



**Matthew G. Bevin**  
Governor

**COMMONWEALTH OF KENTUCKY  
TRANSPORTATION CABINET**

Frankfort, Kentucky 40622  
[www.transportation.ky.gov/](http://www.transportation.ky.gov/)

**Greg Thomas**  
Secretary

October 23, 2018

CALL NO. 100  
CONTRACT ID NO. 181041  
ADDENDUM # 1

Subject: BULLITT COUNTY, NHPP IM 0655 (120)  
Letting October 26, 2018

- (1) Delete - Page 107 of 264
- (2) Revised - Utilities and Rail Certification Note - Pages 96-106 of 264
- (3) Revised - Proposal Bid Items - Pages 259-264 of 264
- (4) Added - Special Notes - Pages 1-16 of 16
- (5) Revised - Plan Sheets - R2N, R2P, R2Q, T1, and T2

Proposal revisions are available at <http://transportation.ky.gov/Construction-Procurement/>.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

A handwritten signature in cursive script that reads "Rachel Mills".

Rachel Mills, P.E.  
Director  
Division of Construction Procurement

RM:mr  
Enclosures



An Equal Opportunity Employer M/F/D

## UTILITIES AND RAIL CERTIFICATION NOTE

**Bullitt County**  
**NHPP0655119**  
**FD52 015 9246701U**  
**CONSTRUCT NEW I-65 INTERCHANGE BETWEEN KY 480 AND KY 245.**  
**SYP ITEM NUMBER: 05-538.00**

### PROJECT NOTES ON UTILITIES

Please Note: The information presented in this Utility Note is informational in nature and the information contained herein is not guaranteed.

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs. The utility facilities as noted in the previous section(s) have been determined using data garnered by varied means and with varying degrees of accuracy: from the facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor's responsibility to verify all utilities and their respective locations before excavating.

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY 811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom are to be contacted through their individual Protection Notification Center. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area. Non-compliance with these directives can result in the enforcement of penalties.

AT&T Legacy, Salt River Rural Electric Cooperative, LG&E Electric, LG&E Gas, Windstream, Spectrum, and Bullitt County Public Schools have facilities within the project limits that require relocations. Please see the notes below pertaining to their relocations.

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**NOTE: DO NOT DISTURB THE FOLLOWING FACILITIES LOCATED WITHIN THE PROJECT DISTURB LIMITS**

**City of Shepherdsville Sewer** - The City has an existing 30-inch sanitary sewer located in a private easement 190ft left KY61 centerline at STA. 237+75 and 30ft left of centerline at STA. 265+45.

**LG&E Electric Transmission** – The Company has an existing transmission pole route crossing Ohm Drive at STA. 159+70 that is not to be disturbed.

The Roadway Contractor is required to adhere to *Powerline Safety, OSHA Cranes in Construction Standard Power Line Safety Section 1926.1408 and 1926.1409* (Appendix A).

**\*The Contractor is fully responsible for protection of all utilities listed above\***

**THE FOLLOWING FACILITY OWNERS ARE RELOCATING/ADJUSTING THEIR FACILITIES WITHIN THE PROJECT LIMITS AND WILL BE COMPLETE PRIOR TO CONSTRUCTION**

Not Applicable

**THE FOLLOWING FACILITY OWNERS HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE OWNER OR THEIR SUBCONTRACTOR AND IS TO BE COORDINATED WITH THE ROAD CONTRACT**

**AT&T Legacy** - The Company has existing underground fiber communication conduits in a private easement crossing Ohm Drive at STA. 160+30. The Company will relocate existing fiber communication conduits parallel to the existing alignment, and within the existing easement. **This work is anticipated to be completed by April 2020.**

**Windstream** –The Company has an existing aerial communication pole route located in an easement along KY 61 that is to be relocated by the Company’s contractor. The existing poles are located approximately 30ft-35ft right of centerline. The proposed pole route is to be located approximately 60ft-100ft right of centerline. **This work is anticipated to be completed by November 2019.** The Company also has existing facilities on the east side of the proposed interchange attached to Salt River Electric owned poles. The Company will follow SRE proposed design. **This work is anticipated to be completed by June 2019.**

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**Bullitt County Public Schools** – The School System has an existing aerial fiber communication lines located along KY61 and attached to SRE owned poles. The Company will relocate existing fiber communication lines to follow SRE proposed design. **This work is anticipated to be completed by September 2019.**

**Salt River Rural Electric Coop. Corp. (SRE)** - The Company has aerial electric facilities that are located in an easement that is approximately 280' east of KY-61 and crosses the proposed Ohm Drive connector at STA. 102+80. The Company's contractor will install poles along the same alignment but spanning the R/W. The Company has an aerial electric facilities that are located in an easement and are crossing the proposed Ohm Drive connector at STA. 108+55. The Company's contractor will install poles outside of the R/W to span the corridor. **This work is anticipated to be completed by August 2019.** The Company has an aerial electric facilities that are located in an easement along the east side of the I-65 corridor. The existing pole alignment crosses the proposed Ohm Drive connector at STA. 137+00. The proposed pole route will be located in a private easement following the proposed C/A and cross the proposed Ohm Drive connector at STA. 141+00. The Company also has an aerial electric pole route along Ohm Drive. The Company's contractor will remove the existing pole at STA. 172+50 LT and span the proposed roadway. **This work is anticipated to be completed by March 2019.**

**Spectrum Communications** – The Company has existing aerial communication lines along KY61 attached to Windstream owned poles. The Company will relocate existing communication lines to follow Windstream's proposed design. **This work is anticipated to be completed by February 2020.** The Company also has existing aerial fiber communication lines attached to Salt River Rural Electric Cooperative owned poles which are located in a private easement along the east side of I-65 and lead to the Crown Castle communication cell tower. The Company will relocate existing fiber communication lines to follow Salt River's proposed design. **This work is anticipated to be completed by May 2019.**

Salt River, Spectrum, and Windstream share the same pole route on the east side of the proposed interchange. The road Contractor shall be aware that existing poles will be removed once ALL facilities have been transferred to new poles.

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Salt River and Bullitt County Public Schools share the same pole route, which crosses Ohm Drive at STA. 103+00. The road Contractor shall be aware that the existing pole will be removed once ALL facilities have been transferred to new poles.

Windstream and Spectrum share the same pole route along KY-61. The road Contractor shall be aware that existing poles will be removed once ALL facilities have been transferred to new poles.

**LG&E (High Pressure Gas)** – The Company has an existing high pressure gas main crossing the proposed Ohm Drive in a private easement at STA. 160+20. The Company’s contractor will relocate the gas main via a horizontal direction drill. The proposed high pressure gas main is located parallel to the existing high pressure main, and within the existing utility easement. The Contractor is to coordinate construction activities in this area with LG&E. **This work is anticipated to be completed by April 2019.**

The Roadway Contractor is required to adhere to LG&E *Guidelines for Blasting in the Vicinity of Natural Gas Pipelines* (Appendix B).

**LG&E (Medium Pressure Gas)** – The Company has a 6-inch medium pressure gas main located along the existing Ohm Drive. SUE Quality Level “A” information was obtained for this gas main (see below). The Company’s contractor will drop the elevation of the existing main at STA. 176+10 and STA. 174+00 to accommodate the proposed drainage structures. **This work is anticipated to be completed by April 2019.**

The Contractor is to coordinate construction activities in this area with LG&E.

SUE Quality Level “A” Locates

Station	Offset	Project Northing	Project Easting	Depth	Top of Util. Elev.	Comment
173+91.43	27.22 LT	3874837.72	4940815.30	-2.33	519.93	TH #1: OHM Drive Connector
99+90.01	56.75 RT	3874610.37	4940127.24	-2.31	493.71	TH #2: Alpha Way
100+05.35	22.41 RT	3874602.22	4940090.93	-3.48	491.27	TH #3: Alpha Way

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**THE FOLLOWING FACILITY OWNERS HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE ROAD CONTRACTOR AS INCLUDED IN THIS CONTRACT**

**Louisville Water Company** - The Company has an existing 12-inch PVC water main that is located along KY-61 from STA. 238+00.00 to STA. 246+70.00 then continues along Cooper Run Road that is to be relocated. The Company has an existing 16-inch PVC water main located along Ohm Drive. The existing water main crosses the proposed Alpha Way at STA. 100+25 and is to be relocated 10ft parallel to the existing main. The Contractor will also relocate a portion of the existing 16-inch PVC water main along Ohm Drive from STA. 173+60 to STA. 176+53.

**RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED**

**No Rail Involvement**     **Rail Involved**     **Rail Adjacent**

### AREA FACILITY OWNER CONTACT LIST

- |  |   |
|--|---|
| <p>1.    LG&amp;E KU (Electric)<br/>820 West Broadway<br/>Louisville, KY 40202<br/>Emergency Number (502) 589-1444<br/>LG&amp;E and KU Emergency Number 1-800-331-7370</p> | <p>Tsion Menkir<br/>(502) 333-1882<br/><a href="mailto:Tsion.Menkir@LGE-KU.com">Tsion.Menkir@LGE-KU.com</a><br/>Bill Harper<br/>O: (502) 333-1818<br/>M: (502) 643-3361<br/><a href="mailto:Bill.Harper@LGE-KU.com">Bill.Harper@LGE-KU.com</a></p>                    |
| <p>2.    LG&amp;E (Gas)<br/>820 West Broadway<br/>Louisville, KY 40202<br/>Gas Emergency Number (502) 589-5511<br/>LG&amp;E and KU Emergency Number 1-800-331-7370</p>     | <p>Mike Kress<br/>O: (502) 364-8364<br/>M: (502) 817-7844<br/><a href="mailto:Mike.Kress@LGE-KU.com">Mike.Kress@LGE-KU.com</a><br/>Bill Harper<br/>O: (502) 333-1818<br/>M: (502) 643-3361<br/><a href="mailto:Bill.Harper@LGE-KU.com">Bill.Harper@LGE-KU.com</a></p> |

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|-----------|--|---|
| <b>3.</b> | Louisville Water Company<br>550 South Third Street<br>Louisville, KY 40202 | Daniel Tegene, PE<br>(502) 569-3649<br><a href="mailto:DTegene@LWCKy.com">DTegene@LWCKy.com</a> |
|-----------|--|---|
- |           |  |  |
|-----------|--|--|
| <b>4.</b> | Windstream Kentucky, Inc.<br>229 Lees Valley Road<br>Shepherdsville, KY 40165<br>502-957-7127<br><b>OR</b><br>111 S. Main St.<br>Elizabethtown, KY 42071 | Rondale Langley<br>(270) 765-1817<br><a href="mailto:Rondale.langley@Windstream.com">Rondale.langley@Windstream.com</a><br><br>Barry Roberts<br>(270) 723-7358<br><a href="mailto:Barry.Roberts@Windstream.com">Barry.Roberts@Windstream.com</a> |
|-----------|--|--|
- |           |   |  |
|-----------|---|--|
| <b>5.</b> | Salt River Rural Electric Coop. Corp.<br>111 W. Brashear Ave.<br>Bardstown, KY 40004<br>Telephone in Bullitt County | Daniel Carrico<br><a href="mailto:Dcarrico@SRElectric.com">Dcarrico@SRElectric.com</a><br>(502) 350-1606<br>Wesley Collins<br><a href="mailto:wcollins@SRElectric.com">wcollins@SRElectric.com</a> |
|-----------|---|--|
- |           |  |   |
|-----------|--|---|
| <b>6.</b> | East Kentucky Power Coop<br>4775 Lexington Road<br>Winchester, KY 40391<br><br>P O Box 707<br>Winchester, KY 40391 | Garry Harvey<br>(859)745-9601<br><a href="mailto:Garry.Harvey@EKPC.coop">Garry.Harvey@EKPC.coop</a><br><br>Or<br>Barry Warner<br><a href="mailto:Barry.Warner@EKPC.coop">Barry.Warner@EKPC.coop</a><br>(859) 745-9304 |
|-----------|--|---|
- |           |   |   |
|-----------|---|---|
| <b>7.</b> | City of Shepherdsville Sewer<br>634 Conestoga Parkway<br>P O Box 400<br>Shepherdsville, KY 40165<br><br>City of Shepherdsville Sewer (cont) | Engineer: Rob Campbell QK4<br>(502) 585-2222 (QK4)<br><a href="mailto:RCampbell@qk4.com">RCampbell@qk4.com</a><br>fax: (502) 543-2923 (City Shep)<br>ph: (502) 955-7803 (City Shep)<br>Scott Flemming<br>Cell: (502) 664-6254 |
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sfleming@shepcity.com

- 8.** Charter Communications  
10168 Linn Station Road  
Suite 120  
Louisville, KY 40223

Deno Barbour  
(502) 664-7395 – Cell  
(502) 357-4376 – Office  
[Dwight.Barbour@charter.com](mailto:Dwight.Barbour@charter.com)  
Kevin Mercer  
(502) 817-5055 – Cell  
(502) 357-4724 - Office  
[kevin.mercer@charter.com](mailto:kevin.mercer@charter.com)  
Richard Bast  
(502) 817-0734 – Cell  
(502) 357-4118 - Office  
[richard.bast@charter.com](mailto:richard.bast@charter.com)
- 9.** Lebanon Junction Water Works  
City Hall - Main Street  
P O Box 69  
Lebanon Junction, KY 40150

Charles Sullivan  
Cell (502) 817-0352  
[LJWW16@yahoo.com](mailto:LJWW16@yahoo.com)  
City Hall 502-833-4311
- 10.** Mt. Washington Sewer & Water Commission  
208 Snapp Street  
Mt. Washington, KY 40047  
(502) 538-4216 or 538-4781 or 955-6784

Elizabeth Hall, City Administrator  
[DHall@mtwKY.org](mailto:DHall@mtwKY.org)  
Derrick Engineering – Consultant  
[derrickinc@bellsouth.net](mailto:derrickinc@bellsouth.net)  
Ronnie Fick, Public Works Director  
[RFick@mtwKY.org](mailto:RFick@mtwKY.org)  
(502)538-3771
- 11.** Marathon Pipeline, LLC  
539 South Main Street, Room X-05-018  
Findlay, OH 45840  
OR

Dennis Durnal  
Office – (502) 448-8311  
Cell – (419) 581-0038  
[ddurnal@marathonpetroleum.com](mailto:ddurnal@marathonpetroleum.com)



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20-C Industrial Drive  
Lexington, OH 44904

Greg Newman  
[gnewman@marathonpetroleum.com](mailto:gnewman@marathonpetroleum.com)  
Office - (419) 884-0800x236  
Cell - (419) 564-8826  
**Send to both contacts above**

Aron Velasquez  
Office - (419) 421-3704  
[advelasquez@marathonpetroleum.com](mailto:advelasquez@marathonpetroleum.com)

**12.** Mid - Valley Pipeline Company  
4910 Limaburg Road  
Burlington, KY 41005  
FAX (866) 699-1185

Richard (Todd) Calfee  
(859) 371-4469x14  
Cell: 859-630-8271  
[RTCalfee@SunocoLogistics.com](mailto:RTCalfee@SunocoLogistics.com)

**13.** AT&T Legacy  
7555 E. Pleasant Valley Rd. - Suite 140  
Independence, OH 44131

Mike Diederich  
[MD4145@att.com](mailto:MD4145@att.com)  
Phone - (216) 750-0135  
Cell - (216) 212-8556  
Don Garr  
[DRGarr@Hughes.net](mailto:DRGarr@Hughes.net)  
Cell - (502) 741-8374  
**Send to both contacts**

**14.** City of Taylorsville Sewer & Water  
70 Taylorsville Rd., P O Box 279  
Taylorsville, KY 40071  
Consultant: Kevin Sisler  
220 Reynolds Rd  
Lexington, KY 40517

Harold Compton  
[HCompton@TaylorsvilleWater.org](mailto:HCompton@TaylorsvilleWater.org)  
(502) 477-3235  
Fax: (502) 477-1310  
[Kevin.@SislerMaggard.com](mailto:Kevin.@SislerMaggard.com)  
(859) 271-2978 (859) 509-3799  
Steve Biven-City Clerk  
[SBiven@taylorsvillewater.org](mailto:SBiven@taylorsvillewater.org)  
(502) 477-3235 ext. 106

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- 15.** AT&T KY  
1340 E. John Rowan Blvd  
Bardstown, KY 40004  
  
3719 Bardstown Rd.  
Louisville, KY 40218  
  
Scott Roche  
[sr8832@att.com](mailto:sr8832@att.com)  
Office - (502) 348-4528  
Cell – (502) 827-4703
- 16.** Bullitt County Schools  
1040 Highway 44 East  
Shepherdsville, KY 40165  
(also managed by LG Fiber)  
LG Fiber  
P. O. Box 1702  
Mt. Vernon, KY 40456  
  
Jim Jackson  
[Jim.Jackson@Bullitt.kyschools.us](mailto:Jim.Jackson@Bullitt.kyschools.us)  
(502) 869-8040  
Larry Gregory  
[LGfiber@gmail.com](mailto:LGfiber@gmail.com)  
(606)521-2649
- 17.** Bullitt Co. Sanitation District  
P O Box 818  
Hillview, KY 40129  
  
Jerry Kennedy  
Office – (502) 957-6140  
Cell - (502) 643-3165  
[BullittSanitation@Windstream.net](mailto:BullittSanitation@Windstream.net)
- 18.** Inside Connect Cable LLC  
4890 Knobb Creek Road  
Brooks, KY 40109  
  
TJ Scott  
[tscott@insideconnect.net](mailto:tscott@insideconnect.net)  
Tony Manley  
[Tony@InsideConnect.net](mailto:Tony@InsideConnect.net)  
or [Tony@ICcable.com](mailto:Tony@ICcable.com)  
Office: (502)955-4882  
Cell: (502)593-5357
- 19.** Pioneer Village Sewer Plant  
4846 Brownsboro Center Arcade  
Louisville, KY 40242  
502-895-4273  
  
Joe Sanders  
(502) 609-2114 - cell  
NO EMAIL  
Owner: Jim Walser  
**Contact not in KURTS**

