

STATE OF DELAWARE

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INFORMATION ONLY.  
YOU MUST PURCHASE  
THE PROPOSAL IN ORDER  
TO SUBMIT A BID.



DEPARTMENT OF TRANSPORTATION

BID PROPOSAL

for

**CONTRACT T201208303.01**

Advertisement date: August 22, 2011

SUPPLY AND INSTALLATION OF LARGE GUIDE SIGNS STATEWIDE 2012,  
STATEWIDE COUNTY

Completion Date 1,095 Calendar Days

SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION  
DELAWARE DEPARTMENT OF TRANSPORTATION  
AUGUST 2001

Bids will be received in the Bidder's Room (B1.11.01), Transportation Administration Center, 800 Bay Road,  
Dover, Delaware until 2:00 P.M. local time September 20, 2011



**Contract No.T201208303.01**

**SUPPLY AND INSTALLATION OF LARGE GUIDE SIGNS STATEWIDE 2012,  
STATEWIDE COUNTY**

**LOCATION**

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

**DESCRIPTION**

The improvements consist of furnishing all materials for SUPPLY AND INSTALLATION OF LARGE GUIDE SIGNS STATEWIDE 2012,, and other incidental construction in accordance with the location, notes and details shown on the plans and as directed by the Engineer.

**COMPLETION DATE**

All work on this contract must be complete within 1,095 Calendar Days .

**ELECTRONIC BIDDING**

This project incorporates the electronic bidding system Expedite 5.2b. Bidder wishing to use the electronic bidding option should request a bid file disk and installation CD.

**PROSPECTIVE BIDDERS NOTE:**

No retainage will be withheld on this contract.

The Department has adopted an External Complaint Procedure. The procedure can be viewed on our website at; <http://www.deldot.gov/information/business/>, or you may request a copy by calling (302) 760-2555.

**STATE OF DELAWARE  
CONSTRUCTION ITEMS UNITS OF MEASURE**

<b>English Code</b>	<b>English Description</b>	<b>Multiply By</b>	<b>Metric Code</b>	<b>Metric Description</b>	<b>Suggested CEC Metric Code</b>
ACRE	Acre	0.4047	ha	Hectare	HECTARE
BAG	Bag	N/A	Bag	Bag	BAG
C.F.	Cubic Foot	0.02832	m <sup>3</sup>	Cubic Meter	M3
C.Y.	Cubic Yard	0.7646	m <sup>3</sup>	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 <sup>3</sup>	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 <sup>2</sup>	Square Meter	M2
S.Y.	Square Yard	0.8361	m <sup>2</sup>	Square Meter	M2
SY-IN	Square Yard-Inch	0.8495	m <sup>2</sup> -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, 2001", hereinafter referred to as the Standard Specifications, Supplemental Specifications issued as of the advertisement date of this proposal, 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. Under no circumstances will the total value of the contract exceed **150%** of the awarded value.

REQUIREMENT BY DEPARTMENT OF LABOR FOR SWORN PAYROLL INFORMATION

Delaware Code, Title 29, Chapter 69, Section 6960, Paragraph (c)

"(c) Every contract based upon these specifications shall contain a stipulation that certified sworn payroll reports be maintained by every contractor and subcontractor performing work upon the site of construction. The contractor and subcontractor shall keep and maintain the sworn payroll information for a period of two (2) years from the last day of the work week covered by the payroll. A certified copy of these payroll reports shall be made available:

1. For inspection or furnished upon request to a representative of the Department of Labor;
2. Upon request by the public or for copies thereof. However, a request by the public must be made through the Department of Labor. The requesting party shall, prior to being provided the records, reimburse the costs of preparation by the Department of Labor in accordance with the Department's copying fee policy. The public shall not be given access to the records at the principal office of the contractor or subcontractor; and
3. The certified payroll records shall be on a form provided by the Department of Labor or shall contain the same information as the form provided by the Department and shall be provided within ten (10) days from receipt of notice requesting the records from the Department of Labor."

Contractor may contact:

Department of Labor  
Division of Industrial Affairs  
4425 No. Market Street

Wilmington, DE 19802  
Telephone (302) 761-8200

PREFERENCE FOR DELAWARE LABOR:

Delaware Code, Title 29, Chapter 69, Section 6962, Paragraph (d), Subsection (4)b

"In the construction of all public works for the State or any political subdivision thereof, or by firms contracting with the State or any political subdivision thereof, preference in employment of laborers, workmen or mechanics shall be given to bona fide legal citizens of the State who have established citizenship by residence of at least 90 days in the State. Each public works contract for the construction of public works for the State or any political subdivision thereof shall contain a stipulation that any person, company or corporation who violates this section shall pay a penalty to the Secretary of Finance equal to the amount of compensation paid to any person in violation of this section."

EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS:

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

"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 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 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 or national origin.'

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 shall obtain a 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.

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.

#### 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.

Title 29 Del.C. §6960 relating to wages further stipulates "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", and ... "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."

Bidders are specifically directed to note the Department of Labor's 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."

STATE OF DELAWARE  
DEPARTMENT OF LABOR  
DIVISION OF INDUSTRIAL AFFAIRS  
OFFICE OF LABOR LAW ENFORCEMENT  
PHONE: (302) 451-3423

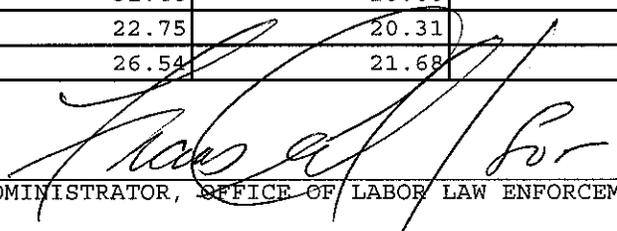
Mailing Address:  
225 CORPORATE BOULEVARD  
SUITE 104  
NEWARK, DE 19702

Located at:  
225 CORPORATE BOULEVARD  
SUITE 104  
NEWARK, DE 19702

PREVAILING WAGES FOR HIGHWAY CONSTRUCTION EFFECTIVE MARCH 15, 2011

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
BRICKLAYERS	44.98	44.98	14.51
CARPENTERS	40.86	48.31	38.62
CEMENT FINISHERS	28.11	24.68	23.29
ELECTRICAL LINE WORKERS	22.50	54.05	54.05
ELECTRICIANS	57.10	57.10	57.10
IRON WORKERS	42.20	22.98	25.35
LABORERS	25.44	23.33	24.00
MILLWRIGHTS	16.11	15.63	13.49
PAINTERS	41.42	41.42	41.42
PILEDRIVERS	59.23	23.75	26.95
POWER EQUIPMENT OPERATORS	31.46	26.00	26.31
SHEET METAL WORKERS	22.75	20.31	18.40
TRUCK DRIVERS	26.54	21.68	19.96

CERTIFIED: 8/3/11

BY: 

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) 451-3423.

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

PROJECT: T201208303.01 Supply and Installation of Large Guide Signs, Statewide, Multiple Counties



**SUPPLEMENTAL SPECIFICATIONS  
TO THE  
AUGUST 2001  
STANDARD SPECIFICATIONS**

**EFFECTIVE AS OF THE ADVERTISEMENT  
DATE OF THIS PROPOSAL  
AND INCLUDED BY REFERENCE**

**The Supplemental Specifications can be viewed and printed from  
the Department's Website.**

To access the Website;

- in your internet browser, enter; <http://www.deldot.gov>
- on the left side of the page under 'INFORMATION', Click; 'Publications'
- scroll down under 'MANUALS' and Click; "Standard Specifications 2001"

The full Website Link is;

[http://www.deldot.gov/information/pubs\\_forms/manuals/standard\\_specifications/index.shtml](http://www.deldot.gov/information/pubs_forms/manuals/standard_specifications/index.shtml)

Printed copies of the Supplemental Specifications are available upon request. A printed copy of the above referenced Supplemental Specifications will be included in the final contract documents upon award.

**The Contractor shall make himself aware of these revisions and corrections (Supplemental Specifications), and apply them to the applicable item(s) of this contract.**



# **SPECIAL PROVISIONS**



**CONSTRUCTION ITEM NUMBERS**

All construction pay items are assigned a six (6) digit number, shown as Item Number on the Plans and/or in the Special Provisions, and shall be interpreted in accordance with the following:

**Standard Item Number:**

The first three digits of the construction item numbers indicates the Section number as described in the Standard Specifications, and all applicable requirements of the Section shall remain effective unless otherwise modified by the Special Provisions. The last three digits of the construction item identifies the item by sequential number under that Section. Sequential numbers for all items covered under Standard Specifications range from 000 to 499. A comprehensive list of construction item numbers begins on page 421 of the Standard Specifications. Additions to this list will be made as required.

**Special Provisions Item Number:**

The first three digits of the construction items, covered under Special Provisions, indicates the applicable Section number of the Standard Specifications, and shall be governed fully by the requirements of the Special Provisions. The last three digit of the items covered under Special Provisions identifies the item by sequential number. Sequential numbers for Special Provision items, range from 500 to 999.

Examples

**Standard Item Number - 202000 Excavation and Embankment**

202 Indicates Section Number

000 Indicates Sequential Number

**Special Provision Item Number - 202500 Grading and Reshaping Roadway**

202 Indicates Section Number

500 Indicates Sequential Number

**401502 - ASPHALT CEMENT COST ADJUSTMENT**

For Sections 304, 401, 402, 403, 404, and 405, 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 Project Asphalt Cement Base Price will be the anticipated Delaware Posted Asphalt Cement Price expected to be in effect at the time of receipt of bids.

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 on the basis of weight tickets and asphalt percentage from the approved job mix formula.

For Recycled Hot-Mix the asphalt percentage eligible for cost adjustment shall be only the new asphalt cement added to the mix.

There shall be no separate payment per ton (metric ton) cost of asphalt cement. That cost shall be included in the various unit prices bid per ton (metric 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 for the project will be \$618.33 per ton (\$681.6 per metric ton).

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 (1,000 metric tons) or more of hot-mix bid quantity in case of Sections 401, 402 and 403; and 15,000 gallons (60 000 liters) or more in case of Sections 304, 404 and 405.

- 743538 - WOODEN SIGN SUPPORTS, 4" x 4"**
- 743539 - WOODEN SIGN SUPPORTS, 4" x 6"**
- 743540 - WOODEN SIGN SUPPORTS, 6" x 6"**
- 743541 - WOODEN SIGN SUPPORTS, 6" x 8"**

**Description:**

This work consists of furnishing and placing wooden sign support(s) of the size required by the Contract and the size of the Sign Panel (Item 749574) to be placed on it and in accordance with these Specifications and in reasonably close conformity with the lines, grades, dimensions, and locations shown on the Plans or established by the Engineer. Wooden sign support(s) shall be of the size, type, and installed in such a manner so to break off when hit by a vehicle. The item(s) shall also include, but not be limited to, excavation of the foundation, furnishing and placing Class C concrete, and placing of foundation backfill, as may be required to complete the work as indicated on the Plans or as directed by the Engineer.

**Materials:**

Wooden sign support(s) shall range in size from a minimum nominal size of 4" x 4" (100 mm x 100 mm), to a maximum nominal size of 6" x 8" (150 mm x 200 mm). All wooden sign support(s) shall meet or exceed the requirements of Section 601 - Timber Structures and comply with the preservative treatment of timber as found in Section 814 of the Standard Specification, and AASHTO Standard Specification Section M 133.

The size of the wooden sign support(s) in relation to the size of the sign panel can be found on the following chart:

**MAXIMUM SIGN PANEL / POST SIZES**

<b>MAXIMUM SIZE OF SIGN PANEL</b>	<b>POST SIZE (NOMINAL)</b>
18" x 24" (450 x 600 mm)	4" x 4" (100 x 100 mm)
30" x 30" (750 x 750 mm)	4" x 6" (100 x 150 mm)
36" x 48" (900 x 1200 mm)	6" x 6" (150 x 150 mm)
> 36" x 48" (900 x 1200 mm)	6" x 8" (150 x 200 mm)

Sign panels 36" x 48" (900 mm x 1200 mm) or greater may require multiple 6" x 6" (150 mm x 150 mm) or 6" x 8" (150 mm x 200 mm) supports.

**Construction Methods:**

Wooden sign support(s) larger than 4" x 4" (100 mm x 100 mm), nominal size, shall be supplied with drilled breakaway holes adjacent to the post base. The breakaway hole may be either pre-drilled or field-drilled and centered on the support with the first hole located 4" (100 mm) and the second hole located 18" (450 mm) from the proposed finished grade and perpendicular to the travelway.

