Florida Department of Transportation

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GOVERNOR

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Lake City, Florida 32025

STEPHANIE C. KOPELOUSOS
SECRETARY

May 7, 2010

To: Prospective Bidders & Plan Holders

Addendum No.: **1, E2O59, Financial Project # 42443915201**
Bridge repair work and other incidental construction on SR 9A / Dames Point Bridge# 720518 in Duval County.

Attached is Supplement Specifications Package Number One for:

APPENDICES
REPAIR OF CENTER SHEAR LOCKS

The Appendix REPAIR OF CENTER SHEAR LOCKS (Pages 207 through 212 of the Specifications Package) is deleted and the following substituted:

TECHNICAL SPECIAL PROVISION
For
REPAIR OF CENTER SHEAR LOCKS

T0000-1 Description:

Work under this Technical Special Provision (TSP) shall consist of repair of the center shear locks at the locations shown on the plans, in accordance with the plans, and as directed by the Engineer. This work shall include the removal of the female shear locks at the edge girder and center locations, machining the wearing surfaces of all the shear lock pieces, fabrication of new wearing pieces for the male shear locks, and reinstallation of the female shear locks with post-tensioning bars.

You must sign, date and fax a copy of this addendum back to me by close of business today to indicate receipt. A copy of this addendum must be returned with your bid.

_____
Company Name

_____
Date

_____
Signature

Thanks,

Patsy Elkins, CPPB
Contracts Coordinator
Phone: 386-758-3703
Fax: 386-758-3791

April 29, 2010
PREPARED BY: SLM/RBA/SLM

SUPPLEMENTAL SPECIFICATIONS PACKAGE NUMBER ONE
FOR
FINANCIAL PROJECT ID(S). 424439-1-52-01

DISTRICT TWO
DUVAL COUNTY

The 2010 Edition of the Florida Department of Transportation Standard Specifications, the Specifications Package for this project, dated March 1, 2010, attached thereto, are revised as follows:

I hereby certify that this specifications package has been properly prepared by me, or under my responsible charge, in accordance with procedures adopted by the Florida Department of Transportation.

The official record of this package is the electronic file signed and sealed under Rule 61G 15-23.003, F.A.C.

Name: Scott L. Montgomery, P.E.
Page(s): 1 through 21

APPENDICES

REPAIR OF CENTER SHEAR LOCKS

The Appendix REPAIR OF CENTER SHEAR LOCKS (Pages 207 through 212 of the Specifications Package) is deleted and the following substituted:

TECHNICAL SPECIAL PROVISION

For

REPAIR OF CENTER SHEAR LOCKS

Financial Project ID 424439-1-52-01
Dames Point Bridge Shear Lock Repair and Expansion Joint Replacement
Duval County, Florida

The official record of this Technical Special Provision is the electronic file signed and sealed under Rule 61G 15-23.003, F.A.C.

Robert B. Anderson, P.E.

April 29, 2010

Page 1 of 6

T0000-1 Description:

Work under this Technical Special Provision (TSP) shall consist of repair of the center shear locks at the locations shown on the plans, in accordance with the plans, and as directed by the Engineer. This work shall include the removal of the female shear locks at the edge girder and center locations, machining the wearing surfaces of all the shear lock pieces, fabrication of new wearing pieces for the male shear locks, and reinstallation of the female shear locks with post-tensioning bars.

Work associated with this TSP, shall include:

1. Repair of Post-Tensioning Bars at Center Shear Lock: Includes the removal and replacement of the post-tensioning bars at the female side of the center shear lock.

2. Repair of Post-Tensioning Bar: Includes the repair of Bar F-10 of the east side edge girder shear lock.

3. Concrete Coring and Drilling: Includes coring and drilling of concrete for the attachment of the temporary strongback.

4. Temporary Works: Work consists of the temporary strong backs, temporary bearings, and all temporary falsework, shoring, platforms, ladders, and other equipment that may be used by the Contractor during the progress of the project. These items are shown in varying amounts of detail on the plans.

   Note: The temporary strong backs and temporary platforms attached to the permanent structure shall not extend more than 3 ft. below the bottom soffits of the edge girders and transverse beams.

T0000-2 Materials

T0000-2.1 – Structural Steel and Miscellaneous Metals: In accordance with Section 460.