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| <p><b>20.</b> Kentucky Data Link (KDL now Windstream)<br/>111 S. Main St.<br/>Elizabethtown, KY 42071</p>  | <p>James Galvin<br/>Office: 270-765-1818<br/>Mobile: 270-748-9249<br/><a href="mailto:James.Galvin@windstream.com">James.Galvin@windstream.com</a><br/>Mark Ware<br/><a href="mailto:Mark.Ware@windstream.com">Mark.Ware@windstream.com</a><br/><b>Send to both contacts</b><br/>Timothy Gibson<br/><a href="mailto:Timothy.Gibson@Windstream.com">Timothy.Gibson@Windstream.com</a></p> |
| <p><b>21.</b> Verizon Business (MCI)<br/>400 International Parkway<br/>Richardson, TX 75081</p>  | <p>Dean Boyers<br/><a href="mailto:Dean.Boyers@Verizon.com">Dean.Boyers@Verizon.com</a><br/>Office (469) 886-4238</p>  |
| <p><b>22.</b> Nolin Rural Electric Cooperative Corp.<br/>411 Ring Road<br/>Elizabethtown, KY 42701</p>   | <p>Donnie Probst<br/>(270) 765-6153</p>  |
| <p><b>23.</b> CenturyLink<br/>260 Winn Ave<br/>Winchester, KY 40391</p> <p>CenturyLink National Network Construction<br/>3625 Brookside Parkway Suite 400<br/>Alpharetta, GA 30022</p> | <p>Jim Trapnell<br/><a href="mailto:jim.trapnell@centurylink.com">jim.trapnell@centurylink.com</a><br/>Cell (859) 806-5833</p> <p>Chad Kirkland<br/><a href="mailto:Chadrick.kirkland@centurylink.com">Chadrick.kirkland@centurylink.com</a><br/>Cell (770) 328-2449</p>   |
| <p><b>24.</b> Level 3 Communications (Transmission)<br/>848 S. 8<sup>th</sup> St.<br/>Louisville, KY 40203</p>   | <p>Kevin Webster<br/><a href="mailto:Kevin.Webster@Level3.com">Kevin.Webster@Level3.com</a><br/>Office (502) 777-8622<br/>Cell (502) 777-8622<br/>Fax (502) 561-6950</p>   |

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Level 3 Communications (Distribution)  
11857 Commonwealth Drive  
Louisville, KY 40299

Mark Sewell  
[Mark.Sewell@Level3.com](mailto:Mark.Sewell@Level3.com)  
Office (502) 389-4811  
Cell (502) 295-0939

3770 Lucius Rd.  
Columbia, SC 29201

Russ Wheat,  
[russ.wheat@level3.com](mailto:russ.wheat@level3.com)  
Office (803) 239-1116  
Cell (803) 206-9563

**25.** Crown Castle Network Operations  
10300 Ormsby Park Place  
Suite 501  
Louisville, KY 40223

Rebecca Gray  
[rebecca.gray@CrownCastle.com](mailto:rebecca.gray@CrownCastle.com)  
(502)318-1313  
Chris Gladstone  
[Chris.Gladstone@CrownCastle.com](mailto:Chris.Gladstone@CrownCastle.com)  
(502) 689-2162

**26.** MCI/Verizon(Owns WUTEL)  
MCI/Verizon  
730 West Henry Street  
Indianapolis, IN 46225

David Dickerson  
[david.b.dickerson@xo.com](mailto:david.b.dickerson@xo.com)  
Office: (615) 777-7855  
Cell: (615) 507-5287  
Dave Wiley (Field)  
(502) 439-8783  
[dave.wiley@verizon.com](mailto:dave.wiley@verizon.com)

**27.** Kentucky Wired  
209 St. Clair Street, 4<sup>th</sup> Floor  
Frankfort, KY 40601

Debbie Rodgers  
Office 502-782-9549  
[kentuckywired@ky.gov](mailto:kentuckywired@ky.gov)

**PROPOSAL BID ITEMS**

REVISED ADDENDUM #1: 10-23-18

181041

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Report Date 10/23/18

**Section: 0001 - PAVING**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	50,971.00	TON		\$	
0020	00008		CEMENT STABILIZED ROADBED	92,796.00	SQYD		\$	
0029	00013		LIME STABILIZED ROADBED (ADDED: 10-23-18)	23,708.00	SQYD		\$	
0030	00014		LIME	296.00	TON		\$	
0040	00100		ASPHALT SEAL AGGREGATE	677.00	TON		\$	
0050	00103		ASPHALT SEAL COAT	81.00	TON		\$	
0060	00194		LEVELING & WEDGING PG76-22	463.00	TON		\$	
0070	00214		CL3 ASPH BASE 1.00D PG64-22	15,692.00	TON		\$	
0080	00216		CL3 ASPH BASE 1.00D PG76-22	16,277.00	TON		\$	
0090	00356		ASPHALT MATERIAL FOR TACK	97.00	TON		\$	
0100	00358		ASPHALT CURING SEAL	93.00	TON		\$	
0110	00387		CL3 ASPH SURF 0.38B PG76-22	6,659.00	TON		\$	
0120	02071		JPC PAVEMENT-11 IN	14,345.00	SQYD		\$	
0130	02542		CEMENT	1,737.00	TON		\$	
0140	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
0150	02677		ASPHALT PAVE MILLING & TEXTURING	531.00	TON		\$	
0160	02702		SAND FOR BLOTTER	232.00	TON		\$	
0170	20071EC		JOINT ADHESIVE	61,155.00	LF		\$	

**Section: 0002 - ROADWAY**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0180	00078		CRUSHED AGGREGATE SIZE NO 2	751.00	TON		\$	
0190	01000		PERFORATED PIPE-4 IN	4,650.00	LF		\$	
0200	01010		NON-PERFORATED PIPE-4 IN	120.00	LF		\$	
0210	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM	1.00	LS		\$	
0220	01024		PERF PIPE HEADWALL TY 2-4 IN	12.00	EACH		\$	
0230	01032		PERF PIPE HEADWALL TY 4-4 IN	3.00	EACH		\$	
0240	01310		REMOVE PIPE	166.00	LF		\$	
0250	01314		PLUG PIPE	10.00	EACH		\$	
0260	01585		REMOVE DROP BOX INLET	4.00	EACH		\$	
0270	01740		CORED HOLE DRAINAGE BOX CON-4 IN	6.00	EACH		\$	
0280	01810		STANDARD CURB AND GUTTER	132.00	LF		\$	
0290	01811		STANDARD CURB AND GUTTER MOD	3,731.00	LF		\$	
0300	01821		LIP CURB AND GUTTER MOD	55.00	LF		\$	
0310	01891		ISLAND HEADER CURB TYPE 2	85.00	LF		\$	
0320	01984		DELINEATOR FOR BARRIER - WHITE	120.00	EACH		\$	
0330	01985		DELINEATOR FOR BARRIER - YELLOW	17.00	EACH		\$	
0340	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	13.00	EACH		\$	
0350	01990		DELINEATOR FOR BARRIER WALL-B/W	8.00	EACH		\$	
0360	02003		RELOCATE TEMP CONC BARRIER	6,140.00	LF		\$	
0370	02014		BARRICADE-TYPE III	44.00	EACH		\$	
0380	02159		TEMP DITCH	10,381.00	LF		\$	
0390	02200		ROADWAY EXCAVATION	1,429,797.00	CUYD		\$	

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0400	02204		SPECIAL EXCAVATION	7,545.00	CUYD		\$	
0405	02223		GRANULAR EMBANKMENT (REVISED: 10-23-18)	39,956.00	CUYD		\$	
0410	02242		WATER	4,913.00	MGAL		\$	
0420	02262		FENCE-WOVEN WIRE TYPE 1	15,889.00	LF		\$	
0430	02265		REMOVE FENCE	5,548.00	LF		\$	
0440	02351		GUARDRAIL-STEEL W BEAM-S FACE	700.00	LF		\$	
0450	02360		GUARDRAIL TERMINAL SECTION NO 1	2.00	EACH		\$	
0460	02363		GUARDRAIL CONNECTOR TO BRIDGE END TY A	4.00	EACH		\$	
0470	02367		GUARDRAIL END TREATMENT TYPE 1	4.00	EACH		\$	
0480	02369		GUARDRAIL END TREATMENT TYPE 2A	1.00	EACH		\$	
0490	02381		REMOVE GUARDRAIL	2,240.00	LF		\$	
0500	02391		GUARDRAIL END TREATMENT TYPE 4A	1.00	EACH		\$	
0510	02429		RIGHT-OF-WAY MONUMENT TYPE 1	85.00	EACH		\$	
0520	02430		RIGHT-OF-WAY MONUMENT TYPE 1A	1.00	EACH		\$	
0530	02432		WITNESS POST	99.00	EACH		\$	
0540	02483		CHANNEL LINING CLASS II	6,243.00	TON		\$	
0550	02484		CHANNEL LINING CLASS III	5,530.00	TON		\$	
0560	02545		CLEARING AND GRUBBING APPROXIMATELY 86 ACRES	1.00	LS		\$	
0570	02562		TEMPORARY SIGNS	1,807.00	SQFT		\$	
0580	02585		EDGE KEY	145.00	LF		\$	
0590	02599		FABRIC-GEOTEXTILE TYPE IV	54,193.00	SQYD		\$	
0600	02625		REMOVE HEADWALL	18.00	EACH		\$	
0610	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0620	02671		PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH		\$	
0625	02692		SETTLEMENT PLATFORM (REVISED: 10-23-18)	1.00	EACH		\$	
0630	02696		SHOULDER RUMBLE STRIPS	8,431.00	LF		\$	
0640	02697		EDGELINE RUMBLE STRIPS	5,088.00	LF		\$	
0650	02701		TEMP SILT FENCE	10,381.00	LF		\$	
0660	02703		SILT TRAP TYPE A	135.00	EACH		\$	
0670	02704		SILT TRAP TYPE B	135.00	EACH		\$	
0680	02705		SILT TRAP TYPE C	135.00	EACH		\$	
0690	02706		CLEAN SILT TRAP TYPE A	810.00	EACH		\$	
0700	02707		CLEAN SILT TRAP TYPE B	810.00	EACH		\$	
0710	02708		CLEAN SILT TRAP TYPE C	810.00	EACH		\$	
0720	02710		SCARIFYING AND RESHAPING	480.00	SQYD		\$	
0730	02726		STAKING	1.00	LS		\$	
0740	02775		ARROW PANEL	4.00	EACH		\$	
0750	02929		CRASH CUSHION TYPE IX	2.00	EACH		\$	
0760	03171		CONCRETE BARRIER WALL TYPE 9T	8,160.00	LF		\$	
0764	03340		STEEL PIPE-2 1/2 IN (REVISED: 10-23-18)	63.00	LF		\$	
0767	03343		STEEL PIPE-4 IN (REVISED: 10-23-18)	63.00	LF		\$	
0770	05950		EROSION CONTROL BLANKET	21,920.00	SQYD		\$	
0780	05952		TEMP MULCH	158,805.00	SQYD		\$	
0790	05953		TEMP SEEDING AND PROTECTION	158,805.00	SQYD		\$	
0800	05963		INITIAL FERTILIZER	14.00	TON		\$	

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0810	05964		20-10-10 FERTILIZER	16.00	TON		\$	
0820	05985		SEEDING AND PROTECTION	202,427.00	SQYD		\$	
0830	05989		SPECIAL SEEDING CROWN VETCH	115,182.00	SQYD		\$	
0840	05992		AGRICULTURAL LIMESTONE	261.00	TON		\$	
0850	06401		FLEXIBLE DELINEATOR POST-M/W	204.00	EACH		\$	
0860	06404		FLEXIBLE DELINEATOR POST-M/Y	113.00	EACH		\$	
0870	06511		PAVE STRIPING-TEMP PAINT-6 IN	30,225.00	LF		\$	
0880	06514		PAVE STRIPING-PERM PAINT-4 IN	54,054.00	LF		\$	
0890	06515		PAVE STRIPING-PERM PAINT-6 IN	40,177.00	LF		\$	
0900	06516		PAVE STRIPING-PERM PAINT-8 IN	271.00	LF		\$	
0910	06517		PAVE STRIPING-PERM PAINT-12 IN	5,333.00	LF		\$	
0920	06531		PAVE STRIPING REMOVAL-6 IN	30,225.00	LF		\$	
0930	06547		PAVE STRIPING-THERMO-12 IN Y	44.00	LF		\$	
0940	06568		PAVE MARKING-THERMO STOP BAR-24IN	213.00	LF		\$	
0950	06569		PAVE MARKING-THERMO CROSS-HATCH	4,253.00	SQFT		\$	
0960	06574		PAVE MARKING-THERMO CURV ARROW	53.00	EACH		\$	
0970	06585		PAVEMENT MARKER TY IVA-MW TEMP	509.00	EACH		\$	
0980	06600		REMOVE PAVEMENT MARKER TYPE V	286.00	EACH		\$	
0990	08100		CONCRETE-CLASS A	11.00	CUYD		\$	
1000	08150		STEEL REINFORCEMENT	392.00	LB		\$	
1010	08901		CRASH CUSHION TY VI CLASS BT TL2	4.00	EACH		\$	
1020	10020NS		FUEL ADJUSTMENT	339,621.00	DOLL	\$1.00	\$	\$339,621.00
1030	10030NS		ASPHALT ADJUSTMENT	152,831.00	DOLL	\$1.00	\$	\$152,831.00
1040	20191ED		OBJECT MARKER TY 3	5.00	EACH		\$	
1050	20430ED		SAW CUT	6,121.00	LF		\$	
1060	21289ED		LONGITUDINAL EDGE KEY	2,735.00	LF		\$	
1070	22664EN		WATER BLASTING EXISTING STRIPE	28,425.00	LF		\$	
1080	23274EN11F		TURF REINFORCEMENT MAT 1	560.00	SQYD		\$	
1090	24489EC		INLAID PAVEMENT MARKER	1,262.00	EACH		\$	
1100	24540		R/W MONUMENT TYPE 3	13.00	EACH		\$	
1110	24640ED		OBJECT MARKER TYPE 1	4.00	EACH		\$	
1120	24805ED		OBJECT MARKER TYPE 4	3.00	EACH		\$	

**Section: 0003 - DRAINAGE**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1130	00440		ENTRANCE PIPE-15 IN	145.00	LF		\$	
1140	00441		ENTRANCE PIPE-18 IN	228.00	LF		\$	
1150	00462		CULVERT PIPE-18 IN	254.00	LF		\$	
1160	00464		CULVERT PIPE-24 IN	408.00	LF		\$	
1170	00466		CULVERT PIPE-30 IN	267.00	LF		\$	
1180	00468		CULVERT PIPE-36 IN	20.00	LF		\$	
1190	00469		CULVERT PIPE-42 IN	246.00	LF		\$	
1200	00492		CULVERT PIPE-24 IN EQUIV	204.00	LF		\$	
1210	00496		CULVERT PIPE-36 IN EQUIV	48.00	LF		\$	
1220	00521		STORM SEWER PIPE-15 IN	1,763.00	LF		\$	
1230	00522		STORM SEWER PIPE-18 IN	1,673.00	LF		\$	
1240	00524		STORM SEWER PIPE-24 IN	776.00	LF		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1250	00528		STORM SEWER PIPE-36 IN	839.00	LF		\$	
1260	01202		PIPE CULVERT HEADWALL-15 IN	5.00	EACH		\$	
1270	01204		PIPE CULVERT HEADWALL-18 IN	12.00	EACH		\$	
1280	01208		PIPE CULVERT HEADWALL-24 IN	6.00	EACH		\$	
1290	01209		PIPE CULVERT HEADWALL-24 IN EQUIV	2.00	EACH		\$	
1300	01210		PIPE CULVERT HEADWALL-30 IN	2.00	EACH		\$	
1310	01212		PIPE CULVERT HEADWALL-36 IN	1.00	EACH		\$	
1320	01214		PIPE CULVERT HEADWALL-42 IN	2.00	EACH		\$	
1330	01422		METAL END SECTION TY 4-24 IN (EQUIV)	2.00	EACH		\$	
1340	01423		METAL END SECTION TY 1-36 IN (EQUIV)	4.00	EACH		\$	
1350	01432		SLOPED BOX OUTLET TYPE 1-15 IN	1.00	EACH		\$	
1360	01433		SLOPED BOX OUTLET TYPE 1-18 IN	2.00	EACH		\$	
1370	01443		SLOPED AND PARALLEL HEADWALL-15 IN	2.00	EACH		\$	
1380	01450		S & F BOX INLET-OUTLET-18 IN	10.00	EACH		\$	
1390	01480		CURB BOX INLET TYPE B	17.00	EACH		\$	
1400	01490		DROP BOX INLET TYPE 1	12.00	EACH		\$	
1410	01496		DROP BOX INLET TYPE 3	3.00	EACH		\$	
1420	01499		DROP BOX INLET TYPE 4	1.00	EACH		\$	
1430	01505		DROP BOX INLET TYPE 5B	2.00	EACH		\$	
1440	01761		MANHOLE TYPE B	4.00	EACH		\$	
1450	01767		MANHOLE TYPE C	2.00	EACH		\$	
1460	02600		FABRIC GEOTEXTILE TY IV FOR PIPE	8,419.00	SQYD	\$2.00	\$	\$16,838.00
1470	08100		CONCRETE-CLASS A	14.41	CUYD		\$	
1480	08150		STEEL REINFORCEMENT	240.00	LB		\$	
1490	24814EC		PIPELINE INSPECTION	5,741.00	LF		\$	

**Section: 0004 - BRIDGE-27806**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1500	02231		STRUCTURE GRANULAR BACKFILL	276.00	CUYD		\$	
1510	02998		MASONRY COATING	1,968.00	SQYD		\$	
1520	03299		ARMORED EDGE FOR CONCRETE	108.00	LF		\$	
1530	08001		STRUCTURE EXCAVATION-COMMON	144.20	CUYD		\$	
1540	08002		STRUCTURE EXCAV-SOLID ROCK	86.80	CUYD		\$	
1550	08020		CRUSHED AGGREGATE SLOPE PROT	558.00	TON		\$	
1560	08033		TEST PILES	264.00	LF		\$	
1570	08046		PILES-STEEL HP12X53	1,382.00	LF		\$	
1580	08094		PILE POINTS-12 IN	42.00	EACH		\$	
1590	08100		CONCRETE-CLASS A	370.40	CUYD		\$	
1600	08104		CONCRETE-CLASS AA	693.00	CUYD		\$	
1610	08150		STEEL REINFORCEMENT	59,871.00	LB		\$	
1620	08151		STEEL REINFORCEMENT-EPOXY COATED	198,548.00	LB		\$	
1630	08634		PRECAST PC I BEAM TYPE 4	2,446.50	LF		\$	
1640	21532ED		RAIL SYSTEM TYPE III	708.00	LF		\$	

**Section: 0005 - BRIDGE-CULVERT 27820**



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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1650	08003		FOUNDATION PREPARATION	1.00	LS		\$	
1660	08100		CONCRETE-CLASS A	26.50	CUYD		\$	
1670	08150		STEEL REINFORCEMENT	1,907.00	LB		\$	

**Section: 0006 - BRIDGE-CULVERT-27821**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1680	08003		FOUNDATION PREPARATION	1.00	LS		\$	
1690	08100		CONCRETE-CLASS A	29.50	CUYD		\$	
1700	08150		STEEL REINFORCEMENT	2,026.00	LB		\$	

