



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
PO BOX 778
DOVER, DELAWARE 19903

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GOVERNOR

SHAILEN BHATT
SECRETARY

VIA OVERNIGHT DELIVERY

(302) 760-2030
FAX (302) 739-2254

August 14, 2014

Contract No. T201409001.01
Federal Aid Project No. ENHS-2014(17)
Lighting Replacement, Interstate/Expressways, Open End
New Castle County

Ladies and Gentlemen:

Enclosed is Addendum No. 4 for the referenced contract consisting of the following:

1. The following items have been deleted:
746516
746939
746940
746941
2. One (1) page, Special Provisions, 746516 - Service Installation, page 98, deleted, to be removed from the Proposal, and substituted with the enclosed sequencing page.
3. Three (3) pages, Special Provisions, 746939 - Traffic Control Device Equipment Turn On, Pick Up, Removal & Maintenance, pages 126 through 128, deleted, to be removed from the Proposal, and substituted with the enclosed sequencing page.
4. Five (5) pages, Bid Proposal Forms, pages 7 through 11, revised, to be substituted for the same pages in the Proposal and one (1) page, page 12, deleted, to be removed from the Proposal.
5. Five (5) sheets, Construction Plans, sheets 9, and 14 through 17, revised, to be substituted for the same sheets in the Plan Set.
6. Three (3) sheets, Construction Plans, sheets 20 through 22, new, to be added to the Plan Set.
7. For proposal holders with the electronic bid option only, Amendment Disk No. 1.

Please note the revisions listed above and submit your bid based upon this information.

Sincerely,

signature on file

James H. Hoagland
Contract Services Administrator

:jhh
Enclosure

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CONTRACT ID: T201409001.01

PROJECT(S): ENHS-2014(17)