The breakaway hole size may be found for that sized post on the following chart:

**BREAKAWAY HOLE SIZE CHART**

<b>POST SIZE</b>	<b>HOLE DIAMETER</b>
4" x 4" (100 mm x 100 mm)	NOT REQUIRED
4" x 6" (100 mm x 150 mm)	1 1/2" (38 mm)
6" x 6" (150 mm x 150 mm)	2" (50 mm)
6" x 8" (150 mm x 200 mm)	3" (75 mm)

Wooden Sign Supports found protected by physical traffic barriers and located beyond the proper minimum deflection distance of the traffic barrier may not require drilled breakaway holes at the direction of the Engineer.

Wooden Sign Supports shall be placed in pre-excavated foundation holes of the width and depth found on the following chart:

**FOUNDATION WIDTH AND DEPTH**

<b>SUPPORT SIZE</b>	<b>MINIMUM WIDTH</b>	<b>MINIMUM DEPTH</b>
4" x 4" (100 x 100 mm)	14" (350 mm)	5' (1.5 m)
4" x 6" (100 x 150 mm)	14" (350 mm)	5' (1.5 m)
6" x 6" (150 x 150 mm)	18" (450 mm)	6' (1.8 m)
6" x 8" (150 x 200 mm)	18" (450 mm)	6' (1.8 m)

The support shall be installed plumb and true in the foundation and backfilled with material meeting the requirements of Borrow, Type C. When backfilling the Wooden Sign Supports, borrow shall be placed in six (6) inch (150 mm) lifts and compacted thoroughly in order to achieve maximum compaction. It is important to provide a rigid subsurface condition around the support to facilitate the breakage of the support when hit by a vehicle. Therefore, supports placed in non-excavated foundation holes, driven supports, or supports placed in loose or non-compacted fill shall not be allowed.

6" x 6" (150 x 150 mm) and 6" x 8" (150 x 200 mm) Wooden Sign Supports shall be installed in Class C Portland Cement Concrete Masonry. The diameter of the foundation shall remain the same, however, allowances shall be made to include a minimum of four (4) inches (100 mm) of concrete between the bottom of the post and the hole.

Before the support is placed in the foundation and prior to pouring concrete, the post shall be wrapped in 1/2 inch (12 mm) thick sheet styrofoam. The styrofoam shall cover all areas of the wooden support that will be exposed to the concrete.

With sign attached, the distance from the finished grade to the bottom of the sign panel shall be a minimum of seven (7) feet (2.10 m). When a smaller secondary warning sign is used below the main or regulatory sign, the minimum distance from the finished grade to the bottom of the sign panel shall be four (4) feet (1.20 m).

**Method of Measurement:**

The quantity of wooden sign supports will be measured as the actual number of each wooden support placed and accepted.

**Basis of Payment:**

The quantity of wooden sign supports will be paid for at the Contract unit price each. Price and payment will constitute full compensation for the excavation and preparation of the foundation; for furnishing and installing all materials including Wooden Sign Supports; Borrow, Type C; Portland Cement Concrete Masonry, Class C; and styrofoam, if applicable; and for all labor, equipment, tools and incidentals necessary to complete the work.

04/02/04

**749513 – INSTALLATION OF SIGN OVERLAY 16 S.F. OR LESS**  
**749514 – INSTALLATION OF SIGN OVERLAY OVER 16 S.F.**

**Description:**

This work consists of installing a new sign face overlay on an existing sign. The sign overlay may be assembled in panels to make a complete sign. Sign overlays may be installed on signs that are mounted to mast arms, span wires, roadside posts, or over-highway structures.

**Materials:**

The sign overlays are to be supplied by the Contractor as a separate item of these specifications or may be supplied by the Department. The Contractor shall supply all mounting hardware.

**Construction Methods:**

The overlays shall be lifted to the mounting area by a suitable lifting device. Any old small overlays, such as route markers, arrows, etc., must be removed before installing the new overlay. The removal of old overlays is to be considered as part of this item. The new sign overlay is to be mounted by drilling 3/8” holes directly through the new overlay and existing sign as directed by the Engineer.

It is not anticipate that there will be any sign panels which are required to be mounted whose messages will be inappropriate to the guiding of traffic at the time of sign erection. However, in the event that the Engineer determines that certain sign messages are inappropriate, the panels of such signs shall be covered by an opaque material, until such time as the sign messages become appropriate. The covering material and the manner of securing the material to the sign panel(s), shall meet with the approval of the Engineer and shall be included as part of this item and no separate payment will be made. The Engineer will indicate to the Contractor which signs, if any, must be covered, and when to remove the covers.

Sign Covers: Sign cover shall be 10 ounce cotton duck conforming to ASTM D320- Army Duck, and dyed to a dark green approximating the green for sign backgrounds.

**Method of Measurement:**

The quantity of sign overlays is to be measured as the number of complete sign overlays installed under this item complete, in place and accepted.

**Basis of Payment:**

The quantity of sign overlays will be paid for at the contract unit price per each. Price and payment will constitute full compensation for all mounting hardware, sign covers, labor, equipment, tools, and incidentals required to complete the work.

**749516 – REINFORCED CONCRETE SIGN FOUNDATION, W-6**  
**749517 – REINFORCED CONCRETE SIGN FOUNDATION, W-8**  
**749518 – REINFORCED CONCRETE SIGN FOUNDATION, W-10**  
**749519 – REINFORCED CONCRETE SIGN FOUNDATION, W-12**  
**749520 – REINFORCED CONCRETE SIGN FOUNDATION, W-14**

**Description:**

This work consists of furnishing all material and installing sign foundations.

**Materials:**

Bar Reinforcement shall conform to the requirements of Subsection 603.02 of the Standard Specifications.

Portland Cement Concrete shall be Class B and shall conform to the requirements of Section 812 of the Standard Specifications.

Anchors shall be fabricated from 304 Stainless Steel for the threaded ferrule portion, and 1058 steel rod and coil for cage portion of anchor.

Nuts, Bolts and Cap Screws shall meet AASHTO M 164 (m 164M). All nuts, bolts and cap screws shall be within a hardness range of Rockwell C23 to C31 prior to hot dip galvanizing per AASHTO M232/M 232M.

**Construction Methods:**

The bases shall conform to the dimensions and details as indicated on the Plans.

Excavation for the foundation may not exceed the dimension of the foundation by more than 1 foot (300 mm) in any one direction. If a form is used in the excavation more than 18 inches (460 mm) below the ground surface, it is necessary that the excavation be filled and tamped on all sides in layers not to exceed 6 inches (150 mm).

The excavated material shall be disposed of and the area shall be properly graded. After grading, the area shall be returned to its original condition around the supports with mulching, seeding or other landscaping as necessary or as directed by the Engineer.

Anchor bolts shall be set to template for alignment and elevation and shall be secured in position to prevent displacement while concrete is being placed. The steel reinforcement and conduit elbows shall have been placed and secured before the placing of concrete.

**Method of Measurement:**

The quantity of sign foundations will be measured as the number of foundations for the specified size of beam constructed in accordance with these specifications, complete in place, and accepted.

**Basis of Payment:**

The quantity of sign foundations will be paid for at the contract unit price per each foundation of the type specified. Price and payment will constitute full compensation all materials and sign foundation installation complete in place and for all labor, equipment, tools, and incidentals required to complete the work. Payment will also include returning the area around the sign post to its original conditions by mulch, seeding or other landscaping necessary.

10/27/2009

**749521 - SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-6**  
**749522 - SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-8**  
**749523 - SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-10**  
**749524 - SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-12**  
**749525 - SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-14**  
**749563 - SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-4**

**Description:**

This work consists of furnishing all materials for ground mount breakaway type sign posts and breakaway assemblies to the job order site in conformance with the details and notes shown on the Plans, and as directed by the Engineer.

**Materials:**

Structural Steel shall meet the applicable requirements of Subsection 605.02 of the Standard Specifications and AASHTO M 270/M 270M, GR36 (GR250), GR50 (GR345), or GR50W (GR 345W) as detailed on the plans. Steel posts shall be galvanized in accordance with the requirements of AASHTO M 111/M 11M.

Breakaway Couplings shall be made from alloy steel which conforms to AISI 4340, 4130 or an equivalent material, and shall have a minimum tensile yield stress of 175,000 psi (1200 MPa). The Rockwell C hardness shall be 26 minimum. The couplings shall have tensile breaking strength ranges as noted below; and shall be of the type as shown on the Plans:

Type A	17,000 – 21,000 lb (75 – 93 kN)
Type B	47,000 – 57,000 lb (209 – 253 kN)

This steel shall conform to the requirements of the current ASTM designation A-370.

The couplings shall be clean, dry and free from any foreign material and shall be primed and coated with a suitable paint which shall be baked or fused with a polyurethane additive. The color of the coating shall be as follows:

Type A	Yellow
Type B	Red

Chipped areas on the coating surface shall be repaired. All threaded surfaces, after coating, shall be cleaned to all them to function properly.

Brackets shall be made from aluminum alloy 6061 T-6 or an equivalent material. Upper brackets shall incorporate the load concentrating member or bass which shall be made from the following material:

Type A	Aluminum alloy 6061 T-6 or equivalent as part of brackets
Type B	Stainless steel 416 or equivalent ASTM A582-Rockwell C35-C45

The type of bass shall be as shown on the Plans.

Location holes for the breakaway coupling shall be accurately positioned relative to the load concentrating member in accordance with the Engineer's requirements. All Brackets shall be permanently labeled with bracket number to reflect the hole positioning.

Hinge Plates shall be made from alloy steel which conforms to AISI 4340, 4130 or an equivalent material and shall have a minimum tensile yield stress of 90,000 psi (620 MPa). The hinge plates shall have tensile breaking strength ranges as follows:

HI-10	11,450 – 13,900 lb (50.9 – 61.8 kN)
HI-1	16,400 – 19,700 lb (72.9 – 87.6 kN)

HI-2

6,700 – 8,100 lb (29.8 – 36.0 kN)

Nuts, Bolts and Cap Screws shall meet AASHTO M 164 (m 164M). All nuts, bolts and cap screws shall be within a hardness range of Rockwell C23 to C31 prior to hot dip galvanizing per AASHTO M232/M 232M.

**Construction Methods:**

Working Drawings. Working drawings shall be submitted in accordance with subsection 105.04 of the Standard Specifications. Minor variations in details may be permitted; however, any major departure from the design will not be accepted.

Fabrications. Loading, transporting, unloading and erection of structural materials shall be done so that the metal will be kept clean and free from injury in handling.

Structural materials shall be stored above the ground upon platforms, skid or other supports and shall be kept free from accumulation of dirt, oil, acids or other foreign matter.

Structural material which has been deformed shall be straightened before being laid out, punched, drilled or otherwise worked upon in the shop. Sharp kinks or bends will be cause for rejection.

When sign support structures are subcontracted, the subcontract shall be in accordance with Subsection 108.01 of the Standard Specifications except that the value of the subcontract will be based on the value of the work for fabrication.

Repair Galvanizing. Galvanized areas damaged during shipping or erection shall be repaired by any of the three methods specified under ASTM A780. In all cases, the repair shall achieve the minimum coating thickness specified.

Erection. Material shall not be dropped, thrown or dragged over the ground. The Contractor shall supply detailed, written instructions and drawings for the erection of all sign structure components.

**Method of Measurement:**

The quantity of supplying ground mount breakaway type sign posts and breakaway assemblies will be measured as linear feet for the length and size of ground mount breakaway sign post furnished as specified and accepted.

**Basis of Payment:**

The quantity of supplying ground mount breakaway type sign posts and breakaway assemblies will be paid for at the Contract unit price per linear feet for the length and size of ground mount breakaway sign post specified. Price and payment will constitute full compensation for furnishing hinge plates, breakaway couplings, nuts, bolts and cap screws and all other materials for the sign posts and breakaway assemblies in accordance with the details and notes shown on the Plans, and as directed by the Engineer; and for all labor, equipment, tools and incidentals necessary to complete the work.

3/6/08

**749527 - SIGN BASE EXTENSION**

**Description:**

This item provides for the increase in the vertical dimension of sign bases installed under another item in this contract. The extension includes reinforcement bars.

**Materials:**

Portland Cement Concrete, Class B

Bar Reinforcement as per Subsection 603.02 of the Standard Specifications.

**Construction Methods:**

Where sign bases require a greater vertical dimension than shown on the Standard Sheet, they shall be extended as directed by the Engineer. The reinforcing bars shall be extended in a pattern matching that of the sign bases being extended.

After grading, the area shall be returned to its original condition around the sign posts with mulching, seeding or other landscaping as necessary or as directed by the Engineer.