**Section: 0007 - SIGNING**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1710	02006		REMOVE CONCRETE MEDIAN	60.50	LF		\$	
1720	06405		SBM ALUMINUM PANEL SIGNS	1,396.00	SQFT		\$	
1730	06406		SBM ALUM SHEET SIGNS .080 IN	568.00	SQFT		\$	
1740	06407		SBM ALUM SHEET SIGNS .125 IN	762.00	SQFT		\$	
1750	06410		STEEL POST TYPE 1	1,783.00	LF		\$	
1760	06438		OSS ALUMINUM 80 FT TRUSS	1.00	EACH		\$	
1770	06441		GMSS GALV STEEL TYPE C	13,462.00	LB		\$	
1780	06448		SIGN BRIDGE ATTACHMENT BRACKET	11.00	EACH		\$	
1790	06451		REMOVE SIGN SUPPORT BEAM	19.00	EACH		\$	
1800	06490		CLASS A CONCRETE FOR SIGNS	92.00	CUYD		\$	
1810	06491		STEEL REINFORCEMENT FOR SIGNS	4,553.00	LB		\$	
1820	20418ED		REMOVE & RELOCATE SIGNS	5.00	EACH		\$	
1830	20419ND		ROADWAY CROSS SECTION	13.00	EACH		\$	
1840	21373ND		REMOVE SIGN	4.00	EACH		\$	
1850	21596ND		GMSS TYPE D	4.00	EACH		\$	
1860	24631EC		BARCODE SIGN INVENTORY	208.00	EACH		\$	

**Section: 0008 - LIGHTING**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1870	04701		POLE 40 FT MTG HT	11.00	EACH		\$	
1880	04710		POLE 80 FT MTG HT HIGH MAST	7.00	EACH		\$	
1890	04714		POLE 120 FT MTG HT HIGH MAST	6.00	EACH		\$	
1900	04724		BRACKET 12 FT	11.00	EACH		\$	
1910	04740		POLE BASE	11.00	EACH		\$	
1920	04742		POLE BASE-HIGH MAST	13.00	EACH		\$	
1930	04750		TRANSFORMER BASE	11.00	EACH		\$	
1940	04761		LIGHTING CONTROL EQUIPMENT	2.00	EACH		\$	
1950	04780		FUSED CONNECTOR KIT	22.00	EACH		\$	
1960	04795		CONDUIT-2 IN	180.00	LF		\$	
1970	04797		CONDUIT-3 IN	2,514.00	LF		\$	
1980	04800		MARKER	35.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1990	04811		ELECTRICAL JUNCTION BOX TYPE B	2.00	EACH		\$	
2000	04820		TRENCHING AND BACKFILLING	12,754.00	LF		\$	
2010	04832		WIRE-NO. 12	5,160.00	LF		\$	
2020	04860		CABLE-NO. 8/3C DUCTED	16,657.00	LF		\$	
2030	04861		CABLE-NO. 6/3C DUCTED	4,263.00	LF		\$	
2040	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	8.00	EACH		\$	
2050	20392NS835		ELECTRICAL JUNCTION BOX TYPE C	6.00	EACH		\$	
2060	21543EN		BORE AND JACK CONDUIT	2,509.00	LF		\$	
2070	24589ED		LED LUMINAIRE	11.00	EACH		\$	
2080	24749EC		HIGH MAST LED LUMINAIRE	72.00	EACH		\$	

**Section: 0009 - WATERLINE**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2100	14002		W AIR RELEASE VALVE SPECIAL	1.00	EACH		\$	
2110	14016		W ENCASEMENT STEEL OPEN CUT RANGE 5	386.00	LF		\$	
2120	14019		W FIRE HYDRANT ASSEMBLY	2.00	EACH		\$	
2130	14021		W FIRE HYDRANT REMOVE	2.00	EACH		\$	
2140	14023		W FLUSHING ASSEMBLY	1.00	EACH		\$	
2150	14030		W METER RELOCATE	3.00	EACH		\$	
2160	14050		W PIPE DCTL IRON RSTRND JOINT 12 IN	1,625.00	LF		\$	
2170	14051		W PIPE DCTL IRON RSTRND JOINT 16 IN	2,833.00	LF		\$	
2180	14074		W PLUG EXISTING MAIN	8.00	EACH		\$	
2190	14081		W SERVICE RELOCATE	3.00	EACH		\$	
2200	14097		W TIE-IN 12 INCH	2.00	EACH		\$	
2210	14098		W TIE-IN 16 INCH	8.00	EACH		\$	
2220	14108		W VALVE 12 INCH	5.00	EACH		\$	
2230	14109		W VALVE 16 INCH	9.00	EACH		\$	

**Section: 0010 - DEMOBILIZATION &/OR MOBILIZATION**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2240	02568		MOBILIZATION	1.00	LS		\$	
2250	02569		DEMOBILIZATION	1.00	LS		\$	

**SUPPLEMENTARY SPECIFICATIONS  
BULLITT COUNTY, I-65 AND OHM DRIVE CONNECTOR  
WATER MAIN REPLACEMENT PROJECT  
LWC PROJECT**

**PROJECT SUMMARY**

The referenced project consists of the installation of; **1,625 +/-** linear feet of 12-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques), **2,833 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques), and **386 +/-** linear feet of various size steel casing pipes (using traditional trench installation techniques). Also included with the project is the transfer, renewal, relocation or discontinue of **3 +/-** customer services, **2 +/-** Fire Hydrant removal and installations, all cut and plugs, all appurtenances including restoration on and along Project Limits as stated above.

**SCOPE OF WORK**

1. Supply and install **1505 +/-** linear feet of 12-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques), supply and Install **120 +/-** linear feet of 12-inch Pressure Class 350 restrained joint ductile iron water main using casing spacers inside casing pipe and supply and install **120 +/-** linear feet (LF) of 20" steel casing pipe (using traditional trench installation techniques) (see sheet 3 of 15).
2. Supply and Install **90 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main using casing spacers inside casing pipe. Supply and install **60 +/-** linear feet of 24" steel casing pipe (using traditional trench installation techniques) (see sheet 5 of 15).
3. Supply and Install **151 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main using casing spacers inside casing pipe. Supply and install **106 +/-** linear feet (LF) of 24" steel casing pipe (using traditional trench installation techniques). (see sheet 6 of 15).
4. Supply and Install **325 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main. (see sheet 8 of 15).
5. Supply and install **2167 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques), supply and Install **100 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main using casing spacers inside casing pipe and supply and install **100 +/-** linear feet (LF) of 24" steel casing pipe (using traditional trench installation techniques) (see sheets 10 & 12 of 15).

6. Remove 2 +/- fire hydrant and Install 2 +/- fire hydrants. Fire hydrants may be checked out of Louisville Water warehouse
7. Transfer, renew, relocate and/or discontinue 3 +/- customer services,
8. Supply and install **all** associated appurtenances, including valves, bends, connections, gripper (restraint) glands, frame and lids.
9. Provide traffic control including policing, barricades, signs, warning devices, flaggers, etc.
10. Site Restoration and cleanup work.
11. Installation of sedimentation and erosion control measures per appropriate state/local standards including submittal of control plan and obtaining all necessary permits and approval.
12. Perform all site work, utility relocations, and all other work required to complete the project.
13. Normal work shall be based on KYTC and/or City of Shepherdsville permits. In some cases, the permitting authorities restrict work hours from 9am to 3pm. Longer hours may be applied for upon request but all work must adhere to the final permitted hours and conditions. No additional payment will be made if the permitting authorities restrict work hours.

### **PREQUALIFICATION CONDITIONS**

14. The contracting firm that is to supply and install the 12-inch and 16-inch diameter ductile iron pipe, whether acting as the general contractor of the KTC or as acting as a subcontractor, must be prequalified by the LWC in the category of "4"-16" Iron Pipe" and in the monetary amount, in said category, of at least \$500,000.
15. The contracting firm(s) that is (are) to install the services and the fire hydrants whether acting as the general contractor of the KTC or as acting as a subcontractor, must be prequalified by the LWC in the respective category.
16. The LWC contact for inquiries about prequalification status is Ms. Carol Lyons: phone, 502-569-3600, Ext. 2239; Fax 502-569-0815.
17. The contracting firm assigned to install the ductile iron water main need not be the same as the contracting firm assigned to install the service and fire hydrant installation aspects of work.

### **GENERAL INFORMATION**

18. The contractor is bound by and shall comply with the provisions of the "Louisville Water Company Technical Specifications and Standard Drawings for Pipeline Construction" (2008 Edition) which shall govern work on this project with the following additions/exceptions: **No exceptions**

### **TRAFFIC CONTROL**

19. A road permit will be required for work performed within the ROW limits. The contractor shall submit traffic control plans to the LWC Project Manager prior to permit submittal. The permits will be obtained by the LWC Project Manager prior at the start of work. A minimum of 15 working days advance notice of the need for a permit shall be provided to the LWC Project Manager. Copies of these permits, along with the approved traffic control plan, shall be onsite, readily available, legible, and prominently displayed in all construction vehicles used at the project site. No construction work shall start until these permits are obtained and provided to the contractor by LWC.
20. Traffic control plans will be required by permitting authorities and shall be provided by the contractor to LWC prior to the permit request. The plan shall be drafted utilizing "RapidPlan" software or approved equal and shall be in accordance with the KYTC regulations and templates. Hand drawn plans, sketches and notes will not be accepted. The contractor shall also submit a project schedule for all streets, at time of permit request. The traffic control plan along with permit dates from the project schedule, will be submitted by LWC to the respective agencies with the requested permit.
21. Traffic control shall be provided by the Contractor in accordance with the Manual for Uniform Traffic Control Devices (MUTCD).
22. Specific traffic control signage referencing lane blockages, detours, flaggers, etc. shall be removed from the site or covered when not in use. Signs that provide general messages such as "Construction Ahead" shall be left in place throughout the completion of this project.
23. The Contractor shall be responsible for establishing temporary "No Parking" zones. The zones shall be confined to the immediate work area and appropriate transition zones, and shall be limited in duration to the length of time work is actually performed in that area.
24. All construction vehicles shall be legally parked. Privately owned vehicles including vehicles owned by the construction crew shall not be parked in the "No Parking" zones.

### **VIDEO RECORDING / PRECONSTRUCTION PICTURES**

25. Please refer to section 1.06 of the LWC Technical Specifications 2008 for Video Recording. In addition, video recording shall be provided in digital format on a USB flash drive prior to start of construction.
26. Preconstruction pictures shall be provided by the contractor to the LWC Project Manager prior to construction. The pictures shall be placed in a binder and appropriately labeled for easy reference. A minimum of one picture shall be provided for each property that is impacted by construction. The contractor shall utilize Kentuckiana Seismic or approved equal for this task.

### **SITE WORK**

27. Utility locations shown on the plans are from available information and are approximate. The contractor is responsible for locating all existing utilities including water line facilities prior to start of construction. The contractor is responsible for relocating any existing utility that is in conflict with the proposed construction at no additional cost to LWC.

### **COORDINATE SHUTOFFS FOR CRITICAL MAINS**

28. Contractor shall coordinate shutoffs affecting critical mains, with customers, for their approval of date and times. If necessary, contractor shall provide port-a-pots and work with inspector to provide necessary bottled water during shutoff period.

### **RETURN OF USED HYDRANTS**

29. Fire hydrants that are discontinued, abandoned or replaced shall be removed and returned with caps to the LWC Allmond Avenue Warehouse. The contractor shall also complete the "RETURN OF USED FIRE HYDRANTS" form, sign and submit the form to the inspector for record keeping and proper accounting. Any removed hydrant that is not returned to the LWC warehouse will be invoiced to the contractor in the amount of \$75 per hydrant.
30. Fire Hydrant Extension Kits shall not be used for any fire hydrant installation on this project. Contractor shall adjust the depth of the water main at the location where a hydrant will be installed to accommodate the height of a standard fire hydrant.

### **EXCAVATION**

31. Excavation on this project shall be unclassified.

### **DUCTILE IRON PIPE AND FITTINGS**

32. Ductile iron pipe shall conform to ANSI/AWWA C151/A21.51 and ANSI/AWWA C150/A21.50 latest revision, pressure class 350 for all pipe.
33. All pipe shall be factory restrained joint pipe from acceptable manufacturers as noted in Section 39 below.
34. The interior of the pipe shall be cement-mortar lined with bituminous seal coat in accordance with ANSI/AWWA C104/A21.4, latest revision. Thickness of the lining shall be as set forth in the ANSI/AWWA C104/A21.4 specifications unless otherwise directed by the Engineer. The exterior of all pipe, unless otherwise specified, shall receive either coal tar or asphalt base coating a minimum of 1 mil thick.
35. Each piece of pipe shall bear the manufacturer's name or trademark, the year in which it was produced and the letters "DI" or the word "DUCTILE". Pipe manufacturer shall furnish notarized certificate of compliance to the above AWWA or ANSI specifications.
36. Fittings shall be ductile iron and have mechanical joints in accordance w/ ANSI/AWWA C110/A21.10. Fittings shall have interior cement-mortar lining as specified hereinbefore for the pipe.
37. ALL joints on this project shall be mechanically restrained in accordance with AWWA C111; EBAA Iron, Series 1100 Megalug or approved equal by LWC Project Manager
38. Joints for ductile iron pipe and fittings, as described hereinbefore, shall be rubber-gasket joints and be in accordance with ANSI/AWWA C111/A21.11, latest revision. Joints shall have the same pressure rating as the pipe.
39. Acceptable Manufacturers for pipe and restrained joints include:
  - a. U.S. Pipe (TR-Flex)
  - b. American (Flex Ring)
  - c. McWane (TR-Flex)
40. Acceptable Manufacturers for Couplers and Adapters include:
  - a. Dresser
  - b. Rockwell

### **GATE VALVES**

41. All Gate Valves shall be Iron body, resilient seat, bronze mounted, mechanical joint ends, nonrising stem, in accordance with AWWA C509, C515 and 2-inch operating nut. Working pressure shall be 350 psi for all gate valves, right hand open (clockwise) rotation.
42. Gate valves shall be fusion bonded epoxy coated per AWWA C116, C550 and NSF61.
43. All Gate Valves shall be Mechanical Joint with coupled gland end (non-friction restraint) and restrained per manufacturer specifications. All line valves shall be treated as dead end for the joint length calculations. All Gate Valves shall be installed per LWC Technical Specifications and Standard Drawings for Pipeline Construction section 6.8 Setting Cast Iron Valves and Fittings and LWC Standard Drawing 1400.
44. Unless otherwise specified or approved by the Project Manager, all newly installed gate valves shall maintain a minimum 12" of cover as measured from the top of ground elevation to the top nut elevation.
45. Acceptable manufacturers include:
  - a. Clow
  - b. Mueller
  - c. American Flow Control
  - d. M&H
46. Baits, studs, nuts, washers and screws, internally wetted or exposed: stainless steel, type 304 or 316.

### **AIR RELEASE VALVES**

47. Air release, air/vacuum, and combination air valves shall conform to AWWA C512.
48. Exterior/Interior of air valves shall be coated in accordance with AWWA C550.
49. Air valves shall be factory tested in accordance with AWWA C512.
50. Acceptable Manufacturers include ARI Model D-040 SSB/SS or approved equal by LWC Project Manager.



### **POLYETHYLENE PIPE WRAP**

51. All new ductile iron pipe and fittings shall be encapsulated in two layers of blue polyethylene wrap (Polywrap), with each layer a minimum thickness of 8 millimeters, or an approved equal by LWC Project Manager.
52. Polywrap shall be thoroughly inspected for cuts, rips or tears prior to burial. Small defects may be repaired with polytape. Larger tears and imperfections shall be covered with an additional layer of polywrap.
53. Polywrap shall meet the requirements of ASTM D4976 for material conformance and ASTM D882 for elongation properties.

### **REQUIRED SUBMITTALS**

54. Detailed submittals shall be made to LWC for the following items:
  - a. Manufacturers information on all pipe, valves, fittings and appurtenances including product type/model information and supporting technical documentation.
  - b. Certified dimensional drawings of all valves, fittings and appurtenances.
  - c. Certified dimensional drawings of joints, showing manufacturer's allowable deflection.
  - d. Copies of manufacturer's approved installation instructions for the types of joints proposed.
  - e. Detailed construction sequencing and schedule for the proposed work affecting LWC facilities.
  - f. Schedule of values

### **CUSTOMER SERVICES**

55. Contractor shall not use couplings while installing service lines under paved areas. Full length of service line shall be installed under paved surfaces.
56. The renewal/relocation of lead services shall require the contractor to identify the property line location, which is usually a few feet away from the meter vault, and excavate the service line. If the property line connection is not found, the contractor shall seek permission from the property owner to excavate on private property. The contractor shall continue to excavate up to 10 foot beyond the

suspected property line location onto private property in an effort to find the connection and determine the customer's service line material.

LWC Inspector will verify the service line material on the customer side of the property line connection.

If the material on the customer side is not lead, then the Contractor shall renew/relocate the entire LWC service line from the main to the customer's connection.

If the material on the customer side is lead, then LWC Inspector will contact the customer to make them aware of the replacement work to be completed by LWC and the existence of lead on the customer's side of the service line. The LWC Inspector shall also inquire if customer is willing to replace the customer's lead service line.

- a) If the customer is willing to replace their private lead service line, the Contractor will coordinate the renewal/relocation of LWC's lead service line with the customer's plumber.
  - b) If the customer is not willing to replace their lead service line and the service is to be renewed, then the contractor shall only renew the service from the water main to the meter vault. This shall be noted on the Installation Data Sheet.
  - c) If the customer is not willing to replace their lead service line and the service is to be relocated, then the contractor will replace the entire LWC lead service line from the main to the customer's connection and install a dielectric between the end of the new LWC service tail piece and the Customer's lead service line. The dielectric will be composed of a 24" section of like diameter Schedule 80 PVC pipe and a plastic universal transition coupling (supplied by LWC). If the customer's service line is less than 10 feet in length as measured from the building to the dielectric connection, then LWC will retain a licensed electrician to install an appropriate grounding system before service is relocated.
57. All service lines within the limits of the project either shown or not shown on the plans must be protected. The contractor using a licensed plumber must repair all damaged service lines at no addition cost to LWC.

### **WORK SCHEDULE**

58. LWC observes designated holidays. No work shall be performed during the holiday periods. All equipment, personnel, and materials shall be removed from the work area. All excavations shall be backfilled and restored. All street cuts shall be paved or patched.

59. Contractor shall work on no more than two sites at a time. At least one site must be fully restored with the exception of milling and paving before the Contractor begins working on the next site (this work includes yard, sidewalk and curb restoration and patching of all road cuts).
60. Normal work hours shall be limited to approved permit hours. All other work hour requests must be submitted by the contractor to the approving agency for approval after standard applications have been made and approved.
61. The Contractor shall anticipate the need to work after-hours and on weekends to accommodate all critical customer needs as directed by the LWC Project Manager. All such work will be considered incidental to the project and no additional compensation will be provided. This after-hour work must be pre-approved by the LWC Project Manager.