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0580	745608 FURNISH & INSTALL UP TO 4" GALVANIZED STEEL CONDUIT (OPEN CUT)	LF 200.000				
0590	745609 FURNISH & INSTALL UP TO 4" GALVANIZED STEEL CONDUIT (ON STRUCTURE)	LF 300.000				
0600	745610 FURNISH & INSTALL UP TO 4" NONMETALLIC POLE RISER SHIELD	LF 150.000				
0610	746515 INSULATED GROUND CABLES, 1/#6	LF 600.000				
0630	746564 INSULATED GROUND CABLES, 1/#4	LF 600.000				
0640	746566 CABLES, 1/#1 AWG	LF 5000.000				
0650	746567 CABLES, 1/#1/0 AWG	LF 1000.000				
0660	746590 FURNISH & INSTALL GROUND ROD	EACH 100.000				
0670	746594 LUMINAIRE (HPS), 250 WATT	EACH 75.000				
0680	746595 ALUMINUM LIGHTING STANDARD, 40' POLE	EACH 70.000				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0690	746605 INSULATED GROUND CABLE, 1/#10	500.000 LF				
0700	746614 POLE BASE EXTENSION	125.000 CF				
0710	746622 CABLES, 1/#4/0 AWG	850.000 LF				
0720	746650 ALUMINUM TRANSFORMER BASE	60.000 EACH				
0730	746651 ACCESS COVER FOR TRANSFORMER BASE	65.000 EACH				
0740	746815 INSTALLATION OF LUMINAIRE	150.000 EACH				
0750	746817 CABLES, 1/#2/0 AWG	1000.000 LF				
0760	746832 SUPPLY AND INSTALLATION OF WEATHERHEAD, 3", ON STEEL POLE	15.000 EACH				
0770	746852 POLE BASE, TYPE 6	200.000 EACH				
0780	746883 PARTIAL REMOVAL OF CONCRETE POLE BASES AND CABINET FOUNDATIONS	15.000 CY				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0790	746884 EXPANSION FITTING FOR ELECTRICAL CONDUIT	EACH 55.000				
0800	746885 REMOVE AND REINSTALL LIGHTING POLE, MAST ARM, AND METAL TRANSFORMER BASE	EACH 75.000				
0810	746886 REMOVAL OF METAL TRANSFORMER BASE	EACH 40.000				
0820	746887 INSTALLATION OF METAL TRANSFORMER BASE	EACH 110.000				
0830	746888 ALUMINUM LIGHTING SINGLE DAVIT ARM, 8' ARM SPREAD	EACH 20.000				
0840	746889 ALUMINUM LIGHTING SINGLE DAVIT ARM, 12' ARM SPREAD	EACH 30.000				
0850	746890 ALUMINUM LIGHTING SINGLE DAVIT ARM, 15' ARM SPREAD	EACH 20.000				
0860	746907 FURNISH & INSTALL 1-CONDUCTOR #2 AWG STRANDED COPPER	LF 5000.000				
0870	746908 FURNISH & INSTALL 1-CONDUCTOR #4 AWG STRANDED COPPER	LF 14000.000				
0880	746909 FURNISH & INSTALL 1-CONDUCTOR #6 AWG STRANDED COPPER	LF 52000.000				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0890	746910 FURNISH & INSTALL 1-CONDUCTOR #8 AWG STRANDED COPPER	7000.000 LF				
0900	746911 FURNISH & INSTALL 1-CONDUCTOR #10 AWG STRANDED COPPER	20000.000 LF				
0910	746926 FURNISH & INSTALL ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240	2.000 EACH				
0950	746942 INSTALLATION OF LIGHTING POLE, WITH ARM AND LUMINAIRE	30.000 EACH				
0960	747509 LIGHTING CONTROL CENTER - 200A, 277/480V	2.000 EACH				
0970	747510 LIGHTING CONTROL CENTER - 200A, 240/480V	2.000 EACH				
0980	747513 LIGHTING CONTROL AND DISTRIBUTION ENCLOSURE (120/240; 100 AMP)	2.000 EACH				
0990	747514 CABINET BASE, TYPE F	1.000 EACH				
1000	747515 CABINET BASE, TYPE M	1.000 EACH				
1010	747516 CABINET BASE, TYPE P	15.000 EACH				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1020	747517 CABINET BASE, TYPE R	EACH 15.000				
1030	748536 PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, BLACK 6"	LF 200.000				
1040	748548 PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	LF 200.000				
1050	758000 REMOVAL OF EXISTING PORTLAND CEMENTCONCRETE PAVEMENT, CURB, SIDEWALK, ETC.	SY 20.000				
1060	762001 SAW CUTTING, HOT MIX	LF 100.000				
1070	762002 SAW CUTTING, CONCRETE, FULL DEPTH	LF 100.000				
1080	763000 INITIAL EXPENSE	LUMP	LUMP			
	SECTION 0001 TOTAL					
	TOTAL BID					

DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201409001 Lighting Replacement, Interstate/Expressway, Open End, FY14-FY17

