \$0.00 \$0.00 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL \$1.00000 \$0.00 0451 660252000 0.00 \$Y \$15.00000 \$0.00 051	BRIDGE TERMINAL ASSEMBLY,	TYPE 2	Entern		φ0.00
IMPACT AT LENGATOR, TYPE 1-38 (BIDRECTIONAL) S0.00 044 60715000 0.00 FT \$0.00 FeN Fencing 0423 304E20000 0.00 CY \$0.00 0423 304E20000 0.00 CY \$0.00 AGGREGATE BASE 50.00 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER \$0.00 For Fencing 0425 607240500 0.00 EACH \$0.00 GAZE, TYPE 47 50.00 0.00 EACH \$0.00 \$0.00 GAZE GOTE40500 0.00 EACH \$0.00 \$0.00 \$0.00 GAZE GOTE40500 0.00 EACH \$0.00 \$0.00 \$0.00 GAZE GOTE40500 0.00 S0.0000 \$0.00 \$0.00 \$0.00 GAZE GOTE40500 0.00 EACH \$0.00 \$0.00 \$0.00 GAZE GOTE40500 0.00 S0.000 \$0.00 \$0.00 \$0.00 GAZE GOTE40500 0.00 S0.00 \$0.00 \$0.00 \$0.00 \$0.00	0043 606E60010	0.00	EACH		\$0.00
OFFENCE, TYPE 47 0.00 CY \$0.00 Por Fencing \$0.00 CY \$0.00 AGGREGATE BASE \$0.00 CY \$0.00 Por Fencing \$0.00 CY \$0.00 O425 607E40500 0.00 EACH \$0.00 GATE, TYPE 47 For Fencing \$0.00 \$0.00 \$0.00 GA26 62525200 0.00 EACH \$0.00 \$0.00 GAGE 0.00 \$0.00000 \$0.00 \$0.00 \$0.00 GAGE 0.00 S0.000 \$0.00 \$0.00 \$0.00 \$0.00 GAGE 0.00 SY \$1.00000 \$0.00 \$0.00 \$0.00 GAGE 659E10000 0.00 SY \$1.00000 \$0.00 \$0.00 GAGE 659E10000 0.00 SY <t< td=""><td>10044 607E15000</td><td>98 (BIDIRECTION</td><td>AL) FT</td><td></td><td>\$0.00</td></t<>	10044 607E15000	98 (BIDIRECTION	AL) FT		\$0.00
For Fencing S0.00 AGGREGATE BASE S0.00 AGGREGATE BASE S0.00 AGGREGATE BASE S0.00 ROT Fencing S0.00 O424 601E32100 0.00 CY \$0.00 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER S0.00 GAD \$0.00 For Fencing 0425 607E40500 0.00 EACH \$0.00 GROUND ROD For Fencing O S0.00 GROUND ROD For Fencing 0456 0.00 \$0.00000 \$0.000 \$0.00 Group 0014: Seeding & Mulching / Sodding Ouds B-MC-ERCO 1.00 LS \$0.00000 \$0.00 0457 659E10000 0.00 SY \$1.00000 \$0.00 SODDING STAKED Total for Group 0014: \$0.00 0451 601E3200 0.00 SY \$15.0000 \$0.00 SODDING STAKED 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL Total for Group 0014: \$0.00 0469 601E3200 0.00 CY	FENCE, TYPE 47	0.00			\$0.00
0423 30422000 0.00 CY \$0.00 AGGREGATE BASE For Fencing \$0.00 CY \$0.00 0424 601532100 0.00 CY \$0.00 \$0.00 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER For Fencing \$0.00 \$0.00 \$0.00 GATE, TYPE 47 0.00 EACH \$0.00 \$0.00 \$0.00 GROUND ROD Core Fencing \$0.00 \$0.0000 \$0.00 \$0.00 0456 0.00 \$0.0000 \$0.000 \$0.00 \$0.00 Group 0014: Seeding & Mulching / Sodding \$0.00 \$0.000 \$0.00 \$0.00 0455 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0.00 \$Y \$15.0000 \$0.00 0457 658E1000 0.00 SY \$15.0000 \$0.00 SODDING STAKED 0.00 SY \$15.0000 \$0.00 047 B-MC-ERCO 1.00 LS \$0.0000 \$0.00	For Fencing	0.00	0)(* •••••
For Fencing 0424 601E32100 0.00 CY \$0.00 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER \$0.00<	AGGREGATE BASE	0.00	CY		\$0.00
0424 601E32100 0.00 CY \$0.00 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER \$0.00 \$0.00 \$0.00 0425 607E40500 0.00 EACH \$0.00 0426 625E3200 0.00 EACH \$0.00 0466 0.00 \$0.0000 \$0.00 \$0.00 0467 659E10000 1.00 LS \$0.00000 \$0.00 0447 64025000 0.00 SY \$15.00000 \$0.00 0531 660252000 0.00 SY \$15.00000 \$0.00 047 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0.00 \$0.00 \$0.00 047 B-MC-	For Fencing				
OCK CHANNEL PROTECTION, TYPE B WITH FILTER For Fencing \$0.00 GATE, TYPE 47 \$0.00 For Fencing \$0.00 0426 625E32000 0.00 GROUND ROD \$0.000 \$0.000 For Fencing \$0.00 \$0.0000 0466 0.00 \$0.0000 \$0.00 Group 0014: Seeding & Mulching / Sodding \$0.0000 \$0.00 045 B-MC-ERCO 1.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0467 659E10000 \$0.00 \$0.00 0451 660E25000 0.00 \$Y \$15.00000 \$0.00 SODDING STAKED Total for Group 0014: \$0.00 \$0.00 Group 0015: Rock Channel Protection Total for Group 0014: \$0.00 MAJOR COST DRIVERS, EROSION CONTROL \$0.000 \$0.00 047 B-MC-ERCO 1.00 LS \$0.000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL O.00 \$0.00 \$0.00 \$0.00 ROCK CHANNEL PROTECT		0.00	CY		\$0.00
0425 607E40500 0.00 EACH \$0.00 GATE, TYPE 47	For Fencing	I YPE B WITH FIL	IER		
GATE, TYPE 47 For Fencing \$0.00 EACH \$0.00 GROUND ROD For Fencing \$0.00 \$0.00000 \$0.00 0466 0.00 \$0.00000 \$0.00 0466 0.00 \$0.00000 \$0.00 0466 0.00 \$0.00000 \$0.00 045 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0467 659E10000 \$0.00 \$0.00 0457 659E1000 0.00 \$Y \$15.00000 \$0.00 SODDING STAKED 0.00 SY \$15.00000 \$0.00 0467 601E32000 0.00 SY \$15.00000 \$0.00 0477 B-MC-ERCO 1.00 LS \$0.000000 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.0000	0425 607E40500	0.00	EACH		\$0.00
Por Pencing \$0.00 EACH \$0.00 0426 625E3200 0.00 EACH \$0.00 0466 0.00 \$0.00000 \$0.00 0466 0.00 \$0.00000 \$0.00 045 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 045 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 045 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 045 Sept1000 0.00 SY \$15.00000 \$0.00 0531 660E25000 0.00 SY \$15.00000 \$0.00 SODDING STAKED Total for Group 0014: \$0.00 \$0.00 Group 0015: Rock Channel Protection Total for Group 0014: \$0.00 047 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0.00 CY \$75.00000 \$0.00 0469 60153200 0.00 CY \$75.00000 \$0.00 ROCK C	GATE, TYPE 47				
Other of the output o	0426 625E32000	0.00	FACH		\$0.00
For Fencing 0466 0.00 \$0.00000 \$0.00 Group 0014: Seeding & Mulching / Sodding Total for Group 0012: \$0.00 \$0.00 045 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 0467 659E10000 0.00 SY \$1.00000 \$0.00 0467 659E10000 0.00 SY \$1.00000 \$0.00 0531 660E25000 0.00 SY \$15.00000 \$0.00 0531 660E25000 0.00 SY \$15.00000 \$0.00 SODDING STAKED 0.00 SY \$15.00000 \$0.00 Group 0015: Rock Channel Protection Total for Group 0014: \$0.00 \$0.00 0469 601532000 0.00 CY \$75.0000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 Group 0015: \$0.00 Group 0015: \$0.00 Group 0016: Erosion Control - Item 832 0.048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM 1.00 LS	GROUND ROD	0.00	2/(011		\$0.00
U466 0.00 \$0.0000 \$0.0000 \$0.000 Group 0014: Seeding & Mulching / Sodding 0045 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 0467 659E10000 0.00 SY \$1.00000 \$0.00 0467 659E10000 0.00 SY \$15.00000 \$0.00 0467 659E10000 0.00 SY \$15.00000 \$0.00 0511 660E25000 0.00 SY \$15.00000 \$0.00 0531 660E25000 0.00 SY \$15.00000 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM 50.0000 \$0.00 \$0.00 \$0.00 \$0.00	For Fencing	0.00		\$ 0,00000	\$ 0.00
Group 0014: Seeding & Mulching / Sodding 0045 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0467 659E10000 \$0.00 \$0.00 0467 659E10000 0.00 SY \$1.00000 \$0.00 SEEDING AND MULCHING 0.00 SY \$15.00000 \$0.00 0531 660E25000 0.00 SY \$15.00000 \$0.00 SODDING STAKED Total for Group 0014: \$0.00 \$0.00 Group 0015: Rock Channel Protection Total for Group 0014: \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM 50.00000 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	0466	0.00		SULUUUUU Total for Group 0012:	\$0.00 \$0.00
Group 0014: Seeding & Mulching / Sodding 0045 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 0467 659E10000 0.00 SY \$1.00000 \$0.00 0467 659E10000 0.00 SY \$1.00000 \$0.00 0531 660E25000 0.00 SY \$15.00000 \$0.00 SODDING STAKED Total for Group 0014: \$0.00 \$0.00 Group 0015: Rock Channel Protection Total for Group 0014: \$0.00 047 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL \$0.00000 \$0.00 \$0.00 047 B-MC-ERCO 1.00 LS \$0.000000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL \$0.00 \$0.00 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 048 B-MC-ERCO 1.00 LS <					φ0.00
0045 B-MC-ERCO 1.00 LS \$0.0000 \$0.00 0467 659E10000 0.00 SY \$1.00000 \$0.00 0531 660E25000 0.00 SY \$15.00000 \$0.00 SODDING STAKED Total for Group 0014: \$0.00 \$0.00 Group 0015: Rock Channel Protection Total for Group 0014: \$0.00 047 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0.00 S0.00 \$0.00 \$0.00 Group 0015: Rock Channel Protection Total for Group 0014: \$0.00 MAJOR COST DRIVERS, EROSION CONTROL \$0.000 \$0.00 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 Group 0016: Erosion Control - Item 832 \$0.0000 \$0.00 048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM S0.00000	Group 0014: Seeding & Mule	china / Soddir	na		
0435 B-MC-ERCO 1.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0467 659E10000 0.00 SY \$1.00000 \$0.00 0531 660E25000 0.00 SY \$15.00000 \$0.00 SODDING STAKED Total for Group 0014: \$0.00 Group 0015: Rock Channel Protection Total for Group 0014: \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL \$0.00 CY \$75.00000 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 Group 0016: Erosion Control - Item 832 \$0.00000 \$0.00 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM \$0.00000 \$0.00 \$0.00		1 00	iy Le	\$0,0000	PO 00
0467 659E10000 \$0.00 SY \$1.00000 \$0.00 SEEDING AND MULCHING 0.00 SY \$15.00000 \$0.00 0531 660E25000 0.00 SY \$15.00000 \$0.00 SODDING STAKED 0.00 SY \$15.00000 \$0.00 Group 0015: Rock Channel Protection Total for Group 0014: \$0.00 0047 B-MC-ERCO 1.00 LS \$0.000000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0.00 CY \$75.00000 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM 50.00000 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	MAJOR COST DRIVERS. EROSI	ON CONTROL	L3	\$0.00000	φ0.00
SEEDING AND MULCHING Seeding and Mulching 0531 660E25000 0.00 SY \$15.00000 \$0.00 SODDING STAKED Total for Group 0014: \$0.00 Group 0015: Rock Channel Protection Total for Group 0014: \$0.00 0047 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL \$0.00 CY \$75.00000 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM 50.00000 \$0.00 \$0.00 \$0.00 \$0.00	0467 659E10000	0.00	SY	\$1.00000	\$0.00
OSST BODE25000 SODDING STAKED 0.00 rst \$13.00000 \$0.00 rst Group 0015: Rock Channel Protection Total for Group 0014: \$0.00 0047 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL \$0.00 CY \$75.00000 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 \$0.00 Group 0016: Erosion Control - Item 832 \$0.00000 \$0.00 \$0.00 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM \$0.00000 \$0.00 \$0.00	SEEDING AND MULCHING	0.00	ev.	\$15,0000	00.02
Total for Group 0014: \$0.00 Group 0015: Rock Channel Protection 0047 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0469 601E32000 0.00 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM \$0.00000 \$0.00 <t< td=""><td>SODDING STAKED</td><td>0.00</td><td>31</td><td>\$15.00000</td><td>φ0.00</td></t<>	SODDING STAKED	0.00	31	\$15.00000	φ0.00
Group 0015: Rock Channel Protection 0047 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0.00 CY \$75.00000 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM 1.00 LS \$0.00000 \$0.00				Total for Group 0014:	\$0.00
Group 0015: Rock Channel Protection 0047 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0.00 CY \$75.00000 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM 1.00 LS \$0.00000 \$0.00 \$0.00 \$0.00				· ·	
0047 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0.00 CY \$75.00000 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM \$0.00000 \$0.	Group 0015: Rock Channel	Protection			
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0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM \$0.00000 \$0.00 \$0.00 \$0.00 \$0.00	MAJOR COST DRIVERS, EROSI	ON CONTROL	01/		AAAAAAAAAAAAA
Total for Group 0015: \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM \$0.00000 \$0.00 \$0.00	0469 601E32000 ROCK CHANNEL PROTECTION	0.00 ТҮРЕ А WITH FII	CY TER	\$75.00000	\$0.00
Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM \$0.00000 \$0.00 \$0.00 \$0.00				Total for Group 0015	\$0.00
Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM \$0.00000 \$0.00 \$0.00 \$0.00 \$0.00					-
0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 7:29:35AM \$0.00000 \$0.000 <t< td=""><td>Group 0016: Erosion Contro</td><td>l - Item 832</td><td></td><td></td><td></td></t<>	Group 0016: Erosion Contro	l - Item 832			
7:29:35AM	0048 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
	7:29:35AM				

Estimate: Alt I KY cont 3			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
MAJOR COST DRIVERS, EROSION (CONTROL			
	1.00 NTION PLAN	LS	\$20,000.00000	\$20,000.00
0471 832E20000 EROSION CONTROL	10,000.00	EACH	\$1.00000	\$10,000.00
			Total for Group 0016: \$30,0	00.00
Group 0017. Other Frosion Cor	ntrol Costs			
0049 670E00700	0.00	SY		\$0.00
DITCH EROSION PROTECTION	4.00		* 0.0000	#0.00
OU50 B-OC-ERCO OTHER COSTS, EROSION CONTRO	1.00 L	LS	\$0.00000	\$0.00
0051 659E00100	0.00	EACH	\$0.00000	\$0.00
0052 659E00300 TOPSOIL	0.00	CY		\$0.00
0053 659E14000	0.00	SY		\$0.00
0054 659E15000 INTER-SEEDING	0.00	SY	\$0.71000	\$0.00
0055 659E2000	0.00	TON		\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000 MOWING	0.00	MSF	\$0.00000	\$0.00
			Total for Group 0017:	\$0.00
Group 0018: Underdrains	4.00		* 2 2222	* •••••
0059 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0062 605E05100 4" SHALLOW PIPE UNDERDRAINS	0.00	FT	\$8.00000	\$0.00
			Total for Group 0018:	\$0.00
Group 0019: Culverts - Type A:	< 5'			
0474 C-MC-DRNG	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG	0.00	FT	\$350.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete	Pine un to 60'	,		
0481 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	EACH	\$1,500.00000	\$0.00
Concrete Masonry			Total for Group 0019:	\$0.00
Group 0021: Culverte Turce A.	5' 10'			
	J - IU	18	00000 02	¢0.00
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	φυ.υυυυυ	Φ 0.00
0476 C-MC-DRNG	0.00	FT	\$550.00000	\$0.00
7·29·35AM				
1.20.00/ W				

Estimate: Alt I KY cont 3			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Pipe Structures - Reinforced Concrete 5' 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	<i>'-10' 66" to</i> 0.00	78" EACH	\$2,000.00000	\$0.00
Oraum 0000: Outbranta Tura A. 40			Total for Group 0021:	\$0.00
Gloup 0022. Culvens, Type A. IC	J - 20		\$ 0,0000	¢ 0.00
MAJOR COST DRIVERS, DRAINAGE	1.00	L5	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete P	0.00 ipe 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonny	0.00	EACH	\$1,500.00000	\$0.00
			Total for Group 0022:	\$0.00
Group 0024: BMP's				
0076 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Group 0024:	\$0.00
Group 0025: Closed Storm Syste	m			
0077 C-MC-DRNG MAJOR COST DRIVERS DRAINAGE	1.00	LS	\$0.00000	\$0.00
0489 603E13400	0.00	FT	\$75.00000	\$0.00
0523 604E00800 CATCH BASIN NO 34	0.00	EACH	\$1,500.00000	\$0.00
0524 604E31500 MANHOLE NO 3	0.00	EACH	\$3,000.00000	\$0.00
0525	0.00		\$0.00000	\$0.00
0526 Special Pump Station (Storm)	0.00	LS	\$6,400,000.00000	\$0.00
0527 Special Stormceptors	0.00	EACH	\$5,750.00000	\$0.00
0529 Special Retention basin improvements	0.00	LS	\$109,000.00000	\$0.00
			Total for Group 0025:	\$0.00
Group 0026: Other Drainage Cos	sts			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, DRAINAGE			Total for Group 0026:	\$0.00
Group 0027: Mainline - Travel La	ines			
0095 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, PAVEMENT	0.00	SV	00000 838	\$0.00
13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Cor	npaction	01	φ08.00000	φυ.υυ

Estimate: Alt I KY cont 3			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0027:	\$0.00
Group 0028: Mainline - Outside	Shoulder			
0100 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT	0.00	SY	\$68.00000	\$0.00
Includes 6" Agg base and Subgrade Co	ompaction		Total for Group 0028:	\$0.00
		15	\$0,0000	\$0.00
MAJOR COST DRIVERS, PAVEMENT	0.00	0	\$0.00000 \$20.00000	¢0.00
13" Reinforced Concrete Pavement	0.00	SY	\$68.00000	\$0.00
Includes 6" Agg base and Subgrade Co	ompaction		Total for Group 0030:	\$0.00
Group 0031: Ramps (including s	shoulders)			
0122 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	0.00	SY	\$68.00000	\$0.00
Crown 0000 Neg Mainline Ler			Total for Group 0031:	\$0.00
Group 0032: Non - Mainline Lan	es 1.00		¢0,0000	0.00
MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	Φ 0.00
0498 D-MC-PVMT Asphalt	533.00	SY	\$41.00000	\$21,853.00
Includes 3" 448, 9" 301, 6" Agg base an	nd Subgrade (Compaction	Total for Group 0032: \$21,8	353.00
Group 0041: Other Pavement Co	osts			
0163 D-OC-PVMT OTHER COSTS PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Group 0041:	\$0.00
Group 0042: Water Works	0.00		¢0.00000	¢0.00
MAJOR COST DRIVERS, WATER LINE	0.00 E	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Group 0042:	\$0.00
Group 0043: Sanitary Line	0.00	10	¢0,0000	ድር እር
MAJOR COST DRIVERS, SANITARY S	SEWER	LJ	φυ.υυυυυ	ΦΟ.ΟΟ
7:29:35AM				

Estimate: Alt I KY cont 3			PB A	mericas, Inc.
Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Description Supplemental Description				
			Total for Orour 0042	ФО ОО
			Total for Group 0043:	\$0.00
Group 0044: Lighting - Full Interc	hange			
0173 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	0.00	EACH	\$469,000.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING			Total for Group 0044.	\$0.00
				QUICE
Group 0045: Lighting - Partial Int	erchange)		
0288 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	0.00	LS	\$0.00000	\$0.00
,			Total for Group 0045:	\$0.00
Group 0046: Lighting Continuou	ie Poodu	(<u>)</u>)		
0176 G-MC-I TNG	1 00 1	IS	\$0,0000	\$0.00
MAJOR COST DRIVERS, LIGHTING	940.00		\$25,0000	¢20.400.00
Lighting - Continuous	640.00	FI	\$35.00000	φ29,400.00
			Total for Group 0046: \$29,4	400.00
Group 0047: Other Lighting Cost	S			
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, LIGHTING			Total for Group 0047:	<u>۵</u> ۵ ۵۵
				ψ0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV	0.00	LS	\$0.00000	\$0.00
	102		Total for Group 0048:	\$0.00
Crown 0040: Signa				
0179 LMC-TRAF	1 00	15	00000 02	\$0.00
MAJOR COST DRIVERS, TRAFFIC CO	NTROL		\$0.00000 \$0.00000	φ0.00
USU1 J-MC-TRAF Signs	0.16	MILE	\$250,000.00000	\$40,000.00
			Total for Group 0049: \$40,0	00.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CO	NTROL	MILE	\$3,000,00000	\$540.00
EDGE LINE	0.10		\$0,000,00000	¢0-10.00
LANE LINE	0.13	MILE	\$2,000.00000	\$∠60.00
			Total for Group 0050: \$8	300.00

Group 0051: Other Traffic Control Costs

Estimate: Alt I KY cont 3				PB Americas, Inc
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
0208 J-OC-TRAF OTHER COSTS_TRAFFIC CO		LS	\$0.00000	\$0.00
Group 0052: Signals - Int	arsactions		Total for	Group 0051: \$0.00
0212 K-MC-SGNL	2.00	EACH	\$175,000.00000	\$350,000.00
MAJOR COST DRIVERS, SIG	SNALS		Total for Group	0052: \$350,000.00
Group 0053: Other Traffic	Signal Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for	Group 0053: \$0.00
Group 0054: Landscaping	9			
0214 L-MC-LSCP MAJOR COST DRIVERS, LAN	1.00 NDSCAPING	LS	\$0.00000	\$0.00
0215 L-OC-LSCP OTHER COSTS, LANDSCAP	1.00 ING	LS	\$0.00000	\$0.00
			Total for	Group 0054: \$0.00
Group 0055: Retaining W	alls \$125 + \$10/	ft for caps	s, barriers and testing	g
0216 M-MC-WALL		LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	0.00	SF	\$135.00000	\$0.00
			Total for	Group 0055: \$0.00
Group 0056: Other Retain	ning Wall Costs			
0217 M-OC-WALL	1.00	LS	\$0.00000	\$0.00
	WALLO		Total for	Group 0056: \$0.00
Group 0057: Building Der	nolition			
0218 N-MC-DEMO MAJOR COST DRIVERS, BU	1.00 ILDING DEMOLITION	LS	\$0.00000	\$0.00
0219 N-OC-DEMO	1.00	LS	\$0.00000	\$0.00
0532 202E56101 BUILDING DEMOLISHED, AS Large Commercial	0.00 9 PER PLAN	EACH	\$30,000.00000	\$0.00
0533 202E56101 BUILDING DEMOLISHED, AS Small Commercial	0.00 9 PER PLAN	EACH	\$15,000.00000	\$0.00
0534 202E56101 BUILDING DEMOLISHED, AS Large Residential	0.00 PER PLAN	EACH	\$12,000.00000	\$0.00
0535 202E56101 BUILDING DEMOLISHED, AS Small Residential	0.00 9 PER PLAN	EACH	\$7,500.00000	\$0.00
0536 202E98100	0.00	EACH	\$8,500.00000	\$0.00
1 29 35 AM				

7:29:35AM Thursday, December 02, 2010

Estimate: Alt I KY cont 3			PB A	mericas, Inc.	
Line # Item Number Qu Description Supplemental Description	<u>iantity</u>	<u>Units</u>	Unit Price	Extension	
REMOVAL MISC.: Radio Tower					
			Total for Group 0057:	\$0.00	
Group 0058: Noise Barrier					
0220 P-MC-NSBR MAJOR COST DRIVERS, NOISE BARRIER	1.00	LS	\$0.00000	\$0.00	
0505 P-MC-NSBR Noise Barrier	0.00	LS	\$400.00000	\$0.00	
			Total for Group 0058:	\$0.00	
Group 0059: Other Noise Barrier Co	sts				
0221 P-OC-NSBR	1.00	LS	\$0.00000	\$0.00	
0368 P-MC-NSBR MAJOR COST DRIVERS NOISE BARRIER	0.00	LS	\$0.00000	\$0.00	
			Total for Group 0059:	\$0.00	
Group 0060: New Structures					
0222 R-MC-STRC MAJOR COST DRIVERS_STRUCTURES	1.00	LS	\$0.00000	\$0.00	
0506 R-MC-STRC Tier 1 Structures to 25' Height	0.00	SF	\$125.00000	\$0.00	
0507 R-MC-STRC Removal of Existing Structures non-complex	0.00	SF	\$12.00000	\$0.00	
0508 R-MC-STRC 17,0 Standard Removal of Existing Structures abo	629.00	SF	\$17.00000	\$299,693.00	
0509 R-MC-STRC	0.00	SF	\$30.00000	\$0.00	
Removal of Existing Structures complex to ve 0513 R-MC-STRC 30,9	ry comp 973.00	olex SF	\$150.00000 \$	4,645,950.00	
Tier 2 Structures 25' to 50' Height 0516 R-MC-STRC	0.00	SF	\$200.00000	\$0.00	
Tier 3 Structures 50' to 75' Height			Total for Group 0060: \$4,945,6	643.00	
Croup 0061, Dababilitated Structure	•		• • • • •		
0223 R-MC-STRC	S 0.00	SF	\$45.00000	\$0.00	
MAJOR COST DRIVERS, STRUCTURES			Total for Group 0061:	\$0.00	
			•	·	
Group 0062: Other Structure Costs				6	
0224 R-OC-STRC OTHER COSTS, STRUCTURES	0.00	LS	\$0.00000	\$0.00	
Comingency			Total for Group 0062:	\$0.00	
Group 0063: Temporary Road and Pavement Costs					
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTENANCE C	1.00 F TRAF	LS FFIC	\$0.00000	\$0.00	

Estimate: Alt I KY cont 3		PB A	mericas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
Description Supplemental Description			
			A a a a
		Total for Group 0063:	\$0.00
Group 0064: Portable Concr	ete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Group 0064:	ድር በባ
			ψ0.00
Group 0065: Impact Attenua	tors		
0227 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE		Total for Group 0065:	\$0.00
Group 0066: Sheeting			• • • • •
0229 S-MC-MNTC MAJOR COST DRIVERS, MAINTE	1.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
Group 0067: Temporary Sig	nale		
0230 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	T + 1 (0 0007	4 0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Ligh	nting		
0231 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Group 0068.	\$0.00
			\$0100
Group 0069: Innovative Con	tracting Incentatives		
0232 S-MC-MNTC MAJOR COST DRIVERS, MAINTE	0.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0069:	\$0.00
Croup 0070: Other MOT Co	oto		
	100 15	00000 02	\$0.00
OTHER COSTS, MAINTENANCE	OF TRAFFIC		¢0.00
OTHER COSTS, MAINTENANCE	0.16 MILE OF TRAFFIC	\$500,000.00000	\$80,000.00
		Total for Group 0070: \$80,0	00.00
Group 0071. Wetland Const	ruction		
0234 T-MC-WTLD	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, WETLA		¢0.0000	¢0.00
MAJOR COST DRIVERS, WETLA	ND CONSTRUCTION	\$0.0000	\$0.00
		Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate: Alt I KY cont 3				PB Americas, Inc.
Line # Item Number	Quantity	<u>Units</u>	Unit Price	Extension
<u>Description</u> Supplemental Description				
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELL/	0.00 ANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS	0.00 COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILROA LIABILITY INSURANCE	0.00 DS' PROTECTIV	LS /E PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY DAM.	\$0.00 AGE
0238 623E10000 CONSTRUCTION LAYOUT STAKES 0.5%	1.00	LS	\$29,162.98000	\$29,162.98
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$116,651.93000	\$116,651.93
0240 619E16020 FIELD OFFICE, TYPE C	19.00	MNTH	\$2,500.00000	\$47,500.00
0242 624E10000 MOBILIZATION	1.00	LS	\$200,000.00000	\$200,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERFC 0.5%	1.00 DRMANCE BON	LS D AND F	\$29,162.98000 FOR PAYMENT BOND	\$29,162.98
0518	0.00		\$0.00000	\$0.00
0519	0.00		\$0.00000	\$0.00
0520	0.00		\$0.00000	\$0.00
0521	0.00		\$0.00000	\$0.00
			Total for Group 007	2: \$422,477.89
Group 0073: Design Continger	ncy Costs			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTING	1.00 ENCY COSTS	LS	\$0.00000	\$0.00
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY CO 25%	1.00 DSTS	LS	\$1,563,768.60000	\$1,563,768.60
			Total for Group 0073:	\$1,563,768.60
Group 0074: Inflation Continge	ency			
0266 V-OC-CNTG OTHER COSTS. CONTINGENCY C	0.00 DSTS	LS	\$0.00000	\$0.00
	-		Total for Gro	oup 0074: \$0.00

Estimate Alt I KY cont 5

Estimated Cost: \$71,530,905.30 Contingency: 57.60% Estimated Total: \$112,732,706.75

Base Date: 01/01/15 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt I KY cont 5				PB Americas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Group 0001: Pavement Remova	al			
0001 A-MC-RDWY	0.00	LS	\$0.00000	\$0.00
0343 202E23000	212,051.00	SY	\$8.00000	\$1,696,408.00
PAVEMENT REMOVED			Total for Group 0001:	\$1,696,408.00
Group 0002: Excavation - Rock		a) (
0003 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	146,868.00	CY	\$30.00000	\$4,406,040.00
			Total for Group 0002:	\$4,406,040.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0344 203E10000 EXCAVATION	342,692.00	CY	\$8.00000	\$2,741,536.00
			Total for Group 0003:	\$2,741,536.00
Group 0004: Excavation - Hazar	rdous	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Tatal far Ora	
			Total for Grou	ip 0004. \$0.00
Group 0005: Fill - Embankment	(includes	wasting e	excess excavation)	
0007 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0345 203E20000 EMBANKMENT	489,560.00	CY	\$6.00000	\$2,937,360.00
			Total for Group 0005:	\$2,937,360.00
Group 0006: Fill - Lime Modified	l Soil			
0010 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0346 205E10050	0.00	CY	\$7.00000	\$0.00
0347 205E10300	0.00	TON	\$5.00000	\$0.00
LIME			Total for Grou	up 0006: \$0.00
Croup 0007: Eill Borrow				
0011 A-MC-RDWY	0.00	СҮ	\$8.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY		-	Total for Grou	up 0007: \$0.00
				μουο <i>ι</i> . φυ.υυ
Group 0008: Concrete Barrier				
0012 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0465 622E10060 7:32:36AM	20,800.00	FT	\$110.00000	\$2,288,000.00
Thursday, December 02, 2010				Daga 2 of 12

Estimate: Alt I KY cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SLO	OPE, TYPE B		Total for Group 0008:	\$2,288,000.00
Group 0009: Subgrade Treatm	nent - Lime			
0014 A-MC-RDWY MAJOR COST DRIVERS ROADWA	1.00 Y	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300	0.00	TON	\$10.00000	\$0.00
0350 206E11000	0.00	SY	\$1.00000	\$0.00
0351 206E20000	0.00	HOUR	\$4.00000	\$0.00
TEST ROLLING			Total for Grou	up 0009: \$0.00
Group 0010: Subarada Treatm	ont - Come	nt		
0016 A-MC-RDWY	298,491.00	SY	\$2.50000	\$746,227.50
MAJOR COST DRIVERS, ROADWA	Y		Total for Group 001	• \$746 227 50
				<i>σ.</i> φητο,22η.00
Group 0011: Subgrade Treatm	ent - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS, ROADWA	1.00 Y	LS	\$0.00000	\$0.00
			Total for Grou	up 0011: \$0.00
Group 0012: Other Roadway (Costs			
0019 A-OC-RDWY OTHER COSTS, ROADWAY Contingency	0.00	LS	\$0.00000	\$0.00
0020 201E11000 CLEARING AND GRUBBING	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800 TREE REMOVED 18" SIZE	0.00	EACH	\$250.00000	\$0.00
0022 201E23000 TREE REMOVED 30" SIZE	0.00	EACH	\$405.00000	\$0.00
0023 201E24800 TREE REMOVED 48" SIZE	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT		\$0.00
0029 202E38000	0.00	FT		\$0.00
0030 202E42206	0.00	EACH		\$0.00
0031 202E58000	0.00	EACH		\$0.00
0032 202E58100	0.00	EACH		\$0.00
0033 202E75000	0.00	FT		\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Estimate: Alt I KY cont 5				PB Americas, Inc.
Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Description				
Supplemental Description				
PROOF ROLLING				
0035 204E10000	0.00	SY	\$0.81000	\$0.00
0036 451E30000	0.00	FT		\$0.00
SPECIAL - PRESSURE RELIEF	F JOINT, TYPE A			•
0037 606E13000 GUARDRAIL TYPE 5	5,300.00	FT	\$14.00000	\$74,200.00
0038 606E22000	0.00	EACH		\$0.00
ANCHOR ASSEMBLY, TYPE B	-98	FAOL		\$ 0.00
ANCHOR ASSEMBLY TYPE F	0.00 -98	EACH		\$0.00
0040 606E26500	0.00	EACH		\$0.00
ANCHOR ASSEMBLY, TYPE T				00.00
BRIDGE TERMINAL ASSEMBL	.Y. TYPE 1	EACH		\$0.00
0042 606E35100	0.00	EACH		\$0.00
BRIDGE TERMINAL ASSEMBL	.Y, TYPE 2			ሰብ በማ
IMPACT ATTENUATOR, TYPE	1-98 (BIDIRECTION	AL)		φ0.00
0044 607E15000	0.00	FΤ		\$0.00
FENCE, TYPE 47 For Fencing				
0423 304E20000	0.00	CY		\$0.00
AGGREGATE BASE				
0424 601E32100	0.00	CY		\$0.00
ROCK CHANNEL PROTECTIO	N, TYPE B WITH FIL	TER		40.00
For Fencing	0.00			¢0.00
GATE. TYPE 47	0.00	ЕАСП		Ф 0.00
For Fencing				
0426 625E32000	0.00	EACH		\$0.00
For Fencing				
0466	0.00		\$0.00000	\$0.00
			Total for Group 0012:	\$74,200.00
Group 0014: Seeding & Mi	uicning / Sodair	ig		
0045 B-MC-ERCO		LS	\$0.00000	\$0.00
0467 659E10000	133,774.00	SY	\$1.00000	\$133,774.00
SEEDING AND MULCHING	0.00	0)(0 15 00000	\$ 0.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000	\$0.00
			Total for Group 0014: \$	133.774.00
			· · · · · · · · · · ·	,
Group 0015: Rock Channe	el Protection			
0047 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ERO	SION CONTROL	CV	\$75 00000	¢14 400 00
ROCK CHANNEL PROTECTIO	N, TYPE A WITH FIL	TER	\$75.00000	φ14,400.00
			Total for Group 0015:	\$14,400.00
			·	
Group 0016: Erosion Cont	rol - Item 832			
0048 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
7:32:36AM				

Estimate: Alt I KY cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
MAJOR COST DRIVERS. EROSION				
0470 832E10000		LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	300,000.00	EACH	\$1.00000	\$300,000.00
			Total for Group 0016:	\$350,000.00
Group 0017: Other Erosion C	ontrol Costs			
		ev		00.02
DITCH EROSION PROTECTION	0.00	31		φ0.00
0050 B-OC-ERCO OTHER COSTS, EROSION CONTR	1.00 OL	LS	\$0.00000	\$0.00
0051 659E00100	0.00	EACH	\$0.00000	\$0.00
0052 659E00300	0.00	CY		\$0.00
TOPSOIL 0053 659E14000	0.00	SY		\$0.00
REPAIR SEEDING AND MULCHING	G 00	ev.	\$0.71000	00.02
INTER-SEEDING	0.00	31	\$0.71000	φ0.00
0055 659E20000 COMMERCIAL FERTILIZER	0.00	TON		\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000	0.00	MGAL	\$5.00000	\$0.00
WATER 0058 659E40000 MOWING	0.00	MSF	\$0.00000	\$0.00
MOWING			Total for Group	0017: \$0.00
Group 0018: Underdrains			A	.
0059 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	1.00 GE	LS	\$0.00000	\$0.00
0062 605E05100 4" SHALLOW PIPE UNDERDRAINS	29,635.00	FT	\$8.00000	\$237,080.00
			Total for Group 0018:	\$237,080.00
Group 0019 [.] Culverts - Type A	· < 5′			
0474 C-MC-DRNG	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, DRAINAG	3E	FT	\$350,00000	\$30,100,00
MAJOR COST DRIVERS, DRAINAG	SE		\$350.00000	430,100.00
0481 C-MC-DRNG	te Pipe up to 60" 2.00	EACH	\$1,500.00000	\$3,000.00
MAJOR COST DRIVERS, DRAINAG	θE			
Condicto Maconiy			Total for Group 0019): \$33,100.00
GIOUP UUZ1: CUIVERTS, Type A	: 5 - 10 [°]	10	¢0.0000	
MAJOR COST DRIVERS, DRAINAG	GE 1.00	13	φυ.υυυυ	\$0.00
0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	36.00 SE	FT	\$550.00000	\$19,800.00
7:32:36AM Thursday, December 02, 2010				Page 5 of 12

Estimate: Alt I KY cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Pipe Structures - Reinforced Concrete 5'- 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	-10' 66" to 7 1.00	78" EACH	\$2,000.00000	\$2,000.00
			Total for Group 00)21: \$21,800.00
Group 0022: Culverts Type A: 10)' - 20'			
0486 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	0.00	ст	¢1 400 00000	00.02
MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pi	pe 10'-20'	FI	φ1,400.00000	φ0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonny	0.00	EACH	\$1,500.00000	\$0.00
			Total for Gro	oup 0022: \$0.00
Group 0024: BMP's				
0076 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE			Total for Gro	oup 0024: \$0.00
				•
Group 0025: Closed Storm Syste	m		A	
0077 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	11,994.00	FT	\$75.00000	\$899,550.00
0523 604E00800 CATCH BASIN, NO. 3A	84.00	EACH	\$1,500.00000	\$126,000.00
0524 604E31500	20.00	EACH	\$3,000.00000	\$60,000.00
0525 604E36601	13.00	EACH	\$1,250.00000	\$16,250.00
PRECAST REINFORCED CONCRETE C 0526 Special Pump Station (Storm)	0.00 0.00	LS	\$6,400,000.00000	\$0.00
0527 Special	0.00	EACH	\$5,750.00000	\$0.00
0529 Special	0.00	LS	\$109,000.00000	\$0.00
Retention basin improvements			Total for Group 0025	: \$1,101,800,00
Group 0026: Other Drainage Cos	ts			
0078 C-OC-DRNG OTHER COSTS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Gro	oup 0026: \$0.00
Group 0027: Mainline - Travel La	nes			
	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Con	171,479.00 npaction	SY	\$68.00000	\$11,660,572.00
7:32:36AM				

Estimate: Alt I KY cont 5				PB Americas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0027:	\$11,660,572.00
Group 0028: Mainline - Outside	Shoulder			
0100 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement	38,883.00	SY	\$68.00000	\$2,644,044.00
includes of Agy base and Subgrade Co	mpaction		Total for Group 0028:	\$2,644,044.00
Group 0030: Mainline - Inside S	houlder			
0115 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement	38,377.00	SY	\$68.00000	\$2,609,636.00
Includes 6" Agg base and Subgrade Co	ompaction		Total for Group 0030:	\$2,609,636.00
Group 0031: Non - Mainline Lan	es			
0532 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0533 D-MC-PVMT Asphalt	3,441.00	SY	\$41.00000	\$141,081.00
Includes 3" 448, 9" 301, 6" Agg base ar	nd Subgrade (Compaction	Total for Group 003	1: \$141,081.00
Group 0036: Ramps (including s	shoulders)			
0122 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Co	46,310.00	SY	\$68.00000	\$3,149,080.00
	mpaction		Total for Group 0036:	\$3,149,080.00
Group 0041: Other Pavement C	osts			
0163 D-OC-PVMT	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, PAVEINENT			Total for Gro	up 0041: \$0.00
Group 0042: Water Works			••••••	•••••
0164 E-MC-WATR MAJOR COST DRIVERS, WATER LIN	0.00 E	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Gro	up 0042: \$0.00
Group 0043: Sanitary Line				
0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY S	0.00 SEWER	LS	\$0.00000	\$0.00
7:32:36AM				

Estimate: Alt I KY cont 5			PB A	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0043:	\$0.00
Group 0044: Lighting - Full Intere	change			
0173 G-MC-LTNG MAJOR COST DRIVERS LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	2.00	EACH	\$469,000.00000	\$938,000.00
			Total for Group 0044: \$938,	000.00
Group 0045: Lighting - Partial In-	terchange	;		
0288 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	0.00	LS	\$0.00000	\$0.00
	- .		Total for Group 0045:	\$0.00
Group 0046: Lighting - Continuo	us Roadw	vay	A 0.00000	\$ 2.22
MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LING Lighting - Continuous	13,415.00	FI	\$35.00000	\$469,525.00
			Total for Group 0046: \$469,	525.00
Group 0047: Other Lighting Cos	ts			
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
Official Coord, Lionniko			Total for Group 0047:	\$0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV	1.00	LS	\$537,486.54000	\$537,486.54
OTHER COSTS, TRAFFIC SURVEILLA	ANCE		Total for Group 0048: \$537,	486.54
Croup 0040: Signa			•	
0179 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CC 0501 J-MC-TRAF	ONTROL	MILE	\$250.000.00000	\$635.000.00
Signs			Total for Croup 0040: ¢625	
			Total 101 Group 0049. \$035,	000.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF MAJOR COST DRIVERS, TRAFFIC CC	1.00 NTROL	LS	\$0.00000	\$0.00
0502 644E00100 EDGE LINE	18.30	MILE	\$3,000.00000	\$54,900.00
0503 644E00200	17.93	MILE	\$2,000.00000	\$35,860.00
			Total for Group 0050: \$90,	760.00