T0000-2.2 – Post-Tensioning Bar Systems: Use post-tensioning hardware components meeting the requirements of Section 462. Components are not interchangeable and must comply with the details of the approved shop drawings. [Note: All Section references in thisTSP refer to Sections of the FDOT Specifications].

Bars shall be protected sealing of ducts, injecting grease to the annular space (in lieu of grout specified in Section 462) and by providing caps at the ends. The Contractor shall be responsible for submitting details, including potential inlet and outlet ports, and material specifications pertained to the injection of grease prior to or after stressing operations.

Note: The existing bars use DSI out-of-date US thread style circa 1985.

T0000-2.3 – Epoxy: Use epoxy bonding system meeting the requirements of Section 453. Additionally, the epoxy bonding system shall be compatible to bond both the stainless steel shear lock piece and concrete.

T0000-2.4 – Stainless Steel and PTFE Sheet: As detailed on the plans and in accordance with Section 461-2.

T0000-2.5 – Neoprene Pads: As detailed on the plans and in accordance with Section 932-2.

T0000-2.6 – Non-Shrink Grout: As detailed on the plans and in accordance with Section 934.

T0000-2.7 – Methacrylate Sealer: High Molecular Weight Methacrylate (HMWM) in accordance with Section 413-3.

T0000-2.8 – Class 5 Finish Coating: In accordance with the Plans.

T0000-3 Construction Methods:

T0000-3.1 – Removal of Female Shear Locks:

As shown on the Plans to provide space for the accurate machining of the male and female shear locks, the female shear lock shall be removed. This process shall involve the detensioning of the post-tensioning bars, supporting the female shear lock during detensioning, and removal of the female shear locks. At the edge girder locations, detensioning of the post-tensioning bars shall only occur after the strongbacks are in place. Because the back sides of the shear lock pieces are fitted with integral lugs, the shear lock and concrete shall be position marked such that the shear lock will be in an identical location upon reinstallation.

T0000-3.2 – Machining of Shear Lock Pieces and Fabrication of Replaceable Wear Pieces:

The machining of the male shear locks shall be done in place. Machining of the female shear locks may be done in the field or the shop. Fabrication of the replaceable wear pieces shall be done in the shop.

Experience: Personnel involved in oversight and the actual machinist involved in the machining of the shear locks shall have a minimum of five (5) years of related bridge work experience. Within 30 days of contract award the Contractor shall submit resumes and documentation of hire dates for personnel involved in the machining of the shear locks. All machining processes for the male and female shear locks and the replaceable wearing pieces shall be accomplished by the same company.

Tolerance: The average surface roughness tolerances that will be allowed are:

Refinished wearing surfaces of shear locks: 125μin
Wearing surfaces of replacement shims: 63μin
Parallelism of refinished wearing surfaces: 500μin
(Measured between the top and bottom refinished surfaces.)

T0000-3.3 – Reinstallation of Female Shear Lock:

As shown on the Plans.

T0000-3.4 – Concrete Coring and Drilling:

Work shall consist of coring existing concrete at the locations shown on the plans, in accordance with the plans, and as directed by the Engineer.

T0000-3.5 – Repair of Post-Tensioning Bars at Center Shear Lock:

Work shall consist of removal, replacement of post-tensioning bars at the center shear lock location shown on the plans, in accordance with the plans, and as directed by the Engineer.

T0000-3.6 – Repair of Post-Tensioning Bar F-10:

Work shall consist of repair of post-tensioning bar F-10 at the location shown on the plans, in accordance with the plans, and as directed by the Engineer.

T0000-3.7 – Temporary Works:

The information shown on the plans pertaining to temporary works, construction access, sequence of construction and erection procedures conveys the assumptions made by the designer in designing the structure and is for information only. The Contractor shall be responsible for selecting the means and methods for construction, subject to the design and testing parameters, maintenance of traffic, and permit restrictions. The Contractor shall also submit information in accordance with Section 5, and as noted below, and shall include design calculations, construction schematics, construction sequences and procedures to the Engineer for review.

The Contractor may elect to use the temporary strongback and temporary bearings system detailed on the plans without modification for subsequent preparation of shop drawing and fabrication of these elements. If the Contractor chooses this option, submittals need not be signed and sealed by a Professional Engineer for these components. If the Contractor elects to develop a modified scheme for the temporary strongbacks and the temporary bearing, signed and sealed drawings and calculations by a Professional Engineer licensed in the State of Florida will be required as outlined in Section 5.