52. High Pressure Sodium lamps shall be included in the bid price for all luminaires provided in this Contract.
53. Furnish and install expansion joint fittings for conduit embedded in concrete parapets of Viaduct (BR 748, 748N, 748S). Remove existing concrete from parapet as required to secure expansion fitting to conduit that is free from deterioration and corrosion. The bid price under Pay Item 746884 (Expansion Fitting for Electrical Conduit) shall include removal of concrete a maximum distance of four (4) linear-feet longitudinally along the parapet wall for each expansion fitting. Replace deteriorated conduit as required. New conduit material and diameter shall match existing. Repair and lap splice reinforcing steel damaged during concrete removal as required to restore structural integrity of the parapet to the satisfaction of the Engineer. If additional concrete removal is required to reach conduit that is not deteriorated, then prices shall be negotiated for additional work beyond the four (4) foot threshold. The concrete patching material for parapet shall conform to Special Provision 602586. However, there shall be no separate payment for this patching work. The concrete patching work shall be included in the bid price for Pay Item 746884. Payment for all of the above described work shall be under Pay Item 746884, including concrete removal, concrete patching, reinforcing steel splicing/restoration, conduit replacement, conduit splicing, expansion fitting, bonding jumper, and all accessories and incidentals necessary to complete the installation of expansion fitting. Payment for removal and replacement of existing joint sealant material at exterior surface of parapet joint opening shall be paid under separate pay items. Existing joint sealant material at exterior surface of parapet joint openings shall be removed at locations on bridge structures as directed by the Engineer. Removal of sealant material is necessary for the Engineer to visually inspect the condition of the electrical conduit embedded in the parapet, and to determine if further repair work is required under separate pay items. Payment for installation of joint sealant material at parapet joint openings shall be paid under Item 605653 (Closed-Cell Joint Seal) or 605692 (Silicone Joint Seal), as directed by the Engineer. Removal of the existing joint sealant material shall be incidental to Items 605653 and 605692.
54. Installation of lighting poles, mast arms, metal transformer base and entire lighting structure shall conform to wind load requirements and all other design criteria as stated in most recent version of AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals". Prior to commencement of work, the Contractor shall submit computations demonstrating that all proposed lighting standard components conform to wind & fatigue load requirements as stated in the AASHTO design criteria. The computations shall be signed and sealed by a structural engineer licensed in the State of Delaware.
55. All special provisions in the Contract relating to removal or relocation of existing lighting poles or mast arms shall apply to all ~~lengths of~~ poles and mast arms 30' – 45' in length currently in place on the Interstate/Expressways and ramps.
56. Contractor is responsible for ensuring compatibility of connections for all components installed in the lighting standard system, including mast arms, davit arms, lighting poles, metal transformer bases, metal anchor bases, luminaires, concrete pole bases, hardware connection accessories and all incidentals.



QUANTITY SUMMARY

ITEM #	ITEM DESCRIPTION	UNIT	Quantity
202000	Excavation and Embankment	CY	20.00
206000	Rock Excavation for Structures and Trenches	CY	50.000
209001	Borrow, Type 'A'	CY	15.000
209003	Borrow, Type 'C'	CY	50.000
210000	Furnishing Borrow Type 'C' for Pipe, Utility Trench, and Structure Backfill	CY	110.00
251000	Silt Fence	LF	1,500.00
302007	Graded Aggregate Base Course, Type B	CY	25.00
401667	WMA, Superpave, BCBC, 160 Gyration, PG 64-22 Patching	TON	10.00
401821	WMA, Superpave Type C, 160 Gyration, PG 64-22 Patching	TON	10.00
401822	WMA, Superpave Type B, 160 Gyration, PG 64-22 Patching	TON	10.00
503001	Patching P.C.C. Pavement, 6' to 15', Type A	SY	150.00
503006	Dowel Bars	EA	24.00
503501	Crack and Joint Sealing, Less than 3/4" Wide	LF	200.00
602572	Repairing Existing P.C.C. Structures	LB	300.00
602586	Rehabilitation of Concrete Structures	CF	10.00
605653	Closed Cell Joint Seal	LF	50.00
605692	Silicone Joint Seal	LF	50.00
701020	Integral PCC Curb and Gutter, Type 1-8	LF	60.00
705002	P.C.C. Sidewalk, 6"	SF	450.00
720603	Remove and Reset Galvanized Steel Post and Offset Block	EA	30.00
720613	Reset Guardrail End Treatment Attenuator, Type 1	EA	2.00
720624	Remove and Reinstall W-beam for Guardrail	EA	50.00
732002	Topsoil 6" depth	SY	2,500.00
734013	Permanent Grass Seeding, Dry Ground	SY	15,000.00
743000	Maintenance of Traffic	LS	1.00
743003	Arrow Panel, Type C	EA-DY	302.00
743004	Furnish and Maintain Portable Changeable Message Sign	EA-DY	302.00
743005	Furnish and Maintain Portable Light Assembly	EA-DY	300.00
743006	Plastic Drums	EA-DY	6,000.00
743007	Traffic Officers	HOUR	24.00
743010	Furnish and Maintain Truck Mounted Attenuator, Type II	EA-	302.00