Group 0051: Other Traffic Control Costs

Line # tem Number Quantity Units Unit Price Extension Description Supplemental Description 100 LS \$0.00000000000000000000000000000000000	Estimate: Alt I KY cont 5			PB	Americas, Inc.
0208 J-OC-TRAF 1.00 LS \$0.00000 \$0.00 OTHER COSTS, TRAFFIC CONTROL Total for Group 0051: \$0.00 Group 0051: \$0.00 Group 0052: Signals - Intersections \$0.000 \$0.00 Total for Group 0052: \$0.00 Group 0053: Other Traffic Signal Costs \$0.000 \$0.00 Total for Group 0052: \$0.00 Group 0053: Other Traffic Signal Costs \$0.00000 \$0.00 \$0.00 OTHER COSTS, SIGNALS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, SIGNALS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, SIGNALS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, LANDSCAPING 1.00 LS \$0.00000 \$0.00 OTHER COSTS, LANDSCAPING 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS \$0.00000 \$0.00 \$0.00 \$0.00 OTHER COSTS, RETAINING WALLS \$0.00000 \$0.00 \$0.00 \$0.00 \$0.00	Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
Total for Group 0051: \$0.00 Group 0052: Signals - Intersections 0212 KMC-SCNL 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, SIGNALS 1.00 LS \$0.00000 \$0.00 Group 0053: Other Traffic Signal Costs \$0.00 \$0.00 \$0.00 OTHER COSTS, SIGNALS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, SIGNALS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, SIGNALS 1.00 LS \$0.00000 \$0.00 OPTHER COSTS, Landscaping 1.00 LS \$0.0000 \$0.00 OTHER COSTS, LANDSCAPING 1.00 LS \$0.0000 \$0.00 OTHER COSTS, LANDSCAPING 1.00 LS \$0.00000 \$0.00 OTHER COSTS, LANDSCAPING 1.00 LS \$0.00000 \$0.00 Group 0055: Retaining Walls \$125 + \$10/ft for craps, barriers and testing \$0.20 \$0.00 0216 M-GE-WALL 8.870.00 \$F \$135.00000 \$1,197.450.00	0208 J-OC-TRAF OTHER COSTS TRAFFIC CON	1.00 TROI	LS	\$0.00000	\$0.00
Cloup 0.02. Signals - Intersections 1.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, SIGNALS 1.00 LS \$0.00000 \$0.00 Group 0053: Other Traffic Signal Costs 0213 K-0C-SGNL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, SIGNALS 1.00 LS \$0.00000 \$0.00 \$0.00 Group 0054: Landscaping 0214 LMC-LSCP 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, LANDSCAPING 1.00 LS \$0.00000 \$0.00 OTHER COSTS, Retaining Walls \$125 + \$10/ft for caps, barriers and testing 1.00 LS \$0.00000 \$0.00 Group 0055: Retaining Walls \$125 + \$10/ft for caps, barriers and testing 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 8870.00 SF \$135.0000 \$1.197.450.00 Group 0056: Other Retaining Wall Costs 0216 N-0C-WALL 1.00 LS \$0.0000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.0000 \$0.00 \$0.00 \$0.00	Group 0052: Signala Inter			Total for Group 0051:	\$0.00
Total for Group 0052: \$0.00 Group 0053: Other Traffic Signal Costs 0213 K-0C-SGNL OTHER COSTS, SIGNALS 1.00 LS \$0.0000 \$0.00 Other Costs, Signal Costs 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 0215 LANDSCAPING 1.00 LS \$0.00000 \$0.00 0216 M-MC-WALL \$1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER CO	0212 K-MC-SGNL	1.00	LS	\$0.00000	\$0.00
Group 0053: Other Traffic Signal Costs 0213 K-OC-SGNL 1.00 LS \$0.00000 \$0.00 0THER COSTS, SIGNALS Total for Group 0053: \$0.00 Group 0053: \$0.00 \$0.00 0214 L-MC-LSCP 1.00 LS \$0.000000 \$0.00 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 0215 L-OC-LSCP 1.00 LS \$0.00000 \$0.00 0216 L-OC-LSCP 1.00 LS \$0.00000 \$0.00 0216 M-OC-USCP 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 Retaining Walls \$1.00 LS \$0.00000 \$0.00 Group 0056: Other Retaining Wall Costs \$0.00000 \$0.00 \$0.00 071HER COSTS, BUILDING DEMOLITION \$0.00000 \$0.00 \$0.00 0219 N-OC-MAL 1.00 LS </td <td>MAJOR COST DRIVERS, SIGNA</td> <td>ALS</td> <td></td> <td>Total for Group 0052:</td> <td>\$0.00</td>	MAJOR COST DRIVERS, SIGNA	ALS		Total for Group 0052:	\$0.00
0213 K-OC-SGNL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, SIGNALS Total for Group 0053: \$0.00 Group 0054: Landscaping \$0.00 \$0.00 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, LANDSCAPING 1.00 LS \$0.00000 \$0.00 OTHER COSTS, LANDSCAPING 1.00 LS \$0.00000 \$0.00 OTHER COSTS, LANDSCAPING 1.00 LS \$0.00000 \$0.00 Group 0055: Retaining Walls \$125 + \$10/ft for caps, barriers and testing \$0.00 \$0.00 MALOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$1,197,450.00 Group 0056: Other Retaining Wall Costs \$0.00000 \$0.00 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, BUILDING DEM	Group 0053: Other Traffic S	Signal Costs			
Total for Group 0053: \$0.00 Group 0054: Landscaping 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 0215 LOC-LSCP 1.00 LS \$0.00000 \$0.00 0215 LOC-LSCP 1.00 LS \$0.000000 \$0.00 Group 0055: Retaining Walls \$125 + \$10/ft for caps, barriers and testing 0216 M-MC-WALL \$0.00 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 MAUGE COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 Group 0056: Other Retaining Wall Costs 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RURES, BUILDING DEMOLITION 1.00 LS \$0.00000 \$0.00 0534	0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
Group 0054: Landscaping 0214 L-MC-LSCP 1.00 LS \$0.00000 \$0.00 0215 LOC-LSCP 1.00 LS \$0.00000 \$0.00 0215 LOC-LSCP 1.00 LS \$0.00000 \$0.00 Group 0055: Retaining Walls \$125 + \$10/ft for caps, barriers and testing 0216 .000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS \$1.00 LS \$0.00000 \$1.197,450.00 Retaining Walls 8.870.00 SF \$135.00000 \$1.197,450.00 Group 0056: Other Retaining Wall Costs 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 071HER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 0217 M-OC-DEMO 1.00 LS \$0.000 \$0.00				Total for Group 0053:	\$0.00
0214 L-MC-LSCP 1.00 LS \$0.0000 \$0.00 0215 L-OC-LSCP Indexted State Indexted State	Group 0054: Landscaping				
0215 LOCLECP International 1.00 LS \$0.00000 \$0.00 OTHER COSTS, LANDSCAPING Total for Group 0054: \$0.00 Total for Group 0054: \$0.00 Group 0055: Retaining Walls \$125 + \$10/ft for caps, barriers and testing 0.00 \$0.00 0216 M-MC-WALL 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 0.00 SF \$135.00000 \$1,197,450.00 Retaining Walls 8,870.00 SF \$135.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.000000 \$0.00 OTHER COSTS, BUILDING DEMOLITION 1.00 LS \$0.00000 \$0.00 0314 DC2EEMO 1.00	0214 L-MC-LSCP MAJOR COST DRIVERS, LAND	1.00 SCAPING	LS	\$0.00000	\$0.00
Total for Group 0054: \$0.00 Group 0055: Retaining Walls \$125 + \$10/ft for caps, barriers and testing 0216 M-MC-WALL 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 050 SF \$135.0000 \$1.197,450.00 Retaining Walls 8,870.00 SF \$135.0000 \$1.197,450.00 Retaining Walls 056: Other Retaining Wall Costs Total for Group 0055: \$1,197,450.00 Group 0056: Other Retaining Wall Costs 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 Group 0057: Building Demolition 1.00 LS \$0.00000 \$0.00 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 034 202256101 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$24,000.00	0215 L-OC-LSCP OTHER COSTS, LANDSCAPING	1.00	LS	\$0.00000	\$0.00
Group 0055: Retaining Walls \$125 + \$10/ft for caps, barriers and testing 0216 M-MC-WALL 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 0504 M-MC-WALL 8,870.00 \$F \$135.00000 \$1,197,450.00 Retaining Walls 0504 M-MC-WALL 8,870.00 \$F \$135.00000 \$1,197,450.00 Retaining Walls 0056: Other Retaining Wall Costs 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 OTHER COSTS, BUILDING DEMOLITION 1.00 LS \$0.00000 \$0.00 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 0534 202256101 3.00 EACH \$7,500.00000<	,			Total for Group 0054:	\$0.00
0216 M-MC-WALL 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, RETAINING WALLS 8,870.00 SF \$135.00000 \$1,197,450.00 Retaining Walls Total for Group 0055: \$1,197,450.00 S604 Total for Group 0055: \$1,197,450.00 Group 0056: Other Retaining Wall Costs 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 Group 0057: Building Demolition 1.00 LS \$0.00000 \$0.00 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 0419 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 0534 202E56101 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN Large Residential 2.00 EACH \$12,000.00000 \$24,000.00 0535 202E56101 0.00 EACH \$15,000.0	Group 0055: Retaining Wall	ls \$125 + \$10/	ft for cap	os, barriers and testing	
0504 M-MC-WALL Retaining Walls 8,870.00 SF \$135.0000 \$1,197,450.00 Total for Group 0055: \$1,197,450.00 Group 0056: Other Retaining Wall Costs 0217 M-OC-WALL OTHER COSTS, RETAINING WALLS 1.00 LS \$0.0000000 \$0.00 Other Retaining Wall Costs 0217 M-OC-WALL OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 Group 0057: Building Demolition 0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING DEMOLITION 0219 1.00 LS \$0.00000 \$0.00 0534 20256101 1.00 LS \$0.00000 \$0.00 0534 202565101 2.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN Large Residential 2.00 EACH \$12,000.00000 \$24,000.00 0535 202E56101 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN Large Residential 0.00 EACH \$30,000.0000 \$0.00 0537 202E56101 0.00	0216 M-MC-WALL MAJOR COST DRIVERS, RETAI	1.00 INING WALLS	LS	\$0.00000	\$0.00
Total for Group 0055: \$1,197,450.00 Group 0056: Other Retaining Wall Costs 0217 M-OC-WALL 1.00 LS \$0.00000 \$0.00 OTHER COSTS, RETAINING WALLS Total for Group 0056: \$0.00 Group 0057: Building Demolition Total for Group 0056: \$0.00 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 0514 202E56101 3.00 EACH \$7,500.0000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN 3.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$13,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$130,000.00000 \$0.00	0504 M-MC-WALL Retaining Walls	8,870.00	SF	\$135.00000	\$1,197,450.00
Group 0056: Other Retaining Wall Costs \$0.0000 \$0.000 07HER COSTS, RETAINING WALLS \$0.0000 \$0.00 Total for Group 0056: \$0.00 Group 0057: Building Demolition 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, BUILDING DEMOLITION 1.00 LS \$0.00000 \$0.00 0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 0534 202E56101 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.0000 \$0.00 Small Commercial 0537 202256101 0.00 EACH \$30,000.0				Total for Group 0055: \$1,197,	450.00
0217 M-OC-WALL OTHER COSTS, RETAINING WALLS 1.00 LS \$0.00000 \$0.00 Total for Group 0056: \$0.00 Group 0057: Building Demolition 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, BUILDING DEMOLITION 0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 0534 202E56101 3.00 EACH \$7,500.0000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN Small Residential 2.00 EACH \$12,000.00000 \$24,000.00 0535 202E56101 2.00 EACH \$12,000.00000 \$20.00 BUILDING DEMOLISHED, AS PER PLAN Large Residential 0.00 EACH \$12,000.00000 \$0.00 0536 202E56101 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN Large Residential 0.00 EACH \$30,000.00000 \$0.00 0537 202E56101 1.00 EACH \$30,000.00000 \$0.00 0538 202E56101 1.00	Group 0056: Other Retainin	g Wall Costs			
Total for Group 0056: \$0.00 Group 0057: Building Demolition 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, BUILDING DEMOLITION 0219 N-OC-DEMO 1.00 LS \$0.000000 \$0.00 0219 N-OC-DEMO 1.00 LS \$0.000000 \$0.00 OTHER COSTS, BUILDING DEMOLITION 0534 202256101 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN Small Residential 0535 202256101 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 202256101 1.00 EACH \$30,000.00000000000000000000000000000000	0217 M-OC-WALL OTHER COSTS, RETAINING W/	1.00 ALLS	LS	\$0.00000	\$0.00
Group 0057: Building Demolition 0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, BUILDING DEMOLITION 1.00 LS \$0.00000 \$0.00 0219 N-OC-DEMO 1.00 LS \$0.000000 \$0.00 OTHER COSTS, BUILDING DEMOLITION 3.00 EACH \$7,500.00000 \$22,500.00 0534 202E56101 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN Small Residential 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN Large Residential 0.00 EACH \$15,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN Large Residential 0.00 EACH \$15,000.00000 \$0.00 0536 202E56101 0.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN Large Commercial 1.00 EACH \$30,000.00000 \$30,000.00 0537 202E56101 1.00 EACH \$30,000.000000 \$30,000.00 BUI		-		Total for Group 0056:	\$0.00
0218 N-MC-DEMO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, BUILDING DEMOLITION 1.00 LS \$0.00000 \$0.00 0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 OTHER COSTS, BUILDING DEMOLITION 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$12,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 50.00 \$0.00 \$30,000.00 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.0000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.0000 \$30,000.00 BUILD	Group 0057: Building Demo	olition			
0219 N-OC-DEMO 1.00 LS \$0.00000 \$0.00 OTHER COSTS, BUILDING DEMOLITION 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN Small Residential 3.00 EACH \$12,000.00000 \$24,000.00 0535 202E56101 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN Large Residential 0.00 EACH \$12,000.00000 \$24,000.00 0536 202E56101 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN Large Residential 0.00 EACH \$15,000.00000 \$0.00 0537 202E56101 0.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN Large Commercial 1.00 EACH \$30,000.00000 \$30,000.00 0538 202E96100 0.00 EACH \$8,500.00000 \$0.00	0218 N-MC-DEMO MAJOR COST DRIVERS, BUILD	1.00 ING DEMOLITION	LS	\$0.00000	\$0.00
0534 202E56101 3.00 EACH \$7,500.00000 \$22,500.00 BUILDING DEMOLISHED, AS PER PLAN Small Residential 2.00 EACH \$12,000.00000 \$24,000.00 0535 202E56101 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN Large Residential 0.00 EACH \$15,000.00000 \$0.00 0536 202E56101 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN Small Commercial 0.00 EACH \$15,000.00000 \$0.00 0537 202E56101 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN Large Commercial 1.00 EACH \$30,000.00000 \$30,000.00 0538 202E98100 0.00 EACH \$8,500.00000 \$0.00	0219 N-OC-DEMO OTHER COSTS, BUILDING DEM	1.00 IOLITION	LS	\$0.00000	\$0.00
0535 202E56101 2.00 EACH \$12,000.00000 \$24,000.00 BUILDING DEMOLISHED, AS PER PLAN 200 EACH \$15,000.00000 \$0.00 0536 202E56101 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN 0.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 2.00 EACH \$30,000.00000 \$0.00 0538 202E98100 0.00 EACH \$8,500.00000 \$0.00	0534 202E56101 BUILDING DEMOLISHED, AS PI Small Residential	3.00 ER PLAN	EACH	\$7,500.00000	\$22,500.00
0536 202E56101 0.00 EACH \$15,000.00000 \$0.00 BUILDING DEMOLISHED, AS PER PLAN \$30,000.00000 \$0.00 \$0.00 \$0.00 0537 202E56101 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN 1.00 EACH \$30,000.00000 \$30,000.00 0538 202E98100 0.00 EACH \$8,500.00000 \$0.00	0535 202E56101 BUILDING DEMOLISHED, AS PE Large Residential	2.00 ER PLAN	EACH	\$12,000.00000	\$24,000.00
0537 202E56101 1.00 EACH \$30,000.00000 \$30,000.00 BUILDING DEMOLISHED, AS PER PLAN Large Commercial 0538 202E98100 0.00 EACH \$8,500.00000 \$0.00	0536 202E56101 BUILDING DEMOLISHED, AS PE Small Commercial	0.00 ER PLAN	EACH	\$15,000.00000	\$0.00
0538 202E98100 0.00 EACH \$8,500.00000 \$0.00	0537 202E56101 BUILDING DEMOLISHED, AS PI Large Commercial	1.00 ER PLAN	EACH	\$30,000.00000	\$30,000.00
	0538 202E98100	0.00	EACH	\$8,500.00000	\$0.00

7:32:36AM Thursday, December 02, 2010

Estimate: Alt I KY cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	Quantity	<u>Units</u>	Unit Price	<u>Extension</u>
REMOVAL MISC.: Radio Tower				
			Total for Group 0057:	\$76,500.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR	1.00 R	LS	\$0.00000	\$0.00
0505 P-MC-NSBR 5 Noise Barrier	8,304.00	SF	\$25.00000	\$1,457,600.00
			Total for Group 0058: \$1	,457,600.00
Group 0059: Other Noise Barrier C	osts			
0221 P-OC-NSBR OTHER COSTS NOISE BARRIER	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR MAJOR COST DRIVERS NOISE BARRIEL	0.00 R	LS	\$0.00000	\$0.00
			Total for Group (0059: \$0.00
Group 0060: New Structures				
0222 R-MC-STRC	1.00	LS	\$0.00000	\$0.00
0506 R-MC-STRC 7 Tier 1 Structures to 25' Height	7,961.00	SF	\$125.00000	\$9,745,125.00
0507 R-MC-STRC Removal of Existing Structures non-comple	0.00	SF	\$12.00000	\$0.00
0508 R-MC-STRC 5 Standard Removal of Existing Structures at	1,915.00 bove aver	SF age complex	\$17.00000	\$882,555.00
0509 R-MC-STRC Removal of Existing Structures complex to	0.00 verv comr	SF	\$30.00000	\$0.00
0513 R-MC-STRC Tier 2 Structures 25' to 50' Height	0.00	SF	\$150.00000	\$0.00
0516 R-MC-STRC Tier 3 Structures 50' to 75' Height	0.00	SF	\$200.00000	\$0.00
C C			Total for Group 0060: \$10	,627,680.00
Group 0061: Rehabilitated Structur	es			
0223 R-MC-STRC MAJOR COST DRIVERS, STRUCTURES	0.00	SF	\$45.00000	\$0.00
			Total for Group	0061: \$0.00
Group 0062: Other Structure Costs	6			
0224 R-OC-STRC OTHER COSTS, STRUCTURES	0.00	LS	\$0.00000	\$0.00
Contingency			Total for Group ($0.062 \cdot \$0.00$
	Deve			
0225 S-MC-MNTC	1.00		\$0.0000	\$0.00
MAJOR COST DRIVERS, MAINTENANCE	OF TRAF	FIC	\$0.0000	

Estimate: Alt I KY cont 5		PB A	mericas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
<u>Description</u> Supplemental Description			
		T , 14 O	AA AA
		Total for Group 0063:	\$0.00
Group 0064: Portable Concre	ete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	NANCE OF TRAFFIC	Total for Croup 0064:	¢0 00
			Ф 0.00
Group 0065: Impact Attenuat	ors		
0227 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE		Total for Group 0065:	\$0.00
			+
Group 0066: Sheeting			
0229 S-MC-MNTC MAJOR COST DRIVERS. MAINTE	1.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
Croup 0067: Tomporon Sign			
Group 0067. Temporary Sign		00000 02	ድር በባ
MAJOR COST DRIVERS, MAINTE	NANCE OF TRAFFIC	\$0.00000	φ0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Ligh	ntina		
0231 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	NANCE OF TRAFFIC	Total for Group 0068:	ድር በር
			φ0.00
Group 0069: Innovative Cont	racting Incentatives		
0232 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
WAJOR COST DRIVERS, WAINTE		Total for Group 0069:	\$0.00
Group 0070: Other MOT Cos	its		6
OTHER COSTS, MAINTENANCE	1.00 LS OF TRAFFIC	\$0.00000	\$0.00
0512 S-OC-MNTC	2.54 MILE OF TRAFFIC	\$500,000.00000 \$	1,270,000.00
		Total for Group 0070: \$1,270,0	00.00
Group UU/1: Wetland Constr		#0.0000	#0.00
MAJOR COST DRIVERS, WETLA	0.00 LS	\$0.00000	\$0.00
0360 T-MC-WTLD MAJOR COST DRIVERS, WETLAI	0.00 LS ND CONSTRUCTION	\$0.00000	\$0.00
,,,,,,,		Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate: Alt I KY cont 5				PB Americas, Inc.
Line # Item Number	Quantity	<u>Units</u>	Unit Price	Extension
Description Supplemental Description				
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELL	0.00 ANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS	0.00 COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILROA LIABILITY INSURANCE	0.00 DS' PROTECTIV	LS /E PUBI	\$10,000.00000 LIC LIABILITY AND PROPERTY DAI	\$0.00 MAGE
0238 623E10000 CONSTRUCTION LAYOUT STAKES 0.5%	1.00	LS	\$271,430.70000	\$271,430.70
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$1,085,722.80000	\$1,085,722.80
0240 619E16020 FIELD OFFICE, TYPE C	44.00	MNTH	\$2,500.00000	\$110,000.00
0242 624E10000 MOBILIZATION	1.00	LS	\$1,200,000.00000	\$1,200,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERFO	1.00 DRMANCE BON	LS D AND I	\$271,430.70000 FOR PAYMENT BOND	\$271,430.70
0518	0.00		\$0.00000	\$0.00
0519	0.00		\$0.00000	\$0.00
0520	0.00		\$0.00000	\$0.00
0521	0.00		\$0.00000	\$0.00
			Total for Group 007	2: \$2,938,584.20
Group 0073: Design Continge	ncy Costs			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTING	1.00 SENCY COSTS	LS	\$0.00000	\$0.00
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY C 25%	1.00 OSTS	LS	\$14,306,181.06000	\$14,306,181.06
			Total for Group 0073	\$14,306,181.06
Group 0074: Inflation Continge	ency			
0266 V-OC-CNTG OTHER COSTS. CONTINGENCY C	0.00 OSTS	LS	\$0.00000	\$0.00
	-		Total for G	oup 0074: \$0.00

PID	KY-5	County	Kenton	Route	75	Section	This R/W Acquisition cost estimat
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Macro View											Attributes				
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	Str Im
-Residential	3.31	Х	\$82,451.65	\$272,750	+	855500	+	N/A	\$855,500.00	=	\$1,128,250.05	17	6	11	
-Commercial	6.68	х	\$147,451.64	\$985,065	+	1135000	+	N/A	\$1,135,000.00	=	\$2,120,065.42	19	1	18	
-Industrial	0	х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	
-Agricultural	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	
Relocation	Unit (Displacement)	x	*RHF	9/*RSP	+	Move Cost	+	+ Reestablishment		=	Total Non Labor RAP Costs	Estimate amount of time necessary to rel all RAP parcels = (months)			to relo
-Residential Owner Occupant Tenant	3	x x	\$34 \$10	4,000 0,000	+++	\$6,000 \$1,750				=	\$120,000 \$164.500	Estimat acq	e number of year uisition begins =	rs until projec	ct wide 3.5
-Commerical/Farm/NPO Owner Tenant	1 1				x x	\$15,000 \$15,000	++	\$10, \$10,	000 000	=	\$25,000 \$25,000				
-Personal Property	0				Х	\$1,000				=	\$0				
{[(Total Cost of Acquisition Cost)x0.90]x0.025}+{[(Total of Acquisition Cost)x0.15]x1.20}+{[(Total of Acquisition Cost)x0.10]x1.50} = Contingency						Contingency (Incidentals, Admin. Review & Appropriation)			1145031.203	*RHP - Replacement Housing Payment *RSP - Rent Supplemental Payment			i		
						Total Non Lab	oor R/W Costs		\$4,727,846.67	*NPO - Non-Profit Organization					

Macro View		_			
Labor (External)	Unit (Parcels)	X	Unit Price	=	Total Cost
Titles	36	Х	\$400	=	\$14,400
Appraisal			* •		
-Simple	12	X	\$750	=	\$9,000
-Detailed	24	Х	\$4,500	=	\$108,000
Appraisal Review					
-Simple	12	Х	\$500	=	\$6,000
-Detailed	24	х	\$2,000	=	\$48,000
Negotiations	36	Х	\$1,100	=	\$39,600
Relocations					
-Personal Property	0	Х	\$1,500	=	\$0
-Residential	17	Х	\$5,200	=	\$88,400
-Commercial/Farm/*NPO	1	Х	\$5,600	=	\$5,600
Closings	36	Х	\$400	=	\$14,400
Project Management	36	Х	\$550	=	\$19,800
Asbestos Testing & Abatement		Х		=	
		\$353,200			
*NPO = Non-Profit Organization					-

This R/W Cost Estimate Prepared by							
Joseph Kuehnle							
This R/W Cost Estimate was performed at Step							
of the PDP for	MAJOR	Projects using					

Total Labor Costs	\$353,200.0
Total Non Labor R/W Costs	\$4,727,846
Inflation Adjustments	\$416,645.8
Total R/W Costs	\$5,497,692

P.D.P. R/W Cost Estimator


Estimate Alt I KY cont 6

Estimated Cost: \$33,202,743.20 Contingency: 53.80% Estimated Total: \$51,065,819.04

Base Date: 01/01/15 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt I KY cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
Group 0001: Pavement Remova	al			
	0.00	LS	\$0.00000	\$0.00
0343 202E23000	52,245.00	SY	\$8.00000	\$417,960.00
PAVEMENT REMOVED			Total for Group 0001	: \$417,960.00
Group 0002: Excavation - Rock				
0003 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	331,350.00	CY	\$30.00000	\$9,940,500.00
			Total for Group 0002:	\$9,940,500.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0344 203E10000 EXCAVATION	331,350.00	CY	\$8.00000	\$2,650,800.00
			Total for Group 0003:	\$2,650,800.00
Group 0004: Excavation - Hazar 0006 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	rdous 1.00	LS	\$0.00000 Total for Grou	\$0.00 1p 0004: \$0.00
Group 0005: Fill - Embankment	(includes	wasting	excess excavation)	
0007 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0345 203E20000	662,700.00	CY	\$6.00000	\$3,976,200.00
EMBANKMENT			Total for Group 0005:	\$3.976.200.00
				+-,,
	1 5011	IS	\$0.0000	\$0.00
MAJOR COST DRIVERS, ROADWAY	0.00		\$7,00000	\$0.00
LIME STABILIZED EMBANKMENT	0.00		\$7.00000	\$0.00
LIME	0.00	TON	\$5.00000	\$0.00
			Total for Grou	ıp 0006: \$0.00
Group 0007: Fill - Borrow				
0011 A-MC-RDWY	0.00	CY	\$8.00000	\$0.00
WAJOR COST DRIVERS, ROADWAT			Total for Grou	ıp 0007: \$0.00
Group 0008: Concrete Barrier				
	1.00	LS	\$0.00000	\$0.00
0465 622E10060	3,600.00	FT	\$110.00000	\$396,000.00
7:34:02AM Thursday, December 02, 2010				Page 2 of 12

Estimate: Alt I KY cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SLC	DPE, TYPE B		Total for Group 0008:	\$396,000.00
Group 0009: Subgrade Treatm	ent - Lime			
0014 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300	0.00	TON	\$10.00000	\$0.00
0350 206E11000	0.00	SY	\$1.00000	\$0.00
0351 206E20000	0.00	HOUR	\$4.00000	\$0.00
TEST ROLLING			Total for Group	0009: \$0.00
Group 0010: Subarade Treatm	ent - Ceme	nt		
0016 A-MC-RDWY	81,883.00	SY	\$2.50000	\$204,707.50
MAJOR COST DRIVERS, ROADWA	Y		Total for Group 0010:	\$204,707.50
Group 0011: Subgrade Treatm	ent - Unde	rcut &	Backfill	
0017 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWA	I		Total for Group	0011: \$0.00
Group 0012: Other Roadway (`oete			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT		\$0.00
0029 202E38000	0.00	FT		\$0.00
0030 202E42206	0.00	EACH		\$0.00
0031 202E58000	0.00	EACH		\$0.00
0032 202E58100	0.00	EACH		\$0.00
CATCH BASIN REMOVED 0033 202E75000	0.00	FT		\$0.00
FENCE REMOVED 0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Estimate: Alt I KY cont 6				PB Americas, Inc.
Line # Item Number	Quantity	Units	Unit Price	Extension
Description	<u>r</u>			
Supplemental Description				
PROOF ROLLING				
0035 204E10000	0.00	SY	\$0.81000	\$0.00
SUBGRADE COMPACTION 0036 451E30000	0.00	FT		\$0.00
SPECIAL - PRESSURE RELIEF	JOINT, TYPE A			
0037 606E13000 GUARDRAIL TYPE 5	1,250.00	FT	\$14.00000	\$17,500.00
0038 606E22000	0.00	EACH		\$0.00
ANCHOR ASSEMBLY, TYPE B- 0039 606E22010	.98	EACH		\$0.00
ANCHOR ASSEMBLY, TYPE E-	98	EAOU		
ANCHOR ASSEMBLY, TYPE T	0.00	EACH		\$0.00
0041 606E35000	0.00	EACH		\$0.00
0042 606E35100	r, TYPE T 0.00	EACH		\$0.00
BRIDGE TERMINAL ASSEMBLY	Y, TYPE 2			
0043 606E60010 IMPACT ATTENUATOR TYPE	0.00 1-98 (BIDIRECTION	EACH		\$0.00
0044 607E15000	0.00	FT		\$0.00
FENCE, TYPE 47				
0423 304E20000	0.00	CY		\$0.00
AGGREGATE BASE				
0424 601E32100	0.00	CY		\$0.00
ROCK CHANNEL PROTECTION	N, TYPE B WITH FIL	TER		•
For Fencing 0425 607E40500	0.00	EACH		\$0.00
GATE, TYPE 47				40100
For Fencing 0426 625E32000	0.00	EACH		\$0.00
GROUND ROD	0.00	LACH		φ0.00
For Fencing	0.00		\$0,00000	¢0.00
0466	0.00		Total for Group 0012	\$0.00
				ψ17,300.00
Group 0014: Seeding & Mu	Iching / Soddir	ng		
0045 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, EROS	SION CONTROL	CV	¢1 00000	¢67 605 00
SEEDING AND MULCHING	67,695.00	31	\$1.00000	\$07,095.00
0531 660E25000	0.00	SY	\$15.00000	\$0.00
SODDING STARED			Total for Group 0014 [.]	\$67 695 00
				<i>Q</i> (1),000100
Group 0015: Rock Channel	I Protection			
0047 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, EROS 0469 601E32000	SION CONTROL 12.00	CY	\$75.00000	\$900.00
ROCK CHANNEL PROTECTION	N, TYPE A WITH FIL	TER		·
			Total for Group 001	5: \$900.00
Group 0016. Frasion Contr	ol - Item 832			
0048 B-MC-ERCO	1 00	IS	\$0.0000	00.02
7:34:02AM	1.00	20	ψ0.0000	φ0.00
Thursday, December 02, 2010				Page 4 of 12

Estimate: Alt I KY cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
MAJOR COST DRIVERS, EROSION	CONTROL			
0470 832E10000		LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	300,000.00	EACH	\$1.00000	\$300,000.00
			Total for Group 0016:	\$350,000.00
Group 0017: Other Erosion Co	ntrol Costs			
0049 670E00700	0.00	SY		\$0.00
DITCH EROSION PROTECTION	0.00			\$0.00
0050 B-OC-ERCO OTHER COSTS, EROSION CONTRO	1.00 DL	LS	\$0.00000	\$0.00
0051 659E00100	0.00	EACH	\$0.00000	\$0.00
0052 659E00300	0.00	CY		\$0.00
0053 659E14000	0.00	SY		\$0.00
REPAIR SEEDING AND MULCHING	0.00	SY	\$0,71000	\$0.00
INTER-SEEDING	0.00	701	φ0.11000	\$0.00
COMMERCIAL FERTILIZER	0.00	ION		\$0.00
0056 659E31000 LIME	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000 MOWING	0.00	MSF	\$0.00000	\$0.00
			Total for Group	0017: \$0.00
	1 00	10	00000 02	00.02
MAJOR COST DRIVERS, DRAINAG	E	L3	\$0.00000	\$0.00
0062 605E05100 4" SHALLOW PIPE UNDERDRAINS	10,850.00	FT	\$8.00000	\$86,800.00
			Total for Group 0018	: \$86,800.00
Group 0019: Culverts - Type A	· ~ 5'			
0474 C-MC-DRNG	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, DRAINAG	E 27.00		\$250,0000	¢10.050.00
MAJOR COST DRIVERS, DRAINAG	57.00 E	ГІ	\$350.00000	\$12,950.00
Pipe Structures - Reinforced Concrete 0481 C-MC-DRNG	"e Pipe up to 60 1.00	EACH	\$1.500.00000	\$1,500.00
MAJOR COST DRIVERS, DRAINAG	E		• ,	· ,
Concrete Masonry			Total for Group 0019	: \$14,450.00
			·	. ,
Group 0021: Culverts, Type A:	5' - 10'			
MAJOR COST DRIVERS, DRAINAG	1.00 E	LS	\$0.00000	\$0.00
0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	0.00 E	FT	\$550.00000	\$0.00
7:34:02AM Thursday, December 02, 2010				Page 5 of 12

Estimate: Alt I KY cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
Pipe Structures - Reinforced Concrete 5'- 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	10' 66" to 7 0.00	78" EACH	\$2,000.00000	\$0.00
			Total for	Group 0021: \$0.00
Group 0022: Culverts, Type A: 10	' - 20'			
0486 C-MC-DRNG MAIOR COST DRIVERS DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pit	0.00 pe 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for	Group 0022: \$0.00
Group 0024: BIMP'S	1 00	10	¢0,000,0\$	00.02
MAJOR COST DRIVERS, DRAINAGE	1.00	LO	\$0.00000	φ 0. 00
			Total for	Group 0024: \$0.00
Group 0025: Closed Storm System	m			
0077 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	3,608.00	FT	\$75.00000	\$270,600.00
0523 604E00800 CATCH BASIN NO 3A	14.00	EACH	\$1,500.00000	\$21,000.00
0524 604E31500 MANHOLE, NO. 3	1.00	EACH	\$3,000.00000	\$3,000.00
0525 604E36601			\$1,250.00000	\$0.00
0526 Special Pump Station (Storm)	0.00	LS	\$6,400,000.00000	\$0.00
0527 Special Stormcentors	0.00	EACH	\$5,750.00000	\$0.00
0529 Special Retention basin improvements	0.00	LS	\$109,000.00000	\$0.00
			Total for Group	0025: \$294,600.00
Group 0026. Other Drainage Cos	ts			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, DRAINAGE			Total for	Group 0026: \$0.00
Group 0027: Mainline - Travel Lar	nes			
0095 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Corr	59,563.00 npaction	SY	\$68.00000	\$4,050,284.00
7:34:02AM				

Estimate: Alt I KY cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
			Total for Group 0027: \$	4,050,284.00
Group 0028: Mainline - Outside	Shoulder			
0100 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement	8,534.00	SY	\$68.00000	\$580,312.00
Includes 6" Agg base and Subgrade C	ompaction		Total for Group 0028:	\$580,312.00
Group 0030: Mainline - Inside S	houlder			
0115 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement	11,410.00	SY	\$68.00000	\$775,880.00
Includes 6" Agg base and Subgrade C	ompaction		Total for Group 0030:	\$775,880.00
Group 0031: Ramps (including	shoulders))		
0122 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	2,376.00	SY	\$68.00000	\$161,568.00
Includes 6" Agg base and Subgrade C	ompaction		Total for Group 0031:	\$161,568.00
Group 0032: Non - Mainline Lar	nes			
0132 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	- 1.00	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	0.00	SY	\$41.00000	\$0.00
Includes 3" 448, 9" 301, 6" Agg base a	nd Subgrade (Compaction	Total for Group	0032: \$0.00
Group 0041: Other Pavement C	osts			
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Group	0041: \$0.00
Group 0042: Water Works			* 0.0000	A 0.00
0164 E-MC-WATR MAJOR COST DRIVERS, WATER LIN	0.00 IE	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Group	0042: \$0.00
Group 0043: Sanitary Line 0170 F-MC-SANI	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, SANITARY	SEWER			
7:34:02AM				

Estimate: Alt I KY cont 6			F	B Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
			Total for Group 004	3: \$0.00
Group 0044: Lighting - Full Interc	hange			
0173 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	0.00	EACH	\$469,000.00000	\$0.00
			Total for Group 004	4: \$0.00
Group 0045: Lighting - Partial Inte	erchange	;		
0288 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group 004	5: \$0.00
Group 0046: Lighting - Continuou	s Roadw	/av		
0176 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING 0500 G-MC-LTNG	3,600.00	FT	\$35.00000	\$126,000.00
Lighting - Continuous			Total for Group 0046: \$12	26 000 00
				.0,000.00
Group 0047: Other Lighting Costs	6			
0177 G-OC-LTNG OTHER COSTS, LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group 004	7: \$0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV	1.00	LS	\$246,872.97000	\$246,872.97
OTHER COSTS, TRAFFIC SURVEILLAN	NCE		Total for Group 0048: \$24	6.872.97
			• •	,
Group 0049: Signs			* ******	Aa a a
MAJOR COST DRIVERS, TRAFFIC CON	1.00 NTROL	LS	\$0.00000	\$0.00
0501 J-MC-TRAF Signs	0.68	MILE	\$250,000.00000	\$170,000.00
			Total for Group 0049: \$17	0,000.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CON 0502 644E00100 EDGE LINE	11ROL 2.92	MILE	\$3,000.00000	\$8,760.00
0503 644E00200	7.19	MILE	\$2,000.00000	\$14,380.00
			Total for Group 0050: \$2	23,140.00

Group 0051: Other Traffic Control Costs

Estimate: Alt I KY cont 6			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0208 J-OC-TRAF OTHER COSTS, TRAFFIC CONTROL	1.00	LS	\$0.00000	\$0.00
Croup 0052: Signala Interpecti	000		Total for Group 0051:	\$0.00
0212 K-MC-SGNL	0.00	LS	\$175.00000	\$0.00
MAJOR COST DRIVERS, SIGNALS			Total for Group 0052:	\$0.00
Group 0053: Other Traffic Signa	l Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0053:	\$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP MAJOR COST DRIVERS, LANDSCAP	1.00 ING	LS	\$0.00000	\$0.00
0215 L-OC-LSCP OTHER COSTS, LANDSCAPING	1.00	LS	\$0.00000	\$0.00
			Total for Group 0054:	\$0.00
Group 0055: Retaining Walls \$1	25 + \$10/	ft for ca	ps, barriers and testing	
0216 M-MC-WALL MAJOR COST DRIVERS, RETAINING	1.00 WALLS	LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	0.00	SF	\$135.00000	\$0.00
			Total for Group 0055:	\$0.00
Group 0056: Other Retaining W	all Costs			
0217 M-OC-WALL OTHER COSTS RETAINING WALLS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0056:	\$0.00
Group 0057: Building Demolition	า			
0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING D	1.00 DEMOLITION	LS	\$0.00000	\$0.00
0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOLIT	1.00 ION	LS	\$0.00000	\$0.00
0532 202E56101 BUILDING DEMOLISHED, AS PER PL Large Commercial	0.00 AN	EACH	\$30,000.00000	\$0.00
0533 202E56101 BUILDING DEMOLISHED, AS PER PL Small Commercial	0.00 AN	EACH	\$15,000.00000	\$0.00
0534 202E56101 BUILDING DEMOLISHED, AS PER PL Large Residential	1.00 AN	EACH	\$12,000.00000	\$12,000.00
0535 202E56101 BUILDING DEMOLISHED, AS PER PL Small Residential	4.00 AN	EACH	\$7,500.00000	\$30,000.00
0536 202E98100	0.00	EACH	\$8,500.00000	\$0.00
7:34:02AM				

Estimate: Alt I KY cont 6			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
REMOVAL MISC.: <i>Radio Tower</i>			Total for Group 0057: \$42,0	00.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR	1.00	LS	\$0.00000	\$0.00
0505 P-MC-NSBR Noise Barrier	0.00	LS	\$400.00000	\$0.00
			Total for Group 0058:	\$0.00
Group 0059: Other Noise Barrier	r Costs			
0221 P-OC-NSBR OTHER COSTS, NOISE BARRIER	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR MAJOR COST DRIVERS NOISE BAR	0.00 RIFR	LS	\$0.00000	\$0.00
			Total for Group 0059:	\$0.00
Group 0060: New Structures				
0222 R-MC-STRC MAJOR COST DRIVERS. STRUCTURI	1.00 ES	LS	\$0.00000	\$0.00
0506 R-MC-STRC	0.00	SF	\$125.00000	\$0.00
0507 R-MC-STRC	0.00	SF	\$12.00000	\$0.00
0508 R-MC-STRC	0.00	SF	\$17.00000	\$0.00
Standard Removal of Existing Structure 0509 R-MC-STRC	s above avera 0.00	age complex SF	\$30.0000	\$0.00
Removal of Existing Structures complex	to very comp	olex SE	\$150,00000	\$0.00
Tier 2 Structures 25' to 50' Height	0.00	0	\$130.00000	φ0.00
0516 R-MC-STRC Tier 3 Structures 50' to 75' Height	0.00	SF	\$200.00000	\$0.00
			Total for Group 0060:	\$0.00
Group 0061: Rehabilitated Struc	tures			
0223 R-MC-STRC MAJOR COST DRIVERS_STRUCTUR	0.00 =S	SF	\$45.00000	\$0.00
			Total for Group 0061:	\$0.00
Group 0062: Other Structure Co	sts			
0224 R-OC-STRC OTHER COSTS, STRUCTURES Contingency	0.00	LS	\$0.00000	\$0.00
<u> </u>			Total for Group 0062:	\$0.00
Group 0063: Temporary Road a	nd Paver	nent Costs		
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTENAN	1.00 ICE OF TRAF	LS FFIC	\$0.00000	\$0.00

Estimate: Alt I KY cont 6		PB A	mericas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
Description Supplemental Description			
		T () () O () O ()	A A AA
		Total for Group 0063:	\$0.00
Group 0064: Portable Concr	rete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT	ENANCE OF TRAFFIC	Total for Group 0064:	ድር በባ
			ψ0.00
Group 0065: Impact Attenua	ators		
0227 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT		Total for Group 0065:	\$0.00
Group 0066: Sheeting			^
0229 S-MC-MNTC MAJOR COST DRIVERS, MAINT	1.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
Group 0067: Temporary Sig	nals		
0230 S-MC-MNTC	0.00 LS	\$0.0000	\$0.00
MAJOR COST DRIVERS, MAINT	ENANCE OF TRAFFIC	T () () 0 0007	AA AA
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Lig	hting		
0231 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT	ENANCE OF TRAFFIC	Total for Group 0068.	\$0.00
			<i>\\</i>
Group 0069: Innovative Con	itracting Incentatives		
0232 S-MC-MNTC MAJOR COST DRIVERS, MAINT	0.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
· · · ·		Total for Group 0069:	\$0.00
Group 0070: Other MOT Co	ete		
	100 15	\$0,0000	\$0.00
OTHER COSTS, MAINTENANCE	OF TRAFFIC	¢	¢240.000.00
OTHER COSTS, MAINTENANCE	O.68 MILE	\$500,000.00000	\$340,000.00
		Total for Group 0070: \$340,0	00.00
Group 0071: Wetland Const	ruction		
0234 T-MC-WTLD	0.00 LS	\$0.00000	\$0.00
		\$0.0000	\$0.00
MAJOR COST DRIVERS, WETLA	AND CONSTRUCTION		φ0.00
		Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate:	Alt I KY cont 6				PB Americas, Inc.
Line #	Item Number	Quantity	<u>Units</u>	Unit Price	Extension
<u>Dese</u> Sup	<u>cription</u> plemental Description				
0235 MAJ	U-MC-MISC OR COST DRIVERS, MISCELLANE	0.00 OUS COST	LS S	\$0.00000	\$0.00
0236 OTH	U-OC-MISC ER COSTS, MISCELLANEOUS CO	0.00 STS	LS	\$0.00000	\$0.00
0237 SPE LIAE	100E00300 CIAL - PREMIUM ON RAILROADS' BILITY INSURANCE	0.00 PROTECTIV	LS /E PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY DAMA	\$0.00 \GE
0238 CON <i>0.5%</i>	623E10000 ISTRUCTION LAYOUT STAKES 6	1.00	LS	\$124,670.85000	\$124,670.85
0239 MAII <i>2%</i>	614E11000 NTAINING TRAFFIC	1.00	LS	\$498,683.39000	\$498,683.39
0240 FIEL	619E16020 D OFFICE, TYPE C	32.00	MNTH	\$2,500.00000	\$80,000.00
0242 MOE	624E10000 BILIZATION	1.00	LS	\$800,000.00000	\$800,000.00
0511 PRE <i>0.5%</i>	103E05000 MIUM FOR CONTRACT PERFORM %	1.00 IANCE BON	LS D AND F	\$124,670.85000 FOR PAYMENT BOND	\$124,670.85
0518		0.00		\$0.00000	\$0.00
0519		0.00		\$0.00000	\$0.00
0520		0.00		\$0.00000	\$0.00
0521		0.00		\$0.00000	\$0.00
				Total for Group 0072:	\$1,628,025.09
Group	0073: Design Contingency	/ Costs			
0243 MAJ	V-MC-CNTG OR COST DRIVERS, CONTINGEN	1.00 CY COSTS	LS	\$0.00000	\$0.00
0244 OTH 25%	V-OC-CNTG ER COSTS, CONTINGENCY COST	1.00 S	LS	\$6,640,548.64000	\$6,640,548.64
				Total for Group 0073:	\$6,640,548.64
Group	0074: Inflation Contingenc	;y			
0266 ОТН	V-OC-CNTG ER COSTS, CONTINGENCY COST	0.00 S	LS	\$0.00000	\$0.00
		-		Total for Gro	up 0074: \$0.00

PID	KY-6	County	Kenton	Route	75	Section	This R/W Acquisition cost estimation
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Macro View												At	ributes		
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	Str In
-Residential	3.37	х	\$96,480.75	\$325,140	+	2085000	+	N/A	\$2,085,000.00	=	\$2,410,140.13	8	4	4	
-Commercial	0.41	х	\$4,950.50	\$2,030	+	0	+	N/A	\$0.00	=	\$2,029.71	1	0	1	
-Industrial	0	х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	
-Agricultural	0	х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	
Relocation	Unit (Displacement)	x	*RHF	P/*RSP	+	Move Cost	+	Reestabl	ishment	=	Total Non Labor RAP Costs	Estima	te amount of time all RAP parcels	e necessary s = (months)	to relo
-Residential Owner Occupant Tenant	5 18	x x	\$34 \$10	4,000 0,000	+++	\$6,000 \$1,750				=	\$200,000 \$211,500	Estimato acq	e number of year uisition begins =	rs until projec	ct wide 3.5
-Commerical/Farm/NPO Owner Tenant	0				x x	\$15,000 \$15,000	+ +	\$10, \$10,	000 000	=	\$0 \$0				
-Personal Property	0				х	\$1,000				=	\$0				
{[(Total Cost of Acquisition Cost)	x0.90]x0.025}+{[(Total c Cost)x0.10]x1.50]	of Aco	quisition Cost)x0. ontingency	.15]x1.20}+{[(Total	of Ac	quisition	Contingency (Incidentals, Admin. Review & Appropriation)			Contingency (Incidentals, Admin. Review & Appropriation) *RSP - Replacement Ho		placement Hous	ing Payment Payment	:	
								Total Non Labor R/W Costs			\$3,673,959.70	*NPO - No	n-Profit Organiza	ation	

Labor (External)	Unit (Parcels)	X	Unit Price	=	Total Cost
Titles	9	Х	\$400	=	\$3,600
Appraisal					
-Simple	4	Х	\$750	=	\$3,000
-Detailed	5	х	\$4,500	=	\$22,500
Appraisal Review					
-Simple	4	Х	\$500	=	\$2,000
-Detailed	5	х	\$2,000	=	\$10,000
Negotiations	9	Х	\$1,100	=	\$9,900
Relocations					
-Personal Property	0	Х	\$1,500	=	\$0
-Residential	23	Х	\$5,200	=	\$119,600
-Commercial/Farm/*NPO	0	Х	\$5,600	=	\$0
Closings	23	Х	\$400	=	\$9,200
Project Management	23	Х	\$550	=	\$12,650
Asbestos Testing & Abatement		Х		=	
		Tota	al Labor Costs		\$192,450
*NPO = Non-Profit Organization					•

This R/W Cost Estimate Prepared by					
Chris Clemons					
This R/W Cost Estimate was performed at Step					
of the PDP for	MAJOR	Projects using			

Total Labor Costs	\$192,450.0
Total Non Labor R/W Costs	\$3,673,959
Inflation Adjustments	\$317,045.0
Total R/W Costs	\$4,183,455

P.D.P. R/W Cost Estimator



Estimate Alt I KY cont 7

Estimated Cost: \$242,532,360.08 Contingency: 57.60% Estimated Total: \$382,230,999.49

Base Date: 01/01/15 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt I KY cont 7				PB Americas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Group 0001: Pavement Remova	al			
	0.00	LS	\$0.00000	\$0.00
0343 202E23000	130,262.00	SY	\$8.00000	\$1,042,096.00
PAVEMENT REMOVED			Total for Group 0001:	\$1,042,096.00
Group 0002: Excavation - Rock	442 000 00	0)/	\$20,0000	¢0.444.000.00
MAJOR COST DRIVERS, ROADWAY	113,800.00	CΥ	\$30.00000	\$3,414,000.00
			Total for Group 0002:	\$3,414,000.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0344 203E10000	170,700.00	CY	\$8.00000	\$1,365,600.00
EAGAVATION			Total for Group 0003:	\$1,365,600.00
Group 0004: Excavation - Haza	rdous			
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Grou	up 0004: \$0.00
				μοιοο φυίου φύ
Group 0005: Fill - Embankment	(includes	wasting e	excess excavation)	
0007 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0345 203E20000 EMBANKMENT	284,500.00	CY	\$6.00000	\$1,707,000.00
			Total for Group 0005:	\$1,707,000.00
Group 0006: Fill - Lime Modified	l Soil			
0010 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0346 205E10050	0.00	CY	\$7.00000	\$0.00
0347 205E10300	0.00	TON	\$5.00000	\$0.00
LIME			Total for Grou	up 0006: \$0.00
				•
	0.00	CV	\$8,00000	00.02
MAJOR COST DRIVERS, ROADWAY	0.00	01		φυ.υυ
			I otal for Grou	up 0007: \$0.00
Group 0008: Concrete Barrier				
0012 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0465 622E10060	8,000.00	FT	\$110.00000	\$880,000.00

Estimate: Alt I KY cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
CONCRETE BARRIER, SINGLE SI	LOPE, TYPE B		T () () 0 0000	\$
			Total for Group 0008:	\$880,000.00
Group 0009: Subgrade Treat	ment - Lime			
0014 A-MC-RDWY MAJOR COST DRIVERS, ROADW	1.00 AY	LS	\$0.00000	\$0.00
0348 206E10000 LIME STABILIZED SUBGRADE	0.00	SY	\$1.85000	\$0.00
0349 206E10300 LIME	0.00	TON	\$10.00000	\$0.00
0350 206E11000 CURING COAT	0.00	SY	\$1.00000	\$0.00
0351 206E20000 TEST ROLLING	0.00	HOUR	\$4.00000	\$0.00
			Total for Group	0009: \$0.00
Group 0010: Subgrade Treat	ment - Ceme	ent		
0016 A-MC-RDWY	158,488.00	SY	\$2.50000	\$396,220.00
MAJOR COST DRIVERS, ROADW	AY		Total for Group 0010:	\$396,220.00
Group 0011: Subgrade Treat	ment - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS_ROADW	1.00	LS	\$0.00000	\$0.00
			Total for Group	0011: \$0.00
Group 0012: Other Roadway	Costs			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
0020 201E11000	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
0022 201E23000 TREE REMOVED 30" SIZE	0.00	EACH	\$405.00000	\$0.00
0023 201E24800 TREE REMOVED, 48" SIZE	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT		\$0.00
0029 202E38000	0.00	FT		\$0.00
0030 202E42206	0.00	EACH		\$0.00
0031 202E58000	0.00	EACH		\$0.00
	0.00	EACH		\$0.00
0033 202E75000	0.00	FT		\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Estimate: Alt I KY cont 7				PB Americas, Inc.
Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Description				
Supplemental Description				
PROOF ROLLING				· · ·
0035 204E10000 SUBGRADE COMPACTION	0.00	SY	\$0.81000	\$0.00
0036 451E30000	0.00	FT		\$0.00
SPECIAL - PRESSURE RELIE	F JOINT, TYPE A	гт	¢14,00000	¢24 E00 00
GUARDRAIL, TYPE 5	1,750.00	FI	\$14.0000	\$24,500.00
0038 606E22000	0.00	EACH		\$0.00
0039 606E22010	0.00	EACH		\$0.00
ANCHOR ASSEMBLY, TYPE E	E-98			.
0040 606E26500	0.00	EACH		\$0.00
0041 606E35000	0.00	EACH		\$0.00
BRIDGE TERMINAL ASSEMBI	LY, TYPE 1	EACH		\$0.00
BRIDGE TERMINAL ASSEMBI	LY, TYPE 2	E/(OII		φ0.00
		EACH		\$0.00
0044 607E15000	0.00	FT		\$0.00
FENCE, TYPE 47				
0423 304E20000	0.00	CY		\$0.00
AGGREGATE BASE				
0424 601E32100	0.00	CY		\$0.00
ROCK CHANNEL PROTECTIC	ON, TYPE B WITH FIL	TER		
For Fencing 0425 607E40500	0.00	EACH		\$0.00
GATE, TYPE 47		-		
For Fencing 0426 625E32000	0.00	EACH		\$0.00
GROUND ROD				+
For Fencing	0.00		\$0,0000	\$0.00
0100	0.00		Total for Group 0012:	\$24.500.00
				<i>+</i> ,
Group 0014: Seeding & M	ulching / Soddir	ng		
0045 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ERC	SION CONTROL	SY	\$1,00000	\$47 213 00
SEEDING AND MULCHING	47,210.00	01	¢1.00000	ψ+7,210.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000	\$0.00
			Total for Group 0014:	\$47,213.00
			·	-
Group 0015: Rock Channe	el Protection			
0047 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
0469 601E32000	12.00	CY	\$75.00000	\$900.00
ROCK CHANNEL PROTECTIO	ON, TYPE A WITH FIL	TER		
			Total for Group 001	5: \$900.00
Group 0016: Erosion Cont	rol - Itom 832			
		10	¢0,0000	
7:35:13AM	1.00	10	\$U.UUUUU	φ0.00

Estimate: Alt I KY cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
MAJOR COST DRIVERS, EROSION C	ONTROL			
0470 832E10000 STORM WATER POLLUTION PREVEI	1.00 NTION PLAN	LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	170,000.00	EACH	\$1.00000	\$170,000.00
			Total for Group 0016:	\$220,000.00
Group 0017: Other Erosion Con	trol Costs			
0049 670E00700	0.00	SY		\$0.00
0050 B-OC-ERCO	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, EROSION CONTROL 0051 659E00100	- 0.00	EACH	\$0.00000	\$0.00
0052 659E00300	0.00	CY		\$0.00
0053 659E14000	0.00	SY		\$0.00
0054 659E15000 INTER-SEEDING	0.00	SY	\$0.71000	\$0.00
0055 659E20000	0.00	TON		\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000 MOWING	0.00	MSF	\$0.00000	\$0.00
			Total for Group	0017: \$0.00
Group 0018: Underdrains				
0059 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0062 605E05100	11,925.00	FT	\$8.00000	\$95,400.00
			Total for Group 0018:	\$95,400.00
Group 0019: Culverts - Type A:	< 5'			
0474 C-MC-DRNG MAJOR COST DRIVERS DRAINAGE	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	FT	\$350.00000	\$0.00
Pipe Structures - Reinforced Concrete	"Pipe up to 60 0 00	FACH	\$1,500,00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE Concrete Masonry			¢ ,,	\$0.00
			Total for Group	0019: \$0.00
Group 0021: Culverts, Type A: 5	5' - 10'			
0067 C-MC-DRNG MAJOR COST DRIVERS. DRAINAGE	1.00	LS	\$0.00000	\$0.00
0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	FT	\$550.00000	\$0.00
7:35:13AM				

Estimate: Alt I KY cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
Pipe Structures - Reinforced Concrete 5	5'-10' 66" to	78″	¢0.000.0000	¢0.00
MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	0.00	EACH	\$2,000.00000	\$0.00
			Total for Grou	ıp 0021: \$0.00
Group 0022: Culverts, Type A: 1	0' - 20'			
0486 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete F	0.00 Pipe 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for Grou	ıp 0022: \$0.00
Group 0024: BMP's				
0076 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Grou	ıp 0024: \$0.00
Group 0025: Closed Storm Syste	em			
0077 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0489 603E13400	21,838.00	FT	\$75.00000	\$1,637,850.00
0523 604E00800	98.00	EACH	\$1,500.00000	\$147,000.00
0524 604E31500	31.00	EACH	\$3,000.00000	\$93,000.00
0525 604E36601	1.00	EACH	\$1,250.00000	\$1,250.00
0526 Special	OUTLET, AS 1.00	LS	\$6,400,000.00000	\$6,400,000.00
Pump Station (Storm) 0527 Special	6.00	EACH	\$5,750.00000	\$34,500.00
Stormceptors 0529 Special	1.00	LS	\$109.000.00000	\$109.000.00
Retention basin improvements				¢
			Total for Group 0025:	\$8,422,600.00
Group 0026: Other Drainage Cos	sts			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
			Total for Grou	ıp 0026: \$0.00
Group 0027: Mainline - Travel La	anes			
0095 D-MC-PVMT MAJOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Co	61,360.00 mpaction	SY	\$68.00000	\$4,172,480.00
7:35:13AM Thursday, December 02, 2010				Page 6 of 12

