

STATE OF DELAWARE



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DelDOT in order to bid.

DEPARTMENT OF TRANSPORTATION

BID PROPOSAL

for

CONTRACT DOT1801.01

FEDERAL AID PROJECT NO. Various

Traffic Signals and ITS

Statewide

ADVERTISEMENT DATE: June 25, 2018

COMPLETION TIME: 1,095 Calendar Days

SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
DELAWARE DEPARTMENT OF TRANSPORTATION
AUGUST 2016

Bids will be received in the Bidder's Room at the Delaware Department of Transportation's Administration Building, 800 Bay Road, Dover, Delaware prior to 2:00 P.M. local time July 24, 2018

Traffic Signal and ITS
Statewide

GENERAL DESCRIPTION

LOCATION

These improvements are located in Statewide more specifically shown on the Location Map(s) of the enclosed Plans.

DESCRIPTION

The improvements consist of furnishing all labor and materials for this contract. This project involves the installation and alteration of signalized intersections, signal coordination systems, pedestrian signals and associated curb ramps, highway lighting systems, fiber optic cable pathway and other traffic components or devices statewide, and other incidental construction in accordance with the location, notes and details shown on the plans and as directed by the Engineer. The specific work sites are not listed herein, but will be assigned as available by the Delaware Department of Transportation Traffic Section.

COMPLETION TIME

All work on this contract must be complete within 1,095 Calendar Days. It is the Department's intent to issue a Notice to Proceed such that work starts on or about September 1, 2018.

PROSPECTIVE BIDDERS NOTES:

1. BIDDERS MUST BE REGISTERED with DelDOT and request a cd of the official plans and specifications in order to submit a bid. Contact DelDOT at dot-ask@state.de.us, or (302) 760-2031. Bids will be received in the Bidder's Room at the Delaware Department of Transportation's Administration Building, 800 Bay Road, Dover, Delaware prior to 2:00 P.M. local time July 24, 2018 unless changed via addendum.
2. QUESTIONS regarding this project are to be e-mailed to dot-ask@state.de.us no less than six business days prior to the bid opening date in order to receive a response. Please include DOT1801.01 in the subject line. Responses to inquiries are posted on-line at <http://www.bids.delaware.gov>.
3. THE BID PROPOSAL incorporates a cd containing **Expedite, version 5.9a** and its installation file. Bidders are to use the cd provided to enter their bid amounts into the Expedite file. The Expedite bid file must be printed and submitted in paper form along with the cd and other required documents prior to the Bid due date and time.
4. SURETY BOND - Each proposal must be accompanied by a deposit of either surety bond or security for a sum equal to at least 10% of the bid.
5. DRUG TESTING - Regulation 4104; The state Office of Management and Budget has developed regulations that require Contractors and Subcontractors to implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds pursuant to 29 Del.C. §6908(a)(6). Refer to the full **REVISED requirements at the following link:** <http://regulations.delaware.gov/register/december2017/final/21 DE Reg 503 12-01-17.htm>

Note a few of the requirements;

- * At bid submission - Each bidder must submit with the bid a signed affidavit certifying that the bidder and its subcontractors has in place or will implement during the entire term of the contract a Mandatory Drug Testing Program that complies with the regulation, *form is attached*;
 - * At least Two business days prior to contract execution - The awarded Contractor shall provide to DelDOT copies of the Employee Drug Testing Program for the Contractor, each participating DBE firm, and all other listed Subcontractors;
 - * Subcontractors - Contractors that employ Subcontractors on the job site may do so only after submitting a copy of the Subcontractor's Employee Drug Testing Program along with the standard required subcontractor information. A Subcontractor shall not commence work until DelDOT has approved the subcontractor in writing.
6. **DBE PROGRAM REQUIREMENTS** (49CFR §26.53(b)(3)(i)(B)) require submission of DBE participation information from the apparent low bidder no later than five (5) calendar days **after bid opening**, (*forms are attached*)

7. No RETAINAGE will be withheld on this contract.
8. EXTERNAL COMPLAINT PROCEDURE can be viewed on DelDOT's Website at; <http://regulations.delaware.gov/AdminCode/title2/2000/2500/2501.shtml> or you may request a copy by calling (302) 760-2555.
9. AUGUST 2016 STANDARD SPECIFICATIONS apply to this contract. The Contractor shall make himself aware of any revisions and corrections (Supplemental Specifications, if any) and apply them to the applicable item(s) of this contract. The 2016 Standard Specifications can be [viewed here](#).
- 9a. FLATWORK CONCRETE TECHNICIAN CERTIFICATION TRAINING: Section 501.03, 503.03, 505.03, 610.03, 701.03 and 702.03 of the 2016 Standard Specifications require contractor's to provide an American Concrete Institute (ACI) or National Ready Mix Concrete Association (NRMCA) certified concrete flatwork technician to supervise all finishing of flatwork concrete. Concrete flatwork certification will be effective starting on June 1, 2018.
10. The Department reserves the right, and intends to award to **multiple bidders** based on the lowest dollar amounts bid.
11. The project manager shall be responsible for coordinating with the Traffic Section relating to any impacts to Traffic Section facilities (including but not limited to traffic loops, junction wells etc.) at least 4 weeks in advance of the start of the activity. Prior to initiating any work on this contract (or sites), the Project Manager shall be responsible for preparing and submitting for approval of the Safety Section, a Maintenance of Traffic Plan. Sufficient time shall be provided for the review and approval of the plan. The Maintenance of Traffic Plan shall include proposed time restrictions on the closure of travel lanes subject to the approval of the Safety Section.
12. The Project Manager is responsible for ensuring any required documents and analysis as part of the adopted Work Zone Safety and Mobility Procedures and Guidelines has been completed prior to any work starting on this contract.
13. PROPOSED TRAINEE PLANS - The number of trainees to be trained will be **1**, as listed in the Training Special Provisions within Contract General Notices. The program(s) must be submitted online at <https://deldotojt.com> as soon as possible by the apparent low bidder. Award of the Contract will not take place until acceptable On-the-Job (OJT) program plans are received and approved by the Department's Civil Rights Section. Failure of the apparent low bidder to submit acceptable OJT Trainee Programs within ten (10) calendar days of bid opening shall create a rebuttable presumption that the bid is not responsive.
14. **CONTRACT TERM:** Vendor's contract shall be valid for three (3) calendar years from contract execution. The contract may be extended for two (2) additional, one-year term through negotiation between the contractor and the Department of Transportation. Negotiation should be initiated no later than ninety (90) days prior to the termination of the current agreement.
15. **PRICE ADJUSTMENT:** Upon expiration of the initial Contract term, each one-year Contract extension may adjust pricing by mutual written agreement. The pricing must cover the full term of the Contract extension period. If the price difference for any extension period exceeds the previous one year period, approval of the price adjustment shall be at the discretion of the Department. The Department retains the right to reject a request for future year extensions at any time.

Contract No.DOT1801.01
CONSTRUCTION ITEMS UNITS OF MEASURE

English Code	English Description	Multiply By	Metric Code	Metric Description	Suggested CEC Metric Code
ACRE	Acre	0.4047	ha	Hectare	HECTARE
BAG	Bag	N/A	Bag	Bag	BAG
C.F.	Cubic Foot	0.02832	m ³	Cubic Meter	M3
C.Y.	Cubic Yard	0.7646	m ³	Cubic Meter	M3
EA-DY	Each Day	N/A	EA-DY	Each Day	EA-DY
EA-MO	Each Month	N/A	EA-MO	Each Month	EA-MO
EA/NT	Each Night	N/A	EA-NT	Each Night	EA/NT
EACH	Each	N/A	EA	Each	EACH
GAL	Gallon	3.785	L	Liter	L
HOUR	Hour	N/A	h	Hour	HOUR
INCH	Inch	25.4	mm	Millimeter	MM
L.F.	Linear Foot	0.3048	m	Linear Meter	L.M.
L.S.	Lump Sum	N/A	L.S.	Lump Sum	L.S.
LA-MI	Lane Mile	1.609	LA-km	Lane-Kilometer	LA-KM
LB	Pound	0.4536	kg	Kilogram	KG
MFBM	Thousand Feet of Board Measure	2.3597	m ³	Cubic Meter	M3
MGAL	Thousand Gallons	3.785	kL	Kiloliter	KL
MILE	Mile	1.609	km	Kilometer	KM
S.F.	Square Foot	0.0929	m ²	Square Meter	M2
S.Y.	Square Yard	0.8361	m ²	Square Meter	M2
SY-IN	Square Yard-Inch	0.8495	m ² -25 mm	Square Meter-25 Millimeter	M2-25 MM
TON	Ton	.9072	t	Metric Ton (1000kg)	TON
N.A.*	Kip	4.448	kN	Kilonewton	N.A.*
N.A.*	Thousand Pounds per Square Inch	6.895	MPa	Megapascal	N.A.*

*Not used for units of measurement for payment.

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GENERAL NOTICES

SPECIFICATIONS:

The specifications entitled "Delaware Standard Specifications for Road and Bridge Construction, August, 2016", hereinafter referred to as the Standard Specifications; Supplemental Standard Specifications; the Special Provisions; notes on the Plans; this Bid Proposal; and any addenda thereto, shall govern the work to be performed under this contract.

CLARIFICATIONS:

Under any Section or Item included in the Contract, the Contractor shall be aware that when requirements, responsibilities, and furnishing of materials are outlined in the details and notes on the Plans and in the paragraphs preceding the "Basis of Payment" paragraph in the Standard Specifications or Special Provisions, no interpretation shall be made that such stipulations are excluded because reiteration is not made in the "Basis of Payment" paragraph.

ATTESTING TO NON-COLLUSION:

The Department requires as a condition precedent to acceptance of bids a sworn statement executed by, or on behalf of, the person, firm, association, or corporation to whom such contract is to be awarded, certifying that such person, firm, association, or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract. The form for this sworn statement is included in the proposal and must be properly executed in order to have the bid considered.

QUANTITIES:

The quantities shown are for comparison of bids only. The Department may increase or decrease any quantity or quantities without penalty or change in the bid price.

EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS:

Delaware Code, Title 29, Chapter 69, Section 6962, Paragraph (d), Subsection (7) states;

- a. As a condition of the awarding of any contract for public works financed in whole or in part by State appropriation, such contracts shall include the following provisions:

During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, sexual orientation, gender identity or national origin. The contractor will take positive steps to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, color, sex, sexual orientation, gender identity or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting agency setting forth this nondiscrimination clause.
2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, sexual orientation, gender identity or national origin.
3. The contractor will ensure employees receive equal pay for equal work, without regard to sex. Employee pay differential is acceptable if pursuant to a seniority system, a merit system, a system which measures earnings by quantity or quality of production, or if the differential is based on any other factor other than sex.

TAX CLEARANCE:

As payments to each vendor or contractor aggregate \$2,000, the Division of Accounting will report such vendor or contractor to the Division of Revenue, who will then check the vendor or contractor's compliance with tax requirements and take such further action as may be necessary to insure compliance.

LICENSE:

A person desiring to engage in business in this State as a contractor on a project designated to include federal funds, shall obtain a Delaware business license upon making application to the Division of Revenue. Proof of said license compliance to be made prior to, or in conjunction with, the execution of a contract to which he has been named.

SUBCONTRACTOR LICENSE: 29 DEL. C. §6967:

(c) Any contractor that enters a public works contract must provide to the agency to which it is contracting, within 30 days of entering such public works contract, copies of all occupational and business licenses of subcontractors and/or independent contractors that will perform work for such public works contract. However, if a subcontractor or independent contractor is hired or contracted more than 20 days after the contractor entered the public works contract the occupational or business license of such subcontractor or independent contractor shall be provided to the agency within 10 days of being contracted or hired.

DIFFERING SITE CONDITIONS,

SUSPENSIONS OF WORK and SIGNIFICANT CHANGES IN THE CHARACTER OF WORK:

Differing site conditions: During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected work is performed.

Upon written notification, the engineer will investigate the conditions, and if he/she determines that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding loss of anticipated profits, will be made and the contract modified in writing accordingly. The engineer will notify the contractor of his/her determination whether or not an adjustment of the contract is warranted.

No contract adjustment which results in a benefit to the contractor will be allowed unless the contractor has provided the required written notice.

No contract adjustment will be allowed under their clause for any effects caused on unchanged work.

Suspensions of work ordered by the engineer: If the performance of all or any portion of the work is suspended or delayed by the engineer in writing for an unreasonable period of time (not originally anticipated, customary or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the engineer in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.

Upon receipt, the engineer will evaluate the contractor's request. If the engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The engineer will notify the contractor of his/her determination whether or not an adjustment of the contract is warranted.

No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time prescribed.

No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided for or excluded under any other term or condition of this contract.

Significant changes in the character of work: The engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the contractor agrees to perform the work as altered.

If the alterations or changes in quantities significantly change the character of the work under the contract, whether or not changed by any such different quantities or alterations, an adjustment, excluding loss of anticipated profits, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the contractor in such amount as the engineer may determine to be fair and equitable.

The term "significant change" shall be construed to apply only to the following circumstances:

- (A) When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction or
- (B) When a major item of work, as defined elsewhere in the contract, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed.

CONFLICT WITH FEDERAL STATUTES OR REGULATIONS:

Delaware Code, Title 29, Chapter 69, Section 6904, Paragraph (a):

"If any provision of this subchapter conflicts or is inconsistent with any statute, rule or regulation of the federal government applicable to a project or activity, the cost of which is to be paid or reimbursed in whole or in part by the federal government, and due to such conflict or inconsistency the availability of federal funds may be jeopardized, such provision shall not apply to such project or activity."

FEDERAL LABOR AND EMPLOYMENT REQUIREMENTS

Federal Regulation 23 CFR § 635.117(b) Labor and employment, states:

"No procedures or requirement shall be imposed by any State which will operate to discriminate against the employment of labor from any other State, possession or territory of the United States, in the construction of a Federal-aid project."

CONVICT PRODUCED MATERIALS:

- (a) Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid highway construction project if such materials have been:
 - (1) Produced by convicts who are on parole, supervised release, or probation from a prison or
 - (2) Produced in a qualified prison facility and the cumulative annual production amount of such materials for use in Federal-aid highway construction does not exceed the amount of such materials produced in such facility for use in Federal-aid highway construction during the 12-month period ending July 1, 1987.
- (b) Qualified prison facility means any prison facility in which convicts, during the 12-month period ending July 1, 1987, produced materials for use in Federal-aid highway construction projects.

TO REPORT BID RIGGING ACTIVITIES:

The U. S. Department of Transportation (DOT) operates the below toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

TO REPORT BID RIGGING ACTIVITIES
CALL 1-800-424-9071

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

Goals for Minority Participation In
Each Trade

12.3% (New Castle County)
14.5% (Kent & Sussex Counties)

Goals for Female Participation In
Each Trade

6.9% (Entire State)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is Statewide.

REV. 11-3-80

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
 - d. "Minority" includes:
 - i. Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - ii. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - iii. Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - iv. American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Program Office or from the Federal procurement contracting offices. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
 - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
 - g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foreman, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
 - h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
 - i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
 - j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
 - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontractors from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participating, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is under utilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Order of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment-related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate

of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

* * * * *

TRAINING SPECIAL PROVISIONS

This Training Special Provision supersedes subparagraph 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities", (Attachment 1), and is in implementation of 23 U.S.C. 140(a). As part of the contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved.

The number of trainees to be trained under the special provision will be 1. In the event the contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year apprenticeship or training.

The number of trainees shall be distributed among the work classification on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction, the contractor shall submit to the Department of Highways and Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the Department of Highways and Transportation and the Federal Highway Administration. The Department of Highways and Transportation and the Federal Highway Administration shall approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment

obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work the classification covered by the program. It is the intention of these provisions that the training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the division office. Some off-site training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the engineer, reimbursement will be made for training persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other sources does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for off-site training indicated above may only be made to the contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training; provides the instruction of the trainee; or pays the trainee's wages during the off-site training period.

No payment shall be made to the contractor if either the failure to provide the required training, or the failure to hire the trainees as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirements of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program. It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid a least 60 percent of the appropriate minimum journeymen's rate specified in the contract for the first half of the of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees is an approved existing program are enrolled as trainees on this project. In fact case, the appropriate rates approved by the Department of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provisions.

The contractor shall furnish the trainee a copy of the program he will follow in providing the training.

The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

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INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT & TRANSPORTATION EQUITY ACT

Recipients of Federal-aid highway funds authorized under Titles I (other than Part B) and V of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), or Titles I, III, and V of the Transportation Equity Act for the 21st Century (TEA-21) are required to comply with the regulations of 49 Code of Federal Regulations (CFR) Part 26 - Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs.

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM SPECIFICATION

The U.S. Department of Transportation (DOT) requires that the Delaware Department of Transportation continue the established Disadvantaged Business Enterprise (DBE) Program for participation in U.S. DOT programs and that the program follow the final rules as stated in 49 CFR Part 26 and the Department's approved DBE Program plan.

The following definitions apply to this subpart:

Disadvantaged Business Enterprise or DBE means a for-profit small business concern (1) that is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and, (2) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

DOT-assisted contract means any contract between a recipient and a contractor (at any tier) funded in whole or in part with DOT financial assistance, including letters of credit or loan guarantees, except a contract solely for the purchase of land.

Good Faith Efforts means efforts to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement.

Joint Venture means an association of a DBE firm and one or more other firms to carry out a single, for-profit business enterprise, for which the parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

Race-conscious measure or program is one that is focused specifically on assisting only DBEs, including women-owned DBEs.

Race-neutral measure or program is one that is, or can be, used to assist all small businesses. For the purposes of this part, race-neutral includes gender neutrality.

Small Business concern means, with respect to firms seeking to participate as DBEs in DOT-assisted contracts, a small business concern as defined pursuant to section 3 of the Small Business Act and Small Business Administration regulations implementing it (13 CFR part 121) that also does not exceed the cap on average annual gross receipts specified in 49 CFR §26.65(b).

Socially and economically disadvantaged individuals means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is - (1) any individual who a recipient finds to be a socially and economically disadvantaged individual on a case-by-case basis; (2) any individual in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:

- (i) Black Americans which includes persons having origins in any of the Black racial groups of Africa;
- (ii) Hispanic Americans which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;
- (iii) Native Americans which includes persons who are American Indians, Eskimos, Aluets, or Native Hawaiians;
- (iv) Asian-Pacific Americans which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong;
- (v) Subcontinent Asian Americans which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;
- (vi) Women;
- (vii) Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.

DelDOT will establish specific goals for each particular DOT-assisted project which will be expressed as a percentage of the total dollar amount of contract bid. The specific contract goals for this contract are:

Disadvantaged Business Enterprise 15 % Percent

DelDOT continues to reserve the right to approve DBE subcontractors and all substitutions of DBE subcontractors prior to award and during the time of the contract.

Bidders are required to submit with their bids the completed DBE Program Assurance portion of the Certification document which will state the bidders intent of meeting the goals established for this contract; or in the instance where a contractor cannot meet the assigned DBE Goals for this contract, he/she shall at the time of bid submit documentation required to verify that he/she has made a Good Faith Effort to meet the DBE Goals. Guidance for submitting a Good Faith Effort is identified in the next section and in the DBE

Program Plan. Further, the apparent low bidder must submit to DelDOT within five (5) calendar days after the bid opening, executed originals of each and every DBE subcontract to satisfy contract goals consistent with the DBE Program Assurance submitted as part of the bid package.

No contract work shall be performed by a DBE subcontractor until the executed DBE subcontract is approved in writing by DelDOT and the Department has issued the required Notice to Proceed. Any DBE subcontract relating to work to be performed pursuant to this contract, which is submitted to DelDOT for approval, must contain all DBE subcontractor information, the requirements contained in this contract, and must be fully executed by the contractor and DBE subcontractor.

Each contract between the prime contractor and each DBE subcontractor shall at the minimum include the following:

1. All pertinent provisions and requirements of the prime contract.
2. Description of the work to be performed by the DBE subcontractor.
3. The dollar value of each item of work to be completed by the DBE subcontractor and the bid price of each item of work to be completed by the DBE subcontractor.

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CRITICAL DBE REQUIREMENTS

A bid may be held to be non-responsive and not considered if the required DBE information is not provided. In addition, the bidder may lose its bidding capability on Department projects and such other sanctions as the Department may impose. It is critical that the bidder understands:

1. In the event that the bidder cannot meet the DBE goal as set forth in this specification, he/she shall at the time of bid submit to the Department that percentage of the DBE Goal that will be met, if any, on the written and notarized assurance made a part of this contract. The contractor shall also at the time of bid submit all documentation that the contractor wishes to have the Department consider in determining that the contractor made a Good Faith Effort to meet contract DBE Goals. The Department will not accept Good Faith Effort documentation other than on the scheduled date and time of the bid opening. However, the Department may ask for clarification of information submitted should the need arise.
2. A bid which does not contain either a completely executed DBE Program Assurance and/or Good Faith Effort documentation, where appropriate, shall be declared non-responsive and shall not be considered by the Department.
3. Failure of the apparent low bidder to present originals of all DBE subcontracts to substantiate the volume of work to be performed by DBE's as indicated in the bid within five (5) calendar days after the bid opening shall create a rebuttable presumption that the bid is not responsive.
4. Bidders are advised that failure to meet DBE Goals during the term of the contract may subject them to Department sanctions as identified in the DBE Program Plan.
5. In the execution of this contract, the successful bidder agrees to comply with the following contract clauses:

Prompt Payment: The prime contractor/consultant receiving payments shall, within 30 days of receipt of any payment, file a statement with the Department on a form to be determined by the Department that all subcontractors furnishing labor or material have been paid the full sum due them at the stage of the contract, except any funds withheld under the terms of the contract as required by Chapter 8, Title 17 of the Delaware Code, annotated and as amended. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of DelDOT. This clause applies to both DBE and non-DBE subcontractors.

Retainage: The prime contractor agrees to return retainage to each subcontractor within 15 calendar days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of DelDOT. This clause covers both DBE and non-DBE subcontractors. As guidance, once a subcontractor has satisfactorily completed the physical work, and has given to the prime contractor a certified statement that all laborers, lower tier contractors, and materialmen who have furnished labor and materials to the subcontractor have been paid all monies due them, the prime contractor shall return retainage to the subcontractor within 15 calendar days.

6. In the execution of this contract, the successful bidder agrees to comply with the following contract assurance and will include this same language in each subcontractor contract:

"The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such remedy as the recipient deems appropriate." 49 CFR Section 26.13

7. In addition to this specification, bidders must comply with all provisions of the rules and regulations adopted by the U.S. Department of Transportation for DBE participation in U.S. DOT and DelDOT Programs (49 CFR Part 26) and the Delaware Department of Transportation Disadvantaged Business Enterprise Program Plan; each of which is hereby incorporated and made part of this specification. Bidders are also reminded that they must be responsible and responsive bidders in all other aspects aside from the DBE Program in order to be awarded the contract.
8. In accordance with 49 CFR 26.53(f)(1), DelDOT requires that a prime contractor not terminate a DBE subcontractor without prior written consent from the DelDOT Civil Rights Office. This includes, but is not limited to, instances in which a prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

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GUIDANCE FOR GOOD FAITH EFFORT

When the DBE Goals established for a contract by DelDOT are not met, the contractor shall demonstrate good faith efforts to meet the DBE contract goals. The contractor shall demonstrate that the efforts made were those that a contractor actively and aggressively seeking to meet the goals established by DelDOT would make, given all relevant circumstances. Evidence of this good faith effort will be submitted with the bid at the time of the bid opening.

The contractor is expected to demonstrate good faith efforts by actively and aggressively seeking out DBE participation in the project to the maximum extent, given all relevant circumstances. Following are the kinds of efforts that may be taken but are not deemed to be exclusive or exhaustive and DelDOT will consider other factors and types of efforts that may be relevant:

1. Efforts made to select portions of the work proposed to be performed by DBEs in order to increase the likelihood of achieving the stated goal. Selection of portions of work are required to at least equal the goal for DBE utilization specified in this contract.
2. Written notification at least ten (10) calendar days prior to the opening of a bid soliciting DBE interest in participating in the contract as a subcontractor or supplier and for specific items of work.
3. Efforts made to obtain and negotiate with DBE firms for specific items of work:
 - a. Description of the means by which firms were solicited (i.e. by telephone, e-mail, written notice, advertisement).
 - b. The names, addresses, telephone numbers of DBE's contacted, the dates of initial contact; and whether initial solicitations of interest were followed-up by contacting the DBEs to determine with certainty whether the DBEs were interested.
 - c. A description of the information provided to DBE firms regarding the plans, specifications and estimated quantities for portions of the work to be performed.
 - d. A statement of why additional agreements with DBE's were not reached in order to meet the projected goal.
 - e. Listing of each DBE contacted but not contracted and the reasons for not entering a contract.
4. Efforts made to assist DBEs that need assistance in obtaining bonding, insurance, or lines of credit required by the contractor.
5. Reasons why certified DBEs are not available or not interested.
6. Efforts to effectively use the services of available disadvantaged community organizations; disadvantaged contractor's groups; local, state and federal DBE assistance offices; and other organizations that provide assistance in recruitment and placement of DBEs.

The following are examples of actions that may not be used as justification by the contractor for failure to meet DBE contract goals:

1. Failure to contract with a DBE solely because the DBE was unable to provide performance and/or payment bonds.
2. Rejection of a DBE bid or quotation based on price alone.

3. Rejection of a DBE because of its union or non-union status.
4. Failure to contract with a DBE because the contractor normally would perform all or most of the work in the contract.

Administrative reconsideration:

Within five (5) days of being informed by DelDOT that it is not responsive because it has not documented sufficient good faith efforts, a bidder may request administrative reconsideration. Bidder should make this request in writing to the following reconsideration official: Director of Finance, DelDOT, 800 Bay Road, Dover, Delaware 19901, and Email a copy to dot-ask@state.de.us. The reconsideration official will not have played any role in the original determination that the bidder did not document sufficient good faith efforts.

As part of this reconsideration, the bidder will have the opportunity to provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so. The bidder will have the opportunity to meet in person with the reconsideration official, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. The final decision made by the reconsideration official will be communicated to the bidder in writing. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

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REQUIRED CONTRACT PROVISIONS - FEDERAL-AID CONSTRUCTION CONTRACTS
(Exclusive of Appalachian Contracts)

FHWA-1273 -- Revised May 1, 2012 <http://www.fhwa.dot.gov/programadmin/contracts/1273/1273.docx>

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.
4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as

amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:
 - a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.
 - b. The contractor will accept as its operating policy the following statement:
"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."
2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.
3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
 - a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
 - b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
 - c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

- d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
 - e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.
- a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.
 - b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.
 - c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.
5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:
- a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
 - b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
 - c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
 - d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.
6. Training and Promotion:
- a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.
 - b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

- c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
 - d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.
7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:
- a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.
 - b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
 - c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.
 - d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.
8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.
9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.
- a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.
 - b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.
10. Assurance Required by 49 CFR 26.13(b):
- a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.
 - b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.
 - a. The records kept by the contractor shall document the following:
 - (1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;
 - (2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and
 - (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;
 - b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

- a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

- b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
 - (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 - (ii) The classification is utilized in the area by the construction industry; and
 - (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
 - (2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
 - (3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
 - (4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
- c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
 - d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

- a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
- b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.
- (2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 - (i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

- (ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
 - (iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
 - (3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.
 - (4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.
 - c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.
4. Apprentices and trainees
- a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.
6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.
7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.
10. Certification of eligibility.
 - a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.
3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.
4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price,

excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

- a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:
 - (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
 - (2) the prime contractor remains responsible for the quality of the work of the leased employees;
 - (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
 - (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.
 - b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.
2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.
 3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.
 4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.
 5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.
- d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).
- f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
- g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.
- h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

- i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

- a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:
 - (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;
 - (2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - (3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and
 - (4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction

(such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.
- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.
- h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
 - a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

- b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

* * * * *

CARGO PREFERENCE ACT

Requirements in the Federal-aid Highway Program

(a) Agreement Clauses. "Use of United States-flag vessels:

(1) Pursuant to Pub. L. 664 (43 U.S.C. 1241(b)) at least 50 percent of any equipment, materials or commodities procured, contracted for or otherwise obtained with funds granted, guaranteed, loaned, or advanced by the U.S. Government under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned United States-flag commercial vessels, if available.