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		DY	
743023	Temporary Barricades, Type III	EA-DY	100.00
743024	Temporary Warning Signs and Plaques	EA-DY	2,500.00
743059	Flagger, New Castle County, Heavy Construction, Federal	HR	300.00
743060	Flagger, Kent County, Heavy Construction, Federal	HR	200.00
743071	Flagger, New Castle County, Heavy Construction, Federal, Overtime	HR	30.00
743072	Flagger, Kent County, Heavy Construction, Federal, Overtime	HR	30.00
744519	Relocation of Existing Junction Well	EA	15.00
744520	Conduit Junction Well, Type 1, 20"x20" Precast Concrete	EA	100.00
744523	Conduit Junction Well, Type 4, 20"x42.5" Precast Concrete	EA	50.00
744530	Conduit Junction Well Type 11, Precast Concrete/Polmer Lid - Frame	EA	10.00
744531	Conduit Junction Well Type 14, Precast Concrete/Polmer Lid - Frame	EA	10.00
744533	Furnish and Install Frame and Lid for Junction Well, Type 1	EA	5.00
744534	Furnish and Install Frame and Lid for Junction Well, Type 4	EA	5.00
744541	Furnish and Install Frame and Lid, for Junction Wells Types 11	EA	5.00
744542	Furnish and Install Frame and Lid, for Junction Well, Type 14	EA	5.00
744544	Adjust or Repair Existing Conduit Junction Well	EA	15.00
744545	Bonding & Grounding Existing Junction Well	EA	10.00
745576	Supply of 2" SDR-13.5" HDPE Conduit	LF	100.00
745578	Bridge Mounted Galvanized Steel Conduit	LF	600.00
745601	Furnish & Install up to 3" Flexible Metallic Liquidtightconduit	LF	200.00
745602	Furnish & Install up to 4" Schedule 80 HDPE Conduit (Bore)	LF	1,200.00
745603	Furnish & Install up to 4" Schedule 80 PVC Conduit (Open Cut)	LF	30.00
745604	Furnish & Install up to 4" Schedule 80 PVC Conduit (Trench)	LF	22,000.00
745605	Furnish & Install up to 4" Schedule 80 PVC Conduit (Structure)	LF	100.00
745606	Furnish & Install up to 4" Galv Steel Conduit (Trench)	LF	7,000.00
745607	Furnish & Install up to 4" Galv Steel Conduit (Bore)	LF	600.00
745608	Furnish & Install up to 4" Galv Steel Conduit (Open Cut)	LF	200.00
745609	Furnish & Install up to 4" Galv Steel Conduit (Structure)	LF	300.00
745610	Furnish & Install up to 4" Nonmetallic Pole Riser Shield	LF	150.00
746515	Insulated Ground Cable, 1/#6	LF	600.00
746516	Service Installation	EA	20.00
746564	Insulated Ground Cable, 1/#4	LF	600.00
746566	Cables, 1/#1 AWG	LF	5,000.00
746567	Cables, 1/#1/0 AWG	LF	1,000.00



