

GENERAL LOCATION OF CONTRACT

THE STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY
UNITS



CONSTRUCTION PLANS FOR: BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT NUMBER: **T201007405**
FEDERAL AID PROJECT NUMBER: **EBHN-2010(29)**

COUNTY: **NEW CASTLE** M.R. #: **BR 687/688-N29 (URBAN MAJOR ARTERIAL)**
BR 693-N50 (URBAN MINOR ARTERIAL)

DESIGN DESIGNATION		
FUNCTIONAL CLASS: *	D.H.V. PROJECTED: *	YEAR: *
TYPE OF CONSTRUCTION: BRIDGE MAINT.	DESIGN SPEED: 30 MPH	
A.A.D.T. CURRENT: *	YEAR: *	TRUCKS: *
A.A.D.T. PROJECTED: *	YEAR: *	DIRECTION OF DISTRIBUTION: *

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TOTAL SHEETS: 111

APPROVED DESIGN EXCEPTIONS

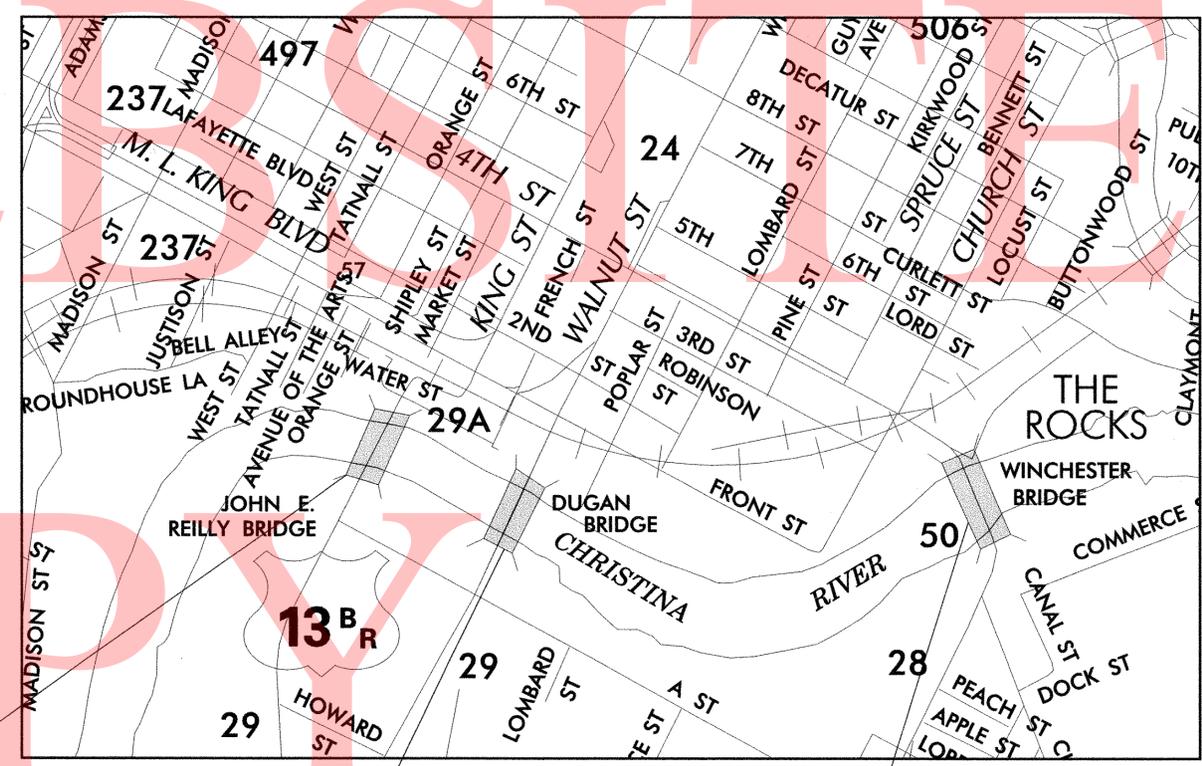
DESIGN PARAMETER	REQUIRED	PROVIDED	DATE

ADDENDA & REVISIONS

DESCRIPTION	NAME & DATE

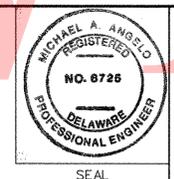
ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME



BR 1-688 2009 AADT = 15,466, 2040 AADT = 22,650 2040 DHV = 1495, TRUCKS = 8%(DAILY) D = 60%	BR 1-687 2009 AADT = 15,085, 2040 AADT = 22,000 2040 DHV = 1452, TRUCKS = 8%(DAILY) D = 60%	BR 1-693 2009 AADT = 11,821, 2040 AADT = 15,400 2040 DHV = 847, TRUCKS = 8%(DAILY) D = 55%
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PREPARED BY
THE CONSULTING FIRM OF
McCormick Taylor
Engineers & Planners
Since 1946



Michael A. Angelo 3/31/11
RECOMMENDED DATE

RECOMMENDED

Robert W. Polson 4-4-11
SQUAD MANAGER, CONSTRUCTION DATE

Christopher Cottle 4-4-11
GROUP ENGINEER, CONSTRUCTION DATE

Thomas C. Clements 4-4-11
ASSISTANT DIRECTOR, TRANSPORTATION SOLUTIONS (CONSTRUCTION) DATE

RECOMMENDED

STORMWATER ENGINEER

DATE _____ SEAL _____

RECOMMENDED

Stephane Rivet
SQUAD MANAGER, TRANSPORTATION SOLUTIONS (PROJECT DEVELOPMENT OR BRIDGE DESIGN)

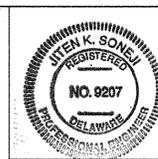
DATE 4.7.2011 SEAL _____



RECOMMENDED

John K. Soneji
BRIDGE DESIGN ENGINEER

DATE APRIL 7th, 2011 SEAL _____



RECOMMENDED

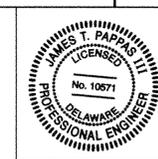
James T. Pappas
GROUP ENGINEER, PROJECT DEVELOPMENT

DATE 4-7-11 SEAL _____

RECOMMENDED

Thomas C. Clements
ASSISTANT DIRECTOR, TRANSPORTATION SOLUTIONS

DATE 4-7-11 SEAL _____



APPROVED

Natalie M. Barnhart
CHIEF ENGINEER

DATE 4/7/11 SEAL _____



LAST REVISED: 8/7/2008
P:\1369 STATEWIDE BRIDGE DESIGN\17 - S. MARKET, WALNUT AND 4TH ST. BRIDGE, REHAB.PSE, SUBMISSION\PLANS\TC-BR 1-687.DGN

EXISTING SYMBOLS

DRAINAGE	
	DITCH OR STREAM CENTERLINE
	DIRECTIONAL STREAM FLOW ARROW
	DRAINAGE CATCH BASIN
	DRAINAGE JUNCTION BOX
	DRAINAGE MANHOLE
	DRAINAGE PIPE AND FLOW ARROW
	DRAINAGE PIPE HEADWALL
	RIPRAP - AREA FEATURE
	RIPRAP - LINEAR FEATURE

UTILITY	
	SOIL BORING LOCATION
	UTILITY TEST HOLE LOCATION
	CABLE TV DISTRIBUTION BOX
	ELECTRIC MANHOLE
	ELECTRIC METER
	ELECTRIC TRANSFORMER
	POLE MOUNTED LUMINAIRE
	GAS MANHOLE
	GAS METER
	GAS VALVE
	GAS PUMP - SERVICE STATION
	RAILROAD TRACKS
	SANITARY SEWER MANHOLE
	SANITARY SEWER VALVE
	SANITARY SEWER VENT OR CLEANOUT
	SEPTIC DRAIN FIELD
	TELEPHONE BOOTH
	TELEPHONE MANHOLE
	TELEPHONE TEST POINT
	TRAFFIC - CONDUIT JUNCTION WELL
	TRAFFIC - LIGHT POLE AND BASE
	TRAFFIC - PEDESTRIAN POLE & BASE
	TRAFFIC - SIGNAL CABINET & BASE
	TRAFFIC - SIGNAL POLE AND BASE
	UTILITY BOX
	UTILITY POLE GUY WIRE ANCHOR
	UTILITY POLE
	WATER - FIRE HYDRANT
	WATER METER
	WATER VALVE
	WELL HEAD

MANMADE ROADSIDE FEATURES	
	CURB
	CURB AND GUTTER
	FENCE - CHAINLINK OR STRANDED
	FENCE - STOCKADE OR SPLIT RAIL
	FLAG POLE
	GUARDRAIL - STEEL BEAM
	GUARDRAIL - WIRE ROPE
	LAMP AND POST - RESIDENTIAL
	MAILBOX
	PARKING METER AND POST
	PAVEMENT - FLEXIBLE
	PAVEMENT - RIGID
	PILE - BRIDGE
	PILLAR OR MISCELLANEOUS POST
	TRAFFIC SIGN AND POST
	WALL - BRICK OR BLOCK
	WALL - STONE

NATURAL ROADSIDE FEATURES	
	GRASS LAWN
	HEDGEROW OR THICKET
	MARSH BOUNDARY LINE
	TREE - CONIFEROUS
	TREE - DECIDUOUS
	TREE STUMP
	SHRUBBERY
	DELINEATED WETLAND BOUNDARY LINE
	WOODS LINE BOUNDARY

SURVEY CONTROL & MONUMENTATION	
	SURVEY BENCHMARK LOCATION
	SURVEY TIE POINT LOCATION
	SURVEY TRAVERSE POINT
	POINT OF CURVATURE OR TANGENCY
	POINT OF INTERSECTING TANGENTS
	PROPERTY MARKER - CONCRETE MON.
	PROPERTY MARKER - IRON PIPE

PROPOSED SYMBOLS

CONSTRUCTION	
	CONCRETE SAFETY BARRIER - PERMANENT
	BIOFILTRATION SWALE
	BUTT JOINT
	CONSTRUCTION BASELINE
	CURB, TYPE 1 & TYPE 3
	CURB, TYPE 2
	CURB & GUTTER, TYPE 1
	CURB & GUTTER, TYPE 2
	CURB & GUTTER, TYPE 3
	CURB & GUTTER, TYPE 4
	CLEAR ZONE
	DRAINAGE INLET
	DITCH
	FENCE - METAL
	FENCE - WOOD
	FLARED END SECTION
	GUARDRAIL, TYPES 1 & 3
	GUARDRAIL, TYPE 2
	GUARDRAIL END TREATMENT - PARALLEL
	GUARDRAIL END TREATMENT - PARABOLIC
	HORIZONTAL CLEARANCE
	JUNCTION BOX - DRAINAGE
	LIMIT OF CONSTRUCTION
	MANHOLE
	PAVEMENT PATCH
	PIPE & DIRECTIONAL FLOW ARROW
	RIPRAP
	P.C.C. SIDEWALK @ 4"
	P.C.C. SIDEWALK @ 6"
	UNDERDRAIN
	UNDERDRAIN OUTLET

EROSION & SEDIMENT CONTROL	
	DEWATERING BASIN
	EROSION CONTROL BLANKET
	EARTH DIKE
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
	PORTABLE SEDIMENT TANK
	REINFORCED SILT FENCE
	SANDBAG DIKE
	SANDBAG DIVERSION
	STONE CHECK DAM
	STABILIZED CONSTRUCTION ENTRANCE
	SILT FENCE
	SUMP PIT, TYPE 1
	SUMP PIT, TYPE 2
	SEDIMENT TRAP
	SEDIMENT TRAP WITH INLET AS OUTLET
	SEDIMENT TRAP PIPE OUTLET
	STILLING WELL
	TEMPORARY SWALE
	TEMPORARY SLOPE DRAIN

PAVEMENT SECTION(S)	
	OVERLAY PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS
	RECONSTRUCTED PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS
	DRIVEWAY AND ENTRANCE PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS

RIGHT-OF-WAY SYMBOLS	
	PROPOSED RIGHT-OF-WAY MONUMENT
	EXISTING PROPERTY LINE
	EXISTING EASEMENT
	EXISTING RIGHT-OF-WAY
	PROPOSED DENIAL OF ACCESS
	PROPOSED PERMANENT EASEMENT
	PROPOSED RIGHT-OF-WAY
	PROPOSED R/W & DENIAL OF ACCESS
	TEMPORARY CONSTRUCTION EASEMENT
	PROPOSED RIGHT-OF-WAY BASELINE
	HISTORIC RIGHT-OF-WAY BASELINE

IDENTIFIERS	
	ADJUST BY CONTRACTOR
	ADJUST BY OTHERS
	CONCRETE SAFETY BARRIER
	CURB OR CURB & GUTTER
	CONVERT TO JUNCTION BOX
	CONVERT TO DRAINAGE MANHOLE
	CURB OPENING
	CURB RAMP / TYPE
	CURB RAMP / TYPE - WITHOUT SIDEWALK SURFACE DETECTABLE WARNING SYSTEM
	DRAINAGE INLET
	DO NOT DISTURB
	FLARED END SECTION
	FILTRATION STRUCTURE
	GUARDRAIL
	JUNCTION BOX
	LANDSCAPE PLANTINGS
	MANHOLE
	MONUMENT - RIGHT-OF-WAY
	PIPE
	RELOCATE BY CONTRACTOR
	RELOCATE BY OTHERS
	REMOVE BY CONTRACTOR
	REMOVE BY OTHERS
	SEDIMENT TRAP
	SILT FENCE
	UNDERDRAIN

CONSTRUCTION PHASING SYMBOLS	
	BARRICADE, TYPE 3
	CONCRETE SAFETY BARRIER - PORTABLE
	CONSTRUCTION WARNING SIGN LOCATION
	CONSTRUCTION WARNING SIGN
	CRASH CUSHION ARRAY
	DRUM - TRAFFIC CONTROL
	PHASING TRAFFIC FLOW ARROW

LANDSCAPING	
	SHRUBBERY
	CONIFEROUS TREE
	DECIDUOUS TREE

TRAFFIC	
	ITMS CONDUIT
	SIGNAL CONDUIT
	CONDUIT JUNCTION WELL
	LUMINAIRE
	PAVEMENT MARKINGS
	PAVEMENT STRIPING
	TRAFFIC SIGN

LAST REVISED: 3/12/2008 P:\1369 STATEWIDE BRIDGE DESIGN\17 - S. MARKET, WALNUT AND 4TH ST BRIDGE REHAB\BR 1-687, WALNUT ST\N.G.BR 1-687.DGN

GENERAL NOTES

- THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED AUGUST 2001 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2001, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.
- THE CONTRACTOR SHALL GIVE TWO (2) WEEKS NOTICE TO THE PROPERTY OWNER WHEN ANY FIXTURE, SHRUB OR OTHER OBJECT MUST BE REMOVED FROM THE RIGHT OF WAY OR EASEMENT AREA. IF THE OWNER HAS NOT ATTEMPTED TO SALVAGE THIS PROPERTY, THE CONTRACTOR SHALL REMOVE IT WITHOUT OBLIGATION. COMPENSATION SHALL BE INCIDENTAL TO THE CONTRACT.
- THE ENDS OF ALL CURBS SHALL BE DEPRESSED FLUSH WITH THE PAVEMENT AT A RATIO OF TWELVE TO ONE (12:1) UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL PVC SLEEVES (4" INSIDE MINIMUM DIAMETER, 6" INSIDE MAXIMUM DIAMETER) IN PROPOSED CONCRETE SIDEWALKS, ISLANDS, AND MEDIANS FOR FUTURE TRAFFIC SIGN POSTS AS DIRECTED BY THE ENGINEER. THE LOWER END OF THE SLEEVE SHALL SIT ON THE TOP OF THE SUBBASE MATERIAL. THE COST SHALL BE INCIDENTAL TO THE CONTRACT.
- STAGING AREAS - PROPER EROSION AND SEDIMENT CONTROL MEASURES AS DETERMINED BY THE ENGINEER SHALL BE INSTALLED IN ALL STAGING AREAS. ALL AREAS USED BY THE CONTRACTOR FOR STAGING OPERATIONS SHALL BE FULLY RESTORED BY THE CONTRACTOR UPON COMPLETION OF THE CONTRACT. IF THE STAGING AREA IS PAVED, IT SHALL BE RESTORED TO ITS ORIGINAL CONDITION. IF THE AREA IS UNPAVED, IT SHALL BE RE-GRADED, TOPSOILED, SEEDED AND MULCHED IN ACCORDANCE WITH DELAWARE STANDARD SPECIFICATIONS 732, 734 AND 735, FOR TOPSOIL, SEED AND MULCH RESPECTIVELY, TO THE SATISFACTION OF THE ENGINEER. THE SEED SHALL ADHERE TO THE SPECIFICATIONS OF SECTION 734 FOR PERMANENT GRASS SEEDING - DRY GROUND. ALL COSTS ASSOCIATED WITH RESTORATION OF THE STAGING AREA SHALL BE AT THE CONTRACTOR'S EXPENSE. IF THE ENGINEER DETERMINES THAT A SATISFACTORY STAND OF GRASS DOES NOT EXIST AT THE TIME OF FINAL INSPECTION, ALL COSTS ASSOCIATED WITH REESTABLISHING A SATISFACTORY STAND OF GRASS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- SITE REVIEWER - AN EROSION CONTROL SITE REVIEWER SHALL BE A PERSON FROM THE CONTRACTOR'S STAFF ASSIGNED TO EROSION AND SEDIMENT CONTROL IMPLEMENTATION AND MAINTENANCE AND SHALL BE REQUIRED ON SPECIFIC PROJECTS. THE NAME AND DNREC CERTIFICATION NUMBER OF EACH SITE REVIEWER SO REQUIRED SHALL BE SUBMITTED TO THE DEPARTMENT AT THE TIME OF BID. THE NAME OF THE DELAWARE REGISTERED PROFESSIONAL ENGINEER PROVIDING DIRECTION AND SUPERVISION OF THE SITE REVIEWER, AS REQUIRED IN SECTION 12.3 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, SHALL ALSO BE SUBMITTED TO THE DEPARTMENT AT THE TIME OF BID. THE SITE REVIEWER REQUIREMENTS IN EFFECT ON THIS PROJECT SHALL BE MARKED WITH AN "X" BELOW:

EROSION POTENTIAL FOR THIS PROJECT	SITE REVIEWER REQUIREMENT
(X) INSIGNIFICANT	NONE
() MINOR	CONTRACTOR CERTIFICATION COURSE TRAINING ONLY, AS DEFINED IN SECTION 13 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
() MEDIUM	AT THE TIME OF BID OF THE CONTRACT, EITHER THE SUPERINTENDENT OR A SEPARATE INDIVIDUAL FROM THE CONTRACTOR'S STAFF SHALL BE A CERTIFIED CONSTRUCTION REVIEWER (CCR), AS DEFINED IN SECTION 12 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
() MAJOR	SUPERINTENDENT AND AN INDIVIDUAL FROM CONTRACTOR'S STAFF SHALL BE CCR. ONE INDIVIDUAL FROM THE CONTRACTOR'S STAFF MUST BE A CCR AT THE TIME OF BID OF THE CONTRACT. THE SUPERINTENDENT MUST BECOME A CCR WITHIN ONE YEAR AFTER THE AWARD OF CONTRACT.

- ELECTRONIC PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE CONTRACTOR INCLUDE:

(X)	NONE
()	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
()	RASTER FILES, IN .CAL FILE FORMAT, FOR ALL PLAN SHEETS.
()	EXISTING DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
()	PROPOSED DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
()	DESIGN FILE, IN .DGN FILE FORMAT, CONTAINING ONLY THE PROPOSED 3D TRIANGLES OF THE PROPOSED DIGITAL TERRAIN MODEL (DTM).

- AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR REQUIREMENT FOR THIS PROJECT.

()	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
(X)	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT OR ANOTHER ATSSA CERTIFIED MEMBER OF THE CONTRACTOR'S PROJECT STAFF MAY BE THE ATSSA SUPERVISOR.
()	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE ATSSA SUPERVISOR'S SOLE JOB SHALL BE SUPERVISION OF THE INSTALLATION, OPERATION AND MAINTENANCE OF TRAFFIC CONTROL DEVICES FOR THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT SHALL NOT BE THE ATSSA SUPERVISOR.

- THE DISTURBED AREA FOR THIS PROJECT IS 0.06 ACRES.

PROJECT NOTES

SECTION 100

- THE DEPARTMENT RESERVES THE RIGHT TO INCREASE OR DECREASE THE QUANTITIES OF PAY ITEMS SPECIFIED FOR THE STRUCTURES LISTED IN THIS CONTRACT. SUCH ADDITIONS OR DELETIONS SHALL NOT BE CAUSE FOR AN INCREASE OR DECREASE IN ANY CONTRACT UNIT BID PRICES. THE "CHANGE" THRESHOLD OF PLUS OR MINUS 25%, AS DESCRIBED IN SECTION 104.05 OF THE DELDOT STANDARD SPECIFICATIONS, SHALL NOT APPLY TO THIS CONTRACT.

- SHOP DRAWINGS FOR STEEL COMPONENTS SHALL INCLUDE AN ITEMIZED LIST OF ALL PLATES, SHAPES AND HARDWARE WITH STEEL WEIGHTS GIVEN FOR EACH COMPONENT AND TOTAL WEIGHT SHOWN.

- ANY DAMAGE TO ITEMS NOTED TO BE RELOCATED OR RESET BY THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, SHALL BE REPAIRED AND/OR REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.

- UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL, AS PART OF HIS PROJECT SCHEDULE, SUBMIT TO THE ENGINEER AN ESTIMATE OF THE MONTHLY PAYMENTS EXPECTED TO BE RECEIVED ON THE CONTRACT. THIS WILL BE REFERENCED AS THE "MONTHLY PAYMENT CHART".

A CHART IN MICROSOFT EXCEL, MICROSOFT WORD, OR HAND WRITTEN FORMAT WILL BE ACCEPTABLE FOR THIS PURPOSE. THE CHART SHOULD INCLUDE, AS A MINIMUM, COLUMNS FOR THE MONTH, YEAR AND ESTIMATED MONTHLY PAYMENTS. THE TOTAL OF ALL ESTIMATED MONTHLY PAYMENTS SHOULD EQUAL THE AWARDED CONTRACT TOTAL BID PRICE.

THE ENGINEER MAY REQUEST AN UPDATED "MONTHLY PAYMENT CHART" AT HIS DISCRETION, DEPENDING ON THE ACCURACY OF THE INITIAL ESTIMATES AND ACCORDING TO THE OVERALL NEEDS OF THE DEPARTMENT.

THE "MONTHLY PAYMENT CHART" WILL NOT BE CONSIDERED A BINDING DOCUMENT BY EITHER THE CONTRACTOR OR THE DEPARTMENT AND IS CONSIDERED SOLELY INFORMATIONAL.

ON PROJECTS REQUIRING CPM SCHEDULES, THE CONTRACTOR MAY, BUT IS NOT REQUIRED TO, "COST LOAD" THE CPM SCHEDULE IN ORDER TO GENERATE THE MONTHLY SPEND PAYMENT CHART.

COSTS TO PREPARE AND/OR UPDATE THE "MONTHLY PAYMENT CHART" ARE ADDRESSED AS FOLLOWS:

A. ON CONTRACTS REQUIRING CPM SCHEDULES AND UPDATES, PREPARATION OF THE INITIAL CHART SHALL BE INCIDENTAL TO ITEM 763508. UPDATES SHALL BE INCIDENTAL TO ITEM 763509.

B. ON CONTRACTS NOT REQUIRING CPM SCHEDULES, THE COST TO PREPARE AND UPDATE THE "MONTHLY PAYMENT CHART" SHALL BE INCLUDED IN ITEM 763000 - INITIAL EXPENSE.

SECTION 200

- IN AREAS WHERE TREES OR SHRUBS WILL BE OVERHANGING THE PROPOSED SIDEWALK, PRUNING MAY BE NECESSARY TO ACHIEVE A VERTICAL CLEAR SPACE OF 10 FEET ABOVE THE PROPOSED SIDEWALK ELEVATION. THE CONTRACTOR SHALL PRUNE EXISTING TREE AND SHRUB BRANCHES, WHICH OVERHANG THE SIDEWALK, IN ACCORDANCE WITH I.S.A. STANDARDS. THE CONTRACTOR SHALL NOTIFY DELDOT'S ROADSIDE ENVIRONMENTALIST ADMINISTRATOR, EUGENE 'CHIP' ROSAN, JR. AT (302) 760-2185 AND/OR HIS DESIGNEE, AT LEAST TWO (2) DAYS PRIOR TO THE PRUNING OPERATION. ALL COSTS ASSOCIATED WITH THE ABOVE WORK TO BE PAID UNDER ITEM 201000 - CLEARING AND GRUBBING.

- ITEMS TO BE REMOVED UNDER ITEM 21000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
 - EXISTING STEEL
 - BARRIER RAIL
 - STEEL PEDESTRIAN RAIL

SECTION 300

SECTION 400

SECTION 500

SECTION 600

PCC MASONRY - ABUTMENTS, PIERS, WINGWALLS, ETC.

- SUBMITTALS FOR WET AND DRY APPLICATIONS ARE REQUIRED FOR ITEM 602611: REPAIR OF CONCRETE STRUCTURE BY EPOXY INJECTION.

- POWER WASHING OF HORIZONTAL SURFACES (PIER CAPS AND ABUTMENTS): SITE SPECIFIC PROJECT NOTES REQUIRE SEALING OF HORIZONTAL SURFACES ON PIER CAPS AND ABUTMENTS. PRIOR TO APPLICATION OF SEALANT, THE HORIZONTAL SURFACES MUST BE PREPARED IN ACCORDANCE WITH THE SPECIFIED SPECIAL PROVISION. WHEN USING PRESSURE WASH, CONTRACTOR SHALL PROTECT ROADSIDE DRAINAGE INLETS AND ABOVE GROUND DRAINAGE SYSTEMS AS NECESSARY TO COMPLY WITH DELDOT NPDES ENVIRONMENTAL PERMIT (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM).

- WHEN PERFORMING SPALL REPAIRS ON VERTICAL CONCRETE SURFACES UNDER PAY ITEM 602586, THE PRODUCT DATA SHEET FOR PROPOSED MATERIAL MUST STATE THAT THE MATERIAL IS SUITABLE FOR REPAIRS ON VERTICAL SURFACES.

- WHEN REPAIRING CONCRETE VERTICAL SURFACES, SUCH AS ABUTMENTS, PIER CAPS AND COLUMNS, AND WHEN REPAIRING CONCRETE DECK HAUNCHES, PERFORM REPAIRS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

a. REPAIR ALL SPALLS AS PER THE "SPALL REPAIR" DETAIL SHOWN ON THE PLANS.

b. SPALLS WITH SURFACE AREA LESS THAN 1.0 SF, SHALL BE PAID UNDER ITEM 602572.

c. PERFORM SOUNDING FOR DELAMINATION OF CONCRETE AROUND VISIBLE CRACKS, SPALLS AND OTHER DETERIORATION. SOUNDING OF CONCRETE SHALL BE INCIDENTAL TO THE APPROPRIATE SPALL REPAIR ITEM.

d. CRACK WIDTHS LARGER THAN ONE HALF INCH SHALL BE REPAIRED BY GROUTING. PAYMENT WILL BE UNDER ITEM 602572, REPAIR OF EXISTING PCC STRUCTURES.

- ALL CONCRETE SPALL REPAIR PERFORMED UNDER PAY ITEM 602572 OR 602586 SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS AS STATED IN THE RESPECTIVE SPECIAL PROVISION, AND IN ACCORDANCE WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

a. PERFORM ABRASIVE BLASTING OF REINFORCING STEEL AS NECESSARY TO REMOVE CORROSION AND OTHER CONTAMINANTS PRIOR TO PLACEMENT OF PATCHING MORTAR OR CONCRETE.

b. PREPARED CONCRETE SURFACE SHALL BE ROUGHENED BY ABRASIVE BLASTING PRIOR TO PLACEMENT OF PATCH MORTAR OR CONCRETE. THIS ROUGHENING IMPROVES THE MECHANICAL BOND WHEN PATCH MATERIAL IS APPLIED.

- WHEN CONCRETE SEALANT APPLICATION IS SPECIFIED FOR ABUTMENTS AND BACKWALLS, THE BACKWALL VERTICAL SURFACE SHALL BE SEALED A DISTANCE OF ONE FOOT FROM TOP OF THE BEAM SEATS (UNLESS STATED OTHERWISE IN SITE SPECIFIC NOTES). SEAL THE ENTIRE HORIZONTAL TOP SURFACE OF ABUTMENTS AND BEAM SEATS. SEE SITE NOTES FOR ADDITIONAL REQUIREMENTS.

PCC MASONRY - DECKS

- EPOXY BASED CRACK SEALER SHALL BE APPLIED TO BRIDGE DECKS UNDER PAY ITEM 602629 WHEN SPECIFIED IN THE SITE SPECIFIC PROJECT NOTES FOR EACH BRIDGE. THE CONTRACTOR SHALL SUBMIT THE PRODUCT DATA SHEET FOR THE PROPOSED MATERIAL FOR USE PRIOR TO COMMENCEMENT OF WORK. THE PRODUCT DATA SHEET SHALL SPECIFY DRYING TIME FOR CRACK SEALER. THE PRODUCT DRYING TIME SHALL ALLOW FOR LANE OPENING TO TRAFFIC WITHIN SIX HOURS (OR LESS) OF APPLICATION.

- WHEN REPAIRING BOTTOM SIDE OF CONCRETE DECKS, PERFORM REPAIRS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS, UNLESS SPECIFIED OTHERWISE IN SITE SPECIFIC PROJECT NOTES:

a. FOR SPALL AND DELAMINATION REPAIRS LESS THAN 3" DEPTH, USE PAY ITEM 602572. FOR REPAIRS GREATER THAN OR EQUAL TO 3" DEPTH, PAY ITEM 602586 OR 602577 SHALL BE USED AS DETERMINED BY DELDOT ENGINEER. CONSULT WITH ENGINEER PRIOR TO PERFORMING DEEP SPALL REPAIRS ON BOTTOM SIDE OF DECK. LANE CLOSURES ON BRIDGE DECK MAY BE REQUIRED.

b. PERFORM SOUNDING FOR DELAMINATION OF CONCRETE AROUND VISIBLE CRACKS, SPALLS AND OTHER DETERIORATION. SOUNDING OF CONCRETE SHALL BE INCIDENTAL TO THE APPROPRIATE SPALL REPAIR ITEM.

c. PREPARE ALL SPALLS AS PER THE "SPALL REPAIR" DETAIL SHOWN ON THE PLANS. ALL EXPOSED STEEL SHALL BE THOROUGHLY CLEANED OF RUST AND OTHER CONTAMINANTS. PAYMENT SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEMS 602572, 602586 AND 602577.

- CONCRETE DECK SPALLS SHALL BE REPAIRED IN ACCORDANCE WITH ITEMS 602575, 602576 OR 602577, UNLESS SPECIFIED OTHERWISE IN THE SITE SPECIFIC PROJECT NOTES. PREPARE ALL SPALLS AS PER THE "SPALL REPAIR" DETAIL SHOWN ON THE PLANS. APPLY AN EPOXY BONDING COAT TO ROUGHENED CONCRETE SURFACE. THOROUGHLY CLEAN THE SURFACE PRIOR TO APPLICATION OF BONDING COAT. WHERE EXISTING DECK OVERLAYS ARE PRESENT, SAW CUT TO A DEPTH NECESSARY TO PENETRATE THE ENTIRE OVERLAY DEPTH (TYPICALLY 2" TO 3" DEEP). ALL WORK DESCRIBED IN THIS PROJECT NOTE SHALL BE INCLUDED IN THE BID PRICE FOR THE APPLICABLE DECK SPALL REPAIR PAY ITEM.

BRIDGE BEARINGS

- MATERIAL SPECIFICATION FOR PAY ITEM 605636 CLEAN AND LUBRICATE BRIDGE BEARINGS SHALL COMPLY WITH THE FOLLOWING: GREASE APPLIED TO STEEL BRIDGE BEARINGS SHALL BE SHELL RHODINA GREASE SDX 2, OR EXXON MOBIL CENTAUR MOLY GREASE, OR APPROVED EQUAL. FOR BRIDGES WITH STEEL STRUCTURAL COMPONENTS PAINTED GREEN, THE GREASE SHALL BE COATED WITH A MATCHING COAT OF THE FINISH PAINT (GREEN, FEDERAL SPECIFICATION *24172, STANDARD 595B). THE GREASE SHALL BE APPLIED TO THE ENTIRE STEEL BEARING COMPONENT FOR EACH BRIDGE BEARING.

STRUCTURAL STEEL PAINTING

- THE PAINT SYSTEM USED FOR THE STRUCTURAL STEEL SHALL BE APPLIED IN A THREE (3) COAT SYSTEM APPLICATION.

- ALL STRUCTURES IN THIS CONTRACT ARE ASSUMED TO CONTAIN LEAD BASED PAINT ON ALL OF THE STRUCTURAL STEEL. FOR BRIDGES REQUIRING SPOT PAINTING, THE CONTRACTOR SHALL USE PAY ITEM ~~605629~~ 605533 FOR THE PAINT REMOVAL ON THE STRUCTURES.

- PRIOR TO APPLYING NEW PAINT SYSTEM, ALL EXISTING COATINGS ON THE STRUCTURAL STEEL SHALL BE COMPLETELY REMOVED, IN ACCORDANCE WITH ITEM ~~605629~~ 605533 (AS SPECIFIED IN THE SITE SPECIFIC PROJECT NOTES). THERE SHALL BE NO OVER COATING OF EXISTING PAINT OR SEALANT SYSTEMS.

- IF ANY CLEANING TO BE PERFORMED REQUIRES PRE-CLEANING BY PRESSURE WASHING, THEN THIS PRESSURE WASHING SHALL BE INCIDENTAL TO ITEM ~~605629~~ 605533.

- FOR BRIDGES WITH EXISTING STEEL STRUCTURAL COMPONENTS PAINTED GREEN, THE COLOR OF PAINT SHALL BE GREEN (* 24172) AS FEDERAL STANDARD 595B. FOR EXISTING STRUCTURAL COMPONENTS, PAINTED TAN, PAINT SHALL BE YELLOW (*3344B) OF FEDERAL STANDARD 595B. THE COLOR SHALL BE SUBMITTED TO DELDOT FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.

- HAZARDOUS WASTE GENERATED DURING STEEL CLEANING OPERATIONS SHALL BE DISPOSED OF IN ACCORDANCE WITH REQUIREMENTS STATED IN 605629, AND IN ACCORDANCE WITH ALL STATE, FEDERAL AND LOCAL REGULATIONS. CONTRACTOR SHALL SUBMIT COPIES OF ALL HAZARDOUS WASTE MANIFESTS AND TICKETS TO DELDOT.

SECTION 700

- TRASH, RUBBISH, DEBRIS OR BRUSH THAT HAMPERS REPAIR / MAINTENANCE WORK IN THIS CONTRACT (AS DETERMINED BY THE ENGINEER), SHALL BE REMOVED WITHIN THE PROJECT LIMITS AND SHALL BE INCIDENTAL TO PAY ITEM 763000 (INITIAL EXPENSE).

- GRASS AND SOIL AREAS WITHIN STATE RIGHT-OF-WAY THAT HAVE BEEN DAMAGED BY EQUIPMENT DURING THIS CONTRACT, SHALL BE RESTORED WITH TOPSOIL, SEED AND MULCH AT CONTRACTOR'S OWN EXPENSE, AND IN ACCORDANCE WITH THE REQUIREMENTS FOR ITEMS 732002, AND 734013 AND 735533.

- ON OPEN GRID BRIDGE DECK TRAFFIC STRIPING SHALL BE PAINTED OVER WITH GREEN PAINT AND TEMPORARY STRIPING SHALL BE PAINTED WHERE NEEDED. GREEN PAINT SHALL BE INCIDENTAL ITEM 748019 TEMPORARY MARKINGS, PAINT 4".

- IN AREAS WHERE PROPOSED CURB MEETS EXISTING CURB AND THE TWO CURB TYPES ARE NOT SIMILAR, THE PROPOSED CURB SHALL BE TRANSITIONED IN 10 LINEAR FEET, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK, INCLUDING SAW CUTTING EXISTING CURB SHALL BE INCIDENTAL TO THE PROPOSED CURB ITEM.

- WHERE PROPOSED CONCRETE SIDEWALK IS CONSTRUCTED TO MEET EXISTING SIDEWALK, THE EXISTING SIDEWALK SHALL BE SAWCUT AT THE TIE-IN POINT OR MEET THE NEAREST EXISTING SIDEWALK JOINT. ALL SAW CUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR UNDER ITEM 762002 - SAWCUTTING, CONCRETE, FULL DEPTH.

LAST REVISED: 5/5/2009
P:\1369 STATEWIDE BRIDGE DESIGN\17 - S. MARKET, WALNUT AND 4TH ST BRIDGE REHAB\PSX SUBMISSION-ADDENDUM\PLANS\PN_BR 1-687.DGN

SECTION 700 (CONT.)

6. ALL HOT-MIX SAW CUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

MISCELLANEOUS

1. ALL WORK SHALL BE PERFORMED WITHIN THE EXISTING STATE RIGHT-OF-WAY. RIGHT-OF-WAY INFORMATION SHALL BE OBTAINED FROM THE FOLLOWING PREVIOUS CONTRACTS:

CONTRACT 21-074-07 - BR 688 SOUTH MARKET STREET BRIDGE REHABILITATION
 CONTRACT 71-10-001 - THIRD STREET BRIDGE
 CONTRACT 1224-14) - WALNUT STREET BRIDGE

PREVIOUS CONTRACT PLAN COPIES MAY BE ACQUIRED FROM THE DELAWARE DEPARTMENT OF TRANSPORTATION.

2. ALL COSTS FOR ACCESS BENEATH BRIDGES (SUCH AS SCAFFOLDING, BUCKET TRUCKS, LADDERS, ETC.) SHALL BE INCLUDED IN THE BID PRICE FOR EACH APPLICABLE MAINTENANCE AND REPAIR PAY ITEM. NO SEPARATE PAYMENT WILL BE MADE FOR ACCESS.

3. SHOULD THE CONTRACTOR INTEND TO ACCESS BRIDGE SUBSTRUCTURE UNITS FROM ADJOINING PROPERTIES HE MUST SUPPLY A COPY OF THE TRESPASS AGREEMENT TO THE ENGINEER PRIOR TO COMMENCING WORK.

4. THE CONTRACTOR SHALL REMOVE AND REPLACE ANY APPURTENANCE THAT OBSTRUCTS COMPLETION OF ANY WORK ITEM, PAYMENT INCIDENTAL TO THE WORK ITEM.

CONSTRUCTION RESTRICTIONS

1. U.S. COAST GUARD 30-DAY ADVANCED COORDINATION/ APPROVAL:
 THE WATERWAYS ARE USED FOR RECREATIONAL PURPOSES. THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE THROUGH THE WORK AREAS FOR THE WATERWAY USERS AND SHALL HAVE THE PASSAGEWAY CLEARLY MARKED. PAYMENT IS INCLUDED UNDER PAY ITEM 763522, "COAST GUARD SPECIFIC CONDITIONS". ANY CONTRACTOR ACTIVITY, WHICH WILL RESULT IN THE SHORT-TERM RESTRICTION OF THE WATERWAYS TO THOSE INDIVIDUALS, IS TO BE COORDINATED WITH THE ENGINEER AND THE U.S. COAST GUARD ONE MONTH IN ADVANCE. THE WORK WITHIN THE WATER SHALL BE LIMITED TO WHAT APPEARS ON THESE PLANS AND BARGE PLACEMENT. IF ANY ADDITIONAL IN-WATER/WETLANDS WORK IS NEEDED, IT MUST BE COORDINATED WITH THE U.S. COAST GUARD PRIOR TO BEGINNING WORK AND BE IN CONFORMANCE WITH ITEM 763522, "COAST GUARD SPECIFIC CONDITIONS". CONTACT BILL BRAZIER AT (757) 398-6422, AS WELL AS SUBMIT A WRITTEN NOTICE (WHICH INCLUDES A SKETCH DEPICTING THE LOCATION AND DURATION OF ALL RESTRICTIONS) TO THE COMMANDING OFFICER (AOWB), 5TH COAST GUARD DISTRICT, FEDERAL BUILDING 431 CRAWFORD ST., PORTSMOUTH, VA 23704 FOR APPROVAL.

2. BRIDGE 1-687-MIGRATORY BIRDS CONSTRUCTION RESTRICTION: APRIL 15 - AUGUST 1 (INCLUSIVE). EITHER BEGIN CONSTRUCTION ON THE UNDERSIDE OF THE STRUCTURE (SPANS 15-45 AND 1N-3N) PRIOR TO APRIL 15 (TO PREVENT BIRDS FROM NESTING) OR WAIT UNTIL AFTER AUGUST 1 (AFTER HATCHLINGS HAVE LEFT) TO BEGIN WORK ON THE UNDERSIDE. IF NEITHER OF THESE OPTIONS IS PRACTICABLE, THEN PRIOR TO APRIL 14 DETERRENT NETTING WITH 3/4" X 3/4" MAXIMUM OPENINGS (OR SIMILAR DEVICE) SHALL BE INSTALLED HORIZONTALLY UNDERNEATH THE STRUCTURE. THE NETTING SHOULD BE PULLED TAUT AND ATTACHED IN A WAY THAT BIRDS ARE UNABLE TO ENTER THE AREA BETWEEN THE NETTING AND THE STRUCTURE. NETTING SHALL BE PAID FOR UNDER ITEM 763623 - NETTING MIGRATORY BIRD EXCLUSION.

3. BRIDGE 1-688 - FISHERIES (RIVER HERRING, AMERICAN SHAD, HICKORY SHAD): NO IN-WATER WORK FROM MARCH 15 - JUNE 30 (INCLUSIVE). THERE IS NO IN-WATER WORK PROPOSED AT BRIDGES 1-687 OR 1-693 SO THIS RESTRICTION WILL NOT APPLY. ENDANGERED SPECIES - NONE
 MIGRATORY BIRDS - NONE

4. CULTURAL RESOURCES: THE CONTRACTOR SHALL BE AWARE THAT STATE BRIDGES 1-687 AND 1-688 ARE CONSIDERED STRUCTURES ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES. DELDOT ENVIRONMENTAL STUDIES SECTION MUST BE NOTIFIED AT (302) 760-2264 IF THERE ARE ANY PROPOSED CHANGES TO THE PROJECT METHODS, FOOTPRINT, MATERIALS, OR DESIGNS, TO ALLOW THE DEPARTMENT TO COORDINATE WITH THE APPROPRIATE RESOURCE AGENCIES (COE, DNREC, and SHPO), FOR APPROVAL.

5. FOR BRIDGE 1-688, SEE ENVIRONMENTAL COMPLIANCE PLAN FOR FURTHER RESTRICTIONS/GUIDANCE ASSOCIATED WITH THIS PROJECT.

6. THE CONTRACTOR MAY NOT WORK IN THE CHRISTINA RIVER THE FIRST SUNDAY OF OCTOBER (EACH YEAR). THE CONTRACTOR WILL NOT BE ALLOWED TO HAVE ANY EQUIPMENT, WORK BOATS, WORK PLATFORMS, ETC. IN THE MAIN CHANNEL CHRISTINA RIVER DURING THESE PERIODS.

MAINTENANCE OF TRAFFIC NOTES:

1. WORK SHALL BE PERFORMED IN A MANNER THAT WILL REASONABLY PROVIDE THE LEAST PRACTICABLE OBSTRUCTION TO TRAFFIC, CONSISTENT WITH SAFETY STANDARDS AND SHALL COMPLY WITH THE LATEST EDITION OF THE MANUAL TITLED "DELAWARE DEPARTMENT OF TRANSPORTATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS" HERE AFTER REFERED TO AS THE TRAFFIC CONTROL MANUAL.

2. MAINTENANCE OF TRAFFIC DURING LANE CLOSURES NOT DETAILED IN THE TRAFFIC CONTROL PLANS FOR THIS PROJECT SHALL CONFORM TO CASE 7 FOR SINGLE LANE CLOSURE AND CASE 9 FOR DOUBLE LANE CLOSURE AS SHOWN.

3. GRADING AND MAINTAINING BASE COURSE THAT IS BEING USED AS A TRAVELWAY, DRIVEWAY, ACCESS RAMP, ETC. SHALL BE INCIDENTAL TO ITEM 763500 - MAINTENANCE OF TRAFFIC. EXCESS BASE COURSE MATERIAL SHALL BE PUSHED AHEAD AND USED IN THE NEXT SEGMENT AND SHALL BE INCIDENTAL TO THE PARTICULAR BASE COURSE PAY ITEM. NO SEPARATE PAYMENT SHALL BE MADE FOR TEMPORARY ROADWAY MATERIAL (TRM) USED TO PROTECT EDGE DROP-OFFS, UNLESS THE MATERIAL IS EVENTUALLY UTILIZED AS PART OF A PERMANENT ROADWAY AT WHICH TIME THE MATERIAL WOULD BE PAID FOR UNDER THE RESPECTIVE CONTRACT MATERIAL ITEM. CONSTRUCTION OF A PLANNED RUNAROUND OR DETOUR WOULD BE ELIGIBLE FOR PAYMENT AS SPECIFIED IN THE CONTRACT.

4. THIS PROJECT IS CONSIDERED A SIGNIFICANT PROJECT AS DEFINED BY DELDOT'S WORK ZONE MOBILITY PROCEDURES AND GUIDELINES. A TYPE B TRANSPORTATION MANAGEMENT PLAN (TMP) HAS BEEN PREPARED AND IS AVAILABLE FOR VIEWING BY CONTACTING THE DEPARTMENT'S SAFETY PROGRAMS MANAGER AT (302)659-4060. ALL MONITORING REQUIREMENTS OF THE TMP SHALL BE CONDUCTED BY DELDOT FORCES UNLESS OTHERWISE DIRECTED BY THE ENGINEER. MODIFICATIONS TO THE TMP SHALL BE COMPLETED BY THE CONTRACTOR IF CHANGES TO THE TIME RESTRICTIONS OR THE TRAFFIC CONTROL PLAN ARE DESIRED. THE MODIFIED TMP SHALL BE PREPARED BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF DELAWARE.

5. A TYPE II TRUCK MOUNTED ATTENUATOR (TMA) SHALL BE REQUIRED ON THIS PROJECT DURING THE FOLLOWING OPERATIONS: TEMPORARY/PERMANENT PAVEMENT MARKINGS, ROADSIDE SPRAYING, PATCHING, MILLING, SWEEPING, TEMPORARY TRAFFIC BARRIER PLACEMENT OR AS DIRECTED BY THE ENGINEER. THE ROLL AHEAD DISTANCE SHALL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS. THE TMA SHALL CONFORM TO THE REQUIREMENTS OF SECTION 6F.82 OF THE DELAWARE MUTCD.

6. COVER OVERHEAD SIGNS AS NECESSARY. PAYMENT SHALL BE INCIDENTAL TO 763500 - MAINTENANCE OF TRAFFIC. THE COVERING MATERIAL AND THE MANNER OF SECURING THE MATERIAL TO THE SIGN PANEL(S), SHALL MEET WITH THE APPROVAL OF THE ENGINEER. THE ENGINEER WILL INDICATE TO THE CONTRACTOR WHICH SIGNS, IF ANY, MUST BE COVERED, AND WHEN TO REMOVE THE COVERS. SIGN COVERS SHALL BE 10 OUNCE (280g) COTTON DUCK CONFORMING TO ASTM D-320, ARMY DUCK, AND DYED TO A DARK GREEN APPROXIMATING THE GREEN FOR SIGN BACKGROUNDS.

7. THE CONTRACTOR SHALL ATTACH PLASTIC DRUMS TO THE OPEN GRID STEEL DECK. THE CONTRACTOR SHALL SUBMIT DETAILS TO THE ENGINEER FOR APPROVAL.

8. THE CONTRACTOR SHALL CONTACT MICHAEL ELLER, THE CHIEF OF SCHEDULING FOR DART FIRST STATE, 14 DAYS PRIOR TO THE START OF CONSTRUCTION OR PRIOR TO ANY ROAD/BRIDGE CLOSURE AT 302-576-6061.

9. THE CONTRACTOR MAY WORK SIMULTANEOUSLY ON BR 1-687 AND BR 1-688. SIMULTANEOUS WORK ON BR 1-693 WHICH REQUIRES TRAFFIC LANE CLOSURES WILL NOT BE ALLOWED.

10. THE RIVERWALK LOCATED UNDER SPAN 1-N OF BR-687 MUST REMAIN OPEN AT ALL TIMES. THE CONTRACTOR SHALL PROVIDE APPROPRIATE PEDESTRIAN PROTECTION IN COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT STANDARDS. PAYMENT FOR THIS PEDESTRIAN PROTECTION IS INCIDENTAL TO ITEM 602612 - ACCESS AND CONTAINMENT FOR BRIDGE REPAIRS.

11. CONTRACTOR SHALL PLACE CONSTRUCTION SAFETY FENCE AT THE BASE OF THE STAIRWAY TO BR 1-687 DURING PHASE 1 CONSTRUCTION. PAYMENT FOR THIS WORK SHALL BE INCIDENTAL TO ITEM 763500 - MAINTENANCE OF TRAFFIC

			CONTRACT QUANTITIES			
ITEM	U.O.M.	DESCRIPTION	BR 1-687	BR 1-693	BR 1-688	TOTAL
201000	LS	CLEARING AND GRUBBING	LS	LS	LS	1
202000	CY	EXCAVATION AND EMBANKMENT		36		36
211000	LS	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS			1
251000	LF	SILT FENCE		150		150
302007	CY	GRADED AGGREGATE BASE COURSE, TYPE B	3	43		46
601535	SF	TIMBER SIDEWALK	2985			2985
602013	CY	PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D	41	2		43
602017	CY	PORTLAND CEMENT CONCRETE MASONRY, PARAPET, CLASS A		14		14
602518	SF	WATER BASED ACRYLIC CONCRETE SEALER	600	9306		9906
602546	SF	WATERPROOFING P.C.C. MASONRY	18314	22591		40905
602572	LB	REPAIRING EXISTING P.C.C. STRUCTURES	7925	500		8425
602575	SF	DECK REPAIR, 1" TO 3" DEPTH	377	160		537
602576	SF	DECK REPAIR, 3" TO < FULL DEPTH	92	40		132
602577	SF	DECK REPAIR, FULL DEPTH	10	10		20
602579	EACH	DRILLING HOLES AND INSTALLING DOWELS	50	772		822
602580	CY	PARTIAL REMOVAL OF P.C.C. MASONRY	41	16		57
602586	CF	REHABILITATION OF CONCRETE STRUCTURE	67	30		97
602611	LF	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION	100	315		415
602612	LS	ACCESS AND CONTAINMENT FOR BRIDGE REPAIRS	LS	LS		1
602626	LF	ROUT AND SEAL CRACKS	100	315		415
602629	LF	CRACK SEALING BRIDGE DECKS, APPROACH SLABS, SIDEWALK, ETC.	456	2280		2736
602646	SF	SILICONE ACRYLIC CONCRETE SEALER	26994	20635		47629
603000	LB	BAR REINFORCEMENT	70			70
604000	LB	BAR REINFORCEMENT, EPOXY COATED	7477	2304		9781
605533	LS	CLEANING EXISTING STEEL STRUCTURES, HAZARDOUS BASE, (L.S.)	LS (20,000)*	LS (4800)*		1
605582	EACH	CLEANING BRIDGE SCUPPER	1	5		6
605585	LS	STEEL STRUCTURE REPAIR	LS	LS	LS	1
605590	LS	BASCULE MACHINERY REPLACEMENT	LS	LS		1
605591	SF	STEEL OPEN GRID BRIDGE DECK		177		177
605592	LF	WELDING REPAIRS		100		100
605619	LS	MOISTURE CURED URETHANE PAINT SYSTEM (OVERCOATING), L.S.	LS (20,000)*	LS (4800)*		1
605636	EACH	CLEAN AND LUBRICATE BRIDGE BEARINGS	90	36		126
605641	LF	JOINT REPAIR (COMPRESSION SEAL), 1"		142		142
605658	LF	STRIP SEAL EXPANSION JOINT, 2"	264			264
605676	LF	INFLATABLE EXPANSION JOINT SEAL, 3"		143		143
605692	LF	SILICONE JOINT SEAL	113	414		527
605730	LF	PREFABRICATED EXPANSION JOINT SYSTEM, 1"	200			200
606501	LF	METAL BRIDGE RAILING	22			22
606509	LF	REPAIRING METAL BRIDGE RAILING, ALUMINUM	921	1137		2058
701010	LF	PORTLAND CEMENT CONCRETE CURB, TYPE 1	40			40
701501	LF	RESET EXISTING STONE CURB	20			20
701508	LF	PORTLAND CEMENT CONCRETE MONOLITHIC MEDIAN CURB		51		51
705001	SF	P.C.C. SIDEWALK, 4"	192	340		532
705505	SF	RESET STONE/BRICK SIDEWALK AND/OR STONE/BRICK ROADWAY	160			160
712005	SY	RIPRAP, R-4		4		4
713002	SY	GEOTEXTILES, SEPARATION		87		87
715001	LF	PERFORATED PIPE UNDERDRAINS, 6"		31		31
720526	LF	PORTABLE P.C.C. STRUCTURE-MOUNTED SAFETY BARRIER	200			200
720532	EACH	INSTALL PORTABLE IMPACT ATTENUATOR	2			2
720534	EACH	FURNISH PORTABLE IMPACT ATTENUATOR	3			3
720539	EACH	RELOCATE PORTABLE IMPACT ATTENUATOR	2			2
720551	LF	RELOCATING PORTABLE P.C.C. STRUCTURE MOUNTED SAFETY BARRIER	200			200
732002	SY	TOPSOIL, 6" DEPTH		271		271
734013	SY	PERMANENT GRASS SEEDING, DRY GROUND		271		271
743003	EADY	ARROWPANELS, TYPE C	600	380	120	1100
743006	EADY	PLASTIC DRUMS	20010	13580	1200	34790
743007	HOURL	TRAFFIC OFFICERS	350	280	70	700
743050	HOURL	FLAGGER, NEW CASTLE COUNTY, STATE	3000	2500	600	6100
743062	HOURL	FLAGGER, NEW CASTLE COUNTY, STATE, OVERTIME	450	375	90	915
743504	EACH	WARNING SIGNS	40	52		92
743507	LF	TEMPORARY BARRICADE, TYPE III	17400	2700		20100
743009	EADY	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE I	60	115	60	235
743525	EADY	TEMPORARY WARNING SIGNS	420	805	420	1645
746662	LS	REPAIR BRIDGE ELECTRICAL SYSTEM	LS	LS		1
748015	SF	PERM. PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLASTIC	62	107	66	235
748019	LF	TEMPORARY MARKINGS, PAINT, 4"	260			260
748517	LF	BLACKOUT TAPE, 4"	415			415
748525	LF	TEMPORARY MARKINGS, TAPE, 4"	4345	5635		9980
748527	SF	TEMPORARY MARKINGS, TAPE, WORDS/SYMBOLS		1110		1110
748530	SF	REMOVAL OF PAVEMENT STRIPING	75			75
749687	EACH	INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLESIGN POST	2	10	4	16
758000	SY	REMOVAL OF EXISTING P.C.C. PAVEMENT, CURB, SIDEWALK, ETC.	22	65		87
762003	LF	SAW CUTTING, CONCRETE, VARIABLE DEPTH	400	30		430
763000	LS	INITIAL EXPENSE	LS	LS	LS	1
763500	LS	MAINTENANCE OF TRAFFIC	LS	LS	LS	1
763501	LS	CONSTRUCTION ENGINEERING	LS	LS	LS	1
763508	LS	PROJECT CONTROL SYSTEM DEVELOPMENT PLAN	LS	LS	LS	1
763509	EAMO	CPM SCHEDULE UPDATES AND/OR REVISED UPDATES	11	12	2	25
763522	LS	COAST GUARD SPECIFIC CONDITIONS	LS	LS	LS	1
763593	LS	MODIFICATIONS TO TRAFFIC BARRIER GATE	LS	LS	LS	1
763602	LS	BIRD CONTROL		LS		1
763623	LS	NETTING MIGRATORY BIRD EXCLUSION	LS	LS		1

* ESTIMATED AREA (SF)



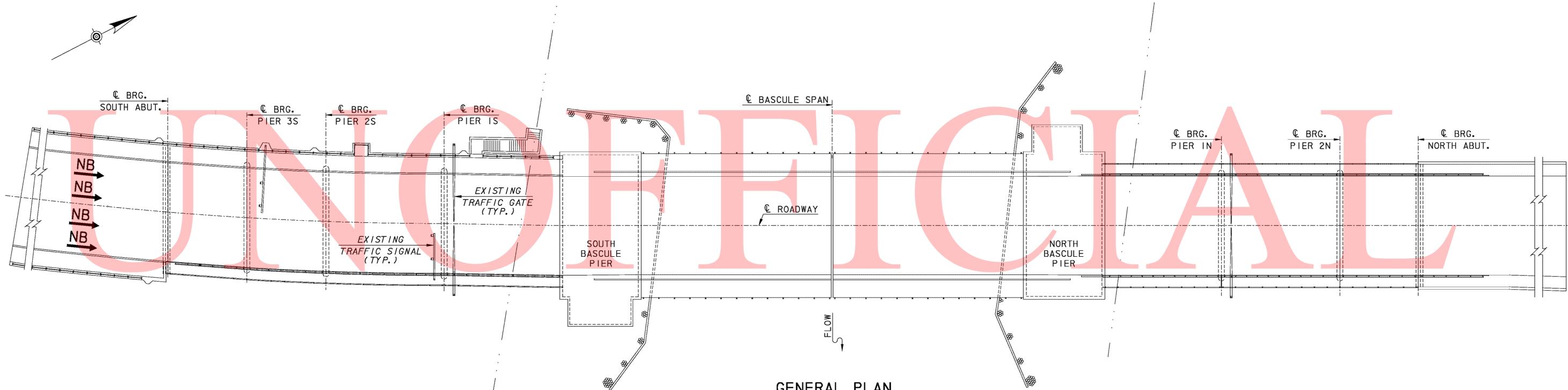
ADDENDUMS / REVISIONS	
Δ	REVISED NOTES

NOT TO SCALE

BR 1-687,1-688,1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

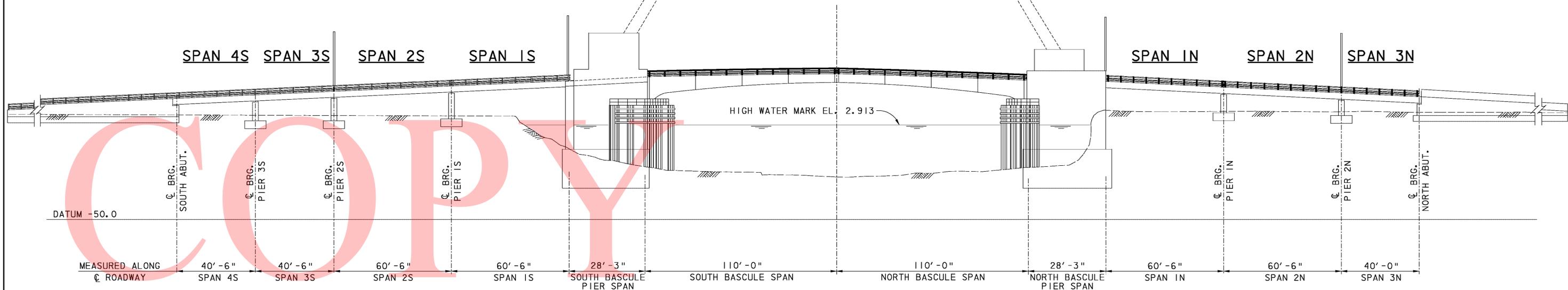
CONTRACT	BRIDGE NO.	NOTES
T201007405	DESIGNED BY: TM	
COUNTY	CHECKED BY: MAA	
NEW CASTLE		

SHEET NO.	4
TOTAL SHTS.	111



GENERAL PLAN

SCALE: 1" = 25'-0"



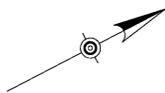
ELEVATION

SCALE: 1" = 25'-0"

BRIDGE 1-687 NOTES

1. INSTALL ACCESS AND CONTAINMENT SYSTEM TO PREVENT DEBRIS FROM FALLING ONTO PEDESTRIAN FACILITIES, ADJACENT PARKING AREAS, BUSINESS PROPERTIES, & CHRISTINA RIVER CHANNEL DURING REPAIR ACTIVITIES. ACCESS AND CONTAINMENT SYSTEM MUST BE APPROVED BY DELDOT PRIOR TO COMMENCEMENT OF WORK. PAYMENT SHALL BE INCIDENTAL TO ITEM 602612 (ACCESS AND CONTAINMENT FOR BRIDGE REPAIRS). DISTURBANCE TO THE CHANNEL IS NOT ALLOWED DURING CONSTRUCTION. EQUIPMENT AND MATERIALS SHALL NOT BE PLACED WITHIN THE CHANNEL LIMITS. TEMPORARY SUPPORTS, ACCESS PLATFORMS AND/OR RIGGING MUST BE SUPPORTED FROM THE BRIDGE DECK.
2. REPAIR SPALLS AND DELAMINATIONS ON BRIDGE DECK. PERFORM SOUNDING FOR CONCRETE DELAMINATION WITH DELDOT INSPECTOR PRESENT. SOUNDING IS INCIDENTAL TO THE APPROPRIATE SPALL REPAIR ITEM. REMOVE AND REPLACE DELAMINATED OR DETERIORATED CONCRETE. PAYMENT SHALL BE AS DESCRIBED IN THE PROJECT NOTES.
3. SEAL CRACKS ON BRIDGE DECK. PAYMENT SHALL BE UNDER ITEMS 602629. ALLOW TO DRY, AND THEN APPLY SILANE BASED SEALANT TO ENTIRE BRIDGE DECK. SILANE BASED SEALANT SHALL BE PAID UNDER ITEM 602546.
4. REPLACE THE EXPANSION JOINTS AS SHOWN IN THE EXPANSION JOINT REPLACEMENT DETAILS PROVIDED. REPAIRS ARE REQUIRED FOR THE FULL DECK WIDTH AT PIERS 2N, 2S, & 3S. PAYMENT IS UNDER ITEMS 602013, 604000 & 605730. REMOVAL OF EXISTING DECK PORTLAND CEMENT CONCRETE MATERIAL IS PAID UNDER ITEM 602580. REMOVAL OF STEEL REINFORCEMENT, CLEANING AND EPOXY COATING OF EXISTING STEEL REINFORCEMENT IS INCIDENTAL TO 602580. REMOVAL OF EXISTING JOINT MATERIALS INCLUDING STRIP SEAL, STEEL EXTRUSIONS AND ANCHORAGE IS INCIDENTAL TO ITEM 602580. SAWCUTTING IS PAID UNDER ITEM 762003. REMOVE AND STORE THE EXISTING STEEL BARRIER AS REQUIRED TO PERFORM JOINT REMOVAL. CONTRACTOR IS TO AVOID DAMAGE TO EXISTING STEEL BARRIER DURING REMOVAL. DAMAGED STEEL BARRIER WILL BE REPLACED IN KIND AT NO ADDITIONAL COST TO THE DEPARTMENT. REMOVAL AND STORAGE OF STEEL BARRIER IS INCIDENTAL TO ITEM 602580. UPON COMPLETION OF THE JOINT REPLACEMENT, THE REMOVED STEEL BARRIER WILL BE REINSTALLED PER THE DETAILS PROVIDED. THE STEEL BARRIER ANCHOR BOLT INSTALLATION IS PAID UNDER ITEMS 603000 AND 602579. ALL OTHER WORK ASSOCIATED WITH REINSTALLING THE STEEL BARRIER IS INCIDENTAL TO ITEM 605730.
5. REMOVE AND REPLACE THE DIAPHRAGMS AT PIER 2N AS INDICATED IN THE PLAN DETAILS. PROVIDE ADEQUATE BRACING TO ASSURE STABILITY OF THE EXISTING GIRDERS DURING REMOVAL AND ERECTION OPERATIONS. STEEL MEMBERS SHALL CONFORM TO AASHTO M270 GRADE 36 OR GRADE 50. PAYMENT FOR FABRICATION AND ERECTION OF NEW STEEL SHALL BE UNDER ITEM 605585. REMOVAL OF EXISTING STEEL SHALL BE PAID UNDER ITEM 211000.
6. APPLY WATER BASED ACRYLIC CONCRETE SEALANT TO THE SIDEWALK FACE NORTH WINGWALL BARRIERS. PAYMENT SHALL BE UNDER ITEM 602518.
7. REPLACE ALL EXISTING NEOPRENE STRIP SEALS AT THE SOUTH AND NORTH ABUTMENT AND PIER IS & IN. PAYMENT SHALL BE UNDER ITEM 605658. BLAST CLEAN THE EXISTING STEEL JOINT ARMOR TO REMOVE ALL RUST, LOOSE PAINT, DIRT, OIL, DEBRIS & DELAMINATION. ALL EXPOSED JOINT ARMOR SURFACES SHALL BE FIELD PAINTED IN ACCORDANCE WITH SECTION 605 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR CLEANING & PAINTING SHALL BE UNDER ITEMS ~~605629~~ AND ~~605629~~ 605619 AND 605533.
8. CLEAN, PAINT AND APPLY GREASE TO BRIDGE BEARINGS. FOR BEARINGS WITH VISIBLE CORROSION, REMOVE EXISTING PAINT, AND PREPARE SURFACE PRIOR TO APPLICATION OF NEW PAINT COATINGS. PAYMENT SHALL BE UNDER ITEMS ~~605629~~ 605533 AND ~~605629~~ 605619. APPLY GREASE TO NEWLY PAINTED BEARINGS. SPECIFICATIONS FOR GREASE SHALL COMPLY WITH PROJECT NOTES FOR THIS CONTRACT. APPLICATION OF GREASE FOR REPAINTED BEARINGS SHALL BE INCIDENTAL TO ITEM ~~605629~~ 605619. FOR REMAINING BEARINGS NOT TO BE RE-COATED WITH PAINT, APPLY GREASE TO BEARINGS. PAYMENT SHALL BE INCIDENTAL TO ITEM 605636. PRIOR TO APPLICATION OF GREASE, PREPARE BEARING SURFACE FOR APPLICATION AS REQUIRED FOR PROPER ADHERENCE OF THE GREASE, AND AS APPROVED BY THE DELDOT INSPECTOR. USE LOW PRESSURE WATER BLASTING TO REMOVE EXISTING DEBRIS. HAND WIPE TO REMOVE EXISTING DEBRIS IN LOCATIONS APPROVED BY THE DELDOT INSPECTOR. AVOID DAMAGE TO EXISTING PAINT COATING BY USING LOW PRESSURE WATER BLASTING SUFFICIENT TO REMOVE EXISTING DEBRIS AND CONTAMINANTS. GREASE SHALL BE APPLIED TO ALL BEARINGS ON BRIDGE. ALL DEBRIS ON PIER CAPS AND ABUTMENT BEARING SEATS SHALL BE REMOVED. REMOVAL OF DEBRIS IS INCIDENTAL TO ITEM ~~605629~~ 605533.
9. REPAIR SPALLS AND DELAMINATIONS ON UNDERSIDE (BOTTOM) OF BRIDGE DECK. PERFORM SOUNDING FOR CONCRETE DELAMINATION WITH DELDOT INSPECTOR PRESENT. SOUNDING IS INCIDENTAL TO THE APPROPRIATE SPALL REPAIR ITEM. REMOVE AND REPLACE DELAMINATED OR DETERIORATED CONCRETE. PAYMENT SHALL BE AS DESCRIBED IN PROJECT NOTES.
10. FULLY CLEAN AND PAINT ALL STEEL STRUCTURAL COMPONENTS OF THE APPROACH SPAN FASCIA GIRDERS. FULLY CLEAN AND PAINT ALL STEEL STRUCTURAL COMPONENTS OF THE APPROACH SPAN INTERIOR GIRDERS WITHIN 6' ON EITHER SIDE OF EACH DECK EXPANSION JOINT AND WITHIN 6' OF THE ENDS AT EACH ABUTMENT. FULLY CLEAN AND PAINT THE EXPOSED FACE OF EACH FLOORBEAM GIRDER ON THE SPANS IS AND IN FACE OF THE BASCULE PIER. ON THE REMAINING PORTIONS OF THE INTERIOR GIRDERS AND DIAPHRAGMS PERFORM SPOT CLEANING AND PAINTING OF STEEL STRUCTURAL COMPONENTS EXHIBITING ACTIVE CORROSION. PAYMENT SHALL BE UNDER ITEMS ~~605629~~ 605533 AND ~~605629~~ 605619. LOCATIONS TO BE SPOT PAINTED SHALL BE WHERE CORROSION OR DETERIORATION OF THE EXISTING PAINT COATING IS VISIBLE, AND AS APPROVED BY THE DELDOT INSPECTOR. LOCATIONS TO BE SPOT PAINTED WILL BE REVIEWED WITH THE DELDOT INSPECTOR PRIOR TO COMMENCEMENT OF CLEANING AND PAINTING OPERATIONS. COLOR OF PAINT SHALL MATCH EXISTING. PAINT SAMPLES SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING PAINTING OPERATIONS.
11. REPLACE DAMAGED BOTTOM RAIL OF THE STEEL BARRIER. LOCATIONS SHALL BE AS INDICATED IN THE DECK PLANS. STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A 500, GRADE B OR ASTM A 501. PAYMENT SHALL BE UNDER ITEM 605585. REMOVAL OF EXISTING BARRIER RAIL SHALL BE PAID UNDER ITEM 211000. CLEAN AND PAINT THE ENTIRE STEEL BRIDGE BARRIER INCLUDING ALL RAILING, POSTS, BASE PLATES AND CONNECTION HARDWARE. CLEAN AND PAINT THE PORTIONS OF THE BASCULE GIRDERS ABOVE THE RIDING SURFACE INCLUDING THE STEEL CURB. PAYMENT FOR CLEANING AND PAINTING SHALL BE UNDER ITEMS ~~605629~~ 605533 AND ~~605629~~ 605519.
12. REPAIR DAMAGED PORTIONS OF STEEL PEDESTRIAN RAILINGS AT THE SOUTH APPROACH PER THE DETAILS PROVIDED. PAYMENT SHALL BE UNDER ITEM 606501. REMOVAL OF EXISTING STEEL SHALL BE PAID UNDER ITEM 211000.
13. REATTACH ALL LOOSE ALUMINUM PEDESTRIAN RAILINGS. REPLACE ALL MISSING BOLTS OR ANCHOR BOLTS TO ENSURE PROPER ATTACHMENT OF RAILING TO POST AND/OR POST BASEPLATE TO SIDEWALK. PAYMENT SHALL BE INCIDENTAL TO ITEM 606509.
14. REPAIR SPALLS AND DELAMINATIONS IN CONCRETE ABUTMENTS, BACKWALLS AND WINGWALLS. PERFORM SOUNDING FOR DELAMINATION AROUND CRACKS, SPALLS AND DETERIORATION. SOUNDING IS INCIDENTAL TO THE APPROPRIATE SPALL REPAIR ITEM. REMOVE AND REPLACE DELAMINATED OR DETERIORATED CONCRETE. PAYMENT SHALL BE AS DESCRIBED IN THE PROJECT NOTES.
15. REPAIR CRACKS IN CONCRETE ABUTMENTS, BACKWALLS AND WINGWALLS. CRACK REPAIR SHALL BE PERFORMED UNDER PAY ITEM 602626 OR 602611, AS APPROVED BY DELDOT INSPECTOR.
16. APPLY SILICONE ACRYLIC CONCRETE SEALANT TO ALL EXPOSED VERTICAL AND HORIZONTAL SURFACES OF CONCRETE ABUTMENTS, BACKWALLS AND WINGWALLS. SEE PROJECT NOTES FOR ADDITIONAL CLARIFICATION OF SEALANT COATING REQUIREMENTS. PAYMENT SHALL BE INCIDENTAL TO ITEM 602646. ENSURE PROPER SURFACE PREPARATION PRIOR TO APPLICATION OF SEALANT, IN ACCORDANCE WITH SPECIAL PROVISION REQUIREMENTS.
17. REPAIR SPALLS AND DELAMINATIONS ON CONCRETE PIERS AND PIER CAPS. PERFORM SOUNDING FOR DELAMINATION AROUND CRACKS, SPALLS AND DETERIORATION. SOUNDING IS INCIDENTAL TO THE APPROPRIATE SPALL REPAIR ITEM. REMOVE AND REPLACE DELAMINATED OR DETERIORATED CONCRETE. PAYMENT SHALL BE AS DESCRIBED IN THE PROJECT NOTES.
18. REPAIR CRACKS ON PIERS AND PIER CAPS. CRACK REPAIR SHALL BE PERFORMED UNDER PAY ITEMS 602611 AND 602626, AS APPROVED BY DELDOT INSPECTOR.
19. APPLY SILICONE ACRYLIC CONCRETE SEALANT TO ALL EXPOSED VERTICAL AND HORIZONTAL SURFACES OF CONCRETE PIERS. SEE PROJECT NOTES FOR ADDITIONAL CLARIFICATION OF SEALANT COATING REQUIREMENTS. PAYMENT SHALL BE UNDER ITEM 602646. ENSURE PROPER SURFACE PREPARATION PRIOR TO APPLICATION OF SEALANT, IN ACCORDANCE WITH SPECIAL PROVISION REQUIREMENTS.
20. CLEAN AND FLUSH SCUPPER DRAINS ON BRIDGE DECK. PAYMENT SHALL BE UNDER ITEM 605582.
21. RESET EXISTING LOOSE CAPSTONE PER THE DETAIL PROVIDED IN PLANS. PAYMENT SHALL BE UNDER ITEM 602579.
22. REPLACE SIDEWALK AND CURB PER THE DETAILS PROVIDED. LOCATION IS AS SHOWN IN THE PLANS. PAYMENT SHALL BE UNDER ITEMS 701010, 705001 AND 758000.
23. REPLACE DETERIORATED SEAL AT DECK ACCESS PANEL WITH SILICONE JOINT SEAL. PAYMENT SHALL BE UNDER ITEM 605692.
24. REPAIR THE LIVE LOAD ANCHORAGE PER THE DETAILS PROVIDED IN THE PLANS.
25. REPAIR THE SIDEWALK STRINGER PER THE DETAILS PROVIDED IN THE PLANS.
26. REPLACE PORTIONS OF THE SIDEWALK PER THE DETAILS PROVIDED IN THE PLANS.
27. PERFORM MECHANICAL REPAIRS PER THE DETAILS PROVIDED IN THE PLANS.
28. THE DIMENSIONS SHOWN ON THE PLANS ARE BASED ON THE EXISTING BRIDGE PLANS. THE EXISTING BRIDGE PLANS ARE AVAILABLE UPON REQUEST FROM THE DELAWARE DEPARTMENT OF TRANSPORTATION. THE APPLICABLE CONSTRUCTION CONTRACT NUMBERS ARE 1224-(3), 1224-(4), 24-121-01/05 AND 89-074-05. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONING SHOWN PRIOR TO CALCULATING QUANTITIES AND ORDERING MATERIALS. REINFORCEMENT BAR LENGTHS SHALL BE VERIFIED IN THE FIELD PRIOR TO ORDERING.

