



**STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION**



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Phone: 860-594-3128

September 22, 2016

Subject: Project No. 92-668

F.A.P. No. 0911(132)

Rehabilitation of Bridge No. 03093 I-91 over Front Street and Quinnipiac River in the Town of Hartford.

NOTICE TO CONTRACTORS:

This is to notify all concerned and especially the prospective bidders that the bid opening for the subject project is being postponed One (1) week from September 21, 2016 to September 28, 2016 at 2:00 P.M. in the Conference Room of the Department of Transportation Administration Building, 2800 Berlin Turnpike, Newington, Connecticut.

Addendum No. 1 is attached

This Addenda is necessary to revised contract documents.

The Department has established a general mailbox to receive contractor questions. Please send all future questions to DOTContracts@ct.gov

Philip J. Melchionne

For: Gregory D. Straka

Contracts Manager

Division of Contracts Administration

SEPTEMBER 21, 2016
REHABILITATION OF BRIDGE NO. 03093
I-91 OVER FRONT STREET AND QUINNIPIAC RIVER
FEDERAL AID PROJECT NO. 0911(132)
STATE PROJECT NO. 92-668
CITY OF NEW HAVEN

ADDENDUM NO. 1

SPECIAL PROVISIONS

NEW SPECIAL PROVISION

The following Special Provision is hereby added to the Contract:

- **NOTICE TO CONTRACTOR – MINIMUM CONCRETE COMPRESSIVE STRENGTH**

REVISED SPECIAL PROVISIONS

The following Special Provisions are hereby deleted in their entirety and replaced with the attached like-named Special Provisions:

- **ITEM NO. 0601270A – FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)**
- **ITEM NO. 0601318A – PARTIAL DEPTH PATCH**
- **ITEM NO. 0969062A – CONSTRUCTION FIELD OFFICE, MEDIUM**

PERMIT APPLICATIONS

The following Permit Applications are hereby added to the Contract:

- **CERTIFICATE OF PERMISSION – APPLICATION**
- **FLOOD MANAGEMENT GENERAL CERTIFICATION - APPLICATION**

The Bid Proposal Form and Detailed Estimate Sheets are not affected by these changes.

There will be no change in the number of calendar days due to this Addendum.

The foregoing is hereby made a part of the contract.

NOTICE TO CONTRACTOR – MINIMUM CONCRETE COMPRESSIVE STRENGTH

The concrete strength or allowable design stress specified in the General Notes is for design purposes only. The minimum compressive strength of concrete in constructed components shall comply with the requirements of Section 6.01 Concrete for Structures.

ITEM #0601270A—FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)

Description: This item shall consist of the saw cutting concrete, removal of all deteriorated concrete for the full depth of the deck slab, furnishing and installing deformed steel bars, and reconstructing the slab with new concrete, where directed by the Engineer and as hereinafter specified.

Work under this item shall also include the providing of a safe access to the structure for the delineation of the repair locations and review of the performed work. The Contractor shall not perform any repair work without prior approval of the Engineer for location, limits and types of repairs.

Materials: The materials shall conform to the following requirements:

1. High Early Strength Concrete – The high early strength concrete shall conform to one of the following:
 - A. The Contractor shall design and submit to the Engineer for approval a high early strength concrete mix. This mix shall be air-entrained, and shall be composed of Portland cement, fine and coarse aggregates, approved admixtures and additives, and water. The mix shall contain between 4% and 7% entrained air, and shall attain a 6-hour compressive strength of 2,500 psi. Additionally, the mix shall contain shrinkage compensating additives such that there will be no separation of the patched area from the parent concrete. This shrinkage-compensating additive shall be utilized so as to produce expansion in the high early strength concrete of no more than 3%.
 - B. In lieu of the above high early strength concrete mix, the Contractor may propose the use of a proprietary type mix that will meet the same physical requirements as those stated above. A mix design shall be submitted for this material, stating the percentage of each component to be utilized.
2. Regardless of the type of high early strength concrete proposed by the Contractor, substantive data that demonstrates the ability of the material to meet the specification requirements shall be submitted with the proposed mix design at least 2 weeks prior to its use.
3. Deformed Steel Bars: Section 6.02.

Construction Methods: Construction methods shall conform to the following requirements:

1. Inspection of the Structural Slab: Before any existing concrete is removed from the structural slab, the Contractor will provide the Engineer clear access to the bridge deck. During this time, the Engineer will perform an inspection of the structural slab and designate areas where concrete removal will be required. Due to the nature of the operations, the inspection can be performed only after some existing materials, notably overlays and waterproofing systems, have first been removed from the structural slab. It shall be the responsibility of the Contractor to arrange the construction schedule so that the required operations may be performed without causing delay to the work.

No operations will be performed by the Engineer until after the following construction work has been completed:

ITEM #0601270A

- a) The existing bituminous overlay or concrete wearing course, if present, has been removed.
- b) The existing waterproofing system, if present, has been removed.

The removal of these materials will be paid for under other applicable items.

It shall be the responsibility of the Contractor to inform the Engineer, in writing, of the date that a structure will be available for inspection operations. Notification shall be given to the Engineer at least 7 days prior to the date that the area in question will be in a condition acceptable to the Engineer.

The Contractor is hereby informed that the following time period will be necessary to perform the required inspection operations:

One (1) working day with suitable weather conditions per each 6,000 square feet, or portion thereof, of structural slab area.

The Contractor will not be allowed to do any further work to the structural slab, until all necessary inspection operations have been performed, unless given permission by the Engineer. The Contractor shall include any costs related to the allowance for this inspection in the general cost of the work.

2. Removal of Deteriorated Concrete: All deteriorated concrete shall be removed within the limits shown on the plans and where ordered by the Engineer. The lateral limits of each area to be repaired will be delineated by the Engineer and suitably marked. Where several areas to be repaired are very close together, the Engineer may combine these individual patches into a large area. The outlines of each such area shall first be cut to a depth of 1/2 inch with an approved power-saw capable of making straight cuts. In the event that reinforcing steel is encountered within the upper 1/2 inch depth during sawing operations, the depth of saw-cut shall immediately be adjusted to a shallower depth so as not to damage the steel bars. If so directed by the Engineer, saw cutting shall again be carried down to the 1/2 inch depth at other locations of repair provided reinforcing steel is not again encountered. Where over-breakage occurs resulting in a featheredge, the featheredge be squared up to a vertical edge in an approved manner. Where sawing is impractical, the areas shall be outlined by chisel or other approved means.

The removal of concrete shall be by hydro-demolition or pneumatic hammer methods and shall be governed by the requirements set forth in the special provision Item "Partial Depth Patch" and as directed by the Engineer.

The Contractor shall take adequate measures to prevent concrete debris from falling to any area below the structure and onto adjacent roadway lanes. All debris shall be promptly cleaned up and removed from the site. All material removed shall be satisfactorily disposed of by the Contractor.

Where existing reinforcing steel is damaged or has insufficient cover as determined by the Engineer, it shall be cut out and replaced with new reinforcing steel the same size, with a minimum length for lap splices as indicated on the plans or as directed by the Engineer.

3. Surface Preparation: Sound reinforcing steel which is in the proper position in the slab shall be left in place and cleaned of all concrete. The smaller fragments shall be removed with hand tools or by water blast cleaning.

The newly exposed reinforcing steel and concrete faces shall be cleaned of loose or powder-like rust, oil solvent, grease, dirt, dust, bitumen, loose particles, and foreign matter just prior to patching.

Existing concrete surfaces against which the new patch will be placed shall be dampened. All free water shall be removed from the surface.

Forms shall conform to the pertinent requirements of Subarticle 6.01.03-1.

The cleaned concrete surface area to receive patching material shall be wetted for a 1 hour period immediately prior to placement of the concrete patch. Any standing water shall be blown out with compressed air prior to application of binding grout and patch material.

After wetting of the deck patch area to receive patching, and removal of the standing water, cement binding grout shall be scrubbed into the concrete patch bonding surface with stiff bristled brushes. All bonding surfaces in the patch area shall receive a coating of bonding grout within a time period not to exceed 5 minutes prior to placement of the concrete patch material.

4. Mixing, Placing, and Finishing: Mixing and placing concrete shall be done in accordance with the applicable portions of Article 6.01.03. Mixing and placing shall not be executed unless the ambient temperature is above 40 °F and rising.

The concrete mix shall be properly placed to insure complete contact around all reinforcing steel and against existing concrete at patch edges and compacted to a level slightly above the surrounding deck surface. Vibrators of the appropriate size shall be used for all consolidation of the concrete, regardless of the size of the patch area, with no hand tamping or rodding allowed. Concrete may be moved horizontally with the aid of hand tools, but not with the use of vibrators (excess vibration shall be avoided).

Vibrating plates or vibrating screed shall be used on the surface of all patches for strike off and consolidation. After the concrete has been spread evenly and compacted to a level slightly above the adjacent concrete surface, the vibrating plate or screed shall be drawn over the surface at a uniform speed without stopping, in order to finish the surface smooth and even with adjacent concrete. The surface shall be float finished. Finishing operations shall be completed before initial set takes place.

5. Curing: Immediately after finishing of the patch area, a sheet of 4 mil polyethylene shall be placed over the repair area, in conjunction with insulating curing material. This material shall be a minimum of 2-inch thick closed cell extruded polystyrene insulation board that conforms with the requirements of ASTM C578. It shall have a minimum certified R-value of 10. The insulating material shall extend a minimum of 12 inches beyond the limits of the patch area, and shall be kept in intimate contact with the surrounding payment surface to prevent lifting of the material. It shall be weighted down with sandbags that weight at least 15 pounds each. The sandbags shall be placed a minimum of 2 feet on center around the patch area.

Cured patches, having a hollow sound when chain dragged or tapped (indicating delamination), shall be replaced by the Contractor at its expense until a patch acceptable to the Engineer is in place.

6. Tolerances in Finished Patch Surfaces: The surface profile of the patched area shall not vary more than 1/8 inch in a distance of 10 feet, when a 10 foot long straightedge is placed on the surface at any angle relative to the centerline of the bridge. Humps in the patch that exceed the 1/8 inch tolerance shall be ground down by approved machinery. Sags or depressions in the surface of the patch area that exceed 1/8 inch tolerance as determined by the Engineer shall be repaired by removal of the concrete in the depression to a depth of 1 inch and repaired in the previously described manner.

7. **Testing:** The Contractor shall form, cure and test all concrete test cylinders under supervision of a representative of the Department. The dimensions, type of cylinder mold, number of cylinders, and method of curing shall be as directed by the Engineer.

The Contractor shall provide a portable compressive testing machine, on Site, for the purpose of testing all compressive strength cylinders. All testing shall be in accordance with the requirements of ASTM C39. NOTE: This compressive testing machine must be calibrated in accordance with the provisions of Section 5, ASTM C39.

8. **Time Schedule:** Traffic will not be allowed on any areas where the Contractor has placed and finished concrete until the material has properly cured as specified, and has developed the required strength of 2,500 psi as determined by the compressive strength test, or until the Engineer authorizes its opening to traffic.

All work shall proceed as required by the “Maintenance and Protection of Traffic” and “Prosecution and Progress” specifications elsewhere within the Contract.

Method of Measurement: This work will be measured for payment by the actual volume in cubic yards of replacement concrete, complete and accepted. No deduction will be made for the volume of reinforcing steel. Removal of concrete will not be measured for payment.

Basis of Payment: This work will be paid for at the Contract unit price per cubic yard for “Full Depth Patch (High Early Strength Concrete)” complete in place, which price shall include sawcutting and removal of concrete, surface preparation, furnishing and installing deformed steel bars, concrete replacement, all equipment, tools, labor and work incidental thereto.

Pay Item	Pay Unit
Full Depth Patch (High Early Strength Concrete)	c.y.

ITEM #0601318A—PARTIAL DEPTH PATCH

Description: Work under this item shall consist of the removal of spalled, delaminated or otherwise deteriorated concrete from existing bridge decks, approach slabs and headers by pneumatic hammers or hydro-demolition methods, and replacement with fast setting patching material as shown on the plans, as directed by the Engineer and specified herein.

Where ordered by the Engineer, work under this item shall also include inspecting the underside of the deck concrete for popouts caused by the removal of deteriorated concrete.

Work under this item shall also include the furnishing and installation of deformed steel bars, reinforcing bar wire ties and vertical supports on inadequately supported or vibrating reinforcing steel within deck patch areas, as ordered by the Engineer and providing of a safe access to the structure for the delineation of the repair locations and review of the performed repair work.

Materials: The materials shall meet the following requirements:

- 1) **Patching Material:** The patching material shall be a concrete composed of a quick setting cement, fine aggregate, coarse aggregate and water. This concrete shall harden within 40 minutes, and develop minimum compressive strengths of 1,000 psi within 1 hour after set and 3,000 psi within 3 days.

The Contractor shall design and submit a quick setting mix to the Engineer for acceptance. Said mix design shall meet the strength requirements noted above and shall attain a minimum of 2500 psi prior to allowing traffic on patched surfaces. The mix proportions and method of application shall be in accordance with the manufacturer’s recommendations. Sources of supply of all the materials shall be clearly indicated.

Fine aggregate shall meet the requirements of Subarticle M.03.01-2.

The coarse aggregate shall meet the requirements of Subarticle M.03.01-1. The required grading shall be obtained by using 100% of No. 8 size coarse aggregate. Grading of the aggregate shall conform to the gradation for No. 8 stone in Article M.01.01.

Water shall meet the requirements of Subarticle M.03.01-4.

The quick setting cement shall be one of the following materials:

MasterEmaco T 415
 BASF
 23700 Chagrin Blvd.
 Beachwood, OH 44122
 216-839-7016
www.master-builders-solutions.basf.us

Perma Patch
 Dayton Superior Corporation
 7130 Ambassador Dr.
 Allentown, PA 18106
 800-745-3707
www.daytonsuperior.com

Rapid Set DOT Cement
 CTS Cement Manufacturing
 11065 Knott Ave. Suite A
 Cypress, CA 90630
 800-929-3030
www.ctscement.com

Speed Crete Green Line
 Tamms Industries
 730 Casey Ave.
 Wilkes-Barre, PA 18702
 800-218-2667
www.dpproducts.com/products/tamms.html

Fastcrete
Silpro Corporation
2 New England Way
Ayer, MA 01432
800-343-1501
www.silpro.com/products/fastcrete.shtml

Gypsum Based Materials will not be allowed.

2) Deformed Steel Bars: Section 6.02

Construction Methods:

Removal of concrete for partial depth patch will be performed by one of two methods: Hammer Demolition or Hydro-demolition. Prior to beginning any work, the Contractor shall provide submittals outlining intended method, as defined herein.

- 1) Inspection of the Deck: Before any existing concrete is removed, the Contractor shall provide the Engineer clear access to the bridge deck. During this time, the Engineer will perform an inspection of the structural slab and will designate areas where concrete removal shall be required. It shall be the responsibility of the Contractor to arrange the construction schedule so that the required operations may be performed without causing delay to the work.

No operations will be performed by the Engineer until after the following construction work has been completed:

- a) The existing bituminous overlay or concrete wearing course, if present, has been removed.
- b) The existing waterproofing system, if present, has been removed.

Note: The removal of this material will be paid for under other applicable items.

It shall be the responsibility of the Contractor to inform the Engineer, in writing, of the date that a structure will be available for inspection operations. Notification shall be given to the Engineer at least 7 days prior to the date that the area in question will be in a condition acceptable to the Engineer.

The Contractor is hereby informed that the following time period will be necessary to perform the required inspection operations:

One working day with suitable weather conditions per each six thousand (6,000) square feet, or portion thereof, of deck area.

The Contractor will not be allowed to do any further work to the structure, until all necessary inspection operations have been performed, unless given permission by the Engineer.

The Contractor shall include any costs related to the allowance for this inspection in the general cost of the work.

- 2) Hammer Demolition: The maximum allowable noise level caused by equipment used for the removal of deck concrete shall not exceed 90 decibels on the "A" weighted scale, as measured at the nearest residence or occupied building. The Contractor shall demonstrate,

to the satisfaction of the Engineer, that the equipment will meet this requirement before the use of such equipment will be allowed.

The weight of pneumatic hammers when used shall not exceed 30 pounds for concrete removal above the top reinforcing steel nor 15 pounds for concrete removal below the top reinforcing steel.

- 3) Hydro-Demolition Water and Equipment: All hydro-demolition equipment shall be capable of selectively removing spalled, delaminated or otherwise deteriorated concrete and cleaning the existing reinforcing steel of all rust and corrosion products by use of high-velocity water jets acting under continuous automatic control.

The hydro-demolition equipment shall consist of filtering and pumping units operating in conjunction with a remote-controlled robotics device.

All hydro-demolition equipment shall be equipped with an angled and rotating water nozzle to prevent interference of the existing reinforcing steel with the removal of concrete.

The maximum allowable noise level caused by equipment used for the removal of deck concrete shall not exceed ninety (90) decibels on the "A" weighted scale, as measured at the nearest residence or occupied building. The Contractor shall demonstrate, to the satisfaction of the Engineer, that the equipment will meet this requirement before the use of such equipment will be allowed.

The make and model numbers of hydro-demolition equipment shall be submitted for acceptance by the Engineer. No hydro-demolition work shall be initiated until this acceptance is granted.

The Contractor shall provide structurally adequate shields approved by the Engineer for protection of adjacent traffic lanes in the vicinity of the removal and cleanup operations.

Water used for the hydro-demolition shall be potable.

The Contractor is advised that the withdrawal of more than 50,000 gallons of water per day from a single source other than from a municipal water system shall require a diversion permit issued by the Department of Energy and Environmental Protection, Water Resources Unit, in accordance with the Connecticut Water Diversion Policy Act PA 84-402, CGS Sections 22a-365 through 22a-378.

- 4) Hydro-Demolition Drainage Runoff Control: At least 2 weeks prior to the planned initiation of hydro-demolition operations, the Contractor shall submit to the Engineer for acceptance a comprehensive plan for the hydro-demolition operation. This Hydro-Demolition Plan shall include the following:

- a) Equipment
- b) Containment
- c) Filtration
- d) Location of trial areas
- e) Disposal of hydro-demolition runoff and concrete debris in conformance with these specifications

The Plan shall ensure that all concrete debris and particulate matter will be removed from hydro-demolition runoff water prior to its release to the environment.

The Plan shall include provision for the concurrent vacuuming of all runoff water at the immediate vicinity of the hydro-demolition operation. Runoff water shall be completely

contained and vacuumed into a suitably sized water tight mobile tank for transport to a disposal site sedimentation basin acceptable to the Engineer.

Hydro-demolition operations shall proceed only with the simultaneous operation of a runoff water vacuum pickup in the immediate area of the hydro-demolition operation. Runoff water shall not be allowed to flow across adjacent travel lanes, across bridge joints nor through any existing bridge drainage system.

The size and location of the disposal site sedimentation basin shall be detailed in the Hydro-Demolition Plan. The sedimentation basin shall be properly sized so that uncontrolled overflow does not occur. At the conclusion of hydro-demolition operations, the sedimentation basin and all concrete debris shall be removed and the area restored to its original condition.

The Plan shall additionally conform to all applicable requirements of Section 1.10 Environmental Compliance of the Standard Specifications.

The acceptance by the Engineer of the Hydro-Demolition Plan shall in no way relieve the Contractor of any responsibility for its safe and effective performance.

- 5) Calibration and Testing of Hydro-Demolition Equipment: A trial area will be designated by the Engineer to demonstrate that the equipment, personnel and methods of operation are capable of producing satisfactory results. The trial area will consist of 2 patches, each of approximately 20 square feet, one area of deteriorated or defective concrete and one area of "sound" concrete as determined by the Engineer.

Area of sound concrete is defined as: An area free from chemical defects, delamination, spalling, cracks, etc.

In the "sound area of concrete," the equipment shall be programmed to remove concrete to a depth 1 inch \pm 1/4 inch below the top reinforcing steel mat.

After completion of the sound concrete test area, the equipment shall be located over the deteriorated or defective concrete and, using the same parameters as for sound concrete removal, shall remove all deteriorated or defective concrete. If a satisfactory result is obtained, these parameters may be used as a basis for production removal.

If, after calibrating the hydro-demolition equipment and beginning removal operations in a particular zone or area, insufficient removal of concrete is observed, in the opinion of the Engineer, the Contractor shall recalibrate the hydro-demolition equipment for that zone or area to the satisfaction of the Engineer.

- 6) Removal of Deteriorated Concrete: All deteriorated concrete designated for removal under this construction item shall be removed within the limits shown on the plans and where ordered by the Engineer. The lateral limits of each area to be repaired will be delineated by the Engineer and suitably marked. Where several areas to be repaired are very close together, the Engineer may combine these individual patches into a large area. The outlines of each such area shall first be cut to a depth of 1/2 inch with a powersaw capable of making straight cuts prior to pneumatic demolition. In the event that reinforcing steel is encountered within the upper 1/2 inch depth during sawing operations, the depth of saw-cut shall immediately be adjusted to a shallower depth so as not to damage the steel bars. If so directed by the Engineer, saw cutting shall again be carried down to the 1/2 inch depth at other locations of repair provided reinforcing steel is not again encountered. Where over-breakage occurs resulting in a featheredge, the featheredge shall be squared up to a vertical

edge in an acceptable manner. Where sawing is impractical, the area shall be outlined by chisel or other acceptable means.

All deteriorated concrete shall be removed by pneumatic hammers or hydro-demolition methods.

The depth of concrete removal shall be at least 1 inch below the top reinforcing steel mat but shall be such as to include all spalled, delaminated, or otherwise deteriorated concrete. The Engineer will be the sole determiner of what constitutes deteriorated concrete, using sounding methods or other evaluation measures.

Within 1 hour following the initiation of a concrete removal operation in any patch area, all loose concrete debris shall be removed, followed by water flushing of the existing concrete bonding surface to completely remove all traces of concrete debris and cement residue so that rebonding to the surface of the remaining sound concrete will be prevented. If it is not convenient to clean and flush the patch area within this time frame, all steel reinforcing and concrete bonding surfaces shall be cleaned subsequently by high pressure water blasting at a nozzle pressure not less than 3,000 psi with a sufficient volume to completely remove all rebonded debris and laitance.

Where the existing reinforcing steel is damaged or corroded, it shall be cut out and replaced with new reinforcing steel of the same size. Any sound reinforcing steel damaged during the concrete removal operations, shall be repaired or replaced by the Contractor at its expense, as directed by the Engineer. New steel shall be attached beneath or beside existing steel with a minimum splice length as indicated on the plans, or as directed by the Engineer. The concrete shall be removed to a minimum depth of 1 inch below the new steel.

- 7) Surface Preparation: Sound reinforcing steel which is in the proper position in the slab shall be left in place and cleaned of all concrete, the smaller fragments to be removed with hand tools in patch areas where pneumatic hammers were used.

Reinforcing bar wire ties and vertical supports shall be installed on inadequately supported or vibrating reinforcing steel, as directed by the Engineer.

The concrete surface and reinforcing steel to receive patching material shall be either sandblasted or water blasted, followed by air blasting in order to remove all loose particles and dust. All blasting operations shall be performed using techniques acceptable to the Engineer, taking care to protect all pedestrians, traffic, and adjacent property. All compressed air sources shall have properly sized and designed oil separators attached and functional to allow delivered air at the nozzle to be oil-free. The patch area shall be cleaned of all additional loose or powder-like rust, oil, solvent, grease, dirt, dust, bitumen, loose particles, and foreign matter just prior to patching.

If the patch area was not cleaned and flushed with clean water immediately following hydro-demolition, or if run-off from a nearby hydro-demolition operation was allowed to travel through the previously cleaned and flushed patch surface, all affected concrete and steel reinforcing bonding surfaces shall be water blast cleaned at a nozzle pressure not less than 3,000 psi as directed by the Engineer, to assure that all remaining bond inhibiting laitance is completely removed.

The entire concrete surface to be patched shall be dampened. All excess free water shall be removed from the patch area.

- 8) Mixing, Placing, and Finishing: Unless a winter operations plan has been submitted to the Engineer by the Contractor, mixing and placing concrete shall only take place when the ambient temperature is above 35°F or per manufacturer's recommendations, whichever is higher. All mixing shall be accomplished by means of a standard drum-type portable mixer. A continuous type mobile mixer may be used if permitted by the Engineer. The Contractor shall calibrate the mobile mixer under supervision of the Engineer. Calibration shall be in accordance with the applicable sections of ASTM method C685. The total mix shall be limited to the quantity that can be mixed and placed in 15 minutes. The concrete mix shall be spread evenly and compacted to a level slightly above the pavement surface. Vibration, spading or rodding shall be used to thoroughly compact concrete and fill the entire patch area. Where practical, internal vibration shall be used in cases where concrete has been removed below the reinforcing steel. Hand tamping shall be used to consolidate concrete in smaller patches, including popouts.

Vibrating plates or vibrating screeds shall be used on the surface of all patches for strike off and consolidation. After the concrete has been spread evenly and compacted to a level slightly above the pavement surface, the vibrating plate or screed shall be drawn over the surface at a uniform speed without stopping, in order to finish the surface smooth and even with adjacent concrete.

The surface shall be float finished.

Finishing operations shall be completed before initial set takes place.

Cured patches, having a hollow sound when chain dragged or tapped, (indicating delamination), shall be replaced by the Contractor at its expense until a patch acceptable to the Engineer is in place.

- 9) Tolerances in Finished Patched Surfaces: The surface profile of the patched area shall not vary more than 1/8 inch in a distance of 10 feet, when a 10 foot long straightedge is placed on the surface at any angle relative to the centerline of the bridge. Humps in the patch that exceed the 1/8 inch tolerance shall be ground down by acceptable machinery. Sags or depressions in the surface of the patch area that exceed the 1/8 inch tolerance shall be repaired by removal of the concrete in the depression over an area determined by the Engineer to a depth of 1 inch and repaired in the previously described manner.

- 10) Underside of Bridge Deck Treatment: The Engineer will examine the underside of the bridge deck for popouts caused by the removal of deteriorated concrete. The exposed reinforcing steel shall be coated with epoxy resin where ordered by the Engineer. The exposed reinforcing steel, if any, which is to receive the epoxy resin coating material shall be cleaned of all loose or powder-like rust, oil, dust, dirt, loose particles, and other inhibiting matter just prior to coating.

The epoxy resin shall be mixed in accordance with the manufacturer's instructions. Also in accordance with the manufacturer's instructions, 2 coats of the mixed material shall be applied in uniform coats of approximately 2 to 3 mils dry film thickness each.

If the popouts extend beyond the bottom layer of reinforcing steel, the popouts shall be repaired as ordered by the Engineer.

- 11) Test Cylinders: The Contractor shall make and perform compressive strength tests on representative cylinders under the supervision of the Engineer in accordance with ACI requirements. The dimensions, type of cylinder mold and number of cylinders will be

specified by the Engineer. Traffic shall not be permitted on patched surfaces until the patch material attains a strength of 2500 psi, as determined by breaks of the test cylinders.

A portable compression testing machine shall be provided by the Contractor and available on site for cylinder testing. All testing and equipment shall conform to ASTM C39.

Note: The compression machine must be calibrated in accordance with the provisions of Section 5, ASTM C39.

- 12) **Time Schedule:** Work under this item begun on any specific bridge during a construction season shall be completed, at least, to include this item, membrane waterproofing and placing of first course of wearing surface as soon as possible and specifically before the beginning of the construction season’s winter shutdown.

All work shall proceed as required by the “Maintenance and Protection of Traffic” and “Prosecution and Progress” specifications elsewhere within the Contract.

Method of Measurement: This work will be measured for payment by the actual volume in cubic feet of patching material used in acceptable concrete deck patches, except where the Engineer determines that the Contractor has unnecessarily removed sound concrete. Where sound concrete has been unnecessarily removed, the replacement concrete will not be measured for payment. Furnishing and installation of deformed steel bars, reinforcing bar wire ties, vertical supports for reinforcing steel and providing safe access for delineation and inspection of the performed repairs will not be measured for payment.

Basis of Payment: This work will be paid for at the Contract unit price per cubic foot of deck concrete repaired under "Partial Depth Patch," complete and accepted in place, which price shall include removal of deteriorated concrete, surface preparation of patch areas, concrete replacement, the furnishing and installation of deformed steel bars, reinforcing bar wire ties and vertical supports for inadequately supported existing reinforcing steel, inspection access, all materials, equipment, including the portable compression testing machine required for the testing of the repair material, tools, labor and work incidental thereto.

Epoxy resin coating of exposed rebar at the underside of the deck, if required, will be paid for under the item “Clean and Coat Exposed Reinforcing Steel.”

Pay Item	Pay Unit
Partial Depth Patch	c.f.

ITEM #0969062A - CONSTRUCTION FIELD OFFICE, MEDIUM

Description: Under the item included in the bid document, adequate weatherproof office quarters with related furnishings, materials, equipment and other services, shall be provided by the Contractor for the duration of the work, and if necessary, for a close-out period determined by the Engineer. The office, furnishings, materials, equipment, and services are for the exclusive use of CTDOT forces and others who may be engaged to augment CTDOT forces with relation to the Contract. The office quarters shall be located convenient to the work site and installed in accordance with Article 1.08.02. This office shall be separated from any office occupied by the Contractor. Ownership and liability of the office quarters shall remain with the Contractor.

Furnishings/Materials/Supplies/Equipment: All furnishings, materials, equipment and supplies shall be in like new condition for the purpose intended and require approval of the Engineer.

Office Requirements: The Contractor shall furnish the office quarters and equipment as described below:

Description \ Office Size	Small	Med.	Large	Extra Large
Minimum Sq. Ft. of floor space with a minimum ceiling height of 7 ft.	400	400	1000	2000
Minimum number of exterior entrances.	2	2	2	2
Minimum number of parking spaces.	7	7	10	15

Office Layout: The office shall have a minimum square footage as indicated in the table above, and shall be partitioned as shown on the building floor plan as provided by the Engineer.

Tie-downs and Skirting: Modular offices shall be tied-down and fully skirted to ground level.

Lavatory Facilities: For field offices sizes Small and Medium the Contractor shall furnish a toilet facility at a location convenient to the field office for use by CTDOT personnel and such assistants as they may engage; and for field offices sizes Large and Extra Large the Contractor shall furnish two (2) separate lavatories with toilet (men and women), in separately enclosed rooms that are properly ventilated and comply with applicable sanitary codes. Each lavatory shall have hot and cold running water and flush-type toilets. For all facilities the Contractor shall supply lavatory and sanitary supplies as required.

Windows and Entrances: The windows shall be of a type that will open and close conveniently, shall be sufficient in number and size to provide adequate light and ventilation, and shall be fitted with locking devices, blinds and screens. The entrances shall be secure, screened, and fitted with a lock for which four keys shall be furnished. All keys to the construction field office shall be furnished to the CTDOT and will be kept in their possession while State personnel are using the office. Any access to the entrance ways shall meet applicable building codes, with appropriate handrails. Stairways shall be ADA/ABA compliant and have non-skid tread surfaces. An ADA/ABA compliant ramp with non-skid surface shall be provided with the Extra-Large field office.

Lighting: The Contractor shall equip the office interior with electric lighting that provides a minimum illumination level of 100 foot-candles at desk level height, and electric outlets for each desk and drafting table. The Contractor shall also provide exterior lighting that provides a minimum illumination level of 2 foot-candles throughout the parking area and for a minimum distance of 10 ft. on each side of the field office.

Parking Facility: The Contractor shall provide a parking area, adjacent to the field office, of sufficient size to accommodate the number of vehicles indicated in the table above. If a paved parking area is not readily available, the Contractor shall construct a parking area and driveway consisting of a minimum of 6 inches of processed aggregate base graded to drain. The base material will be extended to the office entrance.

Field Office Security: Physical Barrier Devices - This shall consist of physical means to prevent entry, such as: 1) All windows shall be barred or security screens installed; 2) All field office doors shall be equipped with dead bolt locks and regular day operated door locks; and 3) Other devices as directed by the Engineer to suit existing conditions.

Electric Service: The field office shall be equipped with an electric service panel, wiring, outlets, etc., to serve the electrical requirements of the field office, including: lighting, general outlets, computer outlets, calculators etc., and meet the following minimum specifications:

- A. 120/240 volt, 1 phase, 3 wire
- B. Ampacity necessary to serve all equipment. Service shall be a minimum 100 amp dedicated to the construction field office.
- C. The electrical panel shall include a main circuit breaker and branch circuit breakers of the size and quantity required.
- D. Additional 120 volt, single phase, 20 amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed at each desk and personal computer table (workstation) location.
- E. Additional 120 volt, single phase, 20 amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed, for use by the Telephone Company.
- F. Additional 120-volt circuits and duplex outlets as required meeting National Electric Code requirements.
- G. One exterior (outside) wall mounted GFI receptacle, duplex, isolated ground, 120 volt, straight blade.
- H. After work is complete and prior to energizing, the State's CTDOT electrical inspector, must be contacted at 860-594-2240. (Do Not Call Local Town Officials)
- I. Prior to field office removal, the CTDOT Office of Information Systems (CTDOT OIS) must be notified to deactivate the communications equipment.

Heating, Ventilation and Air Conditioning (HVAC): The field office shall be equipped with sufficient heating, air conditioning and ventilation equipment to maintain a temperature range of 68°-80° Fahrenheit within the field office.

Telephone Service: The Contractor shall provide telephone service with unlimited nation-wide calling plan. For a Small, Medium and Large field office this shall consist of the installation of two (2) telephone lines: one (1) line for phone/voice service and one (1) line dedicated for the facsimile machine. For an Extra-Large field office this shall consist of four (4) telephone lines: three (3) lines for phone/voice service and one (1) line dedicated for facsimile machine. The Contractor shall pay all charges.

Data Communications Facility Wiring: Contractor shall install a Category 6 568B patch panel in a central wiring location and Cat 6 cable from the patch panel to each PC station, Smart Board location, Multifunction Laser Printer/Copier/Scanner/Fax, terminating in a (Category 6 568B) wall or surface mount data jack. The central wiring location shall also house either the data circuit with appropriate power requirements or a category 5 cable run to the location of the installed data circuit. The central wiring location will be determined by the CTDOT OIS staff in coordination with the designated field office personnel as soon as the facility is in place.

For Small, Medium and Large field offices the Contractor shall run a CAT 6 LAN cable a minimum length of 25 feet for each CTDOT networked device (including but not limited to: smartboards and Multi-Function Laser Printer/Copier/Scanner/Fax) to LAN switch area leaving an additional 10 feet of cable length on each side with terminated RJ45 connectors. For an Extra-Large field office the Contractor shall run CAT 6 LAN cables from workstations, install patch panel in data circuit demark area and terminate runs with RJ45 jacks at each device location. Terminate runs to patch panel in LAN switch area. Each run / jack shall be clearly labeled with an identifying Jack Number.

The Contractor shall supply cables to connect the Wi-Fi printer to the Contractor supplied internet router and to workstations/devices as needed. These cables shall be separate from the LAN cables and data Jacks detailed above for the CTDOT network.

The number of networked devices anticipated shall be at least equal to the number of personal computer tables, Multi-Function Laser Printer/Copier/Scanner/Fax, and smartboards listed below.

The installation of a data communication circuit between the field office and the CTDOT OIS in Newington will be coordinated between the CTDOT District staff, CTDOT OIS staff and the local utility company once the Contractor supplies the field office phone numbers and anticipated installation date. The Contractor shall provide the field office telephone number(s) to the CTDOT Project Engineer within 10 calendar days after the signing of the Contract as required by Article 1.08.02. This is required to facilitate data line and computer installations.

Additional Equipment, Facilities and Services: The Contractor shall provide at the field Office at least the following to the satisfaction of the Engineer:

Furnishing Description	Office Size			
	Small	Med.	Large	Extra Large
	Quantity			
Office desk (2.5 ft. x 5 ft.) with drawers, locks, and matching desk chair that have pneumatic seat height adjustment and dual wheel casters on the base.	1	3	5	8
Standard secretarial type desk and matching desk chair that has pneumatic seat height adjustment and dual wheel casters on the base.	-	-	-	1
Personal computer tables (4 ft. x 2.5 ft.).	2	3	5	8
Drafting type tables (3 ft. x 6 ft.) and supported by wall brackets and legs; and matching drafters stool that have pneumatic seat height adjustment, seat back and dual wheel casters on the base.	1	1	1	2
Conference table, 3 ft. x 12 ft.	-	-	-	1
Table – 3 ft. x 6 ft.	-	-	-	1
Office Chairs.	2	4	8	20
Mail slot bin – legal size.	-	-	1	1
Non-fire resistant cabinet.	-	-	2	4
Fire resistant cabinet (legal size/4 drawer), locking.	1	1	2	3
Storage racks to hold 3 ft. x 5 ft. display charts.	-	-	1	2
Vertical plan racks for 2 sets of 2 ft. x 3 ft. plans for each rack.	1	1	2	2
Double door supply cabinet with 4 shelves and a lock – 6 ft. x 4 ft.	-	-	1	2
Case of cardboard banker boxes (Min 10 boxes/case)	1	1	2	3
Open bookcase – 3 shelves – 3 ft. long.	-	-	2	2
White Dry-Erase Board, 36" x 48" min. with markers and eraser.	1	1	1	1
Interior partitions – 6 ft. x 6 ft., soundproof type, portable and freestanding.	-	-	6	6
Coat rack with 20 coat capacity.	-	-	-	1
Wastebaskets - 30 gal., including plastic waste bags.	1	1	1	2
Wastebaskets - 5 gal., including plastic waste bags.	1	3	6	10
Electric wall clock.	-	-	-	2
Telephone.	1	1	1	-
Full size stapler 20 (sheet capacity, with staples)	1	2	5	8
Desktop tape dispensers (with Tape)	1	2	5	8

8 Outlet Power Strip with Surge Protection	3	4	6	9
Rain Gauge	1	1	1	1
Business telephone system for three lines with ten handsets, intercom capability, and one speaker phone for conference table.	-	-	-	1
Mini refrigerator - 3.2 c.f. min.	1	1	1	1
Hot and cold water dispensing unit. Disposable cups and bottled water shall be supplied by the Contractor for the duration of the project.	1	1	1	1
Microwave, 1.2 c.f. , 1000W min.	1	1	1	1
Fire extinguishers - provide and install type and *number to meet applicable State and local codes for size of office indicated, including a fire extinguisher suitable for use on a computer terminal fire.	*	*	*	*
Electric pencil sharpeners.	1	2	2	2
Electronic office type printing calculators capable of addition, subtraction, multiplication and division with memory and a supply of printing paper.	1	1	2	4
Small Multi-Function Laser Printer/Copier/Scanner/Fax combination unit, network capable, as specified below under <u>Computer Related Hardware and Software</u> .	1	1		
Large Multi-Function Laser Printer/Copier/Scanner/Fax combination unit, network capable, as specified below under <u>Computer Related Hardware and Software</u> .			1	1
Field Office Wi-Fi Connection as specified below under <u>Computer Related Hardware and Software</u>	1	1	1	1
Wi-Fi Printer as specified below under <u>Computer Related Hardware and Software</u> .	1	1	1	1
Digital Camera as specified below under <u>Computer Related Hardware and Software</u> .	1	1	3	3
Video Projector as specified below under <u>Computer Related Hardware and Software</u> .	-	-	-	1
Smart Board as specified below under <u>Computer Related Hardware and Software</u> .	-	-	-	1
Infrared Thermometer, including annual third party certified calibration, case, and cleaning wipes.	1	1	1	2
Concrete Curing Box as specified below under Concrete Testing Equipment.	1	1	1	1
Concrete Air Meter and accessories as specified below under Concrete Testing Equipment as specified below. Contractor shall provide third party calibration on a quarterly basis.	1	1	1	1
Concrete Slump Cone and accessories as specified below under	1	1	1	1

Concrete Testing Equipment.				
First Aid Kit	1	1	1	1
Flip Phones as specified under <u>Computer Related Hardware and Software.</u>	-	-	-	-
Smart Phones as specified under <u>Computer Related Hardware and Software.</u>	-	-	-	-

The furnishings and equipment required herein shall remain the property of the Contractor. Any supplies required to maintain or operate the above listed equipment or furnishings shall be provided by the Contractor for the duration of the project.

Computer Related Hardware and Software: The CTDOT will supply by its own means the actual personal computers for the CTDOT representatives. The Contractor shall supply the Field Office Wi-Fi Connection, Wi-Fi Printer, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projectors, and Smart Board(s) as well as associated hardware and software, must meet the requirements of this specification as well as the latest minimum specifications posted, as of the project advertising date, at CTDOTs web site <http://www.ct.gov/dot/cwp/view.asp?a=1410&q=563904>

Within 10 calendar days after the signing of the Contract but before ordering/purchasing the Wi-Fi Printer (separate from the Multifunction Laser Printer/Copier/Scanner/Fax), Field Office Wi-Fi, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projector(s) and Smart Board(s) as well as associated hardware, the Contractor must submit a copy of their proposed order(s) with catalog cuts and specifications to the Administering CTDOT District for review and approval. The Wi-Fi Printer, Wi-Fi Router, Flip Phones, Smart Phones, digital cameras, Projector(s) and Smart Board(s) will be reviewed by CTDOT District personnel. The Multifunction Laser Printer/Copier/Scanner/Fax will be reviewed by the CTDOT OIS. The Contractor shall not purchase the hardware, software, or services until the Administering CTDOT District informs them that the proposed equipment, software, and services are approved. The Contractor will be solely responsible for the costs of any hardware, software, or services purchased without approval.

The Contractor and/or their internet service provider shall be responsible for the installation and setup of the field office Wi-Fi, Wi-Fi printer, and the configuration of the wireless router as directed by the CTDOT. Installation will be coordinated with CTDOT District and Project personnel.

After the approval of the hardware and software, the Contractor shall contact the designated representatives of the CTDOT administering District, a minimum of 2 working days in advance of the proposed delivery or installation of the Field Office Wi-Fi Connection, Wi-Fi Printer, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projectors and Smart Board(s), as well as associated hardware, software, supplies, and support documentation.

The Contractor shall provide all supplies, paper, maintenance, service and repairs (including labor and parts) for the Wi-Fi printers, copiers, field office Wi-Fi, fax machines and other equipment and facilities required by this specification for the duration of the Contract. All repairs must be performed with-in 48 hours. If the repairs require more than a 48 hours then an equal or better replacement must be provided.

Once the Contract has been completed, the hardware and software will remain the property of the Contractor.

First Aid Kit: The Contractor shall supply a first aid kit adequate for the number of personnel expected based on the size of the field office specified and shall keep the first aid kit stocked for the duration that the field office is in service.

Rain Gauge: The Contractor shall supply install and maintain a rain gauge for the duration of the project, meeting these minimum requirements. The rain gauge shall be installed on the top of a post such that the opening of the rain gauge is above the top of the post an adequate distance to avoid splashing of rain water from the top of the post into the rain gauge. The Location of the rain gauge and post shall be approved by the Engineer. The rain gauge shall be made of a durable material and have graduations of 0.1 inches or less with a minimum total column height of 5 inches. If the rain gauge is damaged the Contractor shall replace it prior to the next forecasted storm event at no additional cost.

Concrete Testing Equipment: If the Contract includes items that require compressive strength cylinders for concrete, in accordance with the Schedule of Minimum Testing Requirements for Sampling Materials for Test, the Contractor shall provide the following equipment.

- A) Concrete Cylinder Curing Box – meeting the requirements of Section 6.12 of the Standard Specifications.
- B) Air Meter – The air meter provided shall be in good working order and meet the requirements of AASHTO T 152.
- C) Slump Cone Mold – Slump cone, base plate, and tamping rod shall be provided in like-new condition and meet the requirements of AASHTO T119, Standard Test Method for Slump of Hydraulic-Cement Concrete.

All testing equipment will remain the property of the Contractor at the completion of the project.

Insurance Policy: The Contractor shall provide a separate insurance policy, with no deductible, in the minimum amount of five thousand dollars (\$5,000) in order to insure all State-owned data equipment and supplies used in the office against all losses. The Contractor shall be named insured on that policy, and the CTDOT shall be an additional named insured on the policy. These losses shall include, but not be limited to: theft, fire, and physical damage. The CTDOT will be responsible for all maintenance costs of CTDOT owned computer hardware. In the event of loss, the Contractor shall provide replacement equipment in accordance with current CTDOT equipment

specifications, within seven days of notice of the loss. If the Contractor is unable to provide the required replacement equipment within seven days, the CTDOT may provide replacement equipment and deduct the cost of the equipment from monies due or which may become due the Contractor under the Contract or under any other contract. The Contractor's financial liability under this paragraph shall be limited to the amount of the insurance coverage required by this paragraph. If the cost of equipment replacement required by this paragraph should exceed the required amount of the insurance coverage, the CTDOT will reimburse the Contractor for replacement costs exceeding the amount of the required coverage.

Maintenance: During the occupancy by the CTDOT, the Contractor shall maintain all facilities and furnishings provided under the above requirements, and shall maintain and keep the office quarters clean through the use of weekly professional cleaning to include, but not limited to, washing & waxing floors, cleaning restrooms, removal of trash, etc. Exterior areas shall be mowed and clean of debris. A trash receptacle (dumpster) with weekly pickup (trash removal) shall be provided. Snow removal, sanding and salting of all parking, walkway, and entrance ways areas shall be accomplished during a storm if on a workday during work hours, immediately after a storm and prior to the start of a workday. If snow removal, salting and sanding are not completed by the specified time, the State will provide the service and all costs incurred will be deducted from the next payment estimate.

Method of Measurement: The furnishing and maintenance of the construction field office will be measured for payment by the number of calendar months that the office is in place and in operation, rounded up to the nearest month.

There will not be any price adjustment due to any change in the minimum computer related hardware and software requirements.

Basis of Payment: The furnishing and maintenance of the Construction Field Office will be paid for at the Contract unit price per month for "Construction Field Office, (Type)," which price shall include all material, equipment, labor, service contracts, licenses, software, repair or replacement of hardware and software, related supplies, utility services, parking area, external illumination, trash removal, snow and ice removal, and work incidental thereto, as well as any other costs to provide requirements of this specified this specification.

<u>Pay Item</u>	<u>Pay Unit</u>
Construction Field Office, (Type)	Month

**INTERDEPARTMENTAL
MESSAGE**

STATE OF CONNECTICUT

To	NAME, TITLE Central Permit Processing Unit, 1 st Floor	DATE February 2, 2016
	AGENCY, ADDRESS Department of Environmental Protection, 79 Elm Street, Hartford	
From	NAME, TITLE Mark W. Alexander, Transportation Assistant Planning Director	TELEPHONE 594-2931
	AGENCY, ADDRESS Department of Transportation, 2800 Berlin Turnpike, Newington	

Subject: State Project No. 92-668
Bridge No. 03093
Interstate 91 over Front Street and the Quinnipiac River
City of New Haven

Attached are the original and two copies of the Certificate of Permission (COP) associated with the above referenced project.

Any questions pertaining to this application may be directed to Mr. Andrew H. Davis, Transportation Supervising Planner of my staff, at 860-5934-2957.

Attachments

DEPARTMENT OF ENVIRONMENTAL PROTECTION
 CENTRAL PERMIT PROCESSING UNIT

FEB 17 2016

RECEIVED BY BC.



**Connecticut Department of
Energy & Environmental Protection**

CPPU USE ONLY	
App #:	_____
Doc #:	_____
Check #:	_____

Permit Application Transmittal Form

Please complete this transmittal form in accordance with the instructions in order to ensure the proper handling of your application(s) and the associated fee(s). Print legibly or type.

Part I: Applicant Information:

- *If an applicant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, applicant's name shall be stated exactly as it is registered with the Secretary of State.*
- *If an applicant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).*

Applicant: Connecticut Department of Transportation			
Mailing Address: 2800 Berlin Turnpike			
City/Town: Newington	State: CT	Zip Code: 06131-7546	
Business Phone: 860-594-2002	ext.:		
Contact Person: Thomas J. Maziarz	Phone:	ext.	
E-Mail: Thomas.Maziarz@ct.gov			
Applicant (check one): <input type="checkbox"/> individual <input type="checkbox"/> *business entity <input type="checkbox"/> federal agency <input checked="" type="checkbox"/> state agency <input type="checkbox"/> municipality <input type="checkbox"/> tribal			
*If a business entity, list type (e.g., corporation, limited partnership, etc.):			
<input type="checkbox"/> Check if any co-applicants. If so, attach additional sheet(s) with the required information as supplied above.			
Please provide the following information to be used for <i>billing purposes only</i> , if different:			
Company/Individual Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Contact Person:	Phone:	ext.	

Part II: Project Information

Brief Description of Project: <i>(Example: Development of a 50 slip marina on Long Island Sound)</i>					
Rehabilitation of Bridge No. 03093, I-91 over Front Street and the Quinnipiac River in the City of New Haven, will include repairs to the deck, structural steel, substructure, and the installation of riprap to prevent pier scour.					
Location (City/Town): New Haven					
Other Project Related Permits (<i>not</i> included with this form):					
Permit Description	Issuing Authority	Submittal Date	Issuance Date	Denial Date	Permit #
Flood Management General	ConnDOT	01/28/2016	02/03/2016		

Part III: Individual Permit Application and Fee Information

New, Mod. or Renew	Individual Permit Applications	Initial Fees	No. of Permits Applied For	Total Initial Fees	Original + Required Copies
	AIR EMISSIONS				
	New Source Review <input type="checkbox"/> Revision <input type="checkbox"/> minor mod	\$940.00			1 + 0
	Title V Operating Permits <input type="checkbox"/> Revision <input type="checkbox"/> minor mod <input type="checkbox"/> non-minor mod	none			1 + 0
	Title IV	none			1 + 0
	Clean Air Interstate Rule (CAIR)	none			1 + 0
	WATER DISCHARGES				
	To Groundwater	\$1300.00			1 + 1
	To Sanitary Sewer (POTW)	\$1300.00			1 + 1
	To Surface Water (NPDES)	\$1300.00			1 + 1
	INLAND WATER RESOURCES-				
	Dam Safety	none			1 + 2
	Flood Management Certification	none			1 + 1
	Inland Wetlands and Watercourses	none			1 + 5
	Inland 401 Water Quality Certification	none			
	FERC- Hydropower Projects- 401 Water Quality Certification	none			1 + 1
	Water Diversion	★			1 + 5
	OFFICE OF LONG ISLAND SOUND PROGRAMS				
New	Certificate of Permission	\$375.00	1	375.00	1 + 2
	Coastal 401 Water Quality Certification	none			1 + 2
	Structures and Dredging/and Fill/Tidal Wetlands	\$660.00			1 + 2
	WASTE MANAGEMENT				
	Aerial Pesticide Application	★			1 + 2
	Aquatic Pesticide Application	\$200.00			1 + 0
	CGS Section 22a-454 Waste Facilities	★			1 + 1
	Disruption of a Solid Waste Disposal Area	\$0			1 + 1
	Hazardous Waste Treatment, Storage and Disposal Facilities	★			1 + 1
	Marine Terminal License	\$100.00			1 + 0
	Stewardship	\$4000.00			1 + 1
	Solid Waste Facilities	★			1 + 1
	Waste Transportation	★			1 + 0
		Subtotal ⇒	1	375.00	
GENERAL PERMITS and AUTHORIZATIONS		Subtotals Page 3 & 4 ⇒	0	0	
Enter subtotals from Part IV, pages 3 - 6 of this form		Subtotals Page 5 ⇒	0	0	
		Subtotals Page 6 ⇒	0	0	
		TOTAL ⇒	1	375.00	
<input checked="" type="checkbox"/> Indicate whether municipal discount or state waiver applies.		Less Applicable Discount ⇒		100%	
		AMOUNT REMITTED ⇒		0	
Check # ⇒	n/a	Check or money order should be made payable to: "Department of Energy and Environmental Protection"			

★ See fee schedule on individual application.

**Part IV: General Permit Registrations and Requests for Other Authorizations
Application and Fee Information**

<input checked="" type="checkbox"/> General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fees	Original + Required Copies
AIR EMISSIONS				
<input type="checkbox"/> Limit Potential to Emit from Major Stationary Sources of Air Pollution	\$2760.00			1 + 0
<input type="checkbox"/> Diagnostic and Therapeutic X-Ray Devices (Medical X-Ray) Registration	\$190.00/Xray device			1 + 0
<input type="checkbox"/> Radioactive Materials and Industrial Device Registration (Ionizing Radiation)	\$200.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization	★ ★			★ ★
<input type="checkbox"/> License Revocation Request	\$0			★ ★
<input type="checkbox"/> Other, (please specify):				
WATER DISCHARGES				
<input type="checkbox"/> Boiler Blowdown Wastewater	Expired- wastewater discharge authorized under MISC GP			
<input type="checkbox"/> Categorical Industry User to a POTW Discharges > 10,000 gpd Discharges < 10,000 gpd	\$6250.00 \$3125.00			1 + 0
<input type="checkbox"/> Domestic Sewage	\$625.00			1 + 0
<input type="checkbox"/> Food Preparation Establishment Wastewater	No Registration			
<input type="checkbox"/> Food Processing Wastewater	\$500.00			1 + 0
<input type="checkbox"/> Groundwater Remediation Wastewater to a Sanitary Sewer	\$500.00			1 + 0
<input type="checkbox"/> Groundwater Remediation Wastewater to a Surface Water Registration Only	\$625.00			1 + 0
<input type="checkbox"/> Approval of Registration by DEEP	\$1250.00			
<input type="checkbox"/> Hydrostatic Pressure Testing Wastewater Registration Only	\$625.00			1 + 0
<input type="checkbox"/> Approval of Registration by DEEP (natural gas pipelines)	\$1250.00			
<input type="checkbox"/> Miscellaneous Discharges of Sewer Compatible Wastewater Registration Only	\$500.00			1 + 0
<input type="checkbox"/> Approval of Registration by DEEP	\$1000.00			
<input type="checkbox"/> Nitrogen Discharges	No Registration			
<input type="checkbox"/> Non-Contact Cooling and Heat Pump Water (Minor)	\$625.00			1 + 0
<input type="checkbox"/> Photographic Processing Wastewater (Minor)	Expired- wastewater discharge authorized under MISC GP			
<input type="checkbox"/> Point Source Discharges from Application of Pesticides	\$200.00			1 + 0
<input type="checkbox"/> Printing & Publishing Wastewater (Minor) Flow < 40 gpd	\$500.00 \$100.00			1 + 0
<input type="checkbox"/> Stormwater Associated with Commercial Activities	\$300.00			1 + 0
<input type="checkbox"/> Stormwater Associated with Industrial Activities <50 employees—see general permit for additional requirements >50 employees—see general permit for additional requirements	\$500.00 \$1000.00			1 + 0
<input type="checkbox"/> Stormwater & Dewatering Wastewaters-Construction Activities	★			1 + 0
<input type="checkbox"/> Stormwater from Small Municipal Separate Storm Sewer Systems (MS4)	\$250.00			1 + 0

★ See fee schedule on registration/application.

★★ Contact the specific permit program for this information.
(Contact numbers are provided in the instructions)

Part IV: General Permit Registrations and Requests for Other Authorizations (continued)

WATER DISCHARGES (continued)				
<input type="checkbox"/> Subsurface Sewage Disposal Systems Serving Existing Facilities	★ ★			1 + 0
<input type="checkbox"/> Swimming Pool Wastewater - Public Pools and Contractors	\$500.00			1 + 0
<input type="checkbox"/> Tumbling or Cleaning of Parts Wastewater (Minor)	Expired- wastewater discharge authorized under MISC GP			
Vehicle Maintenance Wastewater				
<input type="checkbox"/> Registration Only	\$625.00			1 + 0
<input type="checkbox"/> Approval of Registration by DEEP	\$1250.00			
<input type="checkbox"/> Water Treatment Wastewater	\$625.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization - Discharge to POTW	\$1500.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization - Discharge to Surface Water	\$1500.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization - Discharge to Groundwater	\$1500.00			1 + 0
<input type="checkbox"/> Other. (please specify):				
Note: Carry subtotals over to Part III, page 2 of this form.		Subtotal	➡	

★ See fee schedule on registration/application.

★★ Contact the specific permit program for this information.
(Contact numbers are provided in the instructions)

Part IV: General Permit Registrations and Requests for Other Authorizations (continued)

<input checked="" type="checkbox"/> General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fee	Original + Required Copies
AQUIFER PROTECTION PROGRAM				
<input type="checkbox"/> Registration for Regulated Activities	\$625.00			1 + 0
<input type="checkbox"/> Permit Application to Add a Regulated Activity	\$1250.00			1 + 0
<input type="checkbox"/> Exemption Application from Registration	\$1250.00			1 + 0
INLAND WATER RESOURCES				
<input type="checkbox"/> Diversion of Remediation Groundwater	No Registration			
<input type="checkbox"/> Diversion of Water for Consumptive Use: Reauthorization Categories	\$1000.00			1 + 2
<input type="checkbox"/> Diversion of Water for Consumptive Use: Authorization Required	\$2500.00			1 + 4
<input type="checkbox"/> Diversion of Water for Consumptive Use: Filing Only	\$1500.00			1 + 4
<input type="checkbox"/> Programmatic General Permit	★			1 + 3
<input type="checkbox"/> Water Resource Construction Activities	★			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization	★★			★★
<input type="checkbox"/> Notice of High Hazard Dam or a Significant Hazard Dam	\$0			1 + 0
<input type="checkbox"/> Other, (please specify):				
OFFICE OF LONG ISLAND SOUND PROGRAMS				
<input type="checkbox"/> 4/40 Docks	\$700.00			1 + 1
<input type="checkbox"/> Beach Grading	\$100.00			1 + 1
<input type="checkbox"/> Buoys or Markers	No Registration			
<input type="checkbox"/> Coastal Remedial Activities Required by Order	\$700.00			1 + 1
<input type="checkbox"/> Dock Reconstruction	\$300.00			1 + 1
<input type="checkbox"/> Harbor Moorings	No Registration			
<input type="checkbox"/> Maintenance of Catch Basins and Tide Gates	No Registration			
<input type="checkbox"/> Marina and Mooring Field Reconfiguration	\$700.00			1 + 1
<input type="checkbox"/> Minor Seawall Repair	No Registration			
<input type="checkbox"/> Non-harbor Moorings	\$100.00			1 + 1
<input type="checkbox"/> Osprey Platforms and Perch Poles	none			1 + 1
<input type="checkbox"/> Pump-out Facilities (no fee for Clean Vessel Act grant recipients)	\$100.00			1 + 1
<input type="checkbox"/> Programmatic General Permit	★			1 + 1
<input type="checkbox"/> Removal of Derelict Structures	\$100.00			1 + 1
<input type="checkbox"/> Residential Flood Hazard Mitigation	\$100.00			1 + 1
<input type="checkbox"/> Swim Floats	\$100.00			1 + 1
<input type="checkbox"/> Emergency/Temporary Authorization	★★			★★
<input type="checkbox"/> Other, (please specify):				
Note: Carry subtotals over to Part III, page 2 of this form.		Subtotal	⇒	

★ See fee schedule on registration/application.