Estimate: Alt I KY cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
			Total for Group 0027:	\$4,172,480.00
Group 0028: Mainline - Outside	Shoulder			
0100 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Co	17,902.00 mpaction	SY	\$68.00000	\$1,217,336.00
			Total for Group 0028:	\$1,217,336.00
Group 0030: Mainline - Inside Sh	noulder			
0115 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement	12,396.00	SY	\$68.00000	\$842,928.00
Includes 6" Agg base and Subgrade Co	mpaction		Total for Group 0030): \$842,928.00
Group 0031: Ramps (including s	houlders)			
0122 D-MC-PVMT MAJOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	15,551.00	SY	\$68.00000	\$1,057,468.00
includes of Agy base and Subgrade Co	трасион		Total for Group 0031:	\$1,057,468.00
Group 0032: Non - Mainline Lan	es			
0132 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	51,279.00	SY	\$41.00000	\$2,102,439.00
Includes 3" 448, 9" 301, 6" Agg base an	d Subgrade (Compaction	Total for Group 0032:	\$2,102,439.00
Group 0041: Other Pavement Co	osts			
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Grou	up 0041: \$0.00
Group 0042: Water Works				
0164 E-MC-WATR MAJOR COST DRIVERS, WATER LINE	0.00	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Grou	up 0042: \$0.00
Group 0043: Sanitary Line 0170 F-MC-SANI	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, SANITARY S	SEWER	-	÷	÷

Estimate: Alt I KY cont 7			PB A	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0043:	\$0.00
Group 0044: Lighting - Full Intercl	nange			
0173 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG MAJOR COST DRIVERS LIGHTING	2.00	EACH	\$469,000.00000	\$938,000.00
			Total for Group 0044: \$938,	000.00
Group 0045: Lighting - Partial Inte	erchange	;		
0288 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group 0045:	\$0.00
Group 0046: Lighting - Continuou	s Roadw	/ay	A a a a a a a a a a a	* • • • •
0176 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG Lighting - Continuous	6,195.00	FT	\$35.00000	\$216,825.00
			Total for Group 0046: \$216,	825.00
Group 0047: Other Lighting Costs	5			
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
UTHER COSTS, LIGHTING			Total for Group 0047:	\$0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV OTHER COSTS TRAFFIC SURVEILLAN	1.00	LS	\$1,844,812.92000	51,844,812.92
			Total for Group 0048: \$1,844,	812.92
Group 0049: Signs				
0179 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
0501 J-MC-TRAF Signs	1.17	MILE	\$250,000.00000	\$292,500.00
			Total for Group 0049: \$292,	500.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CON 0502 644E00100	18.92	MILE	\$3,000.00000	\$56,760.00
EDGE LINE 0503 644E00200	13.77	MILE	\$2,000.00000	\$27,540.00
LANE LINE			Total for Group 0050: \$84,	300.00

Group 0051: Other Traffic Control Costs

Estimate: Alt I KY cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
0208 J-OC-TRAF	1.00	LS	\$0.00000	\$0.00
Group 0052: Signala Intersec	tions		Total fo	or Group 0051: \$0.00
0212 K-MC-SGNL MAJOR COST DRIVERS, SIGNALS	7.00	LS	\$175,000.00000	\$1,225,000.00
			Total for Group	0052: \$1,225,000.00
Group 0053: Other Traffic Sign	al Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total fo	or Group 0053: \$0.00
0214 L-MC-LSCP	1 00	IS	\$0,0000	\$0.00
MAJOR COST DRIVERS, LANDSCA 0215 L-OC-LSCP	PING 1.00	LS	\$0.00000	\$0.00
OTHER COSTS, LANDSCAPING		-	Total fr	or Croup 0054: \$0.00
			TOTAL	JI GIOUP 0034. \$0.00
Group 0055: Retaining Walls \$	125 + \$10/	ft for ca	aps, barriers and test	ing
0216 M-MC-WALL MAJOR COST DRIVERS, RETAINING	1.00 G WALLS	LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	118,825.00	SF	\$135.00000	\$16,041,375.00
			Total for Group 0	055: \$16,041,375.00
Group 0056: Other Retaining V	Vall Costs			
0217 M-OC-WALL OTHER COSTS, RETAINING WALLS	1.00	LS	\$0.00000	\$0.00
			Total fo	or Group 0056: \$0.00
Group 0057: Building Demolitic	n			
0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING	1.00 DEMOLITION	LS	\$0.00000	\$0.00
0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOLT	1.00	LS	\$0.00000	\$0.00
0532 202E98100 REMOVAL MISC.: Radio Tower	1.00	EACH	\$8,500.00000	\$8,500.00
0533 202E56101 BUILDING DEMOLISHED, AS PER P Large Commercial	0.00 LAN	EACH	\$30,000.00000	\$0.00
0534 202E56101 BUILDING DEMOLISHED, AS PER P Small Commercial	7.00 LAN	EACH	\$15,000.00000	\$105,000.00
0535 202E56101 BUILDING DEMOLISHED, AS PER P Large Residential	0.00 LAN	EACH	\$12,000.00000	\$0.00
0536 202E56101	33.00	EACH	\$7,500.00000	\$247,500.00
7:35:13AM				

Page 9 of 12

Estimate: Alt I KY cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
BUILDING DEMOLISHED, AS PER PI Small Residential	_AN			
			Total for Group 0057: \$	361,000.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR MAJOR COST DRIVERS, NOISE BAF	1.00 RRIER	LS	\$0.00000	\$0.00
0505 P-MC-NSBR Noise Barrier	47,772.00	SF	\$25.00000	\$1,194,300.00
			Total for Group 0058: \$1,	194,300.00
Group 0059: Other Noise Barrie	er Costs			
0221 P-OC-NSBR OTHER COSTS NOISE BARRIER	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR MAJOR COST DRIVERS NOISE BAR	0.00 RRIFR	LS	\$0.00000	\$0.00
			Total for Group 0	059: \$0.00
Group 0060: New Structures				
0222 R-MC-STRC	1.00	LS	\$0.00000	\$0.00
0506 R-MC-STRC	315,174.00	SF	\$125.00000	\$39,396,750.00
0507 R-MC-STRC	4,744.00	SF	\$12.00000	\$56,928.00
0508 R-MC-STRC Standard Removal of Existing Structure	175,222.00	SF	\$17.00000	\$2,978,774.00
0509 R-MC-STRC	113,347.00	SF	\$30.00000	\$3,400,410.00
0513 R-MC-STRC	372,133.00	SF	\$150.00000	\$55,819,950.00
0516 R-MC-STRC Tior 2 Structures 50' to 75' Height	174,410.00	SF	\$200.00000	\$34,882,000.00
			Total for Group 0060: \$136,	534,812.00
Group 0061: Rehabilitated Stru	ctures			
0223 R-MC-STRC	0.00	SF	\$45.00000	\$0.00
			Total for Group 0	061: \$0.00
Group 0062: Other Structure Co	osts			
0224 R-OC-STRC	0.00	LS	\$0.00000	\$0.00
Contingency			Tatal fan Onaun O	
			Total for Group U	062: \$0.00
Group 0063: Temporary Road a	and Paver	nent Cos	sts	
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTENA	1.00 NCE OF TRAF	LS FFIC	\$0.00000	\$0.00

Estimate: Alt I KY cont 7		PB A	mericas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
Description Supplemental Description			
			.
		Total for Group 0063:	\$0.00
Group 0064: Portable Conc	rete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT	TENANCE OF TRAFFIC	Total for Croup 0064:	¢0.00
			Φ0.00
Group 0065: Impact Attenua	ators		
0227 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAIN		Total for Group 0065:	\$0.00
			+ - -
Group 0066: Sheeting			
0229 S-MC-MNTC MAJOR COST DRIVERS, MAINT	1.00 LS TENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
	mala		
Group 0067: Temporary Sig		00000 02	ደር በባ
MAJOR COST DRIVERS, MAINT	TENANCE OF TRAFFIC	\$0.0000	φ0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Lic	ntina		
0231 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT	TENANCE OF TRAFFIC	Total for Croup 0068:	¢0 00
			Φ0.00
Group 0069: Innovative Cor	ntracting Incentatives		
0232 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAIN		Total for Group 0069:	\$0.00
			t
Group 0070: Other MOT Co	osts		• • • • •
0233 S-OC-MNTC OTHER COSTS, MAINTENANCE	1.00 LS E OF TRAFFIC	\$0.00000	\$0.00
0512 S-OC-MNTC	1.17 MILE	\$500,000.00000	\$585,000.00
		Total for Group 0070: \$585,0	00.00
	<i>.</i>	• • •	
Group 00/1: Wetland Cons	truction	# 0.00000	A A AA
0234 T-MC-WTLD MAJOR COST DRIVERS, WETL	0.00 LS AND CONSTRUCTION	\$0.00000	\$0.00
0360 T-MC-WTLD MAJOR COST DRIVERS WETI	0.00 LS AND CONSTRUCTION	\$0.00000	\$0.00
		Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate: Alt I KY cont 7				PB Americas, Inc.
Line # Item Number	Quantity	<u>Units</u>	Unit Price	Extension
Description Supplemental Description				
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELL/	0.00 ANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS	0.00 COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILROA LIABILITY INSURANCE	0.00 DS' PROTECTIV	LS /E PUBI	\$10,000.00000 LIC LIABILITY AND PROPERTY [\$0.00 \$0.00
0238 623E10000 CONSTRUCTION LAYOUT STAKES 0.5%	1.00	LS	\$931,630.52000	\$931,630.52
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$3,726,522.10000	\$3,726,522.10
0240 619E16020 FIELD OFFICE, TYPE C	44.00	MNTH	\$2,500.00000	\$110,000.00
0242 624E10000 MOBILIZATION	1.00	LS	\$2,000,000.00000	\$2,000,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERFO	1.00 DRMANCE BON	LS D AND I	\$931,630.52000 FOR PAYMENT BOND	\$931,630.52
0518	0.00		\$0.00000	\$0.00
0519	0.00		\$0.00000	\$0.00
0520	0.00		\$0.00000	\$0.00
0521	0.00		\$0.00000	\$0.00
			Total for Group 00)72: \$7,699,783.14
Group 0073: Design Continger	ncy Costs			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTING	1.00 ENCY COSTS	LS	\$0.00000	\$0.00
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY C 25%	1.00 OSTS	LS	\$48,506,472.02000	\$48,506,472.02
			Total for Group 007	73: \$48,506,472.02
Group 0074: Inflation Continge	ency			
0266 V-OC-CNTG OTHER COSTS. CONTINGENCY C	0.00 OSTS	LS	\$0.00000	\$0.00
			Total for	Group 0074: \$0.00

PID	KY-7	County	Kenton	Route	75	Section	This R/W Acquisition cost estimate
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Macro View												At	tributes			
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Tak <u>en)</u>	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
-Residential	5.94	х	\$59,492.13	\$353,383	+	1102500	+	N/A	\$1,102,500.00	=	\$1,455,883.25	44	36	8	30	Estimate the total number of acres involved in the
-Commercial	5.19	Х	\$643,180.38	\$3,338,106	+	654000	+	N/A	\$654,000.00	=	\$3,992,106.17	24	8	16	5	project and allocate those acres into the four
-Industrial	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	categories shown.
-Other	0.34	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	1	1	0	1	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Relocation	Unit (Displacement)	x	*RHP	/*RSP	+	Move Cost	+	Reestabli	shment	=	Total Non Labor RAP Costs	Estima	te amount of time all RAP parcel	e necessary f	to relocate	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
-Residential Owner Occupant Tenant	24 30	x x	\$34 \$1(ŀ,000),000	+ +	\$6,000 \$1,750				=	\$960,000 \$352,500	Estimate	e number of year uisition begins =	rs until projec	t wide R/W	Add structure values from the auditors tax cards only if the structures are taken.
-Commerical/Farm/NPO Owner Tenant	2 4				x x	\$15,000 \$15,000	++	\$10,C \$10,C)00)00	=	\$50,000 \$100,000					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on
-Personal Property	0				Х	\$1,000				=	\$0					Major Projects) and requires some knowledge or the impacts of the project on structures.
{[(Total Cost of Acquisition Cost)x0.90]x0.025}+{[(Total of Acquisition Cost)x0.15]x1.20}+{[(Total of Acquisition Cost)x0.10]x1.50} = Contingency				quisition	()	Continç Incidentals, Admin. Re	gency view & Appropriatio	on)	1920416.272	*RHP - Re	placement Hous	ing Payment		Relocation Cost Estimates must consider the		
					Total Non Lab	or R/W Costs	,	\$8,830,905.70	*NPO - Nc	on-Profit Organiza	ation		complexity of the move process. All move estimates			
Macro View																structure should use the services of a relocation
Labor (External)	Unit (Parcels)	X	Unit	Price	=	Total Cost				ļ	This R/V	V Cost Estin	nate Prepared b	iv.	Date	
Titles	69	Х	\$2	100	=	\$27,600								у	Duit	
Appraisal -Simple	5	x	\$7	750	=	\$3,750						Joseph Kı	Jehnle		2/23/2011	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
-Detailed	64	Х	\$4	,500	=	\$288,000					This R/W Cost Estir	mate was per	rformed at Step		6	talent. Labor costs estimates should reflect the complexity of the project and the talent necessary to
Appraisal Review -Simple	5	x	\${	500	=	\$2,500					of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The person making the cost estimate may adjust the figures given for the particular project being estimated
-Detalled	64	Х	\$2	,000	=	\$128,000				-						to reflect local labor costs. It is critical that the
Negotiations	69	Х	\$1,	,100	=	\$75,900										estimate be labeled to reflect the alignment
Relocations -Personal Property -Residential	0	X	\$1 \$5	,500	=	\$0 \$280 800										alternative, the step in the PDP process and the person(s) performing the estimate.
-Commercial/Farm/*NPO	4	x	\$5	.600	- =	\$22,400						Tof	al Labor Costs	\$894	1,500.00	Comments
Closings	69	Х	\$2	400		\$27,600								00.00		Cost/Unit were generated from auditors tax card data.
Project Management	69	Х	\$¢	550	=	\$37,950						Fotal Non La	bor R/W Costs	\$8,83	0,905.70	Goebel Park and other properties that do not fit the
Asbestos Testing & Abatement		Х			_ =							Inflatio	on Adjustments	\$797	7.483.27	main categories.
		Tota	al Labor Cost	ts		\$894,500										
*NPO = Non-Profit Organization						<u> </u>							otal R/W Costs	\$10,52	22,888.97	
						P.D.P.	R/	W Cost E	stimator	•						

Labor (External)	Unit (Parcels)	X	Unit Price	=	Total Cost
Titles	69	Х	\$400	=	\$27,600
Appraisal -Simple	5	x	\$750	=	\$3,750
-Detailed	64	х	\$4,500	=	\$288,000
Appraisal Review					
-Simple	5	х	\$500	=	\$2,500
-Detailed	64	х	\$2,000	=	\$128,000
Negotiations	69	Х	\$1,100	=	\$75,900
Relocations					
-Personal Property	0	Х	\$1,500	=	\$0
-Residential	54	Х	\$5,200	=	\$280,800
-Commercial/Farm/*NPO	4	Х	\$5,600	=	\$22,400
Closings	69	Х	\$400	=	\$27,600
Project Management	69	Х	\$550	=	\$37,950
Asbestos Testing & Abatement		Х		=	
		Tota	al Labor Costs		\$894,500
*NPO = Non-Profit Organization					

	All	Indutes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$1,455,883.25	44	36	8	30	
\$3,992,106.17	24	8	16	5	project and allocate those acres into the four
\$0.00	0	0	0	0	categories shown.
\$0.00	1	1	0	1	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor RAP Costs	Estimat	e amount of time all RAP parcel	e necessary	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
	Estimate	e number of year	rs until projec	t wide R/W	card data.
\$960,000 \$352,500	acqı	uisition begins =		3.5	Add structure values from the auditors tax cards only if the structures are taken.
\$50,000 \$100,000					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the
\$0					impacts of the project on structures.
1920416.272	*RHP - Re *RSP - Rei	placement Hous	ing Payment Pavment		Relocation Cost Estimates must consider the
\$8,830,905.70	*NPO - No	n-Profit Organiza	ation		complexity of the move process. All move estimates that involve a business or a mulit-tenant residential
					structure should use the services of a relocation
This R/V	V Cost Estim	ate Prepared b	v	Date	Assistance professionnal to accurately gauge costs.
			,		
	Joseph Ku	ehnle		2/23/2011	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
This R/W Cost Estin	mate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The
					person making the cost estimate may adjust the figures given for the particular project being estimated
					to reflect local labor costs. It is critical that the
					alternative, the step in the PDP process and the
					person(s) performing the estimate.
	Tot	al Labor Costs	\$894	4,500.00	Comments
-	Total Non Labor R/W Costs \$8,83		\$8,83	80,905.70	Cost/Unit were generated from auditors tax card data. Changed "Agriculture" category to "Other" to include Goebel Park and other properties that do not fit the
	Inflatio	n Adjustments	\$797	7,483.27	main categories.
	T	otal R/W Costs	\$10,52	22,888.97	

	Att	ributes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$1,455,883.25	44	36	8	30	Estimate the total number of earse involved in the
\$3,992,106.17	24	8	16	5	project and allocate those acres into the four
\$0.00	0	0	0	0	categories shown.
\$0.00	1	1	0	1	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor RAP Costs	Estimat	te amount of time all RAP parcels	e necessary s = (months)	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
\$960,000 \$352,500	Estimate acqu	e number of year uisition begins =	s until projec	t wide R/W 3.5	card data. Add structure values from the auditors tax cards only if the structures are taken.
\$50,000 \$100,000 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the
1920416.272	*RHP - Re *RSP - Re	placement Hous	ing Payment		Impacts of the project on structures. Relocation Cost Estimates must consider the
\$8,830,905.70	*NPO - No	n-Profit Organiza	ation		complexity of the move process. All move estimates that involve a business or a mulit-tenant residential
This R/W	/ Cost Estim	ate Prepared by	y	Date	Assistance professionnal to accurately gauge costs.
	Joseph Ku	ehnle		2/23/2011	Instructions for Labor Cost Estimates
This R/W Cost Estir	nate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The person making the cost estimate may adjust the figures given for the particular project being estimated to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment
					alternative, the step in the PDP process and the person(s) performing the estimate.
	Tot	al Labor Costs	\$894	1,500.00	Comments
1	rotal Non La	bor R/W Costs	\$8,83	30,905.70	Cost/Unit were generated from auditors tax card data. Changed "Agriculture" category to "Other" to include Goebel Park and other properties that do not fit the
	Inflatio	n Adjustments	\$797	7,483.27	main categories.
	T	otal R/W Costs	\$10,52	22,888.97	

Estimate Alt I KY cont 8

Estimated Cost: \$40,553,981.01 Contingency: 65.50% Estimated Total: \$67,116,838.57

Base Date: 01/01/15 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt I KY cont 8			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Group 0001: Pavement Removal				
0001 A-MC-RDWY	0.00	LS	\$0.00000	\$0.00
0343 202E23000	0.00	SY	\$8.00000	\$0.00
PAVEMENT REMOVED			Total for Group 0001:	\$0.00
Group 0002: Excavation - Rock			* ***	* • • • •
0003 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	0.00	CY	\$30.00000	\$0.00
			Total for Group 0002:	\$0.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0344 203E10000	0.00	CY	\$8.00000	\$0.00
EXCAVATION			Total for Group 0003:	\$0.00
Group 0004: Excavation - Hazard				
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0004.	\$0.00
				ÇCICC
Group 0005: Fill - Embankment (i	ncludes	wasting	excess excavation)	00.02
MAJOR COST DRIVERS, ROADWAY	1.00		\$0.00000	\$0.00
0345 203E20000 EMBANKMENT	0.00	CY	\$6.00000	\$0.00
			Total for Group 0005:	\$0.00
Group 0006: Fill - Lime Modified	Soil			
0010 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0346 205E10050	0.00	CY	\$7.00000	\$0.00
0347 205E10300	0.00	TON	\$5.00000	\$0.00
			Total for Group 0006:	\$0.00
Group 0007: Fill - Borrow				
0011 A-MC-RDWY	0.00	CY	\$8.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0007:	\$0.00
Croup 0009, Concrete Derrier				
0012 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY	0.00	FT	\$110,00000	\$0.00
7:36:37AM	0.00			

Estimate: Alt I KY cont 8				PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>		Extension
CONCRETE BARRIER, SINGLE SLOPE,	TYPE B		Total fo	or Group 0008:	\$0.00
Group 0009: Subgrade Treatment	: - Lime				
0014 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000		\$0.00
0348 206E10000 LIME STABILIZED SUBGRADE	0.00	SY	\$1.85000		\$0.00
0349 206E10300	0.00	TON	\$10.00000		\$0.00
0350 206E11000 CURING COAT	0.00	SY	\$1.00000		\$0.00
0351 206E20000 TEST ROLLING	0.00	HOUR	\$4.00000		\$0.00
			Total fo	r Group 0009:	\$0.00
Group 0010: Subgrade Treatment	- Ceme	nt			
0016 A-MC-RDWY	0.00	SY	\$2.50000		\$0.00
MAJOR COST DRIVERS, ROADWAY			Total fo	or Group 0010:	\$0.00
Group 0011: Subgrade Treatment	t - Undei	rcut & I	Backfill		
0017 A-MC-RDWY MAJOR COST DRIVERS. ROADWAY	1.00	LS	\$0.00000		\$0.00
			Total fo	or Group 0011:	\$0.00
Group 0012: Other Roadway Cos	ts				
0019 A-OC-RDWY OTHER COSTS, ROADWAY Contingency	0.00	LS	\$0.00000		\$0.00
0020 201E11000 CLEARING AND GRUBBING	0.00	LS	\$856,500.00000		\$0.00
0021 201E21800	0.00	EACH	\$250.00000		\$0.00
0022 201E23000 TREE REMOVED 30" SIZE	0.00	EACH	\$405.00000		\$0.00
0023 201E24800 TREE REMOVED 48" SIZE	0.00	EACH	\$772.00000		\$0.00
0026 202E11000 STRUCTURE REMOVED	0.00	LS	\$9,310.13000		\$0.00
0034 204E45000	0.00	HOUR	\$126.59000		\$0.00
0035 204E10000	0.00	SY	\$0.81000		\$0.00
0037 606E13000	0.00	FT	\$14.00000		\$0.00
0466	0.00		\$0.00000		\$0.00
			Total fo	r Group 0012:	\$0.00
Group 0014: Seeding & Mulching	/ Soddir	ng			
0045 B-MC-ERCO MAJOR COST DRIVERS, EROSION COM	1.00 NTROL	LS	\$0.00000		\$0.00
7:36:37AM					

Estimate: Alt I KY cont 8			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0467 659E10000 SEEDING AND MULCHING	0.00	SY	\$1.00000	\$0.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000	\$0.00
SODDING STARED			Total for Group 0014:	\$0.00
Group 0015: Rock Channel	Protection			
0047 B-MC-ERCO MAJOR COST DRIVERS, EROS	1.00 SION CONTROL	LS	\$0.00000	\$0.00
0469 601E32000 ROCK CHANNEL PROTECTION	0.00 N, TYPE A WITH FIL	CY TER	\$75.00000	\$0.00
			Total for Group 0015:	\$0.00
Group 0016: Erosion Contra	ol - Item 832			
0048 B-MC-ERCO MAJOR COST DRIVERS, EROS	1.00 SION CONTROL	LS	\$0.00000	\$0.00
0470 832E10000 STORM WATER POLILITION P	1.00 REVENTION PLAN	LS	\$20,000.00000	\$20,000.00
0471 832E20000 EROSION CONTROL	2,000.00	EACH	\$1.00000	\$2,000.00
			Total for Group 0016: \$22,0	00.00
Croup 0018: Underdreine				
	1.00		¢0.00000	¢0.00
MAJOR COST DRIVERS, DRAI	NAGE	LS	\$0.0000	\$0.00
0062 605E05100 4" SHALLOW PIPE UNDERDRA	0.00	FT	\$8.00000	\$0.00
			Total for Group 0018:	\$0.00
Group 0019: Culverts - Typ	e A: < 5'			
0474 C-MC-DRNG	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG	0.00	FT	\$350.00000	\$0.00
Pipe Structures - Reinforced Cor	ncrete Pipe up to 60'	,		
0481 C-MC-DRNG MAJOR COST DRIVERS, DRAII Concrete Masonry	0.00 NAGE	EACH	\$1,500.00000	\$0.00
			Total for Group 0019:	\$0.00
Group 0021: Culverts, Type	e A: 5' - 10'			
0067 C-MC-DRNG MAJOR COST DRIVERS. DRAII	1.00 NAGE	LS	\$0.00000	\$0.00
0476 C-MC-DRNG MAJOR COST DRIVERS, DRAII	0.00 NAGE	FT	\$550.00000	\$0.00
0477 C-MC-DRNG	0.00	EACH	\$1,500.00000	\$0.00
MAJOR COST DRIVERS, DRAII Concrete - Headwalls/wingwalls	NAGE			
			Total for Group 0021:	\$0.00

Estimate: Alt I KY cont 8				PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>		<u>Extension</u>
Group 0022: Culverts, Type A: 1	0' - 20'				
0486 C-MC-DRNG	1.00	LS	\$0.00000		\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete F	0.00 Pipe 10'-20'	FT	\$1,400.00000		\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000		\$0.00
			Total fo	or Group 0022:	\$0.00
Group 0024: BMP's	1.00		¢0.0000		¢0.00
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000		\$0.00
			Total fo	or Group 0024:	\$0.00
Group 0025: Closed Storm Syste	em 1.00	10	00000 02		00.02
MAJOR COST DRIVERS, DRAINAGE	0.00	L3 FT	\$75,00000		\$0.00 \$0.00
30" CONDUIT, TYPE B (Average size)	0.00	54011	¢1.500.00000		φ0.00 Φο.οο
CATCH BASIN, NO. 3A	0.00	EACH	\$1,500.00000		\$0.00
0524 604E31500 MANHOLE, NO. 3	0.00	EACH	\$3,000.00000		\$0.00
0525 604E36601 PRECAST REINFORCED CONCRETE	0.00 OUTLET. AS	EACH PER PLAN	\$0.00000		\$0.00
0526 Special Pump Station (Storm)	0.00	LS	\$6,400,000.00000		\$0.00
0527 Special Stormcontors	0.00	EACH	\$5,750.00000		\$0.00
0529 Special	0.00	LS	\$10,900.00000		\$0.00
Retention basin improvements			Total fo	or Group 0025:	\$0.00
Group 0026: Other Drainage Co	ete			·	
0078 C-OC-DRNG	1.00	LS	\$0.00000		\$0.00
OTHER COSTS, DRAINAGE			Total fo	or Group 0026.	\$0.00
					ψ0.00
Group 0027: Mainline - Travel La	anes				
0095 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000		\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Co	0.00 mpaction	SY	\$68.00000		\$0.00
			Total fo	or Group 0027:	\$0.00
Group 0028: Mainline - Outside	Shoulder				
0100 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000		\$0.00
7:36:37AM					

Estimate: Alt I KY cont 8				PB Americas, Inc.
Line # Item Number Qu Description Supplemental Description	<u>antity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0495 D-MC-PVMT 13" Reinforced Concrete Pavement	0.00	SY	\$59.00000	\$0.00
includes of Agy base and Subgrade Compact	1011		Total for Group 00	28: \$0.00
Group 0030: Mainline - Inside Should	der			
0115 D-MC-PVMT MAJOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Compaction		SY	\$59.00000	\$0.00
			Total for Group 00	30: \$0.00
Group 0031: Ramps (including shoul	ders)			
0122 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	0.00	SY	\$68.00000	\$0.00
includes of Ayy base and Subgrade Compact	1011		Total for Group 00	31: \$0.00
Group 0032: Non - Mainline Lanes				
0132 D-MC-PVMT MAJOR COST DRIVERS_PAVEMENT	1.00	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	0.00	SY	\$40.00000	\$0.00
Includes 3" 448, 9" 301, 6" Agg base and Sub	grade (Compaction	Total for Group 00	32: \$0.00
Group 0041: Other Pavement Costs				
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
,			Total for Group 00	41: \$0.00
Group 0042: Water Works				
0164 E-MC-WATR MAJOR COST DRIVERS, WATER LINE	0.00	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Group 00	42: \$0.00
Group 0043: Sanitary Line				
0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY SEWEI	0.00 २	LS	\$0.00000	\$0.00
			Total for Group 00	43: \$0.00
Group 0044: Lighting - Full Interchan	ge			
0173 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	0.00	EACH	\$469,000.00000	\$0.00
Thursday, December 02, 2010				Page 6 of 11

Estimate: Alt I KY cont 8			PB /	Americas, Inc.
Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Description Supplemental Description				
MAJOR COST DRIVERS, LIGHTING				
			Total for Group 0044:	\$0.00
Group 0045: Lighting - Partial Inte	rchange	2		
0288 G-MC-LTNG	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING			Total for Group 0045:	\$0.00
				ψ0.00
Group 0046: Lighting - Continuous	s Roadw	/ay		
0176 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG Lighting - Continuous	3,492.00	FT	\$35.00000	\$122,220.00
			Total for Group 0046: \$122,	220.00
Group 0047: Other Lighting Costs				
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, LIGHTING			Total for Group 0047:	\$0.00
				ψ0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV OTHER COSTS, TRAFFIC SURVEILLAN	1.00 CE	LS	\$309,731.25000	\$309,731.25
			Total for Group 0048: \$309,	731.25
Group 0049: Signs				
0179 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
0501 J-MC-TRAF	0.66	MILE	\$250,000.00000	\$165,000.00
Signs			Total for Group 0049: \$165,	000.00
Group 0050: Poyomont Marking				
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CON 0502 644E00100	TROL 1.32	MILE	\$3,000.00000	\$3,960.00
EDGE LINE 0503 644E00200	0.99	MILE	\$2,000.00000	\$1,980.00
LANE LINE			Total for Group 0050: \$5	940.00
				340.00
Group 0051: Other Traffic Control	Costs			
0208 J-OC-TRAF OTHER COSTS, TRAFFIC CONTROL	1.00	LS	\$0.00000	\$0.00
			Total for Group 0051:	\$0.00
Group 0052: Signals - Intersection	าร			
0212 K-MC-SGNL	1.00	LS	\$0.00000	\$0.00
7:36:37AM				

Estimate: Alt I KY cont 8			PB A	mericas, Inc.
Line # <u>Item Number</u> Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
MAJOR COST DRIVERS, SIGNALS			Total for Group 0052:	\$0.00
Group 0053: Other Traffic Signal 0	Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0053:	\$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP	1.00	LS	\$0.00000	\$0.00
0215 L-OC-LSCP	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, LANDSCAPING			Total for Group 0054:	\$0.00
Group 0055: Retaining Walls \$125	5 + \$10/	ft for ca	ns harriers and testing	
0216 M-MC-WALL	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, RETAINING W/ 0504 M-MC-WALL	ALLS 0.00	SF	\$135.00000	\$0.00
Retaining Walls			Total for Group 0055:	\$0.00
One was 0050. Other Detaining Mall	0			•
0217 M-OC-WALL	LOSIS	LS	\$0.00000	\$0.00
OTHER COSTS, RETAINING WALLS			Total for Group 0056:	\$0.00
				ψ0.00
Group 0057: Building Demolition				
0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING DEM	1.00 IOLITION	LS	\$0.00000	\$0.00
0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOLITION	1.00 I	LS	\$0.00000	\$0.00
0538 202E56101 BUILDING DEMOLISHED, AS PER PLAN Large Commercial	0.00	EACH	\$30,000.00000	\$0.00
0539 202E56101 BUILDING DEMOLISHED, AS PER PLAN Small Commercial	0.00	EACH	\$15,000.00000	\$0.00
0540 202E56101 BUILDING DEMOLISHED, AS PER PLAN	0.00	EACH	\$12,000.00000	\$0.00
0541 202E56101 BUILDING DEMOLISHED, AS PER PLAN	0.00	EACH	\$7,500.00000	\$0.00
0542 202E98100 REMOVAL MISC.:	0.00	EACH	\$8,500.00000	\$0.00
			Total for Group 0057:	\$0.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR	1.00	LS	\$0.00000	\$0.00
7:36:37AM		-		÷ 2.00

Estimate: Alt I KY cont 8				PB Americas, Inc
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
MAJOR COST DRIVERS, NOISE BA	RRIER		¢ 400 0000	¢0.00
Noise Barrier	0.00	LS	\$400.00000	\$0.00
			Total f	or Group 0058: \$0.00
Group 0059: Other Noise Barri	er Costs			
0221 P-OC-NSBR OTHER COSTS, NOISE BARRIER	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR MAJOR COST DRIVERS, NOISE BA	0.00 RRIER	LS	\$0.00000	\$0.00
			Total f	or Group 0059: \$0.00
Group 0060: New Structures				
0222 R-MC-STRC MAJOR COST DRIVERS, STRUCTU	1.00 RES	LS	\$0.00000	\$0.00
0506 R-MC-STRC Tier 1 Structures to 25' Height	0.00	SF	\$125.00000	\$0.00
0507 R-MC-STRC Removal of Existing Structures non-co	0.00 omplex	SF	\$12.00000	\$0.00
0508 R-MC-STRC	0.00	SF	\$17.00000	\$0.00
0509 R-MC-STRC	0.00	SF	\$30.00000	\$0.00
Removal of Existing Structures compl 0513 R-MC-STRC	ex to very comp 0.00	SF	\$150.00000	\$0.00
Tier 2 Structures 25' to 50' Height 0516 R-MC-STRC	0.00	SF	\$200.00000	\$0.00
Tier 3 Structures 50' to 75' Height			Tatal f	
			TOLAT	or Group 0060; \$0.00
Group 0061: Rehabilitated Stru	uctures			
0223 R-MC-STRC	1.00	LS	\$0.00000	\$0.00
0533 511E34434 CLASS S CONCRETE, BRIDGE DEC	170,177.00 K	SF	\$35.00000	\$5,956,195.00
new bridge deck on existing beams 0535 514E99000	1.00	LS	\$22,000,000.00000	\$22,000,000.00
0536 Structural rappir/rehabilitation	1.00	LS	\$1,000,000.00000	\$1,000,000.00
0537 202E11301 PORTIONS OF STRUCTURE REMO	170,177.00 VED, AS PER I	SF PLAN	\$10.00000	\$1,701,770.00
Bliouge deck relitional			Total for Group (0061: \$30,657,965.00
	'a ata			
	0515	19	ድስ በበበባብ	ድስ ስነ
OTHER COSTS, STRUCTURES Contingency	0.00	10	φ0.00000	φ0.0
0534	0.00		\$0.00000 Tatal 4	\$0.00
			i otal f	01 G1000 0062: \$0.00

Group 0063: Temporary Road and Pavement Costs

Estimate: Alt I KY cont 8		PB A	mericas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
Description Supplemental Description			
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTEI	1.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0063:	\$0.00
Group 0064: Portable Concre	te Barrier (PCB)		
0226 S-MC-MNTC MAJOR COST DRIVERS, MAINTEI	1.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0064:	\$0.00
Group 0065: Impact Attenuate	ors		
0227 S-MC-MNTC MAJOR COST DRIVERS, MAINTEI	1.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0065:	\$0.00
Group 0066: Sheeting			
0229 S-MC-MNTC MAJOR COST DRIVERS, MAINTEI	1.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
· · ·		Total for Group 0066:	\$0.00
Group 0067: Temporary Sign	als		
0230 S-MC-MNTC MAIOR COST DRIVERS MAINTER	0.00 LS	\$0.00000	\$0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Light	ting		
0231 S-MC-MNTC MAJOR COST DRIVERS, MAINTEI	0.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0068:	\$0.00
Group 0069: Innovative Contr	racting Incentatives	3	
0232 S-MC-MNTC MAJOR COST DRIVERS, MAINTEI	0.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0069:	\$0.00
Group 0070: Other MOT Cost	ts		
0233 S-OC-MNTC OTHER COSTS, MAINTENANCE C	1.00 LS DE TRAFFIC	\$0.00000	\$0.00
0512 S-OC-MNTC OTHER COSTS, MAINTENANCE C	0.00 MILE	\$5,000,000.00000	\$0.00
		Total for Group 0070:	\$0.00
Group 0071: Wetland Constru	uction		
0234 T-MC-WTLD MAJOR COST DRIVERS, WETLAN	0.00 LS ID CONSTRUCTION	\$0.00000	\$0.00
0360 T-MC-WTLD MAJOR COST DRIVERS, WETLAN	0.00 LS ID CONSTRUCTION	\$0.00000	\$0.00
		Total for Group 0071:	\$0.00
Line # Item Number	Quantity Units	Unit Price	Extension
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Description			
Supplemental Description			

Group 0072: Misc. Costs

-				
0235 U-MC-MISC	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MISCELLANEO	US COST	S		
0236 U-OC-MISC	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, MISCELLANEOUS COST	S			
0237 100E00300	0.00	LS	\$10,000.00000	\$0.00
SPECIAL - PREMIUM ON RAILROADS' PR	ROTECTI	VE PUBL	IC LIABILITY AND PROPERTY DAMAG	3E
LIABILITY INSURANCE				
0238 623E10000	1.00	LS	\$156,414.28000	\$156,414.28
CONSTRUCTION LAYOUT STAKES				
0.5%				
0239 614E11000	0.00	LS	\$0.00000	\$0.00
MAINTAINING TRAFFIC				
2%				
0240 619E16020	19.00	MNTH	\$2,500.00000	\$47,500.00
FIELD OFFICE, TYPE C			. ,	
0242 624E10000	1.00	LS	\$800,000.00000	\$800,000.00
MOBILIZATION				
0511 103E05000	1.00	LS	\$156,414.28000	\$156,414.28
PREMIUM FOR CONTRACT PERFORMA	NCE BON	ID AND F	OR PAYMENT BOND	
0.5%				
			Total for Group 0072	\$1 160 328 56
			1010101010000012.	ψ1,100,020.00

Group 0073: Design Contingency Costs

		• •				
02	243	V-MC-CNTG	1.00	LS	\$0.00000	\$0.00
	MA,	JOR COST DRIVERS, CONTINGEN	ICY COSTS			
02	244	V-OC-CNTG	1.00	LS	\$8,110,796.20000	\$8,110,796.20
	OTI	HER COSTS, CONTINGENCY COS	TS			
	25%	6				
					Total for Group 0073:	\$8,110,796.20
	20/	0			Total for Group 0073:	\$8,110,796.20

Group 0074: Inflation Contingency

-	• •				
0266 V	-OC-CNTG	0.00	LS	\$0.00000	\$0.00
OTHE	R COSTS, CONTINGENCY COSTS				
				Total for Group 0074:	\$0.00

PB Americas, Inc.

Estimate Alt I OH cont 2

Estimated Cost: \$10,727,667.45 Contingency: 29.20% Estimated Total: \$13,860,146.35

Linn St

Base Date: 07/22/10

Spec Year: 10

Unit System: E

Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE

Highway Type: 451

Urban/Rural Type: URBAN CLASS

Season: SUMMER

County: HAMILTON

Midpoint of Latitude:

Midpoint of Longitude:

District: 8

Federal/State Project Number:

Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt I OH cont 2			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Group 0001: Pavement Remova	l			
	0.00	LS	\$0.00000	\$0.00
0343 202E23000	17,258.00	SY	\$8.00000	\$138,064.00
PAVEMENT REMOVED			Total for Group 0001: \$138,	064.00
Group 0002: Excavation - Rock	0.00	0)/	\$20,0000	\$ 0.00
MAJOR COST DRIVERS, ROADWAY	0.00	CY	\$30.00000	\$0.00
			Total for Group 0002:	\$0.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0344 203E10000	12,592.00	CY	\$8.00000	\$100,736.00
LACAVATION			Total for Group 0003: \$100,	736.00
Group 0004: Excavation - Hazar	dous			
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0004.	\$0.00
				φ0.00
Group 0005: Fill - Embankment (includes	wasting	excess excavation)	* ~ ~~
MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.0000	\$0.00
0345 203E20000 EMBANKMENT	12,592.00	CY	\$6.00000	\$75,552.00
			Total for Group 0005: \$75,	552.00
Group 0006: Fill - Lime Modified	Soil			
	1.00	LS	\$0.00000	\$0.00
0346 205E10050	0.00	CY	\$7.00000	\$0.00
0347 205E10300	0.00	TON	\$5.00000	\$0.00
LIME			Total for Group 0006:	\$0.00
Croup 0007: Fill Borrow				
0011 A-MC-RDWY	0.00	CY	\$8.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY		•	Total for Croup 0007:	¢0.00
				Ф 0.00
Group 0008: Concrete Barrier				
0012 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0465 622E10060	0.00	FT	\$110.00000	\$0.00
U.U. ZURIVI Wadnaaday Dacambar 01, 2010				

Estimate: Alt I OH cont 2			PB	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SLOP	PE, TYPE B		Total for Group 0008	\$0.00
Group 0009: Subgrade Treatme	ent - Lime			
0014 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300 LIME	0.00	TON	\$10.00000	\$0.00
0350 206E11000 CURING COAT	0.00	SY	\$1.00000	\$0.00
0351 206E20000 TEST ROLLING	0.00	HOUR	\$4.00000	\$0.00
			Total for Group 0009	\$0.00
Group 0010: Subgrade Treatme	ent - Ceme	ent		
0016 A-MC-RDWY MAJOR COST DRIVERS ROADWAY	12,534.00	SY	\$2.50000	\$31,335.00
			Total for Group 0010: \$31	335.00
Group 0011: Subgrade Treatme	ent - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
			Total for Group 0011	\$0.00
Group 0012: Other Roadway Co	osts			
0019 A-OC-RDWY OTHER COSTS, ROADWAY Contingency	0.00	LS	\$0.00000	\$0.00
0020 201E11000 CLEARING AND GRUBBING	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800 TREE REMOVED 18" SIZE	0.00	EACH	\$250.00000	\$0.00
0022 201E23000 TREE REMOVED 30" SIZE	0.00	EACH	\$405.00000	\$0.00
0023 201E24800 TREE REMOVED 48" SIZE	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200 PIPE REMOVED OVER 24"	0.00	FT	\$0.00000	\$0.00
0029 202E38000 GUARDRAIL REMOVED	0.00	FT	\$0.00000	\$0.00
0030 202E42206	0.00	EACH	\$0.00000	\$0.00
0031 202E58000 MANHOLE REMOVED	0.00	EACH	\$0.00000	\$0.00
0032 202E58100	0.00	EACH	\$0.00000	\$0.00
0033 202E75000	0.00	FT	\$0.00000	\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

8:07:25AM

Estimate:	Alt I	OH	cont 2
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Estimate: Alt I OH cont 2			PB	Americas, Inc.
Line # Item Number Description Supplemental Description	Quantity	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
PROOF ROLLING				
0035 204E10000 SUBGRADE COMPACTION	0.00	SY	\$0.81000	\$0.00
0036 451E30000 SPECIAL - PRESSURE RELIEF JOINT. TY	0.00 PE A	FT	\$0.00000	\$0.00
0037 606E13000	0.00	FT	\$14.00000	\$0.00
GUARDRAIL, TYPE 5 0038 606E22000	0.00	EACH	\$1,411.29597	\$0.00
0039 606E22010	0.00	EACH	\$1,712.52574	\$0.00
0040 606E26500	0.00	EACH	\$487.23435	\$0.00
0041 606E35000 BRIDGE TERMINAL ASSEMBLY TYPE 1	0.00	EACH	\$969.12750	\$0.00
0042 606E35100 BRIDGE TERMINAL ASSEMBLY, TYPE 2	0.00	EACH	\$338.36354	\$0.00
0043 606E60010 IMPACT ATTENLIATOR TYPE 1-98 (BIDIE	0.00 RECTION		\$3,439.05897	\$0.00
0044 607E15000 FENCE, TYPE 47 For Fencing	0.00	FT	\$0.00000	\$0.00
0423 304E20000 AGGREGATE BASE	0.00	CY	\$0.00000	\$0.00
0424 601E32100 ROCK CHANNEL PROTECTION, TYPE B	0.00 WITH FIL	CY TER	\$0.00000	\$0.00
0425 607E40500 GATE, TYPE 47 For Fencing	0.00	EACH	\$731.31641	\$0.00
0426 625E32000 GROUND ROD	0.00	EACH	\$0.00000	\$0.00
0466	0.00		\$0.00000	\$0.00
			Total for Group 0012	\$0.00
Group 0014: Seeding & Mulching /	Soddir	na		
0045 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
0467 659E10000 SEEDING AND MULCHING	0.00	SY	\$1.00000	\$0.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000	\$0.00
SODDING STAKED			Total for Group 0014	\$0.00
Group 0015: Rock Channel Protect	tion			
0047 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
0469 601E32000		CY	\$75.00000	\$0.00
ROUR GRANNEL PROTECTION, TYPE A		IEK	Total for Group 0015	\$0.00
Group 0016: Erosion Control - Item	n 832			
0048 B-MC-ERCO 8:07:25AM	1.00	LS	\$0.00000	\$0.00

Estimate: Alt I OH cont 2				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
MAJOR COST DRIVERS, EROSION CO	ONTROL			
		LS	\$20,000.00000	\$20,000.00
0471 832E20000 EROSION CONTROL	6,000.00	EACH	\$1.00000	\$6,000.00
			Total for Group 0016:	\$26,000.00
Group 0017: Other Erosion Cont	rol Costs			
0049 670E00700	0.00	SY	\$0.00000	\$0.00
DITCH EROSION PROTECTION	1 00	19	00000 02	00.02
OTHER COSTS, EROSION CONTROL	1.00	LS	\$0.00000	φ0.00
0051 659E00100 SOIL ANALYSIS TEST	0.00	EACH	\$0.00000	\$0.00
0052 659E00300 TOPSOIL	0.00	CY	\$0.00000	\$0.00
0053 659E14000	0.00	SY	\$0.00000	\$0.00
0054 659E15000	0.00	SY	\$0.71000	\$0.00
	0.00	TON	\$410.06813	\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000	0.00	MSF	\$0.00000	\$0.00
WOWING			Total for Group	0017: \$0.00
One was 0.04.0 the developing				
Group 0018: Underdrains	1.00		* 0.00000	\$ 0.00
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0062 605E05100 4" SHALLOW PIPE UNDERDRAINS	4,524.00	FT	\$8.00000	\$36,192.00
			Total for Group 0018:	\$36,192.00
Group 0019 [.] Culverts - Type A [.] <	: 5'			
0474 C-MC-DRNG	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG	0.00	FT	\$350.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	line un to 60'	,		
0481 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	EACH	\$1,500.00000	\$0.00
Concrete Masonry			Total for Group	0019: \$0.00
			· · · · · · · · · · · · · · · · · · ·	
Group 0021: Culverts, Type A: 5'	- 10'			
0067 C-MC-DRNG MAJOR COST DRIVERS DRAINAGE	1.00	LS	\$0.00000	\$0.00
0476 C-MC-DRNG	0.00	FT	\$550.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE				
8:07:25AM				

Estimate: Alt I OH cont 2			PB	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Pipe Structures - Reinforced Concrete 5'-1 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	10' 66" to 7 0.00	78" EACH	\$1,500.00000	\$0.00
			Total for Group 0021:	\$0.00
Group 0022: Culverts. Type A: 10'	- 20'			
0486 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pip	0.00 e 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for Group 0022:	\$0.00
Group 0024: BMP's	1 00	10	¢0,0000	00.02
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.0000	\$0.00
			Total for Group 0024:	\$0.00
Group 0025: Closed Storm System	n			
0077 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	1,694.00	FT	\$75.00000	\$127,050.00
0523 604E00800	16.00	EACH	\$1,500.00000	\$24,000.00
0524 604E31500 MANHOLE, NO, 3	4.00	EACH	\$3,000.00000	\$12,000.00
0525 604E36601	0.00	EACH	\$1,250.00000	\$0.00
0526 Special Pump Station (Storm)	0.00	LS	\$6,400,000.00000	\$0.00
0527 Special	0.00	EACH	\$5,750.00000	\$0.00
0529 Special	0.00	LS	\$109,000.00000	\$0.00
Retention basin improvements			Total for Group 0025: \$163,	050.00
Group 0026: Other Drainage Cost	S			
0078 C-OC-DRNG OTHER COSTS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Group 0026:	\$0.00
Group 0027: Mainline - Travel Lan	ies		*	
MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Comp	0.00 paction	SY	\$68.00000	\$0.00
8:07:25AM				

Estimate: Alt I OH cont 2			PB A	mericas, Inc.
Line # <u>Item Number</u> Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
			Total for Group 0027:	\$0.00
Group 0028: Mainline - Outside	Shoulder			
0100 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Ci	0.00	SY	\$68.00000	\$0.00
Group 0020: Mainling Incide S	bouldor		Total for Group 0028:	\$0.00
Group 0030. Mainine - Inside 3		10	¢0,0000	ድር በሳ
MAJOR COST DRIVERS, PAVEMENT	. 1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Co	0.00	SY	\$68.00000	\$0.00
			Total for Group 0030:	\$0.00
Group 0031: Ramps (including s	shoulders)		A a a a a a a a a a a	* •••••
0122 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade Co	0.00	SY	\$68.00000	\$0.00
Group 0032: Non - Mainline Lar			Total for Group 0031:	\$0.00
	1 00	LS	00000 02	\$0.00
MAJOR COST DRIVERS, PAVEMENT		20	<i>Q</i> (0,0000	φ0.00
0498 D-MC-PVMT Asphalt Includes 3" 448, 9" 301, 6" Add base a	12,534.00 nd Subarade (SY Compaction	\$41.00000	\$513,894.00
	ia ealigiaae		Total for Group 0032: \$513,8	394.00
Group 0041: Other Pavement C	osts			
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Group 0041:	\$0.00
Group 0042: Water Works				
0164 E-MC-WATR MAJOR COST DRIVERS, WATER LIN	0.00 E	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Group 0042:	\$0.00
Group 0043: Sanitary Line				
0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY	0.00 SEWER	LS	\$0.00000	\$0.00
8.07.25AM				

Estimate: Alt I OH cont 2			PB A	mericas, Inc.
Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Description Supplemental Description				
			T () () O () O ()	AA AA
			Total for Group 0043:	\$0.00
Group 0044: Lighting - Full Intercha	ange			
0173 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	0.00	EACH	\$469,000.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING			Total for Group 0044:	\$0.00
Crown 0045: Lighting Dorticl Inter	ahanaa			
Group 0045: Lignling - Partial Inter	change	,	00000 02	00.02
MAJOR COST DRIVERS, LIGHTING	0.00	LO	\$0.00000	φ0.00
			Total for Group 0045:	\$0.00
Group 0046: Lighting - Continuous	Roadw	av		
0176 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING	2 665 00	CT	\$25,00000	¢02 275 00
Lighting - Continuous	2,005.00	ГІ	\$35.00000	φ93,275.00
			Total for Group 0046: \$93,2	275.00
Group 0047: Other Lighting Costs				
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, LIGHTING			T + 1 (0 0017	AO OO
			Total for Group 0047:	\$0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, TRAFFIC SURVEILLANC	E		Total for Group 0048.	\$0.00
				ψ0.00
Group 0049: Signs				
0179 J-MC-TRAF MAJOR COST DRIVERS TRAFFIC CONT	1.00 ROI	LS	\$0.00000	\$0.00
0501 J-MC-TRAF Signs	0.50	MILE	\$250,000.00000	\$125,000.00
			Total for Group 0049: \$125,0	00.00
Group 0050: Payement Marking				
0200 J-MC-TRAF	1 00	IS	\$0,0000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CONT	ROL		\$0.00000	¢0.00
EDGE LINE	1.02	MILE	\$3,000.00000	\$3,060.00
0503 644E00200	0.41	MILE	\$2,000.00000	\$820.00
			Total for Group 0050: \$3,8	380.00