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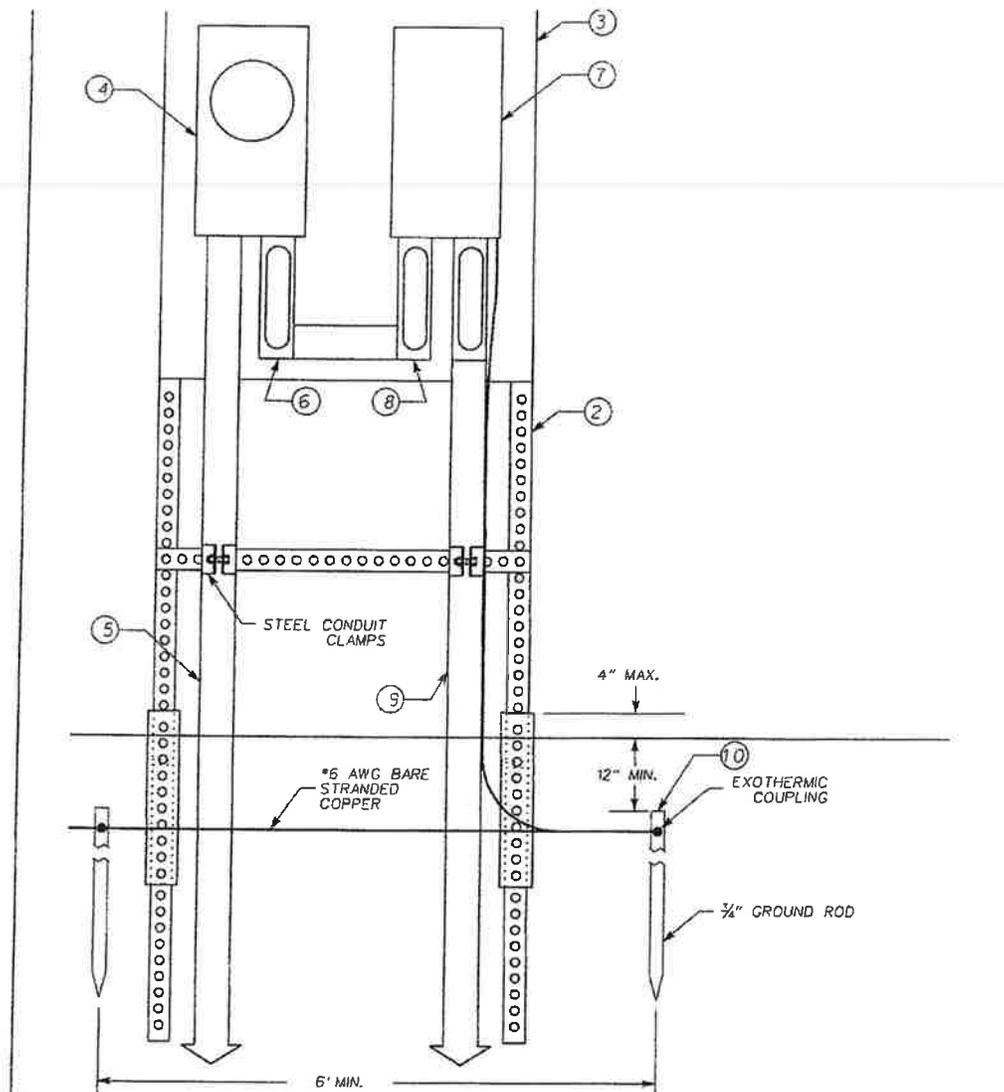
746590	Furnish and Install Ground Rod	EA	100.00
746594	Luminaire, HPS, 250 Watt	EA	75.00
746595	Aluminum Lighting Standard, 40' pole	EA	70.00
746605	Insulated Ground Cable, 1/#10	LF	500.00
746614	Pole Base Extension	CF	125.00
746622	Cables, 1/#4/0 AWG	LF	850.00
746650	Aluminum Transformer base	EA	60.00
746651	Access cover for transformer base	EA	65.00
746815	Installation of Luminaire	EA	150.00
746817	Cables, 1/#2/0 AWG	LF	1,000.00
746832	Supply and Installation of Weatherhead 3", On Steel Pole	EA	15.00
746852	Pole Base Type 6	EA	200.00
746883	Partial Removal of Concrete Pole Bases and Cabinet Foundations	CY	15.00
746884	Expansion Fitting for Electrical Conduit	EA	55.00
746885	Remove and Reinstall Lighting Pole, Mast Arm, and Metal Transformer base	EA	75.00
746886	Removal of Metal Transformer Base	EA	40.00
746887	Installation of Metal Transformer Base	EA	110.00
746888	Aluminum Lighting Single Davit Arm, 8' Arm Spread	EA	20.00
746889	Aluminum Lighting Single Davit Arm, 12' Arm Spread	EA	30.00
746890	Aluminum Lighting Single Davit Arm, 15' Arm Spread	EA	20.00
746907	F & I 1-Conductor #2 AWG Stranded Copper		5,000.00
746908	F & I 1-Conductor #4 AWG Stranded Copper	LF	14,000.00
746909	F & I 1-Conductor #6 AWG Stranded Copper	LF	52,000.00
746910	F & I 1-Conductor #8 AWG Stranded Copper	LF	7,000.00
946911	F & I 1-Conductor #10 AWG Stranded Copper	LF	20,000.00
746926	Furnish & Install Electrical Utility Service Equipment 120/240	EA	2.00
746939	Traffic Control Device Equipment Turn On, Pick Up, Removal & Maintenance, Type 1	EA	5.00
746940	Traffic Control Device Equipment Turn On, Pick Up, Removal & Maintenance, Type 2	EA	5.00
746941	Traffic Control Device Equipment Turn On, Pick Up, Removal & Maintenance, Type 3	EA	5.00
746942	Installation of Lighting Pole, w/Arm and Luminaire	EA	30.00
747509	Lighting Control Center, 200A, 277/480V	EA	2.00
747510	Lighting Control Center, 200A, 240/480V	EA	2.00
747513	Lighting Control & Distribution Enclosure (120/240; 100 AMP)	EA	2.00
747514	Cabinet Base, Type F	EA	1.00