★★ Contact the specific permit program for this information.
(Contact numbers are provided in the instructions)

Part IV: General Permit Registrations and Requests for Other Authorizations (continued)

<input checked="" type="checkbox"/> General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fee	Original + Required Copies
WASTE MANAGEMENT				
<input type="checkbox"/> Addition of Grass Clippings at Registered Leaf Composting Facilities	\$500.00			1 + 0
<input type="checkbox"/> Beneficial Use Determination	★			1 + 0
Certain Recycling Facilities:				
<input type="checkbox"/> Drop-site Recycling Facility	\$200.00			1 + 0
<input type="checkbox"/> Limited Processing Recycling Facility	\$500.00			1 + 0
<input type="checkbox"/> Recyclables Transfer Facility	\$500.00			1 + 0
<input type="checkbox"/> Single Item Recycling Facility	\$500.00			1 + 0
<input type="checkbox"/> Collection and Storage of Post Consumer Paint	\$0			1 + 0
Contaminated Soil and/or Staging Management (Staging/Transfer)				
<input type="checkbox"/> New Registrations	\$250.00			1 + 0
<input type="checkbox"/> New Approval of Registrations	\$1500.00			1 + 0
<input type="checkbox"/> Renewal of Registrations	\$250.00			1 + 0
<input type="checkbox"/> Renewal of Approval of Registrations	\$750.00			1 + 0
<input type="checkbox"/> Connecticut Solid Waste Demonstration Project	\$1000.00			1 + 0
<input type="checkbox"/> Disassembling Used Electronics	\$2000.00			1 + 0
<input type="checkbox"/> Leaf Composting Facility	none			1 + 1
<input type="checkbox"/> Municipal Transfer Station	\$800.00			1 + 1
<input type="checkbox"/> One Day Collection of Certain Wastes and Household Hazardous Waste	\$1000.00			1 + 0
<input type="checkbox"/> Sheet leaf Composting Notification	\$0			★ ★
Special Waste Authorization				
<input type="checkbox"/> Landfill or RRF Disposal	\$660.00			1 + 0
<input type="checkbox"/> Asbestos Disposal	\$300.00			
<input type="checkbox"/> homeowner	\$0			
<input type="checkbox"/> Storage and Processing of Asphalt Roofing Shingle Waste	\$2500.00			1 + 0
<input type="checkbox"/> Storage and Processing of Scrap Tires for Beneficial Use	\$1250.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization	★ ★			★ ★
<input type="checkbox"/> Other, (please specify):				
REMEDATION				
<input type="checkbox"/> In Situ Groundwater Remediation: Enhance Aerobic Biodegradation	★			1 + 2
<input type="checkbox"/> In Situ Groundwater Remediation: Chemical Oxidation	\$500.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization	★			★ ★
Note: Carry subtotals over to Part III, page 2 of this form. Subtotal →				

★ See fee schedule on registration/application.

★★ Contact the specific permit program for this information.

(Contact numbers are provided in the instructions)

Affirmative Action, Equal Employment Opportunity and Americans with Disabilities

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer that is committed to complying with the requirements of the Americans with Disabilities Act (ADA). Please contact us at (860) 418-5910 or deep.accommodations@ct.gov if you: have a disability and need a communication aid or service; have limited proficiency in English and may need information in another language; or if you wish to file an ADA or Title VI discrimination complaint.



Connecticut Department of
 Energy & Environmental Protection
 Bureau of Water Protection & Land Reuse
 Office of Long Island Sound Programs

Certificate of Permission Application Form

IMPORTANT - Please refer to the instructions (DEP-OLISP-INST-200) for completing this application form to ensure that all required information is provided. Print or type all information within the form, providing additional pages as necessary.

- If your town has a Harbor Management Commission, you must submit a copy of this application *by certified mail* to the Commission. Please check here to indicate you have done so.
- My town does not have a Harbor Management Commission.

CPPU USE ONLY
App #: _____
Doc #: _____
Check #: _____
Program: Certificate of Permission

Part I: Application Description

Town where site is located:	<u>New Haven</u>
Brief Description of Project:	<u>Repairs of Bridge No. 03093 I-91 over Front Street and Quinnipiac River</u>

Part II: Fee Information

<p>A fee of \$375.00 must be submitted with this application form. Note: The fee for municipalities is \$187.50. <u>##410</u> The application will not be processed without the initial fee. The fee shall be non-refundable and shall be paid by check or money order to the Department of Energy and Environmental Protection.</p>

Part III: Applicant Information

- If an applicant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, applicant's name shall be stated **exactly** as it is registered with the Secretary of State. This information can be accessed at CONCORD. See 1.a) ii, below.
- If an applicant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.)
- If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the Request to Change Company/Individual Information to the address indicated on the form. If there is a change in name of the entity holding a DEEP license or a change in ownership, contact the Office of Planning and Program Development (OPPD) at 860-424-3003. For any other changes you must contact the specific program from which you hold a current DEEP license.

Part III: Applicant Information (continued)

1. Applicant Name: Connecticut Department of Transportation

Mailing Address: 2800 Berlin Turnpike

City/Town: Newington

State: CT

Zip Code: 06131-7546

Business Phone: 860 594-2931

ext.

Contact Person: Mark W. Alexander

Title: Trans. Assistant Planning Director

*E-mail: mark.w.alexander@ct.gov

*By providing this e-mail address you are agreeing to receive official correspondence from the department, at this electronic address, concerning the subject application. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes.

a) Applicant Type (check one):

individual federal agency state agency municipality tribal

*business entity (*If a business entity, complete i through iii):

i) check type: corporation limited liability company limited partnership
 limited liability partnership statutory trust Other: _____

ii) provide Secretary of the State business ID #: _____ This information can be accessed at the Secretary of State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)

iii) Check here if your business is NOT registered with the Secretary of State's office.

b) Applicant's interest in the property at which the proposed activity is to be located:

owner option holder lessee other (specify): _____

Check here if there are co-applicants. If so, label and attach additional sheet(s) with the required information as Attachment E.

2. Billing Contact, if different than the applicant.

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.

Contact Person:

Title:

E-mail:

3. Primary contact for departmental correspondence and inquiries, if different than applicant:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.

Contact Person:

Title:

*E-mail:

*By providing this e-mail address you are agreeing to receive official correspondence from the department, at this electronic address, concerning the subject application. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes.

Part III: Applicant Information (continued)

4. List Site Owner, if different than applicant:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.

Contact Person:

Title:

E-mail:

5. List Facility Owner, if different than applicant:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.

Contact Person:

Title:

E-mail:

6. List attorney or other representative, if applicable:

Firm Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.

Attorney:

E-mail:

7. List all engineer(s), surveyor(s) and/or other consultant(s) employed or retained to assist in preparing the application and designing or constructing the activity. Check here if additional sheets are necessary, and label and attach them as Attachment G.

Name: **CME Associates, Inc.**

Mailing Address: **333 East River Drive**

City/Town: **East Hartford**

State: **CT**

Zip Code: **06108**

Business Phone: **860 290-4100**

ext.

Contact Person: **Richard Canavan**

Title: **Sr. Environmental Scientist**

E-mail: **rcanavan@cmeengineering.com**

Service Provided: **Consultant Liaison Engineering**

Part III: Applicant Information (continued)

- 8. Provide abutting or adjacent property owners' names and addresses as Attachment C.
- 9. If you met with Office of Long Island Sound Program (OLISP) staff in a pre-application meeting, please note the meeting date and OLISP staff person's name:

Staff Name: DOT-DEEP LEAN meeting

Meeting Date: 04/17/2014

Part IV: Site Information and Resource Information

1. SITE NAME AND LOCATION:

Name of Site: Bridge No. 03093

Street Address or Location Description: Interstate 91 over Front Street and Quinnipiac River

City or Town: New Haven

State: CT Zip Code: 06510

Tax Assessor's Reference: Map

Block

Lot

Latitude and longitude of the exact location of the proposed activity in degrees, minutes, and seconds or in decimal degrees: Latitude: 41.320515 Longitude: -72.889464

Method of determination (check one): photo interpolation

GPS USGS Map Other (please specify): Google Map Viewer

If a USGS Map was used, provide the quadrangle name: _____

2. IS THE PROJECT SITE LOCATED IN A MUNICIPALITY WITHIN THE COASTAL AREA (check town list in the instructions)?

Yes No

3. ENDANGERED OR THREATENED SPECIES: According to the most current "State and Federal Listed Species and Natural Communities Map", is the project site located within an area identified as a habitat for endangered, threatened or special concern species? Yes No Date of Map: **Sept. 2015**

If yes, complete and submit a *Request for NDDB State Listed Species Review Form (DEP-APP-007)* to the address specified on the form. Please note NDDB review generally takes 4 to 6 weeks and may require additional documentation from the applicant.

A copy of the completed *Request for NDDB State Listed Species Review Form* and the CT NDDB response *must* be submitted with this completed application as Attachment D.

For more information visit the DEEP website at www.ct.gov/deep/nddbrequest or call the NDDB at 860-424-3011.

4. AQUIFER PROTECTION AREAS: Is the site located within a town required to establish Aquifer Protection Areas, as defined in section 22a-354a through 354bb of the General Statutes (CGS)?

Yes No To view the applicable list of towns and maps visit the DEEP website at www.ct.gov/deep/aquiferprotection

If yes, is the site within an area identified on a Level A map? Yes No

If yes, is the site within an area identified on a Level B map? Yes No

If your site is on a Level A map, check the DEEP website, [Business and Industry Information](#) to determine if your activity is required to be registered under the Aquifer Protection Area Program.

If your site is on a Level B map, no action is required at this time, however you may be required to register under the Aquifer Protection Area Program in the future when the area is delineated as Level A.

Part IV: Site Information and Resource Information (continued)

5. **CONSERVATION OR PRESERVATION RESTRICTION:** Is the property subject to a conservation or preservation restriction? Yes No

If Yes, proof of written notice of this application to the holder of such restriction or a letter from the holder of such restriction verifying that this application is in compliance with the terms of the restriction, must be included as Attachment G.

6. Indicate the number and date of issuance of any previous state coastal permits or certificates issued by DEEP authorizing work at the site and the names to whom they were issued:

<i>Permit/COP Number</i>	<i>Date Issued</i>	<i>Name of Permittee/Certificate Holder</i>
201206148-KZ	10/3/2012	Connecticut Department of Transportation

If information on prior state coastal permits and certificates is unknown, list names of the owners of the property since 1939 and the years owned:

The structure is an interstate highway bridge constructed in 1964. It has been owned by the CT Department of Transportation since that time.

7. Identify any changes in conditions of the site (including ownership, development, use, or natural resources) since the issuance of the most recent DEEP coastal permit or certificate authorizing work at the site:

Since the construction of the bridge in 1965, rehabilitation work has occurred in 1982, 1985, 1994, and 2001. No significant changes to size or alignment have occurred with the project bridge structure since construction.

8. Describe the *existing* structures, conditions and uses at the site of the proposed work. Provide photographs showing existing conditions as Attachment B:

The project bridge consists of two independent superstructures carrying a reinforced concrete deck. The southerly span (Span No. 1) is a single-span bridge with rolled steel beams and partial length cover plates welded to the bottom flange. The three northern spans (Span Nos. 2, 3, and 4) consist of a three-span superstructure with welded steel plate girders haunched at Piers 2 and 3. Modified concrete parapets are along each side of the bridge and a 10' wide concrete median barrier runs down the center of the bridge. Additional information regarding the existing structure is presented in Attachment G. Photos of the existing structures are provided in Attachment B.

9. Provide the name of the waterbody at the site of proposed work: Quinipiatic River

10. Provide the elevation of the applicable regulatory limit for your project referenced to NAVD88. Refer to the instructions for more information.

Tidal Wetlands Limit (TWL) = _____ Coastal Jurisdiction Limit (CJL) = 4.6 feet

11. How was the regulatory limit identified above determined? Please check one of the following:

DEEP-calculated elevation

Self-calculated elevation (If a self-calculated elevation is used, please provide the additional information and calculations per the instructions.)

Mean High Water elevation (use only if project is upstream of a tide gate, dam or weir) (If a MHW elevation is used, provide a discussion of the location of the tide gate, dam or weir.)

If other than a DEEP calculated elevation was used to calculate the CJL, please provide the additional information and calculations per the instructions and label and attach them as Attachment G.

Part IV: Site Information and Resource Information (continued)

12. Provide the elevations of the mean high water and mean low water at the site and the reference datum used. Refer to the instructions regarding elevation datum.

MHW = 2.67

MLW = -3.5

Datum = NAVD88

- Check here if NAVD88 is not referenced, and provide an orthometric conversion table in Attachment G.

13. Identify all aquatic resources on and adjacent to the site and describe the characteristics and condition of each resource (identify location of resources on plans submitted as Attachment A):

A large tidal wetland is present east of Bridge No. 03093, bordering the Quinnipiac River and fill section of the I-91 approach; this wetland area is mapped as an Intertidal Marsh Critical Habitat by CTDEEP. A fringe of tidal wetland vegetation (*Spartina alterniflora*) is present at the margins of the Quinnipiac near the bridge. A wetland dominated by *Phragmites* is present northeast of the bridge. The bridge site is located in a Natural Diversity Database screening area, per September 2015 mapping.

14. Identify the locations of any osprey nesting platforms within 500 feet of the site.

A billboard located in a salt marsh southeast of the bridge may provide for osprey nesting and is approximately 560 feet from the project bridge.

Part V: Project Information

1. Describe the proposed regulated work and activities including construction methodology and sequencing and plans to minimize erosion and sedimentation.

Proposed work minimizes erosion and sedimentation by avoiding soil disturbance. Repairs to underside of deck concrete, structural steel repairs, peen fatigue prone weld details, spot painting of structural steel and fixed bearings, clean and repair girder ends at the pin and hanger and hinge pins, replace pins at pin and hangers and hinge pin assemblies, installation of a redundant system at pin and hanger and hinge pin assemblies, substructure repairs – patch concrete, and epoxy injection into cracks at piers, and scupper cleaning. Additional information about construction methodology and sequencing is provided in Attachment G.

2. Provide plans of the project as Attachment A. They must be 8 1/2" x 11" scaled plans of the site and proposed work including:

- a. A Vicinity Map;
- b. A Tax Assessor's map showing the subject property and immediately adjacent properties;
- c. Plan Views showing existing and proposed conditions; and
- d. An Elevation or Cross-Section View showing existing and proposed conditions.

Please refer to instructions for identification of plan components.

3. Describe the purpose, need and use of the proposed work.

The project bridge has been identified by inspection as structurally deficient. The proposed repairs to the bridge are necessary to maintain the existing bridge in an acceptable condition.

4. Identify and evaluate the adverse environmental impacts associated with proposed work and mitigation measures to be employed.

The proposed project maintains an existing structure and no adverse environmental impacts are anticipated. The project will contain work to avoid any construction impacts to water quality.

Part V: Project Information (continued)

5. Check each category of eligible activities that applies to this application:

CGS section 22a-363b(a):

- 1. Substantial maintenance or repair of existing structures, fill, obstructions or encroachments authorized pursuant to the Structures, Dredging and Fill Statutes, CGS section 22a-361, and/or the Tidal Wetlands Act, CGS section 22a-32.
- 2. Substantial maintenance of any structures, fill, obstructions or encroachments in place prior to June 24, 1939, and continuously maintained and serviceable since such time.
- 3. Maintenance dredging of areas which have been dredged and continuously maintained and serviceable as authorized pursuant to the Structures, Dredging and Fill Statutes, CGS section 22a-361, and/or the Tidal Wetlands Act, CGS section 22a-32.
- 4. Activities allowed pursuant to a perimeter permit and requiring authorization by the Commissioner of Energy & Environmental Protection.
- 5. The removal of derelict structures or vessels.
- 6. Minor alterations or amendments to activities permitted pursuant to CGS section 22a-361 and/or CGS section 22a-32 consistent with the original permit.
- 7. Minor alterations or amendments to activities completed prior to June 24, 1939.
- 8. Placement of temporary structures for water-dependent uses as defined in CGS section 22a-93(16).
- 9. Open water marsh management, tidal wetland restoration, resource restoration or enhancement activity, as defined in subsection (a) of section 22a-361, as amended by this act, and conservation activities undertaken by or under the supervision of the Department of Energy & Environmental Protection.
- 10. Placement or reconfiguration of piers, floats, docks, and moorings within existing waterward boundaries of recreational marinas or yacht clubs which have been authorized pursuant to Section 22a-361 and/or CGS section 22a-32.
- 11. Substantial maintenance or repair of structures, fill, obstructions or encroachments placed landward of the mean high waterline and waterward of the coastal jurisdiction line, completed prior to October 1, 1987, and continuously maintained and serviceable since said date.

CGS section 22a-363b(b):

- 12. Retention of pre-1995 unauthorized activities which do not interfere with navigation or littoral or riparian rights, and do not cause adverse impacts to coastal resources.
- 13. Substantial maintenance or repair of pre-1995 unauthorized activities which do not interfere with navigation or littoral or riparian rights, and do not cause adverse impacts to coastal resources.
- 14. Minor alterations or amendments to pre-1995 unauthorized activities which do not interfere with navigation or littoral or riparian rights, and do not cause adverse impacts to coastal resources.

6. In question 5, if item numbers 2 and/or 7 were checked, demonstrate that the structure(s) or activity for which work is proposed has been continuously maintained and serviceable since 1939. Check the box if documents have been provided in Attachment G.

Part V: Project Information (continued)

7. In question 5, if item numbers 1, 3, 4, 6 or 10 were checked, demonstrate that the structure(s) or activity has a prior authorization and has been continuously maintained and serviceable.

The project bridge was constructed in 1964 and has been in continuous use as part of Interstate 91 since completion.

8. In question 5, if item numbers 11, 12, 13, or 14 were checked, please provide the date of installation of the structure(s) or the date the activity occurred and indicate how you made this determination.

9. In question 5, if item numbers 11, 12, 13, or 14 were checked, demonstrate that the structure(s) or activity for which retention or work is proposed complies with all applicable standards and criteria.

Check the box if documents have been provided in Attachment G.

10. In question 5, if item numbers 11, 12, 13, or 14 were checked, demonstrate that the structure(s) or activity has been continuously maintained and serviceable since January 1995.

Check the box if documents have been provided in Attachment G.

11. In question 5, if item numbers 12, 13, or 14 were checked, state whether the applicant conducted or was responsible for the unauthorized activity, or whether the applicant knew or had reason to know of the unauthorized activity at the time the property which is the site of the unauthorized activity was acquired.

Check the box if documents have been provided in Attachment G.

Part V: Project Information (continued)

12. a. Is any portion of work for which authorization is being sought now complete or under construction?

Yes No

If Yes, specify what parts of the proposed work have been completed or are under construction and indicate when such work was undertaken or completed. Identify completed portions on the plans submitted.

b. If yes, is the application associated with an enforcement action pending with DEEP?

Yes No If yes, explain:

Check here, if documents have been provided in Attachment G. Also please complete *Applicant Compliance Information Form* (DEP-APP-002).

13. Provide other relevant information you deem important to consider in the review of this application. Check the box if documents have been provided in Attachment G:

Part VI: Supporting Documents

Check the applicable box below for each attachment being submitted with this application form. The specific information required in each attachment is described in the *Instructions for Completing a Certificate of Permission Application for the Office of Long Island Sound Programs* (DEP-OLISP-INST-200).

- Attachment A: Plans in accordance with Part V, item 2 of the instructions
- Attachment B: Photographs showing existing conditions of the site
- Attachment C: Abutting or adjacent property owner information; including names and mailing addresses
- Attachment D: Copy of the completed *Request for NDDB State Listed Species Review Form* (DEP-APP-007) and the NDDB response, if applicable.
- Attachment E: *Applicant Background Information Form* (DEP-APP-008) (if applicable)
- Attachment F: *Applicant Compliance Information Form* (DEP-APP-002)
- Attachment G: Other Information (if applicable)

Part VI: Application Certification

The applicant(s) and the individual(s) responsible for actually preparing the application must sign this part. An application will be considered insufficient unless *all* required signatures are provided.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief.

I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute.

I certify that this application is on complete and accurate forms as prescribed by the commissioner without alteration of the text."

	<u>2 - 2 - 2016</u>
Signature of Applicant	Date
Thomas J. Maziarz	Bureau Chief Policy & Planning
Name of Applicant (print or type)	Title (if applicable)
	<u>2-9-2016</u>
Signature of Preparer (if different than above)	Date
Richard W. Canavan	Sr. Environmental Scientist
Name of Preparer (print or type)	Title (if applicable)
<input type="checkbox"/> Check here if additional signatures are required. If so, please reproduce this sheet and attach signed copies to this sheet. You must include signatures of any person preparing any report or parts thereof required in this application (i.e., professional engineers, surveyors, soil scientists, consultants, etc.)	

Note: Please submit the completed Application Form, Fee, and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
 DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
 79 ELM STREET
 HARTFORD, CT 06106-5127

If your town has a Harbor Management Commission, you must submit a copy of this completed application by *certified mail* to the Commission and include a copy of the receipt with your application materials indicating that such documents were sent certified.

Submit one complete application copy to the U.S. Army Corps of Engineers, Regulatory Division, 696 Virginia Road, Concord, MA, 01742

Attachment A

Locus Map (1 page)

Tax Assessor Parcel Map (1 page)

Project Plans (7 sheets)



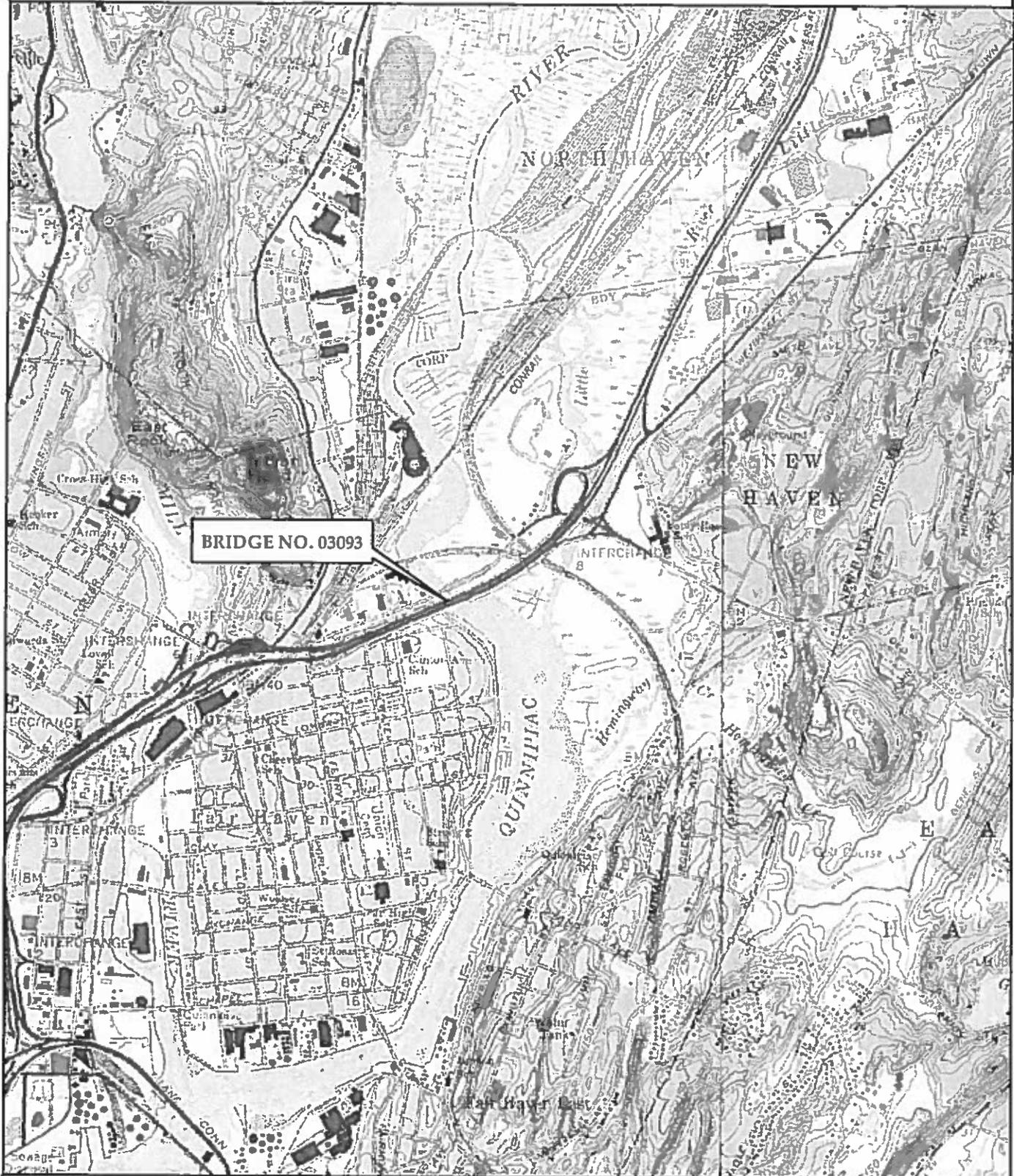
CMF ASSOCIATES, INC.

22 Crabtree Lane, Winsted, CT 06897
113 East River Street, East Hartford, CT 06108
50 Elm Street, Southbury, MA 01550

1.888.291.3227 • www.cmeengineering.com

VICINITY MAP

BRIDGE NO. 03093 IN NEW HAVEN, CT
I-91 OVER QUINNIPIAC RIVER

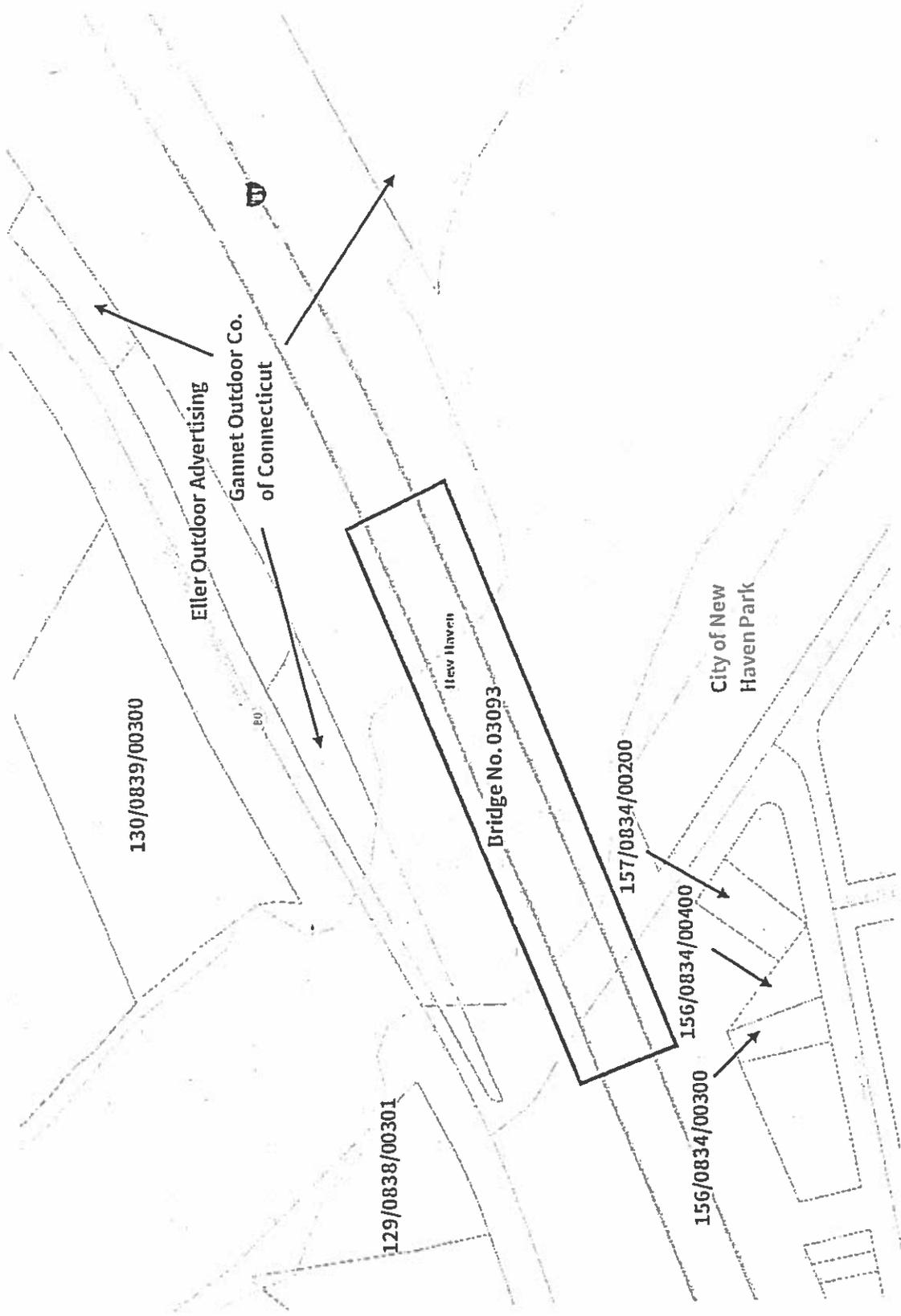


USGS QUAD
MAP #95
NEW HAVEN

1 INCH = 2,000 FEET



**Tax Assessor's Map: Bridge No. 03093
I-91 over Front Street and Quinnipiac River, New Haven**

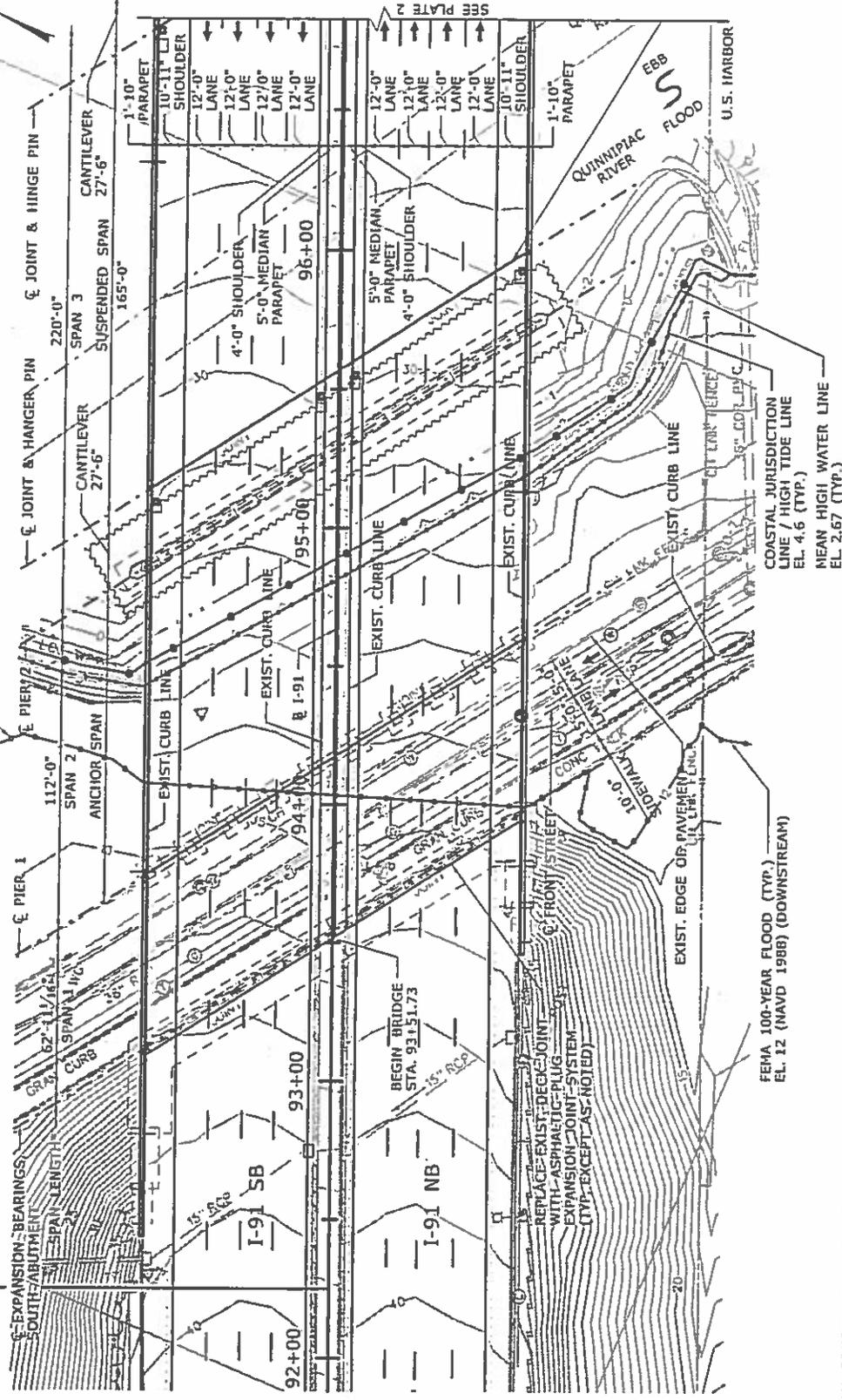


Bridge Rehabilitation
Bridge No. 03093 I-91 over Front Street and Quinnipiac River
New Haven, CT

DEEP-OLISP
Certificate of Permission

BEGIN STATE PROJECT NO. 92-668

STA. 92+25
 CUT BITUMINOUS CONCRETE PAVEMENT
 BEGIN MILLING AND REPAVING
 MEET EXISTING PAVEMENT
 MEET EXISTING PAVEMENT MARKINGS



GENERAL PLAN
 SCALE: 1" = 60'

- LEGEND**
- * BASED ON ORIGINAL CONSTRUCTION PLANS.
- NOTES**
1. ALL ELEVATIONS ARE BASED ON NAVD 1988.

Prepared by:
 PROJECT ENGINEER
 Dewberry

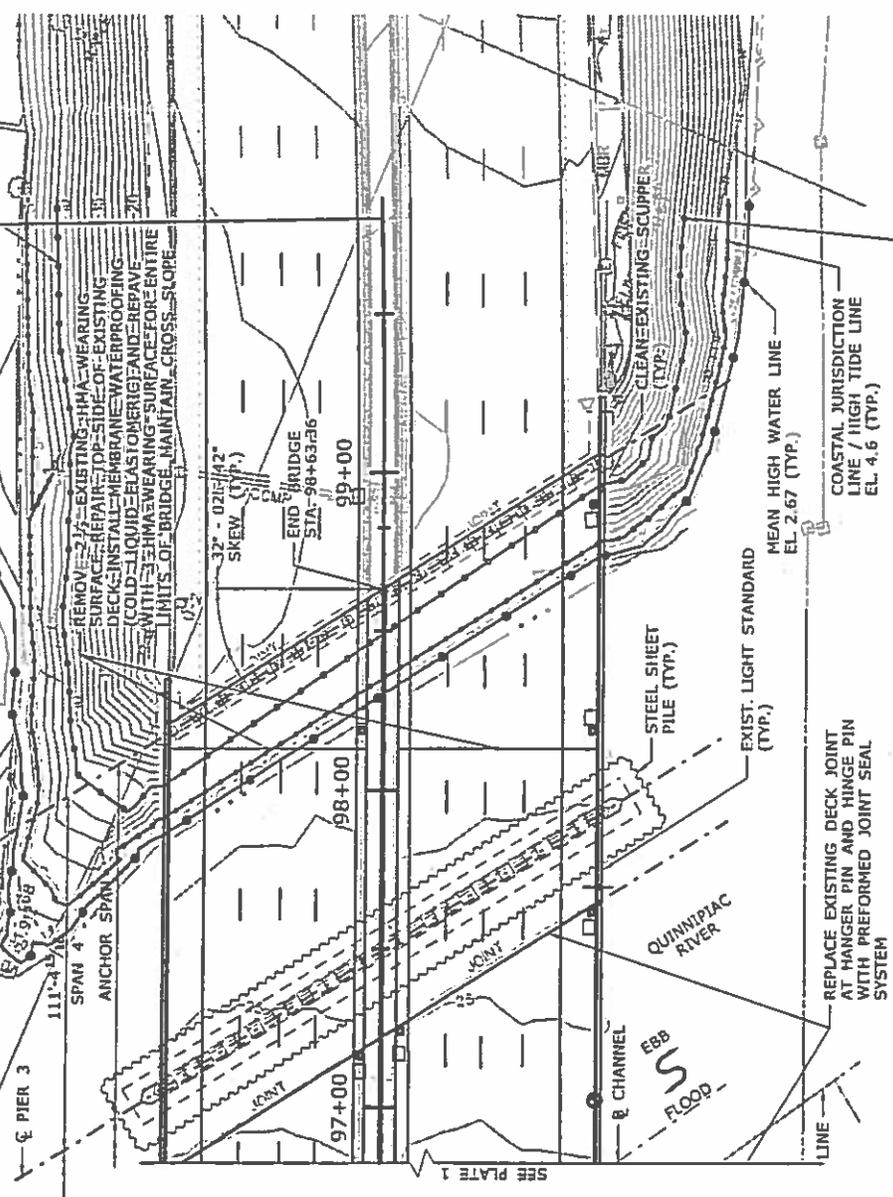
STATE PROJECT NO.: 92-668
 COUNTY: NEW HAVEN
 CITY/TOWN: NEW HAVEN

APPLICATION BY:
 STATE OF CONNECTICUT
 DEPARTMENT OF TRANSPORTATION

DATE: 04/01/2015
 SITE: NEW HAVEN
 PLATE 1 OF ATTACHMENT
 SCALE

BEGIN STATE PROJECT NO. 92-668
 STA. 99+80
 CUT BITUMINOUS CONCRETE PAVEMENT
 BEGIN MILLING AND REPAVING
 MEET EXISTING PAVEMENT MARKINGS

EXPANSION BEARINGS,
 NORTH ABUTMENT
 PIER 3
 SPAN 4
 ANCHOR SPAN



REMOVE EXISTING 11MA WEARING SURFACE REPAIR TOP-SIDE OF EXISTING DECK INSTALL MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMER) AND REPAVE WITH 311MA WEARING SURFACE FOR ENTIRE LIMITS OF BRIDGE MAINTAIN CROSS SLOPE

37° - 02' ± / 142° SKEW

END OF BRIDGE STA. 98+63.86

99+00

98+00

97+00

STEEL SHEET PILE (TYP.)

EXIST. LIGHT STANDARD (TYP.)

MEAN HIGH WATER LINE EL. 2.67 (TYP.)

COASTAL JURISDICTION LINE / HIGH TIDE LINE EL. 4.6 (TYP.)

FEMA 100-YEAR FLOOD (TYP.) EL. 12 (NAVD 1988) (DOWNSTREAM)

FEMA 100-YEAR FLOOD (TYP.) EL. 9 (NAVD 1988) (UPSTREAM)

REPLACE EXISTING DECK JOINT AT HANGER PIN AND HINGE PIN WITH PREFORMED JOINT SEAL SYSTEM

QUINIPAC RIVER

EBB FLOOD

SEE PLATE 1

LEGEND

• BASED ON ORIGINAL CONSTRUCTION PLANS.

NOTES

1. ALL ELEVATIONS ARE BASED ON NAVD 1988.

GENERAL PLAN

SCALE: 1" = 60'

STATE PROJECT NO.: 92-668

COUNTY: NEW HAVEN

CITY/TOWN: NEW HAVEN

APPLICATION BY:



STATE OF CONNECTICUT
 DEPARTMENT OF TRANSPORTATION

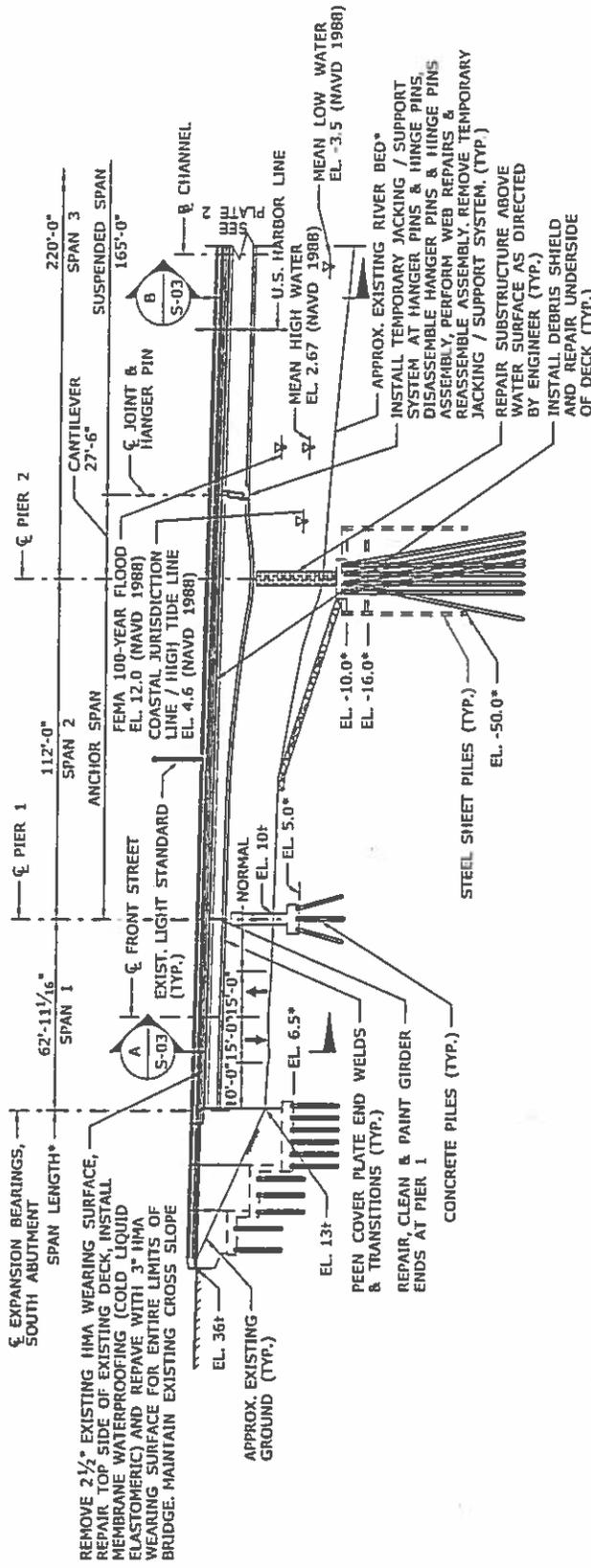


SCALE

DATE: 04/01/2015

SITE: NEW HAVEN

PLATE 2 OF ATTACHMENT



EAST ELEVATION
SCALE: 1" = 60'

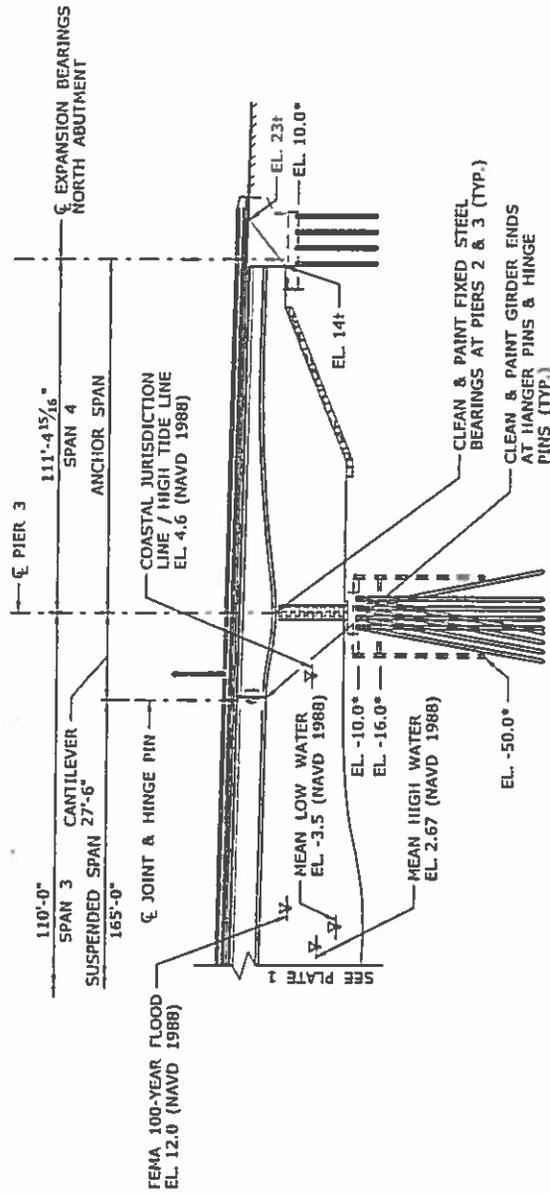
LEGEND

* BASED ON ORIGINAL CONSTRUCTION PLANS.

NOTES

1. ALL ELEVATIONS ARE BASED ON NAVD 1988.

STATE PROJECT NO.: 92-668 COUNTY: NEW HAVEN CITY/TOWN: NEW HAVEN	APPLICATION BY:  STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	DATE: 04/01/2015 SITE: NEW HAVEN SCALE PLATE 3 OF ATTACHMENT
--	--	--



LEGEND

* BASED ON ORIGINAL CONSTRUCTION PLANS.

NOTES

1. ALL ELEVATIONS ARE BASED ON NAVD 1988.

EAST ELEVATION

SCALE: 1" = 60'

STATE PROJECT NO.: 92-668

COUNTY: NEW HAVEN

CITY/TOWN: NEW HAVEN

APPLICATION BY:



STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

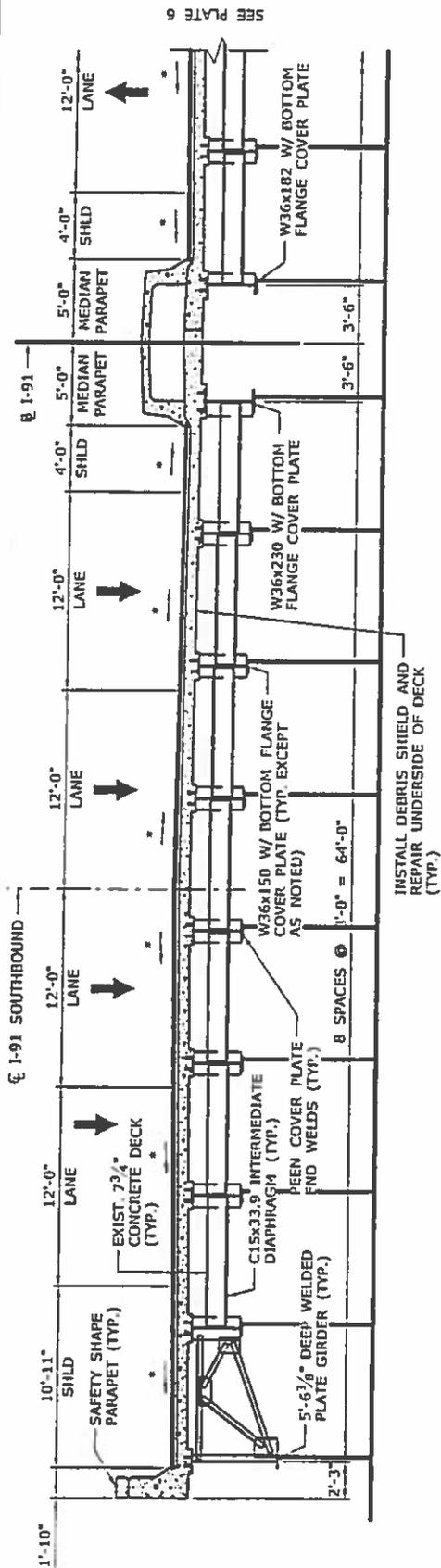


SCALE

DATE: 04/01/2015

SITE: NEW HAVEN

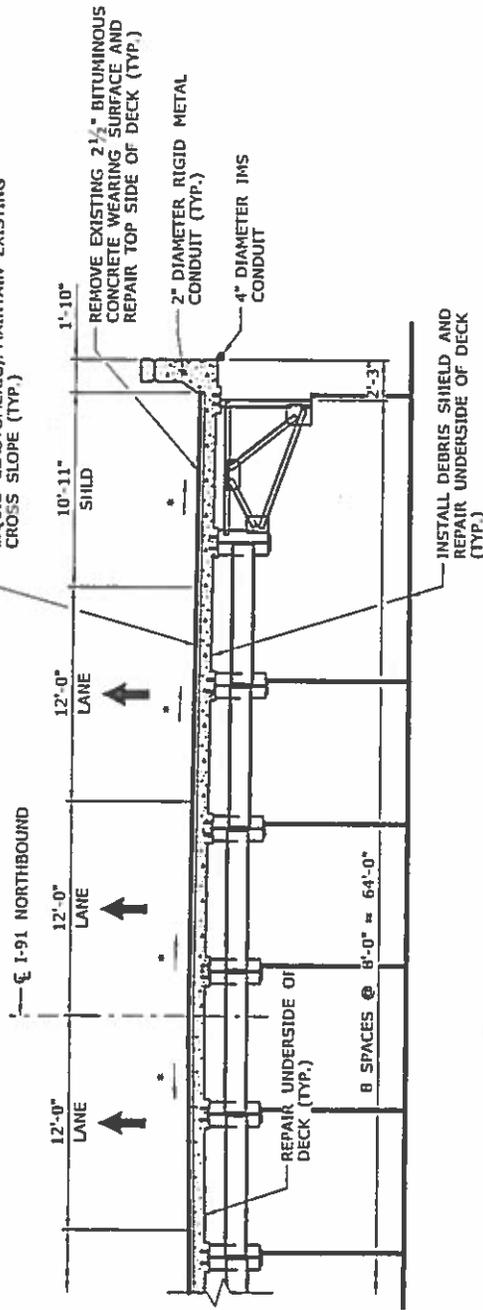
PLATE 4 OF
ATTACHMENT



A CROSS SECTION - SPAN 1
 S-02 SCALE: 3/32" = 1'-0"

INSTALL DEBRIS SHIELD AND REPAIR UNDERSIDE OF DECK (TYP.)

PROPOSED 2" HMA 50.5 ON 1" HMA 50.375 OVER MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC). MAINTAIN EXISTING CROSS SLOPE (TYP.)

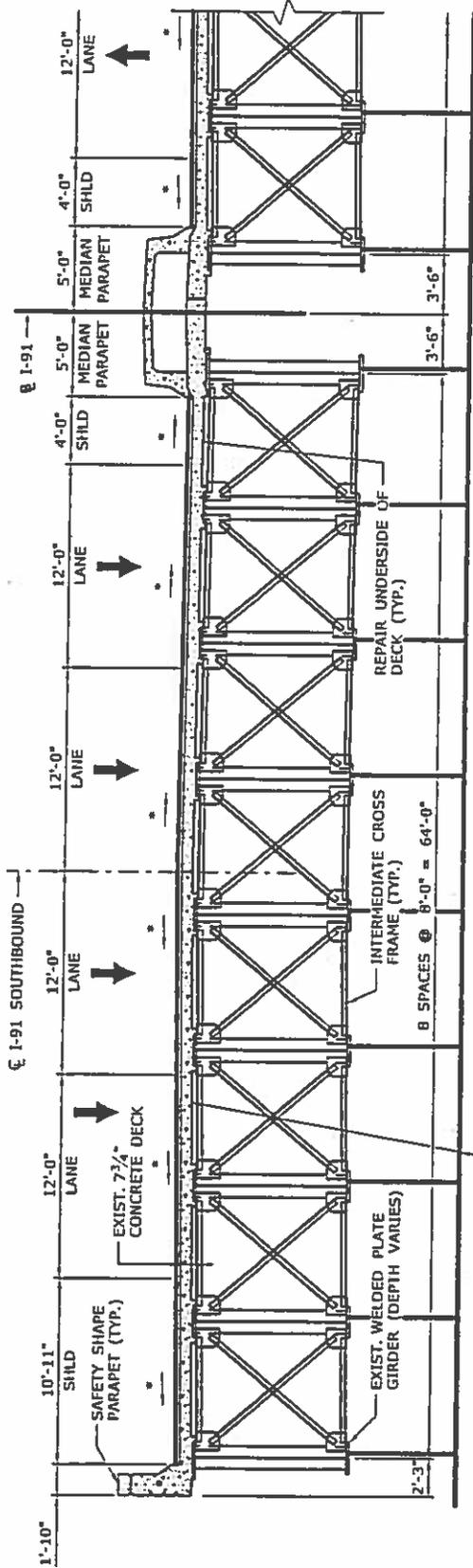


A CROSS SECTION - SPAN 1
 S-02 SCALE: 3/32" = 1'-0"

NOTE

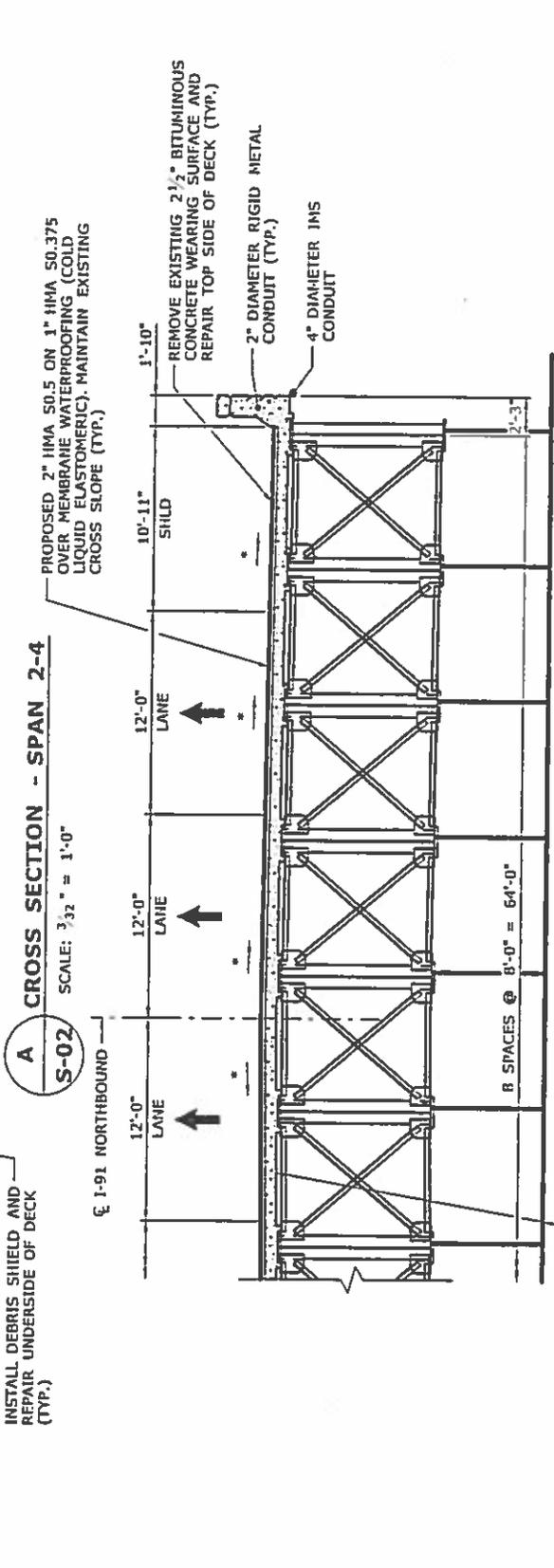
THE DEBRIS SHIELD AND SCAFFOLDING / WORK PLATFORM SHALL BE INSTALLED ABOVE THE 100-YEAR FEMA FLOOD ELEVATION

STATE PROJECT NO.: 92-668	APPLICATION BY: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	DATE: 04/01/2015
COUNTY: NEW HAVEN		SITE: NEW HAVEN
CITY/TOWN: NEW HAVEN		PLATE 5 OF ATTACHMENT
		SCALE



A CROSS SECTION - SPAN 2-4

S-02 SCALE: 3/32" = 1'-0"



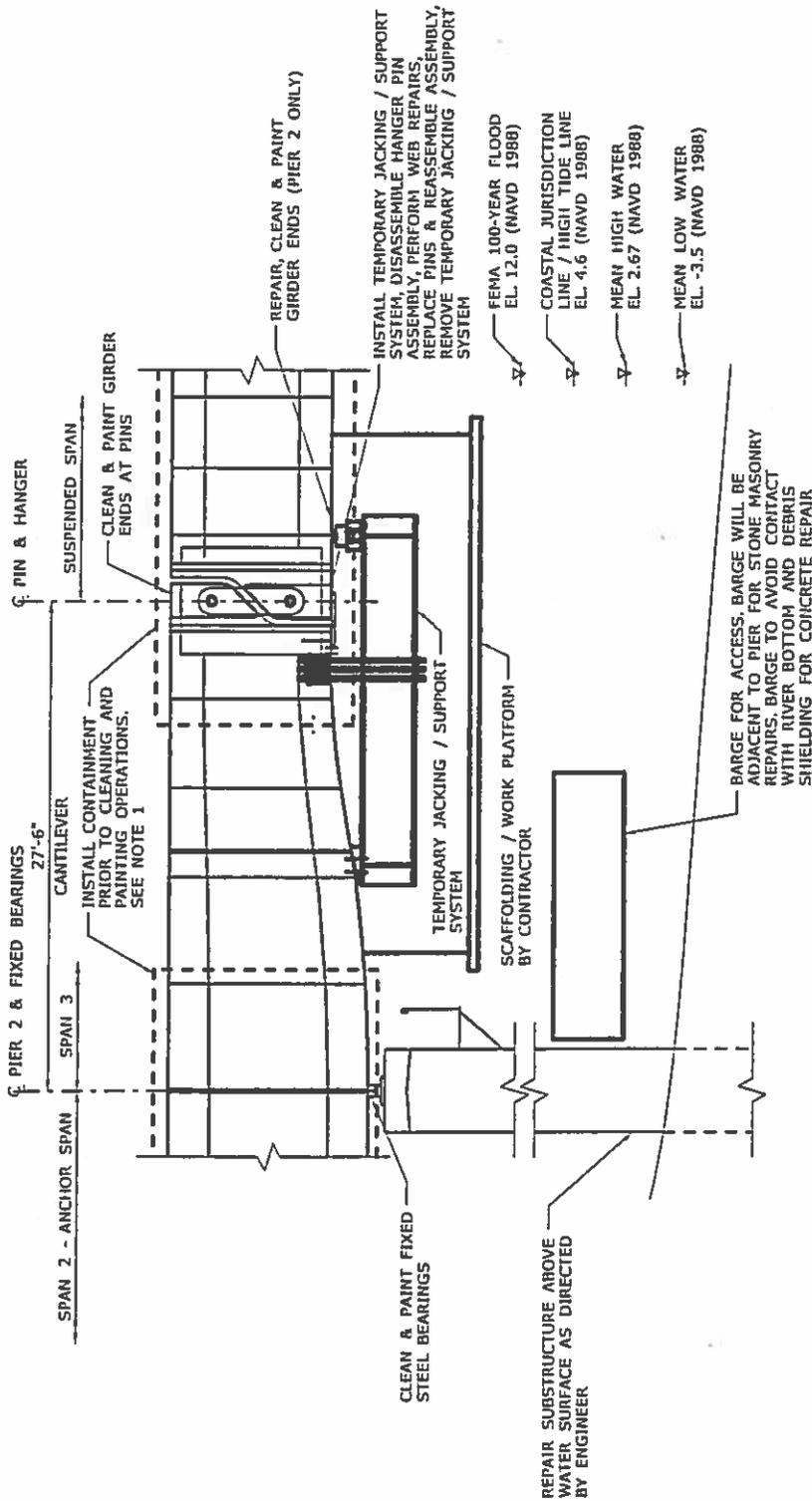
A CROSS SECTION - SPAN 2-4

S-02 SCALE: 3/32" = 1'-0"

NOTE

THE DEBRIS SHIELD AND SCAFFOLDING / WORK PLATFORM SHALL BE INSTALLED ABOVE THE 100-YEAR FEMA FLOOD ELEVATION

STATE PROJECT NO.: 92-668	APPLICATION BY: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	DATE: 04/01/2015
COUNTY: NEW HAVEN		SITE: NEW HAVEN
CITY/TOWN: NEW HAVEN		PLATE 6 OF ATTACHMENT
		SCALE



NOTES

1. PAINT AND DEBRIS COLLECTED FROM PAINT REMOVAL SHALL BE STORED ABOVE THE FEMA 100-YEAR FLOOD ELEVATION.
2. THE DEBRIS SHIELD AND SCAFFOLDING / WORK PLATFORM TO PERFORM UNDERSIDE OF DECK REPAIRS SHALL BE INSTALLED ABOVE THE FEMA 100-YEAR FLOOD ELEVATION.

LEGEND

* BASED ON ORIGINAL CONSTRUCTION PLANS.