The temporary strongbacks, post-tensioning bars used to anchor the strongbacks, and the

temporary bearings are the property of the Contractor. The Contractor shall be responsible for the removal, transporting and off-loading the above pieces upon completion of the project.

T0000-3.8 – Submittals:

Shop Drawings: The Contractor shall submit shop drawings for the repair of the shear locks. The shop drawings shall be submitted in accordance with Section 5. These submittals shall include but not be limited to the following:

1. Details of the equipment intended to be used including sizes, weights and dimensional sketches to show adequate clearance within the working space provided.

2. Details of the temporary attachment of any equipment to the permanent structure.

3. Details for collection of cutting fluids and showing methods used to prevent cutting fluids from spilling into the channel.

4. Details for collection of removed concrete material and other demolished material showing methods used to prevent concrete and other pieces from falling into the channel, and means for disposal..

5. A description of the procedures that will be used to during the work, including safety protocols.

6. Material certifications and shop drawings for machined wearing pieces.

7. Details and procedures to align the female shear locks and precisely engage the male shear lock after application of the epoxy bonding agent and during the retensioning of the post-tensioning bars including all measurements for both the in-place geometry shear lock and the proposed milling of the shims

8. Procedures for demobilization and procedures for repair of any holes used to temporarily attach equipment, shoring, or falsework used in the repair of the shear locks. These shall include material cut sheets for products conforming to the Department's Qualified Products List.

9. All details (signed and sealed) for the post-tensioning bar system in accordance with Section 462.

10. Protective grease material cut sheets and protective cap system to be used for the post-tensioning system.

11. Repair procedures for damaged main longitudinal bars (if necessary).

12. Details of: 1) the steel work associated with the temporary strongback, 2) temporary bearings, 3) temporary access platforms and ladders; 4) the post-tensioning system used to

anchor the temporary strongbacks; and 5) any temporary anchorages used to attach components to the permanent works.

Submittals for temporary access platforms and ladders shall include supporting structural calculations signed and sealed by a Professional Engineer licensed in the State of Florida. All ladders, platforms, and railings shall comply with OSHA Specifications. Grating and supporting components shall be capable of carrying the loads imposed by the Contractor's anticipated means and methods and a minimum live load of 100 psf.

T0000-4 Method of Measurement:

The quantities that will be paid for are the repair of the center shear locks at the edge girder and median locations as shown on the plans.

T0000-5 Basis of Payment Items:

This work, completed and accepted, will be paid for at a lump sum basis for repair of the center shear locks. The prices and payments shall include the removal of the female shear locks, machining the wearing surfaces of the male and female shear locks, machining replaceable wearing pieces for the male shear locks, repair of post-tensioning bars, retensioning the post-tensioning bars, sealing of ducts, adding grease, provided protective caps to protect new and replacement bars, coring and drilling of concrete, temporary works and all other materials, equipment, tools, and labor incidental thereto.

Payment for the items in this TSP will be made under the following:

Item No.	0000-100- 1	**Structures Design Group - Generic Pay Item 1 – Lump Sum.**

REHABILITATION OF MODULAR BRIDGE DECK EXPANSION JOINT

The Appendix **REHABILITATION OF MODULAR BRIDGE DECK EXPANSION JOINT** (Pages 213 through 223 of the Specifications Package) is deleted and the following substituted:

TECHNICAL SPECIAL PROVISION

For

REHABILITATION OF MODULAR BRIDGE DECK EXPANSION JOINT

Financial Project ID 424439-1-52-01
Dames Point Bridge Shear Lock Repair and Expansion Joint Replacement
Duval County, Florida

The official record of this Technical Special Provision is the electronic file signed and sealed under Rule 61G 15-23.003, F.A.C.

Robert B. Anderson, P.E.

April 29, 2010

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T458-1 Description:

Work under this Technical Special Provision (TSP) shall consist of furnishing and installing a prefabricated modular expansion joint system at the location(s) shown on the plans and in conformance with these Technical Special Provisions. The modular expansion joint system shall seal the deck surface, gutters, curbs, and parapets in accordance with the plans and prevent water from seeping through the joint area. Work under this TSP shall also consist of installing new or reusing existing sliding plates in parapets in accordance with the plans.