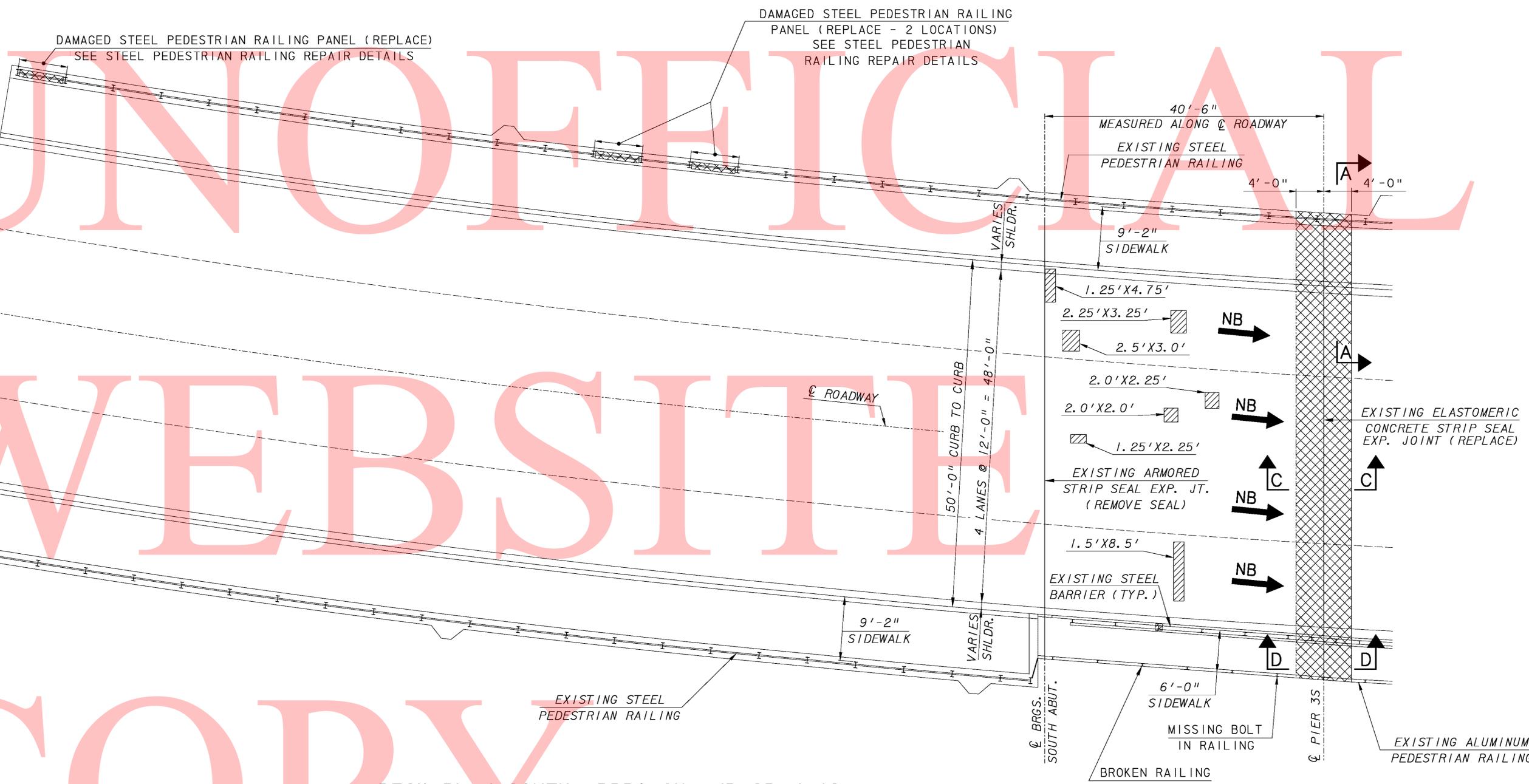
 DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		SCALE AS NOTED	BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER	CONTRACT	BRIDGE NO.	1-687	SITE NOTES	SHEET NO.
	△ REVISED NOTES				T201007405	DESIGNED BY:	AJF		6
					COUNTY	CHECKED BY:	BSB		TOTAL SHTS.
					NEW CASTLE				111



UNOFFICIAL

WEBSITE

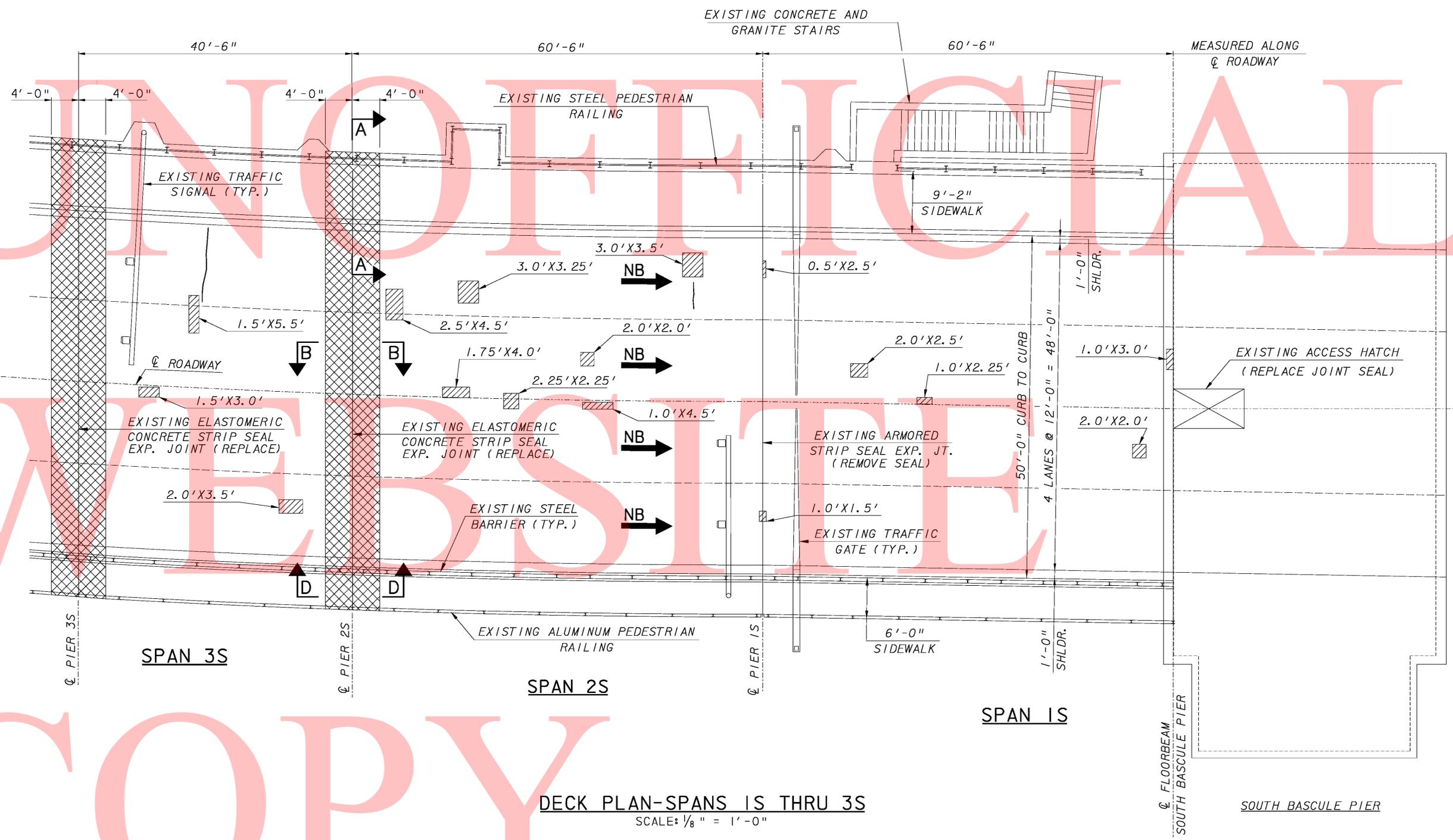
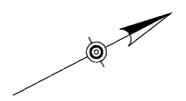
COPY



DECK PLAN-SOUTH APPROACH AND SPAN 4S
 SCALE: 1/8" = 1'-0"

SPAN 4S

- LEGEND:**
-  LIMIT OF REMOVAL
 -  DELAMINATED CONCRETE, DECK SPALL OR FAILED/RAISED DECK PATCH
 -  DECK CRACK



DECK PLAN-SPANS 1S THRU 3S
SCALE: 1/8" = 1'-0"

- LEGEND:**
- LIMIT OF REMOVAL
 - DELAMINATED CONCRETE, DECK SPALL OR FAILED/RAISED DECK PATCH
 - DECK CRACK

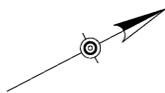
ADDENDUMS / REVISIONS	

SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT T201007405	BRIDGE NO. 1-687
COUNTY NEW CASTLE	DESIGNED BY: AJF
	CHECKED BY: BSB

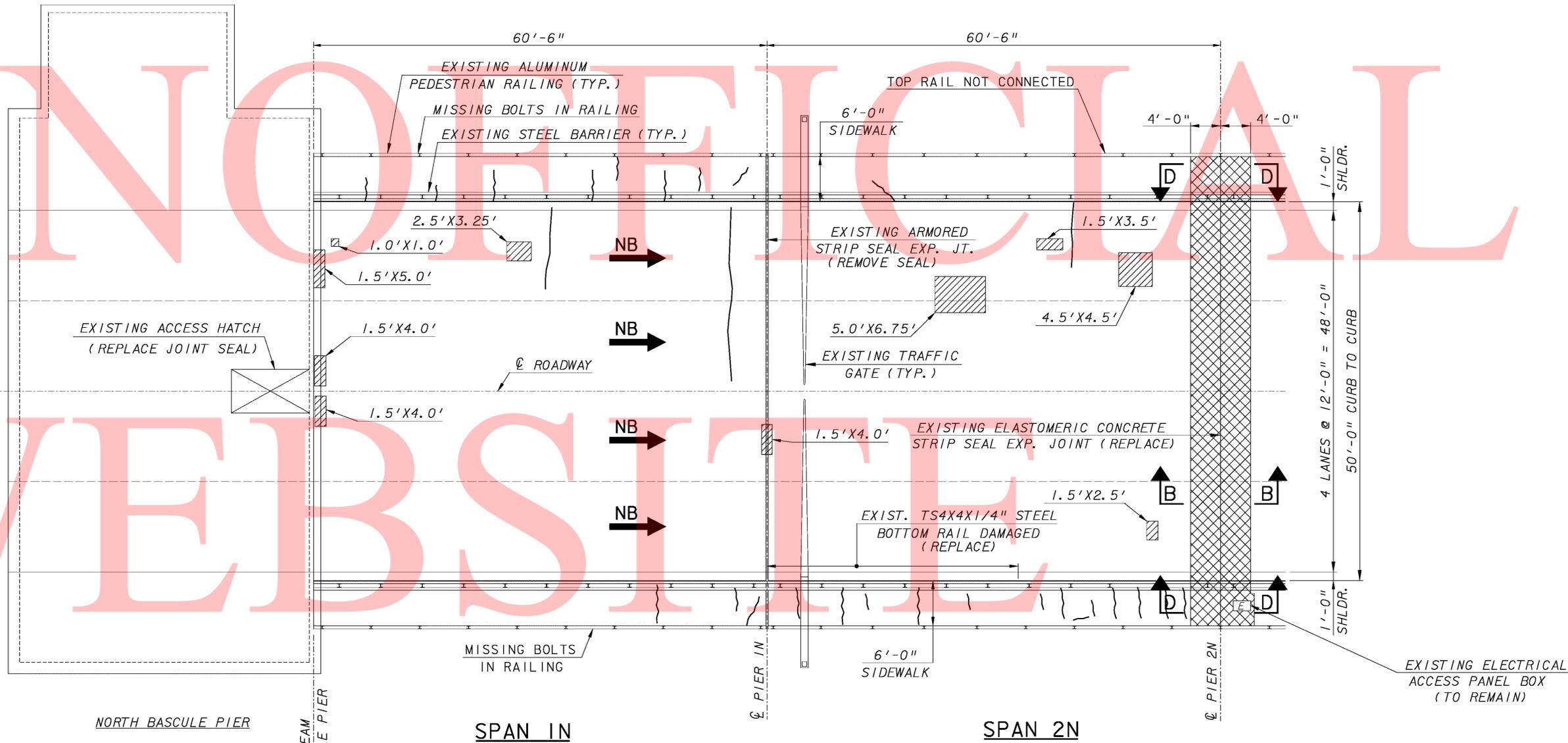
DECK PLAN
SPANS 1S THRU 3S



UNOFFICIAL

WEBSTREET

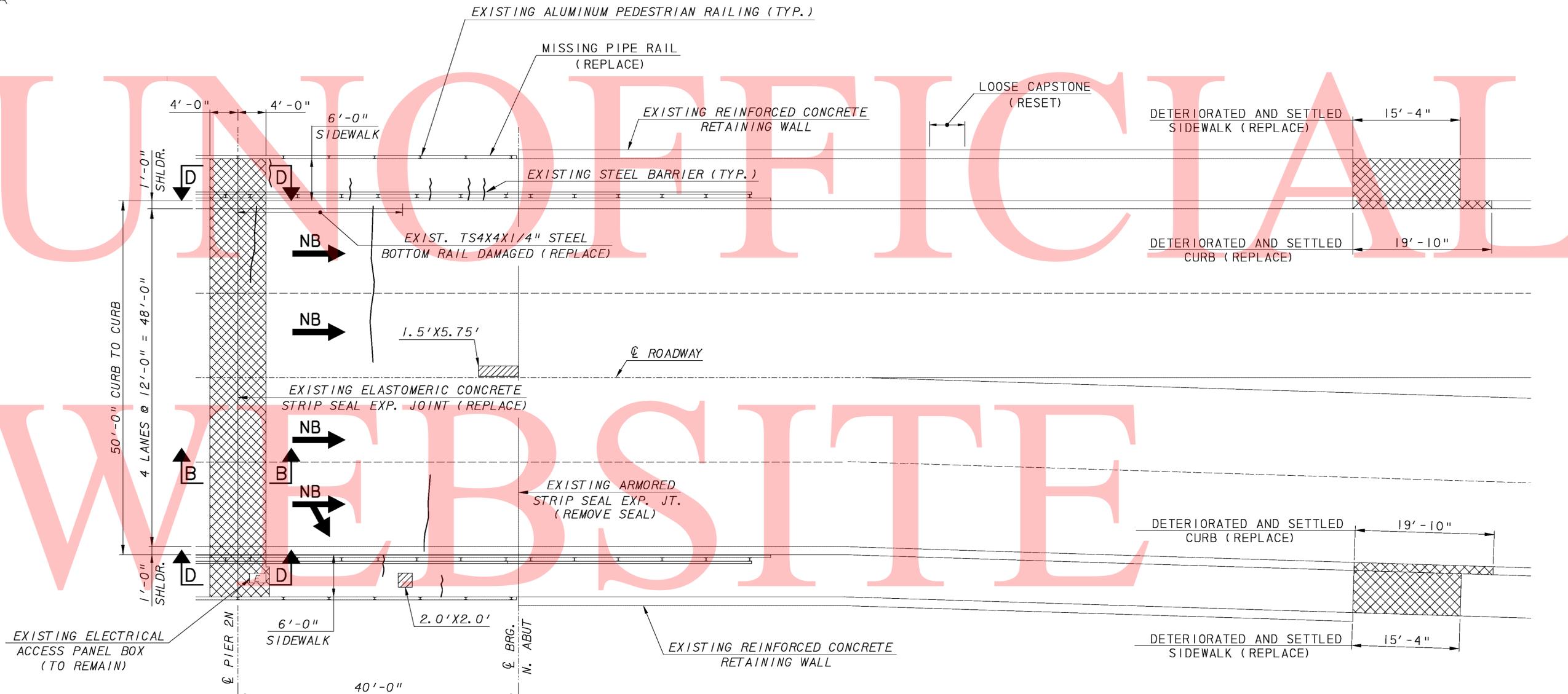
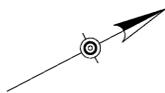
COPY



DECK PLAN-SPANS IN THRU 2N
SCALE: 1/8" = 1'-0"

- LEGEND:**
- LIMIT OF REMOVAL
 - DELAMINATED CONCRETE, DECK SPALL OR FAILED/RAISED DECK PATCH
 - DECK CRACK

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		SCALE AS NOTED	BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER	CONTRACT T201007405	BRIDGE NO. 1-687	DECK PLAN SPANS 1N THRU 2N	SHEET NO. 9
					COUNTY NEW CASTLE	DESIGNED BY: AJF		TOTAL SHTS. 111
					CHECKED BY: BSB			



SPAN 3N

DECK PLAN-SPAN 3N AND NORTH APPROACH

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

LEGEND:

- LIMIT OF REMOVAL
- DELAMINATED CONCRETE, DECK SPALL OR FAILED/RAISED DECK PATCH
- DECK CRACK

ADDENDUMS / REVISIONS	

SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT	BRIDGE NO.	1-687
T201007405	DESIGNED BY:	AJF
COUNTY	CHECKED BY:	BSB
NEW CASTLE		

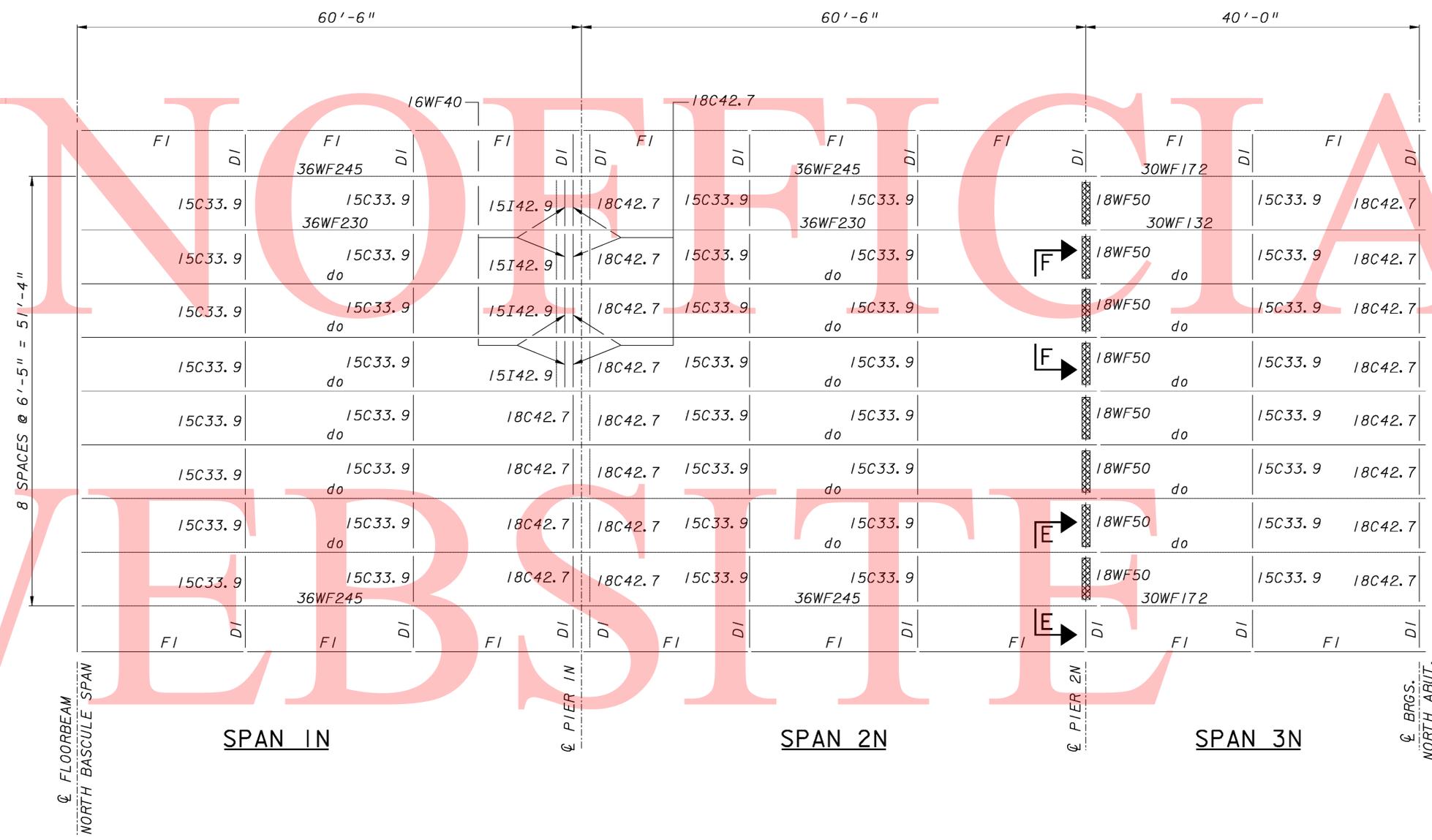
DECK PLAN SPAN 3N AND NORTH APPROACH

SHEET NO.	10
TOTAL SHTS.	111

UNNOTIFIED

WEBSTEEL

COPY



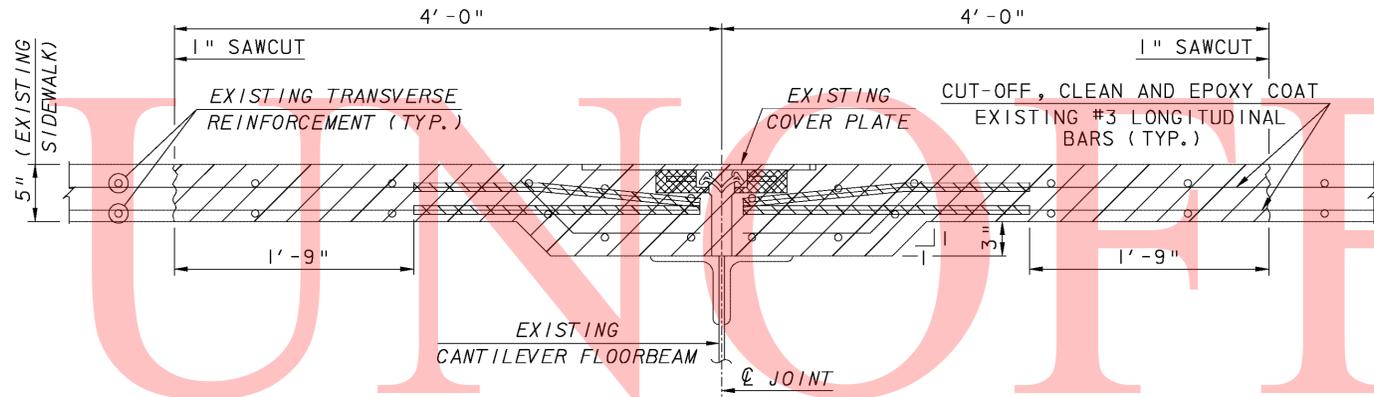
LEGEND:

FI = EXISTING BUILT-UP GIRDER;
SEE CONTRACTS 1224-(4) & 59-074-05 PLANS
FOR MEMBER SIZE.

DI = EXISTING BUILT-UP CANTILEVER FLOORBEAM;
SEE CONTRACTS 1224-(4) & 59-074-05 PLANS
FOR MEMBER SIZE.

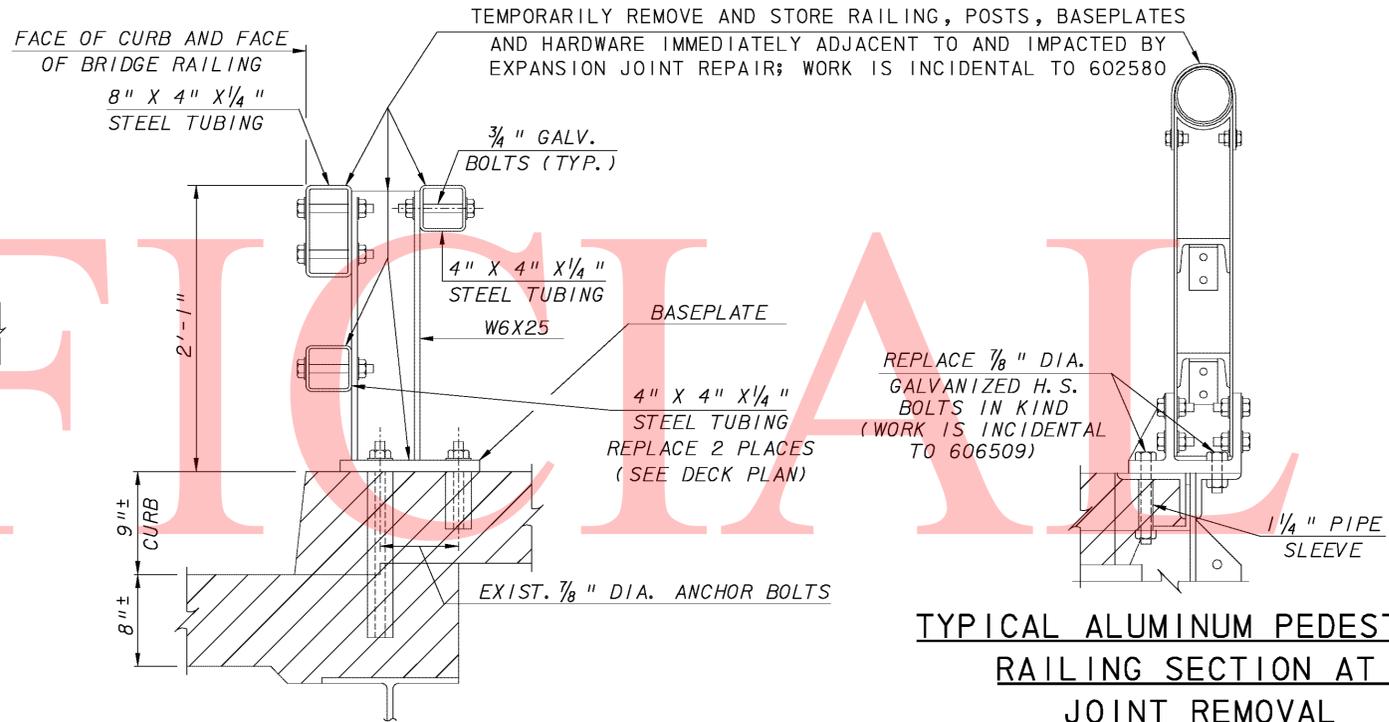
▨ LIMIT OF REMOVAL

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		SCALE AS NOTED	BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER	CONTRACT	BRIDGE NO.	1-687	FRAMING PLAN DEMOLITION SPANS 1N THRU 3N	SHEET NO.
					T201007405	DESIGNED BY:	AJF		TOTAL SHTS.
					NEW CASTLE	CHECKED BY:	BSB		111



SECTION D-D

6 0 6 INCHES
SCALE: 1 1/2" = 1' - 0"

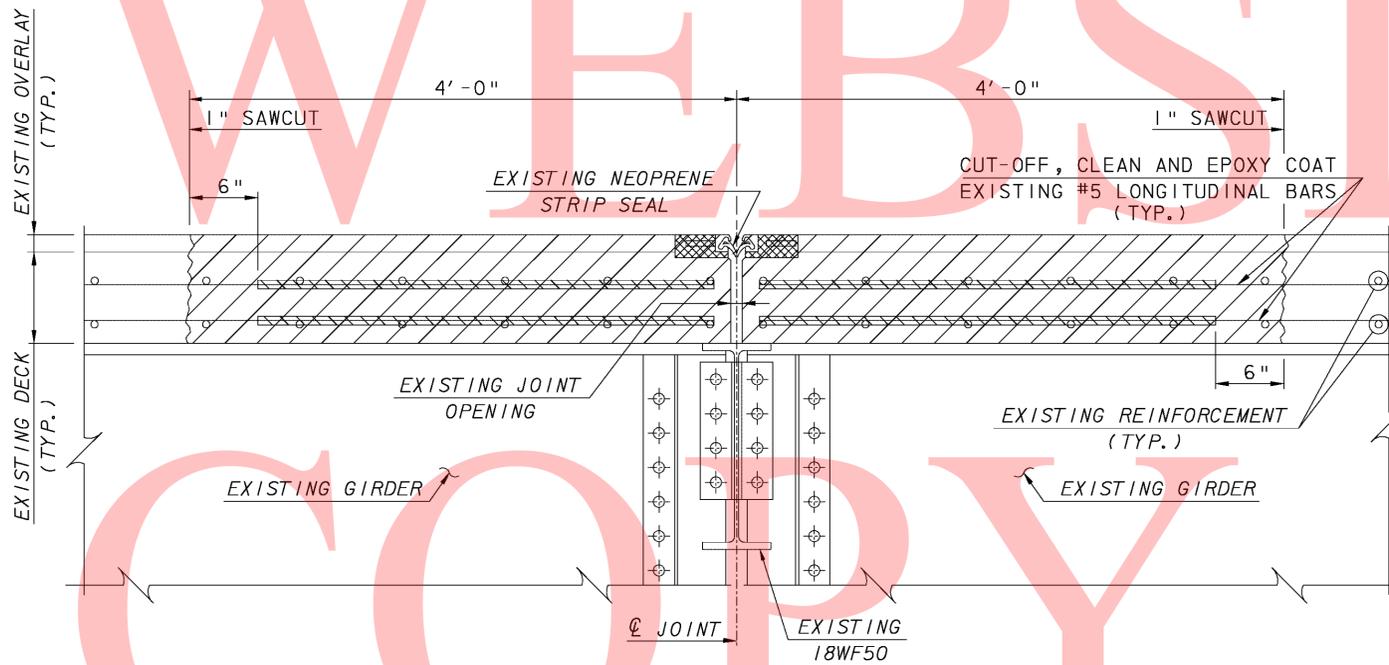


STEEL BARRIER SECTION AT JOINT REMOVAL

6 0 6 INCHES
SCALE: 1 1/2" = 1' - 0"

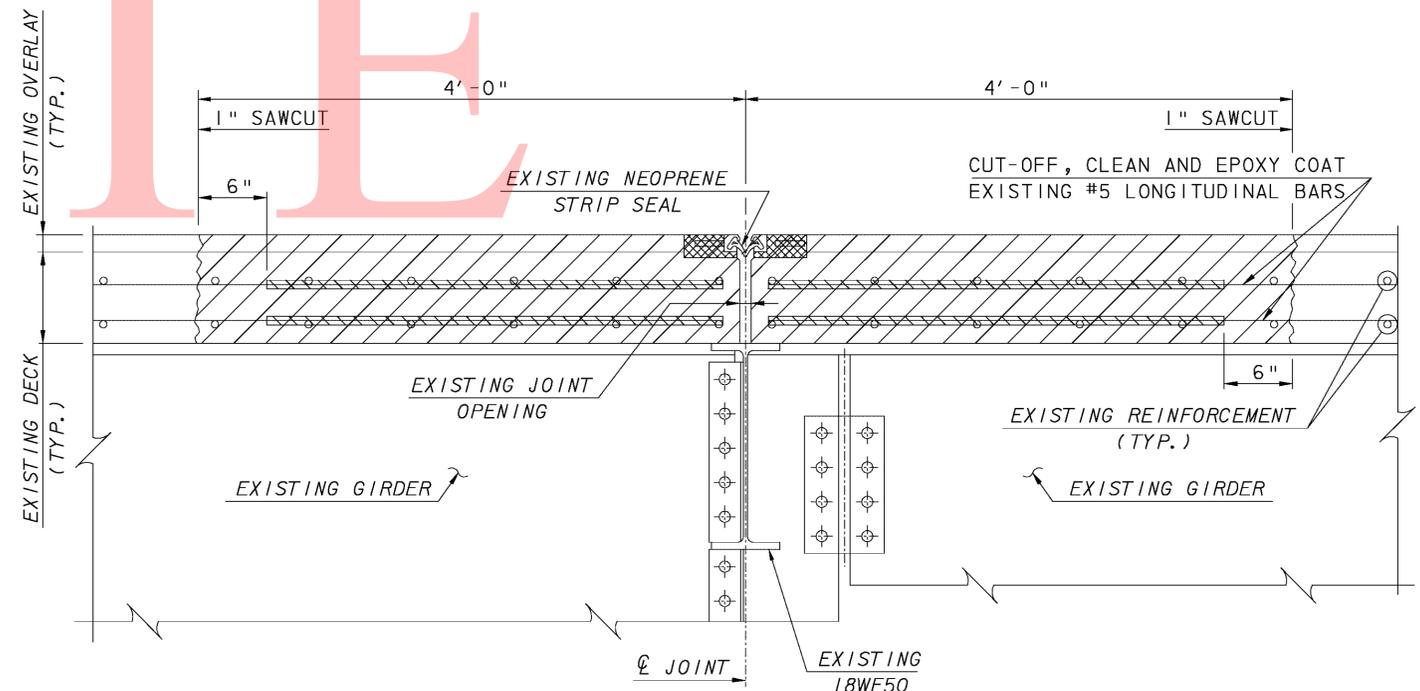
TYPICAL ALUMINUM PEDESTRIAN RAILING SECTION AT JOINT REMOVAL

6 0 6 INCHES
SCALE: 1 1/2" = 1' - 0"



SECTION C-C

6 0 6 INCHES
SCALE: 1 1/2" = 1' - 0"



SECTION B-B

6 0 6 INCHES
SCALE: 1 1/2" = 1' - 0"

LEGEND:



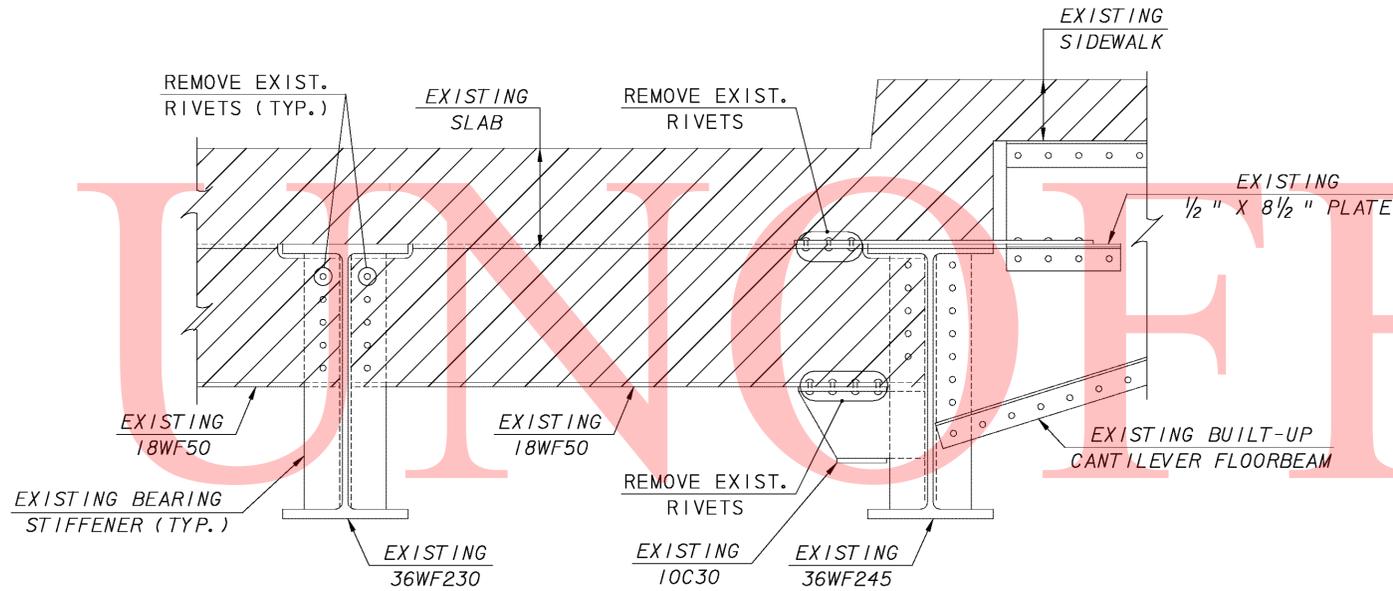
SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

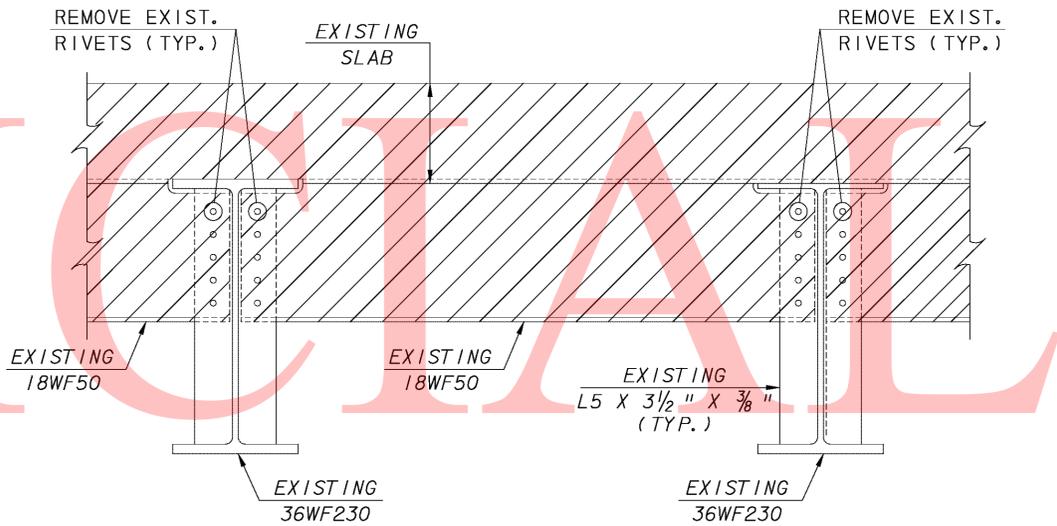
CONTRACT	BRIDGE NO.	1-687
T201007405	DESIGNED BY:	AJF
COUNTY	CHECKED BY:	BSB
NEW CASTLE		

EXPANSION JOINT DEMOLITION DETAILS-1

SHEET NO.	12
TOTAL SHTS.	111



VIEW E-E
 0 1 FOOT
 SCALE: 1"=1'-0"



VIEW F-F
 0 1 FOOT
 SCALE: 1"=1'-0"

NOTE: STEEL BARRIER AND DECK REINFORCEMENT NOT SHOWN FOR CLARITY.

LEGEND:

LIMIT OF REMOVAL

NOTE: DECK REINFORCEMENT NOT SHOWN FOR CLARITY.

EXIST. STEEL PEDESTRIAN RAILING (REMOVE AND STORE - REMOVE RAILING AND POSTS TO NEAREST RAILING EXPANSION JOINT ON BOTH SIDES OF JOINT; WORK IS INCIDENTAL TO ITEM 602580)

BRICK PAVERS (REMOVE AND STORE)

GRANITE PAVERS (REMOVE AND STORE)

EXIST. 8" GRANITE CURB (REMOVE AND STORE)

EXIST. #5 BAR CURB ANCHOR (CUT OFF FLUSH WITH BACK OF CURB)

3/4" WEB PLATE

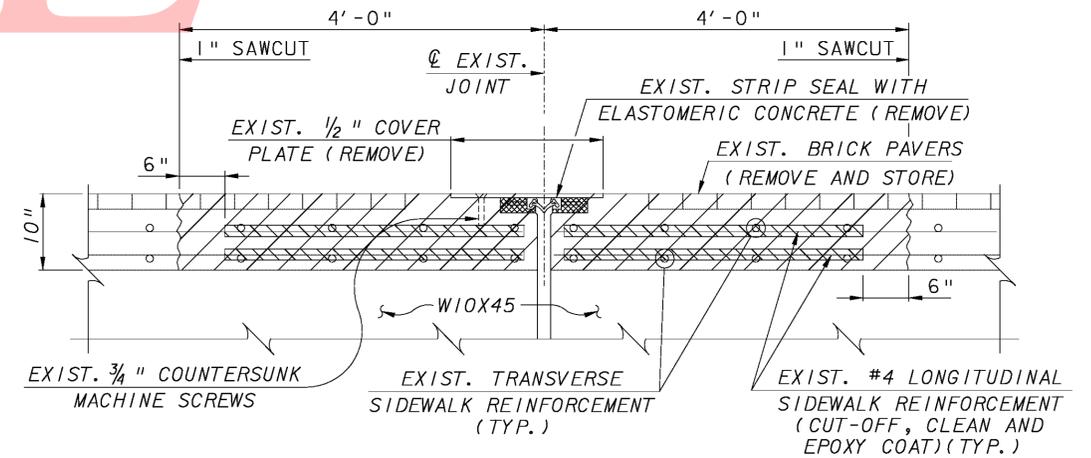
8" X 3/4" BOTTOM FLANGE

EXISTING SIDEWALK BRACKET

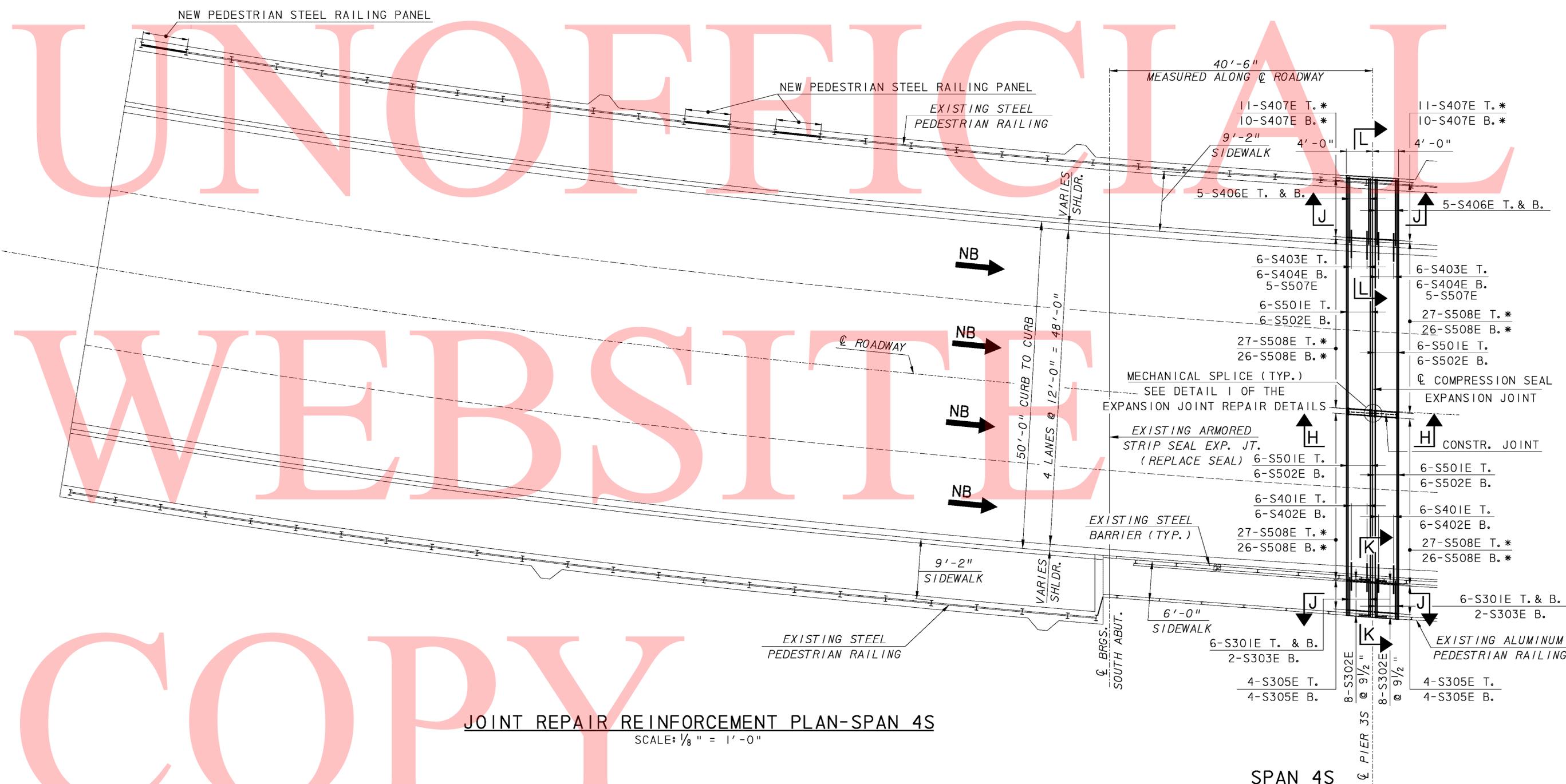
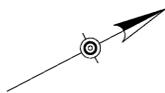
EXISTING C15X33.9

EXISTING 30WF172 IN SPANS 1 & 2
 36WF245 BEAM IN SPANS 3 & 4

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



SECTION G-G
 0 1 FOOT
 SCALE: 1"=1'-0"

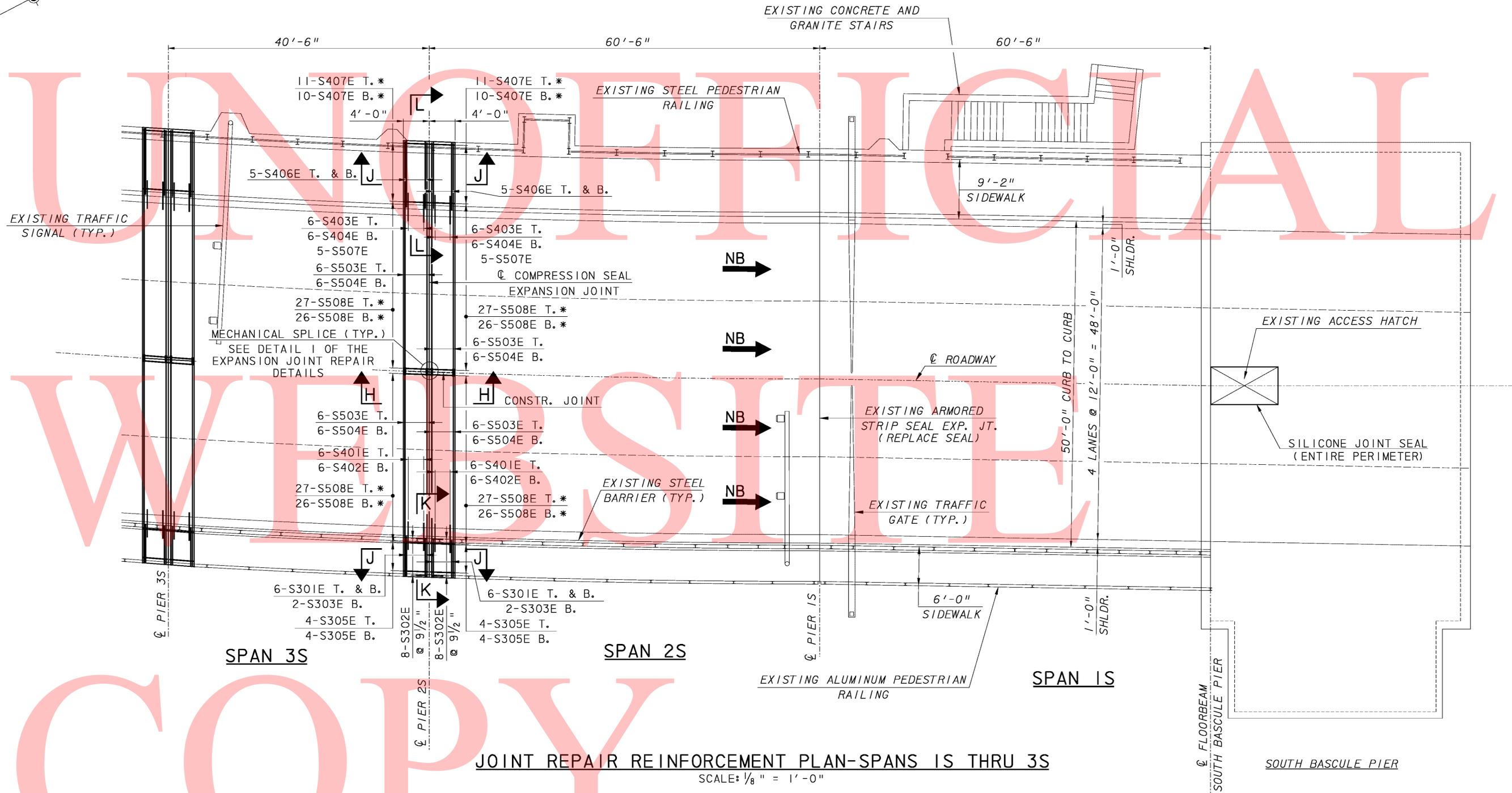
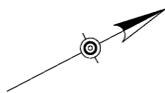


JOINT REPAIR REINFORCEMENT PLAN-SPAN 4S
 SCALE: 1/8" = 1'-0"

SPAN 4S

- NOTES:
1. LONGITUDINAL BAR LOCATIONS TO MATCH EXISTING LONGITUDINAL BAR LOCATIONS.
 2. SEE SECTIONS FOR TRANSVERSE BAR SPACING.

* FOR MECHANICAL SPLICE TO EXISTING REINFORCEMENT, SEE DETAIL 2 OF THE EXPANSION JOINT REPAIR DETAILS.

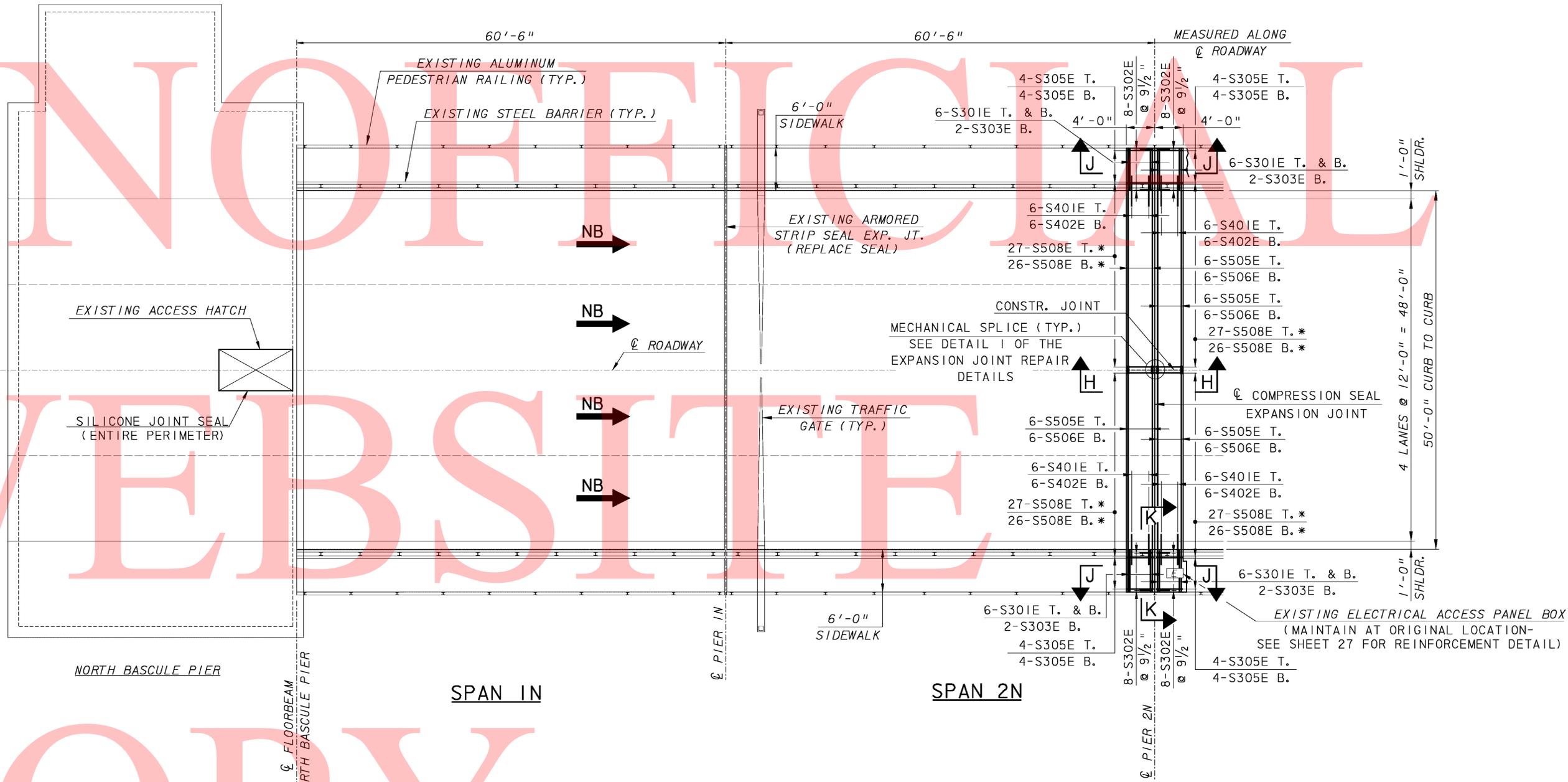
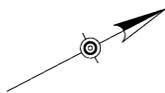


JOINT REPAIR REINFORCEMENT PLAN-SPANS 1S THRU 3S
 SCALE: 1/8" = 1'-0"

- NOTES:**
1. LONGITUDINAL BAR LOCATIONS TO MATCH EXISTING LONGITUDINAL BAR LOCATIONS.
 2. SEE SECTIONS FOR TRANSVERSE BAR SPACING.
 3. SEE JOINT REPAIR REINFORCEMENT PLAN OF SPAN 4S FOR THE REINFORCEMENT BAR MARKS AT THE EXPANSION JOINT ABOVE PIER 3S.

* FOR MECHANICAL SPLICE TO EXISTING REINFORCEMENT, SEE DETAIL 2 OF THE EXPANSION JOINT REPAIR DETAILS.

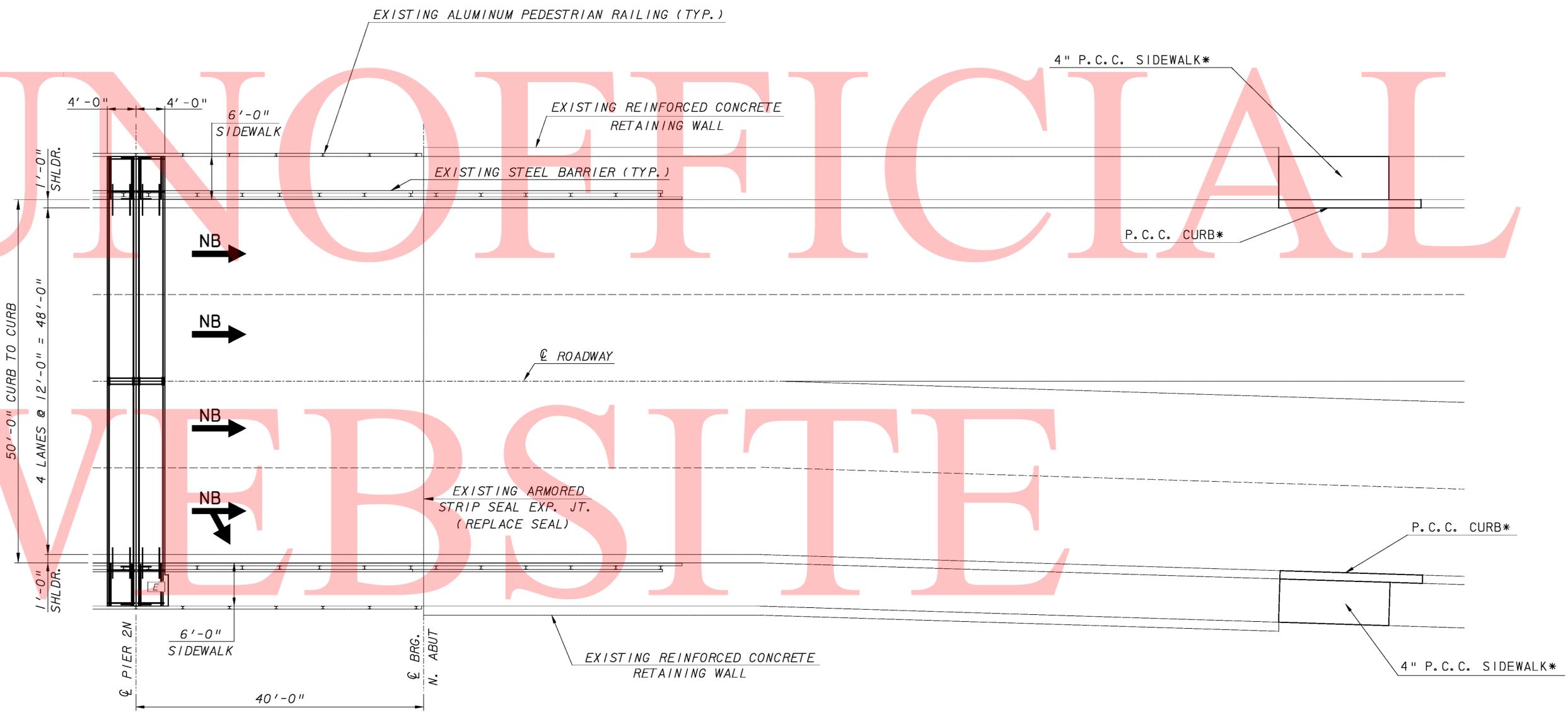
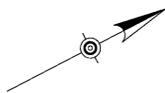
	ADDENDUMS / REVISIONS		SCALE AS NOTED	BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER	CONTRACT	BRIDGE NO.	1-687 DESIGNED BY: AJF CHECKED BY: BSB	SHEET NO.
					T201007405	NEW CASTLE		15
								TOTAL SHTS.
								111
DELAWARE DEPARTMENT OF TRANSPORTATION				JOINT REPAIR REINFORCEMENT PLAN SPANS 1S THRU 3S				



JOINT REPAIR REINFORCEMENT PLAN-SPANS IN THRU 2N
 SCALE: 1/8" = 1'-0"

- NOTES:**
- LONGITUDINAL BAR LOCATIONS TO MATCH EXISTING LONGITUDINAL BAR LOCATIONS.
 - SEE SECTIONS FOR TRANSVERSE BAR SPACING.

* FOR MECHANICAL SPLICE TO EXISTING REINFORCEMENT, SEE DETAIL 2 OF THE EXPANSION JOINT REPAIR DETAILS.



SPAN 3N

JOINT REPAIR REINFORCEMENT PLAN-SPAN 3N AND NORTH APPROACH

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

NOTES:

SEE JOINT REPAIR REINFORCEMENT PLAN OF SPANS 1N THRU 2N FOR THE REINFORCEMENT BAR MARKS AT THE EXPANSION JOINT ABOVE PIER 2N.

*SEE MISCELLANEOUS DETAILS AND REINFORCEMENT BAR SCHEDULE PLAN SHEET.

ADDENDUMS / REVISIONS	

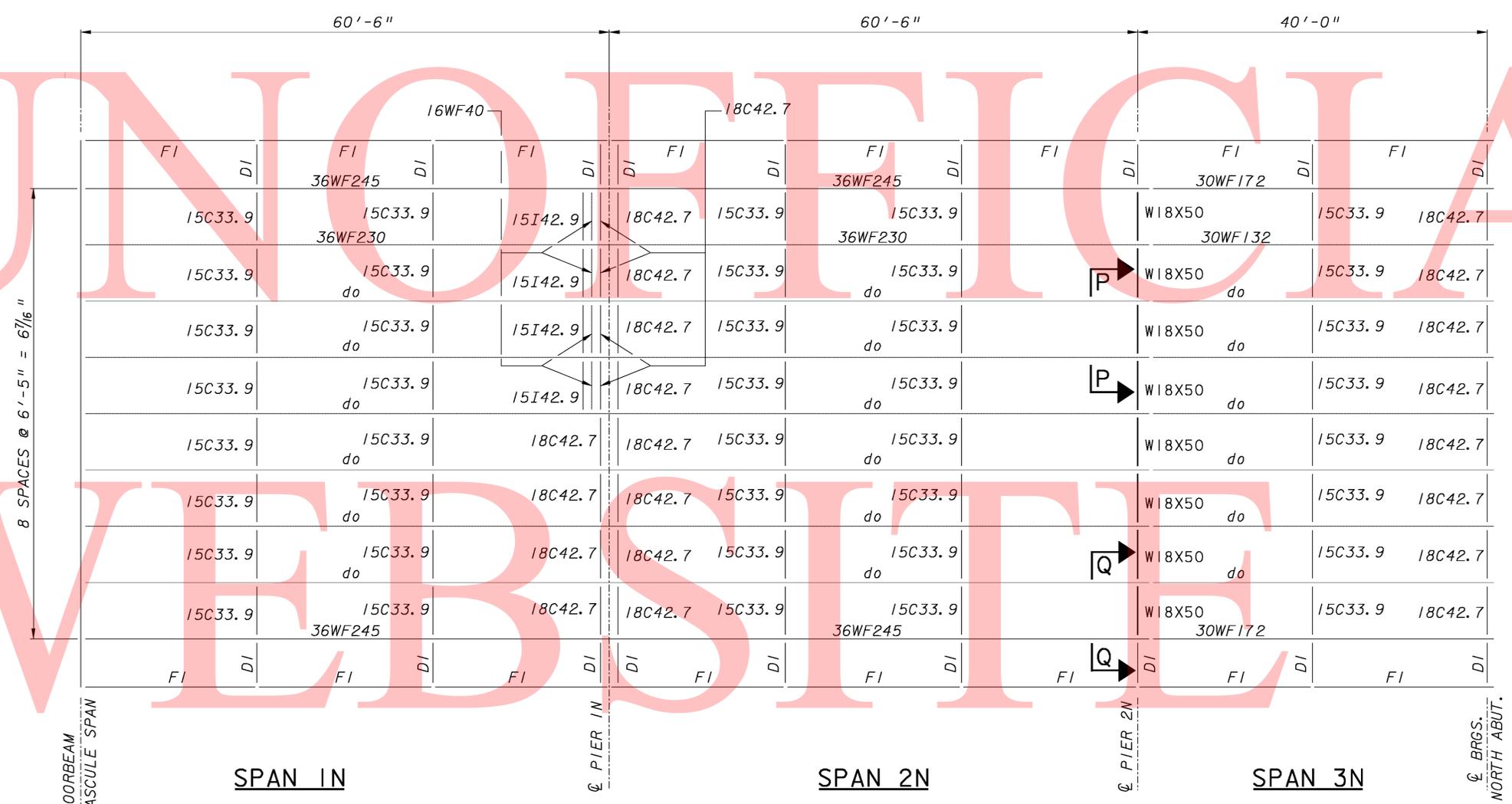
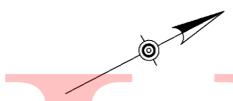
SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT T201007405	BRIDGE NO. 1-687
COUNTY NEW CASTLE	DESIGNED BY: AJF
	CHECKED BY: BSB

JOINT REPAIR REINFORCEMENT PLAN SPAN 3N AND NORTH APPROACH

SHEET NO. 17
TOTAL SHTS. 111

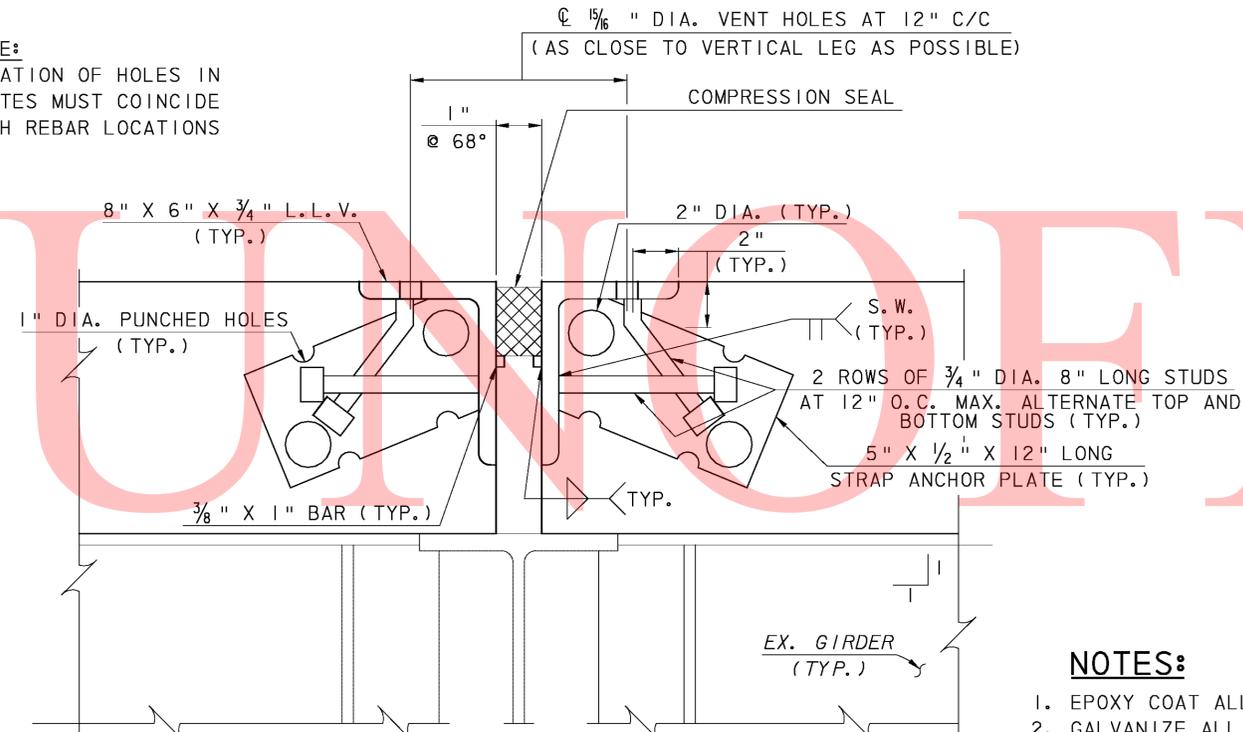


FRAMING PLAN
SPANS IN THRU 3N
 SCALE: 1/8" = 1'-0"

LEGEND:

- FI = EXISTING BUILT-UP GIRDER;
SEE CONTRACTS 1224-(4) & 59-074-05 PLANS FOR MEMBER SIZE.
- DI = EXISTING BUILT-UP CANTILEVER FLOORBEAM;
SEE CONTRACTS 1224-(4) & 59-074-05 PLANS FOR MEMBER SIZE.

NOTE:
LOCATION OF HOLES IN
PLATES MUST COINCIDE
WITH REBAR LOCATIONS



NOTE:
REINFORCEMENT NOT SHOWN

ARMOR ANCHORAGE DETAIL - L8x6x3/4

3 0 3 INCHES
SCALE: 3"=1'-0"

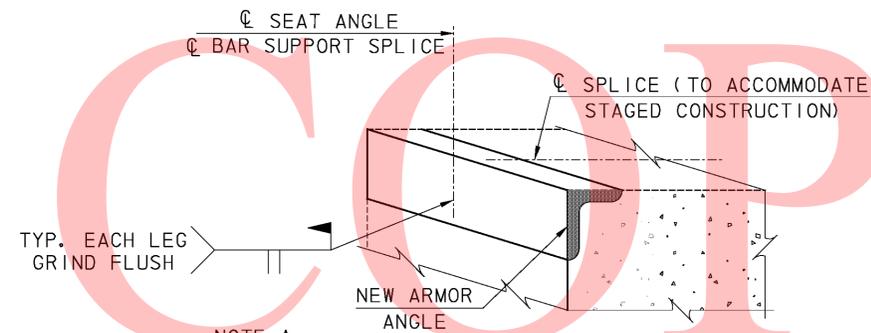
MEADOWBURKE RC-53 OR LENTON A2
THREADED MECHANICAL SPLICE
(OR APPROVED EQUAL)

#5 EPOXY COATED
REINFORCEMENT BAR
(TYP.)

NOTE:
MECHANICAL SPLICE
INCIDENTAL TO
ITEM 604000.

REINFORCEMENT BAR SPLICE DETAIL 1

NOT TO SCALE



NOTE A

SECTION OF THE STEEL EXTRUSION SHALL BE
WELDED AS PER MANUFACTURER'S RECOMMENDATION.

EXTRUSION JOINT SPLICE DETAIL

NOT TO SCALE

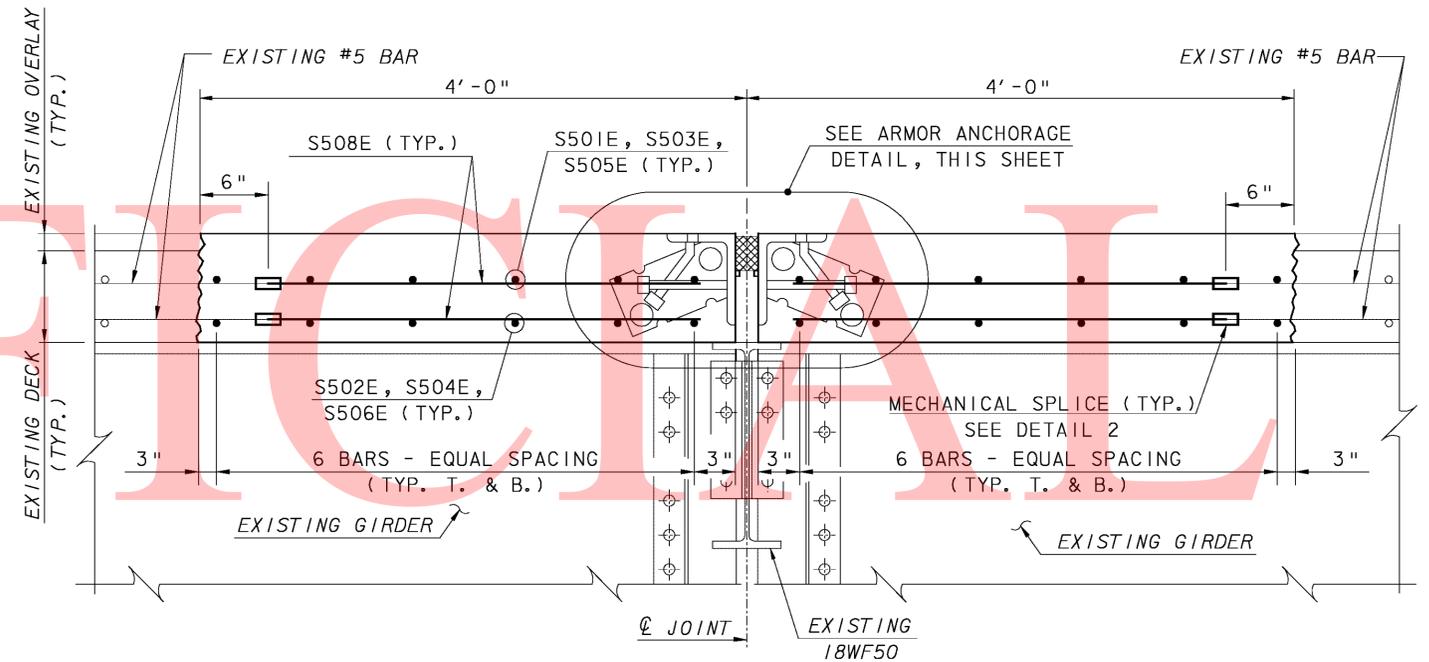
MECHANICAL SPLICE DIMENSIONS

REINF. BAR SIZE	L*	t
#4	1 7/8"	1 3/4"
#5	2 1/8"	2"

NOTES:

1. MECHANICAL SPLICE INCIDENTAL TO ITEM 604000.
2. t = THREADED LENGTH
3. L = LENGTH OF SPLICE

* DIMENSIONS MAY VARY BY
MANUFACTURER.