PIER CROSS SECTION OVER WATER

SCALE: $\frac{3}{32}'' = 1'-0''$
 (PIER 2 AND HANGER PIN SHOWN, PIER 3 AND HINGE PIN SIMILAR)

STATE PROJECT NO.: 92-668
 COUNTY: NEW HAVEN
 CITY/TOWN: NEW HAVEN



APPLICATION BY:
STATE OF CONNECTICUT
 DEPARTMENT OF TRANSPORTATION

DATE: 04/01/2015
 SITE: NEW HAVEN
 PLATE 7 OF
 ATTACHMENT

SCALE

Attachment B

Photographs (7 pages)

Attachment B: Project Photos



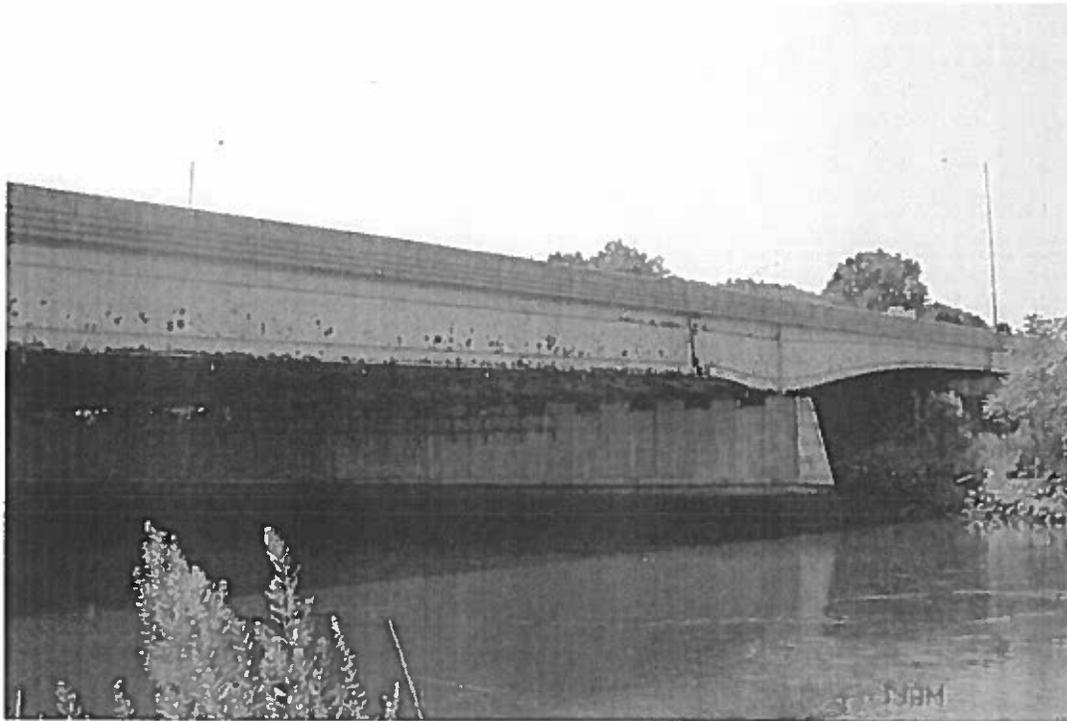
Google aerial image of bridge and surrounding area, looking north



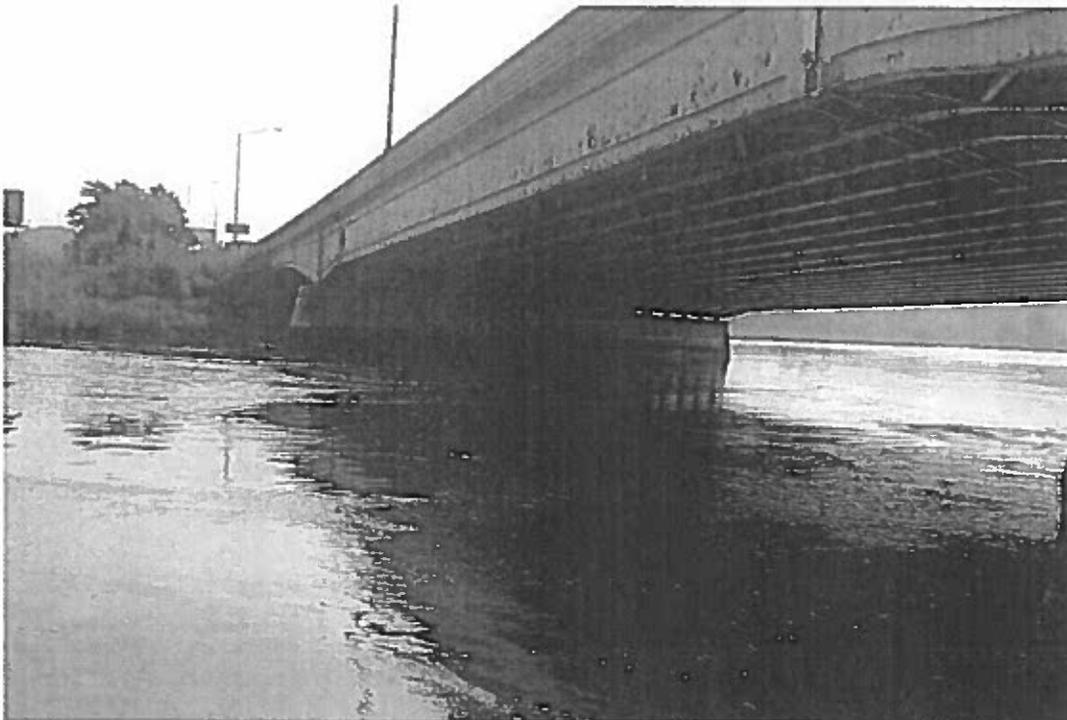
East elevation, downstream face of Bridge 03093 looking westward

DEEP-OLISP
Certificate of Permission

Bridge Rehabilitation
Bridge No. 03093 I-91 over Front Street and Quinnipiac River
New Haven, CT



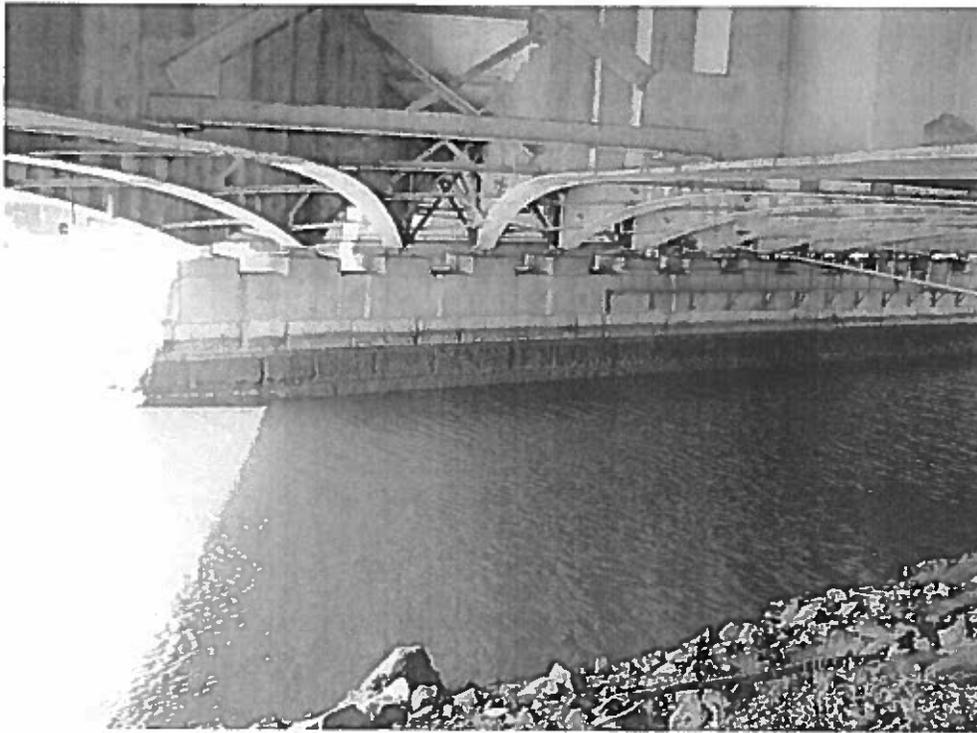
Span 2 & 3: West elevation, upstream face, over the Quinnipiac River



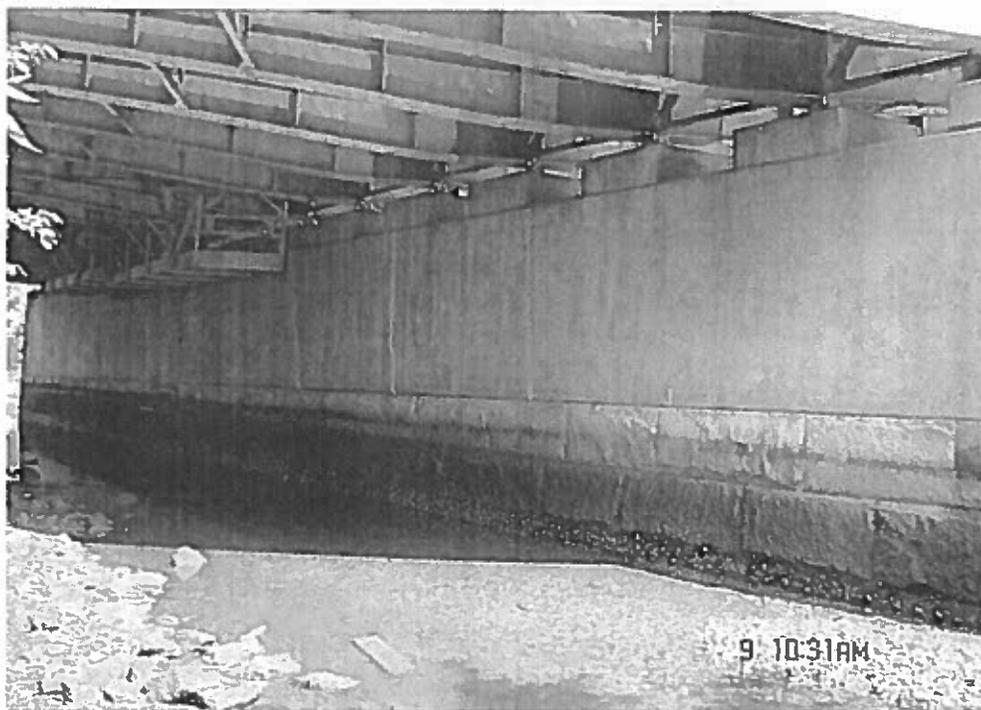
West elevation (upstream face) and upstream cross section of the Quinnipiac River looking approximately northeast

DEEP-OLISP
Certificate of Permission

Bridge Rehabilitation
Bridge No. 03093 I-91 over Front Street and Quinnipiac River
New Haven, CT



Pier 3 in Quinnipiac River looking westward under bridge



Pier 2 in Quinnipiac River looking northward (low tide)



Pier 2 looking upstream

DEEP-OLISP
Certificate of Permission

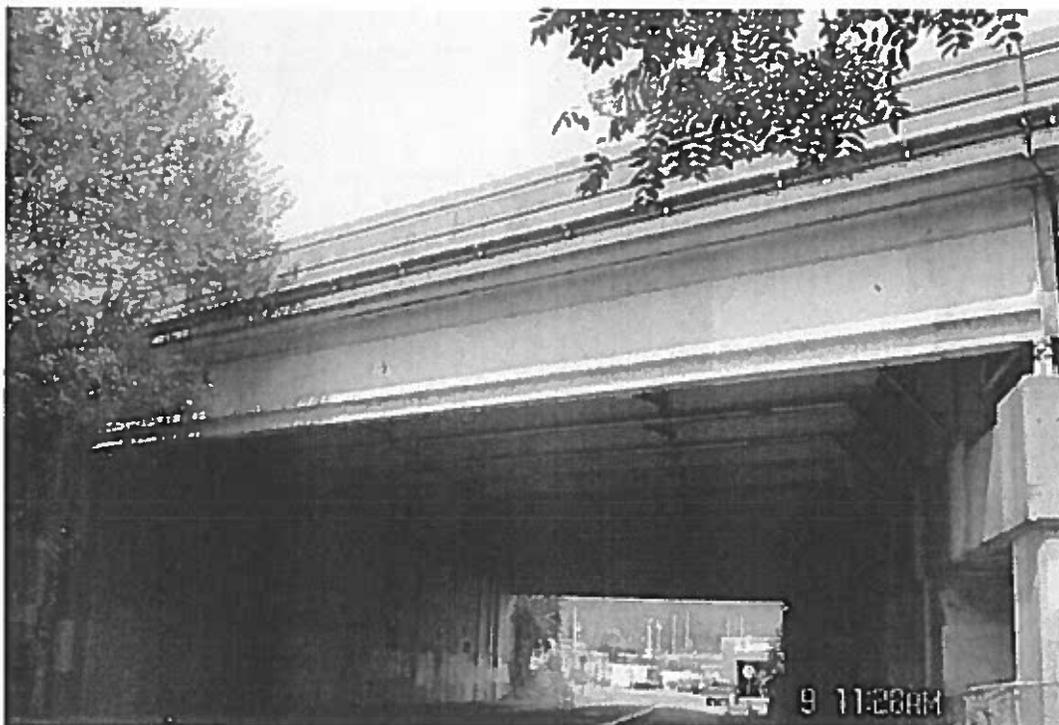
Bridge Rehabilitation
Bridge No. 03093 I-91 over Front Street and Quinnipiac River
New Haven, CT



Rip-rap protected slope at north abutment (eastern bank of Quinnipiac River)



Western bank of Quinnipiac River under the bridge between piers 1 and 2 looking northwest



Span 1: East elevation over North Front Street



Span 3 & 4: East elevation, downstream face, over the Quinnipiac River

DEEP-OLISP
Certificate of Permission

Bridge Rehabilitation
Bridge No. 03093 I-91 over Front Street and Quinnipiac River
New Haven, CT



Bridge No. 03093 downstream face
Note: Tidal wetlands bordering the river



Downstream of bridge face and approach roadway fill slope
Note: Looking west from tidal wetland (salt marsh) towards Project Bridge

DEEP-OLISP
 Certificate of Permission

Bridge Rehabilitation
 Bridge No. 03093 I-91 over Front Street and Quinnipiac River
 New Haven, CT

Attachment C

Abutting and adjacent property owner information (2 pages)

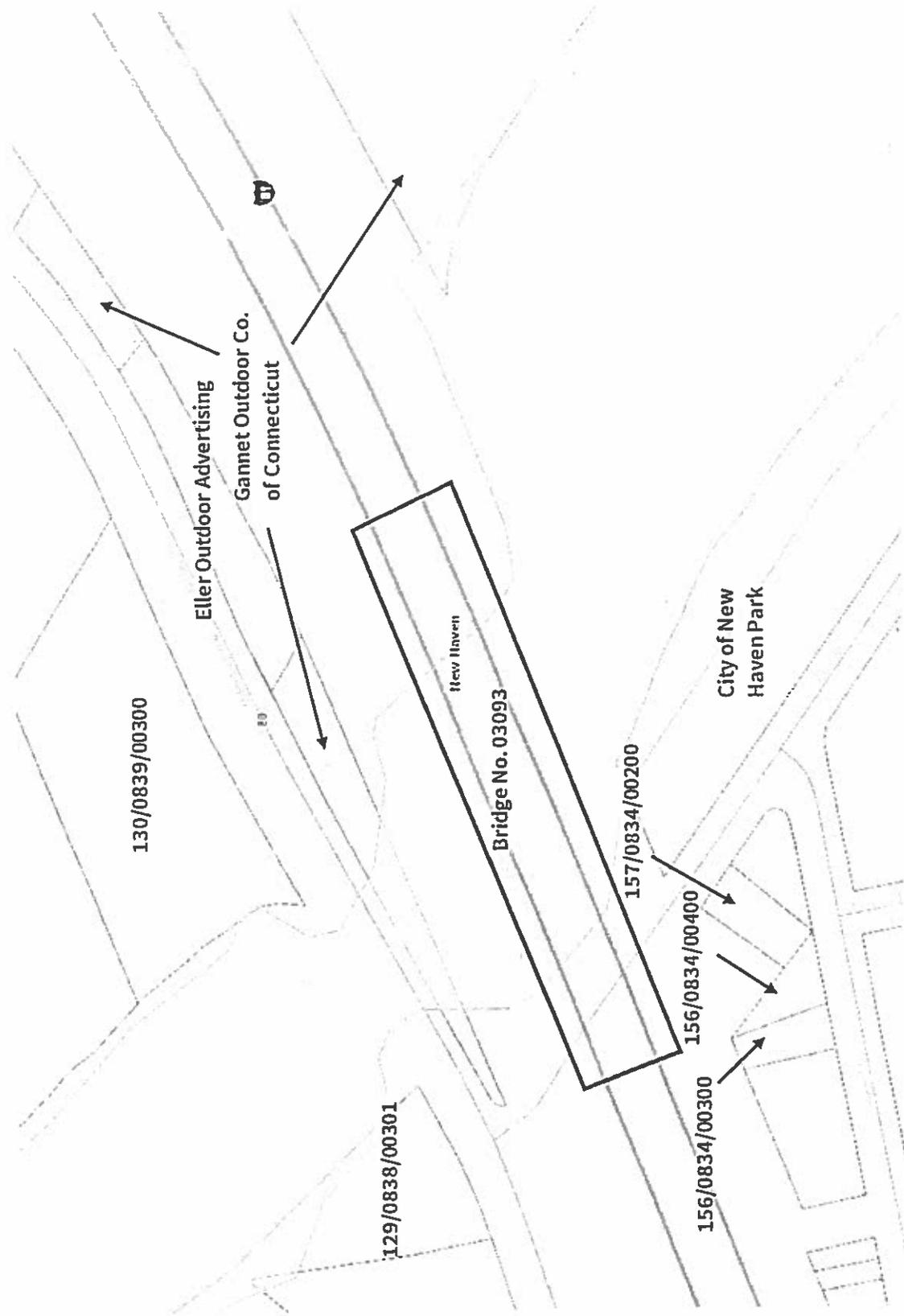
Attachment C

Project Abutters

Abutter information for parcels abutting the anticipated work zone for the rehabilitation of Bridge No. 03093. Parcel ID information obtained from Vision Appraisal and parcel mapping for the project area obtained from ctedo.uconn.edu.

Address	Owner	Owner Address	Land Use	Direction from Site	Parcel ID
Front St.	City of New Haven Park	720 Edgewood Ave., New Haven	Open Space	South	
440 Front St.	Henry and Ruth Rosada	440 Front St., New Haven	Residential	Southwest	157/0834/00200
21 Bailey St.	Teresa Nysztal	241 Weybosset St., New Haven	Residential	Southwest	156/0834/00400
31 Bailey St.	Jason D. & Denise A. Conte	31 Bailey St., New Haven	Residential	Southwest	156/0834/00300
80 Middletown Ave.	80 Middletown Avenue LLC	80 Middletown Ave., New Haven	Commercial	Northwest	129/0838/00301
84 Middletown Ave.	140 Middletown Avenue LLC	80 Middletown Ave., New Haven	Industrial	North	130/0839/00300
Middletown Ave.	Gannet Outdoor Co. of CT	355 Washington Ave., North Haven	Industrial	North	3 parcels
Middletown Ave.	Eller Outdoor Advertising	355 Washington Ave., North Haven	Industrial	North	2 parcels

**Tax Assessor's Map: Bridge No. 03093
I-91 over Front Street and Quinnipiac River, New Haven**

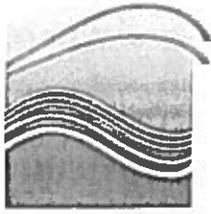


Bridge Rehabilitation
Bridge No. 03093 I-91 over Front Street and Quinnipiac River
New Haven, CT

DEEP-OLISP
Certificate of Permission

Attachment D

NDDB Determination and information request



Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

March 20, 2015

Christopher Samorajczyk
State Of Connecticut Department Of Transportation
2800 Berlin Tpke.
Newington, CT 06131
christopher.samorajczyk@ct.gov

Project: CTDOT State Project 92-688, Maintenance and Repair of Bridge No. 03093, I-91 over
Quinnipiac River in New Haven
NDDDB Determination No.: 201501928

Dear Christopher Samorajczyk,

I have reviewed Natural Diversity Data Base (NDDDB) maps and files regarding the area delineated on the map provided for the proposed CTDOT State Project 92-688, Maintenance and Repair of Bridge No. 03093, I-91 over Quinnipiac River in New Haven, Connecticut. I do not anticipate negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site based upon the information contained within the NDDDB. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits. This determination is good for one year. Please re-submit an NDDDB Request for Review if the scope of work changes or if work has not begun on this project by March 20, 2016.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at (860) 424-3592, or dawn.mckay@ct.gov. Thank you for consulting the Natural Diversity Data Base.

Sincerely,

Dawn M. McKay
Environmental Analyst 3

79 Elm Street, Hartford, CT 06106-5127
www.ct.gov/deep
Affirmative Action/Equal Opportunity Employer

Attachment E

Applicant Background Information Form (5 pages)



Connecticut Department of
Energy & Environmental Protection

Applicant Background Information

Check the box by the entity which best describes the applicant and complete the requested information. You must choose one of the following: corporation, limited liability company, limited partnership, general partnership, voluntary association and individual or business type.

Corporation

Check the box if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information.

1. Parent Corporation			
Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:		
Contact Person:	Phone:	ext.	
E-mail:			
2. Subsidiary Corporation:			
Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:		
Contact Person:	Phone:	ext.	
E-mail:			
3. Directors:			
Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:		
E-mail:			
4. Officers:			
Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:		
E-mail:			

Applicant Background Information (continued)

Limited Liability Company

Check the box if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information.

1. List each member.

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

E-mail:

2. List any manager(s) who, through the articles of organization, are vested the management of the business, property and affairs of the limited liability company.

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

E-mail:

Applicant Background Information (continued)

Limited Partnership

Check the box if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information.

1. General Partners:			
Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:		
Contact Person:	Phone:	ext.	
E-mail:			
Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:		
Contact Person:	Phone:	ext.	
E-mail:			
Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:		
Contact Person:	Phone:	ext.	
E-mail:			
2. Limited Partners:			
Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:		
Contact Person:	Phone:	ext.	
E-mail:			
Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:		
Contact Person:	Phone:	ext.	
E-mail:			

Applicant Background Information (continued)

General Partnership

Check the box if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information.

1. General Partners:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Applicant Background Information (continued)

Voluntary Association

Check box if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information.

1. List authorized persons of association or list all members of association.			
Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:		
E-mail:			
Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:		
E-mail:			
Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:		
E-mail:			
Name:			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:		
E-mail:			

Individual or Other Business Type

Check the box, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information.

1. Name: Connecticut Department of Transportation			
Mailing Address: 2800 Berlin Turnpike			
City/Town: Newington	State: CT	Zip Code: 06131-7564	
Business Phone: 860 594-2931	ext.:		
E-mail: mark.w.alexander@ct.gov			
2. State other names by which the applicant is known, including business names.			
Name:			

Attachment F

Applicant Compliance Information Form (2 pages)



Connecticut Department of Energy & Environmental Protection

Applicant Compliance Information

DEEP ONLY
App. No.
Co./Ind. No.

Applicant Name: Connecticut Department of Transportation

Mailing Address: 2800 Berlin Turnpike

City/Town: Newington

State: CT

Zip Code: 06131-7564

Business Phone: 860-594-2931

ext.:

Contact Person: Mark W. Alexander

Phone: 860 594-2931 ext.

*E-mail: mark.w.alexander@ct.gov

If you answer yes to any of the questions below, you must complete the Table of Enforcement Actions on the reverse side of this sheet as directed in the instructions for your permit application.

- A. During the five years immediately preceding submission of this application, has the applicant been convicted in any jurisdiction of a criminal violation of any environmental law?
B. During the five years immediately preceding submission of this application, has a civil penalty been imposed upon the applicant in any state, including Connecticut, or federal judicial proceeding for any violation of an environmental law?
C. During the five years immediately preceding submission of this application, has a civil penalty exceeding five thousand dollars been imposed on the applicant in any state, including Connecticut, or federal administrative proceeding for any violation of an environmental law?
D. During the five years immediately preceding submission of this application, has any state, including Connecticut, or federal court issued any order or entered any judgement to the applicant concerning a violation of any environmental law?
E. During the five years immediately preceding submission of this application, has any state, including Connecticut, or federal administrative agency issued any order to the applicant concerning a violation of any environmental law?

Table of Enforcement Actions

(1) Type of Action	(2a) Date Commenced	(2b) Date Terminated	(3) Jurisdiction	(4) Case/Docket/ Order No.	(5) Description of Violation

Check the box if additional sheets are attached. Copies of this form may be duplicated for additional space.

Attachment G

- Regulatory limit determination and Detailed project work description (Application Form Part V #1, 2 pages)
- Flood Management General Certification (1 page)
- US Coast Guard STURRA response letter (2 pages)
- DEEP Fisheries Coordination Memo (1 page)
- Historic Properties Exemption (4 pages)
- Copies of Correspondence to Harbormaster and US Army Corps of Engineers

Determination of regulatory limit

An environmental field investigation of the project site was conducted by Richard Canavan, PWS to determine the boundaries of coastal wetland resource areas. The project area under the bridge is mostly unvegetated. The sediment in the channel of the river was also unvegetated. Tidal wetlands are located east of Bridge No. 03093, bordering the Quinnipiac River and fill section of the I-91 approach. It is mapped as an Intertidal Marsh Critical Habitat by CTDEEP in the project area. A fringe of tidal wetland vegetation (*Spartina alterniflora*) is present at the margins of the Quinnipiac River near the bridge.

Additional information – Part V Project Information

Project Work Description

The following is a list of work proposed work for this project:

- Membrane and overlay replacement
- Deck joint replacement
- Partial and full depth patching of deck
- Repair underside of deck concrete
- Structural steel repairs
- Peen fatigue prone weld details
- Spot painting of structural steel and fixed bearings
- Clean, repair, and paint girder ends at the pin and hanger and hinge pins
- Replace pins at pin and hangers and hinge pin assemblies
- Substructure repairs
- Scupper cleaning

Work to the topside of the bridge will be contained on the bridge deck. Repairs to the underside of deck concrete, steel, pin and hangers, hinge pins, and scuppers will occur close to underside of the deck with proper enclosures to ensure that no construction debris falls into the Quinnipiac River. Substructure repairs include epoxy crack injection at the deteriorated sections of the piers and class "S" concrete will be used to repair the deteriorate concrete at the abutments and piers.

The project will clean existing scuppers and the drainage system on the bridge. All cleaned material from the drainage system will be collected and properly disposed of, off-site. Weep pipes on the bridge will be extended to 3-inches below the existing girder bottom flanges. Repairs to the drainage system will replace existing components in-kind. It is possible that drainage pipes that extend below the floodplain elevation would be replaced in kind. No expansion of the existing bridge deck is proposed and the project is limited to maintenance and repair of the existing structure.

The majority of the project occurs on the bridge at elevations above the floodplain elevation. Proposed work at or below the floodplain elevation is limited to substructure repairs and in-kind replacement of drainage system components. The project does propose the use of a barge to conduct repairs at piers and 'pin and hanger' assemblies; however, no work is proposed in the water. The water depth at the south elevation of Pier 2 is shallow at low tide, therefore the use of barges will require that they not be allowed to rest on the river bottom. There is space under the bridge between Piers 1 and 2 that will allow

for the operation of a man-lift to access the south face of Pier 2. This work can occur to avoid access below the CJL, some work may occur below the 100-year flood elevation.

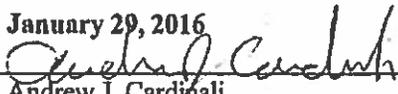
STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

FLOOD MANAGEMENT GENERAL CERTIFICATION

Project No.: 92-668
Description: Bridge No. 03093: I-91 over Front Street and
the Quinnipiac River
Town: New Haven
Date: January 29, 2016

memorandum

to: Mr. Michael E. Masayda
Trans. Principal Engineer
Hydraulics and Drainage
Bureau of Engineering and Highway Operations

from: 
Andrew J. Cardinali
Transportation Supervising Engineer
Bureau of Engineering and Construction

Please review this request for Flood Management General Certification and indicate your concurrence below.

Certification (to be completed by designer)

I have read the Flood Management General Certification and the descriptions for the approved DOT minor activities. This project qualifies for the Flood Management General Certification under:

- Minor Safety Improvements and Streetscape Projects
- Roadway Repaving, Maintenance & Underground Utilities
- Minor Stormwater Drainage Improvements
- Removal of Sediment or Debris from a Floodplain
- Wetland Restoration Creation or Enhancement
- Scour Repairs at Structures; (*Must acquire DEEP Fisheries Concurrence to be eligible*)
- Guide Rail Installation
- Deck and Superstructure Replacements
- Minor Bridge Repairs and Access
- Fisheries Enhancements
- Surveying and Testing
- Bicycle / Pedestrian, Multi Use Trails and Enhancement Projects

The following required documentation is attached in support of this certification:

- Project description
- Location plan
- Description of Floodplain involvement and how project qualifies for general certification
- 8-1/2" by 11" excerpt copy of the FEMA Flood Insurance Rate Map (FIRM) and Floodway Boundary Map (if applicable)
- Design plans, with FEMA floodplain and floodway boundaries plotted, cross sections and profiles, as necessary, that clearly depict the floodplain involvement
- FEMA 100-year flood elevation plotted on elevation view (for structures)

Print Name Susan Bakulski	Title Project Engineer
Signature 	Date 01/29/2016

Concurrence (to be completed by Hydraulics and Drainage)

Based on the documentation submitted, I hereby concur that the project qualifies for Flood Management General Certification.

If there are any changes to the proposed activities within the floodplain or floodway, the project must be re-submitted for review and approval.

Signature 	Date 2-3-16
---	-------------

cc: Theodore Nezames
Environmental Planning File
DEEP Flood Management Cert. File
Hydraulics and Drainage File

Rev 02/12



18 December 2014

David Nardone
Engineering Team Leader
Federal Highway Administration
628-2 Hebron Ave
Glastonbury, CT 06033

Re: NV-922: I-91 Bridges over Quinnipiac River & Mill River

Dear Mr. Nardone,

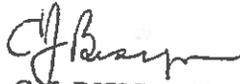
This is in response to your letter dated December 16, 2014 invoking 23 U.S.C. Section 144 (h) for the referenced waterway construction project. Based upon information you have provided, we concur with your determination.

Although this project will not require a bridge permit other areas of Coast Guard jurisdiction apply. The following stipulations must be met:

- a. The lowest portion of the superstructure of the bridge across the waterway should clear the 100-year flood height elevation, if feasible.
- b. The requirement to display permanent navigation lights at the bridge is waived. This waiver may be rescinded at any time in the future should nighttime navigation through the bridge be increased to a level determined by the District Commander to warrant lighting (generally four or more passages per week between the hours of sunset and sunrise).
- c. This office shall be contacted at least 30 days prior to commencement of any work for review of construction plans and determination of other requirements for work over the navigable channel.
- d. If this project will require waterborne equipments, waterway closures/restrictions or safety zones established, requests must be made a minimum of 90 days in advance. Please contact USCG Sector Long Island Sound, 120 Woodward Ave. New Haven, CT 06512, phone (203) 468-4596.
- e. Any spillage of oil or oil-based products during construction must be promptly reported to the Coast Guard by calling 1-800-424-8802.
- f. This approval does not relieve the bridge owner of the obligation or responsibility for compliance with the provisions of any other law or regulation as may be under the jurisdiction of any other federal, state or local authority having cognizance of any aspect of the location, construction or maintenance for the proposed bridge.

If you have any further questions feel free to contact this office at the number above.

Sincerely,



C. J. BISIGNANO
Supervisory Bridge Management Specialist
By direction

Copy: Sector LIS
USACOE, New England Division

CTDEEP INLAND/MARINE FISHERIES DIVISION COORDINATION TRANSMITTAL MEMORANDUM

DOT Project #: 92-668

Town: New Haven

Bridge #: 03093

Waterway: Quinnipiac River

Drainage Basin Name & Number: Quinnipiac 5200

Project Description / Scope of work: Bridge Rehabilitation

Design contact: Andrew Cardinali

Town Initiated Project? No

Initial Coordination

The following information is provided as required:

Plan /submittal date : 12/7/15

- Legible location map with project site clearly marked
- Description of scope of work and if developed, pertinent 1/2 scale plans as deemed relevant.
- Area photographs

To be completed by CTDEEP Fisheries Division and returned to DOT Environmental Planning Division

- Effect of proposal on our program interests is negligible. No further review is warranted.
- Additional information is required, a list of requested information is attached.
- Comments and recommendations are attached.

MJ Initials
12/7/2015 Date

Structure Type Agreement

The following information is provided as required:

Plan date: _____

- Copies of previous correspondence from Fisheries Division
- If previous recommendations cannot be incorporated, provide narrative explaining why.
- 1/2 scale plans of pertinent plan sheets including plan view, elevation view, profile and details as deemed relevant.

To be completed by CTDEEP Fisheries Division and returned to DOT Environmental Planning Division

- DEEP Fisheries agrees to the structure type presented in the plans.
- Unconfined in-stream work must be limited to _____
- Other comments and recommendations are attached.

_____ Initials
_____ Date

Final Fisheries Sign-Off

_____ Check here if project is not FM MOU eligible and will be finalized through DEEP IWRD.

The following information is provided as required:

Plan date: _____

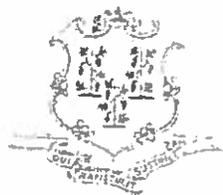
- Copies of all previous correspondence from Fisheries Division
- If previous recommendations cannot be incorporated, provide narrative explaining why.
- 1/2 scale plans of pertinent plan sheets including plan view, elevation view, profile and details as deemed relevant.

To be completed by CTDEEP Fisheries Division and returned to DOT Environmental Planning Division

- DEEP Fisheries comments have been adequately incorporated into project plans
- The attached Special Conditions must be incorporated into the contract language

DEEP Fisheries Biologist _____

Date _____



STATE OF CONNECTICUT

DEPARTMENT OF TRANSPORTATION

2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546



Determination of Exemption
for Historic Properties

Table with project details: Author (Mark McMillan), Date (November 21, 2013), Project (State No., F.A.P. No., Project Title, Town), and Category of Exemption (Appendix B "Screened Undertakings...").

Project Description

The project will use state and federal funds to rehabilitate Bridge #03093, which carries I-95 over North Front Street and the Quinnipiac River in New Haven. Connecticut Department of Transportation's Bridge Safety and Evaluation Unit have assessed the bridge to be in Poor condition due to corrosion of the steel members of the superstructure, constriction of the upstream channel and scour of the substructure. The project is in its Concept Phase and a Rehabilitation Study Report is underway to determine the long-term repairs for the structure. The current scope of work is limited to repainting portions of the bridge's structural steel.

Technical Review of Project

Bridge #03093 is a four-span structure, with each span comprised of multi-stringer steel beams that support a concrete deck. Reinforced concrete piers and abutments form the bridge's substructure. It was constructed in 1964 and substantially reconstructed in 1994. It is categorized as "Not Eligible for the National Register of Historic Places" in the statewide bridge inventory database maintained by CTDOT.

The proposed scope is limited to repainting the existing structure. It does not anticipate ground disturbance as part of this project. The soils beneath the bridge are classified as Urban Land Complex and have a low potential for historic or cultural resources. However, several archaeological sites have been documented on the eastern bank of the Quinnipiac River. These consist of Pre-Contact camping sites that include stone tools, fire pits and hearths and pottery. Because the current scope of work does not require ground disturbance, there is no foreseeable potential to disturb archaeological resources.

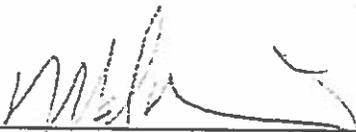
An Equal Opportunity Employer
Printed on Recycled or Recovered Paper

Determination of Effect

Because this project is part of Interstate 95, it is exempt from Section 106 Review per the Advisory Council on Historic Preservation (ACHP)¹. Bridge #03399D is not eligible for the National Register of Historic Places nor is it identified on the *List of Nationally and Exceptionally Significant Features of the Federal Interstate Highway System*. Staff from OEP reviewed this project and did not discover new information or qualities of this bridge or proposed project that would contradict the application of the ACHP's exemption.

Further, if the project were to be reviewed under Section 106, it qualifies as a "Bridge/Culvert Related Project" under Appendix B "Screened Undertakings Not Requiring Connecticut SHPO Review" of the Section 106 Programmatic Agreement². In accordance with the Section 106 PA, the Office of Environmental Planning has determined that, as proposed, the limited repainting of the bridge has minimal potential to affect historic properties and is therefore exempt from Section 106 Review. No further consultation with the SHPO is necessary. A copy of this finding will be included in the quarterly report of Minor Transportation Projects that is submitted to the SHPO.

Please note that as the project develops beyond the concept phase, the scope will presumably increase. When that occurs, the project and its expanded scope will need to be resubmitted for review, particularly if ground disturbance is anticipated.



Mark McMillan
National Register Specialist
Office of Environmental Planning
Connecticut Department of Transportation

¹ *Exemption Regarding Historic Preservation Review Process for Effects to the Interstate Highway System*, (3/10/2005).

² "Programmatic Agreement among the Federal Highway Administration, the Connecticut Department of Transportation, the Connecticut State Historic Preservation Office, and the Advisory Council on Historic Preservation Regarding Implementation of Minor Transportation Projects", signed October 24, 2012.

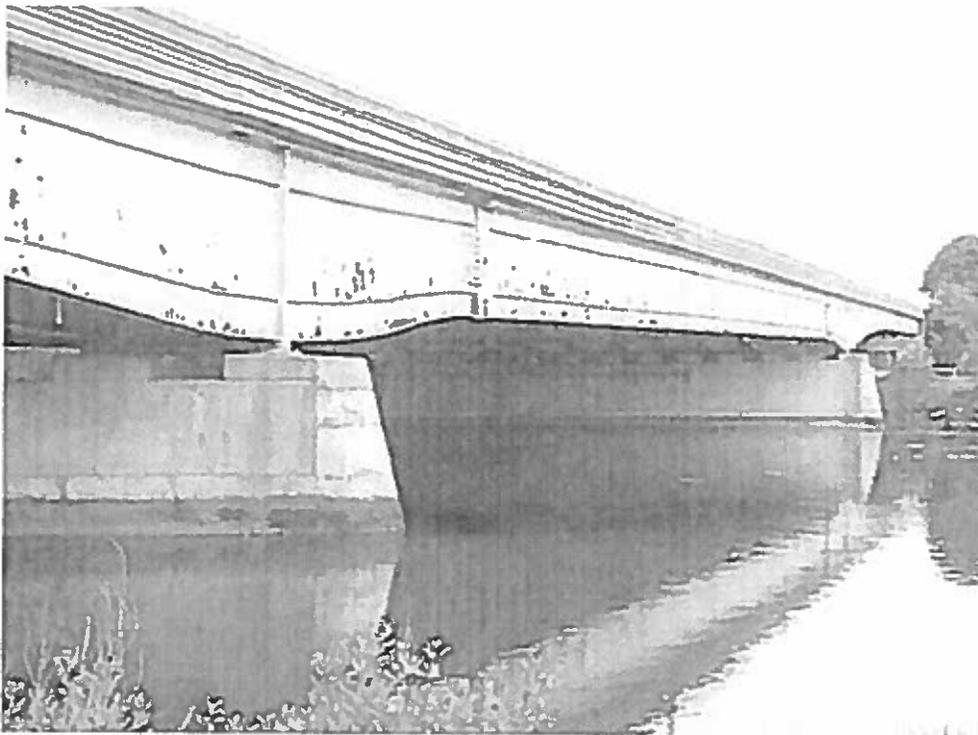
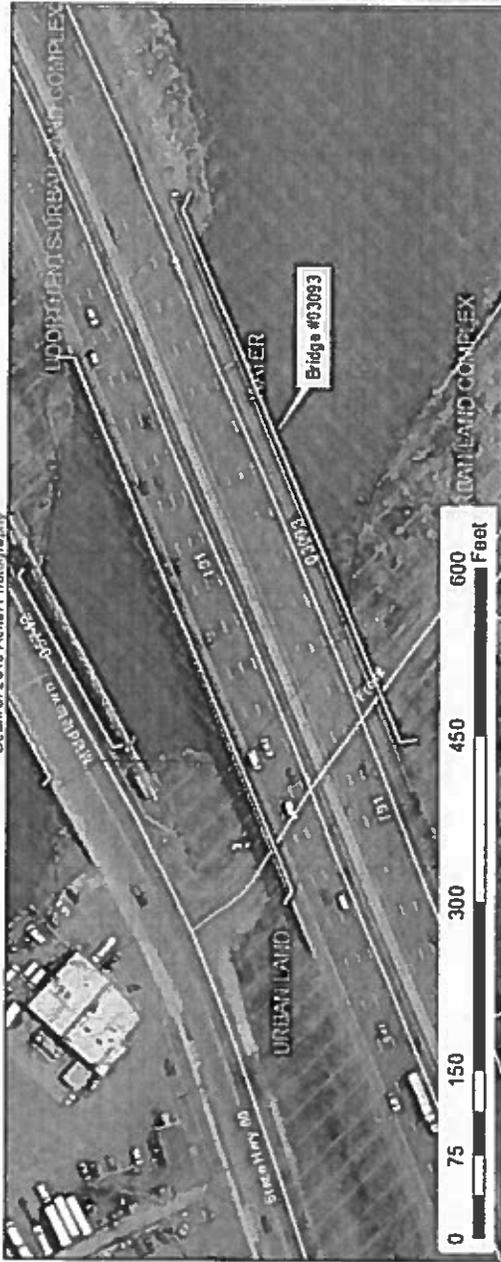


Image 1: West (downstream) elevation of Bridge #03093.

Detail of 2010 Aerial Photography



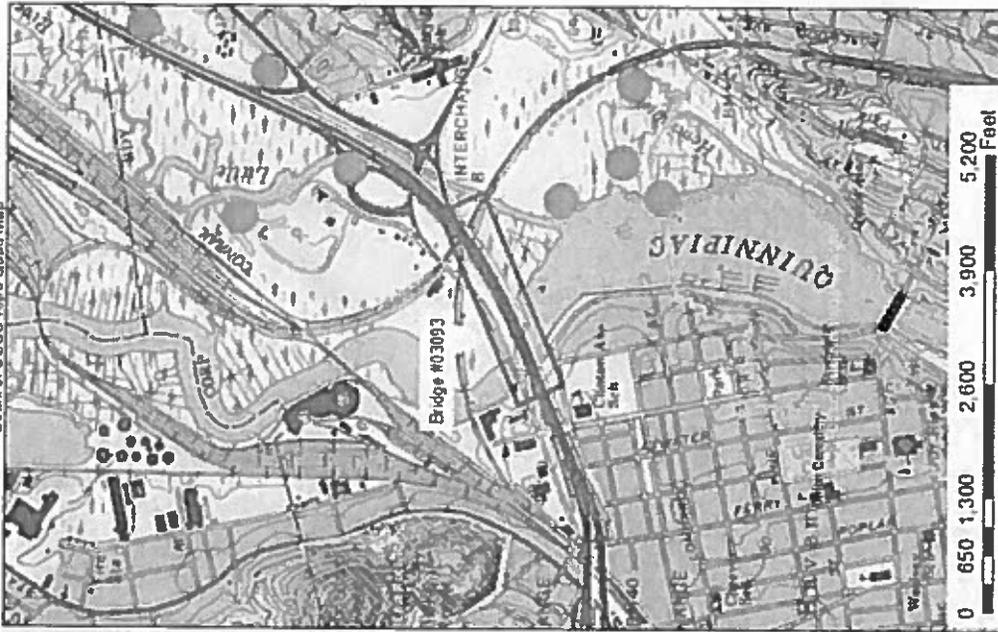
Detail of 1811 Warren Map of Connecticut with 1930 Ghawald Overlay



Detail of 1879 Bailey Bardsays Map of New Haven



Detail of USGS Topo Quad Map



Office of Environmental Planning
Environmental Review - Historical and
Archaeological Resources

This product was created using TeleAtlas Information
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State Project No. 92-668
F.I.D.#: TBD
Rehabilitation of Bridge #03093
I-91 over Front Street & Quinnipiac River
New Haven

Predicted Archaeological
Soil Sensitivity

High	Low
Moderate	Poor
Variable	Unknown

Historic District

Historic	Cemetery/4(f) Resource
----------	------------------------

Approximate Location
of Archaeological Site

Historic	Pre-Contact	Unknown
----------	-------------	---------





STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION



2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546

Phone:

February 16, 2016

Mr. John Paul Izzo
New Haven Harbormaster
27 Richmond Avenue
West Haven, Connecticut 06516

Dear Mr. Izzo:

Subject: State Project No. 92-668
Bridge No. 03093 I-91 over Front Street and the Quinnipiac River
City of New Haven

Enclosed is a copy of our application for a Certificate of Permission which has been submitted to the Department of Energy and Environmental Protection, Office of Long Island Sound Programs for your information and files.

If you have any questions about this application, then please contact Mr. Andrew H. Davis, Transportation Supervising Planner of my staff, at 860-594-2157.

Very truly yours,

Mark W. Alexander
Transportation Assistant Planning Director
Bureau of Policy and Planning

cc: Mr. Micheal Grzywinski

Richard W. Canavan/rwc

bcc: Robbin L. Cabelus – Mark W. Alexander

Andrew H. Davis – Chris Samorajczyk

Rabih M. Bakka – Andrew J. Cardinali – Dobieslaw A. Kania

Bryan L. Bush – Donald P. Wurst – Susan K. Bakulski



STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION



2800 BERLIN TURNPIKE, P.O. BOX 317546
NEWINGTON, CONNECTICUT 06131-7546

Phone:

February 5, 2016

Ms. Susan Lee
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Dear Ms. Lee:

Subject: Connecticut Department of Transportation
State Project No. 92-668
Bridge No. 03093 I-91 over Front Street and the Quinnipiac River
City of New Haven

Enclosed is a copy of our application for a Certificate of Permission which has been submitted to the Department of Energy and Environmental Protection, Office of Long Island Sound Programs for your information and files.

If you have any questions about this application, then please contact Mr. Andrew H. Davis, Transportation Supervising Planner of my staff, at 860-594-2157.

Very truly yours,

Mark W. Alexander
Transportation Assistant Planning Director
Bureau of Policy and Planning

Enclosure(s)

cc: Mr. Micheal Grzywinski

Richard W. Canavan/rwc

bcc: Robbin L. Cabelus – Mark W. Alexander

Andrew H. Davis – Chris Samorajczyk

Rabih M. Barakat – Andrew J. Cardinali – Dobiesława A. Kania

Bryan L. Bush – Donald P. Wurst – Susan K. Bakulski

DAK

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

FLOOD MANAGEMENT GENERAL CERTIFICATION

Project No.: 92-668
Description: Bridge No. 03093: I-91 over Front Street and the Quinnipiac River
Town: New Haven
Date: January 29, 2016

m e m o r a n d u m

to: Mr. Michael E. Masayda
Trans. Principal Engineer
Hydraulics and Drainage
Bureau of Engineering and Highway Operations

from: Andrew J. Cardinali
Transportation Supervising Engineer
Bureau of Engineering and Construction

Please review this request for Flood Management General Certification and indicate your concurrence below.

Certification (to be completed by designer)

I have read the Flood Management General Certification and the descriptions for the approved DOT minor activities. This project qualifies for the Flood Management General Certification under:

- () Minor Safety Improvements and Streetscape Projects
- () Roadway Repaving, Maintenance & Underground Utilities
- () Minor Stormwater Drainage Improvements
- () Removal of Sediment or Debris from a Floodplain
- () Wetland Restoration Creation or Enhancement
- () Scour Repairs at Structures; *(Must acquire DEEP Fisheries Concurrence to be eligible)*
- () Guide Rail Installation
- () Deck and Superstructure Replacements
- (X) Minor Bridge Repairs and Access
- () Fisheries Enhancements
- () Surveying and Testing
- () Bicycle / Pedestrian, Multi Use Trails and Enhancement Projects

The following required documentation is attached in support of this certification:

- Project description
- Location plan
- Description of Floodplain involvement and how project qualifies for general certification
- 8-1/2" by 11" excerpt copy of the FEMA Flood Insurance Rate Map (FIRM) and Floodway Boundary Map (if applicable)
- Design plans, with FEMA floodplain and floodway boundaries plotted, cross sections and profiles, as necessary, that clearly depict the floodplain involvement
- FEMA 100-year flood elevation plotted on elevation view (for structures)

Print Name Susan Bakulski	Title Project Engineer
Signature <i>Susan Bakulski</i>	Date <i>01/29/2016</i>

Concurrence (to be completed by Hydraulics and Drainage)

Based on the documentation submitted, I hereby concur that the project qualifies for Flood Management General Certification.

If there are any changes to the proposed activities within the floodplain or floodway, the project must be re-submitted for review and approval.

Signature	Date
-----------	------

cc: James Fallon
Environmental Planning File
DEP Flood Management Certification File
Hydraulics and Drainage File

Rev 02/12

Flood Management General Certification

State Project Number: 92-668

Town/City: New Haven

Bridge Number: 03093

I-91 over Front Street and the Quinnipiac River

Project Description

The project includes the following repairs to the topside of the bridge deck:

- membrane and overlay replacement
- replacement of deck joints
- partial and full depth patching of the deck

Work to the topside of the bridge will be contained on the bridge deck, which is above the flood elevation of the Quinnipiac River. According to FEMA flood mapping, the flood elevation of Flood Zone AE is 12' NAVD88 at the location of Bridge No. 03093.

Repairs to the underside of the bridge will include:

- repairs to underside of deck concrete
- structural steel repairs
- peen fatigue prone weld details
- spot painting of structural steel and fixed bearings
- clean, repair, and paint girder ends at the pin and hanger and hinge pins
- replace pins at pin and hangers and hinge pin assemblies
- substructure repairs – patch concrete, and epoxy injection into cracks at piers
- scupper cleaning

Repairs to the underside of deck concrete, steel, pin and hangers, hinge pins, and scuppers will occur close to underside of the deck with proper enclosures to ensure that no construction debris falls into the Quinnipiac River. Substructure repairs will repair cracks and deteriorated concrete at abutments and piers. Class "S" concrete will be used for repairs to deteriorating concrete of the abutments and piers; epoxy will be injected into cracks in the bridge piers. Access for making substructure repairs to concrete of piers No. 2 and 3 may require the use of a work barge with proper lighting, within the Quinnipiac River.

Work will include shielding to ensure that no materials fall from the bridge into the river during construction. No substructure repairs will occur below the water surface of the Quinnipiac River. However work may occur below the floodplain and CJL elevations where repair is necessary and joints can be repaired 'in the dry'.

The project will clean existing scuppers and the drainage system on the bridge. All cleaned material from the drainage system will be collected and properly disposed of, off-site. Weep pipes on the bridge will be extended to 3-inches below the existing girder bottom flanges. Repairs to the drainage system will replace existing components in-kind. It is possible that drainage pipes that extend below the floodplain elevation would be replaced in kind. No expansion of the existing bridge deck is proposed and the project is limited to maintenance and repair of the existing structure.

FM General Project Description

Project No. 92-668

Bridge No. 03093 I-91 over Front Street and the Quinnipiac River

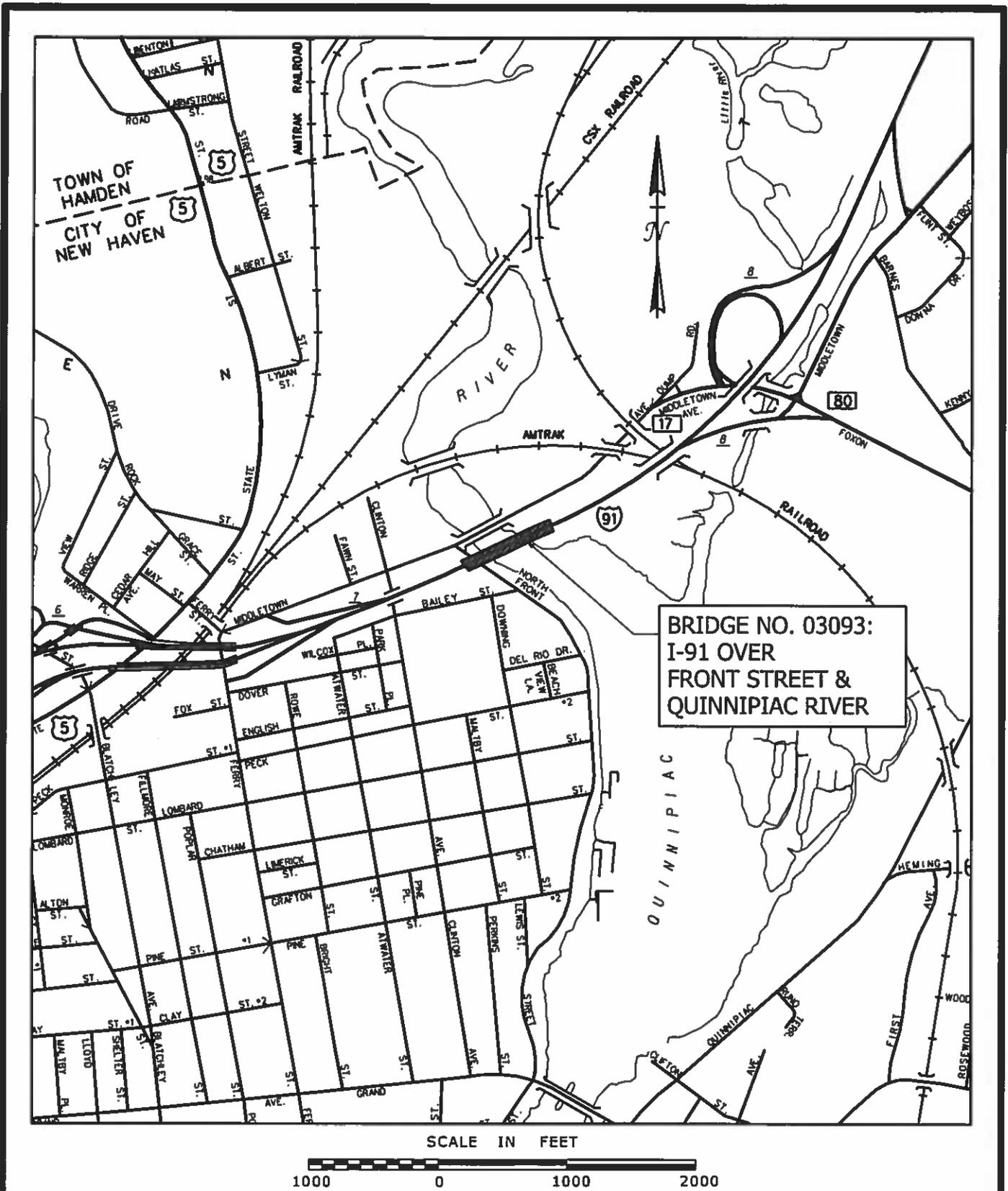
1

Project Qualifications for General Certification

The majority of the project occurs on the bridge at elevations above the floodplain elevation. Proposed work at or below the floodplain elevation is limited to substructure repair and in-kind replacement of drainage system components. The proposed repairs are included in Category #9 Minor Bridge Repairs including proper containment.

The project will meet the following conditions required of all FM-General approvals:

- Sedimentation and erosion controls are included in the design in accordance with ConnDOT standards. The project avoids ground disturbance and will include the appropriate construction debris containment systems.
- The project will include work from a barge to access the bridge above water, no in-water work will occur. The conditions of use for the barge will require that it not bottom out. All construction materials and equipment including barges will be removed from the floodplain prior to flooding events.
- No impacts to Fisheries resources will occur.



STATE PROJECT NO.:
92-668
 CITY/TOWN:
NEW HAVEN


STATE OF CONNECTICUT
 DEPARTMENT OF TRANSPORTATION



BRIDGE NO. 03093
LOCATION MAP

DATE:
04/2014
 SHEET NO.:
1 OF 1

CME Associates, Inc.
 CONSULTING ENGINEERS &
 ENVIRONMENTAL PLANNERS
 233 B RIVER DR., SUITE 400
 EAST HARTFORD CT 06108



MAP SCALE 1" = 500'



NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0434J

FIRM
FLOOD INSURANCE RATE MAP
NEW HAVEN COUNTY,
CONNECTICUT
(ALL JURISDICTIONS)

PANEL 434 OF 635
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:		NUMBER	PANEL	SUFFIX
COMMUNITY	HAUSCH, TOWN OF	09071	0434	J
NEIGHBORHOOD	NEW HAVEN, CITY OF	09084	0434	J
WATERWAY	NORTH HAVEN, TOWN OF	09086	0434	J

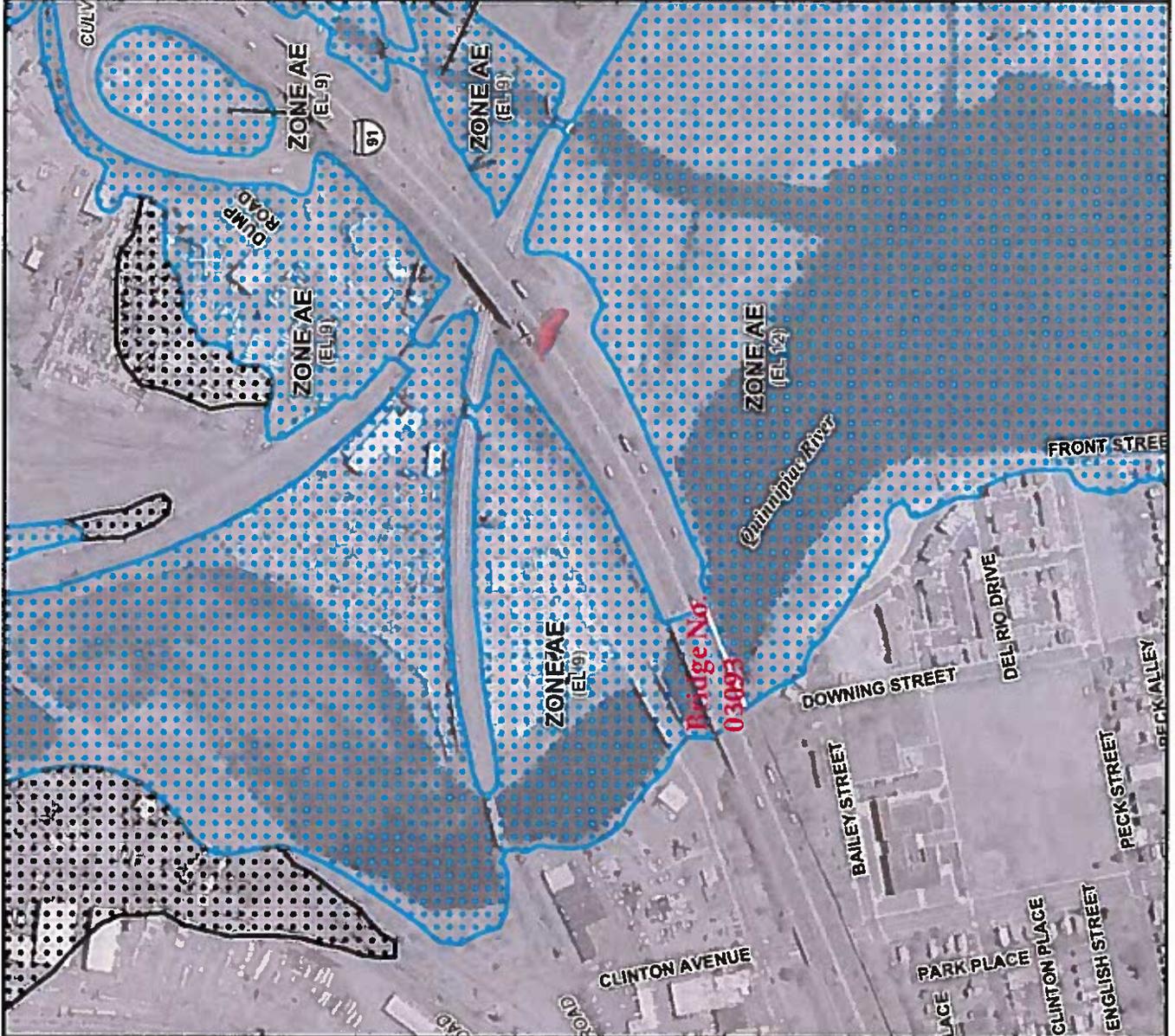
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community



MAP NUMBER
 09009C0434J
 MAP REVISED
 JULY 8, 2013

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov





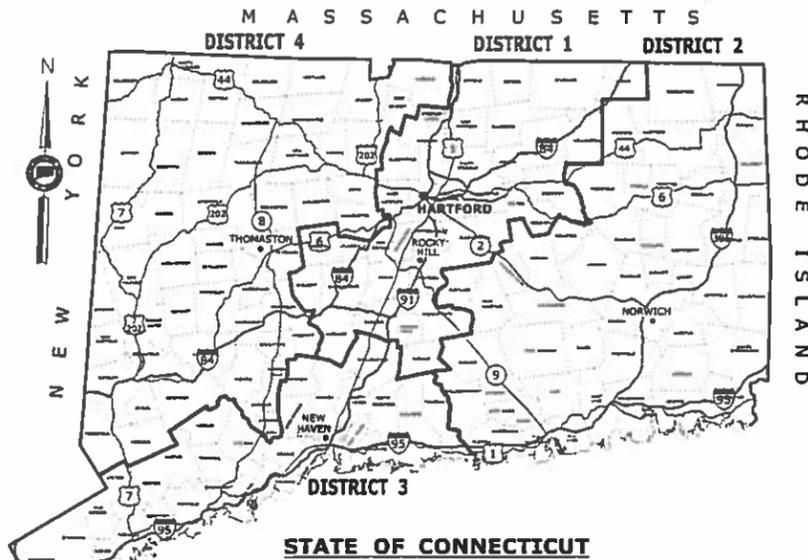
CONNECTICUT DEPARTMENT OF TRANSPORTATION



Plans For

REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER

Town(s)/City of
NEW HAVEN



GENERAL NOTES:

- FEDERAL AID PROJECT NO. 0911(129)
- CONSTRUCTION SPECIFICATIONS:
Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 816, dated 2004; Supplemental Specifications, dated July 2015; and Special Provisions
- 400 FOOT GRID BASED ON CONNECTICUT COORDINATE SYSTEM SYSTEM N.A.D. 1983
- VERTICAL DATUM BASED ON NAVD OF 1988
- ADT= 127,400 (YEAR 2011) VEHICLES, V= 50 MPH, CL= LIMITED ACCESS HIGHWAY

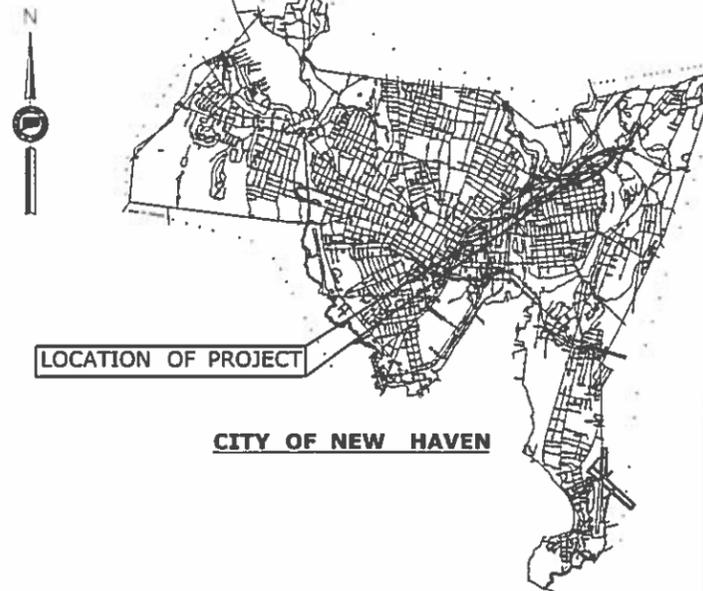
DISCLAIMER

IT IS THE RESPONSIBILITY OF EACH BIDDER AND ALL OTHER INTERESTED PARTIES TO OBTAIN ALL BIDDING RELATED INFORMATION AND DOCUMENTS FROM OFFICAL SOURCES WITHIN THE DEPARTMENT.