For work associated with the demolition, removal and proper disposal of the existing joints, see Section 110-3 of "Removal of Existing Structures". [Note: All Section references in this Technical Special Provision refer to Sections of the FDOT Specifications].

Expansion joints shall be fabricated at facilities owned and operated by the manufacturer; the manufacturer being the single entity that designs and fabricates the joint assemblies.

Each expansion joint system shall consist of a modular, multiple seal expansion joint as designated and noted in the Plans. Each expansion joint system shall accommodate the movements specified in the Plans. The configuration of the expansion joint system shall consist of preformed neoprene strip seals mechanically held in place by steel edge and separation beams. The modular joint design shall be a multiple support bar system, consisting of each individual corresponding support bar(s) full penetration welded to each individual surface separator beam(s). Single support bar, or bolted connection designs will not be allowed. No deviation from designated system sizes or allowable movement per cell (seal) will be allowed.

The support bars shall be suspended over the joint opening by sliding elastomeric bearings. An equidistant control system shall be incorporated which develops its maximum compressive force when the joint is at its maximum opening.

The expansion joint system shall be fabricated in a continuous full length except where shorter sections are necessitated by traffic stage construction requirements.

The elastomeric sealing elements shall be continuous, and shall provide for the expansion and contraction movements of the bridge deck.

Expansion and contraction movements between adjacent spans of the bridge deck shall be taken entirely by deformation of the elastomer component, without detriment to it, and shall cause no appreciable change in the deck surface elevation.

All components of the approved expansion joint shall be furnished by one Manufacturer.

T458-2 Proposal Requirements and Conditions

For this Project, the Contractor is required to select Manufacturers having specific expertise and experience in the manufacture, fabrication and installation of modular joints. At or prior to the preconstruction meeting the following must be submitted for approval by the Department:

(1) A written statement, signed and dated by the owner of the Company or Company officer, stating the modular joint Manufacturer has been in the business of the manufacture, fabrication and installation of modular expansion joints for over 10 years.

(2) A list of three modular joints installed in the State of Florida in the past 10 years by the Manufacturer of the modular expansion joint.

(3) The resume of the on-site field support technician from the modular joint Manufacturer. This person shall have a minimum of 10 years experience with installation of modular expansion joints.

(4) Certification of the following items from the Manufacturer of the modular joint:

a. ISO 9001-2008 Quality Program
b. AISC Simple Bridge Certification

In addition, only Manufacturers who have successfully completed the fatigue testing as required by the Department will be permitted to design and supply modular expansion joints. The Contractor shall submit Independent Testing Reports from the Manufacturer of the modular joint to validate their fatigue testing. Testing shall be completed on any revised details or material substitutions of a previously prequalified system prior to submittal of the bid and be provided with the bid.

T458-3 Materials

T458-3.1 - Structural Steel: Structural steel shall conform to the requirements of ASTM A709 Grade 50. Aluminum components shall not be used.

T458-3.2 - Stainless Steel: Stainless steel shall meet the requirements of Type 304.

T458-3.3 - Polytetrafluorethylene (PTFE): PTFE shall be 100% virgin teflon, woven PTFE fabric or dimpled PTFE conforming to the requirements of Section 461-2.

T458-3.4 - Expansion Joint Seals: The maximum size of the expansion joint seals shall be 80 mm. "Strip" type seals shall be used. "Box" type seals will not be allowed. Seals shall be continuous and no splices will be permitted.

Property	Test Method	Range of Values
Hardness, Durometer 'A'	ASTM D2240	55-70
Tensile Strength	ASTM D412	13 800 kPa (minimum)
Elongation at Break	ASTM D412	250%
Compression Set at 72 hours at 100°C	ASTM D395	40%

T458-3.5 - Bolts, Nuts, Washers: Bolts and other hardware shall conform to the requirements of ASTM A325, Type 1 or 2 and shall be galvanized in accordance with ASTM A153.

T458-3.6 - Corrosion Protection: All steel surfaces, except the surfaces under stainless steel or those to be bonded to PTFE, shall be protected against corrosion by hot-dip galvanizing in accordance with ASTM A123.