**Method of Measurement:**

The quantity of sign base extension will be measured as cubic feet of concrete foundation constructed in accordance with these specifications, complete in place, and accepted. Excavation and backfilling around the base is included in this item.

**Basis of Payment:**

The quantity of sign base extension will be paid for at the contract unit price per cubic feet of concrete foundation. Price and payment will constitute full compensation for all materials and installation of the foundation complete in place and for all labor, equipment, tools, and incidentals required to complete the work. Payment will also include returning the area around the sign posts to its original conditions by mulch, seeding or other landscaping necessary.

3/6/08

**749528 - STRUCTURAL CONCRETE**

**Description:**

This item consists of placement of Portland Cement Concrete such as installing 4" sidewalk, or small retaining walls around sign bases or other miscellaneous needs.

**Materials:**

Portland Cement Concrete shall conform to the requirements of Section 812, Class B.

Preformed Expansion Joint Material shall conform to the requirements of Subsection 808.06.

Curing Materials shall conform to the requirements of Subsection 812.02 (i).

Wire mesh reinforcement shall conform to the requirements of AASHTO M 55.

**Construction Methods:**

Excavation as needed with a well tamped base shall be provided. Where conduit or other underground utility is to be expected, digging shall be by hand.

Forms shall conform to the requirements of Subsection 705.06.

Sidewalk: The contractor shall install the P.C.C. sidewalk with reinforcing mesh to a depth equal to the existing surrounding sidewalk or depth of 4" whichever is greater. Any damage done to surrounding sidewalk shall be removed and replaced at the sole cost of the contractor. While the concrete is still moist, it shall be floated with an approved float of either wood or metal to ensure that all irregularities or depressions are filled. The final finish shall be obtained by either a wood float or hair broom. Concrete shall be finished in accordance with Subsection 501.11. If concrete is permitted to be placed during cold weather, it shall be placed in accordance with Section 501.

Expansion joints shall conform to the requirements of Subsection 705.08.

Concrete shall be cured according to Section 501 for a period of five days. The sidewalk shall not be opened to pedestrian and vehicular traffic until the end of the curing period.

Miscellaneous: Any small retaining barriers, swales or extensions around sign bases shall be installed as directed by the Engineer. This item may also be used to modify a sign base where a unique size or shape is required and reinforcing bars are not needed.

Immediately at the end of the curing period, the sidewalk shall be backfilled with approved material. After grading, the area shall be returned to its original condition around the work area with mulching, seeding or other landscaping as necessary or as directed by the Engineer.

Method of Measurement:

The quantity of the Structural Concrete measured under this item shall be the number of cubic feet of concrete placed in accordance with these specifications, complete in place and accepted. Concrete forms shall be included as part of this item.

**Basis of Payment:**

The quantity of Structural Concrete placed will be paid for at the contract unit price per cubic feet of concrete. Price and payment will constitute full compensation for all materials and placement of concrete in place and for all labor, equipment, tools, and incidentals required to complete the work. Payment will also include returning the area around the work area to its original conditions by mulch, seeding or other landscaping necessary.

3/6/08

**749529 - INSTALLATION OF SIGN BASE SHEETING**

**Description:**

This item consists of driving steel pipe pile shells prior to excavation for a sign base in areas where extremely poor soil conditions are encountered. The installation of a well-point system is an alternative. This item may be used at any time the contractor desires, however, payment for this item will be made only when the contractor has been given prior written approval.

**Materials:**

Steel pipe pile shells shall conform to the requirements of Subsection 618.09.

**Construction Methods:**

When soil conditions are encountered that prohibit the construction of a sign base by normal methods using wood or plywood sheeting, the steel pipe pile shells or well point system will be installed. The sign base will then be constructed as outlined under the specifications for sign bases.

All sheeting material must be left in place and shall be cut off at least 6 inches below the surface of the ground.

After grading and completion of work, the area shall be returned to its original condition around the work area with mulching, seeding or other landscaping as necessary or as directed by the Engineer.

In addition, the installation of steel pipe pile shells shall conform to the requirements of Section 619.

**Method of Measurement:**

The quantity of installations of sign base sheeting to be measured under this item shall be the number of sign bases requiring sheeting placed in accordance with these specifications, complete in place and accepted.

The sign base will be paid for under a separate item.

**Basis of Payment:**

The quantity of sign base sheeting placed will be paid for at the contract unit price per each sign base. Price and payment will constitute full compensation all materials and placing sheeting and for all labor, equipment, tools, and incidentals required to complete the work. Payment will also include returning the area around the work area to its original conditions by mulch, seeding or other landscaping necessary.

No payment will be made unless the contractor is given written permission to use this item.

3/6/08

**749530 - REMOVAL OR GRADING OF MASONRY**

**Description:**

This item consists of the removal of masonry or the grading of existing masonry. The masonry shall consist of foundations for sign bases.

This item does not include the removal of any sidewalks, curbs, pavement material or other items which are incidental to the installation or removal of other items in this contract.

**Materials:**

As necessary to match the area surrounding the removed or graded masonry. Seeding and mulching shall be included where applicable.

**Construction Methods:**

The masonry shall be removed either completely or graded to the depth of 12" below ground line. This item shall include adjustment of all anchor bolts, conduit and other hardware that is an integral part of the masonry to be removed or graded.

If the resulting hole is to be refilled to match the surrounding area, all of the items necessary to complete the match shall be supplied and put in place by the contractor.

If the resulting hole is to be used to install other items under this contract, the specifications for that item shall prevail.

**Method of Measurement:**

The quantity of removal of masonry to be measured under this item shall be cubic feet of masonry removed in accordance with these specifications, complete in place and accepted.

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

Removing or grading anchor bolts and conduit and reinforcing bars are included in this item.

**Basis of Payment:**

The quantity of removal of masonry will be paid for at the contract unit price of cubic feet of masonry removed. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work. Payment will also include returning the area around the work area to its original conditions by mulch, seeding or other landscaping necessary.

3/6/08

**749532 – SUPPLY OF FLAT SHEET ALUMINUM SIGN PANEL TYPE IX  
RETROREFLECTIVE SHEETING**  
**749534 – SUPPLY OF EXTRUDED ALUMINUM SIGN PANEL TYPE IX RETROREFLECTIVE  
SHEETING**  
**749579 - SUPPLY OF FLAT SHEET ALUMINUM SIGN PANEL, HIGH PERFORMANCE  
RETROREFLECTIVE SHEETING**  
**749580 - SUPPLY OF EXTRUDED ALUMINUM SIGN PANEL, HIGH PERFORMANCE  
RETROREFLECTIVE SHEETING**

**Description:**

This work shall include fabrication and furnishing new sign panels constructed of either flat sheet aluminum panels OR extruded aluminum sign panels as specified in the job order. Supply of sign overlays will be part of flat sheet aluminum panels. The sign panels shall have a reflective sheeting background, and all complete with demountable copy or direct applied or silk screened copy. Included with the sign panel will be connections to supports, and other incidentals shown on the Plans or as described in the special provisions. Installation of flat sheet aluminum panels and extruded aluminum panels are paid for under other items in this contract.

The removing and transporting of the existing sign panels before fabricating and erecting new sign panels, if such requirement is specified shall be paid for under other items in this contract.

**Design:**

Sign panels and their connections to supports shall be designed for applicable loadings and allowable stresses specified for supports. All panels, stiffeners and subframing shall conform with any pertinent requirements set forth in the 1985 AASHTO “Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals” with subsequent revisions. No method of stiffening will be allowed which would require rivets, bolts, screws, or nuts perforating the message face. The Contractor shall submit working drawings showing the details for fabrications of the panels and support connections for prior approval.

Sign panel sections shall be fabricated of standard width, readily available, aluminum sheets not less than 3’-0” wide and not more than 5’-6” wide, except that not more than one sheet of 2’-0” minimum width will be permitted.

**Sections 12 feet and under:** Sign panel sections including those twelve (12) feet in height shall run from the top edge to the bottom edge of the sign face without horizontal joints in the aluminum sheets.

**Sections 12 feet and Over:** Sign panel sections over twelve (12) feet in height shall be fabricated of two or more sheets with horizontal joints which butt and fasten securely together and may be disassembled for simplified handling and erection in the field. Each horizontal joint in sign panel sheets shall be located at point of contraflexure in the sign face.

**Fasteners and Backing Strips:** Sign panel sections shall be provided with suitable fastenings, as shown on the Plans, to permit easy attachment to the supporting frames and these fastenings shall be so designed as to carry the full design load with a factor of safety of 1.6 against the minimum yield stress of the materials.

Sign panel sections shall be provided with backing strips at the joints, held firmly in place to keep the abutting panel sections in proper alignment. All sign panel fastenings and backing strips, accepting the fastening of letters, symbols and border to the sign face, shall be applied without causing visible projections or indentations of the sign face. Each sign panel section shall be designed to engage and hang from two or more horizontal structural members of the supporting frame. The method of fastening to obtain secure close butt joints between panels may vary as recommended by the fabricator. Shop drawings will be required showing proposed method of attachment for approval of the Engineer.

**Supporting Frame:** The supporting sign frame shall consist of horizontal and vertical stringers as shown on the plans. The horizontal members of the supporting sign frame shall be fabricated of new material

in one piece. Where large signs necessitate splicing the stringers, such splices shall be located at points of contraflexure and shall be held to a minimum, but splice must develop full section of member.

**Sign Panel Size:** Sizes of sign panels having demountable copy shall be based on the manufacturer's spacing charts. All letters shall be placed in accordance with manufacturer's spacing charts. Overall horizontal and vertical dimensions shall be in six-inch increments.

**Materials:**

**Aluminum Flat Sheet Panels:** Sign panels shall be of aluminum sheet type conforming to ASTM Designation B209 (alloy 6061-T6 or 5052-H38). The minimum panel sheet thickness shall be 0.125 inches. Stringers or horizontal structural sign supporting members and vertical connections shall be fabricated of 6061-T6 or 6062-T6 ASTM B221 aluminum alloy. All sign panels shall be fully reflectorized unless otherwise indicated on the Plans.

All sign hardware shall be stainless steel or galvanized steel or 2024-T4 aluminum alloy ASTM B211 or ASTM B221. Hardware for attachment to overhead members shall be Type 304 passivated stainless steel, except that stainless steel lock washers shall be Type 302 stainless steel alloy. Connections to the sign support structure shall be of steel conforming to the requirements of ASTM Designation A36 and galvanized to the requirements of ASTM Designation A123.

**Extruded Aluminum Sign Panels:** Extruded aluminum sign panels and edge strips shall conform to B 221, alloy 6063 T6. (See Extruded Aluminum Detail Sheets)

**Hardware:** Hardware shall be clear anodized, conforming to one of the following: ASTM B 209, alloy 2024 T4; B 211, alloy 2024 T4, 6262 T9, 6061 T6, 7075 T6 or 2017 T4.

**Sheeting:** The sheeting shall consist of prismatic lens elements with a distinctive interlocking pattern visible from the face of a smooth surface, unless otherwise specified on the plans. The sheeting shall have a precoated adhesive protected by an easily removable liner.

Retroreflective properties will be measured in:

Minimum Coefficient of Retroreflection Ra  
(cd/lux/m<sup>2</sup>)

- All measurements shall be made after sign cleaning according to sheeting manufacturer's recommendations.
- The coefficients of retroreflection observation angles shall be 0.2°, 0.5°, 1.0°.
- The coefficients of retroreflection entrance angles shall be -4° and 30°.

**Letter of Certification**

The contractor shall send a letter of certification stating that the sign sheeting materials meet the required Minimum Coefficient of Retroreflection described in the charts below. The letter shall be sent to:

Delaware Department of Transportation  
Signs and Markings Section  
Attn: Traffic Operations Manager  
P.O. Box 778  
Dover, Delaware 19901

**Warranty**

The sheeting manufacturer shall submit with each lot or shipment, a certification that states the material supplied will meet all the requirements listed herein.