PERSONS AND/OR ENTITIES WHICH REPRODUCE AND/OR MAKE SUCH INFORMATION AVAILABLE BY ANY MEANS ARE NOT AUTHORIZED BY THE DEPARTMENT TO DO SO AND MAY BE LIABLE FOR CLAIMS RESULTING FROM THE DISSEMINATION OF UNOFFICAL, INCOMPLETE AND/OR INACCURATE INFORMATION.

ROAD	MAINTENANCE RESPONSIBILITY	LENGTH
Route I-91	STATE	755 FEET

F.A.P. #	MAINTENANCE RESPONSIBILITY	PROJECT #
0911(129)	STATE	0092-0668



LOCATION PLAN
NOT TO SCALE

DESIGNED BY:
DEWBERRY ENGINEERS INC.
Dewberry

FINAL DESIGN REVIEW

LIST OF SUBSETS		
SUBSET NO.	SUBSET TITLE	*SUBSET SHEET COUNT
01	GENERAL	1
02	REVISIONS	1
03	HIGHWAYS	3
04	STRUCTURE	37
	HIGHWAY STANDARD SHEETS	9
	TRAFFIC STANDARD SHEETS	7

*THE INITIAL SUBSET SHEET COUNT DOES NOT INCLUDE ADDENDUMS AND CHANGE ORDERS

**LIST OF DRAWINGS
SUBSET 01 - GENERAL**

DRAWING TITLE	DRAWING NO.
TITLE SHEET	G-01
DETAILED ESTIMATE SHEET (NOT INCLUDED)	

STANDARD CONVENTIONS			
North Arrow, W/Mo. Coor.	Grid Arrow	Chain Link Fence	Raprap
Edge Of Road	Limit Of Marsh	Rustic Fence	Hedge Row
Concrete Pavement	Stone Wall	Pipe Fence	Tree Line
Dirt Road	Ledge Outcrop	Board Fence	Shrub
E.C.L.C.	Inland Wetland Limits	Water Edge	Evergreen Tree
Granite Curb	STATE LINE	Stream	Deciduous Tree
Guide Rail	Power Line	Ditch	Retaining Wall
Concrete Median Barrier	Swamp	TOWN LINE	Highway Line
St. Walk	Building	Stream	Street Line
Cont. Sidewalk	Transmission Tower	Stream	Property Line
Railroad Tracks		Stream	Lot Line
		Stream	Easement Line

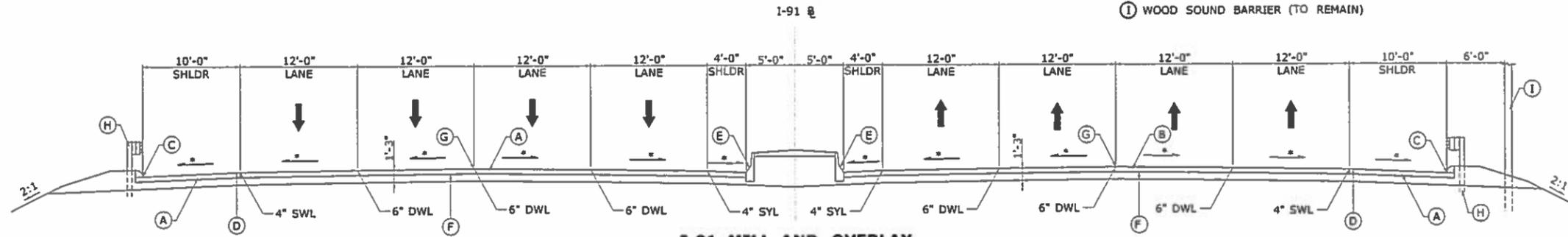
Plans For
REHABILITATION OF BRIDGE NO. 03093
I-91 OVER FRONT STREET
AND QUINNIPIAC RIVER

Town(s)/City
NEW HAVEN

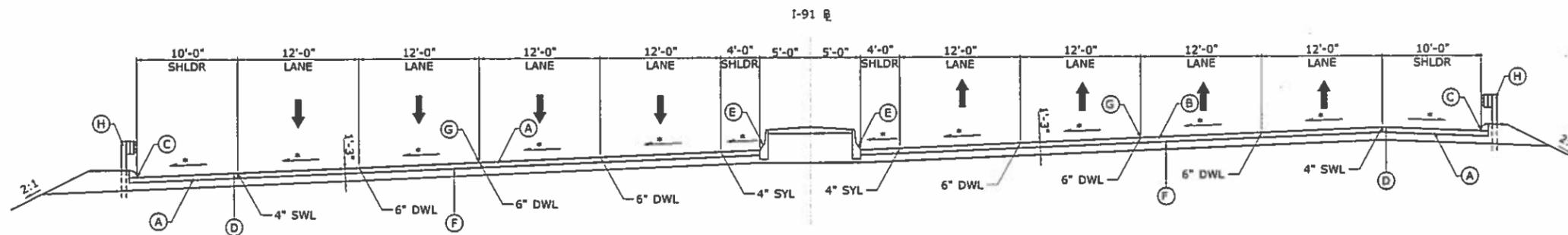
STATE PROJECT NO. 0092-0668	DRAWING NO. G-01
	SHEET NO. 01.01

LEGEND

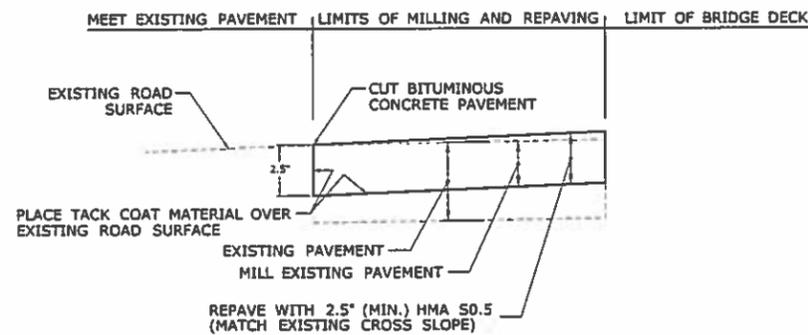
- (A) MILL EXISTING HMA 2-1/2" MAX AND REPAVE WITH 2-1/2" MIN. HMA S0.5 (2 LIFTS), MATCH EXISTING CROSS SLOPE.
- (B) MILL EXISTING HMA 3-1/2" MAX AND REPAVE WITH 2-1/2" MIN. HMA S0.5 (2 LIFTS), MATCH EXISTING CROSS SLOPE.
- (C) EXISTING ASPHALT CURB TO BE REPLACED WITH 6" BITUMINOUS CONCRETE LIP CURBING
- (D) PROPOSED RUMBLE STRIP
- (E) EXISTING PRECAST CONCRETE BARRIER (TO REMAIN)
- (F) MATERIAL FOR TACK COAT
- (G) POINT OF APPLICATION OF GRADE
- (H) MBR (TYPE RB-350) (TO BE REMOVED AND RESET)
- (I) WOOD SOUND BARRIER (TO REMAIN)



I-91 MILL AND OVERLAY
STA. 92+25 TO STA. 93+51.73
NOT TO SCALE



I-91 MILL AND OVERLAY
STA. 98+63.56 TO STA. 101+25
NOT TO SCALE



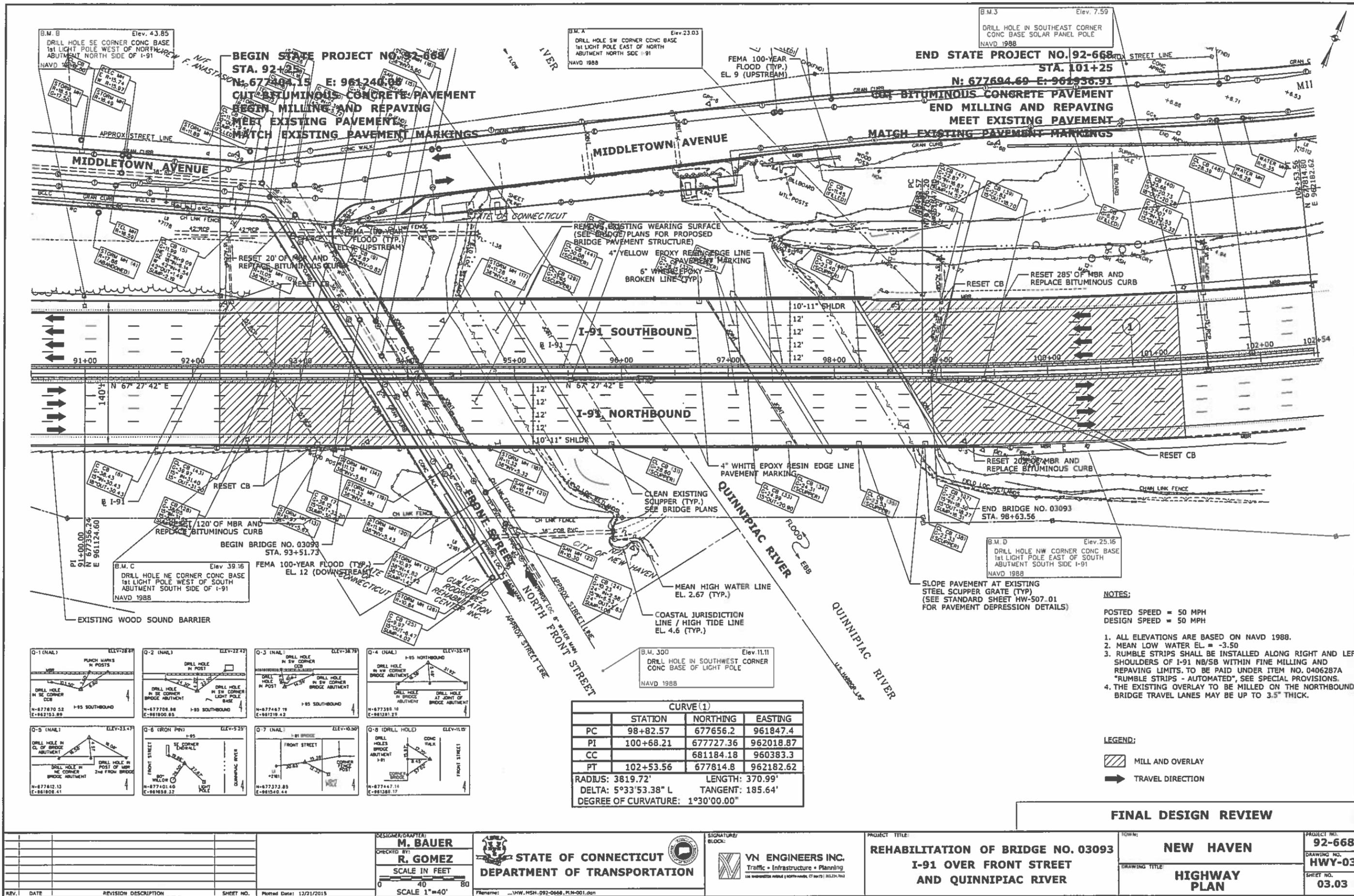
PAVEMENT TRANSITION DETAIL
STA. 92+25 TO STA. 93+51.73
STA. 98+63.56 TO STA. 101+25
NOT TO SCALE

NOTES:
 THE ACTUAL FIELD PAVEMENT DEPTH MAY BE LARGER THAN SHOWN IN THESE SECTIONS DUE TO RECENT APPLICATION OF OVERLAY MATERIAL WITHIN THE PROJECT LIMITS.

* = MATCH EXISTING CROSS SLOPE
 SYL = SOLID YELLOW LINE
 SWL = SOLID WHITE LINE
 DWL = DASHED WHITE LINE

FINAL DESIGN REVIEW

DESIGNER/DRAWER: A. MUKON CHECKED BY: R. GOMEZ				SIGNATURE/BLOCK: 		PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER		TOWN: NEW HAVEN		PROJECT NO. 92-668	
REV. DATE REVISION DESCRIPTION SHEET NO. Printed Date: 12/21/2015		STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION		VN ENGINEERS INC. Traffic • Infrastructure • Planning <small>100 WASHINGTON AVENUE NORTH HAVEN, CT 06460</small>		DRAWING TITLE: TYPICAL SECTIONS		DRAWING NO. HWY-02		SHEET NO. 03.02	



B.M. 3 Elev. 7.59
 DRILL HOLE IN SOUTHEAST CORNER
 CONC BASE SOLAR PANEL POLE
 NAVD 1988

B.M. A Elev. 23.03
 DRILL HOLE SW CORNER CONC BASE
 1st LIGHT POLE EAST OF NORTH
 ABUTMENT NORTH SIDE I-91
 NAVD 1988

B.M. B Elev. 43.85
 DRILL HOLE SE CORNER CONC BASE
 1st LIGHT POLE WEST OF NORTH
 ABUTMENT NORTH SIDE OF I-91
 NAVD 1988

B.M. D Elev. 25.16
 DRILL HOLE NW CORNER CONC BASE
 1st LIGHT POLE EAST OF SOUTH
 ABUTMENT SOUTH SIDE I-91
 NAVD 1988

B.M. 300 Elev. 11.11
 DRILL HOLE IN SOUTHWEST CORNER
 CONC BASE OF LIGHT POLE
 NAVD 1988

B.M. C Elev. 39.16
 DRILL HOLE NE CORNER CONC BASE
 1st LIGHT POLE WEST OF SOUTH
 ABUTMENT SOUTH SIDE OF I-91
 NAVD 1988

- NOTES:**
1. ALL ELEVATIONS ARE BASED ON NAVD 1988.
 2. MEAN LOW WATER EL. = -3.50
 3. RUMBLE STRIPS SHALL BE INSTALLED ALONG RIGHT AND LEFT SHOULDERS OF I-91 NB/SB WITHIN FINE MILLING AND REPAVING LIMITS. TO BE PAID UNDER ITEM NO. 0406287A "RUMBLE STRIPS - AUTOMATED", SEE SPECIAL PROVISIONS.
 4. THE EXISTING OVERLAY TO BE MILLED ON THE NORTHBOUND BRIDGE TRAVEL LANES MAY BE UP TO 3.5" THICK.

- LEGEND:**
- [Hatched Box] MILL AND OVERLAY
 - [Arrow] TRAVEL DIRECTION

CURVE (1)		
STATION	NORTHING	EASTING
PC	98+82.57	677656.2
PI	100+68.21	677727.36
CC	681184.18	960383.3
PT	102+53.56	677814.8
RADIUS: 3819.72'		LENGTH: 370.99'
DELTA: 5°33'53.38" L		TANGENT: 185.64'
DEGREE OF CURVATURE: 1°30'00.00"		

<p>0-1 (INAIL) ELEV: 28.89 PUNCH MARKS IN POSTS</p>	<p>0-2 (INAIL) ELEV: 22.47 DRILL HOLE IN POST</p>	<p>0-3 (INAIL) ELEV: 38.78 DRILL HOLE IN SW CORNER</p>	<p>0-4 (INAIL) ELEV: 35.47 DRILL HOLE IN NW CORNER</p>
<p>0-5 (INAIL) ELEV: 23.07 DRILL HOLE IN SE CORNER</p>	<p>0-6 (IRON PIN) ELEV: 5.25 FRONT STREET</p>	<p>0-7 (INAIL) ELEV: 0.00 FRONT STREET</p>	<p>0-8 (DRILL HOLE) ELEV: 11.15 CONC WALK</p>

FINAL DESIGN REVIEW

PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO.: 92-668
	DRAWING TITLE: HIGHWAY PLAN	DRAWING NO.: HWY-03
		SHEET NO.: 03.03

DESIGNER/DRAWER:
M. BAUER

CHECKED BY:
R. GOMEZ

SCALE IN FEET
0 40 80
SCALE 1"=40'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Y.N. ENGINEERS INC.
Traffic • Infrastructure • Planning

PROJECT TITLE:
**REHABILITATION OF BRIDGE NO. 03093
I-91 OVER FRONT STREET
AND QUINNIPIAC RIVER**

04 - STRUCTURE INDEX OF DRAWINGS

DRAWING NUMBER	DRAWING TITLE	DRAWING NUMBER	DRAWING TITLE
S-01	INDEX OF DRAWINGS	S-32	DECK REPAIR DETAILS - 1
S-02	GENERAL PLAN AND ELEVATION	S-33	DECK REPAIR DETAILS - 2
S-03	CROSS SECTIONS	S-34	ASPHALTIC PLUG JOINT DETAILS
S-04	GENERAL NOTES AND QUANTITIES	S-35	PREFORMED JOINT SEAL DETAILS - 1
S-05	ABUTMENTS	S-36	PREFORMED JOINT SEAL DETAILS - 2
S-06	WINGWALLS	S-37	DRAINAGE DETAILS
S-07	PIERS - 1		
S-08	PIERS - 2		
S-09	PIERS - 3		
S-10	SUBSTRUCTURE REPAIRS - 1		
S-11	SUBSTRUCTURE REPAIRS - 2		
S-12	FRAMING PLAN - 1		
S-13	FRAMING PLAN - 2		
S-14	FRAMING PLAN - 3		
S-15	STEEL REPAIR DETAILS - 1		
S-16	STEEL REPAIR DETAILS - 2		
S-17	STEEL REPAIR DETAILS - 3		
S-18	STEEL REPAIR DETAILS - 4		
S-19	STEEL REPAIR DETAILS - 5		
S-20	STEEL REPAIR DETAILS - 6		
S-21	STEEL REPAIR DETAILS - 7		
S-22	STEEL REPAIR DETAILS - 8		
S-23	FIELD PAINTING - 1		
S-24	FIELD PAINTING - 2		
S-25	PIN AND HANGER JACKING SYSTEM - 1		
S-26	PIN AND HANGER JACKING SYSTEM - 2		
S-27	PIN AND HANGER JACKING SYSTEM - 3		
S-28	PIN AND HANGER JACKING SYSTEM - 4		
S-29	UNDERSIDE OF DECK REPAIRS - 1		
S-30	UNDERSIDE OF DECK REPAIRS - 2		
S-31	UNDERSIDE OF DECK REPAIRS - 3		

DESIGNED BY:
DEWBERRY ENGINEERS INC.



FINAL DESIGN REVIEW

REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN
	PROJECT NO. 92-668
	DRAWING NO. S-01
	SHEET NO. 04.01

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Matted Date: 12/22/2015
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

DESIGNER/DRAWER:
A. HIPIUS/S. ERDAS

CHECKED BY:
T. STRNAD

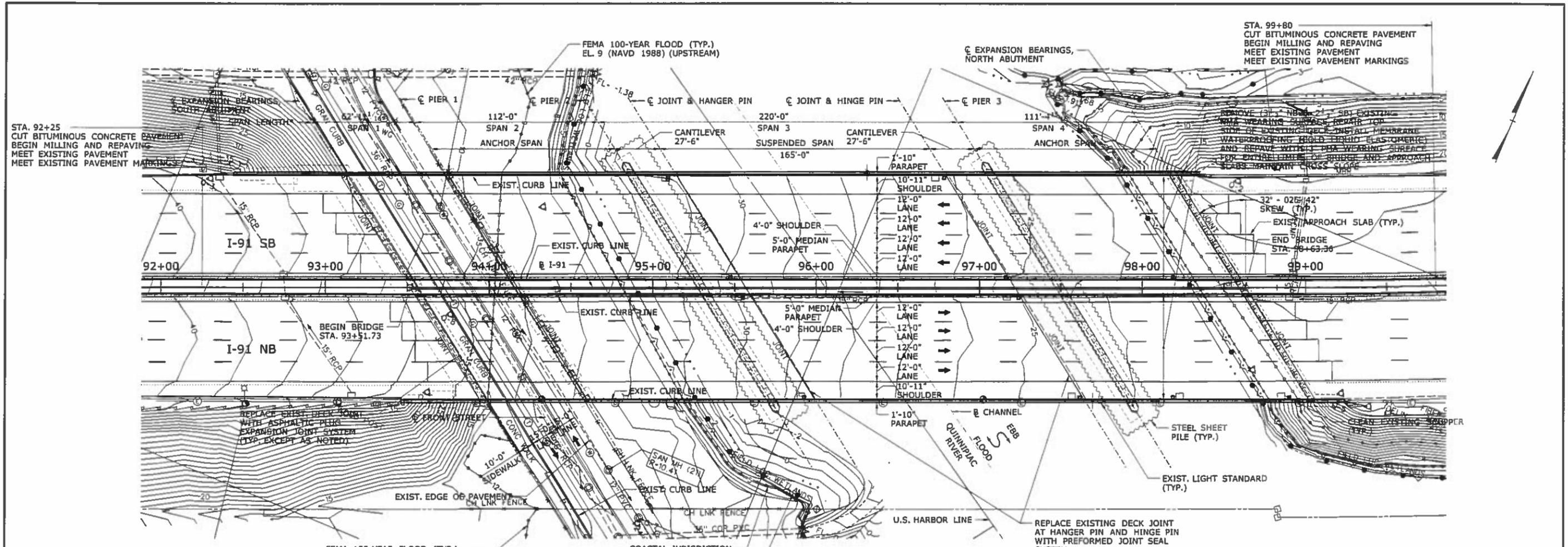
SCALE AS NOTED



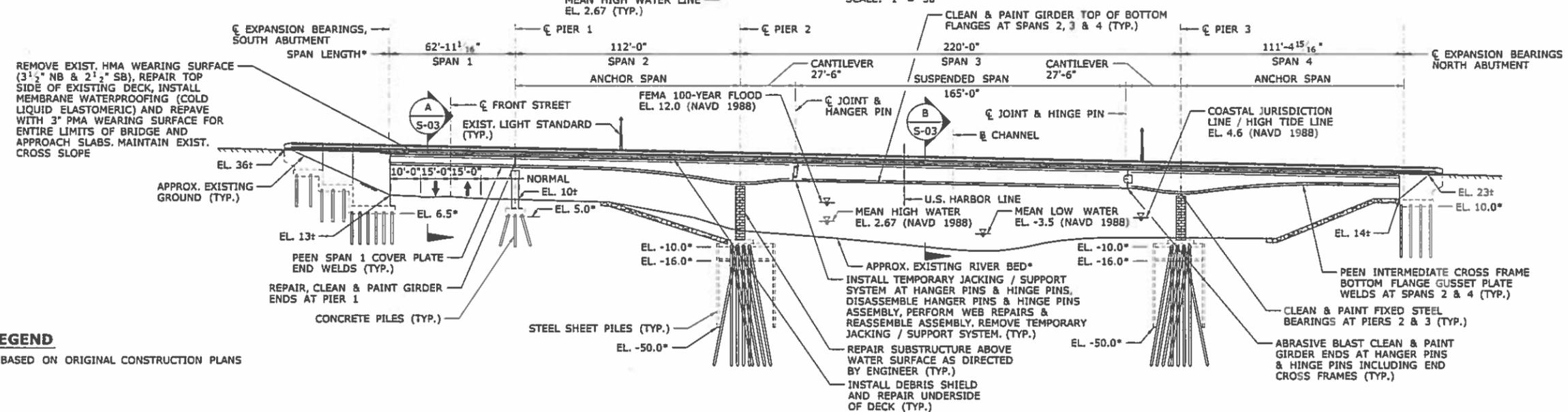
**STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION**

Filename: ...USB_MSH_Br03093_052_0668_IDX.dgn

SIGNATURE/
BLOCK:



GENERAL PLAN
SCALE: 1" = 30'

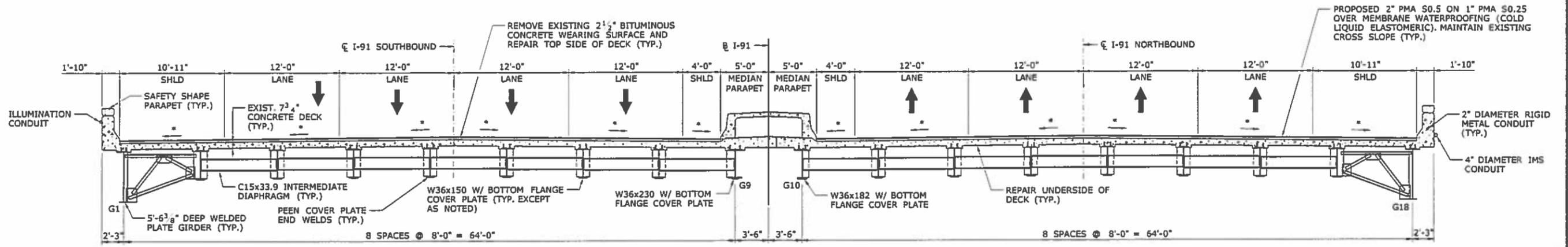


EAST ELEVATION
SCALE: 1" = 30'

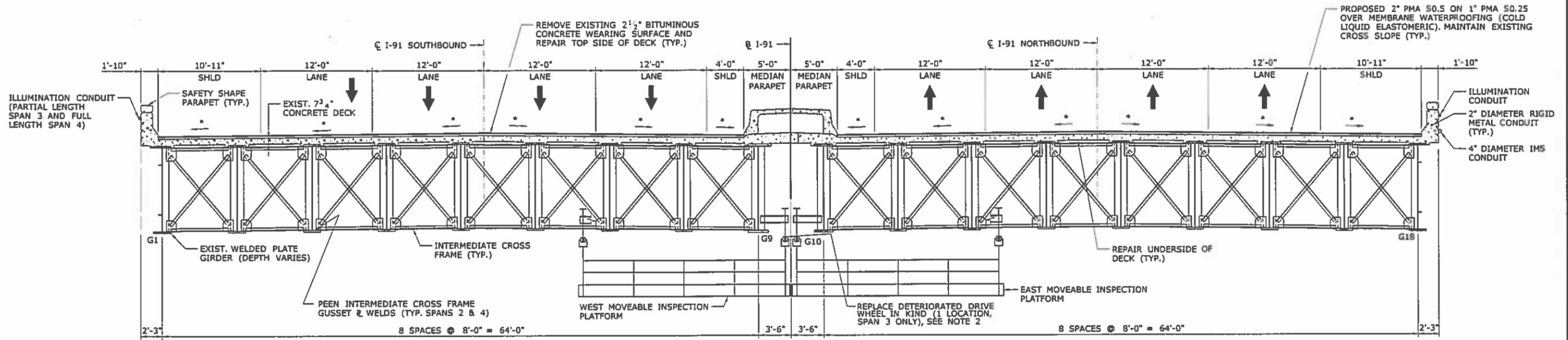
LEGEND
* BASED ON ORIGINAL CONSTRUCTION PLANS

FINAL DESIGN REVIEW

THE INFORMATION INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAWN BY: A. HIPIUS/S. ERDAS CHECKED BY: T. STRNAD SCALE AS NOTED	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO.: 92-668 DRAWING NO.: S-02 SHEET NO.: 04.02
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/22/2015 F:\Name: ...SB_HSH_GPN_092_0668.dgn		



A CROSS SECTION - SPAN 1
S-02 SCALE: 3/16" = 1'-0"



B CROSS SECTION - SPANS 2-4
S-02 SCALE: 3/16" = 1'-0"

NOTES

- CROSS SECTION BETWEEN STA. 93.5+ AND STA. 96+75 SHOWN. CROSS SECTION BETWEEN STA. 96+75 AND 98+63.6+ IS SUPERELEVATED.
- THE COST OF FURNISHING AND INSTALLING THE REPLACEMENT DRIVE WHEEL SHALL BE INCLUDED IN THE GENERAL COST OF CONSTRUCTION.

LEGEND

- * MAINTAIN EXISTING CROSS SLOPE

FINAL DESIGN REVIEW

DESIGNER/DRAWER: A.HIPIUS/S.ERDAS CHECKED BY: T. STRNAD SCALE AS NOTED		STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION Filename: ...158_MSH_Br03093_092_0668_SECT-01.dgn		PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER		TOWN: NEW HAVEN DRAWING TITLE: CROSS SECTION		PROJECT NO. 92-668 DRAWING NO. S-03 SHEET NO. 04.03	
REV. DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/22/2015						

GENERAL NOTES

SPECIFICATIONS:
CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FORM 816 (2004), SUPPLEMENTAL SPECIFICATION DATED JULY 2015, AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS:
AASHTO LRFD BRIDGE DESIGN SPECIFICATION, (AASHTO 6TH EDITION, 2012) AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003).

ALLOWABLE DESIGN STRESSES:
CLASS "S" CONCRETE BASED ON $f'_c = 3000$ PSI
REINFORCEMENT (ASTM A615 GRADE 60) $f_y = 60000$ PSI
STRUCTURAL STEEL (AASHTO M270, GRADE 50) $F_y = 50000$ PSI

LIVE LOAD:
HL-93 (STEEL REPAIRS ONLY)

FUTURE PAVING ALLOWANCE:
NONE

STRUCTURAL STEEL:
SEE STRUCTURE SHEET NOTES FOR DESIGNATIONS AND REQUIREMENTS.

PAINT:
PAINT SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIAL PROVISION "ABRASIVE BLAST CLEANING AND FIELD PAINTING OF STRUCTURE (SITE NO. 1)", "LOCALIZED PAINT REMOVAL AND FIELD PAINTING OF EXISTING STEEL" AND "STRUCTURAL STEEL REPAIRS (SITE NO. 1)". THE COLOR OF THE TOP COAT MATERIAL ON REPAIR AND EXISTING STRUCTURAL STEEL SHALL CONFORM TO FEDERAL STANDARD COLOR NO. 26329 (BLUE)

BITUMINOUS CONCRETE OVERLAY:
THIS SHALL CONSIST OF TWO LIFTS. THE FIRST SHALL BE PMA S0.25 (1" THICK) AND THE SECOND SHALL BE PMA S0.5 (2" THICK).

DIMENSIONS:
WHEN DECIMAL DIMENSIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZEROS.

EXISTING DIMENSIONS:
DIMENSIONS OF THE EXISTING STRUCTURES SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THEY HAVE BEEN TAKEN FROM ORIGINAL DESIGN DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK, AND SHALL ASSUME FULL RESPONSIBILITY FOR THE ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR THE REFERENCE OF THE REVIEWER.

TRAFFIC:
ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIAL PROVISIONS, "MAINTENANCE AND PROTECTION OF TRAFFIC" & "PROSECUTION AND PROGRESS".

UTILITIES:
THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL UTILITIES WITHIN THE PROJECT LIMITS PRIOR TO THE START OF CONSTRUCTION AND SHALL TAKE NECESSARY PRECAUTIONS WHEN WORKING NEAR UTILITIES SO AS TO NOT DISTURB THEM OR PLACE ANY LOAD OR EQUIPMENT ON THEM. ALL UTILITY COMPANIES SHALL BE NOTIFIED 48 HOURS PRIOR TO ANY WORK AFFECTING CABLES, CONDUITS, OR OTHER UTILITIES.

EXISTING PLANS:
PLANS FOR THE EXISTING BRIDGE ARE AVAILABLE AT THE CONNECTICUT DEPARTMENT OF TRANSPORTATION PLAN ROOM, 160 PASCONE PLACE, NEWINGTON.

ACCESS:
ANY TEMPORARY FACILITIES OR EQUIPMENT ALLOWED BELOW THE 100 YEAR FLOOD ELEVATION (EL. 9.0 UPSTREAM / EL. 12.0 DOWNSTREAM) WILL BE SUBJECT TO APPROVAL OF THE ENGINEER AND WILL BE SUBJECT TO REMOVAL IN A TIMELY MANNER IN THE EVENT OF A FLOOD WARNING.

CONCRETE NOTES:

REMAIN-IN-PLACE FORMS:
THE USE OF REMAIN-IN-PLACE FORMS ON THIS STRUCTURE IS NOT ALLOWED.

CLASS "S" CONCRETE:
CLASS "S" CONCRETE SHALL BE USED IN REPAIR LOCATIONS WHERE THE AREA EXCEEDS 4 SQUARE FEET AND THE REINFORCING BARS ARE SUFFICIENTLY EXPOSED TO ENGAGE AND ANCHOR THE PATCHING MATERIAL. CLASS "S" CONCRETE MAY BE USED FOR AREAS SMALLER THAN 4 SQUARE FEET WHERE THERE IS A SUFFICIENT TOTAL VOLUME TO JUSTIFY THE USE OF THIS MATERIAL AND WHERE THE PATCH CAN BE SECURELY ANCHORED BY THE REINFORCING OR WELDED WIRE FABRIC. THIS DETERMINATION IS AT THE DISCRETION OF THE ENGINEER.

JOINT SEAL:
SEE SPECIAL PROVISIONS.

EXPOSED EDGES:
EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1" X 1" UNLESS DIMENSIONED OTHERWISE.

CONCRETE COVER:
ALL REINFORCEMENT SHALL HAVE TWO INCHES COVER UNLESS DIMENSIONED OTHERWISE.

REINFORCEMENT:
ALL REINFORCEMENT SHALL BE ASTM A615 GRADE 60.

CONSTRUCTION JOINTS:
CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE PLANS, WILL NOT BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

BRIDGE 03093 QUANTITIES		
ITEM	UNIT	QUANTITY
GUANO ABATEMENT	CF	250
LEAD COMPLIANCE FOR MISCELLANEOUS TASKS	LS	1
LEAD COMPLIANCE FOR ABRASIVE BLAST CLEANING	LS	1
WATER TRANSPORTATION FOR INSPECTION PERSONNEL	DAY	180
PMA S0.25	TON	434
PMA S0.5	TON	868
MATERIAL FOR TACK COAT	GAL.	770
REMOVAL OF EXISTING WEARING SURFACE	SY	7,650
CLEAN EXISTING SCUPPERS	EA	11
1-1/2" POLYVINYL CHLORIDE PLASTIC PIPE	LF	100
ELASTOMERIC CONCRETE HEADER	CF	55
ASPHALTIC PLUG EXPANSION JOINT SYSTEM	CF	190
PREFORMED JOINT SEAL	LF	350
CLASS "S" CONCRETE	CY	2
REMOVE STAY IN PLACE FORM	SF	300
VARIABLE DEPTH PATCH	CF	50
FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)	CY	110
PARTIAL DEPTH PATCH	CF	2,580
EPOXY INJECTION CRACK REPAIR	LF	40
CLEAN AND COAT EXISTING EXPOSED REINFORCING STEEL	LF	4,500
STRUCTURAL STEEL REPAIR (SITE NO. 1)	CWT	450
DISPOSAL OF LEAD DEBRIS FROM ABRASIVE BLAST CLEANING	TON	2
CLASS I CONTAINMENT AND COLLECTION OF SURFACE PREPARATION (SITE NO. 1)	LS	1
EMBEDDED GALVANIC ANODES (EA)	EA	65
LOCALIZED PAINT REMOVAL AND FIELD PAINTING OF EXISTING STEEL	SF	5,900
TEMPORARY SUPPORT SYSTEM NO. 1	LS	1
ABRASIVE BLAST CLEANING AND FIELD PAINTING OF STRUCTURE (SITE NO. 1)	LS	1
PEENING COVER PLATE WELDS	EA	226
MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC)	SY	7,650
PROTECTIVE COMPOUND FOR BRIDGES	SY	10
CONCRETE HAUNCH REMOVAL	LF	2270

NOTICE TO BRIDGE INSPECTORS

THE DEPARTMENT'S BRIDGE SAFETY PROCEDURES REQUIRE THIS BRIDGE TO BE INSPECTED FOR, BUT NOT LIMITED TO, ALL APPROPRIATE COMPONENTS INDICATED IN THE GOVERNING MANUALS FOR BRIDGE INSPECTION. ATTENTION MUST BE GIVEN INSPECTING THE FOLLOWING SPECIAL COMPONENTS AND DETAILS. (THE LISTING FOR COMPONENTS FOR SPECIFIC ATTENTION SHALL NOT BE CONSTRUED TO REDUCE THE IMPORTANCE OF INSPECTION OF ANY OTHER COMPONENT OF THE STRUCTURE.) THE FREQUENCY OF INSPECTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE GOVERNING MANUALS FOR BRIDGE INSPECTION, UNLESS OTHERWISE DIRECTED BY THE MANAGER OF BRIDGE SAFETY AND EVALUATION.

COMPONENT OR DETAIL	STRUCTURE SHEET REFERENCE
NONE	N/A

CONCRETE DISTRIBUTION

	UNIT	QUANTITY
SUPERSTRUCTURE	CY	206
SUBSTRUCTURE	CY	4
FOOTINGS	CY	0
TOTAL	CY	210

INSPECTION OF FIELD WELDS

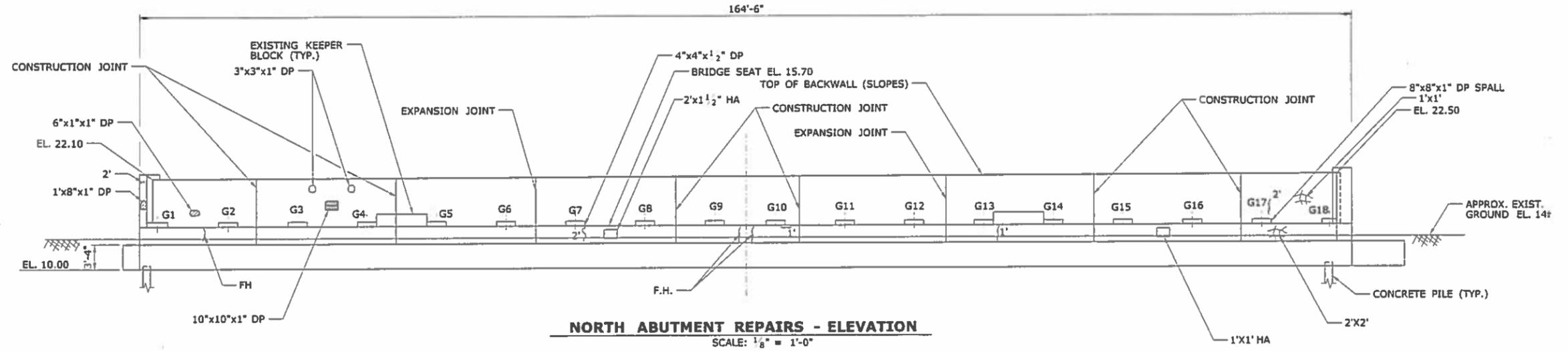
METHOD	UNIT	QUANTITY
ULTRASONIC	LN	0
MAGNETIC PARTICLE	LF	3500

TRANSPORTATION DIMENSIONS AND MASS DATA

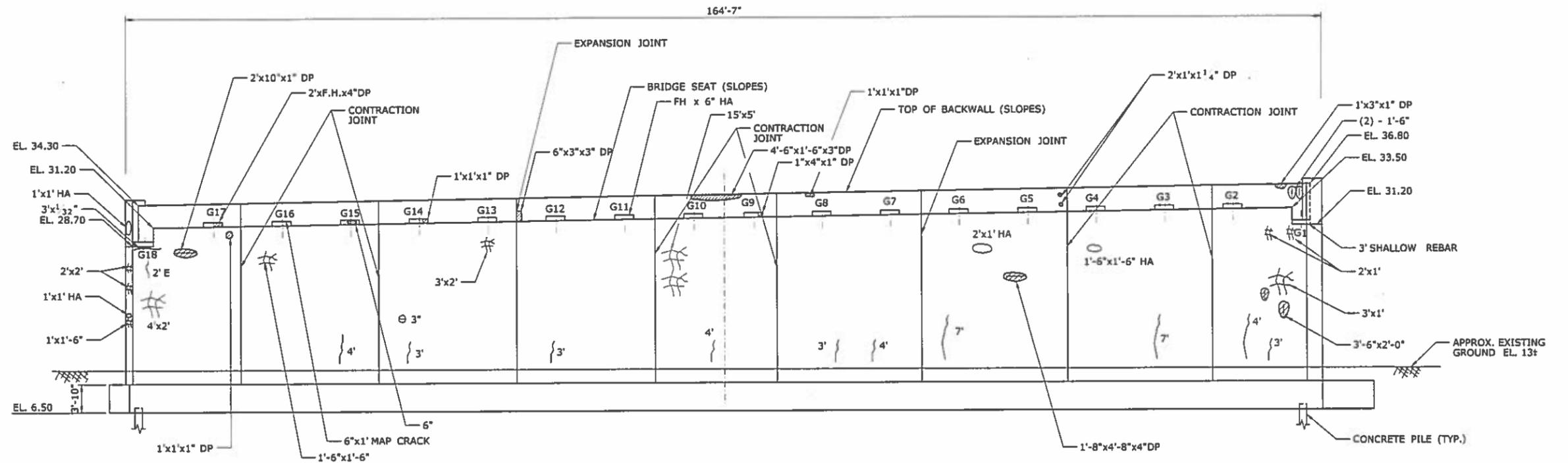
MEMBER	SHIPPING LENGTH	SHIPPING HEIGHT	SHIPPING WIDTH	SHIPPING WEIGHT
N/A	N/A	N/A	N/A	N/A

FINAL DESIGN REVIEW

REV. DATE REVISION DESCRIPTION SHEET NO. Plotted Date: 12/22/2015	THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER/DRAWER: A. HIPIUS/S. ERDAS CHECKED BY: T. STRNAD SCALE AS NOTED	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO.: 92-668 DRAWING NO.: S-04 SHEET NO.: 04.04
	SIGNATURE/BLOCK:		PROJECT TITLE:		TOWN:	



NORTH ABUTMENT REPAIRS - ELEVATION
SCALE: 1/8" = 1'-0"



SOUTH ABUTMENT REPAIRS - ELEVATION
SCALE: 1/8" = 1'-0"

LEGEND

- CRACK
- HOLLOW AREA
- MAP CRACKING
- SHALLOW REBAR

- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- SCALE AREA

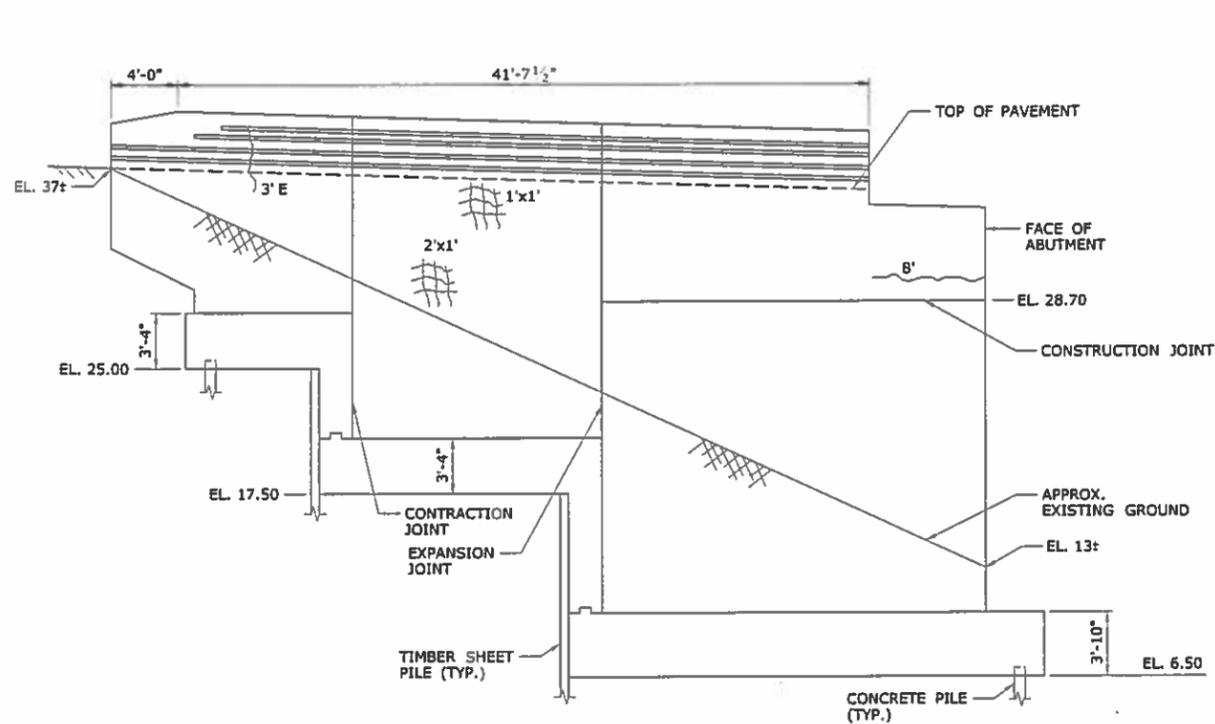
- E = EFFLORESCENCE
- FH = FULL HEIGHT
- FW = FULL WIDTH
- DP = DEEP
- HC = HONEY COMBING
- HA = HOLLOW AREA

REFERENCES

1. SEE DWG. NO. S-10 FOR SUBSTRUCTURE REPAIR NOTES AND CONCRETE CRACK REPAIR DETAILS.
2. SEE DWG. NO. S-11 FOR CONCRETE PATCH REPAIR DETAILS.

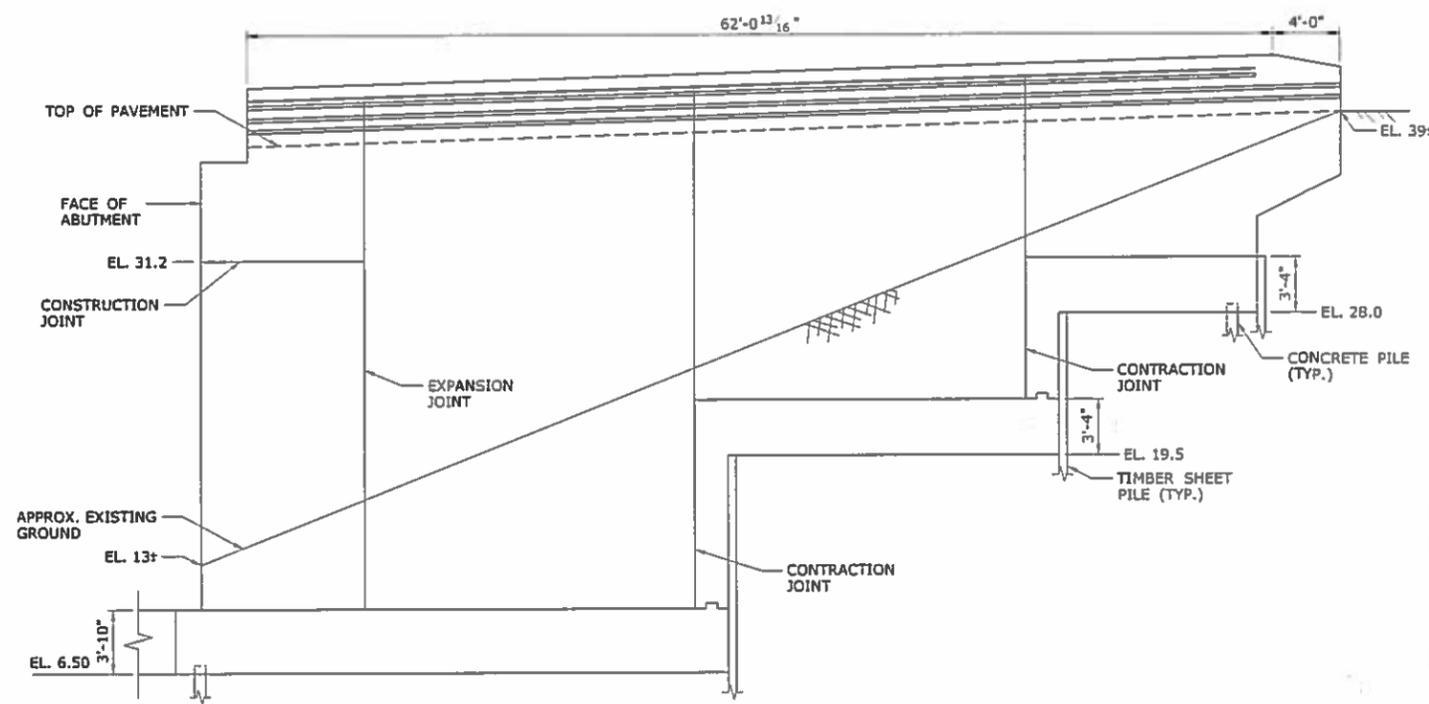
FINAL DESIGN REVIEW

	DESIGNER/DRAWER: A. HIPIUS/S. ERDAS CHECKED BY: T. STRNAD	 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668 DRAWING NO. S-05 SHEET NO. 04.05
REV. DATE: REVISION DESCRIPTION: SHEET NO.:	SCALE AS NOTED		FINAL DESIGN REVIEW		



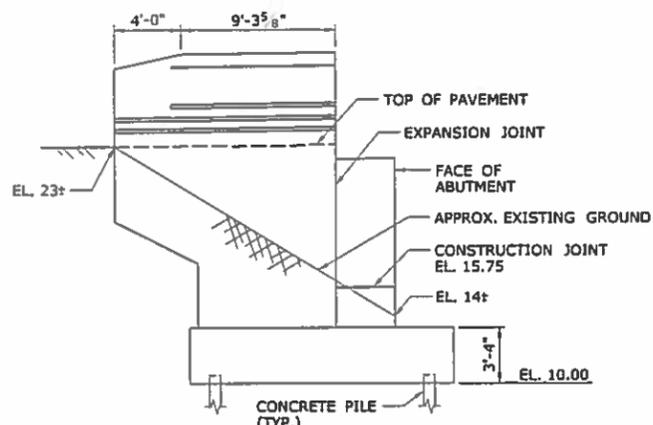
SOUTHEAST WINGWALL REPAIRS ELEVATION

SCALE: 3/16" = 1'-0"



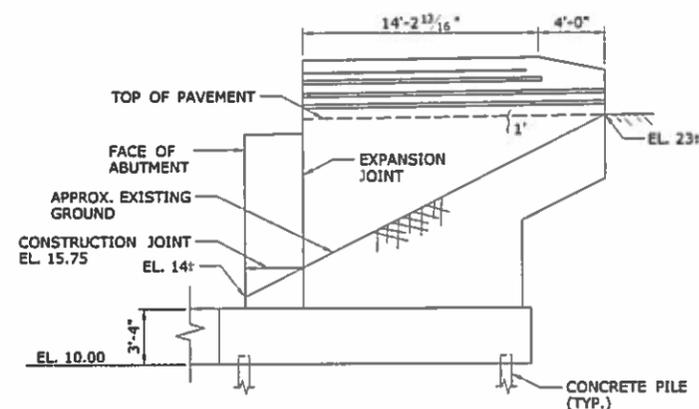
SOUTHWEST WINGWALL REPAIRS - ELEVATION

SCALE: 3/16" = 1'-0"



NORTHWEST WINGWALL REPAIRS - ELEVATION

SCALE: 3/16" = 1'-0"



NORTHEAST WINGWALL REPAIRS - ELEVATION

SCALE: 3/16" = 1'-0"

LEGEND

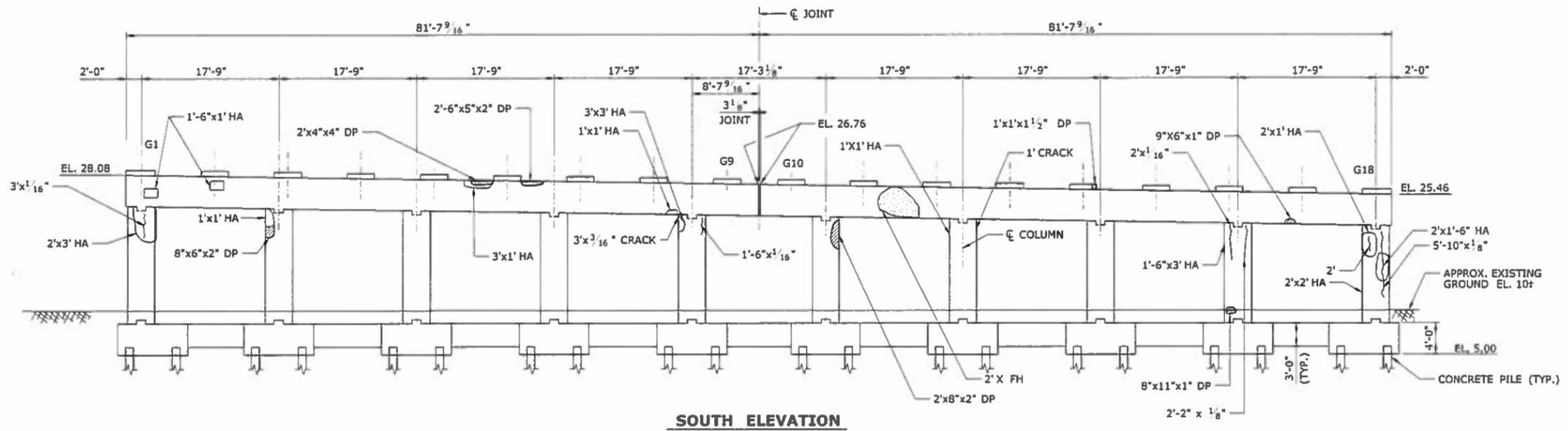
- CRACK
- HOLLOW AREA
- MAP CRACKING
- SHALLOW REBAR

- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- SCALE AREA

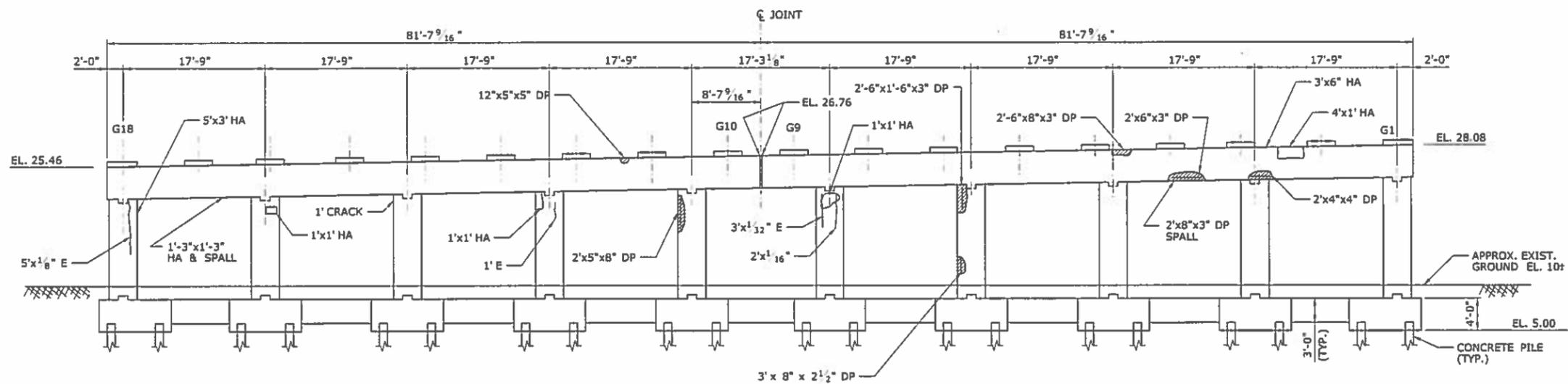
- E = EFFLORESCENCE
- FH = FULL HEIGHT
- FW = FULL WIDTH
- DP = DEEP
- HC = HONEY COMBING
- HA = HOLLOW AREA

FINAL DESIGN REVIEW

DESIGNER/DRAWER: A. HIPIUS/S. ERDAS CHECKED BY: T. STRNAD SCALE AS NOTED		 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION		PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER		TOWN: NEW HAVEN		PROJECT NO. 92-668	
REV. DATE REVISION DESCRIPTION SHEET NO. Plot Date: 12/22/2015		FILENAME: ...\\SB_HSH_B\03093_092_0668_WWEL		SIGNATURE/BLOCK:		DRAWING TITLE: WINGWALLS		DRAWING NO. S-06	
								SHEET NO. 04.06	



SOUTH ELEVATION



NORTH ELEVATION

PIER 1 - REPAIRS
SCALE: 1/8" = 1'-0"

LEGEND

- CRACK
- HOLLOW AREA
- MAP CRACKING
- SHALLOW REBAR

- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- SCALE AREA

- E = EFFLORESCENCE
- FH = FULL HEIGHT
- FW = FULL WIDTH
- DP = DEEP
- HC = HONEY COMBING
- HA = HOLLOW AREA

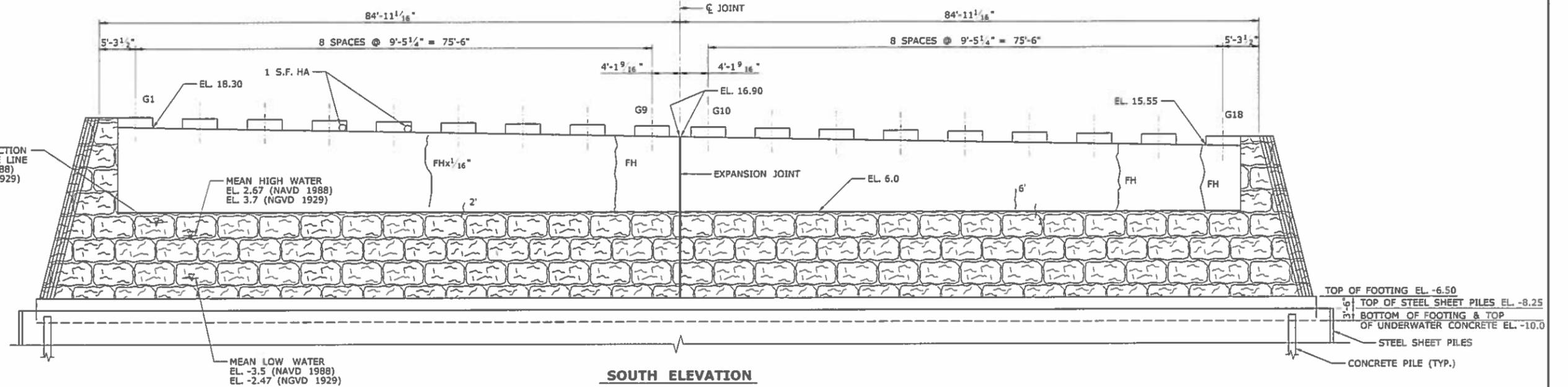
REFERENCES

1. SEE DWG. NO. S-10 FOR SUBSTRUCTURE REPAIR NOTES AND CONCRETE CRACK REPAIR DETAILS.
2. SEE DWG. NO. S-11 FOR CONCRETE PATCH REPAIR DETAILS.