### **EROSION CONTROL MEASURES**

62. An erosion control plan is required for this project. An erosion control plan shall be prepared by the contractor and submitted to KYTC/LWC for review. The erosion control plan shall be submitted by the contractor to the respective agencies upon request of LWC. The contractor is responsible for maintaining all erosion control measures within the project limits in accordance with the latest LWC specifications. The contractor is responsible for making all erosion control modifications within the project limits required by KYTC/LWC, or any other permitting authority at no additional cost to LWC. The contractor is responsible to rectify any disputes that may arise due to inadequate erosion control measures as determined by KYTC/ LWC, or any other permitting authority.
63. As a minimum, erosion control features shall be provided at catch basins, headwalls and in small ditches where associated construction procedures may cause the transport of sediment into the storm drainage system. When soil is disturbed within grassy areas, erosion control protection shall also be provided at yard drains. Care will be required to minimize stockpiling or placing backfill or excavated materials on roadways.

### **PIPELINE CONSTRUCTION**

64. Prior to the start of any work at the site (including saw-cutting), the Contractor and LWC Construction Inspector shall review the proposed pipeline alignment with respect to the utility locations marked by the local utility locate company, trees, and other existing site improvements.

Waterline locates are for the contractor's reference only. The contractor shall field locate all water mains, services and appurtenances prior to starting project by digging, vacuum excavating, probing, etc. If in the course of construction, the

contractor damages any existing water main, then the contractor shall stop work and repair damaged water main, services, etc, before proceeding with project. If the contractor is not pre-qualified to perform the repair, then the project manager will assign a contractor and the project contractor will be responsible to pay the invoice(s) and materials for that repair.

65. Standard burial depth for new water mains is 42 inches, as measured from the top of ground to the top of the newly installed pipe. While the Contractor is expected to adhere to this standard burial depth requirement at all times, it is understood that revisions to the burial depth will be necessary when the installation of mains and large services conflict with existing utilities and other site improvements. Prior approval from the LWC Project Manager is required for these deviations.
66. The Contractor is cautioned that some large trees are located within the project alignment. Care will be required to minimize damage to trees and tree root systems. Excavations that encounter roots should be backfilled as soon as possible. Severed roots more than 2-inches in diameter shall be cut straight at an undamaged portion, maintained in a moist condition and then buried as soon as possible. Excavated soil shall not be placed within the dripline of any tree.
67. When installing main within the dripline of any tree with a diameter of 6 inches or larger, the root system shall be bored. The cost of the tree bore shall be considered incidental to the installation of the pipeline, and no extra compensation will be provided. All tree root systems that require boring shall be bored a minimum of 20 feet; 10 feet either side of the tree trunk. The bore shall be located a minimum of 4 feet below the ground surface and a minimum of 5 feet from the center of the tree.
68. Removal, cutting into asbestos-cement or transite ( AC ) pipe, tapping AC main or similar work for this project, shall be performed by the Contractor, with qualified personnel, and shall be in compliance with all OSHA requirement. Contractor may submit a written request to the project manager to utilize Louisville Water personnel for this work. The project manager may or may not approve this request based on the availability of Louisville Water resources. In either case contractor will be responsible for the cost of the above work. If Louisville Water personnel completes the work, then the contractor will be billed for the work.
69. If the edge of trench is running parallel and is less than 3.0' from the edge of asphalt, then the trench shall be backfilled as per std. detail as if constructed under pavement, using compacted granular backfill up to within 8" of final grade.

## RESTORATION

70. Unless otherwise noted on the Project Plans, surface restoration of grassy areas shall consist of seed/straw and/or erosion control blanket. The type of seed used shall match the existing grass. Prior to the final seeding, the Contractor shall place top soil on the disturbed area, remove all rock, and level the area to match existing grade.
71. Areas that have landscaping shall be replaced with like materials (mulch, plants, etc.). The Contractor shall contact each customer with landscaping to be disturbed to discuss options of removing it prior to construction and replacing it. The LWC general warranty period shall apply to this work.
72. Private Irrigation Lines, when encountered, shall be protected during construction. If these lines are damaged, the contractor shall hire a qualified licensed plumber to repair the damaged lines at no additional cost to LWC.
73. When sidewalk removal is necessary, the disturbed sidewalk and curbs shall be restored per the LWC standard specification except when they are within a designated historic area or the existing sidewalk has an exposed aggregate or similar finish. These areas shall be restored utilizing historic concrete mix. All historic concrete shall be a sand-grout mix design per Louisville Metro design specification which is shown below:

**2.2.2 MATERIALS**

Materials used in this construction shall meet the following requirements:

Sand-Grout Concrete Mix Design		
Mix ID: 6-1/2 bag grout – 4,000 psi		
	Weights/Volumes per Cubic Yard (Saturated, Surface-Dry)	Yield, Cu. Ft.
Type 1 Portland Cements (lbs.)	640	3.21
Class F Fly Ash (lbs.)	110	0.70
Class A Sand (lbs.)	2,729	17.02
Water (lbs.) (Gal.-US)	295 (35.3 lbs./Cu. Yd.)	4.73
Total Air (%)	5.0 ± 1.0	1.35
Total		27.0
Add Mixture		
Russ Tech. Finishease NC, (oz.)	29.60	
Air Entrain		
Russ Tech, RSA-10 (ox.-US)	5.9	
Water/Cement Ration (lbs.)	0.40	
Slump	4.00	
Concrete Unit Weight (lbs./cu. Ft.)	139.4	

Compensation for free and negative moisture will be made at the time of batching.

- 74. All historic mix concrete must be installed with a washed finish.
- 75. Sidewalks and curbs shall be replaced full width from existing joint to joint (partial replacement is not acceptable). All sidewalk construction and replacement shall meet the American Disabilities Act Specifications and requirements. Sidewalks shall be replaced per City of Shepherdsville Public Works Specifications.
- 76. All concrete driveways that are damaged by construction or specified for replacement on the plans shall be replaced in their entirety to the nearest existing construction joint. Concrete thickness and strength shall be per LWC standard specifications. The style shall match the existing driveway. The limits of repair, style of concrete and type of concrete for each driveway shall be approved by the LWC Project Manager prior to installation. The LWC Project Manager may modify thickness, style, type and limits of repair based on field conditions and property owner consultation which shall be installed by the contractor at no additional cost to LWC.

77. All asphalt driveways shall be restored via a utility cut, as approved by the LWC Project Manager and property owner. Asphalt thickness and strength shall be installed per LWC standard specifications. Asphalt driveway replacement shall be completed from edge of pavement to edge of right-of-way. The LWC Project Manager may modify thickness, style, type and limits of repair based on field conditions and property owner consultation which shall be installed by the contractor at no additional cost to LWC.

**SCHEDULE OF VALUES**

78. A Schedule of Values shall be submitted. The schedule is not limited to but shall include the following:
- Minimum 6% of the total contract pricing restoration line item.
  - Maximum 6% of the total contract pricing mobilization line item.
  - Minimum 2% of the total contract pricing demobilization line item.

**PAVEMENT RESTORATION**

79. Trench backfill and compaction shall be completed in accordance with one of the methods in the following chart:

**Trench Backfill and Compaction Requirements Beneath Pavements**

Category	Maximum Loose Lift Thickness (inches)				Maximum Number of Passes <sup>2</sup>	Example Models <sup>3</sup>
	Manufactured Sand	Pit Run Sand	Dense Graded Aggregate	No. 57 Stone		
I Lightweight Vibratory Plate Compactors (100 - 200lbs) <sup>1</sup>	8	8	6	8	3	Wacker-Neuson WP 1540; MBW GP18
II Medium Weight Vibratory Plate Compactors (220 - 660lbs) <sup>1</sup>	12	12	9	12	3	MultiQuip MWH206GH; MBW GPR77H
III Heavyweight Vibratory Plate Compactors (>660lbs) <sup>1,4</sup>	18	18	12	18	3	Wacker-Neuson BPU 4045A; MBW GPR135H
IV Smooth Drum Vibratory Rollers <sup>4</sup>	12	12	9	12	3	Wacker-Neuson RTLx with Smooth Drum Attachment
V Equipment Mounted Compactors <sup>4</sup>	24	24	24	24	3	Allied 1000B; Caterpillar CVP 110

<sup>1</sup>Weight range provided is the operating weight of the equipment during compaction.

<sup>2</sup>The minimum number of passes shall be applied across the full trench width. For example, a 30-inch wide trench compacted with a 22-inch wide lightweight plate compactor will require 6 total passes per lift.

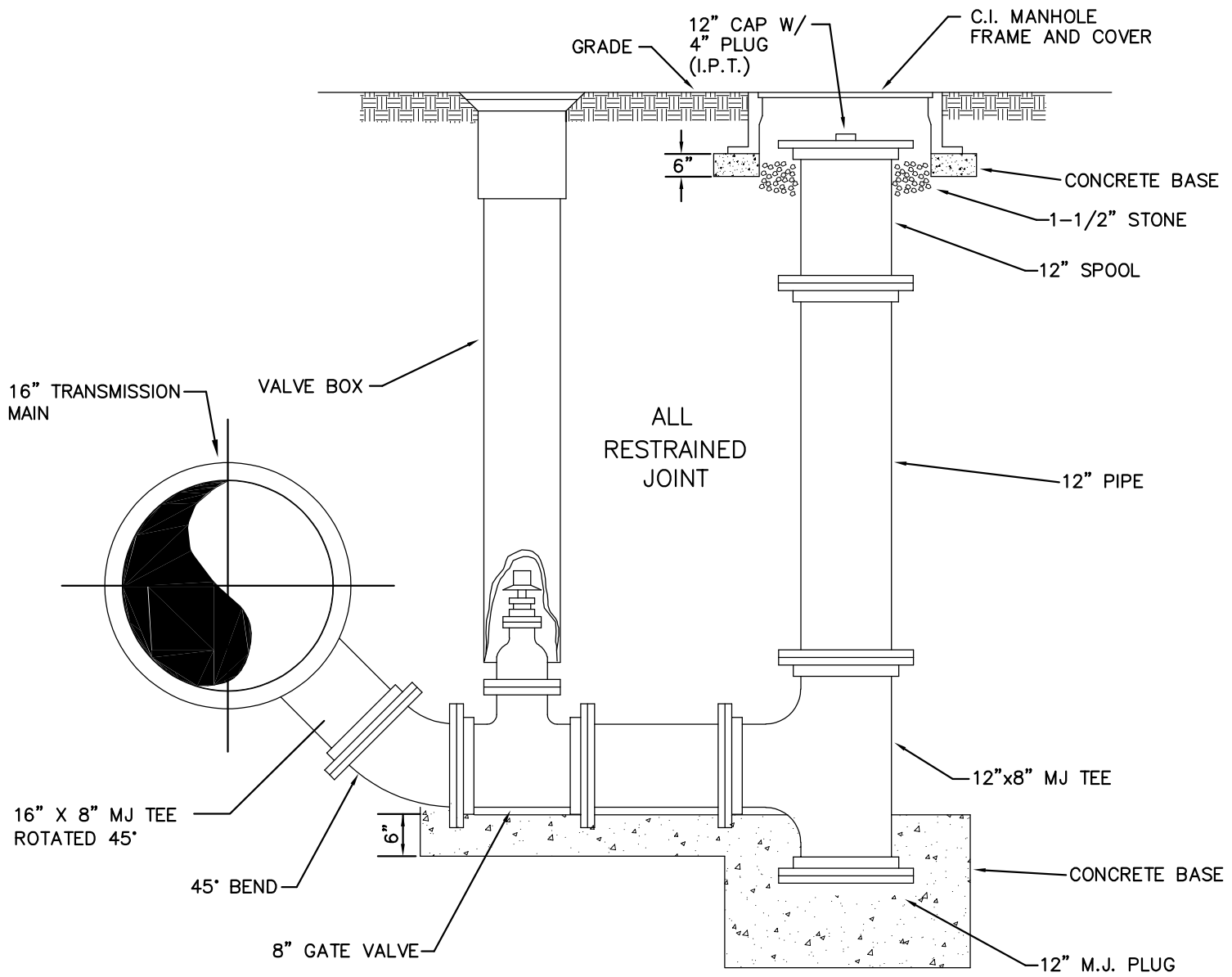
<sup>3</sup>Example models listed are not inclusive. Each manufacturer has multiple models that meet the requirements for each weight category, any of which the contractor may utilize.

<sup>4</sup>For categories III, IV and V, the manufacturers of both the compactors and the pipe should be consulted to determine the minimum amount of cover required over the pipe to prevent damage.



80. All trench cuts made in pavement shall be backfilled with DGA. Pavement cuts shall include 1-foot cutbacks that are a minimum 8-inch deep. Cutbacks shall be made after the trench is backfilled with DGA. The contractor is responsible for maintaining the DGA trench with cold patch for smooth rideability if it is opened to traffic. Concrete restoration shall occur within 14 days of the utility cut. A minimum 8-inch concrete cap shall be placed over the backfill material, keyed into the cutback and made flush with existing pavement grade. Concrete shall be floated and broom finished for smooth rideability. The contractor will be permitted to leave 4-foot DGA with cold patch gaps at service locations for longer than 14 days. The contractor is responsible for maintaining these gaps for smooth rideability. The entire area shall be restored via mill and pave, unless stated otherwise, from edge of pavement to edge of pavement for all pavement areas disturbed, in accordance with KYTC standard specifications.

**END SUPPLEMENTARY SPECIFICATIONS**



## 8" DRAIN/FLUSHING ASSEMBLY (TEE)

8" VALVE AND FITTINGS TO BE USED FOR 8" DRAIN ASSEMBLY

\* NOTE: ALL PIPE FITTINGS SHALL BE RESTRAINED

COUNTY OF	ITEM NO.	SHEET NO.
BULLITT	5-538.00	R2N

DIVISION 600 -- STRUCTURES AND CONCRETE

STANDARD DRAWINGS

STANDARD DRAWINGS ARE NOT ATTACHED TO THESE PLANS. A STANDARD DRAWING BOOK AND THE HEADWALL SUPPLEMENTAL BOOK MAY BE OBTAINED FROM THE POLICY SUPPORT BRANCH OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES IN FRANKFORT, KY. AT (502) 564-4610

CONCRETE

REINFORCEMENT

DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN. SPACING OF BARS IS FROM CENTER TO CENTER OF BARS. CLEAR DISTANCE TO FACE OF CONCRETE IS 2" UNLESS OTHERWISE NOTED. ANY REINFORCING BARS DESIGNATED BY SUFFIX "e" IN THE PLANS SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 811.10 OF THE STANDARD SPECIFICATIONS. ANY REINFORCING BARS DESIGNATED BY SUFFIX "s" IN A BILL OF REINFORCEMENT SHALL BE CONSIDERED A STIRRIP FOR PURPOSES OF BEND DIAMETERS.

BEVELED EDGES

ALL EXPOSED EDGES SHALL BE BEVELED 7/8" UNLESS OTHERWISE NOTED.

MASONRY COATING

APPLY MASONRY COATING TO THE CONCRETE SURFACE AS SPECIFIED IN SECTION 601.03.18 (B).

THE LOCATION OF UTILITIES PROVIDED IN THE CONTRACT DOCUMENTS HAS BEEN FURNISHED BY THE FACILITY OWNERS AND/OR BY REVIEWING RECORD DRAWINGS. THE INFORMATION MAY NOT BE EXACT NOR COMPLETE. IT WILL BE THE ROAD CONTRACTORS RESPONSIBILITY TO LOCATE UTILITIES BEFORE EXCAVATING BY CALLING THE VARIOUS UTILITY OWNERS AND BY EXAMINING ANY SUPPLEMENTAL INFORMATION PROVIDED BY THE CABINET AND/OR UTILITY OWNER. THE ROAD CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES BY HAND DIGGING TO EXPOSE UTILITIES BEFORE HE EXCAVATES IN THE AREA OF A UTILITY. THE COST FOR REPAIR AND ANY OTHER ASSOCIATED COSTS FOR ANY DAMAGE TO UTILITIES CAUSED BY THE ROAD CONTRACTORS OPERATIONS SHALL BE BORNE BY THE ROAD CONTRACTOR.

THE CONTRACTOR IS ADVISED TO CONTACT THE B.U.D. ONE-CALL SYSTEM; HOWEVER, THE CONTRACTOR SHOULD BE AWARE THAT THE OWNERS OF THE UNDERGROUND FACILITIES ARE NOT REQUIRED TO BE MEMBERS OF THE B.U.D. ONE-CALL SYSTEM. IT MAY BE NECESSARY FOR THE CONTRACTOR TO CONTACT THE COUNTY COURT CLERK TO DETERMINE WHAT UTILITY COMPANIES HAVE FACILITIES IN THE PROJECT AREA.

THE CONTRACTOR SHALL CONTACT THE SERVICE SIGN OWNER LISTED BELOW SO COORDINATION CAN BE PERFORMED FOR THE BLUE SERVICE SIGNS.

J.R. JARVIS, GENERAL MANAGER  
 KENTUCKY LOGOS, L.L.C.  
 2129-C COMMERCIAL DRIVE  
 FRANKFORT, KY 40601  
 800-469-5646 PH  
 502-227-0802 PH  
 502-227-7286 FX  
 JJARVIS@INTERSTATELOGOS.COM

DIVISION 200 -- EARTHWORK

CEMENT STABILIZED ROADBED

PER GEOTECHNICAL NOTES 31 AND 35, STABILIZE THE TOP 8 INCHES (MM) OF THE FINISHED ROADBED WITH PORTLAND CEMENT IN ACCORDANCE WITH SECTION 208 OF THE STANDARD SPECIFICATIONS. USE SELECTED SOILS, WITH A MINIMUM CBR VALUE OF 3 FOR THIS PURPOSE.

THE PORTLAND CEMENT CONTENT IS 6.00 PERCENT BY WEIGHT, AND THE ESTIMATED PLAN QUANTITY USES AN AVERAGE DRY DENSITY OF 104 LBS/CUBIC FEET. HOWEVER, ADJUST THE QUANTITY AFTER CONSTRUCTING THE ROADBED AND SUBMITTING THE SAMPLES FOR TESTING. THIS TAKES APPROXIMATELY TWO WEEKS.

LIME MODIFIED ROADBED

PER GEOTECHNICAL NOTE 34, MODIFY THE TOP 8 INCHES (MM) OF THE FINISHED ROADBED WITH LIME IN ACCORDANCE WITH SECTION 208 OF THE STANDARD SPECIFICATIONS. USE SELECTED SOILS, HAVING A MINIMUM C.B.R. VALUE OF 3 FOR THIS PURPOSE.

THE LIME CONTENT IS 4.00 PERCENT BY WEIGHT, AND THE ESTIMATED PLAN QUANTITY USES AN AVERAGE DRY DENSITY OF 104 LBS/CUBIC FEET. HOWEVER, ADJUST THE QUANTITY AFTER CONSTRUCTING THE ROADBED AND SUBMITTING THE SAMPLES FOR TESTING. THIS TAKES APPROXIMATELY TWO WEEKS.

DIVISION 400 -- ASPHALT PAVEMENTS

WINTER CLOSEDOWN

ANY ASPHALT CONCRETE BASE AND/OR SURFACE COURSE USED AS A RIDING SURFACE EXPOSED TO TRAFFIC DURING WINTER CLOSEDOWN PERIODS SHALL CONTAIN NATURAL, CONGLOMERATE, CRUSHED SLAG, CRUSHED GRANITE OR CRUSHED SANDSTONE SAND IN THE PROPORTION OF NO LESS THAN 25% OF THE TOTAL COMBINED COARSE AND FINE AGGREGATE.