**Type IX Retro-Reflective Sheeting**

White	-4	30
0.2	380	215
0.5	240	135
1	80	45

Blue	-4	30
0.2	26	10
0.5	18	6.8
1	5.4	2

Yellow	-4	30
0.2	285	162
0.5	180	100
1	60	34

FYG	-4	30
0.2	300	170
0.5	190	110
1	64	36

Red	-4	30
0.2	76	43
0.5	48	27
1	16	9

FY	-4	30
0.2	230	130
0.5	145	81
1	48	27

Green	-4	30
0.2	38	22
0.5	24	14
1	8	4.5

FO	-4	30
0.2	115	65
0.5	72	41
1	24	14

High Performance Retro-Reflective Sheeting

White	-4	30
0.2	570	215
0.5	400	150
1	120	45

Blue	-4	30
0.2	26	10
0.5	18	6.8
1	5.4	2

Yellow	-4	30
0.2	425	160
0.5	300	112
1	90	34

FYG	-4	30
0.2	455	170
0.5	320	120
1	96	36

Red	-4	30
0.2	114	43
0.5	80	30
1	24	9

FY	-4	30
0.2	340	130
0.5	240	90
1	72	27

Green	-4	30
0.2	57	21
0.5	40	15
1	12	4.5

FO	-4	30
0.2	170	64
0.5	120	45
1	36	14

**Sheeting Manufacturer’s Replacement Obligation:**

Standard Colors where it can be shown that retroreflective signs supplied and used according to the sheeting manufacturer’s recommendations, have not met the performance requirements of this specification the sheeting manufacturer shall cover restoration costs as follows for sheeting shown to be unsatisfactory during the period listed below.

80% of the values listed in the tables for 12 years.

Non-reflective black material that is used on the signs will carry the same warranty period and replacement obligation. This material will be considered unsatisfactory if it has deteriorated due to natural causes to the extent that it is visibly cracked or has experienced shrinkage of more than a 1/8” from the edge of the metal it is applied.

For temporary signing, fluorescent orange, where it can be shown that the retroreflective sheeting fails to conform to the performance requirements of this section, the sheeting manufacturer shall cover restoration costs as follows for sheeting shown to be unsatisfactory during the period listed below.

80% of the values listed in the tables for 3 years.

The remedy to any failure will be:

The sheeting manufacturer will replace the sign in it's entirety inclusive of the sign panel, sign sheeting, labor, and M.O.T required to restore the sign surface to its original effectiveness.

**Government Obligation**

The agency shall be responsible for requiring the dating of all signs at the time of application. That date constitutes the start of the field performance obligation period.

All measurements shall be made after sign cleaning according to the sheeting manufacturer’s recommendations.

Natural causes include effects of exposure to weather. Natural causes exclude (without limitation) damage from exposure to chemicals, abrasion and other mechanical damage (such as from fasteners used to mount the sign, collisions or mishandling), vandalism, or malicious mischief.

### **Applicable Documents**

The following documents, of the issues in effect on the date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

ASTM Standards

D 4956 Standard Specification for Retroreflective Sheeting for Traffic Control

E 810 Standard Test Method for Coefficient of Retroreflection of Retroreflective Sheeting

AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals

### **Construction Methods:**

**Sign Face Finishing:** All reflective sheeting, backgrounds, letters, numerals, symbols, and borders shall be clean-cut and sharp, and the messages on all signs shall be as indicated on the plans. Application of reflective sheeting to aluminum panels shall be in accordance with sheeting manufacturer's recommendations. Reflective sheeting shall be color matched and marked. The height of characters and the alphabet series to be employed for the signs shall conform to the Plans and their references. The alphabet series used on the sign panels shall conform to the Plans and the "Standard Alphabets for Highways Signs" of the Federal Highway Administration.

The working drawings prepared by the Contractor shall clearly indicate the proposed spacing of the letters and the locations and arrangements of symbols and borders.

Sheeting applications shall meet ambient temperature requirements as specified by the manufacturer.

Whenever it is necessary to construct the background of a sign face with two or more pieces of reflective sheeting, they must be carefully matched for color prior to application and sign fabrication, to provide uniform appearance and brilliance, day and night. Each full width section of reflective sheeting mounted adjacent to another full width section taken consecutively from the same roll shall be rotated and mounted 180 degrees with respect to that adjacent section. This rule shall also be observed as a guide when partial width sheets of reflective sheeting are used.

Non-conformance may result in non-uniform shading and an undesirable contrast between adjacent widths of applied sheeting which will render signs unacceptable. The entire background of each sign shall be uniform in color, brilliance, texture, and general appearance as seen in the daytime and under typical automobile illumination at night. No more sections of reflective sheeting shall be used for backgrounds than is necessary; remnants, scraps, and odd sized pieces of sheeting shall not be used in the fabrication of any signs manufactured for this contract. Joints between reflective sheeting sections shall either butt or overlap no more than 3/8 of an inch.

**Transporting Sign Panel:** Signs shall be slip-sheeted, packed, and shipped in such manner as to ensure arrival at their respective places of erection in an undamaged condition. All signs arriving at the erection site(s) in a condition which in the opinion of the Engineer, renders them unsuitable for use, shall be removed and replaced by the Contractor at his sole expense.

**Identification Tags:** The Contractor shall furnish and place identification tags or decals which state the contract number, month and year of erection on the lower reverse side of the panel, near the point closest to the roadway shoulder.

### **Method of Measurement:**

The quantity of sign panels is to be measured as the square footage of front sign face installed for the type and sheeting grade specified under this item complete and accepted. The area will be computed from the maximum width and height dimensions of each sign panel, as shown on the Plans, or on the approved sign panel working drawings, (verified by field measurements). All sign panels will be considered either square or rectangular in shape, as the case may be, and no area deductions will be made for rounding corners.

**Basis of Payment:**

The quantity of sign panels will be paid for at the unit price per square foot for the type and sheeting grade specified. Price and payment shall constitute full compensation for furnishing, fabricating, and delivering sign panels complete in place and accepted, with reflective materials, copy, symbols, borders, connections to supports, degreasing, etching, and for all labor, materials, tools, equipment, and incidentals required to complete the item.

3/6/08

**749535 - SUPPLY AND INSTALLATION OF BOLT KIT FOR BREAK AWAY COUPLING**  
**749536 - SUPPLY AND INSTALLATION OF HINGE PLATE FOR BREAK AWAY COUPLING**  
**749537 - SUPPLY AND INSTALLATION OF BREAK AWAY COUPLING SYSTEM**

**Description:**

This work consists of the supply and installation of bolt kit, hinge plate or a break away coupling system to be used on I-beam sign structures previously installed or installed under other items in this contract.

**Materials:**

Breakaway Couplings shall be made from alloy steel which conforms to AISI 4340, 4130 or an equivalent material, and shall have a minimum tensile yield stress of 175,000 psi (1200 MPa). The Rockwell C hardness shall be 26 minimum. The couplings shall have tensile breaking strength ranges as noted below; and shall be of the type as shown on the Plans:

Type A	17,000 - 21,000 lb (75 - 93 kN)
Type B	47,000 - 57,000 lb (209 - 253 kN)

This steel shall conform to the requirements of the current ASTM designation A-370.

The couplings shall be clean, dry and free from any foreign material and shall be primed and coated with a suitable paint which shall be baked or fused with a polyurethane additive. The color of the coating shall be as follows:

Type A	Yellow
Type B	Red

Chipped areas on the coating surface shall be repaired. All threaded surfaces, after coating, shall be cleaned to all them to function properly.

Brackets shall be made from aluminum alloy 6061 T-6 or an equivalent material. Upper brackets shall incorporate the load concentrating member or bass which shall be made from the following material:

Type A	Aluminum alloy 6061 T-6 or equivalent as part of brackets
Type B	Stainless steel 416 or equivalent ASTM A582-Rockwell C35-C45

The type of bass shall be as shown on the Plans.

Location holes for the breakaway coupling shall be accurately positioned relative to the load concentrating member in accordance with the Engineer's requirements. All Brackets shall be permanently labeled with bracket number to reflect the hole positioning.

Hinge Plates shall be made from alloy steel which conforms to AISI 4340, 4130 or an equivalent material and shall have a minimum tensile yield stress of 90,000 psi (620 MPa). The hinge plates shall have tensile breaking strength ranges as follows:

HI-10	11,450 - 13,900 lb (50.9 - 61.8 kN)
HI-1	16,400 - 19,700 lb (72.9 - 87.6 kN)
HI-2	6,700 - 8,100 lb (29.8 - 36.0 kN)

Nuts, Bolts and Cap Screws shall meet AASHTO M 164 (m 164M). All nuts, bolts and cap screws shall be within a hardness range of Rockwell C23 to C31 prior to hot dip galvanizing per AASHTO M232/M 232M.

**Construction Methods:**

None.

**Method of Measurement:**

The quantity of installation, removal, relocation and cutting of overhead I-beams will be measured as the number of overhead I-beams installed, removed, relocated and cut as specified, complete and in place, or removed and returned to the Department at the Dover Sign Shop.

**Basis of Payment:**

The quantity of installation, removal, relocation or cutting of overhead I-beams will be paid for at the contract unit price per each. Price and payment will constitute full compensations for all labor, equipment, tools, and incidentals required to complete the work.

10/26/05

**749540 - REMOVAL OF OVERHEAD I-BEAM**  
**749541 - INSTALLATION OF OVERHEAD I-BEAM**  
**749542 - RELOCATION OF OVERHEAD I-BEAM**  
**749544 - CUTTING OF OVERHEAD I-BEAM**

**Description:**

This work consists of installing, removing, relocating or cutting an overhead I-beam on sign structures previously installed or installed under other items in this contract.

**Materials:**

Steel I-beams and all mounting hardware to be used will be paid for under other items of this contract or may be furnished by the Department. The supply of the material will be designated in the job order. All I-beams will be cut to the correct length and marked for the area they are to be installed.

**Construction Methods:**

The I-beams are to be contacted in a manner as not to damage or interfere with overhead utility lines or the integrity of the structure.

**Method of Measurement:**

The quantity of installation, removal, relocation and cutting of overhead I-beams will be measured as the number of overhead I-beams installed, removed, relocated and cut as specified, complete and in place, or removed and returned to the Department at the Dover Sign Shop.

**Basis of Payment:**

The quantity of installation, removal, relocation or cutting of overhead I-beams will be paid for at the contract unit price per each. Price and payment will constitute full compensations for all labor, equipment, tools, and incidentals required to complete the work.

10/26/05

**749543 - REMOVAL OF LIGHTING UNIT**

**Description:**

This item consists of the removal of overhead luminaires (i.e. light units) and the necessary electrical and hardware components.

**Materials:**

None.

**Construction Methods:**

The removal of these units will be in a manner which will not impact the structural integrity of the structure. All electric shall be terminated at the point of fused power supply.

**Method of Measurement:**

The quantity of removal will be measured as the number of lighting units removed and returned to the Department at the Dover Sign Shop.

**Basis of Payment:**

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

3/6/08

**749545 – INSTALLATION OR REMOVAL OF STANDARD GROUND MOUNTED METAL SIGN POST**

**Description:**

Install or remove standard sign posts, square tube or u-channel, previously installed or installed under other items in this contract as noted on the Plans and/or as directed by the Engineer.

**Materials:**

Provide materials in accordance with:

Topsoil	Section 732
Seed	Section 734

The Department Sign Shop will provide all sign posts to be used on this project.

**Construction Methods:**

**Installation:**

1. Obtain necessary utility clearances prior to sign post installation;
2. Pick up sign posts, hardware and extensions from the Department Sign Shop;
3. Install sign post at locations shown on the Plans and/or as directed by the Engineer;
  - a. Install in accordance with the DE MUTCD

**Removal:**

1. Remove sign post.
  - a. Fill hole with topsoil and level area.
  - b. Seed.
2. Transport, deliver and unload sign posts to the Department Sign Shop.

**Method of Measurement:**

The quantity of installation or removal of standard ground mounted metal sign post will be measured as each.

**Basis of Payment:**

The quantity of installation or removal of standard ground mounted metal sign post will be paid for as each. Price and payment will constitute full compensation for obtaining necessary utility clearances, installing or removing sign posts, pick up of sign posts and incidentals from the Department Sign Shop and transporting to the project location(s), installation and/or removal of the sign posts, grading and seeding disturbed areas, transport, delivery and unloading of the removed posts to the Department Sign Shop, and for all labor, equipment, tools, and incidentals required to complete the work.

5/16/2011

**749546 – REMOVAL OF GROUND MOUNTED WOOD POST**

**Description:**

Remove ground mounted wood post previously installed or installed under other items in this contract as shown on the Plans and/or as directed by the Engineer.

**Materials:**

Provide material as specified in:

Topsoil	Section 732
Seed	Section 734

**Construction Methods:**

1. Remove ground mounted wood post.
2. Fill hole with topsoil.
  - a. Compact.
3. Transport, deliver and unload ground mounted wood posts to the Department Sign Shop.

**Method of Measurement:**

The quantity of removal of ground mounted wood post will be measured as each.

**Basis of Payment:**

The quantity of removal of ground mounted wood post will be paid for as each. Price and payment will constitute full compensation for removal of the ground mounted wood post, transport, delivery and unloading of the post to the Department Sign Shop, for all labor, equipment, tools, and incidentals required to complete the work.