Group 0051: Other Traffic Control Costs

Estimate: Alt I OH cont 2				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0208 J-OC-TRAF OTHER COSTS, TRAFFIC CONTROL	1.00	LS	\$0.00000	\$0.00
			Total for Group	0051: \$0.00
0212 K-MC-SGNL MAJOR COST DRIVERS, SIGNALS	1.00	LS	\$175,000.00000	\$175,000.00
			Total for Group 0052: 3	\$175,000.00
Group 0053: Other Traffic Signal	Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group	0053: \$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP MAJOR COST DRIVERS, LANDSCAPIN	1.00	LS	\$0.00000	\$0.00
0215 L-OC-LSCP OTHER COSTS, LANDSCAPING	1.00	LS	\$0.00000	\$0.00
			Total for Group	0054: \$0.00
Group 0055: Retaining Walls \$12	25 + \$10/	ft for ca	aps, barriers and testing	
0216 M-MC-WALL MA IOR COST DRIVERS RETAINING V	1.00	LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	8,400.00	SF	\$135.00000	\$1,134,000.00
			Total for Group 0055: \$1	,134,000.00
Group 0056: Other Retaining Wa	ll Costs			
0217 M-OC-WALL	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, RETAINING WALLS			Total for Group	0056: \$0.00
Group 0057: Building Demolition				
0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING DE		LS	\$0.00000	\$0.00
0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOLITIC	1.00	LS	\$0.00000	\$0.00
0532 202E56101 BUILDING DEMOLISHED, AS PER PLA Large Commercial	0.00 N	EACH	\$30,000.00000	\$0.00
0533 202E56101 BUILDING DEMOLISHED, AS PER PLA Small Commercial	0.00 N	EACH	\$15,000.00000	\$0.00
0534 202E56101 BUILDING DEMOLISHED, AS PER PLA Large Residential	0.00 N	EACH	\$12,000.00000	\$0.00
0535 202E56101 BUILDING DEMOLISHED, AS PER PLA Small Residential	0.00 N	EACH	\$7,500.00000	\$0.00
0536 202E98100	0.00	EACH	\$8,500.00000	\$0.00
8.07.25AM				

8:07:25AM Wednesday, December 01, 2010

Estimate: Alt I OH cont 2			PB A	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
REMOVAL MISC.: Radio Tower				
			Total for Group 0057:	\$0.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR MAJOR COST DRIVERS, NOISE BARR	1.00 IER	LS	\$0.00000	\$0.00
0505 P-MC-NSBR Noise Barrier	0.00	LS	\$400.00000	\$0.00
			Total for Group 0058:	\$0.00
Group 0059: Other Noise Barrier	Costs			
0221 P-OC-NSBR OTHER COSTS, NOISE BARRIER	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR MAJOR COST DRIVERS, NOISE BARR	0.00 IER	LS	\$0.00000	\$0.00
			Total for Group 0059:	\$0.00
Group 0060: New Structures				
0222 R-MC-STRC	1.00	LS	\$0.00000	\$0.00
0506 R-MC-STRC	35,636.00	SF	\$125.00000 \$	4,454,500.00
0507 R-MC-STRC	0.00	SF	\$12.00000	\$0.00
0508 R-MC-STRC Standard Removal of Existing Structures	45,662.00	SF	\$17.00000	\$776,254.00
0509 R-MC-STRC	0.00	SF	\$30.00000	\$0.00
Removal of Existing Structures complex t 0513 R-MC-STRC	o very comp 0.00	SF	\$150.00000	\$0.00
0516 R-MC-STRC	0.00	SF	\$200.00000	\$0.00
Tier 3 Structures 50° to 75° Height			Total for Group 0060: \$5,230,	754.00
Group 0061: Rehabilitated Struct				
0223 R-MC-STRC	0.00	SF	\$45.00000	\$0.00
MAJOR COST DRIVERS, STRUCTURE	5		Total for Group 0061:	\$0.00
Group 0062: Other Structure Cos	te			
0224 R-OC-STRC	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, STRUCTURES Contingency				
			Total for Group 0062:	\$0.00
Group 0063: Temporary Road an	d Paven	nent Cost	6	
0225 S-MC-MNTC MAJOR COST DRIVERS, MAINTENANO	1.00 CE OF TRAF	LS FFIC	\$0.00000	\$0.00

Estimate: Alt I OH cont 2		PB A	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u> <u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
		Total for Group 0063:	\$0.00
Group 0064: Portable Conc	rete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAIN		Total for Group 0064:	\$0.00
Group 0065: Impact Attenua	ators		
0227 S-MC-MNTC MAJOR COST DRIVERS, MAINT	1.00 LS TENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0065:	\$0.00
Group 0066: Sheeting			
0229 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT	TENANCE OF TRAFFIC	Total for Group 0066:	\$0.00
			ψοιοσ
Group 0067: Temporary Sig	gnals		
0230 S-MC-MNTC MAJOR COST DRIVERS, MAINT	0.00 LS TENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Lic	ghting		
0231 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT	TENANCE OF TRAFFIC	Total for Group 0068:	\$0.00
Croup 0060, Innovative Cor	atracting Incontatives		
0232 S-MC-MNTC		\$0,0000	\$0.00
MAJOR COST DRIVERS, MAINT	TENANCE OF TRAFFIC		¢0.00
		Total for Group 0069:	\$0.00
Group 0070: Other MOT Co	osts		
0233 S-OC-MNTC OTHER COSTS MAINTENANCE	1.00 LS E OF TRAFFIC	\$0.00000	\$0.00
0512 S-OC-MNTC	0.50 MILE	\$500,000.00000	\$250,000.00
		Total for Group 0070: \$250,	000.00
Group 0071 · Watland Case	truction		
0234 T-MC-WTLD		\$0,0000	\$0.00
MAJOR COST DRIVERS, WETL	AND CONSTRUCTION	\$0.0000	\$0.00
MAJOR COST DRIVERS, WETL	AND CONSTRUCTION		φ0.00
		Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate: Alt I OH cont 2				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELL	0.00 ANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS	0.00 S COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILROA LIABILITY INSURANCE	0.00 ADS' PROTECTIV	LS /E PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY DAM/	\$0.00 AGE
0238 623E10000 CONSTRUCTION LAYOUT STAKE 0.5%	1.00 S	LS	\$40,483.66000	\$40,483.66
0239 614E11000 MAINTAINING TRAFFIC 5%	1.00	LS	\$161,934.64000	\$161,934.64
0240 619E16020 FIELD OFFICE, TYPE C	17.00	MNTH	\$2,500.00000	\$42,500.00
0242 624E10000 MOBILIZATION	1.00	LS	\$200,000.00000	\$200,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERF 0.5%	1.00 ORMANCE BON	LS D AND F	\$40,483.66000 OR PAYMENT BOND	\$40,483.66
			Total for Group 007	2: \$485,401.96
Group 0073: Design Continge	ency Costs			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTING 25%	1.00 GENCY COSTS	LS	\$2,145,533.49000	\$2,145,533.49
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY (1.00 COSTS	LS	\$0.00000	\$0.00
			Total for Group 0073:	\$2,145,533.49
Group 0074: Inflation Conting	ency			
0266 V-OC-CNTG OTHER COSTS, CONTINGENCY C	0.00 COSTS	LS	\$0.00000	\$0.00
			Total for Gro	oup 0074: \$0.00

PID	89056	County	HAM	Route	75	Section	1.04	This R/W Acquisition cost estima
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Macro View												At	tributes		
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	Str Im
-Residential	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	
-Commercial	0.01	Х	\$702,025.81	\$7,020	+	0	+	N/A	\$0.00	=	\$7,020.26	1	0	1	
-Industrial	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	
-Agricultural	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	
Relocation	Unit (Displacement)	x	*RHF	P/*RSP	+	Move Cost	+	Reestabl	shment	=	Total Non Labor RAP Costs	Estima	te amount of tim all RAP parcel	e necessary s = (months)	to relo
-Residential Owner Occupant Tenant	0	x x	\$34 \$10	4,000 0,000	+++	\$6,000 \$1,750				=	\$0 \$0	Estimat acq	e number of yea uisition begins =	rs until proje	ct wide 1.75
-Commerical/Farm/NPO Owner Tenant	0 0				x x	\$15,000 \$15,000	++	\$10, \$10,	000	=	\$0 \$0				
-Personal Property	0				Х	\$1,000				=	\$0				
{[(Total Cost of Acquisition Cost	st)x0.90]x0.025}+{[(Total o Cost)x0.10]x1.50]	of Ac } = C	quisition Cost)x0. ontingency	.15]x1.20}+{[(Total	of Ac	quisition		Contin (Incidentals, Admin. Re	gency eview & Appropriatio	on)	2474.64098	*RHP - Re *RSP - Re	placement Hous nt Supplemental	ing Payment Pavment	t
								Total Non Lab	or R/W Costs		\$9,494.90	*NPO - No	n-Profit Organiz	ation	

Labor (Extornal)	Unit (Parcolc)	v	Unit Prico	_	Total Cost
	Unit (Parceis)	^	Onterfice	=	Total Cost
Titles	1	Х	\$400	=	\$400
Appraisal					
-Simple	0	Х	\$750	=	\$0
-Detailed	1	х	\$4,500	=	\$4,500
Appraisal Review					
-Simple	0	х	\$500	=	\$0
-Detailed	1	х	\$2,000	=	\$2,000
Negotiations	1	Х	\$1,100	=	\$1,100
Relocations					
-Personal Property	0	Х	\$1,500	=	\$0
-Residential	0	Х	\$5,200	=	\$0
-Commercial/Farm/*NPO	0	х	\$5,600	=	\$0
Closings	1	Х	\$400	=	\$400
Project Management	1	Х	\$550	=	\$550
Asbestos Testing & Abatement		Х		=	
		\$8,950			
*NPO = Non-Profit Organization					

This R/W Cost Estimate Prepared by					
Chris Clemons					
This R/W Cost Estimate was performed at Step					
of the PDP for	MAJOR	Projects using			

Total R/W Costs	\$19,570.0
Inflation Adjustments	\$1,125.14
Total Non Labor R/W Costs	\$9,494.90
Total Labor Costs	\$8,950.00

P.D.P. R/W Cost Estimator



Estimate Alt I OH cont 3

Estimated Cost: \$22,959,232.28 Contingency: 32.90%

Estimated Total: \$30,512,819.70

OH-3 Ezzard Charles Base Date: 07/22/10 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: District: 8 Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt I OH cont 3				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Group 0001: Pavement Removal	l			
	0.00	LS	\$0.00000	\$0.00
0343 202E23000	21,262.00	SY	\$8.00000	\$170,096.00
PAVEMENT REMOVED			Total for Group 0001: \$	170,096.00
Group 0002: Excavation - Rock	0.00		* 22.2222	* •••••
MAJOR COST DRIVERS, ROADWAY	0.00	CY	\$30.00000	\$0.00
			Total for Group 0	002: \$0.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY MAJOR COST DRIVERS. ROADWAY	1.00	LS	\$0.00000	\$0.00
0344 203E10000 EXCAVATION	40,911.00	CY	\$8.00000	\$327,288.00
			Total for Group 0003: \$	327,288.00
Group 0004: Excavation - Hazar	dous		A 0.0000	A 0.00
0006 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
			Total for Group 0	004: \$0.00
Group 0005: Fill - Embankment (includes	wasting	excess excavation)	
0007 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0345 203E20000	40,911.00	CY	\$6.00000	\$245,466.00
EMBANKWENT			Total for Group 0005: \$2	245,466.00
Group 0006: Fill Lime Medified	Soil			
0010 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY 0346 205E10050	0.00	CY	\$7.0000	\$0.00
LIME STABILIZED EMBANKMENT	0.00	TON	\$5,00000	\$0.00
LIME	0.00	TON	Tatal fan Onaum O	
			l otal for Group U	006: \$0.00
Group 0007: Fill - Borrow				
0011 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	0.00	CY	\$8.00000	\$0.00
			Total for Group 0	007: \$0.00
Group 0008: Concrete Barrier				
0012 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0465 622E10060	0.00	FT	\$110.00000	\$0.00
8:11:07AM				

Estimate: Alt I OH cont 3			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
CONCRETE BARRIER, SINGLE SLO	PE, TYPE B		Total for Group 0008:	\$0.00
Group 0009: Subgrade Treatme	ent - Lime			
0014 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	, 1.00	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300 LIME	0.00	TON	\$10.00000	\$0.00
0350 206E11000 CURING COAT	0.00	SY	\$1.00000	\$0.00
0351 206E20000 TEST ROLLING	0.00	HOUR	\$4.00000	\$0.00
			Total for Group 0009:	\$0.00
Group 0010: Subgrade Treatme	ent - Ceme	ent		
0016 A-MC-RDWY	, 27,862.00	SY	\$2.50000	\$69,655.00
			Total for Group 0010: \$69,	355.00
Group 0011: Subgrade Treatme	ent - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	, 1.00	LS	\$0.00000	\$0.00
			Total for Group 0011:	\$0.00
Group 0012: Other Roadway C	osts			
0019 A-OC-RDWY OTHER COSTS, ROADWAY Contingency	0.00	LS	\$0.00000	\$0.00
0020 201E11000 CLEARING AND GRUBBING	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800 TREE REMOVED 48" SIZE	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200 PIPE REMOVED OVER 24"	0.00	FT	\$0.00000	\$0.00
0029 202E38000 GUARDRAIL REMOVED	0.00	FT	\$0.00000	\$0.00
0030 202E42206 ANCHOR ASSEMBLY REMOVED	0.00	EACH	\$0.00000	\$0.00
0031 202E58000 MANHOLE REMOVED	0.00	EACH	\$0.00000	\$0.00
0032 202E58100 CATCH BASIN REMOVED	0.00	EACH	\$0.00000	\$0.00
0033 202E75000	0.00	FT	\$0.00000	\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

8:11:07AM

Estimate:	Alt I	OH	cont 3
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Estimate:	Alt I OH cont 3			PB	Americas, Inc.
Line #	Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Des Sur	scription				
<u>-34</u>	ipiemental Description				
PRO	DOF ROLLING	0.00	0)/	\$0.04000	\$ 0.00
0035 SUE	3GRADE COMPACTION	0.00	SY	\$0.81000	\$0.00
0036	451E30000	0.00	FT	\$0.00000	\$0.00
0037	CIAL - PRESSURE RELIEF JOII 606E13000	NI, TYPE A 0.00	FT	\$14.00000	\$0.00
GU	ARDRAIL, TYPE 5				
0038 ANC	606E22000 CHOR ASSEMBLY TYPE B-98	0.00	EACH	\$1,411.29597	\$0.00
0039	606E22010	0.00	EACH	\$1,712.52574	\$0.00
ANC	CHOR ASSEMBLY, TYPE E-98	0.00	БАСН	\$487 23435	00.02
ANC	CHOR ASSEMBLY, TYPE T	0.00	LACH	ψτ07.20 1 00	φ0.00
0041	606E35000	0.00	EACH	\$969.12750	\$0.00
0042	606E35100	0.00	EACH	\$338.36354	\$0.00
BRI	DGE TERMINAL ASSEMBLY, TY	'PE 2		¢2,420,05007	00.04
IMP	ACT ATTENUATOR, TYPE 1-98	(BIDIRECTION	AL)	\$3,439.05897	\$0.00
0044	607E15000	0.00	FT	\$0.00000	\$0.00
FEN For	Fencina				
0423	304E20000	0.00	CY	\$0.00000	\$0.00
AG0 For	GREGATE BASE				
0424	601E32100	0.00	CY	\$0.00000	\$0.00
RO For	CK CHANNEL PROTECTION, TY Fencing	PE B WITH FIL	TER		
0425	607E40500	0.00	EACH	\$731.31641	\$0.00
GAT For	TE, TYPE 47 Fencing				
0426	625E32000	0.00	EACH	\$0.00000	\$0.00
GR(For	OUND ROD				
0466	rending	0.00		\$0.00000	\$0.00
				Total for Group 0012	: \$0.00
0	004 4. Coodina 8 Mulah				
Group	0014: Seeding & Mulch	ing / Soddir	ng	••••••	• • • • •
0045 MA.	B-MC-ERCO	1.00 CONTROI	LS	\$0.00000	\$0.00
0467	659E10000	14,738.00	SY	\$1.00000	\$14,738.00
0531	EDING AND MULCHING 660E25000	0.00	SY	\$15,00000	\$0.00
SOI	DDING STAKED	0.00	01	\$10.00000	φ0.00
				Total for Group 0014: \$14	,738.00
Croup	0015, Dook Channel Dr	ataatian			
Group	DUID: ROCK Channel Pr	olection	1.0	#0.0000	\$ 2.22
0047 MA,	B-MC-ERCO JOR COST DRIVERS, EROSION	1.00 CONTROL	LS	\$0.00000	\$0.00
0469	601E32000	0.00	CY	\$75.00000	\$0.00
RO	UK CHANNEL PROTECTION, TY	YE A WITH FIL	IER	Total for Group 0015	• \$0 00
					. ψυ.υυ
Group	0016: Erosion Control -	Item 832			
0048	B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
8:11:07A	M				

Estimate: Alt I OH cont 3				PB Americas, Inc.
Line # <u>Item Number</u> Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0470 832E10000	1.00	LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	24,000.00	EACH	\$1.00000	\$24,000.00
			Total for Grou	up 0016: \$74,000.00
Group 0017: Other Frosion Co	ntrol Costs			
0049 670E00700	0.00	SY	\$0.00000	\$0.00
DITCH EROSION PROTECTION 0050 B-OC-ERCO	1.00	LS	\$0.00000	\$0.00
0051 659E00100	0.00	EACH	\$0.00000	\$0.00
0052 659E00300	0.00	CY	\$0.00000	\$0.00
0053 659E14000	0.00	SY	\$0.00000	\$0.00
0054 659E15000	0.00	SY	\$0.71000	\$0.00
0055 659E20000	0.00	TON	\$410.06813	\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000 WATER	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000 MOWING	0.00	MSF	\$0.00000	\$0.00
			Total fo	r Group 0017: \$0.00
	1 00	19	00000	00.02
MAJOR COST DRIVERS, DRAINAGE	16 /11 00	ET	\$0.0000	\$0.00 \$121 288 00
4" SHALLOW PIPE UNDERDRAINS	10,411.00		\$0.0000	\$131,200.00
			I otal for Group	0018: \$131,288.00
Group 0019: Culverts - Type A	: < 5'			
0474 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	FT	\$350.00000	\$0.00
Pipe Structures - Reinforced Concrete	Pipe up to 60"		\$1,500,0000	00.02
MAJOR COST DRIVERS, DRAINAGE	E 0.00	LACH	\$1,300.0000	ψ0.00
Concrete Masonry			Total fo	r Group 0019: \$0.00
Group 0021: Culverts. Type A:	5' - 10'			
0067 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE 0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	FT	\$550.00000	\$0.00
8:11:07AM				

Estimate: Alt I OH cont 3				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Pipe Structures - Reinforced Concrete 5'- 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	-10' 66" to 7 0.00	78" EACH	\$1,500.00000	\$0.00
			Total for Gro	oup 0021: \$0.00
Group 0022: Culverts, Type A: 10)' - 20'			
0486 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pi	0.00 pe 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for Gro	oup 0022: \$0.00
Group 0024: BMP's	1.00		* • ••••	Aa aa
0076 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Gro	oup 0024: \$0.00
Group 0025: Closed Storm Syste	m			
0077 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	1,400.00	FT	\$75.00000	\$105,000.00
0523 604E00800 CATCH BASIN, NO. 3A	25.00	EACH	\$1,500.00000	\$37,500.00
0524 604E31500 MANHOLE, NO. 3	3.00	EACH	\$3,000.00000	\$9,000.00
0525 604E36601 PRECAST REINFORCED CONCRETE (0.00 DUTLET AS	EACH PER PLAN	\$1,250.00000	\$0.00
0526 Special Pump Station (Storm)	0.00	LS	\$6,400,000.00000	\$0.00
0527 Special Stormcentors	0.00	EACH	\$5,750.00000	\$0.00
0529 Special Retention basin improvements	0.00	LS	\$109,000.00000	\$0.00
			Total for Group 002	25: \$151,500.00
Group 0026: Other Drainage Cos	sts			
0078 C-OC-DRNG OTHER COSTS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for Gro	oup 0026: \$0.00
Group 0027: Mainline - Travel La	nes			
0095 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Con	0.00 npaction	SY	\$68.00000	\$0.00
8:11:07AM				

Estimate: Alt I OH cont 3			PB A	mericas, inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
			Total for Group 0027:	\$0.00
Group 0028: Mainline - Outsid	e Shoulder			
0100 D-MC-PVMT MAJOR COST DRIVERS, PAVEMEN	1.00 VT	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade	0.00 Compaction	SY	\$68.00000	\$0.00
Crown 0020: Mainling Incide	Chauldan		Total for Group 0028:	\$0.00
Group 0030: Mainline - Inside	Snoulder		\$ 0,00000	¢0.00
MAJOR COST DRIVERS, PAVEMEN	1.00 VT	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade	0.00 Compaction	SY	\$68.00000	\$0.00
	,		Total for Group 0030:	\$0.00
Group 0031: Ramps (including	j shoulders)			
0122 D-MC-PVMT MAJOR COST DRIVERS PAVEMEN	1.00 JT	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	8,907.00	SY	\$68.00000	\$605,676.00
Includes of Agy base and Subgrade	Compaction		Total for Group 0031: \$605,6	676.00
Group 0032: Non - Mainline La	anes			
0132 D-MC-PVMT	1.00 JT	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	18,955.00	SY	\$41.00000	\$777,155.00
Includes 3" 448, 9" 301, 6" Agg base	and Subgrade (Compaction	Total for Group 0032: \$777,	55.00
				00100
Group 0041: Other Pavement	Costs			
Group 0041: Other Pavement 0163 D-OC-PVMT OTHER COSTS, PAVEMENT	Costs 1.00	LS	\$0.00000	\$0.00
Group 0041: Other Pavement 0163 D-OC-PVMT OTHER COSTS, PAVEMENT	Costs 1.00	LS	\$0.00000 Total for Group 0041:	\$0.00 \$0.00
Group 0041: Other Pavement ⁰¹⁶³ D-OC-PVMT OTHER COSTS, PAVEMENT Group 0042: Water Works	Costs 1.00	LS	\$0.00000 Total for Group 0041:	\$0.00 \$0.00
Group 0041: Other Pavement 0163 D-OC-PVMT OTHER COSTS, PAVEMENT Group 0042: Water Works 0164 E-MC-WATR MA IOP COST DRIVERS, WATER I	Costs 1.00 0.00	LS	\$0.00000 Total for Group 0041: \$0.00000	\$0.00 \$0.00 \$0.00
Group 0041: Other Pavement 0163 D-OC-PVMT OTHER COSTS, PAVEMENT Group 0042: Water Works 0164 E-MC-WATR MAJOR COST DRIVERS, WATER L 0165 E-OC-WATR OTHER COSTS, WATER LINE	Costs 1.00 0.00 INE 0.00	LS LS LS	\$0.00000 Total for Group 0041: \$0.00000 \$0.00000	\$0.00 \$0.00 \$0.00 \$0.00
Group 0041: Other Pavement 0163 D-OC-PVMT OTHER COSTS, PAVEMENT Group 0042: Water Works 0164 E-MC-WATR MAJOR COST DRIVERS, WATER L 0165 E-OC-WATR OTHER COSTS, WATER LINE	Costs 1.00 0.00 INE 0.00	LS LS LS	\$0.00000 Total for Group 0041: \$0.00000 \$0.00000 Total for Group 0042:	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00
Group 0041: Other Pavement 0163 D-OC-PVMT OTHER COSTS, PAVEMENT Group 0042: Water Works 0164 E-MC-WATR MAJOR COST DRIVERS, WATER L 0165 E-OC-WATR OTHER COSTS, WATER LINE Group 0043: Sanitary Line 0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY	Costs 1.00 0.00 NE 0.00	LS LS LS	\$0.00000 Total for Group 0041: \$0.00000 \$0.00000 Total for Group 0042: \$0.00000	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00

Estimate: Alt I OH cont 3			PB A	mericas, Inc.
Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Description Supplemental Description				
			Total for Orour 0042	<u> </u>
			Total for Group 0043:	\$0.00
Group 0044: Lighting - Full Interc	hange			
0173 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	0.00	EACH	\$469,000.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING			Total for Group 0044.	\$0.00
				Q 0100
Group 0045: Lighting - Partial Inte	erchange)		
0288 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	0.00	LS	\$0.00000	\$0.00
,			Total for Group 0045:	\$0.00
Group 0046: Lighting Continuou	ie Poodu	(<u>)</u>)		
0176 G-MC-I TNG	15 INUAUM 1 00	IS	\$0,0000	\$0.00
MAJOR COST DRIVERS, LIGHTING	4 066 00		¢25 0000	¢172 910 00
Lighting - Continuous	4,966.00	FI	\$35.00000	\$173,810.00
			Total for Group 0046: \$173,8	810.00
Group 0047: Other Lighting Cost	S			
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, LIGHTING			Total for Group 0047:	ድር በባ
				ψ0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV OTHER COSTS TRAFFIC SURVEILLA	0.00 NCF	LS	\$0.00000	\$0.00
			Total for Group 0048:	\$0.00
Croup 0040: Signa				
0179 LMC-TRAF	1 00	15	00000 02	\$0.00
MAJOR COST DRIVERS, TRAFFIC CO	NTROL			\$0.00
USU1 J-MC-TRAF Signs	0.94	MILE	\$250,000.00000	\$235,000.00
			Total for Group 0049: \$235,0	00.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC COI	NTROL	MILE	\$3,000,00000	\$7,320,00
EDGE LINE	2.77		\$0,000,00000	¢1,020.00
LANE LINE	0.16	MILE	\$2,000.00000	\$320.00
			Total for Group 0050: \$7,6	640.00

Group 0051: Other Traffic Control Costs

Estimate: Alt I OH cont 3			PB	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0208 J-OC-TRAF	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, TRAFFIC CONTROL			Total for Group 0051	\$0.00
Group 0052: Signals - Intersection	ns			
0212 K-MC-SGNL MAJOR COST DRIVERS, SIGNALS	4.00	EACH	\$175,000.00000	\$700,000.00
			Total for Group 0052: \$700	,000.00
Group 0053: Other Traffic Signal	Costs			
0213 K-OC-SGNL OTHER COSTS SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0053	: \$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP	1.00	LS	\$0.00000	\$0.00
0215 L-OC-LSCP	G 1.00	LS	\$0.00000	\$0.00
OTHER COSTS, LANDSCAPING			Total for Group 0054	\$0.00
Croup 0055: Potoining Walls \$12		ft for oor	, borriors and tasting	
	/1 ص + ع 1 00			00 00
MAJOR COST DRIVERS, RETAINING W	/ALLS	QE	\$135,00000	\$0.00 \$5 208 705 00
Retaining Walls	30,303.00	56		30,200,700.00
			Total for Group 0055: \$5,208	,705.00
Group 0056: Other Retaining Wal	I Costs			
0217 M-OC-WALL OTHER COSTS, RETAINING WALLS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0056	\$0.00
Group 0057: Building Demolition				
		LS	\$0.00000	\$0.00
0219 N-OC-DEMO	1.00	LS	\$0.00000	\$0.00
0532 202E98100 REMOVAL MISC.: Radio Tower	0.00	EACH	\$8,500.00000	\$0.00
0533 202E56101 BUILDING DEMOLISHED, AS PER PLAN Small Residential	0.00 N	EACH	\$7,500.00000	\$0.00
0534 202E56101 BUILDING DEMOLISHED, AS PER PLAN Large Residential	0.00 N	EACH	\$12,000.00000	\$0.00
0535 202E56101 BUILDING DEMOLISHED, AS PER PLAN Small Commercial	0.00 N	EACH	\$15,000.00000	\$0.00
0536 202E56101	0.00	EACH	\$30,000.00000	\$0.00
8'11'()/AM				

Estimate: Alt I OH cont 3				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
BUILDING DEMOLISHED, AS PER PLAN				
Large Commercial			Total for Group 0	0057: \$0.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR	1.00	LS	\$0.00000	\$0.00
0505 P-MC-NSBR 1	3,370.00	SF	\$25.00000	\$334,250.00
Noise Barrier			Total for Group 0058: \$	334,250.00
Group 0059: Other Noise Barrier C	Costs			
0221 P-OC-NSBR	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR	0.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, NOISE BARRIE	ĸ		Total for Group (059: \$0.00
Group 0060: New Structures				
0222 R-MC-STRC	1.00	LS	\$0.00000	\$0.00
0506 R-MC-STRC 5	7,283.00	SF	\$125.00000	\$7,160,375.00
0507 R-MC-STRC	2,637.00	SF	\$12.00000	\$31,644.00
0508 R-MC-STRC 2 Standard Demoval of Existing Structures	8,124.00	SF	\$17.00000	\$478,108.00
0509 R-MC-STRC	bove avera 0.00	age complex SF	\$30.00000	\$0.00
Removal of Existing Structures complex to	very comp	blex	¢450,00000	¢0.00
0513 R-MC-STRC Tier 2 Structures 25' to 50' Height	0.00	SF	\$150.00000	\$0.00
0516 R-MC-STRC Tier 3 Structures 50' to 75' Height	0.00	SF	\$200.00000	\$0.00
			Total for Group 0060: \$7	,670,127.00
Group 0061: Rehabilitated Structur	res			
0223 R-MC-STRC MAJOR COST DRIVERS, STRUCTURES	0.00	SF	\$45.00000	\$0.00
			Total for Group 0	0061: \$0.00
Group 0062: Other Structure Costs	5			
0224 R-OC-STRC	0.00	LS	\$0.00000	\$0.00
Contingency			Total for Group (N0620 \$0 00
•	_	-		,002. ψ0.00
Group 0063: Temporary Road and	Paver	nent Costs	# 0.0000	
MAJOR COST DRIVERS, MAINTENANCE	1.00 E OF TRAF	FIC	\$0.00000	\$0.00

Estimate: Alt I OH cont 3		PB A	mericas, Inc.
Line # Item Number	Quantity Units	Unit Price	Extension
Description Supplemental Description			
			Aa a a
		Total for Group 0063:	\$0.00
Group 0064: Portable Concre	ete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Group 0064:	ድር በባ
			φ0.00
Group 0065: Impact Attenua	tors		
0227 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE		Total for Group 0065:	\$0.00
		·	
Group 0066: Sheeting			^
0229 S-MC-MNTC MAJOR COST DRIVERS, MAINTE	1.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0066:	\$0.00
Group 0067: Temporany Sign	nale		
0230 S-MC-MNTC	0.00 1.5	\$0,0000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	T + 1 (0 0 0007	\$ 0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Ligh	nting		
0231 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINTE	ENANCE OF TRAFFIC	Total for Group 0068:	\$0.00
			φ0.00
Group 0069: Innovative Cont	tracting Incentatives		
0232 S-MC-MNTC MAJOR COST DRIVERS MAINTE	0.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0069:	\$0.00
Crown 0070. Other MOT Cor			
	100 18	00000 08	ድር በሳ
OTHER COSTS, MAINTENANCE	OF TRAFFIC	\$0.0000	\$0.00
0512 S-OC-MNTC OTHER COSTS, MAINTENANCE	0.94 MILE OF TRAFFIC	\$500,000.00000	\$470,000.00
		Total for Group 0070: \$470,0	00.00
Group 0071: Watland Constr	ruction		
		\$0,0000	\$0.00
MAJOR COST DRIVERS, WETLA		\$0.00000	φ0.00
MAJOR COST DRIVERS, WETLA	ND CONSTRUCTION	\$0.0000	\$0.00
		Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate: Alt I OH cont 3				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELI	0.00 ANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOUS	0.00 S COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILRO/ LIABILITY INSURANCE	0.00 ADS' PROTECTIV	LS VE PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY	DAMAGE \$0.00
0238 623E10000 CONSTRUCTION LAYOUT STAKE 0.5%	1.00 S	LS	\$86,831.97000	\$86,831.97
0239 614E11000 MAINTAINING TRAFFIC 5%	1.00	LS	\$347,327.88000	\$347,327.88
0240 619E16020 FIELD OFFICE, TYPE C	32.00	MNTH	\$2,500.00000	\$80,000.00
0242 624E10000 MOBILIZATION	1.00	LS	\$400,000.00000	\$400,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERF 0.5%	1.00 ORMANCE BON	LS D AND F	\$86,831.97000 OR PAYMENT BOND	\$86,831.97
Crown 0072: Decign Conting			Total for Group 0	072: \$1,000,991.82
Group 0073: Design Continge	ency Cosis			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTIN 25%	1.00 GENCY COSTS	LS	\$4,591,846.46000	\$4,591,846.46
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY (1.00 COSTS	LS	\$0.00000	\$0.00
			Total for Group 0	073: \$4,591,846.46
Group 0074: Inflation Conting	ency			
0266 V-OC-CNTG OTHER COSTS, CONTINGENCY (0.00 COSTS	LS	\$0.00000	\$0.00
			Total for	Group 0074: \$0.00

PID	89065	County	HAM	Route	75	Section	1.15	This R/W Acquisition cost estima
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Macro View												At	tributes		
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	Str In
-Residential	0.01	Х	\$101,498.99	\$1,015	+	0	+	N/A	\$0.00	=	\$1,014.99	1	0	1	
-Commercial	0.01	х	\$91,923.04	\$919	+	0	+	N/A	\$0.00	=	\$919.23	2	0	2	
-Industrial	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	
-Park	0.28	Х	\$955.66	\$268	+	0	+	N/A	\$0.00	"	\$267.58	1	0	1	
Relocation	Unit (Displacement)	x	*RHF	9/*RSP	+	Move Cost	+	Reestabl	ishment	=	Total Non Labor RAP Costs	Estima	Estimate amount of time necessary to re all RAP parcels = (months)		
-Residential Owner Occupant Tenant	0	x x	\$34 \$10	4,000 0,000	+++	\$6,000 \$1,750				= =	\$0 \$0	Estimat acq	e number of yea uisition begins =	rs until proje	ct wide 1.75
-Commerical/Farm/NPO Owner Tenant	0 0				x x	\$15,000 \$15,000	++	\$10, \$10,	000 000	= =	\$0 \$0				
-Personal Property	0				Х	\$1,000				=	\$0				
{[(Total Cost of Acquisition Cos	t)x0.90]x0.025}+{[(Total c Cost)x0.10]x1.50}	of Ac } = C	quisition Cost)x0. ontingency	15]x1.20}+{[(Total	of Ac	quisition	Γ	Contin (Incidentals, Admin. Re	gency eview & Appropriatio	n)	776.1362978	*RHP - Re *RSP - Re	placement Hous	ing Payment	t
								Total Non Lab	or R/W Costs		\$2,977.94	*NPO - No	n-Profit Organiza	ation	

Labor (External)	Unit (Parcels)	X	Unit Price	=	Total Cost
Titles	4	Х	\$400	=	\$1,600
Appraisal					
-Simple	0	Х	\$750	=	\$0
-Detailed	4	Х	\$4,500	=	\$18,000
Appraisal Review					
-Simple	0	х	\$500	=	\$0
-Detailed	4	х	\$2,000	=	\$8,000
Negotiations	4	Х	\$1,100	=	\$4,400
Relocations					
-Personal Property	0	Х	\$1,500	=	\$0
-Residential	0	Х	\$5,200	=	\$0
-Commercial/Farm/*NPO	0	Х	\$5,600	=	\$0
Closings	4	Х	\$400	=	\$1,600
Project Management	4	Х	\$550	=	\$2,200
Asbestos Testing & Abatement		Х		=	
		Tota	al Labor Costs		\$35,800
*NPO = Non-Profit Organization	-				-

This R/W Cost Estimate Prepared by					
Chris Clemons					
This R/W Cost Estimate was performed at Step					
of the PDP for	MAJOR	Projects using			

Total R/W Costs	\$41,143.3
Inflation Adjustments	\$2,365.4
Total Non Labor R/W Costs	\$2,977.94
Total Labor Costs	\$35,800.0

P.D.P. R/W Cost Estimator



Estimate Alt I OH cont 4

Estimated Cost: \$29,959,628.59 Contingency: 32.90% Estimated Total: \$39,816,346.40 OH-4 Seventh St, Eigth St, Ninth St Base Date: 07/22/10 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: 8 Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt I OH cont 4			PB A	Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Group 0001: Pavement Remova	I			
	0.00	LS	\$0.00000	\$0.00
0343 202E23000	7,488.00	SY	\$8.00000	\$59,904.00
			Total for Group 0001: \$59,	904.00
Group 0002: Excavation - Rock	0.00	<u></u>	¢20,0000	0.00
MAJOR COST DRIVERS, ROADWAY	0.00	CY	\$30.00000	\$0.00
			Total for Group 0002:	\$0.00
Group 0003: Excavation - Soil	4.00		#a a a a a a a a a a	* •••••
MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0344 203E10000 EXCAVATION	45,208.00	CY	\$8.00000	\$361,664.00
			Total for Group 0003: \$361,	664.00
Group 0004: Excavation - Hazar	dous			
	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0004:	\$0.00
Croup 0005: Fill Embookmont	lingludge	wooting	, avage avayyation)	
0007 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY	45 208 00	CY	\$6.00000	\$271 248 00
EMBANKMENT	40,200.00	01		Q40.00
			Total for Group 0005 : $$271$,	248.00
Group 0006: Fill - Lime Modified	Soil			
0010 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0346 205E10050	0.00	CY	\$7.00000	\$0.00
0347 205E10300 LIME	0.00	TON	\$5.00000	\$0.00
			Total for Group 0006:	\$0.00
Group 0007: Fill - Borrow				
0011 A-MC-RDWY	0.00	CY	\$8.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group 0007:	\$0.00
	_ 1.00	15	\$0.0000	\$0.00
MAJOR COST DRIVERS, ROADWAY	0.00	FT	\$110,00000	¢0.00
8:11:35AM	0.00		φ110.00000	φ0.00