(2) Within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (a)(1) of this section shall be furnished to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(b) Contractor and Subcontractor Clauses. "Use of United States-flag vessels: The contractor agrees—

(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

NOTE:

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

* * * * *

BUY AMERICA

Requirements in the Federal-aid Highway Program

By signing and submitting this proposal, the bidder certifies that:

In accordance with 23 U.S.C, 313 and 23 CFR 635.410, all iron and steel materials permanently incorporated into this project will be produced in the United States and that all manufacturing processes involving these materials will occur in the U.S, except that a minimal amount of foreign steel or iron materials may be used, provided the cost of the foreign materials does not exceed 0.1 percent of the total Contract cost or \$2,500.00, whichever is greater. If such minimal amount of foreign steel is used, the Contractor shall maintain a record of the costs to ensure that the allowable limit is not exceeded. This documentation shall be presented to the Department upon request.

At the Department's request, I/we will provide manufacturer's/supplier's documentation verifying domestic origin as defined in the Specifications. All Materials accepted on the basis of such Certificate of Compliance may be sampled by the Department and tested at any time. Use of Material on the basis of Certificate of Compliance shall not relieve the Contractor of responsibility for incorporating Material in the Project conforming to the requirements of the Contract. Any Material not conforming to such requirements will be subject to rejection whether in place or not. The Department reserves the right to refuse to permit the use of Material on the basis of Certificate of Compliance.

* * * * *

APPENDICES TO THE TITLE VI ASSURANCE

APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, (Federal Highway Administration (FHWA), or Federal Transit Authority (FTA)), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts and the Regulations, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration (FHWA), or Federal Transit Authority (FTA) to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the Federal Highway Administration (FHWA), or Federal Transit Authority (FTA), as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration (FHWA), or Federal Transit Authority (FTA) may determine to be appropriate, including, but not limited to:
 - withholding payments to the contractor under the contract until the contractor complies;
 - and/or cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through five in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts and the Regulations . The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration (FHWA), or Federal Transit Authority (FTA) may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

APPENDIX E

During the performance of this contract, the contractor or consultant, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following nondiscrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970,(42 U.S.C. § 460 D), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);

Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);

Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part27;

The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);

Airport and Airway Improvement Act of 1982,(49 USC §471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);

The Civil Rights Restoration Act of 1987,(PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964,The AgeDiscrimination Act of 1975and Section 504 of the Rehabilitation Act of 1973,by expanding the defrnition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 - 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;

The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. S 41123) (prohibits discrimination on the basis of race, color, national origin, and sex);

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs; policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

* * * * *

PREVAILING WAGES

Included in this proposal are the minimum wages to be paid various classes of laborers and mechanics as determined by the Department of Labor of the State of Delaware in accordance with Title 29 Del.C. §6960, relating to wages and the regulations implementing that Section.

REQUIREMENT BY DEPARTMENT OF LABOR FOR SWORN PAYROLL INFORMATION

Title 29 Del.C. §6960 stipulates;

(b) Every contract based upon these specifications shall contain a stipulation that the employer shall pay all mechanics and laborers employed directly upon the site of the work, unconditionally and not less often than once a week and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than those stated in the specifications, regardless of any contractual relationship which may be alleged to exist between the employer and such laborers and mechanics. The specifications shall further stipulate that the scale of wages to be paid shall be posted by the employer in a prominent and easily accessible place at the site of the work, and that there may be withheld from the employer so much of accrued payments as may be considered necessary by the Department of Labor to pay to laborers and mechanics employed by the employer the difference between the rates of wages required by the contract to be paid laborers and mechanics on the work and rates of wages received by such laborers and mechanics to be remitted to the Department of Labor for distribution upon resolution of any claims.

(c) Every contract based upon these specifications shall contain a stipulation that sworn payroll information, as required by the Department of Labor, be furnished weekly. The Department of Labor shall keep and maintain the sworn payroll information for a period of 6 months from the last day of the work week covered by the payroll.

Bidders are specifically directed to note the Department of Labor's prevailing wage regulations implementing §6960 relating to the effective date of the wage rates, at Part VI., Section C., which in relevant part states:

"Public agencies (covered by the provisions of 29 Del.C. §6960) are required to use the rates which are in effect on the date of the publication of specifications for a given project. In the event that a contract is not executed within one hundred twenty (120) days from the date the specifications were published, the rates in effect at the time of the execution of the contract shall be the applicable rates for the project."

PREVAILING WAGE REQUIREMENTS

It is DelDOT's understanding that the Davis-Bacon Act is not a preemptive statute in the broad sense, and does not preempt or displace State of Delaware prevailing wage requirements.

When a contract for a project contains both Federal Davis-Bacon and State of Delaware prevailing wage standards because of concurrent Federal and State coverage, the employer's minimum wage obligations are determined by whichever standards are higher.

STATE OF DELAWARE
 DEPARTMENT OF LABOR
 DIVISION OF INDUSTRIAL AFFAIRS
 OFFICE OF LABOR LAW ENFORCEMENT
 PHONE: 302 761 8200

Mailing Address:
 4425 North Market St., 3rd Fl
 Wilmington, DE 19802

Located at:
 4425 North Market St., 3rd Fl
 Wilmington, DE 19802

PREVAILING WAGES FOR HIGHWAY CONSTRUCTION EFFECTIVE MARCH 15, 2018

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
BRICKLAYERS	53.89	53.89	53.89
CARPENTERS	54.62	54.81	43.57
CEMENT FINISHERS	34.63	34.85	27.71
ELECTRICAL LINE WORKERS	24.02	46.36	22.69
ELECTRICIANS	68.70	68.70	68.70
IRON WORKERS	63.68	25.48	27.06
LABORERS	43.30	40.70	39.95
MILLWRIGHTS	17.20	16.69	14.41
PAINTERS	68.79	68.79	68.79
PILEDRIVERS	70.92	25.36	28.77
POWER EQUIPMENT OPERATORS	45.46	42.29	38.73
SHEET METAL WORKERS	24.30	21.68	19.64
TRUCK DRIVERS	36.49	30.14	36.72

CERTIFIED: 05/29/2018

BY: *[Signature]*
 ADMINISTRATOR, OFFICE OF LABOR LAW ENFORCEMENT

NOTE: THESE RATES ARE PROMULGATED AND ENFORCED PURSUANT TO THE PREVAILING WAGE REGULATIONS ADOPTED BY THE DEPARTMENT OF LABOR ON APRIL 3, 1992.

CLASSIFICATIONS OF WORKERS ARE DETERMINED BY THE DEPARTMENT OF LABOR. FOR ASSISTANCE IN CLASSIFYING WORKERS, OR FOR A COPY OF THE REGULATIONS OR CLASSIFICATIONS, PHONE 302 761 8200.

NON-REGISTERED APPRENTICES MUST BE PAID THE MECHANIC'S RATE.

PROJECT: DOT1801 Traffic Signals and ITS, Multiple Counties

GENERAL DECISION: DE180020 01/05/2018 DE20

Superseded General Decision Number: DE20170020

State: DELAWARE

Construction Type: HIGHWAY

COUNTY: New Castle County in Delaware

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.35 per hour (or the applicable wage rates listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1 (a) (2) - (60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date	
0	01/05/2018	

SUDE2016-002	04/23/2015	
	Rates	Fringes
Bricklayer	50.49	
Carpenter	52.81	
Cement Mason/Concrete Finisher	31.10	
ELECTRICIAN		
Electrician	65.10	
Line Worker	23.23	
Ironworker	43.56	
Laborer	33.59	
Millwright	16.63	
Painter	63.14	
Power Equipment Operator:		
Piledriver	68.57	
Power Equipment Operator	41.90	
Sheet Metal Worker	23.49	
Truck Driver	34.02	

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Superseded General Decision Number: DE20170019

State: DELAWARE

Construction Type: HIGHWAY

COUNTY: Kent County in Delaware

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.35 per hour (or the applicable wage rates listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1 (a) (2) - (60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date	
0	01/05/2018	

SUDE2016-001	04/11/2016	
	Rates	Fringes
Bricklayer	50.49	
Carpenter	52.81	
Cement Mason/Concrete Finisher	30.96	
ELECTRICIAN		
Electrician	65.10	
Line Workers	44.82	
Ironworker	24.64	
Laborer	39.35	
Millwright	16.14	
Painter	63.14	
Power Equipment Operator:		
Piledriver	24.52	
Power Equipment Operators	40.89	
Sheet Metal Worker	20.97	
Truck Driver	29.14	

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

FEDERAL DAVIS-BACON WAGE RATES 01/05/2018 DE21

General Decision Number: DE180021

Superseded General Decision Number: DE20170021

STATE: Delaware

Construction Type: Highway

COUNTY: Sussex County in Delaware

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.35 per hour (or the applicable wage rates listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1 (a) (2) - (60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date		
0	01/05/2018		

SUDE2016-003	04/23/2015		
		Rates	Fringes
Bricklayer		14.98	
Carpenter		41.97	
Cement Mason/Concrete Finisher		26.79	
ELECTRICIAN			
Electrician		65.10	
Line Worker		21.94	
Ironworker		26.17	
Laborer		38.63	
Millwright		13.93	
Painter		63.14	
Power Equipment Operator:			
Piledriver		27.82	
Power Equipment Operators		29.07	
Sheet Metal Worker		18.99	
Truck Driver		35.50	

WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with

1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of “identifiers” that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than “SU” or “UAVG” denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under an “SU” identifier indicated that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

APPLICABILITY OF DAVIS-BACON LABOR STANDARD PROVISIONS TO FLAGGERS

The U.S. Department of Labor has established that the duties of flaggers working on contracts covered by the Davis-Bacon Act, are manual and physical in nature. Accordingly, all employees performing the work of flaggers on Davis-Bacon covered contracts shall be entitled to receive applicable prevailing wage rates.

* * * * *

ALL AGENCY MEMORANDUM NO. 130
U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION
WAGE AND HOUR DIVISION
WASHINGTON, DC 20210

GUIDELINES

HIGHWAY CONSTRUCTION

Highway projects include the construction, alteration, or repair of roads, streets, highways, runways, taxiways, alleys, trails, paths, parking areas, and other similar projects not incidental to building or heavy construction.

EXAMPLES: Alleys, Base Courses, Bituminous treatments, Bridle Paths, Concrete pavement, Curbs, Excavation and embankment (for road construction), Fencing (highway), Grade crossing elimination (overpasses and underpasses), Guard rails on highway, Highway signs, Highway bridges (overpasses, underpasses, grade separation), Medians, Parking lots, Parkways, Resurfacing streets and highways, Roadbeds, Roadways, Runways, Shoulders, Stabilizing courses, Storm sewers incidental to road construction, Street paving, Surface courses, Taxiways, and Trails.

ANY QUESTIONS REGARDING THE APPLICATION OF THE GUIDELINES ABOVE TO A PARTICULAR PROJECT OR ANY DISPUTES REGARDING THE APPLICATION OF THE WAGE SCHEDULES ARE TO BE REFERRED TO THE WAGE AND HOUR DIVISION, U.S. DEPARTMENT OF LABOR FOR RESOLUTION, AND THE INSTRUCTIONS OF THE WAGE AND HOUR DIVISION ARE TO BE OBSERVED IN ALL INSTANCES.

* ALL AGENCY MEMORANDUM NO. 130
U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION
WAGE AND HOUR DIVISION
WASHINGTON, DC 20210

SPECIAL PROVISIONS

401502 - ASPHALT CEMENT COST ADJUSTMENT

For Sections 401, 402, and 403, payments to the Contractor shall be adjusted to reflect increases or decreases in the Delaware Posted Asphalt Cement Price when compared to the Project Asphalt Cement Base Price, as defined in these Special Provisions.

The Delaware Posted Asphalt Cement Price will be issued monthly by the Department and will be the industry posted price for Asphalt Cement, F.O.B. Philadelphia, Pennsylvania. The link for the posting is http://www.deldot.gov/information/business/bids/asphalt_cement_english.shtml.

The Project Asphalt Cement Base Price will be the Delaware Posted Asphalt Cement Price in effect on the date of advertisement.

All deviations of the Delaware Posted Asphalt Cement Price from the Project Asphalt Cement Base Price are eligible for cost adjustment. No minimum increases or decreases or corresponding percentages are required to qualify for cost adjustment.

Actual quantity of asphalt cement qualifying for any Asphalt Cement Cost Adjustment will be computed using the weight of eligible asphalt that is shown on the QA/QC pay sheets as a percentage for the delivered material.

If the mix was not inspected and no QA/QC pay sheet was generated, then the asphalt percentage will be obtained from the job mix formula for that mix ID.

The asphalt percentage eligible for cost adjustment shall only be the virgin asphalt cement added to the mix.

There shall be no separate payment per ton cost of asphalt cement. That cost shall be included in the various unit prices bid per ton for those bid items that contain asphalt cement (mentioned above).

The Asphalt cement cost adjustment will be calculated on grade PG 64-22 asphalt regardless of the actual grade of asphalt used. The Project Asphalt Cement Base Price per ton for the project will be the Delaware Posted Asphalt Cement Price in effect on the date of project advertisement.

If the Contractor exceeds the authorized allotted completion time, the price of asphalt cement on the last authorized allotted work day, shall be the prices used for cost adjustment during the time liquidated damages are assessed. However, if the industry posted price for asphalt cement goes down, the asphalt-cement cost shall be adjusted downward accordingly.

NOTE:

Application of Asphalt Cement Cost Adjustment requirements as indicated above shall apply only to those contracts involving items related to bituminous base and pavements, and with bitumen, having a total of 1,000 tons or more of hot-mix bid quantity in case of Sections 401, 402 and 403.

5/05/15

763503 - TRAINEE

Description:

The item shall consist of providing training in the construction crafts in accordance with the requirements stated in the General Notices of this proposal under the Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246).

Basis of Payment:

The payment for the item shall be made at a fixed rate of \$.80 per hour toward the hourly rate of the trainee.

8/15/17

763655 - PERFORMANCE AND PAYMENT BOND, OPEN-END SIGNAL CONTRACT

Description:

For this contract the delete the first sentence of Standard Specification Section 103.05 and replace with the following:

“Simultaneous with the execution of the Contract, the successful bidder shall furnish a surety bond or bonds in a sum equal to Five Hundred Thousand Dollars (\$500,000.00).” All other portions of Standard Specification 103.05 remain in effect.

Measurement and Payment:

For bidding purposes, the unit price is fixed at \$10,000.00. Actual payment is based on the submitted invoice from the contractor’s bonding agent.

4/17/2018

808500 - FURNISH AND INSTALL STRAIGHT BOOM LIFT, UP TO 80', 4WD (HOURLY)
808501 - FURNISH AND INSTALL STRAIGHT BOOM LIFT, UP TO 80', 4WD (DAILY)

Description:

The contractor shall supply a straight boom lift, up to 80', with 360° platform rotation for easy boom positioning and self-leveling platform. Booms can be raised, lowered, and extended horizontally while the work platform remains stable and straight. The lift shall maneuver and steer in any direction, even while the platform is extended. A 4WD model is required for all Department tasks and site conditions. Hydrostatic drive, positive traction, oscillation axles and proportional controls shall be provided. The contractor may use lifts equipped with 6' articulating jib extensions or rotating jib models.

Other requirements are as follows:

- Axle-based 4WD for terrain mobility
- Analog-based control system
- Directional-sensing drive-and-steer
- All operators shall be CDL Approved

Method of Measurement:

Straight boom lifts will be measured as the actual number of lifts units used per hour or per day. An hourly rate consists of a usage of time (mobilized on site and operational) within 1 hour to 6 hours. A day consists of any approved usage within 6 to 24 hours of time (mobilized on site and operational). Each lift will be measured only once per task (hourly or daily), regardless of how many times it is relocated to complete a task.

The plastic drums required for this item will be measured as the actual number of plastic drums acceptably furnished, installed and maintained each day under the appropriate contract item.

The Department shall not compensate contractor for down-time due to mechanical failure or replacement of lift to complete task.

Basis of Payment:

Price and payment constitutes full compensation for mobilization, completing task, maintaining in a safe manner, and demobilization at the contract unit price each hour or each day and for all labor, tools, equipment and necessary incidentals to complete the work.

3/09/2018

813501 - TEMPORARY SIDEWALK – TYPE 2 (BOARDWALK)

Description:

Furnish, place, maintain, and remove a temporary wooden sidewalk with siderails in accordance with the requirements of the Americans with Disabilities Act, locations, notes and details in the Plans and as directed by the Engineer.

Materials:

Exterior Grade lumber and associated hardware as shown on the Plan Details.

Construction Methods:

Construct a temporary wooden walkway in accordance with the plan details as needed to maintain pedestrian traffic through the work zone.

1. Remove the temporary sidewalk, restore the area when it is no longer needed and dispose of all materials in accordance with Subsection 106.09.

Method of Measurement:

The quantity of Temporary Sidewalk – Type 2 will be measured as the number of linear feet of walkway acceptably constructed, installed, maintained, removed and completed as specified.

Basis of Payment:

Linear Foot price and payment will constitute full compensation for furnishing all materials, constructing, placing, and maintaining the temporary sidewalk, and for removal and disposal of the temporary sidewalk when it is no longer needed. Also included is the restoration and seeding of any disturbed area to its original configuration, and the furnishing of all labor, equipment, tools and incidentals required to complete the work. Topsoil, if required, will be paid for under Item 908001.

4/10/2018

813502 – RELOCATE TEMPORARY SIDEWALK – TYPE 2

Description:

Remove, transport, salvage, and reset a Temporary Sidewalk – Type 2 that was originally constructed in accordance with the Plan Details for that item.

Materials:

Replace in kind any damaged lumber or hardware to restore the Temporary Sidewalk to an acceptable condition.

Construction Methods:

1. Carefully salvage an existing Temporary Sidewalk – Type 2, transport it to a secondary site and acceptably install it to meet the original construction details.
2. Remove the temporary sidewalk, restore the area when it is no longer needed and dispose of all materials in accordance with Subsection 106.09.

Method of Measurement:

The quantity of Relocate Temporary Sidewalk – Type 2 will be measured as the number of linear feet of sidewalk acceptably transported, salvaged, re-installed, maintained, removed and completed as specified. Measurement will be made in the relocated position after acceptable placing of the unit.

Basis of Payment:

Linear Foot price and payment will constitute full compensation for furnishing all replacement materials, transporting, resetting, and maintaining the temporary sidewalk, and for removal and disposal of the temporary sidewalk when it is no longer needed. Also included is the restoration and seeding of any disturbed area to its original configuration, and the furnishing of all labor, equipment, tools and incidentals required to complete the work. Topsoil, if required, will be paid for under Item 908001.

4/10/2018

813503 – TEMPORARY PEDESTRIAN PATHWAY

Description:

Furnish, place, relocate, and maintain temporary pedestrian pathway in accordance with the requirements of the Americans with Disabilities Act, locations, notes and details in the Plans and as directed by the Engineer.

Surface Materials:

Portland Cement Concrete	Section 1022
Asphalt Cement	Section 1012
Cold-Patch	Section 1015
Graded Aggregates	Section 1005

Construction Methods:

1. Construct a temporary pedestrian pathway having a smooth, continuous hard surface using one of these materials: Portland cement concrete (PCC), hot-mix, cold patch or milled hot-mix base course.
 - A. Placement of Portland Cement Concrete in accordance with Section 500
 - B. Placement of Bituminous Pavement in accordance with Section 400
 - C. Placement of Base Course in accordance with Section 300
2. Meet the requirements of the Americans with Disabilities Act for running slope, cross slope, vertical differences and openings.
3. Remove temporary pedestrian pathway when it is no longer needed.
 - A. Dispose of all materials in accordance with Subsection 106.08

Method of Measurement:

The quantity of temporary pedestrian pathway will be measured as the number of square yards of surface area acceptably installed, maintained, removed and completed as specified.

Basis of Payment:

The quantity of temporary pedestrian pathway will be paid for at the Contract unit price per square yard acceptably installed, maintained, removed and completed as specified by the Contract. Price and payment will constitute full compensation for preparing, furnishing, placing, finishing and compacting the materials, maintaining the pathway, removal and disposal of the pathway when it is no longer needed, restoring and seeding the area to its original configuration, and for furnishing all labor, equipment, tools and incidentals required to complete the work.

Any necessary seeding will be paid under the respective item.

12/19/17

817571 - RETROREFLECTIVE THERMOPLASTIC MARKINGS, BIKE SYMBOL, POURED IN PLACE USING TEMPLATE

817572 - RETROREFLECTIVE THERMOPLASTIC MARKINGS, PEDESTRIAN SYMBOL, POURED IN PLACE USING TEMPLATE

817573 - RETROREFLECTIVE THERMOPLASTIC MARKINGS, HANDICAP SYMBOL, POURED IN PLACE USING TEMPLATE

Description:

The work for retroreflective thermoplastic bike, pedestrian and handicap symbol markings will comprise furnishing the required pavement marking materials and equipment and the required symbol pattern/Stencil and pouring in place as shown in the Contract Documents or as directed by the Engineer.

Materials:

All Pavement markings materials shall be in accordance with Section 1071 and Section 817 of the Department's August 2016 Standard Specifications

All symbol templates/stencils shall conform to the size and dimensions as shown in the Federal "Standard Highway Signs" book found on the Federal Highway Administration website as referred to in the Delaware Manual on Uniform Traffic Control Devices, Part 3, Markings.

Construction Methods:

All construction and application methods, retroreflectivity tests and equipment should be in accordance with Section 817 of the Department's August 2016 Standard Specifications.

The Symbol/ Legend template/stencil shall be installed per the manufacturer's instructions and the markings shall be applied in strict accordance with the manufacturer's recommendations on clean and dry surfaces. Marking configurations shall be in accordance with the "Delaware Manual on Uniform Traffic Control Devices, Part 3, Markings."

No markings shall be placed when the ambient temperature is below 40oF (4oC). The material shall be kept in a location above 55oF (13oC) until just before application.

The supplier shall provide technical services as may be required.

Method of Measurement:

The quantity of bike symbol, pedestrian symbol, and handicap symbol will be measured as each placed and accepted. The measurement dimensions for acceptable symbol/legends are as follows:

Bike Rider with Helmet shall be 3' X 6' with a 2' X 6' Arrow Symbol (817571).

Pedestrian shall be 4' X 8' (817572).

Handicap Symbol shall be 40" X 40" (817573).

Basis of Payment:

The quantity of bike symbol, pedestrian symbol, and handicap symbol will be paid for at the Contract unit price per each. Price and payment shall include cleaning and preparing the pavement surface, and placing all materials, for all labor, tools, equipment and incidentals necessary to complete the work.

Warranty:

The Contractor shall warrant to the Department that the installed retroreflective preformed thermoplastic pavement markings are free of defects, as hereafter defined, for a period of one winter season beginning at the initial acceptance of the marking installation by the Department. The initial acceptance of the marking installation will occur upon the satisfactory correction of all deficiencies noted in the marking installation during the Final Inspection of the project. The markings shall be warranted against failure due to blistering, excessive cracking, bleeding, staining, discoloration, oil content of the pavement materials, smearing and

spreading under heat, deterioration due to contact with grease deposits, oil, diesel fuel, or gasoline drippings, chipping, spalling, poor adhesion to the pavement materials, vehicular damage, and wear from normal maintenance activities including snow plowing.

The Contractor shall repair all defective areas identified by the Department after initial installation or during the Warranty Period. All repairs shall begin immediately following the notice to the Contractor by the Department unless weather limitations prevent the corrective work. Should the contractor not commence work within the period stated in the notice, weather permitting, and pending severity, the Department reserves the right to remedy the condition and charge the contractor for the work. Any corrective work shall be as recommended by the manufacturer of the marking material and approved by the Department. The Department shall be given notification before the Contractor begins corrective work to allow for inspection of the operation. All costs associated with the repair work shall be the responsibility of the contractor. These costs shall include, but are not limited to, removal, material, maintenance of traffic, etc.

4/17/2018

819500 - FURNISH AND INSTALL ROAD SIGN ON SINGLE SIGN POST
819501 - FURNISH AND INSTALL ROAD SIGN ON MULTIPLE SIGN POSTS

Description:

This work consists of furnishing and installing traffic signs on single sign posts, or multiple posts, including the sign posts any and all bolts, nuts, baseposts, and hardware, in accordance with the contract documents and as directed by the Engineer.

Materials:

Traffic signs and sign posts furnished, shall be as specified in the contract documents, plans and details.

"Telescoping" are complete units inclusive of one specified length 2-inch sign post, one 36 inch x 2-1/4 inch basepost, one 18 inch x 2-1/2 inch basepost, one corner bolt and one nut. The remaining Items are to be ordered individually to be used as replacement parts

Construction Methods:

The contractor shall obtain the necessary utility clearances before installing sign posts. Install sign post at the location depicted in the Contract Documents. Sign post shall be placed such that the lateral dimension from the edge of the sign closest to traffic will be accordance with the DE MUTCD. Sign post, baseposts, corner bolt and associated hardware for telescoping sign posts shall be installed in accordance with the Standard Construction Details. For signs mounted in an existing concrete island where no hole is provided, the contractor shall core a 4-inch diameter hole for each sign post at the proper location in the concrete island and then place post within the cored hole. The contractor shall mount sign onto the sign post at the appropriate height as specified in the DE MUTCD. With the exception of the 48"x 48" x 48" YIELD sign, a single sign totaling more than nine (9) square feet or with any dimension (length or width) greater than 48 inches shall be mounted on two (2) posts. Signs with a dimension (length or width) greater than or equal to 78 inches shall be mounted on three (3) sign posts. The contractor shall reposition signs and posts that are not installed in accordance with the DE MUTCD or installed in the incorrect location at no additional cost to the Department.

Any waste material becomes the property of the contractor to dispose of accordingly.

Method of Measurement:

Sign on Single Post

This work shall be measured as the actual number of each sign furnished and installed on a single post for signs less than or equal to nine (9) square feet or with any dimension (length or width) less than or equal to 48 inches installed, complete in place and accepted. The 48"x 48" x 48" YIELD sign shall be measured as the number of each sign furnished and installed on a single post complete in place and accepted.

Sign on Multiple Posts

This work shall be measured as the total square footage of each sign furnished and installed on two or more posts for a single sign totaling more than nine (9) square feet or with any dimension (length or width) greater than 48 inches, with the exception of the 48"x 48" x 48" YIELD, complete in place and accepted.

Basis of Payment:

The quantity of sign furnished and installed on a single post for signs less than or equal to nine (9) square feet or with any dimension (length or width) less than or equal to 48 inches shall be paid for at the contract unit price per each. Price and payment will shall constitute full compensation for all materials, labor, equipment, tools, and incidentals required to complete the work. The quantity of sign furnished and installed on multiple posts for for a single sign totaling more than nine (9) square feet or with any dimension (length or width) greater than 48 inches, with the exception of YIELD signs, shall be paid for at the contract unit price per square feet. Price and payment shall constitute full compensation for all materials, labor, equipment, tools, and incidentals required to complete the work.

4/17/2018

822500 - INSTALL OVERHEAD SIGN

Description:

This work consists of installing a sign on an over-highway structure, span wire, mast arm, wood or metal pole, pedestal pole, or ground mounted HIB (Hazard Identification Beacon). The sign may be mounted to an existing structure or one installed under this contract.

Note that the sign included with a newly installed “LED Pedestrian Pushbutton Assembly” is included under that pay item and will not be paid separately. If a sign is added to an existing “LED Pedestrian Pushbutton Assembly”, it would then be paid for under this item.