6/15/2011

**749547 - SUPPLY AND INSTALLATION OF DRY CONCRETE**

**Description:**

This work consists of the supply and installation of an 80 lb bag of concrete.

**Materials:**

The concrete shall be equal to or greater than Sakrete concrete mix and conform to a minimum of 3000 psi.

**Construction Methods:**

Each bag shall be installed as foundation support for wood post installations.

**Method of Measurement:**

The quantity of supply and installation of concrete will be measured by the number of each 80 lb bag of concrete used.

**Basis of Payment:**

The quantity of supply and installation of concrete will be will be paid for at the contract unit price per each.

3/6/08

**749548 – SUPPLY OF OVERHEAD I-BEAM, W-6**

**Description:**

This work consists of furnishing all overhead I-beam(s) to the job order site in conformance with the details and notes shown on the Plans, and as directed by the Engineer.

**Materials:**

Structural Steel shall meet the applicable requirements of Subsection 605.02 of the Standard Specifications and AASHTO M 270/M 270M, GR36 (GR250), GR50 (GR345), or GR50W (GR 345W) as detailed on the plans. Steel posts shall be galvanized in accordance with the requirements of AASHTO M 111/M 11M.

Nuts, Bolts and Cap Screws shall meet AASHTO M 164 (m 164M). All nuts, bolts and cap screws shall be within a hardness range of Rockwell C23 to C31 prior to hot dip galvanizing per AASHTO M232/M 232M.

**Construction Methods:**

Working Drawings. Working drawings shall be submitted in accordance with subsection 105.04 of the Standard Specifications. Minor variations in details may be permitted; however, any major departure from the design will not be accepted.

Fabrications. Loading, transporting, unloading and erection of structural materials shall be done so that the metal will be kept clean and free from injury in handling.

Structural materials shall be stored above the ground upon platforms, skid or other supports and shall be kept free from accumulation of dirt, oil, acids or other foreign matter.

Structural material which has been deformed shall be straightened before being laid out, punched, drilled or otherwise worked upon in the shop. Sharp kinks or bends will be cause for rejection.

When sign support structures are subcontracted, the subcontract shall be in accordance with Subsection 108.01 of the Standard Specifications except that the value of the subcontract will be based on the value of the work for fabrication.

Repair Galvanizing. Galvanized areas damaged during shipping or erection shall be repaired by any of the three methods specified under ASTM A780. In all cases, the repair shall achieve the minimum coating thickness specified.

Erection. Material shall not be dropped, thrown or dragged over the ground. The Contractor shall supply detailed, written instructions and drawings for the erection of all sign structure components.

**Method of Measurement:**

The quantity of supplying overhead I-beam posts will be measured as linear feet for the length and size as specified and accepted.

**Basis of Payment:**

The quantity of supplying overhead I-beam posts will be paid for at the Contract unit price per linear foot for the length and size of overhead I-beam posts specified. Price and payment will constitute full compensation for furnishing, nuts, bolts and cap screws and all other materials for the sign posts in accordance with the details and notes shown on the Plans, and as directed by the Engineer; and for all labor, equipment, tools and incidentals necessary to complete the work.

10/26/05

**749549 - NIGHT, EMERGENCY, OR WEEKEND WORK**

**Description:**

This item consists of work performed after regular operating hours of 8am – 4pm, which may or may not be scheduled.

**Materials:**

None.

**Construction Methods:**

None.

**Method of Measurement:**

The quantity will be measured on a daily basis.

**Basis of Payment:**

The quantity of night time or emergency work will be paid for at the contract unit price per each day or night the work is performed. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

3/6/08

**749550 - INSTALLATION OF BREAKAWAY I-BEAM SIGN POSTS**  
**749551 -REMOVAL OF BREAKAWAY I-BEAM SIGN POSTS**

**Description:**

This work consists of installing or removing breakaway I-beam sign posts and breakaway assemblies on sign bases previously installed or installed under other items in this contract.

**Materials:**

Steel I-beams and all mounting hardware to be used will be paid for under other items of this contract or may be furnished by the Department. The supply of the material will be designated in the job order. All I-beams will be cut to the correct length and marked for the area they are to be installed.

**Construction Methods:**

The I-beams are to be installed in a manner as not to damage the base that the I-beam is to be installed on and care taken to not interfere with overhead utility lines.

When re-installing an existing sign post and breakaway assemblies, removal of broken couplings and bolts in existing I-beams and removal of broken anchor bolts in existing bases shall be considered part of this item.

Where an existing sign has been knocked down, this item will pay for the repair of breakaway couplings and standing up the existing sign. No additional compensation will be made for removal or installation of sign unless a new sign is required.

In the removal of the I-beams, all hardware is to be returned to the Department at the Dover Sign Shop.

**Method of Measurement:**

The quantity of installation or removal of breakaway posts and breakaway assemblies will be measured as the number of breakaway posts and breakaway assemblies installed as specified, complete and in place, or removed and returned to the Department at the Dover Sign Shop.

**Basis of Payment:**

The quantity of installation or removal of breakaway posts and breakaway assemblies will be paid for at the contract unit price per each. Price and payment will constitute full compensations for all labor, equipment, tools, and incidentals required to complete the work.

10/26/05

**749552– INSTALLATION OF SIGN ON OVER HIGHWAY STRUCTURE**  
**749553- REMOVAL OF SIGN ON OVER HIGHWAY STRUCTURE**  
**749554 – INSTALLATION OF SIGN ON SPAN WIRE OR MAST ARM**  
**749555 - REMOVAL OF SIGN ON SPAN WIRE OR MAST ARM**  
**749556 – INSTALLATION OF SIGN ON GROUND MOUNT POSTS**  
**749557 - REMOVAL OF SIGN ON GROUND MOUNT POSTS**

**Description:**

This item consists of installing or removing a sign on ground mount posts, an over highway structure, span wire, or mast arm. The sign may be mounted to existing supports or ones installed under this contract.

**Materials:**

All materials shall be either supplied by the Contractor or by the Department as indicated in the job order.

There are no materials required for the removal of overhead signs. All existing materials under this section will be returned to the Department.

**Construction Methods:**

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

Sign installation on over-highway structures or roadside I-beam and wood posts 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 and wood posts shall be installed at a height of 7 feet (2.1 m) from the bottom of the sign to the near edge of the pavement.

It is not anticipated that there will be any sign panels that are required to be mounted whose messages will be inappropriate to the guiding of traffic at the time of sign erection. However, in the event that the Engineer determines that certain sign messages are inappropriate, the panels of such signs shall be covered by an opaque material, until such time as the sign messages become appropriate. The covering material and the manner of securing the material to the sign panel(s) shall meet the approval of the Engineer and shall be included as part of this item and no separate payment will be made. The Engineer will indicate to the Contractor which signs, if any, must be covered, and when to remove the covers.

Sign Cover: Sign covers shall be 10 ounce cotton duck conforming to ASTM D-320, Army Duck, and dyed to a dark green approximating the green for sign backgrounds.

Sign removal shall be performed as specified by the Engineer. Care shall be taken to prevent any damage to the sign panel, over highway structure, roadside I-beam and wood posts, span wire, mast arm, any electrical wire attached to the above structures 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 will be included as part of this item and no separate payment will be made.

Installation and removal of supplemental sign panels and sign plaques, removal of wood posts, tubular and square steel posts, telspar, u-channel, and other small posts will be at the direction of the Engineer and will be included as part of this item and no separate payment will be made. All materials removed shall be returned to the Department at the Dover Sign Shop.

**Method of Measurement:**

The quantity of installation or removal of overhead and ground mount signs will be measured as the actual number of signs installed or removed for the type of posts or structure specified 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 installation or removal of overhead and ground mount signs will be paid for at the contract unit price per each sign per the type of structure or posts specified. The cost of furnishing, installing and removing sign covers, removal of wiring that operates the lights, installation and removal of supplemental sign panels and sign plaques, removal of wood posts, tubular and square steel posts, telspar, u-channel, and other small posts shall be considered incidental to the cost of installation or removal of signs. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

9/11/07

**749558 - MEASUREMENT OF OVERHEAD SIGNS**

**Description:**

This item consists of obtaining the length and width measurements of signs which are located on overhead structures.

**Materials:**

None.

**Construction Methods:**

None.

**Method of Measurement:**

The quantity will be measured by square footage.

**Basis of Payment:**

The quantity will be paid for at the contract unit price per square foot of the signs measured as as specified per job order. Price and payment will constitute full compensations for all labor, equipment, tools, and incidentals required to complete the work.

3/6/08

**749559 - SUPPLY OF JERSEY BARRIER MOUNTED I-BEAM**

**Description:**

This work consists of furnishing all jersey barrier mounted I-beam post (i.e. safety barrier sign connection) to the job order site in conformance with the details and notes shown on the Plans, and as directed by the Engineer.

**Materials:**

All prefabricated square tubing shall conform to ASTM A500 grade C with Fy minimum – 50 KSI.  
All miscellaneous plate material for base plates shall conform to ASTM A709 grade 50 with Fy minimum – 50 KSI.

Anchor bolts shall conform to ASTM A709 grade 50 with 50 KSI minimum yield strength and be hot-dipped galvanized. Welding to high strength anchor bolts will not be permitted.

All structural steel shall be hot-dipped galvanized in accordance with AASHTO M III (ASTM A-123).

**Construction Methods:**

Working Drawings. Working drawings shall be submitted in accordance with subsection 105.04 of the Standard Specifications. Minor variations in details may be permitted; however, any major departure from the design will not be accepted.

Fabrications. Loading, transporting, unloading and erection of structural materials shall be done so that the metal will be kept clean and free from injury in handling.

Structural materials shall be stored above the ground upon platforms, skid or other supports and shall be kept free from accumulation of dirt, oil, acids or other foreign matter.

Structural material which has been deformed shall be straightened before being laid out, punched, drilled or otherwise worked upon in the shop. Sharp kinks or bends will be cause for rejection.

When sign support structures are subcontracted, the subcontract shall be in accordance with Subsection 108.01 of the Standard Specifications except that the value of the subcontract will be based on the value of the work for fabrication.

Repair Galvanizing. Galvanized areas damaged during shipping or erection shall be repaired by any of the three methods specified under ASTM A780. In all cases, the repair shall achieve the minimum coating thickness specified.

Erection. Material shall not be dropped, thrown or dragged over the ground. The Contractor shall supply detailed, written instructions and drawings for the erection of all sign structure components.

**Method of Measurement:**

The quantity of supplying jersey barrier posts will be measured as per each as specified and accepted.

**Basis of Payment:**

The quantity of supplying jersey barrier posts will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for furnishing, nuts, bolts and cap screws and all other materials for the sign posts in accordance with the details and notes shown on the Plans, and as directed by the Engineer; and for all labor, equipment, tools and incidentals necessary to complete the work.

3/6/08

**749560 - INSTALLATION OF JERSEY BARRIER MOUNTED I-BEAM**

**Description:**

This work consists of furnishing all jersey barrier mounted I-beam post and the (i.e. safety barrier sign connection) to the job order site in conformance with the details and notes shown on the Plans, and as directed by the Engineer. This is inclusive of the mounting plates, hardware and necessary adhesives.

**Materials:**

All prefabricated square tubing shall conform to ASTM A500 grade C with Fy minimum – 50 KSI.  
All miscellaneous plate material for base plates shall conform to ASTM A709 grade 50 with Fy minimum – 50 KSI.

Anchor bolts shall conform to ASTM A709 grade 50 with 50 KSI minimum yield strength and be hot-dipped galvanized. Welding to high strength anchor bolts will not be permitted.

All structural steel shall be hot-dipped galvanized in accordance with AASHTO M III (ASTM A-123).

The adhesive anchor bolt system shall be capable of providing the following unfactored load capacity simultaneously:

Tension = 4 kips/ BOLT MIN.

Shear = 0.7 kips/BOLT MIN.

Minimum number of bolts, diameter and embedment depths shown on the plans shall be maintained.

**Construction Methods:**

Working Drawings. Working drawings shall be submitted in accordance with subsection 105.04 of the Standard Specifications. Minor variations in details may be permitted; however, any major departure from the design will not be accepted.

**Method of Measurement:**

The quantity will be measured per each as specified and accepted.

**Basis of Payment:**

The quantity of supply 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.

3/6/08

**749561 - INSTALLATION OF SIGN ON JERSEY BARRIER MOUNTED I-BEAM**  
**749562 - REMOVAL OF SIGN FROM JERSEY BARRIER MOUNTED I-BEAM**

**Description:**

This item consists of installing or removing a sign on jersey barrier mounted posts. The sign may be mounted to existing supports or ones installed under this contract.