Estimate: Alt I OH cont 4			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SLOP	E, TYPE B		Total for Group 0008:	\$0.00
Group 0009: Subgrade Treatmen	nt - Lime			
0014 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300 LIME	0.00	TON	\$10.00000	\$0.00
0350 206E11000 CUBING COAT	0.00	SY	\$1.00000	\$0.00
0351 206E20000 TEST ROLLING	0.00	HOUR	\$4.00000	\$0.00
			Total for Group 0009:	\$0.00
Group 0010: Subgrade Treatmen	nt - Ceme	ent		
0016 A-MC-RDWY	17,679.00	SY	\$2.50000	\$44,197.50
MAJOR COST DRIVERS, ROADWAT			Total for Group 0010: \$44,	197.50
Group 0011: Subgrade Treatmen	nt - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
, , , , , , , , , , , , , , , , , , ,			Total for Group 0011:	\$0.00
Group 0012: Other Roadway Co	sts			
0019 A-OC-RDWY OTHER COSTS, ROADWAY Contingency	0.00	LS	\$0.00000	\$0.00
0020 201E11000 CLEARING AND GRUBBING	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800 TREE REMOVED 18" SIZE	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800 TREE REMOVED 48" SIZE	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT	\$0.00000	\$0.00
0029 202E38000	0.00	FT	\$0.00000	\$0.00
0030 202E42206	0.00	EACH	\$0.00000	\$0.00
0031 202E58000	0.00	EACH	\$0.00000	\$0.00
	0.00	EACH	\$0.00000	\$0.00
	0.00	FT	\$0.00000	\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Line # Hern Number Quantity Units Unit Price Extension D35_00000 0.000 SY \$0.81000 \$0.00 0335_204210000 0.000 SY \$0.81000 \$0.00 0335_204210000 0.000 FT \$0.00000 \$0.00 0335_20421000 0.00 FT \$14.00000 \$0.00 0335_20421000 0.00 FT \$14.00000 \$0.00 0335_20421000 0.00 FACH \$14.11.29597 \$0.00 0303_20422100 0.000 EACH \$14.11.29597 \$0.00 0304_20522010 TYPE E-38 0.000 EACH \$487.23435 \$0.00 0304_20020_2010 FYPE T 0.00 EACH \$333.3634 \$0.00 0304_20020_2010_11 SESEMBLY, TYPE T 0.000 EACH \$334.393.05897 \$0.00 0304_20020_2010_11 SESEMBLY, TYPE T 0.000 EACH \$334.393.05897 \$0.00 0424_20020_2010_11 SESEMBLY, TYPE T 0.000 EACH \$33.493.05897 \$0.00 <tr< th=""><th>Estimate: Alt I OH cont 4</th><th></th><th></th><th>PB /</th><th>Americas, Inc.</th></tr<>	Estimate: Alt I OH cont 4			PB /	Americas, Inc.
Supplemental Description PROOF ROLLING 0.00 SV \$0.81000 \$0.00 SUBGRADE COMPACTION 0.00 FT \$0.00000 \$0.00 SUBGRADE COMPACTION 0.00 FT \$0.00000 \$0.00 SUBGRADE COMPACTION 0.00 FT \$0.00000 \$0.00 OWS SUBGRADE COMPACTION \$0.00 FT \$0.00000 \$0.00 OWS SUBGRADE COMPACTION \$0.00 FT \$0.00000 \$0.00 OWS SUBGRADE COMPACTION \$0.00 FACH \$1.411.29597 \$0.00 OWS SUBGRADE COMPACTION \$0.00 EACH \$1.712.52574 \$0.00 OWH COCCERSION \$0.00 EACH \$487.23435 \$0.00 \$0.00 OWH COCCERSION \$0.00 EACH \$333.36354 \$0.00 \$0.00 OWH COCCENTRINAL ASSEMBLY, TYPE T \$0.00 EACH \$334.390.6997 \$0.00 OWH COCCENTRINAL ASSEMBLY, TYPE T \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 <t< td=""><td>Line # Item Number Description</td><td><u>Quantity</u></td><td><u>Units</u></td><td>Unit Price</td><td><u>Extension</u></td></t<>	Line # Item Number Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
PROOF ROLLING 0.00 SV \$0.81000 \$0.00 0035 2045 2047 \$0.00 \$0.00 0036 4515000 0.00 FT \$0.0000 \$0.00 0037 60613000 0.00 FT \$14.0000 \$0.00 0038 60622000 0.00 EACH \$1.411.29597 \$0.00 0039 60622000 0.00 EACH \$1.411.29597 \$0.00 0040 60628000 0.00 EACH \$1.712.52574 \$0.00 0040 60628000 0.00 EACH \$487.23435 \$0.00 0040 60628000 1.00 EACH \$338.36354 \$0.00 0040 60628000 0.00 EACH \$334.39.69897 \$0.00 0042 60653100 BRIDG TERMINAL ASSEMELY, TYPE 1 0.00 EACH \$334.39.69897 \$0.00 0423 50656010 0.00 CY \$0.0000 \$0.00 For Fercing 0423 5022000 0.00	Supplemental Description				
0035 204E10000 0.00 SY \$3.81000 \$0.00 0038 451E30000 0.00 FT \$0.00000 \$0.00 037 606E13000 0.00 FT \$1.400000 \$0.00 037 606E13000 0.00 FT \$1.400000 \$0.00 038 606E22000 YTPE 4 \$0.00 EACH \$1.411.29597 \$0.00 038 606E22010 YTPE 5 0.00 EACH \$1.712.52574 \$0.00 0404 605E3000 0.00 EACH \$1.912.25271 \$0.00 0404 605E3000 0.00 EACH \$1.961.25574 \$0.00 041 605E3000 0.00 EACH \$338.36354 \$0.00 042 605E3000 0.00 EACH \$33.439.05897 \$0.00 042 605E3000 0.00 FT \$0.00000 \$0.00 042 605E3000 0.00 CY \$0.00000 \$0.00 0425 607E45000	PROOF ROLLING				
Discardue Counse, Iron 0.00 FT \$0.0000 \$0.0000 OSB 45123000 0.00 FT \$14.00000 \$0.00 OSB 60122000 0.00 FT \$14.00000 \$0.00 OSB 60122000 0.00 EACH \$1.112.9597 \$0.00 OND 6028 6012200 0.00 EACH \$1.712.52574 \$0.00 OND 6028 6022100 0.00 EACH \$14.712.52574 \$0.00 OND 6028 6022100 0.00 EACH \$14.712.52574 \$0.00 OND BRIDGE TERMINAL ASSEMBLY, TYPE I 0.00 EACH \$349.05897 \$0.00 ORDER TERMINAL ASSEMBLY, TYPE 2 0.00 EACH \$338.36354 \$0.00 OBAS 6065010 0.00 FT \$0.00000 \$0.00 \$0.00 ORDER CHERMINAL ASSEMBLY, TYPE 1 0.00 EACH \$338.36354 \$0.00 \$0.00 OBAS 6065010 0.00 FT \$0.00000 \$0.00 \$0.00 <t< td=""><td>0035 204E10000</td><td>0.00</td><td>SY</td><td>\$0.81000</td><td>\$0.00</td></t<>	0035 204E10000	0.00	SY	\$0.81000	\$0.00
Special - PRESSURE RELIEF JOINT, TYPE A Distribution State 037 606413000 \$14,00000 \$0.00 038 60622000 0.00 FT \$14,00000 \$0.00 038 60622000 0.00 EACH \$1,411,2957 \$0.00 039 60622000 0.00 EACH \$1,411,2957 \$0.00 0304 60622000 0.00 EACH \$147,23435 \$0.00 040 60628500 0.00 EACH \$399,12750 \$0.00 041 6053100 0.00 EACH \$338,3654 \$0.00 042 6053100 0.00 FT \$0.0000 \$0.00 042 6053100 0.00 FT \$0.00000 \$0.00 043 6056010 0.00 FT \$0.00000 \$0.00 043 6056010 0.00 FT \$0.00000 \$0.00 043 6056010 0.00 FT \$0.00000 \$0.00 043 5056000	0036 451E30000	0.00	FT	\$0,0000	\$0.00
0037 606E13000 0.00 FT \$14.00000 \$0.00 0038 606E22000 0.00 EACH \$1,411.29597 \$0.00 0038 606E22010 0.00 EACH \$1,712.52574 \$0.00 0039 606E22010 0.00 EACH \$1,712.52574 \$0.00 0040 606E22010 0.00 EACH \$1,712.52574 \$0.00 0041 606E20500 0.00 EACH \$1,712.52574 \$0.00 0041 606E20500 0.00 EACH \$3,839.6354 \$0.00 0041 606E20500 0.00 EACH \$3,439.05897 \$0.00 0043 607E15000 0.00 FT \$0.00000 \$0.00 0423 607E32100 0.00 CY \$0.00000 \$0.00 0424 607E32100 0.00 CY \$0.0000 \$0.00 0423 607E4000 0.00 CY \$0.0000 \$0.00 0424 607E32100 0.00 CY <td>SPECIAL - PRESSURE RELIEF</td> <td>JOINT, TYPE A</td> <td></td> <td>÷</td> <td>+0.00</td>	SPECIAL - PRESSURE RELIEF	JOINT, TYPE A		÷	+ 0.00
ODMARK Construct Construct Statt	0037 606E13000	0.00	FT	\$14.00000	\$0.00
ANCHOR ASSEMBLY, TYPE B-98 0.00 EACH \$1,712.52574 \$0.00 0039<60522010	0038 606E22000	0.00	EACH	\$1,411.29597	\$0.00
0039 b0622010 0.00 EACH \$1,712.525/4 \$0.00 0ACHOR ASSEMBLY, TYPE E -98 0.00 EACH \$487.23435 \$0.00 044 60623500 0.00 EACH \$969.12750 \$0.00 08100G TERMINAL ASSEMBLY, TYPE 1 0.00 EACH \$338.36354 \$0.00 08100G TERMINAL ASSEMBLY, TYPE 2 0.00 EACH \$338.36354 \$0.00 0843 606650010 0.00 EACH \$338.36354 \$0.00 08002 606650010 0.00 EACH \$338.36354 \$0.00 08002 606650010 0.00 EACH \$338.36354 \$0.00 0044 607515000 0.00 EACH \$3.439.05897 \$0.00 00423 304250000 0.00 CY \$0.000000 \$0.00 4233 304250000 0.00 CY \$0.000000 \$0.00 9424 60152100 0.00 CY \$0.000000 \$0.00 9425 60756000 0.00 EACH<	ANCHOR ASSEMBLY, TYPE B	-98	-		* •••••
0040 60626500 0.00 EACH \$467.23435 \$0.00 0041 60625000 0.00 EACH \$969.12750 \$0.00 0041 606255000 0.00 EACH \$969.12750 \$0.00 0042 606255100 0.00 EACH \$338.36354 \$0.00 0043 606265000 0.00 EACH \$338.36354 \$0.00 0043 60545000 0.00 EACH \$33439.05897 \$0.00 0043 60545000 0.00 FT \$0.00000 \$0.00 0044 60745500 0.00 FT \$0.00000 \$0.00 0424 60162100 0.00 CY \$0.00000 \$0.00 0425 60740500 0.00 EACH \$731.31641 \$0.00 0425 60740500 0.00 EACH \$731.31641 \$0.00 0425 60740500 0.00 EACH \$0.00000 \$0.00 0426 625132000 0.00 EACH	ANCHOR ASSEMBLY, TYPE E	-98	EACH	\$1,712.52574	\$0.00
ANCHOR ASSEMBLY, TYPE T 0.00 EACH \$969.12750 \$0.00 BRIDGE TERMINAL ASSEMBLY, TYPE 1 0.00 EACH \$333.6354 \$0.00 D042<60265010	0040 606E26500	0.00	EACH	\$487.23435	\$0.00
001-1 0002 0.00 EACH 3505.127.00 \$0.00 0042 606255100 0.00 EACH \$338.36354 \$0.00 0043 60626010 0.00 EACH \$338.36354 \$0.00 0043 60626010 0.00 EACH \$3,439.05897 \$0.00 0044 607215000 0.00 FT \$0.00000 \$0.00 0444 607215000 0.00 CY \$0.00000 \$0.00 0423 3042000 0.00 CY \$0.00000 \$0.00 0424 60122100 0.00 CY \$0.00000 \$0.00 0425 6072400 0.00 EACH \$731.31641 \$0.00 0425 6072400 0.00 EACH \$731.31641 \$0.00 0426 602525200 0.00 EACH \$0.00000 \$0.00 0426 62524200 0.00 \$0.000 \$0.00 \$0.00 0426 62524200 0.00 \$0.00 \$0.00<	ANCHOR ASSEMBLY, TYPE T	0.00		\$060 10750	00.02
0042 606E35100 0.00 EACH \$338.36354 \$0.00 BRIDGE TERMINAL ASSEMBLY, TYPE 2 0.00 EACH \$3,439.05897 \$0.00 0043 607E15000 0.00 FT \$0.00000 \$0.00 1MPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL) \$0.00000 \$0.00 \$0.00 \$0.00 0423 304E20000 0.00 CY \$0.00000 \$0.00 0423 304E20000 0.00 CY \$0.00000 \$0.00 0424 601E32100 0.00 CY \$0.00000 \$0.00 0425 607E40500 0.00 EACH \$731.31641 \$0.00 0426 627E40500 0.00 EACH \$0.00000 \$0.00 0426 627E32000 0.00 EACH \$0.00000 \$0.00 0426 627E32000 0.00 EACH \$0.00000 \$0.00 0426 625E32000 0.00 S0.000 \$0.00 \$0.00 0466 0.00 \$0.00 \$0.00 <td>BRIDGE TERMINAL ASSEMBL</td> <td>Y, TYPE 1</td> <td>LACIT</td> <td>\$909.12750</td> <td>φ0.00</td>	BRIDGE TERMINAL ASSEMBL	Y, TYPE 1	LACIT	\$909.12750	φ0.00
BRIDGE TERMINAL ASSEMBLY, TYPE 2 0.00 EACH \$3,439.05897 \$0.00 IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL) 0.00 FT \$0.00000 \$0.00 044 607215000 \$0.00 FT \$0.000000 \$0.00 767 Fencing 0.00 CY \$0.000000 \$0.00 0423 304E20000 0.00 CY \$0.000000 \$0.00 AGREGATE BASE 707 Fencing \$0.00 CY \$0.00000 \$0.00 0424 601E32100 0.00 CY \$0.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER For Fencing \$0.00 \$0.00 0425 607E40500 0.00 EACH \$731.31641 \$0.00 \$0.00 GROUND ROD 0.00 EACH \$0.00000 \$0.00 \$0.00 GROUND ROD 0.00 S0.00000 \$0.00 \$0.00 \$0.00 Group 0014: Seeding & Mulching / Sodding 0045 \$0.000 \$0.00 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL \$1.00000 \$0.00 \$0.00 \$0.00 0445 SMCEE	0042 606E35100	0.00	EACH	\$338.36354	\$0.00
IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL) Dif 00000 Dif 00000 S0.000 0044 607E15000 0.00 FT \$0.00000 \$0.00 FENCE, TYPE 47 607 Fencing 60.0000 \$0.00 \$0.00 0423 30422000 0.00 CY \$0.00000 \$0.00 AGGREGATE BASE 607 Fencing 60.00 \$0.00 \$0.00 \$0.00 0424 601532100 0.00 CY \$0.00000 \$0.00 \$0.00 GATE, TYPE 47 0.00 EACH \$731.31641 \$0.00 \$0.00 GAZE 607E40500 0.00 EACH \$731.31641 \$0.00 GAZE 607E40500 0.00 \$0.00 \$0.00 \$0.00 GAZE 607E40500 0.00	BRIDGE TERMINAL ASSEMBL	Y, TYPE 2 0.00	FACH	\$3 439 05897	\$0.00
0044 607E15000 0.00 FT \$0.00000 \$0.00 FENCE, TYPE 47 For Fencing \$0.00000 \$0.00 \$0.00 0423 3042E0000 0.00 CY \$0.00000 \$0.00 0424 601E32100 0.00 CY \$0.00000 \$0.00 0425 607E40500 0.00 EX \$731.31641 \$0.00 0425 607E40500 0.00 EACH \$731.31641 \$0.00 0426 625E3000 0.00 EACH \$0.00000 \$0.00 0426 625E3000 0.00 EACH \$0.00000 \$0.00 0426 625E3000 0.00 S0.0000 \$0.00 0466 0.00 \$0.00000 \$0.00 0466 0.00 \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL \$0.000 \$0.00 0467 659510000 \$0.00 \$0.00 SODDING STAKED 0.00 \$15.00000 \$0.00 051 60025000 <td>IMPACT ATTENUATOR, TYPE</td> <td>1-98 (BIDIRECTION</td> <td>AL)</td> <td>¢0, 100.00001</td> <td>+0.000</td>	IMPACT ATTENUATOR, TYPE	1-98 (BIDIRECTION	AL)	¢0, 100.00001	+ 0.000
For Fencing Constraint Constraint <thconstraint< th=""> Constraint Constra</thconstraint<>	0044 607E15000	0.00	FT	\$0.00000	\$0.00
0423 304E20000 0.00 CY \$0.00000 \$0.00 AGGREGATE BASE For Fencing \$0.000 \$0.00 \$0.00 0424 601E32100 0.00 CY \$0.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER \$0.0000 \$0.00 \$0.00 For Fencing 0425 607E40500 0.00 EACH \$731.31641 \$0.00 GATE, TYPE 47 For Fencing \$0.0000 \$0.000 \$0.00 GROUND ROD For Fencing \$0.00000 \$0.00 \$0.00 GROUND ROD For Fencing \$0.00000 \$0.00 \$0.00 Group 0014: Seeding & Mulching / Sodding \$0.00000 \$0.00 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL \$0.00000 \$5,080.00 \$5,080.00 SEEDING AND MULCHING \$0.0000 \$0.00 \$0.00 SODDING STAKED \$0.00000 \$0.00 \$0.00 Group 0015: Rock Channel Protection \$0.00000 \$0.00 047 B-MC-ERCO 1.00 LS \$0	For Fencing				
AddretsA IE BASE For Fencing 0.00 CY \$0.0000 \$0.00 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER For Fencing \$0.000 \$0.00 0425 607E40500 0.00 EACH \$731.31641 \$0.00 0426 625E32000 0.00 EACH \$0.00000 \$0.00 0466 0.00 \$0.00000 \$0.00 0466 0.00 \$0.00000 \$0.00 0645 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 0647 659E10000 \$0.80.00 SY \$1.00000 \$5.080.00 SEEDING AND MULCHING 0.00 SY \$15.00000 \$0.00 0531 660E25000 0.00 SY \$15.00000 \$0.00 SODDING STAKED Total for Group 0014: \$5,080.00 Group 0015: Rock Channel Protection 049 601E32000 \$0.00 \$0.00 0409 601E32000 0.00 CY	0423 304E20000	0.00	CY	\$0.00000	\$0.00
0424 601E32100 0.00 CY \$0.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER For Fencing \$0425 607E40500 0.00 EACH \$731.31641 \$0.00 0425 607E40500 0.00 EACH \$731.31641 \$0.00 0426 625E32000 0.00 EACH \$0.00000 \$0.00 0466 0.00 \$0.00000 \$0.00 Total for Group 0012: \$0.00 0466 0.00 LS \$0.00000 \$0.00 047 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 0467 659E1000 5,080.00 SY \$1.00000 \$5,080.00 0467 659E1000 5,080.00 SY \$1.00000 \$0.00 0531 660E25000 0.00 SY \$15.00000 \$0.00 0531 660E25000 0.00 SY \$15.00000 \$0.00 047 B-MC-ERCO 1.00 LS \$0.000000 \$0.00 MAJOR COST DRIV	AGGREGATE BASE				
ROCK CHANNEL PROTECTION, TYPE B WITH FILTER For Fencing \$731.31641 \$0.00 0425 607E40500 0.00 EACH \$731.31641 \$0.00 GATE, TYPE 47	0424 601E32100	0.00	CY	\$0.00000	\$0.00
Out Finding 0.00 EACH \$731.31641 \$0.00 GATE, TYPE 47 0.00 EACH \$731.31641 \$0.00 GATE, TYPE 47 0.00 EACH \$0.00000 \$0.00 GROUND ROD 0.00 EACH \$0.00000 \$0.00 GROUND ROD For Fencing 0.00 \$0.00000 \$0.00 0466 0.00 \$0.00000 \$0.00 \$0.00 Group 0014: Seeding & Mulching / Sodding 0.00 \$0.00000 \$0.00 0455 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0457 659510000 \$0.800 \$Y \$1.00000 \$5,080.00 SEEDING AND MULCHING 5,080.00 SY \$15.00000 \$0.00 \$0.00 SODDING STAKED 0.00 SY \$15.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0.00 SY \$15.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0.00 SY \$15.0000 \$0.00 <td< td=""><td>ROCK CHANNEL PROTECTION</td><td>N, TYPE B WITH FIL</td><td>TER</td><td></td><td></td></td<>	ROCK CHANNEL PROTECTION	N, TYPE B WITH FIL	TER		
GATE, TYPE 47 For Fencing For Fencing \$0.00 EACH \$0.00000 \$0.00 GROUND ROD For Fencing 0.00 EACH \$0.00000 \$0.00 0466 0.00 \$0.0000 \$0.00 Group 0014: Seeding & Mulching / Sodding Total for Group 0012: \$0.00 \$0.00 045 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0457 659E1000 \$0.80.00 SY \$1.00000 \$5,080.00 0457 659E1000 \$,080.00 SY \$1.00000 \$5,080.00 \$0.00 SEEDING AND MULCHING 5,080.00 SY \$15.00000 \$0.00 \$0.00 SODDING STAKED 0.00 SY \$15.00000 \$0.00 \$0.00 Group 0015: Rock Channel Protection 0047 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0.00 CY \$75.00000 \$0.00 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 Group 0016: Erosion Control - Item 832 0048 <t< td=""><td>0425 607E40500</td><td>0.00</td><td>EACH</td><td>\$731.31641</td><td>\$0.00</td></t<>	0425 607E40500	0.00	EACH	\$731.31641	\$0.00
Incomparison Incomparison<	GATE, TYPE 47				
GROUND ROD For Fencing 0.00 \$0.0000 \$0.0000 \$0.000 0466 0.00 \$0.00000 \$0.000 \$0.000 Group 0014: Seeding & Mulching / Sodding 0045 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0467 659E10000 \$0.00 \$0.00 0467 659E10000 5,080.00 \$Y \$1.00000 \$5,080.00 SEEDING AND MULCHING 0.00 SY \$15.00000 \$0.00 0531 660E25000 0.00 SY \$15.00000 \$0.00 SODDING STAKED 0.00 SY \$15.00000 \$0.00 0477 B-MC-ERCO 1.00 LS \$0.000000 \$0.00 GROUP 0015: Rock Channel Protection 0.00 CY \$75.00000 \$0.00 0469 601532000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO <	0426 625E32000	0.00	FACH	\$0,00000	\$0.00
For Fencing 0466 0.00 \$0.00000 \$0.00 Group 0014: Seeding & Mulching / Sodding Total for Group 0012: \$0.00 0445 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0467 65981000 \$5,080.00 \$1.00 \$5,080.00 \$0.00 0467 65981000 5,080.00 \$Y \$1.00000 \$5,080.00 SEEDING AND MULCHING 0531 660E25000 \$0.00 \$0.00 SODDING STAKED 0.00 \$Y \$15.00000 \$0.00 Group 0015: Rock Channel Protection Total for Group 0014: \$5,080.00 \$0.00 0447 B-MC-ERCO 1.00 LS \$0.000000 \$0.00 0447 B-MC-ERCO 1.00 LS \$0.000000 \$0.00 0447 B-MC-ERCO 0.00 CY \$75.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0.00 CY \$75.00000 \$0.00 0469 601532000 0.00 CY \$75.00000	GROUND ROD	0.00	2,1011	<i>Q</i> (100000	\$0.00
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SODDING STAKED Total for Group 0014: \$5,080.00 Group 0015: Rock Channel Protection 0047 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, EROSION CONTROL 0469 601E32000 0.00 \$0.00 0469 601E32000 0.00 CY \$75.00000 \$0.00 ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 8:11:35AM 1:35AM \$0.00000 \$0.00 <	0531 660E25000	0.00	SY	\$15.00000	\$0.00
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ROCK CHANNEL PROTECTION, TYPE A WITH FILTER Total for Group 0015: \$0.00 Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 8:11:35AM	0469 601E32000	0.00	CY	\$75.00000	\$0.00
Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 8:11:35AM	ROCK CHANNEL PROTECTIO	N, TYPE A WITH FIL	IER	Total for Oraun 0015	ድር በወ
Group 0016: Erosion Control - Item 832 0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 8:11:35AM					φ0.00
0048 B-MC-ERCO 1.00 LS \$0.00000 \$0.00 8:11:35AM \$0.00000 \$0.00	Group 0016. Frasion Contr	ol - Item 832			
8:11:35AM	0048 B-MC-FRCO	1 00	IS	\$0.0000	\$0.00
	8:11:35AM				φ0.00

Estimate: Alt I OH cont 4				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
MAJOR COST DRIVERS, EROSION	CONTROL		•	•
0470 832E10000 STORM WATER POLLUTION PREVE	1.00 ENTION PLAN	LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	24,000.00	EACH	\$1.00000	\$24,000.00
			Total for Group 0	016: \$74,000.00
Group 0017: Other Erosion Co	ntrol Costs			
0049 670E00700	0.00	SY	\$0.00000	\$0.00
0050 B-OC-ERCO	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, EROSION CONTRO 0051 659E00100	DL 0.00	EACH	\$0.00000	\$0.00
SOIL ANALYSIS TEST	0.00	CY	\$0,0000	\$0.00
TOPSOIL 0053 659E14000	0.00	SY	\$0,0000	\$0.00
REPAIR SEEDING AND MULCHING	0.00	CV	\$0.71000	\$0.00
INTER-SEEDING	0.00	51	\$0.71000	\$0.00
0055 659E20000 COMMERCIAL FERTILIZER	0.00	TON	\$410.06813	\$0.00
0056 659E31000 LIME	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000 WATER	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000 MOWING	0.00	MSF	\$0.00000	\$0.00
			Total for Gr	oup 0017: \$0.00
Group 0018: Underdrains				
0059 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	11.272.00	FT	\$8.00000	\$90,176,00
4" SHALLOW PIPE UNDERDRAINS			Total fan Oraum O	
			Total for Group U	018: \$90,176.00
Group 0019: Culverts - Type A:	: < 5'			
0474 C-MC-DRNG MAJOR COST DRIVERS DRAINAGE	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG MA IOP COST DRIVERS, DRAINAGE	0.00	FT	\$350.00000	\$0.00
Pipe Structures - Reinforced Concrete	- Pipe up to 60'			.
0481 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	EACH	\$1,500.00000	\$0.00
Concrete Masonry			Total for Gr	oup 0019: \$0.00
Oroup 0001. Outranta Tura A				-
	5 - 10 100	19	\$0,0000	ድር በ በ በ
MAJOR COST DRIVERS, DRAINAGE	1.00	L3	φυ.υυυυ	φυ.υυ
0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	FΓ	\$550.00000	\$0.00
8:11:35AM				

Estimate: Alt I OH cont 4				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
Pipe Structures - Reinforced Concrete 5'- 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	10' 66" to 7 0.00	78" EACH	\$1,500.00000	\$0.00
			Total for Group 00	21: \$0.00
Group 0022: Culverts, Type A: 10	' - 20'			
0486 C-MC-DRNG MA IOR COST DRIVERS DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pit	0.00 be 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for Group 00	22: \$0.00
Group 0024: BIMP'S	1 00	15	\$0.0000	\$0.00
MAJOR COST DRIVERS, DRAINAGE	1.00	LO		φ0.00
			Total for Group 00	24: \$0.00
Group 0025: Closed Storm System	m			
0077 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	221.00	FT	\$75.00000	\$16,575.00
0523 604E00800 CATCH BASIN NO 34	12.00	EACH	\$1,500.00000	\$18,000.00
0524 604E31500 MANHOLE, NO. 3	0.00	EACH	\$3,000.00000	\$0.00
0525 604E36601 PRECAST REINFORCED CONCRETE C	0.00 NUTLET AS	EACH PER PLAN	\$1,250.00000	\$0.00
0526 Special Pump Station (Storm)	0.00	LS	\$6,400,000.00000	\$0.00
0527 Special Stormcentors	0.00	EACH	\$5,750.00000	\$0.00
0529 Special Retention basin improvements	0.00	LS	\$109,000.00000	\$0.00
Retention basin improvements			Total for Group 0025: \$	34,575.00
Group 0026: Other Drainage Cost	ts			
0078 C-OC-DRNG OTHER COSTS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
· · · · · · · · · · · · · · · · · · ·			Total for Group 00	26: \$0.00
Group 0027: Mainline - Travel La	nes	10	¢0.0000	* 0.00
MAJOR COST DRIVERS, PAVEMENT	1.00	15	Φ υ.υυυυυ	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Corr	0.00 npaction	SY	\$68.00000	\$0.00
8:11:35AM				

Estimate: Alt I OH cont 4			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
			Total for Group 0027:	\$0.00
Group 0028: Mainline - Outside	e Shoulder			
0100 D-MC-PVMT MAJOR COST DRIVERS, PAVEMEN	1.00 JT	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade	0.00 Compaction	SY	\$68.00000	\$0.00
			Total for Group 0028:	\$0.00
Group 0030: Mainline - Inside	Shoulder		A A AAAAA	* ****
0115 D-MC-PVMT MAJOR COST DRIVERS, PAVEMEN	1.00 JT	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg base and Subgrade	0.00 Compaction	SY	\$68.00000	\$0.00
			Total for Group 0030:	\$0.00
Group 0031: Ramps (including	shoulders)			
0122 D-MC-PVMT	1.00 JT	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	3,607.00	SY	\$68.00000	\$245,276.00
includes of Agg base and Subgrade	Sompaction		Total for Group 0031: \$245,2	276.00
Group 0032: Non - Mainline La	anes			
0132 D-MC-PVMT	1.00 IT	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	14,072.00	SY	\$41.00000	\$576,952.00
Includes 3" 448, 9" 301, 6" Agg base	and Subgrade (Compaction	Total for Group 0032: \$576,9	952.00
Group 0041: Other Pavement	Costs			
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Group 0041:	\$0.00
Group 0042: Water Works				
0164 E-MC-WATR	0.00	LS	\$0.00000	\$0.00
0165 E-OC-WATR			00000 02	\$0.00
OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	ψ0.00
OTHER COSTS, WATER LINE	0.00	LS	Total for Group 0042:	\$0.00
OTHER COSTS, WATER LINE Group 0043: Sanitary Line 0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY	0.00 0.00 (SEWER	LS	\$0.00000 Total for Group 0042:	\$0.00 \$0.00

Estimate: Alt I OH cont 4			PB A	mericas, Inc.
Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Description Supplemental Description				
			Total for Group 0042:	ድር በር
				φ0.00
Group 0044: Lighting - Full Interc	change			
0173 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	0.00	EACH	\$469,000.00000	\$0.00
MAJOR COST DRIVERS, LIGHTING			Total for Group 0044:	\$0.00
Group 0045: Lighting Bartial Int	orchonac	、		
0288 G-MC-LTNG	0.00	;	\$0,0000	\$0.00
MAJOR COST DRIVERS, LIGHTING	0.00	20		¢0.00
			Total for Group 0045:	\$0.00
Group 0046: Lighting - Continuou	us Roadw	vay		
0176 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG	5,299.00	FT	\$35.00000	\$185,465.00
Lighting - Continuous			Total for Group 0046: \$185.4	465.00
Group 0047: Other Lighting Cost	S		* • ••••	\$ 0.00
OTHER COSTS, LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group 0047:	\$0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, TRAFFIC SURVEILLA	NCE		Total for Group 0048:	\$0.00
				•
Group 0049: Signs	4.00		# 0.0000	A 0.00
MAJOR COST DRIVERS, TRAFFIC CO	1.00 NTROL	LS	\$0.00000	\$0.00
0501 J-MC-TRAF Signs	1.00	MILE	\$250,000.00000	\$250,000.00
			Total for Group 0049: \$250,0	00.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CO 0502 644E00100	NTROL	MILE	\$3,000.00000	\$6.600.00
EDGE LINE 0503 644E00200	0.05		\$2,000,00000	\$1,000,00
LANE LINE	0.95		φ2,000.00000	φ1,900.00
			Total for Group 0050: \$8,5	500.00

Group 0051: Other Traffic Control Costs

Estimate: Alt I OH cont 4			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0208 J-OC-TRAF OTHER COSTS, TRAFFIC CONTRO	1.00 L	LS	\$0.00000	\$0.00
Croup 0052: Signala Interace	tiono		Total for Group 0051:	\$0.00
0212 K-MC-SGNL	1.00	LS	\$0.00000	\$0.00
WAJOR COST DRIVERS, SIGNALS			Total for Group 0052:	\$0.00
Group 0053: Other Traffic Sign	al Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
,			Total for Group 0053:	\$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP MAJOR COST DRIVERS, LANDSCA	1.00 PING	LS	\$0.00000	\$0.00
0215 L-OC-LSCP OTHER COSTS, LANDSCAPING	1.00	LS	\$0.00000	\$0.00
			Total for Group 0054:	\$0.00
Group 0055: Retaining Walls \$	125 + \$10/	ft for ca	ps, barriers and testing	
0216 M-MC-WALL MAJOR COST DRIVERS, RETAININ	1.00 G WALLS	LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	18,939.00	SF	\$135.00000 \$	2,556,765.00
			Total for Group 0055: \$2,556,7	765.00
Group 0056: Other Retaining V	Vall Costs			
0217 M-OC-WALL OTHER COSTS. RETAINING WALLS	1.00 S	LS	\$0.00000	\$0.00
			Total for Group 0056:	\$0.00
Group 0057: Building Demolition	on			
0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING	1.00 DEMOLITION	LS	\$0.00000	\$0.00
0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOLI	1.00 TION	LS	\$0.00000	\$0.00
0532 202E98100 REMOVAL MISC.: <i>Radio Tower</i>	0.00	EACH	\$8,500.00000	\$0.00
0533 202E56101 BUILDING DEMOLISHED, AS PER P Large Commercial	0.00 PLAN	EACH	\$30,000.00000	\$0.00
0534 202E56101 BUILDING DEMOLISHED, AS PER F Small Commercial	1.00 PLAN	EACH	\$15,000.00000	\$15,000.00
0535 202E56101 BUILDING DEMOLISHED, AS PER P	0.00 PLAN	EACH	\$12,000.00000	\$0.00
0536 202E56101	0.00	EACH	\$7,500.00000	\$0.00
8:11:35AM				
Estimate: Alt I OH cont 4			F	PB Americas, Inc.
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Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
BUILDING DEMOLISHED, AS PER F Small Residential	PLAN			
			Total for Group 0057: \$1	5,000.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR	1.00	LS	\$0.00000	\$0.00
0505 P-MC-NSBR Noise Barrier	0.00	LS	\$400.00000	\$0.00
			Total for Group 005	58: \$0.00
Group 0059: Other Noise Barri	er Costs			
0221 P-OC-NSBR	1.00	LS	\$0.00000	\$0.00
0368 P-MC-NSBR MAJOR COST DRIVERS NOISE BA	0.00 RRIFR	LS	\$0.00000	\$0.00
			Total for Group 005	59: \$0.00
Group 0060: New Structures				
0222 R-MC-STRC	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, STRUCTU 0506 R-MC-STRC	RES 0.00	SF	\$125.00000	\$0.00
0507 R-MC-STRC	0.00	SF	\$12.00000	\$0.00
Removal of Existing Structures non-co 0508 R-MC-STRC	omplex 85,729.00	SF	\$17.00000	\$1,457,393.00
Standard Removal of Existing Structu	ires above avera	age complex	\$30,00000	\$0.00
Removal of Existing Structures compl	lex to very comp	blex	\$450.00000 \$450.00000	¢0.00
Tier 2 Structures 25' to 50' Height	104,527.00	SF	\$150.00000	\$15,679,050.00
0516 R-MC-STRC Tier 3 Structures 50' to 75' Height	0.00	SF	\$200.00000	\$0.00
Ŭ			Total for Group 0060: \$17,13	36,443.00
Group 0061: Rehabilitated Stru	uctures			
0223 R-MC-STRC MAJOR COST DRIVERS_STRUCTU	0.00	SF	\$45.00000	\$0.00
			Total for Group 006	61: \$0.00
Group 0062: Other Structure C	osts			
0224 R-OC-STRC	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, STRUCTURES Contingency				
			Total for Group 006	62: \$0.00
Group 0063: Temporary Road	and Paver	nent Costs	6	
0225 S-MC-MNTC MAJOR COST DRIVERS MAINTEN	1.00 ANCE OF TRAF	LS	\$0.00000	\$0.00
		. 10		

Line # Item Number Description Supplemental Description Quantity Units Unit Price Extension 02:6 SMC-MNTC Total for Group 0063: \$0.00 02:6 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC 1.00 LS \$0.00000 \$0.000 Group 0065: Impact Attenuators 227 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC 1.00 LS \$0.00000 \$0.00 Group 0066: Sheeting 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0066: \$0.00 Group 0067: Temporary Signals 20.0000 \$0.00 0230 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 Group 0068: \$0.00 Group 0068: Work Zone Lighting 23.0 \$0.00 S0.000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC 0.	Estimate: Alt I OH cont 4		PB A	mericas, Inc.
Group 0064: Portable Concrete Barrier (PCB) \$0.000 \$0.00 0226 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.0000 \$0.00 Total for Group 0064: \$0.00 0227 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 0227 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 0227 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 0229 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 0229 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 0230 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 0230 S-MC-MNTC 0.00 LS \$0.0000 \$0.00 0230 S-MC-MNTC 0.00 LS \$0.0000 \$0.00 0331 S-MC-MNTC 0.00 LS \$0.0000 \$0.00 0341 S-MC-MNTC 0.00 LS \$0.0000 \$0.00 0341 S-MC-MNTC 0.00 LS \$0.0000 \$0.00 <td>Line # Item Number Description Supplemental Description</td> <td>Quantity Units</td> <td>Unit Price</td> <td><u>Extension</u></td>	Line # Item Number Description Supplemental Description	Quantity Units	Unit Price	<u>Extension</u>
Group 0064: Portable Concrete Barrier (PCB) \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0064: \$0.00 Group 0065: Impact Attenuators \$0.0000 \$0.00 0227 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0065: \$0.00 \$0.00 Group 0066: Sheeting Total for Group 0066: \$0.00 \$0.00 0229 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0066: \$0.00 \$0.00 \$0.00 0230 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 Group 0067: Temporary Signals 0.00 LS \$0.00000 \$0.00 0230 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 \$0.00 Group 0068: \$0.00 \$0.00 Group 0068: Work Zone Lighting 0.22 \$0.00 \$0.00 Total for Group 0068: \$0.00 \$0.00 MAJOR COST DRIV			Total for Group 0063:	\$0.00
0226 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0064: \$0.00 Group 0065: Impact Attenuators 0227 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0065: \$0.00 \$0.00 Group 0066: Sheeting 0229 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0066: \$0.00 \$0.00 Group 0067: Temporary Signals 0.00 LS \$0.00000 \$0.00 Oraul COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 \$0.00 Group 0068: Work Zone Lighting 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives \$0.0000 \$0.00 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068	Group 0064: Portable Concre	ete Barrier (PCB)		
Total for Group 0064: \$0.00 Group 0065: Impact Attenuators 0227 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0066: \$0.00 Group 0066: Sheeting 0229 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0066: \$0.00 Group 0068: Work Zone Lighting 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives 0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: \$0.00 OBIVIERS, MAINTENANCE OF TRAFFIC	0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
Group 0065: Impact Attenuators	MAJOR COST DRIVERS, MAINTE		Total for Group 0064:	\$0.00
0227 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0065: \$0.00 Group 0066: Sheeting \$0.000 \$0.00 0229 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 Total for Group 0066: \$0.00 Group 0067: Temporary Signals \$0.000 \$0.00 \$0.00 \$0.00 O230 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 \$0.00 Group 0068: Work Zone Lighting \$0.000 \$0.00 \$0.00 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 \$0.00 Group 0069: Innovative Contracting Incentatives \$0.000 \$0.00 \$0.00 0232 S-MC-MNTC 0.00 LS \$0.00000	Group 0065: Impact Attenuat	tors		
Total for Group 0065: \$0.00 Group 0066: Sheeting 0229 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0066: \$0.00 Group 0067: Temporary Signals \$0.0000 \$0.00 0230 S-MC-MNTC 0.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 Group 0068: Work Zone Lighting 0.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.0000 \$0.00 Group 0068: Work Zone Lighting 0.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives \$0.0000 \$0.00 0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 071HER COSTS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 0233 S-OC-MNTC 1.00 LS \$0.00000000	0227 S-MC-MNTC MAJOR COST DRIVERS, MAINTE	1.00 LS NANCE OF TRAFFIC	\$0.00000	\$0.00
Group 0066: Sheeting 0229 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 Group 0067: Temporary Signals Total for Group 0066: \$0.00 Group 0067: Temporary Signals \$0.000 \$0.00 0230 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 \$0.00 Group 0068: Work Zone Lighting 0.00 LS \$0.00000 \$0.00 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 Group 0068: Work Zone Lighting 0.00 LS \$0.0000 \$0.00 0232 S-MC-MNTC 0.00 LS \$0.0000 \$0.00 Group 0069: Innovative Contracting Incentatives 0232 \$0.000 \$0.00 \$0.00 0233 S-OC-MNTC 1.00 LS \$0.00000 \$0.00 Group 0070: Other MOT Costs \$0.000 \$0.00 \$0.00 \$0.00 0212 S-OC-MNTC 1.00 LS \$0.0000 \$0.00 0212 S-OC-MNTC 1.			Total for Group 0065:	\$0.00
01209 S-MC-MINTC 1.00 LS \$0.0000 \$0.00 0220 S-MC-MINTC 0.00 LS \$0.00000 \$0.00 0230 S-MC-MINTC 0.00 LS \$0.00000 \$0.00 0230 S-MC-MINTC 0.00 LS \$0.00000 \$0.00 0231 S-MC-MINTC 0.00 LS \$0.00000 \$0.00 Group 0068: Work Zone Lighting 0.00 LS \$0.00000 \$0.00 0231 S-MC-MINTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Go.00 Group 0069: Innovative Contracting Incentatives \$0.00000 \$0.00 Go.00 Group 0070: Other MOT Costs \$0.00000 \$0.00 \$0.00 Go.00 \$0.00 Group 0070: Other MOT Costs \$0.00000000000000000000000000000000000	Group 0066: Sheeting			
MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0066: \$0.00 Group 0067: Temporary Signals \$0.00 LS 0230 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 Group 0068: Work Zone Lighting \$0.000 LS 0231 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.0000 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 0232 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 0232 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 Group 0070: Other MOT Costs \$0.00000 \$0.00 0233 S-OC-MNTC 1.00 LS \$0.00000 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC \$500,000.000 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC \$500,000.00 \$500,000.00 \$500,000.00	0229 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
Group 0067: Temporary Signals 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 Group 0068: Work Zone Lighting 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 Group 0068: \$0.00 Group 0068: Work Zone Lighting 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives \$0.000 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 LS \$0.00000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 Group 0070: \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 MILE \$500,000.00 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 Group 0071: \$500,000.00 \$0.00 0233 S-OC-MNTC	MAJOR COST DRIVERS, MAINTE	INANCE OF TRAFFIC	Total for Group 0066:	\$0.00
Group 0067: Temporary Signals 0230 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 Group 0067: \$0.00 Group 0068: Work Zone Lighting \$0.000 LS \$0.00000 \$0.00 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 \$0.00 \$0.00 0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00 0233 S-OC-MNTC 1.00 LS \$0.00000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 Group 0071: \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 Group 0071: \$500,000.00 \$0.00 0234 T-MC-WTLD 0.00 LS \$0.00000 \$0.00 \$0.00 0234 T-MC-WTLD 0.00 LS <	• • • • •			Ç el e e
0.30 S-MC-MINTC 0.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 Group 0068: Work Zone Lighting 0.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 \$0.00 0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 \$0.00 0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00 Group 0070: Other MOT Costs \$0.00000 \$0.00 \$0.00 0233 S-OC-MNTC 1.00 LS \$0.00000 \$500,000.00 0512 S-OC-MNTC 1.00 MILE \$500,000.000 \$500,000.00 0512 S-OC-MNTC 0.00 LS \$0.00000 \$500,000.00 0234 T-MC-WTLD 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION \$0.000000 \$0.00	Group 0067: Temporary Sign	nals	* 0.00000	#0 00
Total for Group 0067: \$0.00 Group 0068: Work Zone Lighting 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives 0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00 Group 0070: Other MOT Costs \$0.00000 \$0.00 0233 S-OC-MNTC 1.00 LS \$0.00000 \$0.00 0512 S-OC-MNTC 1.00 LS \$0.00000 \$500,000.00 0512 S-OC-MNTC 1.00 MILE \$500,000.000 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 \$0.00 \$0.00 \$0.00 0234 T-MC-WTLD 0.00 LS \$0.00000 \$0.00 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION 0360 Total for Group 0071: \$0.00	MAJOR COST DRIVERS, MAINTE	0.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
Group 0068: Work Zone Lighting \$0.00 LS \$0.00000 \$0.00 0231 S-MC-MNTC 0.00 LS \$0.00000 Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives 0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00 Group 0070: Other MOT Costs \$0.00000 \$0.00 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 LS \$0.00000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 MILE \$500,000.0000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 MILE \$500,000.0000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 MILE \$500,000.000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 MILE \$500,000.000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 MILE \$500,000.000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 MILE \$500,000.00 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC			Total for Group 0067:	\$0.00
0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 Group 0070: Other MOT Costs Total for Group 0069: \$0.00 0233 S-OC-MNTC 1.00 LS \$0.00000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 \$0.00 0512 S-OC-MNTC 1.00 MILE \$500,000.00 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 \$0.00 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION \$0.00000 \$0.00 \$0.00 \$0.00 0360 T-MC-WTLD 0.00 LS <td< td=""><td>Group 0068: Work Zone Ligh</td><td>nting</td><td></td><td></td></td<>	Group 0068: Work Zone Ligh	nting		
Image: Cost DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives \$0.000 LS 0232 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 Group 0070: Other MOT Costs \$0.00 LS 0233 S-OC-MNTC 1.00 LS 0512 S-OC-MNTC 1.00 MILE 0512 S-OC-MNTC 1.00 MILE 0512 S-OC-MNTC 1.00 MILE 0514 For Group 0070: \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 0512 S-OC-MNTC 1.00 MILE 0512 S-OC-MNTC 1.00 MILE 0500,000.0000 \$500,000.000 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 0512 S-OC-MNTC 1.00 MILE 0500,000.000 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 Group 0071: Wetland Construction \$0.000 LS 0234 T-MC-WTLD 0.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION \$0.00000 \$0.00 \$0.00 \$0.00 \$0.00	0231 S-MC-MNTC		\$0.00000	\$0.00
Group 0069: Innovative Contracting Incentatives 0232 S-MC-MNTC 0.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 Group 0070: Other MOT Costs 0233 S-OC-MNTC 1.00 LS \$0.00000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 0512 S-OC-MNTC 1.00 MILE \$500,000.0000 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 Group 0071: Wetland Construction 0234 T-MC-WTLD 0.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION 0360 T-MC-WTLD 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION 0360 T-MC-WTLD 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION	MAJOR COST DRIVERS, MAINTE	INANCE OF TRAFFIC	Total for Group 0068:	\$0.00
0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 Group 0070: Other MOT Costs 1.00 LS \$0.00000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 LS \$0.00000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 MILE \$500,000.0000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 MILE \$500,000.0000 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 Group 0071: Wetland Construction 0.00 LS \$0.00000 \$0.00 0234 T-MC-WTLD 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION \$0.00000 \$0.00 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION Total for Group 0071: \$0.00 \$0.00	Group 0060: Inpovative Cont	tracting Incentatives		
MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 Group 0070: Other MOT Costs \$0.00 LS 0233 S-OC-MNTC 1.00 LS 0THER COSTS, MAINTENANCE OF TRAFFIC \$0.00000 0512 S-OC-MNTC 1.00 MILE 0512 S-OC-MNTC 1.00 MILE 0THER COSTS, MAINTENANCE OF TRAFFIC \$500,000.0000 0THER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 Group 0071: Wetland Construction \$0.00 LS 0234 T-MC-WTLD 0.00 LS MAJOR COST DRIVERS, WETLAND CONSTRUCTION \$0.00000 0360 T-MC-WTLD 0.00 LS MAJOR COST DRIVERS, WETLAND CONSTRUCTION \$0.00000 Total for Group 0071: \$0.00 \$0.00	0232 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
Group 0070: Other MOT Costs 0233 S-OC-MNTC 1.00 LS \$0.00000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 0512 S-OC-MNTC 1.00 MILE \$500,000.0000 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 Group 0071: Wetland Construction 0234 T-MC-WTLD 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION 0360 T-MC-WTLD 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION Total for Group 0071: \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION Total for Group 0071: \$0.00	MAJOR COST DRIVERS, MAINTE	NANCE OF TRAFFIC	Total for Croup 0060:	¢0.00
Group 0070: Other MOT Costs 0233 S-OC-MNTC 1.00 LS \$0.00000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 0512 S-OC-MNTC 1.00 MILE \$500,000.00000 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 MILE \$500,000.0000 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 \$0.00 Group 0071: Wetland Construction 0.00 LS \$0.00000 \$0.00 0234 T-MC-WTLD 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION 0.00 LS \$0.00000 \$0.00 0360 T-MC-WTLD 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION Total for Group 00711: \$0.00 \$0.00			Total for Group 0069.	Ф 0.00
0233 S-OC-MNTC 1.00 LS \$0.00000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC 1.00 MILE \$500,000.0000 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 \$500,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC Total for Group 0070: \$500,000.00 \$500,000.00 Group 0071: Wetland Construction 0.00 LS \$0.00000 \$0.00 0234 T-MC-WTLD 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION \$0.00000 \$0.00 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION Total for Group 0071: \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION Total for Group 0071: \$0.00	Group 0070: Other MOT Cos	sts		
0512S-OC-MNTC1.00MILE\$500,000.00000\$500,000.00OTHER COSTS, MAINTENANCE OF TRAFFICTotal for Group 0070:\$500,000.00Total for Group 0070:\$500,000.00Group 0071:Wetland Construction0.00LS0234T-MC-WTLD0.00LS\$0.00000\$0.00MAJOR COST DRIVERS, WETLAND CONSTRUCTION0.00LS\$0.00000\$0.00MAJOR COST DRIVERS, WETLAND CONSTRUCTIONTotal for Group 0071:\$0.00MAJOR COST DRIVERS, WETLAND CONSTRUCTIONTotal for Group 0071:\$0.00	0233 S-OC-MNTC OTHER COSTS, MAINTENANCE	1.00 LS OF TRAFFIC	\$0.00000	\$0.00
Total for Group 0070: \$500,000.00Group 0071: Wetland Construction0234 T-MC-WTLD0.00 LSMAJOR COST DRIVERS, WETLAND CONSTRUCTION\$0.000000360 T-MC-WTLD0.00 LSMAJOR COST DRIVERS, WETLAND CONSTRUCTION\$0.00000Total for Group 0071: \$0.00	0512 S-OC-MNTC OTHER COSTS, MAINTENANCE	1.00 MILE OF TRAFFIC	\$500,000.00000	\$500,000.00
Group 0071: Wetland Construction 0234 T-MC-WTLD 0.00 LS MAJOR COST DRIVERS, WETLAND CONSTRUCTION \$0.00000 \$0.00 0360 T-MC-WTLD 0.00 LS MAJOR COST DRIVERS, WETLAND CONSTRUCTION \$0.00000 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION Total for Group 0071: \$0.00	, ,		Total for Group 0070: \$500,	000.00
0234 T-MC-WTLD0.00 LS\$0.00000\$0.00MAJOR COST DRIVERS, WETLAND CONSTRUCTION0.00 LS\$0.00000\$0.000360 T-MC-WTLD0.00 LS\$0.00000\$0.00MAJOR COST DRIVERS, WETLAND CONSTRUCTIONTotal for Group 0071: \$0.00	Group 0071: Wetland Constr	ruction		
MAJOR COST DRIVERS, WETLAND CONSTRUCTION 0360 T-MC-WTLD 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, WETLAND CONSTRUCTION Total for Group 0071: \$0.00	0234 T-MC-WTLD	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, WETLAND CONSTRUCTION	MAJOR COST DRIVERS, WETLA 0360 T-MC-WTLD	ND CONSTRUCTION 0.00 LS	\$0.00000	\$0.00
	MAJOR COST DRIVERS, WETLA	ND CONSTRUCTION	Total for Group 0071:	\$0.00

Group 0072: Misc. Costs

Estimate: Alt I OH cont 4				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELI	0.00 LANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOU	0.00 S COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILRO LIABILITY INSURANCE	0.00 ADS' PROTECTIV	LS /E PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY	Y DAMAGE \$0.00
0238 623E10000 CONSTRUCTION LAYOUT STAKE 0.5%	1.00 S	LS	\$112,076.23000	\$112,076.23
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$448,304.91000	\$448,304.91
0240 619E16020 FIELD OFFICE, TYPE C	32.00	MNTH	\$2,500.00000	\$80,000.00
0242 624E10000 MOBILIZATION	1.00	LS	\$800,000.00000	\$800,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERF 0.5%	1.00 FORMANCE BON	LS D AND F	\$112,076.23000 OR PAYMENT BOND	\$112,076.23
			Total for Group (0072: \$1,552,457.37
Group 0073: Design Continge	ency Costs			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTIN 25%	1.00 GENCY COSTS	LS	\$5,991,925.72000	\$5,991,925.72
0244 V-OC-CNTG OTHER COSTS, CONTINGENCY (1.00 COSTS	LS	\$0.00000	\$0.00
			Total for Group (0073: \$5,991,925.72
Group 0074: Inflation Conting	jency			
0266 V-OC-CNTG OTHER COSTS, CONTINGENCY (0.00 COSTS	LS	\$0.00000	\$0.00
			Total fo	r Group 0074: \$0.00

PID	89067	County	HAM	Route	75	Section	0.63	This R/W Acquisition cost estima
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Macro View												At	ributes		
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	H	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	N Str Im
-Residential	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	
-Commercial	0.49	Х	\$457,603.80	\$224,226	+	2933200	+	N/A	\$2,933,200.00	I	\$3,157,425.86	3	0	3	
-Industrial	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	
-Agricultural	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	I	\$0.00	0	0	0	
Relocation	Unit (Displacement)	x	*RHF	9/*RSP	+	Move Cost	+	Reestabli	ishment	=	Total Non Labor RAP Costs	Estima	te amount of time all RAP parcels	e necessary s = (months)	to relo
-Residential Owner Occupant Tenant	0	x x	\$34 \$10	4,000 0,000	++	\$6,000 \$1,750				= =	\$0 \$0	Estimato acq	e number of year uisition begins =	rs until proje	ct wide 1.75
-Commerical/Farm/NPO Owner Tenant	0				x x	\$15,000 \$15,000	+ +	\$10,ı \$10,ı	000 000	= =	\$0 \$0				
-Personal Property	0				Х	\$1,000				=	\$0				
{[(Total Cost of Acquisition Cos	t)x0.90]x0.025}+{[(Total o Cost)x0.10]x1.50]	of Aco } = C	quisition Cost)x0. ontingency	15]x1.20}+{[(Total	of Ac	quisition		Contin (Incidentals, Admin. Re	gency eview & Appropriatio	n)	1112992.616	*RHP - Re *RSP - Re	placement Hous nt Supplemental	ing Payment Payment	:
								Total Non Lab	or R/W Costs		\$4,270,418.48	*NPO - No	n-Profit Organiza	ation	

Macro View		_		_	
Labor (External)	Unit (Parcels)	X	Unit Price	=	Total Cost
Titles	3	Х	\$400	=	\$1,200
Appraisal					
-Simple	1	Х	\$750	=	\$750
-Detailed	2	х	\$4,500	=	\$9,000
Appraisal Review					
-Simple	1	х	\$500	=	\$500
-Detailed	2	х	\$2,000	=	\$4,000
Negotiations	3	Х	\$1,100	=	\$3,300
Relocations					
-Personal Property	0	Х	\$1,500	=	\$0
-Residential	0	Х	\$5,200	=	\$0
-Commercial/Farm/*NPO	0	Х	\$5,600	=	\$0
Closings	3	Х	\$400	=	\$1,200
Project Management	3	Х	\$550	=	\$1,650
Asbestos Testing & Abatement		Х		=	
			\$21,600		
*NPO = Non-Profit Organization					

This R/W Cost Estimate Prepared by						
	Chris Cle	emons		8/		
This R/W Cost Estir	mate was pe	rformed at Step		6		
of the PDP for	MAJOR	Projects using				

Total Labor Costs	\$21,600.0
Total Non Labor R/W Costs	\$4,270,418
Inflation Adjustments	\$261,813. ⁻
Total R/W Costs	\$4,553,831

P.D.P. R/W Cost Estimator



Estimate Alt I OH cont 5

Estimated Cost: \$84,839,975.26 Contingency: 51.30% Estimated Total: \$128,362,882.57

Reconstruct I-75 from Findlay to the northern terminus of the corridor Base Date: 07/22/10 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: 8 Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt I OH cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Group 0001: Pavement Remova	al			
0001 A-MC-RDWY	0.00	LS	\$0.00000	\$0.00
0343 202E23000	104,667.00	SY	\$8.00000	\$837,336.00
			Total for Group 0001:	\$837,336.00
Group 0002: Excavation - Rock	0.00	CY	¢20,0000	¢0.00
MAJOR COST DRIVERS, ROADWAY	0.00	CY	\$30.00000	\$0.00
Croup 0002: Exponetion Spil			Total for Group	0002: \$0.00
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY 0344 203E10000	77,557.00	CY	\$8.00000	\$620,456.00
EXCAVATION	,		Total for Group 0003:	\$620.456.00
				ψ020,430.00
Group 0004: Excavation - Hazar	rdous		# 0.0000	\$ 0.00
MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
			Total for Group	0004: \$0.00
Group 0005: Fill - Embankment	(includes	wasting	excess excavation)	
0007 A-MC-RDWY MAJOR COST DRIVERS ROADWAY	1.00	LS	\$0.00000	\$0.00
0345 203E20000 EMBANKMENT	117,928.00	CY	\$6.00000	\$707,568.00
			Total for Group 0005:	\$707,568.00
Group 0006 [.] Fill - Lime Modified	l Soil			
0010 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY 0346 205E10050	0.00	CY	\$7.00000	\$0.00
LIME STABILIZED EMBANKMENT 0347 205E10300	0.00	TON	\$5.00000	\$0.00
LIME			Total for Group	0006 \$0.00
				φοιου
Group 0007: Fill - Borrow	40 271 00	CY	00000 99	¢222.068.00
MAJOR COST DRIVERS, ROADWAY	40,371.00	CT	\$8.00000	\$322,900.00
			Total for Group 0007:	\$322,968.00
Group 0008: Concrete Barrier				
0012 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0465 622E10060	17,612.00	FT	\$110.00000	\$1,937,320.00
0.13.44AIVI				

Estimate: Alt I OH cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SLO	OPE, TYPE B		Total for Group 0008:	\$1,937,320.00
Group 0009: Subgrade Treatm	nent - Lime			
0014 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300 LIME	0.00	TON	\$10.00000	\$0.00
0350 206E11000	0.00	SY	\$1.00000	\$0.00
0351 206E20000 TEST ROLLING	0.00	HOUR	\$4.00000	\$0.00
			Total for Gro	up 0009: \$0.00
Group 0010: Subgrade Treatm	nent - Ceme	ent		
0016 A-MC-RDWY MAJOR COST DRIVERS, ROADWA	136,698.00 Y	SY	\$2.50000	\$341,745.00
			Total for Group 001	0: \$341,745.00
Group 0011: Subgrade Treatm	nent - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS, ROADWA	1.00 Y	LS	\$0.00000	\$0.00
			Total for Gro	up 0011: \$0.00
Group 0012. Other Roadway (Costs			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
0020 201E11000 CLEARING AND GRUBBING	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800 TREE REMOVED 18" SIZE	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800 TREE REMOVED 48" SIZE	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200 PIPE REMOVED OVER 24"	0.00	FT	\$0.00000	\$0.00
0029 202E38000	0.00	FT	\$0.00000	\$0.00
0030 202E42206	0.00	EACH	\$0.00000	\$0.00
0031 202E58000 MANHOLE REMOVED	0.00	EACH	\$0.00000	\$0.00
	0.00	EACH	\$0.00000	\$0.00
0033 202E75000	0.00	FT	\$0.00000	\$0.00
0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Estimate:	Alt I O	H cont 5
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Estimate: Alt I OH cont 5				PB Ar	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>		Extension
PROOF ROLLING					
0035 204E10000	0.00	SY	\$0.81000		\$0.00
SUBGRADE COMPACTION		FT	\$0.00000		\$0.00
0037 606E13000	3,295.00	FT	\$14.00000		\$46,130.00
0038 606E22000 ANCHOR ASSEMBLY, TYPE B-	0.00	EACH	\$1,411.29597		\$0.00
0039 606E22010	0.00	EACH	\$1,712.52574		\$0.00
ANCHOR ASSEMBLY, TYPE E- 0040 606E26500 ANCHOR ASSEMBLY, TYPE T	0.00	EACH	\$487.23435		\$0.00
0041 606E35000 BRIDGE TERMINAL ASSEMBLY	0.00 (. TYPE 1	EACH	\$969.12750		\$0.00
0042 606E35100 BRIDGE TERMINAL ASSEMBLY	0.00 (, TYPE 2	EACH	\$338.36354		\$0.00
		EACH	\$3,439.05897		\$0.00
0044 607E15000 FENCE, TYPE 47	0.00	FT	\$0.00000		\$0.00
0423 304E20000 AGGREGATE BASE	0.00	CY	\$0.00000		\$0.00
For Fencing 0424 601E32100 ROCK CHANNEL PROTECTION	0.00 I, TYPE B WITH FIL	CY TER	\$0.00000		\$0.00
0425 607E40500 GATE, TYPE 47	0.00	EACH	\$731.31641		\$0.00
0426 625E32000 GROUND ROD	0.00	EACH	\$0.00000		\$0.00
0466	0.00		\$0.00000		\$0.00
			Total for Gro	oup 0012: \$46,1	30.00
Group 0014: Seeding & Mu	Ichina / Soddir	na			
0045 B-MC-ERCO		LS	\$0.00000		\$0.00
0467 659E10000 SEEDING AND MULCHING	0.00	SY	\$1.00000		\$0.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000		\$0.00
			Total fo	or Group 0014:	\$0.00
Group 0015: Rock Channel	Protection				
		LS	\$0.00000		\$0.00
0469 601E32000 ROCK CHANNEL PROTECTION	0.00 U TYPE A WITH FIL	CY	\$75.00000		\$0.00
	, , , , , ⊑ /\ vv111111L		Total fo	or Group 0015:	\$0.00
Group 0016. Frasion Contra	ol - Item 832				
0048 B-MC-FRCO	1 00	LS	\$0,0000		\$0.00
8:13:44AM	1.00		φ0.00000		