The largest sign panel or single sign to be installed on over-highway structures will be 96 square feet to be raised to a height not to exceed 35 feet measured from ground to top of sign.

Materials:

The Department will supply the signs to be installed. The signs may be supplied with pre-drilled holes for use in mounting the sign.

The Contractor will supply

- Stainless Steel 3/8" bolts
- Stainless Steel washers
- Nylon washers
- Stainless steel nuts
- Stainless steel straps (for sign fix)

Construction Methods:

Sign installation shall be performed as directed by the Engineer or shown on the plans. Care shall be taken to prevent any damage to the sign panel, span wire, mast arm, over-highway structure, wood or metal pole, pedestal pole, ground mounted HIB, any electrical cable attached to the span wire, or any lights attached to the sign panel.

Nylon washers shall be placed next to the sign face followed by a galvanized washer and the bolt head. Sign installation on over-highway structure may require the sign to be assembled in panels. The sign may be made from several panels to make one complete sign. Signs on structures shall be installed at a minimum height of 7 feet from the bottom of the sign to the near edge of pavement or sidewalk.

Measurement and Payment:

The quantity of overhead signs will be measured on a per square feet for signs installed as described in these specifications, complete, in place and accepted. Price and payment will constitute full compensation for all labor, materials, mounting hardware, equipment, tools, and incidentals required to complete the work.

4/13/2018

- 831500 - FURNISH AND INSTALL UP TO 6" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831501 - FURNISH AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831502 - FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831503 - FURNISH AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831504 - FURNISH AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831505 - FURNISH AND INSTALL 1" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831506 - FURNISH AND INSTALL 1" FLEXIBLE METALLIC-LIQUIDTIGHT CONDUIT
- 831507 - FURNISH AND INSTALL 2" FLEXIBLE METALLIC-LIQUIDTIGHT CONDUIT
- 831508 - FURNISH AND INSTALL 3" FLEXIBLE METALLIC-LIQUIDTIGHT CONDUIT
- 831509 - FURNISH AND INSTALL 4" FLEXIBLE METALLIC-LIQUIDTIGHT CONDUIT
- 831512 - FURNISH AND INSTALL 1" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831513 - FURNISH AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831514 - FURNISH AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831515 - FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831516 - FURNISH AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831517 - FURNISH AND INSTALL 1" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831518 - FURNISH AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831519 - FURNISH AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831520 - FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831521 - FURNISH AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831522 - FURNISH AND INSTALL 1" GALVANIZED STEEL CONDUIT (TRENCH)
- 831523 - FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (TRENCH)
- 831524 - FURNISH AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (TRENCH)
- 831525 - FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (TRENCH)
- 831526 - FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (TRENCH)
- 831527 - FURNISH AND INSTALL 1" GALVANIZED STEEL CONDUIT (BORE)
- 831528 - FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (BORE)
- 831529 - FURNISH AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (BORE)
- 831530 - FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (BORE)
- 831531 - FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (BORE)
- 831532 - FURNISH AND INSTALL 1" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831533 - FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831534 - FURNISH AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831535 - FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831536 - FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831537 - FURNISH AND INSTALL 1" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831538 - FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831539 - FURNISH AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831540 - FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831541 - FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831542 - FURNISH AND INSTALL 2" HDPE SDR-13.5 CONDUIT (BORE)
- 831543 - FURNISH AND INSTALL 2-1/2" HDPE SDR-13.5 CONDUIT (BORE)
- 831544 - FURNISH AND INSTALL 3" HDPE SDR-13.5 CONDUIT (BORE)
- 831545 - FURNISH AND INSTALL 4" HDPE SDR-13.5 CONDUIT (BORE)
- 831560 - FURNISH AND INSTALL UP TO 4" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831561 - FURNISH AND INSTALL 1-1/2" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831562 - FURNISH AND INSTALL 1-1/2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831563 - FURNISH AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831564 - FURNISH AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (TRENCH)
- 831565 - FURNISH AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (BORE)
- 831566 - FURNISH AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (ON STRUCTURE)

- 831569 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831570 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1-1/2" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831571 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831572 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT

- 831573 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831574 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831575 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" HDPE 13.5 SDR CONDUIT IN DIRECTIONAL BORE
- 831576 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" HDPE 13.5 SDR CONDUIT IN DIRECTIONAL BORE
- 831577 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" HDPE 13.5 SDR CONDUIT IN DIRECTIONAL BORE
- 831578 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" HDPE 13.5 SDR CONDUIT IN DIRECTIONAL BORE
- 831579 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT
- 831580 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1-1/2" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT
- 831581 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT
- 831582 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT
- 831583 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT
- 831584 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT
- 831585 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1" STEEL CONDUIT IN DIRECTIONAL BORE
- 831586 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1-1/2" STEEL CONDUIT IN DIRECTIONAL BORE
- 831587 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" STEEL CONDUIT IN DIRECTIONAL BORE
- 831588 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" STEEL CONDUIT IN DIRECTIONAL BORE
- 831589 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" STEEL CONDUIT IN DIRECTIONAL BORE
- 831590 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" STEEL CONDUIT IN DIRECTIONAL BORE

Description:

This work consists of furnishing and installing a conduit or shield, of the type and size required and as specified in the contract documents or as directed by the Engineer.

Materials:

All conduits shall be UL listed.

HDPE Conduit - 2" and 4" diameter, high density polyethylene (HDPE) SDR-13.5, smooth wall conduit with permanently pre-lubricated lining, meeting ASTM D2447, ASTM D3035 and NEMA TC7 specifications.

PVC Conduit - 4", 3", 2-1/2", 2" or 1" diameter, schedule 80 rigid polyvinyl chloride (PVC) conduit, meeting Commercial Standard CS-272-65 (PVC), ASTM D-1785 and U.C. Standard 651 specifications.

Galvanized Steel Conduit - 4", 3", 2-1/2", 2", 1-1/2" or 1" diameter, rigid galvanized steel conduit meeting National Electric Code 2002, Article 344.

HDPE Conduit to PVC Conduit Coupling - Galvanized steel meeting Commercial Standard CS-272-65 (PVC), ASTM D-1785 and U.C. Standard 651 specifications

Flexible Metallic-Liquidtight Conduit - meets National Electric Code 2002, Article 350

Weatherhead for galvanized or PVC conduit - material shall match the adjoining conduit

Insulated grounding bushing with knockouts - meet or exceed UL 514 B

Condulets for conduit sizes - material shall match the adjoining conduit

Anchors - A 307, Galvanized per A 153

One hole conduit hangers - Steel City Series 6H or 6H-B, CADDY CD3B Rigid Conduit Hanger, or approved equal

End caps - material shall match the adjoining conduit

LONG sweep sections for conduit sizes - material shall match the adjoining conduit, and shall be manufactured 90 degree sweeping bends.

Construction Methods:

General Installation Requirements -

The Department has the right to reject any installation method proposed for a given work site. PVC shall not be installed under existing pavement unless it is on a continuous roll or with the Engineer's written approval.

Conduit installed underground shall be installed in a straight line between terminal points. In straight runs, junction well spacing shall be no more than 600 feet for fiber optic conduit or no more than 300 feet for copper in conduit, or as directed by the Engineer. If bends are required during installation, they must be manufactured sweeping bends. The Engineer will be consulted before any bends are installed to ensure that the proper arc is provided.

Underground conduit shall have a minimum cover as measured from the finished grade of 24 inches and a maximum cover of 48 inches. The opening shall be filled half way with the cover material, and tamped down firmly before filling in the remainder of the opening. Additional lifts shall be used as required to install the metallic warning tape at the specified depth. All cover material shall be free of rocks, debris, vegetation or other deleterious material that may damage the conduit. An underground utility warning tape shall be installed as specified in this section and the remainder of the fill shall be added, tamping down the top layer.

Conduit not terminated to a base or in a junction well shall be terminated 2 feet beyond the edge of the pavement unless otherwise directed by the Engineer, and properly capped. Tape is NOT an approved method. Conduit shall not extend more than 3 inches inside a junction well. See Standard Construction Details or applicable Plan Details for typical methods of termination.

All underground conduits shall be marked in the ground with a metallic warning tape. The marking tape shall be buried directly above the conduit run that it identifies, at a depth of approximately 12 inches below final grade. The tape identifying ALL conduits shall be at least 6 inches wide, and have a minimum thickness of 3 mils and 500 percent elongation.

The color of the metallic warning tape identifying fiber optic cable should be bright orange (preferably AULCC orange), and shall read "WARNING - OPTICAL CABLE" or other wording approved by the Engineer that conveys the same message. The color of the tape identifying all other cables shall be bright red, and shall read "WARNING -BURIED ELECTRIC BELOW" or other wording approved by the Engineer that conveys the same message.

Using conduit tools, rigid metallic conduit shall be cut, reamed, and threaded. The thread length shall be as necessary to ensure that the sections of conduits when screwed into a coupling and tightened correctly will butt together and the joint will be watertight. A three-piece threaded union, as approved by the Engineer, shall be used to join two threaded lengths of conduit in the case where a standard coupling will not work. A threaded union shall not be used in a conduit run that is to be driven. At no time is a threadless coupling or a split-bolt coupling to be used for direct buried conduit.

All lengths of HDPE conduit shall be connected with irreversible fusion couplings. Mechanical and removable couplings will not be accepted. All lengths of PVC conduit shall be connected by one conduit end fitting inside the flared end of the other conduit section. If this is not possible, then a coupling may be used. Regardless of how connection is made, all joints shall be sealed with the appropriate epoxy to ensure that the two conduit pieces bond to one another to form a solid waterproof link. Using conduit tools, the conduit shall be cut and prepared. If approved by the Engineer, a coupler module may be used where conduit segments do not align properly to allow the flared end of one conduit segment to mate with the normal end of the other segment.

Sealed end caps (with knockouts if empty) shall be placed on the ends of all conduits, after compressed air has been used to clear all foreign matter. If not already pre-installed by the manufacturer, a polyester or polypropylene pulling rope or tape (fish wire) with a minimum rated strength of 1250 pounds shall be installed in each conduit for future use. In instances where the Contractor installs the cable, the fish wire may be eliminated.

All PVC and HDPE conduits shall have a continuous metallic trace wire installed for the entire length of the conduit run for all fiber installations.

Generally, Item No. 908020 - Erosion Control Blanket Mulch in the Department's 2016 Standard Specifications would be used to stabilize slopes that are 2:1 or flatter. For slopes that are steeper than 2:1 and/or receive a moderate amount of concentrated flow, Item No. 908021 - Turf Reinforcement Matting, Type 1 in the Department's 2016 Standard Specifications would be used for slope stabilization. However, if required Contractor shall refer to DelDOT's Erosion and Sediment Control Manual for the placement of steep slope stabilization.

Installation of Conduit Under Existing Pavement, Directional Bore -

Directional bore shall be used for installation of conduits under existing pavement with a conduit diameter not less than 1-1/2". The size of a bore shall not exceed the outside diameter of the conduit by more than 1 inch. If it does, cement grout shall be pumped into the void. Only HDPE and/or Galvanized Steel conduit may be installed by Directional Bore methods.

Installation of Conduit Under Existing Pavement, Open Cut -

Installation by sawcutting the full pavement depth and removing the existing pavement with an excavator or by hand methods, shall be used only for conduits not less than 1-1/2" diameter. The Engineer must first approve all open cutting of roadways. The width and length of open cut and patch restoration materials shall be as shown on the plan details. The Contractor shall be responsible for the removal of all cut pavement and surplus excavation, and for the replacement and correction of any damaged pavement outside the sawcut limits after the conduit(s) are installed. Asphalt pavement, concrete, base course, sawcutting, and/or borrow from an outside source as required to restore the roadway will be paid for separately under their respective bid items.

Installation of Conduit Under Existing Pavement, Unpaved Trench -

Trenching or other approved method shall be used for installation of conduit in unpaved trench or under new pavement. Backfill in conduit trenches shall be compacted thoroughly as it is being placed. At the discretion of the Engineer, sod, that must be removed for the placement of conduit, shall be removed either by the use of an approved sod cutter and then replaced, or 6 inches of topsoil shall be placed and the surface seeded in accordance with Section 734001 - Seeding. In areas where new pavement is to be placed or in areas where total reconstruction is taking place, sodding or seeding may not be required by the Engineer. Sodding and/or topsoil from an outside source if required will be paid for separately under their respective bid items. Seeding is considered incidental to the conduit item.

Installation of Conduit on Structure -

Conduit installed on structure shall consist of drilling anchors into concrete, brick, stone, steel or wood and mounting the conduit with the proper clamps or hangers. The conduit shall be attached to the structure by use of one-hole conduit hangers and approved anchors not more than 36 inches apart. Any 90-degree turns in the conduit run shall be accomplished by placing the proper size and type manufactured sweeping bends for the application needed.

Installation of Additional Conduit in Trench or Open Cut Pavement:

In the case of slotted or trenched installations, the Contractor shall install additional conduits at the same time as the initial installation. The Engineer shall indicate the quantity of conduits to be installed during a build. Additional conduits may be stacked one on top of the other, side by side or in a matrix. The orientation shall be at the Contractor's discretion, but conduits shall not twist around one another or be allowed to deviate from straight line paths except in the case of bend installations. Conduits installed at the same time in the same trench or slot shall remain oriented the same in relation to one another throughout the conduit run.

Installation of Additional Conduits in Directional Bore:

In the case of a directional bore that more than one conduit shall be installed, the Contractor shall, at the same time as the initial installation, install one (1) or more additional conduits. The Engineer shall indicate the quantity of conduits to be installed during a build. The additional conduits may be stacked one on top of the other, side by side or in a matrix. The orientation shall be at the Contractors discretion, but conduits shall not twist around one another or be allowed to deviate from straight line paths except in the case of a gentle bend. Conduits installed at the same time, in the same bore shall remain oriented in the same relation to one another throughout the conduit run.

Method of Measurement:

The quantity of conduit furnished and installed as specified, shall be measured as the number of linear feet of conduit furnished, installed as specified, complete in place, and accepted.

The length of each conduit installed under existing pavement by a directional bore or by open cutting the pavement shall be measured along the path of the bore or open cut, from the point that cannot be trenched to the point that trenching can resume.

The length of any conduit that is reduced or divided (with a junction well or conduit body) shall be measured as part of the larger conduit.

Basis of Payment:

The quantity of conduit will be paid for at the Contract unit price per linear foot. Price and payment shall include full compensation for all materials, and labor, topsoil and seed if needed, and incidentals necessary to complete the item. Payment for all necessary couplings shall be incidental to the price of the conduit.

For conduit installed by Directional Bore, the linear foot payment also includes excavation and backfilling for Bore Equipment, placing the conduit, caps if required, and all other requirements and incidentals listed in the body of this specification.

For conduit installed by Open Cutting existing pavement, the linear foot payment also includes excavating, backfilling, placing the conduit, disposal of excess materials, and all other requirements and incidentals listed in the body of this specification.

For conduit installed in an Unpaved Trench, the linear foot payment also includes excavating, removal of sod if required, backfilling, placing the conduit, disposal of excess materials, replacing excavated on-site sod if required, seeding if required, and all other requirements and incidentals listed in the body of this specification. Sod and/or topsoil furnished from an outside source, will be paid for separately.

For conduit installed on a structure, the linear foot payment also includes furnishing and installing anchors and hangers, removal of excess materials, and all other requirements and incidentals listed in the body of this specification.

4/12/2018

832500 - SPLICING OF ELECTRICAL CABLE, UNDERGROUND
832501 - SPLICING OF ELECTRICAL CABLE, ABOVEGROUND

Description:

This work consists of splicing various types and sizes of electrical cables not including Fiber Optic types.

Materials:

Underground:

AMP Butt Splice #34071 Terminal, Ideal #83-9291, or approved equal
Soldering iron
Rosin core solder
One 3M Splicing Kit #82A-1, ILSCO #USPA350SSDB, or approved equal

Overhead:

Wire nuts - Ideal 74B or 76B, 3M #R/Y, or approved equal
Plastic tape
Rubber tape

Construction Methods:

The minimum size and type is 4 conductor #18 wire and maximum is 26 conductor #14. The number and color code of the conductors to be spliced shall be designated by the Engineer.

The splicing may be in an underground installation or on span wire or messenger wire. If a splice is found to be faulty within 90 days of installation, it shall be the contractor's responsibility to remake the splice at his own expense.

Each conductor to be spliced shall have sufficient insulation removed, with wire strippers or other approved tool, to expose 1/2 inch of the copper conductor. The use of any tool or method which might nick the conductor is specifically prohibited.

Each conductor not to be spliced shall be inspected and trimmed as necessary to ensure that the copper conductor does not extend beyond the insulation.

Mechanical connection of conductors shall be accomplished by the use of the specified crimp-type terminal, as directed by the Engineer, so that a good mechanical connection shall be effected.

Conductors to be soldered shall be placed side by side with the exposed copper aligned. The copper shall then be twisted clockwise with pliers until a good mechanical connection is effected. The splice shall be coated with flux, heated with a soldering iron, and soldered in a manner which minimizes insulation damage. After each soldered connection is completed it shall be properly insulated.

After each conductor to be spliced is connected in the proper fashion, all conductors both used and not used shall be returned to their original configuration as before the sheath was removed.

Underground:

The sheath of each cable to be removed shall be limited so that the splicing kit will extend beyond the sheaths. After the electrical and mechanical connection is completed and before the splicing kit is applied, a test shall be made to ensure that all circuits are complete and operable. A 3M Scotchcast Kit #82A-1, ILSCO #USPA350SSDB, or approved equal shall be installed as per manufacturer's instructions.

The splice will not be accepted and shall be replaced at the contractor's expense if there are any air bubbles or voids inside the splicing kit after the resin has cured. The funnels shall be removed as per the manufacturer's instructions.

Overhead:

Conductors to be electrically connected shall be placed side by side with the exposed copper aligned. The copper shall then be twisted clockwise with pliers until a good mechanical connection shall be effected.

A proper size wire nut shall be installed and hand tightened. If necessary to cover all the copper, minor trimming may be done. The copper splice shall be 5/16 of an inch long when trimmed. Care shall be taken to ensure that no insulation is caught up in the copper area of the splice.

It is essential that the splice be kept dry. Therefore, care must be taken during taping and by placement of the completed splice to prevent water from entering the splice between or around the cables.

1. Termination of Cable Run (Butt Splice)

The sheath of each cable shall be removed as necessary. When all conductors to be joined have been completed, the splice shall be prepared for taping. The cables shall be placed in a butt position and all wires and wire nuts shall be positioned to ensure that no shorts exist and that the splice area is reduced to as small a diameter as possible. Taping shall begin with rubber tape two inches over the intact sheath. Taping shall proceed toward the other cable overlapping half of the tape width until a point two inches on the other cable sheath has been reached. Taping shall then be repeated in the other direction starting one tape width wider than the previous wrap. Where necessary to cover all areas of the splice, overlapping shall be increased as necessary. Every area of the splice shall have rubber tape at least four layers (two fully overlapped passes) deep. The rubber tape shall be covered with plastic tape applied in the same fashion.

2. Taps or Tee Splices

The sheath of the through cable shall be removed for a distance of 8 inches centered on the point of splice. The sheath of the branch cable(s) shall be removed for a distance of 4 inches. The through cable conductors which are to be joined to the conductors of the branch cable(s) are to be separated out from the others and cut. No other conductors shall be cut for any purpose. Depending upon the need, the branch cable(s) may be placed beside one of the through cables and the splicing proceed or the through cable may be doubled back so that the parts of the through cable and the branch cable(s) are placed side by side. When all conductors to be joined have been completed, the splice shall be prepared for taping. The cables shall be placed in approximately their final position and an inspection for shorts shall be made. After all wire nuts and wires are properly positioned, taping shall begin on the through cable 2 inches from the end for the sheath. It shall proceed with 1/2 inch width overlap across the splice area and onto the other through sheath for a distance of 2 inches. The taping shall start at the end point and return back across the splice to the branch cable(s). It shall proceed along the branch cable(s) and onto the sheath for a distance of one inch.

A return along the branch back to the main cable shall be made and the remaining part of the splice shall be taped continuing as before.

Every area of the splice shall have rubber tape at least four layers (two fully overlapped passes) deep. The cables shall be placed in their final position and taped with two fully overlapped passes of plastic tape. Plastic tape need not cover the interior areas covered by the rubber tape.

The splice shall be placed so that the branch cable(s) enters the splice from below to prevent water from flowing along the branch cable(s) into the splice area.

Method of Measurement:

The quantity of splices will be measured as be the actual number of above ground or underground splices made in accordance with these specifications, complete in place, and accepted.

Basis of Payment:

The quantity of splices will be paid for at the Contract unit price bid per each splice depending upon type. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

832502 - TRIPLEX SPLICE

Description:

This work consists of connecting a triplex service cable to another cable. The cables consist of one or two phase conductors and a neutral conductor. The connection of respective conductors is required to fulfill this item.

Materials:

Burndy Type ES Insulink Compression Connectors, or approved equal.
Plastic Tape.
Rubber Tape.

Construction Methods:

Each conductor of the triplex service cable and other service cables shall have sufficient insulation removed to expose the conductor. For the triplex service cable, the type ES Insulink, or approved equal, compression connectors shall be used to connect each of the three wires with an approved compression tool in accordance with the manufacturer's installation instructions.

Method of Measurement:

The quantity of splices will be measured as the actual number of triplex splices made in accordance with these specifications, complete in place, and accepted. One splice shall consist of the independent interconnection of one to three conductors of a cable with the respective conductor(s) of another cable.

Basis of Payment:

The quantity of splices will be paid for at the Contract unit price per each. Price and payment shall include full compensation for all materials, labor, tools, equipment, and incidentals necessary to complete the item.

4/10/2018

832504 - FURNISH AND INSTALL #8 THHN STRANDED COPPER
832505 - FURNISH AND INSTALL #6 AWG SOLID COPPER
832506 - FURNISH AND INSTALL #1/0 AWG STRANDED COPPER
832507 - FURNISH AND INSTALL 14/5 TRAFFIC CONTROL CABLE
832508 - FURNISH AND INSTALL #8 THHN STRANDED COPPER

Description:

The pay items listed above include furnishing, installing, and splicing if approved, the various types and sizes of cable in conduit, or overhead and lashed to a span wire. All conduit installation will be paid for under their respective items.

Materials:

Cable - All electrical cables shall be manufactured in conformance with the National Electrical Code, 600-Volt, UL approved.

1. Stranded or solid, single conductor copper cables shall be XLP Insulated; USE or RHW rated
2. Type UF cable shall include ground and the number and size of conductors as shown on the plans. Use cable conforming to ANSI/UL 493.
3. 14/4, 14/5, 14/9, 14/16 AWG Solid copper conductor Traffic Signal cable shall conform to IMSA Specification Number 19-1. Provide wire size and number of conductors as shown on the plans or as directed by the Engineer. Additional material requirements for Traffic Signal Cables are as follow:
 - a. If requested, the Contractor shall provide independent test results to verify specification compliance. Costs of testing are incidental to the Cable item being supplied.
 - b. All cables shall be supplied on reels with each reel containing one continuous length of cable.
 - c. Color code to be used as established by IMSA Specifications. In addition to IMSA, DelDOT requires that individual tracers contrast with the base color to allow easy identification between each base color and the same base color plus tracer.

To test for sufficient color contrast, remove the sheath for a length of 6 inches. All filler material and tapes shall be removed for the same length. All conductors of the same base color will be placed side by side and all other conductors will be hidden. The conductors will be held against a white or ivory surface and viewed from a distance of 6 feet. The base color, tracer, and tracer color must be identified within a period of three seconds after being placed in position. The same test for contrast will also be made for base colors. If either the base color or tracer color test fails, the material will be rejected.
 - d. The tracer line width shall not exceed 3/20 inch when measured perpendicular to the edge of the line. Also, the total width of tracer lines on a conductor may not be equal to or greater than one-half the total circumference of the conductor.
4. Aluminum Shielded Cable shall be shielded two conductor controlled capacitance cable enclosed in an aluminized polyester shield within a polyethylene jacket, rated to 600 volts. The two conductors are AWG # 14 stranded copper. Cable shall meet IMSA 50-2. Referred to as "Home-run Cable".
5. Opticom Cable - must meet the manufacturer's recommended specifications

Splicing Materials -

1. Insulating (rubber) tape shall be of the self-bonding type and shall be 3M Company, Inc. (Cat. No. 130C, 2228); Plymouth Rubber (Cat. No. 2212); Permacel (Cat. No. 253, P280), or an approved equal.
2. Jacket (plastic) Tape shall be of the waterproof type and shall be 3M Company, Inc. (Cat. No. 33); Plymouth Rubber (Cat. No. 3117); Permacel (Cat. No. P29), or an approved equal.
3. For overhead traffic control cable splices:

Wire Nuts - Ideal 74B or 76B, 3M Highland H-33, or approved equal

Cable Installation

Installation in Conduit:

This work consists of installing various types, sizes, and number of communications or electrical cable(s) in existing conduits, which may or may not contain an existing communications or electrical cable(s) or wire(s). Conduits may be located underground, within mast arms, on wood poles, or on metal poles.

The number of cables to be pulled through each conduit will be as shown on the plans or as directed by the Engineer.

Construction Methods:

All cables must be transported by and unreeled from a cable trailer(s). The laying of reels on the ground and subsequent removal of wire or cable from this position is prohibited. Avoid damaging cable insulation when removing cable from drums or reels, or during installation of the cable.

Hand pulling methods are required for conduit sizes of 1-1/2" or less and are **preferred** for all other sizes. Dynamometer is recommended for use when pulling other than by hand.

Prior to installation, **written approval by the Engineer is required** for the use of any power-assisted methods of pulling communications or electrical cable(s) or wire(s) into conduit. A short piece of material that will part if the strain exceeds the amount specified below shall be used between the pulling grip and the pulling medium, unless industry standards require less:

150 lbs. for all pulls up through 12 pair communications cable; and
300 lbs. for all larger cables

Any and all cable(s) pulled into any conduit without the use of an acceptable pulling grip, Kellems or equal, and without the use of a strain release element or by using methods which may have or did result in pulling forces in excess of strain release material, or using methods which may have or did result in pulling forces in excess of those set forth herein or prescribed by industry standards are unacceptable.

Any and all unacceptable cable(s) shall be removed and replaced with new cable(s) using correct methods at no cost to the Department.

The installation of cable(s) in existing conduits shall be accomplished by pulling the cable(s) through the conduits. If required, pulling lubricant of the type recommended by the cable manufacturer will be used. The cable(s) shall be prepared for pulling by reeling them from their respective reels as they enter the conduit or by taking sufficient length from the reel(s) to comprise the set to be pulled. Care shall be taken to avoid damaging insulation and to eliminate any twists or kinks and to marry the cables in a straight lay. Care shall also be taken to prevent entry of moisture into the cable at all times during installation. Cable ends will be sealed using rubber tape and painted with a sealing type of waterproof compound until final splices are made.

The cable(s) shall be hand fed into the conduit. When, in the opinion of the Engineer, additional radius is required to prevent damage to the cable(s) a sleeve shall be used. There shall be no additional payment made for sleeves or their use.

Underground cable runs shall be started at one terminal point and shall be continuous without splices to the final terminal point except for "Home Run Cable" to "Loop Detector Wire". Opticom cable shall not be spliced in any application.

Additional cable(s) shall be left and arranged in a neat and orderly manner as noted:

1. When pulled through junction wells, 6 feet of copper cable, supported on cable rack assemblies
2. At the control box and other splice locations, 6 feet of cable, neatly arranged and laced with cable ties

When cable already exists in a conduit, the Contractor shall ensure that the placement of a fish does not damage or entangle the existing wire or cable(s). The lead end of a fish shall contain a blunt terminal. Bending and/or taping the end of the fish shall not be satisfactory nor shall any termination which contains rough edges or any sort of hook that might engage an existing wire or cable when the fish is extracted.