T458-3.7 - Touch-up: Touch up coatings for the repair of damaged areas and uncoated areas of hot dipped galvanized surfaces during fabrication shall be either a zinc-based solder alloy or zinc metallizing, satisfying the requirements of ASTM A780. Touch up coatings for the repair of damaged areas and uncoated areas of hot dipped galvanized surfaces during field installation of the expansion joint system shall be a brush applied zinc paint satisfying the requirements of Section 562.

T458-4 Construction Methods:

T458-4.1 - Submittals: Within 15 days of contract award the Contractor shall submit the name of the expansion joint Manufacturer to the Engineer. Once the name of the Manufacturer is submitted to the Engineer, the Contractor shall not change the expansion joint Manufacturer unless the Manufacturer indicates that he cannot supply the expansion joint in accordance with the requirements of this Technical Special Provision.

A. Shop Drawings: Shop Drawings and calculations shall be prepared by a licensed Professional Engineer registered in the State of Florida and shall carry his/her signature and seal.

   The Contractor shall submit shop drawings and design calculations delineating the expansion joint system to be used together with installation and waterproofing plans to the Engineer for review prior to fabrication of the joint. The shop drawings shall be submitted in accordance with Section 5. These plans shall include but not be limited to the following:

   1. Plan, elevation, and section of the joint system for each movement rating and roadway width with dimensions and tolerances.

   2. Complete details of all components and sections including all materials incorporated into the expansion joint system.
   3. All ASTM, AASHTO, or other material designations.

4. Recommended method of determining structure temperature.

5. Method of installation including sequence, setting relative to structure temperature, anchorage during setting, installation details at curbs, and installation of seals.

6. Details of stage construction joints, including field splices, if required.

7. Corrosion protection system.

8. Requirements for storage of joint system and details of temporary support of joint for shipping, handling, and job site storage.

9. Design calculations for all structural elements including all springs and bearings. The design calculations shall include fatigue design for structural elements, connections, and splices. All welded splices shall be shown on the shop plans.

10. Replacement of parts subject to wear shall be allowed for in the design. The Contractor shall submit a written maintenance and part replacement plan prepared by the joint Manufacturer. This plan shall include a list of parts and instructions for maintenance inspection, acceptable wear tolerances, methods of determining wear, procedures for replacing worn parts, and procedures for replacing seals.

11. Modifications to reinforcing steel to accommodate the expansion joint system.

12. Welding procedures in compliance with current AASHTO/AWS D1.5 Bridge Welding Code.

B. Certification: At the time of shop drawing submittal, the Contractor shall submit to the Engineer the following documentation for review and approval:

1. Documentation that the Manufacturer of the modular joint is certified by the AISC Quality Certification Program, for fabrication of Simple Steel Bridge Structures (SBr).

2. Documentation that welding inspection personnel are qualified and certified as welding inspectors under AWS QC1, Standard for Qualification and Certification of Welding Inspectors.

3. Documentation that personnel performing nondestructive testing (NDT) are qualified and certified as NDT Level II under the American Society for Nondestructive Testing (ASNT) Recommended Practice SNT-TC-1a. Welds shall be non-destructively tested in accordance with AWS D-1.5.

The contractor shall submit a written Quality Control program, for review and approval by the Engineer. Fabrication of the expansion joint shall not be started until the quality control program has been approved. The Quality Control program shall include but is not limited to

the following:

1. Quality control procedures manual for the manufacturer's in house quality control group including manufacturing expansion joint dimensions and alignment.

2. Quality assurance inspection plan for an independent testing laboratory including test procedures and test frequency by the independent testing laboratory.

3. Methods and equipment for handling and transporting modular joint assemblies prior to final installation.

The Contractor shall submit the following test reports and certificates for review and approval within four weeks of the completion of the shop drawing review:

1. Manufacturer's materials certificates for all polytetrafluorethylene (PTFE) sheeting and PTFE fabric, and certified test reports for the elastomer of the expansion joint seals.

2. Certified mill test reports for all steel and stainless steel in the expansion joint assemblies.

3. Certified test reports confirming that the springs and bearings meet the design load requirements.

T458-4.2 - Design Requirements:

1. The expansion joint seals shall not protrude above the top of the joint at any time over the expansion joint total movement range.