Estimate: Alt I OH cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
MAJOR COST DRIVERS, EROSION	I CONTROL			
0470 832E10000	1.00 /ENTION PLAN	LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	35,000.00	EACH	\$1.00000	\$35,000.00
			Total for Gro	oup 0016: \$85,000.00
Group 0017: Other Erosion Co	ontrol Costs			
0049 670E00700	0.00	SY	\$0.00000	\$0.00
0050 B-OC-ERCO	1.00	LS	\$0.00000	\$0.00
0051 659E00100	0.00	EACH	\$0.00000	\$0.00
0052 659E00300 TOPSOIL	0.00	CY	\$0.00000	\$0.00
0053 659E14000	0.00	SY	\$0.00000	\$0.00
0054 659E15000 INTER-SEEDING	0.00	SY	\$0.71000	\$0.00
0055 659E20000	0.00	TON	\$410.06813	\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000 WATER	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000 MOWING	0.00	MSF	\$0.00000	\$0.00
			Total fo	or Group 0017: \$0.00
Group 0018: Underdrains	4.00		¢0,0000	\$ 0.00
MAJOR COST DRIVERS, DRAINAG	1.00 SE	LS	\$0.00000	\$0.00
4" SHALLOW PIPE UNDERDRAINS	63,704.00	FI	\$8.00000	\$509,632.00
			Total for Grou	p 0018: \$509,632.00
Group 0019: Culverts - Type A	A: < 5'			
0474 C-MC-DRNG	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	0.00 GE	FT	\$350.00000	\$0.00
Pipe Structures - Reinforced Concre	te Pipe up to 60"	FAOL	* 4 500 00000	# 0.00
0481 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG Concrete Masonry	0.00 GE	EACH	\$1,500.00000	\$0.00
			Total fo	or Group 0019: \$0.00
Group 0021: Culverts, Type A	: 5' - 10'			
0067 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, DRAINAG 0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINAG	0.00 GE	FT	\$550.00000	\$0.00
8:13:44AM				

Estimate: Alt I OH cont 5			F	PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
Pipe Structures - Reinforced Concrete 5 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	5'-10' 66" to 0.00	78" EACH	\$1,500.00000	\$0.00
			Total for Group 002	21: \$0.00
Group 0022: Culverts, Type A: 1	0' - 20'			
0486 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete F	0.00 Pipe 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for Group 002	22: \$0.00
Group 0024: BMP's	1.00		00000	00.02
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000 T () () O	\$0.00
			Total for Group 002	24: \$0.00
Group 0025: Closed Storm Syste	em			
0077 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT. TYPE B (Average size)	11,504.00	FT	\$75.00000	\$862,800.00
0523 604E00800 CATCH BASIN, NO, 3A	152.00	EACH	\$1,500.00000	\$228,000.00
0524 604E31500 MANHOLE NO 3	15.00	EACH	\$3,000.00000	\$45,000.00
0525 604E36601			\$1,250.00000	\$0.00
0526 Special Rumo Station (Storm)	0.00	LS	\$6,400,000.00000	\$0.00
0527 Special	0.00	EACH	\$5,750.00000	\$0.00
0529 Special	0.00	LS	\$109,000.00000	\$0.00
Retention basin improvements			Total for Group 0025: \$1,13	35,800.00
Group 0026: Other Drainage Co	sts			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, DRAINAGE			Total for Group 002	26: \$0.00
Group 0027: Mainling Travel L				
0095 D-MC-PVMT	1.00	LS	\$0,00000	\$0.00
MAJOR COST DRIVERS, PAVEMENT	68 870 00	SY	\$68.00000	\$4 683 160 00
13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Co	ompaction	01	φυσ.υυυυυ	ψ τ ,000,100.00
8:13:44AM Wednesday, December 01, 2010				Page 6 of 12

Estimate: Alt I OH cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
			Total for Group 0027:	\$4,683,160.00
Group 0028: Mainline - Outside S	Shoulder			
0100 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement	8,030.00	SY	\$68.00000	\$546,040.00
Includes 6" Agg base and Subgrade Con	npaction		Total for Group 0028	3: \$546,040.00
Group 0030: Mainline - Inside Sh	oulder			
0115 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Painforced Congrete Payament	15,773.00	SY	\$68.00000	\$1,072,564.00
Includes 6" Agg base and Subgrade Con	npaction		Total for Group 0030:	\$1,072,564.00
Group 0031: Ramps (including sh	noulders))		
0122 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	37,642.00	SY	\$68.00000	\$2,559,656.00
Includes 6" Agg base and Subgrade Con	npaction		Total for Group 0031:	\$2,559,656.00
Group 0032: Non - Mainline Lane	es			
0132 D-MC-PVMT MAJOR COST DRIVERS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	6,383.00	SY	\$41.00000	\$261,703.00
Includes 3" 448, 9" 301, 6" Agg base and	l Subgrade (Compaction	Total for Group 0032	2: \$261,703.00
Group 0041: Other Pavement Co	sts			
0163 D-OC-PVMT	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, PAVEMENT			Total for Grou	up 0041: \$0.00
Group 0042: Water Works				
0164 E-MC-WATR MAJOR COST DRIVERS WATER LINE	0.00	LS	\$0.00000	\$0.00
0165 E-OC-WATR	0.00	LS	\$0.00000	\$0.00
			Total for Grou	up 0042: \$0.00
Group 0043: Sanitary Line 0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY SE	0.00 EWER	LS	\$0.00000	\$0.00
8:13:44AM				

Estimate: Alt I OH cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group	0043: \$0.00
Group 0044: Lighting - Full Intere	change			
0173 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG MAJOR COST DRIVERS LIGHTING	1.00	EACH	\$469,000.00000	\$469,000.00
			Total for Group 0044:	\$469,000.00
Group 0045: Lighting - Partial Int	terchange	;		
0288 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group	0045: \$0.00
Group 0046: Lighting - Continuo	us Roadw	vay		
0176 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG	9,226.00	FT	\$35.00000	\$322,910.00
			Total for Group 0046:	\$322,910.00
Group 0047: Other Lighting Cost	s			
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, LIGHTING			Total for Group	0047: \$0.00
Group 0048: Traffic Surveillance				
0178 H-OC-SURV	1.00	LS	\$635,388.64000	\$635,388.64
OTHER COSTS, TRAFFIC SURVEILLA	NCE		Total for Group 0048:	\$635,388.64
Croup 0040: Signa				
0179 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CC 0501 J-MC-TRAF	NTROL 1.75	MILE	\$250,000.00000	\$437,500.00
Signs			Total for Group 0049:	\$437,500.00
Croup 0050: Dovement Marking			•	
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CC 0502 644E00100	NTROL 11.68	MILE	\$3.000.00000	\$35.040.00
EDGE LINE 0503 644E00200	11.53	MILE	\$2,000.00000	\$23.060.00
LANE LINE			Total far Oraun 0050	Φ <u></u> Φ <u></u> <u></u> <u></u> Φ <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u>
			Total for Group 0050	- φοο, ι υυ.υυ

Group 0051: Other Traffic Control Costs

Estimate: Alt I OH cont 5				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0208 J-OC-TRAF OTHER COSTS_TRAFFIC CONTRO	1.00	LS	\$0.00000	\$0.00
Group 0052: Signals - Intersec	tions		Total for Group 0	0051: \$0.00
0212 K-MC-SGNL	3.00	EACH	\$175,000.00000	\$525,000.00
MAJOR COST DRIVERS, SIGNALS			Total for Group 0052: \$	525,000.00
Group 0053: Other Traffic Sigr	nal Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0	0053: \$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP MAJOR COST DRIVERS LANDSCA	1.00 PING	LS	\$0.00000	\$0.00
0215 L-OC-LSCP OTHER COSTS, LANDSCAPING	1.00	LS	\$0.00000	\$0.00
			Total for Group 0	0054: \$0.00
Group 0055: Retaining Walls \$	5125 + \$10/	ft for ca	aps, barriers and testing	
0216 M-MC-WALL MAJOR COST DRIVERS RETAININ	1.00 G WALLS	LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	113,592.00	SF	\$135.00000	\$15,334,920.00
			Total for Group 0055: \$15	,334,920.00
Group 0056: Other Retaining V	Vall Costs			
0217 M-OC-WALL OTHER COSTS. RETAINING WALLS	1.00 S	LS	\$0.00000	\$0.00
			Total for Group 0	056: \$0.00
Group 0057: Building Demolitie	on			
0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING	1.00 DEMOLITION	LS	\$0.00000	\$0.00
0219 N-OC-DEMO OTHER COSTS, BUILDING DEMOL	1.00 ITION	LS	\$0.00000	\$0.00
0532 202E98100 REMOVAL MISC.: <i>Radio Tower</i>	0.00	EACH	\$8,500.00000	\$0.00
0533 202E56101 BUILDING DEMOLISHED, AS PER F Small Commercial	2.00 PLAN	EACH	\$15,000.00000	\$30,000.00
0534 202E56101 BUILDING DEMOLISHED, AS PER F Large Commercial	1.00 PLAN	EACH	\$30,000.00000	\$30,000.00
0535 202E56101 BUILDING DEMOLISHED, AS PER F Large Residential	0.00 PLAN	EACH	\$12,000.00000	\$0.00
0536 202E56101	0.00	EACH	\$7,500.00000	\$0.00
8113'44AM				

Estimate: Alt I OH cont 5				PB Americas, Inc.
Line # Item Number	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Description Supplemental Description				
<u></u>				
BUILDING DEMOLISHED, AS PER PL/ Small Residential	AN			
			Total for Group 0057: \$	60,000.00
Group 0058: Noise Barrier				
0220 P-MC-NSBR MAJOR COST DRIVERS NOISE BARE	1.00 RIFR	LS	\$0.00000	\$0.00
0505 P-MC-NSBR	0.00	LS	\$25.00000	\$0.00
Noise Barrier			Total for Croup 00	
				30. 90.00
Group 0059: Other Noise Barrier	r Costs			
0221 P-OC-NSBR	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, NOISE BARRIER	0.00	10	00000 02	00.02
MAJOR COST DRIVERS, NOISE BARF	RIER	L3	\$0.00000	φ0.00
			Total for Group 00	59: \$0.00
Crown 0000: Now Structures				
Group 0060: New Structures	4.00		* 0.00000	\$ 0.00
0222 R-MC-STRC MAJOR COST DRIVERS. STRUCTURE	1.00 ES	LS	\$0.00000	\$0.00
0506 R-MC-STRC	176,046.00	SF	\$125.00000	\$22,005,750.00
1 lier 1 Structures to 25' Height 0507 R-MC-STRC	0.00	SF	\$12.00000	\$0.00
Removal of Existing Structures non-com	nplex	-	1	
0508 R-MC-STRC Standard Removal of Existing Structure	100,928.00 s above aver	SF age complex	\$17.00000	\$1,715,776.00
0509 R-MC-STRC	58,771.00	SF	\$30.00000	\$1,763,130.00
0513 R-MC-STRC	to very comp 28.698.00	SF	\$150.00000	\$4.304.700.00
Tier 2 Structures 25' to 50' Height		<u> </u>	A	* , • • • • •
0516 R-MC-STRC Tier 3 Structures 50' to 75' Height	0.00	SF	\$200.00000	\$0.00
			Total for Group 0060: \$29,78	89,356.00
Group 0061: Rehabilitated Struc	tures			
0223 R-MC-STRC MAJOR COST DRIVERS, STRUCTURE	0.00 ES	SF	\$45.00000	\$0.00
			Total for Group 000	61: \$0.00
Group 0062: Other Structure Co	sts			
0224 R-OC-STRC	0.00	LS	\$0.00000	\$0.00
Contingency				
			Total for Group 00	62: \$0.00
Group 0063: Temporary Road a	na Paven	ient Costs	6	
MAJOR COST DRIVERS. MAINTENAN	1.00 ICE OF TRAF	FIC	\$0.00000	\$0.00

Estimate: Alt I OH cont 5		PB A	Americas, Inc.
Line # <u>Item Number</u> Description Supplemental Description	<u>Quantity</u> <u>Units</u>	Unit Price	<u>Extension</u>
		Total for Group 0063:	\$0.00
Group 0064: Portable Conc	rete Barrier (PCB)		
0226 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
		Total for Group 0064:	\$0.00
Group 0065: Impact Attenua	ators		
0227 S-MC-MNTC MAJOR COST DRIVERS, MAINT	1.00 LS TENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0065:	\$0.00
Group 0066: Sheeting			
0229 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAIN	TENANCE OF TRAFFIC	Total for Group 0066:	\$0.00
			•
Group 0067: Temporary Sig	jnals	* 0.0000	\$ 2,22
0230 S-MC-MNTC MAJOR COST DRIVERS, MAIN	0.00 LS TENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Lig	ghting		
0231 S-MC-MNTC		\$0.00000	\$0.00
MAJOR COST DRIVERS, MAIN		Total for Group 0068:	\$0.00
Group 0060: Ippovative Co	ntracting Incontatives		
0232 S-MC-MNTC		\$0.00000	\$0.00
MAJOR COST DRIVERS, MAIN	TENANCE OF TRAFFIC	Total for Croup 0060	۰ ۵۰ ۵۹
		Total for Group 0069.	Ф 0.00
Group 0070: Other MOT Co	osts		
0233 S-OC-MNTC OTHER COSTS, MAINTENANCI	1.00 LS E OF TRAFFIC	\$0.00000	\$0.00
0512 S-OC-MNTC OTHER COSTS, MAINTENANCI	1.75 MILE E OF TRAFFIC	\$500,000.00000	\$875,000.00
		Total for Group 0070: \$875,	000.00
Group 0071: Wetland Cons	truction		
0234 T-MC-WTLD	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, WETL 0360 T-MC-WTLD	AND CONSTRUCTION 0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, WETL	AND CONSTRUCTION	Total for Group 0071.	\$0.00
			Ψ0.00

Group 0072: Misc. Costs

Estimate:	Alt I OH cont 5				PB Americas, Inc.
<u>Line #</u> Des	Item Number cription plemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
<u>54</u>	plemental Description				
0235 MAJ	U-MC-MISC IOR COST DRIVERS, MISCELLANE	0.00 OUS COST	LS S	\$0.00000	\$0.00
0236 OTH	U-OC-MISC IER COSTS, MISCELLANEOUS CO	0.00 STS	LS	\$0.00000	\$0.00
0237 SPE LIAE	100E00300 CIAL - PREMIUM ON RAILROADS' BILITY INSURANCE	1.00 PROTECTI	LS /E PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY DA	\$10,000.00 AMAGE
0238 CON <i>0.59</i>	623E10000 NSTRUCTION LAYOUT STAKES %	1.00	LS	\$320,871.26000	\$320,871.26
0239 MAI 5%	614E11000 NTAINING TRAFFIC	1.00	LS	\$1,283,485.05000	\$1,283,485.05
0240 FIEL	619E16020 D OFFICE, TYPE C	65.00	MNTH	\$2,500.00000	\$162,500.00
0242 MOI	624E10000 BILIZATION	1.00	LS	\$1,600,000.00000	\$1,600,000.00
0511 PRE <i>0.5</i> %	103E05000 EMIUM FOR CONTRACT PERFORM %	1.00 ANCE BON	LS D AND F	\$320,871.26000 OR PAYMENT BOND	\$320,871.26
				Total for Group 007	2: \$3,697,727.57
Group	0073: Design Contingency	Costs			
0243 MAJ 25%	V-MC-CNTG IOR COST DRIVERS, CONTINGENC	1.00 CY COSTS	LS	\$16,967,995.05000	\$16,967,995.05
0244 OTH	V-OC-CNTG	1.00	LS	\$0.00000	\$0.00
011		0		Total for Group 0073	3: \$16,967,995.05
Group	0074: Inflation Contingenc	V			
0266 OTL	V-OC-CNTG	0.00	LS	\$0.00000	\$0.00
OIF	ILIX COOTS, CONTINUENCE COST	0		Total for G	Group 0074: \$0.00

PID	89069	County	HAM	Route	75	Section	1.9	This R/W Acquisition cost estima
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Macro View												At	tributes			
Acquisition	Unit (SF) or (Acreage)	x	Cost/Unit (\$\$/SF) (\$\$/Acre)	Subtotal Land Value	+	Structure Values (if Taken)	+	Damages (Loss in Value to the Residue)	Subtotal Structures & Damages	=	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
-Residential	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	Estimate the total number of acres involved in the
-Commercial	0.25	Х	\$122,978.79	\$30,745	+	355150	+	N/A	\$355,150.00	=	\$385,894.70	8	0	8	1	project and allocate those acres into the four
-Industrial	1.16	Х	\$71,861.63	\$83,359	+	242100	+	N/A	\$242,100.00	=	\$325,459.49	12	4	8	2	categories snown.
-Agricultural	0	Х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Relocation	Unit (Displacement)	x	*RHP	/*RSP	+	Move Cost	+	Reestablishment =		+ Reestablishment :		Total Non Labor Estimate amount of time ne RAP Costs all RAP parcels = 0		e necessary s = (months)	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
-Residential Owner Occupant Tenant	0 0	x x	\$34 \$10	,000 ,000	+ +	\$6,000 \$1,750				= =	\$0 \$0	Estimat acq	e number of yea uisition begins =	rs until projec	ct wide R/W 2	Add structure values from the auditors tax cards only if the structures are taken.
-Commerical/Farm/NPO Owner Tenant	2 1				x x	\$15,000 \$15,000	+ +	\$10,C \$10,C)00)00	=	\$50,000 \$25,000					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on
-Personal Property	0				Х	\$1,000				=	\$0					Major Projects) and requires some knowledge of the impacts of the project on structures.
{[(Total Cost of Acquisition Cost)x	0.90]x0.025}+{[(Total o Cost)x0.10]x1.50]	of Acc } = Co	quisition Cost)x0.1 ontingency	15]x1.20}+{[(Total	of Ac	quisition	(Conting ncidentals, Admin. Re	gency view & Appropriatio	on)	250752.3514 *RHP - Replacement Housing Payment				Relocation Cost Estimates must consider the	
								Total Non Lab	or R/W Costs		*RSP - Rent Supplemental Payment \$1,037,106.54 *NPO - Non-Profit Organization			complexity of the move process. All move estimates		
Mana 19 an												1				that involve a business or a mulit-tenant residential structure should use the services of a relocation
Labor (External)	Unit (Parcels)	X	Unit	Price	=	Total Cost						N Coot Fatim	ete Drenered b		Dete	Assistance professionnal to accurately gauge costs.
Titles	20	Х	\$4	100	=	\$8,000						V COST ESTIN	late Prepared b	у	Date	[]
Appraisal -Simple	7	x	\$7	750	=	\$5,250						Chris Cle	mons		8/9/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
-Detailed	13	Х	\$4,	500	=	\$58,500					This R/W Cost Estir	mate was pe	rformed at Step		6	talent. Labor costs estimates should reflect the complexity of the project and the talent necessary to
Appraisal Review -Simple	7	x	\$5	500	=	\$3,500					of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The person making the cost estimate may adjust the
-Detailed	13	х	\$2,	000	=	\$26,000										to reflect local labor costs. It is critical that the
Negotiations	20	Х	\$1,	100	=	\$22,000										estimate be labeled to reflect the alignment
Relocations -Personal Property -Residential	0	x x	\$1, \$5,	500 200	=	\$0 \$0										alternative, the step in the PDP process and the person(s) performing the estimate.
-Commercial/Farm/*NPO	3	х	\$5,	600	=	\$16,800						Tot	al Labor Costs	\$159	9,050.00	Comments
Closings	20	Х	\$4	100	=	\$8,000					-	Total Non I a	bor R/W Costs	\$1.03	37 106 54	Cost/Unit were generated from auditors tax card data.
Project Management	20	Х	\$5	550	=	\$11,000							1501 1777 00313	φ1,00	,100.54	
Asbestos Testing & Abatement		Х			=							Inflatio	on Adjustments	\$98	,084.84	
		Tota	al Labor Cost	S		\$159,050							otal R/M Costa	¢4 20	1 2/1 29	
*NPO = Non-Profit Organization							l							φ1,23	7,241.30	
						P.D.P.	R/	W Cost E	stimato	r						

Unit (Parcels)	X	Unit Price	=	Total Cost
20	Х	\$400	=	\$8,000
7 13	x x	\$750 \$4,500	= =	\$5,250 \$58,500
7 13	x x	\$500 \$2,000	=	\$3,500 \$26,000
20	Х	\$1,100	=	\$22,000
0 0 3	x x x	\$1,500 \$5,200 \$5,600	= = =	\$0 \$0 \$16,800
20	Х	\$400	=	\$8,000
20	Х	\$550	=	\$11,000
	Х		=	
	Tota	al Labor Costs		\$159,050
	Unit (Parcels) 20 7 13 7 13 7 13 20 0 0 0 3 20 20 20	Unit (Parcels) X 20 X 7 X 13 X 7 X 13 X 7 X 13 X 20 X 0 X 0 X 0 X 20 X	Unit (Parcels) X Unit Price 20 X \$400 7 X \$750 13 X \$4,500 7 X \$500 13 X \$500 13 X \$2,000 13 X \$2,000 13 X \$2,000 20 X \$1,100 0 X \$1,500 0 X \$5,200 3 X \$5,600 20 X \$4400 20 X \$550 X \$550 X	Unit (Parcels) X Unit Price = 20 X \$400 = 7 X \$750 = 13 X \$4,500 = 7 X \$500 = 13 X \$4,500 = 7 X \$500 = 13 X \$2,000 = 13 X \$2,000 = 20 X \$1,100 = 0 X \$1,500 = 3 X \$5,200 = 20 X \$5,600 = 20 X \$550 = 20 X \$550 = 20 X \$550 =

	Att	ributes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$0.00	0	0	0	0	Estimate the total number of acros involved in the
\$385,894.70	8	0	8	1	project and allocate those acres into the four
\$325,459.49	12	4	8	2	categories shown.
\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor RAP Costs	Estimat	te amount of time all RAP parcel	e necessary s = (months)	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
	Estimate	e number of year	rs until projec	t wide R/W	card data.
\$0 \$0	acqu	uisition begins =		2	Add structure values from the auditors tax cards only if the structures are taken.
\$50,000 \$25,000 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures
250752.3514	*RHP - Re	placement Hous	ing Payment		Relocation Cost Estimates must consider the
\$1,037,106.54	*NPO - No	nt Supplemental n-Profit Organiza	Payment		complexity of the move process. All move estimates
					structure should use the services of a relocation
	l Coot Fotim	ete Drenened k		Dete	Assistance professionnal to accurately gauge costs.
	V COST ESTIM	late Prepared b	у	Date	
	Chris Cler	mons		8/9/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
This R/W Cost Estir	mate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The
					person making the cost estimate may adjust the figures given for the particular project being estimated
					to reflect local labor costs. It is critical that the
					alternative, the step in the PDP process and the person(s) performing the estimate.
	Tot	al Labor Costs	\$159	9,050.00	Comments
1	Fotal Non La	bor R/W Costs	\$1,03	Cost/Unit were generated from auditors tax card data.	
	Inflatio	n Adjustments	\$98	,084.84	
	Т	otal R/W Costs	\$1,29	94,241.38	
					-

	Att	ributes			
Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	No. of Structures Impacted	Instruction for Acquisition & Relocation Cost Estimates
\$0.00	0	0	0	0	Estimate the total number of serve involved in the
\$385,894.70	8	0	8	1	project and allocate those acres into the four
\$325,459.49	12	4	8	2	categories shown.
\$0.00	0	0	0	0	Assign an average unit price for each category. These unit prices are typically taken from the auditors
Total Non Labor RAP Costs	Estimat	e amount of time all RAP parcels	e necessary s = (months)	to relocate 24	tax card data. Cost Estimates prepared at Step 4 (Step 7 on Major Projects) and thereafter must base unit prices on a project sales data book instead of tax
\$0	Estimate	e number of year	rs until projec	t wide R/W	card data. Add structure values from the auditors tax cards only
\$0					if the structures are taken.
\$50,000 \$25,000 \$0					Damages must be assessed by a pre-qualified expert with experience in Before & After analysis. This usually occurs at Step 4 for Minor projects (Step 6 on Major Projects) and requires some knowledge of the impacts of the project on structures
250752.3514	*RHP - Rej	placement Hous	ing Payment		Polocation Cost Estimatos must consider the
\$1,037,106.54	*NPO - No	n-Profit Organiza	Payment ation		complexity of the move process. All move estimates
					structure should use the services of a relocation
This R/W	/ Cost Estim	ate Prepared by	у	Date	Assistance professionnal to accurately gauge costs.
	Chris Cler	mons		8/9/2010	Instructions for Labor Cost Estimates Labor costs are a function of time, distance, and
This R/W Cost Estir	mate was per	formed at Step		6	talent. Labor costs estimates should reflect the
of the PDP for	MAJOR	Projects using			acquire the right of way in a timely manner. The
					figures given for the particular project being estimated
					to reflect local labor costs. It is critical that the estimate be labeled to reflect the alignment
					alternative, the step in the PDP process and the person(s) performing the estimate.
	Tot	al Labor Costs	\$150	050.00	
			φ100	,	Comments Cost/Unit were generated from auditors tax card data.
٦	Fotal Non La	bor R/W Costs	\$1,03	37,106.54	
	Inflatio	n Adjustments	\$98	,084.84	
	Т	otal R/W Costs	\$1,29	94,241.38	

Estimate Alt I OH cont 6

Estimated Cost: \$31,450,188.58 Contingency: 57.60% Estimated Total: \$49,565,497.20

Reconstruction from north of Linn St to Findlay St Base Date: 07/22/10 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: District: 8 Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt I OH cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Group 0001: Pavement Remova	al			
0001 A-MC-RDWY	0.00	LS	\$0.00000	\$0.00
0343 202E23000	72,055.00	SY	\$8.00000	\$576,440.00
			Total for Group 0001:	\$576,440.00
Group 0002: Excavation - Rock	0.00	0)/	\$20,0000	¢0.00
MAJOR COST DRIVERS, ROADWAY	0.00	ĊŸ	\$30.00000	\$0.00
			Total for Group	0002: \$0.00
Group 0003: Excavation - Soil				
	1.00	LS	\$0.00000	\$0.00
0344 203E10000	171,489.00	CY	\$8.00000	\$1,371,912.00
EXCAVATION			Total for Group 0003: \$	51,371,912.00
Group 0004: Excavation Haza	rdoue			
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group	0004: \$0.00
				φ0004. φ0.00
Group 0005: Fill - Embankment	(includes	wasting	excess excavation)	
0007 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0345 203E20000 EMBANKMENT	171,489.00	CY	\$6.00000	\$1,028,934.00
			Total for Group 0005: \$	1,028,934.00
Group 0006: Fill - Lime Modified	l Soil			
0010 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0346 205E10050	0.00	CY	\$7.00000	\$0.00
LIME STABILIZED EMBANKMENT 0347 205E10300	0.00	TON	\$5.00000	\$0.00
LIME			Total for Group	0006. \$0.00
				φσ
Group 0007: Fill - Borrow	0.00	CV/	¢a 00000	¢0.00
MAJOR COST DRIVERS, ROADWAY	0.00	CΥ	\$8.00000	\$0.00
			Total for Group	0007: \$0.00
Group 0008: Concrete Barrier				
0012 A-MC-RDWY MAJOR COST DRIVERS ROADWAY	1.00	LS	\$0.00000	\$0.00
0465 622E10060	10,712.00	FT	\$110.00000	\$1,178,320.00
8:12:26AM				Dage 2 of 12

Estimate: Alt I OH cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
CONCRETE BARRIER, SINGLE SL	OPE, TYPE B		Total for Group 0008:	\$1,178,320.00
Group 0009: Subgrade Treatm	nent - Lime			
0014 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0348 206E10000	0.00	SY	\$1.85000	\$0.00
0349 206E10300	0.00	TON	\$10.00000	\$0.00
0350 206E11000	0.00	SY	\$1.00000	\$0.00
0351 206E20000	0.00	HOUR	\$4.00000	\$0.00
TEST ROLLING			Total for Grou	ıp 0009: \$0.00
Group 0010: Subarade Treatn	nent - Ceme	nt		
0016 A-MC-RDWY	97,995.00	SY	\$2.50000	\$244,987.50
MAJOR COST DRIVERS, ROADWA	λY		Total for Group 0010)· \$244 987 50
				·. ψ2++,007.00
Group 0011: Subgrade Treatn	nent - Unde	rcut &	Backfill	
0017 A-MC-RDWY MAJOR COST DRIVERS, ROADWA	1.00 AY	LS	\$0.00000	\$0.00
			Total for Grou	ıp 0011: \$0.00
Group 0012: Other Roadway	Costs			
0019 A-OC-RDWY OTHER COSTS, ROADWAY	0.00	LS	\$0.00000	\$0.00
0020 201E11000	0.00	LS	\$856,500.00000	\$0.00
0021 201E21800	0.00	EACH	\$250.00000	\$0.00
0022 201E23000	0.00	EACH	\$405.00000	\$0.00
0023 201E24800	0.00	EACH	\$772.00000	\$0.00
0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
0028 202E35200	0.00	FT	\$0.00000	\$0.00
0029 202E38000	0.00	FT	\$0.00000	\$0.00
GUARDRAIL REMOVED 0030 202E42206	0.00	EACH	\$0.00000	\$0.00
ANCHOR ASSEMBLY REMOVED 0031 202E58000	0.00	EACH	\$0.00000	\$0.00
MANHOLE REMOVED 0032 202E58100	0.00	EACH	\$0.00000	\$0.00
CATCH BASIN REMOVED		FT	\$0,0000	\$0.00
FENCE REMOVED	0.00		¢400 50000	φ0.00
0034 204E43000	0.00	HOUK	¢1∠0.59000	\$U.UU

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Estimate:	Alt I	OH	cont 6
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Estimate: Alt I OH cont 6				PB Ar	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>		Extension
PROOF ROLLING					
0035 204E10000	0.00	SY	\$0.81000		\$0.00
SUBGRADE COMPACTION 0036 451E30000		FT	\$0.00000		\$0.00
0037 606E13000	2,291.00	FT	\$14.00000		\$32,074.00
0038 606E22000 ANCHOR ASSEMBLY TYPE B-9	0.00	EACH	\$1,411.29597		\$0.00
0039 606E22010	0.00	EACH	\$1,712.52574		\$0.00
0040 606E26500	0.00	EACH	\$487.23435		\$0.00
0041 606E35000 BRIDGE TERMINAL ASSEMBLY	0.00	EACH	\$969.12750		\$0.00
0042 606E35100 BRIDGE TERMINAL ASSEMBLY	0.00 . TYPE 2	EACH	\$338.36354		\$0.00
0043 606E60010		EACH	\$3,439.05897		\$0.00
0044 607E15000 FENCE, TYPE 47	-98 (BIDIRECTION 0.00	AL) FT	\$0.00000		\$0.00
0423 304E20000 AGGREGATE BASE	0.00	CY	\$0.00000		\$0.00
0424 601E32100 ROCK CHANNEL PROTECTION	0.00 , TYPE B WITH FIL	CY TER	\$0.00000		\$0.00
0425 607E40500 GATE, TYPE 47	0.00	EACH	\$731.31641		\$0.00
0426 625E32000 GROUND ROD For Fencing	0.00	EACH	\$0.00000		\$0.00
0466	0.00		\$0.00000		\$0.00
			Total for Gro	oup 0012: \$32,0	74.00
Group 0014: Sooding & Mul	ching / Soddir				
		iy Te	00000 02		00 0 2
MAJOR COST DRIVERS, EROSI	ION CONTROL	LO	φ0.00000		φ0.00
0467 659E10000 SEEDING AND MULCHING	0.00	SY	\$1.00000		\$0.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000		\$0.00
			Total f	or Group 0014:	\$0.00
Group 0015: Rock Channel	Protection				
0047 B-MC-ERCO		LS	\$0.00000		\$0.00
0469 601E32000 ROCK CHANNEL PROTECTION	0.00 TYPE A WITH FIL	CY	\$75.00000		\$0.00
ROOK GHANNEL FROTEGTION	, , , , , 		Total f	or Group 0015:	\$0.00
Group 0016: Frasion Contro	ol - Item 832				
0048 B-MC-FRCO	1 00	15	\$0.0000		\$0.00
8:12:26AM	1.00		φυ.υυυυ		

Estimate: Alt I OH cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
MAJOR COST DRIVERS FROSION CO				
0470 832E10000	1.00	LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	42,000.00	EACH	\$1.00000	\$42,000.00
			Total for Group 00	16: \$92,000.00
Group 0017: Other Erosion Contr	ol Costs			
0049 670E00700	0.00	SY	\$0.00000	\$0.00
0050 B-OC-ERCO	1.00	LS	\$0.00000	\$0.00
0051 659E00100	0.00	EACH	\$0.00000	\$0.00
0052 659E00300 TOPSOIL	0.00	CY	\$0.00000	\$0.00
0053 659E14000	0.00	SY	\$0.00000	\$0.00
0054 659E15000 INTER-SEEDING	0.00	SY	\$0.71000	\$0.00
0055 659E20000	0.00	TON	\$410.06813	\$0.00
0056 659E31000	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000 WATER	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000	0.00	MSF	\$0.00000	\$0.00
MOWING			Total for Gro	up 0017: \$0.00
				•
Group 0018: Underdrains				
0059 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
4" SHALLOW PIPE UNDERDRAINS	49,472.00	FI	\$8.00000	\$395,776.00
			Total for Group 001	8: \$395,776.00
Group 0019: Culverts - Type A: <	5'			
0474 C-MC-DRNG MAJOR COST DRIVERS DRAINAGE	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG	0.00	FT	\$350.00000	\$0.00
Pipe Structures - Reinforced Concrete Pi	be up to 60"			
0481 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	EACH	\$1,500.00000	\$0.00
Concrete Masoniny			Total for Gro	up 0019: \$0.00
Group 0021: Culverts, Type A: 5'	- 10'			
0067 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE 0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	FT	\$550.00000	\$0.00
8:12:26AM				

Estimate: Alt I OH cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
Pipe Structures - Reinforced Concrete 5'- 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	10' 66" to 7 0.00	78″ EACH	\$1,500.00000	\$0.00
			Total for	Group 0021: \$0.00
Group 0022: Culverts, Type A: 10	' - 20'			
0486 C-MC-DRNG MAJOR COST DRIVERS DRAINAGE	1.00	LS	\$0.00000	\$0.00
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete Pit	0.00 be 10'-20'	FT	\$1,400.00000	\$0.00
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00
			Total for	Group 0022: \$0.00
Group 0024: BMP's	4.00	1.0	\$ 0,0000	\$ 0.00
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00
			Total for	Group 0024: \$0.00
Group 0025: Closed Storm Syster	m			
0077 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00
0489 603E13400 30" CONDUIT TYPE B (Average size)	8,090.00	FT	\$75.00000	\$606,750.00
0523 604E00800 CATCH BASIN NO 3A	71.00	EACH	\$1,500.00000	\$106,500.00
0524 604E31500 MANHOLE, NO. 3	9.00	EACH	\$3,000.00000	\$27,000.00
0525 604E36601			\$1,250.00000	\$0.00
0526 Special Pump Station (Storm)	0.00	LS	\$6,400,000.00000	\$0.00
0527 Special Stormceptors	0.00	EACH	\$5,750.00000	\$0.00
0529 Special Retention basin improvements	0.00	LS	\$109,000.00000	\$0.00
			Total for Group	0025: \$740,250.00
Group 0026. Other Drainage Cost	ts			
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, DRAINAGE			Total for	Group 0026: \$0.00
Group 0027: Mainline - Travel Lar	nes			
	1.00	LS	\$0.00000	\$0.00
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Com	73,584.00 paction	SY	\$68.00000	\$5,003,712.00
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Estimate: Alt I OH cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 0027: \$	5,003,712.00
Group 0028: Mainline - Outside S	Shoulder			
0100 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement	10,683.00	SY	\$68.00000	\$726,444.00
includes o Agy base and Subgrade Con	npacuon		Total for Group 0028:	\$726,444.00
Group 0030: Mainline - Inside Sh	oulder			
0115 D-MC-PVMT MAJOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement	13,728.00	SY	\$68.00000	\$933,504.00
Includes 6" Agg base and Subgrade Con	npaction		Total for Group 0030:	\$933,504.00
Group 0031: Ramps (including sh	noulders))		
0122 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	0.00	SY	\$68.00000	\$0.00
Includes 6" Agg base and Subgrade Con	npaction		Total for Group	0031: \$0.00
0132 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, PAVEMENT	0.00	 SV	\$41,00000	\$0.00
Asphalt	0.00		φ41.00000	40.00
includes 3 448, 9 301, 6 Agg base and	i Subgrade C	Jompaction	Total for Group	0032: \$0.00
Group 0041: Other Pavement Co	sts			
0163 D-OC-PVMT OTHER COSTS, PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Group	0041: \$0.00
Group 0042: Water Works	0.00		A A AAAAA	A 0.00
0164 E-MC-WATR MAJOR COST DRIVERS, WATER LINE	0.00	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS, WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Group	0042: \$0.00
Group 0043: Sanitary Line				
0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY SI	0.00 EWER	LS	\$0.00000	\$0.00
8·12·26AM				

Estimate: Alt I OH cont 6			F	PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
			Total for Group 004	43: \$0.00
Group 0044: Lighting - Full Interc	hange			
0173 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG MAJOR COST DRIVERS LIGHTING	0.00	EACH	\$469,000.00000	\$0.00
			Total for Group 004	14: \$0.00
Group 0045: Lighting - Partial Inte	erchange	;		
0288 G-MC-LTNG MAJOR COST DRIVERS, LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Group 004	45: \$0.00
Group 0046: Lighting - Continuou	is Roadw	vay		
0176 G-MC-LTNG	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG	4,272.00	FT	\$35.00000	\$149,520.00
Lighting - Continuous			Total for Group 0046: \$14	19,520.00
Group 0047: Other Lighting Costs				
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, LIGHTING			Total for Group 004	17 . \$0.00
				π. φ0.00
Group 0048: Traffic Surveillance			-	
0178 H-OC-SURV OTHER COSTS, TRAFFIC SURVEILLAN	1.00 NCE	LS	\$233,107.29000	\$233,107.29
			Total for Group 0048: \$23	33,107.29
Group 0049: Signs				
0179 J-MC-TRAF		LS	\$0.00000	\$0.00
0501 J-MC-TRAF Signs	0.81	MILE	\$250,000.00000	\$202,500.00
olgho			Total for Group 0049: \$20	02,500.00
Group 0050: Pavement Marking				
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC CON 0502 644E00100	3.66	MILE	\$3,000.00000	\$10,980.00
0503 644E00200	5.81	MILE	\$2,000.00000	\$11,620.00
			Total for Group 0050: \$2	22,600.00

Group 0051: Other Traffic Control Costs

Estimate: Alt I OH cont 6			PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0208 J-OC-TRAF OTHER COSTS TRAFFIC CONTR	1.00 Ol	LS	\$0.00000	\$0.00
Croup 00E2: Signala Interes	otiono		Total for Group 0051:	\$0.00
0212 K-MC-SGNL	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, SIGNALS	5		Total for Group 0052:	\$0.00
Group 0053: Other Traffic Sig	nal Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group 0053:	\$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP MAJOR COST DRIVERS, LANDSC	1.00 APING	LS	\$0.00000	\$0.00
0215 L-OC-LSCP OTHER COSTS, LANDSCAPING	1.00	LS	\$0.00000	\$0.00
			Total for Group 0054:	\$0.00
Group 0055: Retaining Walls	\$125 + \$10/	ft for ca	ps, barriers and testing	
0216 M-MC-WALL MAJOR COST DRIVERS, RETAINI	1.00 NG WALLS	LS	\$0.00000	\$0.00
0504 M-MC-WALL Retaining Walls	29,621.00	SF	\$135.00000 \$	3,998,835.00
			Total for Group 0055: \$3,998,8	335.00
Group 0056: Other Retaining	Wall Costs			
0217 M-OC-WALL OTHER COSTS, RETAINING WALI	1.00 _S	LS	\$0.00000	\$0.00
			Total for Group 0056:	\$0.00
Group 0057: Building Demolit	ion			
0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDIN	1.00 G DEMOLITION	LS	\$0.00000	\$0.00
0219 N-OC-DEMO OTHER COSTS, BUILDING DEMO	1.00 LITION	LS	\$0.00000	\$0.00
0532 202E98100 REMOVAL MISC.: <i>Radio Tower</i>	0.00	EACH	\$8,500.00000	\$0.00
0533 202E56101 BUILDING DEMOLISHED, AS PER Small Commercial	0.00 PLAN	EACH	\$15,000.00000	\$0.00
0534 202E56101 BUILDING DEMOLISHED, AS PER Large Commercial	0.00 PLAN	EACH	\$30,000.00000	\$0.00
0535 202E56101 BUILDING DEMOLISHED, AS PER Large Residential	0.00 PLAN	EACH	\$12,000.00000	\$0.00
0536 202E56101	0.00	EACH	\$7,500.00000	\$0.00

8:12:26AM Wednesday, December 01, 2010

Estimate: Alt	I OH cont 6				PB Americas, Inc.
<u>Line #</u> <u>lte</u> <u>Descrip</u> <u>Supple</u>	<u>m Number</u> i <u>tion</u> mental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
BUILDIN Small B	NG DEMOLISHED, AS PER PLAN				
Smair IX	esidenilai			Total for Grou	ıp 0057: \$0.00
Group 00	58: Noise Barrier				
0220 P-I MAJOR	MC-NSBR COST DRIVERS, NOISE BARRIE	1.00 R	LS	\$0.00000	\$0.00
0505 P-I Noise B	MC-NSBR 4	2,806.00	SF	\$25.00000	\$1,070,150.00
				Total for Group 0058:	\$1,070,150.00
Group 00	59: Other Noise Barrier C	Costs			
0221 P-0	OC-NSBR	1.00	LS	\$0.00000	\$0.00
0368 P-	MC-NSBR	0.00	LS	\$0.00000	\$0.00
		.1 X		Total for Grou	ıp 0059: \$0.00
Group 00	60: New Structures				
0222 R-		1.00	LS	\$0.00000	\$0.00
0506 R-	MC-STRC 3	86,980.00	SF	\$125.00000	\$4,622,500.00
0507 R-	MC-STRC	0.00	SF	\$12.00000	\$0.00
0508 R-	MC-STRC 3	80,310.00	SF	\$17.00000	\$515,270.00
0509 R-	MC-STRC	0.00	SF	\$30.00000	\$0.00
0513 R-	a of Existing Structures complex to MC-STRC tructures 25' to 50' Height	0.00	SF	\$150.00000	\$0.00
0516 R-	MC-STRC tructures 50' to 75' Height	0.00	SF	\$200.00000	\$0.00
				Total for Group 0060:	\$5,137,770.00
Group 00	61: Rehabilitated Structu	res			
0223 R-	MC-STRC	0.00	SF	\$45.00000	\$0.00
MAJOR	COST DRIVERS, STRUCTURES			Total for Grou	ıp 0061: \$0.00
Group 00	62: Other Structure Cost	S			
0224 R- OTHER	OC-STRC COSTS, STRUCTURES	0.00	LS	\$0.00000	\$0.00
Conting	ency			Total for Grou	ıp 0062: \$0.00
Group 00	63: Temporary Road and	l Paverr	nent Costs		
0225 S- MA.IOR	MC-MNTC COST DRIVERS, MAINTENANCE	1.00 OF TRAF	LS FFIC	\$0.00000	\$0.00

Line # tiem Number Description Supplemental Description Quantity Units Interview Unit Price Extension Description Supplemental Description Total for Group 0063: \$0.00 Group 0064: Portable Concrete Barrier (PCB) 0226: S-MC-MINTC \$0.0000 \$0.00 0226: S-MC-MINTC 1.00 LS \$0.00000 \$0.00 Group 0065: Impact Attenuators \$0.00000 \$0.00 0227: S-MC-MINTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 Group 0066: Sheeting 0229: S-MC-MINTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 Group 0066: Sheeting 0229: S-MC-MINTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 Group 0067: Temporary Signals \$0.0000 \$0.00 0230: S-MC-MINTC 0.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.0000 \$0.00 Group 0068: Work Zone Lighting 0231: S-MC-MINTC 0.00 LS \$0.000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.0000
Group 0064: Portable Concrete Barrier (PCB) \$0.0000 \$0.000 0226 S-MC-MNTC 1.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.0000 Total for Group 0064: \$0.00 Group 0065: Impact Attenuators \$0.0000 \$0.00 \$0.00 0227 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.0000 \$0.00 \$0.00 0229 S-MC-MNTC 1.00 LS \$0.0000 \$0.00 Group 0066: Sheeting \$0.000 \$0.000 \$0.00 \$0.00 \$0.00 0229 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 Group 0066: Sheeting \$0.000 LS \$0.0000 \$0.00 \$0.00 Group 0067: Temporary Signals \$0.0000 \$0.00 \$0.00 Group 0068: Work Zone Lighting \$0.000 LS \$0.0000 \$0.00 0231 S-MC-MNTC 0.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.0000 \$0.00 <t< td=""></t<>
Group 0064: Portable Concrete Barrier (PCB) \$0.00000 \$0.00 0226 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 Group 0065: Impact Attenuators Total for Group 0064: \$0.00 0227 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 \$0.00 Group 0066: Sheeting \$0.00000 \$0.00 \$0.00 \$0.00 0229 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 Group 0066: Sheeting \$0.00000 \$0.00 Total for Group 0066: \$0.00 Group 0067: Temporary Signals \$0.00000 \$0.00 \$0.00 Group 0068: Work Zone Lighting \$0.000 LS \$0.00000 \$0.00 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 \$0.00 0231 S-MC-MNTC 0.00 LS \$0.000
0226S-MC-MNTC1.00LS\$0.0000\$0.00Group 0065: Impact AttenuatorsTotal for Group 0064:\$0.000227S-MC-MNTC1.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFICTotal for Group 0065:\$0.000229S-MC-MNTC1.00LS\$0.00000\$0.000229S-MC-MNTC1.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFICTotal for Group 0066:\$0.000230S-MC-MNTC0.00LS\$0.00000\$0.00Group 0067: Temporary SignalsTotal for Group 0067:\$0.00\$0.000230S-MC-MNTC0.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFICTotal for Group 0067:\$0.00Group 0068: Work Zone Lighting0231S-MC-MNTC0.00LS0231S-MC-MNTC0.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFICTotal for Group 0068:\$0.00Group 0069: Innovative Contracting Incentatives\$0.00000\$0.000232S-MC-MNTC0.00LS\$0.00000\$0.00Group 0069: Innovative Contracting Incentatives\$0.00000\$0.00\$0.000232S-MC-MNTC0.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFICTotal for Group 0068:\$0.000232S-MC-MNTC0.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFICTota
Image: Cost Drivers, Maintenance of TRAFFIC Total for Group 0064: \$0.00 Group 0065: Impact Attenuators \$0.0000 0227 S-MC-MNTC 1.00 LS \$0.0000 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0065: \$0.00 Group 0066: Sheeting \$0.00000 \$0.00 0229 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0066: \$0.00 \$0.00 Group 0067: Temporary Signals \$0.00000 \$0.00 0230 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0066: \$0.00 \$0.00 Group 0067: Temporary Signals \$0.00000 \$0.00 0230 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 \$0.00 Group 0068: Work Zone Lighting \$0.00000 \$0.00 \$0.00 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 Group 0069: Innovative Contracting Incentatives \$0.000 \$0.00 0232
Group 0065: Impact Attenuators 0227 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0065: \$0.00 Good \$0.00000 \$0.000 Group 0066: Sheeting \$0.00000 \$0.000 \$0.000 \$0.000 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.000 \$0.000 Group 0067: Temporary Signals \$0.00000 \$0.000 \$0.000 Group 0068: Work Zone Lighting \$0.00000 \$0.000 \$0.000 0231< S-MC-MNTC
0227S-MC-MNTC1.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFICTotal for Group 0065:\$0.00Group 0066: Sheeting0229S-MC-MNTC1.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC\$0.00000\$0.00Total for Group 0066:\$0.00Group 0067: Temporary Signals0230S-MC-MNTC0.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFICTotal for Group 0067:\$0.00\$0.00Group 0068: Work Zone Lighting0231S-MC-MNTC0.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC\$0.00000\$0.00\$0.00\$0.00Group 0068: Work Zone Lighting0231S-MC-MNTC0.00LS\$0.00000\$0.00Group 0069: Innovative Contracting Incentatives\$0.00000\$0.00\$0.00\$0.00\$0.00Group 0069: Innovative Contracting Incentatives\$0.00000\$0.00\$0.00\$0.000232S-MC-MNTC0.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFICTotal for Group 0068:\$0.000232S-MC-MNTC0.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFICTotal for Group 0069:\$0.00
Group 0066: Sheeting Total for Group 0065: \$0.00 0229 S-MC-MNTC 1.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 Group 0067: Temporary Signals Total for Group 0066: \$0.00 0230 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 Group 0067: Temporary Signals Total for Group 0066: \$0.00 \$0.00 Group 0068: Work Zone Lighting \$0.000 LS \$0.00000 \$0.00 Group 0068: Work Zone Lighting \$0.000 LS \$0.00000 \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 \$0.00 \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 \$0.00 \$0.00 0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 \$0.00 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00
Group 0066: Sheeting 0229 S-MC-MNTC 1.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 Total for Group 0066: \$0.00 Group 0067: Temporary Signals \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC 0230 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 Total for Group 0067: \$0.00 Group 0068: Work Zone Lighting 0231 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 \$0.00 Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 \$0.00 Total for Group 0068: \$0.00
0229 S-MC-MNTC 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0066: \$0.00 Group 0067: Temporary Signals 0230 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0066: \$0.00 \$0.00 Group 0068: Work Zone Lighting 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 Group 0068: Work Zone Lighting 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 \$0.00 Group 0068: Work Zone Lighting 0231 S-MC-MNTC 0.00 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 \$0.00 0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00
MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0066: \$0.00 Group 0067: Temporary Signals \$0.000 LS 0230 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 Group 0068: Work Zone Lighting 0231 S-MC-MNTC 0231 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 Group 0068: Work Zone Lighting \$0.000 LS 0231 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 0232 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 Total for Group 0069: Innovative Contracting Incentatives \$0.0000 0232 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 Total for Group 0069: \$0.00 \$0.00
Group 0067: Temporary Signals ⁰²³⁰ S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 Group 0068: Work Zone Lighting ⁰²³¹ S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives ⁰²³² S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Total for Group 0069: \$0.00
Group 0067: Temporary Signals 0230 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 Group 0068: Work Zone Lighting 0.00 LS \$0.00000 \$0.00 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 \$0.00 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 \$0.00 \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00000 \$0.00 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00
0230 S-MC-MNTC 0.00 LS \$0.0000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0067: \$0.00 Group 0068: Work Zone Lighting 0.00 LS \$0.00000 \$0.00 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives Total for Group 0068: \$0.00 0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00
Group 0068: Work Zone Lighting Total for Group 0067: \$0.00 0231 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 Group 0069: Innovative Contracting Incentatives Total for Group 0068: \$0.00 0232 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC \$0.00000 Total for Group 0069: Innovative Contracting Incentatives Total for Group 0068: \$0.00 O232 S-MC-MNTC 0.00 LS MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00
Group 0068: Work Zone Lighting 0.00 LS \$0.00000 \$0.00 0231 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives \$0.00 LS \$0.00000 \$0.00 0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00
0231S-MC-MNTC0.00LS\$0.0000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFICTotal for Group 0068:\$0.00Group 0069: Innovative Contracting Incentatives0232S-MC-MNTC0.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC\$0.00000\$0.00\$0.00Total for Group 0069: \$0.00
MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0068: \$0.00 Group 0069: Innovative Contracting Incentatives 0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00 \$0.00 \$0.00
Group 0069: Innovative Contracting Incentatives 0232 S-MC-MNTC 0.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00
0232S-MC-MNTC0.00LS\$0.00000\$0.00MAJOR COST DRIVERS, MAINTENANCE OF TRAFFICTotal for Group 0069:\$0.00
MAJOR COST DRIVERS, MAINTENANCE OF TRAFFIC Total for Group 0069: \$0.00
Group 0070: Other MOT Costs
0233 S-OC-MNTC 1.00 LS \$0.00000 \$0.00 OTHER COSTS, MAINTENANCE OF TRAFFIC
0512 S-OC-MNTC 0.81 MILE \$500,000.00000 \$405,000.00 OTHER COSTS, MAINTENANCE OF TRAFFIC \$500,000.00000 \$405,000.00
Total for Group 0070: \$405,000.00
Group 0071: Wetland Construction
0234 T-MC-WTLD 0.00 LS \$0.00000 \$0.00
MAJOR COST DRIVERS, WETLAND CONSTRUCTION0360 T-MC-WTLD0.00 LS\$0.00000\$0.00
MAJOR COST DRIVERS, WETLAND CONSTRUCTION Total for Group 0071: \$0.00