Where two or more wires occupy the same conduit, they shall be drawn in together and kept parallel to each other by means of a pulling head. Phase legs shall be arranged circumferentially and in sequence around the neutral wires.

Installation on Span Wire Overhead:

This work consists of installing electrical cable on an existing span wire.

Construction Methods:

All electrical cable must be transported by and unreeled from a cable trailer(s). The laying of reels on the ground and subsequent removal of wire or cable from this position is prohibited. Avoid damaging cable insulation when removing cable from drums or reels, or during installation of the cable.

The electrical cable will not be spliced at the top of the pole but will continue on to be taped onto the span wire. The electrical cable shall be oriented so water will not run along its length and run into the steel pole. The electrical cable shall be installed on the underside of the span wire with no crossover or wraps around the span wire. The electrical cable shall be pulled tight without any kinks and the jacket (plastic) tape wrapped tight around the span wire and electrical cable at least six wraps every twelve to fourteen inches.

At each signal head location, there will be a loop of signal cable 3 feet long.

Splicing:

Traffic Control Cable and Single Conductor Stranded Wire:

General - Traffic signal cable splicing shall only be made above ground in pole hand-holes, transformer bases or on span wire at the signal head. Underground traffic control cable splices (except between loop detector wire and "home-run" cable) or splices in between conduit runs are prohibited. After cables have been installed and pending permanent splicing, the end of each section of cable in the control box and at all splice locations shall be carefully sealed, using rubber tape, and painted with a sealing type of waterproof compound. The circuit number of all cables and wires shall be identified by color coded tape attached to each of the cables and wires in the control box and at all splice locations. The color-coded tape shall be secured to the cable or wire with nylon cable ties. Any splices found to be faulty within 90 days of installation shall be remade at the Contractor's expense. Insulation from each conductor to be spliced shall be removed to expose ½ inch of copper. Use of any tool or method which might nick the conductor is prohibited. Each conductor not being spliced shall be inspected and trimmed so that the conductor does not extend beyond the insulation. After each conductor to be spliced is connected, all conductors both used and not used shall be returned to their original configuration before the insulation was removed and then sealed as specified.

Individual cables shall not extend beyond the splice of the last signal head for each signal phase.

Shielded Opticom cable shall not be spliced.

Shielded Aluminum Cable ("Home-Run cable") may be spliced only with the loop detector wire in a junction well. No splicing of the "home-run cable" outside of this junction well is permitted.

Overhead - Conductors to be electrically connected shall be placed side by side with the exposed copper aligned. The copper shall then be twisted clockwise with pliers until a good mechanical connection shall be effected. A proper size wire nut shall be installed and hand tightened. If necessary to cover all the copper, minor trimming may be done. The copper splice shall be 5/16 inch long when trimmed. Care shall be taken to ensure that no insulation is caught up in the copper area of the splice. It is essential that the splice be kept dry. Therefore, care must be taken during taping and by placement of the completed splice to prevent water from entering the splice between or around the cables.

1. **Termination of cable (Butt Splice)** - The sheath of each cable shall be removed as necessary. When all conductors to be joined have been completed, the splice shall be prepared for taping. The cables shall be placed in a butt position and all wires and wire nuts shall be positioned to ensure that no shorts exist and that the splice area is reduced to as small a diameter as possible. Taping shall begin with rubber tape two inches over the intact sheath. Taping shall proceed toward the other cable overlapping half of the tape width until a point two inches on the other cable sheath has been reached. Taping shall then be repeated in the other direction starting one tape width wider than the previous wrap. Where

necessary to cover all areas of the splice, overlapping shall be increased. Every area of the splice shall have rubber tape at least four layers (two fully overlapped passes) deep. The rubber tape shall be covered with plastic tape applied in the same fashion.

2. **Taps or Tee Splices** - The sheath of the through cable shall be removed for a distance of 8 inches centered on the point of splice. The sheath of the branch cable(s) shall be removed for a distance of 4 inches. The through cable conductors which are to be joined to the conductors of the branch cable(s) are to be separated out from the others and cut. No other conductors shall be cut for any purpose. Depending upon the need, the branch cable(s) may be placed beside one of the through cables and the splicing proceed or the through cable may be doubled back so that the parts of the through cable and the branch cable(s) are placed side by side. When all conductors to be joined have been completed, the splice shall be prepared for taping. The cables shall be placed in approximately their final position and an inspection for shorts shall be made. After all wire nuts and wires are properly positioned, taping shall begin on the through cable 2 inches from the end for the sheath. It shall proceed with 1/2 inch width overlap across the splice area and onto the other through sheath for a distance of 2 inches. The taping shall start at the end point and return back across the splice to the branch cable(s). It shall proceed along the branch cable(s) and onto the sheath for a distance of one inch. A return along the branch back to the main cable shall be made and the remaining part of the splice shall be taped continuing as before. Every area of the splice shall have rubber tape at least four layers (two fully overlapped passes) deep. The cables shall be placed in their final position and taped with two fully overlapped passes of plastic tape. Plastic tape need not cover the interior areas covered by the rubber tape. The splice shall be placed so that the branch cable(s) enters the splice from below to prevent water from flowing along the branch cable(s) into the splice area.
3. **Termination End of Cable - Dead ended cables** shall have 3" of sheath removed. Each individual cable shall be rubber taped then bundled and re-taped with vinyl tape and coated with waterproofing compound.

Method of Measurement:

The quantity of cable will be measured as the actual number of linear feet of cable furnished and pulled through conduits (underground, in mast arms, or on poles) or installed on a span wire in accordance with these specifications, complete in place, and accepted. When a known parabolic (curved boring during install - due to utility avoidance) conduit is installed, the inspector shall measure the actual linear feet of cable; the inspector shall be notified prior to the cable installation.

All required cable shall have 6' of slack left at termination points or in junction wells shall be measured as part of this item.

Basis of Payment:

The quantity of cable furnished and pulled through all conduit (underground, in mast arms, or on poles) or furnished and installed on a span wire will be paid for at the Contract unit price per linear foot of the applicable pay item. Splice installations and all costs related to the splice shall be incidental to the linear foot payment of the cable being spliced. Price and payment will constitute full compensation for all labor, equipment, tools, materials, material testing, splicing, taping, and incidentals required to complete the work as specified above.

4/17/2018

834501 - PARTIAL REMOVAL OF CONCRETE POLE BASES AND CABINET FOUNDATIONS

Description:

This work consists of the removal of concrete pole bases and concrete cabinet foundations.

Materials:

Equipment as required to remove concrete pole bases and concrete cabinet foundations.
Material as necessary to match the area surrounding the removed or graded masonry.

Construction Methods:

The masonry shall be removed to a depth of six inches below final grade.

Backfill remaining hole with material that matches the surrounding area in accordance with the appropriate items.

Method of Measurement:

The quantity of concrete will be measured as the number of cubic yards of concrete removed including anchor bolts, reinforcing bars, conduits and any other hardware within the concrete.

Concrete or other materials moved or removed which is not a part of the item being removed, shall not be measured for the purpose of payment under this item.

Basis of Payment:

The quantity of concrete will be paid for at the unit price per cubic yard. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

05/31/17

834504 - LIGHT STANDARD ATTACHMENTS

Description:

This item shall consist of providing and installing anchor bolts and a conduit for mounting of a light standard bracket to the back of the parapet, at the locations shown on the Plans and as directed by the Engineer.

Materials:

The conduit between the pull box and light standard foundation shall be rigid galvanized steel conforming to Subsection 831 of the Standard Specifications. Anchor bolts shall be high strength steel conforming to ASTM Designation A-449, nuts shall be ASTM Designation A563 and washers shall be ASTM Designation F436.

Construction Method:

Install bolts and conduits as shown on the Plans, at same locations, where they exist.

Method of Measurement:

Light Standard Attachments shall be measured per each light standard unit installed in place and accepted.

Basis of Payment:

Light Standard Attachments, shall be paid for at the contract unit price per Each unit, complete in place, and accepted which price and payment shall constitute full compensation for furnishing and placing all materials, and for all labor, equipment, tools, and incidentals necessary to complete the work. Payment for the conduit sweep extending into the box shall be included in this item.

4/11/2018

834506 - REMOVAL OF STREET LIGHTING SYSTEM

Description:

The item shall consist of removing and transporting the accessories of street lighting system to the designated location of the owner in accordance with the details on Plans and/or as directed by the Engineer.

Construction Methods:

All salvageable materials from each lighting system shall be removed without damage in sections or pieces, and shall be transported and stored at the location specified on the Plans or as directed. Unusable materials as determined by the Engineer, shall be disposed of by the Contractor.

Basis of Payment:

The payment for the item shall be made for actual number of lighting system removed at the contract price bid per Each for "Removal of Street Lighting System", which price and payment shall constitute full compensation for removing and transporting the street lighting system as directed, which includes but not limited to mastarms, poles, foundation base, luminaries, for excavation and backfill, disposing of the unusable materials, for all labor, equipment, tools and all incidentals to complete the work.

4/12/2018

834508 - INSTALLATION OR REMOVAL OF SIGN ON ROADSIDE I-BEAM STRUCTURE

Description:

This work consists of installing or removing a sign on an over-highway structure, roadside I-beam structure, span wire, or mast arm. The sign may be mounted to an existing structure or one installed under this contract.

The largest sign panel or single sign to be installed on over-highway structures will be 96 square feet to be raised to a height not to exceed 35 feet measured from ground to top of sign.

Materials:

The Department will supply the signs to be installed. The signs may be supplied with pre-drilled holes for use in mounting the sign.

The Contractor will supply:

Galvanized 3/8" U-bolts

Galvanized washers

Galvanized nuts

For signs 15 SF and less, four to six U-bolts will be needed.

Construction Methods:

Sign installation shall be performed as specified by the Engineer. Care shall be taken to prevent any damage to the sign panel, span wire, mast arm, over-highway structure, roadside I-beam structure, or any electrical cable attached to the span wire, or any lights attached to the sign panel.

Sign installation on over-highway structure or roadside I-beam structure may require the sign to be assembled in panels. The sign may be made from several panels to make one complete sign. Signs on roadside I-beam structures shall be installed at a height of 7 feet from the bottom of the sign to the near edge of pavement.

Sign removal shall be performed as specified by the Engineer. Care shall be taken to prevent any damage to the sign panel, span wire, mast, any electrical wire attached to the span wire or any lights attached to the sign panel. If the panel has lights attached to the sign panel, the contractor will be required to disconnect the wiring prior to removing the sign panel. Removal of the wiring that operates the lights will be at the direction of the Engineer and paid for under other items of this specification. All materials removed shall be returned to the Department at the Dover Sign Shop.

Method of Measurement:

The quantity of overhead and roadside signs will be measured as the number of square feet of complete signs installed as per these specifications, complete, in place, and accepted or removed and returned to the Department at the Dover Sign Shop.

Basis of Payment:

The quantity of overhead and roadside signs will be paid for at the contract unit price per square feet. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

4/12/2018

834511 - POLE BASE, TYPE 4B
834512 - POLE BASE, TYPE 1
834513 - POLE BASE, TYPE 2
834514 - POLE BASE, TYPE 2A
834515 - POLE BASE, TYPE 2B

Description:

This work consists of constructing and furnishing round or square pole bases Types 1, 2, 2A, 2B, 3, 3A, 3B, 4A, 4B, and 6 for poles in accordance with the Standard Construction Details and at locations as directed by the Engineer.

Materials:

The concrete for pole bases shall conform to Section 1022, Class B.

Bar reinforcement shall meet the requirements of Section 611 Grade 60.

Ground rods shall be copper clad, approved by the Underwriter's Laboratory and be supplied with approved clamps for connecting the grounding conductor to the rod.

Conduit for sweeps shall meet the requirements for galvanized rigid steel conduit in Section 831.

Anchor bolts will be supplied by the same entity that supplies the poles.

"Drop-in" Expansion Anchors and Bolts for Type 4A Pole Bases shall be provided by the Contractor. The anchors shall be stainless steel and shall accept ½" diameter stainless steel bolts. Anchors shall be Concrete Fastener Systems Model DIS 12, Hilti HDI SS 303, or approved equal.

Construction Methods:

The bases shall conform to the dimensions as indicated on the Standard Construction Details. A ground rod shall be installed as shown. A minimum of 8 feet of the ground rod must be driven into undisturbed soil.

If a utility or a right-of-way conflict is found when a Type 2 or Type 3 base is specified in the Plans, an alternate base of equivalent strength may be used as directed by the Engineer. A Type 2 base has two equivalents, namely Types 2A and 2B. A Type 3 base has two equivalents, namely Types 3A and 3B.

Though the contract calls for the use of a round pole base, the Contractor may use a square base at its discretion.

The end of the conduit sweeps in the ground shall be extended outside the concrete and any forms or sheeting by 12 inches and capped or connected to the existing conduit. If the conduit is to be capped underground for future use, it must be sealed with a galvanized threaded conduit plug. Tape is NOT an approved conduit plug. The location of the conduits shall be marked on the base with arrows drawn in the wet concrete within 6 inches of the outer edge.

Excavation for the pole bases may not exceed the dimension of the foundation by more than 12 inches in any one direction. If a form is used in the excavation more than 18 inches below the ground surface, it is necessary that the area between the form and excavation be filled with Borrow Type C and tamped on all sides in continuous, horizontal layers not to exceed 68 inches in depth, loose measurement.

Where a pole base is to be placed in existing concrete pavement such as a sidewalk, the concrete shall be saw cut in a square pattern or removed to the nearest joint. In other pavement material, a round hole may be cut using an appropriate tool. Any damage to the existing pavement shall be repaired at the Contractor's expense and shall meet the approval of the Engineer. Any removal or replacement of any type of pavement under this item shall be an incidental cost to this item.

The bases shall be edged and have a broom finish.

Where water or highly unstable material is encountered during the excavation for the pole base, pole base sheeting may be required and the following steps shall apply:

1. The condition exists in the upper half of the excavation. Stop all work until the Bridge Design Section reviews the condition.
2. The condition exists below the upper half of the excavation:
 - a. For a proposed Type 4A or 4B Base, increase the depth to 4 feet.
 - b. For a proposed Type 1, 2, or 3 Pole Base, substitute a Type 3A Pole Base for all but a Type 3B Pole Base. The depth of the base shall be as determined in (d) below, or 9 feet, whichever is greater.
 - c. For a proposed Type 6 Pole Base, substitute a Type 2 Pole base and increase the depth in accordance with (d) below.
 - d. Determine the depth of the base, which would be in the unsatisfactory area. Multiply that depth by 0.7 and add the result to the original required depth of the base to obtain the final depth of the base. The reinforcing bars shall be extended using the required pattern to match the final depth in accordance with the requirements of Section 611.03 of the Standard Specifications.

Method of Measurement:

The quantity of pole bases will be measured as the actual number of bases constructed, complete in place and accepted. Concrete, excavation and backfilling around the base, ground rods, and the two conduit sweeps in the base are included in this item.

Should excavated material be unsuitable for trench backfill, the Contractor shall furnish material meeting the requirements of Borrow, Type C from other excavations or from borrow sites within the contract limits. Payment will be made using the item under which the material was initially excavated. Hauling, placement, and compaction are incidental to the item being backfilled.

Payment for any additional sweeps shall be paid for separately under the appropriate conduit items. The Contractor's use of square base rather than a specified round base shall not result in any additional cost to the Department.

Basis of Payment:

No payment will be made for backfill material meeting Borrow, Type C requirements that is placed outside of the vertical plans located 18" outside of the neat line perimeter of the vertical face of the pole base foundation.

Any increase in the vertical dimension required herein shall be paid for separately under Item 834007, Pole Base Extension; another item of this contract.

The quantity of pole bases will be paid for at the Contract unit price for each pole base type. If an alternate pole base type is selected by the Engineer, payment will be the Contract unit price for the alternate selected. Price and payment will constitute full compensation for furnishing and placing all materials including concrete, ground rods, and a minimum of two conduit sweeps extending into the base; for excavating, backfilling and compacting around the base; for repairs to damaged existing pavement; for removal or replacement of pavement; and for all labor, equipment, tools, and incidentals required to complete the work.

4/12/2018

835500 - FURNISH & INSTALL ADDITIONAL DISCONNECT SWITCH

Description:

This work consists of furnishing an additional disconnect switch, aluminum panel, square sign posts and tubing, condulets and accessories, and all hardware necessary for mounting the disconnect switch to the aluminum panel, and the aluminum panel to the sign post assembly per the standard construction details. Where required, provide all hardware for attaching the disconnect switch to a cabinet, utility pole, wood post, or other structure per applicable plan details. The disconnect switch shall be NEMA standard KS 1-latest edition. The disconnect switch enclosure shall be Type 4 stainless steel, with external operating handle, enclosure cover interlock, and external switch mechanism handle with provisions for securing in both the ON and OFF positions by padlock. The switch mechanism shall be of heavy duty design with quick make, quick break type operations and visible blades.

The disconnect switch shall be fusible with integral fuse puller on the line side. The disconnect switch on the load side shall be non-fusible. Single phase disconnect switches shall have 2 poles with solid neutral and shall be rated at 240 Volts. Three phase disconnect switches shall have 3 poles with solid neutral and shall be rated at 600 Volts. The design of the neutral bar may be factory or field installable.

For traffic signals, intersection control beacons, and intersection lighting operating at 120 Volts, single phase 60 amps (fused 35 amps) for disconnect fuse-holders will be used. For hazard identification beacons and luminaires mounted on traffic signal structures operating at 120 Volts, single phase 30 amps (fused 20 amps) for disconnect fuse-holders will be used.

Disconnect switches for lighting control cabinets shall be equipped with the same number of poles and amperage rating specified in the electrical service equipment item. Disconnect switches for electrical service distribution cabinets shall be equipped with 200-amp, 2 pole and single phase.

Construction Methods:

The disconnect switch shall be installed per the standard construction or applicable plan details.

Measurement and Payment:

The disconnect switch will be measured and paid for at the contract unit price per each supplied at the phasing and amperage specified and installed. The payment will be full compensation for the disconnect switch, ground rods, wiring, conduit risers, elbows, conduit nipples and adapters, testing, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

Underground conduit will be measured and paid for separately under the applicable conduit item(s). Service lateral cable will be measured and paid for separately under the applicable cable item(s).

4/17/2018

835502 - CABINET BASE TYPE K (HIB)

Description:

This work consists of constructing cabinet base Type F, M, K, P and R in accordance with the Standard Construction Details and/or as specified in the Contract Documents and as directed by the Engineer at locations as directed by plans or the Engineer.

Materials:

Class B Concrete

3/4" x 10' sectional copperclad steel ground rods

5/8" Zinc plated or Stainless Steel Drop-in Anchors manufactured by Hilti Systems, Concrete Fastening Systems, or approved equal

5/8" x 1-1/2" galvanized hex bolts 3/4" acorn type ground clamps PVC conduit sweeps. The contractor shall provide the following materials in accordance with their specifications in the Department's 2016 Standard Specification:

- Portland Cement Concrete, Class B
- Del. Stone No. 57
- Ground rods & clamps
- Stainless steel Hex bolts
- Conduit sweeps
- Zinc plated or stainless steel drop-in anchors manufactured by Hilti Systems, Concrete Fastening Systems or approved equal

Construction Methods:

The base shall conform to the dimensions as indicated in the cabinet base detail on the Standard Construction Details or applicable Plan Sheets. A concrete collar is only required when installed in earth areas or as directed by the engineer. Conduits entering the base must enter only in the designated area. A minimum distance of 1 inch shall be maintained between conduits and a minimum distance of 2 inches between conduits and the ground rods.

A minimum of 8 foot of the ground rods must be driven into undisturbed soil through the 2 inch PVC sleeve. The PVC sleeve shall be driven into the ground so that the top of the sleeve will be flush with the concrete when the base is poured.

Construct cabinet base in accordance with the Contract Documents. Excavate the area for the Cabinet Base. Do not exceed the dimension of the foundation by more than 12 inches in any one direction. Where a cabinet base is to be placed in existing concrete pavement or sidewalk, saw cut the concrete in a square pattern or remove the concrete to the nearest joint. Repair any damage to the existing pavement at the Contractor's expense and meeting the approval of the Engineer. Removal or replacement of any type of pavement under this Item is incidental to the cost of the Item. Stockpile all excavated Material on the site until backfilling has been completed. Construct a stone base for the cabinet base in conformance with the Standard Construction Details. If the base is being installed in an unpaved area, excavate additional space for the required concrete apron and place stone in the extended area. Set ground rod as shown in the applicable Standard Construction Detail. A minimum of 8 foot of the ground rods must be driven into undisturbed soil through a 2 inch PVC sleeve. Measure the ground resistance of each rod before connecting the rod to the grounding conductor. If the measured resistance exceeds 25 ohms, exothermically weld a 10-ft. extension to the top of the first rod and drive to its full depth. Measure the earth resistance again. If it still exceeds 25 ohms, contact the engineer for instruction. Set conduit sweeps as shown in the contract documents. Drive the PVC sleeve into the ground so that the top of the sleeve is 2 inches above the concrete when the base is poured. Place forms to the full depth for the base and install conduit sweeps as shown in the Standard Construction Details. Use conduit sweeps with 90 degree elbows and with 24 inch radii and a min of 2 inch with a max of 4 inches of conduit to be exposed above finished pad grade. Connect conduit sweeps to the existing conduit as shown on Plans. Cap all conduit sweeps. Tape is not approved for use to cap conduits. Mark the location of the conduit on the base with arrows drawn in the wet concrete within 6 inches of outer edge.

Pour concrete for cabinet base Any required concrete aprons shall be pour integral with the cabinet base. Set drop-in anchor. Level, edge and give the base a broom finish Cure concrete for two days prior to removal of forms and conduit plugs. Backfill around the cabinet base and dispose of unsuitable Material. Fill and tamp the area between the form and excavated area on all sides

Method of Measurement:

The quantity of cabinet bases will be measured as the number of bases constructed in accordance with these specifications, complete in place, and accepted.

All conduit sweeps extending into the cabinet base as shown on the Plans or Standard Details as applicable shall be included in the price for each cabinet base.

The quantity of cabinet bases will be measured as the number of bases constructed, complete in place and accepted. Payment for all conduits extending into the cabinet base is included in the items for installation of conduit.

Basis of Payment:

The quantity of cabinet bases will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for all concrete, ground rods, labor, equipment, tools, conduit sweeps, and incidentals required to complete the work as shown on the standard details or applicable plan sheets.

The accepted quantities of cabinet bases constructed, complete in place and accepted will be paid at the Contract Unit Price for each cabinet base type (F, M, K, P, R). Price and payment constitutes full compensation for all concrete, ground rods, conduit sweeps, labor, equipment, tools, materials, and incidentals required to complete the work as specified and as directed by the Engineer.

4/17/2018

- 836500 - INSTALLATION OF STEEL MAST ARM POLE WITH SINGLE MAST ARM
GREATER THAN 70'**
836502- FURNISH AND INSTALL PEDESTAL POLE
836503 - REMOVE STEEL POLE (EQUAL TO OR GREATER THAN 15' AND LESS THAN 40')
**836504 - INSTALLATION OF STEEL MAST ARM POLE WITH SINGLE OR TWIN MAST
ARM UP TO 60'**
836505 - FURNISH 10' PEDESTAL POLE
836506 - FURNISH 14' PEDESTAL POLE
836507 - FURNISH PEDESTAL POLE TRANSFORMER BASE
839500 - FURNISH AND INSTALL WOOD POLE, CLASS II (HEAVY) - 30'
839501- FURNISH AND INSTALL WOOD POLE, CLASS II (HEAVY) - 40'
839502 - FURNISH AND INSTALL WOOD POLE, CLASS II (HEAVY) - 50'
839503 - FURNISH AND INSTALL WOOD POLE, CLASS III - 30'
839504 - FURNISH AND INSTALL WOOD POLE, CLASS III - 40'
839505 - FURNISH AND INSTALL WOOD POLE, CLASS III - 50'

Description:

This work consists of installing and/or furnishing the specified type of pole on an existing pole base (or ground mounted for wood pole) in accordance with the locations, notes, and details on the plans and as directed by the Engineer.

Materials:

Unless specified otherwise, the steel mast arm(s), steel pole and all necessary hardware shall be furnished by the Department. These materials can be obtained from the Department's Dover Sign Shop. The Contractor shall inform the Department two working days prior to picking up the pole, and other related hardware. Where pole installation is part of the work of relocating an existing pole on a project, the pole and related hardware shall be that which is removed from the existing pole site.

The contractor shall furnish the pedestal pole, wood pole, and all necessary hardware for complete installation per plans and contract documents.

Construction Methods: General -

Prior to erecting a pole, the Contractor shall be sure that there is a sufficient length of anchor bolt to permit the anchor bolt to extend at least flush with the top of the top nut when that nut is tightened in place. If this condition does not exist, the Contractor shall not erect the pole and shall notify and await instructions from the Engineer.

Connection of the mast arm(s) or other required assembly shall be performed in accordance with the mast arm manufacturer's requirements.

The Contractor shall make special note of any aerial utilities within the area and coordinate his work accordingly.

All conduit caps or knockouts are to be removed from the conduit, which extends from the pole base and grounding insulated bushings installed. A #6 Copper ground wire shall be installed between the 3/4" ground rod clamp and the grounding insulated bushings, and to the lug or stud in the metal pole or pedestal. On the multi-section steel camera poles, the #6 copper ground wire shall continue up to the top of the upper section of the pole from the grounding insulated bushing to a bonding lug attached to the camera mounting bolts. At no time shall the #6 wire be installed between the leveling nut and the pole.

Steel Mast Arm Pole or Steel Pole -

The steel pole shall be erected by a suitable hoisting device as approved by the Engineer. The Contractor shall insure that the hoisting device is rated for the weight and reach necessary. The Contractor shall use the equipment to raise the pole into position, place the pole on the anchor bolts, and shall hold the pole in place until the nuts have been installed and tightened on the anchor bolts in accordance with the applicable Plan sheets or Standard Construction Details.

On all steel pole installations, a proper nut as shown on the plan details shall be used under the base of the pole and a proper nut shall be used above the base of the pole. Once the pole is set, the anchor bolt nuts shall be adjusted and tightened to properly position the pole as indicated on the applicable Plan sheets or Standard Construction Details. Once the pole is set in place, properly canted, and the nuts tightened, and the ground wire connected, the area between the base of the pole and the top of the foundation shall be formed and grouted as indicated on the applicable Plan sheets or Standard Construction Details. The anchor bolt covers and hand hole cover shall be placed on the pole after the pole has been erected in place. Caps Place shall be placed at the top of the poles and at the ends of the mast arms.

Pedestal Pole -

This work consists of furnishing and installing pedestal poles as specified on drawings.

Contractor shall furnish and install 10' schedule 40 aluminum pole on breakaway support for pedestrian signals. The breakaway support shall also be furnished and installed by the contractor. Contractor shall furnish and install 14' schedule 80 aluminum pole on breakaway support for all other applications. The breakaway transformer base support and collar assemblies shall also be furnished and installed by the contractor.

The pedestal pole shall be erected by hand. Once the pedestal is set in place, properly plumbed, the nuts tightened, and the ground wire connected, the contractor shall place the hand hole cover on the pedestal. The shroud/skirt installation shall be placed around the pole in accordance with the manufacturer's instructions.

Contractor shall furnish 10' schedule 40 and 14' schedule 80 aluminum poles to the Departments Traffic Section. The breakaway transformer base and collar assembly shall also be furnished by the contractor. Transformer base and collar assemblies shall be compatible with 10' and 14' pedestal poles.

Wood Pole -

This work consists of furnishing and installing 30', 40' or 50' Class II (Heavy) and Class III wood poles with a butt plate and #6 bare copper ground wire from the butt plate to the top of the pole. A ground rod may be used in place of the butt plate. The pole shall be located as shown on the Plans and as directed by the Engineer.