ASPHALT PAVEMENT RIDE QUALITY

PAVEMENT RIDEABILITY REQUIREMENTS, IN ACCORDANCE WITH SECTION 410 OF THE STANDARD SPECIFICATIONS, SHALL APPLY ON THIS PROJECT. CATEGORY B SHALL APPLY.

COMPACTION OF ASPHALT MIXTURES

WILL ACCEPT THE COMPACTION OF ASPHALT MIXTURES FURNISHED FOR DRIVING LANES AND RAMPS AT ONE INCH (25 MM) OR GREATER ON THIS PROJECT BY OPTION A ACCORDING TO SUBSECTIONS 402 AND 403 OF THE CURRENT STANDARD SPECIFICATIONS. USE JOINT CORES AS DESCRIBED IN SUBSECTION 402.03.02 FOR SURFACE MIXTURES ONLY. WILL ACCEPT THE COMPACTION OF ALL OTHER ASPHALT MIXTURES BY OPTION B.

EDGE KEY

THIS WORK INCLUDES CUTTING OUT THE EXISTING ASPHALT SURFACE TO A MINIMUM DEPTH AND WIDTH AS DETAILED ELSEWHERE IN THE PLANS SO THAT THE NEW SURFACE MAY HEEL INTO THE EXISTING SURFACE. THE CONTRACT UNIT PRICE BID LINEAR FOOT (PER METER) FOR "EDGE KEY" INCLUDES ALL NECESSARY MATERIALS, LABOR AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND DISPOSE OF THE REMOVED ASPHALT MATERIAL.

ASPHALT PLACEMENT WITH MATERIAL TRANSFER VEHICLE (MTV)

IN ACCORDANCE WITH SECTION 403, THIS CONTRACT SPECIFIES THE USE OF A MTV TO PLACE THE ASPHALT MIXTURE FOR ALL LAYERS OF PAVEMENT EXCLUDING DRAINAGE BLANKET IN THE DRIVING LANES. THE DEPARTMENT WILL NOT MEASURE THE MTV FOR PAYMENT AND WILL CONSIDER ITS USE INCIDENTAL TO THE ASPHALT MIXTURE.

SAW CUT

THIS WORK INCLUDES SAW CUTTING THE EXISTING ASPHALT SURFACE EDGE TO THE SUBGRADE SO A NEW SURFACE MAY BE CONSTRUCTED NEXT TO THE EXISTING EDGE. THE CONTRACT UNIT PRICE BID LINEAR FOOT FOR "SAW CUT" INCLUDES ALL NECESSARY MATERIALS, LABOR AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND DISPOSE OF THE REMOVED ASPHALT MATERIAL AND MATERIALS BELOW TO THE BOTTOM OF THE PROPOSED WIDENING.

DIVISION 500 -- JPC PAVEMENT AND NON-STRUCTURAL CONCRETE CONSTRUCTION

APPLY JPC PAVEMENT SMOOTHNESS REQUIREMENTS, IN ACCORDANCE WITH SUBSECTION 501.03.19 OF THE STANDARD SPECIFICATIONS, ON THIS PROJECT.

PROPOSAL ATTACHMENTS

- SPECIAL NOTE FOR TREE REMOVAL
- SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS (1I) (6/15/2012)
- SPECIAL NOTE FOR ROCK BLASTING (1ID) (6/15/2012)
- SPECIAL NOTE FOR TURF REINFORCING MAT (1IF) (6/15/2012)
- SPECIAL NOTE FOR BARCODE LABEL ON PERMANENT SIGNS (1IM) (4/24/2015)
- SPECIAL NOTE FOR LONGITUDINAL PAVEMENT JOINT ADHESIVE (1IN) (5/30/2014)
- SPECIAL NOTE FOR INLAID PAVEMENT MARKERS (7/18/2016)
- SPECIAL NOTE FOR WORK NEAR RAILROAD

SPECIAL PROVISION FOR EMBANKMENT AT BRIDGE END BENT STRUCTURES (69) (9/16/2016)

SPECIAL NOTE FOR COMPLETION DATE AND LIQUIDATED DAMAGES

SOLID WASTE DEBRIS PILE REMOVAL

THE SOLID WASTE DEBRIS PILE LOCATED VISIBLY FROM OHM DRIVE CONNECTOR STA. 158+90 TO STA. 159+30 SHALL BE CAREFULLY EXCAVATED BY THE CONTRACTOR DOWN TO THE ORIGINAL EXISTING GROUND AS DETERMINED BY THE ENGINEER. USE CAUTION WHEN WORKING NEAR THE EXISTING UTILITIES IN THE AREA. DISPOSE OF ALL UNSUITABLE MATERIAL REMOVED FROM THE EXCAVATION. SUITABLE MATERIAL RECOVERED FROM THE EXCAVATION MAY BE INCORPORATED INTO THE EMBANKMENT CONSTRUCTION IF IT MEETS THE REQUIREMENTS SPECIFIED IN SECTION 206-EMBANKMENT OF THE STANDARD SPECIFICATIONS MANUAL. THE DEPARTMENT WILL MAKE PAYMENT FOR SPECIAL EXCAVATION (CUBIC YARD) PER SECTION 206.04 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION, BASED ON THE ESTIMATED QUANTITY SHOWN ON THE PLANS.

DIVISION 100 -- GENERAL PROVISIONS

N.G.S. (U.S.G.S.) BENCH MARKS

DO NOT DISTURB N.G.S. (U.S.G.S.) BENCH MARKS IN ANY MANNER UNLESS DIRECTED BY THE ENGINEER.  
 BEFORE YOU DIG

THE CONTRACTOR IS INSTRUCTED TO CALL 1-800-752-6007 TO REACH KY 811, THE ONE-CALL SYSTEM FOR INFORMATION ON THE LOCATION OF EXISTING UNDERGROUND UTILITIES. THE CALL IS TO BE PLACED A MINIMUM OF TWO (2) AND NO MORE THAN TEN (10) BUSINESS DAYS PRIOR TO EXCAVATION. THE CONTRACTOR SHOULD BE AWARE THAT OWNERS OF UNDERGROUND FACILITIES ARE NOT REQUIRED TO BE MEMBERS OF THE KY 811 ONE-CALL BEFORE-UDIG (BUD) SERVICE. THE CONTRACTOR MUST COORDINATE EXCAVATION WITH THE UTILITY OWNERS, INCLUDING THOSE WHOM DO NOT SUBSCRIBE TO KY 811. IT MAY BE NECESSARY FOR THE CONTRACTOR TO CONTACT THE COUNTY COURT CLERK TO DETERMINE WHAT UTILITY COMPANIES HAVE FACILITIES IN THE AREA.

DEPARTMENT OF THE ARMY PERMIT AND WATER QUALITY CERTIFICATION APPROVALS

A DEPARTMENT OF THE ARMY (DA) PERMIT, WHICH MAY REQUIRE APPROVAL OF A STATE WATER QUALITY CERTIFICATION FROM THE KENTUCKY DIVISION OF WATER, REGULATES THIS PROJECT AT ONE OR MORE LOCATIONS. PERFORM ALL APPLICABLE WORK IN COMPLIANCE WITH THE CONDITIONS STATED IN THE DA PERMIT AND THE APPROVED WATER QUALITY CERTIFICATION. POST A COPY OF THE DA PERMIT AND THE WATER QUALITY CERTIFICATION IN A CONSPICUOUS PLACE AT THE PROJECT SITE. IF A DA PERMIT OR WATER QUALITY CERTIFICATION APPROVAL IS PENDING, DO NOT WORK IN OR DISTURB THE DESIGNATED AREAS UNTIL OBTAINING THE APPROPRIATE APPROVAL(S). REFER TO NOTICE(S) CONTAINED IN THE CONTRACT BID PROPOSAL FOR DESIGNATED AREAS) WHERE WORK IS PROHIBITED BY THE ABSENCE OF APPROVAL.

GENERAL NOTES



COUNTY OF	ITEM NO.	SHEET NO.
BULLITT	5-538.00	R2N

DIVISION 200 -- EARTHWORK

CEMENT STABILIZED ROADBED

PER GEOTECHNICAL NOTES 31 AND 35, STABILIZE THE TOP 8 INCHES (MM) OF THE FINISHED ROADBED WITH PORTLAND CEMENT IN ACCORDANCE WITH SECTION 208 OF THE STANDARD SPECIFICATIONS. USE SELECTED SOILS, WITH A MINIMUM CBR VALUE OF 3 FOR THIS PURPOSE.

THE PORTLAND CEMENT CONTENT IS 6.00 PERCENT BY WEIGHT, AND THE ESTIMATED PLAN QUANTITY USES AN AVERAGE DRY DENSITY OF 104 LBS/CUBIC FEET. HOWEVER, ADJUST THE QUANTITY AFTER CONSTRUCTING THE ROADBED AND SUBMITTING THE SAMPLES FOR TESTING. THIS TAKES APPROXIMATELY TWO WEEKS.

LIME MODIFIED ROADBED

PER GEOTECHNICAL NOTE 34, MODIFY THE TOP 8 INCHES (MM) OF THE FINISHED ROADBED WITH LIME IN ACCORDANCE WITH SECTION 208 OF THE STANDARD SPECIFICATIONS. USE SELECTED SOILS, HAVING A MINIMUM C.B.R. VALUE OF 3 FOR THIS PURPOSE.

THE LIME CONTENT IS 4.00 PERCENT BY WEIGHT, AND THE ESTIMATED PLAN QUANTITY USES AN AVERAGE DRY DENSITY OF 104 LBS/CUBIC FEET. HOWEVER, ADJUST THE QUANTITY AFTER CONSTRUCTING THE ROADBED AND SUBMITTING THE SAMPLES FOR TESTING. THIS TAKES APPROXIMATELY TWO WEEKS.

DIVISION 400 -- ASPHALT PAVEMENTS

WINTER CLOSEDOWN

ANY ASPHALT CONCRETE BASE AND/OR SURFACE COURSE USED AS A RIDING SURFACE EXPOSED TO TRAFFIC DURING WINTER CLOSEDOWN PERIODS SHALL CONTAIN NATURAL, CONGLOMERATE, CRUSHED SLAG, CRUSHED GRANITE OR CRUSHED SANDSTONE SAND IN THE PROPORTION OF NO LESS THAN 25% OF THE TOTAL COMBINED COARSE AND FINE AGGREGATE.

ASPHALT PAVEMENT RIDE QUALITY

PAVEMENT RIDEABILITY REQUIREMENTS, IN ACCORDANCE WITH SECTION 410 OF THE STANDARD SPECIFICATIONS, SHALL APPLY ON THIS PROJECT. CATEGORY B SHALL APPLY.

COMPACTION OF ASPHALT MIXTURES

WILL ACCEPT THE COMPACTION OF ASPHALT MIXTURES FURNISHED FOR DRIVING LANES AND RAMPS AT ONE INCH (25 MM) OR GREATER ON THIS PROJECT BY OPTION A ACCORDING TO SUBSECTIONS 402 AND 403 OF THE CURRENT STANDARD SPECIFICATIONS. USE JOINT CORES AS DESCRIBED IN SUBSECTION 402.03.02 FOR SURFACE MIXTURES ONLY. WILL ACCEPT THE COMPACTION OF ALL OTHER ASPHALT MIXTURES BY OPTION B.

EDGE KEY

THIS WORK INCLUDES CUTTING OUT THE EXISTING ASPHALT SURFACE TO A MINIMUM DEPTH AND WIDTH AS DETAILED ELSEWHERE IN THE PLANS SO THAT THE NEW SURFACE MAY HEEL INTO THE EXISTING SURFACE. THE CONTRACT UNIT PRICE BID LINEAR FOOT (PER METER) FOR "EDGE KEY" INCLUDES ALL NECESSARY MATERIALS, LABOR AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND DISPOSE OF THE REMOVED ASPHALT MATERIAL.

ASPHALT PLACEMENT WITH MATERIAL TRANSFER VEHICLE (MTV)

IN ACCORDANCE WITH SECTION 403, THIS CONTRACT SPECIFIES THE USE OF A MTV TO PLACE THE ASPHALT MIXTURE FOR ALL LAYERS OF PAVEMENT EXCLUDING DRAINAGE BLANKET IN THE DRIVING LANES. THE DEPARTMENT WILL NOT MEASURE THE MTV FOR PAYMENT AND WILL CONSIDER ITS USE INCIDENTAL TO THE ASPHALT MIXTURE.

SAW CUT

THIS WORK INCLUDES SAW CUTTING THE EXISTING ASPHALT SURFACE EDGE TO THE SUBGRADE SO A NEW SURFACE MAY BE CONSTRUCTED NEXT TO THE EXISTING EDGE. THE CONTRACT UNIT PRICE BID LINEAR FOOT FOR "SAW CUT" INCLUDES ALL NECESSARY MATERIALS, LABOR AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND DISPOSE OF THE REMOVED ASPHALT MATERIAL AND MATERIALS BELOW TO THE BOTTOM OF THE PROPOSED WIDENING.

DIVISION 500 -- JPC PAVEMENT AND NON-STRUCTURAL CONCRETE CONSTRUCTION

APPLY JPC PAVEMENT SMOOTHNESS REQUIREMENTS, IN ACCORDANCE WITH SUBSECTION 501.03.19 OF THE STANDARD SPECIFICATIONS, ON THIS PROJECT.

PROPOSAL ATTACHMENTS

- SPECIAL NOTE FOR TREE REMOVAL
- SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS (1I) (6/15/2012)
- SPECIAL NOTE FOR ROCK BLASTING (1ID) (6/15/2012)
- SPECIAL NOTE FOR TURF REINFORCING MAT (1IF) (6/15/2012)
- SPECIAL NOTE FOR BARCODE LABEL ON PERMANENT SIGNS (1IM) (4/24/2015)
- SPECIAL NOTE FOR LONGITUDINAL PAVEMENT JOINT ADHESIVE (1IN) (5/30/2014)
- SPECIAL NOTE FOR INLAID PAVEMENT MARKERS (7/18/2016)
- SPECIAL NOTE FOR WORK NEAR RAILROAD

SPECIAL PROVISION FOR EMBANKMENT AT BRIDGE END BENT STRUCTURES (69) (9/16/2016)

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DIVISION 100 -- GENERAL PROVISIONS

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DEPARTMENT OF THE ARMY PERMIT AND WATER QUALITY CERTIFICATION APPROVALS

A DEPARTMENT OF THE ARMY (DA) PERMIT, WHICH MAY REQUIRE APPROVAL OF A STATE WATER QUALITY CERTIFICATION FROM THE KENTUCKY DIVISION OF WATER, REGULATES THIS PROJECT AT ONE OR MORE LOCATIONS. PERFORM ALL APPLICABLE WORK IN COMPLIANCE WITH THE CONDITIONS STATED IN THE DA PERMIT AND THE APPROVED WATER QUALITY CERTIFICATION. POST A COPY OF THE DA PERMIT AND THE WATER QUALITY CERTIFICATION IN A CONSPICUOUS PLACE AT THE PROJECT SITE. IF A DA PERMIT OR WATER QUALITY CERTIFICATION APPROVAL IS PENDING, DO NOT WORK IN OR DISTURB THE DESIGNATED AREAS UNTIL OBTAINING THE APPROPRIATE APPROVAL(S). REFER TO NOTICE(S) CONTAINED IN THE CONTRACT BID PROPOSAL FOR DESIGNATED AREAS WHERE WORK IS PROHIBITED BY THE ABSENCE OF APPROVAL.

DIVISION 600 -- STRUCTURES AND CONCRETE

STANDARD DRAWINGS

STANDARD DRAWINGS ARE NOT ATTACHED TO THESE PLANS. A STANDARD DRAWING BOOK AND THE HEADWALL SUPPLEMENTAL BOOK MAY BE OBTAINED FROM THE POLICY SUPPORT BRANCH OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES IN FRANKFORT, KY. AT (502) 564-4610

CONCRETE

REINFORCEMENT

DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN. SPACING OF BARS IS FROM CENTER TO CENTER OF BARS. CLEAR DISTANCE TO FACE OF CONCRETE IS 2" UNLESS OTHERWISE NOTED. ANY REINFORCING BARS DESIGNATED BY SUFFIX "e" IN THE PLANS SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 811.10 OF THE STANDARD SPECIFICATIONS. ANY REINFORCING BARS DESIGNATED BY SUFFIX "s" IN A BILL OF REINFORCEMENT SHALL BE CONSIDERED A STIRRIP FOR PURPOSES OF BEND DIAMETERS.

BEVELED EDGES

ALL EXPOSED EDGES SHALL BE BEVELED 7/8" UNLESS OTHERWISE NOTED.

MASONRY COATING

APPLY MASONRY COATING TO THE CONCRETE SURFACE AS SPECIFIED IN SECTION 601.03.18 (B).

THE LOCATION OF UTILITIES PROVIDED IN THE CONTRACT DOCUMENTS HAS BEEN FURNISHED BY THE FACILITY OWNERS AND/OR BY REVIEWING RECORD DRAWINGS. THE INFORMATION MAY NOT BE EXACT NOR COMPLETE. IT WILL BE THE ROAD CONTRACTORS RESPONSIBILITY TO LOCATE UTILITIES BEFORE EXCAVATING BY CALLING THE VARIOUS UTILITY OWNERS AND BY EXAMINING ANY SUPPLEMENTAL INFORMATION PROVIDED BY THE CABINET AND/OR UTILITY OWNER. THE ROAD CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES BY HAND DIGGING TO EXPOSE UTILITIES BEFORE HE EXCAVATES IN THE AREA OF A UTILITY. THE COST FOR REPAIR AND ANY OTHER ASSOCIATED COSTS FOR ANY DAMAGE TO UTILITIES CAUSED BY THE ROAD CONTRACTORS OPERATIONS SHALL BE BORNE BY THE ROAD CONTRACTOR.

THE CONTRACTOR IS ADVISED TO CONTACT THE B.U.D. ONE-CALL SYSTEM; HOWEVER, THE CONTRACTOR SHOULD BE AWARE THAT THE OWNERS OF THE UNDERGROUND FACILITIES ARE NOT REQUIRED TO BE MEMBERS OF THE B.U.D. ONE-CALL SYSTEM. IT MAY BE NECESSARY FOR THE CONTRACTOR TO CONTACT THE COUNTY COURT CLERK TO DETERMINE WHAT UTILITY COMPANIES HAVE FACILITIES IN THE PROJECT AREA.

THE CONTRACTOR SHALL CONTACT THE SERVICE SIGN OWNER LISTED BELOW SO COORDINATION CAN BE PERFORMED FOR THE BLUE SERVICE SIGNS.