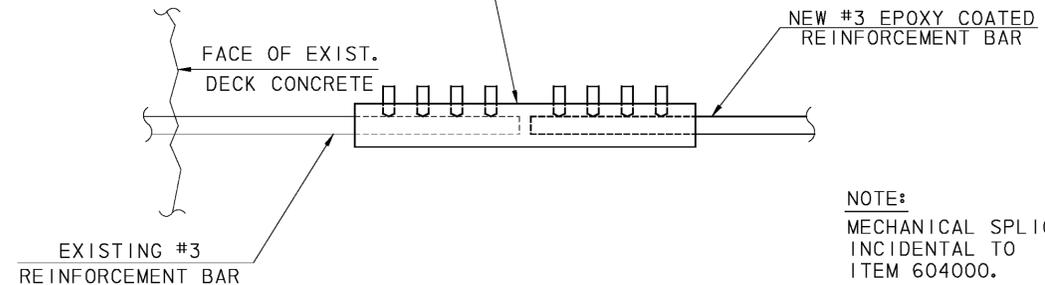


SECTION H-H

(PIER 3S SHOWN; PIERS 2N & 2S SIMILAR)

6 0 6 INCHES
SCALE: 1 1/2"=1'-0"

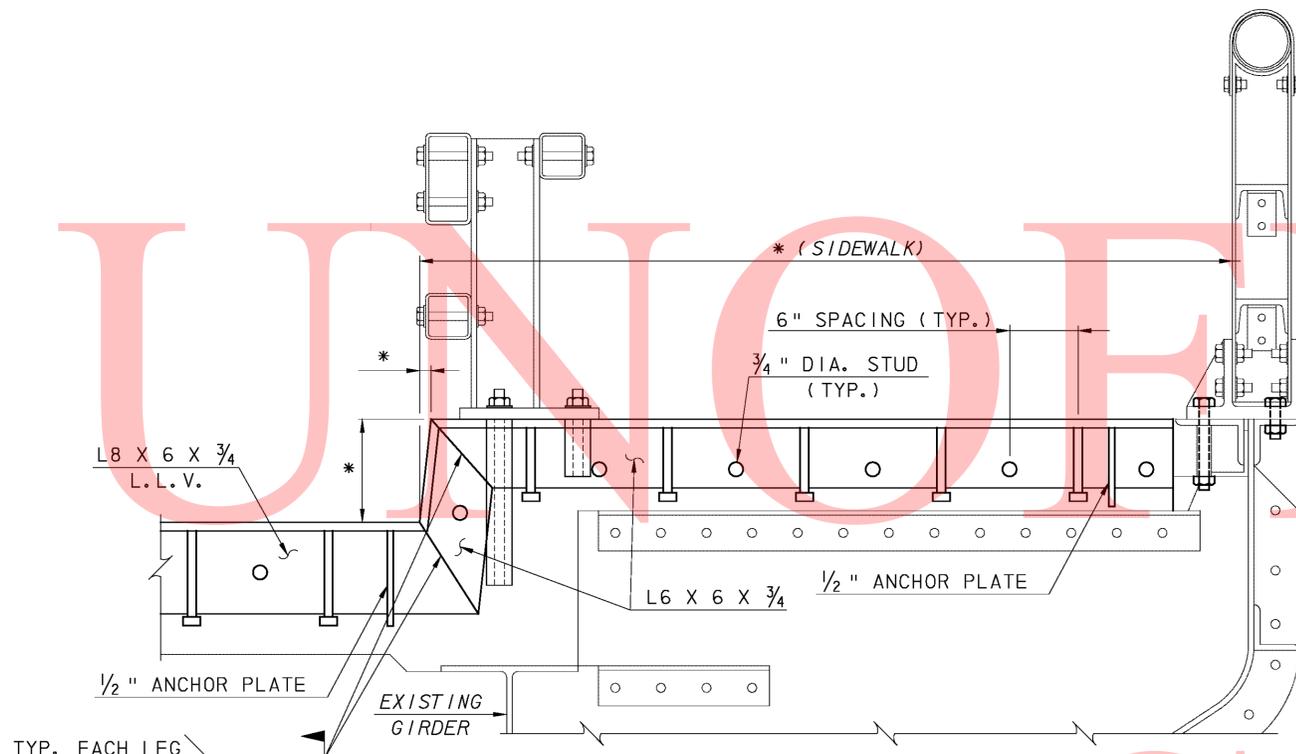
MEADOWBURKE DOUBLE ZAP SCREWLOCK
OR LENTON LOCK MECHANICAL SPLICE
(OR APPROVED EQUAL)



NOTE:
MECHANICAL SPLICE
INCIDENTAL TO
ITEM 604000.

REINFORCEMENT BAR SPLICE DETAIL 2

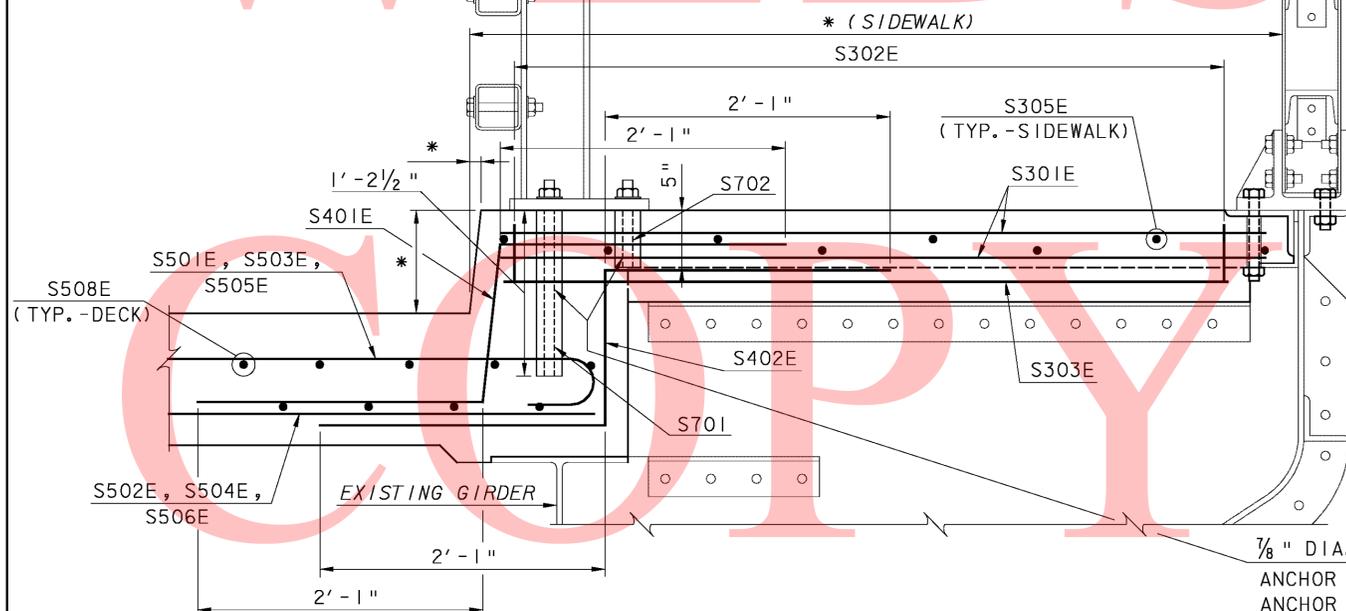
NOT TO SCALE



SECTION K-K ARMOR DETAIL

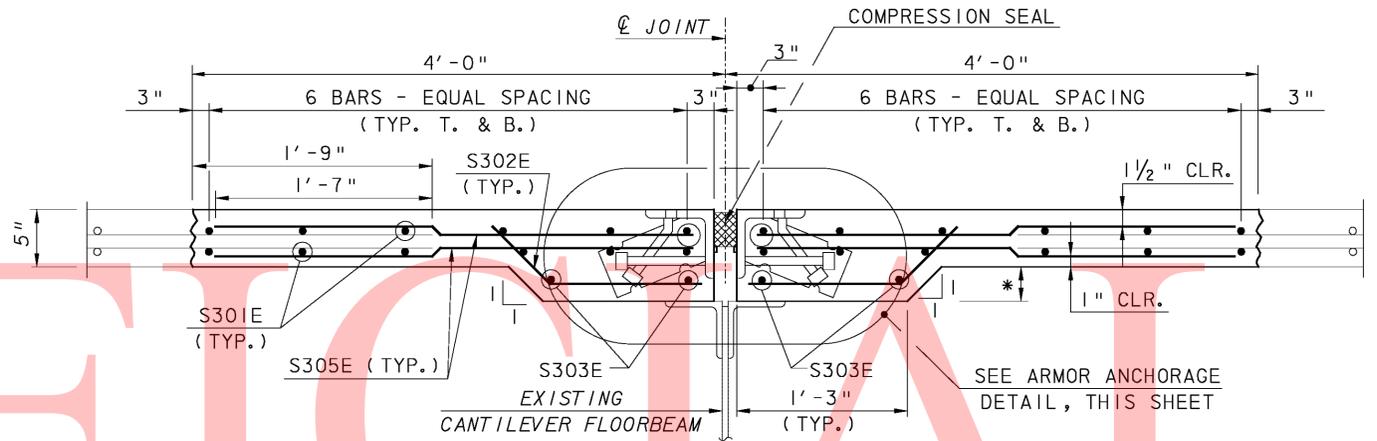
6 0 6 INCHES
SCALE: 1 1/2" = 1'-0"

REINSTALL EXISTING STEEL BARRIER; WORK IS INCIDENTAL TO ITEM 605730 - SEE SITE NOTES



SECTION K-K REINFORCEMENT DETAIL

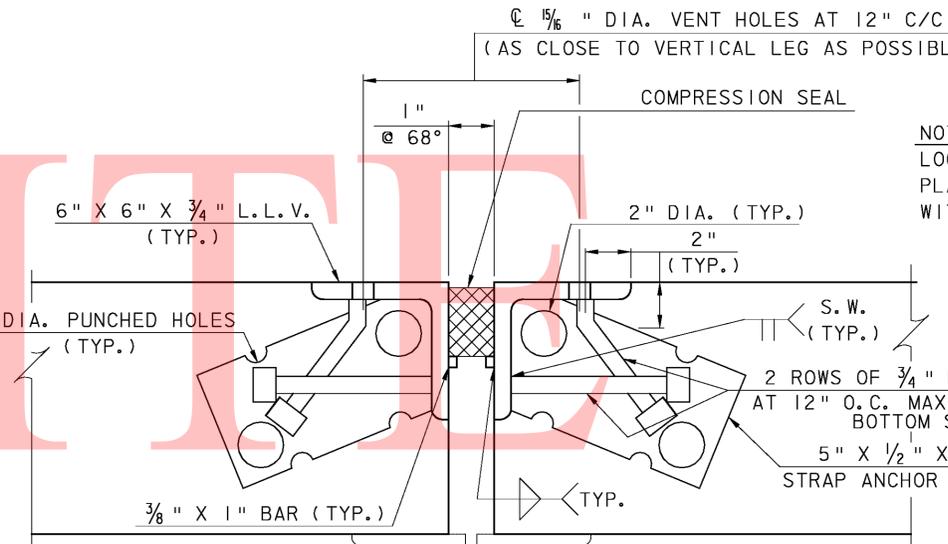
6 0 6 INCHES
SCALE: 1 1/2" = 1'-0"



SECTION J-J

(PIERS 2N, 2S, & 3S)
6 0 6 INCHES
SCALE: 1 1/2" = 1'-0"

NOTE:
*MATCH EXISTING SIDEWALK DIMENSION.



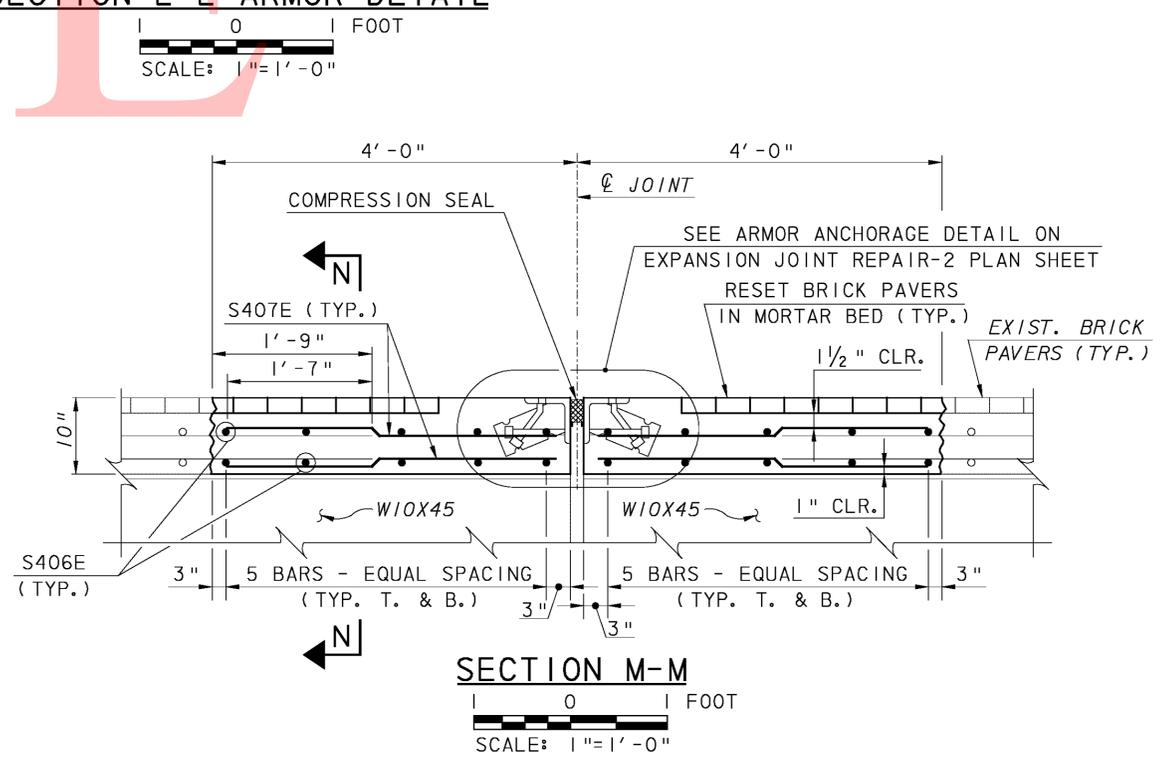
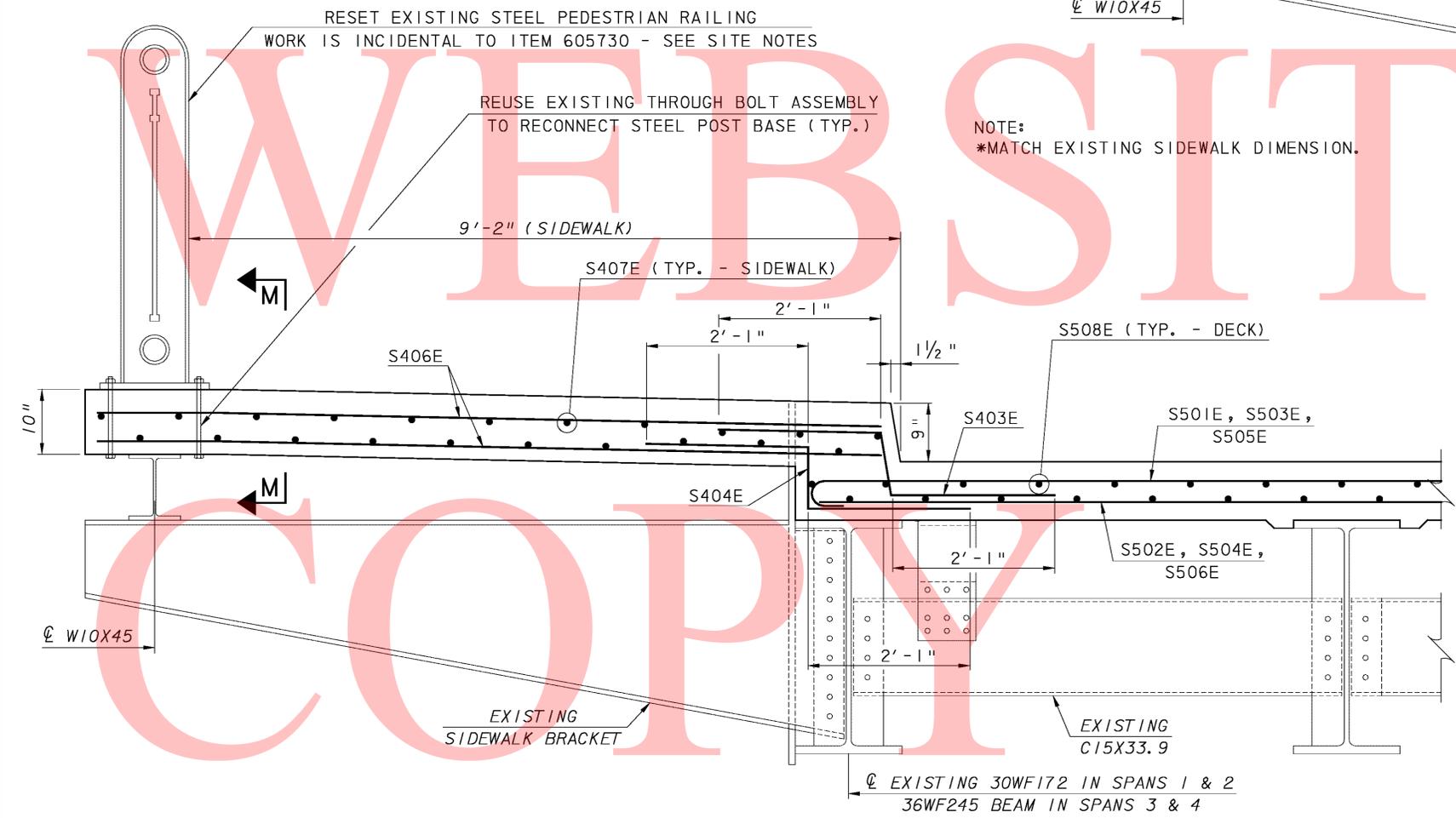
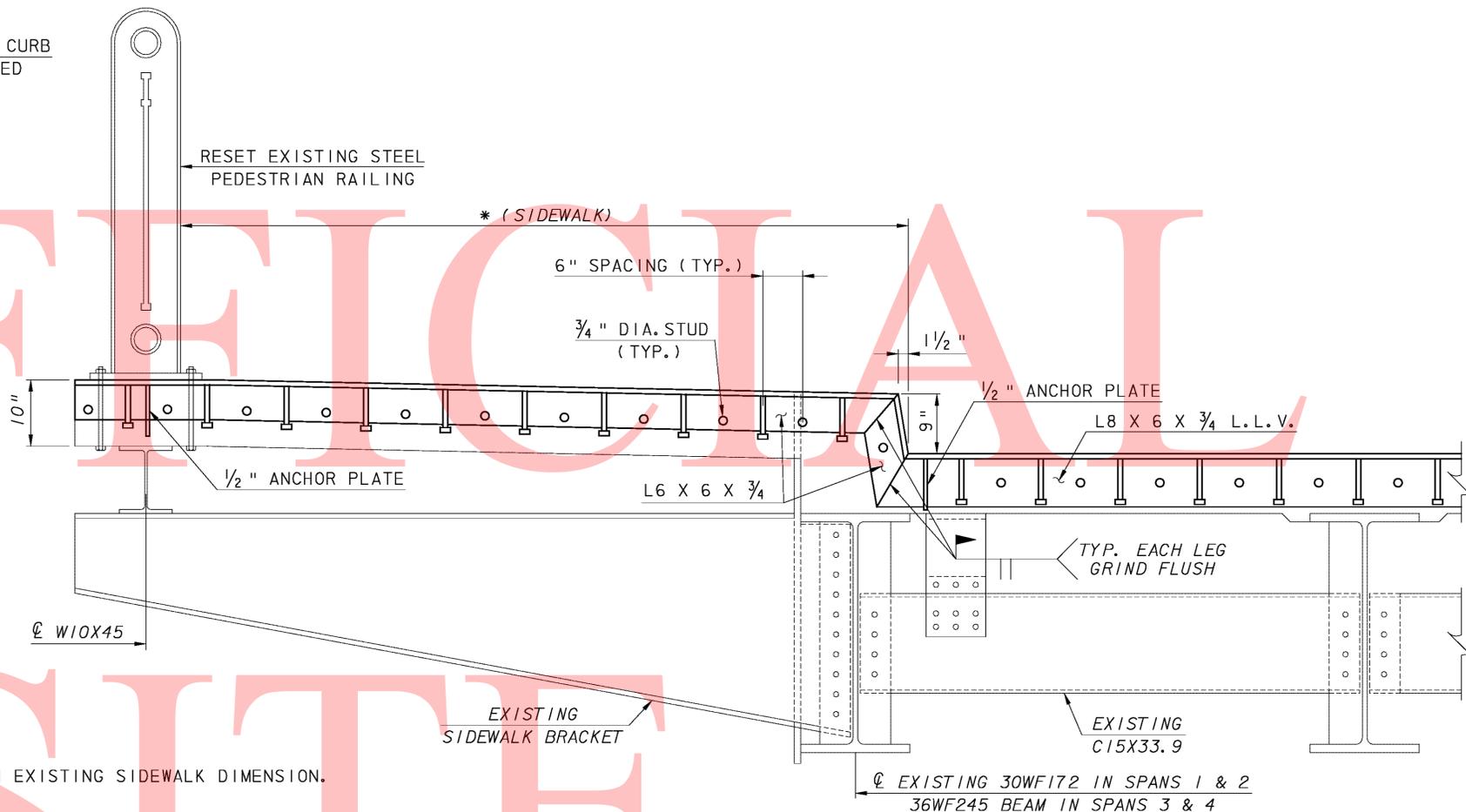
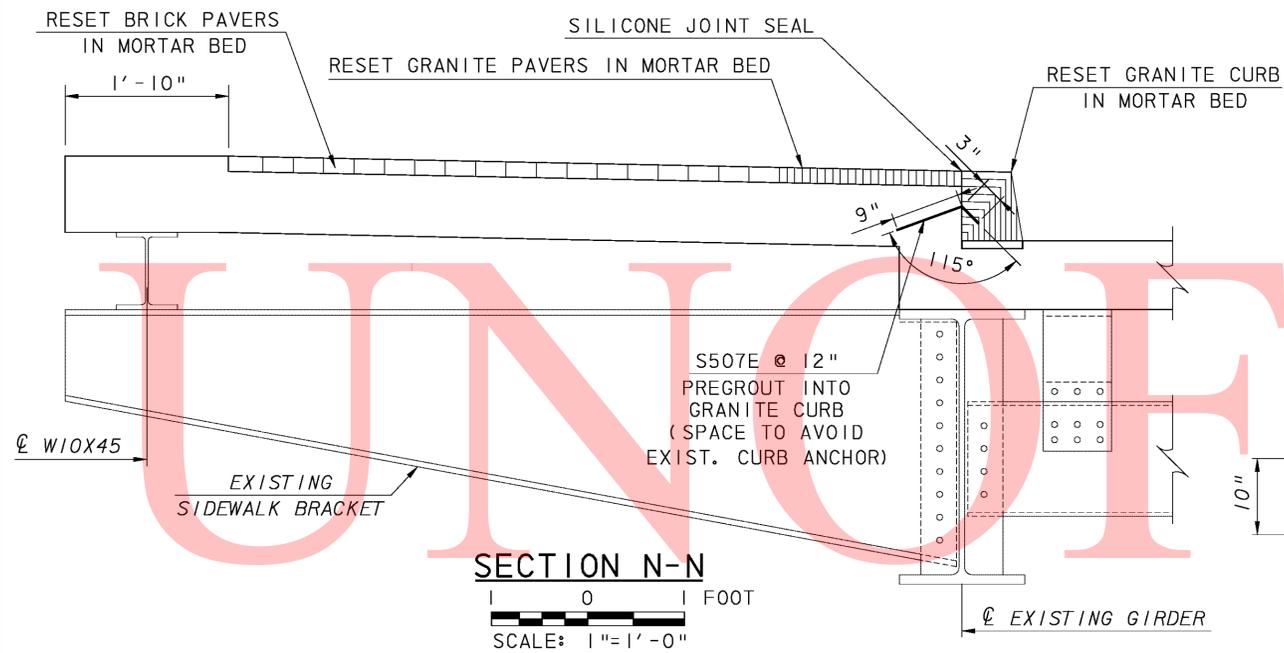
NOTE:
REINFORCEMENT NOT SHOWN

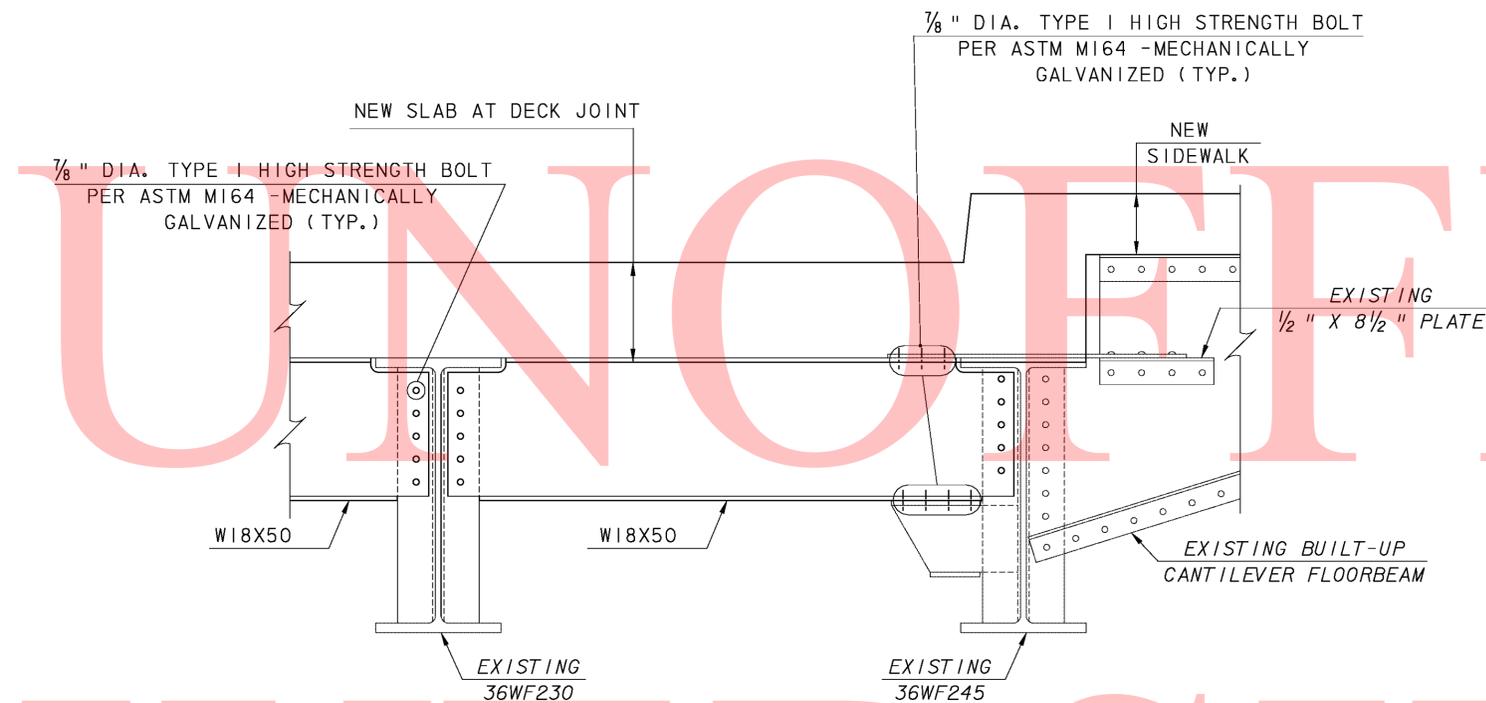
ARMOR ANCHORAGE DETAIL - L6x6x3/4

3 0 3 INCHES
SCALE: 3" = 1'-0"

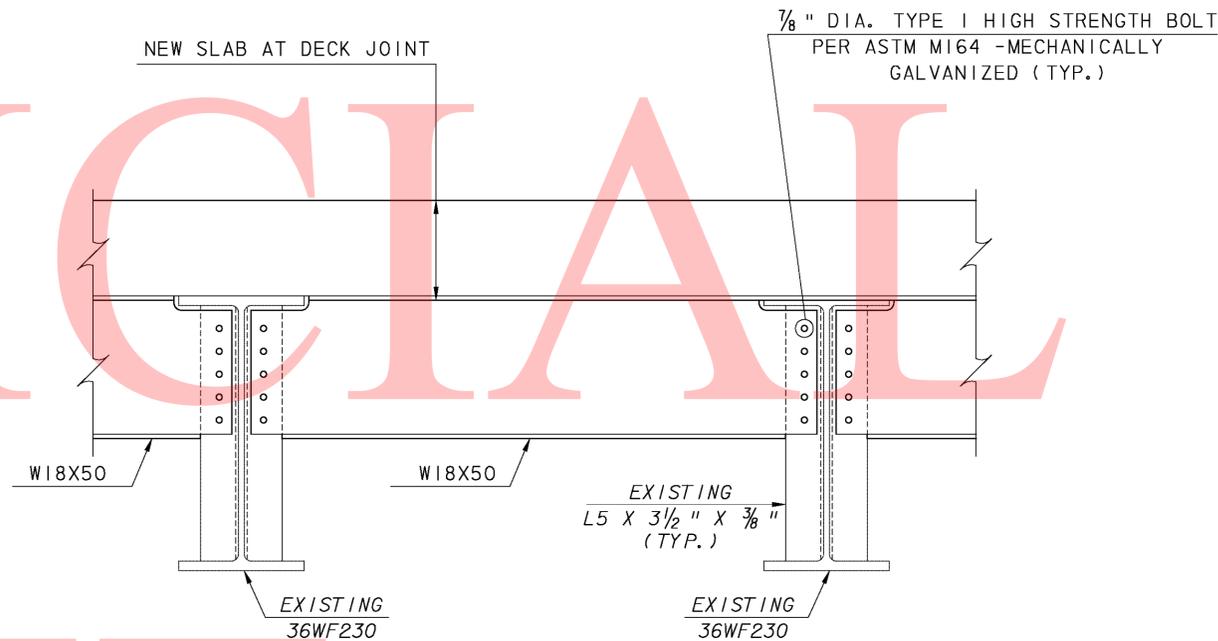
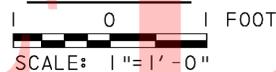
NOTES:

1. EPOXY COAT ALL REINFORCEMENT BARS.
2. GALVANIZE ALL ARMOR AND ANCHORAGE.
3. PAINT ALL EXPOSED STEEL SURFACES.
4. DECK JOINT TO BE Poured WITH PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D.
5. APPLY EPOXY BONDING AGENT TO ALL EXISTING CONCRETE SURFACES WHERE NEW PORTLAND CEMENT CONCRETE WILL BE CAST AGAINST.
6. CUT/ADJUST STRAP ANCHOR PLATES IN FIELD AS NECESSARY TO CLEAR REINFORCEMENT BARS. WORK IS INCIDENTAL TO ITEM 605730.
7. MANUALLY TEXTURE BRIDGE DECK WEARING SURFACE PER SECTION 602 OF THE STANDARD SPECIFICATIONS.
8. IF AREAS OF THE GALVANIZED COATING ARE DAMAGED DUE TO WELDING OR HANDLING, TOUCH UP WITH MOISTURE-CURED ALUMINUM PAINT PER SECTION 605 OF THE STANDARD SPECIFICATIONS. PAYMENT IS INCIDENTAL TO ITEM 605730.

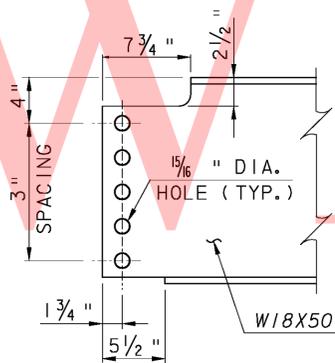
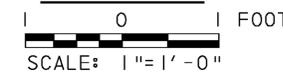




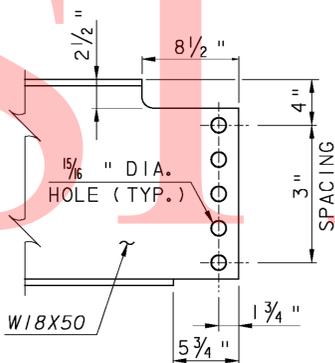
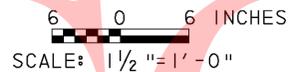
VIEW Q-Q



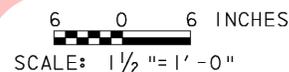
VIEW P-P



DIAPHRAGM AT INTERIOR GIRDER
COPING/BOLT HOLE DETAIL

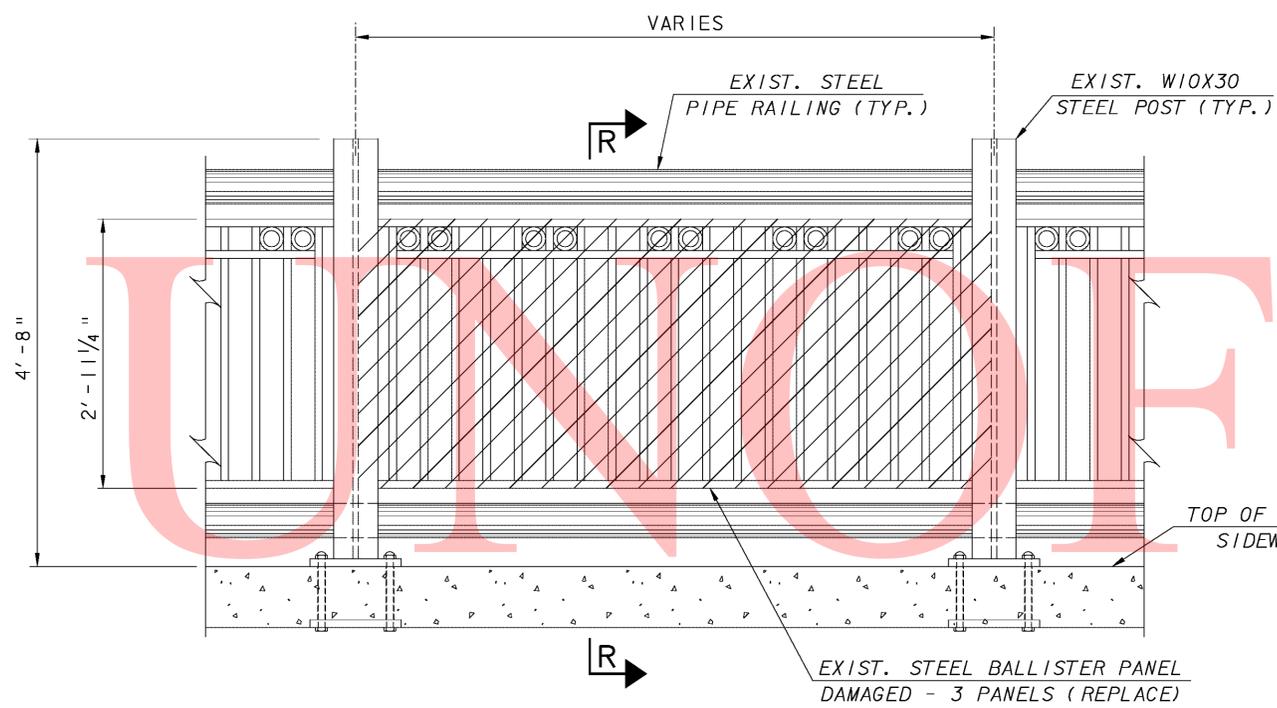


DIAPHRAGM AT EXTERIOR GIRDER
COPING/BOLT HOLE DETAIL

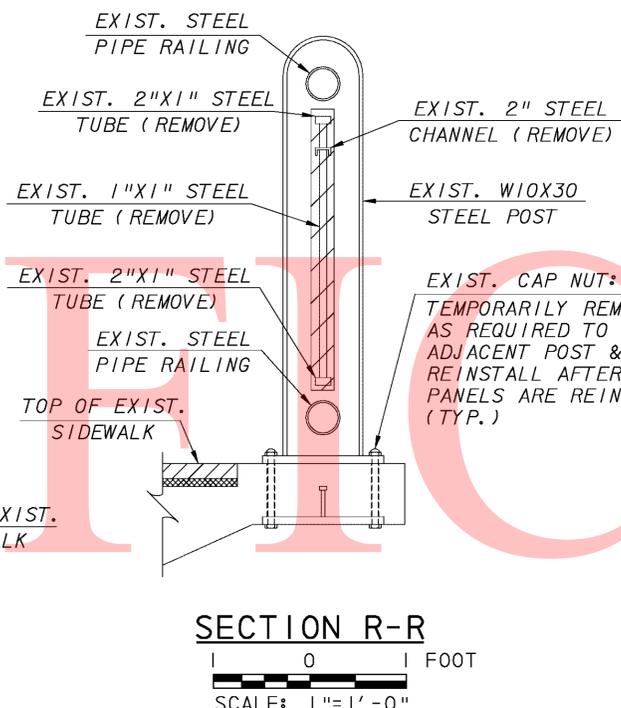


NOTES:

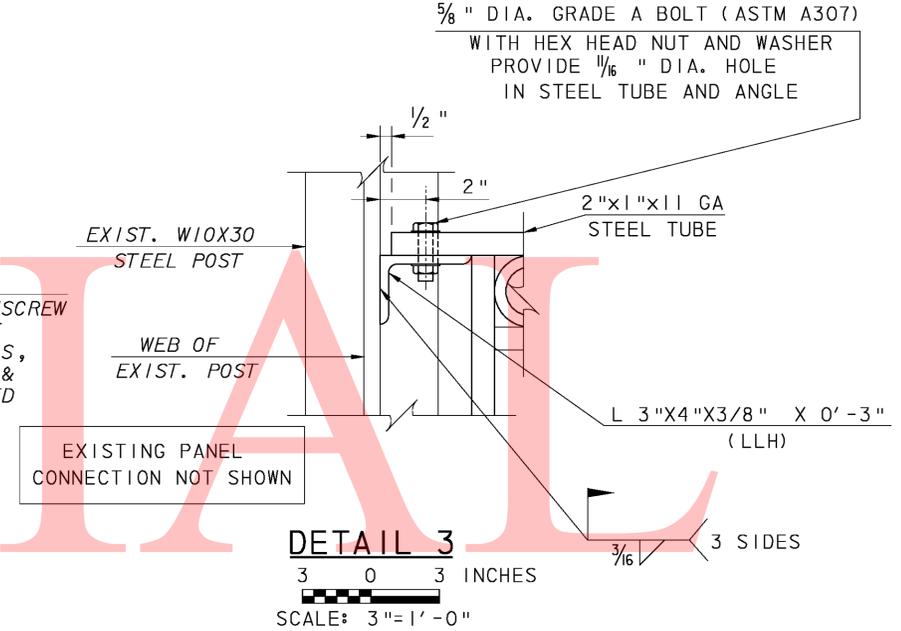
1. STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270 GRADE 36 OR GRADE 50.
2. CONTRACTOR TO FIELD VERIFY DIAPHRAGM LENGTHS PRIOR TO ORDERING MATERIAL.
3. HOLES TO BE DRILLED IN FIELD TO ASSURE PROPER ALIGNMENT WITH EXISTING STIFFENERS.
4. CONTRACTOR TO REMOVE AND REPLACE ONE DIAPHRAGM AT A TIME TO ENSURE OVERALL STABILITY OF GIRDERS.



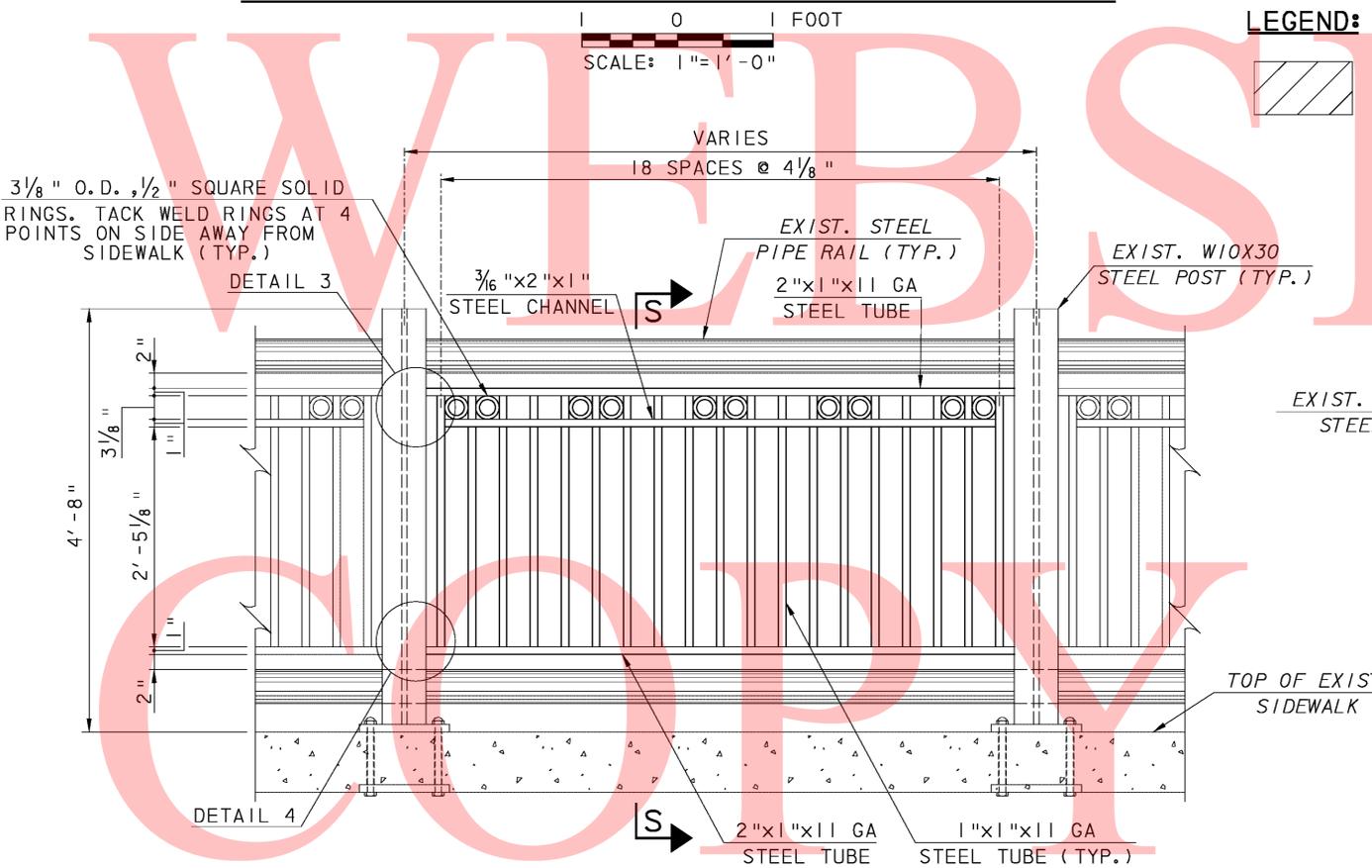
TYPICAL STEEL PEDESTRIAN RAILING ELEVATION



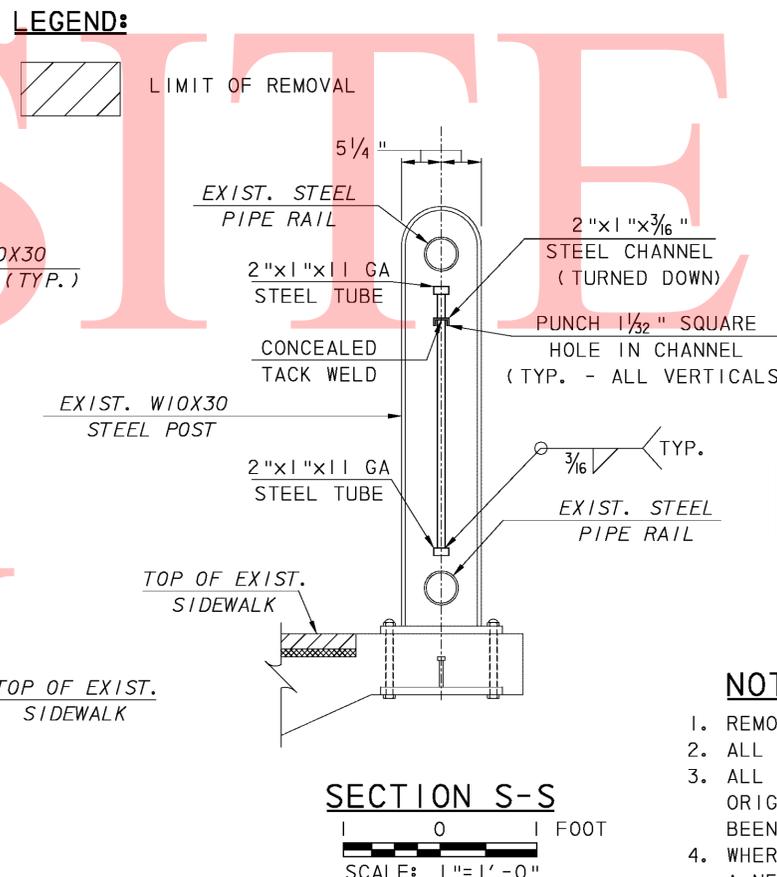
SECTION R-R



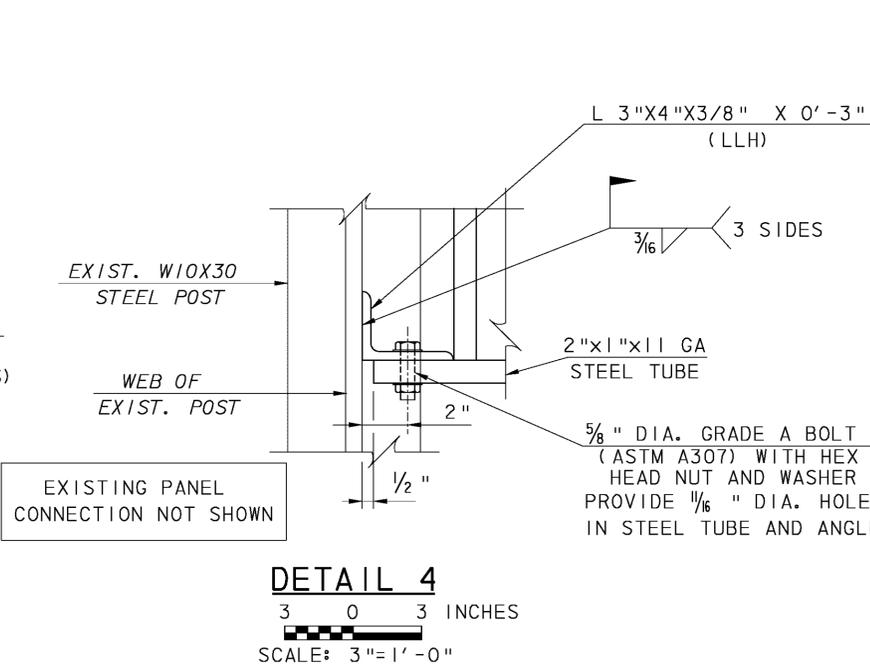
DETAIL 3



TYPICAL STEEL PEDESTRIAN RAILING ELEVATION



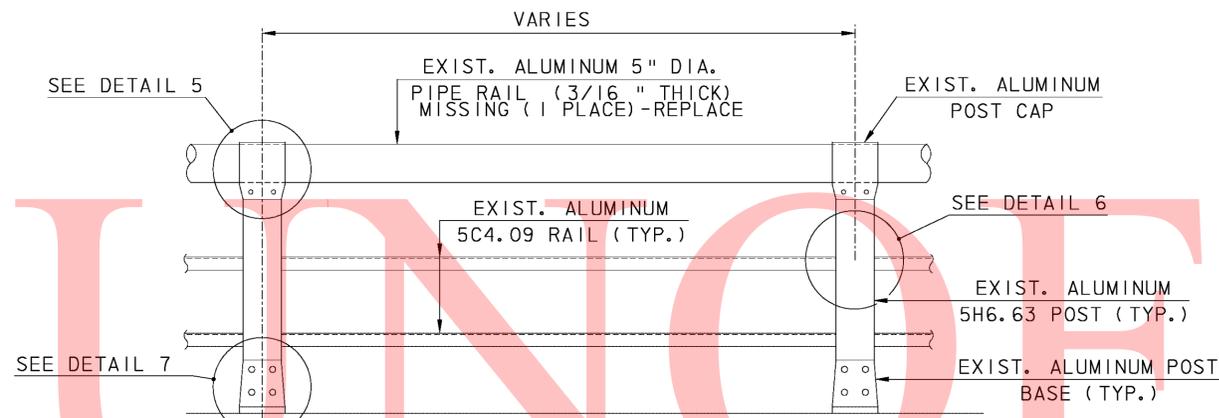
SECTION S-S



DETAIL 4

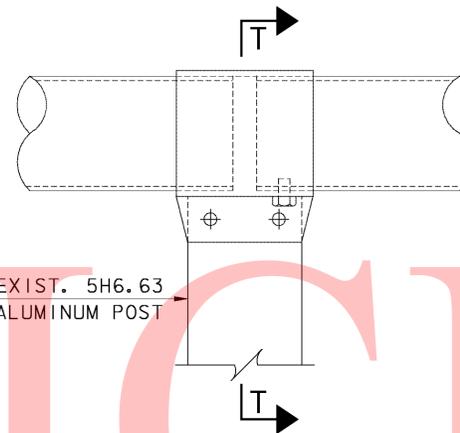
NOTES:

1. REMOVAL OF EXISTING STEEL RAIL PANEL SHALL BE PAID UNDER ITEM 211000.
2. ALL REPAIRS DETAILED ON THIS SHEET SHALL BE PAID UNDER ITEM 606501.
3. ALL REPLACEMENT STRUCTURAL SHAPES AND FASTENERS SHALL MATCH THE ORIGINAL RAILING ASSEMBLY AS CLOSELY AS POSSIBLE. ORIGINAL SIZES HAVE BEEN INDICATED IN THE DETAILS.
4. WHERE WELDING TO EXISTING STEEL, BLAST CLEAN THE EXISTING SURFACE TO A NEAR WHITE FINISH PRIOR TO WELDING.
5. STRUCTURAL STEEL TUBING SHALL BE ASTM A500 STEEL, GRADE B.
6. TEMPORARILY REMOVE ADJACENT PANELS AND POSTS AS NECESSARY TO INSTALL NEW PANEL.
7. TOUCH UP CONNECTION ANGLES, CONNECTION BOLTS AND ANY DAMAGE TO PAINT COATING OF INSTALLED PANEL AND/OR ADJACENT POSTS AND PANELS WITH A 2 COAT PAINT SYSTEM MATCHING THE TYPE AND COLOR OF THE EXISTING RAILING.



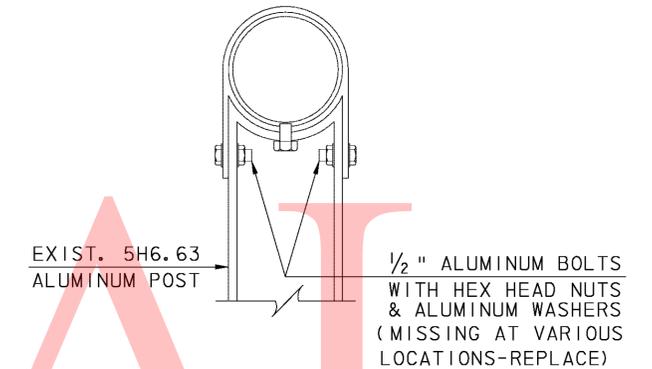
EXISTING PEDESTRIAN RAIL ELEVATION

1 0 1 FOOT
SCALE: 1"=1'-0"



DETAIL 5

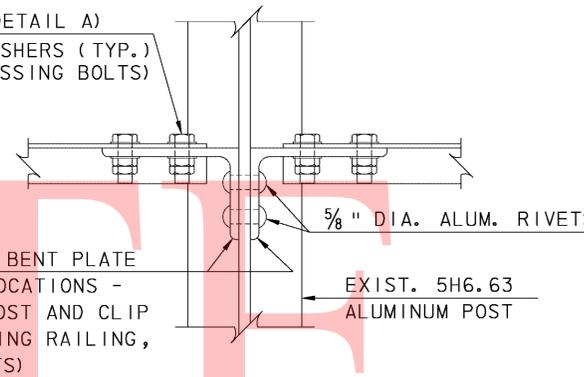
3 0 3 INCHES
SCALE: 3"=1'-0"



SECTION T-T

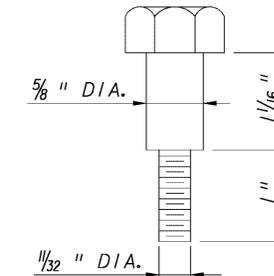
3 0 3 INCHES
SCALE: 3"=1'-0"

EXIST. 5/8" DIA. SHOULDER BOLT (SEE DETAIL A) WITH 5/8" DIA. ALUM. HEX HEAD NUTS & ALUM. WASHERS (TYP.) (MISSING AT VARIOUS LOCATIONS - REPLACE MISSING BOLTS)



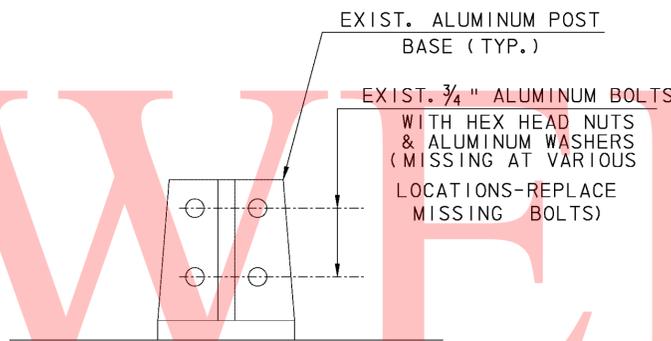
DETAIL 6

3 0 3 INCHES
SCALE: 3"=1'-0"



DETAIL A

3 0 3 INCHES
SCALE: 3"=1'-0"



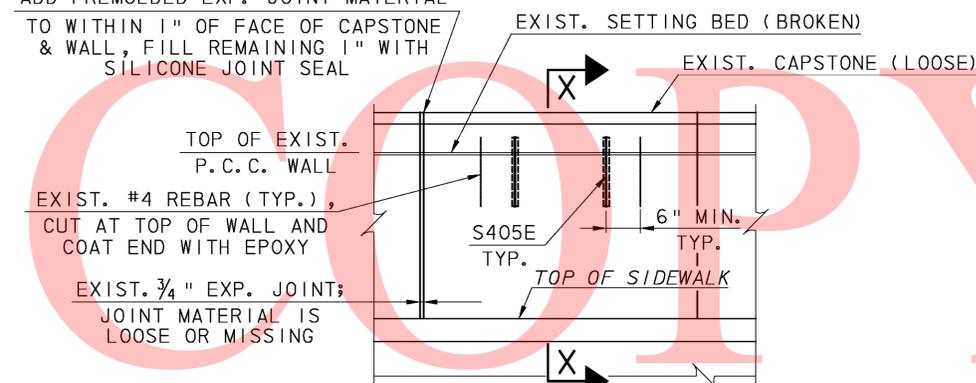
DETAIL 7

3 0 3 INCHES
SCALE: 3"=1'-0"

ALUMINUM PEDESTRIAN RAILING REPAIR NOTES:

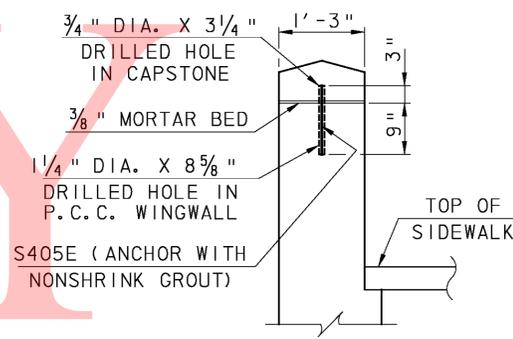
1. ALL ALUMINUM PEDESTRIAN RAILING REPAIRS DETAILED ON THIS SHEET INCLUDING REMOVAL SHALL BE PAID UNDER ITEM 606509.
2. ALL REPLACEMENT STRUCTURAL SHAPES AND FASTENERS SHALL MATCH THE ORIGINAL RAILING ASSEMBLY AS CLOSELY AS POSSIBLE.

ADD PREMOLDED EXP. JOINT MATERIAL TO WITHIN 1" OF FACE OF CAPSTONE & WALL, FILL REMAINING 1" WITH SILICONE JOINT SEAL



ELEVATION-CAPSTONE REPAIR DETAIL

NOT TO SCALE



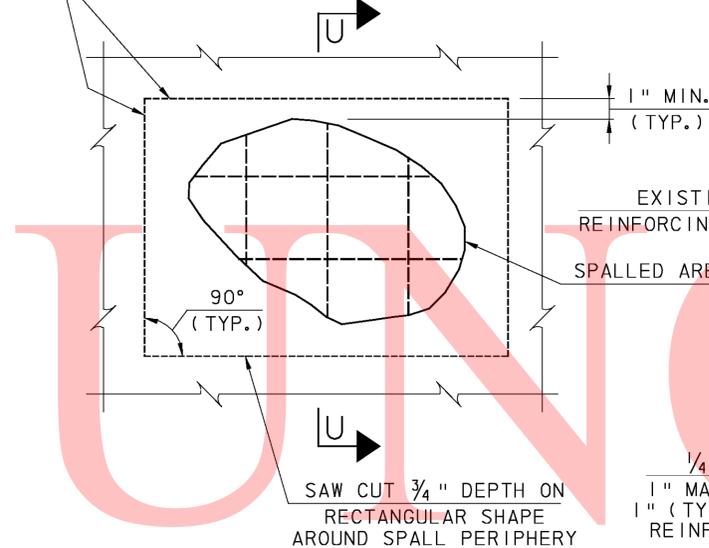
SECTION X-X

NOT TO SCALE

CAPSTONE REPAIR NOTES:

1. REMOVE THE LOOSE CAPSTONE WITHOUT DAMAGING.
2. REMOVE THE EXISTING MORTAR SETTING BED TO THE TOP OF THE EXISTING P.C.C. RETAINING WALL.
3. ROUGHEN THE EXISTING CONCRETE SURFACE BY ABRASIVE BLAST CLEANING.
4. DRILL NEW DOWEL HOLES IN WALL AND CAPSTONE.
5. ANCHOR THE DOWELS IN THE WINGWALL.
6. PLACE A 3/8" THICK LAYER OF SETTING MORTAR OVER THE ENTIRE TOP SURFACE OF THE EXISTING RETAINING WALL THAT WILL RECEIVE THE RESET CAPSTONE.
7. RESET THE CAPSTONE ON THE MORTAR SETTING BED BY GENTLY TAPPING THE ENTIRE SURFACE OF THE CAPSTONE WITH A RUBBER Mallet. THE CAPSTONE SHOULD NOT BE TAPPED WITH SUCH EXCESSIVE FORCE THAT MAY CAUSE THE MORTAR TO SQUEEZE OUT FROM BETWEEN THE CAPSTONE AND THE EXISTING WALL.
8. ALL WORK AND MATERIALS INCLUDING PREMOLDED EXPANSION JOINT MATERIAL AND SETTING MORTAR IS INCIDENTAL TO ITEM 602579.
9. SILICONE JOINT SEAL AT EXPANSION JOINT SHALL BE PAID UNDER ITEM 605692.

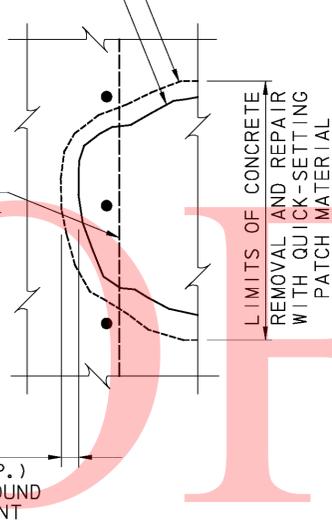
LIMITS OF CONCRETE REMOVAL AND REPAIR WITH QUICK-SETTING PATCH MATERIAL (TYP.)



FACE

SPALL REPAIR
NOT TO SCALE

SOUND CONCRETE
SAW CUT 3/4" DEEP (TYP.)



SECTION U-U

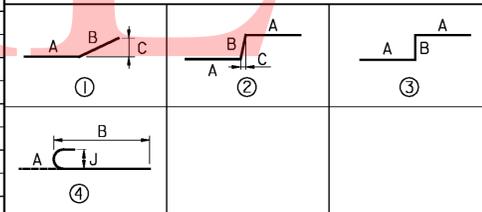
SPECIFICATIONS						BAR DIMENSIONS										
QTY.	SIZE	LENGTH	MARK	TYPE		A	B	C	D	E	F	G	H	J	R	RI
96	3	5-07	S301E	STR												
64	3	1-08	S302E	I	1-01	0-07	6	0-05	4							
16	3	5-05	S303E	STR												
4	3	3-08	S304E	STR												
64	3	3-07	S305E	STR												
2	3	3-00	S306E	STR												
2	3	3-09	S307E	STR												
48	4	5-02	S401E	2	2-01	1-00	6	0-02								
48	4	5-02	S402E	3	2-01	1-00										
24	4	5-00	S403E	2	2-01	0-10	7	0-01	6							
24	4	4-10	S404E	3	2-01	0-08										
2	4	1-00	S405E	STR												
40	4	9-06	S406E	STR												
84	4	3-03	S407E	STR												
24	5	26-10	S501E	4	0-07	26-03										
24	5	26-03	S502E	STR												
24	5	26-09	S503E	4	0-07	26-02										
24	5	26-02	S504E	STR												
24	5	26-09	S505E	4	0-07	26-02										
24	5	26-02	S506E	STR												
20	5	1-00	S507E	I	0-09	0-03	0-02	6								
636	5	3-03	S508E	STR												
16	7	1-05	S701	STR												
16	7	0-08	S702	STR												

NOTES:

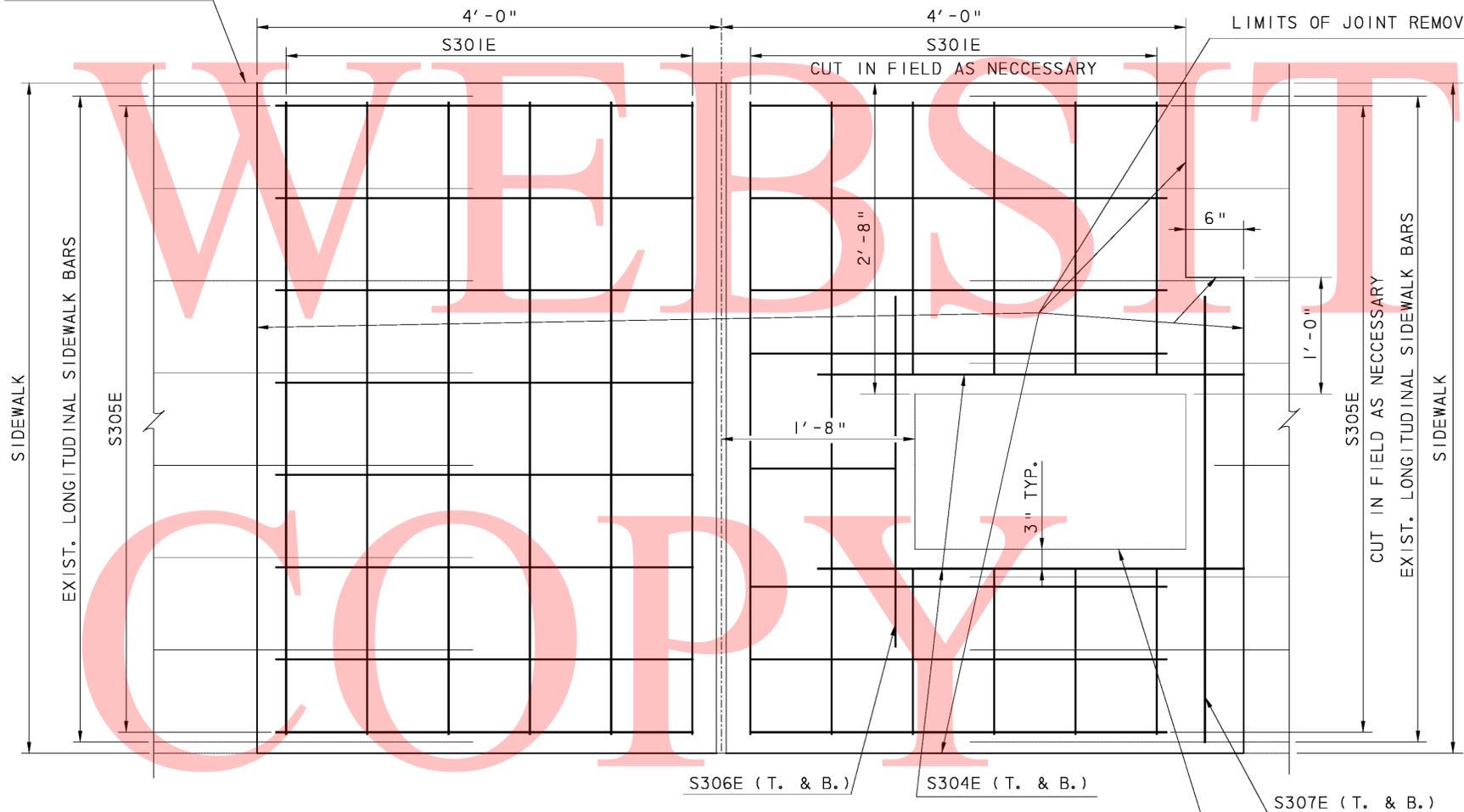
- MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COVERED STEEL.
- MARK 'LOCATION PREFIXES' ARE AS FOLLOWS: F = FOOTING, W = RETAINING WALL
- ALL DIMENSIONS ARE OUT-TO-OUT OF BAR EXCEPT 'A' AND 'G' ON STANDARD 180° AND 135° HOOKS.
- 'J' DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FIGURES IN CIRCLES SHOW TYPES.
- FOR RECOMMENDED DIAMETER 'D' OF BENDS, HOOKS, ETC., SEE 'CRS1' OR 'ACI' TABLES.
- BAR ARE TO 1/8" ACCURACY.

⊗ DENOTES AVERAGE LENGTH OF BARS.

BAR BENDS

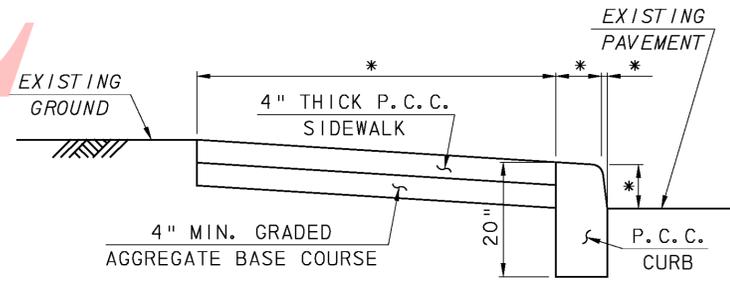
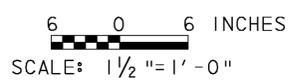


FACE OF CURB (TOP)



ELECTRICAL BOX REINFORCEMENT DETAIL

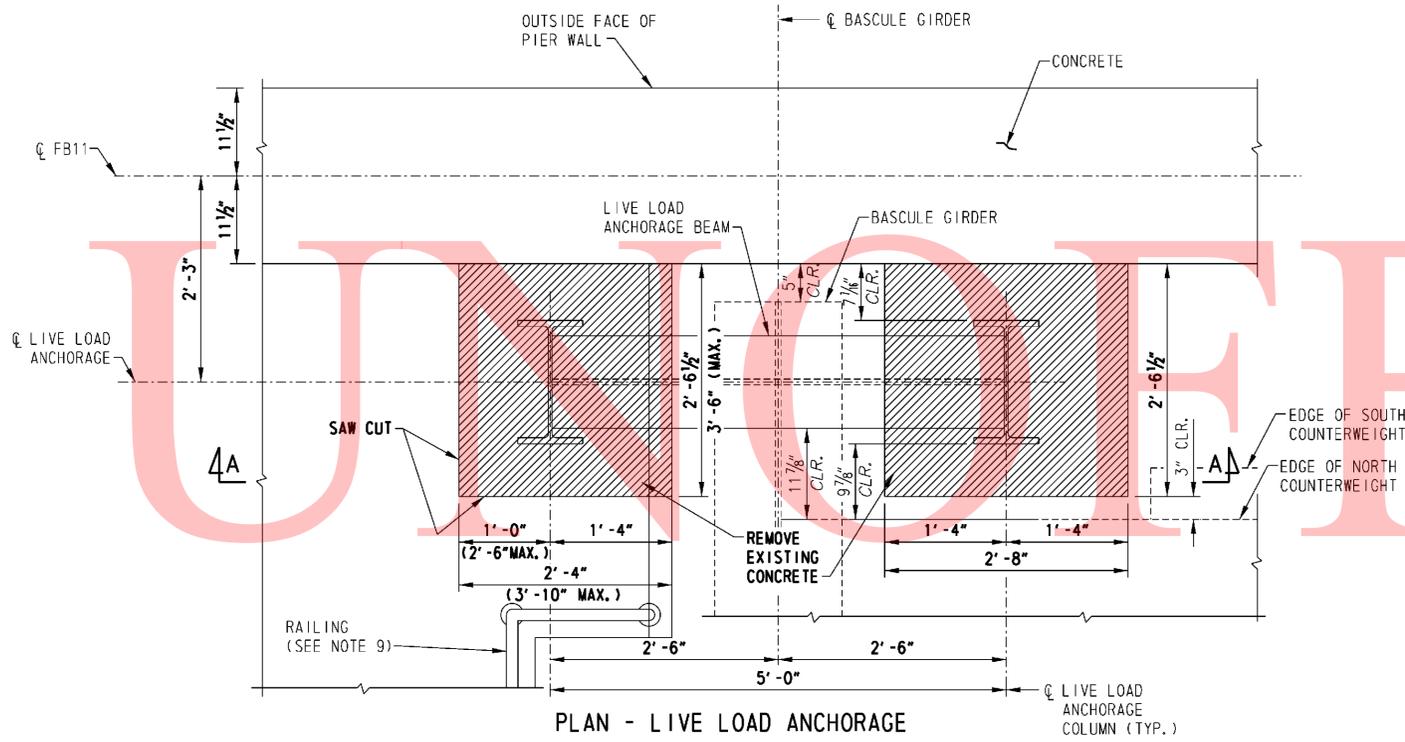
NOTE:
JOINT ARMOR, BARRIER AND PEDESTRIAN RAILING NOT SHOWN FOR CLARITY.