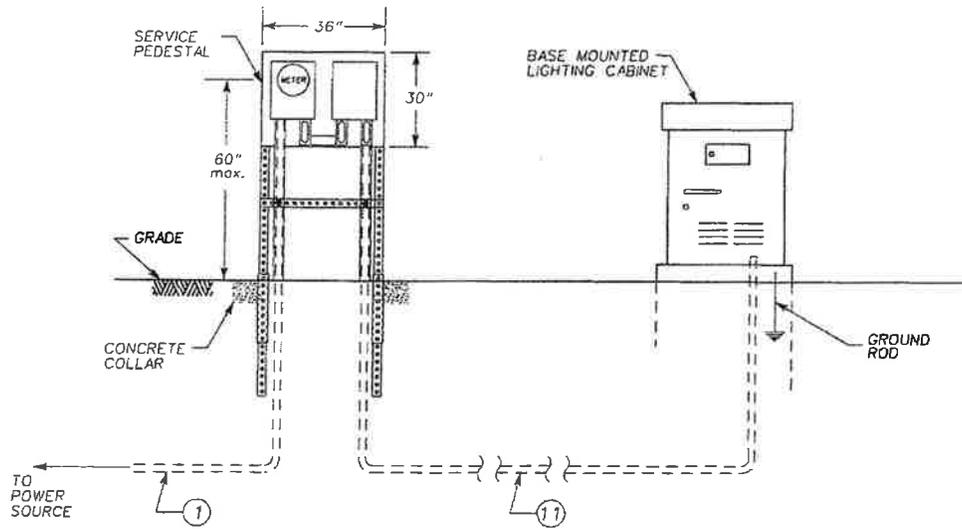
DELAWARE DEPARTMENT OF TRANSPORTATION

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747515	Cabinet Base, Type M	EA	1.00
747516	Cabinet Base, Type P	EA	15.00
747517	Cabinet Base, Type R	EA	15.00
748536	Epoxy Resin Black 6"	LF	200.00
748548	Epoxy Resin White/Yellow 6"	LF	200.00
758000	Removal of Existing PCC Pavement, Curb and Sidewalk	SY	20.00
762001	Saw cutting, Hotmix	LF	100.00
762002	Saw cutting, Concrete, Full Depth	LF	100.00
763000	Initial Expense	LS	1.00



SPECIFICATION 746926 747313	CATEGORY CODE ITEMS POWER SERVICE	<p style="text-align: center;">DELAWARE DEPARTMENT OF TRANSPORTATION</p> <p style="text-align: center;">TRAFFIC CONSTRUCTION DETAILS ELECTRICAL SERVICE EQUIPMENT UNDERGROUND ELECTRICAL POWER CONNECTION (LIGHTING)</p>
APPROVED 	CHIEF TRAFFIC ENGINEER	
		DETAIL NO. DE 746.003-02



SPECIFICATION 746025 747515	CATEGORY CODE ITEMS POWER SERVICE	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS ELECTRICAL UTILITY SERVICE EQUIPMENT UNDERGROUND ELECTRICAL POWER CONNECTION (LIGHTING)
APPROVED	_____ CHIEF TRAFFIC ENGINEER	
		