**Materials:**

All materials shall be either supplied by the Contractor or by the Department as indicated in the job order.

**Construction Methods:**

Sign installation shall be performed as specified by the Engineer.

**Method of Measurement:**

The quantity of installation or removal of signs will be measured by the square footage of the signs installed or removed 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 installation or removal of signs will be paid for at the contract unit price per square each sign. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

3/6/08

**749688 - INSTALLATION OF 4" DIAMETER HOLE, LESS THAN OR EQUAL TO 6" IN DEPTH**

**749689 - INSTALLATION OF 4" DIAMETER HOLE, GREATER THAN 6" IN DEPTH**

**Description:**

This work consists of boring a hole 4" in diameter averaging 6" in depth into bituminous concrete or P.C.C. surfaces for installing single or multiple sign posts at the locations indicated on the Plans or as directed by an Engineer.

**Materials:**

The Contractor shall provide the equipment necessary to bore a 4" hole into paved surfaces, while maintaining the stability of the surrounding paved or P.C.C. surfaces. The depth of the bored hole shall be to the top of the subbase material.

**Construction Methods:**

The holes shall be bored into pavement or P.C.C. islands, medians, or sidewalk using a mechanical hole borer for such work or other methods approved by the Engineer. The hole shall be 4" in diameter. Holes bigger or smaller than 4" shall be corrected at the Contractor's expense.

**Method of Measurement:**

The number of 4" holes in diameter bored will be measured as the actual number of holes bored and accepted.

**Basis of Payment:**

The quantity of holes bored as required above will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for boring holes at the required depth, and for all labor, equipment, tools, and incidentals required to complete the work.

**Note:**

The cost for installing holes and PVC sleeves for sign posts in newly constructed P.C.C. islands, medians, or sidewalks shall be incidental to the P.C.C. item.

3/23/09

**749693 – STRAIGHTENING OF SIGN POST**

**Description:**

This work consists of straightening previously installed sign posts (i.e. square tube or u-channel) that are no longer standing upright and level.

**Materials:**

N/A

**Construction Methods:**

The Contractor shall straighten the sign post and check with a level to assure compliance in all directions. The disturbed ground shall be backfilled, tamped and graded accordingly.

**Method of Measurement:**

The quantity of sign posts straightened will be measured as Each.

**Basis of Payment:**

The quantity of sign posts straightened will be paid for at the Contract unit price per Each. Price and Payment will constitute full compensation for straightening and leveling the sign post, backfilling and grading disturbed areas, and for all labor, equipment, tools, and incidentals required to complete the work.

7/7/11

**763563 - PERFORMANCE AND PAYMENT BOND**

**Description:**

Performance and Payment Bond shall be paid to compensate the cost of bonding the Contract in accordance with Subsection 103.05 of the Standard Specification.

**Method of Measurement:**

The Contractor shall be paid the total cost of bond necessary for the contract once the Contract is executed.

**Basis of Payment:**

The payment for the item shall be made for at the Contract unit price per Lump Sum bid for "Performance and Payment Bond", which price and payment shall be full compensation. The payment for the Performance and Payment Bond will be included on the first estimate following the Contractor's submission of acceptable verification of actual cost.

6/12/98

**763643 - MAINTENANCE OF TRAFFIC – ALL INCLUSIVE**

**Description:**

This item shall consist of furnishing, installing, maintaining and/or relocating the necessary temporary traffic control devices used to maintain vehicular, bicycle and pedestrian traffic, including persons with disabilities in accordance with the Americans with Disabilities Act, as amended. All work shall be performed in a manner that will provide reasonably safe passage with the least practicable obstruction to all users, including vehicular, bicycle and pedestrian traffic.

All requirements of the Delaware Manual on Uniform Traffic Control Devices (MUTCD), Part 6, herein referred to as the Delaware MUTCD. (latest edition with all revisions made up to the date of Advertisement of this project) shall apply for all temporary traffic control devices. Any, and all, control, direction, management and maintenance of traffic shall be performed in accordance with the requirements of the Delaware MUTCD, notes on the Plans, this specification, and as directed by the Engineer.

The Contractor shall be aware that the Case Diagrams and safety measures outlined in the Delaware MUTCD are for common construction situations and modifications may be warranted based on the complexity of the job. The Contractor shall submit justification for modifications to the Temporary Traffic Control Plan (TTCP) to the Engineer for approval prior to implementation.

The Department reserves the right to impose additional restrictions, as needed, for the operational movement and safety of the traveling public. The Department reserves the right to suspend the Contractor's operations until compliance with the Engineer's directive for remedial action, based on but not limited to the following reasons:

1. The Contractor's operations are not in compliance with the Delaware MUTCD, the specifications or the Plans.
2. The Contractor's operations have been deemed unsafe by the Traffic Safety Engineer or District Safety Officer.

**Materials and Construction Methods:**

The Contractor shall submit a Temporary Traffic Control Plan (TTCP) or a Letter of Intent to use the Plan recommended Delaware MUTCD Case Diagram(s) at or prior to the pre-construction meeting. The Contractor shall submit the TTCP for all Contractor and subcontractor work to be performed on the project for the Department's approval before the start of work.

When specified by a note in the Plans, the Contractor shall be required to have an American Traffic Safety Services Association (ATSSA) certified Traffic Control Supervisor on the project. The authorized designee must be assigned adequate authority, by the Contractor, to ensure compliance with the requirements of the Delaware MUTCD and provide remedial action when deemed necessary by the Traffic Safety Engineer or the District Safety Officer. The ATSSA certified Traffic Control Supervisor's sole responsibility shall be the maintenance of traffic throughout the project. This responsibility shall include, but is not limited to, the installation, operations, maintenance and service of temporary traffic control devices. Also required is the daily maintenance of a log to record maintenance of traffic activities, i.e., number and location of temporary traffic control devices; and times of installation, changes and repairs to temporary traffic control devices. The ATSSA Traffic Control Supervisor shall serve as the liaison with the Engineer concerning the Contractor's maintenance of traffic. The name, contact number and certification for the designated Traffic Control Supervisor shall be submitted at or prior to the pre-construction meeting. The cost of the ATSSA certified Traffic Control Supervisor shall be incidental to this item.

Temporary traffic control devices shall be maintained in good condition in accordance with the brochure entitled "Quality Guidelines for Temporary Traffic Control Devices", published by the American Traffic Safety Services Association (ATSSA). Any temporary traffic control devices that do not meet the quality guidelines shall be removed and replaced with acceptable devices. Failure to comply will result in work stoppage with time charges continuing to be assessed.

Any existing signs that conflict with any temporary or permanent construction signs shall be covered as needed or as directed by the Engineer. The cost for temporarily covering conflicting signs shall be incidental to this item.

Access to all transit stops located within the project limits shall be maintained unless otherwise directed by the Plans or the Engineer. Maintaining access shall include maintaining an area for the transit vehicle and also an accessible path for pedestrians to safely access the transit stop.

The Contractor shall notify the Engineer, in writing, no less than fourteen (14) calendar days prior to the start of any detour(s) and road closures. The Engineer will notify the following entities:

- Local 911 Center
- Local School Districts
- Local Post Offices
- DelDOT's Transportation Management Center (TMC)
- Town Managers
- Local Police
- DelDOT's Public Relations
- Delaware Transit Corporation (DTC)

Immediately prior to the implementation of any lane or road closures, the Engineer shall notify the DelDOT TMC at (302) 659-4600. Notifications shall also be provided when the closures are lifted. The Engineer shall notify TMC and the District Safety Officer if any lane closures cannot be removed prior to the end of the allowable work hours.

The Contractor shall notify the local 911 center if access to a fire hydrant is temporarily restricted. The Contractor shall provide written confirmation to the Engineer that the local 911 center has been notified.

If a detour is required during any part or the entire period of this Contract, an approved detour plan shall be obtained from the Department's Traffic Safety Section. All signs, barricades and other temporary traffic control devices required as part of the approved detour plan shall be installed and maintained by the Contractor on the route that is closed and on the detour route. Road closures without an approved detour plan shall not be allowed. If a road is closed without an approved detour plan, the Contractor's operations shall be stopped immediately.

The Contractor shall provide and maintain ingress and egress for each property abutting the construction area and each property located between the diversion points of any detour and the actual construction site. Construction activities which may temporarily or otherwise interfere with property access shall be coordinated in advance with the affected property owners.

The Contractor shall conduct construction operations in a manner which will minimize delays to traffic, and shall meet the following requirements:

1. If work is being performed within 200 feet in any direction of an intersection that is controlled by a traffic signal, the flagger(s) shall direct the flow of traffic in concert with the traffic signals in construction areas to avoid queuing, unless active work prohibits such action. The flagger shall direct traffic to prevent traffic from queuing through an intersection (i.e., blocking an intersection). Only a Traffic Officer may direct traffic against the operation of a traffic signal and only until the operation occurring within the intersection is completed.
2. When a lane adjacent to an open lane is closed to travel, the temporary traffic control devices shall be set 2 feet (0.61 m) into the closed lane from the edge of the open lane, unless an uncured patch exists or actual work is being performed closer to the open lane with minimum restriction to traffic.
3. Except for "buffer lanes" on high volume and/or high speed roadways, lanes shall not be closed unless construction activity requiring lane closure is taking place, or will take place within the next hour. Lanes shall be reopened immediately upon completion of the work. Moving operations will require the lane closures be shortened as the work progresses and as traffic conditions warrant to minimize the length of the closure. The Contractor shall conduct construction operations in a manner so as to minimize disruption to traffic during

peak hours and periods of heavy flow. The Department reserves the right to stop or change the Contractor's operations, if in the opinion of the Engineer, such operations are unnecessary at that time or the operations are unnecessarily impeding traffic.

4. Work in the vicinity of traffic signals, shall be scheduled to minimize the time during which the signal is operated without detectors, and prior approval from the Engineer shall be required. TMC shall be notified in advance of cutting a loop detector, and be immediately notified once the loop detector has been reinstalled. The Contractor shall provide sufficient advance notice of the loop detector work with the Engineer to ensure the aforementioned requirements are met.

It is required that all temporary traffic control work and related items shall either be performed entirely by the Contractor's own organization, or totally subcontracted. Maintenance of equipment shall not be subject to this requirement.

Any deficiencies related to temporary traffic control that are reported to the Contractor in writing shall be corrected within 24 hours or as directed by the Engineer. Failure to comply will result in non-payment for those devices that are found to be deficient for the duration of the deficiency. Serious deficiencies that are not corrected immediately shall result in suspension of work until items identified are brought back into compliance.

At the end of each day's work, the Contractor shall correct all pavement edge drop-offs in accordance with Table 6G-1 in the Delaware MUTCD. This corrective work shall be accomplished with Temporary Roadway Material (TRM) unless an alternate method is specified in the Plans. All ruts and potholes shall be filled with TRM as soon as possible but no later than the end of each work day. Placement and Payment of TRM shall be completed in accordance with Section 402 of the Standard Specifications. If temporary elimination of a drop-off hazard cannot be accomplished, then the area should be properly marked and protected with temporary traffic control devices such as temporary barricades, warning signs, flashing lights, etc. as required by Section 6G.21 of the Delaware MUTCD.

All open trench excavation accessible by vehicular traffic must be backfilled prior to the end of each working day. Steel plates shall not be used except in emergency situations and only with prior written approval from the Engineer unless otherwise directed by the Plans.

The Contractor shall submit, at or prior to the preconstruction meeting, detailed drawings including but not limited to existing striping lengths, lane and shoulder widths, turn lane lengths, locations of stop bars, turn arrows, crosswalks and railroad crossings. The drawings shall depict the existing pavement markings for each project location. These drawings will be reviewed by the Department's Traffic Section to determine the need for modification(s) for compliance with the Delaware MUTCD. Temporary pavement markings, on the final pavement surface, shall match the Plan dimensions and layout or the approved drawings of the permanent markings in compliance with Section 3 of the Delaware MUTCD. All conflicting or errant striping shall be removed as directed by the Engineer in compliance with the specifications for Item 748530 (Removal of Pavement Striping).

At the end of each day's operation and before traffic is returned to unrestricted roadway use, temporary striping shall be utilized when the existing pavement is milled and hot mix will not be placed the same day or more than a single course of hot mix is to be placed or permanent roadway striping cannot be placed on the same day as the placement of the final course of hot mix. Placement of temporary striping shall receive prior approval from the Engineer and the contractor shall apply temporary pavement markings in accordance with the requirements of Section 748 of Delaware Standard specifications and the Delaware MUTCD. Payment for temporary pavement striping shall be made at the unit price bid for item 748 - Temporary Striping. Payment for final striping will be included in the applicable striping item.