SIDEWALK AND CURB REPAIR DETAIL

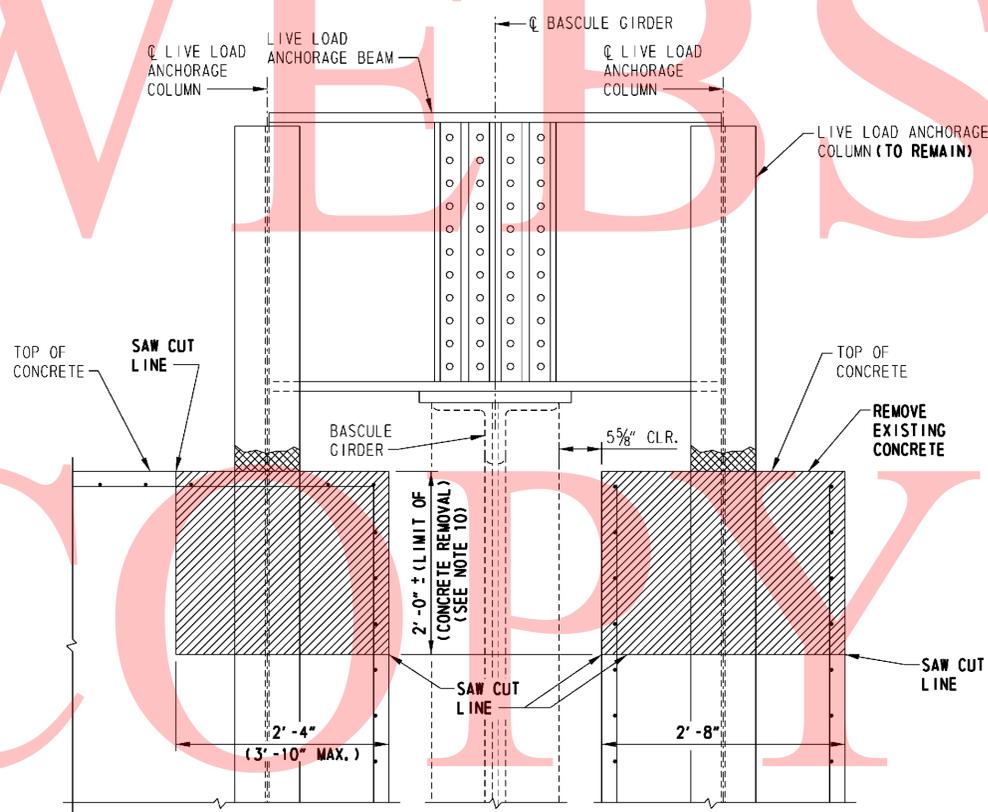
NOT TO SCALE

* MATCH ADJACENT SIDEWALK DIMENSIONS



PLAN - LIVE LOAD ANCHORAGE
DETAIL A

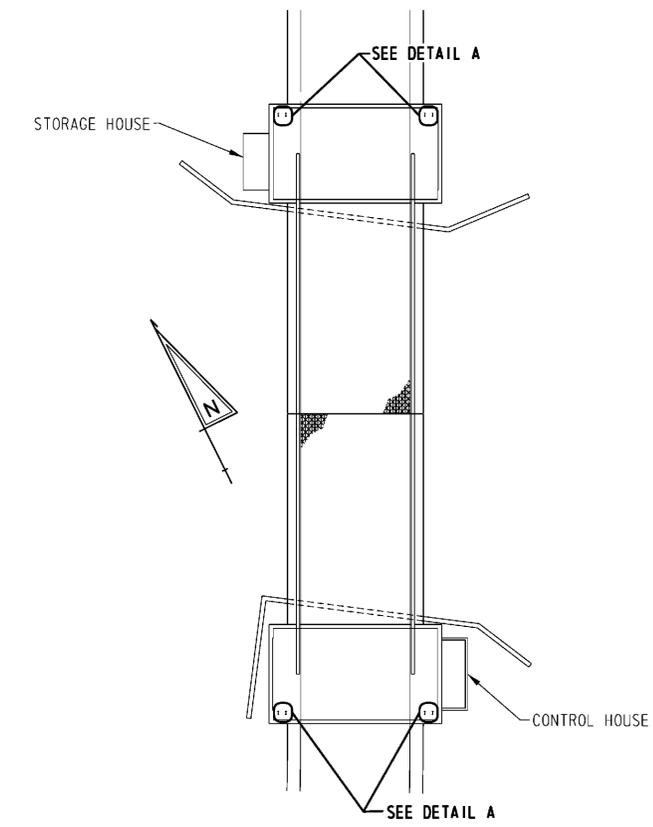
(NORTHWEST/SOUTHEAST PLAN SHOWN, NORTHEAST/SWISSW PLAN OPPOSITE HAND)
SCALE: 1"=1'-0"



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

LEGEND

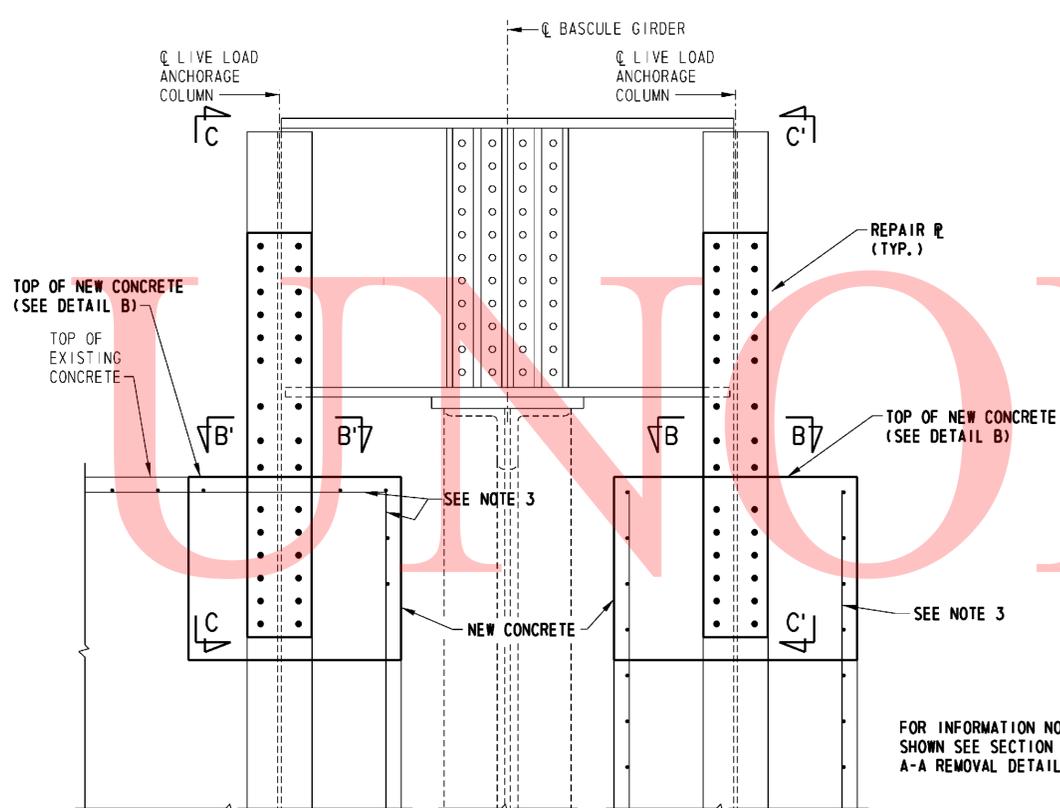
- DETERIORATED STRUCTURAL STEEL (SEE NOTE 8)
- REMOVE EXISTING CONCRETE
- EXISTING RIVET
- REMOVE EXISTING RIVET AND REPLACE WITH HIGH STRENGTH BOLT
- NEW HIGH STRENGTH BOLT IN NEW HOLE



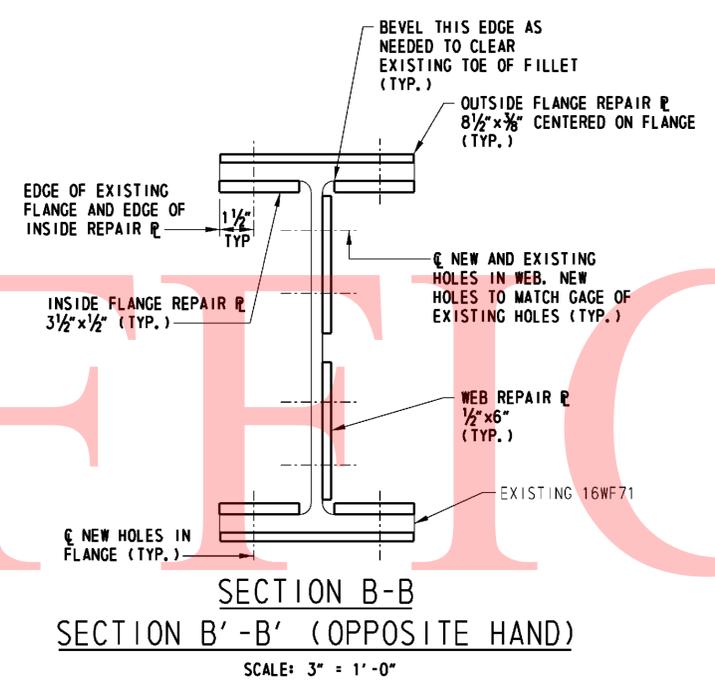
KEY PLAN
N. T. S.

NOTES:

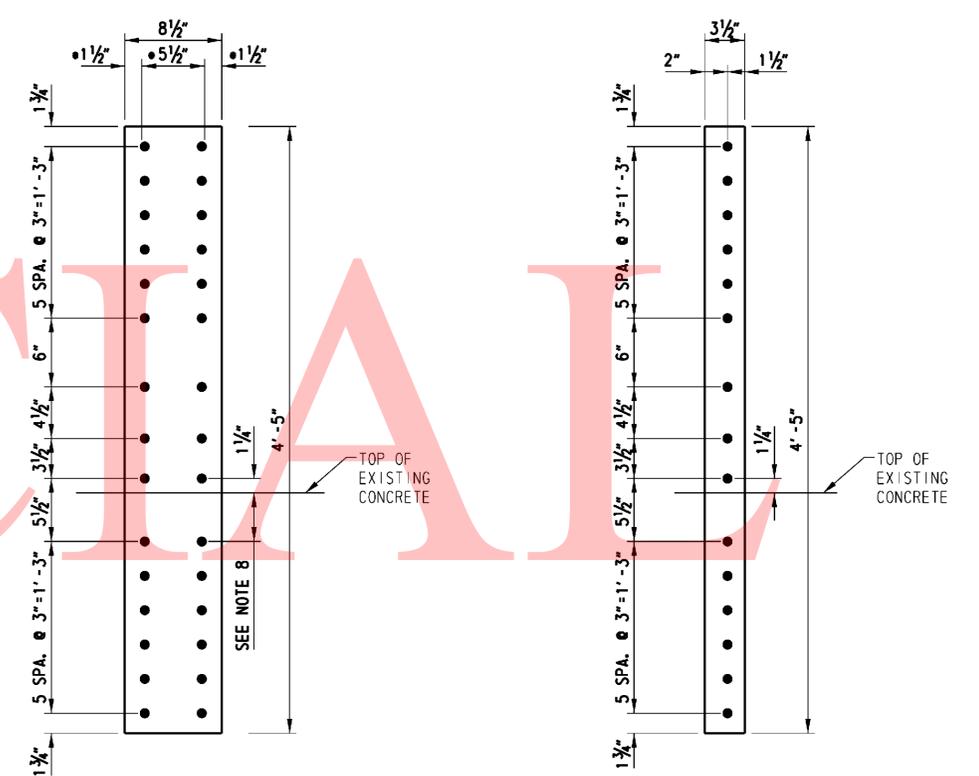
1. WORK THIS DRAWING WITH DRAWING "WALNUT STREET BRIDGE LIVE LOAD ANCHORAGE REPAIR DETAILS - 2".
2. FIELD VERIFY ALL EXISTING DIMENSIONS, DETAILS, ETC., AS NECESSARY PRIOR TO FABRICATION AND INSTALLATION OF REPAIR STEEL. IMMEDIATELY BRING TO THE ENGINEER'S ATTENTION ANY DIFFERENCES BETWEEN INFORMATION CONTAINED IN THESE DRAWINGS AND INFORMATION OBTAINED IN THE FIELD.
3. MAINTAIN AND CLEAN EXISTING REINFORCEMENT OR MECHANICALLY SPLICE NEW REINFORCEMENT TO MATCH EXISTING REINFORCEMENT.
4. NEW STRUCTURAL STEEL SHALL CONFORM TO ASTM A709, GRADE 50.
5. CONNECTIONS ARE SLIP CRITICAL WITH CLASS A CONTACT SURFACES. CONTACT SURFACES SHALL BE PRIME COATED ONLY. DELDOT STANDARD SPECIFICATIONS SHALL BE FOLLOWED FOR CLEANING AND PAINTING OF ALL STEEL SURFACES.
6. BOLTS SHALL BE 7/8" DIAMETER AND SHALL CONFORM TO ASTM A325, TYPE 3.
7. THE COST OF CLEANING THE EXISTING STEEL SHALL BE INCLUDED IN PAY ITEM "CLEANING EXISTING STEEL STRUCTURES, HAZARDOUS BASE" (REFER TO LEAD PAINT NOTE ON THE GENERAL PLAN AND ELEVATION). THE COST OF ALL OTHER REPAIR WORK NECESSARY FOR REPAIRING THE LIVE LOAD ANCHORAGES SHALL BE INCLUDED IN THE PAY ITEM "STEEL STRUCTURE REPAIR".
8. IF EXISTING STEEL DETERIORATION IS WITHIN 1 1/2" OF THE CENTERLINE OF THE NEW BOLTS BELOW THE TOP-OF-EXISTING-CONCRETE LINE, NOTIFY THE ENGINEER AND REVISE THE REPAIR AS DIRECTED.
9. CONTRACTOR MAY TEMPORARILY REMOVE EXISTING RAILING AND STORE IT IF IT INTERFERES WITH REPAIR WORK. RAILING MUST BE REINSTALLED AS SOON AS POSSIBLE TO THE SATISFACTION OF THE ENGINEER. COST FOR REMOVAL AND REINSTALLATION SHALL BE INCLUDED IN PAY ITEM "STEEL STRUCTURE REPAIR".
10. CONTRACTOR MAY REMOVE MORE CONCRETE THAN SHOWN TO PROVIDE ADDITIONAL ACCESS. PROPOSED REMOVAL LIMITS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO REMOVING MORE CONCRETE THAN SHOWN. NO PAYMENT WILL BE MADE FOR EXTRA CONCRETE REMOVAL.



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

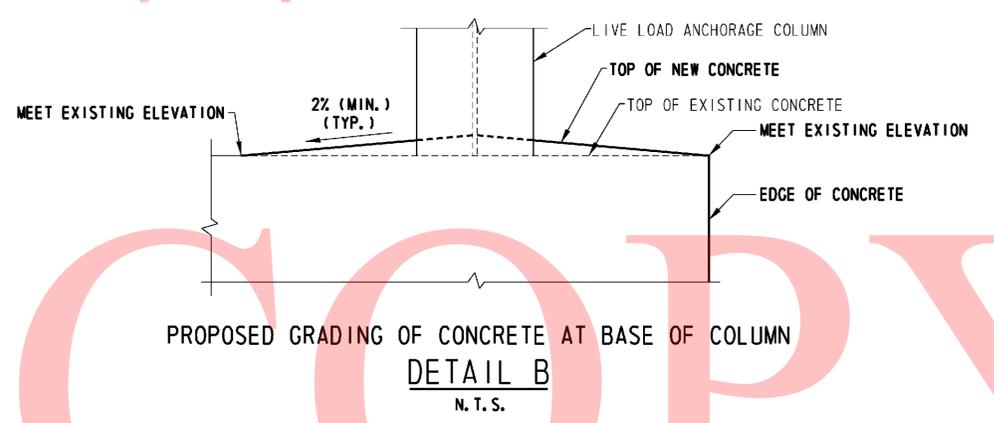


SECTION B-B
SECTION B'-B' (OPPOSITE HAND)
SCALE: 3" = 1'-0"

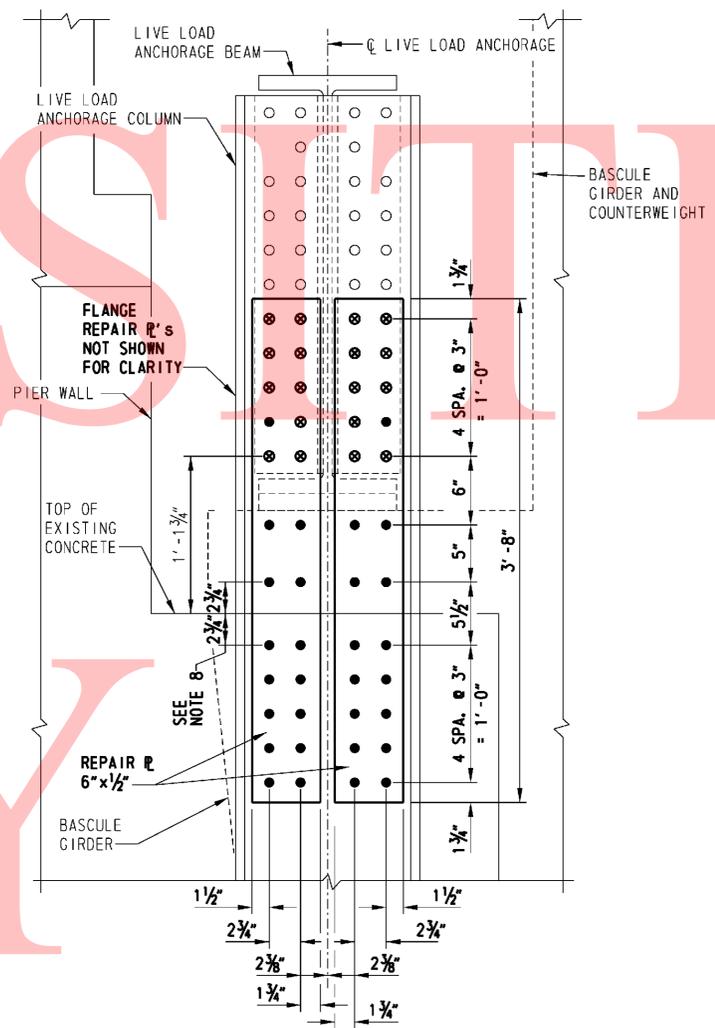


OUTSIDE FLANGE REPAIR PLATE
(16 REQ'D)
SCALE: 1 1/2" = 1'-0"
• APPROXIMATE DIMENSIONS

INSIDE FLANGE REPAIR PLATE
(32 REQ'D)
SCALE: 1 1/2" = 1'-0"
• APPROXIMATE DIMENSIONS



PROPOSED GRADING OF CONCRETE AT BASE OF COLUMN
DETAIL B
N. T. S.



SECTION C-C
SECTION C'-C' (OPPOSITE HAND)
SCALE: 1 1/2" = 1'-0"
(FOLLOW THE REPAIR PROCEDURE)

NOTES:

1. WORK THIS DRAWING WITH DWG. "WALNUT STREET BRIDGE LIVE LOAD ANCHORAGE REPAIR DETAILS -1"

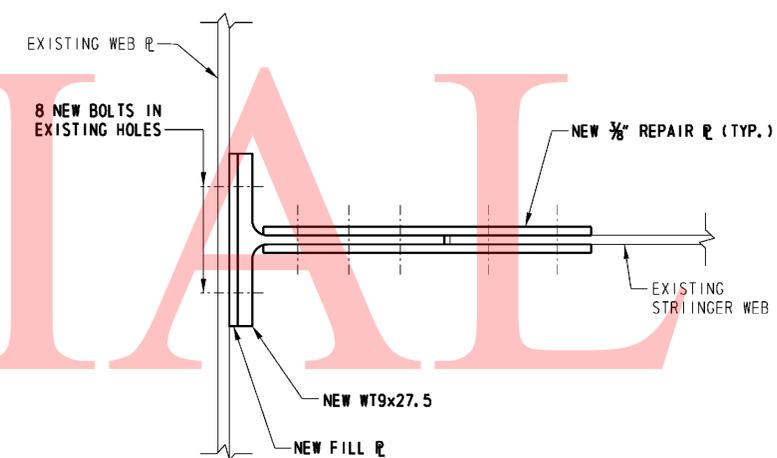
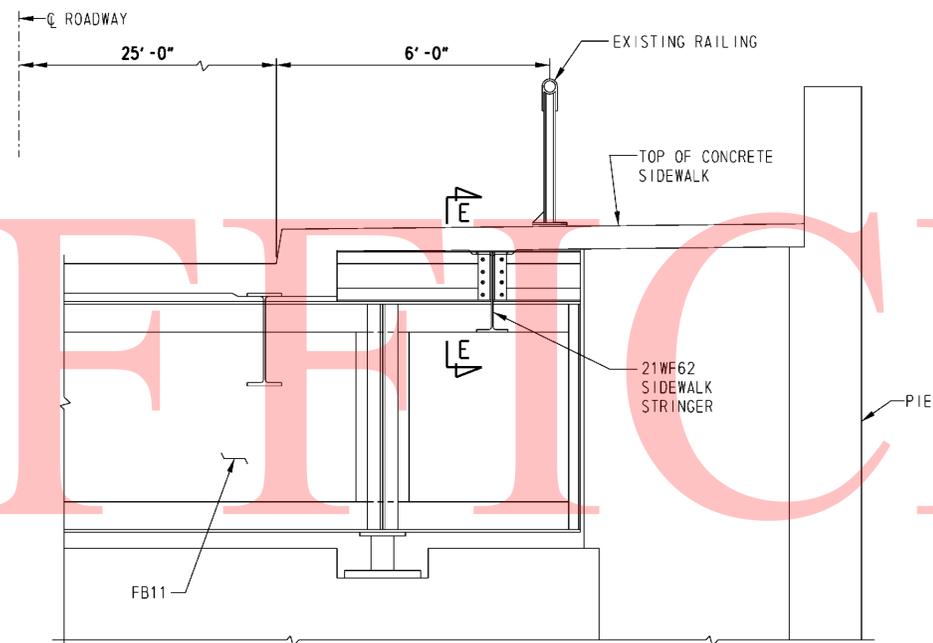
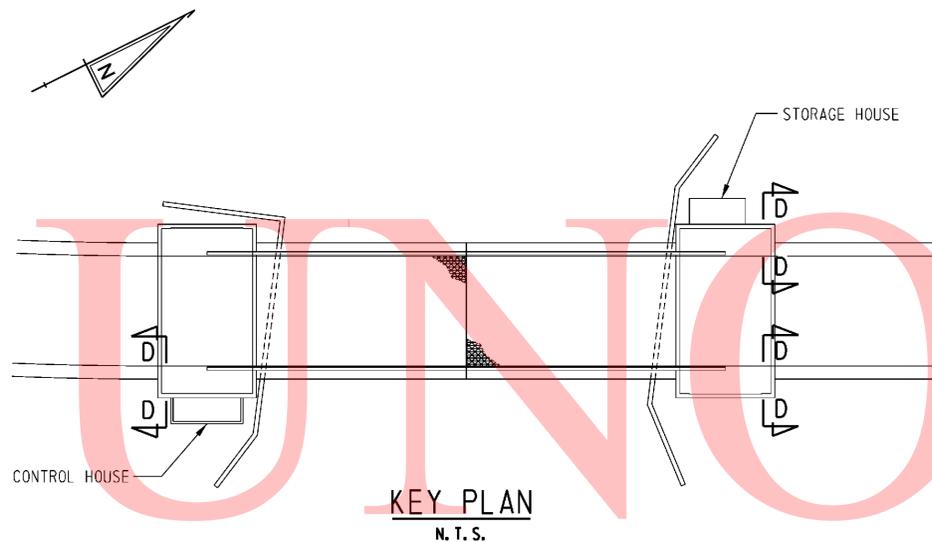
REPAIR PROCEDURE

1. AS SHOWN ON SECTION C-C, REMOVE EXISTING RIVETS ONE AT A TIME FROM THE LIVE LOAD ANCHORAGE COLUMN WEB AND REPLACE EACH RIVET WITH A TEMPORARY HIGH STRENGTH BOLT.
2. INSTALL WEB REPAIR PLATES ONE AT A TIME, REMOVE ONLY THE BOLTS NEEDED TO INSTALL ONE WEB PLATE AND REPLACE TEMPORARY BOLTS WITH NEW HIGH STRENGTH BOLTS. ONCE THE FIRST PLATE IS INSTALLED AND BOLTS ARE TIGHTENED, INSTALL THE SECOND WEB PLATE.
3. INSTALL FLANGE REPAIR PLATES. EACH FLANGE OF A COLUMN CAN BE WORKED ON CONCURRENTLY.
4. COMPLETE STEPS 2 AND 3 AT ONE LIVE LOAD ANCHORAGE COLUMN PRIOR TO COMMENCING WORK ON ANOTHER COLUMN.

ADDENDUMS / REVISIONS

CONTRACT T201007405	BRIDGE NO. 1 - 687
COUNTY NEW CASTLE	DESIGNED BY: G. WISNIEWSKI
	CHECKED BY: J. KAPLAN

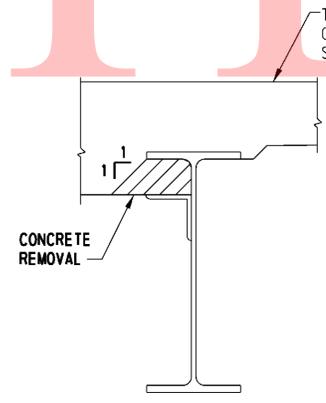
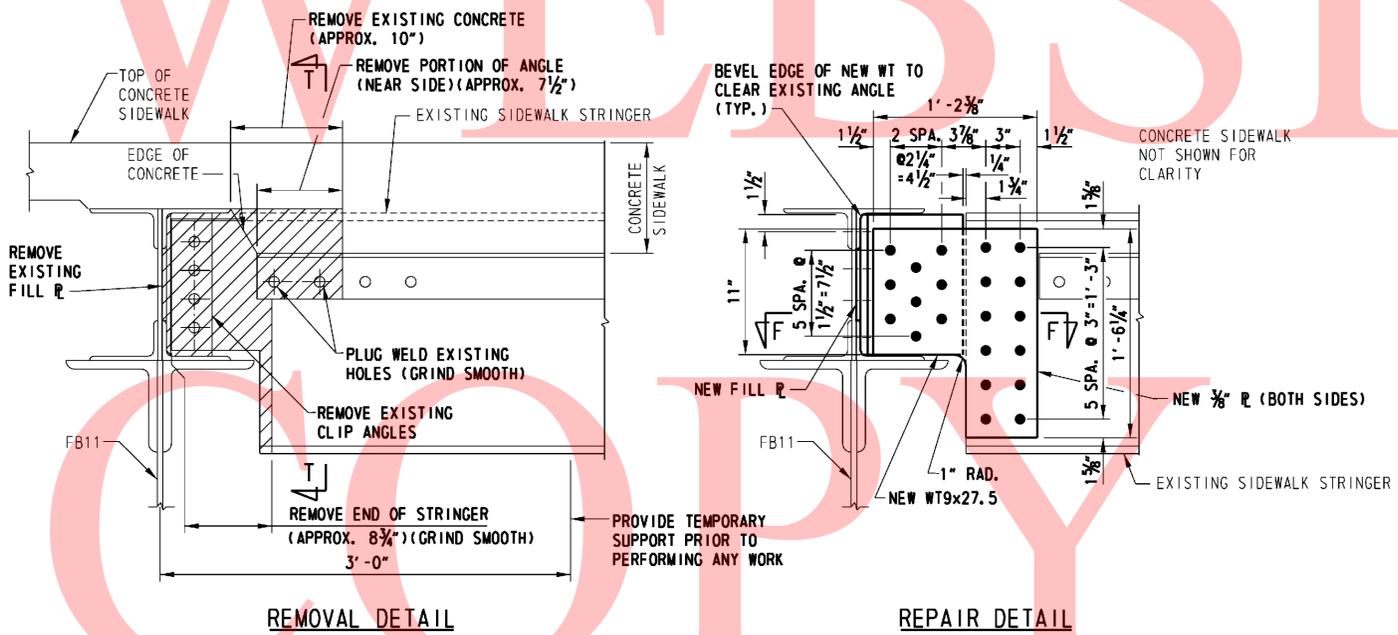
FEDERAL AID NUMBER EBHN-2010(29)	SHEET NO. 27
	TOTAL SHTS. 111



SECTION D-D

(NORTHEAST SHOWN, NORTHWEST/SOUTHEAST OPPOSITE HAND)
SCALE: 1/2"=1'-0"

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



SECTION T-T
SCALE: 1 1/2"=1'-0"

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

NOTES:

1. INSTALL TEMPORARY SUPPORT PRIOR TO ANY SIDEWALK STRINGER REPAIR WORK. TEMPORARY SUPPORT CALCULATIONS AND PLANS SHALL BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE STATE OF DELAWARE AND SUBMITTED FOR APPROVAL PRIOR TO FABRICATING AND INSTALLING TEMPORARY SUPPORT. JACK THE STRINGER TO UNLOAD THE DEAD LOAD (23K FACTORED). STOP JACKING WHEN INDICATED JACKING LOAD IS REACHED OR AS DIRECTED BY THE ENGINEER.
2. NEW STRUCTURAL STEEL SHALL CONFORM TO ASTM A709, GRADE 50.
3. DELDOT STANDARD SPECIFICATIONS SHALL BE FOLLOWED FOR PAINTING OF ALL STEEL SURFACES.
4. BOLTS SHALL BE 7/8" DIAMETER AND SHALL CONFORM TO ASTM A325, TYPE 3. USE 1/4" HOLES.
5. CLEAN AND PAINT EXISTING STEEL AND NEW CONTACT AREA AS DIRECTED BY THE ENGINEER.
6. THE COST OF CLEANING THE EXISTING STEEL SHALL BE INCLUDED IN PAY ITEM 605533, "CLEANING EXISTING STEEL STRUCTURES, HAZARDOUS BASE". THE COST OF ALL OTHER WORK SHOWN ON THIS DWG. SHALL BE INCLUDED IN PAY ITEM "STEEL STRUCTURE REPAIR".
7. FIELD VERIFY ALL EXISTING DIMENSIONS, DETAILS, ETC., AS NECESSARY PRIOR TO FABRICATION AND INSTALLATION OF REPAIR STEEL. IMMEDIATELY BRING TO THE ENGINEER'S ATTENTION ANY DIFFERENCES BETWEEN INFORMATION CONTAINED IN THESE DRAWINGS AND INFORMATION OBTAINED IN THE FIELD.

LEGEND

- REMOVE EXISTING CONCRETE/STRUCTURAL STEEL
- EXISTING RIVET
- REMOVE EXISTING RIVET
- NEW HIGH STRENGTH BOLT IN NEW HOLE

ADDENDUMS / REVISIONS	

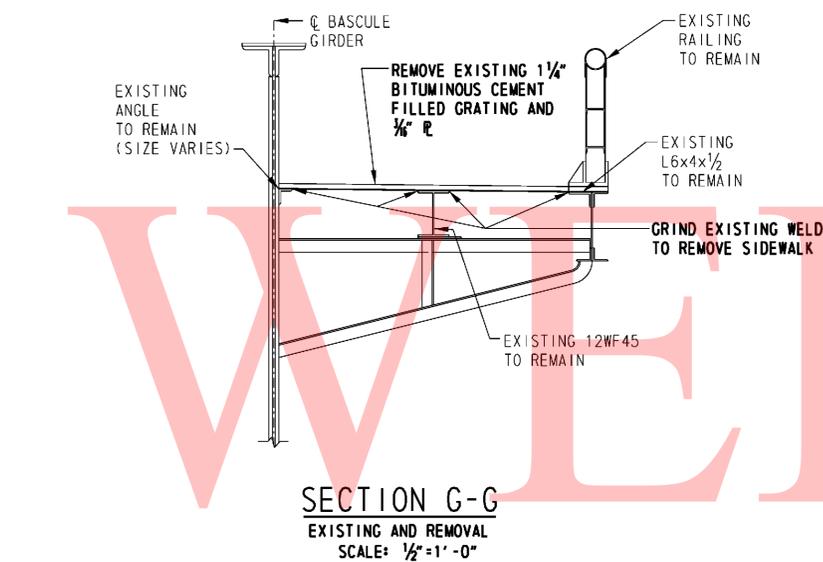
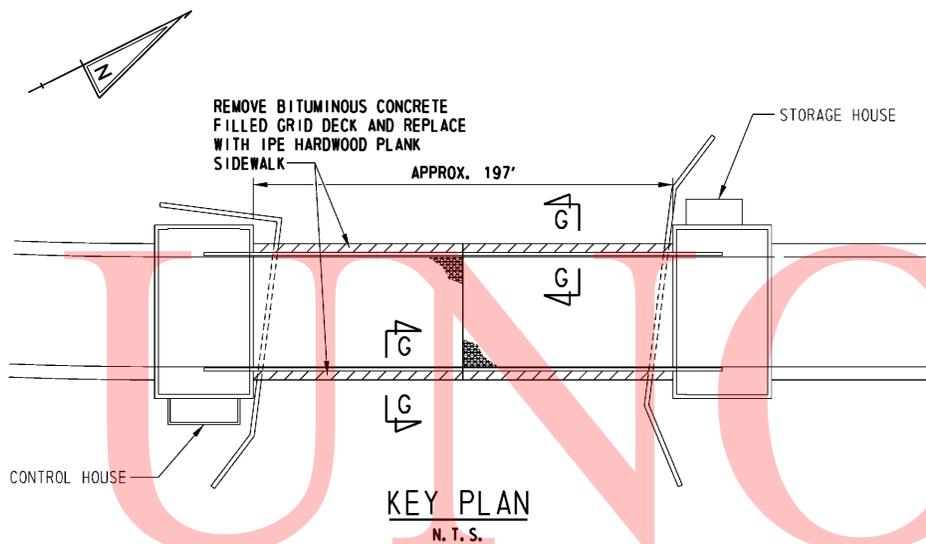
SCALE AS NOTED

BRS 1-687, 1-688 AND 1-693
S. WALNUT ST., S. MARKET ST.
AND 4TH ST. OVER CHRISTINA RIVER

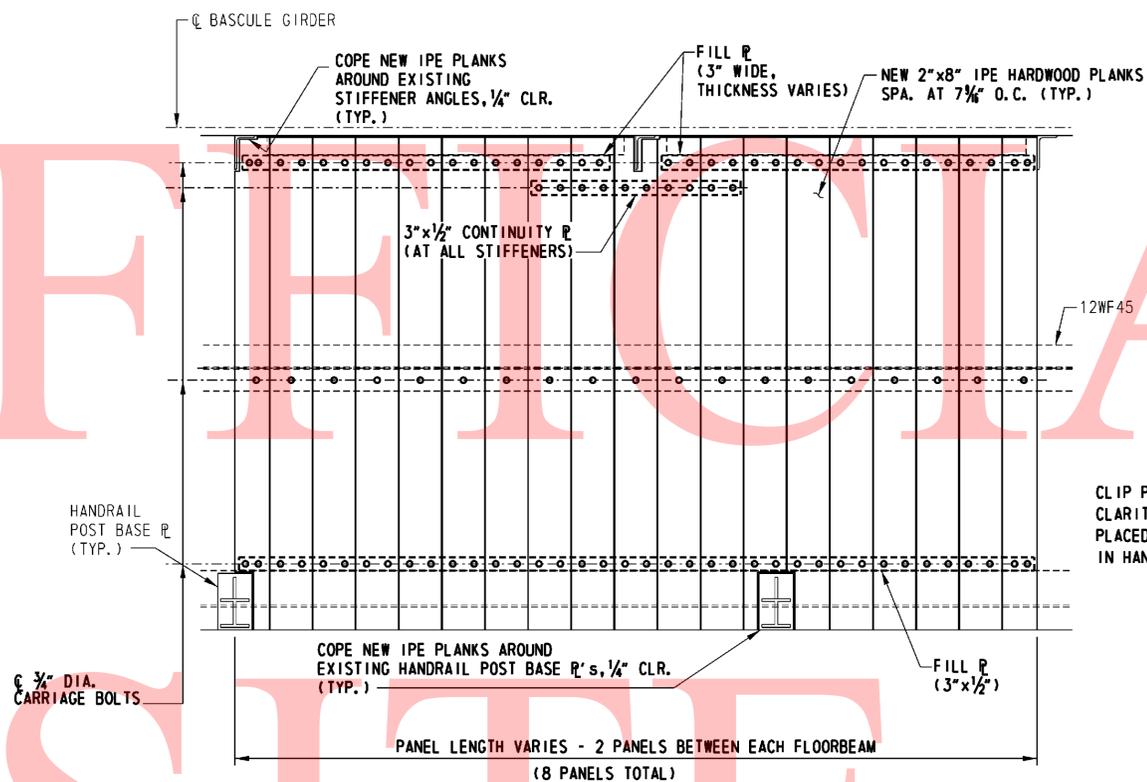
CONTRACT T201007405	BRIDGE NO. 1 - 687
COUNTY NEW CASTLE	DESIGNED BY: R. JACKSON CHECKED BY: J. KAPLAN

**WALNUT STREET BRIDGE
SIDEWALK STRINGER
REPAIR DETAILS**

FEDERAL AID NUMBER EBHN-2010(29)	SHEET NO. 28
TOTAL SHTS. 111	



SECTION G-G
EXISTING AND REMOVAL
SCALE: 1/2" = 1'-0"



TYPICAL SIDEWALK DECK PANEL
SCALE: 3/8" = 1'-0"

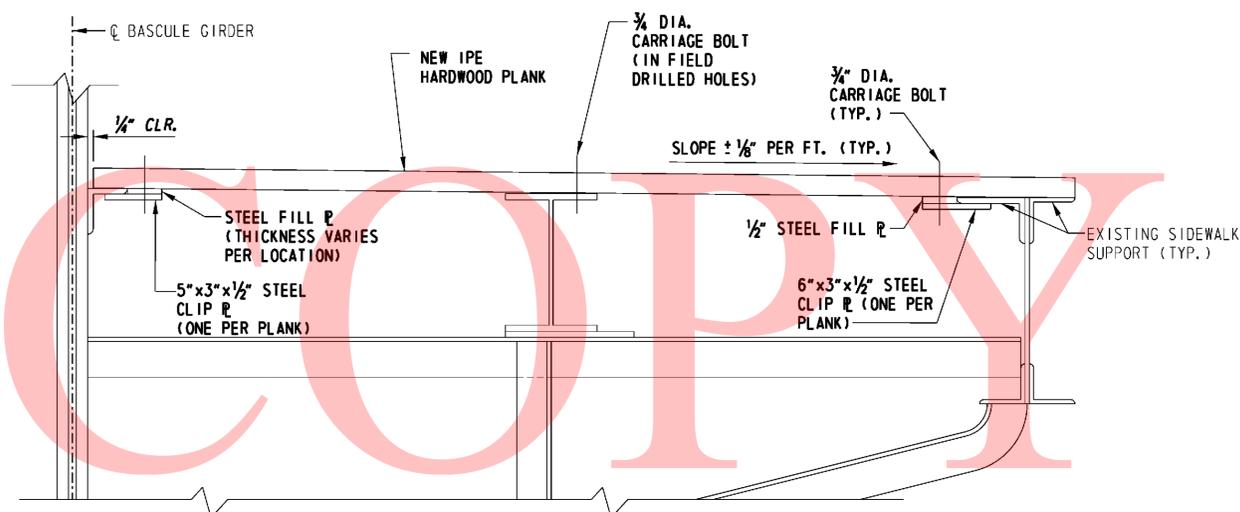
CLIP PLATES NOT SHOWN FOR CLARITY. CLIP PLATES SHALL BE PLACED TO CLEAR EXISTING BOLTS IN HANDRAIL POST BASE PLATES.

NOTES:

1. THE COST OF CLEANING THE EXISTING STEEL SHALL BE INCLUDED IN PAY ITEM "CLEANING EXISTING STEEL STRUCTURES, HAZARDOUS BASE". ALL OTHER WORK SHOWN ON THIS DRAWING SHALL BE INCLUDED IN PAY ITEM "TIMBER SIDEWALK".
2. PRIOR TO FABRICATING NEW MATERIAL, ALL NECESSARY DIMENSIONS SHALL BE FIELD VERIFIED AND ALL NECESSARY SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL.
3. NEW STRUCTURAL STEEL SHALL CONFORM TO ASTM A709, GRADE 50 AND SHALL BE PAINTED PER THE SPECIFICATIONS.
4. CARRIAGE BOLTS SHALL BE 3/4" DIA. GRADE 5 ZINC-PLATED CONFORMING TO SAE J429 WITH ROCKWELL HARDNESS C25 AND TENSILE STRENGTH OF 120,000.

SIDEWALK SUPPORT CLEANING AND PAINTING PROCEDURE

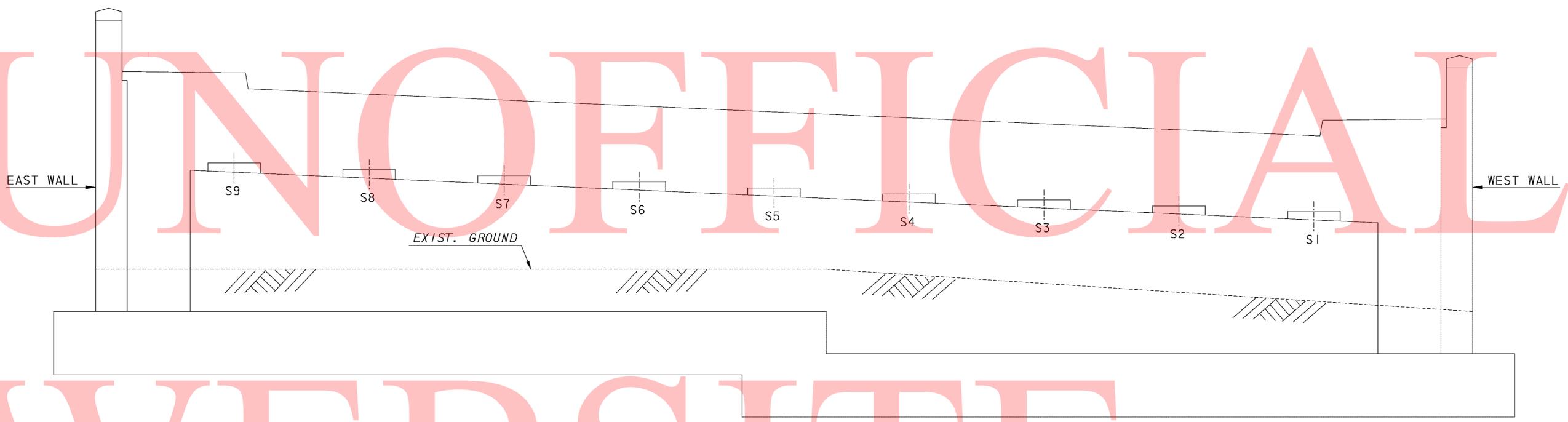
1. CLEAN THE SUPPORTS (LIMITS ARE AS-DIRECTED).
 - A. HAND CLEAN THE SUPPORTS TO REMOVE GROSS CORROSION.
 - B. CLEAN THE SUPPORTS USING CHLOR-RID (OR AN APPROVED EQUAL) TO REMOVE ANY RESIDUAL SALTS.
 - C. VACUUM BLAST CLEAN THE SUPPORTS PER SSPC 10/NACE NO. 2-NEAR-WHITE METAL BLAST CLEANING REQUIREMENTS. ACCEPTABILITY OF THE CLEANED SURFACE SHALL COMPLY WITH VISUAL STANDARD SSPC-VIS 1 RUST GRADE G3-SP10.
2. PAINT THE SUPPORTS PER DELDOT SPECIFICATIONS. COLOR TO MATCH EXISTING STEEL.



SECTION G-G
REPLACEMENT
SCALE: 1 1/2" = 1'-0"

FEDERAL AID NUMBER
EBHN-2010(29)

UNOFFICIAL



ELEVATION - SOUTH ABUTMENT
SCALE: 3/8" = 1'-0"

WEBSITE

COPY

NOTE:

CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.

LEGEND:

-  DEEP SPALL REPAIR
-  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
-  CRACK REPAIR

ADDENDUMS / REVISIONS	

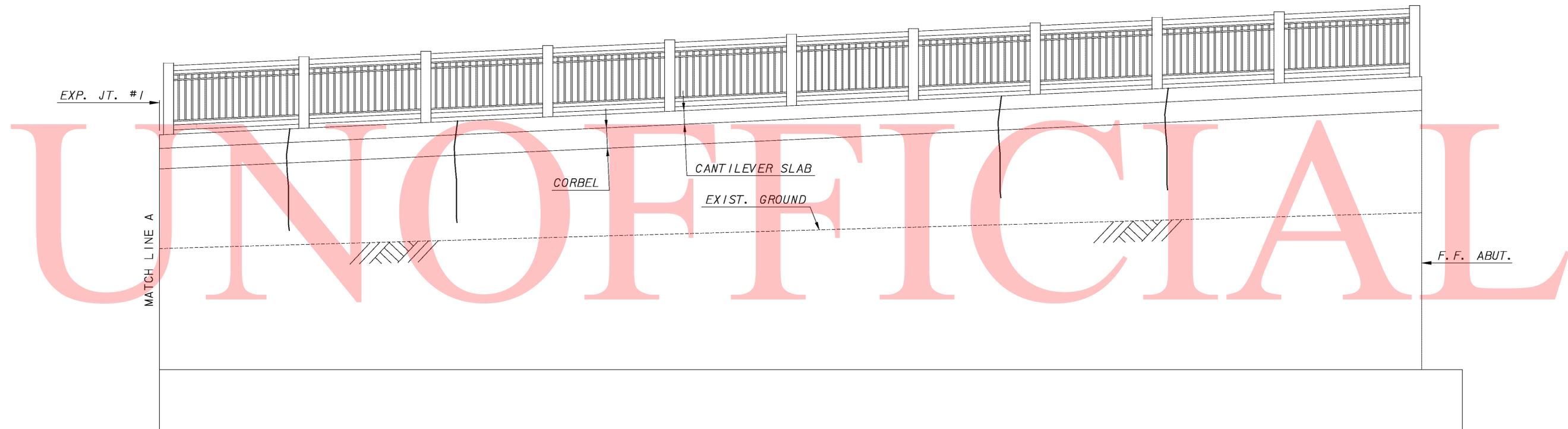
SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

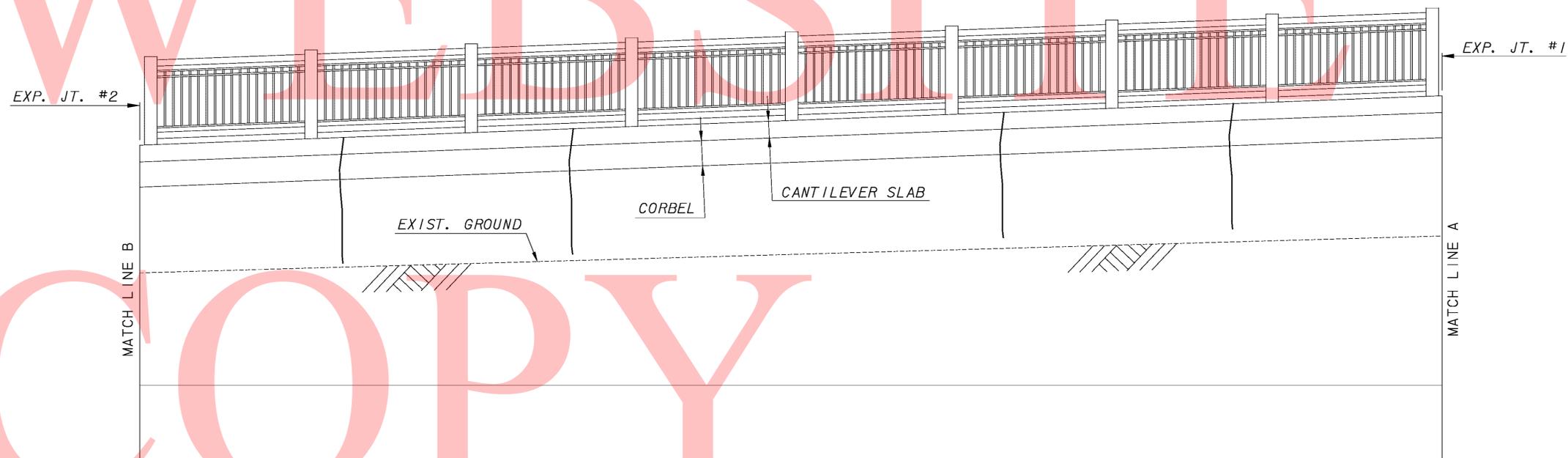
CONTRACT T201007405	BRIDGE NO. 1-687
COUNTY NEW CASTLE	DESIGNED BY: AJF CHECKED BY: BSB

SOUTH ABUTMENT REPAIRS

SHEET NO. 30
TOTAL SHTS. 111



ELEVATION - EAST WALL
SCALE: 3/8" = 1'-0"



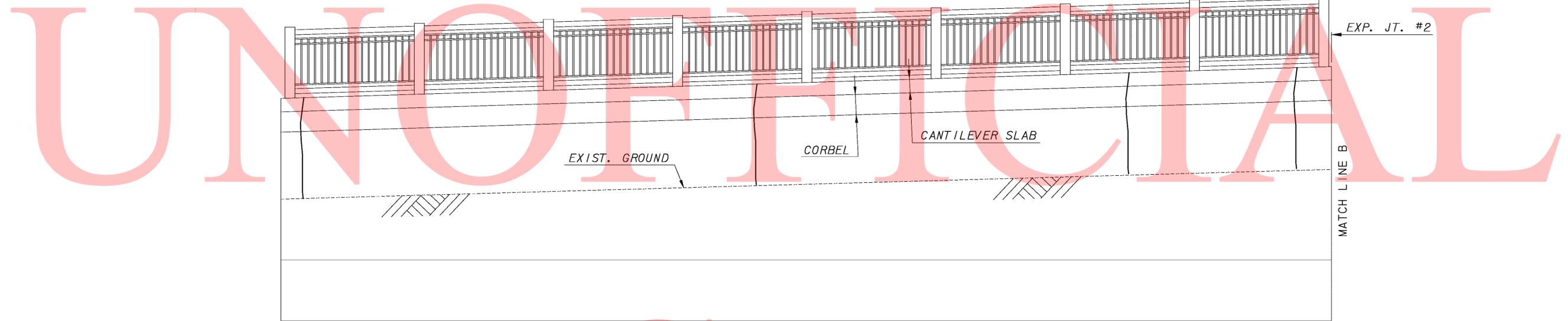
ELEVATION - EAST WALL
SCALE: 3/8" = 1'-0"

NOTE:

CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.

LEGEND:

-  DEEP SPALL REPAIR
-  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
-  CRACK REPAIR



ELEVATION - EAST WALL
SCALE: 3/8" = 1'-0"

UNNOTIFIED
WEBSITE
COPY

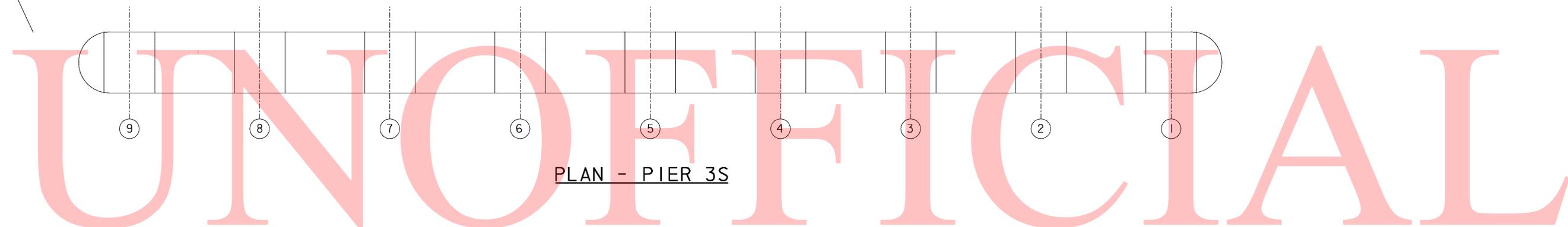
NOTE:

CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.

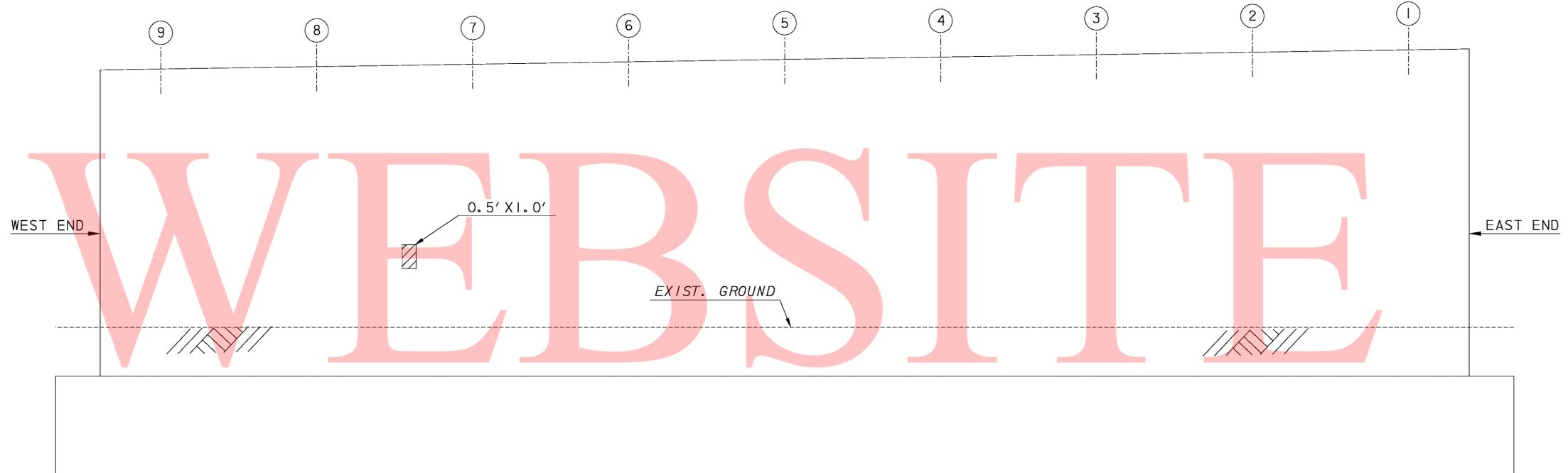
LEGEND:

-  DEEP SPALL REPAIR
-  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
-  CRACK REPAIR

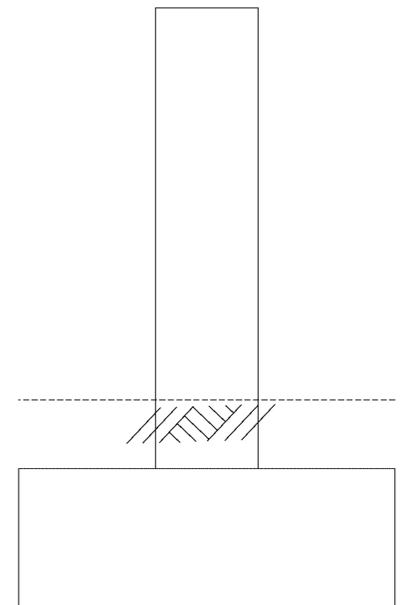
 DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		SCALE AS NOTED	BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER	CONTRACT	BRIDGE NO.	1-687	EAST WINGWALL REPAIRS SOUTH ABUTMENT - 2	SHEET NO.
					T201007405	DESIGNED BY:	AJF		32
					COUNTY	CHECKED BY:	BSB		TOTAL SHES.
					NEW CASTLE				111



PLAN - PIER 3S



ELEVATION - PIER 3S
(LOOKING NORTH)
SCALE: 3/8" = 1'-0"



END VIEW - PIER 3S
(EAST END)
SCALE: 3/8" = 1'-0"

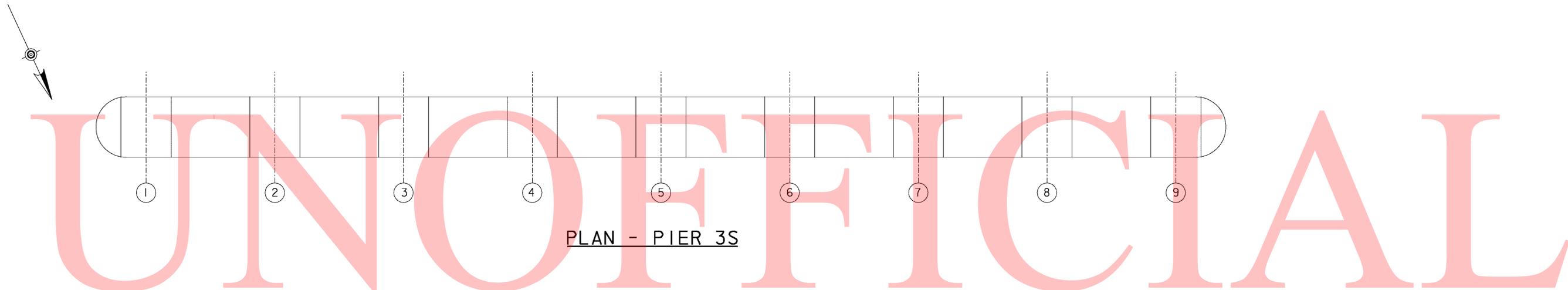
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NOTE:
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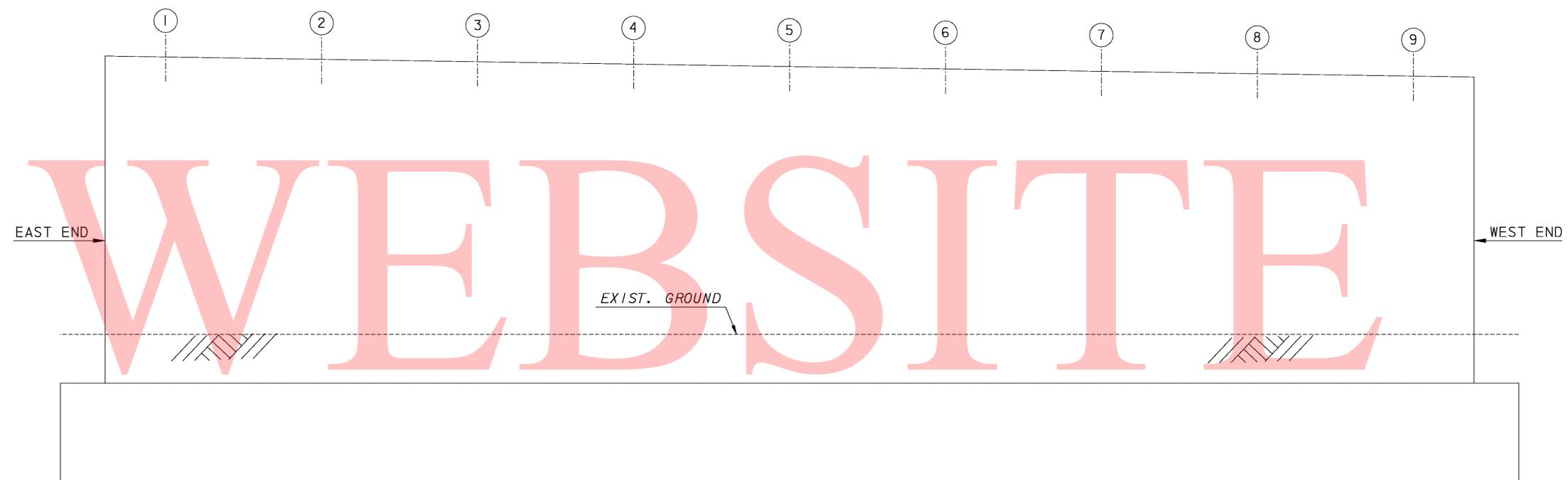
- LEGEND:**
- DEEP SPALL REPAIR
 - DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
 - CRACK REPAIR

ADDENDUMS / REVISIONS	

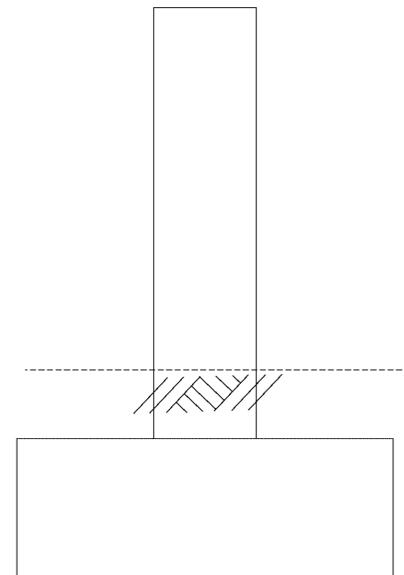
CONTRACT T201007405	BRIDGE NO. 1-687
COUNTY NEW CASTLE	DESIGNED BY: AJF CHECKED BY: BSB



PLAN - PIER 3S



ELEVATION - PIER 3S
(LOOKING SOUTH)
SCALE: 3/8" = 1'-0"



END VIEW - PIER 3S
(WEST END)
SCALE: 3/8" = 1'-0"

COPY

NOTE:
CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.

- LEGEND:**
-  DEEP SPALL REPAIR
 -  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
 -  CRACK REPAIR

ADDENDUMS / REVISIONS	

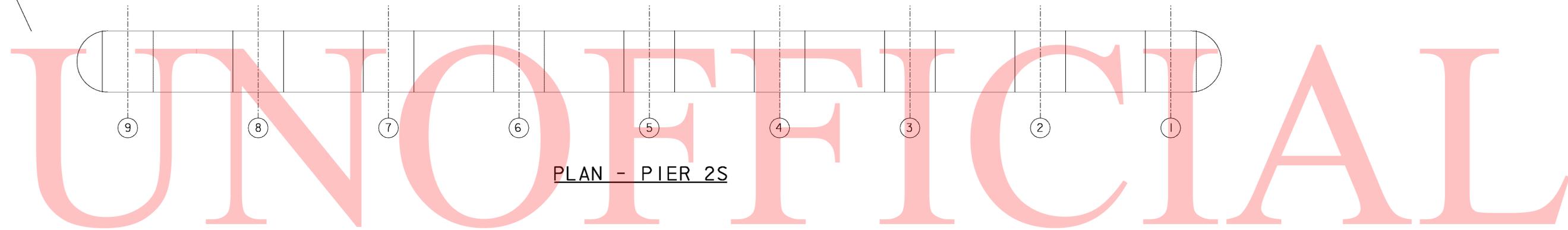
SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

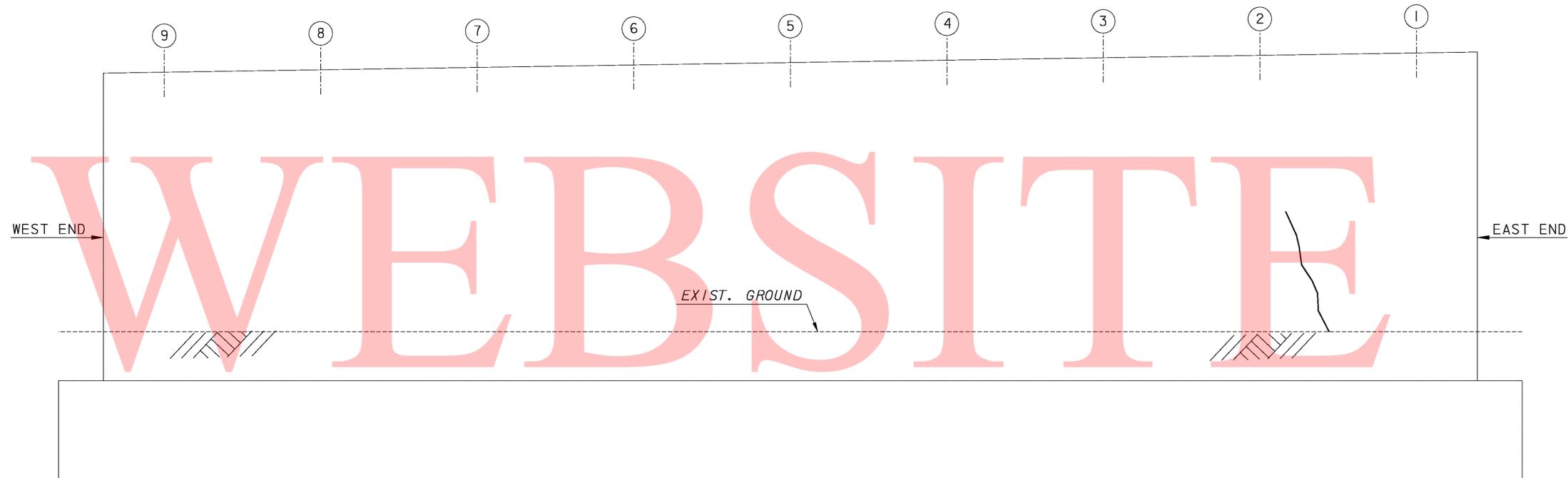
CONTRACT T201007405	BRIDGE NO. 1-687
COUNTY NEW CASTLE	DESIGNED BY: AJF CHECKED BY: BSB

PIER 3S REPAIRS - 2

SHEET NO. 34
TOTAL SHTS. 111



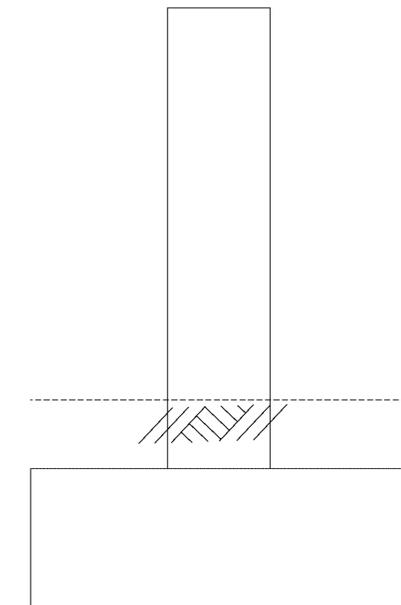
PLAN - PIER 2S



ELEVATION - PIER 2S

(LOOKING NORTH)

SCALE: $\frac{3}{8}$ " = 1'-0"



END VIEW - PIER 2S

(EAST END)

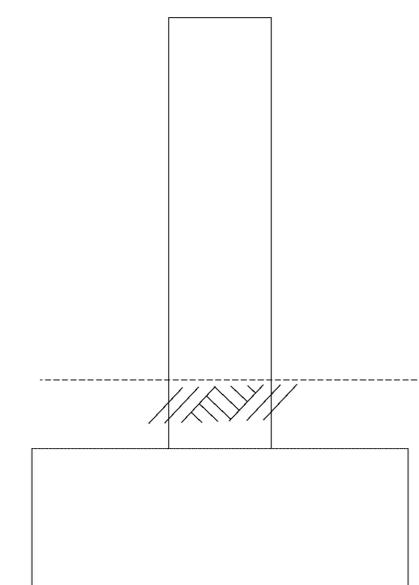
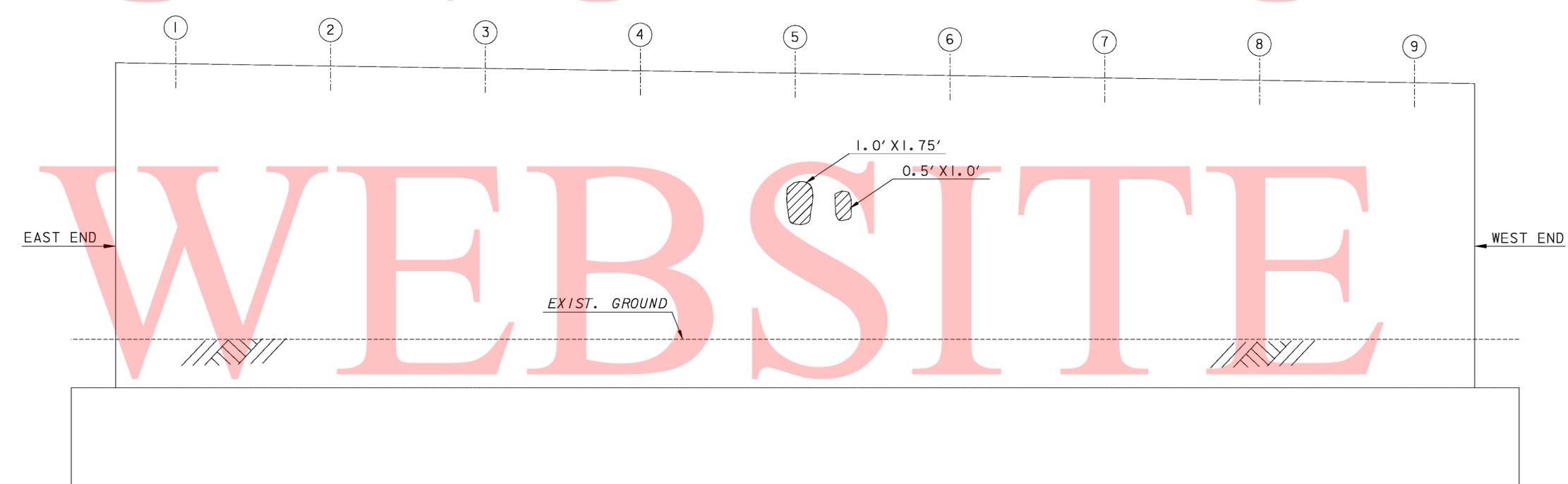
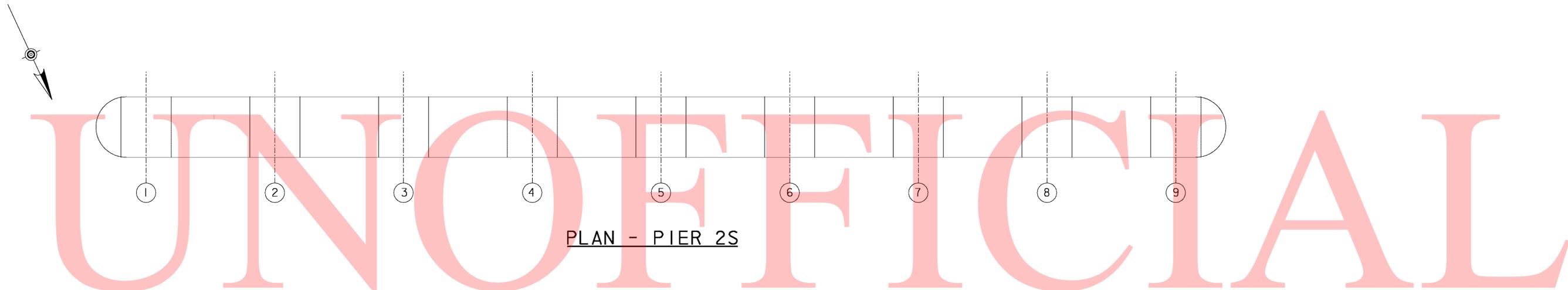
SCALE: $\frac{3}{8}$ " = 1'-0"

LEGEND:

-  DEEP SPALL REPAIR
-  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
-  CRACK REPAIR

NOTE:

CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURRED SINCE THE INSPECTIONS.

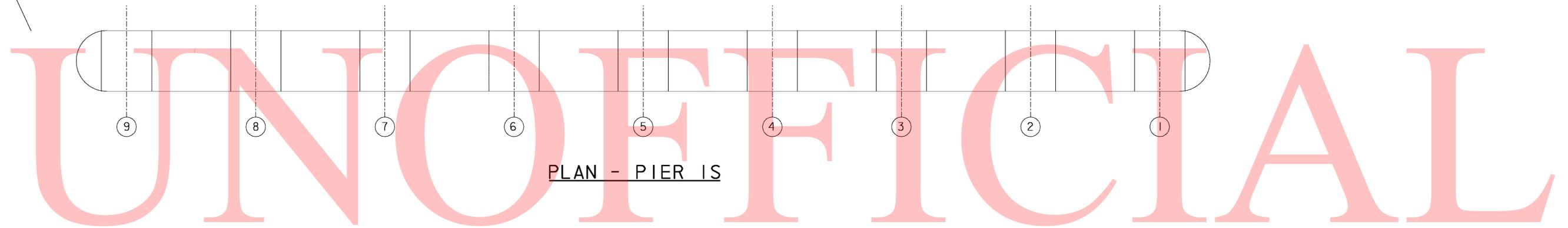


ELEVATION - PIER 2S
(LOOKING SOUTH)
SCALE: 3/8" = 1'-0"

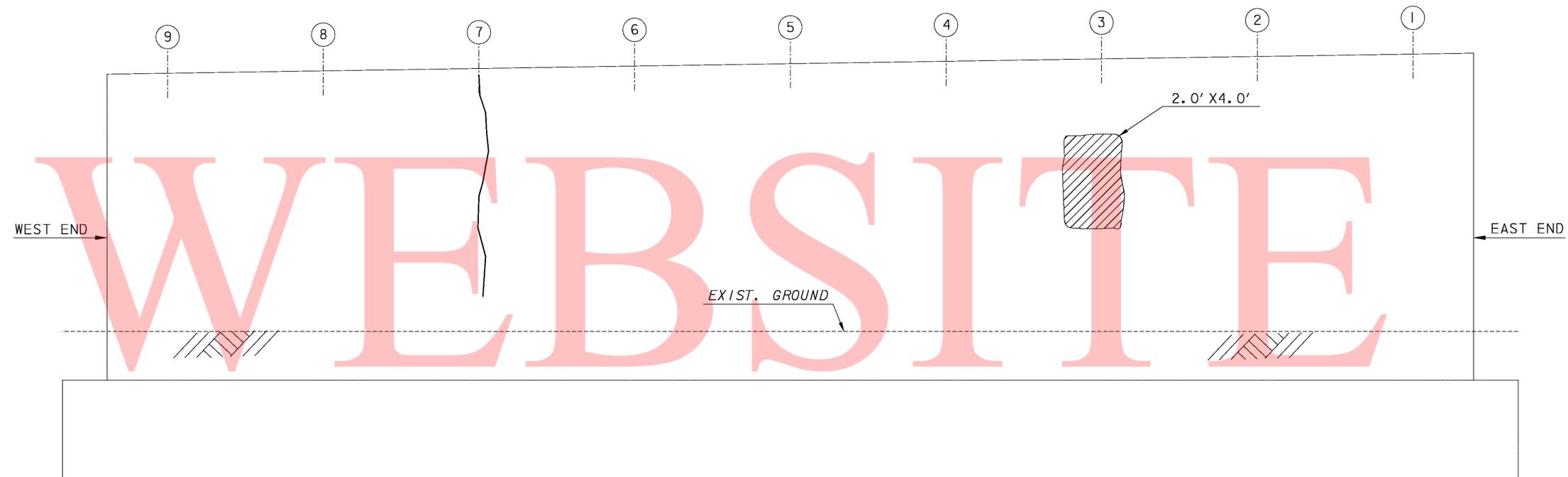
END VIEW - PIER 2S
(WEST END)
SCALE: 3/8" = 1'-0"

NOTE:
CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURRED SINCE THE INSPECTIONS.