Group 0072: Misc. Costs

Estimate: Alt I OH cont 6				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension
0235 U-MC-MISC MAJOR COST DRIVERS, MISCELI	0.00 ANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOU	0.00 S COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILRO LIABILITY INSURANCE	0.00 ADS' PROTECTI	LS /E PUBL	\$10,000.00000 IC LIABILITY AND PROPERT	Y DAMAGE \$0.00
0238 623E10000 CONSTRUCTION LAYOUT STAKE 0.5%	1.00 S	LS	\$117,719.18000	\$117,719.18
0239 619E16020 FIELD OFFICE, TYPE C	44.00	MNTH	\$2,500.00000	\$110,000.00
0240 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$470,876.72000	\$470,876.72
0242 624E10000 MOBILIZATION	1.00	LS	\$800,000.00000	\$800,000.00
0511 103E05000 PREMIUM FOR CONTRACT PERF 0.5%	1.00 ORMANCE BON	LS D AND F	\$117,719.18000 OR PAYMENT BOND	\$117,719.18
			Total for Group	0072: \$1,616,315.08
Group 0073: Design Continge	ency Costs			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTIN 25%	1.00 GENCY COSTS	LS	\$6,290,037.71000	\$6,290,037.71
0244 V-OC-CNTG OTHER COSTS CONTINGENCY (1.00 COSTS	LS	\$0.00000	\$0.00
			Total for Group	0073: \$6,290,037.71
Group 0074: Inflation Conting	ency			
0266 V-OC-CNTG OTHER COSTS CONTINGENCY (0.00	LS	\$0.00000	\$0.00
			Total fo	or Group 0074: \$0.00

Estimate Alt I OH cont 7

Estimated Cost: \$373,074,847.21 Contingency: 57.60% Estimated Total: \$587,965,959.20

OH-7 Reconstruction from the new bridge over the Ohio to north of Linn St. Base Date: 07/22/10 Spec Year: 10 Unit System: E Work Type: GEN CONST: INVLVS 2 OR MOR MAJ WRK TYPE Highway Type: 451 Urban/Rural Type: URBAN CLASS Season: SUMMER County: HAMILTON Midpoint of Latitude: Midpoint of Longitude: District: 8 Federal/State Project Number: Estimate Type: C1 Prepared by Parsons Brinckerhoff on 07/22/10

Estimate: Alt I OH cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	Extension
Group 0001: Pavement Remova	al			
	0.00	LS	\$0.00000	\$0.00
0343 202E23000	117,932.00	SY	\$8.00000	\$943,456.00
PAVEMENT REMOVED			Total for Group 0001:	\$943,456.00
Group 0002: Excavation - Rock	0.00		# 00.0000	1 0.00
0003 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	0.00	CY	\$30.00000	\$0.00
			Total for Group	0002: \$0.00
Group 0003: Excavation - Soil				
0004 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0344 203E10000	453,980.00	CY	\$8.00000	\$3,631,840.00
EXCAVATION			Total for Group 0003: \$	3,631,840.00
Croup 0004: Exponetion Hoza	rdouo			
0006 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, ROADWAY			Total for Group	0004: \$0.00
				0004. φ0.00
Group 0005: Fill - Embankment	(includes	wasting	excess excavation)	
0007 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0345 203E20000 EMBANKMENT	453,980.00	CY	\$6.00000	\$2,723,880.00
			Total for Group 0005: \$	2,723,880.00
Group 0006: Fill - Lime Modified	l Soil			
0010 A-MC-RDWY	1.00	LS	\$0.00000	\$0.00
0346 205E10050	0.00	CY	\$7.00000	\$0.00
LIME STABILIZED EMBANKMENT 0347 205E10300	0.00	TON	\$5.00000	\$0.00
LIME			Total for Group	0006: \$0.00
			•	·
	0.00	CY	\$8,0000	\$0.00
MAJOR COST DRIVERS, ROADWAY	0.00	01	Tatal fan Oneun	
			i otal for Group	0007: \$0.00
Group 0008: Concrete Barrier				
0012 A-MC-RDWY MAJOR COST DRIVERS, ROADWAY	1.00	LS	\$0.00000	\$0.00
0465 622E10060	22,439.00	FT	\$110.00000	\$2,468,290.00
0.13.09AIVI Wadaaaday Dacambar 01, 2010				Dage 2 of 12

Line # tem Number Quantity Units Unit Price Extension Description Supplemental Description Total for Group 0008: \$2,468,290.00 CONCRETE BARRIER, SINGLE SLOPE, TYPE B Total for Group 0008: \$2,468,290.00 \$0.00 Group 0009: Subgrade Treatment - Lime Total for Group 0008: \$2,468,290.00 \$0.00 0344 A-MC-RDWY 1.00 LS \$0.00000 \$0.00 0349 20E1000 0.00 SY \$1.85000 \$0.00 0349 20E1000 0.00 SY \$1.00000 \$0.00 0349 20E1000 0.00 SY \$1.00000 \$0.00 0349 20E1000 0.00 SY \$1.00000 \$0.00 0350 20E1000 0.00 SY \$1.00000 \$0.00 0351 Supplemental Cement Contention \$0.00 \$0.00 0516 A-MC-RDWY 155,020.00 SY \$2.50000 \$387,550.00 Group 0011: Subgrade Treatment - Undercut & Backfill \$017 A-MC-RDWY \$0.00 \$0.00	Estimate: Alt I OH cont 7				PB Americas, Inc.
Total for Group 0008: \$2,468,290.00 Group 0009: Subgrade Treatment - Lime 0014 A-MC-RDWY 1.00 LS \$0.0000 \$0.00 0348 206E10000 0.00 SY \$1.85000 \$0.00 0349 206E10000 0.00 SY \$1.85000 \$0.00 0349 206E10300 0.00 TON \$10.00000 \$0.00 0349 206E10300 0.00 SY \$1.00000 \$0.00 0349 206E10300 0.00 HOUR \$4.00000 \$0.00 0341 206E20050 0.00 HOUR \$4.00000 \$0.00 Group 0010: Subgrade Treatment - Cernent 016 A-MC-RDWY \$15.02.00 SY \$2.50000 \$387,550.00 Group 0011: Subgrade Treatment - Undercut & Backfill 017 Total for Group 0011: \$30.00 \$0.00 017 A-MC-RDWY 1.00 LS \$0.00000 \$0.00 016 A-MC-RDWY 0.00 LS \$0.00000 \$0.00 017	Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
Group 0009: Subgrade Treatment - Lime 0014 A-MC-RDWY 1.00 LS \$0.0000 \$0.00 0348 206E10000 0.00 SY \$1.85000 \$0.00 0348 206E10300 0.00 TON \$10.00000 \$0.00 0349 206E10300 0.00 TON \$10.00000 \$0.00 0350 206E11000 0.00 SY \$1.00000 \$0.00 CURING COAT 0.00 HOUR \$4.00000 \$0.00 CURING COAT 155.020.00 SY \$2.50000 \$387,550.00 Group 0010: Subgrade Treatment - Cement 016 A.MC-RDWY 155.020.00 SY \$2.50000 \$387,550.00 Group 0011: Subgrade Treatment - Undercut & Backfill 0017 A.MC-RDWY 1.00 LS \$0.00000 \$0.00 MAJOR COST BRIVERS, ROADWAY 0.00 LS \$0.0000 \$0.00 \$0.00 OTHER COSTS, ROADWAY 0.00 LS \$0.0000 \$0.00 \$0.00 OTHER COSTS, ROADWAY 0.00 </td <td>CONCRETE BARRIER, SINGLE SL</td> <td>OPE, TYPE B</td> <td></td> <td>Total for Group 0008:</td> <td>\$2,468,290.00</td>	CONCRETE BARRIER, SINGLE SL	OPE, TYPE B		Total for Group 0008:	\$2,468,290.00
0014 A.MC-ROWY 1.00 LS \$0.00000 \$0.00 0348 206E10000 0.00 SY \$1.65000 \$0.00 0348 206E10300 0.00 SY \$1.65000 \$0.00 0349 206E10300 0.00 SY \$1.00000 \$0.00 0350 206E10300 0.00 SY \$1.00000 \$0.00 0351 206E20000 0.00 HOUR \$4.00000 \$0.00 0351 206E20000 0.00 HOUR \$4.00000 \$0.00 Group 0010: Subgrade Treatment - Cement 0016 A-MC-RDWY 155,020.00 SY \$2.50000 \$387,550.00 Group 0011: Subgrade Treatment - Undercut & Backfill 0017 A-MC-RDWY 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, ROADWAY 1.00 LS \$0.00000 \$0.00 \$0.00 Group 0012: Other Roadway Costs 0.00 LS \$0.000000 \$0.00 0019 A-OC-ROWY 0.00	Group 0009: Subgrade Treatr	ment - Lime			
0348 208E10000 SY \$1.85000 \$0.00 0140 STABILIZED SUBGRADE 0.00 TON \$10.00000 \$0.00 0350 208E10300 0.00 TON \$10.00000 \$0.00 0351 208E10300 0.00 HOUR \$4.00000 \$0.00 0351 208E20000 0.00 HOUR \$4.00000 \$0.00 0351 208E20000 0.00 HOUR \$4.00000 \$0.00 0351 208E20000 0.00 SY \$2.5000 \$387.550.00 Group 0010: Subgrade Treatment - Cement 0016 A.MC-RDWY 155,020.00 SY \$2.50000 \$387,550.00 Group 0011: Subgrade Treatment - Undercut & Backfill 0017 A.MC-RDWY 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, ROADWAY 0.00 LS \$0.000000 \$0.00 \$0.00 O119 A-OC-RDWY 0.00 LS \$0.000000 \$0.00 \$0.00 O121 20121 20121 <td>0014 A-MC-RDWY MAJOR COST DRIVERS_ROADW</td> <td>1.00 AY</td> <td>LS</td> <td>\$0.00000</td> <td>\$0.00</td>	0014 A-MC-RDWY MAJOR COST DRIVERS_ROADW	1.00 AY	LS	\$0.00000	\$0.00
Order Overlag Overlag Overlag Stondown S	0348 206E10000	0.00	SY	\$1.85000	\$0.00
Data Description 0.00 SY \$1.00000 \$0.00 CURING COAT 0.00 HOUR \$4.00000 \$0.00 Total for Group 0009: \$0.00 Total for Group 0009: \$0.00 Group 0010: Subgrade Treatment - Cement 0016	0349 206E10300	0.00	TON	\$10.00000	\$0.00
CONTING CONT CONT S4.0000 \$0.00 TEST ROLLING Total for Group 0009: \$0.00 Group 0010: Subgrade Treatment - Cement Total for Group 0009: \$0.00 0016 A-MC-RDWY 155,020.00 SY \$2.50000 \$387,550.00 MAJOR COST DRIVERS, ROADWAY Total for Group 0010: \$387,550.00 Group 0011: \$0.00 \$0.00 Group 0011: Subgrade Treatment - Undercut & Backfill 0017 A-MC-RDWY 1.00 LS \$0.00000 \$0.00 Group 0012: Other Roadway Costs 0019 A-OC-RDWY 0.00 LS \$0.000000 \$0.00 OTHER COSTS, ROADWAY 0.00 LS \$0.000000 \$0.00 Cortingency 0.00 LS \$866,500.00000 \$0.00 O022 201216100 0.00 EACH \$250.00000 \$0.00 TREE REMOVED, 18' SIZE 0.00 EACH \$405.0000 \$0.00 TREE REMOVED, 30' SIZE 0.00 EACH \$772.00000 \$0.00 0023 20122420 0.00 FT <td>0350 206E11000</td> <td>0.00</td> <td>SY</td> <td>\$1.00000</td> <td>\$0.00</td>	0350 206E11000	0.00	SY	\$1.00000	\$0.00
Total for Group 0009: \$0.00 Group 0010: Subgrade Treatment - Cement 0016 A-MC-RDWY 155,020.00 SY \$2.50000 \$387,550.00 Total for Group 0010: \$387,550.00 Group 0011: Subgrade Treatment - Undercut & Backfill 0017 A-MC-RDWY 1.00 LS \$0.00000 \$0.00 MaJOR COST DRIVERS, ROADWAY 1.00 LS \$0.00000 \$0.00 MaJOR COST DRIVERS, ROADWAY 1.00 LS \$0.00000 \$0.00 MaJOR COST, ROADWAY 0.00 LS \$0.00000 \$0.00 OTHER COSTS, ROADWAY 0.00 LS \$0.00000 \$0.00 OD12 20161100 0.00 LS \$856,500,00000 \$0.00 O021 201621800 0.00 EACH \$250,0000 \$0.00 TREE REMOVED, 18" SIZE 0.00 EACH \$772,0000 \$0.00 TREE REMOVED, 30" SIZE 0.00 FT \$0.00000 \$0.00 0023 20124000 0.00 FT \$0.000 <t< td=""><td>0351 206E20000</td><td>0.00</td><td>HOUR</td><td>\$4.00000</td><td>\$0.00</td></t<>	0351 206E20000	0.00	HOUR	\$4.00000	\$0.00
Group 0010: Subgrade Treatment - Cement 0016 A.MC-RDWY 155,020.00 SY \$2.50000 \$387,550.00 Total for Group 0010: \$387,550.00 Group 0011: Subgrade Treatment - Undercut & Backfill 0017 A-MC-RDWY 1.00 LS \$0.000000000 \$0.00 MAJOR COST DRIVERS, ROADWAY Total for Group 0011: \$0.00 Group 0012: Other Roadway Costs Other Roadway Costs 0020 201E11000 0.00 LS \$0.00000 \$0.00 Other Roadway Costs 0020 201E11000 0.00 LS \$856,500.00000 \$0.00 Contingency 0020 201E11000 0.00 EACH \$250.00000 \$0.00 TREE REMOVED, 18' SIZE 0022 201E300 0.00 EACH \$405.00000 \$0.00 TRUE REMOVED, 30' SIZE 0022 201E3400 0.00 FT \$0.00000 \$0.00 Other Removed 0.00	TEST ROLLING			Total for Gro	up 0009: \$0.00
Oto Bay State Houring for the content 0016 A.MC-RDWY 155,020.00 SY \$2.5000 \$387,550.00 Total for Group 0010: \$387,550.00 Group 0011: Subgrade Treatment - Undercut & Backfill 0017 A-MC-RDWY 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, ROADWAY 1.00 LS \$0.00000 \$0.00 Group 0012: Other Roadway Costs 0.00 LS \$0.00000 \$0.00 OTHER COSTS, ROADWAY 0.00 LS \$0.00000 \$0.00 Contingency 0202 201E11000 0.00 LS \$856,500.00000 \$0.00 0022 201E3100 0.00 EACH \$250.0000 \$0.00 022 201E3100 0.00 EACH \$405.00000 \$0.00 022 201E3100 0.00 EACH \$405.00000 \$0.00 022 201E3400 0.00 EACH \$405.00000 \$0.00 022 201E300 0.00 EACH \$405.00000 <td>Group 0010: Subgrade Treatr</td> <td>nent - Ceme</td> <td>nt</td> <td></td> <td></td>	Group 0010: Subgrade Treatr	nent - Ceme	nt		
Major Cost DRIVERS, ROADWAY Total for Group 0010: \$387,550.00 Group 0011: Subgrade Treatment - Undercut & Backfill 0017 A-MC-RDWY 1.00 LS \$0.00000 \$0.00 Major Cost DRIVERS, ROADWAY 1.00 LS \$0.00000 \$0.00 Group 0012: Other Roadway Costs 019 A-OC-RDWY 0.00 LS \$0.00000 \$0.00	0016 A-MC-RDWY	155,020.00	SY	\$2.50000	\$387,550.00
Group 0011: Subgrade Treatment - Undercut & Backfill 017 A-MC-RDWY 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, ROADWAY 1.00 LS \$0.00000 \$0.00 Total for Group 0011: \$0.00 Group 0012: Other Roadway Costs 0.00 LS \$0.00000 \$0.00 OTHER COSTS, ROADWAY 0.00 LS \$0.00000 \$0.00 OTHER COSTS, ROADWAY 0.00 LS \$0.00000 \$0.00 Cantingency 0.00 LS \$856,500.00000 \$0.00 OU21 201E21800 0.00 EACH \$250.00000 \$0.00 TREE REMOVED, 18" SIZE 0.00 EACH \$405.00000 \$0.00 0022 201E24800 0.00 EACH \$772.00000 \$0.00 0023 201E24400 0.00 LS \$9,310.13000 \$0.00 0028 202E35200 0.00 FT \$0.000000 \$0.00 Grave ERMOVED, OVER 24" 0.00 FT \$0.000000 \$0.00	MAJOR COST DRIVERS, ROADW	ΑY		Total for Group 001	0: \$387.550.00
Group U011: Subgrade Treatment - Undercut & Backhill 0017 A-MC-RDWY 1.00 LS \$0.00000 \$0.00 MAJOR COST DRIVERS, ROADWAY 1.00 LS \$0.00000 \$0.00 Total for Group 0011: \$0.00 Group 0012: Other Roadway Costs 0.00 LS \$0.00000 \$0.00 OTHER COSTS, ROADWAY 0.00 LS \$0.00000 \$0.00 O202 021611000 0.00 LS \$856,500.0000 \$0.00 Clearning and Grubbing 0.00 EACH \$250.0000 \$0.00 0022 201623000 0.00 EACH \$405.0000 \$0.00 TREE REMOVED, 18" SIZE 0.00 EACH \$772.0000 \$0.00 0023 201624800 0.00 LS \$9,310.13000 \$0.00 TREE REMOVED, 48" SIZE 0.00 FT \$0.0000 \$0.00 0028 202253000 0.00 FT \$0.000 \$0.00 0028 202243205 0.00 FT \$0.0000 \$0.00 0031 202242206 <	One of the Oak and the Transfer	a sat dha da			
OUT THOUSERS, ROADWAY Total for Group 0011: \$0.000 \$0.00 Group 0012: Other Roadway Costs 0019 A-OC-RDWY 0.00 LS \$0.00000 \$0.00 OTHER COSTS, ROADWAY 0.00 LS \$0.00000 \$0.00 OD19 A-OC-RDWY 0.00 LS \$0.00000 \$0.00 OTHER COSTS, ROADWAY 0.00 LS \$856,500.00000 \$0.00 O020 201E21800 0.00 EACH \$250.0000 \$0.00 TREE REMOVED, 18' SIZE 0.00 EACH \$405.00000 \$0.00 TREE REMOVED, 30'' SIZE 0.00 EACH \$405.00000 \$0.00 0022 201E2300 0.00 EACH \$405.00000 \$0.00 TREE REMOVED, 30'' SIZE 0.00 EACH \$772.0000 \$0.00 0028 202E3520 0.00 FT \$0.00000 \$0.00 STRUCTURE REMOVED 0.00 FT \$0.00000 \$0.00 0031 202E3800 0.00 FT \$0.000				Backtill ¢0 00000	00.02
Iotal for Group 0011: \$0.00 Group 0012: Other Roadway Costs 0019 A-OC-RDWY 0.00 LS \$0.00000 \$0.00 OTHER COSTS, ROADWAY 0.00 LS \$0.00000 \$0.00 0020 201E11000 0.00 LS \$856,500.00000 \$0.00 0021 201E21800 0.00 EACH \$250.00000 \$0.00 TREE REMOVED, 18" SIZE 0.00 EACH \$405.00000 \$0.00 022 201E24800 0.00 EACH \$405.00000 \$0.00 TREE REMOVED, 30" SIZE 0026 202E11000 \$0.00 EACH \$772.00000 \$0.00 TREE REMOVED, 48" SIZE 0026 202E13200 \$0.00 FT \$0.00000 \$0.00 O026 202E3200 0.00 FT \$0.00000 \$0.00 PIPE REMOVED, OVER 24" 000 FT \$0.00000 \$0.00 0028 202E3800 0.00 FT \$0.00000 \$0.00 0031 202E42206 <t< td=""><td>MAJOR COST DRIVERS, ROADWA</td><td>4Y</td><td>LO</td><td>φ0.00000 Τ () () Ο</td><td>\$0.00</td></t<>	MAJOR COST DRIVERS, ROADWA	4Y	LO	φ0.00000 Τ () () Ο	\$0.00
Group 0012: Other Roadway Costs 0019 A-OC-RDWY 0.00 LS \$0.00000 \$0.00 OTHER COSTS, ROADWAY 0.00 LS \$0.00000 \$0.00 0020 201E11000 0.00 LS \$856,500.00000 \$0.00 0021 201E21800 0.00 EACH \$250.0000 \$0.00 0021 201E21800 0.00 EACH \$250.0000 \$0.00 0022 201E3000 0.00 EACH \$250.0000 \$0.00 0023 201E24800 0.00 EACH \$772.0000 \$0.00 TREE REMOVED, 48" SIZE 0.00 EACH \$772.0000 \$0.00 0024 202E1100 0.00 LS \$9,310.13000 \$0.00 STRUCTURE REMOVED 0.00 FT \$0.00000 \$0.00 \$0.00 0029 202E38000 0.00 FT \$0.00000 \$0.00 0032 202E42206 0.00 EACH \$0.00000 \$0.00 0031 <td< td=""><td></td><td></td><td></td><td>I otal for Gro</td><td>up 0011: \$0.00</td></td<>				I otal for Gro	up 0011: \$0.00
0019 A-OC-RDWY 0.00 LS \$0.00000 \$0.00 OTHER COSTS, ROADWAY 0.00 LS \$856,500.0000 \$0.00 0020 201E11000 0.00 LS \$856,500.0000 \$0.00 CLEARING AND GRUBBING 0.00 EACH \$250.0000 \$0.00 0021 201E21800 0.00 EACH \$250.0000 \$0.00 TREE REMOVED, 18" SIZE 0.00 EACH \$405.0000 \$0.00 0023 201E24800 0.00 EACH \$772.0000 \$0.00 TREE REMOVED, 48" SIZE 0.00 EACH \$772.0000 \$0.00 0026 202E11000 0.00 LS \$9,310.13000 \$0.00 STRUCTURE REMOVED 0.00 FT \$0.00000 \$0.00 \$0.00 0029 202E35200 0.00 FT \$0.00000 \$0.00 \$0.00 0029 202E38000 0.00 FT \$0.00000 \$0.00 \$0.00 0031 202E4206 0.00	Group 0012: Other Roadway	Costs			
0020 201E11000 0.00 LS \$856,500.00000 \$0.00 CLEARING AND GRUBBING 0.00 EACH \$250.0000 \$0.00 0021 201E21800 0.00 EACH \$250.0000 \$0.00 TREE REMOVED, 18" SIZE 0.00 EACH \$405.00000 \$0.00 0023 201E24800 0.00 EACH \$772.0000 \$0.00 TREE REMOVED, 48" SIZE 0.00 LS \$9,310.13000 \$0.00 0028 202E35200 0.00 FT \$0.00000 \$0.00 OU29 202E38000 0.00 FT \$0.00000 \$0.00 0030 202E42206 0.00 EACH \$0.00000 \$0.00 0030 202E42206 0.00 FT \$0.00000 \$0.00 0031 202E58000 0.00 EACH \$0.00000 \$0.00 0032 202E58100 0.00 EACH \$0.00000 \$0.00 0032 202E58100 0.00 EACH \$0.00000	0019 A-OC-RDWY OTHER COSTS, ROADWAY Contingency	0.00	LS	\$0.00000	\$0.00
OLL: ONDO ONDO EACH \$250.0000 \$0.00 TREE REMOVED, 18" SIZE 0.00 EACH \$405.0000 \$0.00 TREE REMOVED, 30" SIZE 0.00 EACH \$405.0000 \$0.00 0023 201E24800 0.00 EACH \$772.0000 \$0.00 TREE REMOVED, 48" SIZE 0.00 EACH \$772.0000 \$0.00 0026 202E11000 0.00 LS \$9,310.13000 \$0.00 STRUCTURE REMOVED, 48" SIZE 0.00 FT \$0.00000 \$0.00 \$0.00 0028 202E35200 0.00 FT \$0.00000 \$0.00 PIPE REMOVED, OVER 24" 0.00 FT \$0.00000 \$0.00 0030 202E42206 0.00 EACH \$0.000000 \$0.00 ANCHOR ASSEMBLY REMOVED 0.00 EACH \$0.000000 \$0.00 0031 202E42206 0.00 EACH \$0.000000 \$0.00 0032 202E458000 0.00 EACH \$0.000	0020 201E11000 CLEARING AND GRUBBING	0.00	LS	\$856,500.00000	\$0.00
INCLE (REMOVED, 10 SIZE 0.00 EACH \$405.0000 \$0.00 0022 201E23000 0.00 EACH \$405.0000 \$0.00 TREE REMOVED, 30" SIZE 0.00 EACH \$772.00000 \$0.00 TREE REMOVED, 48" SIZE 0.00 LS \$9,310.13000 \$0.00 O026 202E11000 0.00 LS \$9,310.13000 \$0.00 STRUCTURE REMOVED 0.00 FT \$0.00000 \$0.00 PIPE REMOVED, OVER 24" 0.00 FT \$0.00000 \$0.00 O029 202E38000 0.00 FT \$0.00000 \$0.00 GUARDRAIL REMOVED 0.00 EACH \$0.00000 \$0.00 O030 202E42206 0.00 EACH \$0.00000 \$0.00 ANCHOR ASSEMBLY REMOVED 0.00 EACH \$0.00000 \$0.00 0031 202E58000 0.00 EACH \$0.00000 \$0.00 MANHOLE REMOVED 0.00 EACH \$0.00000 \$0.00 0032 202E58100 0.00 FT \$0.00000 \$0.00 0033 202E75000 0.00 FT \$0.00000 \$0.00 FENCE REMOVED 0.00 HOUR \$126.59000 <td>0021 201E21800 TREE REMOVED 18" SIZE</td> <td>0.00</td> <td>EACH</td> <td>\$250.00000</td> <td>\$0.00</td>	0021 201E21800 TREE REMOVED 18" SIZE	0.00	EACH	\$250.00000	\$0.00
INCEE REMOVED, 30 SIZE 0.00 EACH \$772.00000 \$0.00 TREE REMOVED, 48" SIZE 0.00 LS \$9,310.13000 \$0.00 0026 202E11000 0.00 LS \$9,310.13000 \$0.00 0028 202E35200 0.00 FT \$0.00000 \$0.00 0029 202E38000 0.00 FT \$0.00000 \$0.00 GUARDRAIL REMOVED 0.00 FT \$0.00000 \$0.00 0030 202E42206 0.00 EACH \$0.00000 \$0.00 ANCHOR ASSEMBLY REMOVED 0.00 EACH \$0.00000 \$0.00 0031 202E58000 0.00 EACH \$0.00000 \$0.00 MANHOLE REMOVED 0.00 EACH \$0.00000 \$0.00 \$0.00 0032 202E58100 0.00 EACH \$0.00000 \$0.00 \$0.00 0033 202E75000 0.00 FT \$0.00000 \$0.00 \$0.00 0034 204E45000 0.00 HOUR	0022 201E23000	0.00	EACH	\$405.00000	\$0.00
INEE REMOVED, 48 SIZE 0026 202E11000 0.00 LS \$9,310.13000 \$0.00 STRUCTURE REMOVED 0.00 FT \$0.00000 \$0.00 PIPE REMOVED, OVER 24" 0029 202E38000 0.00 FT \$0.00000 \$0.00 GUARDRAIL REMOVED 0.00 FT \$0.00000 \$0.00 \$0.00 GUARDRASEMBLY REMOVED 0.00 EACH \$0.00000 \$0.00 0031 202E58000 0.00 EACH \$0.00000 \$0.00 0032 202E58100 0.00 EACH \$0.00000 \$0.00 0033 202E75000 0.00 FT \$0.00000 \$0.00 0033 202E75000 0.00 FT \$0.00000 \$0.00 FENCE REMOVED 0.00 FT \$0.00000 \$0.00 034 204E45000 0.00 HOUR \$126.59000 \$0.00	0023 201E24800	0.00	EACH	\$772.00000	\$0.00
STRUCTURE REMOVED 0.00 FT \$0.00000 \$0.00 \$0.00 PIPE REMOVED, OVER 24" \$0.00	0026 202E11000	0.00	LS	\$9,310.13000	\$0.00
PIPE REMOVED, OVER 24" 0029 202E38000 0.00 FT \$0.00000 \$0.00 GUARDRAIL REMOVED 0.00 EACH \$0.00000 \$0.00 0031 202E58000 0.00 EACH \$0.00000 \$0.00 0031 202E58000 0.00 EACH \$0.00000 \$0.00 0032 202E58100 0.00 EACH \$0.00000 \$0.00 0032 202E58100 0.00 EACH \$0.00000 \$0.00 0033 202E75000 0.00 FT \$0.00000 \$0.00 0034 204E45000 0.00 HOUR \$126.59000 \$0.00	0028 202E35200	0.00	FT	\$0.00000	\$0.00
GOARDRAIL REMOVED 0.00 EACH \$0.00000 \$0.00 ANCHOR ASSEMBLY REMOVED 0.00 EACH \$0.00000 \$0.00 0031 202E58000 0.00 EACH \$0.00000 \$0.00 0032 202E58100 0.00 EACH \$0.00000 \$0.00 0032 202E58100 0.00 EACH \$0.00000 \$0.00 CATCH BASIN REMOVED 0.00 FT \$0.00000 \$0.00 0033 202E75000 0.00 FT \$0.00000 \$0.00 0034 204E45000 0.00 HOUR \$126.59000 \$0.00	0029 202E38000	0.00	FT	\$0.00000	\$0.00
ANCHOR ASSEMBLY REMOVED 0.00 EACH \$0.00000 \$0.00 MANHOLE REMOVED 0.00 EACH \$0.00000 \$0.00 0032 202E58100 0.00 EACH \$0.00000 \$0.00 CATCH BASIN REMOVED 0.00 FT \$0.00000 \$0.00 FENCE REMOVED 0.00 HOUR \$126.59000 \$0.00	0030 202E42206	0.00	EACH	\$0.00000	\$0.00
MANHOLE REMOVED 0.00 EACH \$0.00000 \$0.00	ANCHOR ASSEMBLY REMOVED 0031 202E58000	0.00	EACH	\$0.00000	\$0.00
CATCH BASIN REMOVED 0.00 FT \$0.00000 \$0.00 <td>MANHOLE REMOVED 0032 202E58100</td> <td>0.00</td> <td>EACH</td> <td>\$0.00000</td> <td>\$0.00</td>	MANHOLE REMOVED 0032 202E58100	0.00	EACH	\$0.00000	\$0.00
FENCE REMOVED 0.00 HOUR \$126.59000 \$0.00	CATCH BASIN REMOVED 0033 202E75000	0.00	FT	\$0.00000	\$0.00
· · · · · · · · · · · · · · · · · · ·	FENCE REMOVED 0034 204E45000	0.00	HOUR	\$126.59000	\$0.00

Estimate:	Alt I	OH cont 7	,
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Estimate: Alt I OH cont 7				PB Americas, Inc.
Line # Item Number Description	Quantity	<u>Units</u>	Unit Price	Extension
Supplemental Descript	<u>tion</u>			
PROOF ROLLING				
0035 204E10000	0.00	SY	\$0.81000	\$0.00
0036 451E30000		FT	\$0.00000	\$0.00
0037 606E13000	14,675.00	FT	\$14.00000	\$205,450.00
0038 606E22000	0.00	EACH	\$1,411.29597	\$0.00
0039 606E22010	0.00	EACH	\$1,712.52574	\$0.00
0040 606E26500 ANCHOR ASSEMBLY	0.00	EACH	\$487.23435	\$0.00
0041 606E35000 BRIDGE TERMINAL AS	0.00 SEMBLY TYPE 1	EACH	\$969.12750	\$0.00
0042 606E35100 BRIDGE TERMINAL AS	0.00 SEMBLY, TYPE 2	EACH	\$338.36354	\$0.00
0043 606E60010 IMPACT ATTENUATOR	0.00 TYPE 1-98 (BIDIRECTION	EACH	\$3,439.05897	\$0.00
0044 607E15000 FENCE, TYPE 47 For Fencing	0.00	FT	\$0.00000	\$0.00
0423 304E20000 AGGREGATE BASE	0.00	CY	\$0.00000	\$0.00
0424 601E32100 ROCK CHANNEL PROT	0.00 ECTION, TYPE B WITH FIL	CY TER	\$0.00000	\$0.00
0425 607E40500 GATE, TYPE 47	0.00	EACH	\$731.31641	\$0.00
0426 625E32000 GROUND ROD	0.00	EACH	\$0.00000	\$0.00
0466	0.00		\$0.00000	\$0.00
			Total for Grou	up 0012: \$205,450.00
Group 0014: Seeding	v& Mulching / Soddir	na		•
0045 B-MC-ERCO		LS	\$0.00000	\$0.00
0467 659E10000	26,772.00	SY	\$1.00000	\$26,772.00
0531 660E25000 SODDING STAKED	0.00	SY	\$15.00000	\$0.00
			Total for Gro	oup 0014: \$26,772.00
Group 0015: Rock Ch	nannel Protection			
0047 B-MC-ERCO MAJOR COST DRIVER	1.00 S. EROSION CONTROL	LS	\$0.00000	\$0.00
0469 601E32000 ROCK CHANNEL PROT	0.00 CECTION, TYPE A WITH FIL	CY TER	\$75.00000	\$0.00
	,		Total f	or Group 0015: \$0.00
Group 0016: Erosion	Control - Item 832			
0048 B-MC-ERCO	1.00	LS	\$0.00000	\$0.00
8:13:09AM				
Wednesday, December 01, 20	010			Page 4 of 12

Estimate: Alt I OH cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
MAJOR COST DRIVERS, EROSION C	ONTROL			
0470 832E10000 STORM WATER POLILITION PREVE	1.00 NTION PLAN	LS	\$50,000.00000	\$50,000.00
0471 832E20000 EROSION CONTROL	170,000.00	EACH	\$1.00000	\$170,000.00
			Total for Group 0016:	\$220,000.00
Group 0017 [.] Other Erosion Con	trol Costs			
0049 670E00700	0.00	SY	\$0.00000	\$0.00
DITCH EROSION PROTECTION	1 00	10	00000 02	0.0.01
OTHER COSTS, EROSION CONTROL	L 1.00	LS	\$0.00000	φ0.00
0051 659E00100	0.00	EACH	\$0.00000	\$0.00
0052 659E00300 TOPSOIL	0.00	CY	\$0.00000	\$0.00
0053 659E14000	0.00	SY	\$0.00000	\$0.00
0054 659E15000 INTER-SEEDING	0.00	SY	\$0.71000	\$0.00
0055 659E20000	0.00	TON	\$410.06813	\$0.00
0056 659E31000 LIME	0.00	ACRE	\$0.00000	\$0.00
0057 659E35000	0.00	MGAL	\$5.00000	\$0.00
0058 659E40000 MOWING	0.00	MSF	\$0.00000	\$0.00
			Total for Group	0017: \$0.00
	4.00		# 0.0000	\$ 0.00
MAJOR COST DRIVERS, DRAINAGE	1.00	L3	\$0.00000	\$0.00
0062 605E05100 4" SHALLOW PIPE UNDERDRAINS	93,645.00	FT	\$8.00000	\$749,160.00
			Total for Group 0018:	\$749,160.00
Group 0019: Culverts - Type A:	< 5'			
0474 C-MC-DRNG	0.00	LS	\$0.00000	\$0.00
0480 C-MC-DRNG	0.00	FT	\$350.00000	\$0.00
MAJOR COST DRIVERS, DRAINAGE Pipe Structures - Reinforced Concrete	Pipe up to 60'	,		
0481 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	EACH	\$1,500.00000	\$0.00
Concrete Masonry			Total for Group	0019: \$0.00
Group 0021: Culverts, Type A: 8	5' - 10'			
0067 C-MC-DRNG MAJOR COST DRIVERS DRAINAGE	1.00	LS	\$0.00000	\$0.00
0476 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE	0.00	FT	\$550.00000	\$0.00
8:13:09AM				

Estimate: Alt I OH cont 7			PB Americas, Inc		
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	Extension	
Pipe Structures - Reinforced Concrete 5 0477 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete - Headwalls/wingwalls	'-10' 66" to 1 0.00	78" EACH	\$1,500.00000	\$0.00	
			Total for	Group 0021: \$0.00	
Group 0022; Culverts, Type A: 10	0' - 20'				
0486 C-MC-DRNG	1.00	LS	\$0.00000	\$0.00	
0487 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Pine Structures - Reinforced Concrete P	0.00	FT	\$1,400.00000	\$0.00	
0488 C-MC-DRNG MAJOR COST DRIVERS, DRAINAGE Concrete Masonry	0.00	EACH	\$1,500.00000	\$0.00	
			Total for	Group 0022: \$0.00	
Group 0024: BMP's	4.00	10	¢0,0000	¢0.00	
MAJOR COST DRIVERS, DRAINAGE	1.00	LS	\$0.00000	\$0.00	
			Total for	Group 0024: \$0.00	
Group 0025: Closed Storm Syste	em				
0077 C-MC-DRNG MAJOR COST DRIVERS DRAINAGE	1.00	LS	\$0.00000	\$0.00	
0489 603E13400 30" CONDUIT TYPE B (Average size)	18,743.00	FT	\$75.00000	\$1,405,725.00	
0523 604E00800 CATCH BASIN NO 3A	196.00	EACH	\$1,500.00000	\$294,000.00	
0524 604E31500 MANHOLE, NO, 3	16.00	EACH	\$3,000.00000	\$48,000.00	
0525 604E36601			\$1,250.00000	\$0.00	
0526 Special Pump Station (Storm)	0.00 0.00	LS	\$6,400,000.00000	\$0.00	
0527 Special Stormceptors	0.00	EACH	\$5,750.00000	\$0.00	
0529 Special Retention basin improvements	0.00	LS	\$109,000.00000	\$0.00	
			Total for Group 0	025: \$1,747,725.00	
Group 0026. Other Drainage Cos	sts				
0078 C-OC-DRNG	1.00	LS	\$0.00000	\$0.00	
OTHER COSTS, DRAINAGE			Total for	Group 0026: \$0.00	
Group 0027: Mainline - Travel La	anes				
0095 D-MC-PVMT MAJOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00	
0494 D-MC-PVMT 13" Reinforced Concrete Pavement Includes 6" Agg Base and Subgrade Con	78,463.00 mpaction	SY	\$68.00000	\$5,335,484.00	
8:13:09AM					

Estimate: Alt I OH cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
			Total for Group 0027:	\$5,335,484.00
Group 0028: Mainline - Outside S	Shoulder			
	1.00	LS	\$0.00000	\$0.00
0495 D-MC-PVMT 13" Reinforced Concrete Pavement	17,545.00	SY	\$68.00000	\$1,193,060.00
includes o Agg base and Subgrade Cor	прасиоп		Total for Group 0028:	\$1,193,060.00
Group 0030: Mainline - Inside Sh	oulder			
0115 D-MC-PVMT MAJOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00
0496 D-MC-PVMT 13" Reinforced Concrete Pavement	19,110.00	SY	\$68.00000	\$1,299,480.00
Includes 6 Agg base and Subgrade Cor	πραστιοπ		Total for Group 0030:	\$1,299,480.00
Group 0031: Ramps (including sl	houlders)			
0122 D-MC-PVMT	1.00	LS	\$0.00000	\$0.00
0497 D-MC-PVMT 13" Reinforced Concrete Pavement	25,969.00	SY	\$68.00000	\$1,765,892.00
Includes 6" Agg base and Subgrade Cor	npaction		Total for Group 0031:	\$1,765,892.00
Group 0032: Non - Mainline Lane	es			
0132 D-MC-PVMT MA IOR COST DRIVERS PAVEMENT	1.00	LS	\$0.00000	\$0.00
0498 D-MC-PVMT Asphalt	13,933.00	SY	\$41.00000	\$571,253.00
Includes 3" 448, 9" 301, 6" Agg base and	d Subgrade (Compaction	Total for Group 0032	2: \$571,253.00
Group 0041: Other Pavement Co	osts			
0163 D-OC-PVMT OTHER COSTS PAVEMENT	1.00	LS	\$0.00000	\$0.00
			Total for Grou	up 0041: \$0.00
Group 0042: Water Works				
0164 E-MC-WATR	0.00	LS	\$0.00000	\$0.00
0165 E-OC-WATR OTHER COSTS WATER LINE	0.00	LS	\$0.00000	\$0.00
			Total for Grou	up 0042: \$0.00
Group 0043: Sanitary Line 0170 F-MC-SANI MAJOR COST DRIVERS, SANITARY S	0.00 EWER	LS	\$0.00000	\$0.00
8:13:09AM				
Estimate: Alt I OH cont 7				PB Americas, Inc.
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Line # <u>Item Number</u> Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
			Total for Grou	up 0043: \$0.00
Group 0044: Lighting - Full Inte	rchange			
0173 G-MC-LTNG MAJOR COST DRIVERS LIGHTING	1.00	LS	\$0.00000	\$0.00
0499 G-MC-LTNG	3.00	EACH	\$469,000.00000	\$1,407,000.00
			Total for Group 0044:	\$1,407,000.00
Group 0045: Lighting - Partial Ir	nterchange	9		
0288 G-MC-LTNG MAJOR COST DRIVERS LIGHTING	0.00	LS	\$0.00000	\$0.00
			Total for Grou	up 0045: \$0.00
Group 0046: Lighting - Continue	ous Roadw	vay		
0176 G-MC-LTNG MAJOR COST DRIVERS LIGHTING	1.00	LS	\$0.00000	\$0.00
0500 G-MC-LTNG	21,768.00	FT	\$35.00000	\$761,880.00
			Total for Group 0046	5: \$761,880.00
Group 0047: Other Lighting Cos	ste			
0177 G-OC-LTNG	0.00	LS	\$0.00000	\$0.00
OTHER COSTS, LIGHTING			Total for Grou	up 0047: \$0.00
				xp 00111 \$0100
Group 0048: Traffic Surveillance	e 1 00	19	\$2,848,600,10000	\$2,848,600,10
OTHER COSTS, TRAFFIC SURVEILL	ANCE	LO	\$2,646,600.19000	\$2,846,600.19
			Total for Group 0048:	\$2,848,600.19
Group 0049: Signs				
0179 J-MC-TRAF MAJOR COST DRIVERS, TRAFFIC C	1.00 ONTROL	LS	\$0.00000	\$0.00
0501 J-MC-TRAF Signs	4.13	MILE	\$250,000.00000	\$1,032,500.00
			Total for Group 0049:	\$1,032,500.00
Group 0050: Pavement Marking	a			
0200 J-MC-TRAF	1.00	LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, TRAFFIC C 0502 644E00100	17.83	MILE	\$3,000.00000	\$53,490.00
EDGE LINE 0503 644E00200	8.92	MILE	\$2,000.00000	\$17,840.00
LANE LINE			Total for Group 008	50: \$71,330.00

Group 0051: Other Traffic Control Costs

Estimate: Alt I OH cont 7				PB Americas, Inc.
Line # Item Number Description Supplemental Description	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
0208 J-OC-TRAF	1.00	LS	\$0.00000	\$0.00
			Total for Group	0051: \$0.00
Group 0052: Signals - Intersec	tions 2 50		\$175 000 00000	\$612 500 00
MAJOR COST DRIVERS, SIGNALS	5.50	LACIT	Tatal (an One and ODE)	\$012,300.00
			Total for Group 0052:	\$612,500.00
Group 0053: Other Traffic Sign	al Costs			
0213 K-OC-SGNL OTHER COSTS, SIGNALS	1.00	LS	\$0.00000	\$0.00
			Total for Group	0053: \$0.00
Group 0054: Landscaping				
0214 L-MC-LSCP	1.00	LS	\$0.00000	\$0.00
0215 L-OC-LSCP	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, LANDSCAPING			Total for Group	0054: \$0.00
Group 0055: Potoining Walls &	125 . \$10/	ft for co	ne barriare and tacting	
	120 + \$10/ 1 00			\$0.00
MAJOR COST DRIVERS, RETAINING	G WALLS	0	\$0.00000	\$0.00
Retaining Walls	145,137.00	35	\$135.00000	\$19,593,495.00
Group 0056: Other Retaining V	Vall Costs		Total for Group 0055: \$19	9,593,495.00
0217 M-OC-WALL	1.00	LS	\$0.00000	\$0.00
OTHER COSTS, RETAINING WALLS	3		Total for Group	0056: \$0.00
Group 0057: Building Demolitic	n			
0218 N-MC-DEMO MAJOR COST DRIVERS, BUILDING	1.00 DEMOLITION	LS	\$0.00000	\$0.00
0219 N-OC-DEMO	1.00	LS	\$0.00000	\$0.00
0532 202E98100 REMOVAL MISC.: Radio Tower	0.00	EACH	\$8,500.00000	\$0.00
0533 202E56101 BUILDING DEMOLISHED, AS PER P Large Commercial	1.00 LAN	EACH	\$30,000.00000	\$30,000.00
0534 202E56101 BUILDING DEMOLISHED, AS PER P Small Commercial	3.00 PLAN	EACH	\$15,000.00000	\$45,000.00
0535 202E56101 BUILDING DEMOLISHED, AS PER P Large Residential	0.00 LAN	EACH	\$12,000.00000	\$0.00
0536 202E56101	0.00	EACH	\$7,500.00000	\$0.00
8:13:09AM				

Wednesday, December 01, 2010

Estimate	: Alt I OH cont 7				PB Americas, Inc.
<u>Line #</u> Des <u>Sur</u>	<u>Item Number</u> scription oplemental Description	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
BUI Sm	LDING DEMOLISHED, AS PER PLA	N			
Onic				Total for Group 0057: S	\$75,000.00
Croup	0059: Noice Derrier				
Group	0058: Noise Barrier				
0220	P-MC-NSBR	1.00	LS	\$0.00000	\$0.00
0505	P-MC-NSBR	0.00	LS	\$400.00000	\$0.00
INOIS	se Barrier			Total for Group 00	058: \$0.00
Group	0050: Other Noise Barrier	Costs			
Cloup	0009: Other Noise Damer	00313		A 0.00000	\$ 0.00
0221 OTI	P-OC-NSBR HER COSTS NOISE BARRIER	1.00	LS	\$0.00000	\$0.00
0368 MA.	P-MC-NSBR	0.00	LS	\$0.00000	\$0.00
1017 (Total for Group 00	059: \$0.00
Group	0060: New Structures				
0222	R-MC-STRC	1 00	15	\$0,0000	\$0.00
MA	JOR COST DRIVERS, STRUCTURE	ES	20	<i>40.0000</i>	ψ0.00
0506	R-MC-STRC	65,593.00	SF	\$125.00000	\$8,199,125.00
Tier	1 Structures to 25' Height	0.00	SE.	\$12,00000	00.02
0507 Rer	noval of Existing Structures non-com	u.uu	35	\$12.00000	\$0.00
0508	R-MC-STRC	396,141.00	SF	\$17.00000	\$6,734,397.00
Sta	ndard Removal of Existing Structures	s above aver	age comp	plex	* •••• • •••••••••••••••••••••••••••••
0509 Por	R-MC-STRC	267,295.00	SF	\$30.00000	\$8,018,850.00
0513	R-MC-STRC	631,959.00	SF	\$150.00000	\$94,793,850.00
0516 Tier	R-MC-STRC	591,129.00	SF	\$200.00000	\$118,225,800.00
				Total for Group 0060: \$235,9	972,022.00
Group	0061: Rehabilitated Struc	tures			
0222		0.00	SE.	\$45,00000	00.02
MA	JOR COST DRIVERS, STRUCTURE	ES 0.00	3F	φ45.00000	\$0.00
				Total for Group OC	061: \$0.00
Group	0062: Other Structure Cos	sts			
0224	R-OC-STRC	0.00	LS	\$0.00000	\$0.00
Cor	ntingency			T () (0)	
				Total for Group 00	062: \$0.00
Group	0063: Temporary Road an	nd Paven	nent Co	osts	
0225	S MC MNITC	1 00	19	\$0,0000	00.02