The pole shall be erected in a hole at least 6 feet deep or the height of the pole divided by 6, whichever is larger. The hole shall be dug in such a manner as to preclude over-sizing the diameter.

Sufficient earth shall be placed in the hole to fill it completely and provide a ridge around the hole after it has been properly filled. During refill, the earth shall be placed in layers not to exceed one foot and shall be well tamped with a power tamper.

The pole shall be set vertically in all directions, unless otherwise specified.

Copper coated fasteners shall be placed not more than 3 feet apart on the ground wire.

The ground rod, if utilized, shall be driven vertically into the ground, shall extend 4 inches above ground level and shall be fastened to ground wire with ground clamp. Ground rods shall be a minimum of 10 feet in length. Butt plates and/or ground rods will be incidental to this bid item. The Ground Wire will be paid for under its respective item.

Removal:

Disconnect all electrical Equipment from pole. Detach and remove all Equipment from the pole. Stabilize pole and remove top nuts. Use a suitable hoisting device to remove the pole. Ensure that the hoisting device is rated for the weight and reach necessary. Remove the pole with related hardware assemblies carefully from the pole base. Store pole and related hardware within the Project limits for transportation later to a new or reused pole base. If the pole base is to be reused, clean the grout or other Materials off the top of the pole base. Cap the conduit using a conduit plug to prevent entry of any water or Materials. Do not use tape as a method of capping a conduit. If the pole base is not immediately reused, adjust or protect the pole base to prevent injury to pedestrians.

Method of Measurement:

The quantity of poles, including transformer base, furnished and/or installed will be measured on a per each basis as the number of poles installed as specified, complete and accepted under the applicable bid item listed above.

The quantity of poles removed will be measured as the number of poles removed as specified

Basis of Payment:

General - The quantity of poles installed will be paid at the Contract Unit Price per each pole. Price and payment constitutes full compensation for transporting and setting the poles, all Materials and for all labor, tools, Equipment, and incidentals necessary to complete the Item and as directed by the Engineer.

Steel Mast Arm Pole or Steel Pole - In addition to the general statement, note that #6 Ground Wire will be paid for separately under its respective item. Any required fasteners for the ground are considered incidental to the Steel Pole being installed.

Pedestal Pole - As noted in general above.

Wood Pole - In addition to the general statement, payment includes excavating the hole, furnishing and installing the butt plate or ground rod, and furnishing and installing fasteners for the ground wire.

The quantity of poles removed will be paid for at the Contract Unit Price per each pole. Price and payment includes full compensation for removing and transporting the pole with hardware and pedestal, and for all labor, Equipment, tools, and necessary incidentals to complete the Work as specified and as directed by the Engineer.

4/17/2018

837500 - REMOVAL OF SIGNAL OR PEDESTRIAN HEAD FROM POLE OR PEDESTAL

Description:

This work consists of removing traffic signal heads, opticom emergency detectors or pedestrian signal heads presently in place and delivering the materials to the Department at the Dover Sign Shop. A signal head of one to five individual sections will be considered a single signal head. There shall be no separate item for multi-way traffic signal heads.

Construction Methods:

The signal head shall be returned in a proper manner so as not to damage the signal head in any way. Any damage or loss to the signal head or parts of the signal head therein shall be deducted from monies due the contractor. Mounting equipment, including the saddle, shall be reassembled before being returned. The location of the signal head, pedestrian signal head or emergency opticom detector to be removed will be designated by the Engineer.

When the signal head and its associated mounting equipment are removed, all nuts and bolts will be loosened with the appropriate tools. Before any signal head is removed, the splice must be disassembled by removing all tapes. The wire must be removed only from the wires of the cable coming from the signal head. The wire nuts will then be reinstalled on the exposed wires of the cable left in place if so directed by the Engineer. The splice shall be re-taped as required in the item "Splicing of Electrical Cable, Above Ground" unless otherwise directed by the Engineer.

The pedestrian head and mount shall be returned in a proper manner so as not to damage the pedestrian head in any way. Any damage or loss to the pedestrian head or parts of the head therein shall be deducted from monies due the Contractor. Before any pedestrian signal head is removed, the field connections must be disassembled by removing wire nuts or plug-on connectors. The wire nuts will be reinstalled on the exposed wires of the cable left in place if so directed by the Engineer.

The opticom emergency preemption detector and mount shall be returned in a proper manner so as not to damage the opticom emergency preemption detector in any way. Any damage or loss to the opticom emergency preemption detector or parts of the opticom emergency preemption detector therein shall be deducted from monies due the Contractor. Before any opticom emergency preemption detector is removed, the field connections must be disassembled by removing wire nuts or plug-on connectors. The wire nuts will be reinstalled on the exposed wires of the cable left in place if so directed by the Engineer.

Method of Measurement:

The quantity of signal heads or opticom emergency preemption detectors removed will be measured as the number of traffic or pedestrian signal heads or opticom emergency preemption detectors removed, and all materials returned to the Department at the Dover Sign Shop. A signal head of one to five individual sections will be paid as a single unit. One-way and multi-way traffic signal heads shall be the same under this item.

Basis of Payment:

The quantity of traffic or pedestrian signal heads or opticom emergency preemption detectors removed will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

4/17/2018

**837501 - INSTALLATION AND REMOVAL OF TRAFFIC SIGNAL HEAD INDICATION/LED
MODULE**
**837502 - INSTALLATION AND REMOVAL OF PEDESTRIAN SIGNAL HEAD
INDICATION/LED MODULE**

Description:

This work consists of removing the incandescent reflector assembly or Light Emitting Diode (LED) module from a vehicular or pedestrian signal head mounted on mast arm, pole or span wire and replacing it with an LED module.

LED modules installed during signal head assembly in a shop are not covered under this item.

Materials:

LED modules will be supplied by the Department.

Construction Methods:

Existing incandescent assembly, including lens, reflector, sockets, gaskets, transformers, and lamps or LED module shall be removed from the signal section housing.

If present, existing mounting hardware for the incandescent equipment may be used to secure the LED module to the signal section housing.

Traffic signal sections will be wired as follows:

The wires from the LED modules will be wired to the terminal block mounted inside the signal section. All neutrals shall be connected together on the block. Separate terminals will be used for the green, yellow, and red signal wires.

The wire in the four-conductor cable shall be connected to the terminal block in the signal section. The sequence of colors will be provided by the Engineer. There will be 5 feet of the four-conductor cable left at the end of the wire entrance for field connections for span poles.

Method of Measurement:

The quantity of removals and installations will be measured as the number of traffic signal head sections and pedestrian signal heads that have incandescent reflector assemblies or LED modules removed and LED modules installed and accepted.

Basis of Payment:

The quantity of installations and removals will be paid for at the Contract unit price for each. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

4/17/2018

837503 - FURNISH 8" LED SIGNAL HEAD SECTION
837504 - FURNISH 12" LED SIGNAL HEAD SECTION
837505 - FURNISH 8" LED TRAFFIC SIGNAL HEAD INDICATION MODULE
837506 - FURNISH 12" LED TRAFFIC SIGNAL HEAD INDICATION MODULE

Description:

This work includes furnishing and delivering the specified items to either the DelDOT Signal Maintenance facility located at 14 Sign Shop Road, Dover, Delaware 19901 or the Signal Maintenance facility located at 250 Bear-Christiana Road, Bear, DE 19701. Each signal head section shall include the LED module, signal head housing, and related hardware.

Materials:

LED Modules:

General - All materials and workmanship shall conform to the standards of the American Society for Testing Materials (ASTM) and the standards of the American National Standards Institute (ANSI), where applicable.

All LED modules for vehicle traffic signal heads shall conform to the current Institute of Transportation Engineers (ITE) and Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) requirements.

All electrical equipment shall conform to the standards of the National Electrical Manufacturer's Association (NEMA), the Underwriters Laboratories, Inc. (UL), Institute of Electrical and Electronic Engineers, Inc. (IEEE), and the Electronic Industries Association (EIA), wherever applicable. This specification refers to criteria described in "ENERGY STAR Program Requirements for Traffic Signals." ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy.

For those items not specifically defined herein, good practice as shown in previous articles supplied by the contractor, and/or as used by the industry in general, shall apply. A representative of the Department will be available to discuss good practice and "state of the art". The bidder is notified that neither claims for additional costs nor extensions of delivery times will be honored on the basis of good practice and/or "state of the art" problems.

The bidder must show by field review, if necessary, and by the various documents that are required as part of the bid that the materials proposed will perform as required.

REFERENCED DOCUMENTS:

This specification refers to definitions and practices described in the following ITE documents:

- "Vehicle Traffic Control Signal Heads – Light Emitting Diode (LED) Circular Signal Supplement" (dated June 27, 2005), referred to in this document as "VTCSH-LED."
- "Vehicle Traffic Control Signal Heads - Light Emitting Diode (LED) Vehicle Arrow Traffic Signal Supplement" (dated April 3, 2006), referred to in this document as "VTCSH-ARROW."
- "Equipment and Material Standards of the Institute of Transportation Engineers (dated April, 1985), referred to in this document as "VTCSH."

The Circular LED Modules shall be one of six types:

1. 8" Red Circular LED Module
2. 8" Yellow Circular LED Module
3. 8" Green Circular LED Module
4. 12" Red Circular LED Module
5. 12" Yellow Circular LED Module
6. 12" Green Circular LED Module

The Arrow LED Modules shall be one of three types:

1. 12" Red Arrow LED Module
2. 12" Yellow Arrow LED Module
3. 12" Green Arrow LED Module

The following are the detail specifications for Circular and Arrow LED Modules. All specifications must be met even if a particular location may not require all of the specified elements.

Physical and Mechanical Requirements - The module shall fit into a traffic signal housing built to ITE VTCSH standards without modification to the housing. When replacing an incandescent reflector assembly the module shall utilize the same mounting hardware used to secure the assembly to the traffic signal section. "Screw-in" type modules shall not be used in the vehicle traffic signal heads. Installation of the module into signal housing shall not require the use of special tools.

The module shall be a self-contained device, not requiring on-site assembly for installation into an existing traffic signal housing. The module shall be a sealed unit with two (2) conductors for connecting to power, a printed circuit board, power supply, lens and one-piece gasket, and shall be weatherproof after installation and connection. The power supply shall be integral to the module.

The module shall be an expanded or extended viewing angle product. The expanded or extended viewing angle module is required due to the multitude of span wire installations in the State of Delaware.

Modules shall not be restricted to any specific LED technology.

Environmental Requirements - The module lens shall be capable of withstanding ultraviolet exposure for minimum period of 60 months without exhibiting significant evidence of deterioration.

Optics Requirements - The bidder shall submit the Maintained Minimum Intensity tables for the expanded or extended view modules with the bid proposal. The format of the intensity tables submitted shall show, at the minimum, points corresponding to the intensity tables provided in VTSCHE-LED and VTSCHE-ARROW.

The arrow indication for arrow modules shall conform to VTCSH, Section 9.01. The LEDs shall be spread evenly across the illuminated portion of the arrow area. The arrow indication shall be solid, not an outline. The arrow indication shall have a three line/row horizontal bar.

Lens Requirements - The module lens shall have a smooth outer surface to reduce the collection of debris and facilitate cleaning; and made of ultraviolet stabilized polycarbonate or polymeric material. The lens shall be abrasion resistant.

The module lens may be tinted or covered by transparent film or materials with similar color and transmissive characteristics.

The lens may be a replaceable part, without the need to replace the complete module. The overall appearance of the lens shall mimic that of one used with incandescent lamps. Lenses that depict a "honeycomb" effect of the display are unacceptable.

Electrical Requirements - The module shall connect directly to existing electrical wiring system. The nominal operating voltage shall be 120 ± 3 VAC RMS. The module shall operate from a 60 hertz ± 3 hertz AC line power over a voltage range from 80 VAC RMS to 135 VAC RMS. The module circuitry shall prevent flicker of the LED output at frequencies less than 100 hertz over the operating voltage range. Fluctuations in line voltage over the operating voltage range shall not affect luminous intensity by more than ± 10 percent. There shall be no visible illumination from the module when the applied voltage is less than 35 VAC RMS.

Modules shall meet the maximum and nominal wattage requirements of "ENERGY STAR Program Requirements for Traffic Signals," current edition.

All wiring and terminal blocks shall meet the requirements of VTCSH, Section 13.02. Two (2) secured, color coded, 600 volt, jacketed wires, a minimum of 18 AWG and at least 39" in length, conforming to the NFPA 70, National Electrical Code, and rated for service at 221° F, shall be provided.

The individual LEDs shall be wired such that a catastrophic failure of one LED will result in the loss of not more than 5 percent of the module total light output. The outage of a single LED shall not cause the outage of additional LEDs.

Modules shall be operationally compatible with currently used controller assemblies (solid state load switches, flashers, and conflict monitors).

LED signal heads shall be operationally compatible with NEMA traffic controller assemblies meeting the standards set forth in publication number TS-2-2003 traffic controller assemblies. The LED modules shall be operationally compatible with NEMA TS-1 and TS-2 conflict monitoring parameters.

The control circuitry shall prevent the current flow through the LEDs in the off state to avoid any false indication as may be perceived by the human eye during daylight and evening hours.

The LED signals shall be fully capable of operation in the flashing mode.

The dimming feature shall not be required.

Module Identification - The module shall be permanently marked on the backside with the manufacturer's name, trademark, date code, operating characteristics, part/model number and serial number. The operating characteristics identified shall include the nominal operating voltage and stabilized power consumption, in watts and volt-amperes.

The module and removable lens shall have a prominent and permanent vertical indexing indicator, i.e., UP arrow, or the word "UP" or "TOP", for correct indexing and orientation in the signal housing.

The module conforming to all non-optional requirements of VTCSH-LED or VTCSH-ARROW shall have a label certifying its complete compliance with the ITE standard. The label shall be affixed to the back of the module.

Quality Assurance - Modules shall be manufactured in accordance with a qualified ISO 9001:2000 vendor quality assurance program.

In addition to tests specified in the ITE LED Quality Assurance Program each module supplied under this contract shall be tested for minimum maintained luminous intensity for expended or extended viewing angle products. Failure of each supplied module to meet requirements of all these tests shall cause the modules to be rejected.

Certification of Compliance - The manufacturer shall provide upon request a Certificate of Compliance certifying that the modules comply with the requirements of these specifications. The certificate shall also include a copy of all applicable test reports that the modules underwent.

The manufacturer shall provide a list of module serial numbers with each shipment and shall provide this information upon receipt of shipment by DelDOT's Signal Construction Section, 14 Sign Shop Road, Dover, DE 19901.

The Department reserves the right to scan, record, or otherwise obtain the manufacturer's serial number(s) and/or barcodes for all LED Vehicular Signal and Pedestrian Signal Head Display Modules prior to installation. This task will be completed by the Department, or a designated representative, at the time of signal head installation.

Warranty - The contractor shall extend any policy guarantee usually offered to purchasers on article(s) and/or service(s) against defective material and workmanship. The contractor shall replace free of charge any part or component that fails in any manner by reason of defective material, design, or workmanship within a period of five (5) years from the date of payment for the article(s). The warranty shall be renewed for each part or component for another five (5) years from the date of replacement of the article(s). The entire Module shall be considered failed if it exhibits light output degradation 1) greater than 50% of its initial intensity or 2) falling below the minimum intensity level as outlined in this specification.

A certificate of warranty from the manufacturer shall be supplied with the bid documents.

Manuals - A complete set of documentation shall be supplied. It shall include parts lists, operation details, maintenance schedules, and other information needed to install and operate the article(s).

Signal Head Housings:

The adjustable traffic signal heads shall be supplied under this contract in yellow (color number 595B-13538) with a black face conforming to color number 595B-17038.

Signal head housing shall be die cast of corrosion resistant aluminum alloy per MIL-1.15153A, A1.1, and ASTM Specification B-85-57T, Alloy 12A with full 12 percent Silicon.

All interior and exterior surfaces of the housing, housing door, and visor shall be cleaned and then treated with a chromate aluminum oxide coating process per MIL-C-5541. The finish coat shall be oven bake enamel and shall comply with TT-E-4898B or it shall be an epoxy powder coating at least 2.0 mils thick which shall conform to ASTM-B-117 after 500 hours of salt spray test and have 50 percent gloss retention after 1000 hours of weathermeter test.

All straight pins, wing nuts, washers and bolts shall be 18-8 type 304 stainless steel.

Each 8" signal section housing shall be designed to accommodate 8" nominal dimension incandescent reflector assemblies or LED modules. Each 12" signal section housing shall be designed to accommodate 12" nominal dimension incandescent reflector assemblies or LED modules. The housing of each signal section shall be a one-piece corrosion resistant aluminum alloy die-casting with front, side, top and bottom integrally cast. All parts shall be clean, smooth and free from flaws, cracking, blowholes, or other imperfections. The housing shall be of substantial thickness and shall be ribbed so as to produce the strongest possible assembly consistent with light weight. Internal bosses shall be provided inside the housing for the mounting of terminal strip facilities.

The top and bottom of the housing shall have an opening to accommodate standard 1-1/2" nominal diameter pipe. The top and bottom opening of the housing shall have a Shurlock boss integrally cast into the housing.

The housing shall contain hinges and locking devices for the door. The hinges may be lugs cast onto the side of the housing or they may be inside the housing.

The housing door of each section shall be a one-piece, corrosion resistant, aluminum alloy die-casting, in black (color number 595-17038). Two (2) hinge lugs shall be cast on one side of the door, and two latch points shall be cast on the other side. The door shall be attached to the housing by means of two (2) straight pins. Two (2) eye bolts and wing nuts on one side of the door shall allow the door to open and close without the use of any tools. A gasket groove on the inside of the door shall accommodate a weatherproof and mildew-proof resilient gasket which, when the door is closed, seals against a raised bead on the housing, making a positive seal. The outer face of the door shall have four (4) holes equally spaced about the circumference of the lens opening, with four (4) screws to accommodate a signal head visor. The door shall have at least two (2) index points to enable positive orientation of the lens.

Visors:

Visors as shown on the plans may be any of three types; Full Circle, Tunnel, or Cap. The visor shall be a minimum of 7" in length for nominal 8" sections and 9-1/2" in length for nominal 12" sections, with a downward tilt of 3-1/2 degrees. All visors shall be formed of corrosion-resistant aluminum alloy sheet not less than 0.05" in thickness. Visors shall have twist-on attaching slots so that they can be removed by simply loosening, not removing the mounting screws and rotating the visor.

Visors shall be supplied under this contract in black, both inside and outside, meeting flat black color number 595B-37038.

Measurement and Payment:

Furnish 8" LED Signal Head Section

Furnish 12" LED Signal Head Section

Measured per each LED signal head section unit furnished, delivered and acceptably unloaded at the applicable DelDOT Signal Maintenance Shop as directed by the Engineer. The housing, LED module and visor are included in the payment per each.

Furnish 8" LED Traffic Signal Head Indication Module:
Furnish 12" LED Traffic Signal Head Indication Module:

Measured per each LED Module furnished, delivered and acceptably unloaded at the applicable DelDOT Signal Maintenance Shop as directed by the Engineer including any required hardware.

4/13/2018

837507 – FURNISH 16” LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
837508 – FURNISH 16” LED PEDESTRIAN SIGNAL HEAD INDICATION
837509 – FURNISH PEDESTRIAN PUSHBUTTON WITH SIGN

Description:

The above listed items include furnishing the specified materials, delivering them to the DelDOT Signal Maintenance facility located at 14 Sign Shop Road, Dover, DE 19901 and/or the Signal Maintenance facility located at 250 Bear-Christiana Road, Bear, DE 19701, and acceptably offloading them as directed by the Engineer.

Materials:

16” Pedestrian Head LED Modules:

General - All materials and workmanship shall conform to the standards of the American Society for Testing Materials (ASTM), latest edition, and the standards of the American National Standards Institute (ANSI) latest edition.

All electrical equipment shall conform to the standards of the National Electrical Manufacturer’s Association (NEMA), the Underwriters Laboratories, Inc. (UL), Institute of Electrical and Electronic Engineers, Inc. (IEEE), and the Electronic Industries Association (EIA), wherever applicable (latest edition).

The LED module shall conform to the Institute of Transportation Engineers (ITE). Pedestrian Traffic Control Signal Indicators: Light Emitting Diode (LED) Signal Modules, Draft Version of 2009.

Size, Design, and Illumination of Pedestrian Signal Display Indications shall conform to the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), latest edition and the Standard Highway Signs and Markings, latest edition.

For those items not specifically defined herein, good practice as shown in previous articles supplied by the contractor, and/or as used by the industry in general, shall apply.

A representative of the Department will be available to discuss good practice and "state of the art". The bidder is notified that neither claims for additional costs nor extensions of delivery times will be honored on the basis of good practice and/or "state of the art" problems.

The bidder must show by field review, if necessary, and by the various documents that are required as part of the bid that the materials proposed will perform as required.

Each module shall consist of a fully encapsulated assembly that utilizes LEDs as the light source and a message lens. The individual LED shall be wired such that a failure of one or more LEDs will result in the loss of light from that LED only and the loss of not more than one (1) percent of the module light output. The LEDs shall be the ultra bright type rated for 100,000 hours of continuous operation.

Configuration - Messages shall be displayed in the Portland Orange “Upraised Hand” (“Hand”), the White “Walking Person” (“Person”), and the Portland Orange “Numeric Countdown” (“Countdown”) icons illuminated by multiple configuration LEDs.

The “Hand” and the “Person” icons shall be each a minimum of 11” in height and 7” in width. The “Countdown” icon shall consist of two 7-segment digits forming the time display. The height of the “Countdown” icon digits shall be 9” and the overall width of the digit display (both digits side-by-side) shall be 7”. Each individual 7-segment digit shall be 3.25” wide, with 0.5” of space between the two digits.

The “Hand” and the “Person” icons shall be included on all modules. If the “Countdown” icon is used in conjunction with the “Hand” and the “Person” icons, the “Hand” and the “Person” icons shall be overlaid upon each other and located to the left of the “Countdown” icon. If the “Countdown” icon is not used, the “Hand” and the “Person” icons shall be arranged side-by-side with the “Hand” icon to the left of the “Person” icon.

Electrical Requirements - Power consumption shall not exceed 15 watts for the “Hand” icon, 10 watts for the “Person” icon, and 10 watts for the “Countdown” icon at a temperature of 77° F. Individual LED driving current shall be less than 10 milliamps for each icon at a temperature of 77° F.

The module shall operate from a 60 hertz \pm 3 hertz AC line over a voltage ranging from 80 volts to 135 volts. Nominal operating voltage shall be 120 \pm 3 volts. Fluctuations in line voltage within the range of 80 volts to 135 volts shall not affect luminous intensity by more than \pm 10 percent. When input voltage is less than 35 volts the module shall turn off automatically. Each icon of the module shall reach 90 percent of their full illumination (turn-on) within 75 milliseconds of the application of the nominal operating voltage. The module shall not be illuminated (turn-off) after 75 milliseconds of the removal of the nominal operating voltage. The module shall include voltage surge protection to withstand high-repetition noise transients and low-repetition high-energy transients as stated in Section 2.1.8 of NEMA Standard TS-2, latest edition.

At a temperature of 77° F, the power factor (PF) shall be greater than 0.9, and the total harmonic distortion (THD) shall be less than 20 percent.

Electromagnetic Interference (EMI) shall meet Class A emission limits referred to in Federal Communications Commission (FCC) Title 47, Subpart B, Section 15 regulation.

The signal must have 1 individual set of wires for electrical connections. Each set must be made of three secured, color coded (blue, red, white), 36 inches long, 600V, 16 AWG jacketed wires, rated for service at +105°C.

Module Identification – The module shall be permanently marked on the backside with the manufacturer’s name, trademark, date code, operating characteristics, part/model number, and serial number. The operating characteristics identified shall include the nominal operating voltage and stabilized power consumption, in watts and volt-amperes. The Department reserves the right to scan, record, or otherwise obtain the manufacturer’s serial number(s) and/or barcodes for all LED Vehicular Signal and Pedestrian Signal Head Display Modules prior to installation. This task will be completed by the Department, or a designated representative, at the time of signal head installation.

Quality Assurance – Modules shall be manufactured in accordance with a qualified ISO 9001:2000 vendor quality assurance program.

In addition to tests specified in the ITE LED Quality Assurance Program, each module supplied under this contract shall be tested for minimum maintained luminous intensity for expected or extended viewing angle products. Failure of each supplied module to meet the requirements of all these tests shall cause the modules to be rejected.

Certification of Compliance – The manufacture shall provide upon request a Certification of Compliance certifying that the modules comply with the requirements of these specifications. The certificate shall also include a copy of all applicable test reports that the modules underwent.

The manufacturer shall provide a list of module serial numbers with each shipment. The Contractor shall provide this information upon receipt of shipment by the Signal Construction Section at 14 Sign Shop Road, Dover, DE 19901.

Warranty - The contractor shall extend any policy guarantee usually offered to purchasers on article(s) and/or service(s) against defective material and workmanship. The contractor shall replace free of charge any part or component that fails in any manner by reason of defective material, design, or workmanship within a period of five (5) years from the date of payment for the article(s). The warranty shall be renewed for each part or component for another five (5) years from the date of replacement of the article(s). The entire Module shall be considered failed if it exhibits light output degradation 1) greater than 50% of its initial intensity or 2) falling below the minimum intensity level as outlined in this specification.

A certificate of warranty from the manufacturer shall be supplied with the bid documents.

Photometric Requirements - The minimum luminous intensity for a minimum period of 60 months shall be 409 footlamberts for the “Hand” icon, 642 footlamberts for the “Person” icon, and 409 footlamberts for the “Countdown” icon.

The uniformity of the “Hand”, “Person”, and “Countdown” luminance shall meet a ratio of not more than one (1) to five (5) between the minimum and maximum luminance values, as measured in 1/2” diameter spots.

Chromaticity -

- (a) The measured chromaticity coordinates for the white walking Person and the Portland Orange Hand and Digits must conform to the chromaticity requirements of section 4.2 and Figure 5 of the ITE Pedestrian Traffic Control Signal Indicators: Light Emitting Diode (LED) Signal Modules, Draft Version of 2009.
- (b) The chromaticity measurements must remain unchanged over the input line voltage range of 80 VAC to 135 VAC.

Flashing Requirements - The light source of a flashing “Hand” signal indication shall be capable of flashing continuously at a rate of not less than 50 or more than 60 times per minute. The displayed period of each flash shall be a minimum of 1/2 and a maximum of 2/3 of the total flash cycle.

Environmental Requirements - The module shall be protected against dust and moisture intrusion per the requirements of MIL-STD-810F Procedure I, Rain and Blowing Rain. The module shall have an Ingress Protection (IP) rating of at least 54. The module shall meet all specifications in the operating temperature range of -40° F to +165° F.

Message Lens - The message lens shall be made of plastic and have a smooth outer surface. The lens shall be ultraviolet-stabilized and shall be capable of withstanding ultraviolet (direct sunlight) exposure for a minimum of 60 months. The inside of the message lens shall be painted in black in all areas except where the desired icons are formed to form a contrasting background when viewed from the outside.

Installation Requirements - A module shall be capable of replacing the existing optical components or signal module in a signal housing, or shall provide a complete replacement of the signal head. Installation of a module into existing housing shall not require the use of special tools. The module shall connect directly to existing electrical wiring system.

Marking Tag – A tag shall be securely installed on each LED Module indicating the Prime Contractor, Module Supplier, Date of Purchase, and Date of Installation

Signal Housing: Each pedestrian signal display housing shall consist of a yellow case housing, complete with a black housing door, field terminal assembly and visor. The maximum overall dimensions of the housing shall not exceed 18.5” wide x 18.7” high x 9.1” deep including visor.