J.R. JARVIS, GENERAL MANAGER  
KENTUCKY LOGOS, L.L.C.  
2129-C COMMERCIAL DRIVE  
FRANKFORT, KY 40601  
800-469-5646 PH  
502-227-0802 PH  
502-227-7286 FX  
JJJARVIS@INTERSTATELOGOS.COM

GENERAL NOTES





**GENERAL SUMMARY**

**NOTES:**

ITEM	DESCRIPTION	UNIT	Ohm Drive Connector	T-65	Ramp A	Ramp B	Ramp C	Ramp D	KY 61	Alpha Way	Cooper Run	Drives	PROJECT TOTALS
02708	CLEAN SILT TRAP TYPE C	EACH	810										810
02710	SCARIFYING AND RESHAPING	SOYD	0	0	0	0	0	0	59	347	74	0	480
02726	STAKING	LS	1										1
02775	ARROW PANEL	EACH		4									4
02929	CRASH CUSHION TYPE IX	EACH	0	2	0	0	0	0	0	0	0	0	2
03171	CONCRETE BARRIER WALL TYPE 9T (9)	LF		8,160									8,160
05950	EROSION CONTROL BLANKET	SOYD	5,580	1,103	1,196	2,972	3,413	2,898	2,375	1,295	40	1,048	21,920
05952	TEMP MULCH	SOYD	158,805										158,805
05953	TEMP SEEDING AND PROTECTION	SOYD	158,805										158,805
05963	INITIAL FERTILIZER (10)	TON	14										14
05964	20-10-10 FERTILIZER (11)	TON	16										16
05985	SEEDING AND PROTECTION	SOYD	202,427										202,427
05989	SPECIAL SEEDING CROWN VETCH	SOYD	115,182										115,182
05992	AGRICULTURAL LIMESTONE (12)	TON	261										261
06401	FLEXIBLE DELINEATOR POST-M/W	EACH	0	0	45	61	53	45	0	0	0	0	204
06404	FLEXIBLE DELINEATOR POST-M/Y	EACH	0	0	31	29	22	31	0	0	0	0	113
06511	PAVE STRIPING-TEMP PAINT-6 IN	LF		30,225									30,225
06514	PAVE STRIPING-PERM PAINT-4 IN	LF	34,989	0	0	0	0	0	15,112	3,953	0	0	54,054
06515	PAVE STRIPING-PERM PAINT-6 IN (7)	LF	0	24,116	3,929	4,470	3,783	3,880	0	0	0	0	40,177
06516	PAVE STRIPING-PERM PAINT-8 IN	LF	0	0	0	134	137	0	0	0	0	0	271
06517	PAVE STRIPING-PERM PAINT-12 IN	LF	0	0	845	1,842	1,782	864	0	0	0	0	5,333
06531	PAVE STRIPING REMOVAL-6 IN	LF		30,225									30,225
06547	PAVE STRIPING-THERMO-12 IN Y	LF	44	0	0	0	0	0	0	0	0	0	44
06568	PAVE MARKING-THERMO STOP BAR-24IN	LF	40	0	73	0	0	72	0	28	0	0	213
06569	PAVE MARKING-THERMO CROSS-HATCH	SOFT	1,774	0	0	503	537	0	1,439	0	0	0	4,253
06574	PAVE MARKING-THERMO CURV ARROW	EACH	33	0	8	0	0	8	0	4	0	0	53
06585	PAVEMENT MARKER TY IVA-MW TEMP	EACH	509										509
06600	REMOVE PAVEMENT MARKER TYPE V	EACH	286										286
08100	CONCRETE-CLASS A	EACH	0	11	0	0	0	0	0	0	0	0	11
08150	STEEL REINFORCEMENT	CUYD	0	392	0	0	0	0	0	0	0	0	392
08901	CRASH CUSHION TY VI CLASS BT TL2	LB	0	4									4
10020NS	FUEL ADJUSTMENT	EACH	339,621										339,621
10030NS	ASPHALT ADJUSTMENT	DOLL	152,831										152,831
20191ED	OBJECT MARKER TY 3 (6)	DOLL	4	1	0	0	0	0	0	0	0	0	5
20430ED	SAW CUT	EACH	0	0	450	1,222	1,214	500	2,735	0	0	0	6,121
21289ED	LONGITUDINAL EDGE KEY	LF	0	0	0	0	0	0	2,735	0	0	0	2,735
22664EN	WATER BLASTING EXISTING STRIPE	LF	0	28,425									28,425
23274ENIIF	TURF REINFORCEMENT MAT 1	LF	0	487	0	0	0	0	0	73	0	0	560
24540	R/W MONUMENT TYPE 3	SOYD	0	0	0	0	0	0	0	0	0	0	0
24489EC	INLAID PAVEMENT MARKER (7)	EACH	13	296	77	138	131	76	144	43	0	0	13
24640ED	OBJECT MARKER TYPE 1	EACH	357	4									1,262
24640ED	OBJECT MARKER TYPE 1	EACH	4										4
24640ED	OBJECT MARKER TYPE 1	EACH	0	0	0	0	0	0	0	0	0	0	0
24640ED	OBJECT MARKER TYPE 1	EACH	0	0	0	0	0	0	0	0	0	0	0
02223	GRANULAR EMBANKMENT (3)	CUYD	23,226	0	6,120	2,173	2,047	3,981	0	2,408	0	0	39,956
02692	SETTLEMENT PLATFORM	EACH	1	0	0	0	0	0	0	0	0	0	1
03340	STEEL PIPE, 2 1/2-INCH	LF	63	0	0	0	0	0	0	0	0	0	63
03343	STEEL PIPE, 4-INCH	LF	63	0	0	0	0	0	0	0	0	0	63

**PAVING AREAS**

ITEM	OHM DRIVE CONNECTOR	I-65	RAMP A			RAMP B			RAMP C			RAMP D			KY 61	ALPHA WAY	COOPER RUN ROAD	DRIVES	MOT	TOTAL PROJECT
			S	O	U	A	R	E	R	A	Y	A	R	D						
CRUSHED STONE BASE	51,453	0	9,392	11,929	10,549	9,311	6,998	4,558	1,253	7,268	254	112,965								
CEMENT STABILIZED ROADBED	45,777	0	7,906	10,200	9,059	7,841	5,478	4,558	0	1,976	0	92,796								
LIME ④	10,311	0	3,465	1,761	4,242	0	2,998	930	0	0	0	23,708								
ASPHALT SEAL AGGREGATE	14,190	0	3,820	4,388	3,762	3,774	3,647	0	0	277	0	33,857								
ASPHALT SEAL COAT	14,190	0	3,820	4,388	3,762	3,774	3,647	0	0	277	0	33,857								
LEVELING & WEDGING PG76-22	0	0	0	0	0	0	3,061	0	0	0	0	3,061								
CL3 ASPH BASE 1.00D PG64-22	42,888	0	4,085	5,371	4,249	4,025	5,010	3,875	0	1,823	0	71,325								
CL3 ASPH BASE 1.00D PG76-22	42,416	0	3,996	5,277	4,184	3,937	4,908	3,875	1,233	5,460	247	75,533								
ASPHALT MATERIAL FOR TACK	127,543	0	12,043	15,889	12,592	11,866	24,284	11,626	2,457	12,698	489	231,487								
ASPHALT CURING SEAL	45,777	0	7,906	10,200	9,059	7,841	5,478	4,558	0	1,976	0	92,796								
CL3 ASPH SURF 0.388 PG76-22	42,239	0	3,962	5,241	4,160	3,904	11,305	3,875	1,224	5,415	242	81,567								
JPC PAVEMENT-11 IN	0	0	3,097	4,028	4,118	3,101	0	0	0	0	0	14,345								
CEMENT	45,777	0	7,906	10,200	9,059	7,841	5,478	4,558	0	1,976	0	92,796								
ASPHALT PAVE MILLING & TEXTURING	0	0	0	0	0	0	6,434	0	0	0	0	6,434								
SAND FOR BLOTTER	45,777	0	7,906	10,200	9,059	7,841	5,478	4,558	0	1,976	0	92,796								

**PAVING SUMMARY**

ITEM CODE	ITEM	UNIT	OHM DRIVE CONNECTOR	I-65	RAMP A	RAMP B	RAMP C	RAMP D	KY 61	ALPHA WAY	COOPER RUN ROAD	DRIVES	MOT	TOTAL PROJECT
00003	CRUSHED STONE BASE ①	TON	22,402	0	4,595	5,669	4,988	4,551	3,576	1,572	577	2,982	58	50,971
00008	CEMENT STABILIZED ROADBED	SOYD	45,777	0	7,906	10,200	9,059	7,841	5,478	4,558	0	1,976	0	92,796
00014	LIME ④	TON	129	0	43	22	53	0	37	12	0	0	0	296
00100	ASPHALT SEAL AGGREGATE ②	TON	284	0	76	88	75	75	73	0	0	6	0	677
00103	ASPHALT SEAL COAT ②	TON	34	0	9	11	9	9	9	0	0	1	0	81
00194	LEVELING & WEDGING PG76-22	TON	0	0	0	0	0	0	463	0	0	0	0	463
00214	CL3 ASPH BASE 1.00D PG64-22	TON	9,435	0	899	1,182	935	885	1,102	853	0	401	0	15,692
00216	CL3 ASPH BASE 1.00D PG76-22	TON	9,332	0	879	1,161	920	866	1,080	853	203	953	31	16,277
00356	ASPHALT MATERIAL FOR TACK	TON	54	0	5	7	5	5	10	5	1	5	0	97
00358	ASPHALT CURING SEAL	TON	46	0	8	10	9	8	5	5	0	2	0	93
00387	CL3 ASPH SURF 0.388 PG76-22	TON	3,485	0	327	432	343	322	933	320	84	397	17	6,659
02071	JPC PAVEMENT-11 IN	SOYD	0	0	3,097	4,028	4,118	3,101	0	0	0	0	0	14,345
02542	CEMENT ③	TON	857	0	148	191	170	147	103	85	0	37	0	1,737
02676	MOBILIZATION FOR MILL & TEXT	LS	0	0	0	0	0	0	1	0	0	0	0	1
02677	ASPHALT PAVE MILLING & TEXTURING	TON	0	0	0	0	0	0	531	0	0	0	0	531
02702	SAND FOR BLOTTER	TON	114	0	20	26	23	20	14	11	0	5	0	232
20071EC	JOINT ADHESIVE	LF	35,897	0	2,626	2,309	2,422	2,744	10,460	4,034	0	663	0	61,155
00013	LIME STABILIZED ROADBED ④	SOYD	10,311	0	3,465	1,761	4,242	0	2,998	930	0	0	0	23,708

**NOTES**

ALL ASPHALT MIXTURES SHALL BE ESTIMATED AT 110 LBS. PER SQ. YD. PER INCH OF DEPTH, UNLESS NOTED OTHERWISE.

- ① ESTIMATED AT 115 LBS. PER SQ. YD. PER INCH OF DEPTH.
- ② TWO APPLICATIONS APPLIED PER PAVING AREA.
- ③ ESTIMATED AT 4.68 LBS. PER SQUARE YARD PER INCH OF DEPTH AT 8" DEEP.
- ④ REFER TO GEOTECHNICAL NOTE 34. ESTIMATED AT 3.12 LBS. PER SQUARE YARD PER INCH OF DEPTH AT 8" DEEP.

PAVING AREAS

ITEM	OHM DRIVE CONNECTOR	I-65	RAMP A			RAMP B			RAMP C			RAMP D			KY 61	ALPHA WAY	COOPER RUN ROAD	DRIVES	MOT	TOTAL PROJECT
			S	Q	U	A	R	E	D	Y	A	R	D	S						
CRUSHED STONE BASE	51,453	0	9,392	11,929	10,549	9,311	6,998	4,558	1,253	7,268	254	112,965								
CEMENT STABILIZED ROADBED	45,777	0	7,906	10,200	9,059	7,841	5,478	4,558	0	1,976	0	92,796								
LIME ④	10,311	0	3,465	1,761	4,242	0	2,998	930	0	0	0	23,708								
ASPHALT SEAL AGGREGATE	14,190	0	3,820	4,388	3,762	3,774	3,647	0	0	277	0	33,857								
ASPHALT SEAL COAT	14,190	0	3,820	4,388	3,762	3,774	3,647	0	0	277	0	33,857								
LEVELING & WEDGING PG76-22	0	0	0	0	0	0	3,061	0	0	0	0	3,061								
CL3 ASPH BASE 1.00D PG64-22	42,888	0	4,085	5,371	4,249	4,025	5,010	3,875	0	1,823	0	71,325								
CL3 ASPH BASE 1.00D PG76-22	42,416	0	3,996	5,277	4,184	3,937	4,908	3,875	1,233	5,460	247	75,533								
ASPHALT MATERIAL FOR TACK	127,543	0	12,043	15,889	12,592	11,866	24,284	11,626	2,457	12,698	489	231,487								
ASPHALT CURING SEAL	45,777	0	7,906	10,200	9,059	7,841	5,478	4,558	0	1,976	0	92,796								
CL3 ASPH SURF 0.388 PG76-22	42,239	0	3,962	5,241	4,160	3,904	11,305	3,875	1,224	5,415	242	81,567								
JPC PAVEMENT-11 IN	0	0	3,097	4,028	4,118	3,101	0	0	0	0	0	14,345								
CEMENT	45,777	0	7,906	10,200	9,059	7,841	5,478	4,558	0	1,976	0	92,796								
ASPHALT PAVE MILLING & TEXTURING	0	0	0	0	0	0	6,434	0	0	0	0	6,434								
SAND FOR BLOTTER	45,777	0	7,906	10,200	9,059	7,841	5,478	4,558	0	1,976	0	92,796								

PAVING SUMMARY

ITEM CODE	ITEM	UNIT	OHM DRIVE CONNECTOR	I-65	RAMP A	RAMP B	RAMP C	RAMP D	KY 61	ALPHA WAY	COOPER RUN ROAD	DRIVES	MOT	TOTAL PROJECT
00003	CRUSHED STONE BASE ①	TON	22,402	0	4,595	5,669	4,988	4,551	3,576	1,572	577	2,982	58	50,971
00008	CEMENT STABILIZED ROADBED	SOYD	45,777	0	7,906	10,200	9,059	7,841	5,478	4,558	0	1,976	0	92,796
00014	LIME ④	TON	129	0	43	22	53	0	37	12	0	0	0	296
00100	ASPHALT SEAL AGGREGATE ②	TON	284	0	76	88	75	75	73	0	0	6	0	677
00103	ASPHALT SEAL COAT ②	TON	34	0	9	11	9	9	9	0	0	1	0	81
00194	LEVELING & WEDGING PG76-22	TON	0	0	0	0	0	0	463	0	0	0	0	463
00214	CL3 ASPH BASE 1.00D PG64-22	TON	9,435	0	899	1,182	935	885	1,102	853	0	401	0	15,692
00216	CL3 ASPH BASE 1.00D PG76-22	TON	9,332	0	879	1,161	920	866	1,080	853	203	953	31	16,277
00356	ASPHALT MATERIAL FOR TACK	TON	54	0	5	7	5	5	10	5	1	5	0	97
00358	ASPHALT CURING SEAL	TON	46	0	8	10	9	8	5	5	0	2	0	93
00387	CL3 ASPH SURF 0.388 PG76-22	TON	3,485	0	327	432	343	322	933	320	84	397	17	6,659
02071	JPC PAVEMENT-11 IN	SOYD	0	0	3,097	4,028	4,118	3,101	0	0	0	0	0	14,345
02542	CEMENT ③	TON	857	0	148	191	170	147	103	85	0	37	0	1,737
02676	MOBILIZATION FOR MILL & TEXT	LS	0	0	0	0	0	0	1	0	0	0	0	1
02677	ASPHALT PAVE MILLING & TEXTURING	TON	0	0	0	0	0	0	531	0	0	0	0	531
02702	SAND FOR BLOTTER	TON	114	0	20	26	23	20	14	11	0	5	0	232
00013	LIME STABILIZED ROADBED ④	SOYD	10,311	0	3,465	1,761	4,242	0	2,998	930	0	0	0	23,708

NOTES

ALL ASPHALT MIXTURES SHALL BE ESTIMATED AT 110 LBS. PER SQ. YD. PER INCH OF DEPTH, UNLESS NOTED OTHERWISE.

- ① ESTIMATED AT 115 LBS. PER SQ. YD. PER INCH OF DEPTH.
- ② TWO APPLICATIONS APPLIED PER PAVING AREA.
- ③ ESTIMATED AT 4.68 LBS. PER SQUARE YARD PER INCH OF DEPTH AT 8" DEEP.
- ④ REFER TO GEOTECHNICAL NOTE 34. ESTIMATED AT 3.12 LBS. PER SQUARE YARD PER INCH OF DEPTH AT 8" DEEP.

PAVING AREAS & SUMMARY



COUNTY OF	ITEM NO.	SHEET NO.
BULLITT	5-538.00	T1

ROADWAY LIGHTING ESTIMATE OF QUANTITIES

THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION, AND OTHER SPECIAL NOTES AND SPECIFICATIONS WILL APPLY ON THIS PROJECT. SEE SECTION 716 FOR MEASUREMENT AND OTHER DETAILS. SEE SECTION 602 FOR SPIRAL REINFORCEMENT SPLICING

THE CONTRACTOR SHALL MAKE AN INSPECTION OF THE PROJECT SITE PRIOR TO SUBMITTING A BID AND SHALL BE THOROUGHLY FAMILIARIZED WITH EXISTING CONDITIONS. SUBMISSIONS OF A BID WILL BE CONSIDERED AN AFFIRMATION OF THIS INSPECTION HAVING BEEN COMPLETED.

ADD SENTENCE TO SECTION 834.06: ALL WIRE SHALL HAVE WORDING ADDED TO THE OUTER JACKET THAT STATES : "PROPERTY OF KENTUCKY TRANSPORTATION CABINET 502 564 0501".

ADD SENTENCE TO SECTION 834.09: ALL WIRE SHALL HAVE WORDING ADDED TO THE OUTER JACKET THAT STATES: "PROPERTY OF KENTUCKY TRANSPORTATION CABINET 502 564 0501".

CONSTRUCTION AND MEASUREMENT NOTES THAT ARE CONTRARY TO SECTION 716 AND 834

**SUBSECTION:** 716.03.03 B TRENCHING.  
**REVISION:** REMOVE ENTIRE FOURTH SENTENCE IN FIRST PARAGRAPH:  
 NO PAYMENT FOR ADDITIONAL JUNCTION BOXES FOR GREATER DEPTHS WILL BE ALLOWED.