- LEGEND:**
-  DEEP SPALL REPAIR
 -  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
 -  CRACK REPAIR



PLAN - PIER 1S



ELEVATION - PIER 1S

(LOOKING NORTH)

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

END VIEW - PIER 1S

(EAST END)

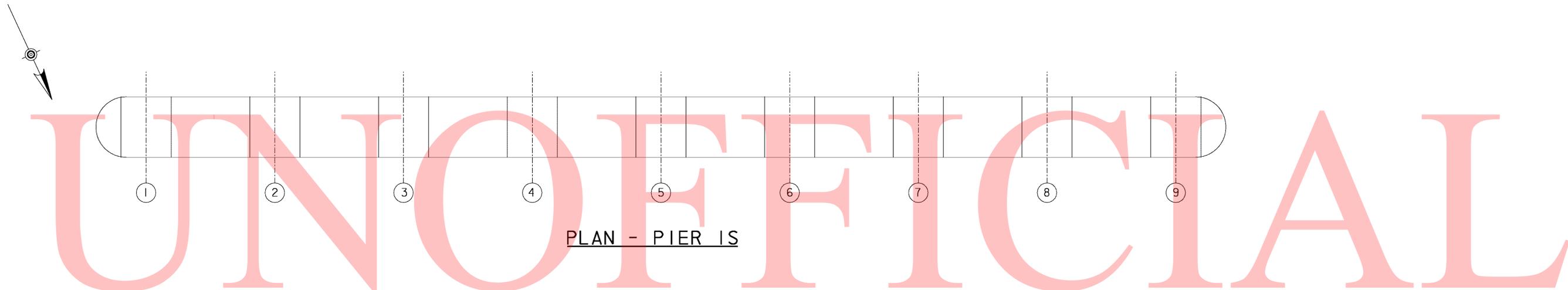
SCALE: 3/8" = 1'-0"

LEGEND:

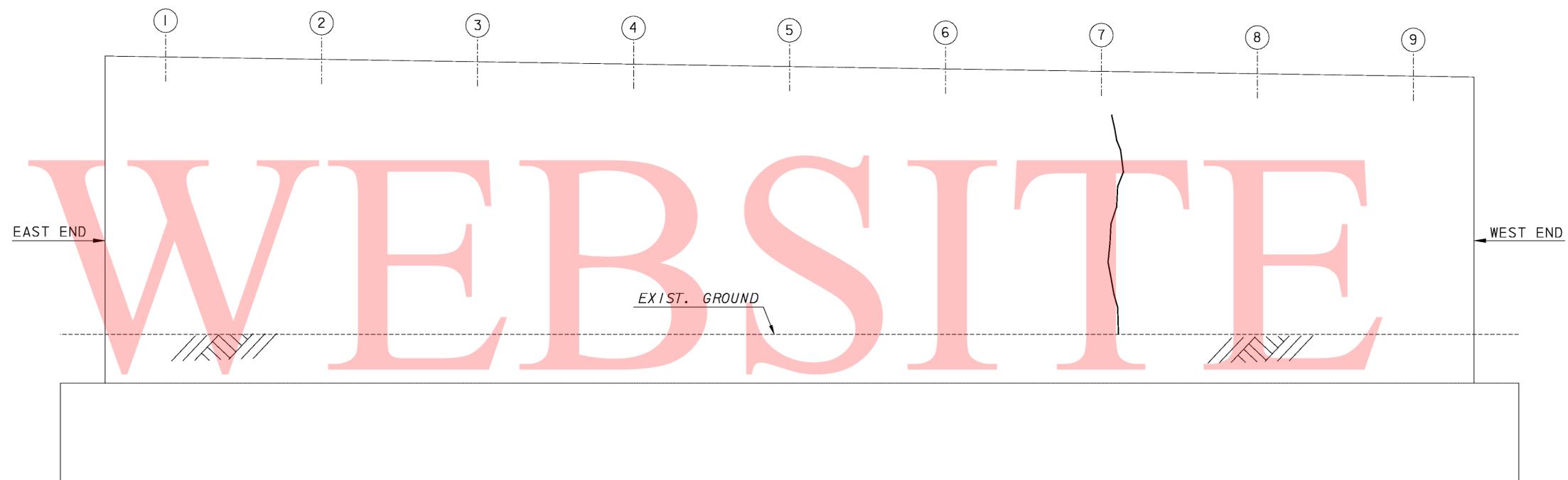
-  DEEP SPALL REPAIR
-  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
-  CRACK REPAIR

NOTE:

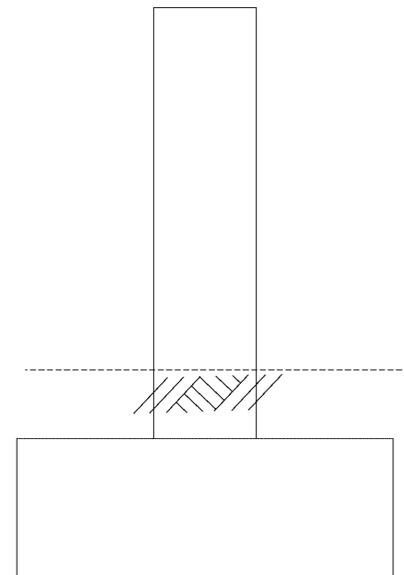
CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURRED SINCE THE INSPECTIONS.



PLAN - PIER 1S



ELEVATION - PIER 1S
(LOOKING SOUTH)
SCALE: 3/8" = 1'-0"



END VIEW - PIER 1S
(WEST END)
SCALE: 3/8" = 1'-0"

- LEGEND:
-  DEEP SPALL REPAIR
 -  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
 -  CRACK REPAIR

NOTE:
CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.

ADDENDUMS / REVISIONS	

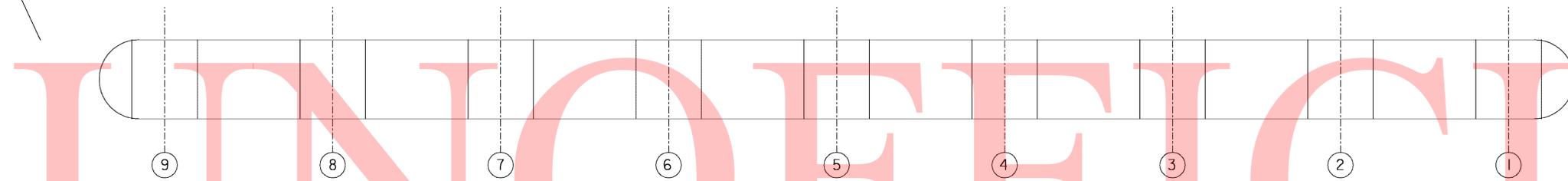
SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

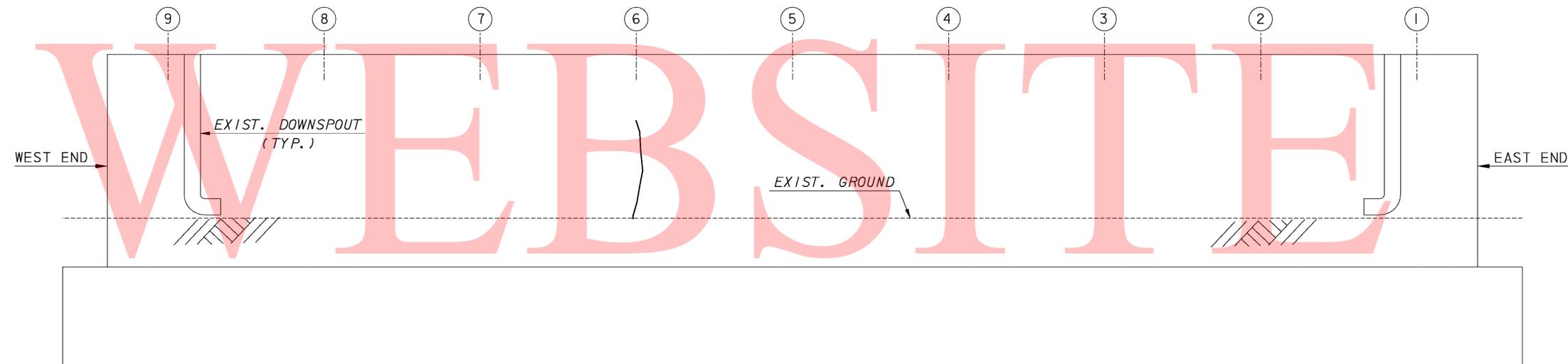
CONTRACT T201007405	BRIDGE NO. 1-687
COUNTY NEW CASTLE	DESIGNED BY: AUF
	CHECKED BY: BSB

PIER 1S REPAIRS - 2

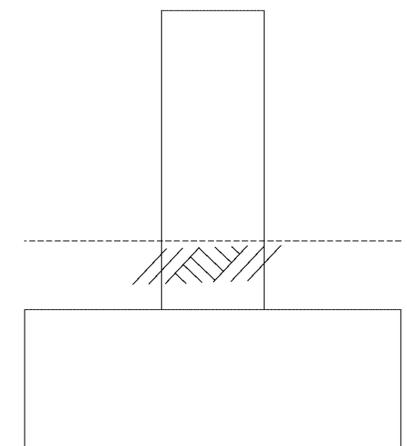
SHEET NO. 38
TOTAL SHTS. 111



PLAN - PIER 1N



ELEVATION - PIER 1N
(LOOKING NORTH)
SCALE: 3/8" = 1'-0"



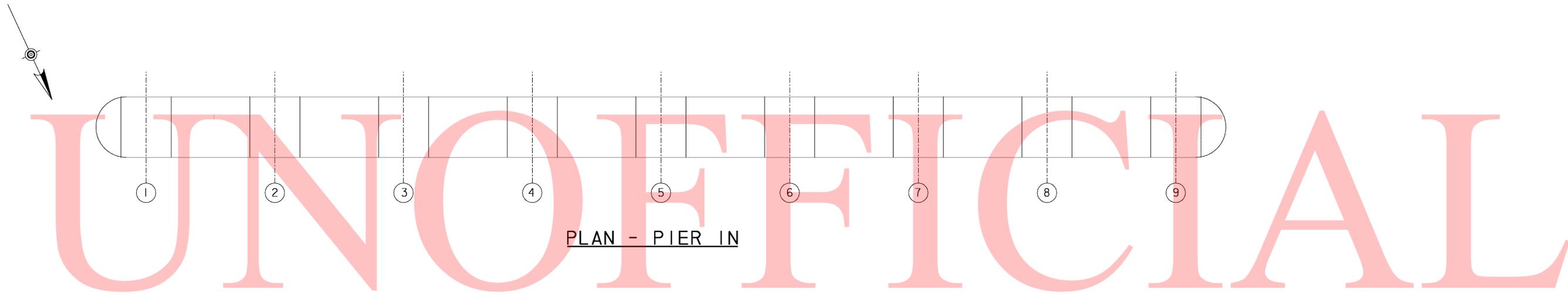
END VIEW - PIER 1N
(EAST END)
SCALE: 3/8" = 1'-0"

LEGEND:

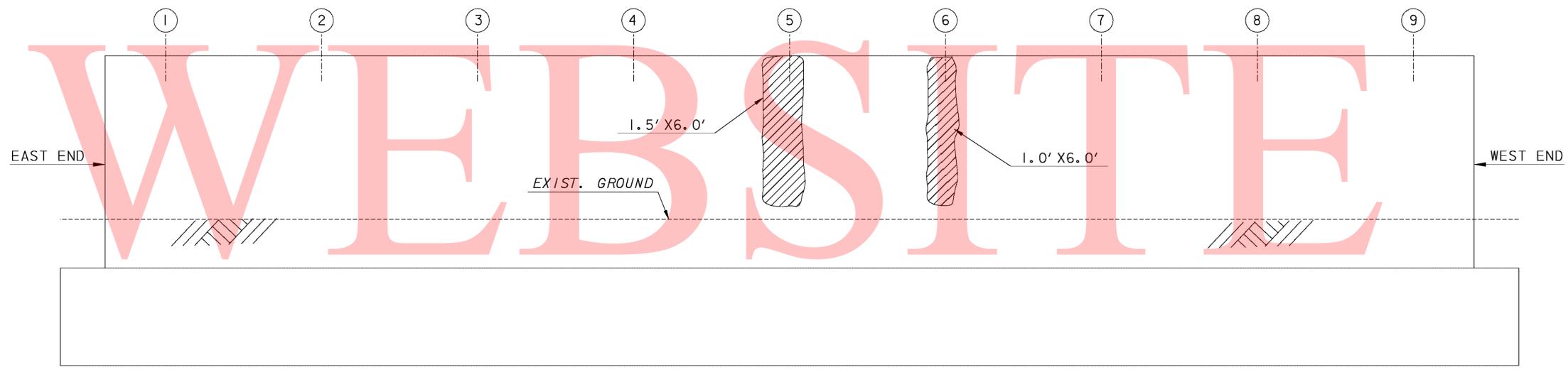
-  DEEP SPALL REPAIR
-  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
-  CRACK REPAIR

NOTE:

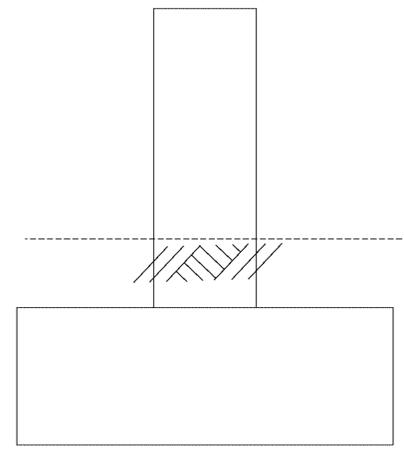
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PLAN - PIER 1N



ELEVATION - PIER 1N
(LOOKING SOUTH)
SCALE: 3/8" = 1'-0"



END VIEW - PIER 1N
(WEST END)
SCALE: 3/8" = 1'-0"

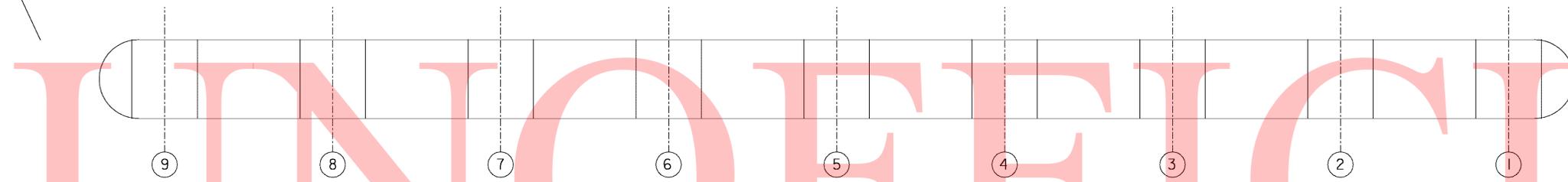
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NOTE:

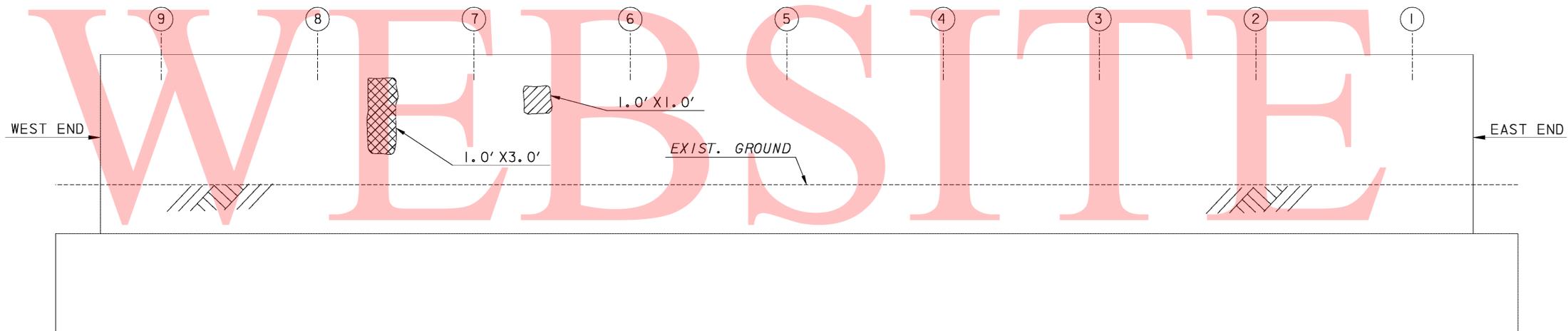
CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURRED SINCE THE INSPECTIONS.

LEGEND:

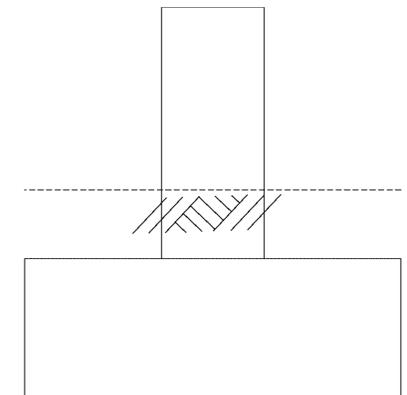
-  DEEP SPALL REPAIR
-  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
-  CRACK REPAIR



PLAN - PIER 2N



ELEVATION - PIER 2N
(LOOKING NORTH)
SCALE: $\frac{3}{8}$ " = 1'-0"



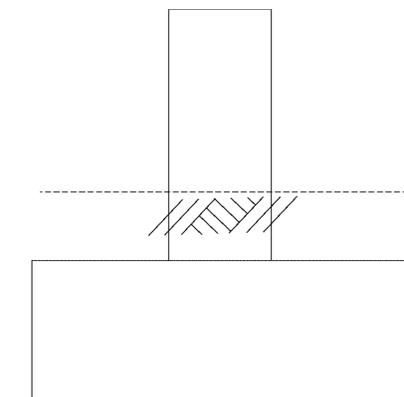
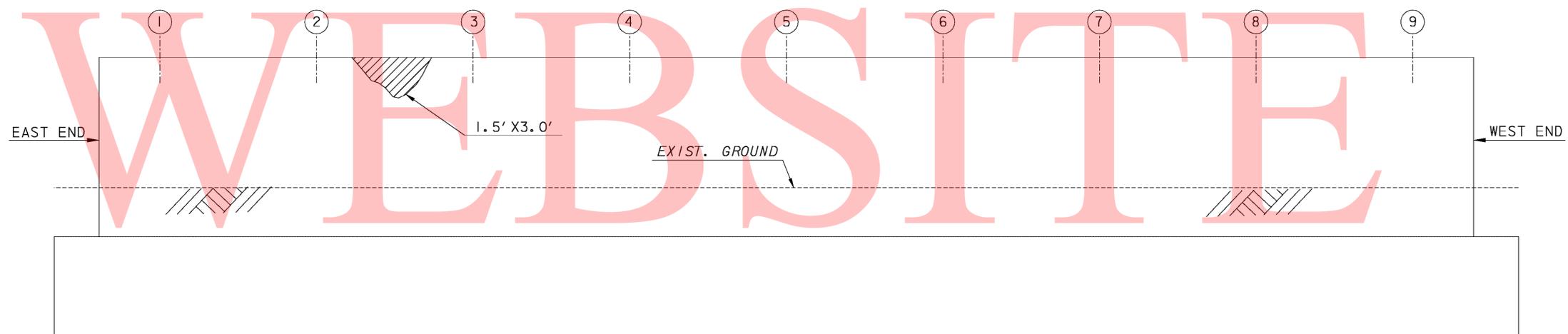
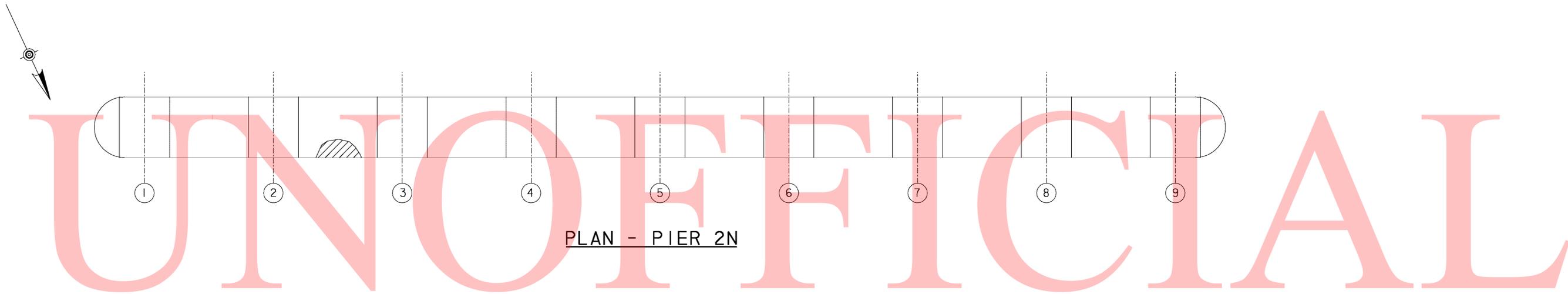
END VIEW - PIER 2N
(EAST END)
SCALE: $\frac{3}{8}$ " = 1'-0"

LEGEND:

- DEEP SPALL REPAIR
- DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
- CRACK REPAIR

NOTE:

CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.



COPY

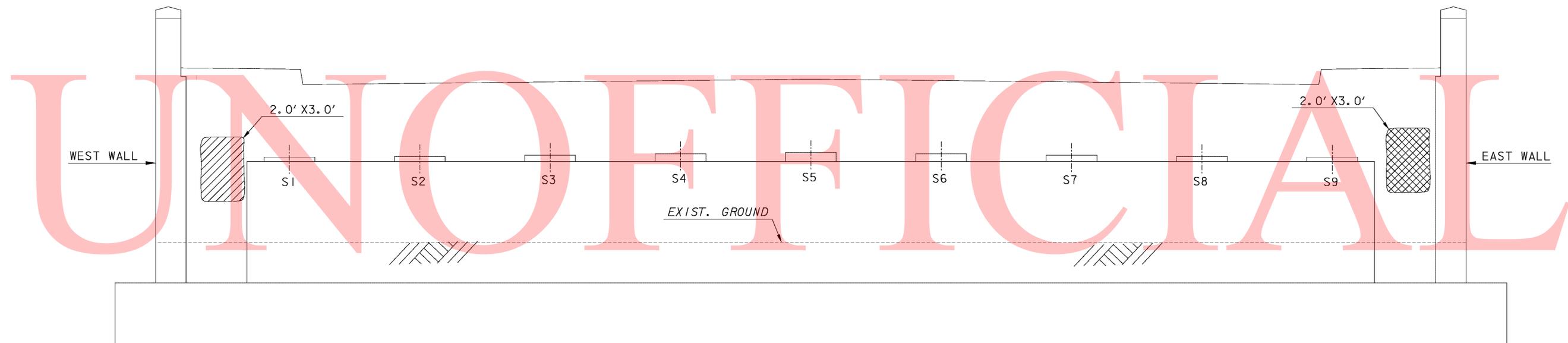
NOTE:

CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.

LEGEND:

- DEEP SPALL REPAIR
- DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
- CRACK REPAIR

	ADDENDUMS / REVISIONS		SCALE AS NOTED	BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER	CONTRACT	BRIDGE NO.	1-687	PIER 2N REPAIRS - 2	SHEET NO.	42
	T201007405	DESIGNED BY:			AJF	TOTAL SHTS.	111			
	COUNTY	CHECKED BY:			BSB					
	NEW CASTLE									



ELEVATION - NORTH ABUTMENT

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

UNOFFICIAL

WEBSITE

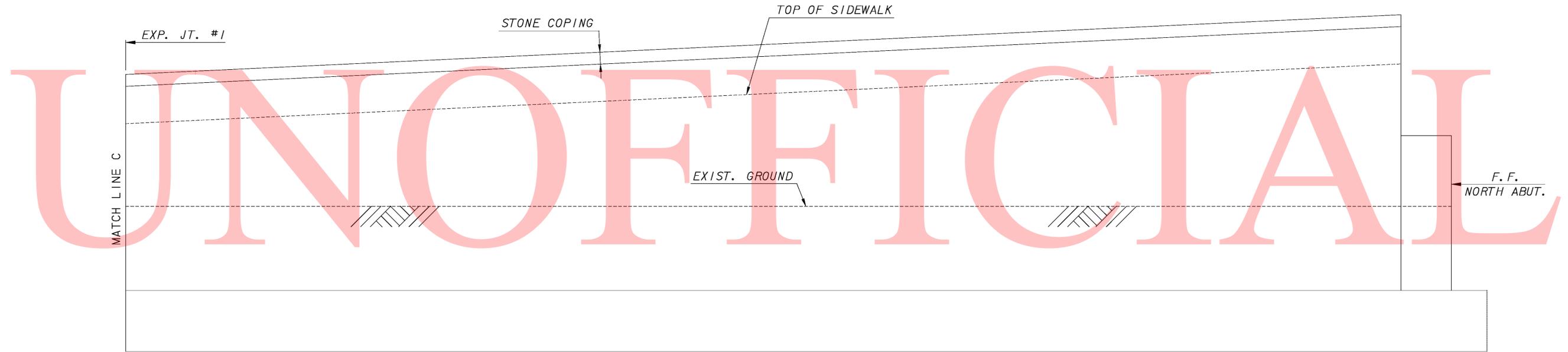
COPY

NOTE:

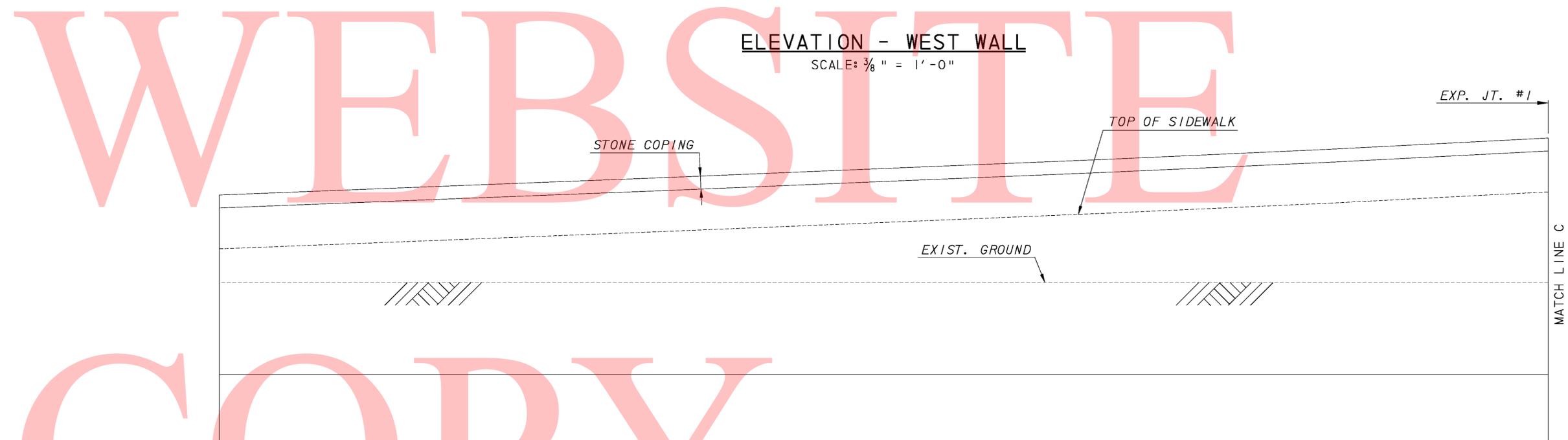
CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.

LEGEND:

-  DEEP SPALL REPAIR
-  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
-  CRACK REPAIR



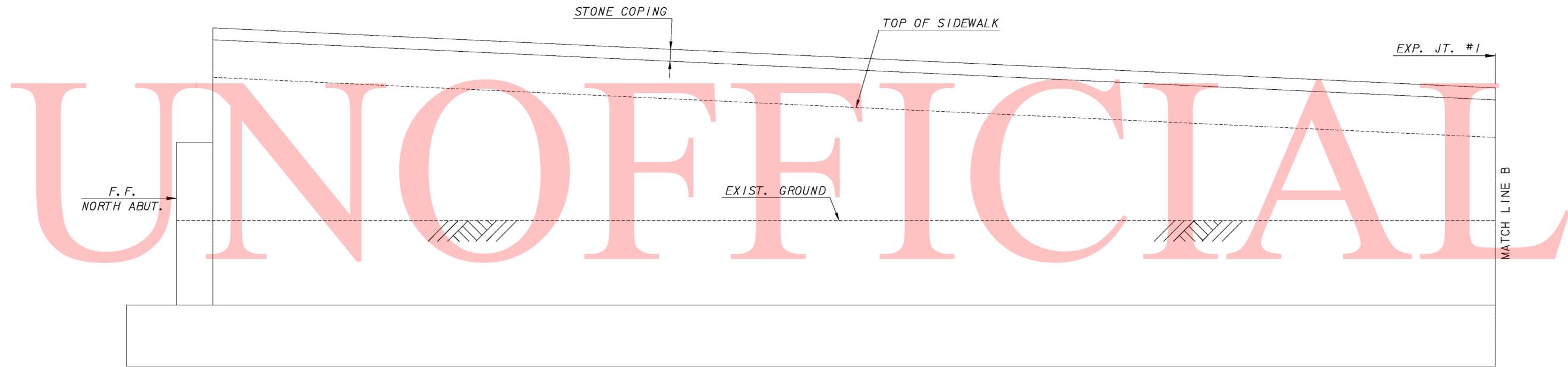
ELEVATION - WEST WALL
SCALE: 3/8" = 1'-0"



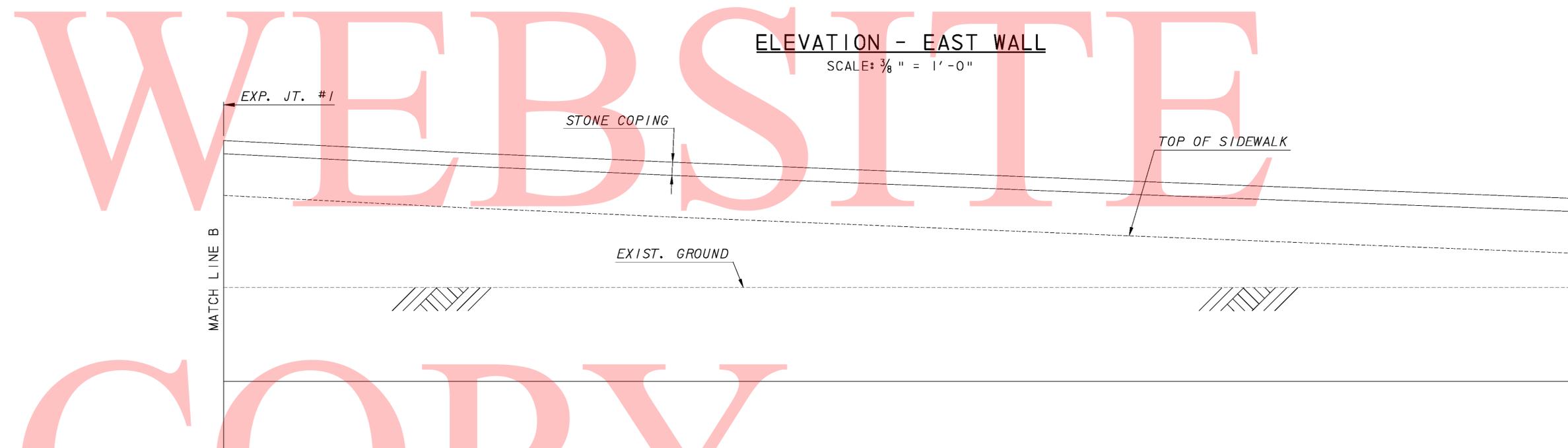
ELEVATION - WEST WALL
SCALE: 3/8" = 1'-0"

- LEGEND:**
-  DEEP SPALL REPAIR
 -  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
 -  CRACK REPAIR

NOTE:
CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.



ELEVATION - EAST WALL
SCALE: 3/8" = 1'-0"



ELEVATION - EAST WALL
SCALE: 3/8" = 1'-0"

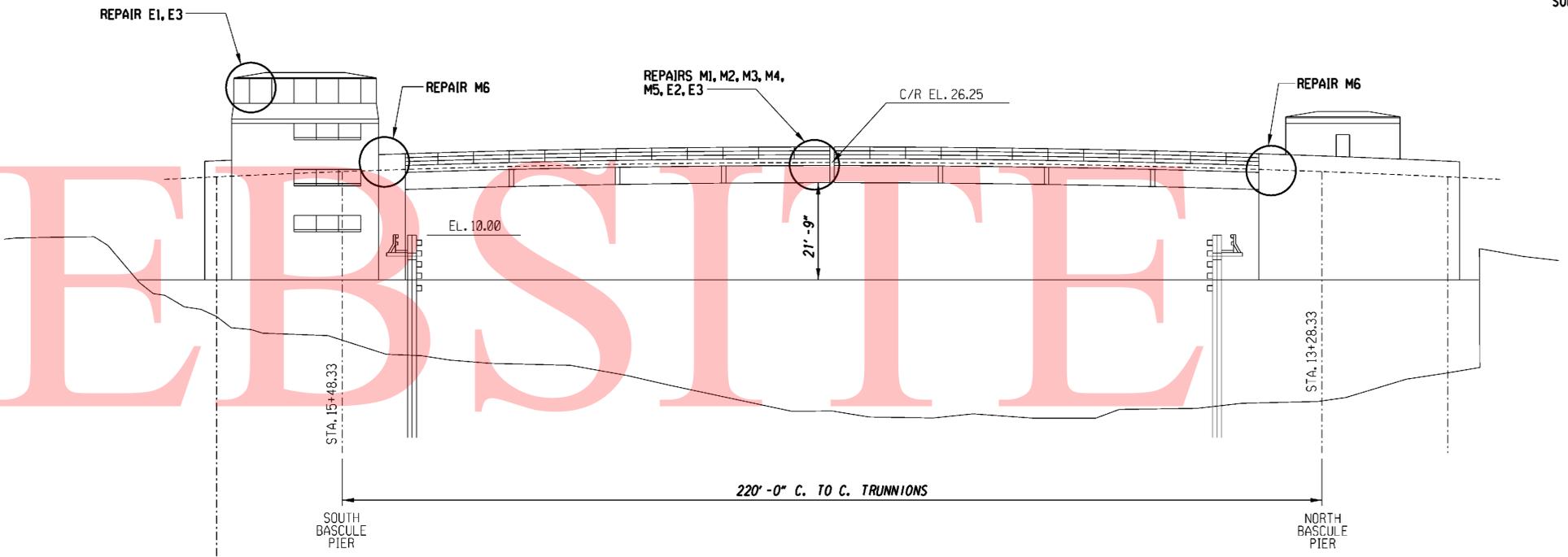
- LEGEND:**
-  DEEP SPALL REPAIR
 -  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
 -  CRACK REPAIR

NOTE:
CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURRED SINCE THE INSPECTIONS.

REPAIR ITEMS

- E1 MODIFY TRAFFIC GATE CONTROL INTERLOCKS.
- E2 MODIFY SPAN LOCKS LIMIT SWITCH MOUNTING BRACKETS.
- E3 ADD SPAN LOCK HAND CRANK COVERS, LIMIT SWITCHES, AND CONTROL.
- M1 FLUSH AND FILL EAST AND WEST SPAN LOCK SPEED REDUCERS. INSTALL NEW OIL LEVEL SIGHT GAUGE, AND HYGROSCOPIC BREATHER.
- M2 REPLACE SPAN LOCK MOTOR SUPPORTS. CONTRACTOR TO TEMPORARILY SECURE THE LOCK BARS TO AVOID ANY DETOUR RESTRICTIONS.
- M3 VERIFY PROPER TORQUE FOR ALL RACK GEAR MOUNTING FASTENERS ON EAST AND WEST SPAN LOCK BARS. REPLACE LOOSE FASTENERS WITH NEW BOLTS AND LOCK WASHERS.
- M4 REPLACE ALL SHIMS IN SPAN LOCK GUIDES. SET CLEARANCE ACCORDING TO SPAN LOCK ADJUSTMENT PROCEDURE DETAILED ON DRAWING "WALNUT STREET BRIDGE MECHANICAL REPAIR DETAILS - 2".
- M5 SPOT CLEAN AND PAINT CORRODED COMPONENTS OF SPAN LOCK MACHINERY AND SUPPORTS.
- M6 REPLACE THE FOLLOWING COUPLING SEALS:
NORTH LEAF: C1, C2, C3, C4, AND C5
SOUTH LEAF: C3 AND C4

UNOFFICIAL



ELEVATION

COPY

FEDERAL AID NUMBER
EBHN-2010(29)

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

SCALE AS NOTED

BRS 1-687, 1-688 AND 1-693
S. WALNUT ST., S. MARKET ST.
AND 4TH ST. OVER CHRISTINA RIVER

CONTRACT T201007405	BRIDGE NO. 1 - 687
COUNTY NEW CASTLE	DESIGNED BY: G. FOREST
	CHECKED BY: D. BARRETT

WALNUT STREET BRIDGE
MECHANICAL AND
ELECTRICAL REPAIR

SHEET NO. 46
TOTAL SHTS. 111

SUGGESTED SHIMMING PROCEDURE FOR LOCK BAR GUIDES AND SOCKET

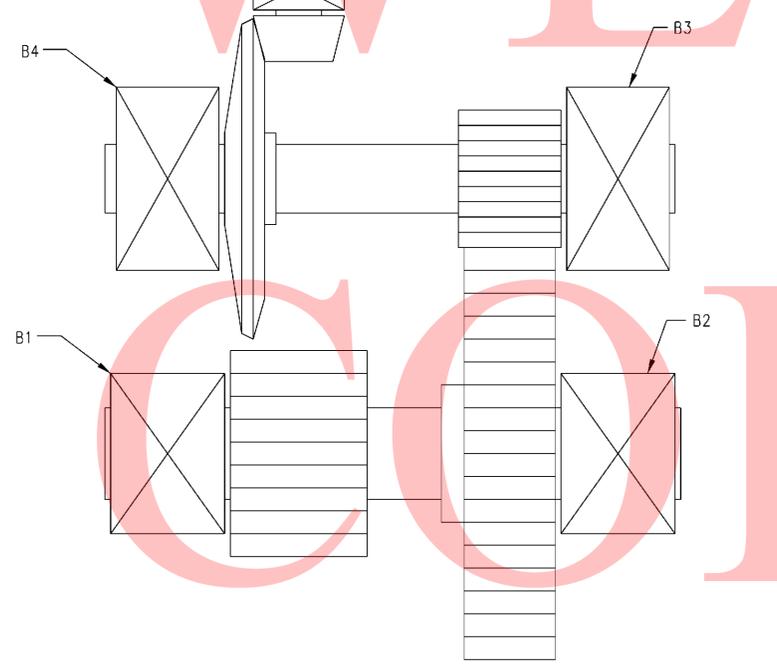
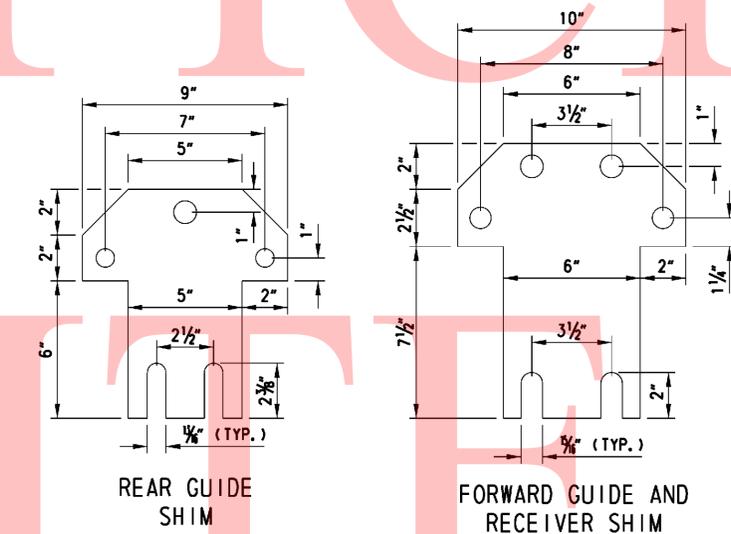
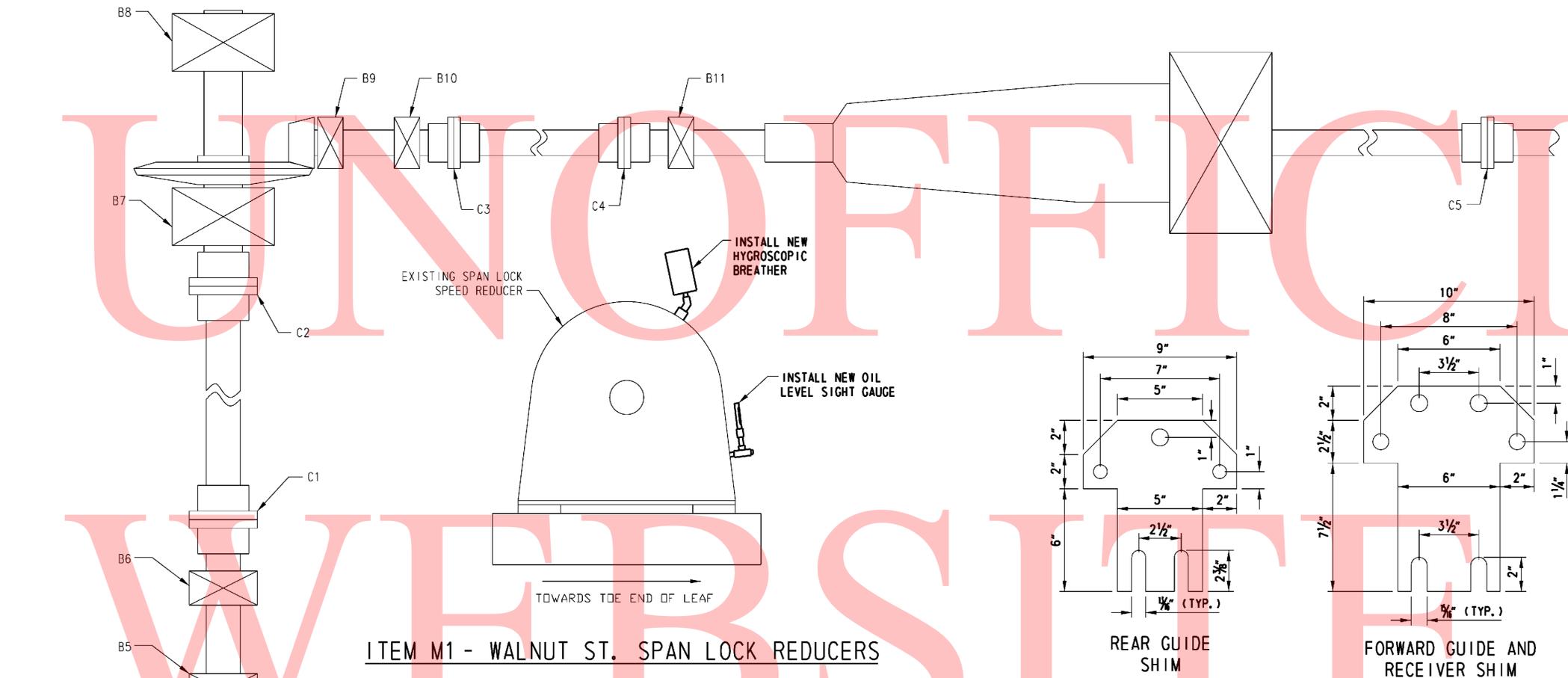
FOLLOWING THE LIVE LOAD ANCHORAGE REPAIR ADJUST THE LIVE LOAD SHOES FOR FIRM CONTACT AND PROPER SPAN ALIGNMENT IN THE CLOSED POSITION.

ALL SHIMMING FOR SPAN LOCKS IS TO BE PERFORMED ONLY AFTER ANY NECESSARY LIVE LOAD SHOE ADJUSTMENTS ARE COMPLETE.

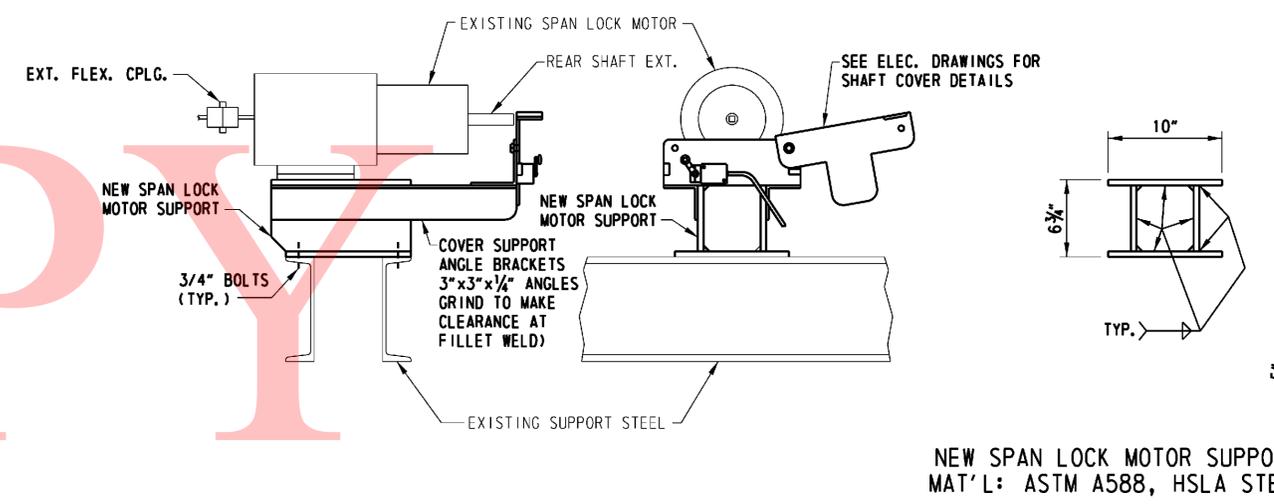
1. OPEN NORTH LEAF ENOUGH SO THAT THE LOCK BAR CAN BE FREELY OPERATED WITHOUT INTERFERING WITH ANY PART OF THE NORTH LEAF (INCLUDING THE SOCKET) WHILE THE SOUTH LEAF IS IN THE FULLY CLOSED POSITION AND FIRMLY SEATED ON THE LIVE LOAD ANCHORAGE.
2. MEASURE THE FRONT AND REAR GUIDE CLEARANCES AND LOCK BAR ORIENTATION. MEASURE THE PINION AND RACK ALIGNMENT.
3. BASED UPON THE MEASUREMENTS TAKEN IN STEP 2, ADJUST BOTTOM SHIMS IN THE FRONT AND REAR GUIDES TO BOTH KEEP THE LOCK BAR HORIZONTAL (WHEN LEAF IS IN CLOSED POSITION) AND PROVIDE 0.099" +/- 0.010" CLEARANCE BETWEEN THE TIPS OF THE PINION TEETH AND ROOT OF THE RACK TEETH. THE CONTRACTOR MUST ALSO VERIFY THAT THE PINION TEETH ARE INSERTED 0.796" (NOMINAL) INTO THE RACK TEETH. THESE PROVISIONS MUST BE MET THROUGHOUT THE ENTIRE STROKE OF THE LOCKBAR UNDER NO-LOAD CONDITIONS.
4. REPEAT STEPS 1-3 AS NECESSARY, ADJUST TOP SHIMS IN THE FRONT AND REAR GUIDES TO PROVIDE 0.012" +/- 0.005" CLEARANCE BETWEEN THE TOP OF THE LOCKBAR AND TOP OF BOTH GUIDES THROUGHOUT THE ENTIRE STROKE OF THE LOCKBAR UNDER NO-LOAD CONDITIONS.
5. WITH BOTH THE NORTH AND SOUTH LEAVES IN THE FULLY CLOSED POSITION AND FIRMLY SEATED ON THE LIVE LOAD ANCHORAGES, ADJUST TOP AND BOTTOM SHIMS OF THE SOCKET TO PROVIDE 0.005" TO 0.010" CLEARANCE BETWEEN LOCKBAR AND TOP AND BOTTOM WEARING SURFACES OF THE SOCKET WITH THE LOCKBAR FULLY DRIVEN.
6. VERIFY BOTH LEAVES ARE FIRMLY SEATED ON THE LIVE LOAD ANCHORAGES AND THE SPECIFIED PROPER SPAN LOCK CLEARANCES HAVE BEEN ACHIEVED FOR THREE FULL OPERATIONS.
7. REPEAT STEPS 5 AND 6 AS NECESSARY.

NOTES:

1. CONTRACTOR SHALL COORDINATE ALL BRIDGE AND SPAN LOCK OPERATIONS AS DESCRIBED IN THE SPECIFICATIONS.
2. THE CONTRACTOR SHALL SUBMIT ALL PROCEDURES FOR APPROVAL.
3. THE CONTRACTOR SHALL PROVIDE A TEMPORARY MANUALLY OPERATED SPAN LOCK RATED FOR 110 KIPS DESIGN (SERVICE) LOAD PER RETRACTED PERMANENT LOCK BAR UNDER LIVE LOAD. THE TEMPORARY SPAN LOCK SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF DELAWARE AND SHALL BE SUBMITTED FOR APPROVAL.



SPAN DRIVE MACHINERY GENERAL LAYOUT
NOT TO SCALE



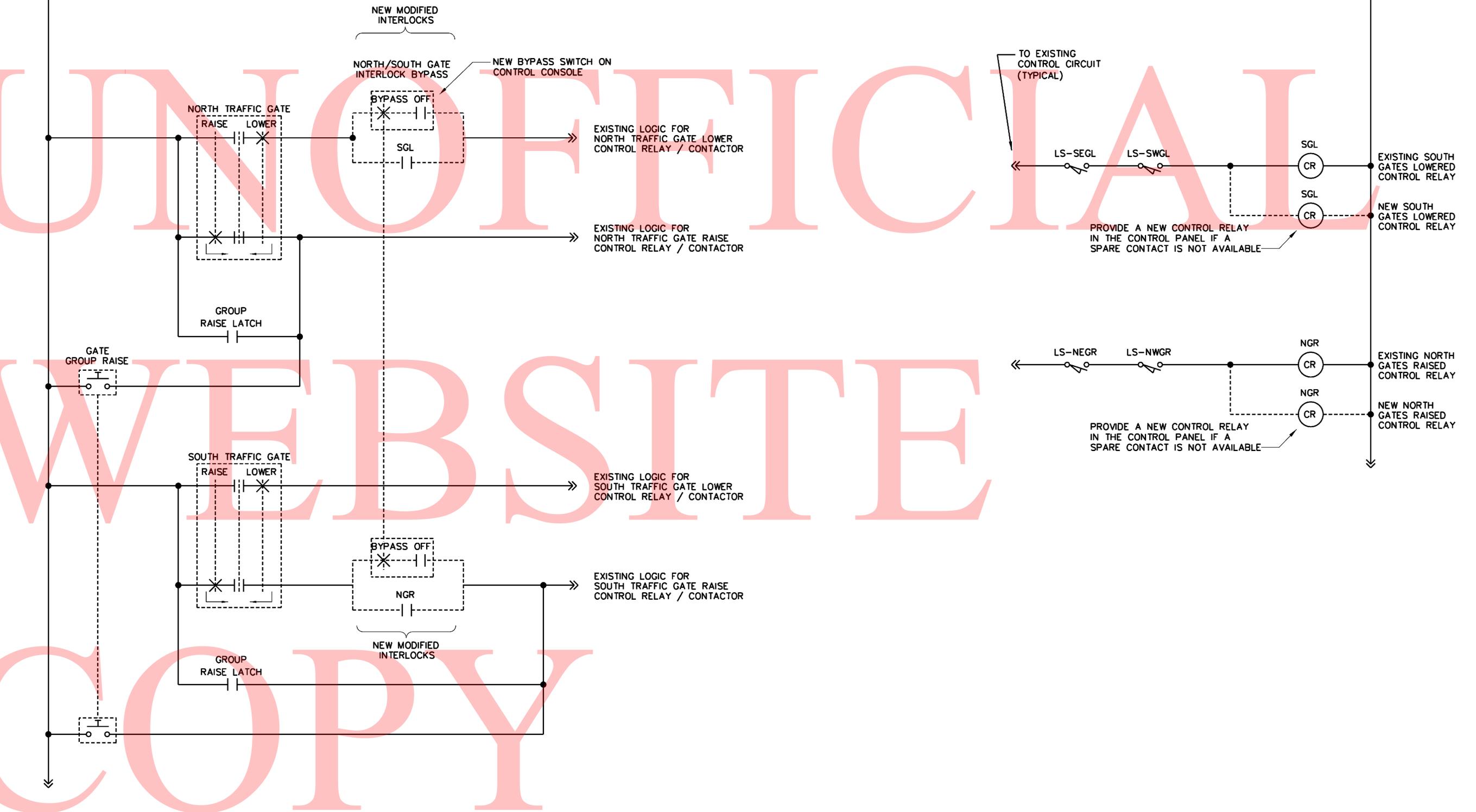
ITEM M2 - NEW SPAN LOCK MOTOR SUPPORT

ADDENDUMS / REVISIONS	

CONTRACT T201007405	BRIDGE NO. 1 - 687
COUNTY NEW CASTLE	DESIGNED BY: G. FOREST CHECKED BY: D. BARRETT

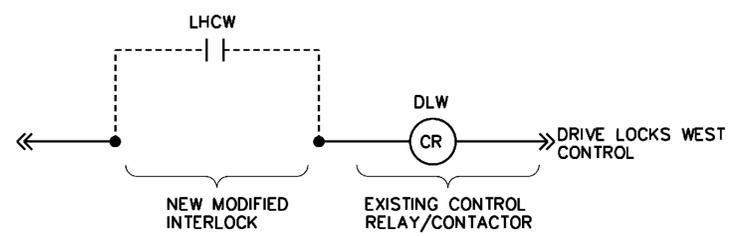
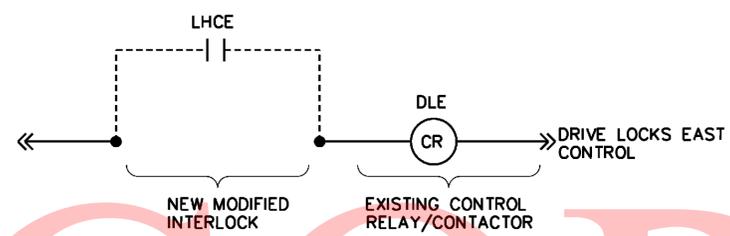
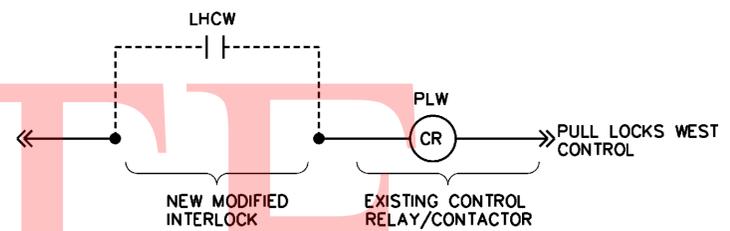
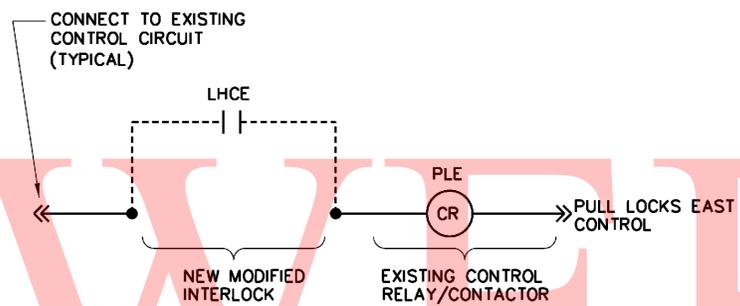
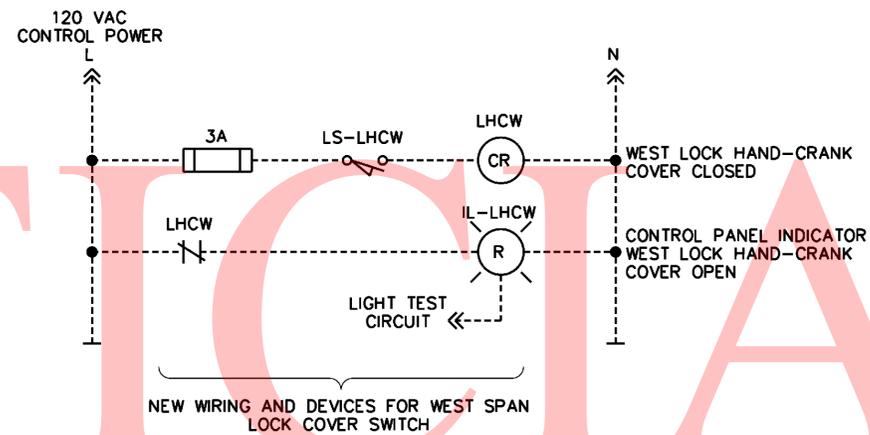
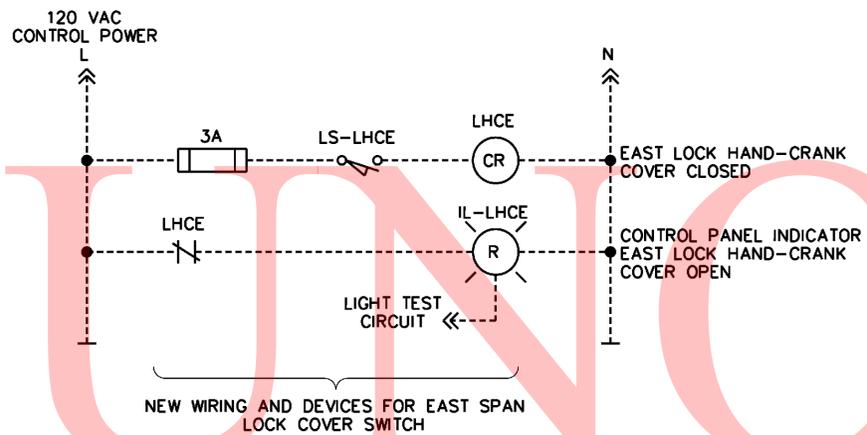
120 VAC
CONTROL POWER
L

120 VAC
NEUTRAL
N



NOTES:

1. THE NEW BYPASS SELECTOR SWITCH SHALL BE INSTALLED IN THE EXISTING CONTROL CONSOLE. A LOCKABLE COVER SHALL BE PROVIDED.
2. ALL MATERIAL IS EXISTING, UNLESS INDICATED NEW.



EAST SPAN LOCKS

WEST SPAN LOCKS

NOTES:

1. THE EAST LOCK HAND-CRANK COVER OPEN AND WEST LOCK HAND-CRANK COVER OPEN INDICATOR LIGHTS SHALL BE INSTALLED IN THE EXISTING CONTROL CONSOLE.
2. THE NEW FUSES AND CONTROL RELAYS SHALL BE INSTALLED IN THE EXISTING CONTROL PANEL.

ADDENDUMS / REVISIONS	

SCALE AS NOTED

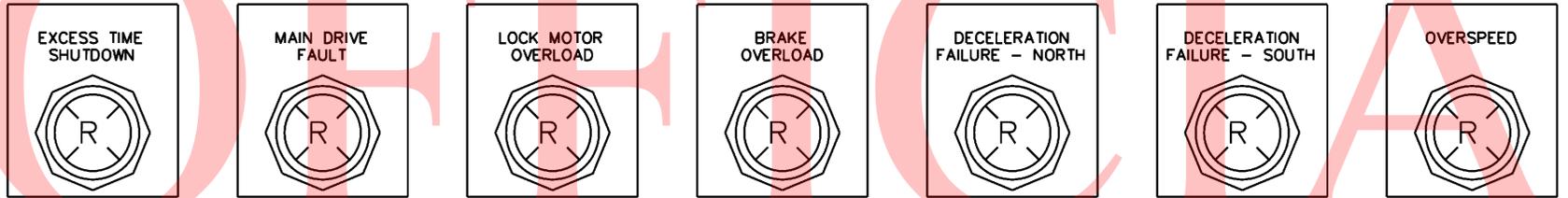
BRS 1-687, 1-688 AND 1-693
S. WALNUT ST., S. MARKET ST.
AND 4TH ST. OVER CHRISTINA RIVER

CONTRACT	BRIDGE NO.	1 - 687
T201007405	DESIGNED BY:	R.I. PETERS
COUNTY	CHECKED BY:	Q.C. TON
NEW CASTLE		

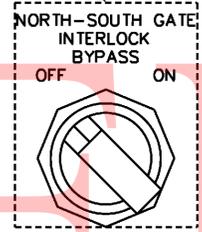
WALNUT STREET
SPAN LOCKS HAND CRANK
COVERS CONTROL CIRCUIT
MODIFICATIONS - 2

FEDERAL AID NUMBER	SHEET NO.
EBHN-2010(29)	49
	TOTAL SHTS.
	111

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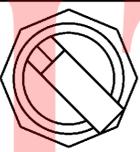
ADD NEW SWITCH



SPAN LOCKS OFF BYPASS ON



FULL CLOSED OFF BYPASS ON



TRAFFIC GATES OFF BYPASS ON



TRAFFIC SIGNALS OFF BYPASS ON



ADD NEW LIGHT



ADD NEW LIGHT

MODIFICATIONS TO EXISTING CONTROL CONSOLE - PROPOSED NEW SWITCH AND INDICATOR LIGHT LOCATIONS

COPY

NOTES:

1. ALL CONTROL DEVICES ARE EXISTING, UNLESS INDICATED NEW.

ADDENDUMS / REVISIONS	

SCALE AS NOTED

BRS 1-687, 1-688 AND 1-693
S. WALNUT ST., S. MARKET ST.
AND 4TH ST. OVER CHRISTINA RIVER

CONTRACT	BRIDGE NO.	1 - 687
T201007405	DESIGNED BY:	R.I. PETERS
COUNTY	CHECKED BY:	Q.C. TON
NEW CASTLE		

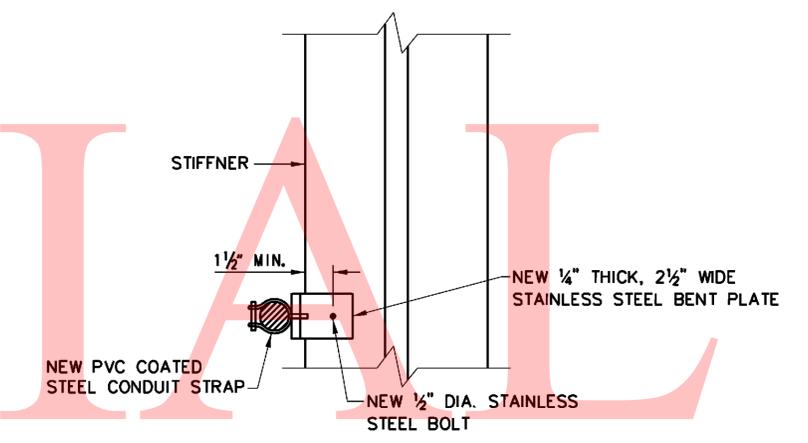
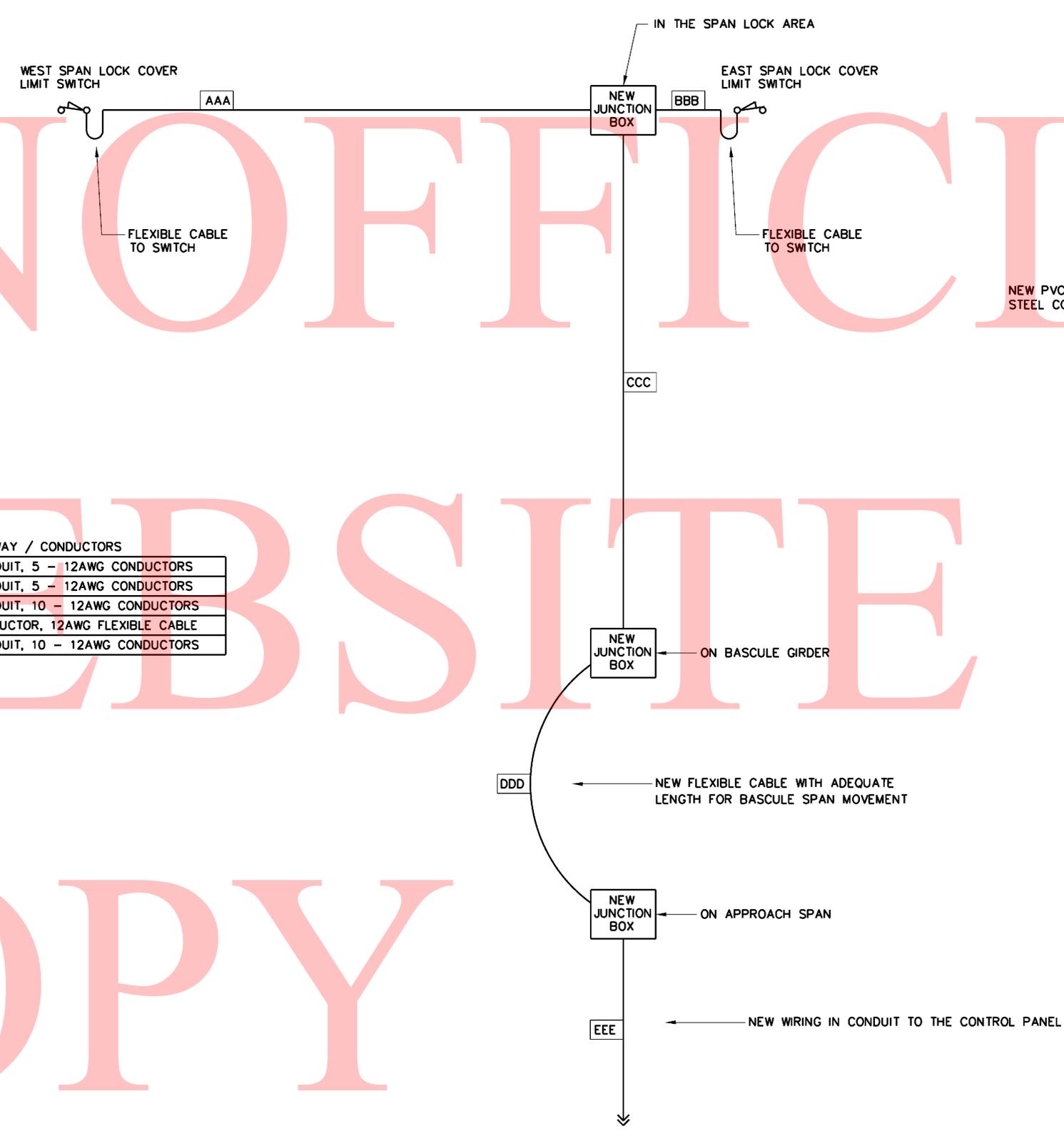
WALNUT STREET CONTROL CONSOLE MODIFICATIONS

FEDERAL AID NUMBER	
EBHN-2010(29)	
SHEET NO.	50
TOTAL SHTS.	111

UNOFFICIAL

WEBSITE

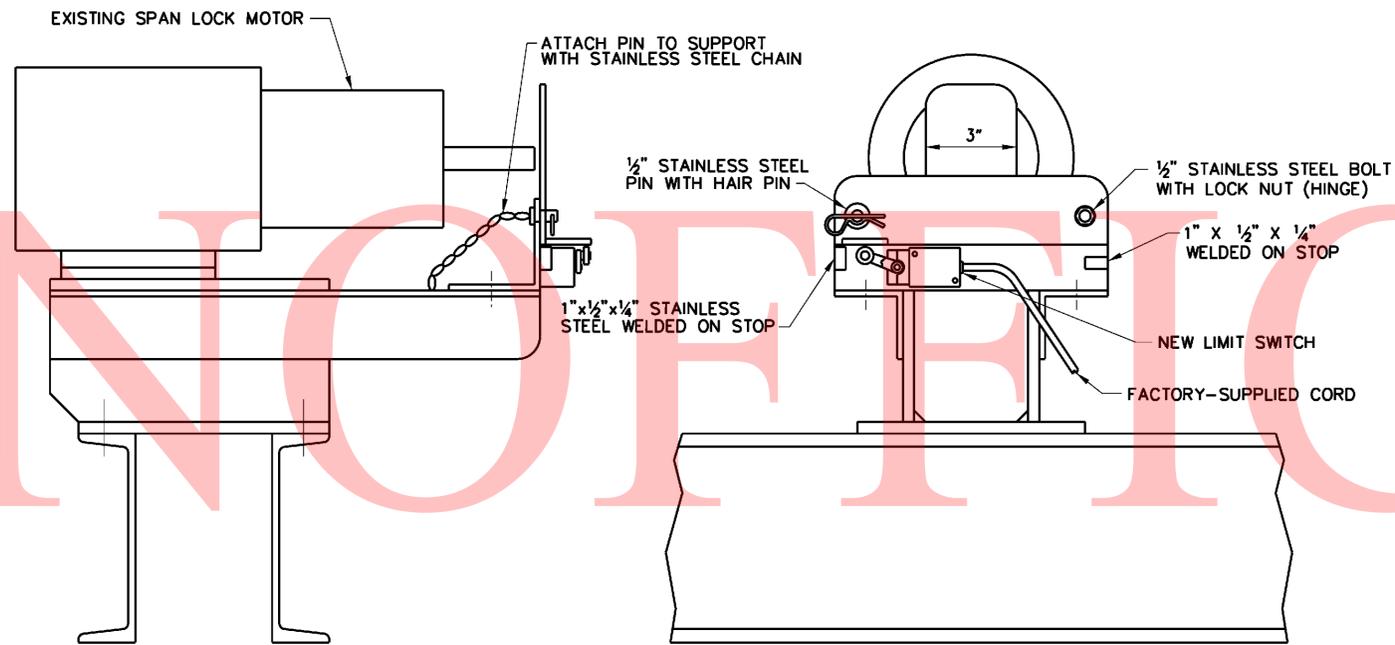
COPY



CONDUIT RUN	RACEWAY / CONDUCTORS
AAA	3/4" CONDUIT, 5 - 12AWG CONDUCTORS
BBB	3/4" CONDUIT, 5 - 12AWG CONDUCTORS
CCC	3/4" CONDUIT, 10 - 12AWG CONDUCTORS
DDD	10 CONDUCTOR, 12AWG FLEXIBLE CABLE
EEE	3/4" CONDUIT, 10 - 12AWG CONDUCTORS

- NOTES:**
1. TO THE PRACTICAL EXTENT, MOUNT NEW CONDUIT IN THE SAME ROUTING AS EXISTING CONDUITS
 2. USE TYPE 316 STAINLESS STEEL MATERIAL FOR CONDUIT SUPPORTS.

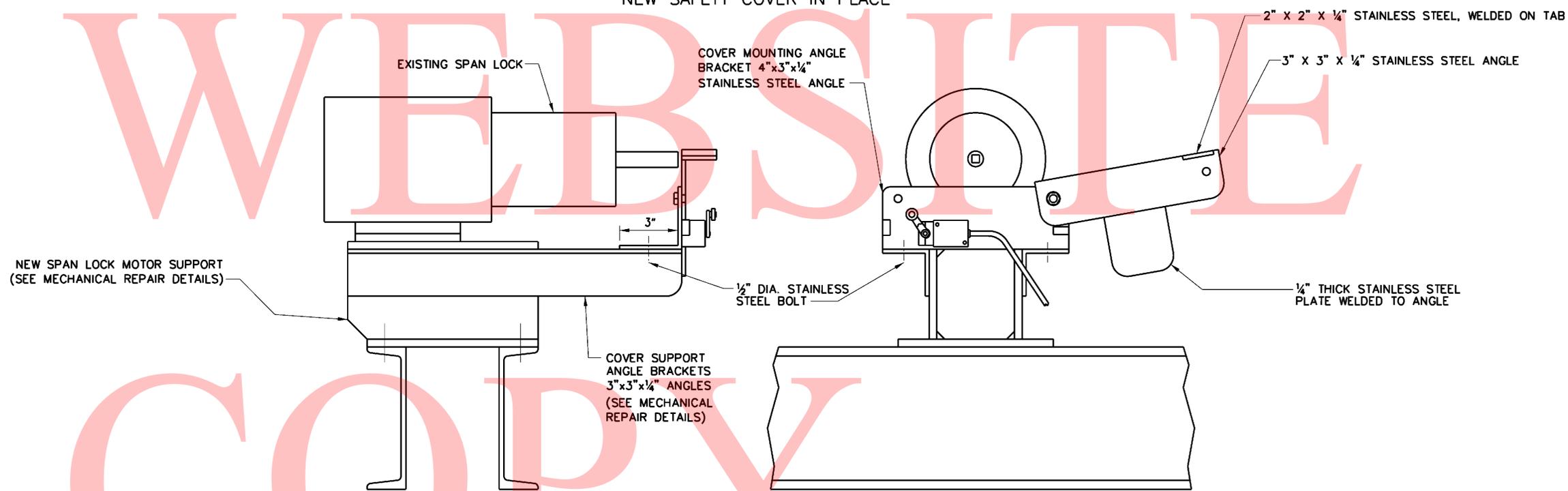
NEW CONDUIT AND CABLE LAYOUT FOR SPAN LOCK COVER SWITCHES



NOTES:

1. USE TYPE 316 STAINLESS STEEL ANGLE AND PLATE MATERIAL AND TYPE 316 STAINLESS STEEL HARDWARE.
2. PROVIDE EXTENDED HAND CRANK AND/OR SOCKET EXTENSION TO CLEAR THE COVER INTERFERENCE FOR THE HAND CRANKING OPERATION. WELD THE FABRICATED EXTENSION TO THE HAND CRANK.
3. GRIND ALL EXPOSED ANGLE CORNERS TO A ROUNDED PROFILE.
4. ALL MATERIAL FOR SPAN LOCK HAND CRANK COVER AS SHOWN IS NEW.