2. The reinforced elastomeric springs and bearings shall be designed so that they are removable and replaceable. The removal and reinstallation of the neoprene seal shall be easily accomplished from above the joint with a 1 1/8 in. minimum gap width. These operations shall be capable of being done with a one lane partial closure of the roadway.

   Slide bearings and precompressed springs shall be fabricated as steel reinforced elastomeric pads with a polytetraflourethylene (PTFE) sliding surface. Components manufactured from polyurethane compounds will not be allowed.

3. The expansion joint system shall be designed to be watertight.

4. The effect of vertical and horizontal rotations, and transverse movements shall be accounted for in the design.

5. Expansion joints shall be designed using the same loadings and methods as described in National Cooperative Highway Research Board (NCHRP) Report 402, Appendix A. Fatigue tests shall be performed in accordance with the procedure established in NCHRP-402 Appendix B to establish constant amplitude fatigue threshold categories for the center beam-

support bar connection and other connection detail types (welded and/or bolted) not addressed in Table 6.6.1.2.5-3 of the AASHTO LRFD Design Specifications. Calculations in conformance with NCHRP-402 shall be submitted and signed and sealed by a Professional Engineer licensed in the State of Florida.

The existing (2008) and estimated (2030) traffic data for the joints are as follows.

2008 - AADT = 33,425 (North Bound)
2008 - AADT = 33,020 (South Bound)
2008 - T24 Trucks = 6.04%

2030 - AADT = 66,500 (Each Direction)
2030 - T24 Trucks = 6.00%

6. Expansion joint center beams shall be continuous in length without shop splices whenever possible. Center beam shop and field splices when necessary shall be accomplished only by means of full penetration welds. Field splices of center beams shall be permitted only as necessary to satisfy bridge stage construction requirements.

T458-4.3 - Fabrication:

A. General:

1. The expansion joints shall be fabricated in accordance with the materials, dimensions, shapes, designs, and details shown on the stamped shop drawings in conformance with the FDOT Specifications and any comments made by the Department during the review process.

2. Quality Control Inspection:

   During the fabrication process of all major components, the Contractor shall provide a full time Quality Control Inspection representative of the Manufacturer to insure that the materials and workmanship meet or exceed the minimum requirements of the contract. The Quality Control Inspection representative of the Manufacturer shall represent the Manufacturer's quality control group which shall be independent of the fabrication group.

3. Quality Assurance Inspection:

   Prior to the start of expansion joint fabrication, the Contractor shall provide the Engineer a 48-hour minimum advance notice (weekends and holidays excluded) of the location and fabrication schedule for the expansion joint system so that on-site inspection may be provided by the Department. No material shall be fabricated during the 48-hour advance notice period unless a Department inspector witnesses the work.

4. All the expansion joints shall be fabricated by the same Manufacturer.

5. Shop repair of damaged and uncoated areas of galvanized steel:

   Damaged and uncoated areas of galvanized surfaces shall be touched up before the completion of fabrication using a zinc-based solder alloy or metallizing spray in accordance with the requirements of ASTM A780. Coating thickness shall be between 0.003 in. and 0.004 in.

   Metallic attachment used to secure elastomeric seals to the centerbeam, if welded to the centerbeams and edge beams, shall be welded continuously along both their top and bottom edges.

B. PTFE Sliding Surface:

1. The PTFE shall be bonded under controlled conditions and in accordance with written instructions provided by the Manufacturer of the PTFE.

2. After completion of the bonding operations, the PTFE surface shall be smooth and free from bubbles.

C. Stainless Steel Sliding Surfaces:

All stainless steel surfaces in contact with PTFE shall be polished to a Number 8-mirror, or 2B finish. Each stainless steel sheet shall be welded to the steel backing plate in accordance with current AWS specifications. The welds shall not protrude above the sliding surface of the stainless steel sheet.

T458-4.4 - Shipping and Handling:

A. The expansion joint system shall be delivered to the job site and stored in accordance with the Manufacturer's written requirements and as approved by the Engineer.

B. Lifting locations, lifting mechanisms, and temperature setting devices shall be as shown on the Shop Drawings. Lifting mechanisms, temperature setting devices, and construction adjustment devices may be welded to the center beams or edge beams provided the welds are ground smooth (in the longitudinal direction of the beams), and damaged galvanizing is touched up with zinc paint.