**SUBSECTION:** 716.04.08 LIGHTING CONTROL EQUIPMENT.  
**REVISION:** REPLACE THE PARAGRAPH WITH THE FOLLOWING:  
 THE DEPARTMENT WILL MEASURE THE QUANTITY AS EACH INDIVIDUAL UNIT FURNISHED AND INSTALLED. THE DEPARTMENT WILL NOT MEASURE THE CONCRETE BASE, EXCAVATION, BACKFILLING, RESTORATION, ANY NECESSARY ANCHORS, ELECTRICAL INSPECTION FEES, AND REQUIRED BUILDING FEES INVOLVING UTILITY SECONDARY/PRIMARY SERVICE FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK. THE DEPARTMENT WILL ALSO NOT MEASURE/ FURNISHING AND INSTALLING ELECTRICAL SERVICE CONDUCTORS, SPECIFIED CONDUITS, METER BASE, WOOD POLE, TRANSFORMER, SERVICE PANEL, FUSED CUTOFF, FUSES, LIGHTING ARRESTORS, PHOTOELECTRICAL CONTROL, CIRCUIT BREAKERS, CONTACTOR, MANUAL SWITCH, GROUND RODS, AND GROUND LUGS, AND TRANSFORMER, SERVICE PANEL, WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK. THE DEPARTMENT WILL NOT MEASURE THE FILLING OF ANY UNUSED HOLES WITH AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK.

**SUBSECTION:** 834.14.02 TRANSFORMER BASES.  
**REMOVE:** REMOVE SENTENCE: CONSTRUCT THE DOOR OF A HIGH DENSITY POLYETHYLENE MATERIAL IN COLOR THAT MATCHES THE BASE.  
**REVISION:** REPLACE THE FOLLOWING SENTENCE WITH THE FOLLOWING:  
 CONSTRUCT THE DOOR OF AN ALUMINUM MATERIAL IN A COLOR THAT MATCHES THE BASE. THE DOOR SHOULD HAVE A THEFT DETERRENT DEVICE THAT IS EQUAL TO THE LOCKDOWN LIGHTLOCK DOOR ASSEMBLY. THE DOOR LOCK WILL HAVE A LOCKING DEVICE WITH A KYTC CUSTOM KEY THAT WILL BE SEND TO CENTRAL OFFICE TRAFFIC OPERATIONS FROM THE MANUFACTURER AND BE ISSUED TO THE CONTRACTOR FOR THE INSTALLATION OF THE FINAL DOOR DEVICE. THE KEY FOR THE DOOR SHALL BE RETURNED TO CENTRAL OFFICE TRAFFIC OPERATIONS AFTER THE CLOSURE OF THE CONTRACT. THERE SHALL BE A 4" BY 6" ARC FLASH WARNING STICKER INSTALLED CENTER TOP OF EACH DOOR. THE STICKER SHALL BE METALGRAFT PLY695 PREM STYLEMARK LABEL WITH .007 THICKNESS, WITH UV WHITE POLYCARBONATE MATERIAL, AND WITH MCS3FL PRESSURE SENSITIVE ADHESIVE. THE STICKER SHALL HAVE TWO COLORS OF BLACK AND CUSTOM COLOR ORANGE. THE WORDING FOR THE ARC FLASH STICKER SHALL BE THE FOLLOWING: "WARNING ARC FLASH HAZARD. APPROPRIATE PPE REQUIRED. FAILURE TO COMPLY CAN RESULT IN DEATH OR INJURY. REFER TO NFPA 70E."

ITEM CODE	ITEM	UNIT	TOTAL
4701	POLE 40 FT MTG HT	EACH	11
4710	POLE 80 FT MTG HT HIGH MAST	EACH	7
4714	POLE 120 FT MTG HT HIGH MAST	EACH	6
4724	BRACKET 12 FT	EACH	11
4740	POLE BASE	EACH	11
4742	POLE BASE - HIGH MAST	EACH	13
4750	TRANSFORMER BASE	EACH	11
4761	LIGHTING CONTROL EQUIPMENT	EACH	2
4780	FUSED CONNECTOR KIT	EACH	22
4795 (1)	CONDUIT - 2 IN	LIN FT	180
4797 (1)	CONDUIT - 3 IN	LIN FT	2514
4800	MARKER	EACH	35
4811 (1)	ELECTRICAL JUNCTION BOX TYPE B	EACH	2
4820 (1)	TRENCHING AND BACKFILLING	LIN FT	12754
4832	WIRE - NO. 12	LIN FT	5160
4860	CABLE - NO. 8/3C DUCTED	LIN FT	16657
4861	CABLE - NO. 6/3C DUCTED	LIN FT	4263
2039INS835	ELECTRICAL JUNCTION BOX TYPE A	EACH	8
20392NS835	ELECTRICAL JUNCTION BOX TYPE C	EACH	6
21543EN(1)	BORE AND JACK CONDUIT	LIN FT	2509
24589ED	LED LUMINAIRE	EACH	11
24749EC	HIGH MAST LED LUMINAIRE	EACH	72

**NOTES:**  
 (1) INCLUDES 180 LINEAR FEET OF 2" CONDUIT, 179 LINEAR FEET OF 3" CONDUIT, AND 2 TYPE B JUNCTION BOXES FOR REINSTALLING THE DAKTRONICS VM-1020 PANEL SYSTEM FOR SIGNING. SEE SIGNING PLAN SHEET T32 FOR ADDITIONAL INFORMATION.

DESIGNED BY:	
DATE SUBMITTED:	
<b>Commonwealth of Kentucky</b> <b>DEPARTMENT OF HIGHWAYS</b> COUNTY OF <b>BULLITT</b>	
PROJECT NUMBERS:	NHPP1M 0655 (120) FD52 015 0065 113-115
ROADWAY LIGHTING ESTIMATE OF QUANTITIES	

ROADWAY LIGHTING ESTIMATE OF QUANTITIES

THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION, AND OTHER SPECIAL NOTES AND SPECIFICATIONS WILL APPLY ON THIS PROJECT. SEE SECTION 716 FOR MEASUREMENT AND OTHER DETAILS. SEE SECTION 602 FOR SPIRAL REINFORCEMENT SPLICING

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SUBSECTION: 834.14.02 TRANSFORMER BASES.  
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21583EB	LED LUMINAIRE	EACH	11
24749EC	HIGH MAST LED LUMINAIRE	EACH	72

NOTES:  
 ① INCLUDES 180 LINEAR FEET OF 2" CONDUIT, 179 LINEAR FEET OF 3" CONDUIT, AND 2 TYPE B JUNCTION BOXES FOR REINSTALLING THE DATA COMMUNICATIONS PANEL SYSTEM FOR SIGNING. SEE SIGNING PLAN SHEET T32 FOR ADDITIONAL INFORMATION.

DESIGNED BY: \_\_\_\_\_  
 DATE SUBMITTED: \_\_\_\_\_

**Commonwealth of Kentucky**  
**DEPARTMENT OF HIGHWAYS**  
 COUNTY OF  
**BULLITT**

NHPPIM 0655 (120)  
 PROJECT NUMBERS: FD52 015 0065 113-115

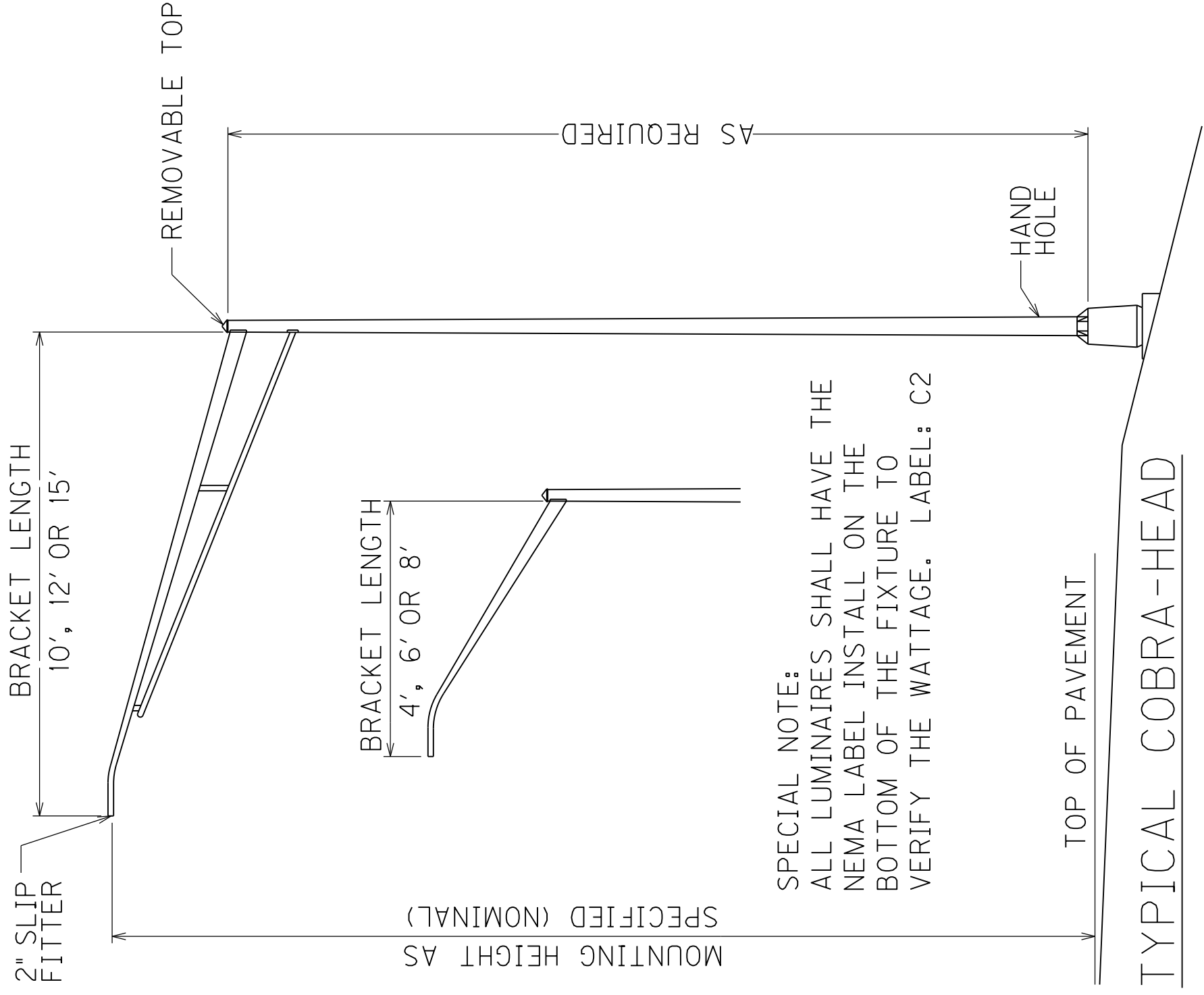
ROADWAY LIGHTING ESTIMATE  
 OF QUANTITIES



### LED Luminaire Specifications

The following are the required Specifications for the LED Fixture:

- The Luminaire shall be listed by a National Recognized Testing Laboratory (NRTL) as defined by the U.S. Department of Labor. The testing laboratory must be listed by OSHA in its scope of recognition for the applicable tests being conducted as required by this specification. A list of recognized testing labs for products sold in the United States may be found on the U.S. Department of Labor's web site: <http://www.osha.gov/>
- The Luminaire shall be listed and labeled by a NRTL or CSA as being in compliance with UL 1598 and suitable for use in wet locations.
- Key components including LED drivers, LED light sources, and surge protection devices shall be RoHS compliant.
- The housing shall have an International Electrotechnical Commission (IEC) 529 Ingress Protection (IP) rating of IP 65 or greater.
- Shall be in compliance with Electro Magnetic Interference (EMI) requirements as defined by FCC 47 Sub Part 15; CISPR15, CISPR22 Class A (120Vmin), EN61000-3-2, -3-3, -4-4, -4-5.
- Shall be tested according to the most current version of Illuminating Engineering Society of North America (IESNA) LM-79.
- Shall have lumen maintenance measured in accordance the most current version of Illuminating Engineering Society of North America (IESNA) LM-80.
- Shall have long term lumen maintenance documented according to the most current version of Illuminating Engineering Society of North America (IESNA) TM-21.
- The fixture shall have a diecast aluminum housing.
- The luminaire finish shall be corrosion resistant with a polyester powdercoat of 2.5 mil nominal thickness. Finish shall pass per ASTM D1654 after 3000 hours of testing per ASTM B117.
- All hardware on the exterior of the housing including cover and latch shall be stainless steel, zinc or steel with zinc alloy electroplate and chromate top coat.
- The luminaire shall be easy to open when properly mounted and shall have readily accessible internal parts. Access to all internal parts requiring replacement shall not require tools (i.e. "tool-less entry").
- The luminaire shall have a vibration rating of 3G per the American National Standard (ANSI) IEEE C136.31, Table 2 Roadway Lighting Equipment -Luminaire Vibration for both normal applications and bridge and overpass applications.
- The luminaire shall be designed to allow water shedding.
- The luminaire shall have a passive cooling method shall be employed to manage thermal output of LED light engine and power supply.
- The luminaire shall have a label per ANSI C136.22 that states operating voltage and current range. The label must be clearly visible on the inside of the housing.
- The luminaire shall fully operate in a temperature range of -40 degrees C up to 40 degrees C (-40 degrees F to 104 degrees F).
- In retrofit applications, the LED luminaire shall not be more wattage than the original HPS fixture if you are replacing one for one. For the optimized proposal, we will allow the wattage to be greater than the original proposed luminaire.
- The luminaire shall have an integral power supply (electronic driver). The power supply shall not have a manual, field-adjustable setting for current output.
- The luminaire shall have a power supply (electronic driver) that will operate on a 480 volt single phase at 60 hertz.
- The luminaire shall have a power supply (electronic driver) that has a power factor of .90 or greater at full load.
- The luminaire shall have a power supply (electronic driver) that has total harmonic distortion of 20% or less at full load.
- The luminaire shall have power supply (electronic driver) output ripple of less than 10%.
- The luminaire shall have power supply (electronic driver) with a rated life of 100,000 hours with a luminaire operated at an ambient temperature of 25°C (77°F).
- The luminaire shall have an isolated power supply (electronic driver) output.
- The luminaire shall have a power supply (electronic driver) that has thermal overload protection.
- The luminaire shall have a power supply (electronic driver) that is self-limited short circuit protected and over load protected.
- The luminaire shall not use any active thermal outback, such as in order to achieve a higher thermal performance.
- The luminaire shall have a power supply (electronic driver) that is terminated with quick disconnect wire harnesses for easy maintenance. Wire nut termination is not acceptable.
- The luminaire shall have a terminal block for terminating wiring to the luminaire. The terminal block shall be a 3 station, tunnel lug terminal board that will accommodate #6 thru #18 AWG pole wire.
- Fixture shall have a surge protection that meets 10KV/5KA per ANSI/IEEE C62.41.
- The luminaire shall have life rating on all electrical components of 100,000 hours or greater when operated at full lumen output at 25 degrees C.
- All LED components shall be L70 rated when operated in a luminaire at 25 degrees C (77 degrees F) at 100,000 hours.
- Electrical components shall be protected per ANSI/IEEE standard C62.41, for Class C applications.
- The LED shall fully operate in a temperature range -40 degrees C to 40 degrees C (-40 degrees F to 104 degrees F).
- The LED shall lose no more than a 15% optical intensity of initial delivered lumens due to thermal loading when operated at 25°C (77°F).



### TYPICAL COBRA-HEAD DESIGN FOR LED LUMINAIRES

**SPECIAL NOTE:**  
ALL LUMINAIRES SHALL HAVE THE NEMA LABEL INSTALL ON THE BOTTOM OF THE FIXTURE TO VERIFY THE WATTAGE. LABEL: C2

### DESIGN CRITERIA FOR LED LUMINAIRES AT INTERCHANGE

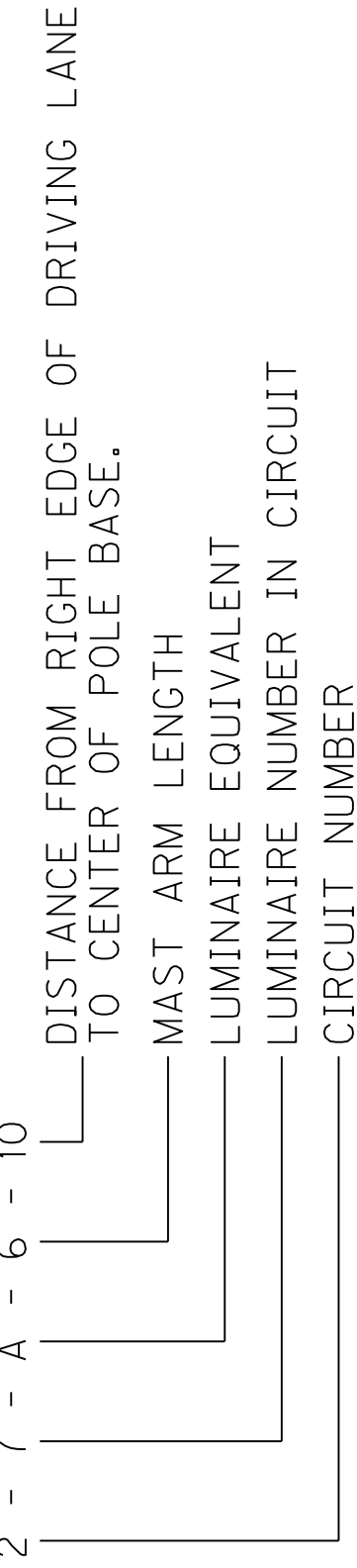
**OVERALL INTERCHANGE CRITERIA**  
ILLUMINANCE:  
AVERAGE: NOT LESS THAN .72 FOOTCANDLES AND MORE THAN .79 FOOTCANDLES  
MINIMUM: NOT LESS THAN .20 FOOTCANDLES  
AVERAGE/MINIMUM: NOT MORE THAN 4:1

ALL POLE LOCATIONS, ARM LENGTHS, AND ORIENTATION OF LUMINAIRE (TO CURVE/ROAD) SHOULD BE MAINTAINED DUE TO UTILITIES/DRAINAGE/RIGHT-OF-WAY.

### LUMINAIRE DESIGN:

**COBRA-HEAD LUMINAIRES** HIGH MAST LUMINAIRES  
DRIVER: NOT TO EXCEED 700 mA TYPE II DISTRIBUTION LAMP WATTAGE: CAN NOT EXCEED 130 WATTS  
DRIVER: NOT TO EXCEED 1050 mA TYPE IV & V DISTRIBUTION LAMP WATTAGE: CAN NOT EXCEED 475 WATTS

### LUMINAIRE DESIGNATION EXAMPLE



### NOTE:

ALL TYPE C LUMINAIRES ARE MOUNTED AT 40' LED LUMINAIRE

1/6/2017

- The LED shall deliver an average 80% of initial delivered lumens after 70,000 hours of operation when operated at 25°C (77°F).
- The LED shall have a rated life of 100,000 hours when operated at 40 °C.
- The LED shall have a minimum Luminaire efficacy of 120 lumens/watt.
- The Correlated Color Temperature (CCT) shall be 4000K with a variance of 250K, white, that conforms to LM-79. The Correlated Color Temperature (CCT) shall be 5000K with a variance of 250K, white, that conforms to LM-79 (HIGH MAST ONLY).
- The minimum color rendering index (CRI) shall not be less than 70.
- The optics shall have a completely sealed optical system.
- The optical system shall have a (IEC) (IP) rating of 66 or greater.
- The optics shall have an Illuminating Engineering Society of North America (IESNA) Backlight, Uplight and Glare (BUG) rating as follows:
  - Backlight rating shall not exceed 3; (highest fixture backlight rating shall not exceed 5)
  - Uplight rating shall not exceed 0;
  - Glare rating shall not exceed 3/4
- The Light Loss Factor (LLF) shall be calculated for each fixture as follows:
 

LLF = LLD X LDD

Lamp Lumen Depreciation Factor (LLD) shall be the specified percentage of LED lumen maintenance at 25°C (77°F) from the TM-21 report. This LLD should be 70,000 hours at 25°C (77°F) and TM -21 reports. This report shall be submitted for verification.