The Contractor shall have temporary striping/delineating materials (such as raised markers, tape, and other approved materials) available at the job site for verification by the Department prior to starting the hot-mix paving operation on roads to be immediately opened to traffic. These materials shall be used by the Contractor for temporary markings if he/she fails to apply temporary marking paint, etc., as required by the Delaware MUTCD. No paving operations on roads to be immediately opened to traffic will be allowed unless such verification has been made for the availability of the materials at the job site.

Travel lane and ramp closings on multilane highways and Interstates shall not be permitted during the following holiday periods:

- December 24 through December 27 (Christmas Day)
- December 31 through January 3 (New Years Day)
- Friday prior to Easter through Easter Sunday
- Thursday prior to Memorial Day through the Tuesday following Memorial Day
- Dover International Speedway Race Weekends (Thursday prior to the race event through the day after the race event)
- July 3 through July 5 (Independence Day)
- Thursday prior to Labor Day through the Tuesday following Labor Day
- Wednesday prior to Thanksgiving Day through the Monday following Thanksgiving Day

Additional time restrictions may apply as noted in the project plans or as directed by the Engineer. Any requests to waive any restrictions must be made in writing to the Engineer for review and approval. A copy of the request shall be provided to the District Safety Officer for review.

**Certification:**

Temporary traffic control devices used on all highways open to the public in this State shall conform to the Delaware MUTCD. All devices shall be crashworthy in accordance with the National Cooperative Highway Research Program (NCHRP) Report 350, the memorandum issued August 28, 1998 by The USDOT Federal Highway Administration, and/or in accordance with the latest edition of the Manual for Assessing Safety Hardware (MASH), published by the American Association of State Highway and Transportation Officials (AASHTO).

The Contractor shall submit certification for temporary traffic control devices or vendors used specifically on this project at or prior to the pre-construction meeting.

Certification of compliance with NCHRP report 350 and/or MASH is required for the following categories of temporary traffic control devices:

**Category I** contains small and lightweight channelizing and delineating control devices which includes cones, tubular markers, flexible delineator post and drums, all without any accessories or attachments.

**Category II** includes temporary traffic control devices that are not expected to produce significant vehicular velocity changes to impacting vehicles. These devices which shall weigh 45 kg or less, include Type I, II and III barricades, portable sign supports with signs, and intrusion alarms. Also included are drums, cones, and vertical panels with accessories or attachments.

**Category III** includes temporary traffic control devices that are expected to cause significant vehicular velocity changes to impacting vehicles. These devices which weigh more than 45 kg include temporary barrier, temporary impact attenuators, and truck-mounted attenuators.

**Category IV** includes portable or trailer-mounted devices such as arrow panels, variable message signs, temporary traffic signals and temporary area lighting.

For Category I devices, the manufacturer or Contractor may self-certify that the devices meet the NCHRP-350 and/or MASH criteria. The Contractor shall supply the Federal Highway Administration's NCHRP-350 and/or MASH acceptance letter for each type of device that falls under Category II and III devices.

**Basis of Payment:**

Payment will be made at the Lump Sum price for "Maintenance of Traffic", for which price and payment constitutes full compensation for all maintenance of traffic activities accepted by the Engineer, which shall include the cost of furnishing and relocating permanent and temporary traffic control signs, traffic cones or drums, submission of temporary traffic control plan(s), submission of existing pavement marking drawings, submission of all required certifications, labor, equipment and incidentals necessary to complete

the item. Payment to furnish and maintain other temporary traffic control devices including but not limited to Portable P.C.C. Safety Barrier, Truck Mounted Attenuators, Portable Changeable Message Signs, Arrow Panels and Portable Light Assemblies will be made at the contract unit price for each item.

**NOTE**

If the Contractor does not complete the Contract work within the Contract completion time (including approved extension time), the Contractor shall be responsible for providing the necessary temporary traffic control devices that are required to complete any remaining work. The costs of such temporary traffic control shall be borne by the Contractor. No additional payment will be made to the Contractor to maintain traffic in accordance with the Delaware MUTCD, contract plans and specifications. Temporary traffic control items include, but not be limited to, warning lights, warning signs, barricades, plastic drums, P.C.C. safety barrier, flaggers, traffic officers, arrow panels, message boards, and portable impact attenuators.

A breakout sheet is attached to the Proposal that lists the locations for Maintenance of Traffic. The Contractor shall specify a cost for each location. The lump sum price for Item 763643 shall be the sum of the cost for all locations listed. The completed breakout sheet shall be attached to the Bid Proposal. Failure to submit the breakout sheet with the Bid Proposal will result in it being declared non responsive and rejected.

The Department reserves the right to delete from the Contract one or more of the locations listed and the lump sum price to be paid will be reduced in accordance with the Contractor's cost listed for that/those location(s). There will be no extra compensation to the Contractor if such deletion is made.

6/21/2011



STATE OF DELAWARE  
**DEPARTMENT OF TRANSPORTATION**  
800 BAY ROAD  
P.O. Box 778  
DOVER, DELAWARE 19903

**UTILITY STATEMENT**

**STATE CONTRACT No. T201208303**  
**Project I.D. No. 11-99904**  
**Supply & Installation of Large Guide Signs, State-Wide, 2012, 2013, 2014**

**STATEWIDE**

The utilities involved in the construction of this project vary.

The Contractor is directed to contact Miss Utility of Delaware prior to any excavation; all affected utilities may respond and designate their existing facilities within the project limits.

No utility relocation involvement is anticipated, should any conflicts be encountered during construction the adjustments and/or relocations of existing utility facilities shall be accomplished by the respective companies' forces as construction warrants.

Any adjustments and/or relocations of municipally owned sewer or water facilities shall be done by the State's contractor in accordance with the respective agencies' standard specifications as directed by the District Engineer.

**General Notes**

1. The Contractor's attention is directed to Section 105.09 Utilities, Delaware Standard Specifications, August 2001. The Contractor shall contact Miss Utility (1-800-282-8555) two working days prior to any excavation. The Contractor is responsible for the support and protection of all utilities when excavating. The Contractor is responsible for ensuring proper clearances, including safety clearances, from overhead utilities for construction equipment. The Contractor is advised to check the site for access purposes for his equipment and, if necessary, make arrangements directly with the utility companies for field adjustments for adequate clearances.
2. It is understood and agreed that the Contractor has considered in his bid all permanent and temporary utility appurtenances in their present and relocated positions as shown on the plans or described in the Utility Statement or are readily discernible and that no additional compensation will be allowed for any delays, inconvenience, or damage due to any interference from the utility facilities and appurtenances or the operation of moving them, except that the Contractor may be granted an equitable extension of time.

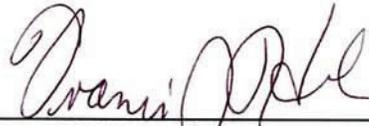
General Notes, Continued

3. Coordination and cooperation among the Utility Companies and the State's Contractors are of prime importance. Therefore, the Contractor is directed to contact the following Utility Company representatives with any questions regarding this work prior to submitting bids and work schedules. Proposed work schedules should reflect the Utility Companies' proposed relocations. The Utility Companies do not work on weekends or legal holidays.

**DIVISION OF TRANSPORTATION SOLUTIONS**

6-3-11

**DATE**



Travis P. H.

**UTILITY ENGINEER**

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

**CERTIFICATE OF RIGHT-OF-WAY STATUS**

**STATE PROJECT NO. T201208303**

**F.A.P. No. N/A for R/W**

**SUPPLY AND INSTALLATION OF LARGE GUIDE SIGNS  
STATEWIDE PRECONSTRUCTION**

**STATEWIDE COUNTIES**

**Certificate of Right-of-Way Status – 100%**

**As required by 23CFR Part 635, all necessary right-of-way has been acquired in accordance with current State/Federal rules and regulations covering the acquisition of real property.**

This is to certify that all project rights of way is currently available in accordance with the project right-of-way plans. It is the responsibility of the Central/South District to notify Team Support if any of the future locations are located within the incorporated limits of a Town or City thus requiring a Town Agreement.

Team Support should also be notified when any structure, other than on interstates, are to be placed within any municipal limits so that we can process a town agreement. A lead time of one month is needed for this work.

**It is further certified that there were no individuals or families displaced by this project. Therefore the provisions of 49 CFR Part 24 is not applicable to the project.**

There are no improvements to be removed or demolished as part of this project.

REAL ESTATE SECTION

Carol V. O'Donoghue  
Assistant Chief, Real Estate

May 24, 2011





STATE OF DELAWARE  
**DEPARTMENT OF TRANSPORTATION**  
800 BAY ROAD  
P.O. BOX 778  
DOVER, DELAWARE 19903

CLEON L. CAULEY, SR.  
ACTING SECRETARY

June 15, 2011

## **ENVIRONMENTAL REQUIREMENTS**

FOR

State Contract No. T201208303

Federal Aid No.: None

Contract Title: Supply and Installation of Large Guide Signs Statewide 2012, 2013, 2014

In accordance with the procedural provisions for implementing the National Environmental Policy Act of 1969, as amended, the referenced project has been processed through the Department's Environmental Review Procedures and has been classified as a Level D/ Class II Action.

Due to the nature of the proposed construction activities, permits are not required for this project. However, the following construction requirements and special provisions have been developed to minimize and mitigate impact to the surrounding environs. These requirements by DeIDOT not specified within the contract, but listed below, are the responsibility of the contractor and is subject to risk of shut down at the contractor's expense if not followed.

### GENERAL REQUIREMENTS:

1. All construction debris, excavated material, brush, rocks, and refuse incidental to such work shall be placed either on shore above the influence of flood waters or on some suitable dumping ground.
2. That effort shall be made to keep construction debris from entering adjacent waterways or wetlands. Any debris that enters those areas shall be removed immediately.
3. The disposal of trees, brush, and other debris in any stream corridor, wetland, surface water, or drainage area is prohibited.





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**BID PROPOSAL FORMS**  
USED FOR  
CONTRACT T201208303.01  
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CONTRACT ID: T201208303.01 PROJECT(S): T201208303

All figures must be typewritten.

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS

SECTION 0001 Category 0001

0010	743005 FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY	50.000 EADY				
0020	743007 TRAFFIC OFFICERS	10.000 HOUR	75.00000		750.00	
0030	743010 FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	26.000 EADY				
0040	743050 FLAGGER, NEW CASTLE COUNTY, STATE	40.000 HOUR	44.52000		1780.80	
0050	743051 FLAGGER, KENT COUNTY, STATE	40.000 HOUR	40.83000		1633.20	
0060	743052 FLAGGER, SUSSEX COUNTY, STATE	40.000 HOUR	42.00000		1680.00	
0070	743062 FLAGGER, NEW CASTLE COUNTY, STATE, OVERTIME	6.000 HOUR	64.55000		387.30	
0080	743063 FLAGGER, KENT COUNTY, STATE, OVERTIME	6.000 HOUR	59.20000		355.20	
0090	743064 FLAGGER, SUSSEX COUNTY, STATE, OVERTIME	6.000 HOUR	60.90000		365.40	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0100	743538 WOODEN SIGN POSTS, 4" X 4"	1.000 EACH				
0110	743539 WOODEN SIGN POSTS, 4" X 6"	1.000 EACH				
0120	743540 WOODEN SIGN POSTS, 6" X 6"	1.000 EACH				
0130	743541 WOODEN SIGN POSTS, 6" X 8"	1.000 EACH				
0140	749513 INSTALLATION OF SIGN OVERLAY 16 S.F. OR LESS	50.000 EACH				
0150	749514 INSTALLATION OF SIGN OVERLAY OVER 16 S.F.	5.000 EACH				
0160	749516 REINFORCED CONCRETE SIGN FOUNDATION, W-6	50.000 EACH				
0170	749517 REINFORCED CONCRETE SIGN FOUNDATION, W-8	7.000 EACH				
0180	749518 REINFORCED CONCRETE SIGN FOUNDATION, W-10	5.000 EACH				
0190	749519 REINFORCED CONCRETE SIGN FOUNDATION, W-12	5.000 EACH				