FINAL DESIGN REVIEW

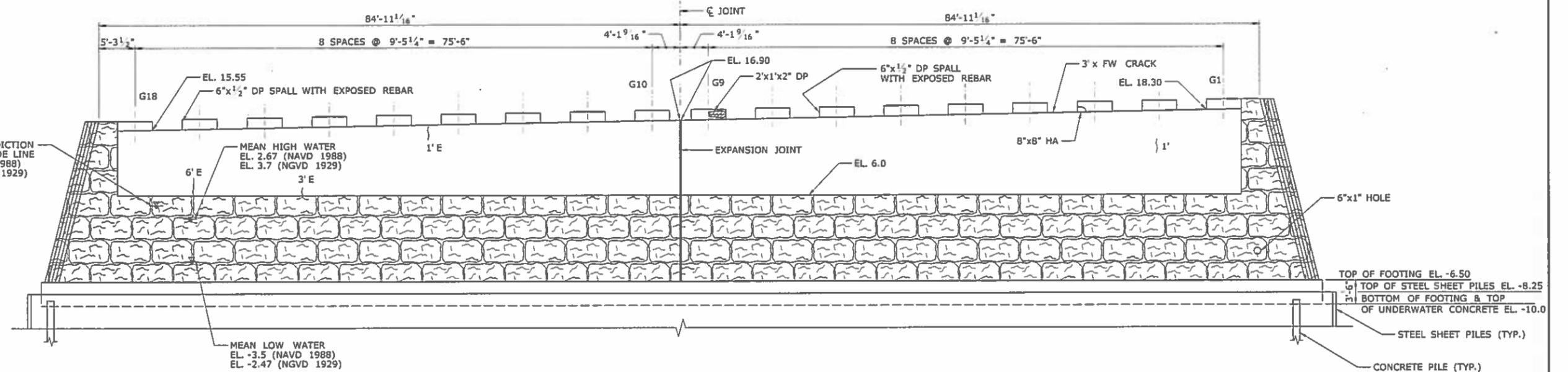
DESIGNER/DRAWN BY: A. HIPIUS/S. ERDAS		SIGNATURE/BLOCK:	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668		
CHECKED BY: T. STRNAD		SCALE AS NOTED		DRAWING TITLE: PIERS - 1	DRAWING NO. S-07		
REV. DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/22/2013		SHEET NO. 04.07		

COASTAL JURISDICTION
LINE / HIGH TIDE LINE
EL. 4.6 (NAVD 1988)
EL. 5.63 (NGVD 1929)



SOUTH ELEVATION

COASTAL JURISDICTION
LINE / HIGH TIDE LINE
EL. 4.6 (NAVD 1988)
EL. 5.63 (NGVD 1929)



NORTH ELEVATION
PIER 2 - REPAIRS

SCALE: 1/8" = 1'-0"

LEGEND

- CRACK
- HOLLOW AREA
- MAP CRACKING
- SHALLOW REBAR

- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- SCALE AREA

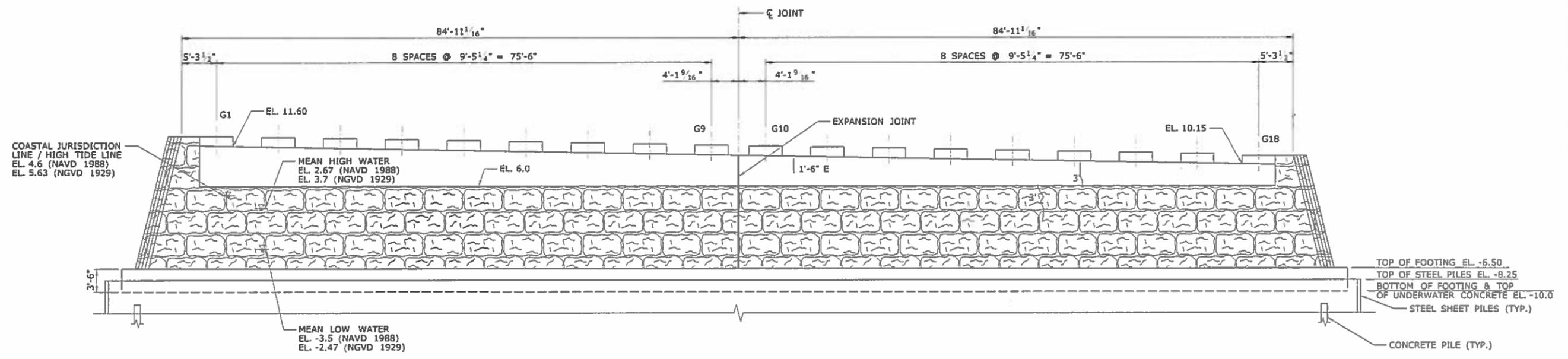
- E = EFFLORESCENCE
- FH = FULL HEIGHT
- FW = FULL WIDTH
- DP = DEEP
- HC = HONEY COMBING
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REFERENCES

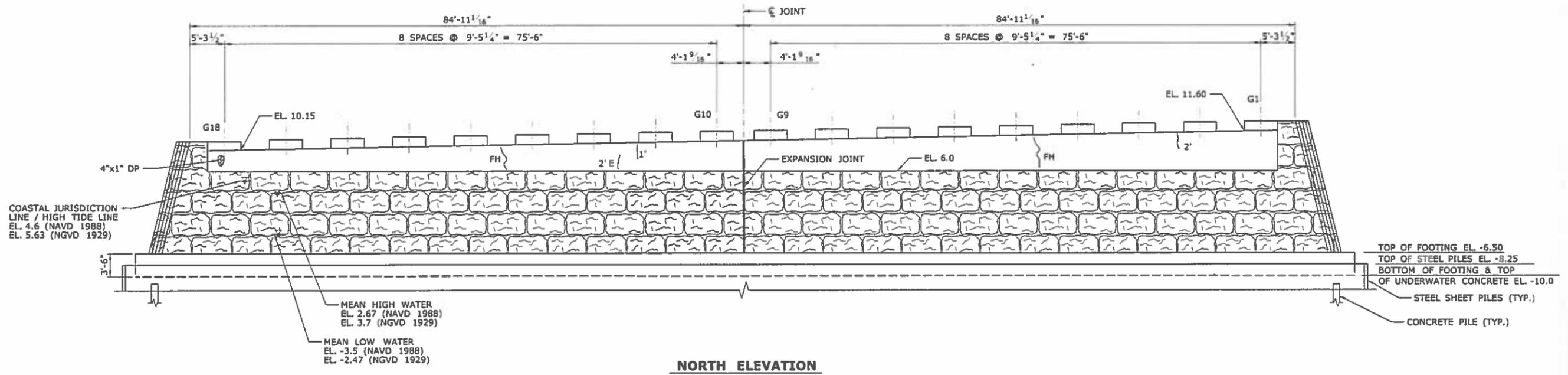
1. SEE DWG. NO. S-10 FOR SUBSTRUCTURE REPAIR NOTES AND CONCRETE CRACK REPAIR DETAILS.
2. SEE DWG. NO. S-11 FOR CONCRETE PATCH REPAIR DETAILS.

FINAL DESIGN REVIEW

REV. DATE REVISION DESCRIPTION SHEET NO. PLOTTED DATE: 12/22/2015	DESIGNER/DRAWN: A. HIPIUS/S. ERDAS		SIGNATURE/BLOCK:	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO.: 92-668
	CHECKED BY: T. STRNAD					
SCALE AS NOTED			STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION		DRAWING TITLE: PIERS - 2	SHEET NO.: 04.08



SOUTH ELEVATION



NORTH ELEVATION

PIER 3
SCALE: 1/8" = 1'-0"

LEGEND

- CRACK
- HOLLOW AREA
- MAP CRACKING
- SHALLOW REBAR
- SPALL AREA
- SPALL AREA WITH EXPOSED REBAR
- SCALE AREA

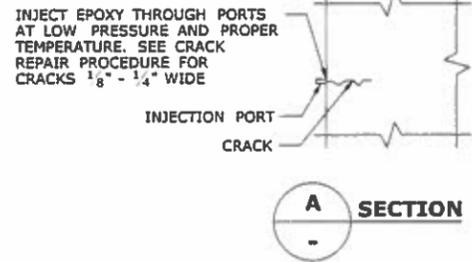
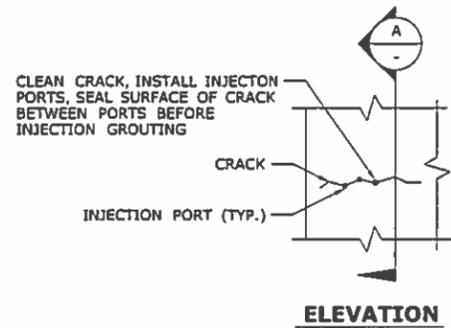
- E = EFFLORESCENCE
- FH = FULL HEIGHT
- FW = FULL WIDTH
- DP = DEEP
- HC = HONEY COMBING
- HA = HOLLOW AREA

REFERENCES

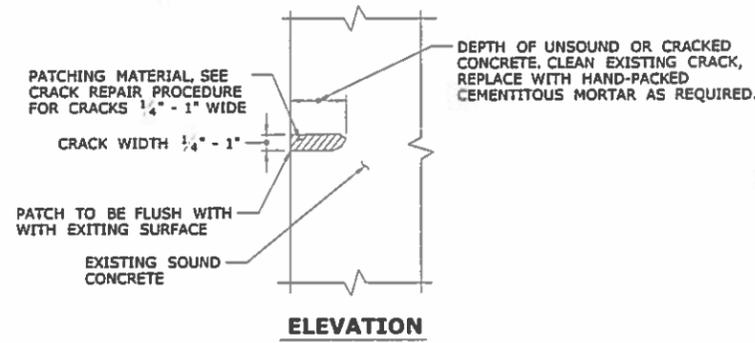
1. SEE DWG. NO. S-10 FOR SUBSTRUCTURE REPAIR NOTES AND CONCRETE CRACK REPAIR DETAILS.
2. SEE DWG. NO. S-11 FOR CONCRETE PATCH REPAIR DETAILS.

FINAL DESIGN REVIEW

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.																										



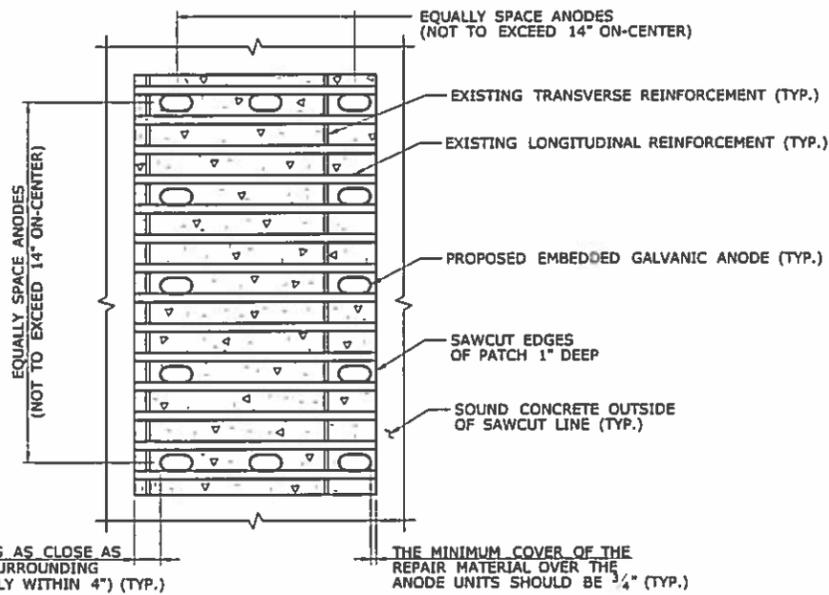
CRACKS 1/8" - 1/4" WIDE



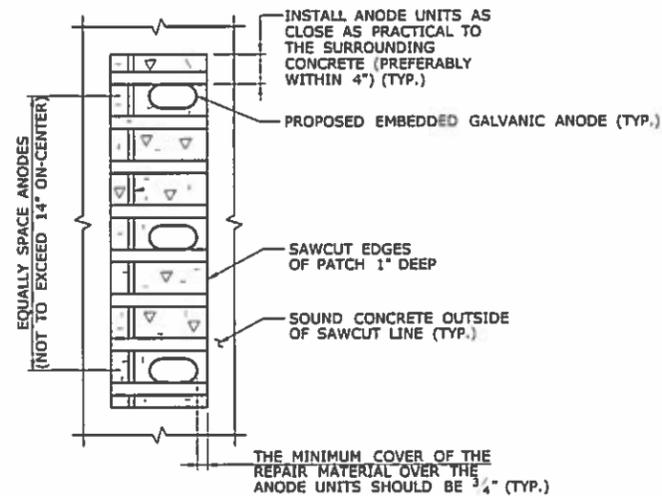
CRACKS 1/4" - 1" WIDE

CRACK REPAIR DETAIL

N.T.S.



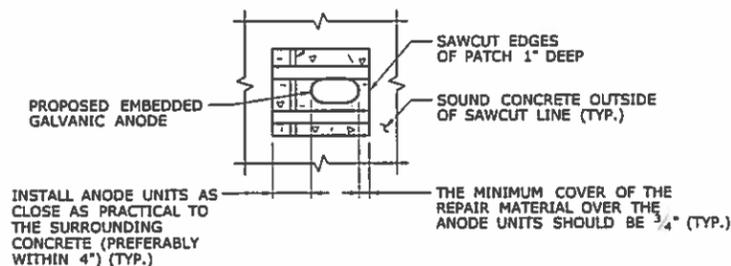
ANODE PLACEMENT - LARGE RECTANGULAR TYPE PATCH



ANODE PLACEMENT - NARROW TYPE PATCH

EMBEDDED GALVANIC ANODE NOTES

1. ANODES ARE TO BE INSTALLED FOR DEEP PATCH REPAIRS. THEIR PRIME PURPOSE IS TO PROTECT REINFORCING BARS THAT CROSS THE EDGE OF THE PATCH.
2. INSTALLATION OF ANODES SHALL BE AS DETAILED ON THIS PLAN AND PER THE RECOMMENDATIONS OF THE ANODE MANUFACTURER'S REPRESENTATIVE AND AS DIRECTED BY THE ENGINEER.
3. THE EMBEDDED GALVANIC ANODES SHALL BE INSTALLED AFTER THE REINFORCING BARS HAVE BEEN CLEANED AND COATED AND PRIOR TO APPLYING THE PATCH MATERIAL.
4. FURNISHING AND INSTALLATION OF ANODES SHALL BE PAID FOR UNDER THE "EMBEDDED GALVANIC ANODES", SEE SPECIAL PROVISION.
5. CLASS 'S' CONCRETE AND VARIABLE DEPTH PATCH SHALL NOT CONTAIN GRANCEM OR FLYASH WHERE GALVANIC ANODES ARE USED



ANODE PLACEMENT - SMALL PATCH

INSTALLATION OF EMBEDDED GALVANIC ANODES

NOT TO SCALE

CRACK REPAIR PROCEDURE FOR CRACKS 1/4" - 1" WIDE

1. SURFACE PREPARATION:
 - REMOVE ALL LOOSE, DETERIORATED CONCRETE, DIRT, OIL, GREASE, AND ALL BOND-INHIBITING MATERIALS FROM SURFACE.
 - PROVIDE A MINIMUM REPAIR DEPTH OF 1/8".
 - PREPARATION WORK SHOULD BE DONE BY SCABBLER, CHISELING, WIRE BRUSHING OR OTHER APPROPRIATE MECHANICAL MEANS.
 - ROUGHEN CONTACT SURFACE WITH A MINIMUM PROFILE OF APPROXIMATELY 1/16" FOR BONDING WITH NEW MORTAR.
 - SATURATE SURFACE WITH CLEAN WATER.
 - SUBSTRATE SHOULD BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER DURING APPLICATION.
2. APPLICATION AND FINISH:
 - MIX COMPONENTS OF PATCHING MORTAR AND EPOXY ADHESIVE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
 - APPLY EPOXY ADHESIVE ONTO THE CONCRETE WITH A BRUSH OR BROOM
 - APPLY THE PATCHING MORTAR WHILE THE EPOXY ADHESIVE IS STILL TACKY. IF THE COATING BECOMES GLOSSY AND LOOSE TACKINESS, REMOVE ANY SURFACE CONTAMINANTS AND RECOAT WITH ADDITIONAL EPOXY ADHESIVE AND PROCEED WITH PATCHING WORK.
 - SCRUB REPAIR MORTAR INTO THE SUBSTRATE, FILLING ALL PORES AND VOIDS. FORCE MATERIAL AGAINST EDGE OF REPAIR, WORKING TOWARDS THE CENTER.
 - MATERIAL MAY BE APPLIED IN MULTIPLE LIFTS. EACH LIFT THICKNESS SHALL NOT BE LESS THAN 1/8" NOR GREATER THAN 3" THICK.
 - WHERE MULTIPLE LIFTS ARE REQUIRED, SCORE TOP SURFACE OF EACH LIFT TO PRODUCE A ROUGHENED SURFACE FOR NEXT LIFT. ALLOW PRECEDING LIFT TO REACH FINAL SET, 30 MINUTES MINIMUM, BEFORE APPLYING FRESH MATERIAL.
 - SATURATE SURFACE OF THE LIFT WITH CLEAN WATER.
 - SCRUB FRESH MORTAR INTO PRECEDING LIFT.
 - AFTER FILLING REPAIR, CONSOLIDATE, THEN SCREED.
 - ALLOW MORTAR TO SET TO DESIRED STIFFNESS, THEN FINISH WITH WOOD OR SPONGE FLOAT FOR A SMOOTH SURFACE.
3. CURING:
 - CURING SHOULD COMMENCE IMMEDIATELY AFTER FINISHING.
 - IF NECESSARY, PROTECT NEWLY APPLIED MATERIAL FROM DIRECT SUNLIGHT, WIND, RAIN OR FROST.
 - MOIST CURE WITH FINE MIST OF WATER OR WITH WET BURLAP AND POLYETHYLENE.
4. CRACK REPAIR INCLUDING THE COST OF CEMENTITIOUS MORTAR SHALL BE PAID UNDER THE ITEM "EPOXY INJECTION CRACK REPAIR". SEE SPECIAL PROVISIONS.
5. FOR CRACKS OR GAPS IN CONCRETE SURFACE GREATER THAN 1", USE SHALLOW PATCH REPAIR DETAIL.

CRACK REPAIR PROCEDURE FOR CRACKS 1/8" - 1/4" WIDE

1. SURFACE PREPARATION:
 - REMOVE DUST, LAITANCE, GREASE, IMPREGNATIONS, FOREIGN PARTICLES AND DISINTEGRATED MATERIALS. SURFACE MUST BE CLEAN AND SOUND WITH A ROUGHENED TEXTURE. IDEALLY DRY, SURFACE MAY BE DAMP BUT SHALL BE FREE OF STANDING WATER.
2. APPLICATION AND FINISH:
 - SET GROUT PRESSURE INJECTION PORTS INTO PLACE.
 - MIX EPOXY ADHESIVE PER MANUFACTURER'S SPECIFICATION.
 - SEAL CRACKS AND PORTS BY APPLYING MIXED EPOXY ADHESIVE MATERIAL OVER THE CRACKS TO BE PRESSURE INJECTED WITH THE HIGH-STRENGTH EPOXY GROUT.
 - MIX EPOXY GROUT PER MANUFACTURER'S SPECIFICATION.
 - WHEN THE EPOXY ADHESIVE HAS CURED, INJECT THE EPOXY GROUT WITH STEADY PRESSURE.
 - ALLOW THE INJECTED EPOXY GROUT TO SET THEN CUT THE PRESSURE INJECTION PORTS FLUSH WITH THE EPOXY ADHESIVE.
3. CRACK REPAIRS SHALL BE PAID FOR UNDER THE ITEM "EPOXY INJECTION CRACK REPAIR". SEE SPECIAL PROVISIONS.
4. ANY CRACK LESS THAN 1/8" WIDE SHALL NOT BE REPAIRED BUT SHALL BE SEALED BY THE APPLICATION OF PROTECTIVE COATING OF CONCRETE. TO BE PAID UNDER THE ITEM "PROTECTIVE COMPOUND FOR BRIDGES".

SUBSTRUCTURE REPAIR NOTES

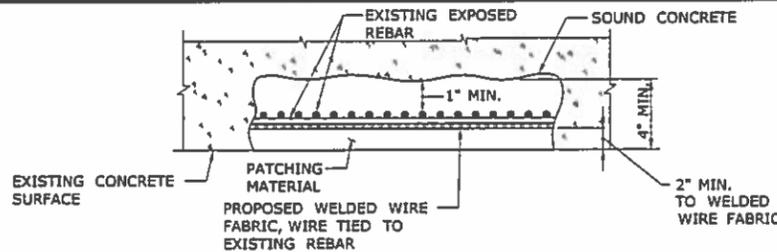
1. ABUTMENT, WINGWALL, AND PIER DETERIORATION DIMENSIONS DETAILED ARE APPROXIMATE BASED ON BRIDGE SAFETY INSPECTION REPORTS DATED 2014 AND ARE NOT SHOWN TO SCALE FOR CLARITY. THE INFORMATION IS INTENDED TO BE USED AS A GUIDE. THE EXACT LOCATION, LIMITS OF DETERIORATED CONCRETE TO BE REPAIRED AND THE TYPE OF REPAIR SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION.
2. SUBSTRUCTURE REPAIRS SHALL BE PERFORMED ONLY ABOVE THE WATER SURFACE.
3. THE CONTRACTOR SHALL NOT PERFORM ANY REPAIR WORK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
4. CRACKS SHALL BE REPAIRED IN ACCORDANCE WITH "CRACK REPAIR DETAILS" SHOWN ON THIS SHEET.
5. SPALL AREAS, HOLLOW AREAS, AND SHALLOW REBAR AREAS SHALL BE REPAIRED IN ACCORDANCE WITH "SHALLOW PATCH REPAIR DETAIL" OR "DEEP PATCH REPAIR DETAIL" SHOWN ON DRAWING NO. S-11.
6. THE CONTRACTOR SHALL PROVIDE SAFE ACCESS FOR THE ENGINEER TO DELINEATE AND REVIEW THE REPAIR WORK. THE COST OF PROVIDING ACCESS SHALL BE INCLUDED IN THE COST OF APPROPRIATE REPAIR ITEMS.

REFERENCE

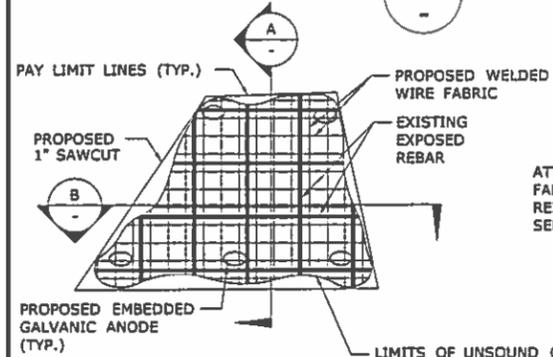
1. SEE DWG. NO S-11 FOR CONCRETE PATCH REPAIR DETAILS.

FINAL DESIGN REVIEW

DESIGNER/DRAWN BY: A. HIPIUS/S. ERDAS			PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER		TOWN: NEW HAVEN	PROJECT NO.: 92-668
CHECKED BY: T. STRNAD			SCALE AS NOTED	SIGNATURE/BLOCK:		DRAWING NO.: S-10
REVISION DESCRIPTION		SHEET NO.	PLOTTED DATE: 12/22/2015		DRAWING TITLE: SUBSTRUCTURE REPAIRS - 1	



B SECTION



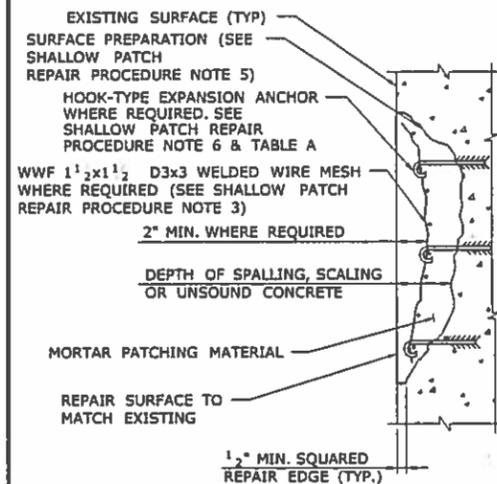
ELEVATION

DEEP PATCH REPAIR DETAIL - WITHOUT BUILD-OUT

N.T.S.

SHALLOW PATCH REPAIR PROCEDURE

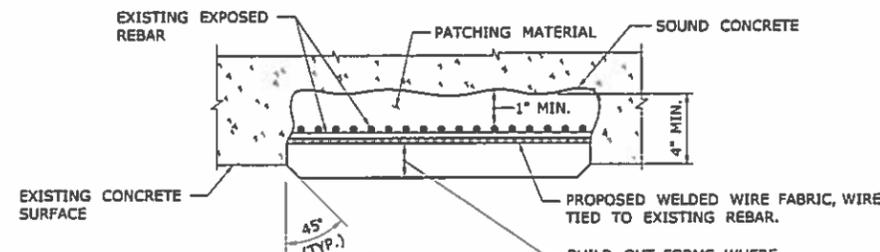
- SHALLOW PATCH REPAIR DETAIL APPLIES TO DETERIORATED AREAS OF UNREINFORCED CONCRETE OR REPAIR AREAS WHERE NO MORE THAN HALF THE SURFACE AREA OF REINFORCING IS EXPOSED OR THE PATCH AREA IS LESS THAN 4 S.F.
- REPAIR DEPTH SHALL BE 1/8" (MIN.) OR GREATER. REPAIR DEPTHS LESS THAN 1/8" NEED NOT BE REPAIRED.
- FOR AREAS WHERE THE CONCRETE REPAIR EXCEEDS 4" IN DEPTH, A SINGLE LAYER OF WIRE MESH SHALL BE USED TO REINFORCE EACH 2" THICKNESS OF PATCHING MATERIAL. THE COST OF WELDED WIRE FABRIC SHALL BE INCLUDED IN THE COST OF PATCHING MATERIAL.
- THE PERIMETER OF EACH DETERIORATED AREA SHALL BE SQUARED-OFF BY CHISELING OR SAWCUTTING.
- SURFACE PREPARATION
 - REMOVE LOOSE AND DETERIORATED CONCRETE, INCLUDING DIRT, OIL, GREASE AND ALL BOND-INHIBITING MATERIALS FROM SURFACE, LEAVING NO OFFSET OR ABRUPT CHANGES IN CONTOUR. SURFACE PREPARATION SHALL BE DONE BY SCABBLER, CHISELING, WIRE BRUSHING OR OTHER APPROPRIATE MECHANICAL MEANS.
 - ROUGHEN CONTACT SURFACE WITH A MINIMUM PROFILE OF APPROXIMATELY 1/16" FOR BONDING WITH PATCHING MATERIAL.
 - SATURATE WITH CLEAN WATER PRIOR TO APPLYING MORTAR. SUBSTRATE SHOULD BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER DURING APPLICATION OF PATCHING MORTAR.
- HOOK-TYPE EXPANSION ANCHOR BOLTS SHALL CONFORM TO ASTM A307 GRADE A AND BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH ASTM B695, CLASS 50, TYPE 1. COST OF HOOK-TYPE BOLTS, INCLUDING MATERIAL AND INSTALLATION, SHALL BE INCLUDED IN THE COST OF PATCHING MATERIAL.
- NEW CONCRETE SHALL MATCH SHAPE AND COLOR OF EXISTING CONCRETE SURFACE AS CLOSELY AS POSSIBLE.



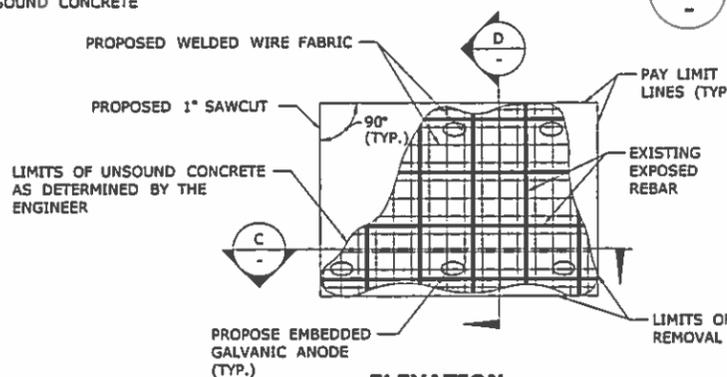
THICKNESS OF PATCH MAT'L	SIZE AND SPACING
4" ±	1/2" DIA. AT 24" ± CTRS.
5" ±	1/2" DIA. AT 22" ± CTRS.
6" ±	1/2" DIA. AT 20" ± CTRS.

SHALLOW PATCH REPAIR DETAIL

N.T.S.



C SECTION



ELEVATION

DEEP PATCH REPAIR DETAIL - WITH BUILD-OUT

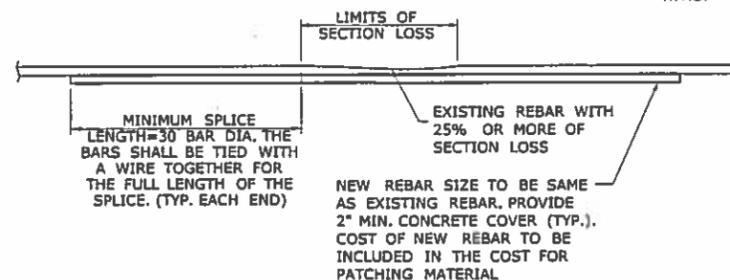
N.T.S.

DEEP PATCH REPAIR PROCEDURE

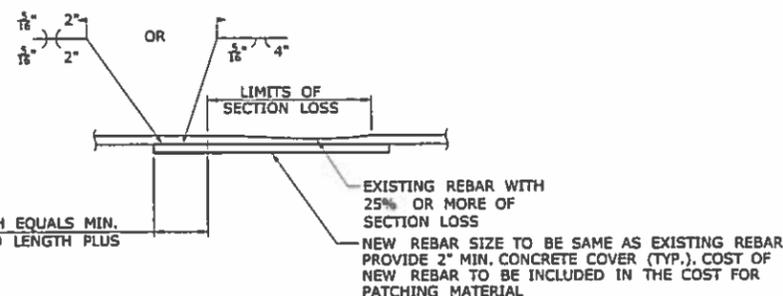
- DEEP PATCH REPAIR DETAIL APPLIES TO DETERIORATED AREAS OF REINFORCED CONCRETE WHERE MORE THAN HALF THE SURFACE AREA OF REINFORCING IS EXPOSED.
- REMOVE DETERIORATED MATERIAL TO SOUND CONCRETE LEAVING NO OFFSET OR ABRUPT CHANGES IN CONTOUR.
- CLEAN EXISTING REINFORCING STEEL AND CONCRETE (NEWLY EXPOSED), SEE SPECIFICATIONS. MISSING OR DETERIORATED REINFORCING STEEL SHALL BE REPLACED AND SPLICED AS SHOWN IN DETAIL OR AS DIRECTED BY THE ENGINEER. COST OF SPLICING TO BE PAID UNDER THE COST FOR PATCHING MATERIAL.
- INSTALL GALVANIC ANODES AND WELDED WIRE FABRIC. APPLY ZINC RICH PRIMER TO EXISTING AND NEW REINFORCING STEEL IMMEDIATELY PRIOR TO PLACING PATCHING CONCRETE. COST OF WELDED WIRE FABRIC AND PRIMER TO BE PAID UNDER THE COST FOR PATCHING MATERIAL.
- FORM AND PATCH SURFACE.
- A MINIMUM OF 72 HOURS SHALL ELAPSE BETWEEN PLACING OF CONCRETE AND START OF NEXT ADJACENT PATCH.
- ALL NEW EXPOSED CONCRETE SURFACES WITHIN AREA TO BE REPAIRED SHALL BE RUBBED TO PRODUCE A SMOOTH FINISH.

SHALLOW AND DEEP PATCH REPAIR NOTES

- ALL WORK SHOWN ON THIS DRAWING SHALL BE PERFORMED WHERE DIRECTED BY THE ENGINEER.
- DEEP PATCH REPAIRS SHALL BE PAID ITEM CLASS "S" CONCRETE. SHALLOW PATCH REPAIRS SHALL BE PAID UNDER ITEM "VARIABLE DEPTH PATCH", SEE SPECIAL PROVISIONS.
- SURFACE PREPARATION, PROPORTIONING AND MIXING OF MATERIALS, APPLICATION OF MATERIALS AND REPAIR PROCEDURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- NEW CONCRETE PATCHES SHALL MATCH SHAPE OF EXISTING CONCRETE SURFACES. COLOR OF NEW PATCH CONCRETE SHALL MATCH COLOR OF THE ADJACENT SURFACES AS CLOSELY AS POSSIBLE.
- EXPOSED REINFORCING BARS SHALL BE BLAST CLEANED AND COATED WITH A ZINC RICH PRIMER THAT CONFORMS TO FEDERAL SPECIFICATION TT-P-641, TYPE 1, BEFORE APPLYING THE PATCHING MATERIAL. COST OF PRIMER SHALL BE INCLUDED IN THE COST OF THE PATCHING MATERIAL ITEM. INSTALL EMBEDDED GALVANIC ANODES PRIOR TO APPLYING PATCHING MATERIAL.
- SPLICED REINFORCING BARS SHALL BE COATED WITH A ZINC RICH PRIMER THAT CONFORMS TO FEDERAL SPECIFICATION TT-P-641, TYPE 1, BEFORE APPLYING PATCHING MATERIAL. COST OF PRIMER SHALL BE INCLUDED IN THE COST OF THE PATCHING MATERIAL.
- THE REMOVAL OF DETERIORATED CONCRETE SHALL PROCEED AS DIRECTED BY THE ENGINEER. IF THE REMOVAL OF DETERIORATED CONCRETE BECOMES EXCESSIVE, THE REMOVAL WORK SHALL BE STOPPED AT THE LOCATION AND THE ENGINEER NOTIFIED IMMEDIATELY. COST OF REMOVAL OF DETERIORATED CONCRETE AND SURFACE PREPARATION OF THE REPAIR AREA SHALL BE INCLUDED IN THE APPROPRIATE PAY ITEM OF THE PATCHING MATERIAL.
- THE CONTRACTOR SHALL NOT REMOVE CONCRETE EXCEPT IN THE PRESENCE OF THE ENGINEER OR HIS APPOINTED REPRESENTATIVE. IF THE AREA REMOVED EXCEEDS THE AREA SHOWN ON THE PLANS BY 25% OR IF THE REMOVAL DEPTH EXTENDS MORE THAN 1-1/2" BEHIND THE MAIN REINFORCING BARS, THE CONTRACTOR SHALL CEASE REMOVAL OPERATIONS AND NOTIFY THE ENGINEER IMMEDIATELY. THE ENGINEER SHALL DETERMINE IF THE REMOVAL OPERATIONS REDUCE THE STRUCTURAL CAPACITY OF THE ELEMENT.
- AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION UNLESS OTHERWISE NOTED OR AS ORDERED BY ENGINEER.
- REPAIR DETAILS APPLY TO SPALLED, SCALED, AND HOLLOW AREAS IN ABUTMENTS AND PIERS WHERE REQUIRED AND NOTED ON DRAWINGS, AND AS DIRECTED BY ENGINEER.



LAPPED TIED SPLICE REBAR



LAPPED WELDED SPLICE REBAR

REINFORCEMENT SPLICE DETAIL

N.T.S.

NOTES

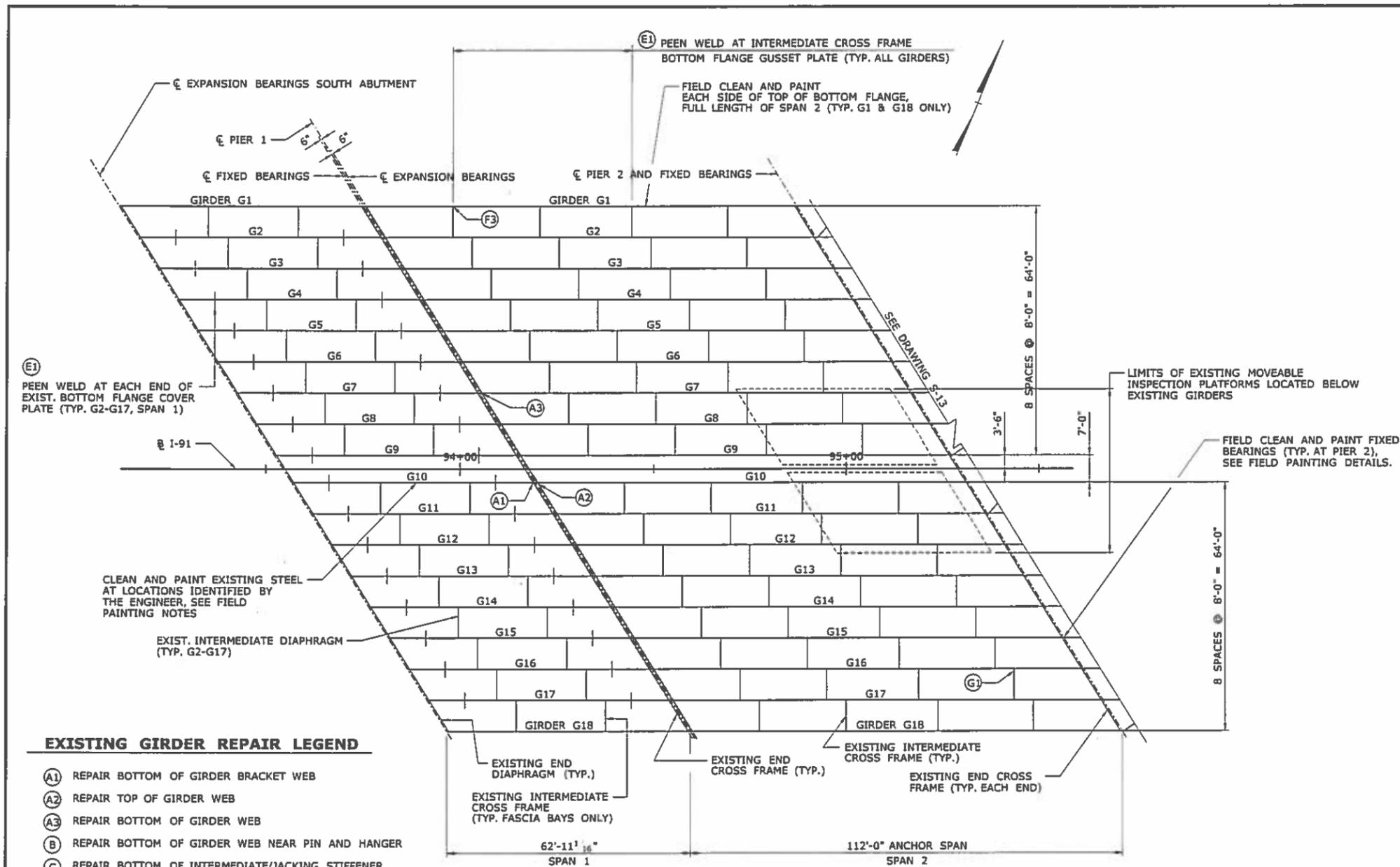
- THIS DETAIL TO BE USED ONLY IF IT IS VERIFIED THAT EXISTING STEEL IS WELDABLE BASED ON ITS CHEMICAL COMPOSITION.
- WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.4 STRUCTURAL WELDING CODE - REINFORCING STEEL.
- MECHANICAL SPLICERS ARE AN ACCEPTABLE ALTERNATE IF APPROVED BY THE ENGINEER.

REFERENCES

- SEE DWG. NOS. S-05 FOR ABUTMENT REPAIR LOCATIONS.
- SEE DWG. NO. S-06 FOR WINGWALL REPAIR LOCATIONS.
- SEE DWG. NO. S-07 TO S-09 FOR PIER REPAIR LOCATIONS.
- SEE DWG. NO. S-10 FOR EMBEDDED GALVANIC ANODE INSTALLATION DETAILS.

FINAL DESIGN REVIEW

DESIGNER/DRAWN BY: A.SESHADRI/S.ERDAS	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>	SIGNATURE/ BLOCK:	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668	
CHECKED BY: T. STRNAD		SCALE AS NOTED	FILENAME: ...158_MSH...BR03093_092_0668_S10BRP1-02.dgn	DRAWING TITLE: SUBSTRUCTURE REPAIRS - 2	DRAWING NO. S-11	SHEET NO. 04.11
REV. DATE	REVISION DESCRIPTION	SHEET NO.	PRINTED DATE: 12/22/2015			



FRAMING PLAN NOTES

1. ALL DIMENSIONS ARE HORIZONTAL, MEASURED ALONG THE CENTERLINE OF THE WEB AND HAVE BEEN OBTAINED FROM ORIGINAL CONSTRUCTION PLANS
2. JACKING STIFFENERS SHALL BE PROVIDED ON BOTH SIDES OF THE WEB.

STRUCTURAL STEEL NOTES

1. STRUCTURAL STEEL (LOW ALLOY) FOR JACKING STIFFENER AND GIRDER WEB AND FLANGE, BEARING STIFFENER, END DIAPHRAGM AND CROSS FRAME REPAIRS SHALL CONFORM TO AASHTO M270, GRADE 50 AND SHALL BE PAID UNDER ITEM "STRUCTURAL STEEL REPAIRS (SITE NO. 1)", SEE SPECIAL PROVISIONS. STRUCTURAL STEEL SHALL BE FREE OF BURRS, NICKS OR GOUGES.
2. WELDING DETAILS, PROCEDURES AND TESTING METHODS SHALL CONFORM TO THE CURRENT ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE, UNLESS OTHERWISE NOTED ON THE PLANS.
3. ALL WEB TO JACKING STIFFENER AND JACKING STIFFENER TO FLANGE FILLET WELDS SHALL BE INSPECTED BY THE MAGNETIC PARTICLE METHOD.
4. MULTIPLE PASS WELDS, INSPECTED BY THE MAGNETIC PARTICLE METHOD SHALL HAVE EACH PASS OR LAYER INSPECTED AND ACCEPTED BEFORE PROCEEDING TO THE NEXT PASS OR LAYER, AS DETERMINED BY THE ENGINEER.
5. WELDING ELECTRODES SHALL HAVE THE SAME CORROSION RESISTANCE AS THE BASE METAL.
6. THE STRUCTURAL STEEL FABRICATORS SHALL BE CERTIFIED UNDER THE AISC QUALITY CONTROL PROGRAM, "CATEGORY MBr - MAJOR STEEL BRIDGES".
7. ALL BOLTS SHALL BE ASTM A325 7/8" DIA. IN 1 5/16" DIA. HOLES, UNLESS NOTED OTHERWISE. BOLTS SHALL CONFORM TO TYPE 1 AND BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH ASTM B695, CLASS 50.
8. BOLTED CONNECTIONS SHALL BE "SLIP CRITICAL" CONNECTION WITH CLASS "B" SURFACE CONDITIONS.
9. ALL DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION.
10. EXISTING PAINT AT REPAIR LOCATION FAYING SURFACES SHALL BE REMOVED. TO BE PAID UNDER THE ITEM "LOCALIZED PAINT REMOVAL AND FIELD PAINTING OF EXISTING STEEL".

STEEL FRAMING DETERIORATION NOTES

1. THE REPAIR LOCATIONS DEPICTED ON THE FRAMING PLAN ARE BASED ON IN-DEPTH INSPECTION PERFORMED BY DEWBERRY IN 2014. THE EXACT LOCATION AND LIMITS OF DETERIORATED STEEL TO BE REPAIRED SHALL BE DELINEATED BY THE ENGINEER DURING CONSTRUCTION.
2. NO STEEL REPAIRS SHALL BE PERFORMED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
3. REPAIR WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SUGGESTED SEQUENCE OF STEEL REPAIRS.

REFERENCES

1. SEE DWG. NO. S-15 TO S-22 FOR STEEL REPAIR DETAILS.
2. SEE DWG. NO. S-23 AND S-24 FOR FIELD PAINTING DETAILS AND NOTES.
3. SEE DWG. NO. S-23 TO S-28 FOR JACKING SUPPORT SYSTEM DETAILS AND NOTES.

EXISTING GIRDER REPAIR LEGEND

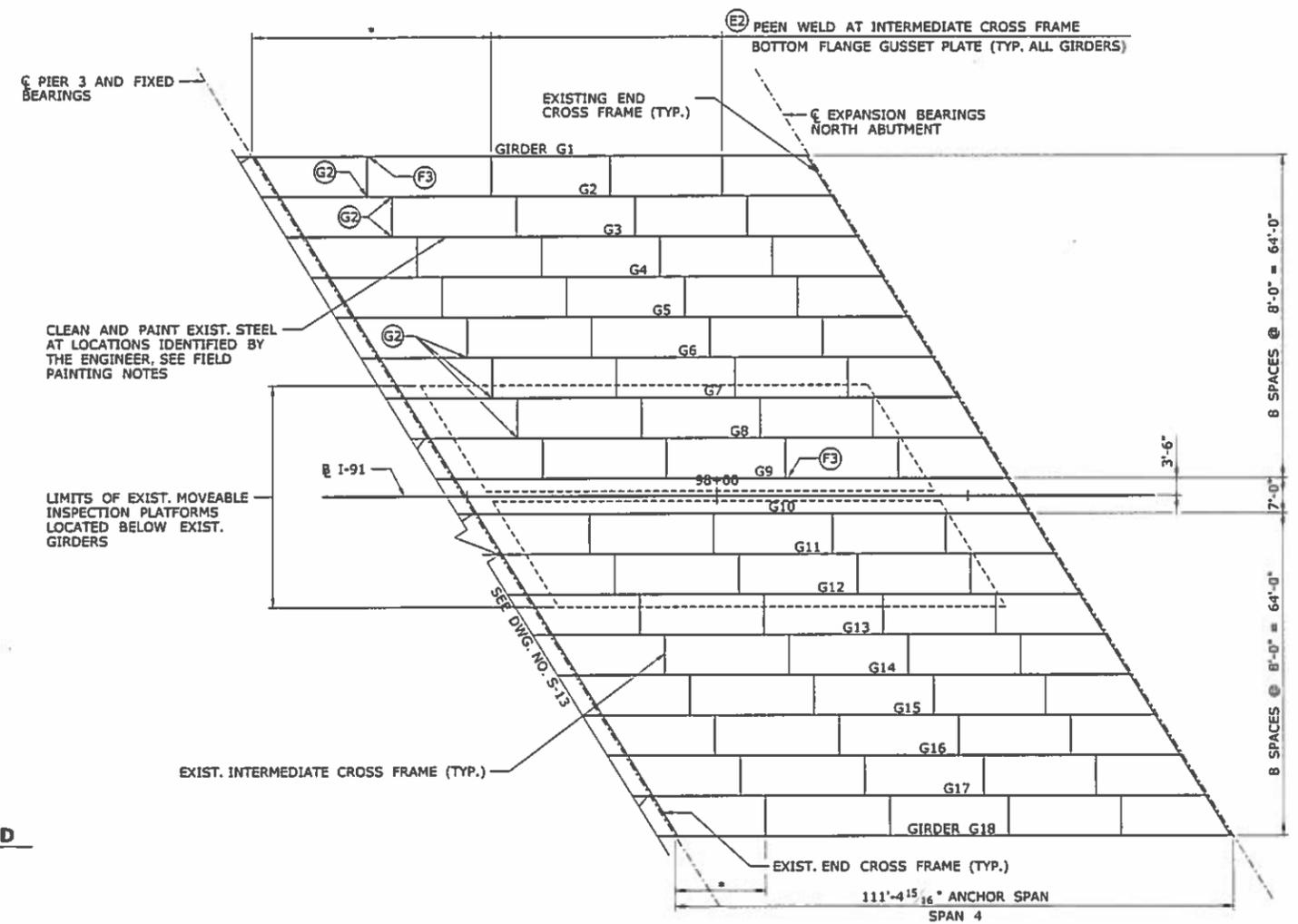
- (A1) REPAIR BOTTOM OF GIRDER BRACKET WEB
- (A2) REPAIR TOP OF GIRDER WEB
- (A3) REPAIR BOTTOM OF GIRDER WEB
- (B) REPAIR BOTTOM OF GIRDER WEB NEAR PIN AND HANGER
- (C) REPAIR BOTTOM OF INTERMEDIATE/JACKING STIFFENER
- (D) REPAIR BOTTOM OF INTERMEDIATE STIFFENER
- (E1) PERFORM WELD PEENING AT COVER PLATE ENDS
- (E2) PERFORM WELD PEENING AT INTERMEDIATE CROSS FRAME BOTTOM FLANGE GUSSET PLATES
- (F1) REPAIR CRACKED/MISSING LATERAL BRACING GUSSET TO BOTTOM FLANGE WELD
- (F2) REPAIR CRACKED/MISSING LATERAL BRACING/CROSS FRAME GUSSET TO BOTTOM FLANGE WELD
- (F3) REPAIR CRACKED/MISSING CROSS FRAME GUSSET TO BOTTOM FLANGE WELD
- (F4) REPAIR CRACKED/MISSING CROSS FRAME GUSSET TO ANGLE WELD
- (G1) REPAIR GAP UNDER CROSS FRAME GUSSET PLATE AT BOTTOM FLANGE
- (G2) REPAIR BENT CROSS FRAME GUSSET PLATE AT BOTTOM FLANGE
- (G3) REPAIR BENT LATERAL BRACING GUSSET PLATE AT BOTTOM FLANGE
- (H1) REPAIR END CROSS FRAME BOTTOM GUSSET PLATE
- (H2) REPAIR END CROSS FRAME TOP GUSSET PLATE
- (H3) REPAIR END CROSS FRAME TOP HORIZONTAL STIFFENER
- (J) REPAIR LOWER LONGITUDINAL STIFFENER BUTT WELD

FRAMING PLAN - SPANS 1 & 2

SCALE: 1/16" = 1'-0"

FINAL DESIGN REVIEW

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAWER: A.HIPIUS/S.ERDAS		PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668
CHECKED BY: T. STRNAD	SCALE AS NOTED	SIGNATURE/BLOCK:		DRAWING TITLE: FRAMING PLAN - 1	DRAWING NO. S-12	
REV. DATE REVISION DESCRIPTION SHEET NO.	PLOTTED DATE: 12/22/2015	FILENAME: ...\\SB_MSH_Br03093_092_0668_FRM-01.dgn	04.12			



EXISTING GIRDER REPAIR LEGEND

- (A1) REPAIR BOTTOM OF GIRDER BRACKET WEB
- (A2) REPAIR TOP OF GIRDER WEB
- (A3) REPAIR BOTTOM OF GIRDER WEB
- (B) REPAIR BOTTOM OF GIRDER WEB NEAR PIN AND HANGER
- (C) REPAIR BOTTOM OF INTERMEDIATE/JACKING STIFFENER
- (D) REPAIR BOTTOM OF INTERMEDIATE STIFFENER
- (E1) PERFORM WELD PEENING AT COVER PLATE ENDS
- (E2) PERFORM WELD PEENING AT INTERMEDIATE CROSS FRAME BOTTOM FLANGE GUSSET PLATES
- (F1) REPAIR CRACKED/MISSING LATERAL BRACING GUSSET TO BOTTOM FLANGE WELD
- (F2) REPAIR CRACKED/MISSING LATERAL BRACING GUSSET/CROSS FRAME TO BOTTOM FLANGE WELD
- (F3) REPAIR CRACKED/MISSING CROSS FRAME GUSSET TO BOTTOM FLANGE WELD
- (F4) REPAIR CRACKED/MISSING CROSS FRAME GUSSET TO ANGLE WELD
- (H1) REPAIR GAP UNDER CROSS FRAME GUSSET PLATE AT BOTTOM FLANGE
- (H2) REPAIR BENT CROSS FRAME GUSSET PLATE AT BOTTOM FLANGE
- (H3) REPAIR BENT LATERAL BRACING GUSSET PLATE AT BOTTOM FLANGE
- (G1) REPAIR END CROSS FRAME BOTTOM GUSSET PLATE
- (G2) REPAIR END CROSS FRAME TOP GUSSET PLATE
- (G3) REPAIR END CROSS FRAME TOP HORIZONTAL STIFFENER
- (J) REPAIR LOWER LONGITUDINAL STIFFENER BUTT WELD

FRAMING PLAN - SPAN 4
SCALE: 1/16" = 1'-0"

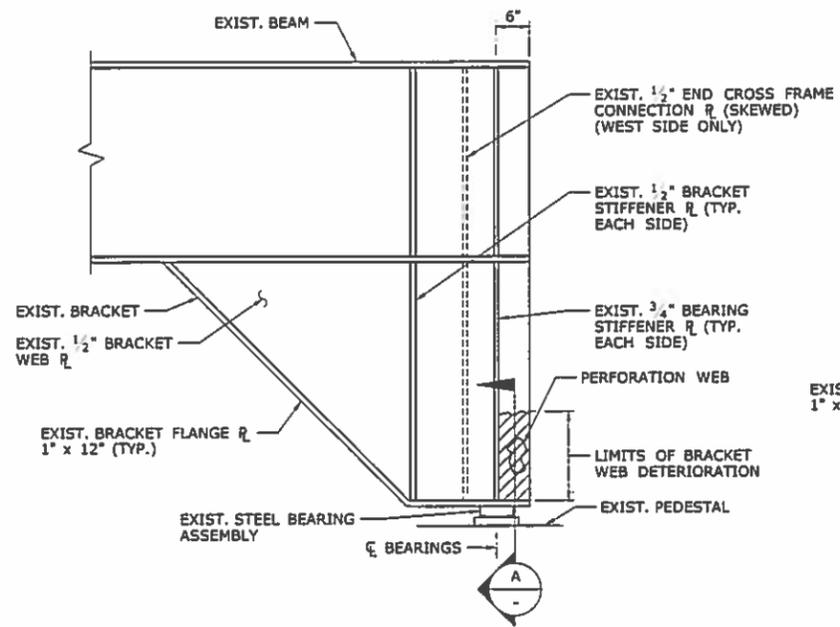
NOTE: * - FIELD CLEAN AND PAINT EACH SIDE OF TOP OF BOTTOM FLANGE

REFERENCES

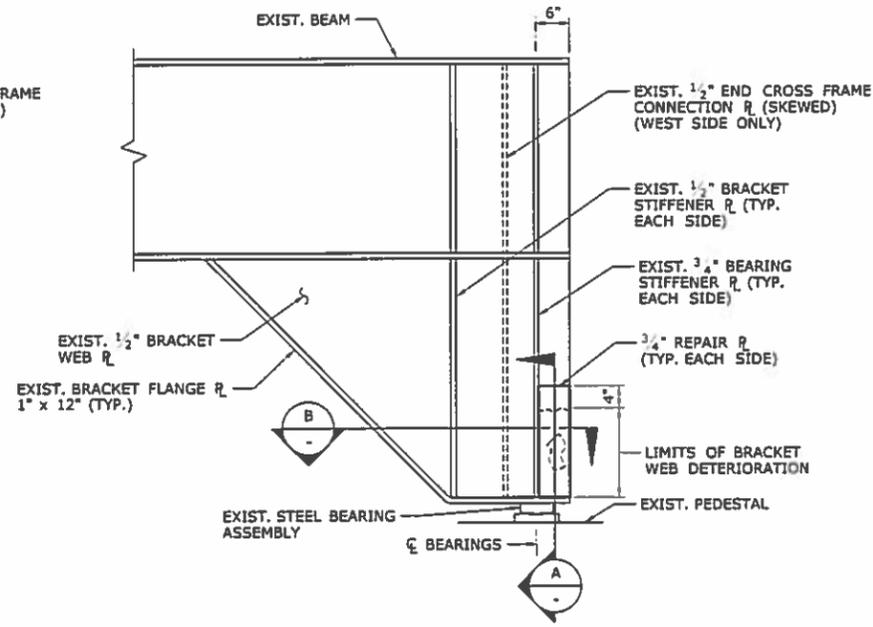
1. SEE DWG. NO. S-15 TO S-22 FOR STEEL REPAIR DETAILS.
2. SEE DWG. NO. S-23 AND S-24 FOR FIELD PAINTING DETAILS AND NOTES.
3. SEE DWG. NO. S-25 TO S-28 FOR JACKING SUPPORT SYSTEM DETAILS AND NOTES.

FINAL DESIGN REVIEW

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAWER: A. HIPIUS/S. ERDAS		CHECKED BY: T. STRNAD	SIGNATURE/BLOCK:	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668
REV. DATE	REVISION DESCRIPTION	SHEET NO.		SCALE AS NOTED	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	DRAWING NO. S-14	DRAWING TITLE: FRAMING PLAN - 3	SHEET NO. 04.14



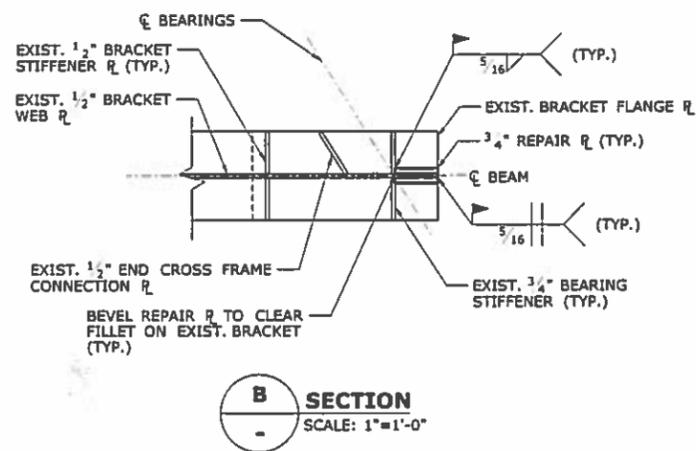
EXISTING CONDITION - EAST ELEVATION



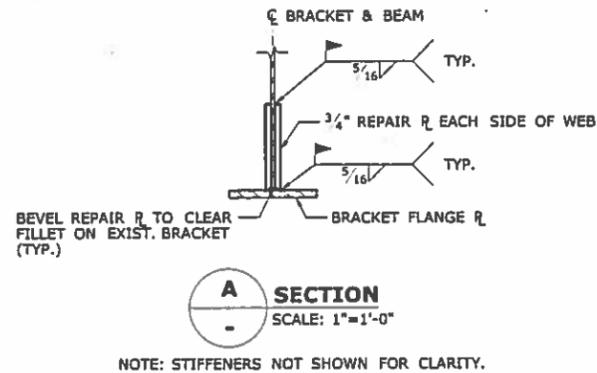
PROPOSED REPAIR - EAST ELEVATION

SPAN 1 BRACKET REPAIR - DETAIL A1

SCALE: 3/4" = 1'-0"



B SECTION
SCALE: 1"=1'-0"



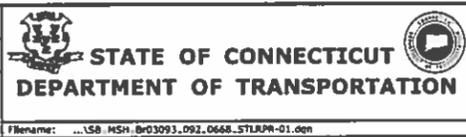
A SECTION
SCALE: 1"=1'-0"

NOTE: STIFFENERS NOT SHOWN FOR CLARITY.