NEW SAFETY COVER IN PLACE

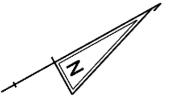


TYPICAL FOR EAST AND WEST SPAN LOCKS

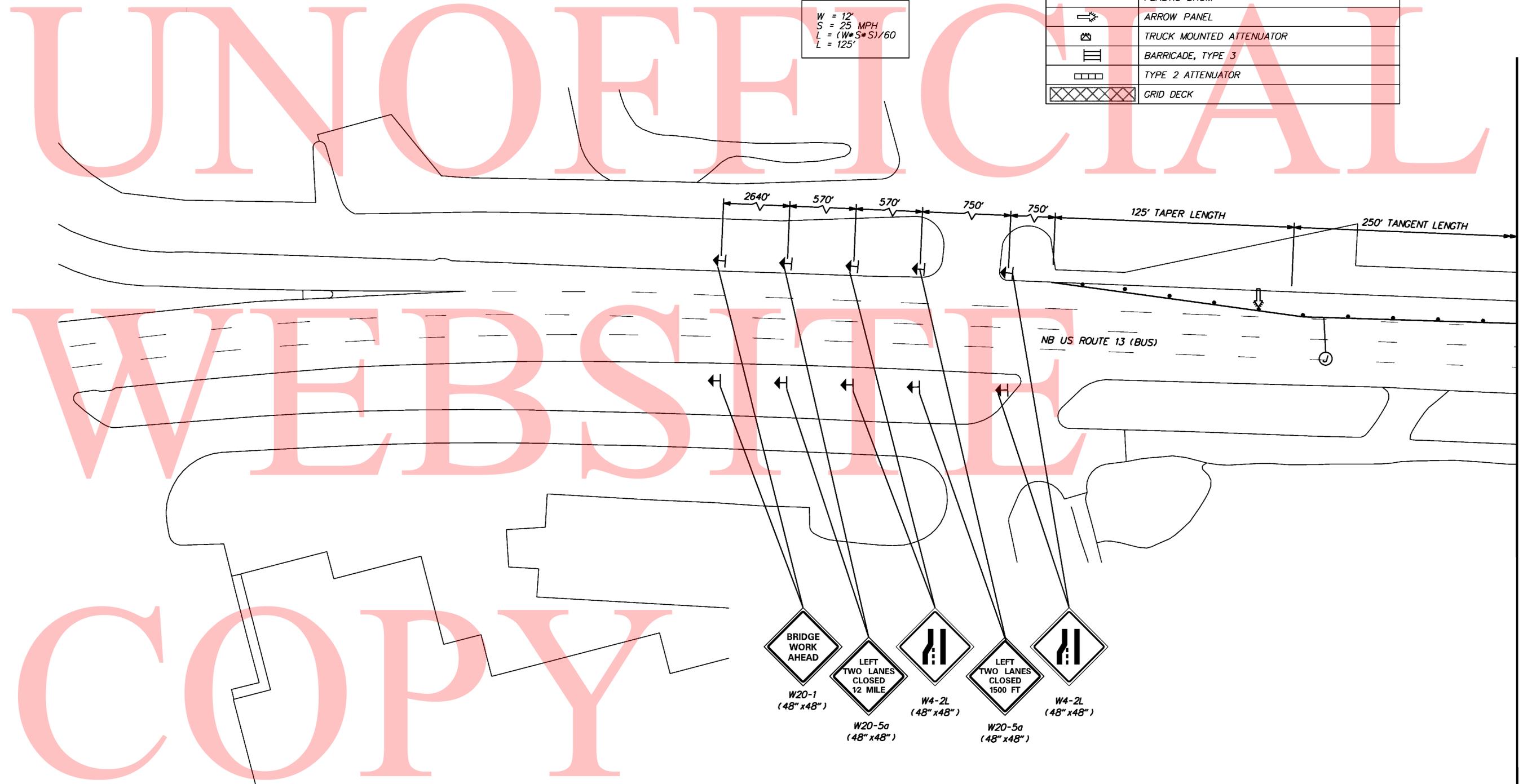
SAFETY COVER REMOVED FOR HAND CRANK OPERATION

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
Ⓢ	4" SOLID YELLOW TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	275 LF

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 1
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR
	GRID DECK



$$\begin{aligned}
 W &= 12' \\
 S &= 25 \text{ MPH} \\
 L &= (W \cdot S^2) / 60 \\
 L &= 125'
 \end{aligned}$$

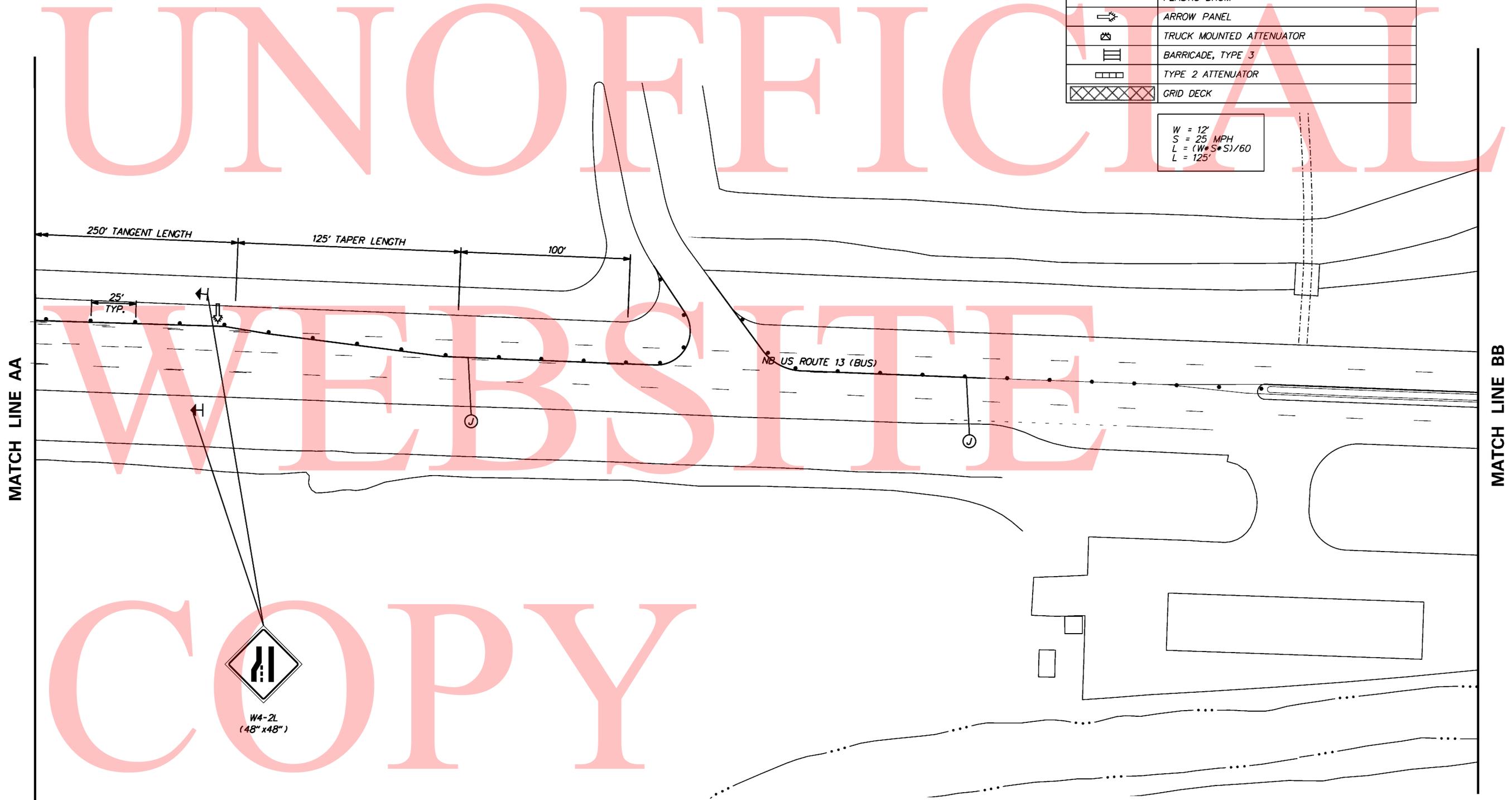
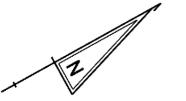


UNOFFICIAL
WEBSITE
COPY

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
Ⓧ	4" SOLID YELLOW TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	635 LF

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 1
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR
	GRID DECK

$W = 12'$
 $S = 25 \text{ MPH}$
 $L = (W * S * S) / 60$
 $L = 125'$



MATCH LINE AA

MATCH LINE BB

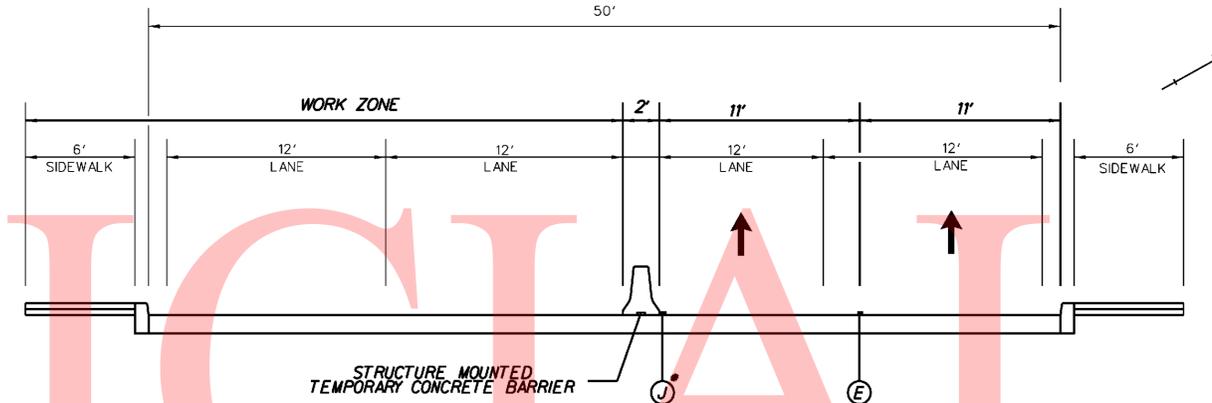


W4-2L
(48" x 48")

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 1
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR
	GRID DECK

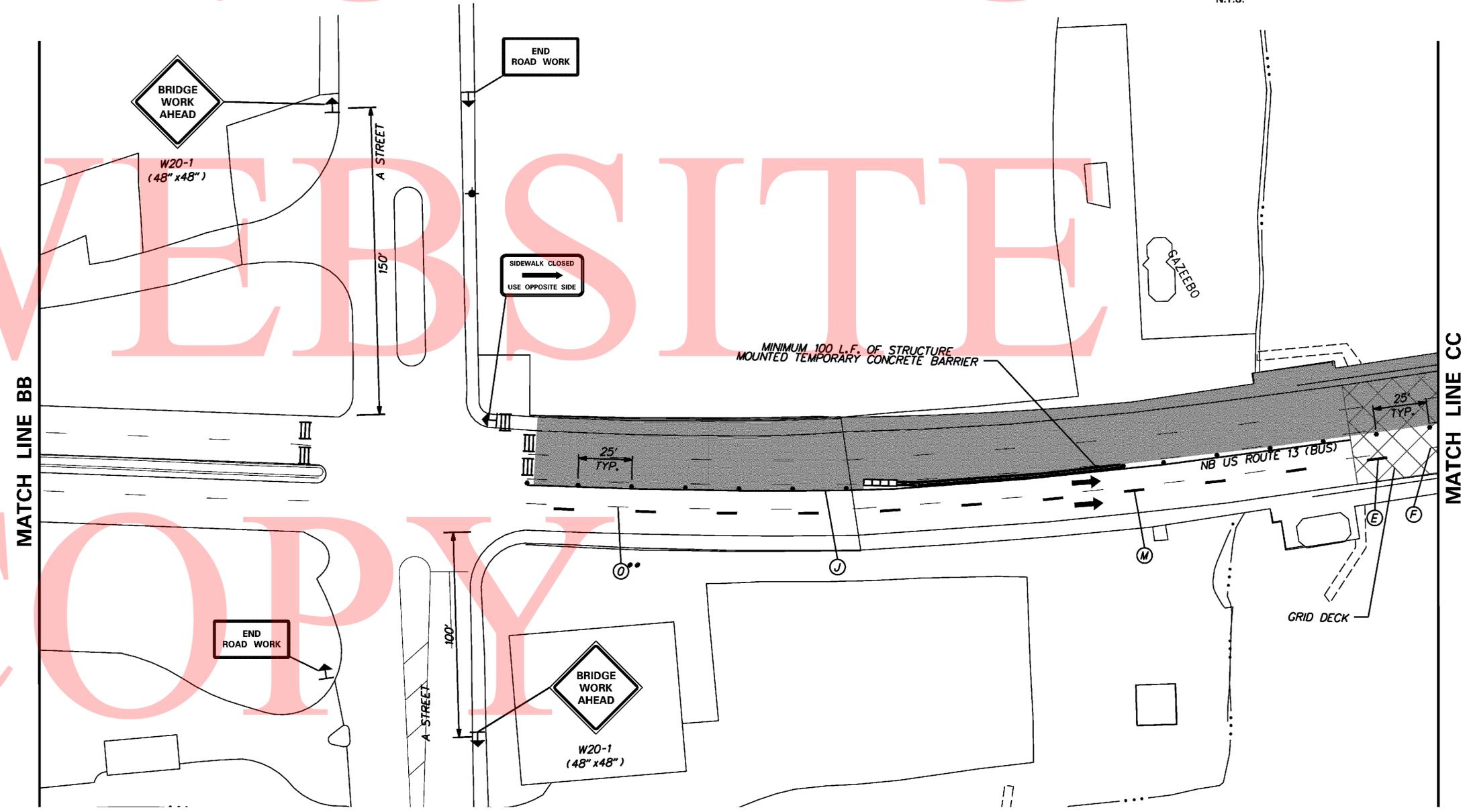
TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(E)	4" DASHED WHITE TEMPORARY PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 748019)	20 LF
(F)	GREEN PAINT OVER EXISTING STRIPING, (INCIDENTAL TO ITEM 748019)	20 LF
(J)	4" SOLID YELLOW TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	405 LF
(M)	4" DASHED WHITE TEMPORARY TAPE PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 748525)	100 LF
(O)	4" BLACKOUT TAPE (ITEM 748517)	40 LF

•• HOT MIX PAVEMENT ONLY



• TEMPORARY STRIPING NOT LOCATED ON OPEN GRID STEEL BRIDGE DECK

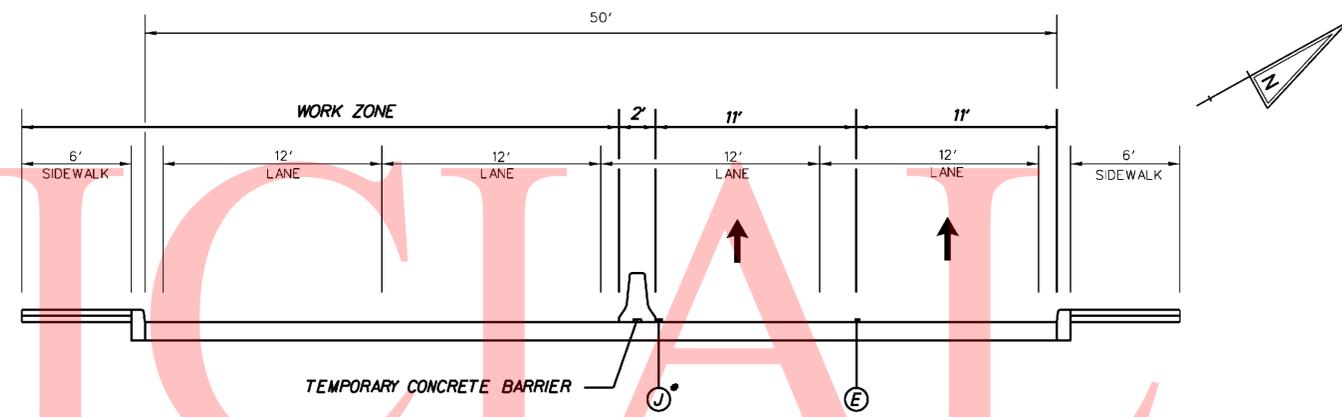
TYPICAL SECTION BRIDGE 1-687
N.T.S.



CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 1
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR
	GRID DECK

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(E)	4" DASHED WHITE TEMPORARY PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 748019)	50 LF
(F)	GREEN PAINT OVER EXISTING STRIPING, (INCIDENTAL TO ITEM 748019)	50 LF
(M)	4" DASHED WHITE TEMPORARY TAPE PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 748525)	60 LF
(O)	4" BLACKOUT TAPE (ITEM 748517)	110 LF
(J)	4" SOLID YELLOW TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	425 LF

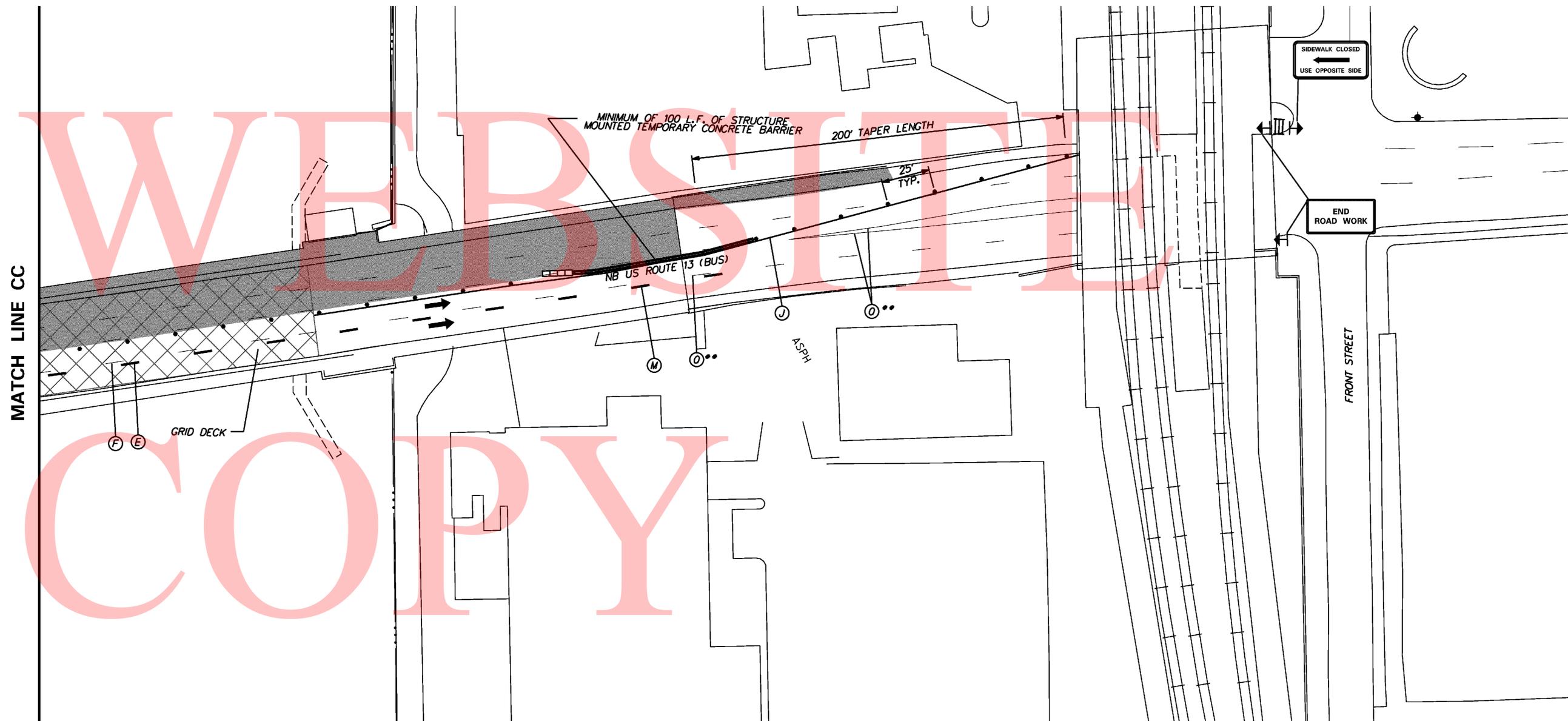
** HOT MIX PAVEMENT ONLY



NOTE: TEMPORARY STRIPING NOT LOCATED ON OPEN GRID STEEL BRIDGE DECK

TYPICAL SECTION BRIDGE 1-687

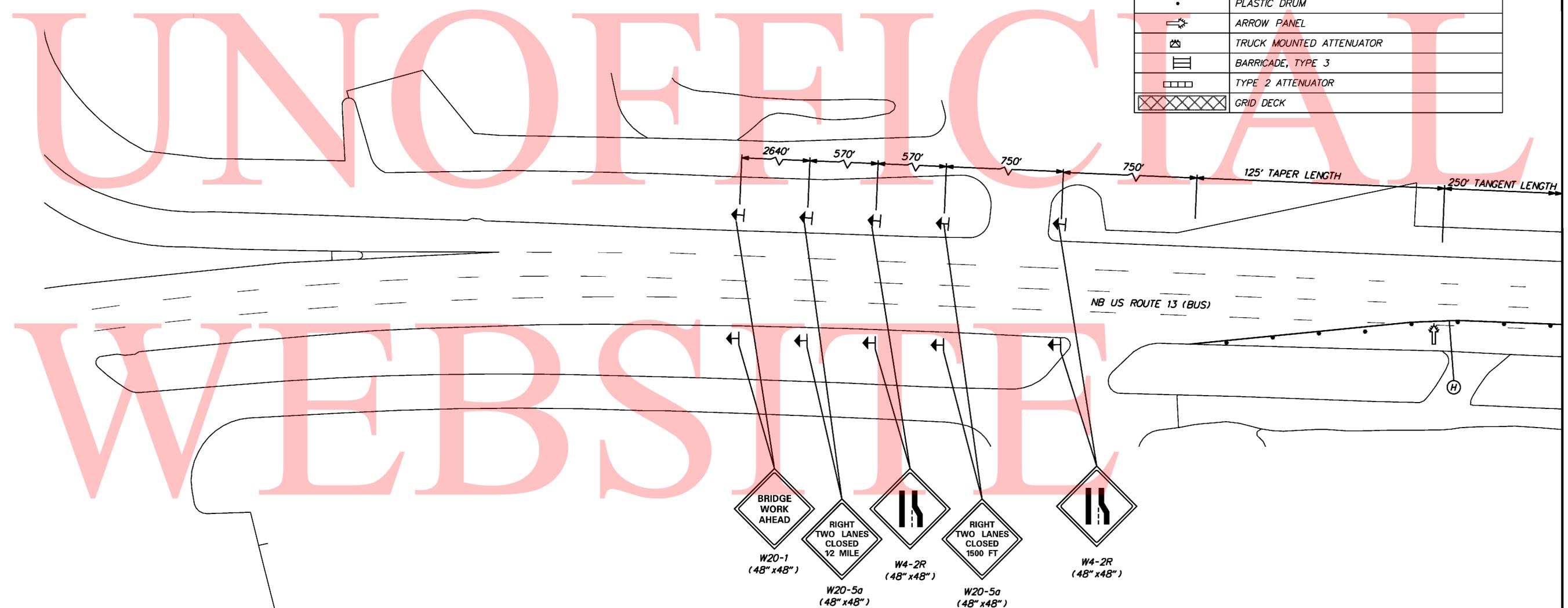
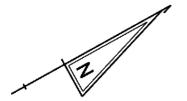
N.T.S.



$W = 12'$
 $S = 25 \text{ MPH}$
 $L = (W \cdot S^2) / 60$
 $L = 125'$

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(H)	4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	215 LF

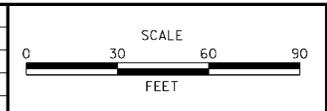
CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 2
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR
	GRID DECK



UNOFFICIAL
 WEBSITE
 COPY

MATCH LINE AA

ADDENDUMS / REVISIONS	



BR 1-687,1-688,1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT	BRIDGE NO.	1-687
T201007405	DESIGNED BY: TM	
COUNTY	CHECKED BY: MAA	
NEW CASTLE		

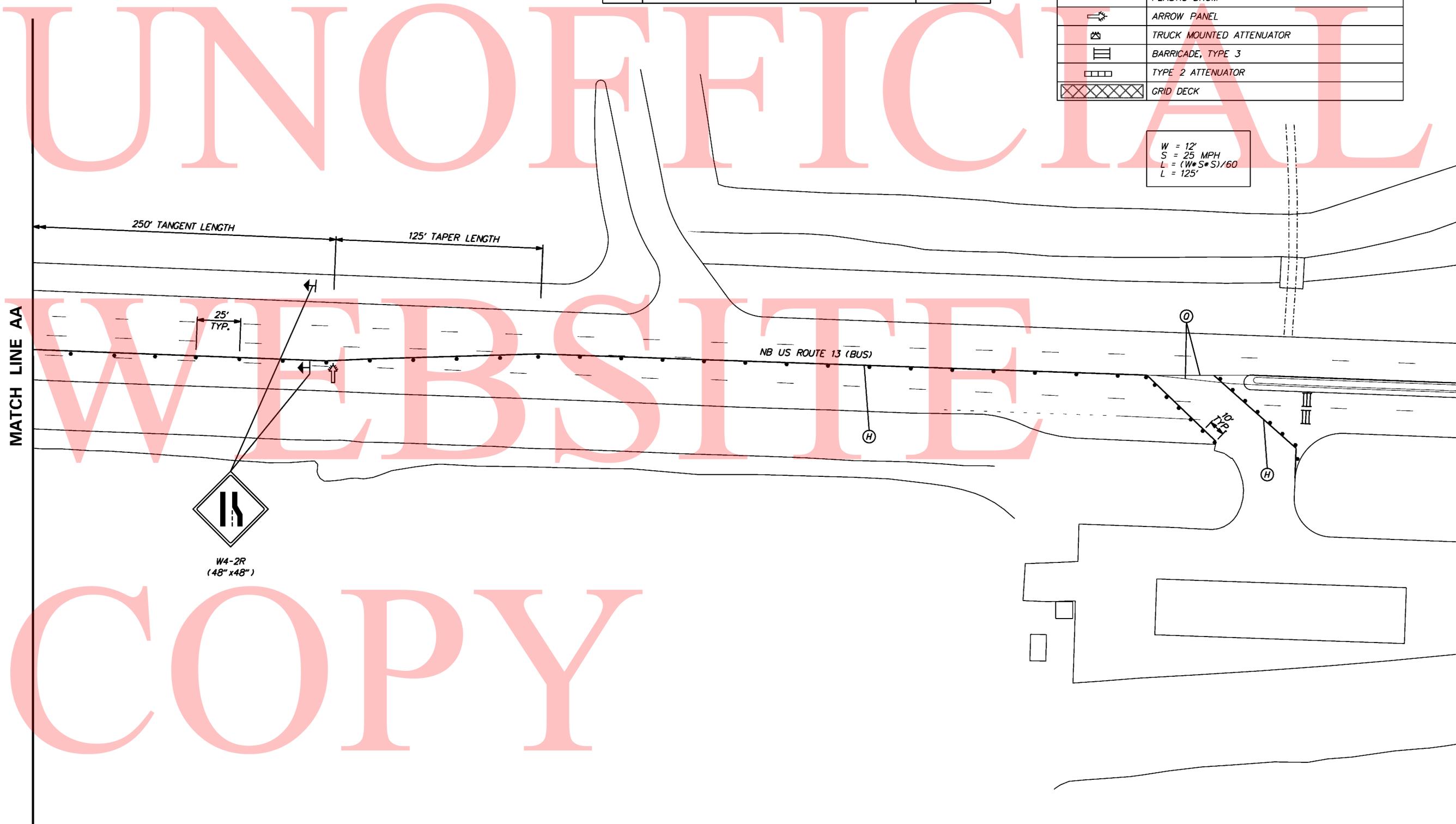
MOT - PHASE 2

SHEET NO.	57
TOTAL SHTS.	111

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(H)	4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	820 LF
(O)	4" BLACKOUT TAPE (ITEM 748517)	85 LF

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 2
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR
	GRID DECK

$W = 12'$
 $S = 25 \text{ MPH}$
 $L = (W * S * S) / 60$
 $L = 125'$



MATCH LINE AA

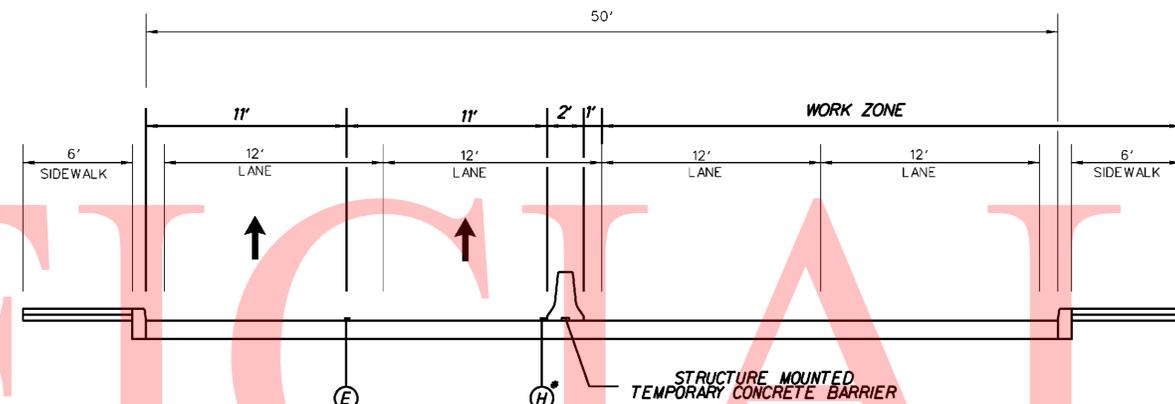
MATCH LINE BB

COPY

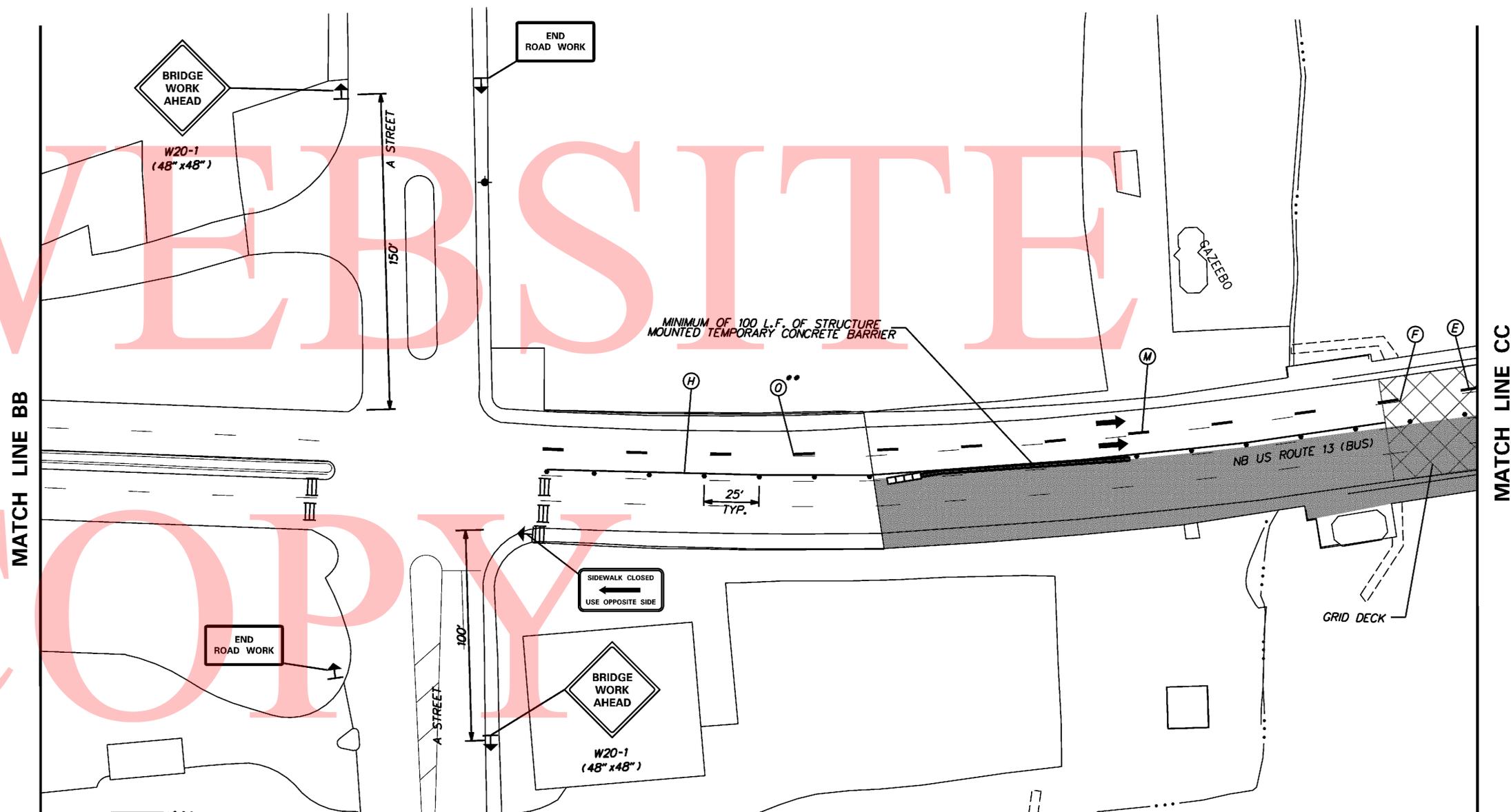
CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 2
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR
	GRID DECK

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(E)	4" DASHED WHITE TEMPORARY PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 748019)	20 LF
(F)	4" DASHED GREEN TEMPORARY PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 748019)	20 LF
(H)	4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	405 LF
(M)	4" DASHED WHITE TEMPORARY TAPE PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 748525)	110 LF
(D)	4" BLACKOUT TAPE (ITEM 748517)	40 LF

** HOT MIX PAVEMENT ONLY



* TEMPORARY STRIPING NOT LOCATED ON OPEN GRID STEEL BRIDGE DECK
TYPICAL SECTION BRIDGE 1-687
 N.T.S.



BRIDGE 1-693 NOTES

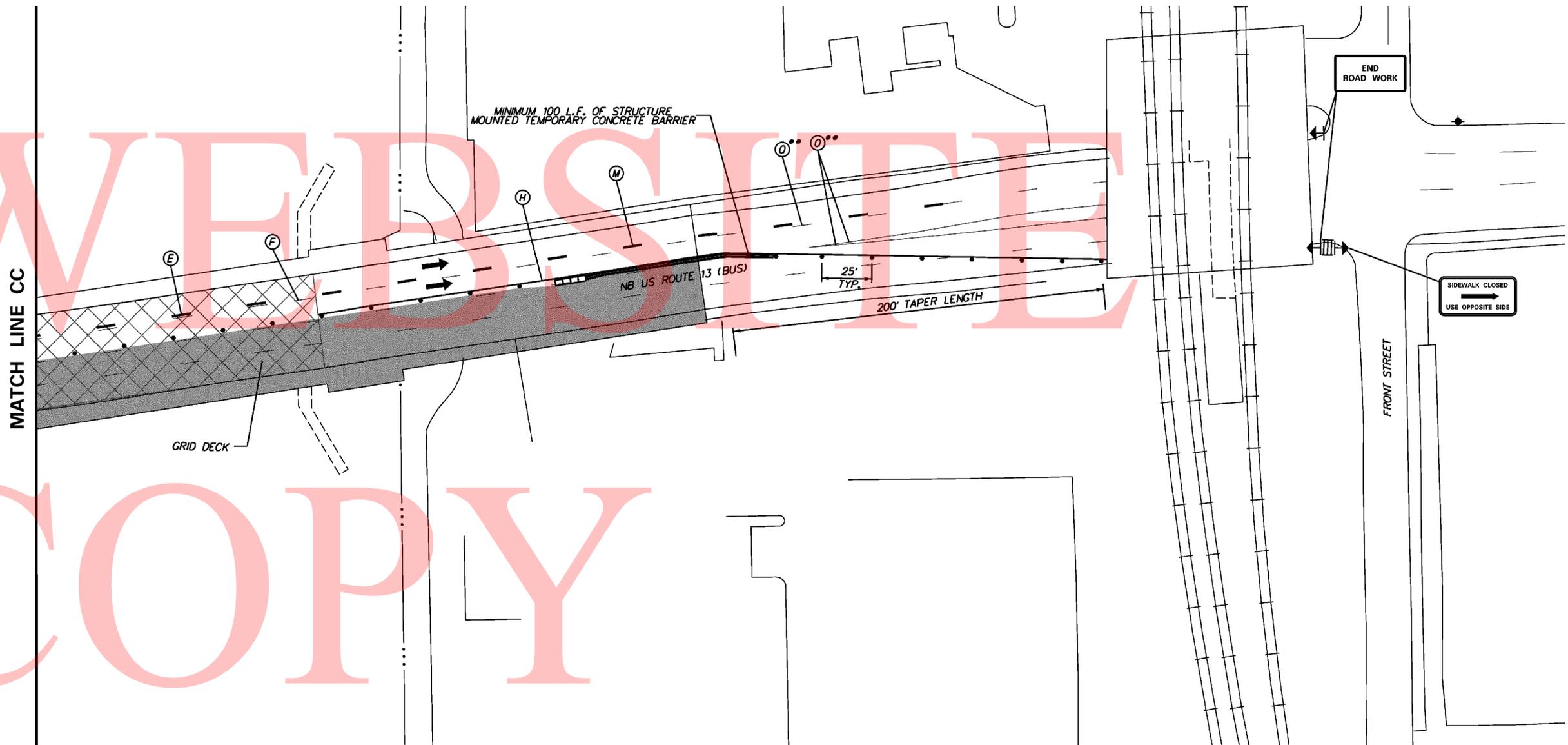
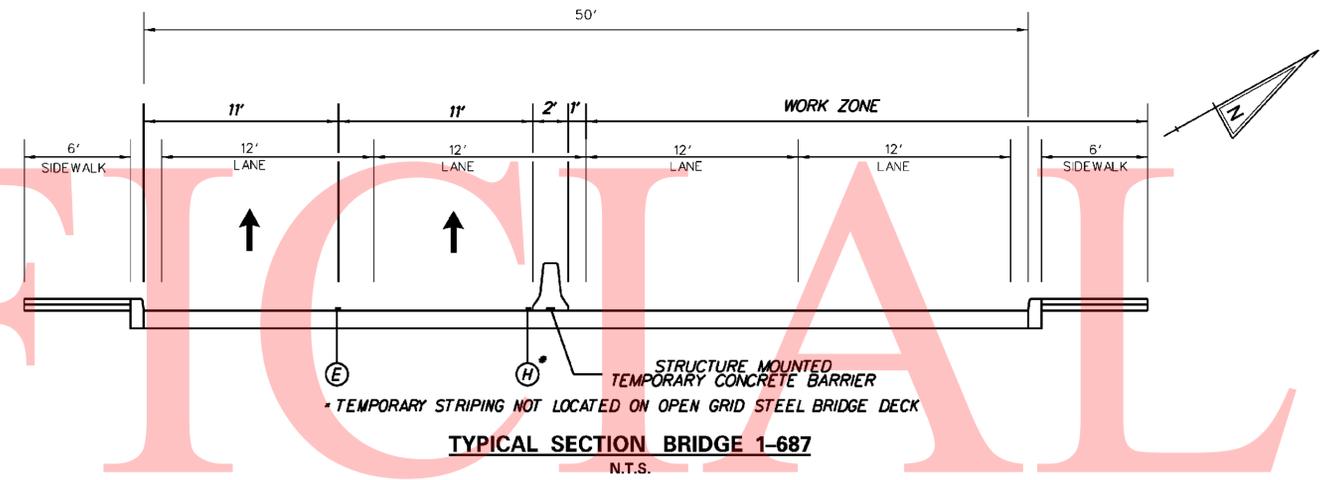
1. INSTALL ACCESS AND CONTAINMENT SYSTEM TO PREVENT DEBRIS FROM FALLING INTO CHRISTINA RIVER CHANNEL DURING REPAIR ACTIVITIES. ACCESS AND CONTAINMENT SYSTEM MUST BE APPROVED BY DELDOT PRIOR TO COMMENCEMENT OF WORK. PAYMENT SHALL BE INCIDENTAL TO ITEM 602612 (ACCESS AND CONTAINMENT FOR BRIDGE REPAIRS). BIDDERS SHALL ASSUME THAT ALL FACES OF ALL SUBSTRUCTURES FOR THIS BRIDGE MUST BE ACCESSED AND CONTAINED FOR SPALL, CRACK AND DELAMINATION REPAIRS. DISTURBANCE TO THE CHANNEL IS NOT ALLOWED DURING CONSTRUCTION. EQUIPMENT AND MATERIALS SHALL NOT BE PLACED WITHIN THE CHANNEL LIMITS. TEMPORARY SUPPORTS, ACCESS PLATFORMS AND/OR RIGGING MUST BE SUPPORTED FROM THE BRIDGE DECK.
2. REPAIR SPALLS ON BRIDGE DECK AND APPROACH SLABS. PERFORM SOUNDING FOR CONCRETE DELAMINATION AROUND VISIBLE SPALLS, CRACKS AND DETERIORATION, WITH DELDOT INSPECTOR PRESENT. REMOVE AND REPLACE DELAMINATED OR DETERIORATED CONCRETE. PAYMENT SHALL BE AS DESCRIBED IN THE PROJECT NOTES.
3. SEAL CRACKS ON BRIDGE DECK AND APPROACH SLABS. PAYMENT SHALL BE UNDER ITEMS 602620 AND 602629. ALLOW TO DRY, AND THEN APPLY SILANE BASED SEALANT TO ENTIRE BRIDGE DECK AND APPROACH SLABS. PAYMENT FOR SILANE BASED SEALANT SHALL BE UNDER ITEM 602546.
4. APPLY WATER BASED ACRYLIC CONCRETE SEALANT TO ALL FACES OF THE P.C.C. BARRIERS ON BRIDGE AND APPROACHES. PAYMENT SHALL BE UNDER ITEM 602518.
5. REPLACE ENTIRE EXISTING DEBONDED JOINT SEALS BETWEEN APPROACH SLABS AND BACKWALL AT THE NORTH AND SOUTH ABUTMENTS. PAYMENT SHALL BE UNDER ITEM 605692.
6. REPLACE PORTIONS OF THE EXPANSION JOINT AT THE NORTH ABUTMENT AS SHOWN IN THE EXPANSION JOINT REPLACEMENT DETAILS PROVIDED, AT THE LOCATIONS SHOWN IN THE PLANS. PAYMENT SHALL BE UNDER ITEMS 602013, 604000, AND 605001. REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE MATERIAL, ARMOR STEEL AND REINFORCEMENT BARS SHALL BE UNDER ITEM 602580.
7. REMOVE ENTIRE EXISTING COMPRESSION SEALS AT THE SOUTH AND NORTH ABUTMENT AND REPLACE WITH INFLATABLE JOINT SEALS. PAYMENT SHALL BE UNDER ITEM 605676. BLAST CLEAN THE EXISTING STEEL JOINT ARMOR TO REMOVE ALL RUST, LOOSE PAINT, DIRT, OIL, DEBRIS & DELAMINATION. ALL EXPOSED JOINT ARMOR SURFACES SHALL BE FIELD PAINTED IN ACCORDANCE WITH SECTION 605 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR CLEANING & PAINTING SHALL BE UNDER ITEMS 605629 AND 605620.
8. REPLACE ENTIRE EXISTING COMPRESSION SEALS AT PIERS 1S & 1N. PAYMENT SHALL BE UNDER ITEM 605570. BLAST CLEAN THE EXISTING STEEL JOINT ARMOR TO REMOVE ALL RUST, LOOSE PAINT, DIRT, OIL, DEBRIS & DELAMINATION. ALL EXPOSED JOINT ARMOR SURFACES SHALL BE FIELD PAINTED IN ACCORDANCE WITH SECTION 605 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR CLEANING & PAINTING SHALL BE UNDER ITEMS 605629 AND 605620.
9. REPLACE PORTIONS OF THE BARRIERS AS SHOWN IN THE BARRIER REPLACEMENT DETAILS PROVIDED, AT THE LOCATIONS SHOWN IN THE PLANS. PAYMENT SHALL BE UNDER ITEMS 602017 & 604000. REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE MATERIAL SHALL BE UNDER ITEM 602580.
10. REPAIR SPALLS ON BARRIERS ON AND OFF THE BRIDGE, PERFORM SOUNDING FOR CONCRETE DELAMINATIONS AROUND VISIBLE SPALLS, CRACKS AND DETERIORATION, WITH DELDOT INSPECTOR PRESENT. REMOVE AND REPLACE DELAMINATED OR DETERIORATED CONCRETE. PAYMENT SHALL BE AS DESCRIBED IN THE PROJECT NOTES FOR PCC MASONRY - ABUTMENTS, PIERS, WINGWALLS, ETC.
11. REATTACH ALL LOOSE ALUMINUM PEDESTRIAN RAILINGS. REPLACE ALL MISSING BOLTS OR ANCHOR BOLTS TO ENSURE PROPER ATTACHMENT OF RAILING TO POST AND/OR POST BASEPLATE TO SIDEWALK. PAYMENT SHALL BE INCIDENTAL TO ITEM 606509.
12. SEAL ALL LONGITUDINAL JOINTS BETWEEN THE APPROACH SLABS INCLUDING ANY GAP/OPENING BETWEEN THE EXISTING APPROACH SLABS AND THE MEDIAN AND/OR BARRIER. PAYMENT SHALL BE UNDER ITEM 605692.
13. REPLACE THE MEDIAN ON THE BRIDGE AS SHOWN IN THE MEDIAN REPLACEMENT DETAILS PROVIDED. PAYMENT FOR MEDIAN REPAIR ON THE BRIDGE SHALL BE UNDER ITEMS 602017 AND 604000. REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE MATERIAL SHALL BE UNDER ITEM 602580. REMOVE PORTION OF THE MEDIAN OFF THE BRIDGE AT THE LOCATIONS INDICATED IN THE PLANS AND AS SHOWN IN THE PLAN DETAILS. PAYMENT FOR MEDIAN REPLACEMENT OFF THE BRIDGE SHALL BE UNDER ITEMS 701011, 705002, AND 302007. REMOVAL OF EXISTING MEDIAN AND CURB OFF THE BRIDGE SHALL BE PAID UNDER ITEM 758000. IN AREAS WHERE PROPOSED MEDIAN TYPES ARE NOT SIMILAR TO EXISTING, THE PROPOSED MEDIAN SHALL BE TRANSITIONED TO MATCH THE EXISTING MEDIAN OVER A 10 FOOT LENGTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT FOR THE TRANSITION AREA SHALL BE UNDER ITEM 701011.
14. CLEAN, PAINT AND APPLY GREASE TO BRIDGE BEARINGS. FOR BEARINGS WITH VISIBLE CORROSION, REMOVE EXISTING PAINT, AND PREPARE SURFACE PRIOR TO APPLICATION OF NEW PAINT COATINGS. PAYMENT SHALL BE UNDER ITEMS 605629 AND 605620. APPLY GREASE TO NEWLY PAINTED BEARINGS. SPECIFICATIONS FOR GREASE SHALL COMPLY WITH PROJECT NOTES FOR THIS CONTRACT. APPLICATION OF GREASE FOR REPAINTED BEARINGS SHALL BE INCIDENTAL TO ITEM 605620. FOR REMAINING BEARINGS NOT TO BE RE-COATED WITH PAINT, APPLY GREASE TO BEARINGS. PAYMENT SHALL BE INCIDENTAL TO ITEM 605636. PRIOR TO APPLICATION OF GREASE, PREPARE BEARING SURFACE FOR APPLICATION AS REQUIRED FOR PROPER ADHERENCE OF THE GREASE, AND AS APPROVED BY THE DELDOT INSPECTOR. USE LOW PRESSURE WATER BLASTING TO REMOVE EXISTING DEBRIS. HAND WIPE TO REMOVE EXISTING DEBRIS IN LOCATIONS APPROVED BY THE DELDOT INSPECTOR. AVOID DAMAGE TO EXISTING PAINT COATING BY USING LOW PRESSURE WATER BLASTING SUFFICIENT TO REMOVE EXISTING DEBRIS AND CONTAMINANTS. GREASE SHALL BE APPLIED TO ALL BEARINGS ON BRIDGE. ALL DEBRIS ON PIER CAP AND ABUTMENT BEARING SEATS SHALL BE REMOVED. REMOVAL OF DEBRIS AT BEARING SEATS IS INCIDENTAL TO ITEM 605629.
15. REPAIR SPALLS ON UNDERSIDE (BOTTOM) OF BRIDGE DECK. PERFORM SOUNDING FOR CONCRETE DELAMINATION AROUND VISIBLE SPALLS, CRACKS AND DETERIORATION, WITH DELDOT INSPECTOR PRESENT. REMOVE AND REPLACE DELAMINATED OR DETERIORATED CONCRETE. PAYMENT SHALL BE AS DESCRIBED IN PROJECT NOTES.
16. FULLY CLEAN AND PAINT ALL STEEL STRUCTURAL COMPONENTS WITHIN 6' OF THE ABUTMENT BACKWALLS. ON THE REMAINING PORTIONS OF THE APPROACH SPANS (SPANS 1S, 2S, 1N & 2N), PERFORM SPOT CLEANING AND PAINTING OF STEEL STRUCTURAL COMPONENTS. PAYMENT SHALL BE UNDER ITEMS 605629 AND 605620. LOCATIONS TO BE PAINTED SHALL BE WHERE CORROSION OR DETERIORATION OF THE EXISTING PAINT COATING IS VISIBLE, AND AS APPROVED BY THE DELDOT INSPECTOR. LOCATIONS TO BE PAINTED WILL BE REVIEWED WITH THE DELDOT INSPECTOR PRIOR TO COMMENCEMENT OF CLEANING AND PAINTING OPERATIONS.
17. REATTACH ALL LOOSE ALUMINUM PEDESTRIAN RAILINGS. REPLACE ALL MISSING BOLTS OR ANCHOR BOLTS TO ENSURE PROPER ATTACHMENT OF RAILING TO POST AND/OR POST BASEPLATE TO SIDEWALK. PAYMENT SHALL BE UNDER TO ITEM 606509.
18. REPAIR SPALLS AND DELAMINATIONS IN CONCRETE ABUTMENTS, BACKWALLS AND WINGWALLS. PERFORM SOUNDING FOR DELAMINATION AROUND VISIBLE CRACKS, SPALLS AND DETERIORATION. SOUNDING IS INCIDENTAL TO THE APPROPRIATE SPALL REPAIR ITEM. REMOVE AND REPLACE DELAMINATED AND DETERIORATED CONCRETE. PAYMENT FOR CONCRETE SPALL AND DELAMINATION REPAIR SHALL BE AS DESCRIBED IN THE PROJECT NOTES FOR SPALL REPAIR.
19. REPAIR CRACKS IN CONCRETE ABUTMENTS, BACKWALLS AND WINGWALLS. CRACK REPAIR SHALL BE PERFORMED UNDER PAY ITEM 602626 OR 602611, AS APPROVED BY DELDOT INSPECTOR.
20. APPLY SILICONE ACRYLIC CONCRETE SEALANT TO ALL EXPOSED VERTICAL AND HORIZONTAL SURFACES OF CONCRETE ABUTMENTS, BACKWALLS AND WINGWALLS. SEE PROJECT NOTES FOR ADDITIONAL CLARIFICATION OF SEALANT COATING REQUIREMENTS. PAYMENT SHALL BE UNDER ITEM 602646. ENSURE PROPER SURFACE PREPARATION PRIOR TO APPLICATION OF SEALANT, IN ACCORDANCE WITH SPECIAL PROVISION REQUIREMENTS.
21. REPAIR SPALLS AND DELAMINATIONS ON CONCRETE PIERS AND PIER CAPS. PERFORM SOUNDING FOR DELAMINATION AROUND VISIBLE CRACKS, SPALLS AND DETERIORATION. SOUNDING IS INCIDENTAL TO THE APPROPRIATE SPALL REPAIR ITEM REMOVE AND REPLACE DELAMINATED OR DETERIORATED CONCRETE. PAYMENT FOR CONCRETE SPALL AND DELAMINATION REPAIR SHALL BE AS DESCRIBED IN THE PROJECT NOTES FOR SPALL REPAIR.
22. REPAIR CRACKS ON PIERS AND PIER CAPS. CRACK REPAIR SHALL BE PERFORMED UNDER PAY ITEMS 602611 AND 602626, AS APPROVED BY DELDOT INSPECTOR.
23. APPLY SILICONE ACRYLIC CONCRETE SEALANT TO ALL EXPOSED VERTICAL AND HORIZONTAL SURFACES OF CONCRETE PIERS. SEE PROJECT NOTES FOR ADDITIONAL CLARIFICATION OF SEALANT COATING REQUIREMENTS. PAYMENT SHALL BE UNDER ITEM 602646. ENSURE PROPER SURFACE PREPARATION PRIOR TO APPLICATION OF SEALANT, IN ACCORDANCE WITH SPECIAL PROVISION REQUIREMENTS.
24. CLEAN AND FLUSH SCUPPER DRAINS ON BRIDGE DECK. PAYMENT SHALL BE UNDER ITEM 605582.
25. REPLACE SIDEWALK AND CURB OFF THE BRIDGE PER THE DETAILS PROVIDED AT THE LOCATIONS SHOWN IN THE PLANS. PAYMENT SHALL BE UNDER ITEMS 701010, 705001, AND 302007. REMOVAL OF EXISTING CURB AND SIDEWALK SHALL BE PAID UNDER ITEM 758000. WHERE PROPOSED CONCRETE SIDEWALK IS CONSTRUCTED TO MEET EXISTING SIDEWALK, THE EXISTING SIDEWALK SHALL BE SAWCUT AT THE TIE-IN POINT OR MEET THE NEAREST EXISTING SIDEWALK JOINT. ALL SAW CUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR UNDER ITEM 762002-SAWCUTTING, CONCRETE, FULL DEPTH. SIDEWALK REPAIR AT THE SOUTHWEST APPROACH WILL INCLUDE EXCAVATION OF FOUNDATION MATERIAL, PLACEMENT OF 6" PERFORATED PIPE UNDERDRAIN, PLACEMENT OF GEOTEXTILES AND PLACEMENT OF R-4 RIPRAP. SEE PLAN DETAILS FOR LOCATION AND LIMITS. PAYMENT SHALL BE UNDER ITEMS 202000, 712005, 713002 AND 715001.
26. REPLACE DETERIORATED SEAL AT DECK ACCESS PANEL WITH SILICONE JOINT SEAL. PAYMENT SHALL BE UNDER ITEM 605692.
27. THE DIMENSIONS SHOWN ON THE PLANS ARE BASED ON THE EXISTING BRIDGE PLANS. THE EXISTING BRIDGE PLANS ARE AVAILABLE UPON REQUEST FROM THE DELAWARE DEPARTMENT OF TRANSPORTATION. THE APPLICABLE CONSTRUCTION CONTRACT NUMBERS ARE 71-10-001 AND 75-05-006. THE CONTRACTOR SHALL VERIFY THE DIMENSIONING SHOWN PRIOR TO CALCULATING QUANTITIES AND ORDERING MATERIALS. REINFORCEMENT BAR LENGTHS SHALL BE VERIFIED IN THE FIELD PRIOR TO ORDERING.

 DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		SCALE AS NOTED	BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER	CONTRACT	BRIDGE NO.	1-693	SITE NOTES	SHEET NO.	
	▲ SHEET REMOVED				T201007405	DESIGNED BY:			AJF	60
					COUNTY	CHECKED BY:			JAC	TOTAL SHTS.
					NEW CASTLE					111

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 2
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR
	GRID DECK

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(E)	4" DASHED WHITE TEMPORARY PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 748019)	40 LF
(F)	4" DASHED GREEN TEMPORARY PAINT PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 748019)	40 LF
(H)	4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	430 LF
(M)	4" DASHED WHITE TEMPORARY TAPE PAVEMENT STRIPING, 10' LINE & 30' GAP (ITEM 748525)	90 LF
(O)	4" BLACKOUT TAPE (ITEM 748517)	140 LF

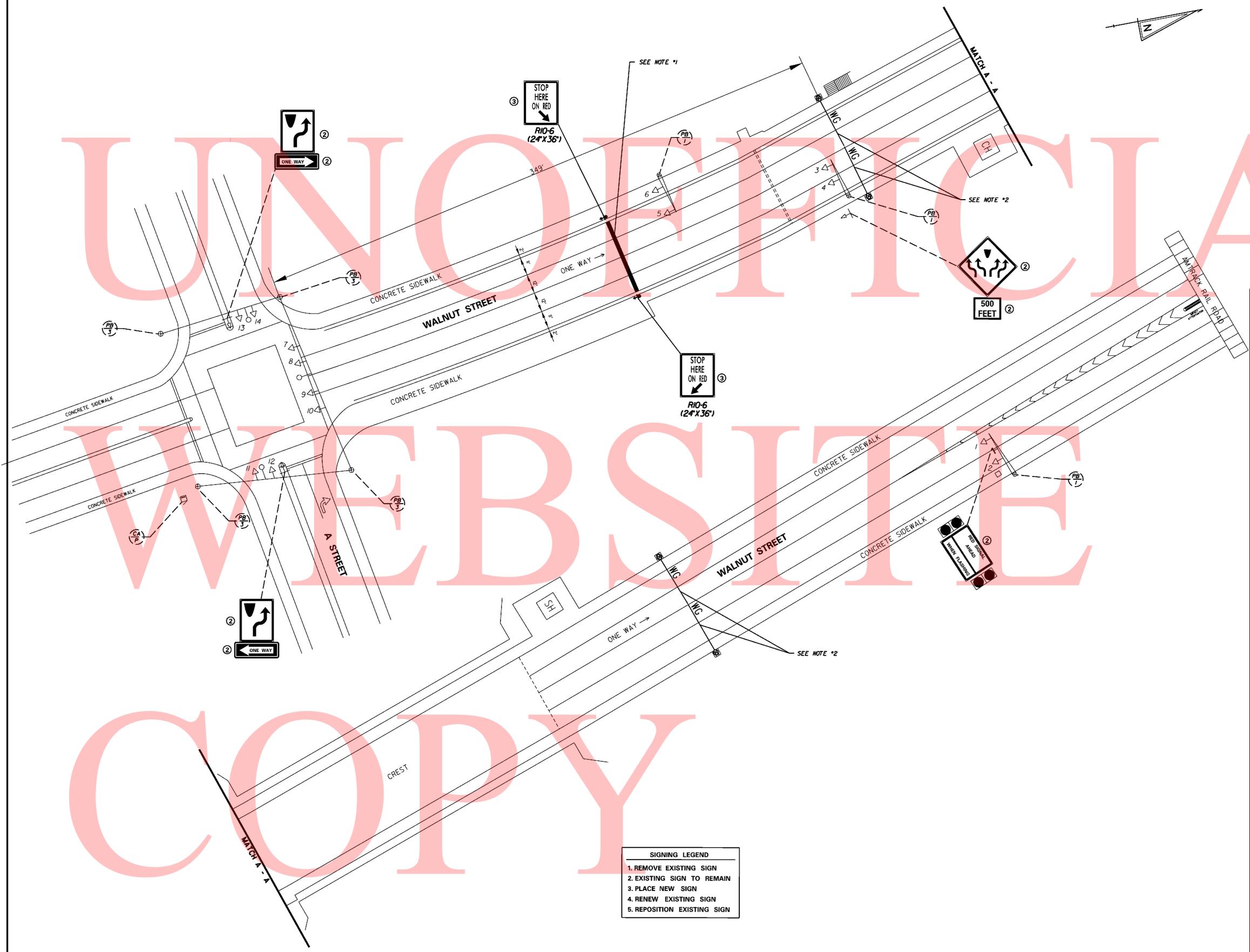
** HOT MIX PAVEMENT ONLY



UNOFFICIAL

WEBSITE

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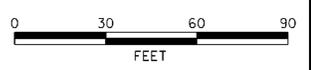


LEGEND			
	PROPOSED SIGNAL CABINET		REMOVE BY CONTRACTOR
	EXISTING SIGNAL CABINET		REMOVE BY OTHERS
	PROPOSED SIGNAL POLE BASE		ABANDON
	EXISTING SIGNAL POLE BASE		PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
	PROPOSED PEDESTRIAN POLE BASE		EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
	EXISTING PEDESTRIAN POLE BASE		PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
	PROPOSED WOOD POLE		EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
	EXISTING UTILITY POLE		PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)
	PROPOSED JUNCTION WELL		EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)
	EXISTING JUNCTION WELL		PROPOSED OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
	PROPOSED SIGNAL HEAD		EXISTING OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
	EXISTING SIGNAL HEAD		PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)
	PROPOSED PEDESTRIAN SIGNAL HEAD		EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)
	EXISTING PEDESTRIAN SIGNAL HEAD		PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)
	PROPOSED PEDESTRIAN PUSHBUTTON		EXISTING CABINET IDENTIFIER (TYPE OF CABINET)
	EXISTING PEDESTRIAN PUSHBUTTON		PROPOSED SPAN WIRE
	PROPOSED VIDEO DETECTION		EXISTING SPAN WIRE
	EXISTING VIDEO DETECTION		RIGHT-OF-WAY OR PROPERTY LINE
	PROPOSED MICROWAVE DETECTION		PROPOSED FLASHING SIGN ASSEMBLY
	EXISTING MICROWAVE DETECTION		PROPOSED WARNING GATE
	OVERHEAD SIGNING		EXISTING WARNING GATE
	PROPOSED OPTICOM RECEIVER		PROPOSED RESISTANCE GATE
	EXISTING OPTICOM RECEIVER		EXISTING RESISTANCE GATE
	PROPOSED MAST ARM		
	EXISTING MAST ARM		
	EXISTING SIGN		
	PROPOSED SIGN		
	STORAGE HOUSE		
	CONTROL HOUSE		

SIGNING LEGEND
1. REMOVE EXISTING SIGN
2. EXISTING SIGN TO REMAIN
3. PLACE NEW SIGN
4. RENEW EXISTING SIGN
5. REPOSITION EXISTING SIGN

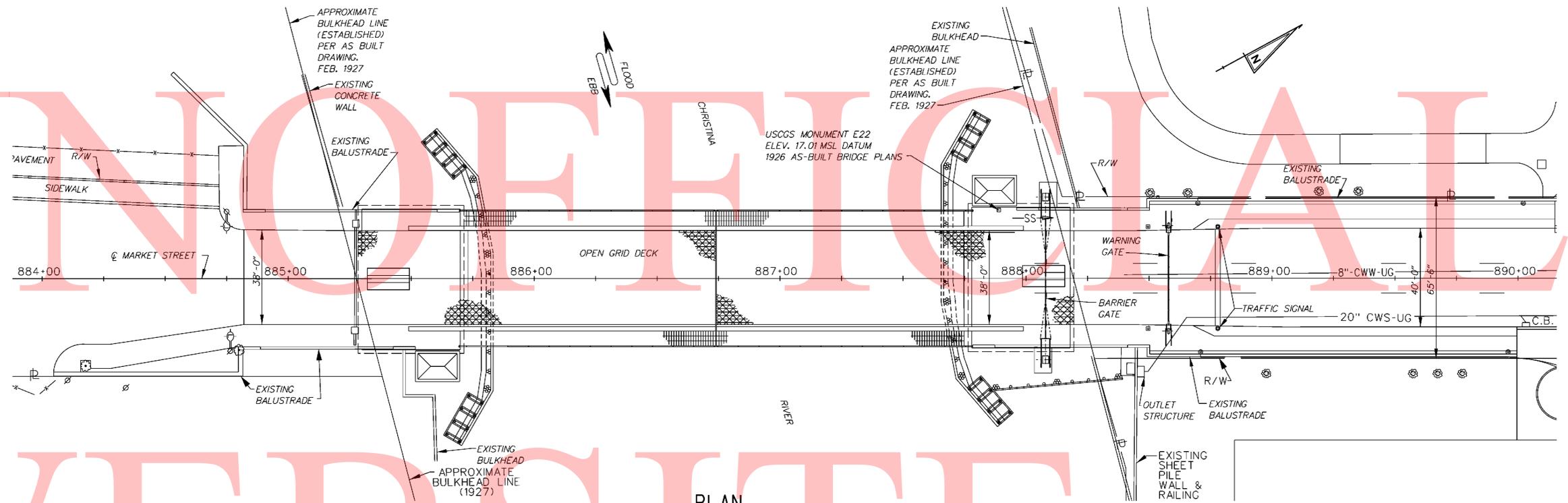
- NOTES**
- INSTALL 16" THICK STOP LINE AS SHOWN.
 - REPLACE EXISTING WARNING GATES WITH GATES THAT MEET THE REQUIREMENTS OF THE 2009 MUTCD SECTION 4J.02. THE WARNING GATES SHALL BE AT LEAST STANDARD RAILROAD SIZE STRIPED WITH 16-INCH ALTERNATE VERTICAL FULLY REFLECTORIZED RED AND WHITE STRIPES. FLASHING RED LIGHTS IN ACCORDANCE WITH THE STANDARDS FOR THOSE ON RAILROAD GATES (SEE SECTION 8C.04) SHALL BE INCLUDED ON THE GATE ARM AND THEY SHALL ONLY BE OPERATED IF THE GATE IS CLOSED OR IN THE PROCESS OF BEING OPENED OR CLOSED. IN THE HORIZONTAL POSITION, THE TOP OF THE GATE SHALL BE APPROXIMATELY 4 FEET ABOVE THE PAVEMENT. THE LENGTH, MATERIAL AND CONFIGURATION SHALL BE THE SAME AS THE EXISTING GATE ARMS AND SHALL BE SUPPLIED BY B&B ROADWAY OR AN APPROVED EQUAL.
 - ALL SIGNAL EQUIPMENT REMOVED FROM THE PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.

ADDENDUM / REVISIONS



CONTRACT	BRIDGE NO.	1-687
T201007405	DESIGNED BY:	SJE
COUNTY	CHECKED BY:	JTE
NEW CASTLE		

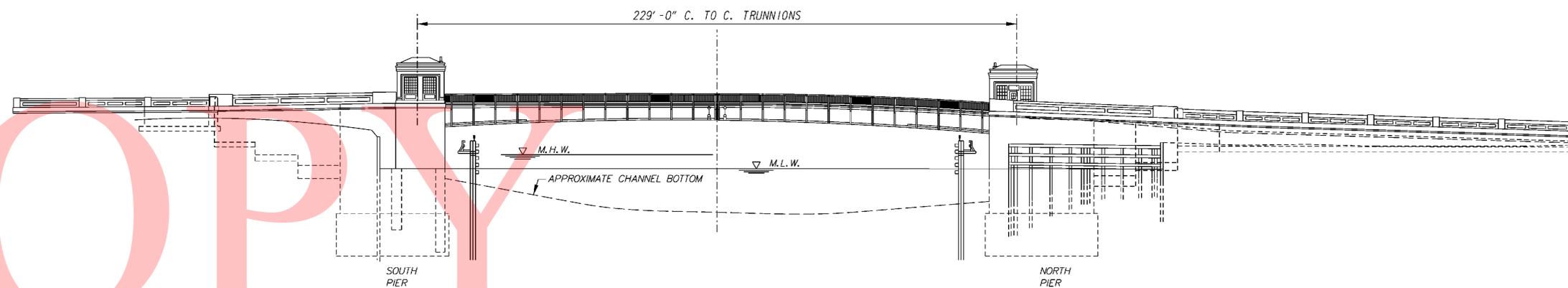
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PLAN
SCALE: 1" = 300'

LEAD PAINT NOTE:

1. LEAD PAINT MAY BE PRESENT AT THE REPAIR LOCATION. INCLUDE THE COST OF CLEANING AND DISPOSING OF THE LEAD BASED PAINT SYSTEM IN PAY ITEM "CLEANING EXISTING STEEL STRUCTURES, HAZARDOUS BASE".



ELEVATION
SCALE: 1" = 300'

FEDERAL AID NUMBER
EBHN-2010(29)



ADDENDUMS / REVISIONS	

SCALE AS NOTED

BRS 1-687, 1-688 AND 1-693
S. WALNUT ST., S. MARKET ST.
AND 4TH ST. OVER CHRISTINA RIVER

CONTRACT T201007405	BRIDGE NO. 1 - 688
COUNTY NEW CASTLE	DESIGNED BY: M. ALESTRA CHECKED BY: R. JACKSON

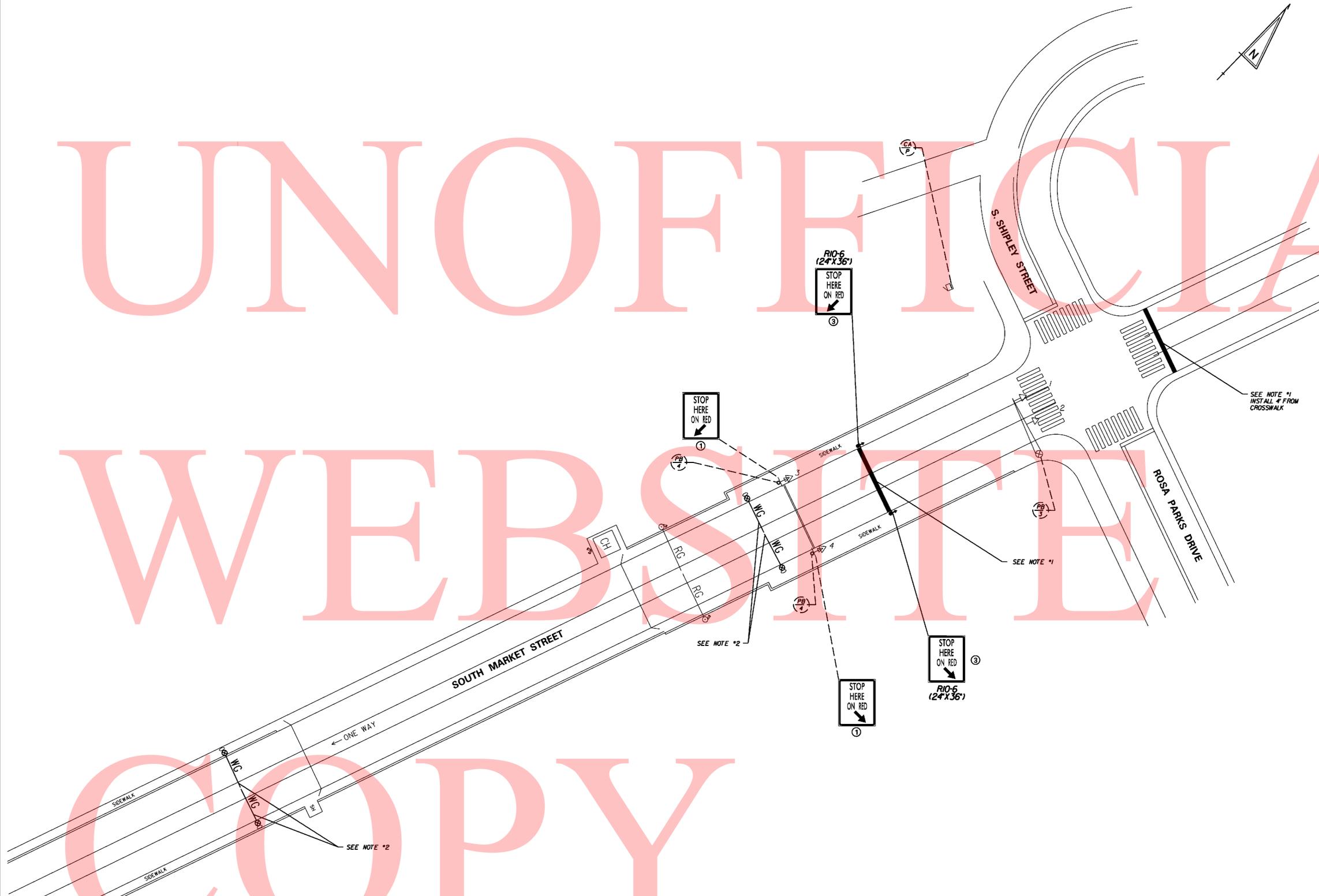
SOUTH MARKET ST. BRIDGE
GENERAL PLAN
AND ELEVATION

SHEET NO. 62
TOTAL SHTS. 111

UNOFFICIAL

WEBSITE

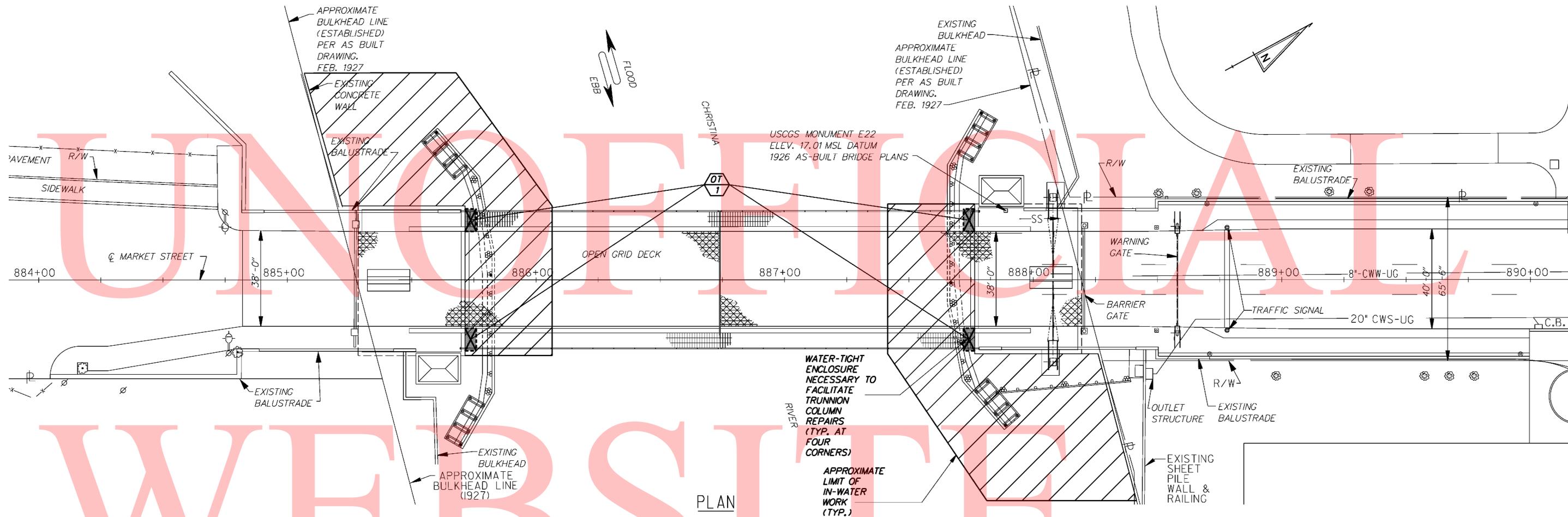
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LEGEND			
	PROPOSED SIGNAL CABINET		REMOVE BY CONTRACTOR
	EXISTING SIGNAL CABINET		REMOVE BY OTHERS
	PROPOSED SIGNAL POLE BASE		ABANDON
	EXISTING SIGNAL POLE BASE		PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
	PROPOSED PEDESTRIAN POLE BASE		EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
	EXISTING PEDESTRIAN POLE BASE		PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
	PROPOSED WOOD POLE		EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
	EXISTING UTILITY POLE		PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)
	PROPOSED JUNCTION WELL		EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)
	EXISTING JUNCTION WELL		PROPOSED OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
	PROPOSED SIGNAL HEAD		EXISTING OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
	EXISTING SIGNAL HEAD		PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)
	PROPOSED PEDESTRIAN SIGNAL HEAD		EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)
	EXISTING PEDESTRIAN SIGNAL HEAD		PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)
	PROPOSED PEDESTRIAN PUSHBUTTON		EXISTING CABINET IDENTIFIER (TYPE OF CABINET)
	EXISTING PEDESTRIAN PUSHBUTTON		PROPOSED SPAN WIRE
	PROPOSED VIDEO DETECTION		EXISTING SPAN WIRE
	EXISTING VIDEO DETECTION		RIGHT-OF-WAY OR PROPERTY LINE
	PROPOSED MICROWAVE DETECTION		PROPOSED FLASHING SIGN ASSEMBLY
	EXISTING MICROWAVE DETECTION		PROPOSED WARNING GATE
	OVERHEAD SIGNING		EXISTING WARNING GATE
	PROPOSED OPTICOM RECEIVER		PROPOSED RESISTANCE GATE
	EXISTING OPTICOM RECEIVER		EXISTING RESISTANCE GATE
	PROPOSED MAST ARM		
	EXISTING MAST ARM		
	EXISTING SIGN		
	PROPOSED SIGN		
	STORAGE HOUSE		
	CONTROL HOUSE		

SIGNING LEGEND
1. REMOVE EXISTING SIGN
2. EXISTING SIGN TO REMAIN
3. PLACE NEW SIGN
4. RENEW EXISTING SIGN
5. REPOSITION EXISTING SIGN

- NOTES**
- INSTALL 16" THICK STOP LINE AS SHOWN.
 - REPLACE EXISTING WARNING GATES WITH GATES THAT MEET THE REQUIREMENTS OF THE 2009 MUTCD SECTION 4J.02. THE WARNING GATES SHALL BE AT LEAST STANDARD RAILROAD SIZE STRIPED WITH 16-INCH ALTERNATE VERTICAL FULLY REFLECTORIZED RED AND WHITE STRIPES. FLASHING RED LIGHTS IN ACCORDANCE WITH THE STANDARDS FOR THOSE ON RAILROAD GATES (SEE SECTION 8C.04) SHALL BE INCLUDED ON THE GATE ARM AND THEY SHALL ONLY BE OPERATED IF THE GATE IS CLOSED OR IN THE PROCESS OF BEING OPENED OR CLOSED. IN THE HORIZONTAL POSITION, THE TOP OF THE GATE SHALL BE APPROXIMATELY 4 FEET ABOVE THE PAVEMENT. THE LENGTH, MATERIAL AND CONFIGURATION SHALL BE THE SAME AS THE EXISTING GATE ARMS AND SHALL BE SUPPLIED BY B&B ROADWAY OR AN APPROVED EQUAL.
 - ALL SIGNAL EQUIPMENT REMOVED FROM THE PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.