		DETAIL NO. DE 746.003-01

CONTRACTOR FURNISHES AND/OR INSTALLS:

1. UNDERGROUND ELECTRIC SERVICE FEED. THE CONTRACTOR SHALL REFER TO THE CONTRACT DOCUMENTS FOR DETAILS RELATED TO THE ELECTRIC SERVICE FEED INSTALLATION.
2. INSTALL SQUARE TUBES TO BE FORMED FROM GALVANIZED SHEET STRUCTURAL (PHYSICAL) QUALITY, ASTM A 446, GRADE A, COATING DESIGNATION C 90 REGULAR SPANGLE, OR HOT ROLLED CARBON SHEET STEEL STRUCTURAL (PHYSICAL) QUALITY, ASTM A 570, GRADE 33.
 - A. NOMINAL OUTSIDE DIMENSION, (INCHES)

2 X 2	± .008
2 1/4 X 2 1/4	± .010
2 1/2 X 2 1/2	± .010
 - B. ALL FOUR SIDES ARE TO HAVE EVENLY SPACED 1/8" DIAMETER HOLES ON 1" CENTERS THE ENTIRE LENGTH OF THE TUBE.
 - C. TOLERANCE ON HOLE SIZE IS ± 1/64". TOLERANCE ON HOLE SPACING IS ± 1/16" IN 20 FEET.
 - D. STANDARD CORNER RADIUS SHALL BE 3/32"
 - E. THE FASTENERS TO BE SUPPLIED UNDER THIS SPECIFICATION SHALL BE 3/16" GRADE 5 UNC CORNER BOLTS WITH CADMIUM OR ZINC PLATING.
3. INSTALL 30" X 36" ALUMINUM PANEL ON SIGN POST WITH 5/16" GRADE 5 UNC BOLTS AND NYLON LOCK NUTS. ALUMINUM PANEL SHALL BE 0.08 THICK, 5052-H38 ALLOY CONFORMING TO ASTM B-209.
4. MOUNT 200 AMPERE RATED METER SOCKET (OR AS SUPPLIED BY LOCAL UTILITY COMPANY) WITH FOUR (4) 5/16" UNC STAINLESS STEEL BOLTS WITH NYLON LOCK NUTS DRILLED THROUGH THE METER SOCKET BACK INTO THE ALUMINUM BACK PLATE. THE BOLT LOCATIONS SHALL BE INSTALLED ONE INCH ABOVE THE BOTTOM AND ONE INCH BELOW THE TOP.
5. PLACE 3" PVC CONDUIT FOR SERVICE. PLACE PVC CONDUIT ENTERING THE METER SOCKET'S LOWEST LEFT SIDE OPENING. PLACE DOUBLE LOCK NUTS ON THE THREADED END ENTERING THE METER SOCKET SIDE FOLLOWED BY AN THREADED BUSHING. ATTACH CONDUIT TO SUPPORT BRACKET WITH GALVANIZED STEEL CONDUIT CLAMPS AT 3' BELOW THE METER SOCKET. PLACE THE SPECIFIED NUMBER OF COPPER TYPE THWN WIRES FROM THE METER SOCKET LINE SIDE TERMINALS TO THE UTILITY POLE OR TRANSFORMER. (COLORED WHITE FOR AC NEUTRAL, BLACK FOR ONE SIDE OF THE AC+ AND RED FOR THE REMAINING AC+ SIDE FOR 120/240V.) (COLORED GREY FOR AC NEUTRAL, BROWN FOR AC+, ORANGE FOR AC+, YELLOW FOR AC+ FOR 277/480V.)