FINAL DESIGN REVIEW

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

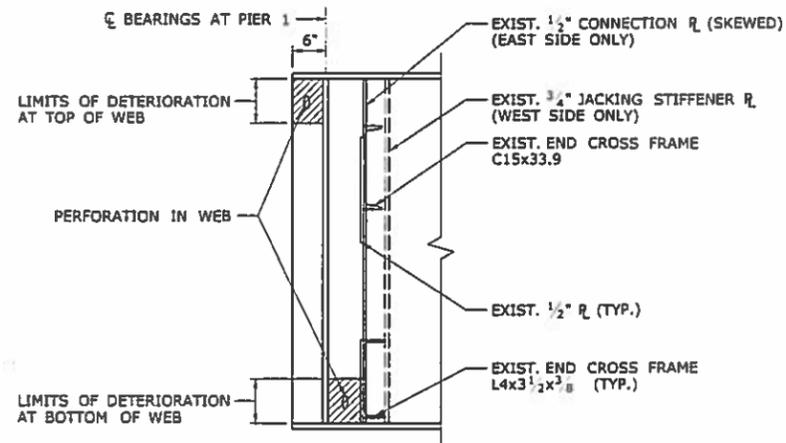
DESIGNER/DRAFTER:
A. HIPIUS/S. ERDAS
CHECKED BY:
T. STRNAD
SCALE AS NOTED



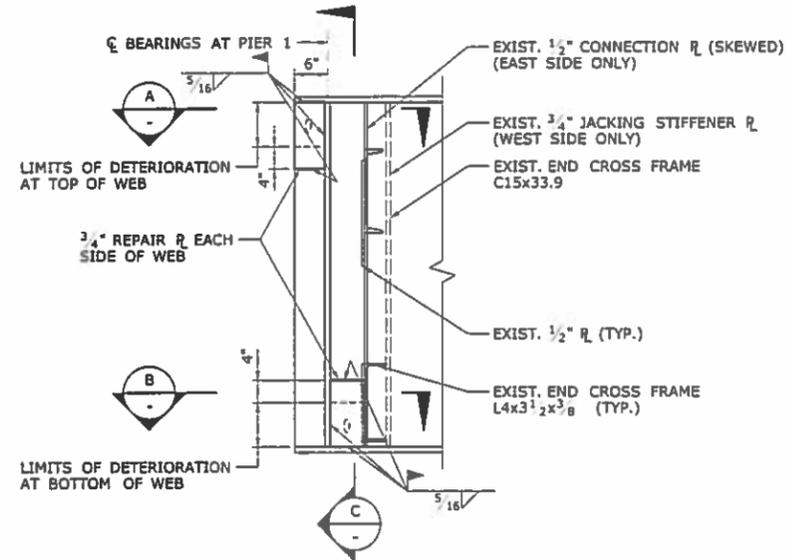
SIGNATURE/BLOCK:
PROJECT TITLE:
REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER

TOWN:
NEW HAVEN
DRAWING TITLE:
STEEL REPAIR DETAILS - 1

PROJECT NO.
92-668
DRAWING NO.
S-15
SHEET NO.
04.15



EXISTING CONDITION - EAST ELEVATION

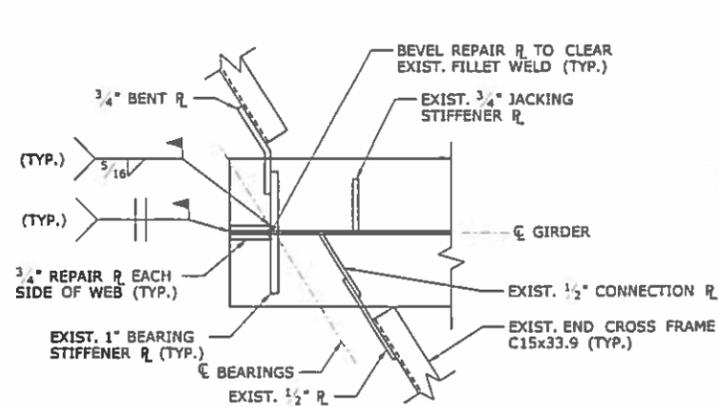


PROPOSED REPAIR - EAST ELEVATION

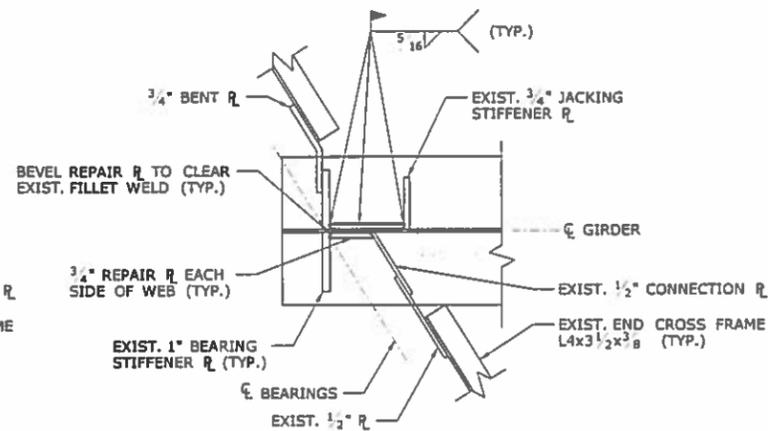
SPAN 2 GIRDER WEB REPAIR DETAILS A2 & A3

SCALE: $\frac{3}{4}$ " = 1'-0"

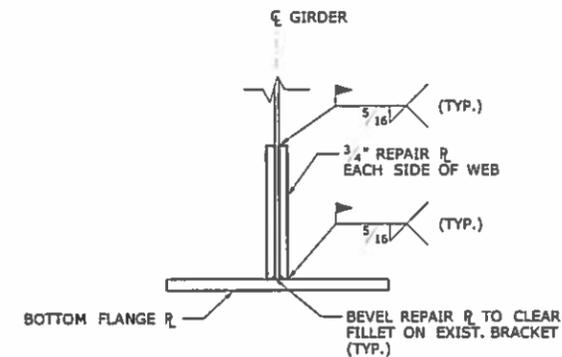
- NOTES: 1. DETAIL A2 APPLIES AT TOP OF GIRDER WEB.
2. DETAIL A3 APPLIES AT BOTTOM OF GIRDER WEB.



A SECTION - GIRDER WEB REPAIR - DETAIL A2
SCALE: 1" = 1'-0"



B SECTION - GIRDER WEB REPAIR - DETAIL A3
SCALE: 1" = 1'-0"

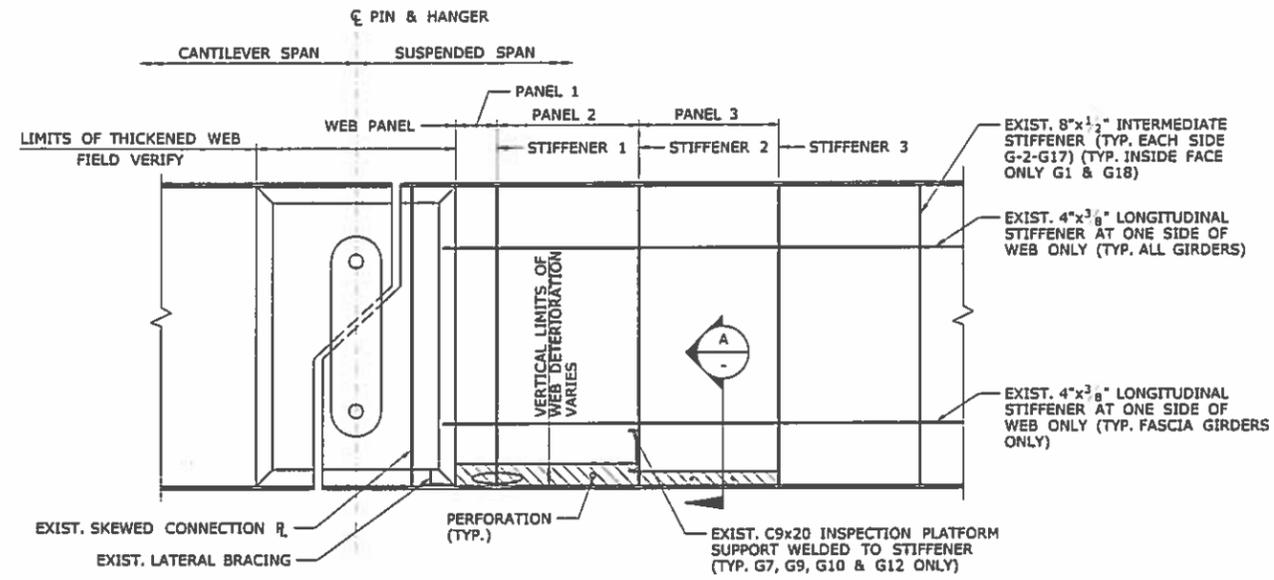


C SECTION

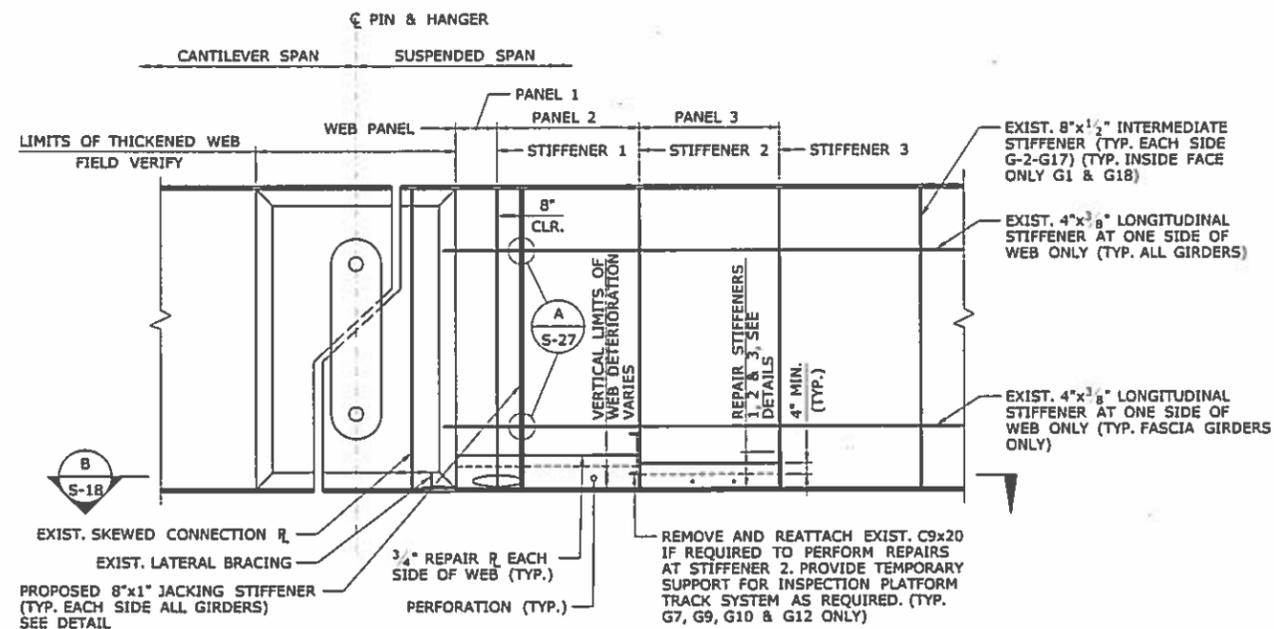
- NOTES: 1. STIFFENERS NOT SHOWN FOR CLARITY.
2. REPAIR AT BOTTOM OF WEB SHOWN.
3. REPAIR AT TOP OF WEB SIMILAR.

FINAL DESIGN REVIEW

THE INFORMATION INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/INTEGRATOR: A. HIPIUS/S. ERDAS	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	SIGNATURE/BLOCK: 	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668
CHECKED BY: T. STRNAD	SCALE AS NOTED	FILENAME: ...\\SB.MSH.B\03093.092.0668_STLRPR-02.dgn		DRAWING TITLE: STEEL REPAIR DETAILS - 2	SHEET NO. S-16	SHEET NO. 04.16	
REV. DATE 	REVISION DESCRIPTION 	SHEET NO. 	PLOTTED DATE: 12/22/2015				



EXISTING CONDITION - SUSPENDED SPAN 3 GIRDER EAST ELEVATION
SCALE: 3/8" = 1'-0"

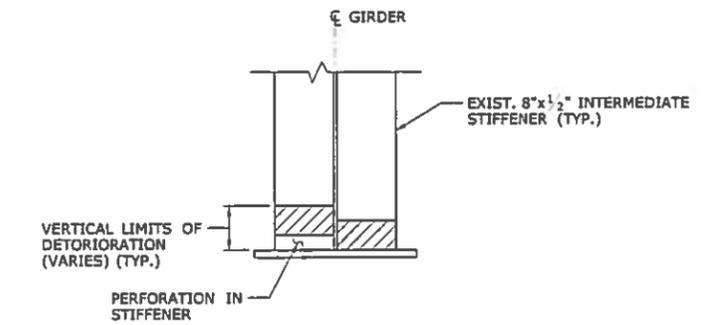


PROPOSED REPAIR - SUSPENDED SPAN 3 GIRDER EAST ELEVATION
SCALE: 3/8" = 1'-0"

- NOTES:**
1. REMOVE EXIST. 12"x1/2" REPAIR PLATES IN PANEL 2 AT EACH SIDE OF WEB AT G18 PRIOR TO INSTALLING PROPOSED WEB AND STIFFENER REPAIRS.
 2. FOR REPAIRS AT BOTTOM OF GIRDER WEB, SEE DETAIL B.
 3. FOR REPAIRS AT INTERMEDIATE / JACKING STIFFENER 1, SEE DETAIL C.
 4. FOR REPAIRS AT INTERMEDIATE STIFFENERS 2 & 3, SEE DETAIL D.

SUGGESTED SEQUENCE OF STEEL REPAIRS NEAR PIN & HANGER

1. CLEAN GIRDER ENDS TO LIMITS SHOWN IN PLANS.
2. REMOVE PORTION OF STIFFENERS 1, 2 & 3 TO LIMITS.
3. REPAIR STIFFENERS 2 & 3.
4. INSTALL WEB REPAIR PLATES.
5. REPAIR STIFFENER 1.
6. REMOVE PORTION OF LONGITUDINAL STIFFENER TO LIMITS SHOWN IN PLANS.
7. INSTALL JACKING STIFFENER IN WEB PANEL 2.



SECTION - EXISTING STIFFENER CONDITION
SCALE: 1" = 1'-0"

- NOTES:**
1. INTERIOR GIRDER SHOWN. FASCIA GIRDER SIMILAR.
 2. STIFFENER DETERIORATION APPLIES TO STIFFENERS 1, 2 & 3.

TABLE OF REPAIR DETAILS NEAR PIN & HANGER

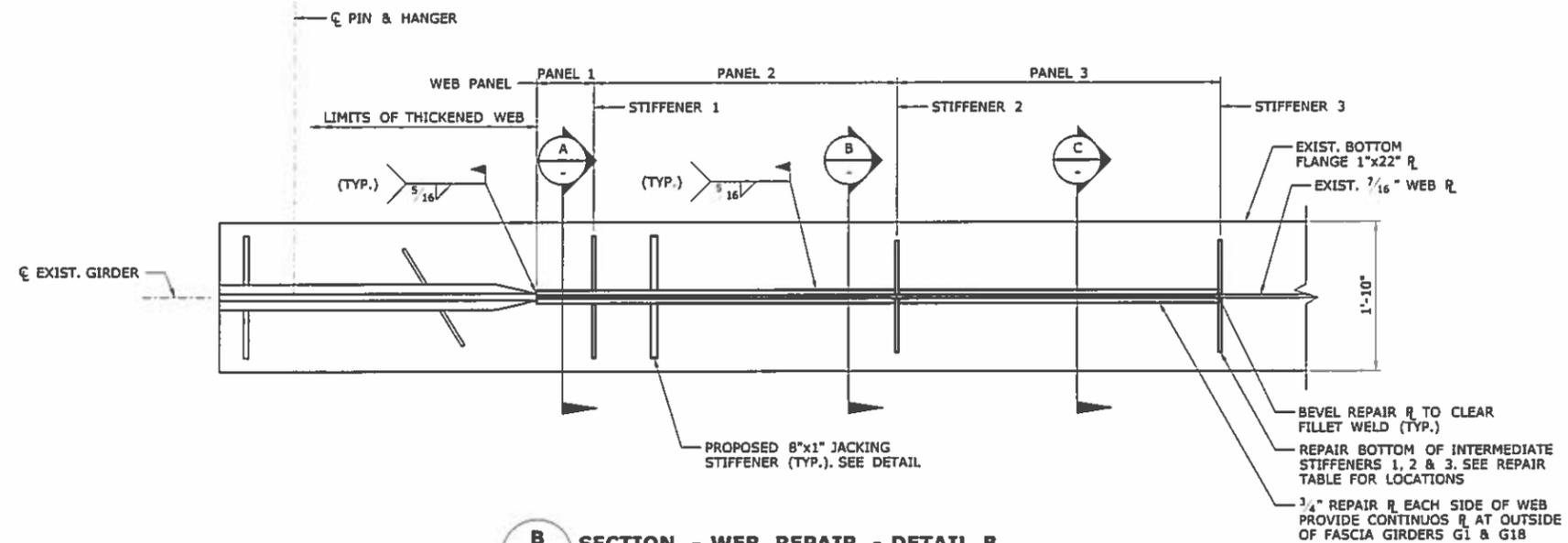
GIRDER	WEB PANEL			INTERMEDIATE STIFFENER					
	PANEL 1	PANEL 2	PANEL 3	EAST			WEST		
1	B	B		C	D		C	2	3
2	B	B		C			C		
3	B	B		C			C	D	
4	B	B		C			C		
5	B	B		C			C		
6	B	B		C			C		
7	B	B		C			C		
8	B	B		C			C		
9	B	B	B	C			C	D	
10	B	B		C			C		
11	B	B	B	C	D	D	C	D	
12	B	B		C			C	D	
13	B	B		C			C		
14	B	B		C			C		
15	B	B		C			C		
16	B	B		C			C		
17	B	B		C	D		C		
18	B	B	B	NO STIFFENERS			C	D	

REFERENCES

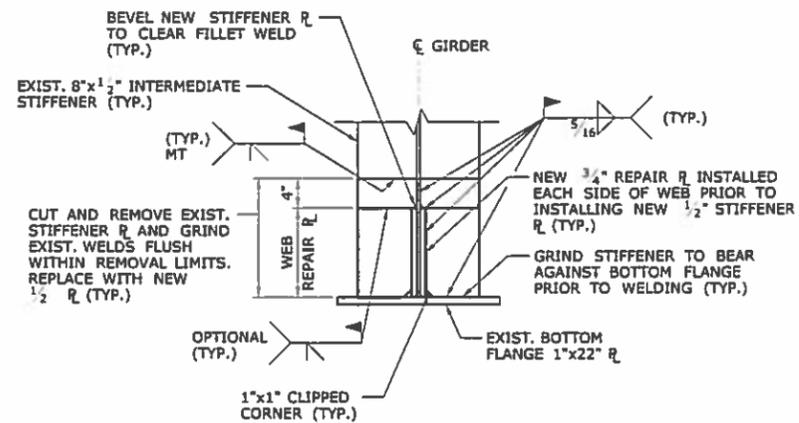
1. SEE DWG. NO. S-18 FOR SECTION B, AND DETAILS B, C & D.
2. SEE DWG. NO. S-27 FOR DETAIL A.
3. SEE DWG. NO. S-28 FOR JACKING STIFFENER DETAILS.

FINAL DESIGN REVIEW

DESIGNER/DRAWER: A. HIPIUS/S. ERDAS	CHECKED BY: T. STRNAD	SCALE AS NOTED	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668
THE INFORMATION INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.			DRAWING TITLE: STEEL REPAIR DETAILS - 3		DRAWING NO. S-17 SHEET NO. 04.17

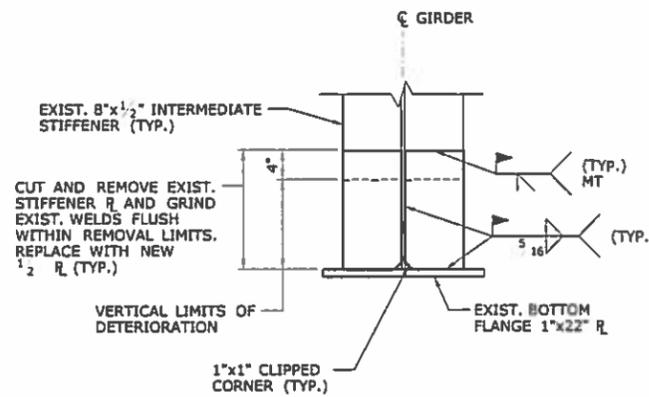


B
SECTION - WEB REPAIR - DETAIL B
 SCALE: 1" = 1'-0"
 NOTE: INTERIOR GIRDER SHOWN, FASCIA GIRDER SIMILAR.



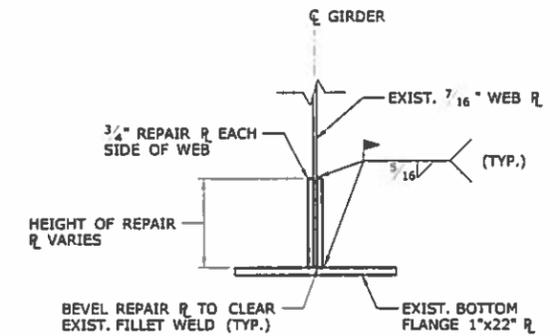
A
SECTION - INTERMEDIATE / JACKING STIFFENER REPAIR - DETAIL A
 SCALE: 1" = 1'-0"

- NOTES:
1. DETAIL APPLIES TO STIFFENER 1 REPAIRS.
 2. INTERIOR GIRDER SHOWN, FASCIA GIRDER SIMILAR.



B
SECTION - INTERMEDIATE STIFFENER REPAIR - DETAIL D
 SCALE: 1" = 1'-0"

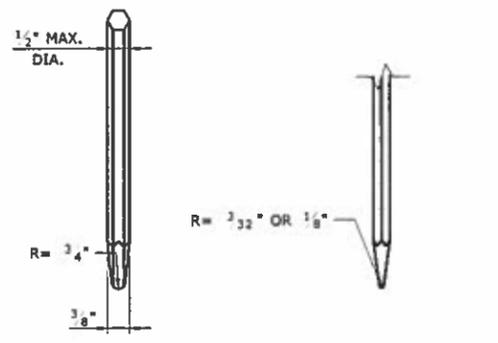
- NOTES:
1. DETAIL APPLIES TO STIFFENER 2 & 3 REPAIRS.
 2. INTERIOR GIRDER SHOWN, FASCIA GIRDER SIMILAR.



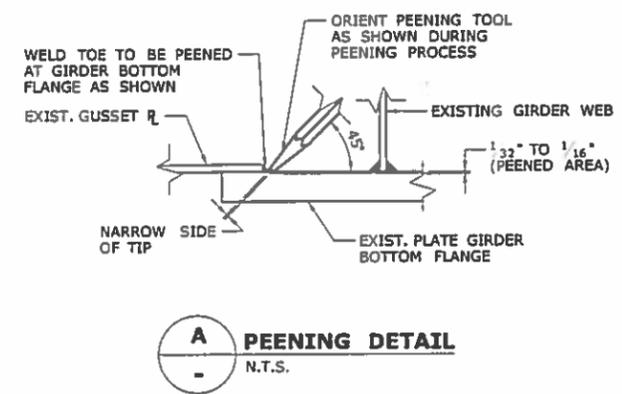
C
SECTION
 SCALE: 1" = 1'-0"
 NOTE: SECTION APPLIES AT WEB PANELS 1, 2 & 3.

FINAL DESIGN REVIEW

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAWER: A. HIPIUS/S. ERDAS CHECKED BY: T. STRNAD SCALE AS NOTED	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	SIGNATURE/BLOCK: PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN DRAWING TITLE: STEEL REPAIR DETAILS - 4	PROJECT NO.: 92-668 DRAWING NO.: S-18 SHEET NO.: 04.18
REV. DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/22/015	Filename: ...\\SB.MSH.B\03093.092.0668.STLPR-04.dgn		

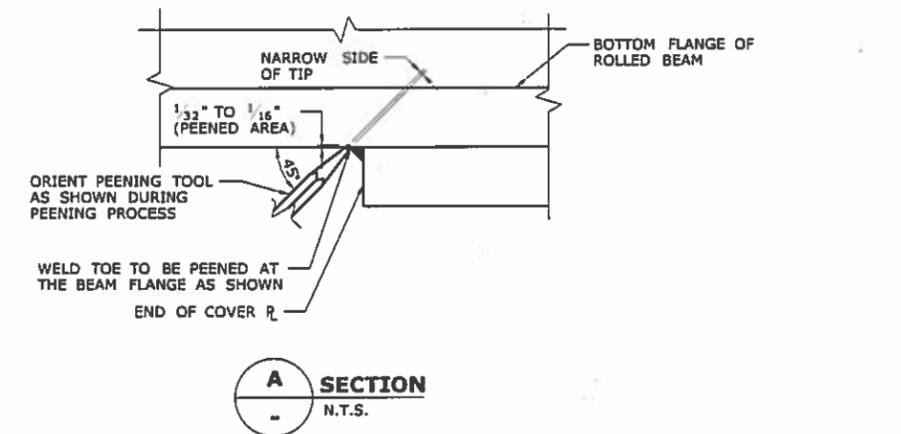


FRONT ELEVATION SIDE ELEVATION
PEENING TOOL
 N.T.S.

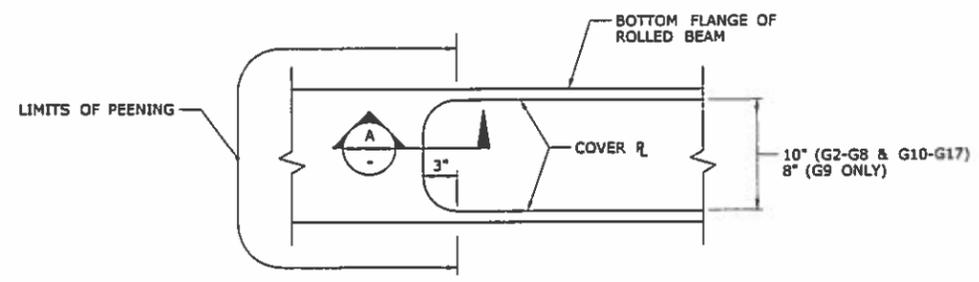


A PEENING DETAIL
 N.T.S.

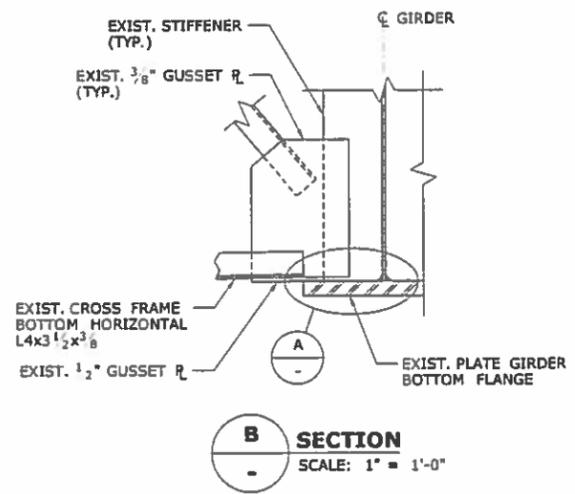
- PEENING NOTES**
1. WHEN PEENING TOOL IS SHAPED, SHARP EDGES RESULTING FROM SHAPING OF THE TOOL ARE TO BE GROUND SMOOTH.
 2. FOR PEENING INFORMATION NOT SHOWN, SEE SPECIAL PROVISIONS "PEENING COVER PLATE WELDS".



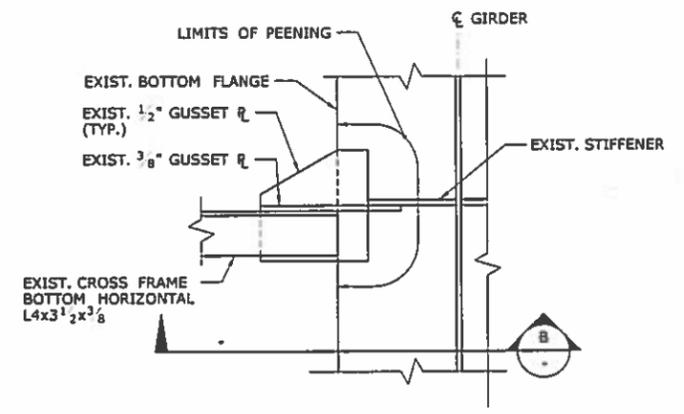
A SECTION
 N.T.S.



SPAN 1 COVER PLATE PEENING LIMITS - DETAIL E1
 N.T.S.



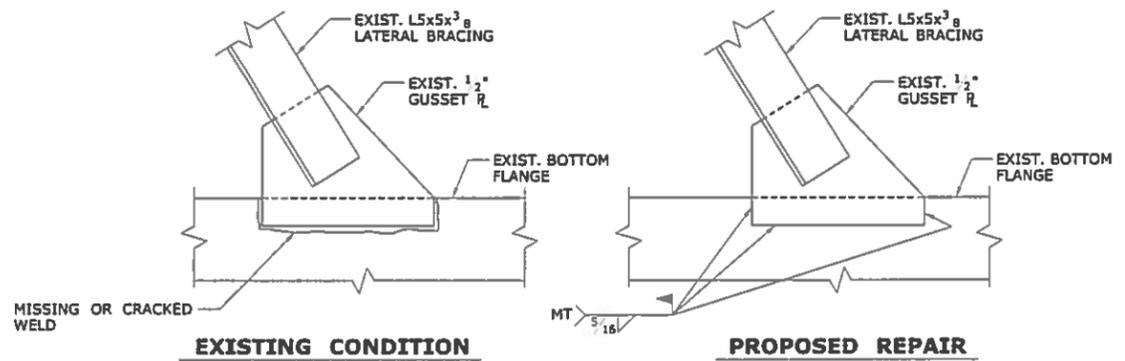
B SECTION
 SCALE: 1" = 1'-0"



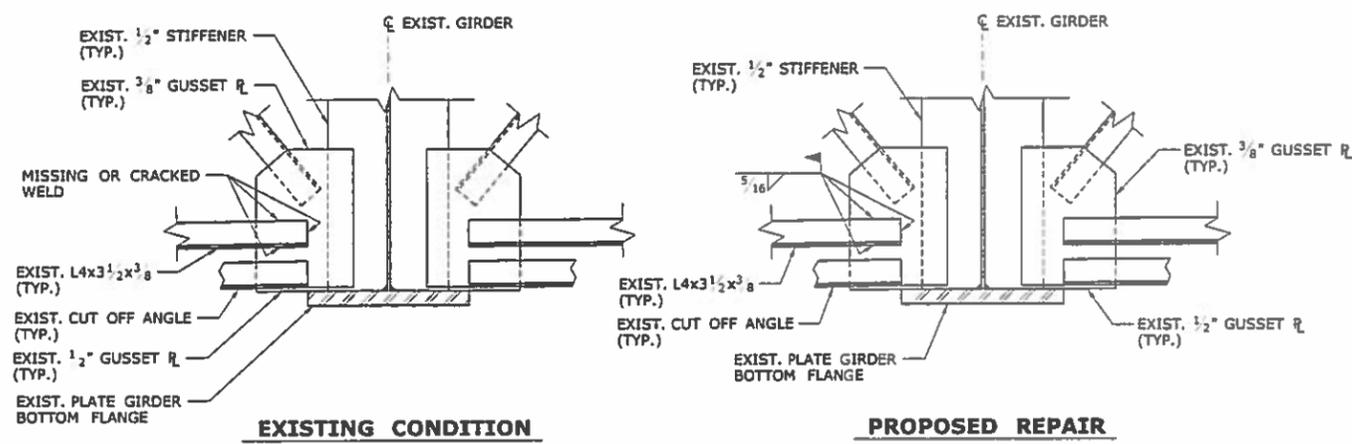
**SPAN 2 AND SPAN 4 INTERMEDIATE CROSS FRAME
 BOTTOM FLANGE GUSSET PLATE PEENING LIMITS - DETAIL E2**
 SCALE: 1 1/2" = 1'-0"

FINAL DESIGN REVIEW

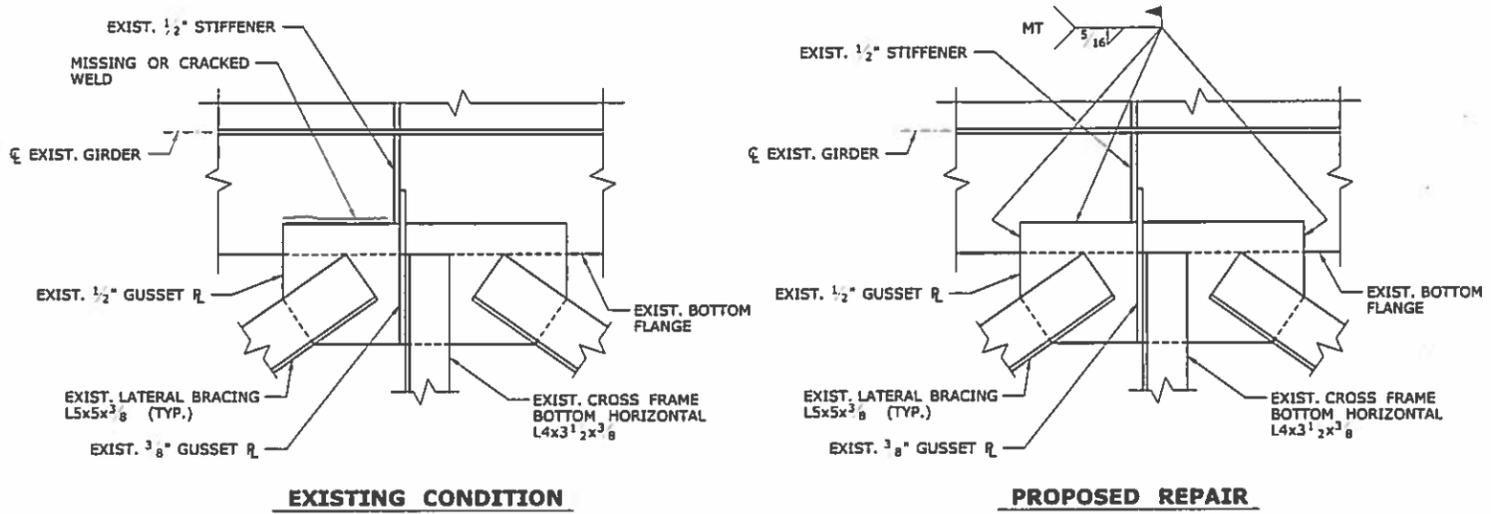
DESIGNER/DRAWN: A. HIPIUS/S. ERDAS CHECKED BY: T. STRNAD SCALE AS NOTED				PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER		TOWN: NEW HAVEN		PROJECT NO.: 92-668	
REV. DATE: REVISION DESCRIPTION: SHEET NO.:		PLOTTED DATE: 12/22/2015		SIGNATURE/BLOCK:		DRAWING TITLE: STEEL REPAIR DETAILS - 5		DRAWING NO.: S-19 SHEET NO.: 04.19	



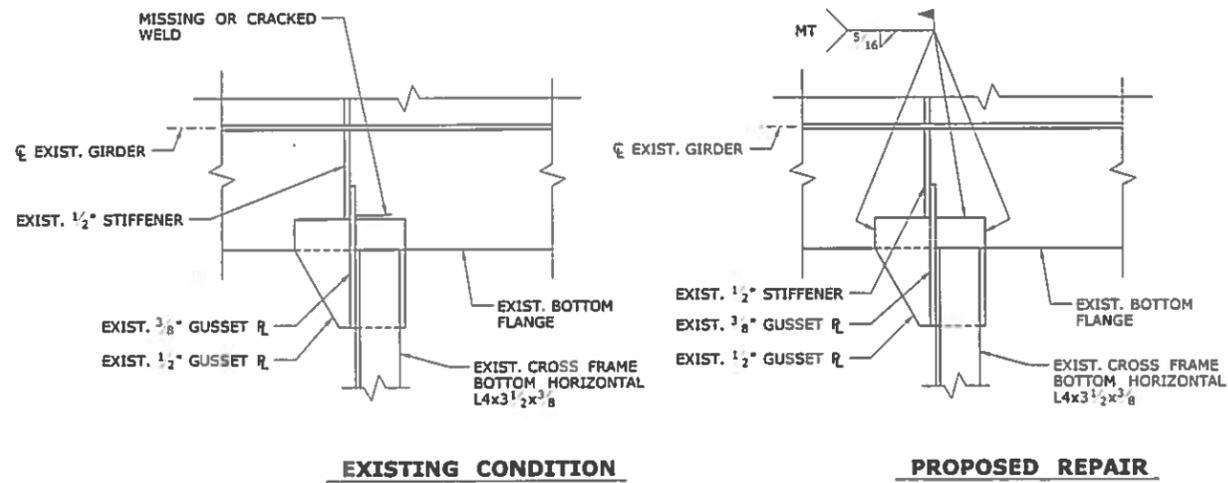
LATERAL BRACING GUSSET TO BOTTOM FLANGE WELD REPAIR - DETAIL F1
 SCALE: 1 1/2" = 1'-0"



CROSS FRAME GUSSET TO ANGLE WELD REPAIR - DETAIL F4
 SCALE: 1" = 1'-0"



LATERAL BRACING / CROSS FRAME GUSSET TO BOTTOM FLANGE WELD REPAIR - DETAIL F2
 SCALE: 1 1/2" = 1'-0"



CROSS FRAME GUSSET TO BOTTOM FLANGE WELD REPAIR - DETAIL F3
 SCALE: 1 1/2" = 1'-0"

- WELD REPAIR NOTES**
1. WELD REPAIRS AT OPPOSITE HAND LOCATIONS SIMILAIR.
 2. REMOVE EXISTING CRACKED WELDS AND GRIND FLUSH PRIOR TO INSTALLING REPAIR WELDS.
 3. REPAIR OF MISSING AND CRACKED WELDS SHALL BE PAID UNDER THE ITEM "STRUCTURAL STEEL REPAIRS, (SITE NO. 1)".

FINAL DESIGN REVIEW	
TOWN: NEW HAVEN	PROJECT NO. 92-668
DRAWING TITLE: STEEL REPAIR DETAILS - 6	DRAWING NO. S-20
	SHEET NO. 04.20

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
-	-	-	-
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DESIGNER/DRAWER:
A. HIPIUS/S. ERDAS

CHECKED BY:
T. STRNAD

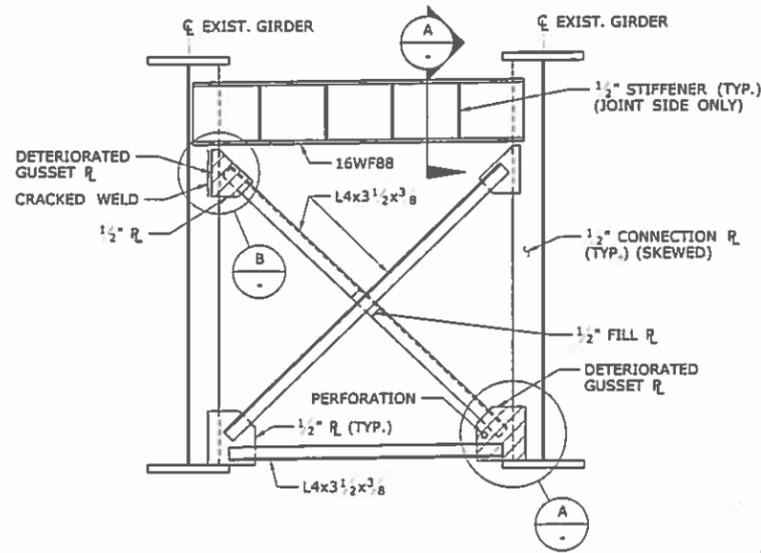
SCALE AS NOTED

STATE OF CONNECTICUT
 DEPARTMENT OF TRANSPORTATION

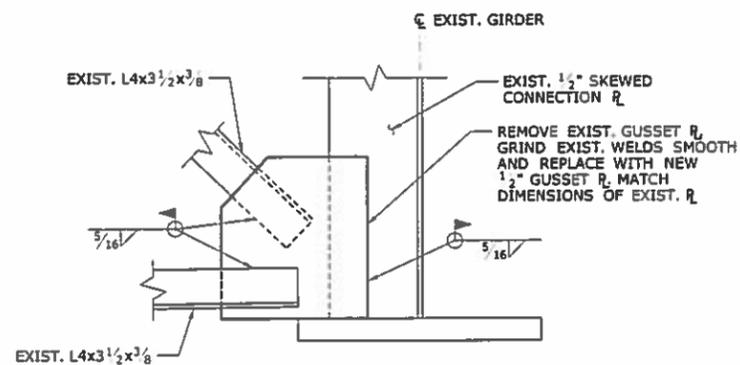
Plotted Date: 12/22/2015

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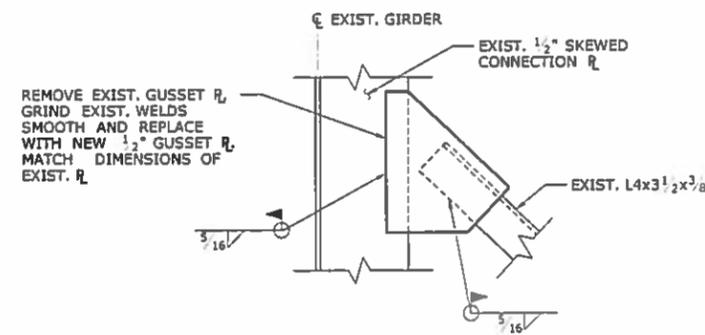
PROJECT TITLE:
REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER



EXISTING CONDITION
SCALE: 1 1/2" = 1'-0"

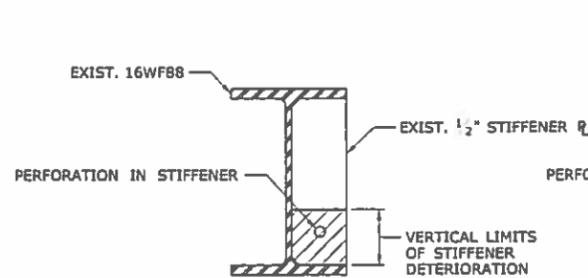


A PROPOSED BOTTOM GUSSET PLATE REPAIR - DETAIL H1
SCALE: 1 1/2" = 1'-0"

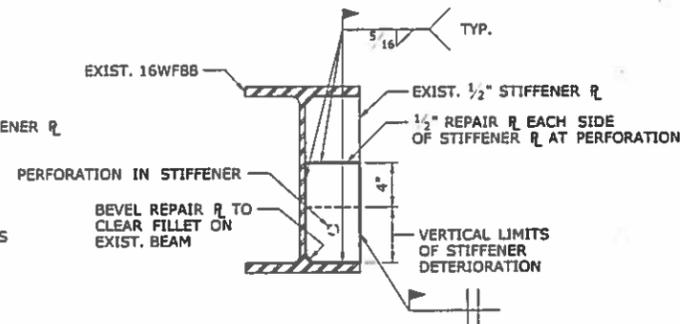


B PROPOSED TOP GUSSET PLATE REPAIR - DETAIL H2
SCALE: 1 1/2" = 1'-0"

END CROSS FRAME REPAIR DETAILS

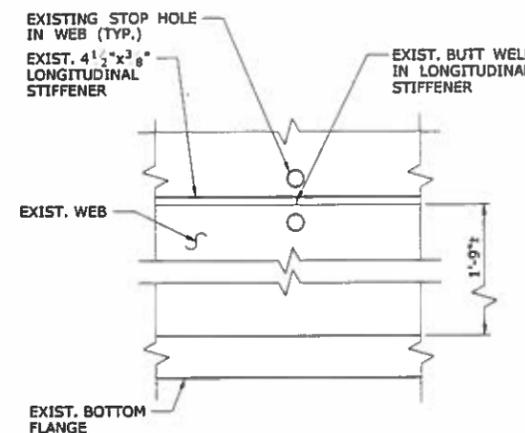


EXISTING CONDITION

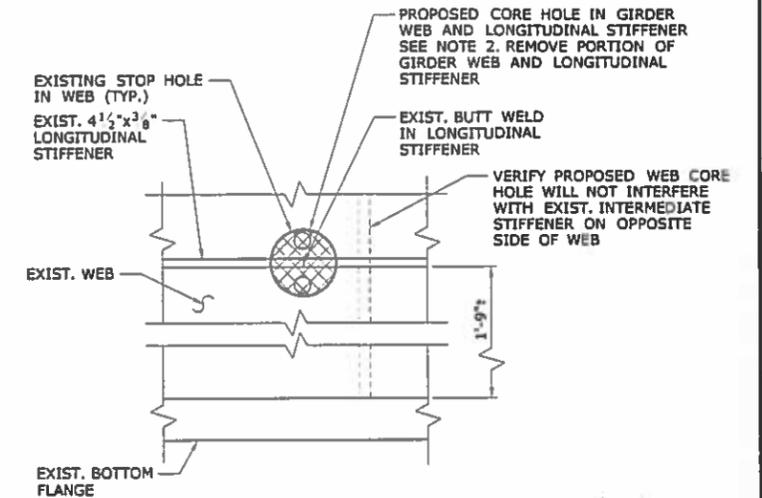


PROPOSED CONDITION

A SECTION - END CROSS FRAME TOP HORIZONTAL STIFFENER REPAIR - DETAIL H3
SCALE: 1 1/2" = 1'-0"



EXISTING CONDITION



PROPOSED CONDITION

SPAN 3 LONGITUDINAL STIFFENER BUTT WELD REPAIR - DETAIL J

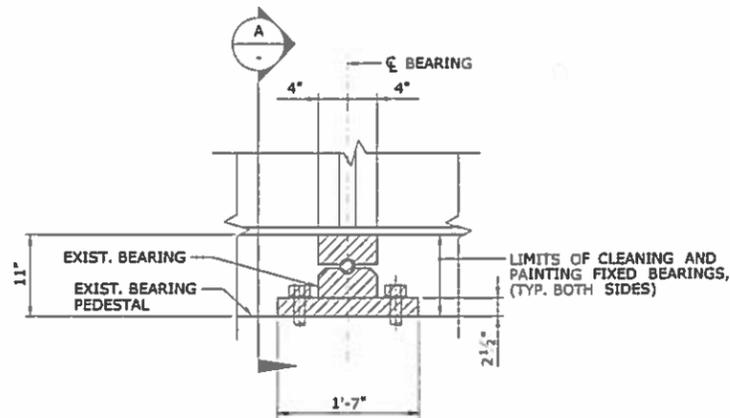
SCALE: 3" = 1'-0"

STIFFENER BUTT WELD REPAIR NOTES

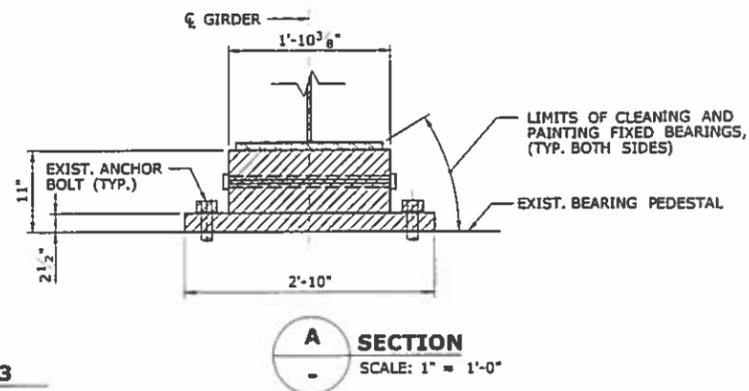
1. PERFORM LONGITUDINAL STIFFENER REPAIR AT ALL LOWER STIFFENER BUTT WELD LOCATIONS AT FASCIA GIRDERS G1 & G18 IN THE SUSPENDED SPAN WITH 7/16" WEB THICKNESS. EXISTING CRACKED BUTT WELDS AND/OR EXISTING STOP HOLES IN THE GIRDER WEB ARE PRESENT AT SEVERAL LOCATIONS.
2. THE DIAMETER OF THE PROPOSED CORE HOLE SHALL BE FIELD MEASURED TO INCLUDE ALL EXISTING STOP HOLES AND BE CENTERED AT THE LONGITUDINAL STIFFENER BUTT WELD. THE MINIMUM HOLE DIAMETER SHALL BE 3".
3. GRIND SMOOTH ALL EDGES ON GIRDER WEB AND LONGITUDINAL STIFFENER AT THE CORE HOLE.
4. PAINT ALL EXPOSED EDGES. COST SHALL BE INCLUDED IN ITEM "LOCALIZED PAINT REMOVAL AND FIELD PAINTING OF EXISTING STEEL".
5. CORE DRILLING HOLES AND GRINDING ALL EXPOSED EDGES TO BE PAID UNDER THE ITEM "STRUCTURAL STEEL REPAIRS, SITE NO. 1".

FINAL DESIGN REVIEW

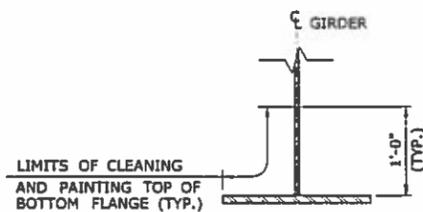
DESIGNER/DRAWN BY: A.HIPIUS/S.ERDAS	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668
CHECKED BY: T. STRNAD			DRAWING TITLE: STEEL REPAIR DETAILS - 8	DRAWING NO. S-22
SCALE AS NOTED	FILENAME: ...LSB_HSH.Br03093.092.0668_STLAPR-08.dgn			SHEET NO. 04.22



CLEANING AND PAINTING OF FIXED BEARINGS AT PIERS 2 & 3
SCALE: 1" = 1'-0"



A SECTION
SCALE: 1" = 1'-0"



CLEANING AND PAINTING OF GIRDER BOTTOM FLANGE - SPANS 2, 3 & 4
SCALE: 1" = 1'-0"

NOTE: SEE FRAMING PLAN FOR HORIZONTAL LIMITS OF TOP OF BOTTOM FLANGE CLEANING AND PAINTING.

FIELD PAINTING NOTES

1. THE ENDS OF EXISTING GIRDERS AND END CROSS FRAMES (IN THEIR ENTIRETY) INCLUDING CONNECTION PLATES AND STIFFENERS AT PIN AND HANGER AND HINGE LOCATIONS, SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH THE SPECIFICATION "ABRASIVE BLAST CLEANING AND FIELD PAINTING OF STRUCTURE (SITE NO. 1)". SEE SPECIAL PROVISIONS. THE CONTAINMENT AND PROVISIONS FOR THE PAINTING SHALL BE PAID FOR UNDER THE ITEM "CLASS 1 CONTAINMENT AND PROVISIONS. DISPOSAL OF LEAD DEBRIS SHALL BE PAID FOR UNDER THE ITEM "DISPOSAL OF LEAD DEBRIS FROM ABRASIVE BLAST CLEANING", SEE SPECIAL PROVISIONS.
2. CLEANING AND PAINTING OF AREAS IDENTIFIED BY THE ENGINEER OR DEPICTED IN THE PLANS OTHER THAN THE ENDS OF EXISTING GIRDERS AND END CROSS FRAMES AT PIN AND HANGER AND HINGE LOCATIONS, SHALL BE PAID FOR UNDER THE ITEM "LOCALIZED PAINT REMOVAL AND FIELD PAINTING OF EXISTING STEEL", SEE SPECIAL PROVISIONS. DISPOSAL OF LEAD DEBRIS SHALL BE PAID UNDER THE ITEM "DISPOSAL OF LEAD DEBRIS FROM ABRASIVE BLAST CLEANING, SEE SPECIAL PROVISIONS.
3. PAINT AND DEBRIS COLLECTED FROM PAINT REMOVAL SHALL BE STORED ABOVE THE 100-YEAR FLOOD ELEVATION.
4. THE 29,500 SQUARE FEET OF ESTIMATED SURFACE AREA TO BE CLEANED & PAINTED IS APPROXIMATE. THE CONTRACTOR SHALL SURVEY THE EXISTING BRIDGE STRUCTURE AND REVIEW THE EXISTING PLANS TO FAMILIARIZE HIMSELF WITH THE AREA TO BE CLEANED AND PAINTED.

LEGEND



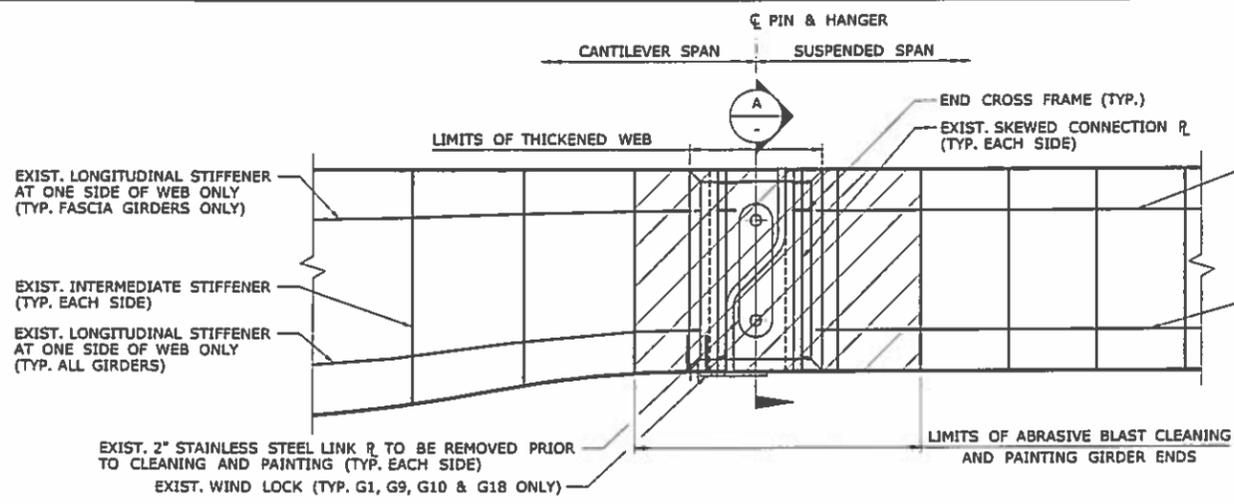
LIMITS OF CLEANING AND PAINTING

REFERENCES

1. SEE DWG. NO. S-12 THRU S-14 FOR FRAMING PLANS.
2. SEE DWG. NO. S-15 THRU S-22 FOR STEEL REPAIR DETAILS.
3. SEE DWG. NO. S-25 TO S-28 FOR PIN & HANGER JACKING SYSTEM DETAILS.

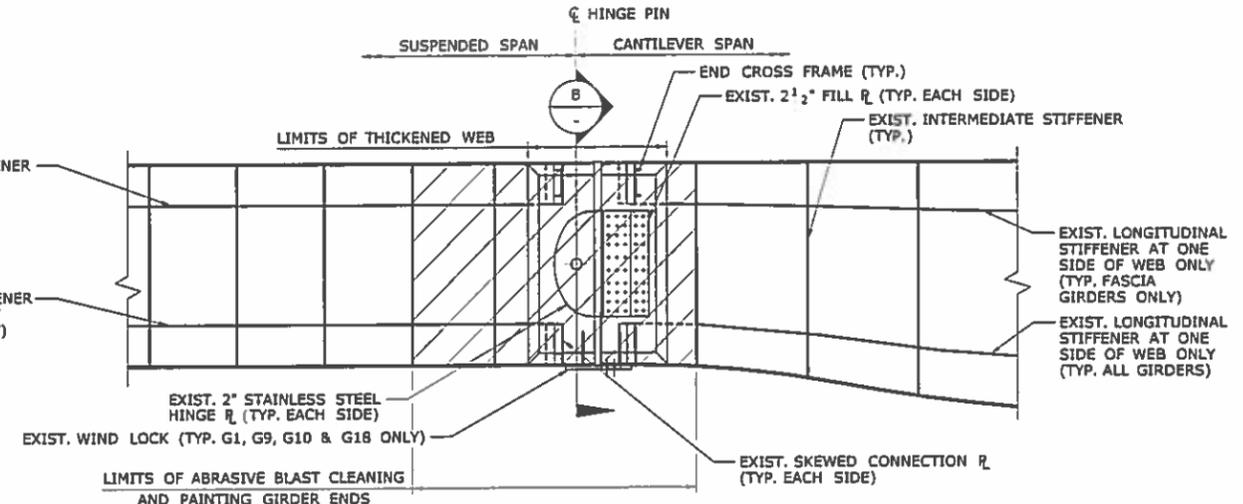
FINAL DESIGN REVIEW

DESIGNER/DRAWER: A. HIPIUS/S. ERDAS		<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668
CHECKED BY: T. STRNAD					DRAWING NO. S-23
SCALE AS NOTED		Filename: ...LSB_HSH.Br03093.092.0668_PLDPRY.dgn	DRAWING TITLE: FIELD PAINTING - 1		SHEET NO. 04.23
REV. DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/22/2013		



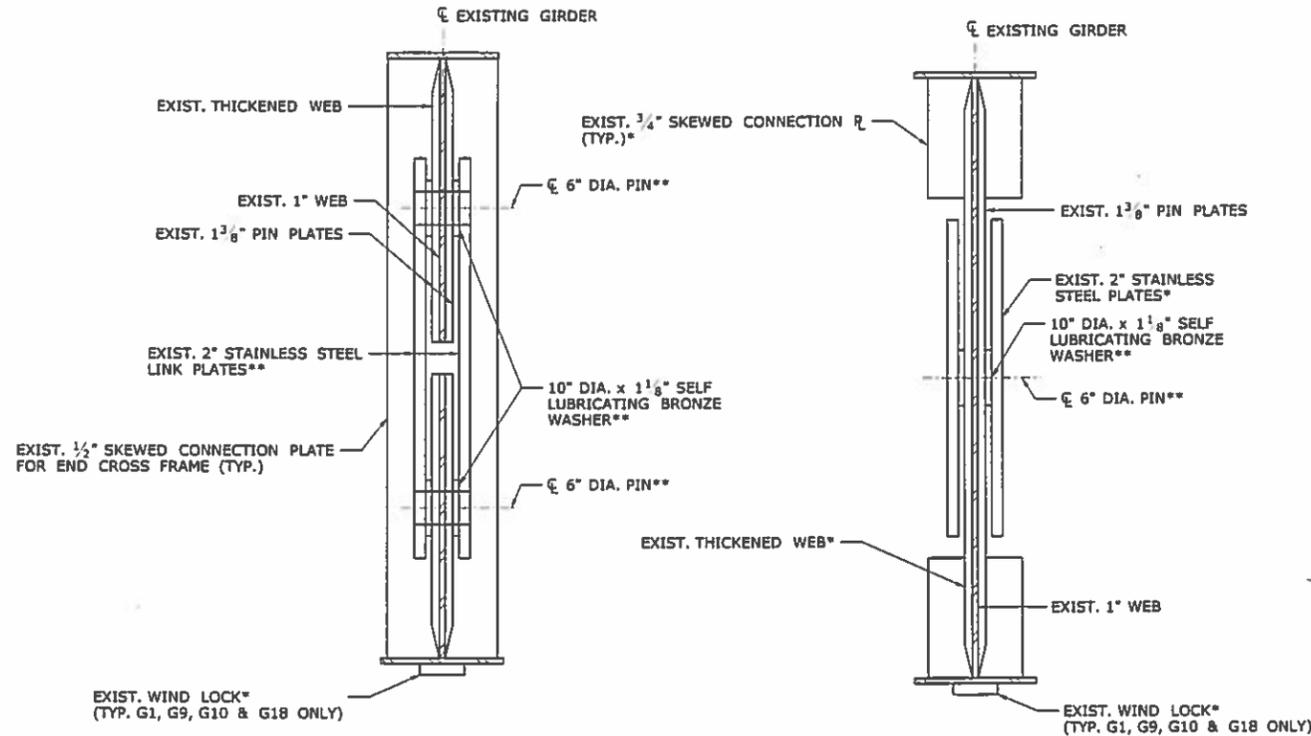
TYPICAL EXISTING CONDITION AT PIN & HANGER - EAST ELEVATION

SCALE: 1/4" = 1'-0"



TYPICAL EXISTING CONDITION AT HINGE - EAST ELEVATION

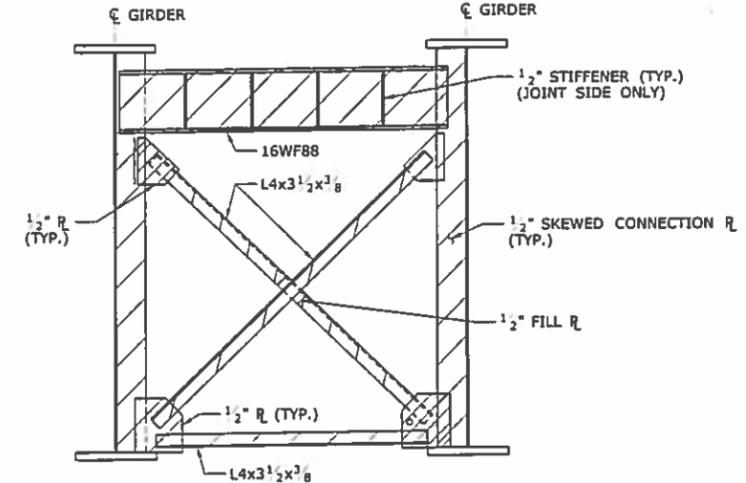
SCALE: 1/4" = 1'-0"



A SECTION
SCALE: 3/4" = 1'-0"

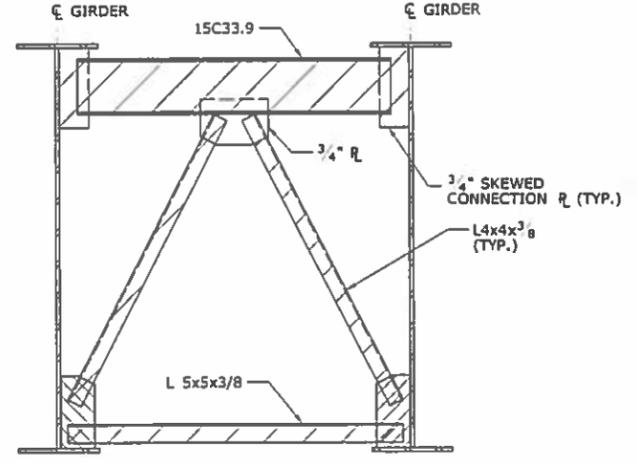
B SECTION
SCALE: 3/4" = 1'-0"

NOTES:
 * - GIRDER COMPONENTS TO BE ABRASIVE BLAST CLEANED AND PAINTED.
 ** - COMPONENTS TO BE REMOVED PRIOR TO ABRASIVE BLAST CLEANING AND PAINTING GIRDER ENDS.