C. Damage to the joint system during shipping or handling will be cause for rejection of the joint system.

D. Damage to the corrosion protection system shall be repaired to the satisfaction of the Engineer.

T458-4.5 - Installation:

A. To aid in assuring proper installation of each expansion joint system in the field, the Contractor shall have available at the job site, prior to and during the duration of the installation of the joint(s), the services of a qualified installation technician who is a full time employee of the Manufacturer of the expansion system to be installed in this project. Recommendations made by the expansion joint Manufacturer's installation technician, on or off the job site, and approved by the Engineer shall be adhered to by the Contractor.

   The joint Manufacturer's installation technician provided by the Contractor shall advise the Contractor and certify to the Engineer that the proper installation procedures are followed. The Contractor shall ensure that all certifications to the Engineer are in writing, signed and dated by the joint Manufacturer's installation technician.

B. The modular expansion joint system shall be installed in strict accordance with the Manufacturer's written instructions and the advice of the Manufacturer's installation technician. The permanently installed joint system shall match the finished roadway profile and grades.

C. The Contractor shall take precautions to protect the joint systems from damage at all times. Prior to installation of the joint, the supporting system shall be protected from damage and construction traffic. After installation of the joint system, construction loads exceeding the joint design loads, shall not be allowed on the joint. The Contractor will be required to bridge over each joint if high loads are anticipated. The method of bridging over each joint shall be submitted to the Engineer for review and comment.

D. The modular expansion joint system shall be pre-set to the proper width for the structure temperature of 70˚F at the time of setting. This information shall be indicated on the Shop Drawings. The Engineer shall make the final joint width determination in the field.

   Any mechanical devices, supplied by the joint system Manufacturer, used to set the joint system to the proper width will remain the property of the Manufacturer. When no longer required, the devices shall be returned to the Manufacturer.

E. All forms and debris that tend to interfere with the free action of the expansion joint system shall be removed.

F. Welding shall conform to the requirements of Section 460.

G. All damaged galvanized surfaces, including areas affected by field welds, shall be coated with zinc-rich paint in accordance with the application requirements of ASTM A780 Appendix A.2. Surface preparation and the application of the coating shall be brush-applied in accordance with the manufacturer’s written recommendations. The repair coating dry film thickness shall be between 0.003 in. and 0.004 in. unless otherwise stipulated in the manufacturer’s written recommendations.

T458-4.6 - Stage Construction

A. Modular joints shall be installed in stages in accordance with the plans. Prior to opening each stage of construction to traffic, temporary seals shall be installed in the joint. Glues may or may not be used to secure the temporary seals. If the temporary seals become dislodged, they shall be replaced or reset by the Contractor at no cost to the State.

B. After finishing an entire joint, the temporary seals shall be removed and replaced with continuous seals.

T458-4.7 - Watertightness: Each expansion joint system shall be tested for watertightness after installation. The Contractor shall flood each completely installed expansion joint system with water to a minimum depth 3 inches for a duration of at least one-hour. If leakage is observed the expansion joint system shall be repaired to the satisfaction of the Department at the Contractor's expense. The Contractor shall submit for approval by the Department a repair procedure prepared by the Manufacturer of the modular joint system. After repairs are completed, the expansion joint shall be retested for leakage.

T458-5 Method of Measurement:

This work will be measured for payment by the number of feet of joint installed. The measurement will be made at the top surface and along the centerline of the joint measured from gutterline to gutterline.

No measurement for payment will be made for the portion of the joint in the parapet sections. The cost for these portions shall be included in the cost of the joint.

New or existing parapet cover plates will not be measured for payment.

T458-6 Basis of Payment:

This work, completed and accepted, will be paid for at the contract unit price per foot. This unit price shall include the cost of designing, furnishing and installing new modular expansion joints (including replacement joint and gland sections), tie down brackets, loop anchors, steel rails, and sealing glands, the cost of new or reuse of existing steel plates in parapets, technical representative personnel and all other materials, equipment, tools, and labor incidental thereto.

Payment for the items in this TSP will be made under the following:

Item No.	458- 1- 23	**Bridge Deck Expansion Joint, Rehabilitation Modular - per foot.**

THIS COMPLETES THIS SUPPLEMENTAL SPECIFICATIONS PACKAGE