PLAN

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE				
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)
OT-1	WATER-TIGHT ENCLOSURE	162.00	0.0037	N/A
TOTAL TEMP OPEN WATER IMPACTS		162.00	0.0037	N/A

ENVIRONMENTAL COMPLIANCE NOTES

1. GENERAL NOTES:
- A. THE PURPOSE OF THIS SHEET IS TO IDENTIFY THOSE ITEMS ASSOCIATED WITH ENVIRONMENTAL COMPLIANCE. IMPACT CALCULATIONS ARE FOR THE AGENCY PERMIT REPORTING PURPOSES ONLY AND ARE NOT TO BE USED FOR BIDDING PURPOSES.
 - B. USE OF THIS SHEET DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL CONDITIONS SET FORTH IN THE ENVIRONMENTAL STATEMENT AND PERMITS.

2. NATURAL RESOURCE ISSUES:
- A. PERMIT/APPROVALS REQUIREMENTS*:
 - US COAST GUARD COORDINATION FOR STRUCTURAL REPAIRS IN NAVIGABLE WATERS
 - DNREC WETLANDS AND SUBAQUEOUS LANDS (WLSL) - LETTER OF AUTHORIZATION - REPAIR AND REPLACE**
 - DNREC - WATER QUALITY (WQC) AND COASTAL ZONE CONSISTENCY (CZM) WAIVED (PROJECT IS NOT LOCATED IN CRW)
 - U.S. COAST GUARD - 30 DAY ADVANCED NOTIFICATION*
 - NEW CASTLE COUNTY DEPT OF LAND USE - NONE (MAINTENANCE ACTIVITY)

* -- THE PERMIT(S)/APPROVAL(S) LISTED ARE THOSE REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE U.S. COAST GUARD (SEE ITEM 4 FOR FURTHER DETAILS). THE ENVIRONMENTAL STUDIES SECTION IS RESPONSIBLE FOR COORDINATING/OBTAINING THE OTHER PERMITS/APPROVALS.
 ** -- THE CONTRACTOR MUST ENSURE THAT THESE PERMITS/APPROVALS (DNREC REPAIR & REPLACE AUTHORIZATION) ARE IN THEIR POSSESSION PRIOR TO THE BEGINNING OF CONSTRUCTION IN THE PERMITTED AREA(S). THESE PERMITS/APPROVALS SHALL BE DISPLAYED ON-SITE DURING THE ENTIRE CONSTRUCTION PERIOD.

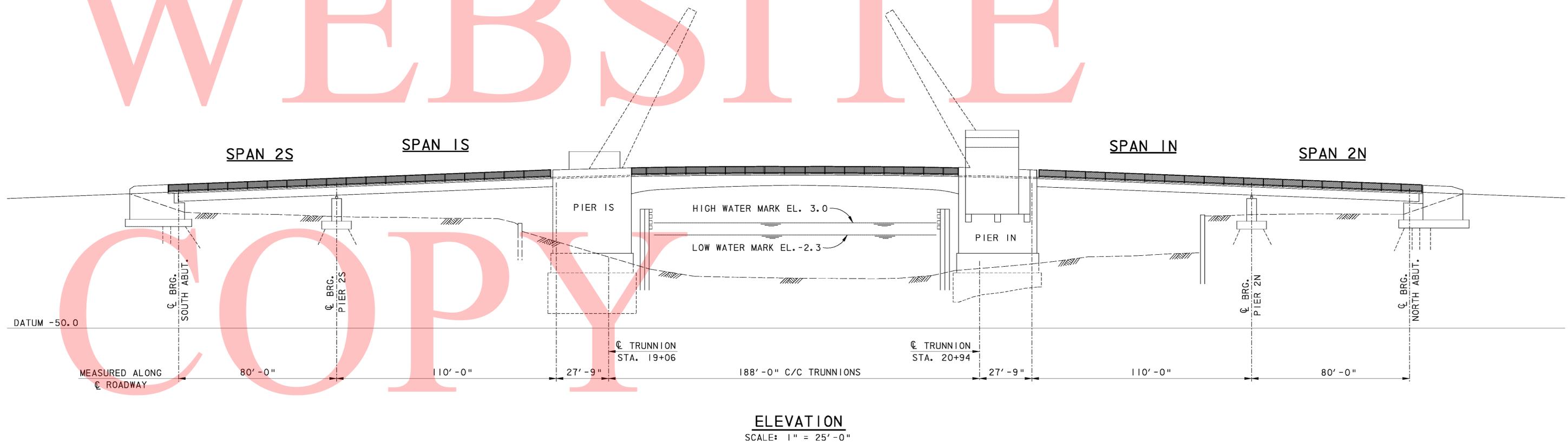
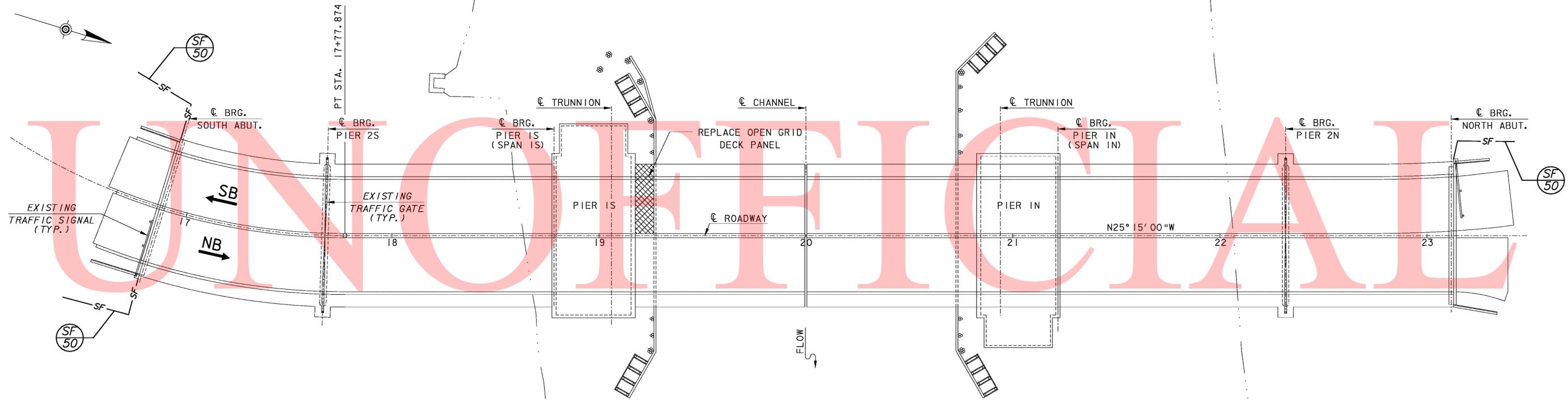
- B. CONSTRUCTION RESTRICTIONS:
 - FISHERIES (RIVER HERRING, AMERICAN SHAD, HICKORY SHAD) - NO IN-WATER WORK FROM MARCH 15 TO JUNE 30 (INCLUSIVE)
 - ENDANGERED SPECIES - NONE
 - MIGRATORY BIRDS - NONE

3. CULTURAL RESOURCE ISSUES: THE CONTRACTOR SHALL BE AWARE THAT STATE BRIDGES 1-687 AND 1-688 ARE CONSIDERED STRUCTURES ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES. DELDOT ENVIRONMENTAL STUDIES SECTION MUST BE NOTIFIED AT (302) 760-2264 IF THERE ARE ANY CHANGES TO THE PROJECT METHODS, FOOTPRINT, MATERIALS, OR DESIGNS, TO ALLOW THE DEPARTMENT TO COORDINATE WITH THE APPROPRIATE RESOURCE AGENCIES (COE, DNREC, SHPO), FOR APPROVAL.

4. U.S. COAST GUARD 30 DAY ADVANCED COORDINATION/APPROVAL:
 THE WATERWAYS ARE USED FOR RECREATIONAL PURPOSES. THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE THROUGH THE WORK AREAS FOR THE WATERWAY USERS AND SHALL HAVE THE PASSAGEWAY CLEARLY MARKED. PAYMENT IS INCLUDED UNDER PAY ITEM 763522, "COAST GUARD SPECIFIC CONDITIONS". ANY CONTRACTOR ACTIVITY WHICH WILL RESULT IN THE SHORT-TERM RESTRICTION OF THE WATERWAYS TO THOSE INDIVIDUALS, IS TO BE COORDINATED WITH THE ENGINEER AND THE U.S. COAST GUARD ONE MONTH IN ADVANCE. THE WORK WITHIN THE WATER SHALL BE LIMITED TO WHAT APPEARS ON THESE PLANS AND BARGE PLACEMENT. IF ANY ADDITIONAL IN-WATER/WETLANDS WORK IS NEEDED, IT MUST BE COORDINATED WITH THE U.S. COAST GUARD PRIOR TO BEGINNING WORK AND BE IN CONFORMANCE WITH ITEM 763522, "COAST GUARD SPECIFIC CONDITIONS". CONTACT BILL BRAZIER AT (757) 398-6422, AS WELL AS SUBMIT A WRITTEN NOTICE (WHICH INCLUDES A SKETCH DEPICTING THE LOCATION AND DURATION OF ALL RESTRICTIONS) TO THE COMMANDING OFFICER (AWOB), 5TH COAST GUARD DISTRICT, FEDERAL BUILDING 431 CRAWFORD ST., PORTSMOUTH, VA 23704 FOR APPROVAL.

LEGEND	
	TEMPORARY IMPACT AREA
	IMPACT AREA TYPE ID. (SEE BELOW) IMPACT AREA ID. AND/OR NUMBER
T	TEMPORARY IMPACT

SHEET PREPARED BY: MCCORMICK TAYLOR, INC.
 UPDATED: MARCH 31, 2011



BRIDGE 1-693 NOTES

1. INSTALL ACCESS AND CONTAINMENT SYSTEM TO PREVENT DEBRIS FROM FALLING INTO CHRISTINA RIVER CHANNEL DURING REPAIR ACTIVITIES. ACCESS AND CONTAINMENT SYSTEM MUST BE APPROVED BY DELDOT PRIOR TO COMMENCEMENT OF WORK. PAYMENT SHALL BE INCIDENTAL TO ITEM 602612 (ACCESS AND CONTAINMENT FOR BRIDGE REPAIRS). DISTURBANCE TO THE CHANNEL IS NOT ALLOWED DURING CONSTRUCTION. EQUIPMENT AND MATERIALS SHALL NOT BE PLACED WITHIN THE CHANNEL LIMITS. TEMPORARY SUPPORTS, ACCESS PLATFORMS AND/OR RIGGING MUST BE SUPPORTED FROM THE BRIDGE DECK.
2. REPAIR SPALLS ON BRIDGE DECK AND APPROACH SLABS. PERFORM SOUNDING FOR CONCRETE DELAMINATION AROUND VISIBLE SPALLS, CRACKS AND DETERIORATION, WITH DELDOT INSPECTOR PRESENT. REMOVE AND REPLACE DELAMINATED OR DETERIORATED CONCRETE. PAYMENT SHALL BE AS DESCRIBED IN THE PROJECT NOTES.
3. SEAL CRACKS ON BRIDGE DECK AND APPROACH SLABS. PAYMENT SHALL BE UNDER ITEM 602629. ALLOW TO DRY, AND THEN APPLY SILANE BASED SEALANT TO ENTIRE BRIDGE DECK AND APPROACH SLABS. PAYMENT FOR SILANE BASED SEALANT SHALL BE UNDER ITEM 602546.
4. APPLY WATER BASED ACRYLIC CONCRETE SEALANT TO ALL FACES OF THE P.C.C. BARRIERS ON BRIDGE AND APPROACHES. PAYMENT SHALL BE UNDER ITEM 602518.
5. REPLACE ENTIRE EXISTING DEBONDED JOINT SEALS BETWEEN APPROACH SLABS AND BACKWALL AT THE NORTH AND SOUTH ABUTMENTS. PAYMENT SHALL BE UNDER ITEM 605692.
- △ 6. REPLACE PORTIONS OF THE EXPANSION JOINT AT THE NORTH ABUTMENT AS SHOWN IN THE EXPANSION JOINT REPLACEMENT DETAILS PROVIDED, AT THE LOCATIONS SHOWN IN THE PLANS. PAYMENT SHALL BE UNDER ITEMS 602013, 604000, AND ~~605001~~ 605585. REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE MATERIAL, ARMOR STEEL AND REINFORCEMENT BARS SHALL BE UNDER ITEM 602580.
7. REMOVE ENTIRE EXISTING COMPRESSION SEALS AT THE SOUTH AND NORTH ABUTMENT AND REPLACE WITH INFLATABLE JOINT SEALS. PAYMENT SHALL BE UNDER ITEM 605676. BLAST CLEAN THE EXISTING STEEL JOINT ARMOR TO REMOVE ALL RUST, LOOSE PAINT, DIRT, OIL, DEBRIS & DELAMINATION. ALL EXPOSED JOINT ARMOR SURFACES SHALL BE FIELD PAINTED IN ACCORDANCE WITH SECTION 605 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR CLEANING & PAINTING SHALL BE UNDER ITEMS 605619 AND 605533.
8. REPLACE ENTIRE EXISTING COMPRESSION SEALS AT PIERS 1S & 1N. PAYMENT SHALL BE UNDER ITEM 605641. BLAST CLEAN THE EXISTING STEEL JOINT ARMOR TO REMOVE ALL RUST, LOOSE PAINT, DIRT, OIL, DEBRIS & DELAMINATION. ALL EXPOSED JOINT ARMOR SURFACES SHALL BE FIELD PAINTED IN ACCORDANCE WITH SECTION 605 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR CLEANING & PAINTING SHALL BE UNDER ITEMS 605619 AND 605533.
9. REPLACE PORTIONS OF THE BARRIERS AS SHOWN IN THE BARRIER REPLACEMENT DETAILS PROVIDED, AT THE LOCATIONS SHOWN IN THE PLANS. PAYMENT SHALL BE UNDER ITEMS 602017 & 604000. REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE MATERIAL SHALL BE UNDER ITEM 602580. WATER CURE BARRIER PER SECTION 602.18 OF STANDARD SPECIFICATIONS. PAYMENT INCIDENTAL TO ITEM 602017.
10. REPAIR SPALLS ON BARRIERS ON AND OFF THE BRIDGE, PERFORM SOUNDING FOR CONCRETE DELAMINATIONS AROUND VISIBLE SPALLS, CRACKS AND DETERIORATION, WITH DELDOT INSPECTOR PRESENT. REMOVE AND REPLACE DELAMINATED OR DETERIORATED CONCRETE. PAYMENT SHALL BE AS DESCRIBED IN THE PROJECT NOTES FOR PCC MASONRY - ABUTMENTS, PIERS, WINGWALLS, ETC.
11. REATTACH ALL LOOSE ALUMINUM PEDESTRIAN RAILINGS. REPLACE ALL MISSING BOLTS OR ANCHOR BOLTS TO ENSURE PROPER ATTACHMENT OF RAILING TO POST AND/OR POST BASEPLATE TO SIDEWALK. PAYMENT SHALL BE INCIDENTAL TO ITEM 606509.
12. SEAL ALL LONGITUDINAL JOINTS BETWEEN THE APPROACH SLABS INCLUDING ANY GAP/OPENING BETWEEN THE EXISTING APPROACH SLABS AND THE MEDIAN AND/OR BARRIER. PAYMENT SHALL BE UNDER ITEM 605692.
13. REPLACE THE MEDIAN ON THE BRIDGE AS SHOWN IN THE MEDIAN REPLACEMENT DETAILS PROVIDED. PAYMENT FOR MEDIAN REPAIR ON THE BRIDGE SHALL BE UNDER ITEMS 602017 AND 604000. REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE MATERIAL SHALL BE UNDER ITEM 602580. REMOVE PORTION OF THE MEDIAN OFF THE BRIDGE AT THE LOCATIONS INDICATED IN THE PLANS AND AS SHOWN IN THE PLAN DETAILS. PAYMENT FOR MEDIAN REPLACEMENT OFF THE BRIDGE SHALL BE UNDER ITEMS 701508 AND 302007. REMOVAL OF EXISTING MEDIAN AND CURB OFF THE BRIDGE SHALL BE PAID UNDER ITEM 758000. IN AREAS WHERE PROPOSED MEDIAN TYPES ARE NOT SIMILAR TO EXISTING, THE PROPOSED MEDIAN SHALL BE TRANSITIONED TO MATCH THE EXISTING MEDIAN OVER A 10 FOOT LENGTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT FOR THE TRANSITION AREA SHALL BE UNDER ITEM 701508.
- △ 14. CLEAN, PAINT AND APPLY GREASE TO BRIDGE BEARINGS. FOR BEARINGS WITH VISIBLE CORROSION, REMOVE EXISTING PAINT, AND PREPARE SURFACE PRIOR TO APPLICATION OF NEW PAINT COATINGS. PAYMENT SHALL BE UNDER ITEMS 605619 AND 605533. APPLY GREASE TO NEWLY PAINTED BEARINGS. SPECIFICATIONS FOR GREASE SHALL COMPLY WITH PROJECT NOTES FOR THIS CONTRACT. APPLICATION OF GREASE FOR REPAINTED BEARINGS SHALL BE INCIDENTAL TO ITEM 605533. FOR REMAINING BEARINGS NOT TO BE RE-COATED WITH PAINT, APPLY GREASE TO BEARINGS. PAYMENT SHALL BE INCIDENTAL TO ITEM 605636. PRIOR TO APPLICATION OF GREASE, PREPARE BEARING SURFACE FOR APPLICATION AS REQUIRED FOR PROPER ADHERENCE OF THE GREASE, AND AS APPROVED BY THE DELDOT INSPECTOR. USE LOW PRESSURE WATER BLASTING TO REMOVE EXISTING DEBRIS. HAND WIPE TO REMOVE EXISTING DEBRIS IN LOCATIONS APPROVED BY THE DELDOT INSPECTOR. AVOID DAMAGE TO EXISTING PAINT COATING BY USING LOW PRESSURE WATER BLASTING SUFFICIENT TO REMOVE EXISTING DEBRIS AND CONTAMINANTS. GREASE SHALL BE APPLIED TO ALL BEARINGS ON BRIDGE. ALL DEBRIS ON PIER CAP AND ABUTMENT BEARING SEATS SHALL BE REMOVED. REMOVAL OF DEBRIS AT BEARING SEATS IS INCIDENTAL TO ITEM ~~605629~~ 605533.
15. REPAIR SPALLS ON UNDERSIDE (BOTTOM) OF BRIDGE DECK. PERFORM SOUNDING FOR CONCRETE DELAMINATION AROUND VISIBLE SPALLS, CRACKS AND DETERIORATION, WITH DELDOT INSPECTOR PRESENT. REMOVE AND REPLACE DELAMINATED OR DETERIORATED CONCRETE. PAYMENT SHALL BE AS DESCRIBED IN PROJECT NOTES.
16. FULLY CLEAN AND PAINT ALL STEEL STRUCTURAL COMPONENTS WITHIN 6' OF THE ABUTMENT BACKWALLS. ON THE REMAINING PORTIONS OF THE APPROACH SPANS (SPANS 1S, 2S, 1N & 2N), PERFORM SPOT CLEANING AND PAINTING OF STEEL STRUCTURAL COMPONENTS EXHIBITING ACTIVE CORROSION. PAYMENT SHALL BE UNDER ITEMS 605619 AND 605533. LOCATIONS TO BE PAINTED SHALL BE WHERE CORROSION OR DETERIORATION OF THE EXISTING PAINT COATING IS VISIBLE, AND AS APPROVED BY THE DELDOT INSPECTOR. LOCATIONS TO BE PAINTED WILL BE REVIEWED WITH THE DELDOT INSPECTOR PRIOR TO COMMENCEMENT OF CLEANING AND PAINTING OPERATIONS.
17. REPAIR SPALLS AND DELAMINATIONS IN CONCRETE ABUTMENTS, BACKWALLS AND WINGWALLS. PERFORM SOUNDING FOR DELAMINATION AROUND VISIBLE CRACKS, SPALLS AND DETERIORATION. SOUNDING IS INCIDENTAL TO THE APPROPRIATE SPALL REPAIR ITEM. REMOVE AND REPLACE DELAMINATED AND DETERIORATED CONCRETE. PAYMENT FOR CONCRETE SPALL AND DELAMINATION REPAIR SHALL BE AS DESCRIBED IN THE PROJECT NOTES FOR SPALL REPAIR.
18. REPAIR CRACKS IN CONCRETE ABUTMENTS, BACKWALLS AND WINGWALLS. CRACK REPAIR SHALL BE PERFORMED UNDER PAY ITEM 602626 OR 602611, AS APPROVED BY DELDOT INSPECTOR.
19. APPLY SILICONE ACRYLIC CONCRETE SEALANT TO ALL EXPOSED VERTICAL AND HORIZONTAL SURFACES OF CONCRETE ABUTMENTS, BACKWALLS AND WINGWALLS. SEE PROJECT NOTES FOR ADDITIONAL CLARIFICATION OF SEALANT COATING REQUIREMENTS. PAYMENT SHALL BE UNDER ITEM 602646. ENSURE PROPER SURFACE PREPARATION PRIOR TO APPLICATION OF SEALANT, IN ACCORDANCE WITH SPECIAL PROVISION REQUIREMENTS.
20. REPAIR SPALLS AND DELAMINATIONS ON CONCRETE PIERS AND PIER CAPS. PERFORM SOUNDING FOR DELAMINATION AROUND VISIBLE CRACKS, SPALLS AND DETERIORATION. SOUNDING IS INCIDENTAL TO THE APPROPRIATE SPALL REPAIR ITEM REMOVE AND REPLACE DELAMINATED OR DETERIORATED CONCRETE. PAYMENT FOR CONCRETE SPALL AND DELAMINATION REPAIR SHALL BE AS DESCRIBED IN THE PROJECT NOTES FOR SPALL REPAIR.
21. REPAIR CRACKS ON PIERS AND PIER CAPS. CRACK REPAIR SHALL BE PERFORMED UNDER PAY ITEMS 602611 AND 602626, AS APPROVED BY DELDOT INSPECTOR.
22. APPLY SILICONE ACRYLIC CONCRETE SEALANT TO ALL EXPOSED VERTICAL AND HORIZONTAL SURFACES OF CONCRETE PIERS. SEE PROJECT NOTES FOR ADDITIONAL CLARIFICATION OF SEALANT COATING REQUIREMENTS. PAYMENT SHALL BE UNDER ITEM 602646. ENSURE PROPER SURFACE PREPARATION PRIOR TO APPLICATION OF SEALANT, IN ACCORDANCE WITH SPECIAL PROVISION REQUIREMENTS.
23. CLEAN AND FLUSH SCUPPER DRAINS ON BRIDGE DECK. PAYMENT SHALL BE UNDER ITEM 605582.
- △ 24. REPLACE SIDEWALK AND CURB OFF THE BRIDGE PER THE DETAILS PROVIDED AT THE LOCATIONS SHOWN IN THE PLANS. PAYMENT SHALL BE UNDER ITEMS 701010, 705001, AND 302007. REMOVAL OF EXISTING CURB AND SIDEWALK SHALL BE PAID UNDER ITEM 758000. WHERE PROPOSED CONCRETE SIDEWALK IS CONSTRUCTED TO MEET EXISTING SIDEWALK, THE EXISTING SIDEWALK SHALL BE SAWCUT AT THE TIE-IN POINT OR MEET THE NEAREST EXISTING SIDEWALK JOINT. ALL SAW CUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR UNDER ITEM ~~762002-SAWCUTTING, CONCRETE, FULL DEPTH,~~ 762003, SAWCUTTING, CONCRETE VARIABLE DEPTH. SIDEWALK REPAIR AT THE SOUTHWEST APPROACH WILL INCLUDE EXCAVATION OF FOUNDATION MATERIAL, PLACEMENT OF 6" PERFORATED PIPE UNDERDRAIN, PLACEMENT OF GEOTEXTILES AND PLACEMENT OF R-4 RIPRAP. SEE PLAN DETAILS FOR LOCATION AND LIMITS. PAYMENT SHALL BE UNDER ITEMS 202000, 712005, 713002 AND 715001. REMOVAL, TEMPORARY STORAGE AND RESETTING OF THE EXISTING P.C.C. BARRIER SHALL BE INCIDENTAL TO ITEM 758000.
25. REPLACE DETERIORATED SEAL AT DECK ACCESS PANEL WITH SILICONE JOINT SEAL. PAYMENT SHALL BE UNDER ITEM 605692.
26. REPAIR THE LIVE LOAD ANCHORAGE PER THE DETAILS PROVIDED IN THE PLANS.
27. REPLACE PORTIONS OF THE OPEN GRID STEEL DECK PER THE DETAILS PROVIDED IN THE PLANS.
28. ADD BIRD CONTROL NETTING PER THE DETAILS PROVIDED IN THE PLANS.
29. PERFORM MECHANICAL AND ELECTRICAL REPAIRS PER THE DETAILS PROVIDED IN THE PLANS.
30. THE DIMENSIONS SHOWN ON THE PLANS ARE BASED ON THE EXISTING BRIDGE PLANS. THE EXISTING BRIDGE PLANS ARE AVAILABLE UPON REQUEST FROM THE DELAWARE DEPARTMENT OF TRANSPORTATION. THE APPLICABLE CONSTRUCTION CONTRACT NUMBERS ARE 71-10-001 AND 75-05-006. THE CONTRACTOR SHALL VERIFY THE DIMENSIONING SHOWN PRIOR TO CALCULATING QUANTITIES AND ORDERING MATERIALS. REINFORCEMENT BAR LENGTHS SHALL BE VERIFIED IN THE FIELD PRIOR TO ORDERING.



ADDENDUMS / REVISIONS	
△ REVISED NOTES	

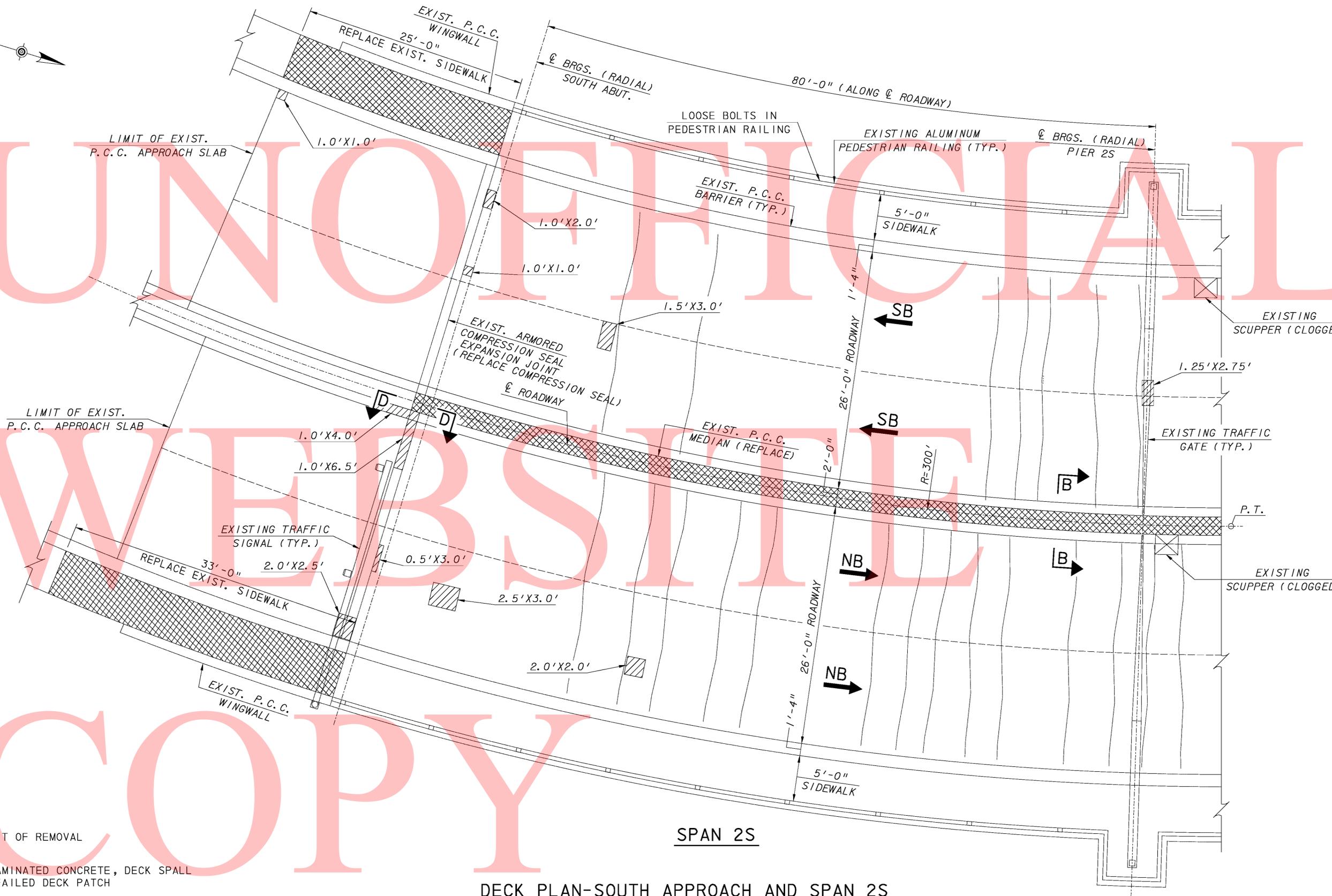
SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT	BRIDGE NO.	1-693
T201007405	DESIGNED BY:	AJF
COUNTY	CHECKED BY:	JAC
NEW CASTLE		

SITE NOTES

SHEET NO.	67
TOTAL SHTS.	111



SPAN 2S

DECK PLAN-SOUTH APPROACH AND SPAN 2S

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

LEGEND:

- LIMIT OF REMOVAL
- DELAMINATED CONCRETE, DECK SPALL OR FAILED DECK PATCH
- DECK CRACK

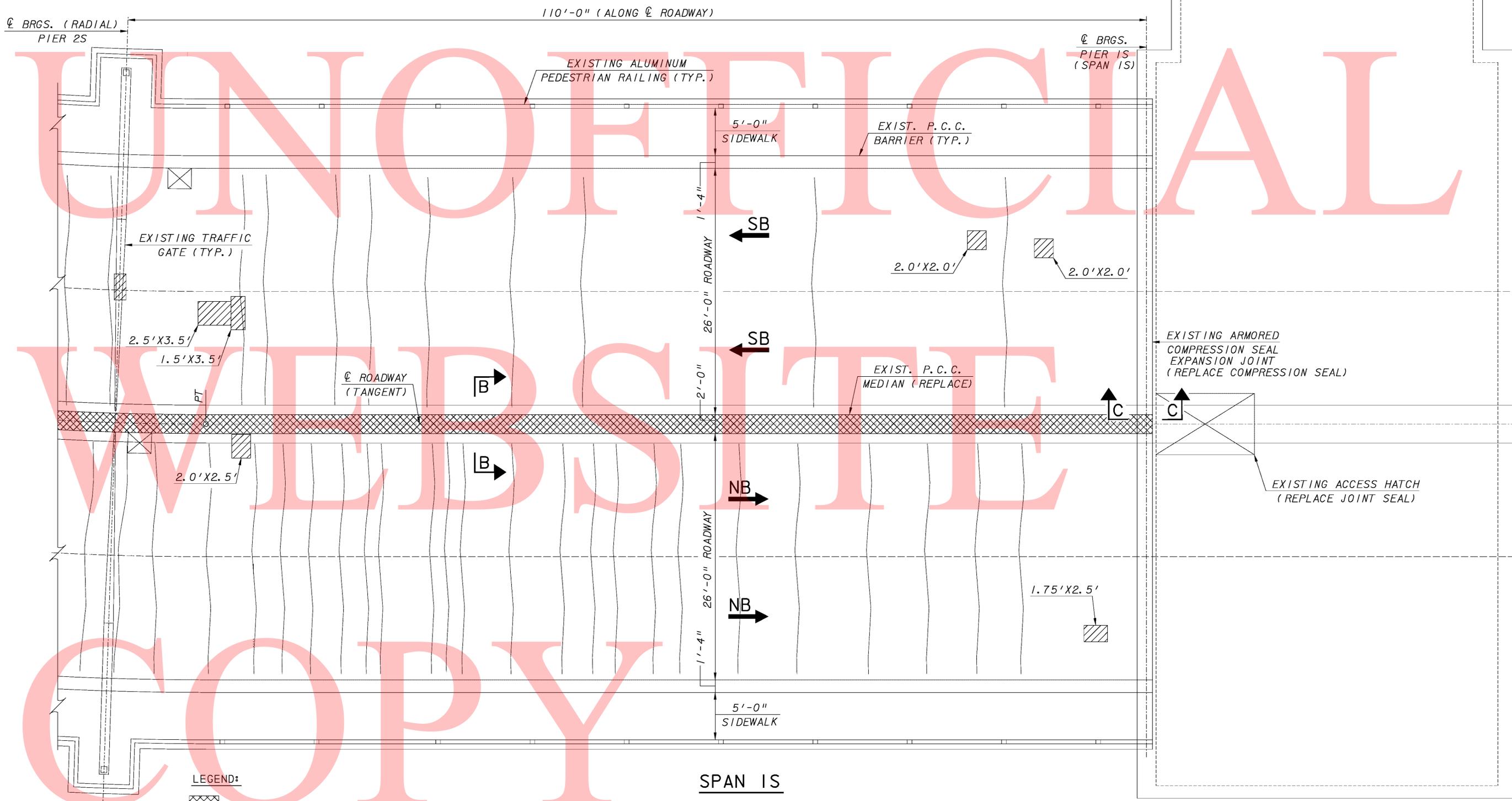
ADDENDUMS / REVISIONS	

SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT	BRIDGE NO.	1-693
T201007405	DESIGNED BY:	AJF
COUNTY	CHECKED BY:	JAC
NEW CASTLE		

DECK PLAN SOUTH APPROACH AND SPAN 2S - EXISTING CONDITIONS



LEGEND:

- LIMIT OF REMOVAL
- DELAMINATED CONCRETE, DECK SPALL OR FAILED DECK PATCH
- DECK CRACK

DECK PLAN-SPAN 1S

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

ADDENDUMS / REVISIONS	

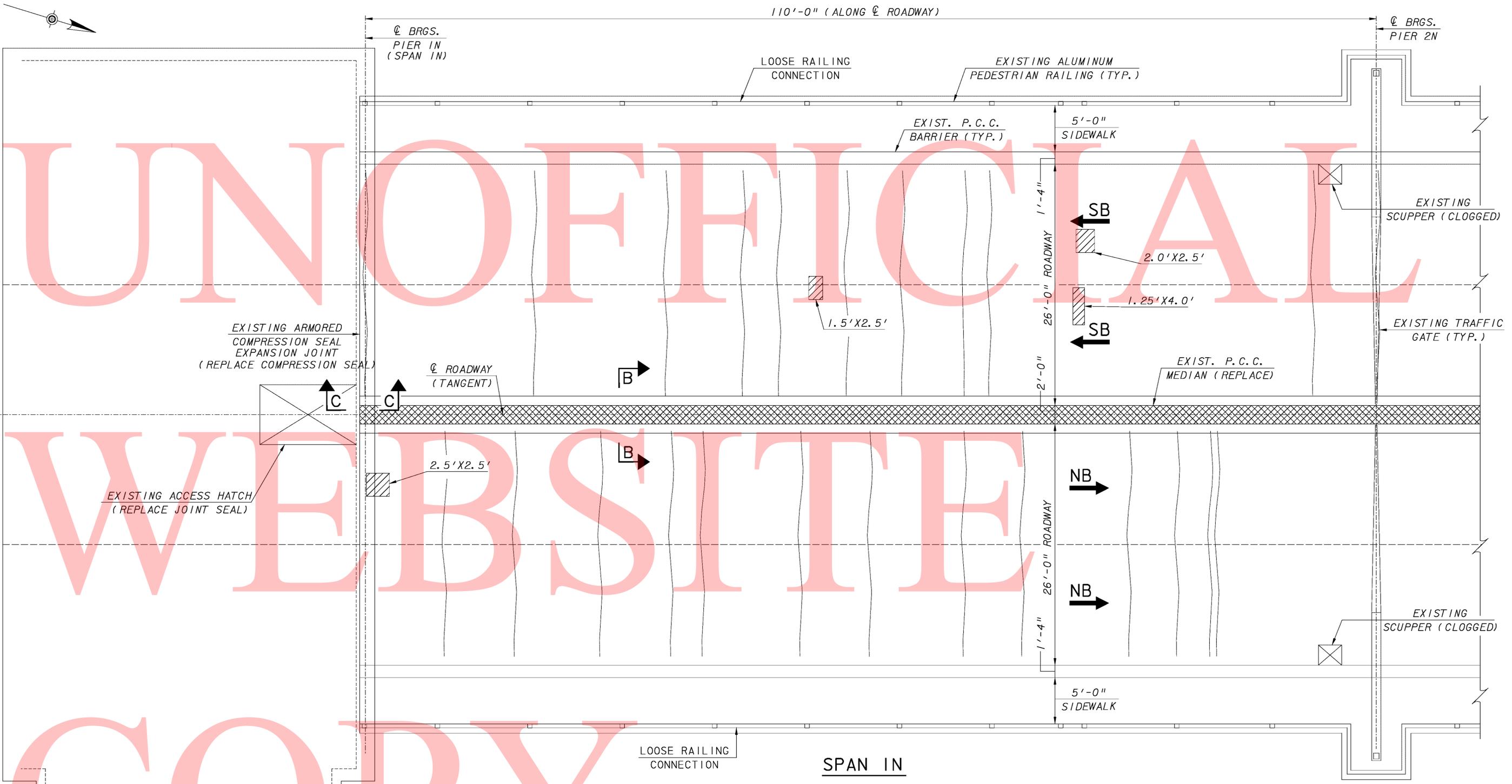
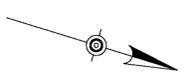
SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT T201007405	BRIDGE NO. 1-693
COUNTY NEW CASTLE	DESIGNED BY: AJF
	CHECKED BY: JAC

DECK PLAN - SPAN 1S
EXISTING CONDITIONS

SHEET NO. 69
TOTAL SHTS. 111



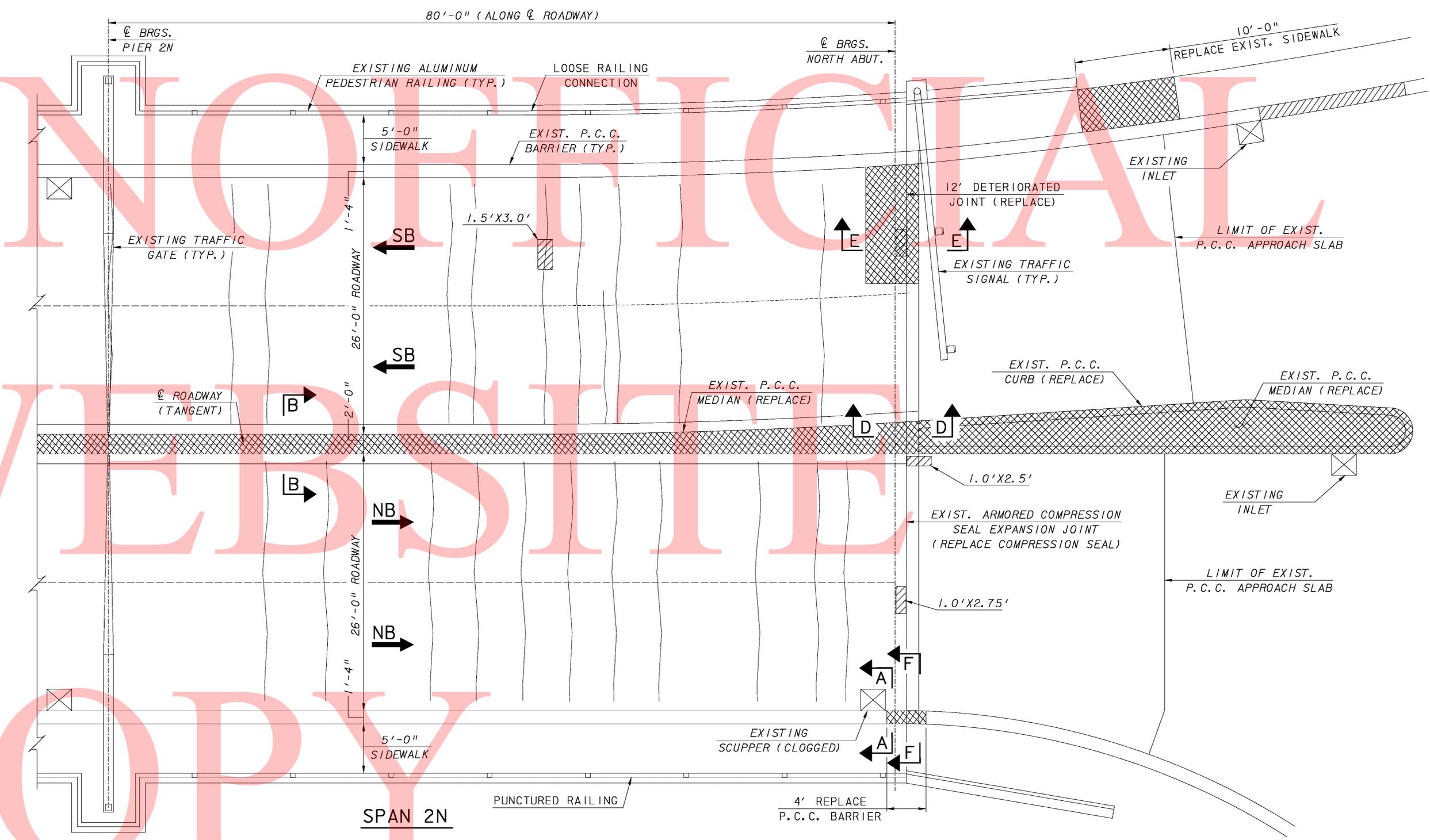
UNOFFICIAL

WEBSITE

COPY

- LEGEND:**
- LIMIT OF REMOVAL
 - DELAMINATED CONCRETE, DECK SPALL OR FAILED DECK PATCH
 - DECK CRACK

DECK PLAN-SPAN 1N
SCALE: 3/16" = 1'-0"



- LEGEND:**
- LIMIT OF REMOVAL
 - DELAMINATED CONCRETE, DECK SPALL OR FAILED DECK PATCH
 - DECK CRACK

DECK PLAN-SPAN 2N AND NORTH APPROACH

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

ADDENDUMS / REVISIONS	

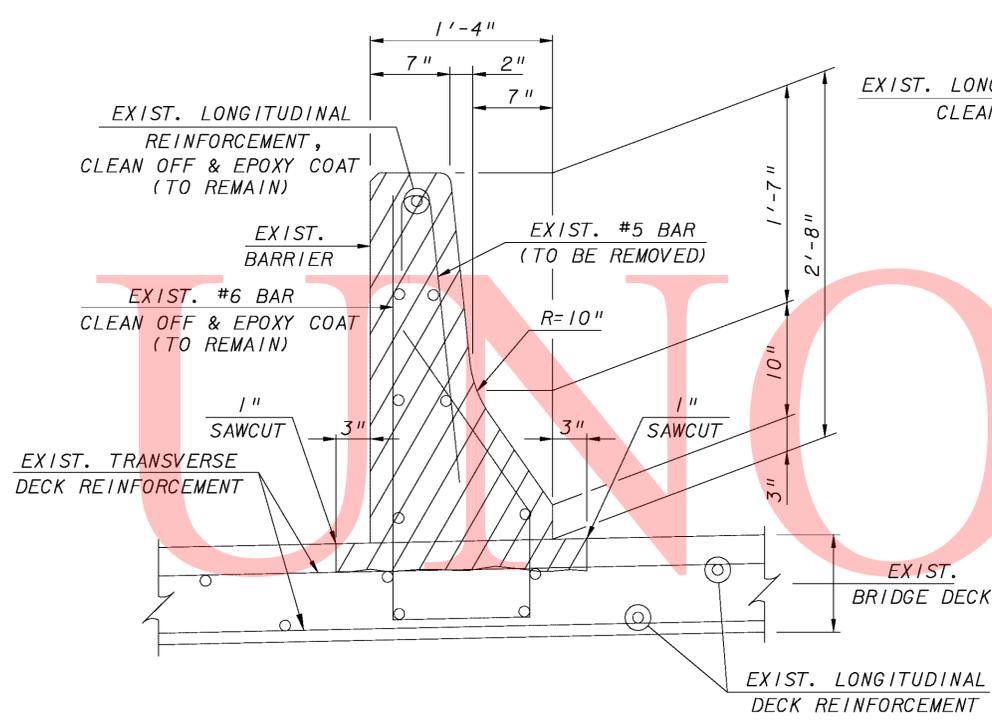
SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT	BRIDGE NO.	1-693
T201007405	DESIGNED BY:	AJF
COUNTY	CHECKED BY:	JAC
NEW CASTLE		

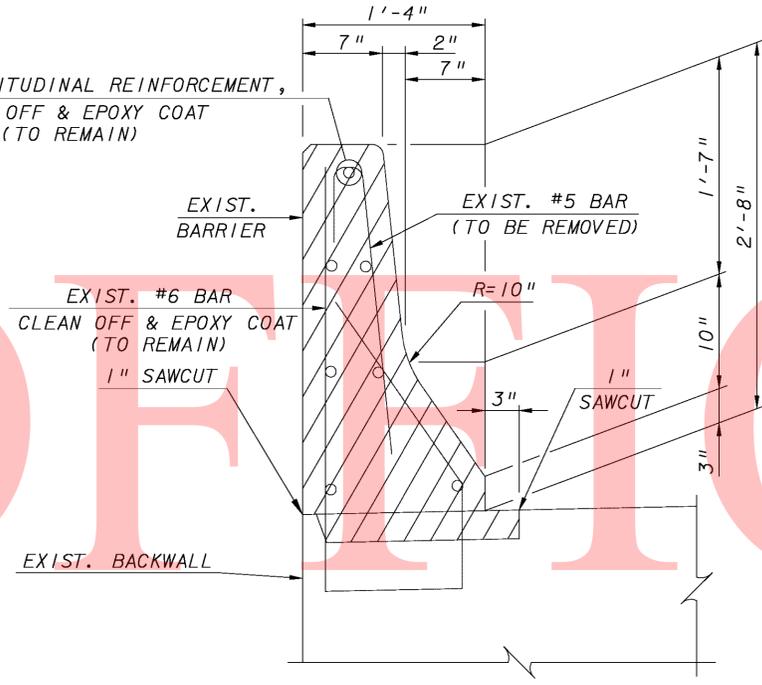
DECK PLAN SPAN 2N AND NORTH APPROACH - EXISTING CONDITIONS

SHEET NO.	71
TOTAL SHTS.	111



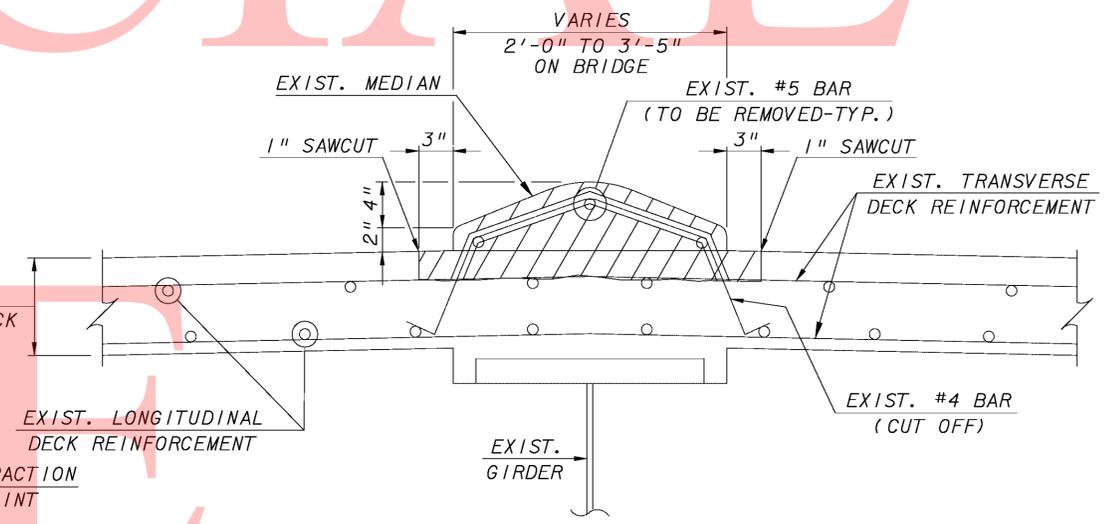
SECTION A-A
SCALE: 1 1/2" = 1'-0"

NOTE:
AT AREAS OF REMOVAL, REMOVE CONCRETE TO EXPOSE TOP MAT OF EXISTING DECK REINFORCEMENT.



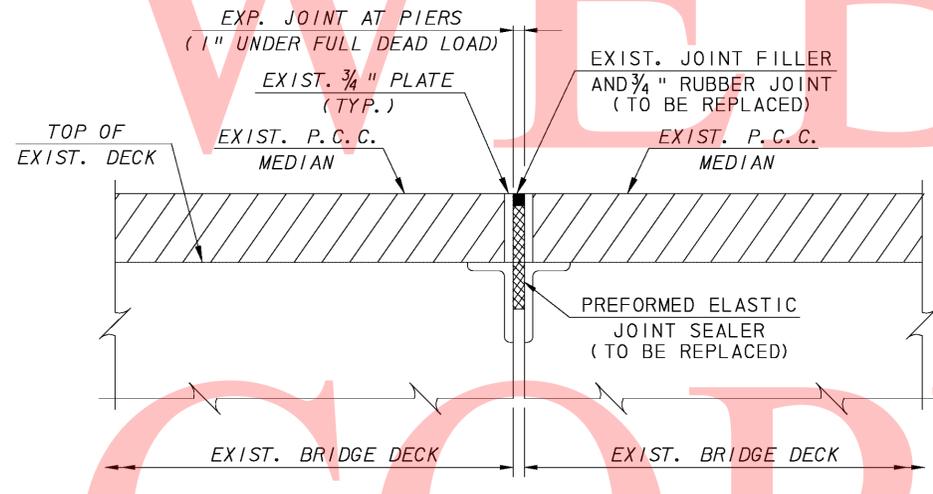
SECTION F-F
SCALE: 1 1/2" = 1'-0"

NOTE:
EXISTING BACKWALL REINFORCEMENT AND ANCHORAGE NOT SHOWN.



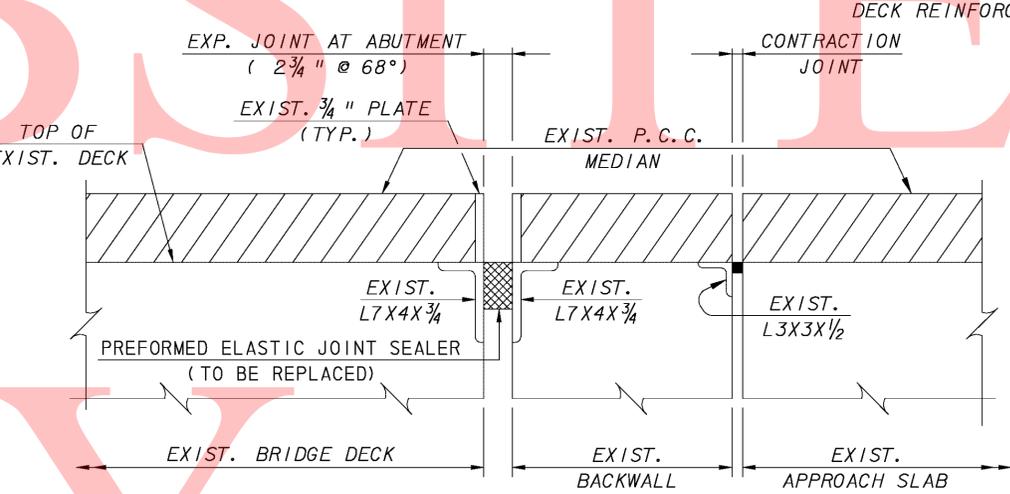
SECTION B-B
SCALE: 1 1/2" = 1'-0"

NOTE:
AT AREAS OF REMOVAL, REMOVE CONCRETE TO EXPOSE TOP MAT OF EXISTING DECK REINFORCEMENT.



SECTION C-C
(PIERS IS & IN)
SCALE: 1 1/2" = 1'-0"

NOTE:
EXISTING DECK AND MEDIAN REINFORCEMENT AND ANCHORAGE NOT SHOWN.

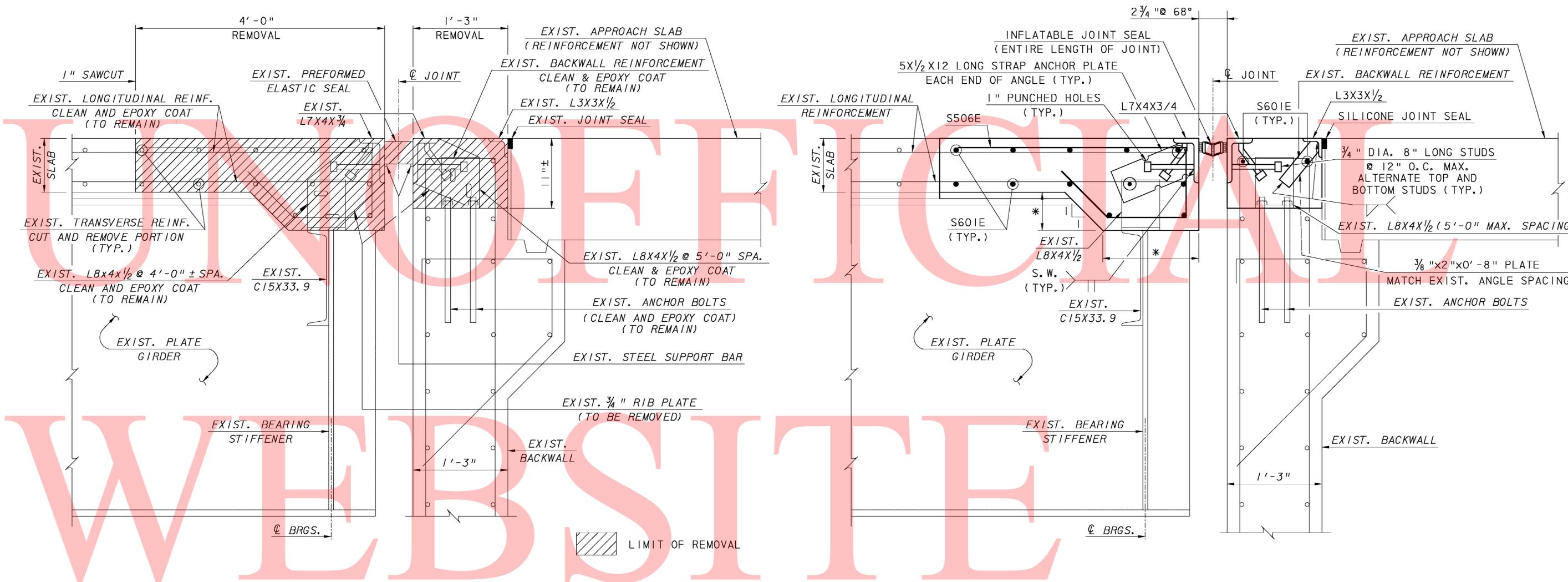


SECTION D-D
(NORTH & SOUTH ABUTMENTS)
SCALE: 1 1/2" = 1'-0"

NOTE:
EXISTING DECK AND MEDIAN REINFORCEMENT AND ANCHORAGE NOT SHOWN.

NOTE:
• EPOXY COAT THE EXPOSED END OF THE EXISTING REINFORCEMENT BARS THAT ARE CUT OFF.

LEGEND:
[Hatched Box] = LIMIT OF REMOVAL



SECTION E-E
 (NORTH ABUTMENT)
 SCALE: 1 1/2" = 1'-0"

SECTION L-L
 (SEE SPAN 2N AND NORTH APPROACH - PROPOSED CONDITIONS SHEET)
 SCALE: 1 1/2" = 1'-0"

* MATCH EXISTING DIMENSION

COPY

ADDENDUMS / REVISIONS	

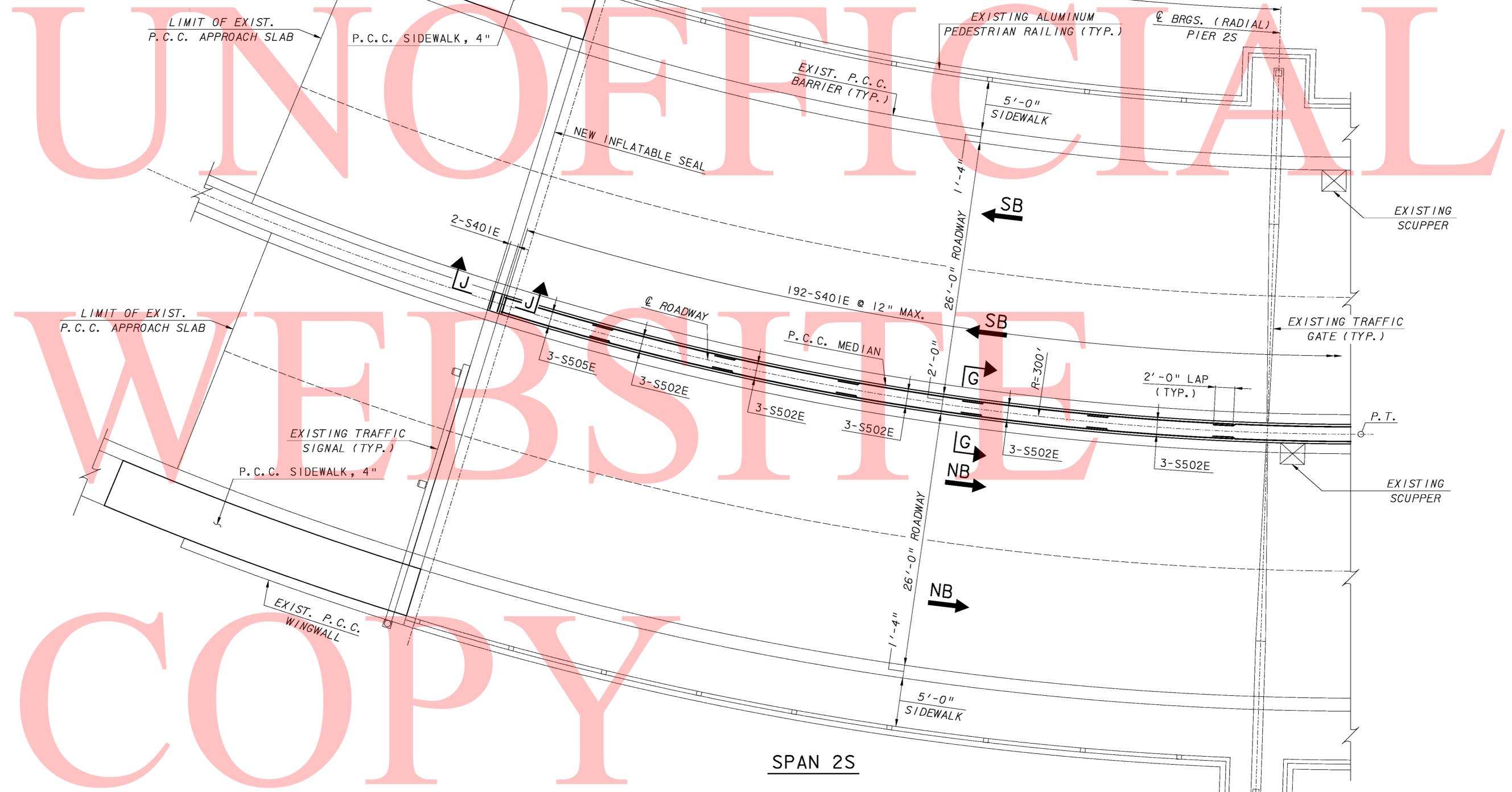
SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT T201007405	BRIDGE NO. 1-693
COUNTY NEW CASTLE	DESIGNED BY: AJF
	CHECKED BY: JAC

JOINT DEMOLITION AND REPAIR DETAILS

SHEET NO. 73
TOTAL SHTS. 111



DECK PLAN-SOUTH APPROACH AND SPAN 2S

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

ADDENDUMS / REVISIONS	

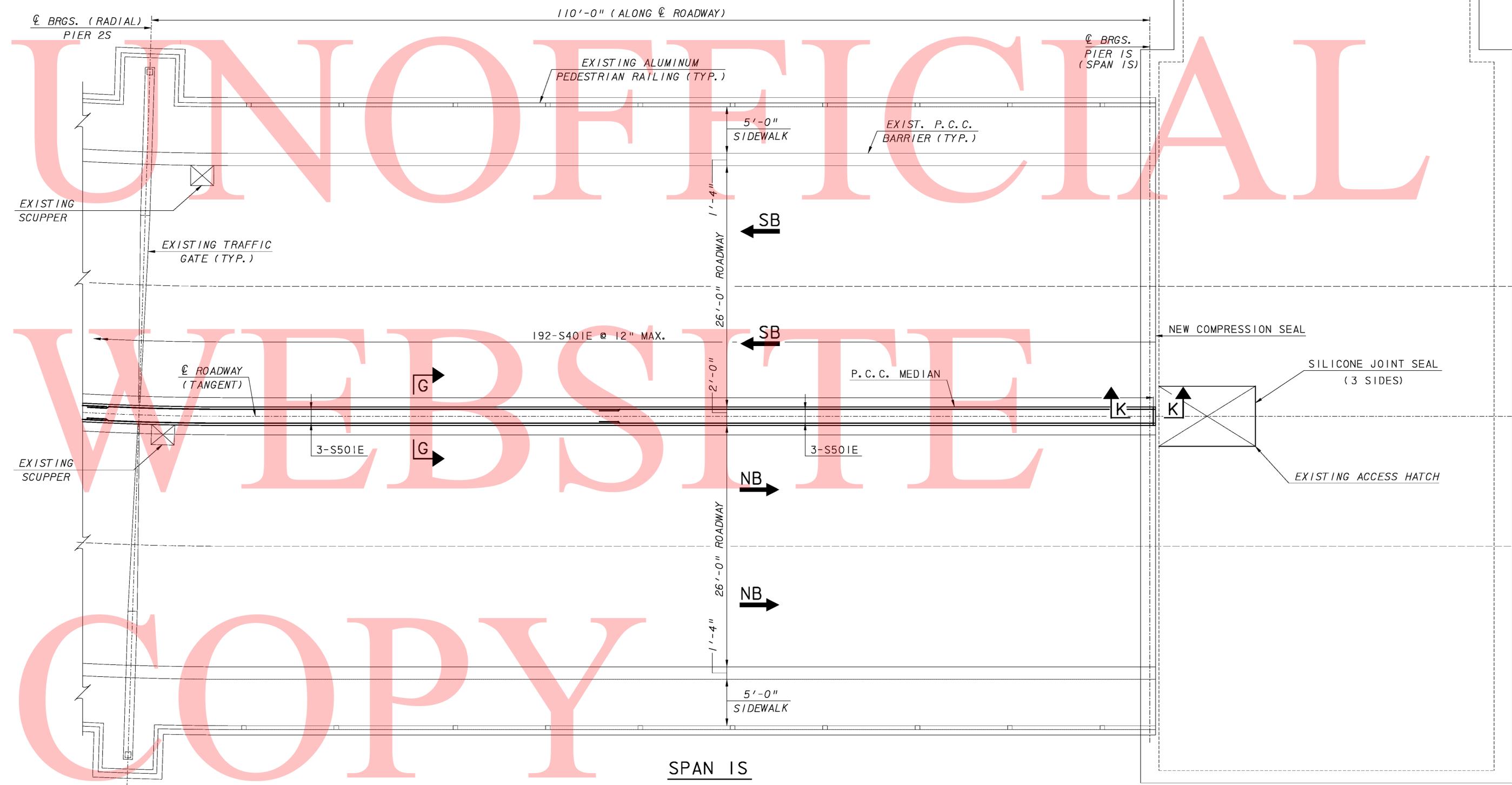
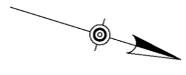
SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT T201007405	BRIDGE NO. 1-693
COUNTY NEW CASTLE	DESIGNED BY: AUF
	CHECKED BY: JAC

DECK PLAN
SOUTH APPROACH
AND SPAN 2S -
PROPOSED CONDITIONS

SHEET NO. 74
TOTAL SHTS. 111



DECK PLAN-SPAN 1S
SCALE: 3/16" = 1'-0"

PIER 1S

ADDENDUMS / REVISIONS	

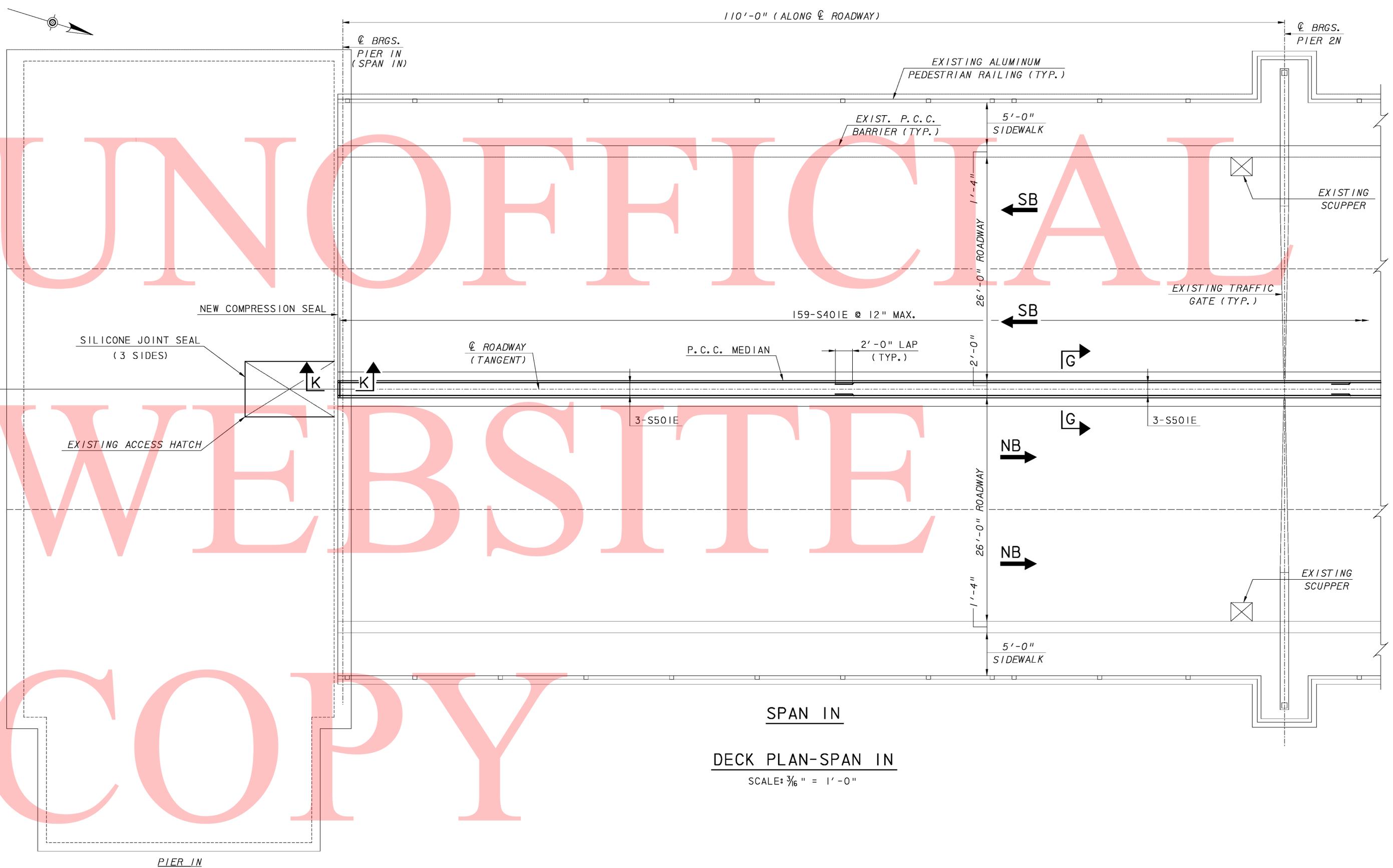
SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT	BRIDGE NO.	1-693
T201007405	DESIGNED BY:	AJF
COUNTY	CHECKED BY:	JAC
NEW CASTLE		

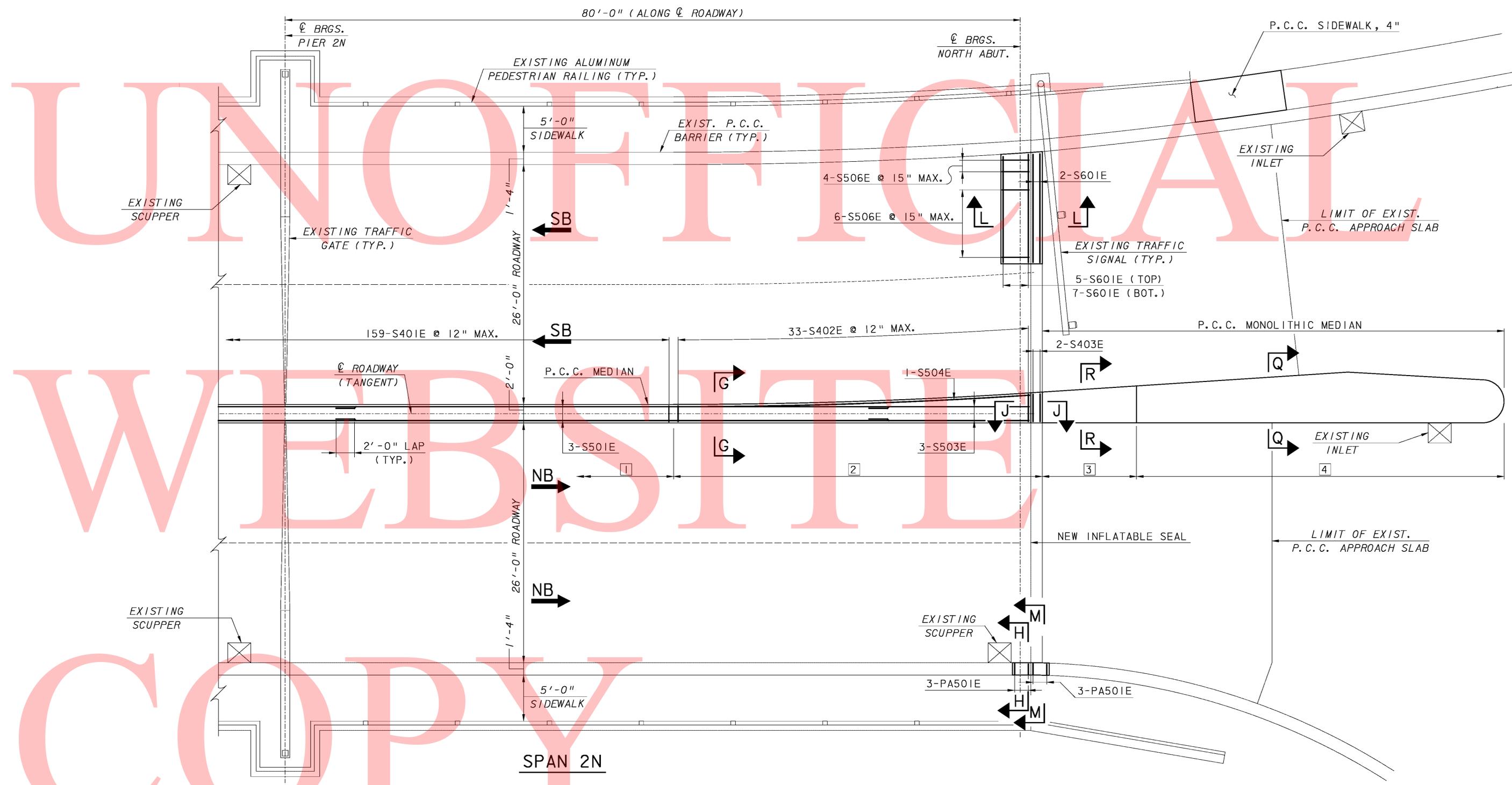
DECK PLAN - SPAN 1S
PROPOSED CONDITIONS

UNOFFICIAL
WEBSITE
COPY



SPAN 1N
DECK PLAN-SPAN 1N
SCALE: $\frac{3}{16}$ " = 1'-0"

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		SCALE AS NOTED	BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER	CONTRACT	BRIDGE NO.	1-693	DECK PLAN - SPAN 1N PROPOSED CONDITIONS	SHEET NO.
					T201007405	DESIGNED BY:	AJF		TOTAL SHTS.
					NEW CASTLE	CHECKED BY:	JAC		111



DECK PLAN-SPAN 2N AND NORTH APPROACH

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

- ① SEE TYPICAL BRIDGE MEDIAN ON MEDIAN DEMOLITION AND REPAIR DETAILS SHEET.
- ② SEE TYPICAL BRIDGE MEDIAN TRANSITION ON MEDIAN DEMOLITION AND REPAIR DETAILS SHEET.
- ③ SEE APPROACH MEDIAN TRANSITION ON MEDIAN DEMOLITION AND REPAIR DETAILS SHEET.
- ④ SEE TYPICAL APPROACH MEDIAN ON MEDIAN DEMOLITION AND REPAIR DETAILS SHEET.