TYPICAL END CROSS FRAME AT PIN AND HANGER

SCALE: 1/2" = 1'-0"



TYPICAL END CROSS FRAME AT HINGE

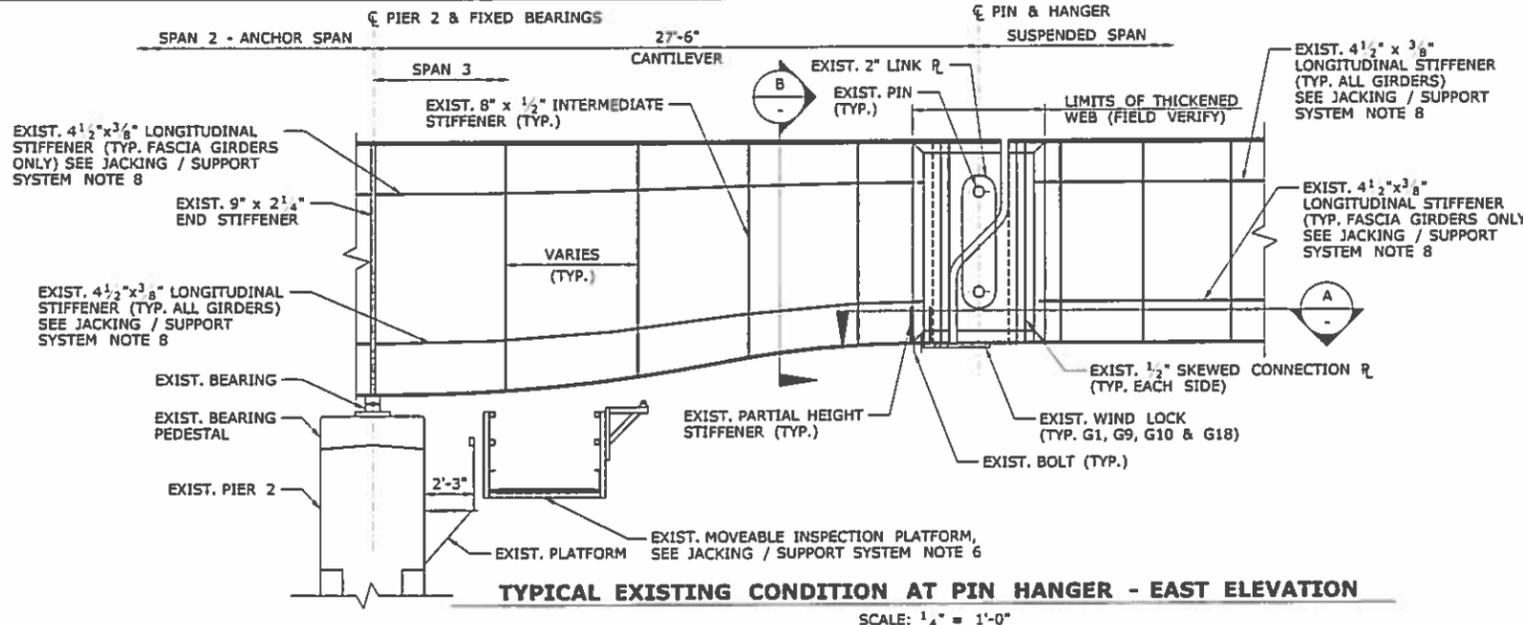
SCALE: 1/2" = 1'-0"

LEGEND

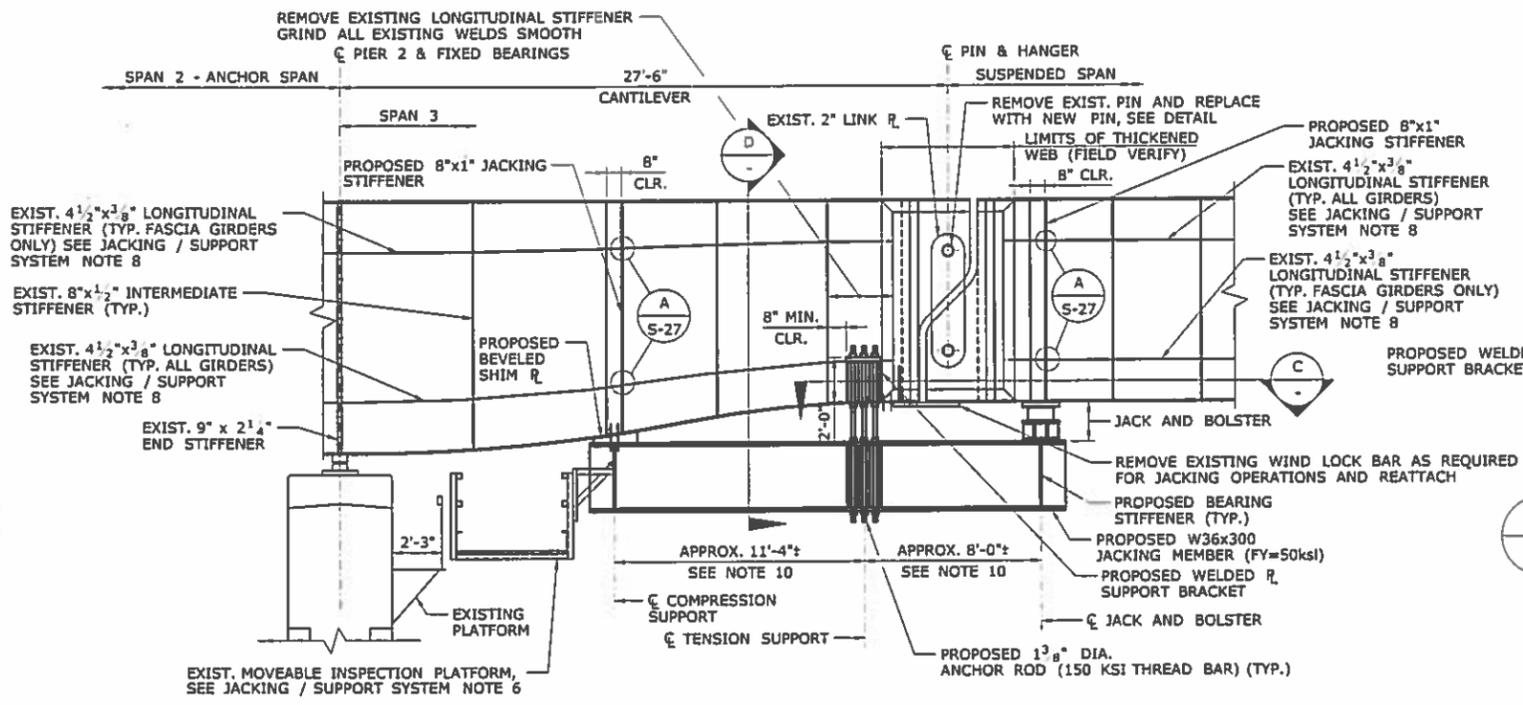
LIMITS OF ABRASIVE BLAST CLEANING AND PAINTING GIRDER ENDS

FINAL DESIGN REVIEW

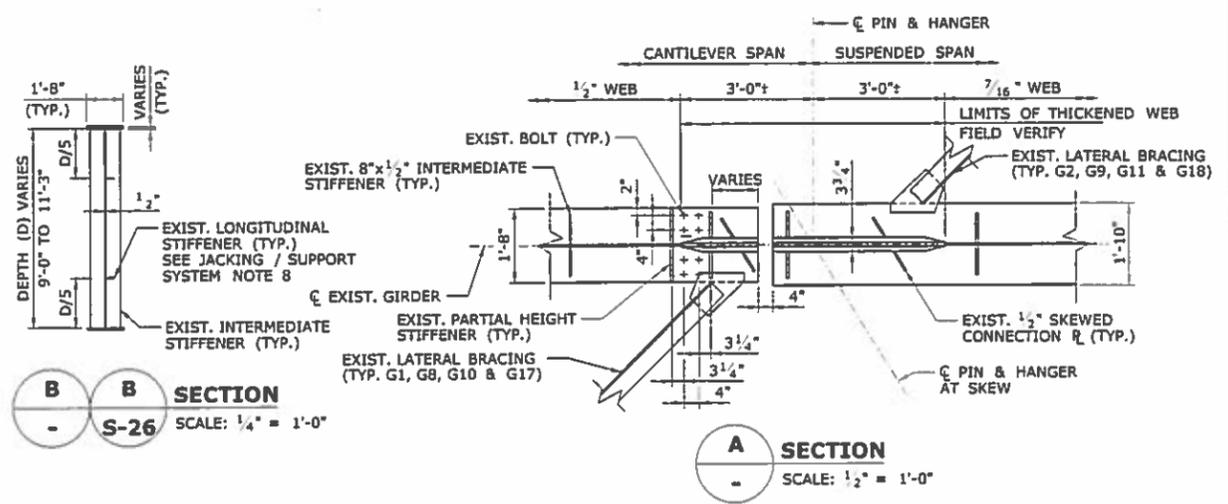
THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAWN BY: A. HIPIUS/S. ERDAS CHECKED BY: T. STRNAD SCALE AS NOTED		PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668 DRAWING NO. S-24 SHEET NO. 04.24
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/22/2015		



TYPICAL EXISTING CONDITION AT PIN HANGER - EAST ELEVATION
SCALE: 1/4" = 1'-0"

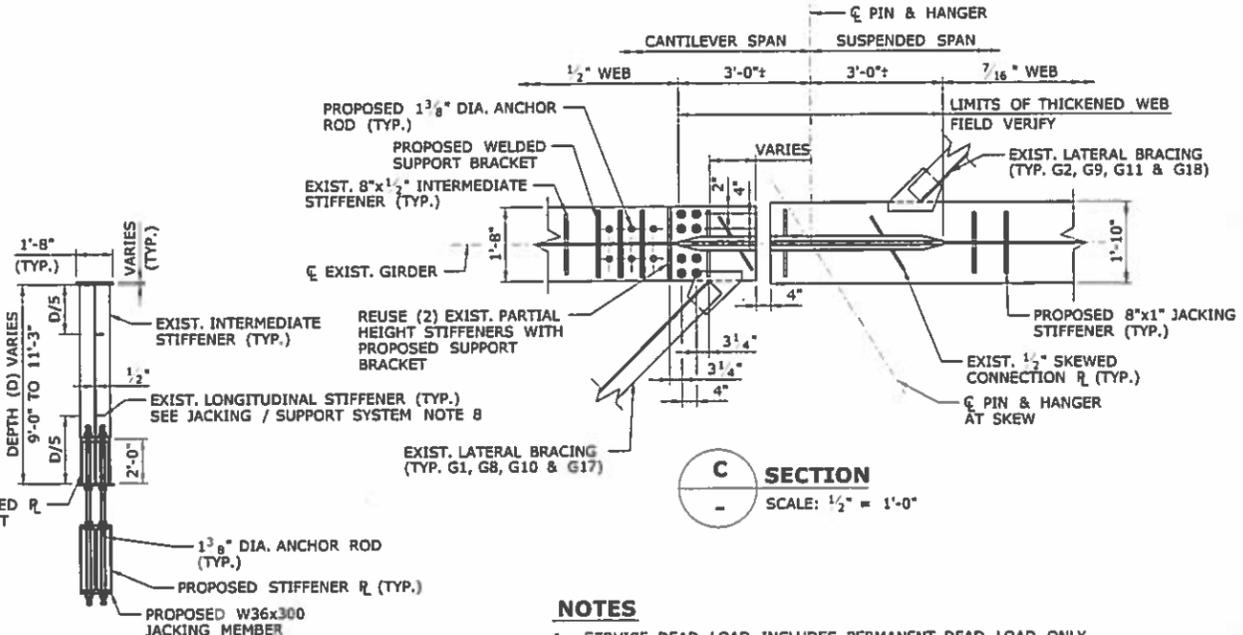


TYPICAL JACKING / SUPPORT SYSTEM AT PIN & HANGER - EAST ELEVATION
SCALE: 1/4" = 1'-0"



SECTION B
SCALE: 1/4" = 1'-0"

SECTION A
SCALE: 1/2" = 1'-0"



SECTION D
SCALE: 1/4" = 1'-0"

SECTION C
SCALE: 1/2" = 1'-0"

NOTES

- SERVICE DEAD LOAD INCLUDES PERMANENT DEAD LOAD ONLY. DEAD LOAD DUE TO TEMPORARY COMPONENTS INCLUDING DEBRIS SHIELD, WORK FORMS, CONTAINMENT STRUCTURE, ETC. ARE NOT INCLUDED.
- SERVICE LIVE LOAD INCLUDES IMPACT.
- JACKING FORCES ARE UNFACTORED LOADS ASSUMING SIMULTANEOUS UNIFORM JACKING OF ALL GIRDERS AT A PIN LOCATION.

REFERENCES

- SEE DWG. NO. S-17 FOR SUSPENDED SPAN REPAIR DETAILS AT PIN & HANGER.
- SEE DWG. NO. S-27 FOR DETAIL A AND PIN DETAILS.
- SEE DWG. NO. S-28 FOR JACKING STIFFENER DETAILS AND JACKING/SUPPORT SYSTEM NOTES.

LEGEND

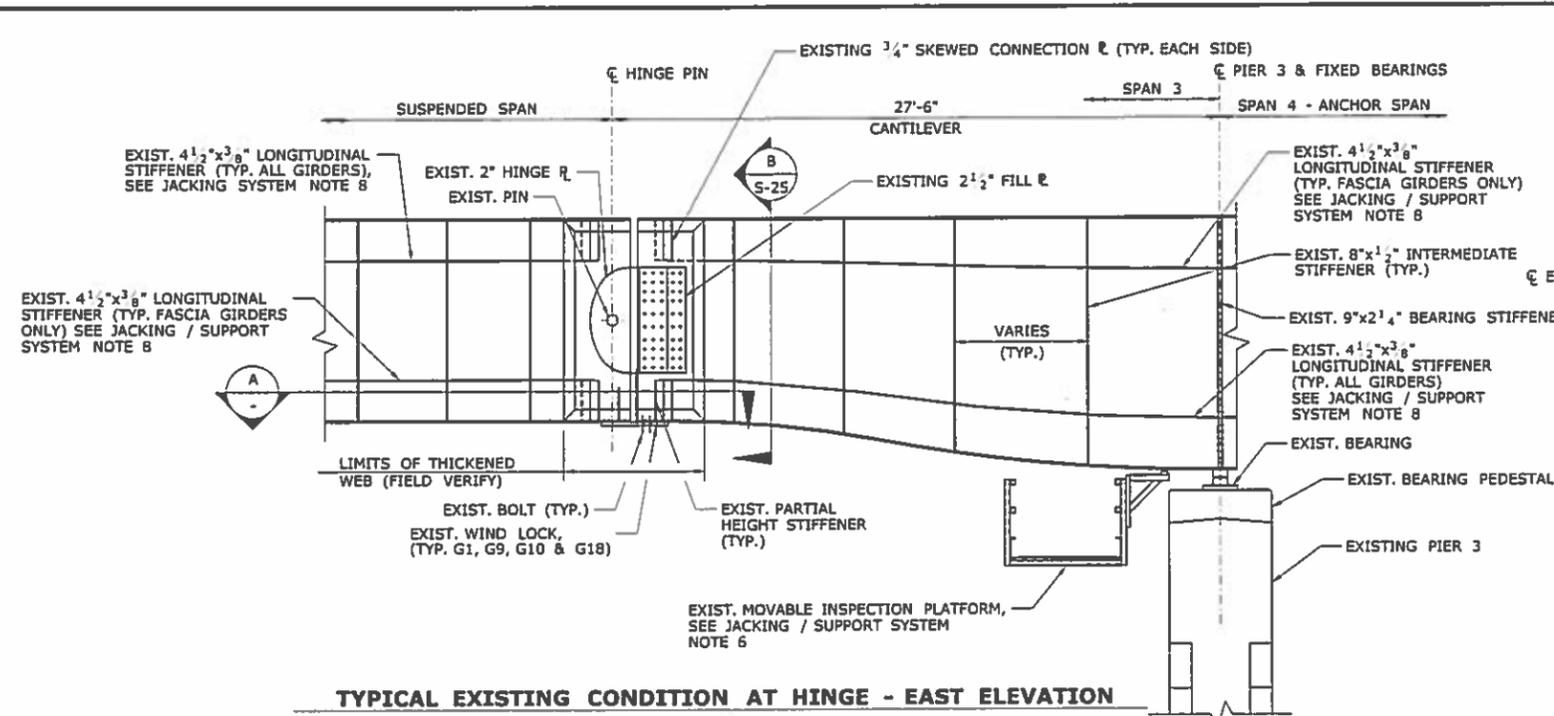
- NEW ANCHOR BOLT IN NEW HOLE
- REPLACE EXISTING BOLT WITH NEW H.S. BOLT IF SECTION LOSS > 25%
- + EXISTING BOLT

SUSPENDED SPAN END REACTION PER GIRDER

DEAD LOAD =	165.0 KIPS
LIVE LOAD =	130.0 KIPS
TOTAL =	295.0 KIPS

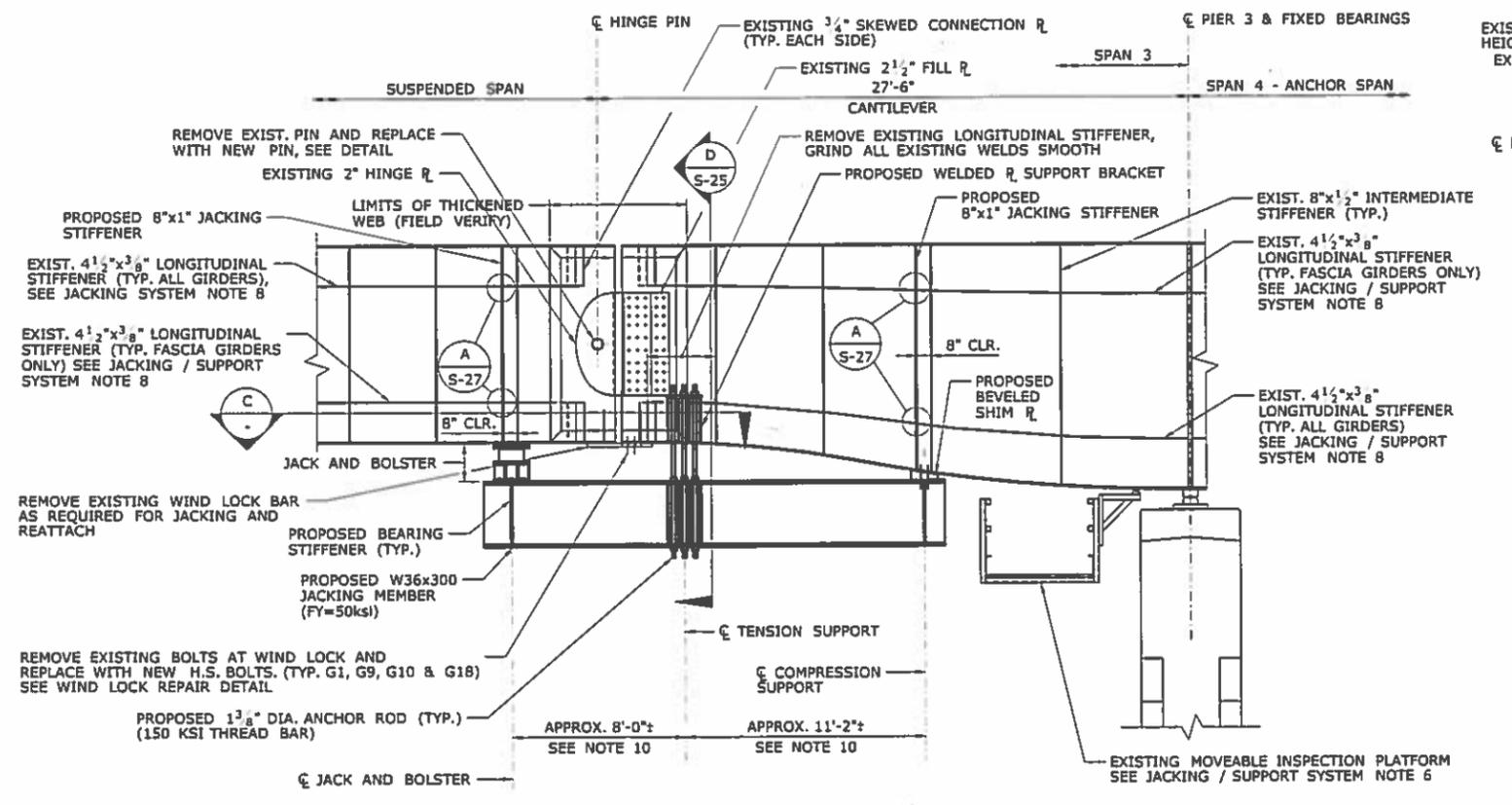
FINAL DESIGN REVIEW

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED. PLOTTED DATE: 12/22/2015	DESIGNER/DRAWER: A. HIPIUS/S. ERDAS CHECKED BY: T. STRNAD SCALE AS NOTED	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION Filename: ...SB_MSH..B03093..092..0668_MCX-01.dgn	SIGNATURE/BLOCK: 	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO.: 92-668 DRAWING NO.: S-25 SHEET NO.: 04.25
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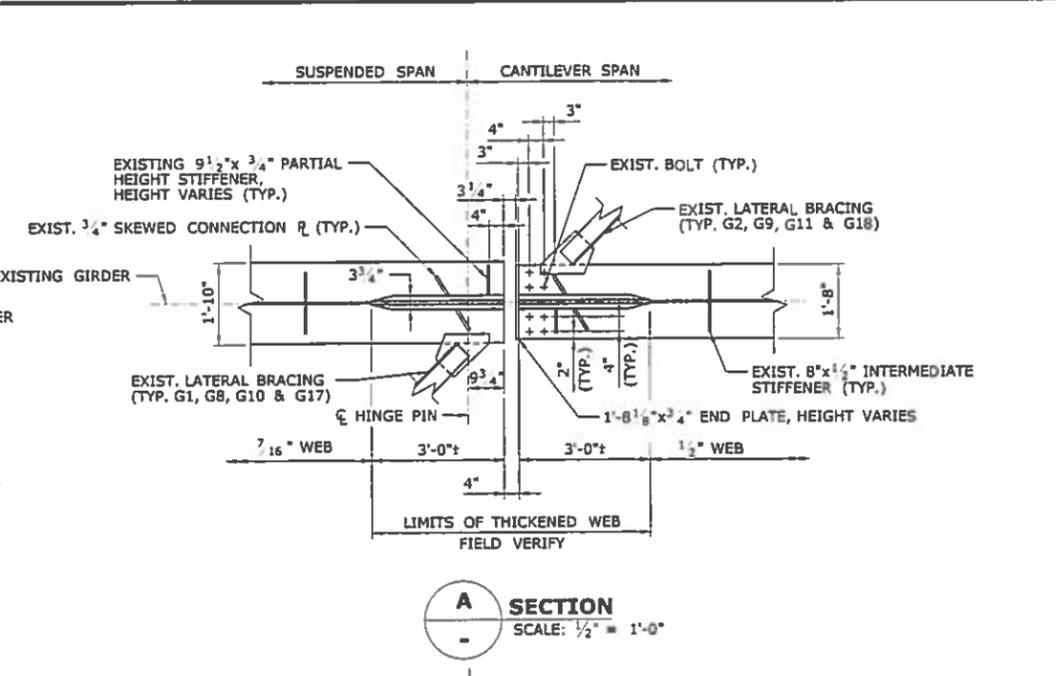
TYPICAL EXISTING CONDITION AT HINGE - EAST ELEVATION

SCALE: 1/4" = 1'-0"



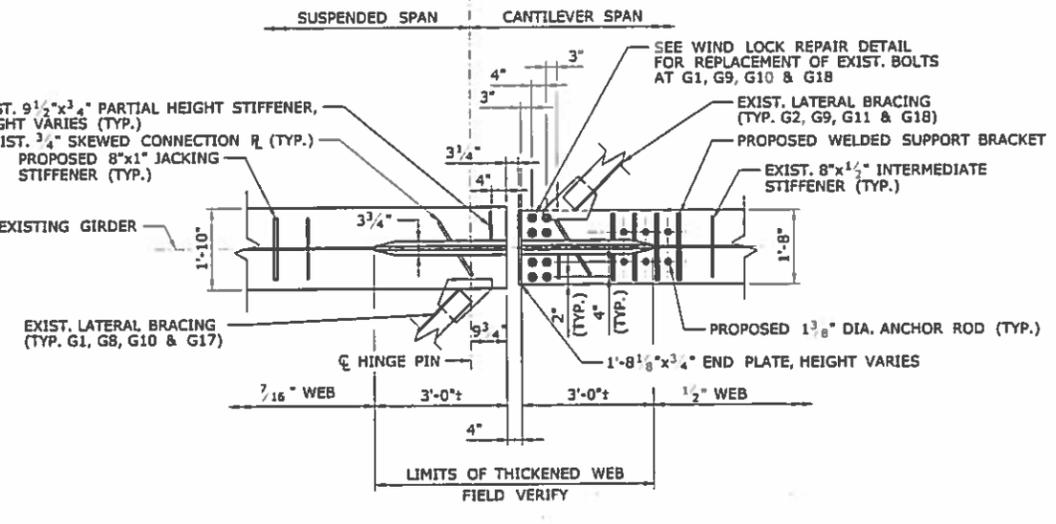
TYPICAL JACKING / SUPPORT SYSTEM AT HINGE - EAST ELEVATION

SCALE: 1/4" = 1'-0"



A SECTION

SCALE: 1/2" = 1'-0"



C SECTION

SCALE: 1/2" = 1'-0"

LEGEND

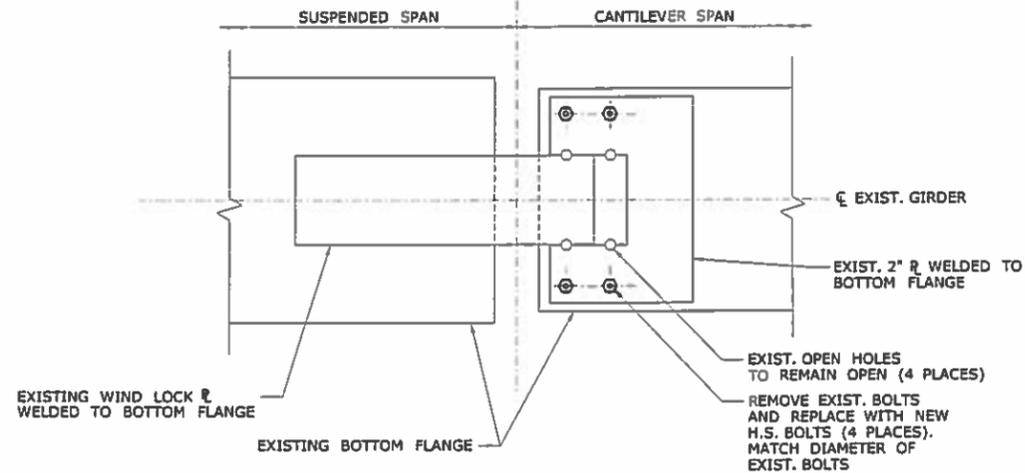
- NEW ANCHOR ROD IN NEW HOLE
- REPLACE EXISTING BOLT WITH NEW H.S. BOLT IF SECTION LOSS > 25%
- + EXISTING BOLT

REFERENCES

1. SEE DWG. NO. S-25 FOR SECTION B & D AND JACKING LOADS.
2. SEE DWG. NO. S-27 FOR DETAIL A, PIN AND WIND LOCK REPAIR DETAILS.
3. SEE DWG. NO. S-28 FOR JACKING STIFFENER DETAILS AND JACKING / SUPPORT SYSTEM NOTES.

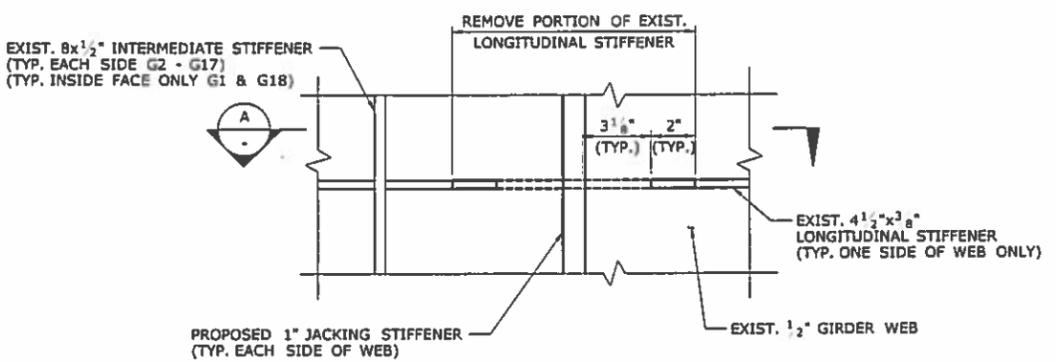
FINAL DESIGN REVIEW

DESIGNER/DRAWN BY: A. HIPIUS/S. ERDAS			PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668
CHECKED BY: T. STRNAD					
SCALE AS NOTED		FILENAME: ...LSB_HSH_Br03093_092_0668_JACK-02.dgn	SHEET NO. 04.26		
REV. DATE REVISION DESCRIPTION SHEET NO.	THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.				

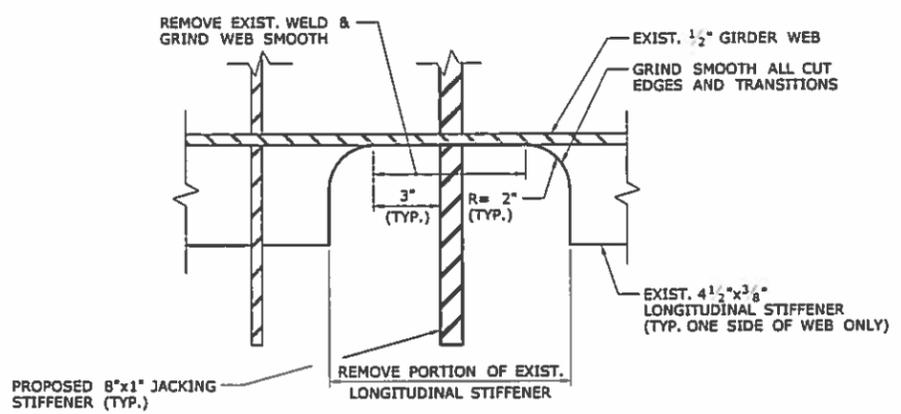


BOTTOM FLANGE WIND LOCK REPAIR DETAIL AT HINGE

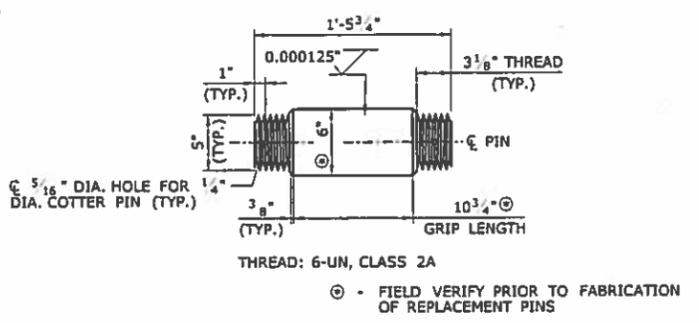
SCALE: 3/4" = 1'-0"
NOTE: DETAIL APPLIES AT GIRDERS G1, G9, G10 & G18



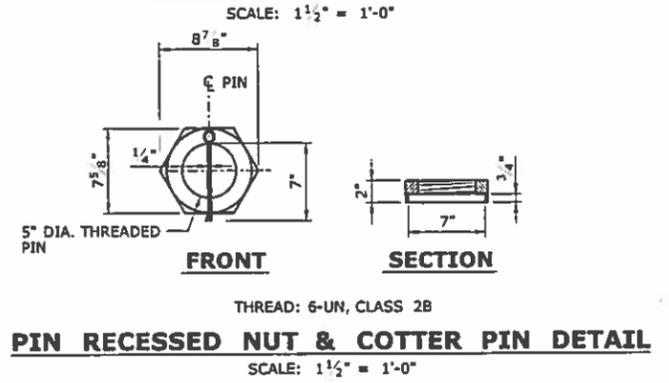
DETAIL
SCALE: 3" = 1'-0"



SECTION
SCALE: 3" = 1'-0"

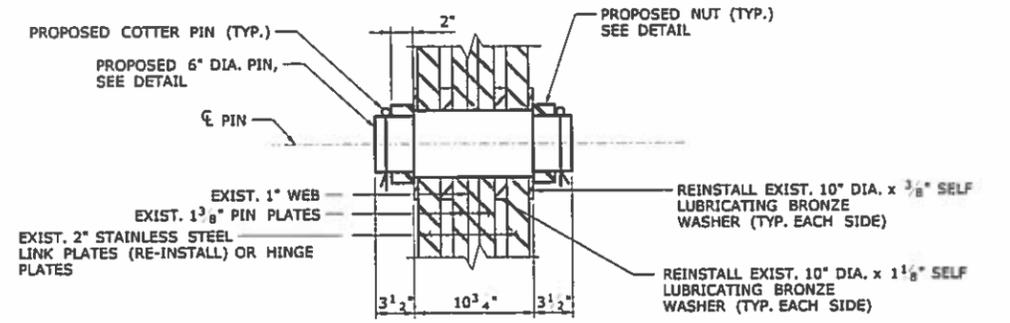


PROPOSED PIN RECESSED NUT & COTTER PIN DETAIL



PIN REPLACEMENT NOTES

1. THE CONTRACTOR SHALL CAREFULLY REMOVE THE EXISTING STAINLESS STEEL PIN AND HANGER LINK PLATES AND EXISTING SELF LUBRICATING BRONZE WASHERS AND STORE FOR REUSE IN THE PROPOSED CONSTRUCTION.
2. THE CONTRACTOR SHALL NOT DAMAGE ANY EXISTING STRUCTURAL STEEL OR EXISTING STAINLESS STEEL HINGE PLATES TO REMAIN.
3. PINS SHALL BE ULTRASONICALLY TESTED PRIOR TO INSTALLATION.
4. PINS SHALL BE STAINLESS STEEL AND CONFORM TO ASTM A276 WITH MINIMUM F_y = 30 KSI. NUTS SHALL CONFORM TO ASTM A276 TYPE 304 OR 316 STAINLESS STEEL AND COTTER PINS SHALL CONFORM TO ANSI B18.8.1 TYPE STAINLESS STEEL.
5. THE COST OF REMOVING EXISTING PINS, INSTALLATION OF NEW PINS, REMOVAL AND REINSTALLATION OF EXISTING SELF LUBRICATING BRONZE WASHERS AND REMOVAL AND REINSTALLATION OF EXISTING PIN AND HANGER LINK PLATES SHALL BE INCLUDED IN THE COST OF ITEM "STRUCTURAL STEEL REPAIRS, SITE NO. 1".

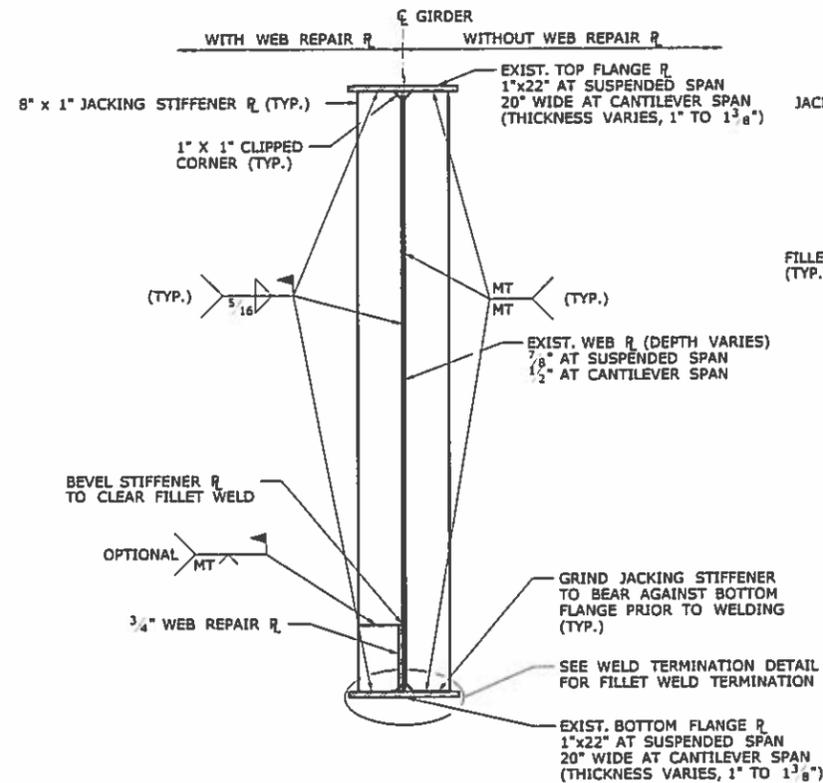


PROPOSED PIN ASSEMBLY

SCALE: 1 1/2" = 1'-0"

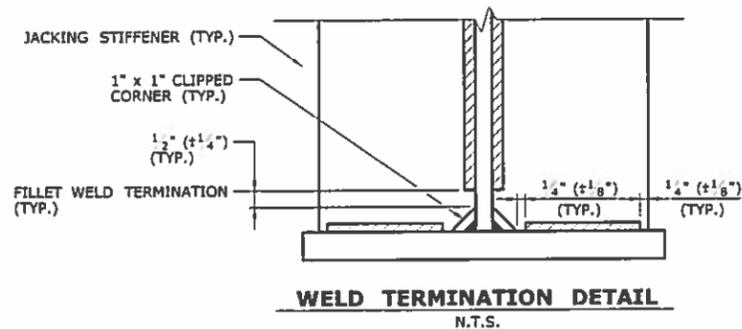
FINAL DESIGN REVIEW

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAWER: A. HIPIUS/S. ERDAS CHECKED BY: T. STRNAD SCALE AS NOTED	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION Filename: ...USB_NSH_003093_092_0668_JACK-03.dgn	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668 DRAWING NO. S-27 SHEET NO. 04.27
REV. DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/22/2015			



SPAN 3 GIRDER JACKING STIFFENER DETAIL

SCALE: 3/4" = 1'-0"



WELD TERMINATION DETAIL

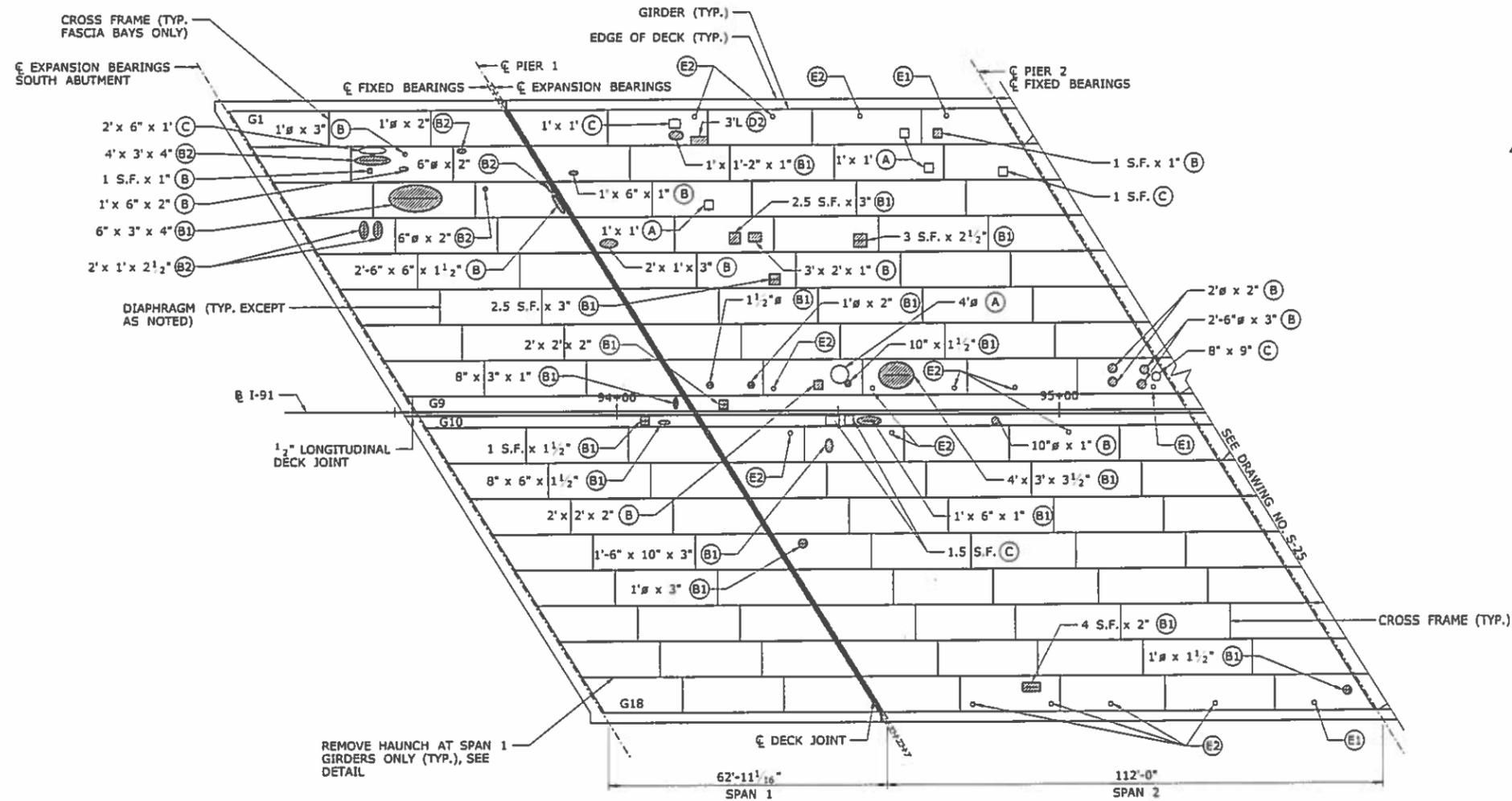
N.T.S.

JACKING / SUPPORT SYSTEM NOTES:

1. THE PLANS DEPICT A CONCEPTUAL METHOD TO JACK THE GIRDERS FOR REPLACING THE PINS AT THE PIN & HANGER AND HINGE ASSEMBLIES. THE CONTRACTOR MAY SUBMIT ALTERNATE METHOD AND PROCEDURES TO THE ENGINEER FOR REVIEW & APPROVAL.
2. THE JACKING/SUPPORT SYSTEM AND MEANS OF ACCESS SHALL BE DESIGNED BY THE CONTRACTOR. THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS AND COMPUTATIONS PREPARED, SIGNED & SEALED BY AN ENGINEER LICENSED IN THE STATE OF CONNECTICUT, TO THE ENGINEER FOR ENGINEER FOR REVIEW AND APPROVAL.
3. JACKING OPERATIONS SHALL BE PERFORMED UNDER LIVE TRAFFIC. THE CONTRACTOR SHALL DESIGN THE JACKING ASSEMBLY FOR THE SPECIFIED GIRDER END REACTION LOADS.
4. THE CONTRACTOR IS CAUTIONED THAT HE WILL BE PERMITTED TO PERFORM THE WORK WHILE ENSURING THAT TRAVEL LANES ARE OPEN TO TRAFFIC IN ACCORDANCE WITH "LIMITATIONS OF OPERATIONS" CHARTS CONTAINED IN SECTION 1.08 OF THE SPECIAL PROVISIONS "PROSECUTION AND PROGRESS".
5. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS "PROSECUTION AND PROGRESS" AND "MAINTENANCE & PROTECTION OF TRAFFIC", SEE SPECIAL PROVISIONS.
6. EXISTING INSPECTION PLATFORM SHALL BE POSITIONED TO NOT INTERFERE WITH JACKING SYSTEM DURING CONSTRUCTION OPERATIONS.
7. PIN & HANGER AND HINGE JACKING / SUPPORT SYSTEM FOR ALL GIRDERS SHALL BE REMOVED AT END OF CONSTRUCTION OPERATIONS AND SALVAGED TO STATE, SEE SPECIAL PROVISIONS.
8. EXISTING LONGITUDINAL STIFFENERS ARE LOCATED ON ONE SIDE OF THE GIRDER WEB ONLY. LOCATIONS SHOWN SHALL BE FIELD VERIFIED.
9. ALL GIRDERS AT PIN AND HANGER OR HINGE LOCATIONS SHALL BE JACKED SIMULTANEOUSLY DURING CONSTRUCTION OPERATIONS.
10. EXACT MEMBER LENGTHS SHALL BE DETERMINED TO SUIT EXISTING FIELD CONDITIONS.
11. THE DESIGN, FURNISHING, INSTALLATION, REMOVAL AND SALVAGE OF JACKING/SUPPORT ASSEMBLY SHALL BE PAID UNDER THE ITEM "TEMPORARY SUPPORT SYSTEM NO. 1", SEE SPECIAL PROVISIONS.
12. REMOVAL OF PAINT IN THE VICINITY OF PROPOSED BEARING STIFFENERS AND SUPPORT BRACKETS SHALL BE PAID UNDER THE ITEM "ABRASIVE BLAST CLEANING AND FIELD PAINTING OF STRUCTURE (SITE NO. 1)". SEE SPECIAL PROVISIONS.
13. PERFORM SUSPENDED SPAN 3 STEEL REPAIRS AND INSTALL JACKING STIFFENERS PRIOR TO JACKING GIRDERS.
14. INSTALL H.S. BOLTS IN ALL OPEN HOLES IN THE BOTTOM FLANGE OF THE CANTILEVER SPAN 3 GIRDERS FOLLOWING REMOVAL OF THE TEMPORARY JACKING/SUPPORT SYSTEM.

FINAL DESIGN REVIEW

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAWER: A. HIPIUS/S. ERDAS		PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668
CHECKED BY: T. STRNAD	SCALE AS NOTED	SIGNATURE/ BLOCK:		DRAWING TITLE: PIN AND HANGER JACKING SYSTEM - 4	SHEET NO. S-28	SHEET NO. 04.28
REV. DATE REVISION DESCRIPTION SHEET NO.	Printed Date: 12/22/2015	Filename: ...ISB_MSH_Br03093_092_0668_JACK-04.dgn				



UNDERSIDE OF DECK DETERIORATION PLAN: SPANS 1 - 2

SCALE: 1/16" = 1'-0"

DECK DETERIORATION NOTES

1. THE DETERIORATION LOCATION AND DIMENSIONS DEPICTED ON THE DECK UNDERSIDE ARE BASED ON INFORMATION OBTAINED FROM BRIDGE SAFETY INSPECTION REPORT (2014) AND SUPPLEMENTED BY IN-DEPTH INSPECTION PERFORMED BY DEWBERRY (2014) AND ARE NOT SHOWN TO SCALE FOR CLARITY. THE INFORMATION IS INTENDED TO BE USED AS A GUIDE. THE EXACT LOCATION AND LIMITS OF DETERIORATED CONCRETE TO BE REPAIRED ON THE UNDERSIDE OF THE DECK SHALL BE DELINEATED BY THE ENGINEER DURING CONSTRUCTION.
2. THE CONTRACTOR SHALL NOT PERFORM ANY REPAIR WORK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
3. THE CONTRACTOR SHALL PROVIDE SAFE ACCESS TO THE ENGINEER FOR DELINEATION AND INSPECTION OF THE DECK UNDERSIDE AND THE REPAIR WORK. THE COST OF PROVIDING ACCESS FOR THE INSPECTION SHALL BE INCLUDED IN THE COST OF APPROPRIATE REPAIR ITEMS.
4. SHIELDING SHALL BE PROVIDED BY THE CONTRACTOR TO PREVENT ANY DEBRIS FROM FALLING INTO THE RIVER. THE COST OF SHIELDING SHALL BE INCLUDED IN THE COST OF THE APPROPRIATE REPAIR ITEM.
5. DECK UNDERSIDE REPAIRS (SPALLS, SPALLS WITH EXPOSED REINFORCING, HOLLOW AREAS) SHALL BE REPAIRED IN ACCORDANCE WITH "DECK UNDERSIDE REPAIR DETAIL" AND PAID UNDER THE ITEM "CLEAN AND COAT EXPOSED REINFORCING STEEL", SEE SPECIAL PROVISIONS.
6. DECK TOP SIDE REPAIRS (SPALLS, SPALLS WITH EXPOSED REINFORCING, HOLLOW AREAS) SUBSEQUENT TO REMOVAL OF EXISTING PAVEMENT, SHALL BE REPAIRED IN ACCORDANCE WITH "PARTIAL DEPTH PATCH" AND "FULL DEPTH PATCH" REPAIR DETAILS.
7. FULL DEPTH PATCH AND PARTIAL DEPTH PATCH REPAIRS SHALL BE PAID UNDER THE ITEM "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)" AND "PARTIAL DEPTH PATCH", SEE SPECIAL PROVISIONS.
8. HAUNCH SHALL BE REMOVED OVER TRAVELWAYS AND SHOULDERS AND PAID UNDER THE ITEM "CONCRETE HAUNCH REMOVAL", SEE SPECIAL PROVISIONS.
9. AT WEEPHOLE LOCATIONS TO REMAIN OPEN, INSTALL WEEP PIPE EXTENSION AT SHORT SWEEP PIPE LOCATIONS AND INSTALL STEEL SUPPORT BRACKETS. SEE WEEP PIPE REPAIR DETAIL.
10. AT WEEPHOLE LOCATIONS TO BE PLUGGED, SEE PLUGGED WEEPHOLE DETAIL.

DECK DETERIORATION LEGEND

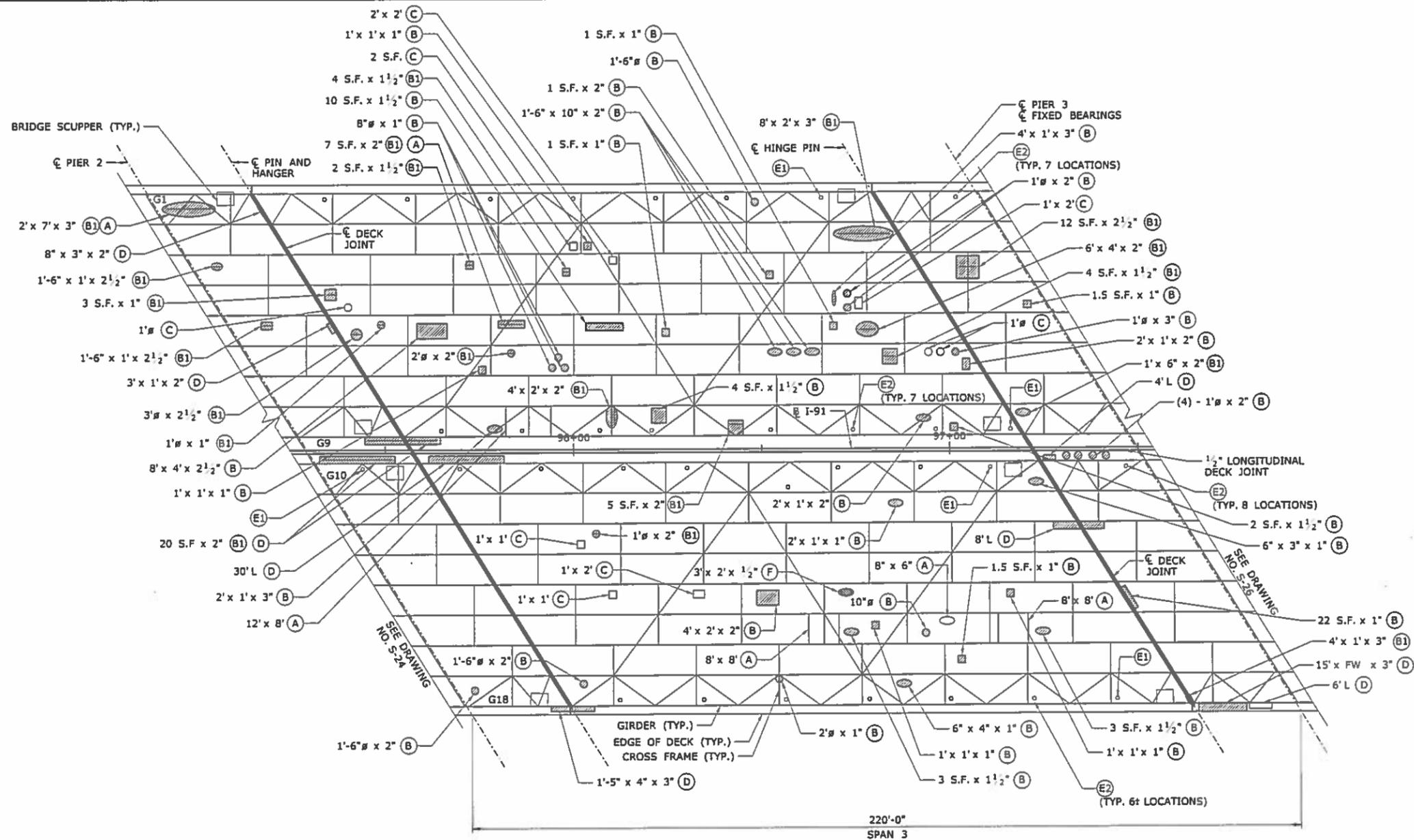
- (A) LEFT-IN-PLACE WOOD FORM
- (B) DECK SPALL
- (B1) DECK SPALL WITH EXPOSED REBAR
- (B2) DECK SPALL WITH PREVIOUSLY COATED EXPOSED REBAR
- (C) HOLLOW AREA
- (D1) HAUNCH SPALL
- (D2) HOLLOW HAUNCH
- (E1) DECK WEEPHOLE TO REMAIN OPEN
- (E2) DECK WEEPHOLE TO BE PLUGGED
- (F) HONEYCOMB AREA

REFERENCES

1. SEE DWG. NO. S-32 FOR PARTIAL DEPTH PATCH AND FULL DEPTH PATCH REPAIR DETAILS.
2. SEE DWG. NO. S-33 FOR DECK UNDERSIDE REPAIR PROCEDURE AND DETAIL AND HAUNCH REMOVAL DETAILS.
3. SEE DWG. NO. S-37 FOR WEEPHOLE PLUGGING DETAILS AND WEEP PIPE EXTENSION DETAILS.

FINAL DESIGN REVIEW

DESIGNER/DRAWER: A. HIPIUS/S. ERDAS			PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER		TOWN: NEW HAVEN	PROJECT NO. 92-668
CHECKED BY: T. STRNAD			SCALE AS NOTED		DRAWING NO. S-29	SHEET NO. 04.29
REV. DATE - - - - - - - - - - - - - - -	REVISION DESCRIPTION - - - - - - - - - - - - - - -	SHEET NO. - - - - - - - - - - - -	PRINTED DATE: 12/22/2015	FILENAME: ...LSB_MSH...B03093_092_0668_DECKRPA-01.dgn	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	



UNDERSIDE OF DECK DETERIORATION PLAN: SPAN 3

SCALE: 1/16" = 1'-0"

DECK DETERIORATION LEGEND

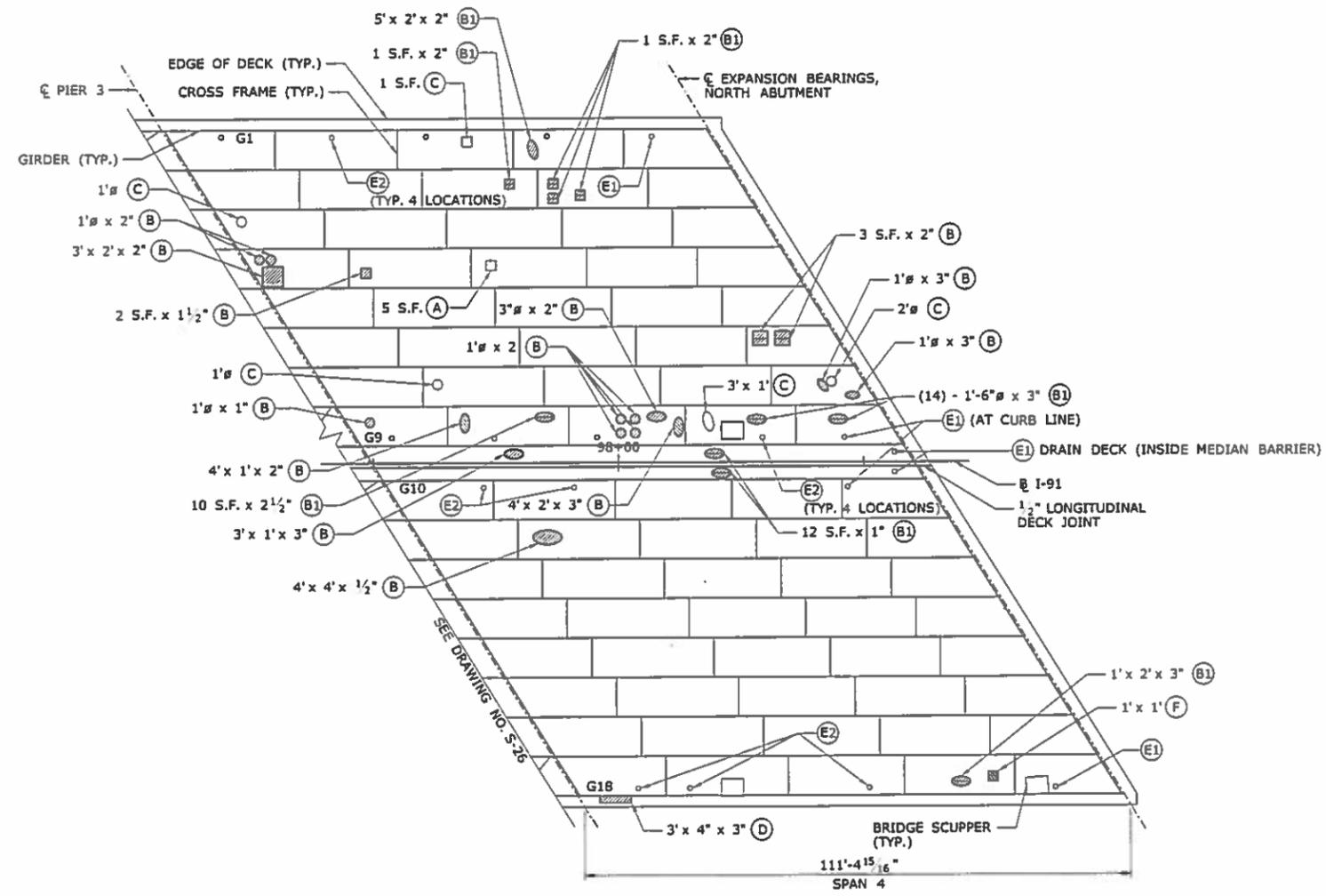
- (A) LEFT-IN-PLACE WOOD FORM
- (B) DECK SPALL
- (B1) DECK SPALL WITH EXPOSED REBAR
- (B2) DECK SPALL WITH PREVIOUSLY COATED EXPOSED REBAR
- (C) HOLLOW AREA
- (D1) HAUNCH SPALL
- (D2) HOLLOW HAUNCH
- (E1) DECK WEEPHOLE TO REMAIN OPEN
- (E2) DECK WEEPHOLE TO BE PLUGGED
- (F) HONEYCOMB AREA

REFERENCES

1. SEE DWG. NO. S-32 FOR PARTIAL DEPTH PATCH AND FULL DEPTH PATCH REPAIR DETAILS.
2. SEE DWG. NO. S-33 FOR DECK UNDERSIDE REPAIR PROCEDURE AND DETAIL AND HAUNCH REMOVAL DETAILS.
3. SEE DWG. NO. S-37 FOR WEEPHOLE PLUGGING DETAILS AND WEEP PIPE EXTENSION DETAILS.