Luminaire Dirt Depreciation (LDD)= .9

The TM-21 Report must show the drive current used for the submitted luminaire. The report can show a larger drive current to represent a worst case scenario.
- The Lumen Maintenance Life L<sub>80</sub> from the TM-21 Report must not be below 80% at 70,000 hours at 25°C (77°F).
- The manufacturer shall provide certified test laboratories IES photometrics which verify light levels. Product submittal shall be accompanied by IES TM-21 compliant test reports from a CALIPER qualified or NVLAP accredited testing laboratory for the specific model being submitted.
- WARRANTY:** The Manufacturer shall ensure that the LED Luminaires have a minimum standard warranty of 10 years for all parts, materials, paint finish, and shipping (both ways) required to repair or replace the luminaire. The warranty shall begin upon the date the luminaire is received. The warranty shall be transferable.
  - Failure in luminaire LED, housing, wiring, connections, and drivers.
  - More than 10 percent decrease in lumen output.
  - Significant change in light output color.

Technical Support. During the warranty period, technical support shall be available from the manufacturer via telephone within 24 hours of the time the call is made from KYTC, and this support shall be made available from factory certified personnel or factory certified installers at no additional charge to the Department.
- MINIMUM REQUIRED SUBMITTALS:**

Luminaire specification sheet.

LED driver specification sheet.

LM-79 Luminaire photometric report.

The vendor must submit LM-79 in-situ test data to confirm thermal operating temperatures of the luminaire.

LM-80 Lumen maintenance report.

TM-21 calculations as defined .

Backlight, Uplight, Glare (BUG) rating of the luminaire.

Written product warranty.

Certified test lab IES photometric reports.

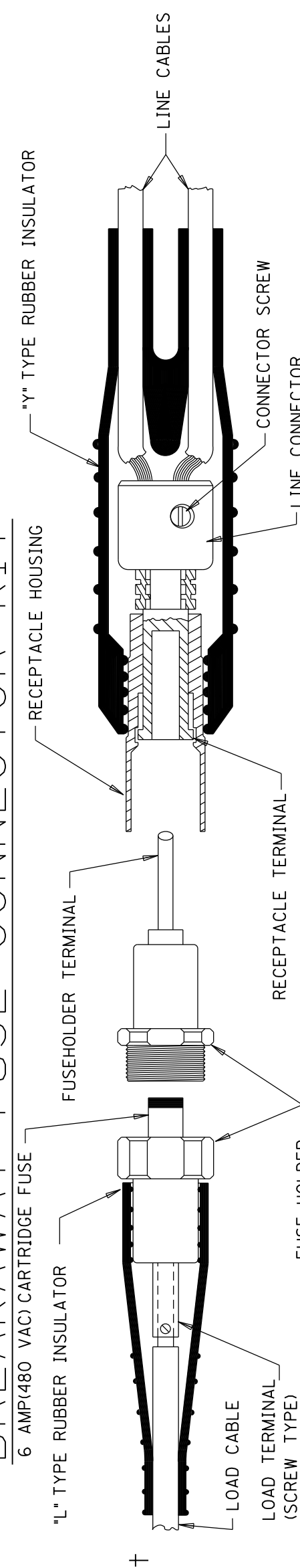
Including IES electronic file.

Including intensity and chromaticity data.

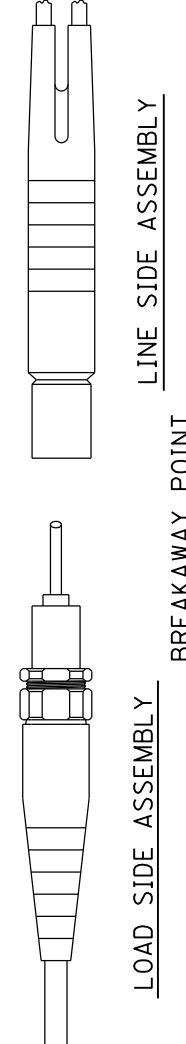
Instructions for installation and maintenance.

The luminaire shall be equipped with a shorting cap and a 7-pin photometric receptacle that meets ANSI 2013 standard C136.41

### BREAKAWAY FUSE CONNECTOR KIT



### DETAILS OF TYPE HEB-JW-RYC CONNECTOR



TYPE HEB-JW-RYC CONNECTOR SHOWN

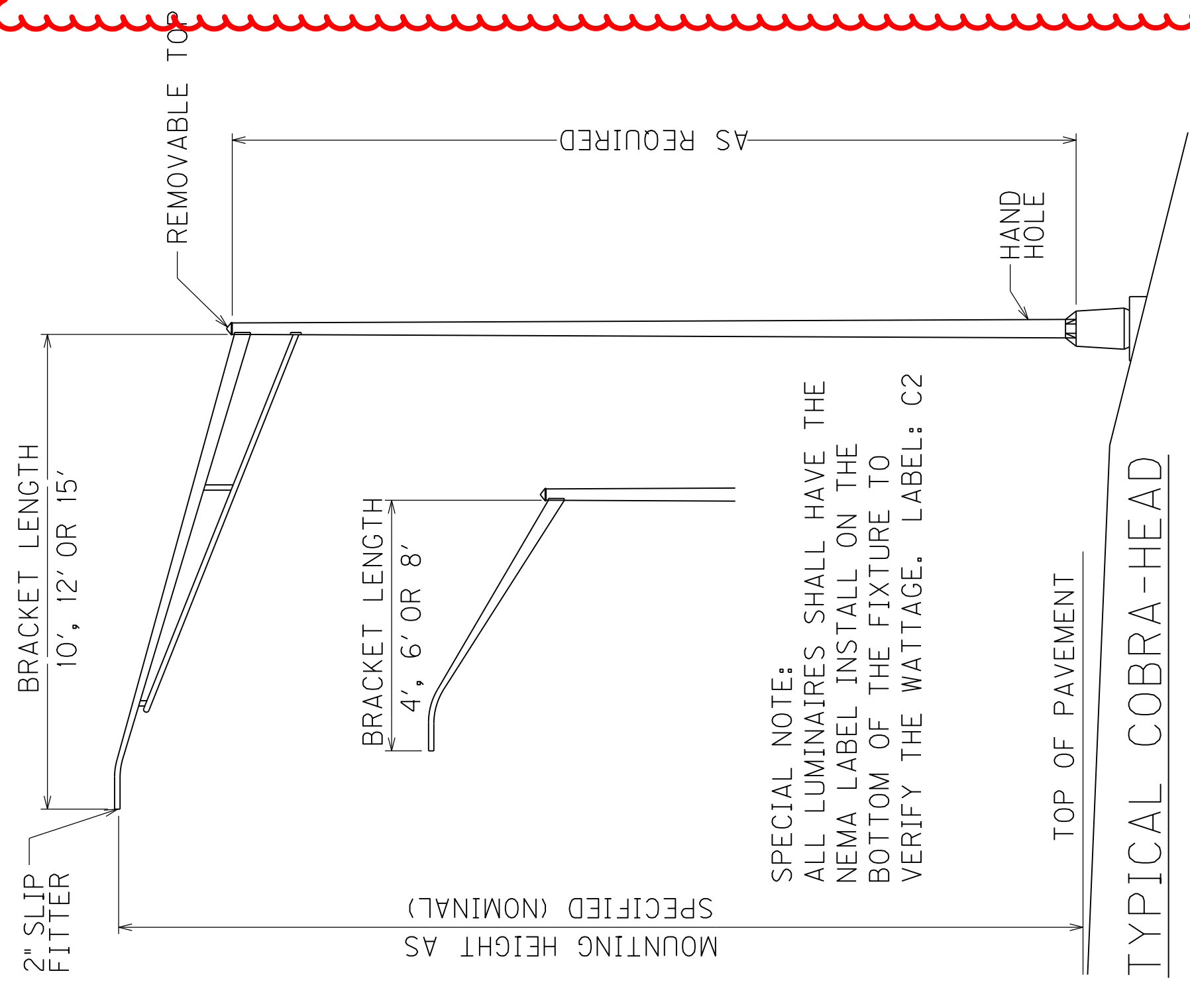
COBRA-HEAD LUMINAIRE/FUSE CONNECTOR DETAILS



**LED Luminaire Specifications**

The following are the required Specifications for the LED Fixture:

1. The Luminaire shall be listed by a National Recognized Testing Laboratory (NRTL) as defined by the U.S. Department of Labor. The testing laboratory must be listed by OSHA in its scope of recognition for the applicable tests being conducted as required by this specification. A list of recognized testing labs for products sold in the United States may be found on the U.S. Department of Labor's web site: <http://www.osha.gov/>
2. The Luminaire shall be listed and labeled by a NRTL or CSA as being in compliance with UL 1598 and suitable for use in wet locations.
3. Key components including LED drivers, LED light sources, and surge protection devices shall be RoHS compliant.
4. The housing shall have an International Electrotechnical Commission (IEC) 529 Ingress Protection (IP) rating of IP 65 or greater.
5. Shall be in compliance with Electro Magnetic Interference (EMI) requirements as defined by FCC 47 Sub Part 15; CISPR15, CISPR22 Class A (120Vmin), EN61000-3-2, -3-3, -4-4, -4-5.
6. Shall be tested according to the most current version of Illuminating Engineering Society of North America (IESNA) LM-79.
7. Shall have lumen maintenance measured in accordance the most current version of Illuminating Engineering Society of North America (IESNA) LM-80.
8. Shall have long term lumen maintenance documented according to the most current version of Illuminating Engineering Society of North America (IESNA) TM-21.
9. The fixture shall have a diecast aluminum housing.
10. The luminaire finish shall be corrosion resistant with a polyester powdercoat of 2.5 mil nominal thickness. Finish shall pass per ASTM D1654 after 3000 hours of testing per ASTM B117.
11. All hardware on the exterior of the housing including cover and latch shall be stainless steel, zinc or steel with zinc alloy electroplate and chromate top coat.
12. The luminaire shall be easy to open when properly mounted and shall have readily accessible internal parts. Access to all internal parts requiring replacement shall not require tools (i.e. "tool-less entry").
13. The luminaire shall have a vibration rating of 3G per the American National Standard (ANSI) IEEE C136.31, Table 2 Roadway Lighting Equipment -Luminaire Vibration for both normal applications and bridge and overpass applications.
14. The luminaire shall be designed to allow water shedding.
15. The luminaire shall have a passive cooling method shall be employed to manage thermal output of LED light engine and power supply.
16. The luminaire shall have a label per ANSI C136.22 that states operating voltage and current range. The label must be clearly visible on the inside of the housing.
17. The luminaire shall fully operate in a temperature range of -40 degrees C up to 40 degrees C (-40 degrees F to 104 degrees F).
18. In retrofit applications, the LED luminaire shall not be more wattage than the original HPS fixture if you are replacing one for one. For the optimized proposal, we will allow the wattage to be greater than the original proposed luminaire.
19. The luminaire shall have an integral power supply (electronic driver). The power supply shall not have a manual, field-adjustable setting for current output.
20. The luminaire shall have a power supply (electronic driver) that will operate on a 480 volt single phase at 60 hertz.
21. The luminaire shall have a power supply (electronic driver) that has a power factor of .90 or greater at full load.
22. The luminaire shall have a power supply (electronic driver) that has total harmonic distortion of 20% or less at full load.
23. The luminaire shall have power supply (electronic driver) output ripple of less than 10%.
24. The luminaire shall have power supply (electronic driver) with a rated life of 100,000 hours with a luminaire operated at an ambient temperature of 25°C (77°F).
25. The luminaire shall have an isolated power supply (electronic driver) output.
26. The luminaire shall have a power supply (electronic driver) that has thermal overload protection.
27. The luminaire shall have a power supply (electronic driver) that is self-limited short circuit protected and over load protected.
28. The luminaire shall not use any active thermal outback, such as in order to achieve a higher thermal performance.
29. The luminaire shall have a power supply (electronic driver) that is terminated with quick disconnect wire harnesses for easy maintenance. Wire nut termination is not acceptable.
30. The luminaire shall have a terminal block for terminating wiring to the luminaire. The terminal block shall be a 3 station, tunnel lug terminal board that will accommodate #6 thru #18 AWG pole wire.
31. Fixture shall have a surge protection that meets 10KV/5KA per ANSI/IEEE C62.41.
32. The luminaire shall have life rating on all electrical components of 100,000 hours or greater when operated at full lumen output at 25 degrees C.
33. All LED components shall be L70 rated when operated in a luminaire at 25 degrees C (77 degrees F) at 100,000 hours.
34. Electrical components shall be protected per ANSI/IEEE standard C62.41, for Class C applications.
35. The LED shall fully operate in a temperature range -40 degrees C to 40 degrees C (-40 degrees F to 104 degrees F).
36. The LED shall lose no more than a 15% optical intensity of initial delivered lumens due to thermal loading when operated at 25°C (77°F).



**TYPICAL COBRA-HEAD DESIGN FOR LED LUMINAIRES**

**DESIGN CRITERIA FOR LED LUMINAIRES AT INTERCHANGE**

**OVERALL INTERCHANGE CRITERIA**  
**ILLUMINANCE:**  
 AVERAGE: NOT LESS THAN .72 FOOTCANDLES AND MORE THAN .79 FOOTCANDLES  
 MINIMUM: NOT LESS THAN .20 FOOTCANDLES AVERAGE/MINIMUM: NOT MORE THAN 4!

**LUMINAIRE DESIGN:**  
**COBRA-HEAD LUMINAIRES** HIGH MAST LUMINAIRES  
 DRIVER: NOT TO EXCEED 700 mA TYPE II DISTRIBUTION LAMP WATTAGE: CAN NOT EXCEED 130 WATTS  
**DRIVER:** NOT TO EXCEED 1050 mA TYPE IV & V DISTRIBUTION LAMP WATTAGE: CAN NOT EXCEED 475 WATTS

**LUMINAIRE DESIGNATION EXAMPLE**  
 2 - 7 - A - 6 - 10  
 DISTANCE FROM RIGHT EDGE OF DRIVING LANE TO CENTER OF POLE BASE.  
 MAST ARM LENGTH  
 LUMINAIRE EQUIVALENT  
 LUMINAIRE NUMBER IN CIRCUIT  
 CIRCUIT NUMBER

**NOTE:**  
 ALL TYPE C LUMINAIRES ARE MOUNTED AT 40' LED LUMINAIRE

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37. The LED shall deliver an average 80% of initial delivered lumens after 70,000 hours of operation when operated at 25°C (77°F).
38. The LED shall have a rated life of 100,000 hours when operated at 40 °C.
39. The LED shall have a minimum Luminaire efficacy of 120 lumens/watt.
40. The Correlated Color Temperature (CCT) shall be 4000K with a variance of 250K, white, that conforms to LM-79. The Correlated Color Temperature (CCT) shall be 5000K with a variance of 250K, white, that conforms to LM-79 (HIGH MAST ONLY).
41. The minimum color rendering index (CRI) shall not be less than 70.
42. The optics shall have a completely sealed optical system.
43. The optical system shall have a (IEC) (IP) rating of 66 or greater.
44. The optics shall have an Illuminating Engineering Society of North America (IESNA) Backlight, Uplight and Glare (BUG) rating as follows:  
 a. Backlight rating shall not exceed 3; (highest fixture backlight rating shall not exceed 5)  
 b. Uplight rating shall not exceed 0;  
 c. Glare rating shall not exceed 3/4
45. The Light Loss Factor (LLF) shall be calculated for each fixture as follows:  
 LLF = LLD X LDD  
 Lamp Lumen Depreciation Factor (LLD) shall be the specified percentage of LED lumen maintenance at 70,000 hours at 25°C (77°F) from the TM-21 report. This LLD should be according to LM -80 and TM -21 reports. This report shall be submitted for verification.  
 Luminaire Dirt Depreciation (LDD)= .9  
 The TM-21 Report must show the drive current used for the submitted luminaire. The report can show a larger drive current to represent a worst case scenario.
46. The Lumen Maintenance Life L<sub>80</sub> from the TM-21 Report must not be below 80% at 70,000 hours at 25°C (77°F).
47. The manufacturer shall provide certified test laboratories IES photometrics which verify light levels. Product submittal shall be accompanied by IES TM-21 compliant test reports from a CALIPER qualified or NVLAP accredited testing laboratory for the specific model being submitted.
48. **WARRANTY:** The Manufacturer shall ensure that the LED Luminaires have a minimum standard warranty of 10 years for all parts, materials, paint finish, and shipping (both ways) required to repair or replace the luminaire. The warranty shall begin upon the date the luminaire is received. The warranty shall be transferable.  
 (1) Failure in luminaire LED, housing, wiring, connections, and drivers.  
 (2) More than 10 percent decrease in lumen output.  
 (3) Significant change in light output color.
49. Technical Support. During the warranty period, technical support shall be available from the manufacturer via telephone within 24 hours of the time the call is made from KYTC, and this support shall be made available from factory certified personnel or factory certified installers at no additional charge to the Department.
50. **MINIMUM REQUIRED SUBMITTALS:**  
 Luminaire specification sheet.  
 LED driver specification sheet.  
 LM-79 Luminaire photometric report.  
 The vendor must submit LM-79 in-situ test data to confirm thermal operating temperatures of the luminaire.  
 LM-80 Lumen maintenance report.  
 TM-21 calculations as defined .  
 Backlight, Uplight, Glare (BUG) rating of the luminaire.  
 Written product warranty.  
 Certified test lab IES photometric reports.  
 Including IES electronic file.  
 Instructions for installation and maintenance.  
 The luminaire shall be equipped with a shorting cap and a 7-pin photoreceptor receptacle that meets ANSI 2013 standard C136.41

**DEFINITIONS**

- 6- AMP/80 VACI CARTRIDGE FUSE
- L-1 TYPE RUBBER INSULATOR
- FUSEHOLDER TERMINAL
- RECEPTACLE TERMINAL
- FUSE HOLDER
- RECEPTACLE HOUSING
- LINE CABLE
- LOAD TERMINAL (SCREW TYPE)
- CONNECTOR SCREW
- LINE CONNECTOR
- LINE CABLES
- Y-Y TYPE RUBBER INSULATOR



**DETAILS OF TYPE HEB-JW-RYC CONNECTOR**

**LOAD SIDE ASSEMBLY**

**BREAKAWAY POINT**

**LINE SIDE ASSEMBLY**

**TYPE HEB-JW-RYC CONNECTOR SHOWN**

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