Housing - The housing shall be a one-piece corrosion resistant aluminum alloy die-casting free of defects such as cracks and burrs. The color shall be Yellow, 595B-13538. The housing shall have top and bottom openings to accommodate standard 1-1/2” pipe brackets. The opening shall have a Shurlock boss integrally cast into the housing. The radial angular grooves of the Shurlock boss, when used with Shurlock fittings, shall provide positive five (5) degree increment positioning of the entire signal display to eliminate rotation or misalignment of the signal display. Two (2) integrally cast hinge lugs and screw slots shall be on each side of the housing. The housing shall be capable of providing a swing down housing door.

Housing Door - The housing door shall be a one-piece corrosion resistant aluminum alloy die-casting. The color shall be Black, 595B-17038. Two (2) hinge lugs shall be cast on top of the door, and two (2) latch points shall be cast on the bottom. The door shall be attached to the housing by two (2) hinge pins. Two (2) eye bolts and wing nuts shall be provided for opening and closing the door without the use of special tools. A gasket groove on the inside of the door shall accommodate a weatherproof and mildew proof resilient gasket which, when the door is closed, will seal against a raised bead of the housing, making a positive seal.

Field Terminal Assembly - The field terminal assembly shall include a three (3) terminal pair (6 screw) type terminal block for termination of the three (3) field # 14 AWG spaded terminal wires for AC (+) for the “Hand” and “Person” icon, and AC (-). The side of the terminal shall be equipped with a male quick disconnect blade that mates with the insulated female quick disconnect lug supplied on the LED Module. The field terminal assembly shall include an aluminum base plate that shall be bolted to the signal display housing.

Visor - The visor shall be designed to eliminate sun phantom and minimize damage to the LED Module. The Visor color shall be Flat Black, 595B-37038. The visor shall be installed parallel to the face of the signal display. The visor shall be held in place by stainless steel screws. The visor assembly shall consist of a minimum of 20 straight horizontal louvers and 21 zigzag pattern horizontal louvers.

Material Treatment - Prior to assembling, all aluminum elements shall be thoroughly cleaned and a chromate conversion coating shall be applied inside and out as per Military Specification MIL-DTL-5541F. Synthetic enamel conforming to Military Specification TT-E-529 shall be electro-statically applied. The finish shall be oven cured for at least 20 minutes at a temperature of 350° F. The signal housing shall be dustproof, weatherproof, and corrosion resistant.

LED Pedestrian Pushbutton Assembly:

The pedestrian pushbutton assembly shall conform to all minimum size requirements set forth by the Americans with Disabilities Act (ADA). The pushbutton assembly shall be designed to prevent electrical shock under any weather conditions and shall have provisions for grounding in accordance with the National Electrical Code (NEC). Each pedestrian push button assembly shall include the pushbutton housing complete with front cover and a push button switch. The LED pushbutton assemblies shall also include LED/audible indicator. Any control equipment necessary for the pushbutton assemblies to operate as specified herein shall be supplied as necessary at no additional charge. Any control equipment shall fit into a standard traffic signal control cabinet.

Pushbutton Housing - The pushbutton housing shall be yellow (color number 595B-13538) cast aluminum. The rear of the housing shall be curved and designed to accommodate pole diameters from 3” to 14”. There shall be a 1/2” diameter access hole for wiring at the rear of the housing. The access hole shall be capped with a plastic plug. The housing shall be tapped at the front to allow for mounting of the front cover.

Front Cover - The front cover shall also be yellow (color number 595B-13538) cast aluminum. A neoprene gasket shall provide a weather-tight seal between the housing and the cover. The cover shall be secured with stainless steel, vandal-resistant screws. The screws shall also secure the pushbutton switch to the housing.

Pushbutton Switch - The pushbutton switch shall be actuated by a 2” diameter mushroom plunger. A spring installed between the plunger and the switch shall not provide an operating force of more than 5 pounds. There shall be a moisture barrier between the plunger and the switch and a two (2) position terminal block for termination of the #14 AWG pushbutton wire. The pushbutton switch shall be capable of operating in a temperature range of -30° F to +165° F and shall be rated for up to 10,000,000 actuations. The pushbutton switch shall be electrically rated to carry 25 amps at 125 volts AC, 250 volts maximum. The pedestrian pushbutton shall be weatherproof and tamperproof.

Measurement and Payment:

Furnish 16” LED Countdown Pedestrian Signal Head: Measured per each 16” Pedestrian LED Signal unit furnished as described above. Included in the payment per each is the furnishing of the housing, wiring, electrical connection and countdown module materials that, when installed by others, will result in a fully functioning Pedestrian Signal. Also included in the payment per each is the delivery of all materials to the applicable DelDOT Signal Maintenance Shop, and acceptable unloading as directed by the Engineer.

Furnish 16” LED Pedestrian Signal Head Indication: Measured per each LED Pedestrian Signal Head Module furnished, delivered to the applicable DelDOT Signal Maintenance Shop, and acceptably unloaded as directed by the Engineer.

Furnish Pedestrian Pushbutton with Sign: Measured per each Pushbutton Assembly furnished, delivered to the applicable DelDOT Signal Maintenance Shop, and acceptably unloaded as directed by the Engineer

4/13/2018

837510 - FURNISH SIGNAL HEAD BACKPLATE

Description:

This work consists of installing a signal head backplate on a traffic signal head mounted on a mast arm, pole, or span wire.

The traffic signal heads may have any of the following configurations: one through five faces, including “T”, “Inverted T”, and “Cluster” configurations.

Materials:

Backplate and signal head will be supplied by the Department.

Cable used to tether backplates on span-mounted signal heads shall be provided by the Contractor. The tether wire will be 3/16-inch ASTM A 475, Class A, Siemens-Martin Grade, or ASTM B 416.

Construction Methods:

Backplates shall be installed in accordance with the manufacturer's instructions.

Method of Measurement:

The quantity of backplates installations will be measured as the number of backplates installed on traffic signal heads completely, and accepted. The cable necessary for tethering of backplates on signal heads mounted on span wire is included in this item.

Basis of Payment:

The quantity of backplate installations will be paid for at the Contract unit price for each. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

5/23/2018

838500 - REMOVAL OF SPAN WIRE ATTACHMENT

Description:

This work consists of the removal of span wire presently in place between poles and returning it to the Department at the Dover Sign Shop.

Construction Methods:

A tensioning device shall be used to remove the tension from the clamps before their release. Under no circumstances shall the span wire be cut while under tension. The span wire shall be lowered to the ground by hand or hand-line after removing the clamps and backing off all the tension.

Any electrical cable or equipment attached to the span wire will be detached as directed by the Engineer. The span wire and electrical cable will be rolled up separately and returned with all associated hardware to the Department at the Dover Sign Shop.

Method of Measurement:

The quantity of span wires removed will be measured as the number of span wires removed between poles, in accordance with these special provisions, complete, and accepted.

Removal of electrical cable and any equipment shall be paid for under other items.

Basis of Payment:

The quantity of span wires removed will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

4/13/2018

838503 - REMOVAL OF CABLE FROM MESSENGER WIRE

Description:

This work consists of the removal of a messenger wire with a cable(s) attached or of a cable with a built-in messenger wire in place between poles.

This item is not applicable to the removal of cable from a messenger wire, which remains in place or the removal of a messenger wire which has no cable attached or built-in.

Construction Methods:

A tensioning device shall be used to remove the tension from the clamps before their release. Under no circumstances shall the messenger wire be cut while under tension. The messenger wire shall be lowered to the ground by hand or hand line after removing the clamps and backing off all the tension.

The cable attached to the messenger wire by lashing or tape (not built-in) shall be detached from the messenger wire. The messenger wire and the cable shall be rolled up separately and returned with all associated hardware to the Department.

Built-in cable attached to the messenger wire shall not be detached from the messenger wire. The cable with the messenger wire shall be rolled up and returned with all associated hardware to the Department. See Standard Details in the General Notices.

Method of Measurement:

The quantity of messenger wire removed will be measured as be the number of linear feet of messenger wire with attached cable removed, complete and accepted.

Basis of Payment:

The quantity of linear feet removed will be paid for at the Contract unit price per linear foot. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

4/13/2018

838504 - REMOVAL OF SIGNAL HEAD OR OPTICOM DETECTOR FROM SPAN WIRE OR MAST ARM

Description:

This work consists of removing traffic signal heads, opticom emergency detectors or pedestrian signal heads presently in place and delivering the materials to the Department at the Dover Sign Shop. A signal head of one to five individual sections will be considered a single signal head. There shall be no separate item for multi-way traffic signal heads.

Construction Methods:

The signal head shall be returned in a proper manner so as not to damage the signal head in any way. Any damage or loss to the signal head or parts of the signal head therein shall be deducted from monies due the contractor. Mounting equipment, including the saddle, shall be reassembled before being returned. The location of the signal head, pedestrian signal head or emergency opticom detector to be removed will be designated by the Engineer.

When the signal head and its associated mounting equipment are removed, all nuts and bolts will be loosened with the appropriate tools. Before any signal head is removed, the splice must be disassembled by removing all tapes. The wire must be removed only from the wires of the cable coming from the signal head. The wire nuts will then be reinstalled on the exposed wires of the cable left in place if so directed by the Engineer. The splice shall be re-taped as required in the item "Splicing of Electrical Cable, Above Ground" unless otherwise directed by the Engineer.

The pedestrian head and mount shall be returned in a proper manner so as not to damage the pedestrian head in any way. Any damage or loss to the pedestrian head or parts of the head therein shall be deducted from monies due the Contractor. Before any pedestrian signal head is removed, the field connections must be disassembled by removing wire nuts or plug-on connectors. The wire nuts will be reinstalled on the exposed wires of the cable left in place if so directed by the Engineer.

The opticom emergency preemption detector and mount shall be returned in a proper manner so as not to damage the opticom emergency preemption detector in any way. Any damage or loss to the opticom emergency preemption detector or parts of the opticom emergency preemption detector therein shall be deducted from monies due the Contractor. Before any opticom emergency preemption detector is removed, the field connections must be disassembled by removing wire nuts or plug-on connectors. The wire nuts will be reinstalled on the exposed wires of the cable left in place if so directed by the Engineer.

Method of Measurement:

The quantity of signal heads or opticom emergency preemption detectors removed will be measured as the number of traffic or pedestrian signal heads or opticom emergency preemption detectors removed, and all materials returned to the Department at the Dover Sign Shop. A signal head of one to five individual sections will be paid as a single unit. One-way and multi-way traffic signal heads shall be the same under this item.

Basis of Payment:

The quantity of traffic or pedestrian signal heads or opticom emergency preemption detectors removed will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

4/17/2018

842500 - INSTALLATION OF PEDESTRIAN BUTTON ON WOOD OR METAL POLE

Description:

This work consists of the installation of a pedestrian push-button on a wood or metal pole.

Materials:

The Department will supply the push-button.

The Contractor will supply:

Wood Pole;

3/4" two-hole pipe straps.

3/4" Weatherhead, Crouse-Hinds (C.H.) #F75 or approved equal

3/4" aluminum conduit (20 feet ±)

3/4" "T" conduit

3/4" x 1/2" reducing bushing

1-1/2" x 3/4" reducing bushing

1/2" closed nipple

1/2" sealtight flexible conduit

1/2" sealtight 90 degree fitting

3/4" weathertight fitting

Steel pole

2 - 1/4" x 1" bolts

Construction Methods:

All conduits and hardware connections shall be tightened with the appropriate wrenches or tools. All conduit ends shall be threaded and reamed using the appropriate tools.

Wood pole - Underground Feed:

Install an appropriate length of 3/4" conduit from the 1-1/2" conduit at ground level to the pedestrian signal location on the pole. Install 3/4" weatherhead . A type "T" conduit shall be installed in this run at the pedestrian pushbutton height.

Install 1/2" sealtight flex conduit and fitting between "T" conduit and pushbutton housing.

Mount the push-button housing and push-button.

Wood pole - Overhead Feed:

Install an appropriate length of 3/4" conduit between the push-button –location and a weatherhead at the top of the pole. A type "T" conduit shall be installed in this run at the pedestrian signal head location.

The wire for the pedestrian signal head shall have a weathertight connector installed where it enters the "T" conduit.

Install 1/2" sealtight flex conduit and fitting between the bottom end of the conduit and the pushbutton housing.

Mount the push-button housing and push-button.

Steel pole:

Drill a 1/2" hole in the steel pole at the height and location directed by the Engineer. Drill and tap the steel pole for the two mounting bolts, using the pushbutton housing as a template, with the cable entrance hole

aligned with the 1/2" hole in the pole. Install pushbutton housing using 1/4" x 1" bolts. Wire the pedestrian push-button and install on to the pushbutton housing. The type and size of the cable shall be as directed by the Engineer. The cable shall be run without splice from inside the pedestrian push-button to the base of the pole where 5 feet shall be provided for connection.

Method of Measurement:

The quantity of pedestrian buttons will be measured as the number of pedestrian push-buttons installed on wood or metal poles, complete, in place, and accepted.

Basis of Payment:

The quantity of pedestrian buttons shall be paid for at the Contract unit price for each. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

4/13/2018

842501 - FURNISH & INSTALL ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 (100 AMP)

842502 - FURNISH & INSTALL ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 (200 AMP)

Description:

This work is comprised of furnishing and installing Traffic Signals, ITS Devices and Lighting service pedestals and safety switches in accordance with the Contract Documents and as directed by the Engineer. Electrical service equipment consists of the equipment necessary to connect a utility company service to a traffic signal or ITS device controller cabinet, traffic monitoring station cabinet, or other traffic control device cabinet or lighting control cabinet. Provide electrical service equipment at the phasing and amperage specified in the Contract Documents. This work includes coordinating the connection with the local utility company. While the 100 Amp Service may be specified for both Traffic and Highway Lighting, the 200 Amp Service is typically specified for Highway Lighting Only.

Materials:

- Service Pedestal and safety switch
- Ground Rod & Wire
- Cables and wire (including three #8 THHN, one red, one black and one white)
- Conduit & Fittings, Galvanized Steel
- Hex Bolts & Washers, Stainless Steel
- Square Tube Steel Posts
- Portland Cement Concrete, Class B
- Galvanizing
- Aluminum Pedestal Board/Panel
- 24" x 30" Minimum Size Circuit Breaker Box (To be determined by serviceable needs)

All materials provided shall be in accordance with the applicable sections of the Department's 2016 Standard Specifications

Construction Methods:

All work shall be performed in compliance with NEC, NFPA, and NESC Standards and with utility company minimum requirements. The electric service pedestal shall be installed as shown in the Contract Document Details. The contractor shall locate line side safety switch and meter adjacent to service drop location, fuse and size line side safety switch to service. The load side safety switch should not be fused. Safety switch should be marked with weatherproof stamp. Switch should be labeled "Signal", "Camera", "Repeater", "VMS", "Detector" "RWIS" or "Lighting", denoting the device it serves. All conduits and hardware connections should be tightened with the appropriate wrenches or tools.

The ground resistance of each rod must be measured before connecting the rod to the grounding conductor. If the measured resistance exceeds 25 ohms, exothermically weld a 10-ft. extension to the top of the first rod and drive to its full depth. Measure the earth resistance again. If it still exceeds 25 ohms, contact the engineer for instruction.

Service Pedestal Installation

Area for service pedestal should be excavated. Where a pole base is to be placed in existing concrete pavement such as a sidewalk, the concrete should be saw cut in a square pattern or be removed to the nearest joint. Install conduit using a conduit adapter to connect sweeps to underground conduit and conduit leading to the safety switch and meter. An appropriate length of 2-inch galvanized conduit (threaded and reamed on both ends) should be installed on the end of the 90 degree sweeps at the base of the pedestal so that the end of the conduit will be 3 feet above the finished grade of the area.

Install square tube steel posts per Contract Document Details in 12-inch X 12-inch X 36-inch concrete footings. 3-Inch clearance should be provided on the base of footing. Backfill around the conduit and concrete footings and dispose of excess or unsuitable materials to grade of the bottom of concrete footings. Backfill may be placed after the first 24 hours. Backfill should be as provided in the contract documents.

Remove all excess material. Suitable Material may be used elsewhere on the Project as directed by the Engineer. Set square tube steel posts and determine the finished length of the tubular steel posts by adding the total height of the meter and safety switch to 5 feet. Install ground rod in accordance with the contract documents. The ground resistance of each rod must be measured before connecting the rod to the grounding conductor. If the measured resistance exceeds 25 ohms, exothermically weld a 10-ft. extension to the top of the first rod and drive to its full depth. Measure the earth resistance again. If it still exceeds 25 ohms, contact the engineer for instruction.

Attach pedestal aluminum board/panel to square tube steel posts using six (three for each post) 5/16" x2-1/2" long Grade 5 stainless steel hex bolts, flat washers and nylon lock nuts. Attach meter socket to the board/panel with four 5/16" x 3/4" stainless steel hex bolts and nylon lock nuts. Attach the circuit breaker box to the board/panel with four 5/16" x 3/4" stainless steel hex bolts and nylon lock nuts.

The contractor shall arrange inspection by a Delaware licensed electrical inspection agency or contractor's licensed staff) for all lighting system work including but not limited to service, branch circuits, junction wells, underground conduit, all grounding and bonding and any electrical work performed on the project. The contractor shall submit certification for the chosen Delaware licensed electrical inspection agency or contractor's staff to the Project Engineer for approval prior to starting work.

Method of Measurement:

The quantity of electric services will be measured as the actual number of complete electric services installed, complete in place tested and accepted.

Basis of Payment:

The quantity of electric services installed will be paid at the Contract Unit Price per each electric service of the size and type specified, installed, complete in place, tested and accepted. Price and payment constitutes full compensation for all materials, including all enclosures, panel boards, ground rods, circuit breakers, internal wiring, wiring devices, wiring up to 10 feet each underground from the service pedestal to the utility pole and up to 50 feet each vertical (up the service pedestal and up the utility pole combined and including all required coils), concrete collar, meter sockets, meter, shunts, cover plates, wiring, square tubing, back panel and for all labor, tools, inspection by Delaware licensed electrical agency, and incidentals necessary to complete the Item as specified and as directed by the Engineer.

4/17/2018

844504 - FURNISH AND INSTALL MICROWAVE DETECTION DEVICE
844505 - FURNISH AND INSTALL VIDEO DETECTION DEVICE
844506 - FURNISH AND INSTALL THERMAL DETECTION DEVICE
844507 - FURNISH VIDEO DETECTION DEVICE
844508 - FURNISH THERMAL DETECTION DEVICE
844509 - FURNISH MICROWAVE DETECTION DEVICE

Description:

This work consists of furnishing and installing the specified microwave, thermal or video detection device on an existing pole mast arm or other rigid support in accordance with the locations, notes, and details on the Plans and as directed by the Engineer. This work consists of furnishing the specified microwave, thermal or video detection device to the Departments Traffic Section.

Materials:

Unless specified otherwise, the microwave, thermal or video detection device, and all necessary hardware shall be furnished by the Department. These materials can be obtained from the Department's Dover Sign Shop. The Contractor shall inform the Department two working days prior to picking up the microwave or video detection device, and other related hardware. Where the detection device installation is part of the work of relocating an existing microwave, thermal or video detection device on a project, the detection device and related hardware shall be that which is removed from the existing rigid support.

Construction Methods:

The microwave or video detection device shall be installed in accordance with manufacturer's specifications or as directed by the engineer.

Method of Measurement:

The quantity of microwave or video detection devices will be measured as the number of microwave, thermal or video detection devices furnished and/or installed in accordance with the specifications, complete, in place, tested, and accepted.

Basis of Payment:

The quantity of microwave, thermal or video detection devices will be paid for at the Contract unit price per each microwave, thermal or video detection device. Price and payment shall constitute full compensation for furnishing or furnishing and installing the detection device, including hardware, labor, tools, equipment, and all other incidentals necessary to complete the item.

4/24/2018

850517 - INSTALLATION OF LUMINAIRE

Description:

This work consists of assembling and installing a complete highway lighting unit on a pole or mast arm presently in place and connecting it to an existing service cable or removing an existing luminaire and returning it to the Department at the Dover Sign Shop.

Materials:

Installation:

The Department will supply the complete luminaire .

The Contractor will supply:

Buchanan Connector Kits #825 with #65 or #835 with #20 or approved equal
#8 THWN wire
Split bolt connectors
Electrical tape

Construction Methods:

Installation Methods:

The luminaire shall be transported to the site, assembled, and wired and attached to the mast arm or pole by use of hardware approved by the Engineer. The unit shall be attached to the existing service cable and tested. On wood poles, if the service cable is not available, a 5 foot tail shall be left at the pole end of the mast arm. On metal poles, the electrical connections and grounding of pole will be made in the base. If the service cable is not available, a 5 foot tail shall be left in the pole base.

Each luminaire installed under this item shall be separately connected to the service cable at the pole on wood poles and in the pole base on metal poles.

Removal Methods:

The luminaire shall be removed from the pole or mast arm after the wires have been disconnected. The wires shall be taped and secured so that they remain available for installation of a luminaire.

The luminaire and all hardware shall be returned to the Department at the Dover Sign Shop.

Method of Measurement:

The quantity of luminaires measured under this item shall be the number of luminaries installed in accordance with these specifications, complete, in place, tested, and accepted or removed, wires secured for future use, and all materials returned to the Department at the Dover Sign Shop.

Basis of Payment:

The quantity of luminaries shall be paid for at the Contract unit price per each. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

4/13/2018

- 850520 - LUMINAIRE (LED), 150 WATTS HPS EQUIVALENT**
- 850521 - LUMINAIRE (LED), 250 WATTS HPS EQUIVALENT**
- 850522 - LUMINAIRE (LED), 400 WATTS HPS EQUIVALENT**
- 850523 - LUMINAIRE (LED), 640 WATTS HPS EQUIVALENT (HIGH MAST ONLY)**
- 850524 - LED WALL PACK, 250 WATTS HPS EQUIVALENT**
- 850525 - LED WALL PACK, 400 WATTS HPS EQUIVALENT**
- 850526 - LED WALL PACK, 75 WATTS HPS EQUIVALENT**
- 850527 - LED WALL PACK, 150 WATTS HPS EQUIVALENT**

Description:

This work consists of furnishing and installing an LED light fixture (luminaire) on pole (not inclusive in this item) with wattage, lamp type and distribution type in accordance with these and the standard specifications as applicable and as shown on the plans. **The LED Wattages above are based on the equivalent output to HPS lighting. Refer to maximum LED Wattages below.** The complete fixture shall have a heavy-duty, cast-aluminum housing, door with extruded aluminum heat sink, tool-less entry, hinged removable power tray door for easy maintenance, and have fastening hardware that is stainless steel or zinc plated steel. The fixture shall meet ANSI 136.31 3.0 G vibration requirements. Fixture shall have a two-bolt slip fitter system for mounting on a 1-1/4 inch to 2-3/8 inch mounting arm connection. A grey powder coat finish shall be applied to the fixture unless otherwise shown on the plans, or as directed by the engineer.

The fixture shall also meet the following criteria:

1. Lamps: LED
2. Wattage:
 - a. 50 Watt Maximum for Item No. 850526
 - b. 90 Watt Maximum for Item No. 850520 and 850527
 - c. 175 Watt Maximum for Item No. 850521 and 850524
 - d. 250 Watt Maximum for Item No. 850522 and 850525
 - e. 450 Watt Maximum for Item No. 850523
3. Voltage: 120V - 277V
4. CRI: 70 Minimum
5. Lumens:
 - a. 3,000 to 5,000 for Item No. 850526
 - b. 8,000 to 12,000 for Item No. 850520 and 850527
 - c. 16,000 to 20,000 for Item No. 850521 and 850524
 - d. 27,000 to 31,000 for Item No. 850522 and 850525
 - e. 40,000 to 50,000 for Item No. 850523
6. Rated L70 Lamp Life: 100,000 Hours Minimum when operated at 25 Degrees C (77 Degrees F)
7. Distribution: Type II or Type III (unless otherwise indicated)
8. Color Temperature: 3,000 K - 4,500 K
9. Drive Current: 850 mA Maximum
10. Driver: 0-10V Dimming
11. IP66 Rating for optical portion of the housing
12. 10kV/10kA minimum internal surge suppression module, meeting UL 1449/ANSI C62.41.2 Category C
13. 3 Pin NEMA Photocontrol Receptacle with a Shorting Cap.

Luminaire mounting height shall be as indicated on drawings. Luminaire shall provide point illumination of not less than the given values in the table that follows

Luminaire	Foot-candle Point Table	
	Point 1	Point 2
Luminaire (LED), 75 Watts HPS Equivalent	0.10	0.11
Luminaire (LED), 150 Watts HPS Equivalent	0.16	0.22
Luminaire (LED), 250 Watts HPS Equivalent	0.27	0.37
Luminaire (LED), 400 Watts HPS Equivalent	0.46	0.55
Luminaire (LED), 640 Watts HPS Equivalent	0.55	0.60

Point 1 coordinates are 90 feet longitudinal distance. Point 2 coordinates are 90 feet longitudinal and 30 feet transverse. The point values given in the table are based on a 30 foot mounting height with a Light Loss Factor of 1. The point values produced by the submitted fixture shall be included with the fixture submittal.

Metal Parts shall be free of burrs and sharp corners and edges. Doors, frames, and other internal access shall be smooth operating and free of light leakage under operating conditions.

Factory applied labels shall comply with UL 1598. Labels shall be located where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place. Labels shall include the following lamp characteristics:

1. CCT and CRI for all luminaires

Luminaire finish shall be manufacturers standard paint applied to factory-assembled and tested luminaire before shipping.

Construction Methods:

Contractor should install luminaires in accordance with the manufacturer's installation instructions and shall follow the following installation requirements:

1. Comply with NECA 1.
2. Fasten luminaire to pole.
3. Install luminaires at height indicated on drawings and level and square with finished grade.
4. Perform an illumination test.

Luminaire identification decals shall be installed to the luminaire housing in accordance with NEMA conventions. The contractor shall ensure the decal is readily visible from the ground and meets **ANSI C136.15-2015 Roadway and Area Lighting Equipment-Luminaire Field Identification standard**.

After installation of luminaires and control devices and after electrical circuitry has been energized, test units to confirm proper operation.

Inspect each installed luminaire for damage. Replace damaged luminaires and components.

Luminaires will be considered defective if they do not pass tests and inspections.

Contractor shall provide fixture cutsheets, details, and the IESNA LM-79 and LM-80 test reports to the engineer for shop drawing review before purchasing.

Provide documentation that demonstrates that the proposed model of LED luminaire has been tested for electromagnetic compliance following the measurement protocols specified in ANSI standard C63.4-2003, and required by 47 CFR 15.31.

If Contract Documents require each light fixture to be provided with an independent photoelectric control device, a photocell shall be provided with each lighting fixture in place of the shorting cap. Provide photoelectric control using solid state circuitry, cadmium sulfide type with hermetically sealed silicone rectifier rated 120volt, 60 cycle AC and 1000 watts maximum load. Photoelectric control shall be provided with "Fail On" functionality such that in the event of a photocell becoming inoperative, the light fixture will remain in a permanent "On" state through day and nighttime hours. Photo control shall be twist lock type, with suitable mounting bracket with locking type receptacle.

The photoelectric control shall be set to operate, by default factory setting or by field adjustment, using the following criteria:

- Turn on the light fixture at a minimum vertical illumination value of 3 foot-candles.
- Turn off the light fixture at a maximum vertical illumination value of 6 foot-candles.

All electrical Materials shall conform to the requirements of the National Electrical Code of the National Fire Protection Association, and to all local and state laws and/ordinances governing such installations.

Method of Measurement:

The quantity of LED luminaires will be measured as the number luminaires furnished, installed, complete in place, and accepted

Basis of Payment:

The quantity of luminaires will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for furnishing all materials, including the luminaires, and for all labor, equipment, tools, and incidentals required to complete the item installation.