FINAL DESIGN REVIEW

DESIGNER/DRAWER: -/S.ERDAS CHECKED BY: T. STRNAD			STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER		TOWN: NEW HAVEN		PROJECT NO. 92-668	
SCALE AS NOTED				SIGNATURE/ BLOCK:		DRAWING NO. S-30		SHEET NO. 04.30	
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Printed Date: 12/22/2018	Filename: ...LSB_HSH_B03093_092_0668_DECKRPP-02.dgn	DRAWING TITLE: UNDERSIDE OF DECK REPAIRS - 2			



UNDERSIDE OF DECK DETERIORATION PLAN: SPAN 4

SCALE: 1/16" = 1'-0"

DECK DETERIORATION LEGEND

- (A) LEFT-IN-PLACE WOOD FORM
- (B) DECK SPALL
- (B1) DECK SPALL WITH EXPOSED REBAR
- (B2) DECK SPALL WITH PREVIOUSLY COATED EXPOSED REBAR
- (C) HOLLOW AREA
- (D1) HAUNCH SPALL
- (D2) HOLLOW HAUNCH
- (E1) DECK WEEPHOLE TO REMAIN OPEN
- (E2) DECK WEEPHOLE TO BE PLUGGED
- (F) HONEYCOMB AREA

REFERENCES

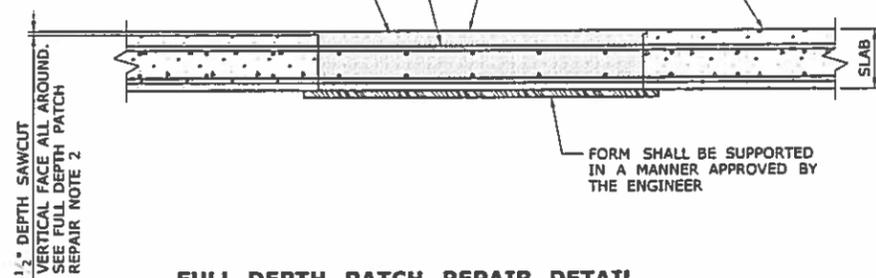
1. SEE DWG. NO. S-32 FOR PARTIAL DEPTH PATCH AND FULL DEPTH PATCH REPAIR DETAILS.
2. SEE DWG. NO. S-33 FOR DECK UNDERSIDE REPAIR PROCEDURE AND DETAIL AND HAUNCH REMOVAL DETAILS.
3. SEE DWG. NO. S-37 FOR WEEPHOLE PLUGGING DETAILS AND WEEP PIPE EXTENSION DETAILS.

FINAL DESIGN REVIEW

DESIGNER/DRAWER: A. HIPIUS/S. ERDAS	CHECKED BY: T. STRNAD	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	SIGNATURE/ BLOCK:	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668	DRAWING NO. S-31
SCALE AS NOTED	SHEET NO.	PLOT DATE: 12/22/2015	FILENAME: ...\\SB_MSH_Br03093_092_0668_DECKRPR-03.dgn	DRAWING TITLE: UNDERSIDE OF DECK REPAIRS - 3	SHEET NO. 04.31		
REV. DATE	REVISION DESCRIPTION						

EXISTING REINFORCING STEEL SHALL BE THOROUGHLY CLEANED. REPAIR REINFORCING STEEL IF DETERMINED TO BE DEFECTIVE BY THE ENGINEER. SEE DETAIL AND FULL DEPTH PATCH REPAIR NOTES 3 AND 4

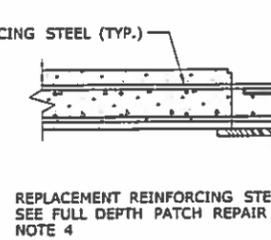
REMOVE ALL DETERIORATED CONCRETE FOR THE FULL DEPTH OF THE SLAB AND REPLACE WITH PATCHING MATERIAL. SEE FULL DEPTH PATCH REPAIR NOTE 6



FULL DEPTH PATCH REPAIR DETAIL

N.T.S.

CUT EXISTING BROKEN, DAMAGED, OR DETERIORATED REINFORCING STEEL AT A POINT WHERE IT IS SOUND (TYP.)



DEFECTIVE REINFORCING STEEL REPAIR DETAIL FOR FULL DEPTH PATCH

N.T.S.

FULL DEPTH PATCH REPAIR NOTES

1. FULL DEPTH PATCH REPAIRS SHALL BE PERFORMED IN ACCORDANCE WITH DETAIL SHOWN AND SHALL BE PAID UNDER THE ITEM "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)". SEE SPECIAL PROVISIONS.
2. COST OF 1/2" DEEP SAWCUT SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)".
3. ALL BROKEN, DAMAGED, AND DETERIORATED REINFORCING STEEL BARS SHALL BE REPLACED. MINIMUM LENGTH OF SPLICE SHALL BE 30 BAR DIAMETER. MECHANICAL SPLICES MAY BE USED IF AUTHORIZED BY THE ENGINEER.
4. NEW REINFORCING STEEL SHALL BE UNCOATED ASTM A615 GRADE 60. FURNISHING AND INSTALLING REINFORCING BARS SHALL BE PAID UNDER THE ITEM "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)".
5. COST OF ADDITIONAL CONCRETE REMOVAL REQUIRED FOR THE REPAIR OF THE REINFORCING STEEL SHALL BE PAID UNDER THE ITEM "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)".
6. THE CONTRACTOR SHALL PROVIDE NECESSARY SHIELDING TO PREVENT ANY DEBRIS FROM FALLING INTO RIVER DURING FULL DEPTH PATCH REPAIR. THE COST OF SHIELDING SHALL BE INCLUDED IN THE COST OF THE ITEM "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)".

PARTIAL DEPTH PATCH REPAIR NOTES

1. IF AFTER CONCRETE REMOVAL, THE REINFORCING STEEL HAS AT LEAST ONE HALF OF ITS SURFACE AREA EXPOSED, THE CONCRETE SHALL BE FURTHER REMOVED TO A DEPTH OF 1" BELOW THE STEEL. THE EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED TO REMOVE ANY DEBRIS OR RESIDUE BEFORE PLACING "PARTIAL DEPTH PATCHING" MATERIAL.
2. EXPOSED REINFORCING STEEL IN THE AREAS OF POP-OUTS CAUSED BY THE REMOVAL OF DETERIORATED CONCRETE SHALL BE CLEANED & THE ENTIRE SURFACE OF THE POP-OUT SHALL BE COATED WITH AN EPOXY COATING.
3. COST OF 1/2" DEEP SAWCUT SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM "PARTIAL DEPTH PATCH".
4. PARTIAL DEPTH PATCH REPAIRS SHALL BE PERFORMED IN ACCORDANCE WITH DETAILS SHOWN ON THIS SHEET AND SHALL BE PAID UNDER THE ITEM "PARTIAL DEPTH PATCH". SEE SPECIAL PROVISIONS.

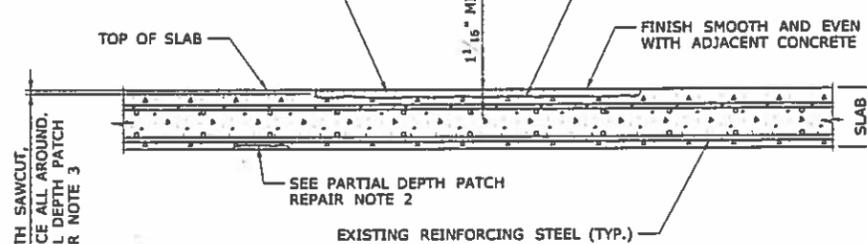
DEFECTIVE REINFORCING STEEL REPAIR NOTES

1. COST OF ADDITIONAL CONCRETE REMOVAL REQUIRED FOR THE REPAIR OF THE REINFORCING STEEL SHALL BE PAID UNDER THE ITEM "PARTIAL DEPTH PATCH".
2. NEW REINFORCING STEEL SHALL BE UNCOATED ASTM A615 GRADE 60. FURNISHING AND INSTALLING REINFORCING BARS SHALL BE PAID UNDER THE ITEM "PARTIAL DEPTH PATCH".

REFERENCES

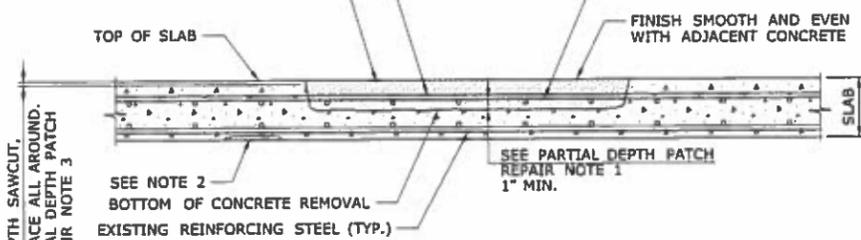
1. SEE DWG. NO. S-29 TO S-31 FOR LOCATION OF UNDERSIDE DECK DETERIORATION.

REMOVE ALL DETERIORATED CONCRETE AND REPLACE WITH PATCHING MATERIAL. SEE SPECIAL PROVISIONS



PATCH ABOVE TOP REINFORCING STEEL

REMOVE ALL DETERIORATED CONCRETE AND REPLACE WITH PATCHING MATERIAL. SEE SPECIAL PROVISIONS

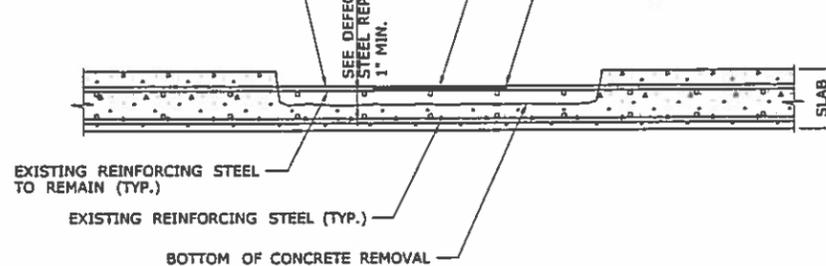


PATCH BELOW TOP REINFORCING STEEL

PARTIAL DEPTH PATCH REPAIR DETAIL

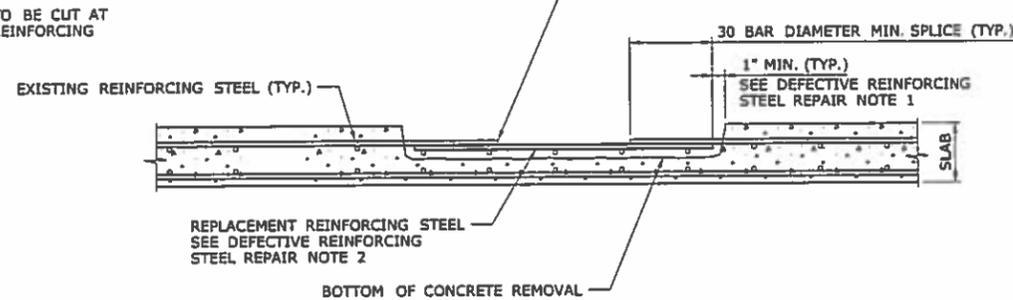
N.T.S.

EXPOSED EXISTING REINFORCING STEEL TO BE THOROUGHLY CLEANED



REMOVAL OF DEFECTIVE REINFORCING STEEL

CUT EXISTING REINFORCING STEEL AT A POINT WHERE IT IS SOUND (TYP.)



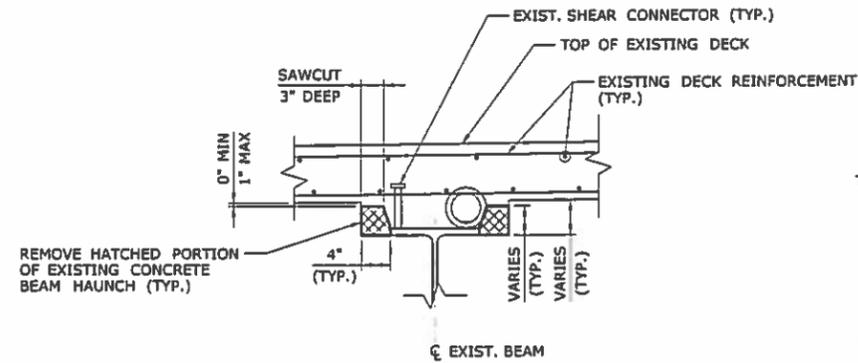
REPAIR OF DEFECTIVE REINFORCING STEEL

DEFECTIVE REINFORCING STEEL REPAIR DETAIL FOR PARTIAL DEPTH PATCH

N.T.S.

FINAL DESIGN REVIEW

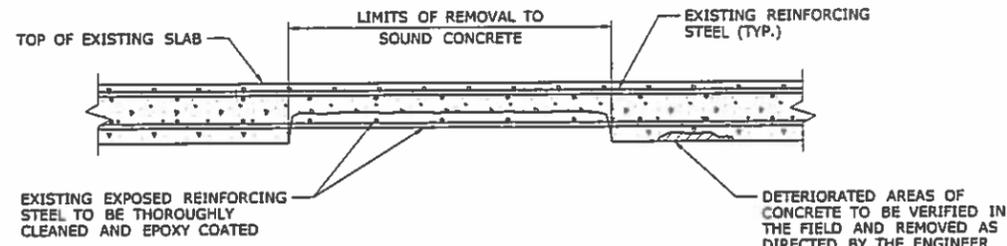
DESIGNER/DRAWER: A. HIPIUS/S. ERDAS			PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668
CHECKED BY: T. STRNAD					
SCALE AS NOTED		SHEET NO. 04.32			



NOTE: INTERIOR BEAM SHOWN, FASCIA SIMILAR.

HAUNCH REMOVAL DETAIL AT ACCESSIBLE LOCATIONS

SCALE: 1" = 1'-0"



DECK UNDERSIDE REPAIR DETAIL

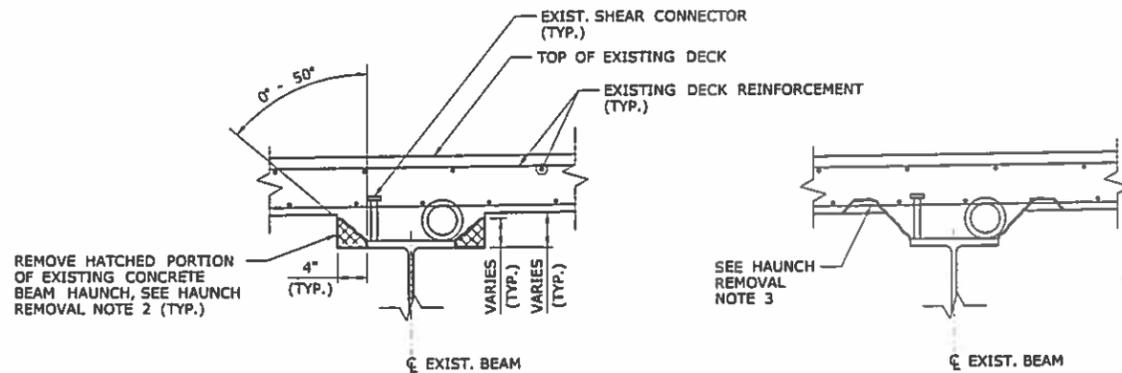
N.T.S.

HAUNCH REMOVAL NOTES

1. THE REMOVAL OF THE PORTION OF CONCRETE HAUNCH SHOWN SHALL BE PAID UNDER THE ITEM "CONCRETE HAUNCH REMOVAL", SEE SPECIAL PROVISIONS.
2. THE HAUNCH REMOVAL DETAIL AT INACCESSIBLE LOCATIONS IS TO BE USED ONLY IN THOSE AREAS HAVING INSUFFICIENT CLEARANCE FOR SAW-CUTTING EQUIPMENT SUCH AS ABOVE SOME DIAPHRAGMS AS ORDERED BY THE ENGINEER.
3. IF OVER-REMOVAL RESULTS, APPLY TWO COATS OF EPOXY RESIN TO DECK REINFORCING STEEL EXPOSED DURING HAUNCH REMOVAL. ALL REASONABLE PRECAUTIONS SHALL BE TAKEN TO AVOID THIS CONDITION.

DECK UNDERSIDE REPAIR PROCEDURE

1. REMOVE LEFT-IN-PLACE WOOD FORM BY MECHANICAL MEANS. THE REMOVAL OF LEFT-IN-PLACE WOOD FORMS SHALL BE PAID UNDER THE ITEM "REMOVE STAY-IN-PLACE FORM", SEE SPECIAL PROVISIONS.
2. IF CONCRETE THAT WAS PREVIOUSLY COVERED WITH LEFT-IN-PLACE WOOD FORM IS DETERIORATED THEN REMOVE THE CONCRETE TO SOUND CONCRETE TO THE LIMITS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
3. IF THE CONCRETE DECK IS NOT COVERED BY LEFT-IN-PLACE WOOD FORM, THEN REMOVE DETERIORATED CONCRETE TO SOUND CONCRETE TO THE LIMITS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
4. PRESERVE EXPOSED REINFORCING STEEL, IF ANY.
5. CLEAN THE SOUND CONCRETE SURFACE AREA AND EXPOSED REINFORCING STEEL OF ALL LOOSE OR POWDER-LIKE RUST, OIL, DUST, DIRT, LOOSE PARTICLES, AND OTHER BOND INHIBITING MATTER BY AN APPROVED METHOD.
6. COAT THE EXPOSED REINFORCING STEEL WITH EPOXY RESIN.
7. DECK UNDERSIDE REPAIRS (SPALLS, SPALLS WITH EXPOSED REINFORCING, HOLLOW AREAS) SHALL BE REPAIRED IN ACCORDANCE WITH "DECK UNDERSIDE REPAIR DETAIL" AND PAID UNDER THE ITEM "CLEAN AND COAT EXPOSED REINFORCING STEEL", SEE SPECIAL PROVISIONS.
8. AT LOCATIONS WHERE SPALLS OR DELAMINATED CONCRETE ON THE UNDERSIDE OF DECK ARE DEEPER THAN HALF THE SLAB THICKNESS, REMOVE THE SLAB CONCRETE FULL DEPTH AND REPAIR AS "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)". IF LESS THAN 50% OF THE DIAMETER OF ANY REINFORCEMENT BAR IS EXPOSED OR IF THE BAR HAS LESS THAN 1 FOOT IN LENGTH WITH MORE THAN 50% OF ITS DIAMETER EXPOSED, THE TYPICAL TREATMENT IS TO CLEAN AND COAT THE BAR. IF ANY BAR IS EXPOSED MORE THAN THOSE PARAMETERS, THEN THE PROPER TREATMENT IS "FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)."



EXISTING CONDITION

FINAL CONDITION

NOTE: INTERIOR BEAM SHOWN, FASCIA SIMILAR.

HAUNCH REMOVAL DETAIL AT INACCESSIBLE LOCATIONS

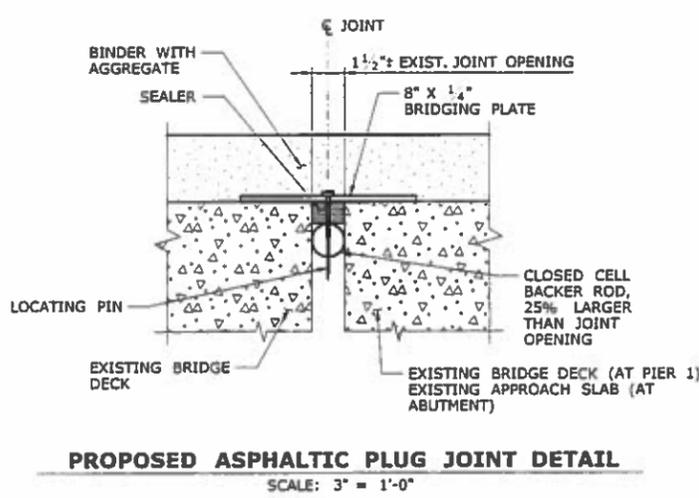
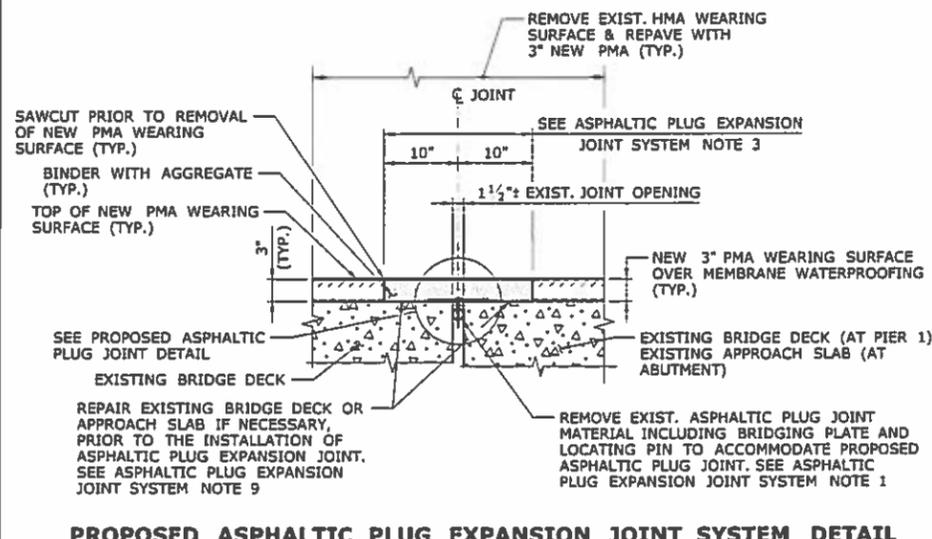
SCALE: 1" = 1'-0"

REFERENCES

1. SEE DWG. NO. S-29 TO S-31 FOR LOCATION OF UNDERSIDE DECK DETERIORATION.

FINAL DESIGN REVIEW

DESIGNER/DRAWER: A. HIPIUS/S. ERDAS			PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668	
CHECKED BY: T. STRNAD						DRAWING NO. S-33
SCALE AS NOTED		FILENAME: ...LSB_MSH_B03093_092_0668_DECKRPLD-02.dgn	DRAWING TITLE: DECK REPAIR DETAILS - 2		SHEET NO. 04.33	
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/22/2015		



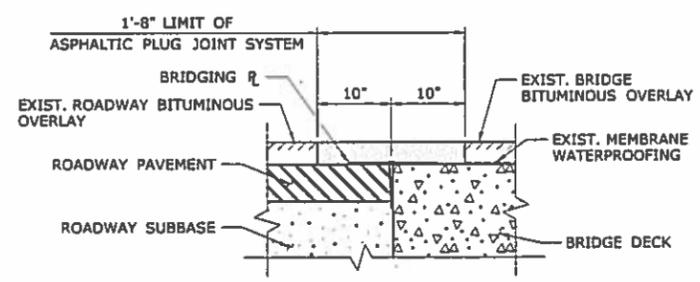
ASPHALTIC PLUG EXPANSION JOINT SYSTEM NOTES

1. THE REMOVAL OF ALL EXISTING JOINT SYSTEM MATERIALS WITHIN THE LIMITS SHOWN TO BE INCLUDED FOR PAYMENT UNDER THE ITEM "ASPHALTIC PLUG EXPANSION JOINT SYSTEM", SEE SPECIAL PROVISIONS.
2. INSTALLATION OF MEMBRANE WATERPROOFING TO BE PAID UNDER THE ITEM, "MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC)".
3. SAW-CUTTING AND REMOVAL OF NEW PMA PAVEMENT AND MEMBRANE WATERPROOFING FOR ASPHALTIC PLUG JOINT INSTALLATION TO BE INCLUDED FOR PAYMENT UNDER THE ITEM, "ASPHALTIC PLUG EXPANSION JOINT SYSTEM".
4. CLOSED CELL BACKER ROD DIAMETER SHALL BE DETERMINED AFTER MEASURING THE JOINT OPENING. THE ROD SHALL BE 25% LARGER THAN THE JOINT OPENING.
5. ASPHALTIC PLUG EXPANSION JOINT SYSTEMS MAY BE INSTALLED ONLY WITHIN THE TEMPERATURE RANGE SPECIFIED IN THE SPECIAL PROVISION "ASPHALTIC PLUG EXPANSION JOINT SYSTEM". REFERENCE TABLE D FOR "BRIDGE SUPERSTRUCTURE SURFACE TEMPERATURE RANGE" IN THE SPECIAL PROVISION.
6. THE NON-SAGGING SILICONE SEALANT SHALL BE PLACED ON THE BACKER ROD 1/2" THICK. AT THE GUTTER AND ALONG THE WIDTH OF THE CURB, THE SILICONE SEALANT SHALL BE PLACED FLUSH WITH THE OUTSIDE FACE OF CONCRETE.
7. THE CLOSED CELL BACKER ROD SHALL BE PLACED A MINIMUM OF 2" FROM THE OUTSIDE FACE OF PARAPETS AND MEDIANS.
8. PRIOR TO INSTALLING THE SILICONE SEALANT, CLEAN JOINT SIDES BY SANDBLASTING. DUST SHALL BE REMOVED BY THE METHOD APPROVED BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE ITEM "ASPHALTIC PLUG EXPANSION JOINT SYSTEM".
9. THE COST OF REPAIRING EXISTING BRIDGE DECK / APPROACH SLAB WITHIN THE LIMITS OF PROPOSED JOINT SHALL BE PAID UNDER THE ITEM "PARTIAL DEPTH PATCH".

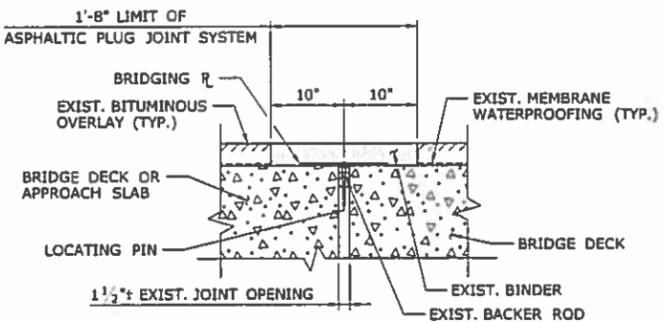
PROPOSED ASPHALTIC PLUG EXPANSION JOINT SYSTEM DETAIL

SCALE: 1" = 1'-0"

- NOTES: 1. DETAIL APPLIES AT ALL ABUTMENTS AND PIER 1.
 2. THE DECK JOINT THERMAL MOVEMENT RANGE IS APPROXIMATELY 1 1/8".
 3. NO BRIDGING PLATE SHALL BE USED AT ABUTMENT BRIDGE DECK ENDS WHERE APPROACH SLAB IS NOT PRESENT.



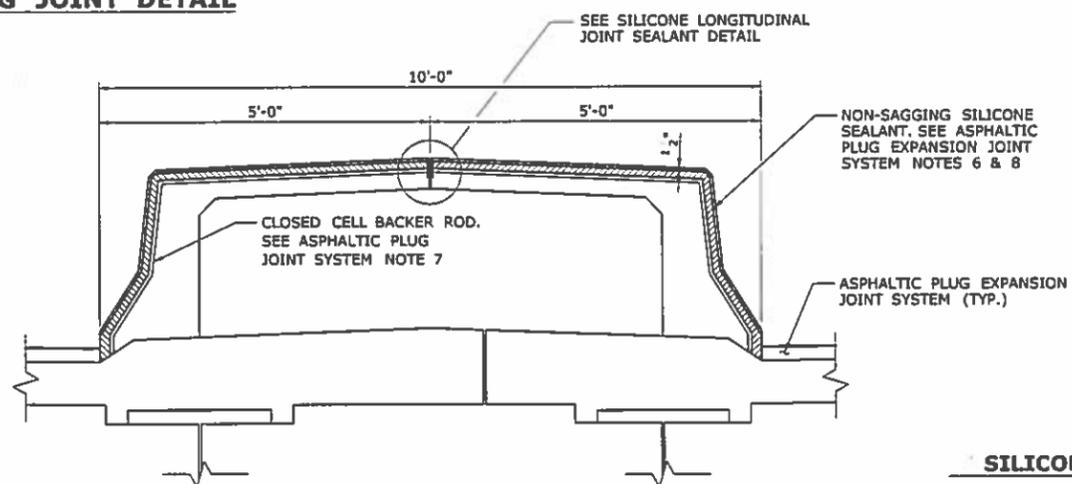
ABUTMENT BEYOND LIMITS OF APPROACH SLAB



PIER 1 OR ABUTMENT WITH APPROACH SLAB

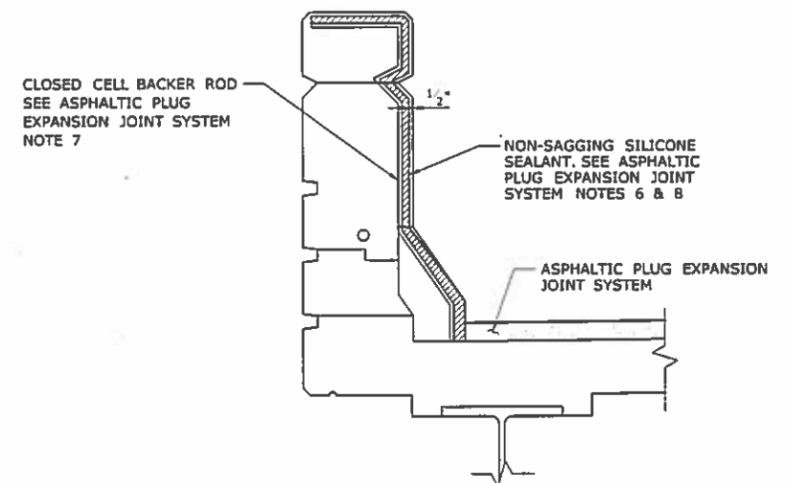
EXISTING ASPHALTIC PLUG JOINT DETAIL

SCALE: 1" = 1'-0"



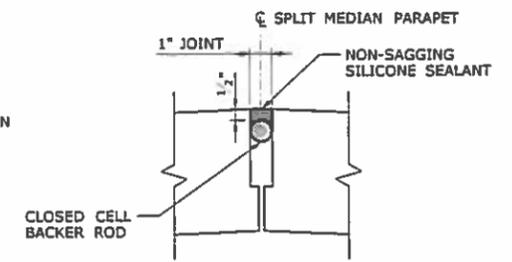
PROPOSED JOINT TREATMENT DETAIL AT MEDIAN PARAPET

SCALE: 3/4" = 1'-0"



PROPOSED JOINT TREATMENT DETAIL AT PARAPETS

SCALE: 1" = 1'-0"



SILICONE LONGITUDINAL JOINT SEALANT DETAIL

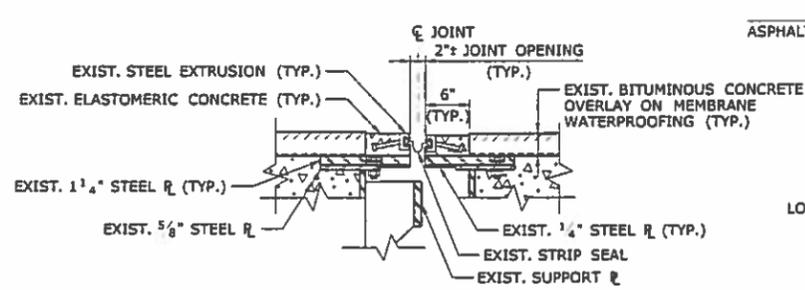
SCALE: 3" = 1'-0"

FINAL DESIGN REVIEW

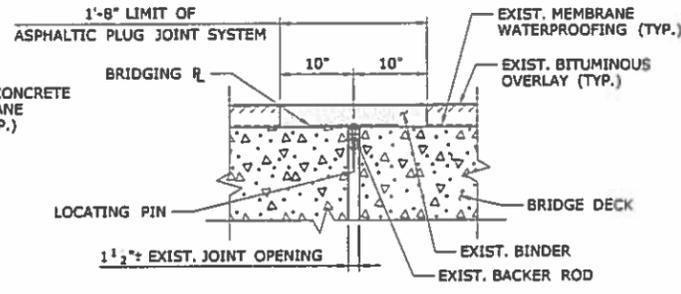
THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAWER: A. HIPIUS/S. ERDAS CHECKED BY: T. STRNAD SCALE AS NOTED	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION Filename: ...LSB_MSH_B03093_092_0668_ASPJT.dgn	SIGNATURE/BLOCK: PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN DRAWING TITLE: ASPHALTIC PLUG JOINT DETAILS	PROJECT NO. 92-668 DRAWING NO. S-34 SHEET NO. 04.34
REV. DATE	REVISION DESCRIPTION	SHEET NO.	Printed Date: 12/22/2015			

PREFORMED JOINT SEAL NOTES

1. THE REMOVAL OF ALL EXISTING JOINT SYSTEM MATERIALS WITHIN THE LIMITS SHOWN TO BE INCLUDED FOR PAYMENT UNDER THE ITEM "PREFORMED JOINT SEAL".
2. INSTALLATION OF MEMBRANE WATERPROOFING TO BE PAID UNDER THE ITEM, "MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC)".
3. SAW-CUTTING AND REMOVAL OF PMA PAVEMENT AND MEMBRANE WATERPROOFING FOR PREFORMED JOINT SEAL INSTALLATION TO BE INCLUDED FOR PAYMENT UNDER THE ITEM, "PREFORMED JOINT SEAL".
4. THE ELASTOMERIC CONCRETE HEADER AND PREFORMED SILICONE JOINT SEAL SHALL BE INSTALLED AFTER THE PAVEMENT HAS BEEN PLACED ON THE BRIDGE AND THE DESIGNATED AREA HAS BEEN SAW CUT AND REMOVED. CONSTRUCTION OF ELASTOMERIC CONCRETE HEADER TO BE PAID UNDER ITEM "ELASTOMERIC CONCRETE HEADER".
5. THE ELASTOMERIC CONCRETE HEADER SHALL BE BEVELED $\frac{1}{8}$ " ALONG THE OPENING OF THE JOINT AND SHALL BE RECESSED $\frac{1}{8}$ " BELOW THE BITUMINOUS OVERLAY.
6. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL GAP WIDTH NECESSARY TO ACCOMMODATE THE PRODUCT OF CHOICE.
7. THE COST OF REPAIRING EXISTING BRIDGE DECK / APPROACH SLAB WITHIN THE LIMITS OF PROPOSED JOINT SHALL BE PAID UNDER THE ITEM "PARTIAL DEPTH PATCH".



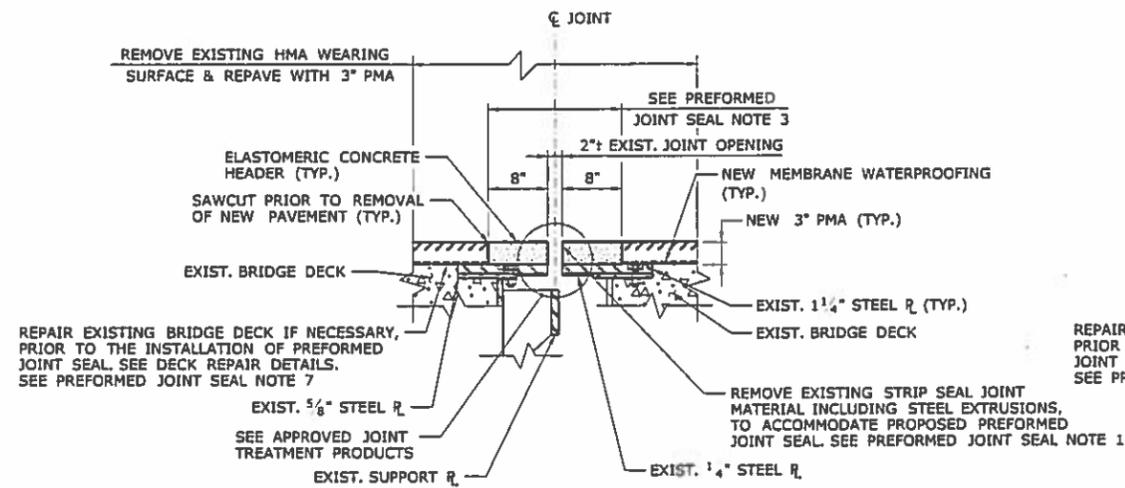
STRIP SEAL AT PIN & HANGER



ASPHALTIC PLUG JOINT AT HINGE

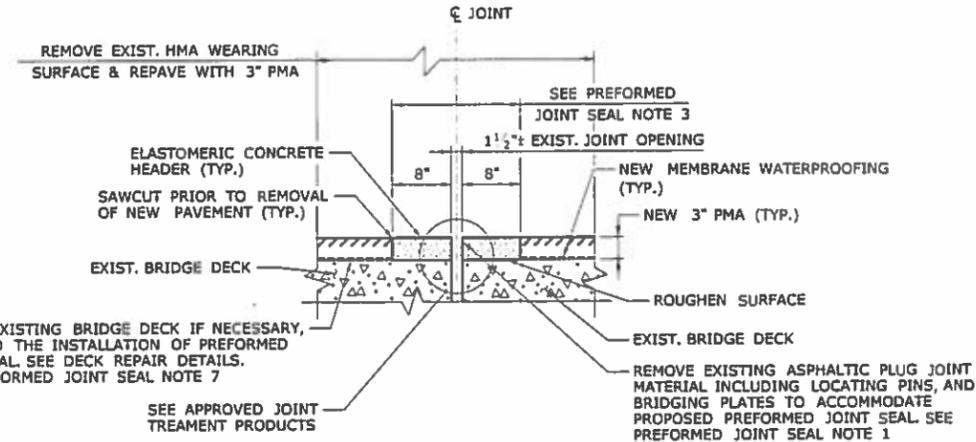
EXISTING JOINT DETAIL

SCALE: 1" = 1'-0"



PREFORMED JOINT AT PIN & HANGER

SCALE: 1" = 1'-0"

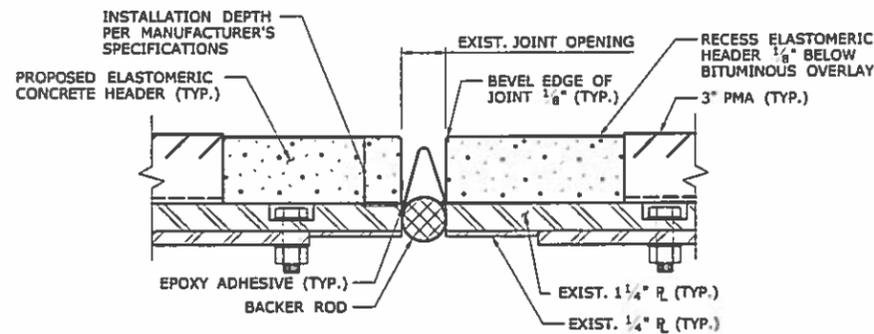


PREFORMED JOINT AT HINGE

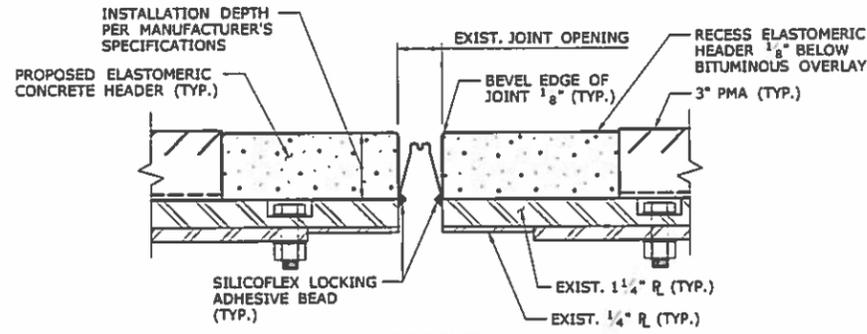
SCALE: 1" = 1'-0"

PROPOSED PREFORMED JOINT SEAL DETAIL

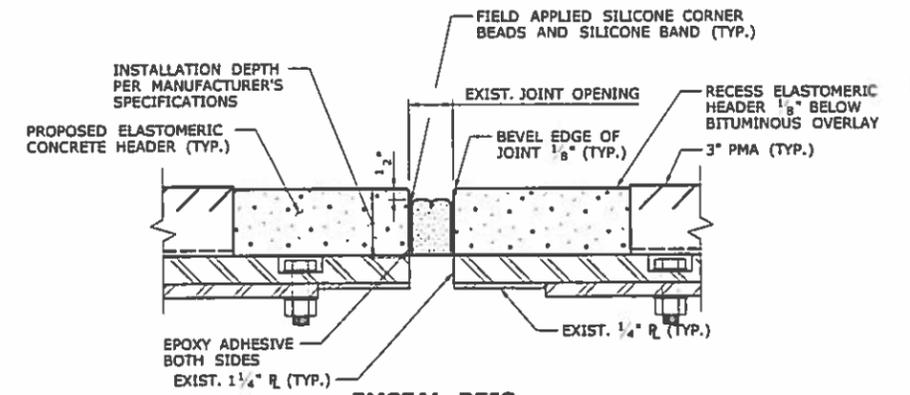
SCALE: 1" = 1'-0"



V-SEAL



SILICOFLEX



EMSEAL BEJS

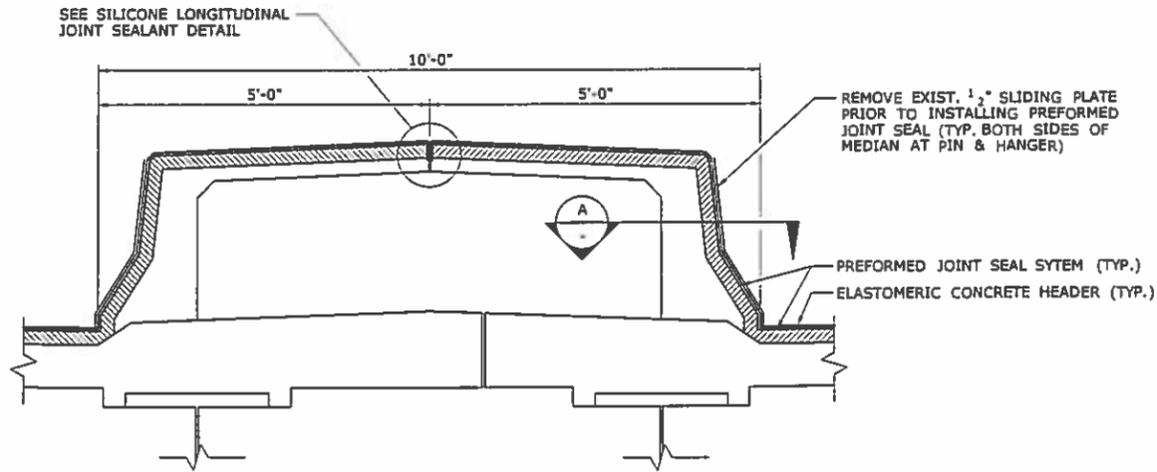
APPROVED JOINT TREATMENT PRODUCTS

SCALE: 3" = 1'-0"

NOTE: PREFORMED JOINT SEAL AT PIN AND HANGER SHOWN. JOINT AT HINGE SIMILAR.

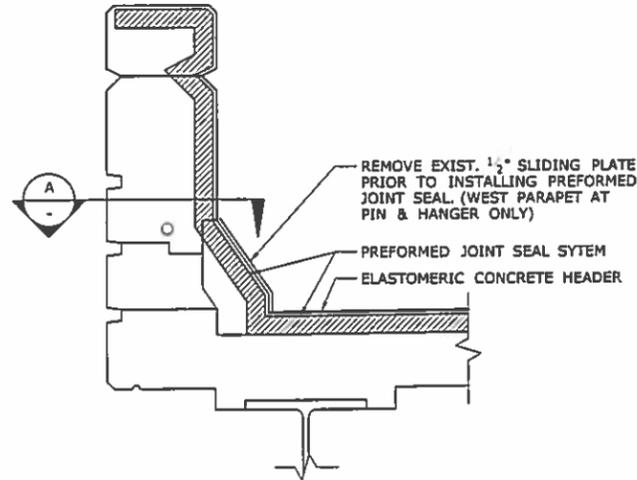
FINAL DESIGN REVIEW

DESIGNER/DRAWER: A. HIPIUS/S. ERDAS	CHECKED BY: T. STRNAD	SCALE AS NOTED	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668
STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION			DRAWING TITLE: PREFORMED JOINT SEAL DETAILS - 1		DRAWING NO. S-35
REV. DATE	REVISION DESCRIPTION	SHEET NO.	SHEET NO. 04.35		



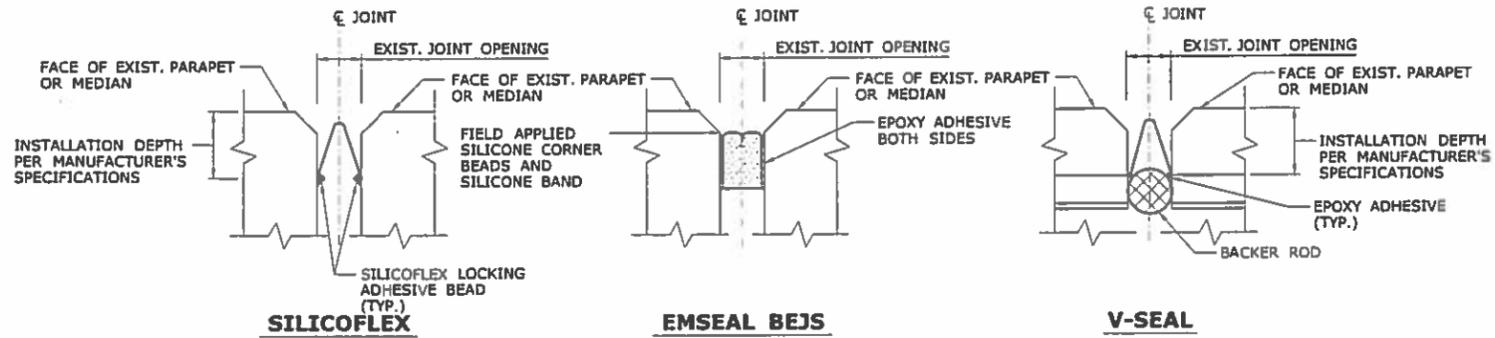
PROPOSED JOINT TREATMENT DETAIL AT MEDIAN PARAPET

SCALE: 3/4" = 1'-0"



PROPOSED JOINT TREATMENT DETAIL AT PARAPETS

SCALE: 1" = 1'-0"

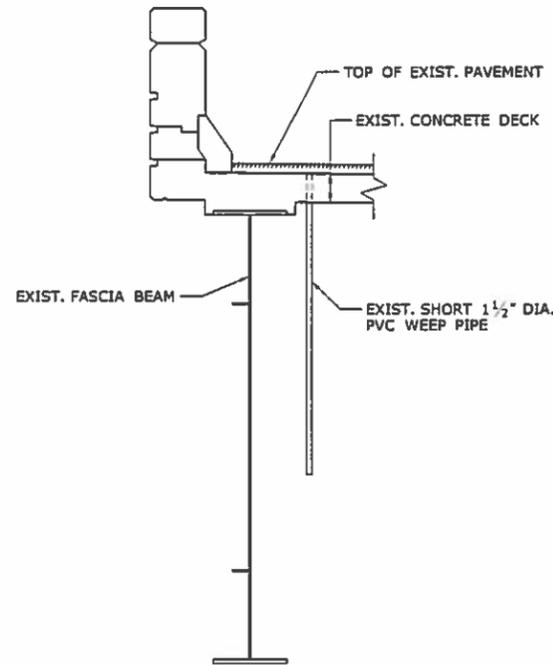


APPROVED JOINT TREATMENT PRODUCTS

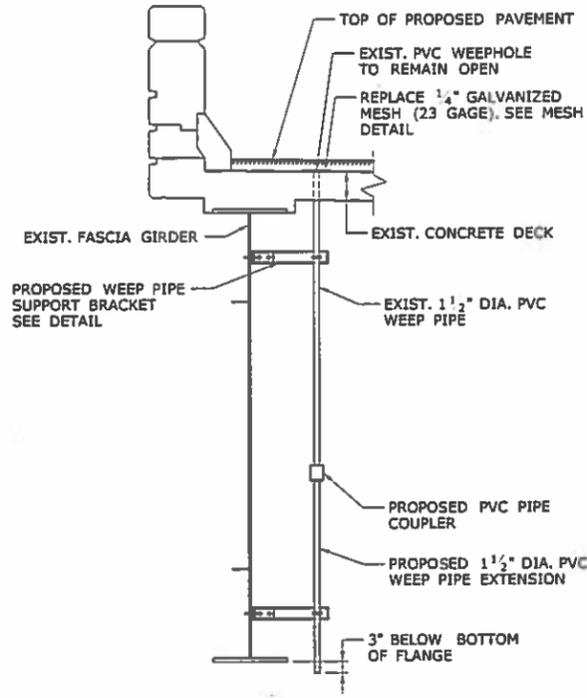
A SECTION THROUGH PARAPET OR MEDIAN
N.T.S.

FINAL DESIGN REVIEW

REVISIONS REV. DATE REVISION DESCRIPTION SHEET NO.			DESIGNER/DRAWN BY: A. HIPIUS/S. ERDAS CHECKED BY: T. STRNAD SCALE AS NOTED		STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION Filename: ...USD_MSH_Br03093_093_0668_JTD-02.dgn		PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER		TOWN: NEW HAVEN		PROJECT NO. 92-668	
							DRAWING TITLE: PREFORMED JOINT SEAL DETAILS - 2		DRAWING NO. S-36		SHEET NO. 04.36	



EXISTING CONDITION

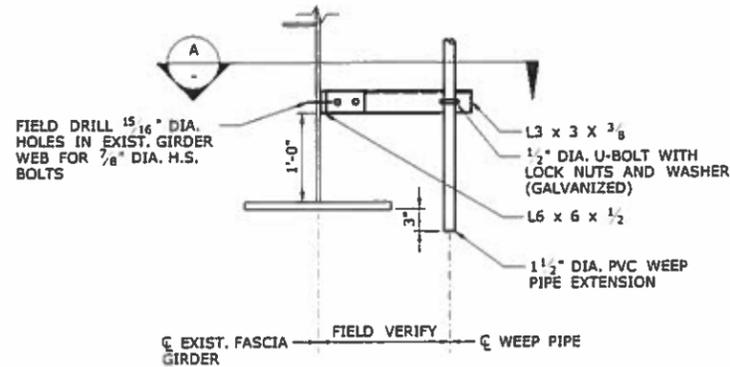


PROPOSED CONDITION

NOTE: THE COST OF THE PROPOSED 1 1/2" DIA. PVC WEEP PIPE EXTENSION INCLUDING COUPLER, U-BOLTS, LOCK NUTS AND WASHERS SHALL BE PAID UNDER THE ITEM "1 1/2" POLYVINYL CHLORIDE PLASTIC PIPE".

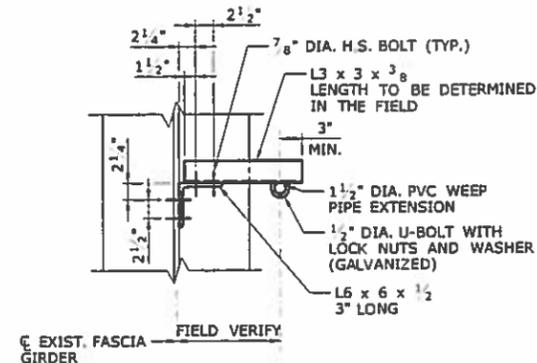
WEEP PIPE REPAIR DETAIL

SCALE: 1/2" = 1'-0"

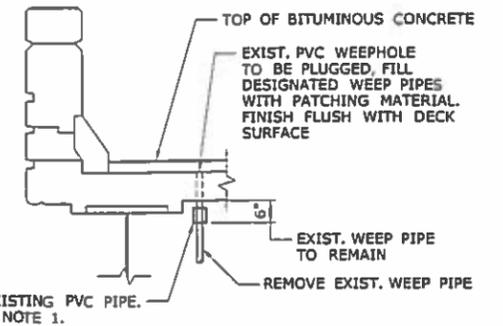


WEEP PIPE SUPPORT BRACKET DETAIL

SCALE: 1" = 1'-0"

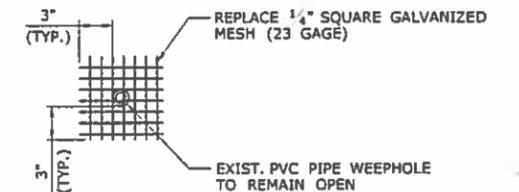


A SECTION
SCALE: 1" = 1'-0"



PLUGGED WEEP HOLE DETAIL

SCALE: 1/2" = 1'-0"



MESH DETAIL

SCALE: 1/2" = 1'-0"

WEEP HOLE NOTES

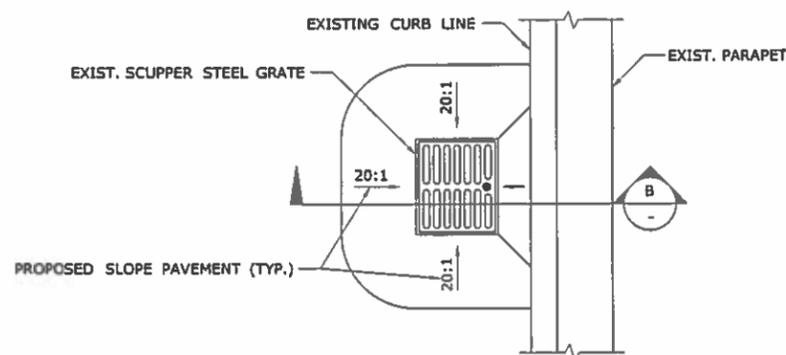
1. ONLY SPECIFIED WEEP HOLES SHALL REMAIN OPEN. ALL OTHERS WILL BE PLUGGED WITH PATCHING MATERIAL. TO BE PAID FOR UNDER THE ITEM "PARTIAL DEPTH PATCH". END CAPS SHALL CONFORM TO THE REQUIREMENTS OF ASTM D2466 OR ASTM D2467. SOLVENT CEMENT USED FOR JOINING THE END CAP TO THE EXISTING PIPE SHALL CONFORM TO ASTM 2564. THE END CAPS SHALL MATCH THE EXISTING PIPE COLOR. THE COST OF FURNISHING AND INSTALLING PVC END CAPS SHALL BE PAID UNDER THE ITEM "1 1/2" POLYVINYL CHLORIDE PLASTIC PIPE".
2. THE COST OF FURNISHING AND INSTALLING THE 1/4" SQUARE GALVANIZED MESH SHALL BE INCLUDED IN THE ITEM "PMA 50.25".

WEEP PIPE NOTES

1. THE COST OF THE PROPOSED 1 1/2" DIA. PVC WEEP PIPE EXTENSION INCLUDING COUPLER, U-BOLTS, LOCK NUTS AND WASHERS SHALL BE PAID UNDER THE ITEM "1 1/2" POLYVINYL CHLORIDE PLASTIC PIPE".
2. COST OF FURNISHING AND INSTALLING STRUCTURAL STEEL BRACKETS FOR WEEP PIPE SUPPORT INCLUDING ANGLES AND BOLTED CONNECTIONS SHALL BE PAID UNDER THE ITEM "STRUCTURAL STEEL REPAIRS (SITE NO. 1)".

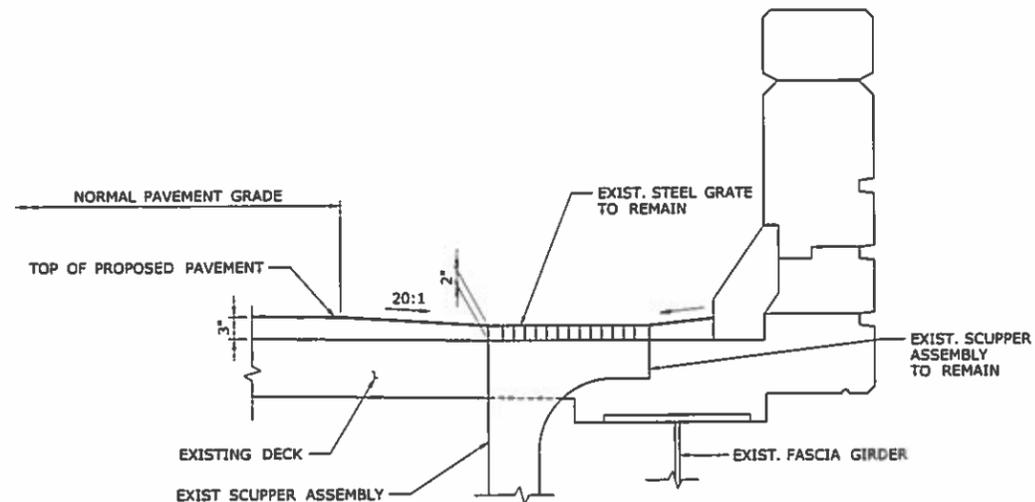
REFERENCE

1. SEE DWG. NO. S-29 TO S-31 FOR APPROXIMATE LOCATIONS OF WEEP HOLES TO REMAIN OPEN AND WEEP HOLES TO BE PLUGGED.



PLAN

SCALE: 1/2" = 1'-0"



B SECTION
SCALE: 1" = 1'-0"

PROPOSED PAVEMENT DETAIL AT STEEL SCUPPER GRATE

FINAL DESIGN REVIEW

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAWER: A. HIPIUS/S. ERDAS CHECKED BY: T. STRNAD SCALE AS NOTED	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION Filename: ...LSB.MSH.Br0303.092.0668.DRWG.Dgn	PROJECT TITLE: REHABILITATION OF BRIDGE NO. 03093 I-91 OVER FRONT STREET AND QUINNIPIAC RIVER	TOWN: NEW HAVEN	PROJECT NO. 92-668 DRAWING NO. S-37 SHEET NO. 04.37
REV. 1	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/22/2015		