Estimate: Alt I OH cont 7		PB A	mericas, Inc.
Line # Item Number Description Supplemental Description	Quantity Units	<u>Unit Price</u>	<u>Extension</u>
		Total for Group 0063:	\$0.00
Group 0064: Portable Concr	rete Barrier (PCB)		
0226 S-MC-MNTC MAJOR COST DRIVERS MAINT	1.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
		Total for Group 0064:	\$0.00
Group 0065: Impact Attenua	ators		
0227 S-MC-MNTC MAJOR COST DRIVERS, MAINT	1.00 LS ENANCE OF TRAFFIC	\$0.00000	\$0.00
,		Total for Group 0065:	\$0.00
Group 0066: Sheeting			
0229 S-MC-MNTC	1.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT	ENANCE OF TRAFFIC	Total for Group 0066:	\$0.00
			•
Group 0067: Temporary Sig	nais	¢0.0000	00.02
MAJOR COST DRIVERS, MAINT	ENANCE OF TRAFFIC	\$0.00000	φ0.00
		Total for Group 0067:	\$0.00
Group 0068: Work Zone Lig	hting		
0231 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
		Total for Group 0068:	\$0.00
Group 0069: Innovative Con	stracting Incentatives		
0232 S-MC-MNTC	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, MAINT	ENANCE OF TRAFFIC	Total for Group 0069	\$0.00
			ψ0.00
Group 0070: Other MOT Co	sts		•
0233 S-OC-MNTC OTHER COSTS, MAINTENANCE	1.00 LS OF TRAFFIC	\$0.00000	\$0.00
0512 S-OC-MNTC OTHER COSTS, MAINTENANCE	4.13 MILE E OF TRAFFIC	\$500,000.00000 \$2	2,065,000.00
		Total for Group 0070: \$2,065,0	00.00
Group 0071: Wetland Const	truction		
0234 T-MC-WTLD	0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, WETLA 0360 T-MC-WTLD	AND CONSTRUCTION 0.00 LS	\$0.00000	\$0.00
MAJOR COST DRIVERS, WETLA	AND CONSTRUCTION	Total for Group 0071	\$0.00
			40.00

Group 0072: Misc. Costs

Estimate: Alt I OH cont 7				PB Americas, Inc.
Line # <u>Item Number</u> <u>Description</u> <u>Supplemental Description</u>	<u>Quantity</u>	<u>Units</u>	Unit Price	<u>Extension</u>
0235 U-MC-MISC MAJOR COST DRIVERS, MISCEI	0.00 LANEOUS COST	LS S	\$0.00000	\$0.00
0236 U-OC-MISC OTHER COSTS, MISCELLANEOL	0.00 JS COSTS	LS	\$0.00000	\$0.00
0237 100E00300 SPECIAL - PREMIUM ON RAILRO LIABILITY INSURANCE	1.00 DADS' PROTECTIV	LS VE PUBL	\$10,000.00000 IC LIABILITY AND PROPERTY DAM/	\$10,000.00 AGE
0238 623E10000 CONSTRUCTION LAYOUT STAK 0.5%	1.00 ES	LS	\$1,438,543.10000	\$1,438,543.10
0239 614E11000 MAINTAINING TRAFFIC 2%	1.00	LS	\$5,754,172.38000	\$5,754,172.38
0240 619E16020 FIELD OFFICE, TYPE C	44.00	MNTH	\$2,500.00000	\$110,000.00
0242 624E10000 MOBILIZATION	1.00	LS	\$2,000,000.00000	\$2,000,000.00
0511 103E05000 PREMIUM FOR CONTRACT PER 0.5%	1.00 FORMANCE BON	LS D AND F	\$1,438,543.10000 OR PAYMENT BOND	\$1,438,543.10
			Total for Group 0072:	\$10,751,258.58
Group 0073: Design Conting	ency Costs			
0243 V-MC-CNTG MAJOR COST DRIVERS, CONTIN 25%	1.00 NGENCY COSTS	LS	\$74,614,969.44000	\$74,614,969.44
0244 V-OC-CNTG OTHER COSTS CONTINGENCY	1.00 COSTS	LS	\$0.00000	\$0.00
	00010		Total for Group 0073:	\$74,614,969.44
Group 0074: Inflation Conting	gency			
0266 V-OC-CNTG OTHER COSTS, CONTINGENCY	0.00 COSTS	LS	\$0.00000	\$0.00
,			Total for Gro	up 0074: \$0.00

PID	89068	County	HAM	Route	75	Section	0.22	This R/W Acquisition cost estima
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Macro View Attributes															
Acquisition	Unit (SF) or (Acreage)	(SF) or reage)XCost/Unit (\$\$/SF) (\$\$/Acre)Subtotal 		H	Total Non Labor Acquisition Costs	Parcel Count	Total Takes	Partial Takes	Str Im						
-Residential	0	х	\$0.00	\$0	+	0	+	N/A	\$0.00	=	\$0.00	0	0	0	
-Commercial	1.89	х	\$523,138.30	\$988,731	+	6684870	+	N/A	\$6,684,870.00	I	\$7,673,601.39	10	3	7	
-Industrial	5.85	Х	\$159,395.56	\$932,464	+	3740	+	N/A	\$3,740.00	=	\$936,204.03	19	8	11	
-Agricultural	0	х	\$0.00	\$0	+	0	+	N/A	\$0.00	Π	\$0.00	0	0	0	
Relocation	Unit (Displacement)	x	*RHF	P/*RSP	+	Move Cost	t + Reestablishment = Total Non Labor RAP Costs			Total Non Labor RAP Costs	Estimate amount of time necessary to relo all RAP parcels = (months)				
-Residential Owner Occupant Tenant	0	x x	\$34 \$10	4,000 0,000	+++	\$6,000 \$1,750				= =	\$0 \$0	Estimato acq	e number of year uisition begins =	rs until proje	ct wide 2
-Commerical/Farm/NPO Owner Tenant	3 22				x x	\$15,000 \$15,000	+ +	\$10,ı \$10,ı	000 000	=	\$75,000 \$550,000				
-Personal Property	0				Х	\$1,000				=	\$0				
{[(Total Cost of Acquisition Cost)	x0.90]x0.025}+{[(Total c Cost)x0.10]x1.50]	of Aco	quisition Cost)x0. ontingency	15]x1.20}+{[(Total	of Ac	quisition		Contin (Incidentals, Admin. Re	i gency eview & Appropriatio	n)	3034956.408	*RHP - Re *RSP - Re	placement Hous nt Supplemental	ing Payment Payment	t
								Total Non Labor R/W Costs \$12,269,761.82				*NPO - Non-Profit Organization			

Macro View					
Labor (External)	Unit (Parcels)	X	Unit Price	=	Total Cost
Titles	29	Х	\$400	=	\$11,600
Appraisal -Simple -Detailed	4 25	x x	\$750 \$4,500	=	\$3,000 \$112,500
Appraisal Review -Simple -Detailed	4 25	x x	\$500 \$2.000	=	\$2,000 \$50.000
Negotiations	29	Х	\$1,100	=	\$31,900
Relocations -Personal Property -Residential -Commercial/Farm/*NPO	0 0 25	x x x	\$1,500 \$5,200 \$5,600	= = =	\$0 \$0 \$140,000
Closings	29	Х	\$400	=	\$11,600
Project Management	29	Х	\$550	=	\$15,950
Asbestos Testing & Abatement		Х		=	
		\$378,550			
*NPO = Non-Profit Organization	-				•

This R/W Cost Estimate Prepared by Chris Clemons This R/W Cost Estimate was performed at Step									
Chris Clemons									
This R/W Cost Esti	mate was pe	rformed at Step		6					
of the PDP for	MAJOR	Projects using							

Total R/W Costs	\$13,685,473
Inflation Adjustments	\$1,037,161
Total Non Labor R/W Costs	\$12,269,761
Total Labor Costs	\$378,550.0

P.D.P. R/W Cost Estimator



Appendix J Design Exceptions

I-71/I-75/US 50 INTERCHANGE	Curve Pl	Design Exception	D.E. Number	Design Speed Met (Required)	Horizontal Dc (Maximum)	Horizontal SSD (Minimum)	Vertical Curvature - K (Minimum)	Other	Design Speed Existing	Reason(s) For Design Exception Potential Impact(s) to Eliminate Design Exceptions	Potential Mitigation Solutions
I-75	48+69.80 (Horiz)	Y	1	51 mph (60)		454' (570)			50 mph	 Concrete Barrier. A 22.5' shoulder would be needed for Design SSD. This would increase overhead bridge lengths and increase impact to parking garage at TV station since I-75 SB to I-71 NB ramp would have to shift farther west. Flattening the curve at this location will force the I-75 SB to I-71 NB/FWW E mainline as this alignment connects to US 50 to I-71 NB/FWW E 50 EB to I-75 SB will also have to be relocated and will impact the parking lot. I-71 SB to I-75 NB will also have substandard minimuterminal ramp spacing with C-D NB which cannot be adjust othe that connection does not have the required length for a lane drop. 	71 g ith I-75 iB. US he UPS an rwise p.
	76+47.01 (Horiz)	Y	2	54 mph (60)		480' (570)			40 mph	 Median barrier. A 20' shoulder would be needed. If a flatter curve would be used 5 Residential structures could potentially be impacted since Winchell Ave. would need to be relocated also. Flattening the curve to obtain the required SSD will impact the following connections; C-D NB to Winchell, Sixth Street to Winchell Ninth Street to Winchellremoval of Freeman Ave to I-75 NB Ram however it is possible to relocate this ramp north of the Winchel Charles intersection. 	e hell, hp Add Signage/ Lighting l/Ezzard
	23+95.64 (Horiz)	Y	3	46 mph (60)		375' (570)			49 mph	Bridge parapet. A wider should significantly increase structure width	Add Signage/ Lighting
	31+39.32 (Horiz)	Y	4	40 mph (60)	11° 12' 27" (4° 15' 00)				45 mph	 A wide should significantly inclease structure width. Curve needed to clear NB and SB CD Road alignments, 2nd Street ramps and then tie into US 50 EB which just misses the Dunhumby Building. Using a 60 mph design speed for I-71 NB we flatten the curve still required to have at least a 22' outside shoulder. In addition, i deck of the new main span bridge will need to be elevated higher 	but are the top Add Signage/Traffic Control Devices r for
	31+39.32 (Horiz)	Y	5	36 mph (60)		260' (570)			33 mph	 Bridge parapet. A wider shoulder would significantly increase structure width. both I-71 NB and SB to have the required vertical clearance ove NB and SB. There is one location near the railroad bridge and C 	r C-D lay Add Signage/ Lighting
	39+54.57 (Horiz)	Y	6	55 mph (60)	5° 21' 17" (4° 15' 00")				55 mph	Curve needed to clear NB and SB CD Road alignments, 2nd Street ramps and then tie into US 50 EB which just misses the Dunhumby Building. Wade Bailey where I-71 NB passes above the CWB/Second Struintersection. At this location there will need to be a 350 foot brid span. Potential impacts to other connections are identical to I-71	eet ge Add Signage/Traffic Control Devices SB.
	39+54.57 (Horiz)	Y	7	51 mph (60)		440' (570)			42 mph	 Bridge parapet. A wider shoulder would significantly increase structure width. 	Add Signage/ Lighting
	30+98.00 (Vertical)	Y	8	45 mph (60)			61 (151)			Vertical curve needed to keep a tangent on the new bridge and then achieve vertical clearance over I-75 and the railroad. Increasing the K value will increase the grade of I-71 NB whice already at 6%	h is Add Signage/ Lighting
	3+96.80 (Horiz)	Y	9	45 mph (60)	7° 48' 53" (4° 15' 00")				45 mph	Curve needed to remain in existing corridor to avoid impact to an office building to the East and the Dunhumby Building to the West.	ment bugh 13, Add Signage/Traffic Control Devices
	3+96.80 (Horiz)	Y	10	45 mph (60)		365' (570)			41 mph	 Bridge parapet. A wider shoulder would shift 3rd Street to I-71 SB alignment into an office building. Bridge parapet. Building. However, vertical clearance issues as well as maintena traffic and construction will be difficult as the ramps in and out of Fort Washington Way Trench will be close together. in a small and traffic and construction will be close together. 	Add Signage/ Lighting
	6+62.17 (Horiz)	Y	11	35 mph (60)	13° 00' 54" (4° 15' 00")				35 mph	Curve needed to remain in existing corridor to avoid impact to an office building to the East and the Dunhumby Building to the West.	Add Signage/Traffic Control Devices
I-71 SB	6+62.17 (Horiz)	Y	12	42 mph (60)		335' (570)			33 mph	 Bridge parapet. A wider shoulder would shift 3rd Street to I-71 SB alignment into an office building. 	/e Add Signage/ Lighting
	17+34.68 (Horiz)	Y	13	40 mph (60)	11° 14' 04" (4° 15' 00")				40 mph	Curve needed to tie into proposed I-75 alignment, avoid impacting 2 commercial structures, and avoid additional impacts to Longworth Hall.	W Add Signage/Traffic Control Devices
	17+34.68 (Horiz)	Y	14	31 mph (60)		215' (570)			29 mph	Bridge parapet. Maintained. A wider shoulder would significantly increase structure width.	Add Signage/ Lighting
	29+35.43 (Horiz)	Y	15	55 mph (60)		495' (570)			70 mph	Bridge parapet. A wider shoulder would significantly increase structure width.	A wider shoulder will need to be used to transition into the required 14' shoulders for the main span bridge

I-71/I-75/US 50 INTERCHANGE	Curve Pl	Design Exception	D.E. Number	Desigr Speed M (Require	Horiz et D d) (Maxii	zontal)c imum)	Horizontal SSD (Minimum)	Vertical Curvature - K (Minimum)	Other	Design Speed Existing	Reason(s) For Design Exception	Potential Impact(s) to Eliminate Design Exceptions	Potential Mitigation Solutions
EBSBNB (NB CD to I-75 NB)	48+86.24 (Horiz)	Y	16	45 mph (50) 7° 42' (6° 45	' 14.3" 5' 00")				N/A	• Curve needed to parallel 7th to SB CD Road to avoid shifting other ramp alignments to the East into a commercial building along 7th.	Commercial buildings along 7th will be impacted.	Add Signage/Traffic Control Devices. Might be able to improve horizontal geometry if
	48+86.24 (Horiz)	Y	17	41 mph (50)		315' (425)			N/A	Barrier and retaining wall.	By flattening the curve commercial buildings along 7th will be impacted	Add Signage/ Lighting
	21+58.2 (Horiz)	Y	18	40 mph (50) 10° 24 (6° 45	4' 15.7" 5' 00")				N/A		Flattening the curve at this location will increase the vertical grade of the	Use a flatter curve or reduce design speed (classification). Eliminate access from 8th
	21+58.2 (Horiz)	Y	19	39 mph (50)		300' (425)			N/A	Barrier for bridge pier.		turn onto 7th Street eastbound.
	32+03.55 (Horiz)	Y	20	30 mph (50) 20° 22 (6° 45	2' 36.3" 5' 00")				N/A	Intersection alignment of NB and SB movements to reduce skew.		intersection, and/or reduce design speed (classification).
	32+03.55 (Horiz)	Y	21	27 mph (50)		175' (425)			N/A	Bridge parapet. Wider should increase structure width		Add Signage/ Lighting. Reduce design speed
	32+03.55 (Horiz)	Y	22	30 mph (50)				60' (212)	N/A	Ahead sprial through intersection.	4	Add Signage/Traffic Control Devices
	35+29.53 (Horiz)	Y	23	30 mph (50) 17° 17 (6° 45	7' 08.8" 5' 00")				N/A	Intersection alignment of NB and SB movements to reduce skew.	 Any re-alignment to the east will impact the storage capacity of Fourth Street WB and Fifth Street EB. 	Use a flatter curve, change tangent through intersection, increase rear spiral length, and/or reduce design speed (classification).
	35+29.53 (Horiz)	Y	24	27 mph (50)		175' (425)			N/A	 Bridge parapet. Wider shoulder would increase structure width.]	Add Signage/ Lighting
	35+29.53 (Horiz)	Y	25	30 mph (50)				60' (208)	N/A	Back sprial through intersection.		Use a flatter curve, change tangent through intersection, increase ahead spiral length, and/or reduce design speed (classification).
	40+62.31 (Horiz)	Y	26	28 mph (50)		180' (425)			N/A	Bridge parapet.Wider shoulder would increase structure width.		Add Signage/ Lighting
	45+70.78 (Horiz)	Y	27	42 mph (50)		325' (570)			N/A	Bridge parapet.Wider shoulder would increase structure width.		Add Signage/ Lighting
	43+25.09 (Vertical)	Y	28	45 mph (50)			61 (84)		N/A	Curve needed for clearance over NB CD Road and under I-71 SB.		Add Signage/Traffic Control Devices. Look at changing grades to allow for more room to increase vertical curve lengths.
	37+80.71 (Horiz)	Y	29	45 mph (50) 7° 22' (6° 45	' 33.6" 5' 00")				45 mph	Curve needed to get clearance under 7th to SB CD Road and over ramp from to I-75 SB to I-71 NB.		Add Signage/Traffic Control Devices
ECDSB7 (SB CD Road to 7th)	37+80.71 (Horiz)	Y	30	37 mph (50)		270' (425)			36 mph	 Bridge parapet. Wider shoulder would increase structure width. 		Add Signage/ Lighting
	37+80.71 (Horiz)	Y	31	45 mph (50)				200' (393)	N/A	Spiral in an intersection that intersects another transition.		Change geometry.
ESBFWWEB (I-75 SB to I-71 NB)	33+07.04 (Horiz)	Y	32	28 mph (15)		185' (360)			33 mph	 Bridge parapet. Wider shoulder would increase structure width. 	• With the flattening of the curve to I-75 mainline, I-75 SB to I-71 NB will be relocated to the west, impacting the tv station/parking garage. In addition the distance needed to make the vertical clearance requirements under I-75 mainline is much less than before. In addition, changes to US 50 to I-71 NB will require that I-75 mainline have a steeper grade south of US 50 to allow I-75 SB to I-71 NB enough room to tie into the gore of US 50 to I-71 NB.	Add Signage/ Lighting
EBSBSB2 (SB CD RD to 2nd)	5+57.82 (Horiz)	Y	33	28 mph (30)		180' (200)			32 mph	Bridge parapet.Wider shoulder would increase structure width.		Add Signage/ Lighting, wider shoulder at this location will not impact any other structures
EUS50FWWEB (US 50 to I-71 NB/US 50 EB)	15+55.27 (Horiz)	Y	34	38 mph (45)		280' (360)			30 mph	 Bridge parapet. Wider shoulder would increase structure width, shift US 50 WB alignment (since it is parallel) which then would impact the Dunhumby building. 	• With I-75 Mainline using a flatter curve at Sta. 46+00, there is more room for the connections to/from I-75 and I-71 from/to US 50. However, with the design speed changes made to I-71 NB and I-71 SB will create vertical clearance issues which may lead to higher structures and steeper grades. Also the horizontal sight distance leading into the Fort Washington Way Trench will need to be studied to determine at which point the shoulders can be tapered down to meet the tie-in points for all connections into and out of the Trench.	Add Signage/ Lighting
	13+69.55 (Horiz)	Y	35	39 mph (45)		300' (360)			35 mph	Bridge parapet.		Add Signage/Traffic Control Devices
EFWWWB75 (I-71 SB to I-75 NB)	27+36.92 (Horiz)	Y	36	39 mph (15)		290' (360)			N/A	Wider shoulder would increase structure width. Also, shifting the US	See US50FWWEB potential impacts	Use a flatter curve or reduce design speed (classification)
E75SBFREE (I-75 SB to Freeman Ave)	6+39.26 (Horiz)	Y	37	44 mph (45)		350' (360)			57 mph	 Barrier and retaining wall. A flatter curve can not be used since the alignment is parallel to the SB CD Rd and I-75. 		Add Signage/Traffic Control Devices, wider shoulder

I-75/I-71	Station	Design Exception	D.E. Number	Design Speed Met (Required)	Horizontal SSD (Minimum)	Horizontal Dc (Maximum)	Vertical Curvature - K (Minimum)	Other	Design Speed Existing	Reason For Design Exception	Potential Impact(s) to Eliminate Design Exceptions	Potential Mitigation Solutions
SB I-75 to Kyles Lane	Sta. 445+00	Y	1					Grade		 Proposed ramp grade is 8.1 percent due to right of way considerations. 	• Extending the beginning of ramp futher south and thus widening the right of way limits required for the connection to the existing elevtion at the ramp terminal.	• This steep slope is less than 500 feet long and provides an exit ramp to Kyles Lane on which traffic has to decelerate.
	Existing Bridge (Lower Deck)	Y	2					Lane Width		 11' lanes needed to utilize the existing bridge width. 	Replace the existing bridge and rebuild structure to accommodate a wider section.	Will be maintaining one 12' lane on the lower bridge deck.
	Existing Bridge (Lower Deck)	Y	3					Shoulder Width		 A minimum 4' left shoulder and an 8' right shoulder are needed to maintain 3 through lanes and utilize the existing bridge width. 	Replace the existing bridge and rebuild structure to accommodate a wider section.	
NB I-75 Mainline	Sta. 571+00	Y	4					Shoulder Width		 At this location, the southbound structure of the C-D road over I-75 would have a long span and require a pier located at the center of I-75. The proposed pier diameter would be nine feet. This pier would reduce the inside shoulder widths from 14 feet to 9 feet around the pier and tapers. 	Widen the overall footprint of roadway to accommodate pier diameter.	Add Signage to warn of reduced shoulder width.
SB I-75 Mainline	Sta. 571+00	Y	5					Shoulder Width		• At this location, the southbound structure of the C-D road over I-75 would have a long span and require a pier located at the center of I-75. The proposed pier diameter would be nine feet. This pier would reduce the inside shoulder widths from 14 feet to 9 feet around the pier and tapers.	Widen the overall footprint of roadway to accommodate pier diameter.	Add Signage to warn of reduced shoulder width.

I-71/I-75/US 50 INTERCHANGE	Station	Design Exception	D.E. Number	Design Speed Met (Required)	l Horizontal Dc (Maximum)	Horizontal SSD (Minimum)	Vertical Curvature - K (Minimum)	Other	Design Speed Existing	Reason(s) For Design Exception	Potential Impact(s) to Eliminate Design Exceptions	Potential Mitigation Solutions
	CURVE NO. 5 PI Sta. 24+98.87 (Horiz.)	Y	1	57 mph (60)		526' (570')			44 mph	 The line of sight for the northbound inside lane is impeded by the median barrier and the southbound outside lane a the bridge parapet. The proposed 12' median shoulder (minimum) needs to be widened to 20' to meet the needed sight distance. The median shoulder width was discussed with the Office of Roadway Engineering and a guideline was given to cap the width at 12'. This is due to several factors; expense, excessively wide shoulders can confuse drivers and be used as a passing lane, and collecting debris. 	 Widen the inside shoulder for the I-75 NB. This can be accomplished by either linearly transitioning the shoulder or separating the NB and SB horizontal alignments. The two profiles will be different as well and bifurcated barrier will be required. This will impact the potential connection from Clay Wade Bailey Bridge to I-75. If this potential connection from Clay Wade Bailey Bridge is to be maintained, all NB alignments will need to shift to the East potentially causing vertical clearance issues with US 50 WB and I-71 SB. This would potentially impact the Dunnhumby Building also. If using a flatter curve, 5 structures (businesses) could potentially be impacted and additional impacts to Longworth Hall would be needed. A design speed of 55 MPH would also fix this design exception. 	• Add Signage/ Lighting
	Sta. 23+00 to Sta. 27+00 (Southbound Only)	Y	2					6.0% (Downgrade)		• A grade of 6.0% (5.0 % max) needed to achieve clearance over the existing railroad/I-71 SB to SB CD Road and under I-71 SB to SB CD Road to maintain a 60 mph design speed. The 6.0 % grade has a tangent length of 150'.	Shift SB CD Road alignment further West so that the lower deck does not cross under the upper deck until after the existing railroad. This would increase the impact to Longworth Hall and could potentially impact 4 additional buildings and parking.	
Interstate 75 (OH)	CURVE NO. 6 PI Sta. 33+88.15 (Horiz.)	Y	3	51 mph (60)		443' (570)			50 mph	 The line of sight for the inside lane is impeded by the median barrier. The proposed 12' median shoulder needs to be widened to 25' to meet the needed sight distance. The median shoulder width was discussed with the Office of Roadway Engineering and a guideline was given to cap the width at 12'. This is due to several factors; expense, excessively wide shoulders can confuse drivers and be used as a passing lane, and collecting debris. 55 mph would require a 17' minimum shoulder. 	 Widen the inside shoulder for the I-75 NB. This can be accomplished by either linearly transitioning the shoulder or separating the NB and SB horizontal alignments. The two profiles will be different as well and bifurcated barrier will be required. This will impact the potential connection from Clay Wade Bailey Bridge to I-75. If this potential connection from Clay Wade Bailey Bridge is to be maintained, all NB alignments will need to shift to the East potentially causing vertical clearance issues with US 50 WB and I-71 SB. This would potentially impact the Dunnhumby Building also. If using a flatter curve, 5 structures (businesses) could potentially be impacted and additional impacts to Longworth Hall would be needed. 	 Add Signage/ Lighting
	CURVE NO. 9 PI Sta. 65+12.82 (Horiz.)	Y	4	52 mph (60)		463' (570)			40 mph	 The line of sight for the outside lane is impeded by the roadside barrier. The proposed 12' outside shoulder needs to be widened to 20' to meet the needed sight distance. 55 mph would require a 15' shoulder (standard minimum shoulder is 12'). 	 The ramp from Freeman Ave to I-75 NB and Winchell Ave would have to shift to the East. This would impact the property on the SE corner of Ezzard Charles Drive and Winchell Ave. There is also a potential impact to a 60" combined sewer under Winchell Ave. The Freeman Ave to Winchell Ave bridge and the Ezzard Charles Drive bridges would need to be lengthened to span the additional pavement width. If using a flatter curve, this could potentially impact 8 structures, relocate 3 local roads (Ezzard Charles Drive EB and WB, Winchell Ave.), cut off 2 local roads (West Court Street and Freeman Ave to I-75 NB). 	Add Signage/ Lighting
I-75 SB Baseline at Ezzard Charles	CURVE NO. 16 PI Sta. 65+22.36 (Horiz.)	Y	5	54 mph (60)		488' (570)			40 mph	 The line of sight for the inside lane is impeded by the median barrier. The proposed 12' median shoulder needs to be widened to 20' to meet the needed sight distance. The median shoulder width was discussed with the Office of Roadway Engineering and a guideline was given to cap the width at 12'. This is due to several factors; expense, excessively wide shoulders can confuse drivers and be used as a passing lane, and collecting debris. 55 mph would require a 13' shoulder (standard minimum shoulder is 12'). 	 Widen the inside shoulder of the I-75 SB. This can be accomplished by either linearly transitioning the shoulder or separating the NB and SB horizontal alignments The Northbound lanes would remain the same. This location will have a bi-furcated barrier section. By changing the SB baseline, the Southbound CD Road would need to move further to the SW which would change three other alignments (I-75 SB to Freeman Ave, Western Ave. to SB CD Road and Gest Street). Gest Street was already narrowed down to 3 lanes and this will narrow it even further. I using a flatter curve, this could potentially impact 8 structures and 3 local roads (Western Ave, Gest St., and part of Freeman Ave.). 	Add Signage/ Lighting

I-71/I-75/US 50 INTERCHANGE	Station	Design Exception	D.E. Number	Design Speed Met (Required)	d Horizontal Dc (Maximum)	Horizontal SSD (Minimum)	Vertical Curvature - K (Minimum)	Other	Design Speed Existing	Reason(s) For Design Exception	Potential Impact(s) to Eliminate Design Exceptions	Potential Mitigation Solutions
	CURVE NO. 24 PI Sta. 16+31.45 (Horiz.)	Y	6	50 mph (60)	6° 30' 00" (4° 15' 00")				35 mph	 Curve needed to tie into existing Fort Washington Way footprint, avoid Dunnhumby building, and to tie into proposed new bridge before bridge abutment. 	 Using Fort Washington Way (I-71 SB) as a fixed tie in point, a 4 degree curve will require the new Ohio River Bridge crossing the river to move about 250' to the West. Additional potential impacts from this alignment change would include going through the Duke Energy substation. In addition, the I-75 centerline would also need to shift West possibly impacting half of the Longworth Hall and an additional 5 structures just to the west of I-75 between 3rd Street and 9th Street which include two Duke Energy buildings, two UPS buildings, and the former Harriet Beecher Stowe Elementary School (Fox 19) building. The curves (super transitions) from these alignment changes may also extend onto the new Ohio River Bridge. 	Add Signage/Traffic Control Devices
I-71 Southbound (OH)	CURVE NO. 24 PI Sta. 16+31.45 (Horiz.)	Y	7	42 mph (60)		339' (570)			35 mph	 The line of sight for the inside lane is impeded by the bridge parapet. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure width. 50 mph would require a 20' shoulder (standard minimum shoulder is 12'). 	 Widen inside shoulder to match the proposed bridge width (3 lanes and 14' shoulder). A flatter curve is not possible without introducing a curve starting around Plum Street and extending onto the new bridge which would also need to move west as described above. Some connections may potentially become a problem doing this (i.e. US 50) and using the existing bridge would be very difficult. 	Add Signage/ Lighting
		Y	8					Shoulder Width		• Allows for a deceleration lane to be added to exit from I-71 SB to SB CD Road within the existing footprint of Fort Washington Way (4' left shoulder, 6.5' right shoulder for about 700').	• Widen pavement width on outside of I-71 SB (Fort Washington Way) from Elm Street to Central Ave. This will impact the Elm Street bridge and reduce the 3rd Street on ramp to SB CD Road to 1 lane from 2 lanes.	Add Signage/ Lighting
	Sta. 20+00 to Sta. 32+00	Y	9					5.9 % (Upgrade)		 A grade of 6.0% (5.0 % max) needed to achieve clearance over the existing railroad/I-71 SB to SB CD Road and under I-71 SB to SB CD Road to maintain a 60 mph design speed. This grade matches the existing profile set during the Fort Washington Way project. It allows for clearance over Plum Street, flood wall, future rail lines. 	• A flatter grade of 5.0 % would create a clearance problem over the NB CD Road to 5th Street resulting in the potential of this connection being cut off.	
	CURVE NO. 20 PI Sta. 14+44.56 (Horiz.)	Y	10	50 mph (60)	6° 30' 00" (4° 15' 00")				45 mph	 Curve needed to tie into existing bridge abutment and still tie in with US 50 EB before entering Fort Washington Way. 	 Using Fort Washington Way (I-71 NB) as a fixed tie in point and trying to tie into the existing bridge, several connections would be lost. Connections off of the NB CD Road from Kentucky to I-71 NB and to 2nd Street would be lost. Clearance over the existing railroad may also be an issue coming off of the bridge if the existing profile is to be maintained. Another option using Fort Washington Way (I-71 NB) as a fixed tie in point and trying to tie into the new Ohio River Bridge, a 4 degree curve will require the new Ohio River Bridge crossing the river to move about 250' to the West if we were to maintain all connections. Other connections including I-75 NB and SB, and NB CD Road would need to be investigated on whether their connections could be maintained. 	Add Signage/Traffic Control Devices
I-71 Northbound (OH)	CURVE NO. 20 PI Sta. 14+44.56 (Horiz.)	Y	11	44 mph (60)		358' (570)			41 mph	 The line of sight for the inside lane is impeded by the bridge parapet. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure width. 50 mph would require a 20' shoulder (standard minimum shoulder is 12'). 	 Widen inside shoulder with a pavement taper on the bridge. A flatter curve tying into the existing bridge is not possible without introducing a curve starting around Plum Street and extending onto the existing bridge. Second Street would need to be relocated along with the flood wall. Connections off of the NB CD Road from Kentucky to I-71 NB and to 2nd Street would be lost. 	Add Signage/ Lighting
	Sta. 25+00 to Sta. 29+00	Y	12					6.0 % (Downgrade)		 A grade of 6.0% (5.0 % max) needed to achieve clearance over Plum Street for pedestrians. The 6.0 % grade has a tangent length of about 300'. This grade matches the existing profile set during the Fort Washington Way project. It allows for clearance over Plum Street, flood wall, future rail lines. 	 A flatter grade of 5.0 % could potentially create a clearance problem over US 50 WB and 3rd Street. 	
	CURVE NO. 47 PI Sta. 109+73.97 (Horiz.)	Y	13	40 mph (50)	10° 30' 00" (6° 45' 00")				30 mph	Curve needed to achieve clearance over SB CD Road and under US 50 to 5th Street		Add Signage/Traffic Control Devices
US 50 EB	CURVE NO. 47 PI Sta. 109+73.97 (Horiz.)	Y	14	36 mph (50)		261' (425)			30 mph	 The line of sight for the inside lane is impeded by the bridge parapet. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure width. This potentially could reduce clearances over SB CD Road to 2nd Street to below minimum. 	See US 50 WB impacts.	Add Signage/ Lighting

I-71/I-75/US 50 INTERCHANGE	Station	Design Exception	D.E. Number	Design Speed Met (Required)	Horizontal Dc (Maximum)	Horizontal SSD (Minimum)	Vertical Curvature - K (Minimum)	Other	Design Speed Existing	Reason(s) For Design Exception	Potential Impact(s) to Eliminate Design Exceptions	Potential Mitigation Solutions
	CURVE NO. 53 PI Sta. 114+02.58 (Horiz.)	Y	15	40 mph (50)	10° 30' 00" (6° 45' 00")				35 mph	Curve needed to achieve clearance over I-75 NB and under US 50 to 5th Street	 Design exceptions 9, 10, 11, 12, and 13 need to be treated as a whole in order to fix. To design an alignment to maintain a 50 mph design speed (existing US 50 posted speed West of I-75), the geometry would follow the proposed alignment shown for US 50 EB/SB CD to 2nd Street. US 50 EB would parallel US 50 WB in order to tie into existing US 50 lanes through Fort Washington Way to the East causing some connections to be lost. Connections that could potentially be lost would include: 1) US 50 EB to 	Add Signage/Traffic Control Devices
US 50 WB	CURVE NO. 53 PI Sta. 114+02.58 (Horiz.)	Y	16	34 mph (50)		242' (425)			30 mph	 The line of sight for the inside lane is impeded by the bridge parapet. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure width. This potentially could reduce clearances over I-75 NB to below minimum. 	 5th Street, 2) I-75 SB to I-71 NB from I-75 mainline lanes, 3) SB CD Road to potential Clay Wade Bailey Bridge, 4) US 50 WB to Gest Street, 5) Linn Street to US 50 EB (would be significantly impacted if not cut off) which is beyond our current project limits. SB CD Road alignment would shift West approximately 200' which would impact the former Harriet Beecher Stowe Elementary School (Fox 19) building in addition to their parking garage and the UPS warehouse would also now be impacted in addition to their parking. In addition, the Duke Energy buildings North of 3rd Street, Longworth Hall, and the Duke Energy 	 Add Signage/ Lighting
	CURVE NO. 56 PI Sta. 128+38.49 (Horiz.)	Y	17	40 mph (50)	10° 30' 00" (6° 45' 00")				35 mph	 Curve needed to avoid Dunnhumby building and achieve clearance under 71 SB 	 substation along the river will have additional impacts. The new Ohio River Bridge would need to be either moved west or widened to accommodate the taper of the SB CD Road into the I-71 SB to SB CD Road ramp which would not come together soon enough to tie into the current bridge typical section and abutment limits. The horizontal sight distance can not be fixed with out taking the alignment for US 50 west from Fort Washington Way along 3rd Street. 	Add Signage/Traffic Control Devices

I-71/I-75/US 50 INTERCHANGE	Station	Design Exception	D.E. Number	Design Spe Met (Required	ed Horizontal Dc) (Maximum)	Horizontal SSD (Minimum)	Vertical Curvature - K (Minimum)	Other	Design Speed Existing	Reason(s) For Design Exception	Potential Impact(s) to Eliminate Design Exceptions	Potential Mitigation Solutions
NB CD ROAD to I-75 NB (NB CD Road)	CURVE NO. 125 PI Sta. 33+41.55 (Horiz.)	Y	18	41 mph (50)	315' (425)			N/A	 The line of sight is impeded by a roadside barrier and retaining wall. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure length of 6th Street to US 50 WB. 50 mph would require a 14' shoulder (standard minimum shoulder is 4'). 	 Widen inside shoulder by changing alignment. This could impact the NB CD Road to 5th Street alignment and an existing parking lot between 4th Street and Central Ave. Another way to possibly eliminate this DE would be to switch NB CD Road to US 50 WB and NB CD Road to I-75 alignments. This may allow for a flatter curve but the connection from NB CD to US 50 WB would need to be investigated to see if it would work. 	Add Signage/Traffic Control Devices
I-75 SB to SB CD ROAD (SB CD Road)	Sta. 26+00 to Sta. 30+50	Y	19					6.50 % (Upgrade)		• A grade of 6.50% (5.0 % max) needed to achieve clearance under US 50 EB and yet tie into the ramp from I-71 SB to SB CD Road. The 6.50% grade has a tangent length of 315'.	 Using a flatter grade potentially could impact US 50 EB to 5th Street, US 50 EB, and US 50 WB to Gest Street clearances. 	
	CURVE NO. 70 PI Sta. 120+59.21 (Horiz.)	Y	20	43 mph (45)	341' (360)			N/A	 The line of sight for the inside lane is impeded by the bridge parapet. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure width. 45 mph would require a 8' shoulder (standard minimum shoulder is 4', a 6' shoulder is used). 	 Widen inside shoulder using a pavement taper. Using a flatter curve for sight distance may impact vertical clearance with 3rd Street to I-75 NB, NB CD Road to US 50 WB, and I-71 SB. Also, impacts to the Dunnhumby building would need to be investigated. 	Add Signage/ Lighting
I-75 SB to I-71 NB	CURVE NO. 71 PI Sta. 125+75.61 (Horiz.)	Y	21	40 mph (45) 10° 30' 00" (9° 00' 00")				40 mph	Curve needed to avoid Dunnhumby building and achieve clearance under I-71 SB.	 Using a flatter curve may impact vertical clearance with 3rd Street to I-75 NB, NB CD Road to US 50 WB, and I-71 SB. Also, impacts to the Dunnhumby building would need to be investigated. 	Add Signage/Traffic Control Devices
	CURVE NO. 71 PI Sta. 125+75.61 (Horiz.)	Y	22	34 mph (45)	240' (360)			33 mph	 The line of sight for the inside lane is impeded by the bridge parapet. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure width. 45 mph would require a 22.5' shoulder (standard minimum shoulder is 4', a 6' shoulder is used). 	 Widen inside shoulder using a pavement taper. Using a flatter curve for sight distance may impact vertical clearance with 3rd Street to I-75 NB, NB CD Road to US 50 WB, and I-71 SB. Also, impacts to the Dunnhumby building would need to be investigated. 	Add Signage/ Lighting
	CURVE NO. 108 PI Sta. 31+16.63 (Horiz.)	Y	23	35 mph (45) 14° 15' 00" (9° 00' 00")				N/A	 Curve needed to clear I-75 then tie into SB CD Road on the lower deck of the proposed bridge. 	 A flatter curve could impact 3 structures including additional impact to Longworth hall. Other potential impacts may occur to the North when southbound alignments are adjusted to tie into flatter curve. 	Add Signage/Traffic Control Devices
	CURVE NO. 108 PI Sta. 31+16.63 (Horiz.)	Y	24	31 mph (45)	213' (360)			N/A	 The line of sight for the inside lane is impeded by the bridge parapet. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure width. 		
I-71 SB to SB CD ROAD (Directional Ramp)	CURVE NO. 111 PI Sta. 34+50.75 (Horiz.)	Y	25	35 mph (45) 14° 30' 00" (9° 00' 00")				N/A	Curve needed to avoid Dunnhumby building, structure on NE corner of Central Ave. and 3rd Street, and tie into I-71 SB.	 If using a flatter curve, 3rd Street ramp to SB CD Road might be cut off, 2 structures may be impacted, and Fort Washington Way would need to be widened at the West end of the trench. 	Add Signage/Traffic Control Devices
	CURVE NO. 111 PI Sta. 34+50.75 (Horiz.)	Y	26	31 mph (45)	213' (360)			N/A	 The line of sight for the inside lane is impeded by the bridge parapet. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure width. 	 Widen inside shoulder. Widening the inside shoulder would reduce the width of the 3rd Street to SB CD Road ramp. If using a flatter curve, 3rd Street ramp to SB CD Road might be cut off, 2 structures may be impacted, and Fort Washington Way would need to be widened at the West end of the trench. 	Add Signage/ Lighting
I-71 SB/US 50 WB to NB CD ROAD	CURVE NO. 121 PI Sta. 17+51.02 (Horiz.)	Y	27	40 mph (45) 11° 45' 00" (9° 00' 00")				35 mph	 Curve needed to achieve clearance under I-71 SB and avoid the Dunnhumby building. 	 If using a flatter curve, I-71 SB would be shifted North through the Dunnhumby building so that clearance under I-71 SB can be maintained. Shifting I-71 SB would also reduce the design speed for I-71 SB unless the proposed I-75 mainline bridge is shifted further West. 	Add Signage/Traffic Control Devices
(Directional Ramp)	CURVE NO. 121 PI Sta. 17+51.02 (Horiz.)	Y	28	33 mph (45)	230' (360)			35 mph	 The line of sight for the inside lane is impeded by the bridge parapet. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure width. 	 Widen inside shoulder. There is a potential impact to the vertical minimum clearance under I-71 SB if the shoulder is widened. 	Add Signage/ Lighting

I-71/I-75/US 50 INTERCHANGE	Station	Design Exception	D.E. Number	Design Speed Met (Required)	Horizontal Dc (Maximum)	Horizontal SSD (Minimum)	Vertical Curvature - K (Minimum)	Other	Design Speed Existing	Reason(s) For Design Exception	Potential Impact(s)
3rd Street WB (OH) to SB CD		N									
		N									
I-75 NB		N									
US 50 WB to GEST ST.		N									
6th Street WB (OH) to US 50 WB		N									
4th Street WB (OH) to NB CD ROAD		N									
	CURVE NO. 63 PI Sta. 22+70.83 (Horiz.) (NB CD Road)	Y	29	44 mph (50)		354' (425)			N/A	 The line of sight for the inside lane is impeded by the bridge parapet. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure width. 50 mph would require a 17' shoulder (standard minimum shoulder is 10'). 	Widen the inside shoulder. Street to NB CD Road ramp.
NB CD ROAD to US 50 WB (Directional Ramp)	CURVE NO. 66 PI Sta. 33+69.33 (Horiz.) (Directional Ramp)	Y	30	40 mph (45)	11° 45' 00" (9° 00' 00")				35 mph	• Curve needed to tie into 6th Street to US 50 WB and clear 4th Street to NB CD Road.	• A flatter curve could require from its current alignment creat from US 50 WB to Gest Street would also need to be flattened
	CURVE NO. 66 PI Sta. 33+69.33 (Horiz.) (Directional Ramp)	Y	31	33 mph (45)		236' (360)			32 mph	 The line of sight for the inside lane is impeded by the bridge parapet. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure width. 45 mph would require a 26' shoulder (standard minimum shoulder is 4', a 6' shoulder is used). 	 Widen the inside shoulder. A flatter curve could require from its current alignment creat from US 50 WB to Gest Street would also need to be flattened
(OH)		N									
NB CD ROAD to I-71 NB	Sta. 27+80 Rt (I-71 NB)	Y	32					Shoulder Width	N/A	 < 8' min due to flood wall. A 39:1/acceleration lane taper Sta. 14+75 to Sta. 30+00 (I-71 NB) is needed to minimize the impact to the flood wall/I-71 (FWW) and maintain a 4' minimum shy line from the roadside barrier. 	 If a 50:1 taper is used I-71 in a maintain a 4 foot shoulder.
(Directional Ramp)	Sta. 9+50	Y	33					6.69 % (Upgrade)		• A grade of 6.69% (5.0 % max) needed to achieve clearance under I-71 NB (upper deck) and yet tie into I-71 NB before entering the Fort Washington Way trench and to clear the existing railroad. The 6.69% grade does not have a tangent length, the vertical curves are reverse curves.	 A flatter grade would violate on the existing bridge is to be r
NB CD ROAD to 2nd Street EB		N									
(OH)											
6th Street WB (OH) to WINCHELL AVE		N									
9th street to 6th connector to		N									
Winchell											
Gest St/Freeman Ave to Winchell Ave		N		-							+
Gest St/Freeman Ave (OH) to I- 75 NB		N									<u> </u>
									-		
SB CD ROAD to 7th Street (OH)		N									+
				1		1					

to Eliminate Design Exceptions	Potential Mitigation Solutions
This may impact the clearance over 4th	Add Signage/ Lighting
the 4th Street NB on ramp to be relocated ing weaving on the NB CD Road. The ramp potentially could be cut off also if US 50 WB	Add Signage/Traffic Control Devices
the 4th Street NB on ramp to be relocated ing weaving on the NB CD Road. The ramp potentially could be cut off also if US 50 WB	Add Signage/ Lighting
the trench will need to be widened just to	
railroad clearance if existing vertical curve naintained.	

I-71/I-75/US 50 INTERCHANGE	Station	Design Exception	D.E. Number	Design Speed Met (Required)	Horizontal Dc (Maximum)	Horizontal SSD (Minimum)	Vertical Curvature - K (Minimum)	Other	Design Speed Existing	Reason(s) For Design Exception	Potential Impact(s) to Eliminate Design Exceptions	Potential Mitigation Solutions
SB CD RD to Gest St/Freeman		N										
Ave												
ROAD		N										
SB CD ROAD to 5th Street (OH)		Y	34					7.5% upgrade		 Sta. 26+10 to Sta. 32+60 (Vertical, 7.0% max) a grade of 7.5% is needed to achieve clearance under US 50 WB and over I-75 SB to I-71 NB. 	 Flattening the vertical curve will impact the clearance over I-75 SB to I-71 NB. Either the SB CD Road to 5th Street or I-75 SB to I-71 NB alignment will potentially be cut of and traffic will need to be directed another way. If the connections are to be maintained, raising the US 50 WB profile would be an alternate but there may be a potential that US 50 WB to Gest Street may be cut off due to the higher profile. Changing the profiles for NB CD Road to US 50 WB and 6th Street to US 50 WB will also need to be investigated. 	Add Signage/Traffic Control Devices
SB CD ROAD to 2nd ST. (OH)		Ν										
SB CD ROAD to 3rd ST. (OH)		N							-			
9th Street (OH) to SB CD		N										
ROAD												
	CURVE NO. 85 PI Sta. 108+02.34 (Horiz.)	Y	35	40 mph (45)	10° 45' 00" (9° 00' 00")				N/A	 Diverging curvature per table 505-2a is not met. 	• Flattening the curve in gore area could increase impacts to the UPS warehouse, cut off on ramp from Linn Street, and create a pavement taper on the new Ohio River Bridge.	PI Sta. 29+81.48 (Horiz.) Exit Geometry
US 50 EB to SB CD ROAD	CURVE NO. 85 PI Sta. 108+02.34 (Horiz.)	Y	36	34 mph (45)		246' (360)			N/A	 The line of sight for the inside lane is impeded by the bridge parapet. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure width. 	 Widen shoulder which could potentially increase impact to the UPS Building and increase retaining wall heights. 	Add Signage/Traffic Control Devices
US 50 EB to 2ND ST (OH)		Ν										
US 50 EB to 5TH ST (OH)		Ν										
								-	L			

I-71/I-75/US 50 INTERCHANGE	Curve PI	Design Exception	D.E. Number	Design Speed Met (Required)	Horizontal SSD (Minimum)	Horizontal Dc (Maximum)	Vertical Curvature - K (Minimum)	Other	Design Speed Existing	Reason For Design Exception	Potential Impact(s) to
Third Street (OH)		N									
Central Avenue (OH)		N									
Seventh Street (OH)		N									
Ninth Street (OH)		Ν									
Linn Street (OH)		N									
NB CD ROAD to Winchell	PI Sta. 65+75.00 (Vertical)	Y	37	31 mph (40)			39 (44) - crest		N/A	 Curve needed to be able to tie profile in from NB CD Road to Winchell Ave. 	 To fix, the horizontal alignme connections (NB CD Road to W and W. Court Street.). Moving these alignments cou Winchell Ave. and W. Court Street
(Local)	PI Sta. 69+20.00 (Vertical)	Y	38	31 mph (40)			39 (64) - sag		N/A	Vertical curve used to match existing profile.	Fill in the sag point which ma
					Existing poste	d speed limit of	n Winchell Ave. is	40 mph			
Gest Street (OH)	CURVE NO. 192 PI Sta. 14+34.53 (Horiz.)	Y	39	30 mph (40)	207' (305)				33 mph	 The line of sight is impeded by a roadside barrier and retaining wall. The proposed shoulder needs to be widened to meet the needed sight distance therefore increasing the structure length of 7th and 9th streets. 	 Widen shoulder using a pven Flattening the curve could po Extend overhead bridges to s so that ne barrier is needed.
John St.		N									
West Court St.		Ν									
Ezzard Charles WB		N									
E											
		N									

Eliminate Design Exceptions	Potential Mitigation Solutions
nt would need to be adjusted for three inchell Ave., 6th Street to Winchell Ave., Id potentially impact 7 structures along tet.	 Add Signage/ Lighting Vertical Curve 2.0 times the minimum length needed.
y impact neihboring apartment building.	 Add Signage/ Lighting Vertical Curve 2.0 times the minimum length needed.
ent taper. entially impact a hotel parking garage. et abutments outside of the clear zone	Add Signage/ Lighting

I-75/I-71	Station	Design Exception	D.E. Number	Design Speed Met (Required)	Horizontal SSD (Minimum)	Horizontal Dc (Maximum)	Vertical Curvature - K (Minimum)	Other	Design Speed Existing	Reason For Design Exception	Potential Impact(s) to Eliminate Design Exceptions	Potential Mitigation Solutions
SB I-75 to Kyles Lane	Sta. 445+00	Y	40					Grade		• Proposed ramp grade is 8.1 percent due to right of way considerations.	• Extending the beginning of ramp futher south and thus widening the right of way limits required for the connection to the existing elevtion at the ramp terminal.	 This steep slope is less than 500 feet long and provides an exit ramp to Kyles Lane on which traffic has to decelerate.
	Existing Bridge (Lower Deck)	Y	41					Lane Width		 11' lanes needed to utilize the existing bridge width. 	Replace the existing bridge and rebuild structure to accommodate a wider section.	Will be maintaining one 12' lane on the lower bridge deck.
NB CD Road	Existing Bridge (Lower Deck)	Y	42					Shoulder Width		• A minimum 4' left shoulder and an 8' right shoulder are needed to maintain 3 through lanes and utilize the existing bridge width.	• Replace the existing bridge and rebuild structure to accommodate a wider section.	
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		-										
	I											