4/17/2018

- 851502 - ALUMINUM LIGHTING SINGLE DAVIT ARM, 8' ARM SPREAD**
- 851503 - ALUMINUM LIGHTING SINGLE DAVIT ARM, 12' ARM SPREAD**
- 851504 - ALUMINUM LIGHTING SINGLE DAVIT ARM, 15' ARM SPREAD**
- 851506 - ALUMINUM LIGHTING STANDARD, 30' POLE**
- 851507 - ALUMINUM LIGHTING STANDARD, 40' POLE**
- 851509 - ALUMINUM LIGHTING STANDARD WITH SINGLE TRUSS ARM, 30' POLE**
- 851520 - ALUMINUM LIGHTING SINGLE DAVIT ARM, 10' ARM SPREAD**
- 851522 - ALUMINUM LIGHTING SINGLE DAVIT ARM, 20' ARM SPREAD**

Description:

Aluminum Lighting Standard with Arm & Pole

The work consists of furnishing and installing Aluminum Lighting Standard with Single Davit or Truss Arm, breakaway transformer base, luminaire, in accordance with the Contract Documents, these specifications and as directed by the Engineer to complete a functional street lighting system. The pole base will be provided under other items in the Contract.

Aluminum Lighting Single Davit Arm

The work is comprised of furnishing Aluminum Standard Single Davit Arm with the specified arm spread, and installing on an already installed pole in accordance with the Contract Documents, these specifications and as directed by the Engineer. This work also includes furnishing and installing luminaire on the davit arm in accordance with the Contract Documents, and as directed by the Engineer.

Aluminum Lighting Standard Pole

The work is comprised of furnishing Aluminum Lighting Standard Pole of the specified height, breakaway transformer base, and installing (on an already installed pole base not included in this item) in accordance with the Contract Documents, these specifications and as directed by the Engineer.

Materials and Construction Methods:

All materials and construction methods shall be in accordance with **Section 851** of the Department's 2016 Standard Specifications and any provisions herein not included in **Section 851**.

All materials shall be of the best quality and free from all defects. No materials shall be installed until approved by the Engineer. Any material not specifically covered in these specifications shall be in accordance with accepted standards and as directed by the Engineer. Any materials deemed unsatisfactory by the Engineer, shall be replaced by the Contractor.

Lighting standards shall meet or exceed the requirements of the latest edition of AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals" based on 90 mph wind loads, luminaire weight of 70 lb and luminaire projected area of 3 ft². Computations confirming conformance with AASHTO Specifications, with the year of the edition specified, shall be submitted to the Delaware Department of Transportation.

All electrical materials shall conform to the requirements of the National Electrical Code of the national Fire Protection Association, and shall conform to all local and special laws and/or ordinances governing such installations. Where these requirements do not govern, and where not otherwise specified, electrical materials shall conform to the Standardization Rules of the Institute of Electrical and Electronic Engineers.

Shop drawings and catalog cuts for all electrical and related materials shall be submitted by the Contractor for approval.

New aluminum lighting standards shall consist of a tapered aluminum shaft having a base welded to the lower end. The pole shaft, pole extensions, and davit arms shall each be spun from one piece of seamless tubing, the strut and arm plates shall be extruded, all of which conform to the requirements of ASTM B221 aluminum alloy 6063-T6. The shaft shall have no circumferential welds, except at the lower end joining the shaft to the base and shall conform to the dimensions listed in the chart below. The shaft shall contain an

internal vibration dampening device positioned approximately 2/3 the height of the pole. The top of the lighting standard shaft shall be drilled for two 1/2" lockbolts to secure the davit bracket to the lighting standard shaft. If the pole is not placed on a transformer base, it will have one 3" x 5" handhole which after pole is set should face so that maintainer may view oncoming traffic.

The table below presents the davit arm length with corresponding outer diameter and wall thickness for each pole height.

HEIGHT OF POLE	DAVIT ARM LENGTH	OUTER DIAMETER	WALL THICKNESS
30'	8'	10"	0.156"
	12'	10"	0.156"
	15'	10"	0.156"
	20'	10"	0.156"
40'	8'	10"	0.188"
	12'	10"	0.188"
	15'	10"	0.188"
	20'	10"	0.188"

Bracket arms shall be of the davit type consisting of an aluminum shaft having the outer diameter and wall thickness as listed in the table above. The davit arm shall be designed to slip over the top of the lighting standard shaft for a distance of at least 12". The luminaire end of the davit arm shall be fitted with a 2" NPS aluminum pipe not less than 6" long. The height of the lighting standards will be determined by the Contractor to provide a nominal mounting height as shown on the Plans. The length of the davit arm will be as shown on the Plans or 12' if not specified elsewhere. Davit arm less than 8' long shall not be used without written permission from the Chief Traffic Engineer.

Each lighting standard shall be provided with a permanent tag which shall be 2" x 4" fabricated from clear anodized 1/16" thick aluminum. The edge shall be smooth and corners rounded and the tag shall be curved to fit the light standard shaft. Tags shall be secured to shafts by means of four (4) 1/8" diameter 18-8 stainless steel round head drive screws of self-tapping screws. The embossed identifying letters and/or numerals shall be not less than 3/4" high with stroke of not less than 3/16". Identifying letters and/or numerals shall be designated on the Plans.

Transformer Base: Transformer bases, shall conform to the latest edition of AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaire and Traffic Signals". Before any work, begins the Contractor shall submit documents showing that the breakaway device meets the current AASHTO Breakaway Design. For breakaway installations, the standard shall electrically disconnect from the supply wire at the foundation when knocked down by an errant vehicle or from some other cause.

Luminaire: All HPS luminaire shall be in accordance with Section 850 of the Department's 2016 Standard Specifications. All LED luminaires shall be in accordance with the specifications for LED Luminaire provided elsewhere in this document covering Item Numbers 850520 through 850527.

Installations of Lighting Standards: Lighting Standards shall be installed and located in accordance with the Plans and as directed by the Engineer. The bracket arms shall be set perpendicular to the edge of the roadway unless otherwise ordered or specified. If necessary aluminum shims may be used to plumb the pole.

Certification:

The contractor shall arrange inspection by a Delaware licensed electrical inspection agency or contractor's licensed staff) for all lighting system work including but not limited to service, branch circuits, junction wells, underground conduit, all grounding and bonding and any electrical work performed on the project. The contractor shall submit certification for the chosen Delaware licensed electrical inspection agency or contractor's staff to the Project Engineer for approval prior to starting work.

Method of Measurement:

The quantity of aluminum lighting standards of the type(s) and size(s) specified will be measured as the actual number installed, certified and accepted.

Basis of Payment:

Aluminum Lighting Standard with Arm & Pole

The quantity of aluminum lighting standards with single arm will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for furnishing, assembling and installing aluminum lighting standard pole, single Davit arm, transformer base, and luminaire, and for all materials including labor, equipment, hardware, pole, ID tags, flush joint, gusset plate, and incidentals necessary to complete the work. This price will also include all miscellaneous hardware, connector kits, and wiring from the supply cables to the luminaire(s), labor, tools, equipment, and incidentals necessary to complete the work.

Aluminum Lighting Standard Pole

The quantity of aluminum lighting standards poles will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for furnishing and assembling all materials, including labor, equipment, and hardware. Supply and installation of the transformer base is incidental to the pole. The price also includes all miscellaneous hardware, connector kits, wiring from the power supply cables at the base of the pole to the luminaire, labor, tools, equipment, and incidentals necessary to complete the work.

Aluminum Lighting Single Davit Arm

The quantity of aluminum lighting davit arms will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for furnishing all materials, including labor, equipment, and hardware. Supply and installation of luminaire is incidental to the davit arm. The price also includes all miscellaneous hardware, connector kits, wiring from the power supply cables at the base of the pole to the luminaire, labor, tools, equipment, and incidentals necessary to complete the work.

4/17/2018

908514 – FURNISHED SOD

Description:

This work consists of furnishing and applying sod to areas as shown on the plans to provide immediate permanent vegetation groundcover.

Materials:

Furnished Sod shall be Tall Fescue Sod or an alternative approved by the engineer.

Construction Methods:

Before laying sod, the surface shall be uniformly graded and cleared of all roots, vegetation and debris. Stones and clods larger than 2 inches shall also be removed. If the surface is hard packed, the contractor shall scarify prior to laying the sod.

Lay the sod in a straight line with subsequent rows placed and tightly wedged against each other. Once sod is completely installed, the entire area shall be tamped to insure solid contact of roots with the soil surface. Sod shall be watered immediately after tamping until the underside of the new sod and soil surface below the sod are thoroughly wet. The contractor shall water up to 30 days after the sod installation, in accordance with the Additional Watering of Furnished Sod Special Provision.

Measurement and Payment:

Furnished Sod will be paid for at the Contract price square yards. The payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work, including the initial watering of the sodded area after installation.

Additional watering of the sodded area will be paid for under the separate Additional Watering of Furnished Sod item.

12/8/2017

BID PROPOSAL FORMS
CONTRACT DOT1801.01
FEDERAL AID PROJECT DOT1801.01

UNLESS OTHERWISE DIRECTED, SUBMIT ALL FOLLOWING PAGES TO:

DEPARTMENT OF TRANSPORTATION
BIDDERS ROOM (B1.11.01)
800 BAY ROAD
DOVER, DELAWARE 19901

Identify the following on the outside of the sealed envelope:

- Contract Number DOT1801.01
- Name of Contractor

CONTRACT ID: DOT1801.01

PROJECT(S): DOT1801

All figures must be typewritten.

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
SECTION 0001 TRAFFIC SIGNAL ITS						
0010	202000 EXCAVATION AND EMBANKMENT	250.000 CY				
0020	209005 FURNISHING BORROW, TYPE C FOR PIPE AND UTILITY TRENCH BACKFILL	35.000 CY				
0030	211001 REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK	100.000 SY				
0040	301001 GRADED AGGREGATE BASE COURSE, TYPE B	75.000 CY				
0050	301002 GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING	100.000 CY				
0060	401026 BITUMINOUS CONCRETE, SUPERPAVE TYPE C, 160 GYRATIONS PG 64-22 PATCHING	50.000 TON				
0070	401027 BITUMINOUS CONCRETE, SUPERPAVE TYPE B, 160 GYRATIONS PG 64-22 PATCHING	75.000 TON				
0080	401028 BITUMINOUS CONCRETE, SUPERPAVE BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS PG 64-22 PATCHING	125.000 TON				

CONTRACT ID: DOT1801.01

PROJECT(S): DOT1801

All figures must be typewritten.

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0090	503001 PATCHING PORTLAND CEMENT CONCRETE PAVEMENT, 6' TO 15', TYPE A	85.000 SY				
0100	503002 PATCHING PORTLAND CEMENT CONCRET PAVEMENT, 15' TO 100', TYPE B	50.000 SY				
0110	503006 DOWEL BARS	140.000 EACH				
0120	701011 PORTLAND CEMENT CONCRETE CURB, TYPE 1-4	85.000 LF				
0130	701013 PORTLAND CEMENT CONCRETE CURB, TYPE 1-8	340.000 LF				
0140	701014 PORTLAND CEMENT CONCRETE CURB, TYPE 2	1250.000 LF				
0150	701018 INTEGRAL PORTLAND CEMENT CONCRETE CURB AND GUTTER, TYPE 1-8	85.000 LF				
0160	701019 INTEGRAL PORTLAND CEMENT CONCRETE CURB AND GUTTER, TYPE 2	35.000 LF				
0170	701022 INTEGRAL PORTLAND CEMENT CONCRETE CURB AND GUTTER, TYPE 3-6	85.000 LF				
0180	701023 INTEGRAL PORTLAND CEMENT CONCRETE CURB AND GUTTER, TYPE 3-8	85.000 LF				

CONTRACT ID: DOT1801.01

PROJECT(S): DOT1801

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0190	702000 TRIANGULAR CHANNELIZING ISLANDS	2000.000 SF				
0200	705001 PORTLAND CEMENT CONCRETE SIDEWALK, 4"	2300.000 SF				
0210	705002 PORTLAND CEMENT CONCRETE SIDEWALK, 6"	1450.000 SF				
0220	705007 SIDEWALK SURFACE DETECTABLE WARNING SYSTEM	700.000 SF				
0230	705008 CURB RAMP, TYPE 1	700.000 SF				
0240	705009 CURB RAMP, TYPE 2, 3, AND/OR 4	2500.000 SF				
0250	705010 CURB RAMP, TYPE 5	2000.000 SF				
0260	762000 SAW CUTTING, BITUMINOUS CONCRETE	2000.000 LF				
0270	762001 SAW CUTTING, CONCRETE, FULL DEPTH	340.000 LF				
0280	763503 TRAINEE	1080.000 HOUR		0.80000		864.00

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0290	763655 PERFORMANCE AND PAYMENT BOND, OPEN-END SIGNAL CONTRACT	LUMP	LUMP			
0300	802003 ARROW PANELS TYPE C	200.000 EADY				
0310	803001 FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	280.000 EADY				
0320	804001 FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY (FLOOD LIGHTS)	100.000 EADY				
0330	805001 PLASTIC DRUMS	6000.000 EADY				
0340	806001 TRAFFIC OFFICERS	800.000 HOUR	75.00000		60000.00	
0350	808002 FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	200.000 EADY				
0360	808500 FURNISH AND MAINTAIN STRAIGHT BOOM LIFT, UP TO 80', 4WD (HOURLY)	60.000 HOUR				
0370	808501 FURNISH AND MAINTAIN STRAIGHT BOOM LIFT, UP TO 80', 4WD (DAILY)	100.000 EADY				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0380	810001 TEMPORARY WARNING SIGNS AND PLAQUES	1600.000 EADY				
0390	811001 FLAGGER, NEW CASTLE COUNTY STATE	500.000 HOUR				
0400	811002 FLAGGER, KENT COUNTY, STATE	170.000 HOUR				
0410	811003 FLAGGER, SUSSEX COUNTY, STATE	340.000 HOUR				
0420	811013 FLAGGER, NEW CASTLE COUNTY, STATE, OVERTIME	50.000 HOUR				
0430	811014 FLAGGER, KENT COUNTY, STATE, OVERTIME	17.000 HOUR				
0440	811015 FLAGGER, SUSSEX COUNTY, STATE, OVERTIME	35.000 HOUR				
0450	813001 TEMPORARY BARRICADES, TYPE III	2400.000 LFDY				
0460	813501 TEMPORARY SIDEWALK, TYPE 2 (BOARDWALK)	250.000 LF				
0470	813502 RELOCATE TEMPORARY SIDEWALK - TYPE 2	500.000 LF				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0480	813503 TEMPORARY PEDESTRIAN PATHWAY	200.000 SY				
0490	817002 PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC	1500.000 SF				
0500	817003 TEMPORARY MARKINGS, PAINT, 4"	170.000 LF				
0510	817004 TEMPORARY MARKINGS, PAINT, SYMBOL/LEGEND	840.000 SF				
0520	817005 PERMANENT PAVEMENT STRIPING, ALKYD-THERMOPLASTIC, 5"	840.000 LF				
0530	817006 PERMANENT PAVEMENT STRIPING, ALKYD-THERMOPLASTIC, 12"	700.000 LF				
0540	817007 RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, 12"	70.000 LF				
0550	817008 BLACKOUT TAPE, 6"	35.000 LF				
0560	817009 TEMPORARY MARKINGS, TAPE, 4"	170.000 LF				
0570	817010 TEMPORARY MARKINGS, TAPE, WORDS/SYMBOLS	840.000 SF				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0580	817011 BLACKOUT TAPE, 8" LF	35.000				
0590	817012 RETROREFLECTIVE PERFORMED PATTERNED MARKINGS, SYMBOL/LEGEND SF	1350.000				
0600	817013 PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5" LF	20000.000				
0610	817014 PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 10" LF	4000.000				
0620	817018 PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, BLACK, 3" LF	2500.000				
0630	817019 PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, BLACK, 5" LF	5000.000				
0640	817020 RETROREFLECTIVE PERFORMED PATTERNED MARKINGS, 5" LF	170.000				
0650	817021 RETROREFLECTIVE PERFORMED PATTERNED MARKINGS, 10" LF	2500.000				
0660	817022 RETROREFLECTIVE PERFORMED PATTERNED MARKINGS, 8" LF	340.000				

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			DOLLARS	CTS	DOLLARS	CTS
0670	817023 RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, 13"	120.000 LF				
0680	817024 PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, BLACK, 9"	2500.000 LF				
0690	817026 PAINTING OF WHITE OR YELLOW, 5" LINE	5000.000 LF				
0700	817027 RAISED/RECESSED PAVEMENT MARKER	500.000 EACH				
0710	817029 REMOVAL OF RAISED/RECESSED PAVEMENT MARKER LENS	425.000 EACH				
0720	817030 REMOVAL OF RAISED/RECESSED PAVEMENT MARKER HOUSING	425.000 EACH				
0730	817031 REMOVAL OF PAVEMENT STRIPING	1700.000 SF				
0740	817033 TEMPORARY MARKINGS, TAPE, 6"	6000.000 LF				
0750	817571 RETROREFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS, BIKE SYMBOL POURED IN PLACE USING TEMPLATE	7.000 EACH				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0760	817572 RETROREFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS, PEDESTRIAN SYMBOL POURED IN PLACE USING TEMPLATE	2.000 EACH				
0770	817573 RETROREFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS, HANDICAP SYMBOL, POURED IN PLACE USING TEMPLATE	3.000 EACH				
0780	819500 FURNISH AND INSTALL ROAD SIGN ON SINGLE POST	50.000 EACH				
0790	819501 FURNISH AND INSTALL ROAD SIGN ON MULTIPLE POSTS	400.000 SY				
0800	820018 REMOVAL OF BREAKAWAY I-BEAM SIGN POSTS	6.000 EACH				
0810	820020 REMOVE SIGN PANEL ON BREAKAWAY I-BEAM SIGN SUPPORT	5.000 SF				
0820	822002 INSTALLATION OF SIGN ON/OVER HIGHWAY STRUCTURE	300.000 SF				
0830	822009 REMOVAL OF SIGN ON/OVER HIGHWAY STRUCTURE	200.000 SF				
0840	822500 INSTALL OVERHEAD SIGN	50.000 SF				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0850	823001 INSTALLATION OF SIGN ON SPAN WIRE OR MAST ARM	40.000 SF				
0860	823003 REMOVAL OF SIGN ON SPAN WIRE OR MAST ARM	30.000 EACH				
0870	825001 TUBULAR MARKERS	250.000 EACH				
0880	830001 CONDUIT JUNCTION WELL, TYPE 1, 20" X 20" PRECAST CONCRETE	250.000 EACH				
0890	830002 CONDUIT JUNCTION WELL, TYPE 4, 20" X 42-1/2" PRECAST CONCRETE	50.000 EACH				
0900	830003 CONDUIT JUNCTION WELL, TYPE 5, 24" X 16" PRECAST CONCRETE	14.000 EACH				
0910	830004 CONDUIT JUNCTION WELL, TYPE 7, 36" X 60" PRECAST POLYMER CONCRETE	10.000 EACH				
0920	830008 ADJUST OR REPAIR EXISTING CONDUIT JUNCTION WELL	40.000 EACH				
0930	830009 RELOCATION OF EXISTING JUNCTION WELL	20.000 EACH				
0940	830010 REMOVAL OF EXISTING JUNCTION WELL	20.000 EACH				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0950	830011 FURNISH AND INSTALL FRAME AND LID FOR JUNCTION WELL, TYPE 1	EACH 7.000				
0960	830012 FURNISH AND INSTALL FRAME AND LID FOR JUNCTION WELL, TYPE 4	EACH 4.000				
0970	830013 FURNISH AND INSTALL FRAME AND LID FOR JUNCTION WELL, TYPE 5	EACH 2.000				
0980	830015 FURNISH AND INSTALL PRECAST POLYMER COVER FOR JUNCTION WELL, TYPE 7	EACH 4.000				
0990	831011 REMOVAL OF CONDUIT FROM WOOD POLE	LF 200.000				
1000	831500 FURNISH AND INSTALL UP TO 6" SCHEDULE 80 PVC CONDUIT (OPEN CUT)	LF 700.000				
1010	831501 FURNISH AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (OPEN CUT)	LF 800.000				
1020	831502 FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (OPEN CUT)	LF 500.000				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1030	831503 FURNISH AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (OPEN CUT)	300.000 LF				
1040	831504 FURNISH AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (OPEN CUT)	250.000 LF				
1050	831505 FURNISH AND INSTALL 1" SCHEDULE 80 PVC CONDUIT (OPEN CUT)	200.000 LF				
1060	831512 FURNISH AND INSTALL 1" SCHEDULE 80 PVC CONDUIT (TRENCH)	200.000 LF				
1070	831513 FURNISH AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (TRENCH)	500.000 LF				
1080	831514 FURNISH AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (TRENCH)	3000.000 LF				
1090	831515 FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (TRENCH)	1800.000 LF				
1100	831516 FURNISH AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (TRENCH)	1500.000 LF				
1110	831517 FURNISH AND INSTALL 1" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)	300.000 LF				

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			DOLLARS	CTS	DOLLARS	CTS
1120	831518 FURNISH AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)	LF 400.000				
1130	831519 FURNISH AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)	LF 450.000				
1140	831520 FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)	LF 1000.000				
1150	831521 FURNISH AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)	LF 1200.000				
1160	831522 FURNISH AND INSTALL 1" GALVANIZED STEEL CONDUIT (TRENCH)	LF 200.000				
1170	831523 FURNISH AND INSTALL 2" GALVANIZED CONDUIT (TRENCH)	LF 500.000				
1180	831524 FURNISH AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (TRENCH)	LF 3000.000				
1190	831525 FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (TRENCH)	LF 1800.000				

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			DOLLARS	CTS	DOLLARS	CTS
1200	831526 FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (TRENCH)	1500.000 LF				
1210	831527 FURNISH AND INSTALL 1" GALVANIZED STEEL CONDUIT (BORE)	100.000 LF				
1220	831528 FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (BORE)	250.000 LF				
1230	831529 FURNISH AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (BORE)	350.000 LF				
1240	831530 FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (BORE)	500.000 LF				
1250	831531 FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (BORE)	750.000 LF				
1260	831532 FURNISH AND INSTALL 1" GALVANIZED STEEL CONDUIT (OPEN CUT)	200.000 LF				
1270	831533 FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (OPEN CUT)	300.000 LF				
1280	831534 FURNISH AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (OPEN CUT)	400.000 LF				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1290	831535 FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (OPEN CUT)	1000.000 LF				
1300	831536 FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (OPEN CUT)	1500.000 LF				
1310	831537 FURNISH AND INSTALL 1" GALVANIZED STEEL CONDUIT (ON STRUCTURE)	300.000 LF				
1320	831538 FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (ON STRUCTURE)	400.000 LF				
1330	831539 FURNISH AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (ON STRUCTURE)	450.000 LF				
1340	831540 FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (ON STRUCTURE)	1000.000 LF				
1350	831541 FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (ON STRUCTURE)	1200.000 LF				
1360	831542 FURNISH AND INSTALL 2" HDPE SDR-13.5 CONDUIT (BORE)	1000.000 LF				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1370	831543 FURNISH AND INSTALL 2-1/2" HDPE SDR-13.5 CONDUIT (BORE)	500.000 LF				
1380	831544 FURNISH AND INSTALL 3" HDPE SDR-13.5 CONDUIT (BORE)	1500.000 LF				
1390	831545 FURNISH AND INSTALL 4" HDPE SDR-13.5 CONDUIT (BORE)	3000.000 LF				
1400	831560 FURNISH AND INSTALL 1-1/2" SCHEDULE 80 PVC CONDUIT (OPEN CUT)	200.000 LF				
1410	831561 FURNISH AND INSTALL 1-1/2" SCHEDULE 80 PVC CONDUIT (TRENCH)	300.000 LF				
1420	831562 FURNISH AND INSTALL 1-1/2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)	350.000 LF				
1430	831563 FURNISH AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (OPEN CUT)	200.000 LF				
1440	831564 FURNISH AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (TRENCH)	300.000 LF				
1450	831565 FURNISH AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (BORE)	200.000 LF				

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			DOLLARS	CTS	DOLLARS	CTS
1460	831566 FURNISH AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (ON STRUCTURE)	LF 300.000				
1470	831569 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT	LF 100.000				
1480	831570 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1-1/2" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT	LF 150.000				
1490	831571 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT	LF 200.000				
1500	831572 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT	LF 300.000				
1510	831573 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT	LF 500.000				

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1520	831574 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" SCHEDULE 80 PVC CONDUIT IN TRENCH OR OPEN CUT	1000.000 LF				
1530	831575 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" HDPE SDR-13.5 CONDUIT IN DIRECTIONAL BORE	500.000 LF				
1540	831576 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" HDPE SDR-13.5 CONDUIT IN DIRECTIONAL BORE	500.000 LF				
1550	831577 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" HDPE SDR-13.5 CONDUIT IN DIRECTIONAL BORE	500.000 LF				
1560	831578 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" HDPE SDR-13.5 CONDUIT IN DIRECTIONAL BORE	1000.000 LF				
1570	831579 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1" GALVANIZED STEEL CONDUIT IN TRENCH OR OEPN CUT	100.000 LF				

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			DOLLARS	CTS	DOLLARS	CTS
1580	831580 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1-1/2" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT	LF 100.000				
1590	831581 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT	LF 200.000				
1600	831582 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT	LF 300.000				
1610	831583 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT	LF 500.000				
1620	831584 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT	LF 1000.000				
1630	831585 FURNISH AND INSTALL SECOND SUBSEQUENT ADDITIONAL 1" STEEL CONDUIT IN DIRECTIONAL BORE	LF 100.000				

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			DOLLARS	CTS	DOLLARS	CTS
1640	831586 FURNISH AND INSTALL SECOND SUBSEQUENT ADDITIONAL 1-1/2" STEEL CONDUIT IN DIRECTIONAL BORE	200.000 LF				
1650	831587 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" STEEL CONDUIT IN DIRECTIONAL BORE	250.000 LF				
1660	831588 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" STEEL CONDUIT IN DIRECTIONAL BORE	300.000 LF				
1670	831589 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" STEEL CONDUIT IN DIRECTIONAL BORE	500.000 LF				
1680	831590 FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" STEEL CONDUIT IN DIRECTIONAL BORE	750.000 LF				
1690	832001 FURNISH AND INSTALL 1-CONDUCTOR #4/0 AWG STRANDED COPPER, TYPE USE-2	500.000 LF				
1700	832002 FURNISH AND INSTALL 1-CONDUCTOR #3/0 AWG STRANDED COPPER, TYPE USE-2	750.000 LF				

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			DOLLARS	CTS	DOLLARS	CTS
1710	832003 FURNISH AND INSTALL 1-CONDUCTOR #2/0 AWG STRANDED COPPER, TYPE USE-2	1000.000 LF				
1720	832006 FURNISH AND INSTALL 1-CONDUCTOR #2 AWG STRANDED COPPER, TYPE USE-2	2500.000 LF				
1730	832007 FURNISH AND INSTALL 1-CONDUCTOR #4 AWG STRANDED COPPER, TYPE USE-2	1700.000 LF				
1740	832008 FURNISH AND INSTALL 1-CONDUCTOR #6 STRANDED COPPER, TYPE USE-2	5700.000 LF				
1750	832009 FURNISH AND INSTALL 1-CONDUCTOR #8 STRANDED COPPER, TYPE USE-2	25000.000 LF				
1760	832010 FURNISH AND INSTALL 1-CONDUCTOR #10 STRANDED COPPER, TYPE USE-2	5000.000 LF				
1770	832025 FURNISH AND INSTALL 4-CONDUCTOR #18 AWG SHIELDED OPTICOM CABLE	6500.000 LF				
1780	832026 FURNISH AND INSTALL 1-CONDUCTOR #14 AWG STRANDED COPPER	1000.000 LF				

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			DOLLARS	CTS	DOLLARS	CTS
1790	832027 FURNISH AND INSTALL 1-CONDUCTOR #14 AWG SHIELDED CABLE	20000.000 LF				
1800	832029 FURNISH AND INSTALL #8/2 WIRE UF W/GROUND	500.000 LF				
1810	832031 FURNISH AND INSTALL #6 TRIPLEX ALUMINUM SERVICE CABLE	2000.000 LF				
1820	832032 FURNISH AND INSTALL 14/4 TRAFFIC CONTROL CABLE	700.000 LF				
1830	832033 FURNISH AND INSTALL 14/9 TRAFFIC CONTROL CABLE	8000.000 LF				
1840	832034 FURNISH AND INSTALL 14/16 TRAFFIC CONTROL CABLE	6000.000 LF				
1850	832035 REMOVAL OF CABLE FROM CONDUIT OR TRAFFIC /LIGHTING POLE	3000.000 LF				
1860	832500 SPLICING OF ELECTRICAL CABLE, UNDERGROUND	800.000 EACH				
1870	832501 SPLICING OF ELECTRICAL CABLE, ABOVEGROUND	250.000 EACH				
1880	832502 TRIPLEX SPLICE	1000.000 EACH				

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			DOLLARS	CTS	DOLLARS	CTS
1890	832504 FURNISH AND INSTALL #8 THHN STRANDED COPPER	3000.000 LF				
1900	832505 FURNISH AND INSTALL #6 AWG SOLID COPPER WIRE	10000.000 LF				
1910	832506 FURNISH AND INSTALL #1/0 AWG STRANDED COPPER	1500.000 LF				
1920	832507 FURNISH AND INSTALL 14/5 TRAFFIC CONTROL CABLE	5200.000 LF				
1930	833001 BONDING AND GROUTING EXISTING JUNCTION WELL	100.000 EACH				
1940	833002 FURNISH AND INSTALL GROUND ROD	40.000 EACH				
1950	834001 POLE BASE, TYPE 3	20.000 EACH				
1960	834002 POLE BASE, TYPE 3A	20.000 EACH				
1970	834003 POLE BASE, TYPE 3B	20.000 EACH				
1980	834004 POLE BASE, TYPE 3C	8.000 EACH				

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			DOLLARS	CTS	DOLLARS	CTS
1990	834005 POLE BASE, TYPE 4A	60.000 EACH				
2000	834006 POLE BASE, TYPE 6	35.000 EACH				
2010	834007 POLE BASE EXTENSION	70.000 CF				
2020	834008 SHEETING FOR POLE BASE	6.000 EACH				
2030	834501 PARTIAL REMOVAL OF CONCRETE POLE BASES AND CABINET FOUNDATIONS	10.000 CY				
2040	834504 LIGHT STANDARD ATTACHMENTS	100.000 EACH				
2050	834506 REMOVAL OF STREET LIGHTING SYSTEM	50.000 EACH				
2060	834508 REMOVAL OF SIGN ON ROADSIDE I-BEAM STRUCTURE	200.000 EACH				
2070	834511 POLE BASE, TYPE 4B	15.000 EACH				
2080	834512 POLE BASE, TYPE 1	4.000 EACH				

CANNOT BE USED FOR BIDDING

CONTRACT ID: DOT1801.01

PROJECT(S): DOT1801

All figures must be typewritten.