6. PLACE 2 1/2" PVC CONDUIT NIPPLE INTO AN THREADED BUSHING MOUNTED ONTO THE DISCONNECT SWITCH BOTTOM LEFT SIDE. THE NIPPLE SHALL ENTER THE 2 1/2" LB BODY AT THE RIGHT-MOST BOTTOM OPENING OF THE METER SOCKET. ALSO TO THE SAME LATERAL ORIENTATION TO THE DISCONNECT SWITCH. PLACE DOUBLE LOCK NUTS ON THE NIPPLE END ENTERING THE METER SOCKET BOTTOM FOLLOWED BY AN THREADED BUSHING. PLACE INDIVIDUAL COPPER TYPE THWN WIRE FROM THE METER SOCKET LOAD SIDE TERMINALS TO THE DISCONNECT SWITCH LINE SIDE TERMINALS. (COLORED WHITE FOR AC NEUTRAL, BLACK FOR ONE SIDE OF THE AC+ AND RED FOR THE REMAINING AC+ SIDE FOR 120/240V.) (GREY AC NEUTRAL, BROWN AC+, ORANGE AC+ AND YELLOW AC+ FOR 277/480V.)
7. MOUNT DISCONNECT SWITCH WITH FOUR (4) 5/16" UNC STAINLESS STEEL BOLTS WITH NYLON LOCK NUTS DRILLED THROUGH THE DISCONNECT SWITCH BACK INTO THE ALUMINUM BACK PLATE THE BOLT LOCATIONS SHALL BE AT ONE INCH BELOW THE TOP AND ONE INCH ABOVE THE BOTTOM.
8. PLACE 2 1/2" PVC CONDUIT NIPPLES ON BOTH "LB" CONDUIT BODY ENDS. LOCATE THE DISCONNECT SWITCH NIPPLE OPENING TO ALLOW THE "LB" CONDUIT BODY TO BE FLUSH TO THE CENTER IN RESPECT TO THE METER SOCKET CONDUIT BODY. PLACE DOUBLE LOCK NUTS ON THE NIPPLE END ENTERING THE DISCONNECT SWITCH BOTTOM FOLLOWED BY AN INSULATED BONDING BUSHING.
9. PLACE 3" PVC CONDUIT ON THE DISCONNECT SWITCH BOTTOM RIGHT SIDE. PLACE DOUBLE LOCK NUTS ON BOTH THREADED ENDS ENTERING THE DISCONNECT SWITCH AND FOLLOWED BY THREADED BUSHINGS. CLAMP CONDUIT TO SUPPORT BRACKET WITH A GALVANIZED STEEL CONDUIT CLAMP AT A DISTANCE MIDWAY ALONG THE VERTICAL CONDUIT FROM THE DISCONNECT SWITCH BOTTOM. PLACE INDIVIDUAL COPPER TYPE THWN WIRE FROM THE DISCONNECT SWITCH LOAD SIDE TERMINALS TO THE CABINET TERMINALS. (COLORED WHITE FOR AC NEUTRAL, BLACK FOR ONE SIDE OF THE AC+, RED FOR AC+ FOR 120/240V.) (GREY AC NEUTRAL, BROWN AC+, ORANGE AC+, YELLOW AC+ FOR 277/480V.)
10. GROUND ROD WITH ONE PIECE CAST BRONZE GROUND ROD CLAMP. BONDING SHALL BE BY A SINGLE CONTINUOUS #6 AWG BARE STRANDED COPPER WIRE RUN FROM THE GROUND ROD ALONG THE CONDUIT, (DRILL 1/4" HOLE) INTO THE DISCONNECT TO THE DISCONNECT SWITCH NEUTRAL BAR TO THE CONDUIT TO THE CABINET, TO THE CABINET GROUNDING BAR, TO THE GROUND ROD CLAMP.
11. USE DIRECT CONDUIT FROM SERVICE PEDESTAL TO CONTROLLER CABINET FOR GROUNDING CONDUCTOR AND SERVICE WIRE INSTALLATION AS PER CONTRACT DOCUMENTS.

SPECIFICATION 746926 747513	CATEGORY CODE ITEMS POWER SERVICE	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS ELECTRICAL SERVICE EQUIPMENT UNDERGROUND ELECTRICAL POWER CONNECTION (LIGHTING)
APPROVED 	CHIEF TRAFFIC ENGINEER	
DETAIL NO.		DE 746.003-03