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			DOLLARS	CTS	DOLLARS	CTS
0200	749520 REINFORCED CONCRETE SIGN FOUNDATION, W-14	5.000 EACH				
0210	749521 SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-6	1000.000 LF				
0220	749522 SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-8	100.000 LF				
0230	749523 SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-10	31.000 LF				
0240	749524 SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-12	31.000 LF				
0250	749525 SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-14	100.000 LF				
0260	749527 SIGN BASE EXTENSION	1.000 CF				
0270	749528 STRUCTURAL CONCRETE	1.000 CF				
0280	749529 INSTALLATION OF SIGN BASE SHEETING	1.000 EACH				
0290	749530 REMOVAL OR GRADING OF MASONRY	25.000 CF				

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			DOLLARS	CTS	DOLLARS	CTS
0300	749532 SUPPLY OF FLAT SHEET ALUMINUM SIGN PANEL, TYPE IX RETROREFLECTIVE SHEETING	SF 50.000				
0310	749534 SUPPLY OF EXTRUDED ALUMINUM SIGN PANEL, TYPE IX RETROREFLECTIVE SHEETING	SF 200.000				
0320	749535 SUPPLY & INSTALLATION OF BOLT KIT FOR BREAKAWAY COUPLING	EACH 75.000				
0330	749536 SUPPLY & INSTALLATION OF HINGE PLATE FOR BREAKAWAY COUPLING	EACH 40.000				
0340	749537 SUPPLY & INSTALLATION OF BREAKAWAY COUPLING SYSTEM	EACH 25.000				
0350	749540 REMOVAL OF OVERHEAD I-BEAM	EACH 10.000				
0360	749541 INSTALLATION OF OVERHEAD I-BEAM	EACH 5.000				
0370	749542 RELOCATION OF OVERHEAD I-BEAM	EACH 5.000				
0380	749543 REMOVAL OF LIGHTING UNIT	EACH 25.000				

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			DOLLARS	CTS	DOLLARS	CTS
0390	749544 CUTTING OF OVERHEAD I-BEAMS	25.000 EACH				
0400	749545 REMOVAL OF STANDARD GROUND MOUNTED METAL SIGN POST	400.000 EACH				
0410	749546 REMOVAL OF GROUND MOUNTED WOOD POST	2.000 EACH				
0420	749547 SUPPLY AND INSTALLATION OF DRY CONCRETE	2.000 EACH				
0430	749548 SUPPLY OF OVERHEAD I-BEAM, W-6 TYPE	3.000 LF				
0440	749549 NIGHT, EMERGENCY, WEEKEND WORK	25.000 EADY				
0450	749550 INSTALLATION OF BREAKAWAY I-BEAM SIGN POSTS	75.000 EACH				
0460	749551 REMOVAL OF BREAKAWAY I-BEAM SIGN POSTS	50.000 EACH				
0470	749552 INSTALLATION OF SIGN ON/OVER HIGHWAY STRUCTURE	7500.000 SF				
0480	749553 REMOVAL OF SIGN ON/OVER HIGHWAY STRUCTURE	7500.000 SF				

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			DOLLARS	CTS	DOLLARS	CTS
0490	749554 INSTALLATION OF SIGN ON SPAN WIRE OR MAST ARM	20.000 SF				
0500	749555 REMOVAL OF SIGN ON SPAN WIRE OR MAST ARM	20.000 SF				
0510	749556 INSTALLATION OF SIGN ON GROUND MOUNT POSTS	2500.000 SF				
0520	749557 REMOVAL OF SIGN ON GROUND MOUNT POSTS	1000.000 SF				
0530	749558 MEASUREMENT OF OVERHEAD SIGNS	250.000 SF				
0540	749559 SUPPLY OF JERSEY BARRIER MOUNTED I-BEAM	1.000 EACH				
0550	749560 INSTALLATION OF JERSEY BARRIER MOUNTED I-BEAM	1.000 EACH				
0560	749561 INSTALLATION OF SIGN ON JERSEY BARRIER MOUNTED I-BEAM	20.000 SF				
0570	749562 REMOVAL OF SIGN FROM JERSEY BARRIER MOUNTED I-BEAM	20.000 SF				
0580	749563 SUPPLY OF BREAKAWAY I-BEAM SIGN POSTS, W-4	100.000 LF				

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			DOLLARS	CTS	DOLLARS	CTS
0590	749579 SUPPLY OF FLAT SHEET ALUMINUM SIGN PANEL, HIGH PERFORMANCE RETROREFLECTIVE SHEETING	50.000 SF				
0600	749580 SUPPLY OF EXTRUDED ALUMINUM SIGN PANEL, HIGH PERFORMANCE RETROREFLECTIVE SHEETING	9952.000 SF				
0610	749688 INSTALLATION OF 4" DIAMETER HOLE, LESS THAN OR EQUAL TO 6" DEPTH	100.000 EACH				
0620	749693 STRAIGHTENING OF SIGN POSTS	100.000 EACH				
0630	763563 PERFORMANCE AND PAYMENT BOND	LUMP		LUMP		
0640	763643 MAINTENANCE OF TRAFFIC, ALL INCLUSIVE	LUMP		LUMP		
	SECTION 0001 TOTAL					
	TOTAL BID					

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**BREAKOUT SHEETS**

THE FOLLOWING SHEETS MUST BE COMPLETED AND RETURNED WITH THE PROPOSAL AT THE TIME OF BID. FAILURE TO COMPLETE THE BREAKOUT SHEETS AS REQUIRED WILL RESULT IN THE BID BEING DECLARED NON-RESPONSIVE AND WILL NOT BE CONSIDERED. BREAKOUT SHEETS MUST BE COMPLETED REGARDLESS OF WHETHER BIDDING BY ELECTRONIC MEANS OR TYPEWRITTEN HARD COPY.

BIDDING

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BIDDING

**SECTION 1** **BREAKOUT SHEET - 1** **CONTRACT NO. T201208303**

**ITEM 763643 - Maintenance of Traffic, All Inclusive**

Location No.	Location Description	Qty of Possible Locations	Primary MOT Case Set-ups	UOM	Unit Price	Total
1	Two- Lane, Two-Way Traffic Shoulder Closure - Within 10 Feet of Travelway	64	TA-3	EA	\$	\$
2	Multilane, Divided, Non-Access Controlled Highways - Shoulder Closure	66	TA-3A	EA	\$	\$
3	Multilane, Access Controlled Highways and Interstates Shoulder Work - Off Shoulder	15	TA-5A	EA	\$	\$
4	Multilane, Access Controlled Highways and Interstates Shoulder Work - On Shoulder	58	TA-5B	EA	\$	\$
5	Two-Lane, Two-Way Traffic Lane Closure	5	TA-10	EA	\$	\$
6	Multilane, Divided Highways and Interstates - Lane Closure	45	TA-33	EA	\$	\$
7	Multilane, Divided Highways - Double Lane Closure	23	TA-37	EA	\$	\$
8	Multilane, Divided Highways - Work in the Vicinity of an Exit Ramp	5	TA-42	EA	\$	\$
9	Partial Ramp Closure	10	TA-43	EA	\$	\$
10	Multilane, Divided Highways - Work in the Vicinity of an Entrance Ramp	5	TA-44	EA	\$	\$

TOTAL ITEM 763643 - Maintenance of Traffic, All Inclusive \$ \_\_\_\_\_  
 (LUMP SUM BID PRICE FOR ITEM 763643)

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# "ATTENTION"

## TO BIDDERS

This Bid Proposal includes breakout sheets. The breakout sheets **MUST ACCOMPANY** the bid proposal at the time of bid.

Failure to return completed breakout sheets **WILL RESULT** in the bid proposal being declared non-responsive and **REJECTED** as irregular.

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## SUBMISSIONS REQUIRED AT THE TIME OF BID

1. Copy(ies) of the American Traffic Safety Services Association (ATSSA) Certification(s) when listed in the applicable plan notes
2. Standard Specification Section 110.08 Site Reviewer requires that the name and DNREC certification number of each Site Reviewer if required shall be submitted to the Department at the time of bid. The level of certification and number required are listed in the applicable plan notes.
3. Proposed Trainee Plans as required. Number of required programs is listed in the Training Special Provisions within Contract General Notices. The program(s) must be submitted with 10 Calendar Days of notification of apparent low bidder status. Contract Award will not take place until acceptable On-the-Job (OJT) program plans are received by the Civil Rights Group of the Department.

Note: Items 1. and 2. above require copies of the current certifications for those individuals proposed for use on this Contract

Failure of the apparent low bidder to present copies of the required certifications and/or an acceptable OJT Trainee Programs within ten (10) calendar days after the bid opening shall create a rebuttable presumption that the bid is not responsive.

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**CERTIFICATION**

Contract No.   T201208303.01  

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.

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.

I/We are licensed, or have initiated the license application as required by Section 2502, Chapter 25, Title 30, of the Delaware Code.

By submission of this proposal, each bidder and each person signing on behalf of any 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								
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**(FAILURE TO ACKNOWLEDGE RECEIPT OF ALL ADDENDA WILL RESULT IN THE BID BEING DECLARED NON-RESPONSIVE.)**

Sealed and dated this \_\_\_\_\_ day of \_\_\_\_\_ in the year of our Lord two thousand and \_\_\_\_\_  
( 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

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**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. T201208303.01 , to be paid to the **State** for the use and benefit of its Department of Transportation  
("**DeIDOT**") 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 **DeIDOT** 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 **DeIDOT**, 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 \_\_\_\_\_

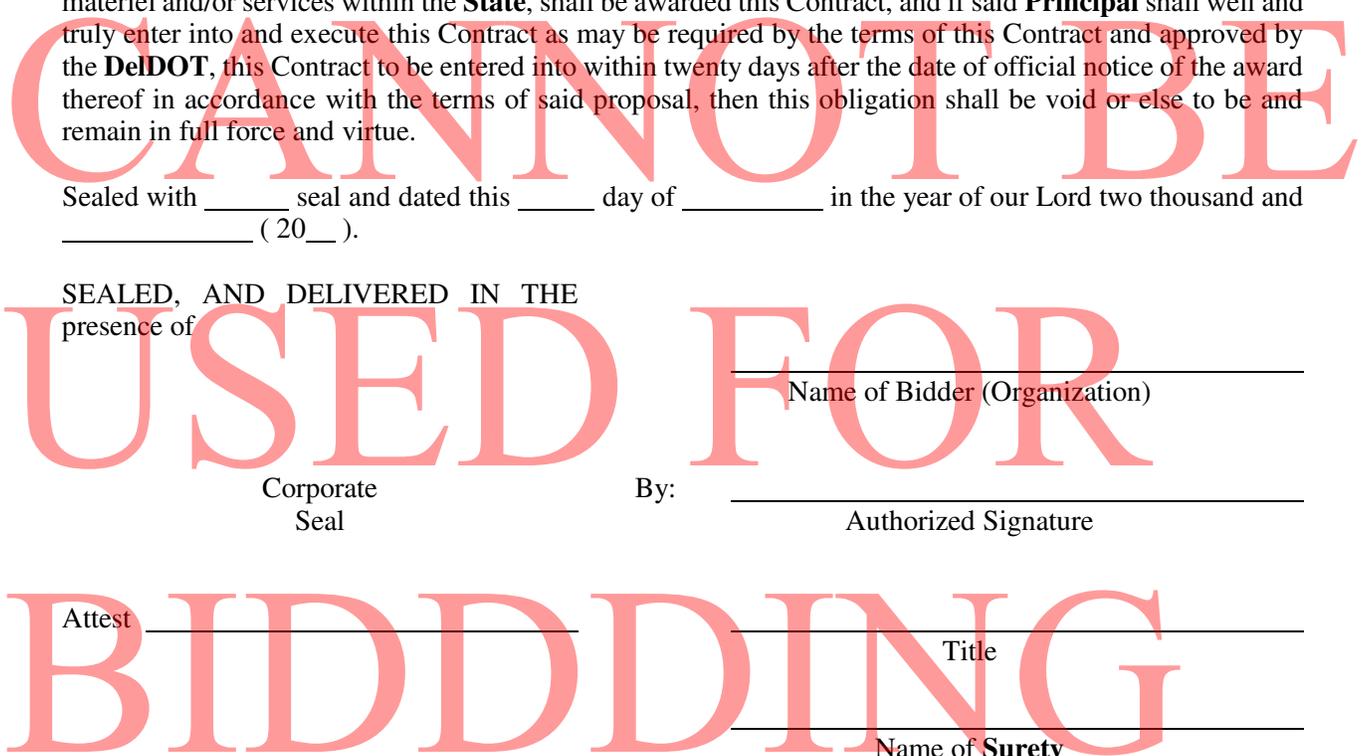
\_\_\_\_\_  
Title

\_\_\_\_\_  
Name of **Surety**

Witness: \_\_\_\_\_

By: \_\_\_\_\_

\_\_\_\_\_  
Title



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