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2090	834513 POLE BASE, TYPE 2	6.000 EACH				
2100	834514 POLE BASE, TYPE 2A	6.000 EACH				
2110	834515 POLE BASE, TYPE 2B	6.000 EACH				
2120	835001 CABINET BASE TYPE F	1.000 EACH				
2130	835002 CABINET BASE TYPE M	4.000 EACH				
2140	835003 CABINET BASE TYPE P	10.000 EACH				
2150	835004 CABINET BASE TYPE R	2.000 EACH				
2160	835500 FURNISH AND INSTALL ADDITIONAL DISCONNECT SWITCH	10.000 LF				
2170	835502 CABINET BASE, TYPE K (HIB)	3.000 EACH				
2180	836001 INSTALLATION OF STEEL POLE (EQUAL TO OR GREATER THAN 17 FEET AND LESS THAN 40 FEET)	25.000 EACH				

CONTRACT ID: DOT1801.01

PROJECT(S): DOT1801

All figures must be typewritten.

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2190	836002 INSTALLATION OF STEEL POLE (EQUAL TO OR GREATER THAN 40 FEET)	4.000 EACH				
2200	836005 REMOVE STEEL POLE (EQUAL TO OR GREATER THAN 40 FEET)	2.000 EACH				
2210	836006 REMOVE PEDESTAL POLE	25.000 EACH				
2220	836500 INSTALLATION OF STEEL MAST ARM POLE WITH SINGLE MAST ARM GREATER THAN 70'	10.000 EACH				
2230	836502 FURNISH AND INSTALL PEDESTAL POLE	60.000 EACH				
2240	836503 REMOVE STEEL POLE (EQUAL TO OR GREATER THAN 15' AND LESS THAN 40')	16.000 EACH				
2250	836504 INSTALLATION OF STEEL MAST ARM POLE WITH SINGLE OR TWIN MAST ARMS UP TO 60'	17.000 EACH				
2260	836505 FURNISH 10' PEDESTAL POLE	50.000 EACH				
2270	836506 FURNISH 14' PEDESTAL POLE	20.000 EACH				
2280	836507 FURNISH PEDESTAL POLE TRANSFORMER BASE	30.000 EACH				

CONTRACT ID: DOT1801.01

PROJECT(S): DOT1801

All figures must be typewritten.

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2290	837001 FURNISH AND INSTALL 8" LED SIGNAL HEAD SECTION, RIGID MOUNT	7.000 EACH				
2300	837002 FURNISH AND INSTALL 12" LED SIGNAL HEAD SECTION, RIGID MOUNT	145.000 EACH				
2310	837003 FURNISH AND INSTALL 8" LED SIGNAL HEAD SECTION, SPAN MOUNT	10.000 EACH				
2320	837004 FURNISH AND INSTALL 12" LED SIGN HEAD SECTION, SPAN MOUNT	220.000 EACH				
2330	837005 FURNISH AND INSTALL 8" LED TRAFFIC SIGNAL HEAD INDICATION MODULE	4.000 EACH				
2340	837006 FURNISH AND INSTALL 12" LED TRAFFIC SIGNAL HEAD INDICATION MODULE	35.000 EACH				
2350	837007 FURNISH AND INSTALL SIGNAL HEAD BACKPLATE	100.000 EACH				
2360	837008 FURNISH AND INSTALL 16" LED COUNTDOWN PEDESTRIAN SIGNAL	70.000 EACH				

CONTRACT ID: DOT1801.01

PROJECT(S): DOT1801

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2370	837009 FURNISH AND INSTALL 16" LED PEDESTRIAN SIGNAL HEAD INDICATION MODULE	EACH 7.000				
2380	837010 FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON WITH SIGN	EACH 70.000				
2390	837011 REALIGN OR SLIDE EXISTING SIGNAL HEAD	EACH 35.000				
2400	837500 REMOVAL OF SIGNAL OR PEDESTRIAN HEAD FROM POLE OR PEDESTAL	EACH 50.000				
2410	837501 INSTALLATION AND REMOVAL OF TRAFFIC SIGNAL HEAD INDICATION/LED MODULE	EACH 100.000				
2420	837502 INSTALLATION AND REMOVAL OF TRAFFIC PEDESTRIAN SIGNAL HEAD INDICATION/LED MODULE	EACH 100.000				
2430	837503 FURNISH 8" LED SIGNAL HEAD SECTION	EACH 15.000				
2440	837504 FURNISH 12" LED SIGNAL HEAD SECTION	EACH 90.000				
2450	837505 FURNISH 8" LED TRAFFIC SIGNAL HEAD INDICATION MODULE	EACH 45.000				

CONTRACT ID: DOT1801.01

PROJECT(S): DOT1801

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2460	837506 FURNISH 12" LED TRAFFIC SIGNAL HEAD INDICATION MODULE	120.000 EACH				
2470	837507 FURNISH 16" LED COUNTDOWN PEDESTRIAN SIGNAL HEAD	40.000 EACH				
2480	837508 FURNISH 16" LED COUNTDOWN PEDESTRIAN SIGNAL HEAD INDICATION MODULE	40.000 EACH				
2490	837509 FURNISH PEDESTRIAN PUSHBUTTON WITH SIGN	60.000 EACH				
2500	837510 FURNISH SIGNAL HEAD BACKPLATE	80.000 EACH				
2510	838001 FURNISH AND INSTALL SPAN WIRES, 7/16"	4000.000 LF				
2520	838002 FURNISH AND INSTALL SPAN WIRES, 1/4"	1000.000 LF				
2530	838003 FURNISH AND INSTALL DEAD END MESSENGER WIRE ATTACHMENT	4.000 EACH				
2540	838006 ADJUSTMENT OF SPAN OR MESSENGER WIRE	10.000 EACH				
2550	838008 TRANSFER OF EXISTING SPAN OR MESSENGER ATTACHMENT	4.000 EACH				

CONTRACT ID: DOT1801.01

PROJECT(S): DOT1801

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2560	838009 REMOVAL OF MESSENGER WIRE, CABLE AND HARDWARE	1000.000 LF				
2570	838500 REMOVAL OF SPAN WIRE ATTACHMENT	10.000 EACH				
2580	838503 REMOVAL OF CABLE FROM MESSENGER WIRE	1000.000 LF				
2590	838504 REMOVAL OF SIGNAL HEAD OR OPTICOM DETECTOR FROM SPAN WIRE OR MAST ARM	120.000 EACH				
2600	839002 CUTTING OF WOOD POLE	10.000 EACH				
2610	839003 REMOVAL OF WOOD POLE	10.000 EACH				
2620	839500 FURNISH AND INSTALL WOOD POLE, CLASS II (HEAVY) - 30'	4.000 EACH				
2630	839501 FURNISH AND INSTALL WOOD POLE, CLASS II (HEAVY) - 40'	6.000 EACH				
2640	839502 FURNISH AND INSTALL WOOD POLE, CLASS II (HEAVY) - 50'	8.000 EACH				
2650	839503 FURNISH AND INSTALL WOOD POLE, CLASS III - 30'	4.000 EACH				

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PROJECT(S): DOT1801

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2660	839504 FURNISH AND INSTALL WOOD POLE, CLASS III - 40'	EACH 6.000				
2670	839505 FURNISH AND INSTALL WOOD POLE, CLASS III - 50'	EACH 8.000				
2680	840001 FURNISH AND INSTALL DOWN GUY AND ANCHOR	EACH 35.000				
2690	840005 REMOVAL OF DOWN GUY AND ANCHOR	EACH 8.000				
2700	840006 REMOVAL OF OVERHEAD GUY	EACH 2.000				
2710	841001 FURNISH AND INSTALL WEATHERHEAD, UP TO 3", ON STEEL POLE	EACH 12.000				
2720	842005 REMOVAL OF ELECTRIC SERVICE ON WOOD OR METAL POLE	EACH 10.000				
2730	842500 INSTALLATION OR REMOVAL OF PEDESTRIAN BUTTON ON WOOD OR METAL POLE	EACH 100.000				
2740	842501 FURNISH AND INSTALL ELECTRIC UTILITY SERVICE EQUIPMENT 120/240 (100 AMP)	EACH 100.000				

CONTRACT ID: DOT1801.01

PROJECT(S): DOT1801

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2750	842502 FURNISH AND INSTALL ELECTRIC UTILITY SERVCIE EQUIPMENT 120/240 (200 AMP)	100.000 EACH				
2760	844001 FURNISH AND INSTALL OPTICOM EMERGENCY PREEMPTION DETECTOR	40.000 EACH				
2770	844504 FURNISH AND INSTALL MICROWAVE DETECTOR	20.000 EACH				
2780	844505 FURNISH AND INSTALL VIDEO DETECTOR	20.000 EACH				
2790	844506 FURNISH AND INSTALL THERMAL DETECTOR	5.000 EACH				
2800	844507 FURNISH VIDEO DETECTOR	10.000 EACH				
2810	844508 FURNISH THERMAL DETECTOR	5.000 EACH				
2820	844509 FURNISH MICROWAVE DETECTOR	10.000 EACH				
2830	846001 FURNISH AND INSTALL LOOP WIRE 1-CONDUCTOR #14 AWG ENCASED IN 1/4" FLEXIBLE TUBING IN A LOOP SAWCUT	6000.000 LF				

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2840	846002 FURNISH AND INSTALL A 1-1/2 INCH GALVANIZED RIGID METAL CONDUIT DETECTOR SLEEVE WITH LOOP WIRE	1000.000 LF				
2850	847001 INSTALL OR REMOVAL OF POLE OR POST MOUNTED CABINET	4.000 EACH				
2860	847002 INSTALL OR REMOVAL OF BASE OR PAD MOUNTED CABINET	4.000 EACH				
2870	847004 LIGHTING CONTROL AND DISTRIBUTION ENCLOSURE (120/240;100 AMP)	20.000 EACH				
2880	850011 REMOVAL OF LUMINAIRE	50.000 EACH				
2890	850517 INSTALLATION OF LUMINAIRE	40.000 EACH				
2900	850520 LUMINAIRE (LED), 150 WATTS, HPS EQUIVALENT	10.000 EACH				
2910	850521 LUMINAIRE (LED), 250 WATTS, HPS EQUIVALENT	100.000 EACH				
2920	850522 LUMINAIRE (LED), 400 WATTS, HPS EQUIVALENT	10.000 EACH				

CONTRACT ID: DOT1801.01

PROJECT(S): DOT1801

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2930	850523 LUMINAIRE (LED), 640 WATTS, HPS EQUIVALENT	EACH	50.000			
2940	850524 LED WALL PACK, 250 WATTS HPS EQUIVALENT	EACH	5.000			
2950	850525 LED WALL PACK, 400 WATTS HPS EQUIVALENT	EACH	5.000			
2960	850526 LED WALL PACK, 75 WATTS HPS EQUIVALENT	EACH	10.000			
2970	850527 LED WALL PACK, 150 WATTS HPS EQUIVALENT	EACH	5.000			
2980	851001 ALUMINUM LIGHTING STANDARD WITH SINGLE DAVIT ARM, 30' POLE	EACH	50.000			
2990	851003 ALUMINUM LIGHTING STANDARD WITH SINGLE DAVIT ARM, 40' POLE	EACH	50.000			
3000	851502 ALUMINUM LIGHTING SINGLE DAVIT ARM, 8' ARM SPREAD	EACH	50.000			
3010	851503 ALUMINUM LIGHTING SINGLE DAVIT ARM, 12' ARM SPREAD	EACH	50.000			
3020	851504 ALUMINUM LIGHTING SINGLE DAVIT ARM, 15' ARM SPREAD	EACH	50.000			

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PROJECT(S): DOT1801

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CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3030	851506 ALUMINUM LIGHTING STANDARD, 30' POLE	100.000 EACH				
3040	851507 ALUMINUM LIGHTING STANDARD, 40' POLE	100.000 EACH				
3050	851509 ALUMINUM LIGHTING STANDARD WITH SINGLE TRUSS ARM, 30' POLE	100.000 EACH				
3060	851520 ALUMINUM LIGHTING SINGLE DAVIT ARM, 10' ARM SPREAD	100.000 EACH				
3070	851522 ALUMINUM LIGHTING SINGLE DAVIT ARM, 20' ARM SPREAD	100.000 EACH				
3080	908001 TOPSOIL	100.000 TON				
3090	908020 EROSION CONTROL BLANKET MULCH	3000.000 SY				
3100	908021 TURF REINFORCEMENT MATTING, TYPE 1	800.000 SY				
3110	908514 FURNISHING SOD	300.000 SY				
	SECTION 0001 TOTAL					
	TOTAL BID					



**AFFIDAVIT
OF
EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors, that complies with this regulation:

Contractor Name: _____

Contractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20__.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED, NOTARIZED, AND RETURNED WITH YOUR BID.
(This form is required from the prime contractor only, not required from subcontractors)

**BID REQUIREMENTS AND INSTRUCTIONS FOR
DELDOT DBE GOOD FAITH EFFORT FORM**

ATTENTION: APPARENT LOW BIDDER !

CRITICAL DBE REQUIREMENTS

Failure of the apparent low bidder to present originals of all DBE subcontracts to substantiate the volume of work to be performed by DBE's as indicated in the bid within five (5) calendar days after the bid opening shall create a rebuttable presumption that the bid is not responsive.

WITHIN FIVE (5) CALENDAR DAYS AFTER BID OPENING THE APPARENT LOW BIDDER MUST:

FURNISH THE FOLLOWING INFORMATION ACCORDING TO PARAGRAPH A **OR PARAGRAPH B BELOW;**

Paragraph A: within five (5) Calendar Days after bid opening the Department must receive:

1. An original of each and every DBE subcontract which must include all subcontractor information requirements contained in the contract specifications. Each subcontract agreement must refer to and contain a printed version of form FHWA-1273 - Revised May 1, 2012 available here:
<http://www.fhwa.dot.gov/programadmin/contracts/1273/1273.pdf>
2. A description of work each DBE is to perform;
3. The dollar value of each item of work to be completed by the DBE subcontractor by both bid price and subcontract price;
4. A copy of each subcontractor's Delaware Business License.

OR:

Paragraph B: within five (5) Calendar Days after bid opening the Department must receive:

1. A completed original of the attached 'DELDOT DBE GOOD FAITH EFFORT FORM', and
2. Within fifteen (15) Calendar Days after bid opening, all items from Paragraph A above.

All documents are to be furnished to: DBE Program Manager - GFE
Department of Transportation
800 Bay Road
Dover, DE 19901

THERE IS AN ASSIGNMENT OF ONE (1) OJT TRAINEE ON THIS PROJECT.

The apparent low bidder should review the various Training Programs contained in the On-The-Job Training Guidelines (https://www.deldot.gov/Publications/manuals/ojt/pdfs/obj_prog_guide.pdf) to identify an appropriate Training Program. The program(s) must be submitted online at <https://deldotojt.com> as soon as possible by the apparent low bidder. Award of the Contract will not take place until acceptable On-the-Job (OJT) program plans are submitted and approved by the Department's Civil Rights Section.

Failure of the apparent low bidder to submit acceptable OJT Trainee Programs within ten (10) calendar days of bid opening shall create a rebuttable presumption that the bid is not responsive.

DELDOT DBE GOOD FAITH EFFORT FORM
FEDERALLY-FUNDED CONTRACTS
DBE SUBCONTRACTOR PROJECT PARTICIPATION AFFIDAVIT

NAME OF BIDDER: _____

IF A BIDDER FAILS TO RETURN THIS FORM WITHIN THE FIVE (5) DAY DEADLINE, THE DELAWARE DEPARTMENT OF TRANSPORTATION MAY DETERMINE THAT THE BIDDER IS NOT RESPONSIBLE AND THEREFORE NOT ELIGIBLE FOR CONTRACT AWARD. PLEASE SUBMIT ONE FORM FOR EACH CERTIFIED DBE FIRM. BIDDERS ARE ENCOURAGED TO SUBMIT THIS FORM PRIOR TO THE FIVE (5) DAY DEADLINE.

In conjunction with its bid for the above Contract No., Bidder (Prime Contractor) will enter into a subcontract **with** _____ (the Subcontractor) committing to participation by the DBE **firm** _____ (DBE Participant) with DelDOT **Certification Number** _____ (if Subcontractor previously listed is also the DBE Participant, please restate name and provide DBE Certification Number) which will receive **at least \$** _____ (Total Subcontract Amount/Percentage) for performing the following products/services for the Contract.

NAICs CODE	WORK ITEM, SPECIFICATION NUMBER, LINE ITEMS OR WORK CATEGORIES (IF APPLICABLE)	DESCRIPTION OF SPECIFIC PRODUCTS AND/OR SERVICES

Prime Contractor affirmation: I solemnly affirm under the penalties of perjury that the information provided in this DBE Subcontractor Project Participation Affidavit is true to the best of my knowledge, information, and belief. I acknowledge that, for purposes of determining the accuracy of the information provided herein, the DBE Program Office may request additional information, including, without limitation, copies of the subcontract agreements and quotes.

Subcontractor affirmation: I solemnly affirm under the penalties of perjury that the information provided in this DBE Subcontractor Project Participation Affidavit is true to the best of my knowledge, information, and belief. I acknowledge that, for purposes of determining the accuracy of the information provided herein, the DBE Program Office may request additional information, including, without limitation, copies of the subcontract agreements and quotes.

DBE Participant affirmation: I solemnly affirm under the penalties of perjury that the information provided in this DBE Subcontractor Project Participation Affidavit is true to the best of my knowledge, information, and belief. I acknowledge that, for purposes of determining the accuracy of the information provided herein, the DBE Program Office may request additional information, including, without limitation, copies of the subcontract agreements and quotes. I further acknowledge that my DBE firm is participating in the contract for the kind and amount of work provided in the Prime Contractor or Subcontractor's commitment.

PRIME CONTRACTOR	SUBCONTRACTOR (SECOND-TIER)	SUBCONTRACTOR (THIRD-TIER)
Signature of Representative _____	Signature of Representative _____	Signature of Representative _____
Printed Name and Title: _____ _____	Printed Name and Title: _____ _____	Printed Name and Title: _____ _____
Firm's Name _____	Firm's Name _____	Firm's Name _____
Federal Identification Number: _____	Federal Identification Number: _____	Federal Identification Number: _____
Address: _____ _____	Address: _____ _____	Address: _____ _____
Telephone: _____	Telephone: _____	Telephone: _____
Date: _____	Date: _____	Date: _____
<u>Notary</u>		

IF DBE FIRM IS A THIRD-TIER SUBCONTRACTOR, THIS FORM MUST ALSO BE EXECUTED BY THE SECOND-TIER SUBCONTRACTOR THAT HAS THE SUBCONTRACT AGREEMENT WITH THE DBE FIRM

IF YOU ARE USING THIS FORM FOR YOUR GOOD FAITH EFFORT, THE SIGNED SUBCONTRACT AGREEMENTS MUST BE RECEIVED BY THE DBE PROGRAM OFFICE WITHIN FIFTEEN (15) CALENDAR DAYS FROM THE DATE OF THE BID OPENING.

As the apparent low bidder, to be considered for the award this form must be furnished within five (5) Calendar Days after the bid opening to:
DBE Program Manager - GFE
Department of Transportation, 800 Bay Road, Dover, DE 19901

CERTIFICATION

Contract No. DOT1801.01
Federal Aid Project No. Various

The undersigned bidder, _____
whose address is _____
and telephone number is _____ hereby certifies the following:

I/We have carefully examined the location of the proposed work, the proposed plans and specifications, and will be bound, upon award of this contract by the Department of Transportation, to execute in accordance with such award, a contract with necessary surety bond, of which contract this proposal and said plans and specifications shall be a part, to provide all necessary machinery, tools, labor and other means of construction, and to do all the work and to furnish all the materials necessary to perform and complete the said contract within the time and as required in accordance with the requirements of the Department of Transportation, and at the unit prices for the various items as listed on the preceding pages.

Bidder's Certification Statement [US DOT Suspension and Debarment Regulation (49 CFR 29)]:

NOTICE: All contractors who hold prime contracts (Federal Aid) with DeIDOT are advised that the prime contractor and subcontractors are required to submit to DeIDOT a signed and notary attested copy of the Bidder Certification Statement for each and every subcontract that will be utilized by the prime contractor. This Certification **must** be filed with DeIDOT prior to written approval being granted for each and every subcontractor. Copies of the Certification Form are available from the appropriate District Construction Office.

Under penalty of perjury under the laws of the United States, that I/We, or any person associated therewith in the capacity of (owner, partner, director, officer, principal, investigator, project director, manager, auditor, or any position involving the administration federal funds):

- a. am/are not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;
- b. have not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past 3 years;
- c. do not have a proposed debarment pending; and,
- d. have not been indicted, convicted, or had a civil judgement rendered against (it) by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted, indicate below to whom it applies, initiating agency, and dates of action. Providing false information may result in criminal prosecution or administrative sanctions.

(Insert Exceptions)

DBE Program Assurance:

NOTICE: In accordance with 49 CFR Part 26 the undersigned, a legally authorized representative of the bidder listed below, must complete this assurance.

By its signature affixed hereto, assures the Department that it will attain DBE participation as indicated:

Disadvantaged Business Enterprise _____ percent (blank to be filled in by bidder)

The foregoing quantities are considered to be approximate only and are given as the basis for comparison of bids. The Department of Transportation may increase or decrease the amount of any item or portion of the work as may be deemed necessary or expedient. Any such increase or decrease in the quantity for any item will not be regarded as a sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work, except as provided in the contract.

Accompanying this proposal is a surety bond or a security of the bidder assigned to the Department of Transportation, for at least ten (10) percentum of total amount of the proposal, which deposit is to be forfeited as liquidated damages in case this proposal is accepted, and the undersigned shall fail to execute a contract with necessary bond, when required, for the performance of said contract with the Department of Transportation, under the conditions of this proposal, within twenty (20) days after date of official notice of the award of the contract as provided in the requirement and specifications hereto attached; otherwise said deposit is to be returned to the undersigned.

By submission of this proposal, each person signing on behalf of the bidder, certifies as to its own organization, under penalty of perjury, that to the best of each signer's knowledge and belief:

1. The prices in this proposal have been arrived at independently without collusion, consultation, communication, or Agreement with any other bidder or with any competitor for the purpose of restricting competition.
2. Unless required by law, the prices which have been quoted in this proposal have not been knowingly disclosed and will not knowingly be disclosed by the bidder, directly or indirectly, to any other bidder or competitor prior to the opening of proposals.
3. No attempt has been made or will be made by the bidder to induce any other person, partnership, or corporation to submit or not to submit a proposal for the purpose of restricting competition.

I/We acknowledge receipt and incorporation of addenda to this proposal as follows:

No.	Date								
-----	------	-----	------	-----	------	-----	------	-----	------

BIDDERS MUST ACKNOWLEDGE RECEIPT OF ALL ADDENDA

MUST INSERT DATE OF FINAL QUESTIONS AND ANSWERS ON WEBSITE: _____



Sealed and dated this _____ day of _____ in the year of our Lord two thousand _____ (20____).

Name of Bidder (Organization)

Corporate
Seal

By: _____
Authorized Signature

Attest _____

Title

SWORN TO AND SUBSCRIBED BEFORE ME this ____ day of _____, 20____.

Notary
Seal

Notary

BID BOND

TO ACCOMPANY PROPOSAL
(Not necessary if security is used)

KNOW ALL MEN BY THESE PRESENTS That: _____
of _____ in the County of _____ and State of _____ as
Principal, and _____ of _____ in the County of
_____ and State of _____ as **Surety**, legally authorized to do business in the State of
Delaware ("**State**"), are held and firmly unto the **State** in the sum of _____
_____ Dollars (\$ _____), or _____ percent not to exceed _____

_____ Dollars (\$ _____) of amount of bid on
Contract No. DOT1801.01, to be paid to the **State** for the use and benefit of its Department of
Transportation ("**DelDOT**") for which payment well and truly to be made, we do bind ourselves, our and
each of our heirs, executors, administrators, and successors, jointly and severally for and in the whole
firmly by these presents.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH That if the above bounden **Principal**
who has submitted to the **DelDOT** a certain proposal to enter into this contract for the furnishing of
certain materiel and/or services within the **State**, shall be awarded this Contract, and if said **Principal**
shall well and truly enter into and execute this Contract as may be required by the terms of this Contract
and approved by the **DelDOT**, this Contract to be entered into within twenty days after the date of official
notice of the award thereof in accordance with the terms of said proposal, then this obligation shall be
void or else to be and remain in full force and virtue.

Sealed with _____ seal and dated this _____ day of _____ in the year of our Lord
two thousand and _____ (20____).

SEALED, AND DELIVERED IN THE
presence of

Name of Bidder (Organization)

Corporate
Seal

By: _____
Authorized Signature

Attest _____

Title

Name of Surety

Witness: _____

By: _____

Title