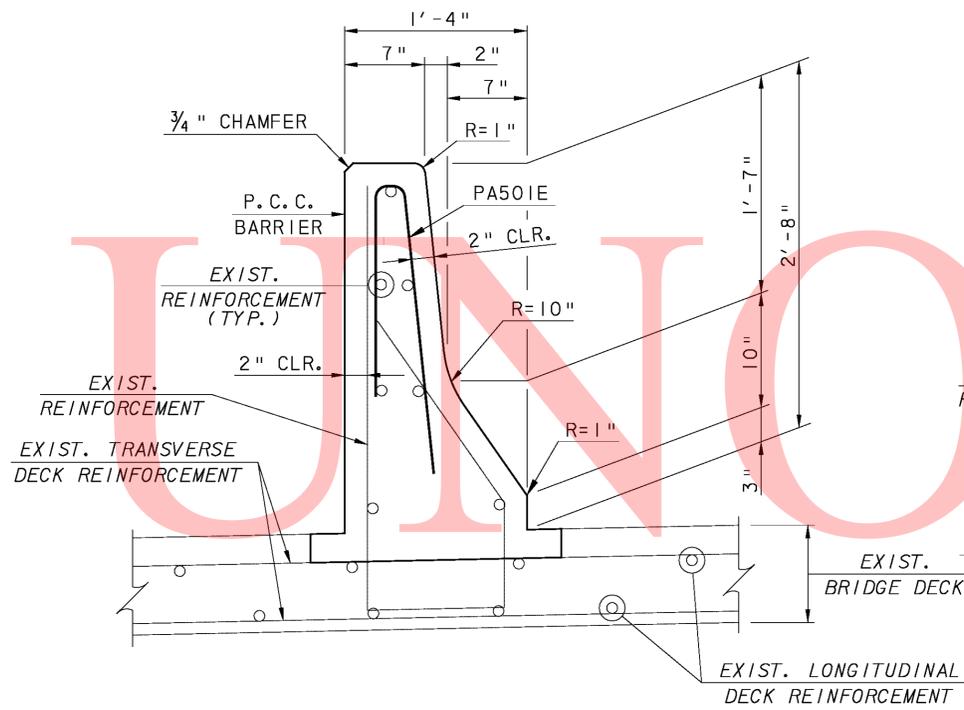
ADDENDUMS / REVISIONS	

SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT T201007405	BRIDGE NO. 1-693
COUNTY NEW CASTLE	DESIGNED BY: AJF
	CHECKED BY: JAC

DECK PLAN
SPAN 2N AND
NORTH APPROACH -
PROPOSED CONDITIONS

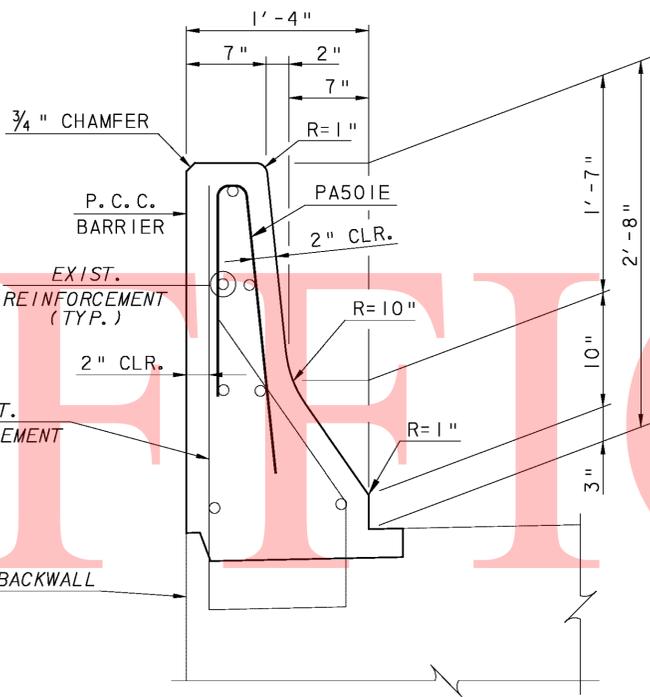


SECTION H-H
SCALE: 1 1/2" = 1'-0"

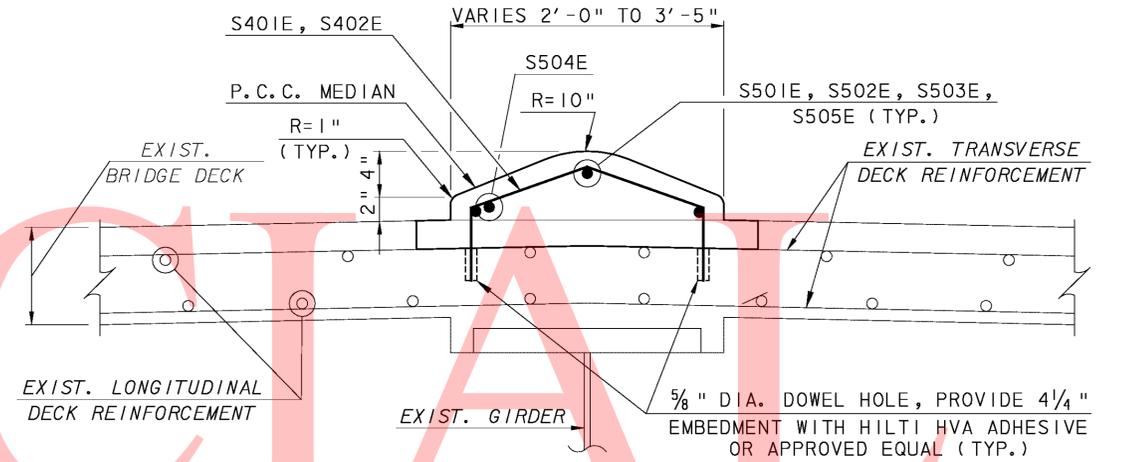
NOTE:

- APPLY DEPARTMENT APPROVED EPOXY BONDING COMPOUND BETWEEN ALL EXISTING AND NEW P.C.C. MASONRY. EPOXY BONDING COMPOUND SHALL CONFORM TO AASHTO M235.

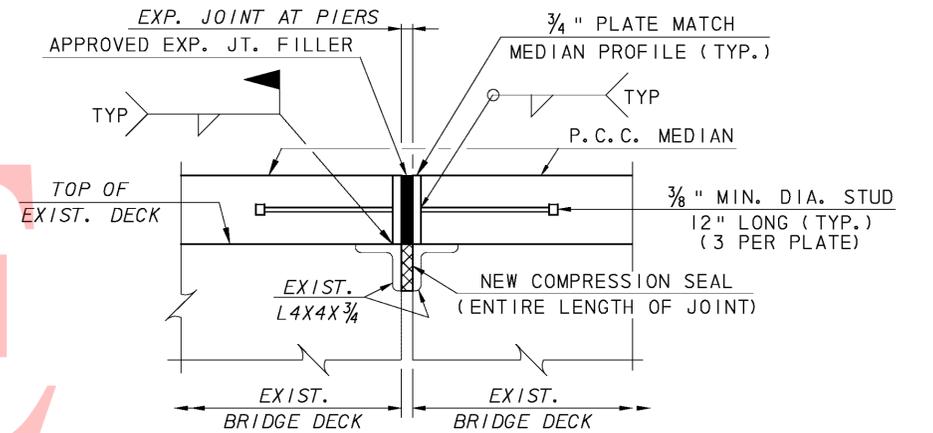
NOTE:
EXISTING BACKWALL REINFORCEMENT AND ANCHORAGE NOT SHOWN.



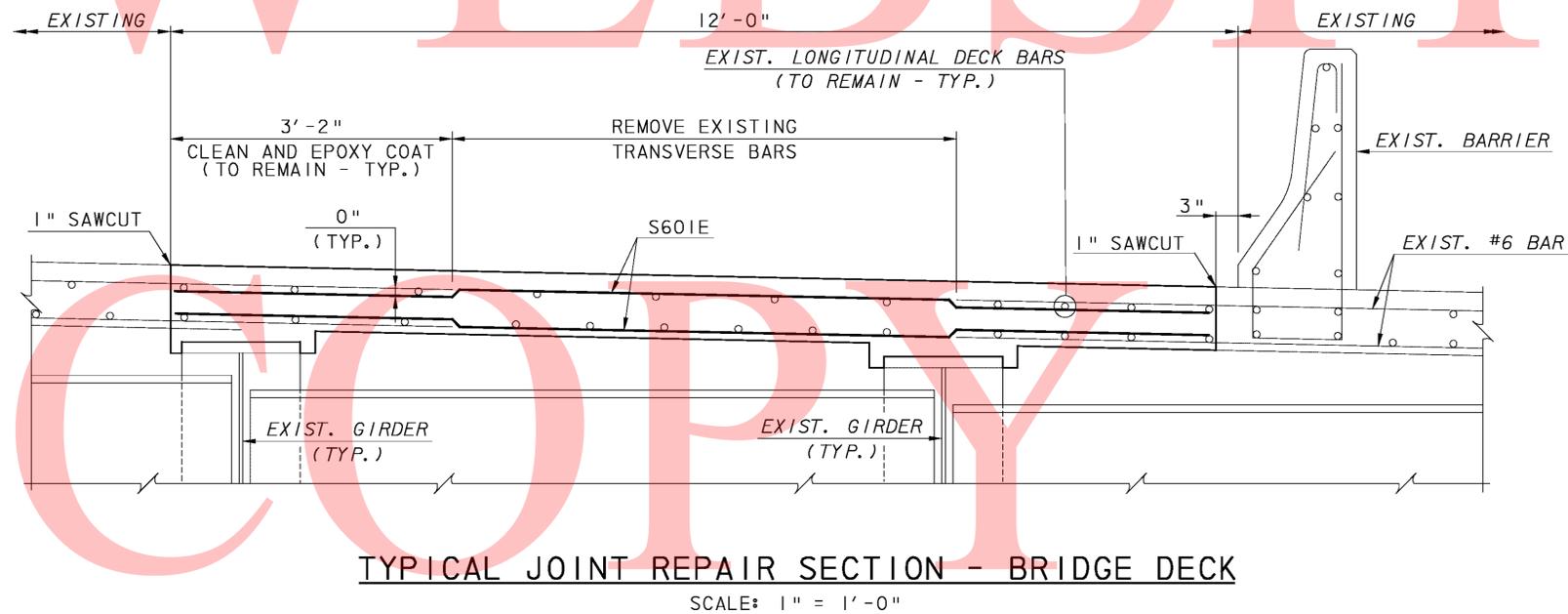
SECTION M-M
SCALE: 1 1/2" = 1'-0"



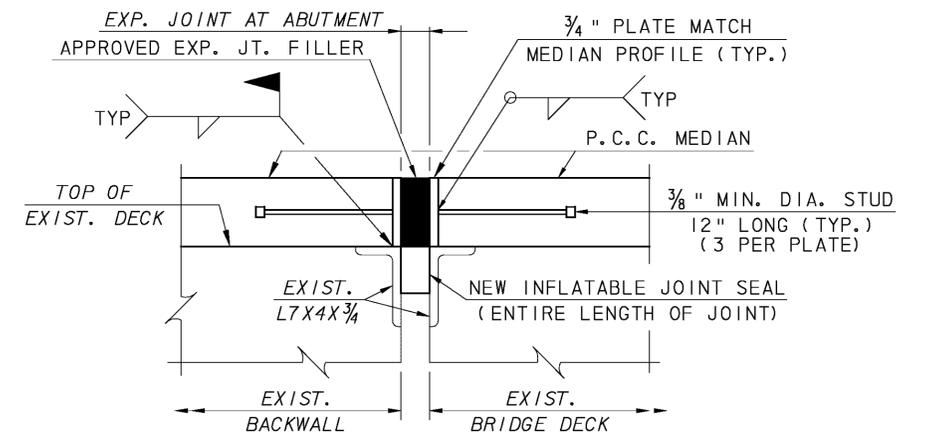
SECTION G-G
SCALE: 1 1/2" = 1'-0"



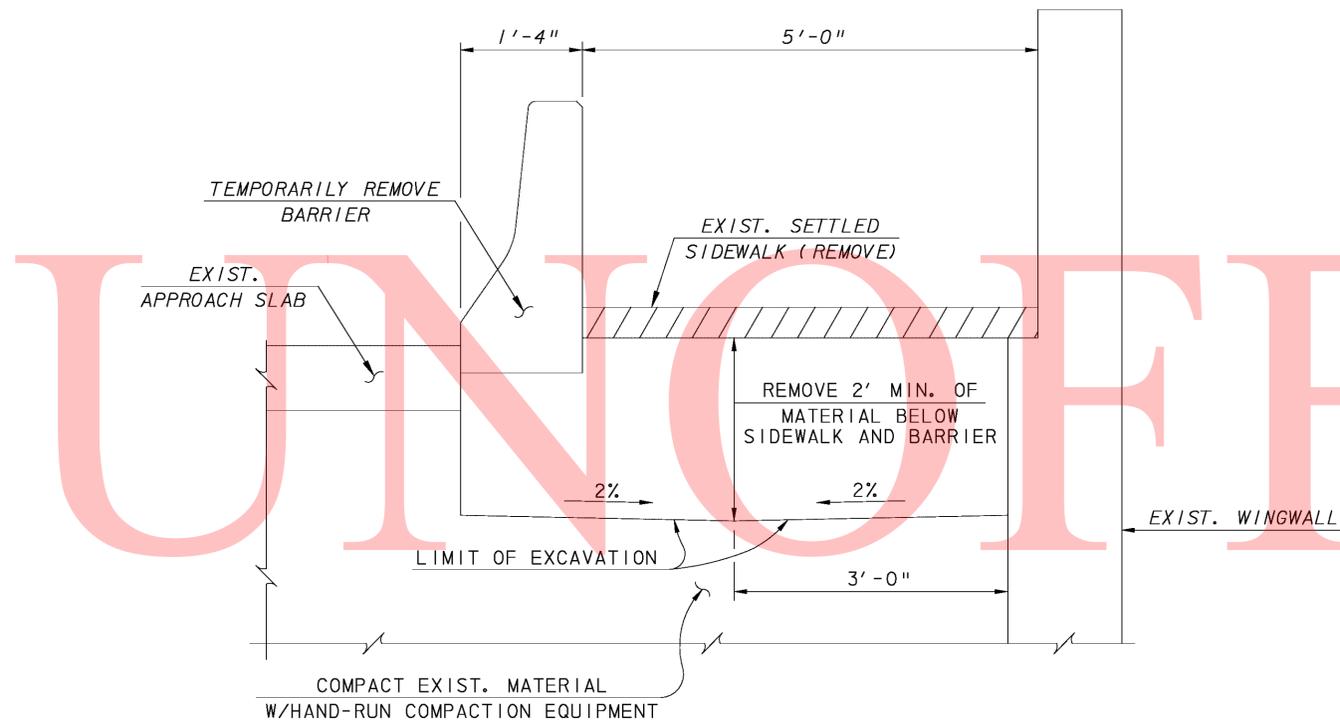
SECTION K-K
(PIERS IS AND IN)
SCALE: 1 1/2" = 1'-0"



TYPICAL JOINT REPAIR SECTION - BRIDGE DECK
SCALE: 1" = 1'-0"

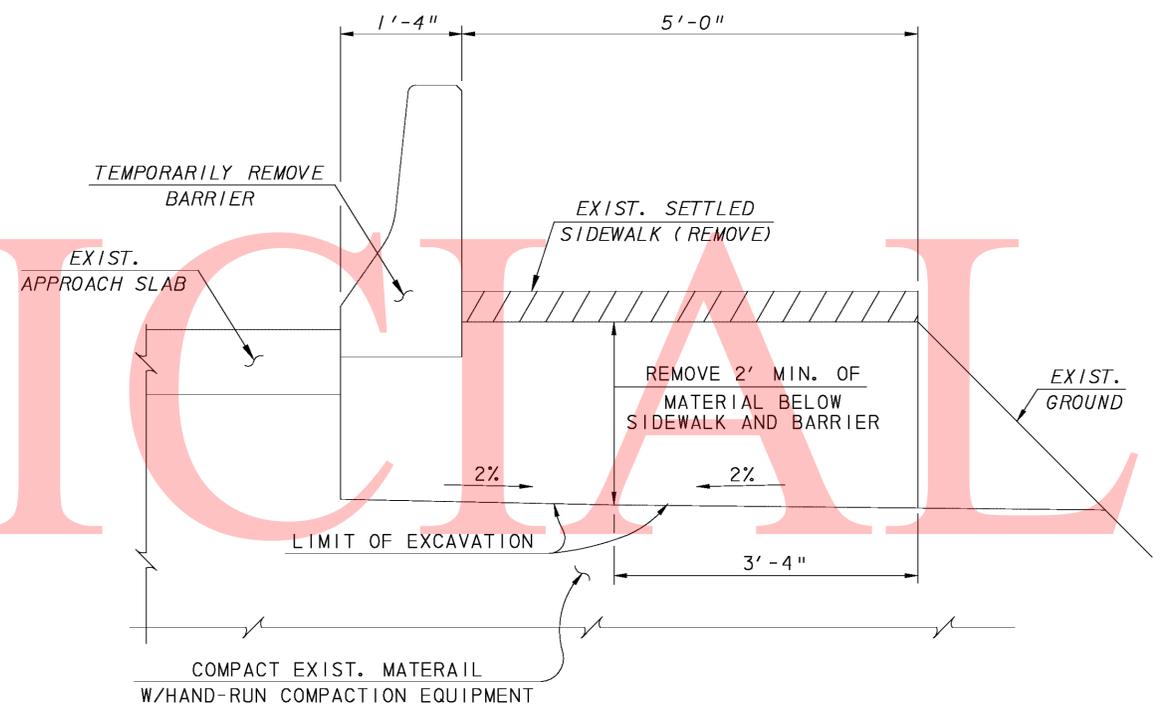


SECTION J-J
(NORTH AND SOUTH ABUTMENTS)
SCALE: 1 1/2" = 1'-0"



SIDEWALK DEMOLITION DETAIL AT WINGWALL

SCALE: 1" = 1'-0"

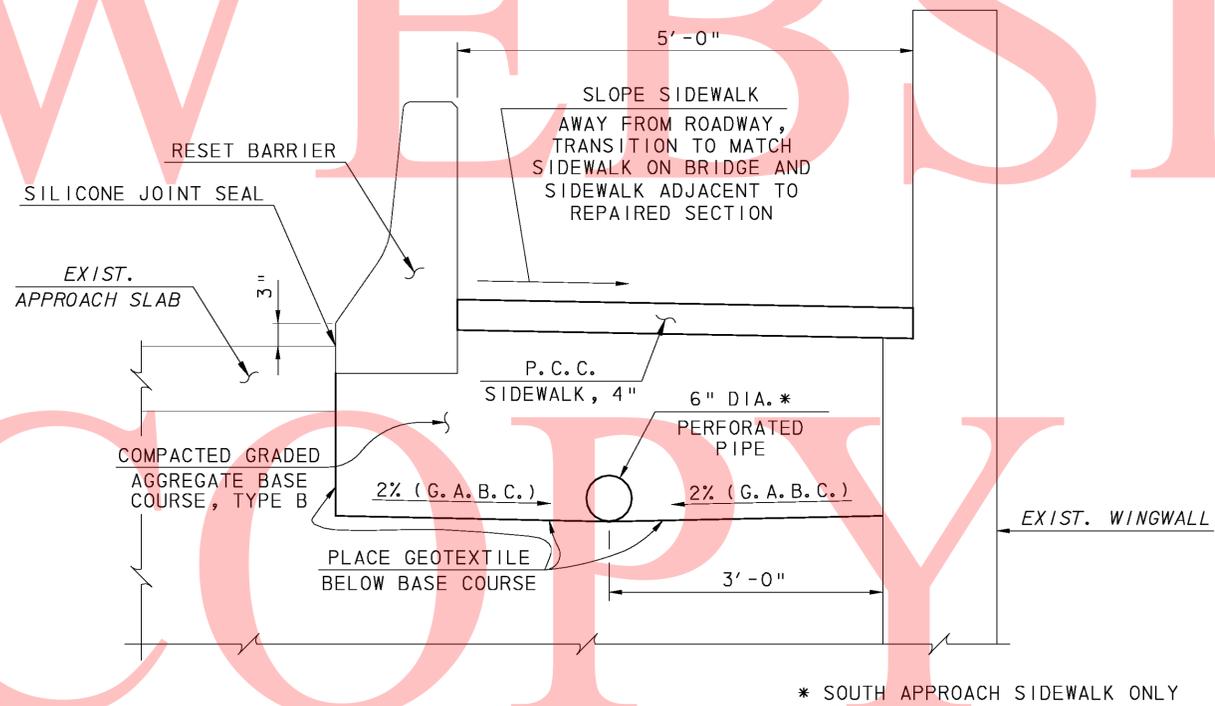


SIDEWALK DEMOLITION DETAIL AT SLOPE

SCALE: 1" = 1'-0"

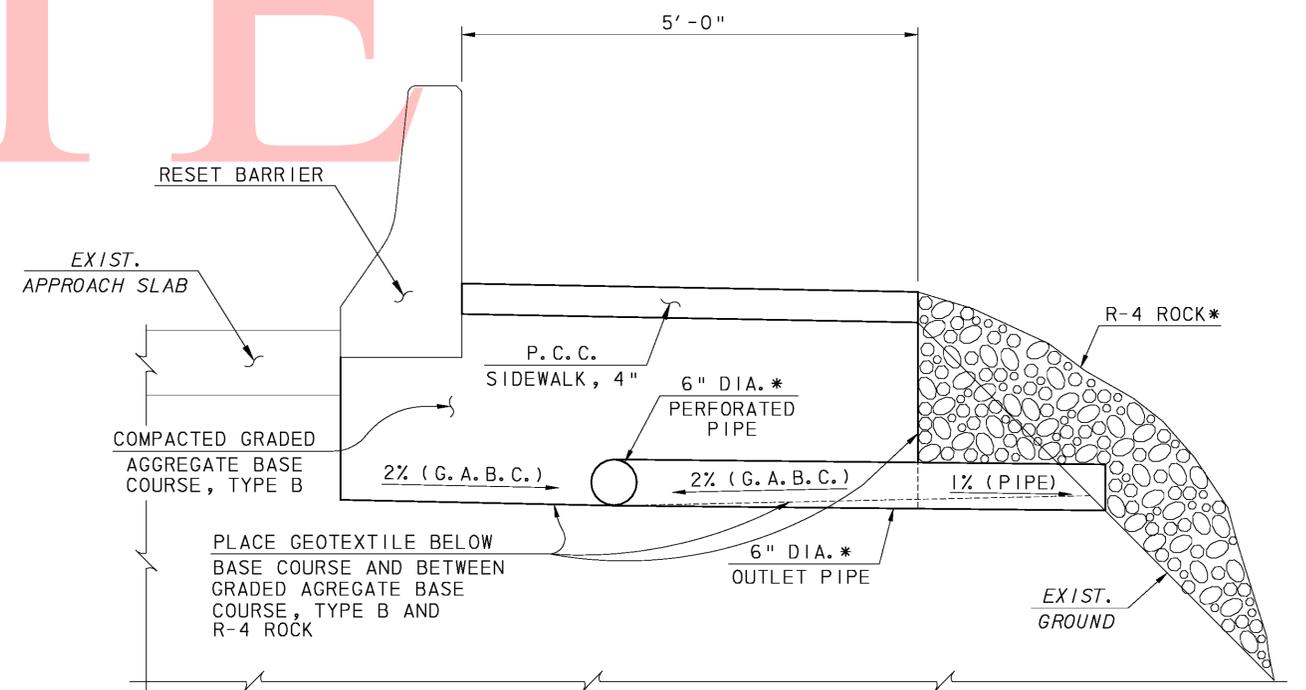
LEGEND:

= LIMIT OF REMOVAL



SIDEWALK REPAIR DETAIL AT WINGWALL

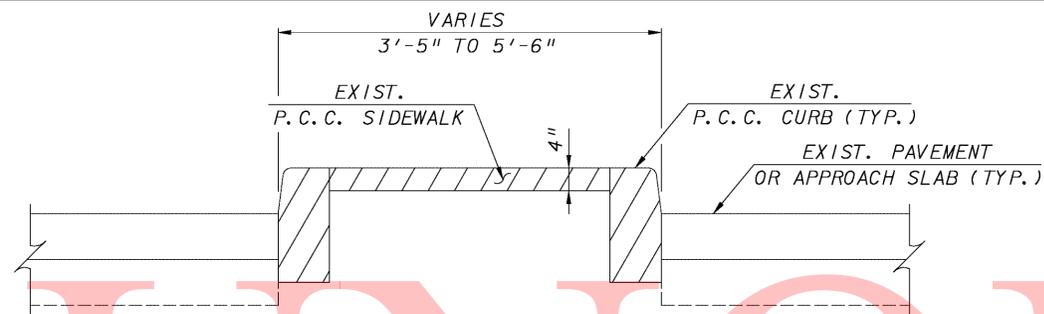
SCALE: 1" = 1'-0"



SIDEWALK REPAIR DETAIL AT SLOPE

SCALE: 1" = 1'-0"

NOTE:
WRAP 6" DIAMETER PERFORATED PIPE IN FILTER FABRIC PER SECTION 715.05 OF STANDARD SPECIFICATIONS.

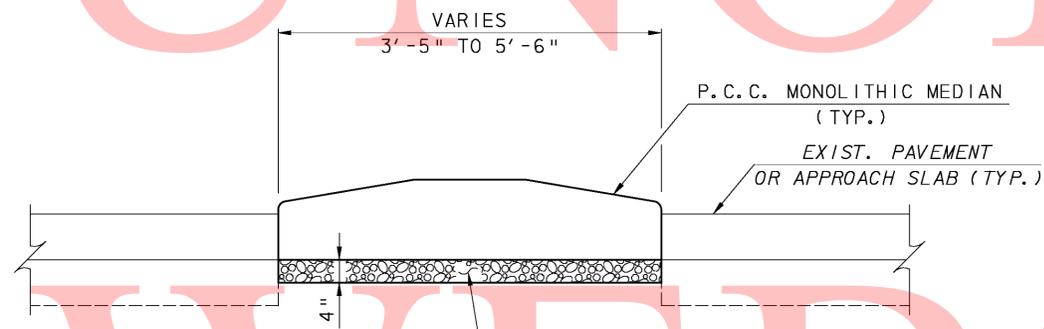


TYPICAL APPROACH MEDIAN SECTION

DEMOLITION

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

= LIMIT OF REMOVAL



TYPICAL APPROACH MEDIAN SECTION

REPAIR

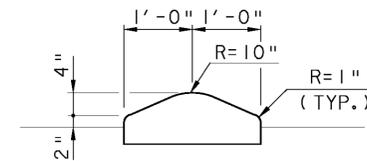
SCALE: $\frac{3}{4}$ " = 1'-0"

PROVIDE GRADED AGGREGATE
BASE COURSE, TYPE B

TYPICAL BRIDGE MEDIAN - SECTION G-G

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

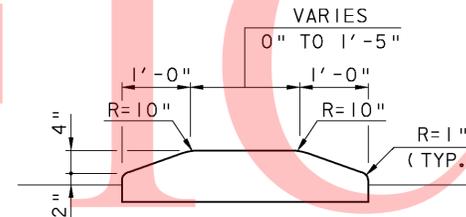
FOR ADDITIONAL DETAILS SEE MISCELLANEOUS REPAIR DETAILS SHEET.



BRIDGE MEDIAN TRANSITION - SECTION G-G

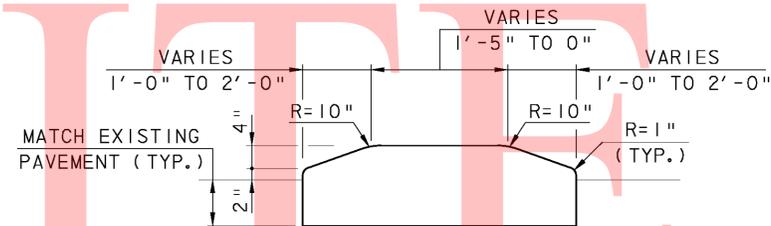
SCALE: $\frac{3}{4}$ " = 1'-0"

FOR ADDITIONAL DETAILS SEE MISCELLANEOUS REPAIR DETAILS SHEET.



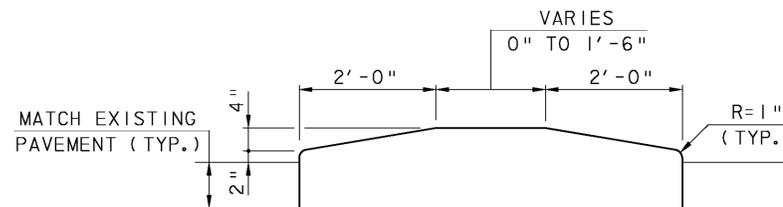
APPROACH MEDIAN TRANSITION - SECTION R-R

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



TYPICAL APPROACH MEDIAN - SECTION Q-Q

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

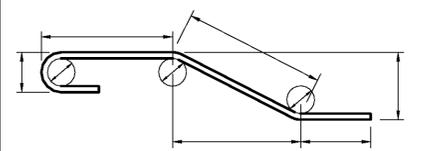


NOTE:
JOINT SPACING OF MONOLITHICALLY POURED
SECTIONS SHALL CONFORM TO SECTION 701.10
OF THE STANDARD SPECIFICATIONS.

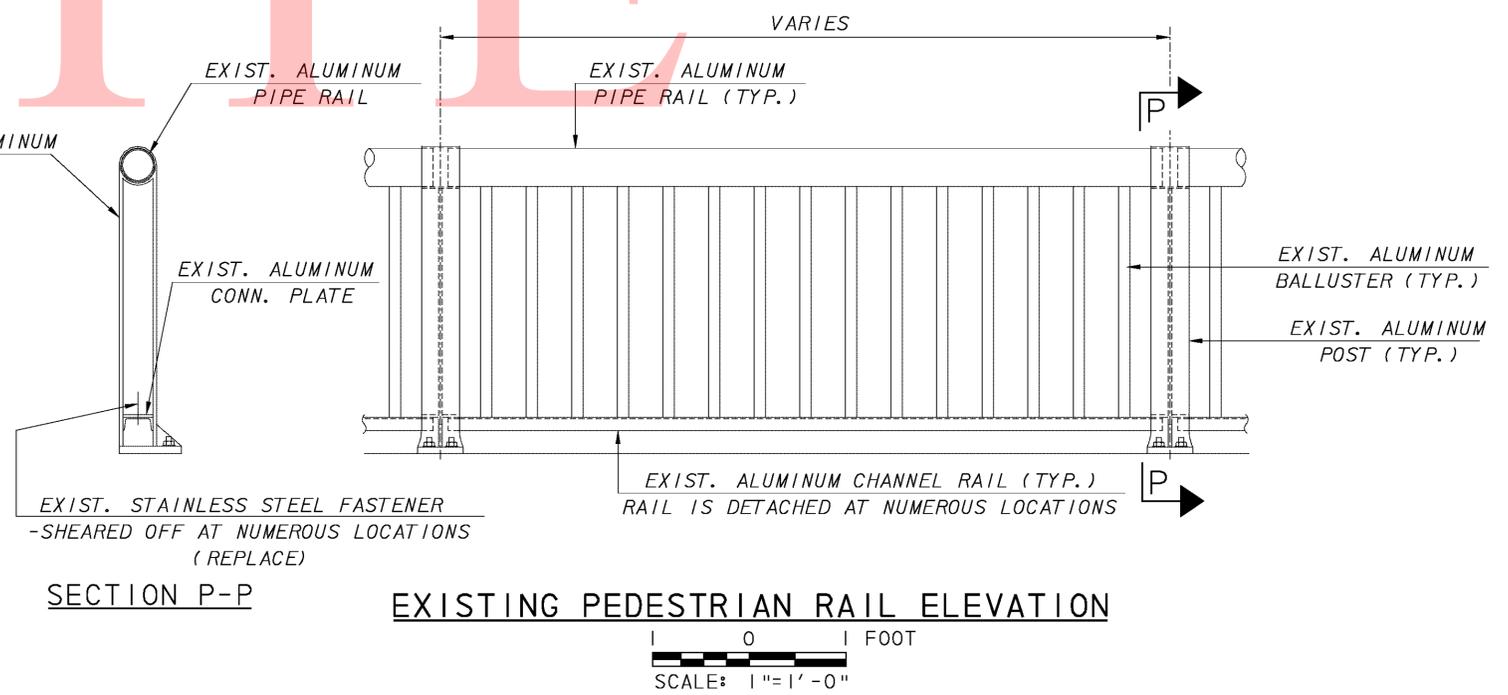
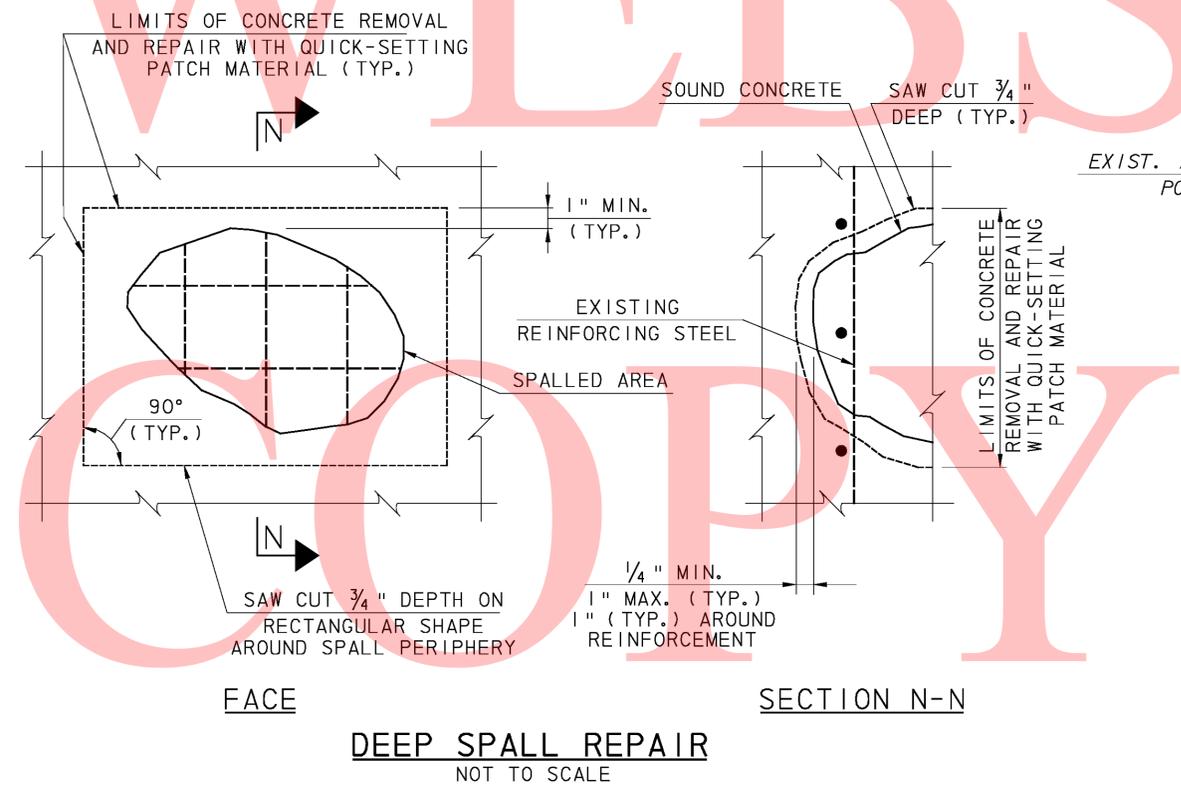
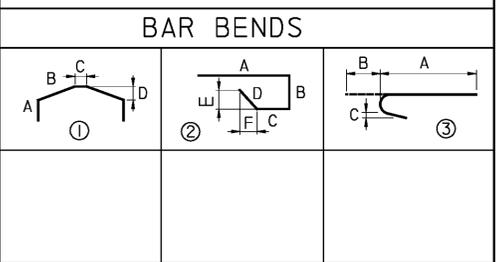
COPY

UNOFFICIAL COPY

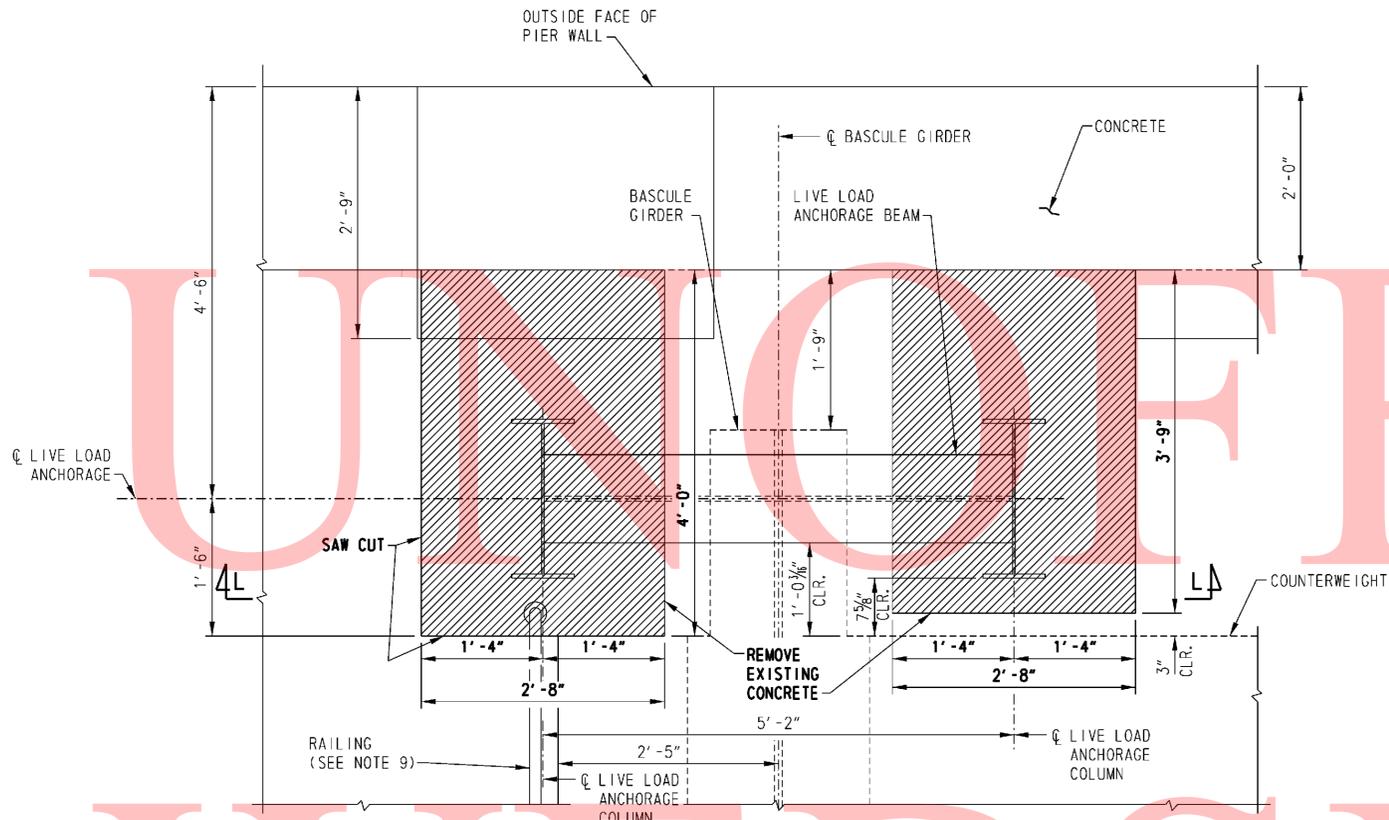
SPECIFICATIONS					BAR DIMENSIONS											
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	R	RI	
353	4	2-06.6	S401E	I	0-06.3	0-09.-	0-00.-	0-03.-								
33	4	⊕3-01.6	S402E	I	0-06.3	0-09.-	*	0-03.-								
							* VARY C: 0" TO 1'-2", VARY EA. BY 3/8" (-)									
2	4	⊕3-10.2	S403E	I	0-06.3	0-09.-	**	0-03.-								
							** VARY C: 1'-3 1/4" TO 1'-3 3/8", VARY EA. BY 3/8"									
15	5	60-00.-	S501E	STR												
15	5	15-00.-	S502E	STR												
3	5	16-07.4	S503E	STR												
1	5	38-09.-	S504E	STR												
3	5	9-07.4	S505E	STR												
10	5	6-01.-	S506E	2	3-00.-	0-11.-	1-00.-	1-02.-	0-10.-	0-10.-						
14	6	11-09.-	S601E	STR												
6	5	3-03.-	PA501E	3	2-02.-	1-01.-	0-01.-									



- NOTES:
- MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COVERED STEEL.
 - MARK 'LOCATION PREFIXES' ARE AS FOLLOWS: F = FOOTING, W = RETAINING WALL
 - ALL DIMENSIONS ARE OUT-TO-OUT OF BAR EXCEPT 'A' AND 'G' ON STANDARD 180° AND 135° HOOKS.
 - 'J' DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
 - FIGURES IN CIRCLES SHOW TYPES.
 - FOR RECOMMENDED DIAMETER 'D' OF BENDS, HOOKS, ETC., SEE 'CRS1' OR 'ACI' TABLES.
 - BARS ARE TO 1/8" ACCURACY.
- ⊕ DENOTES AVERAGE LENGTH OF BARS.

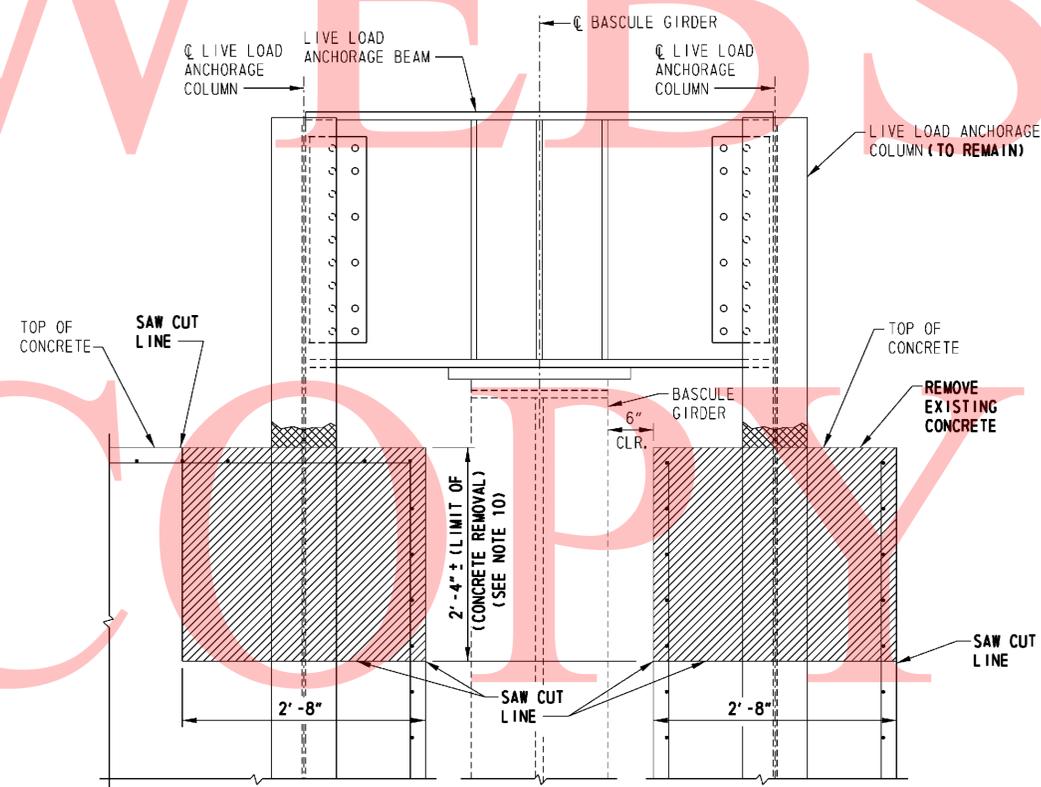


NOTE: REATTACHMENT OF BOTTOM RAIL SHALL BE PAID UNDER ITEM 606509.



**PLAN - LIVE LOAD ANCHORAGE
DETAIL C**

(NORTHWEST/SOUTHEAST PLAN SHOWN, NORTHEAST/SOUTHWEST PLAN OPPOSITE HAND)
SCALE: 1"=1'-0"



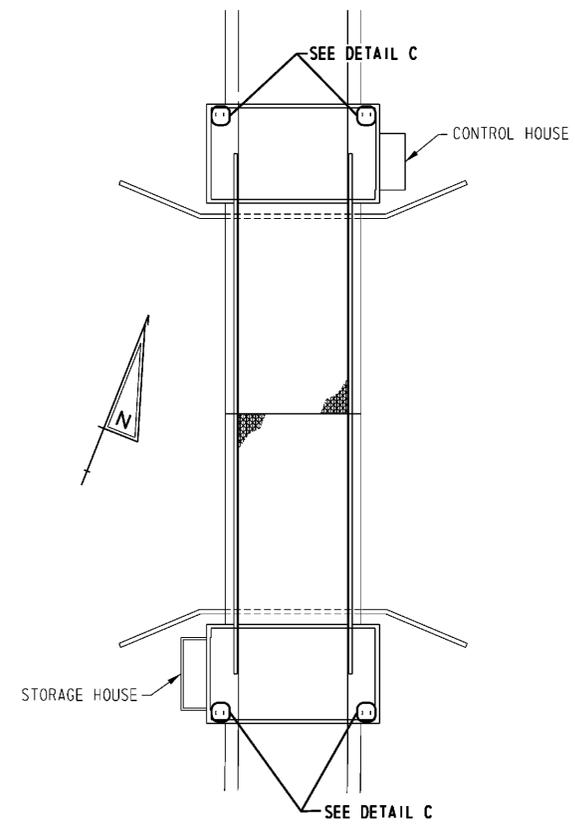
**SECTION L-L
REMOVAL DETAILS**
SCALE: 1"=1'-0"

LEGEND

- DETERIORATED STRUCTURAL STEEL
- REMOVE EXISTING CONCRETE
- EXISTING BOLT
- REMOVE EXISTING BOLT AND REPLACE WITH HIGH STRENGTH BOLT
- NEW HIGH STRENGTH BOLT IN NEW HOLE

NOTES:

1. WORK THIS DRAWING WITH DRAWING "FOURTH (3RD) STREET BRIDGE LIVE LOAD ANCHORAGE REPAIR DETAILS - 2".
2. FIELD VERIFY ALL EXISTING DIMENSIONS, DETAILS, ETC., AS NECESSARY PRIOR TO FABRICATION AND INSTALLATION OF REPAIR STEEL. IMMEDIATELY BRING TO THE ENGINEER'S ATTENTION ANY DIFFERENCES BETWEEN INFORMATION CONTAINED IN THESE DRAWINGS AND INFORMATION OBTAINED IN THE FIELD.
3. MAINTAIN AND CLEAN EXISTING REINFORCEMENT OR MECHANICALLY SPLICE NEW REINFORCEMENT TO MATCH EXISTING REINFORCEMENT.
4. NEW STRUCTURAL STEEL SHALL CONFORM TO ASTM A709, GRADE 50.
5. CONNECTIONS ARE SLIP CRITICAL WITH CLASS A CONTACT SURFACES. CONTACT SURFACES SHALL BE PRIME COATED ONLY. DELDOT STANDARD SPECIFICATIONS SHALL BE FOLLOWED FOR CLEANING AND PAINTING OF ALL STEEL SURFACES.
6. BOLTS SHALL BE 7/8" DIAMETER AND SHALL CONFORM TO ASTM A325, TYPE 3.
7. THE COST OF CLEANING THE EXISTING STEEL SHALL BE INCLUDED IN PAY ITEM "CLEANING EXISTING STEEL STRUCTURES, HAZARDOUS BASE" (REFER TO LEAD PAINT NOTE ON THE GENERAL PLAN AND ELEVATION). THE COST OF ALL OTHER REPAIR WORK NECESSARY FOR REPAIRING THE LIVE LOAD ANCHORAGES SHALL BE INCLUDED IN THE PAY ITEM "STEEL STRUCTURE REPAIR".
8. IF EXISTING STEEL DETERIORATION IS WITHIN 1 1/2" OF THE CENTERLINE OF BOLT ROW 2 OR BOLT ROW 3 BELOW THE TOP-OF-EXISTING-CONCRETE LINE, NOTIFY THE ENGINEER AND REVISE THE REPAIR AS DIRECTED.
9. IF NECESSARY, TEMPORARILY REMOVE EXISTING RAILING AND STORE IT. RAILING MUST BE REINSTALLED AS SOON AS POSSIBLE TO THE SATISFACTION OF THE ENGINEER. COST FOR REMOVAL AND REINSTALLATION SHALL BE INCLUDED IN PAY ITEM 605585.
10. CONTRACTOR MAY REMOVE MORE CONCRETE THAN SHOWN TO PROVIDE ADDITIONAL ACCESS. PROPOSED REMOVAL LIMITS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO REMOVING MORE CONCRETE THAN SHOWN. NO PAYMENT WILL BE MADE FOR EXTRA CONCRETE REMOVAL.



KEY PLAN
N. T. S.

ADDENDUMS / REVISIONS	

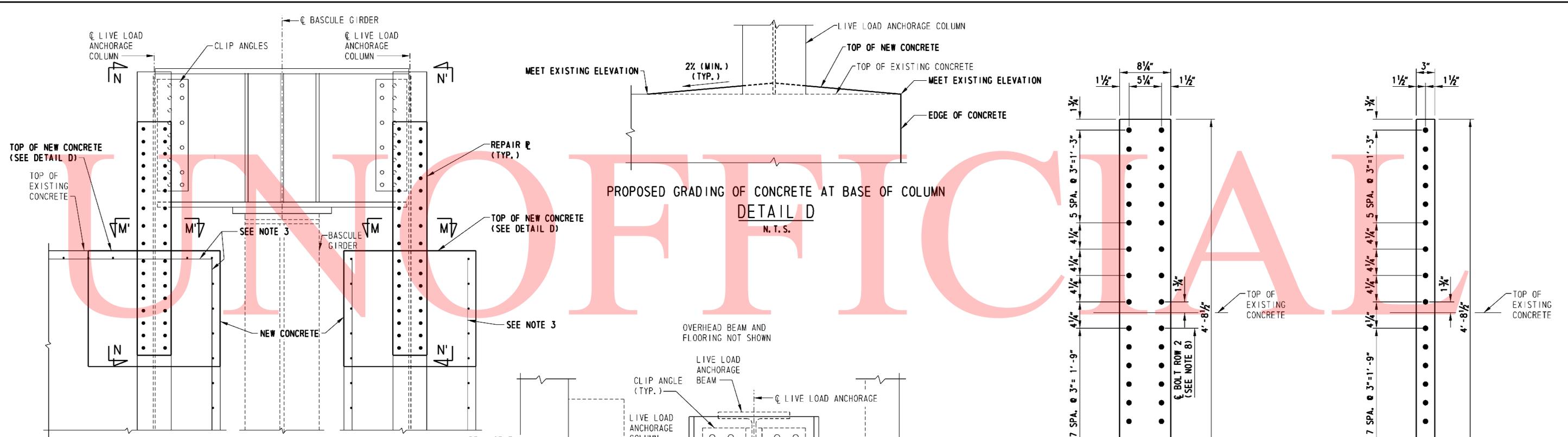
SCALE AS NOTED

**BRIS 1-687, 1-688 AND 1-693
S. WALNUT ST., S. MARKET ST.
AND 4TH ST. OVER CHRISTINA RIVER**

CONTRACT T201007405	BRIDGE NO. 1 - 693
COUNTY NEW CASTLE	DESIGNED BY: G. WISNIEWSKI
	CHECKED BY: J. KAPLAN

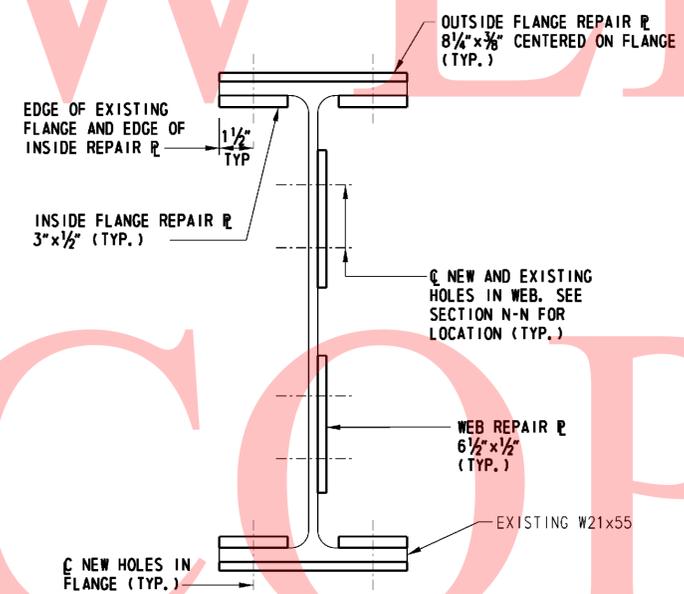
**FOURTH (3RD) ST. BRIDGE
LIVE LOAD ANCHORAGE
REPAIR DETAILS - 1**

FEDERAL AID NUMBER EBHN-2010(29)	SHEET NO. 82
	TOTAL SHTS. 111

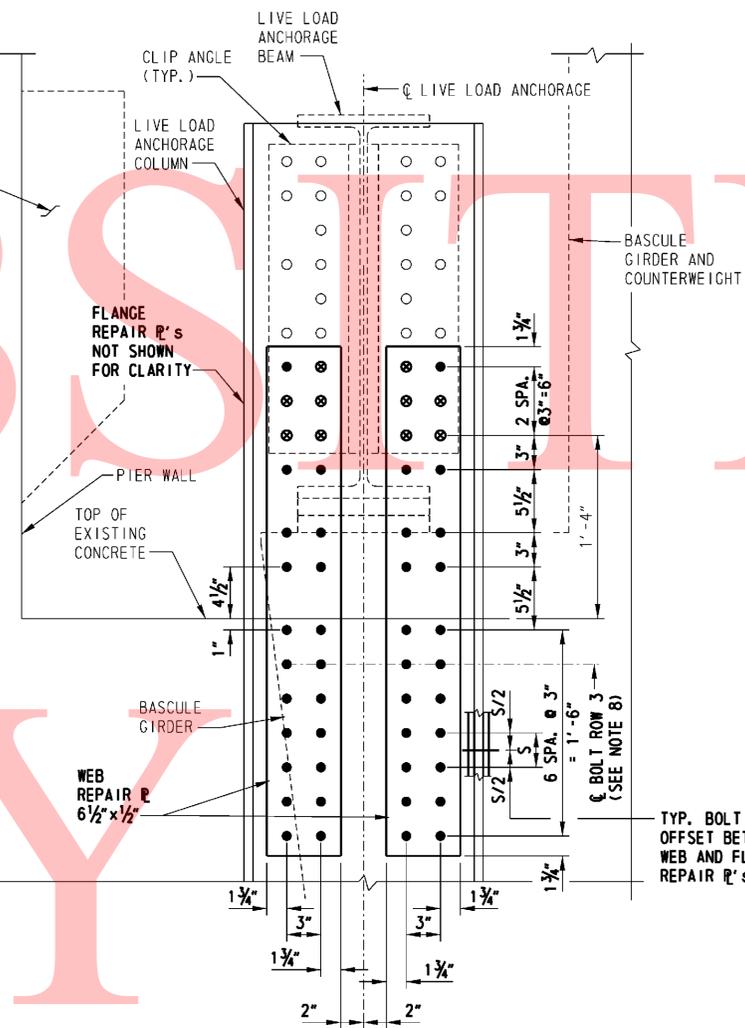


**SECTION L-L
REPAIR DETAILS**
SCALE: 1" = 1'-0"

FOR INFORMATION NOT SHOWN SEE SECTION L-L REMOVAL DETAILS



**SECTION M-M
SECTION M'-M' (OPPOSITE HAND)**
SCALE: 3" = 1'-0"



**SECTION N-N
SECTION N'-N' (OPPOSITE HAND)**
SCALE: 1 1/2" = 1'-0"
(FOLLOW THE REPAIR PROCEDURE)

OUTSIDE FLANGE REPAIR PLATE
(16 REQ'D)
SCALE: 1 1/2" = 1'-0"

INSIDE FLANGE REPAIR PLATE
(32 REQ'D)
SCALE: 1 1/2" = 1'-0"

REPAIR PROCEDURE

1. INSTALL WEB REPAIR PLATE ONE AT A TIME, REMOVING ONLY THE BOLTS NEEDED TO INSTALL ONE WEB REPAIR PLATE. ONCE THE FIRST PLATE IS INSTALLED AND BOLTS ARE TIGHTENED, INSTALL THE SECOND WEB PLATE.
2. INSTALL FLANGE REPAIR PLATES. EACH FLANGE OF A COLUMN CAN BE WORKED ON CONCURRENTLY.
3. COMPLETE STEPS 1 AND 2 AT ONE LIVE LOAD ANCHORAGE COLUMN PRIOR TO COMMENCING WORK ON ANOTHER COLUMN.

NOTES:
WORK THIS DWG WITH "FOURTH (3RD) STREET BRIDGE LIVE LOAD ANCHORAGE REPAIR DETAILS - 1".

ADDENDUMS / REVISIONS	

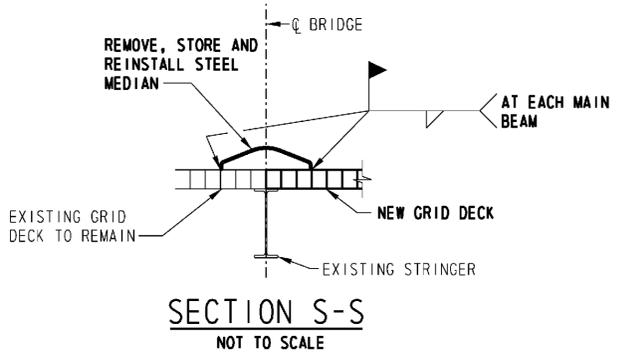
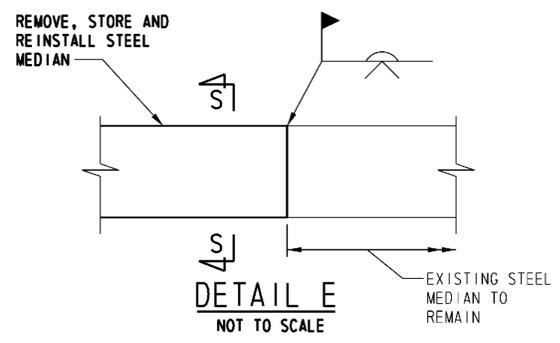
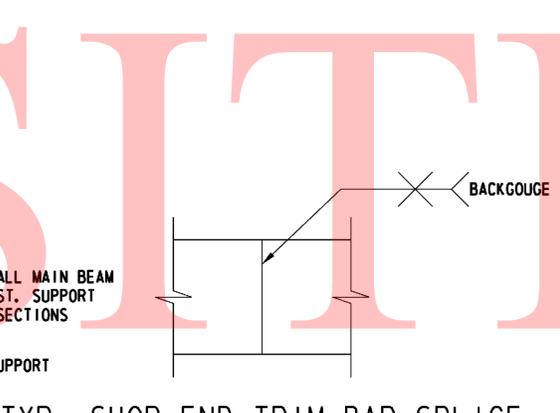
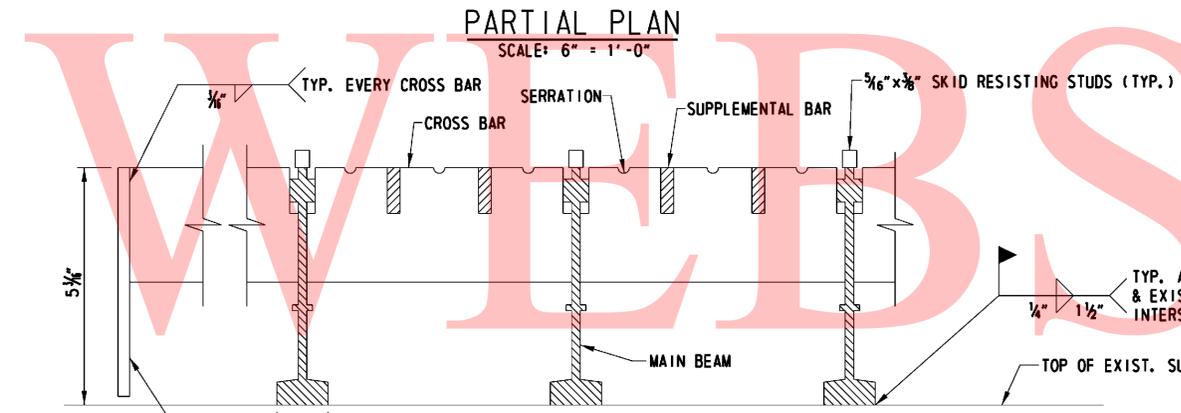
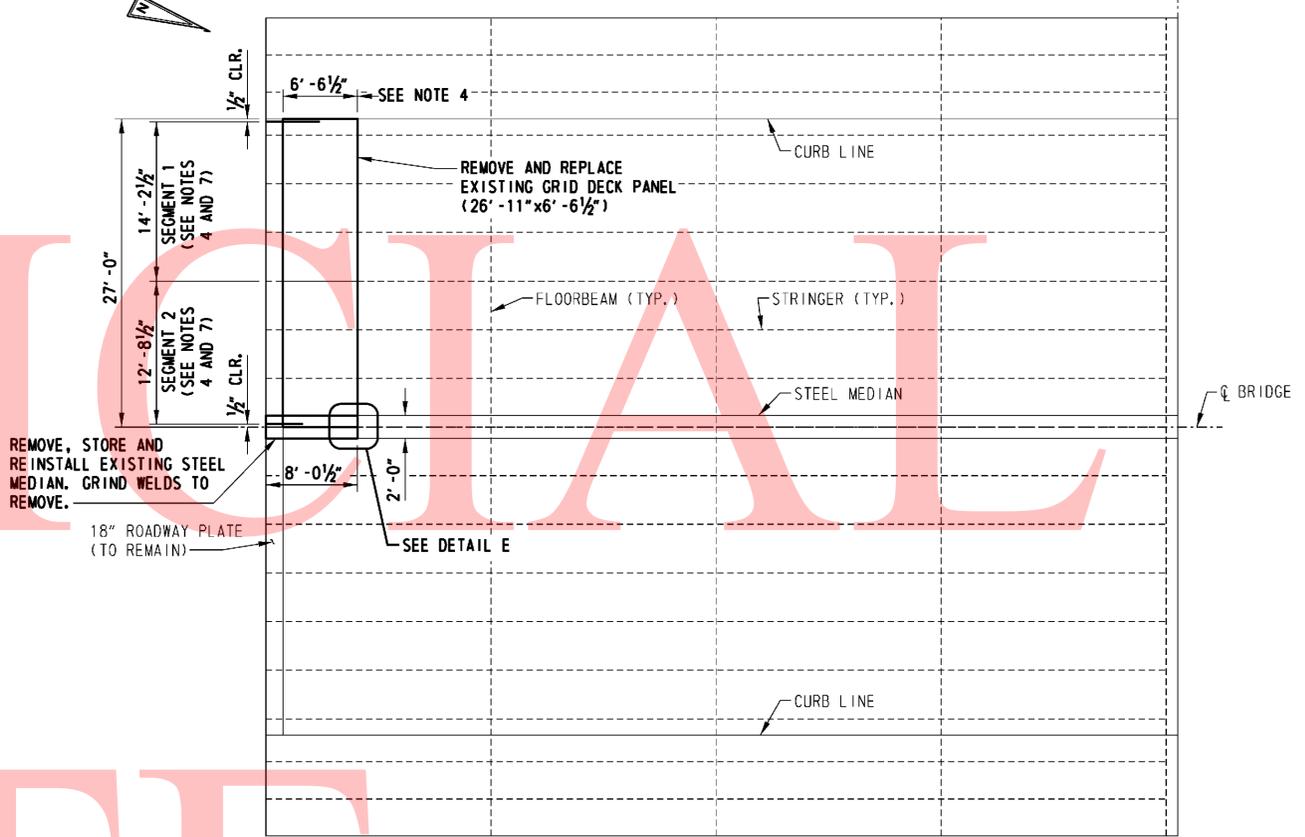
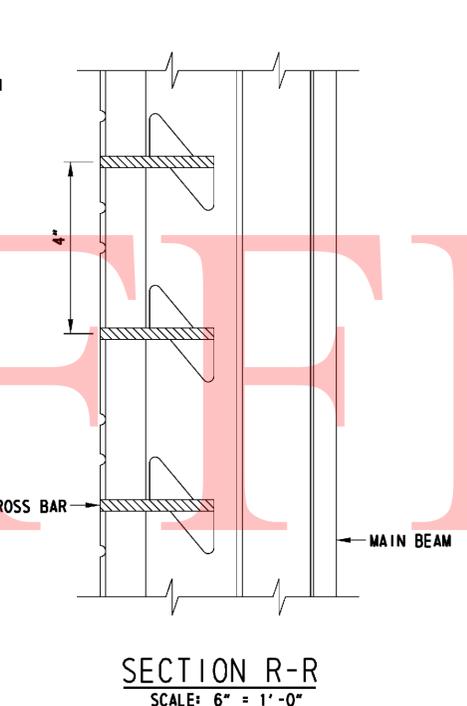
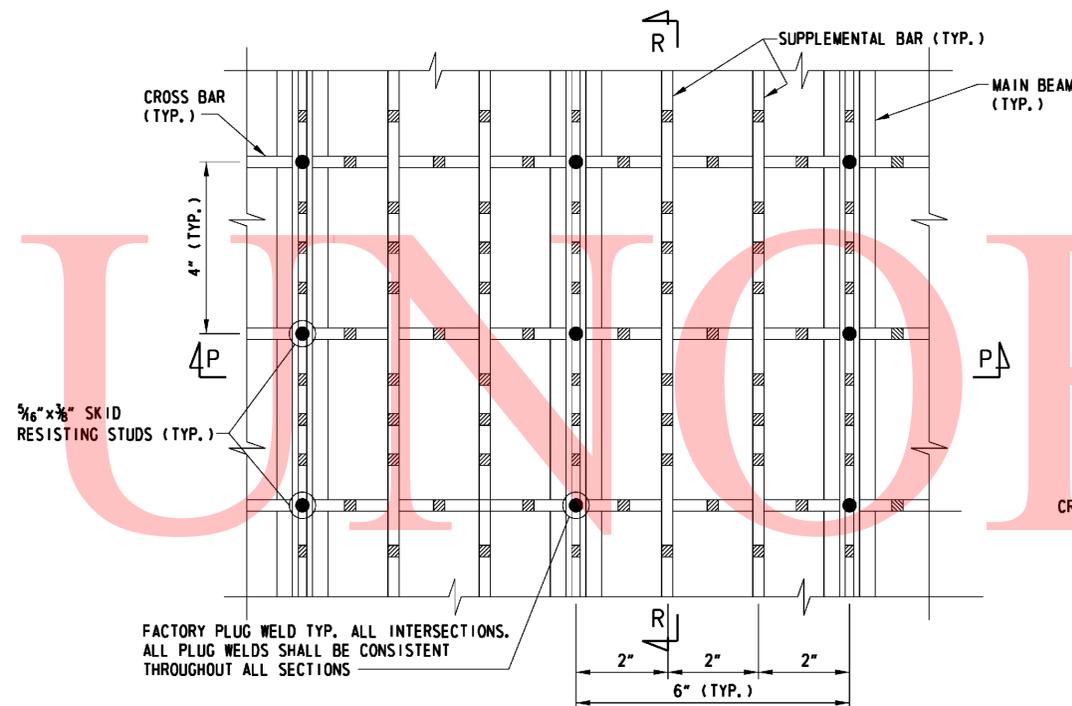
SCALE AS NOTED

**BRS 1-687, 1-688 AND 1-693
S. WALNUT ST., S. MARKET ST.
AND 4TH ST. OVER CHRISTINA RIVER**

CONTRACT T201007405	BRIDGE NO. 1 - 693
COUNTY NEW CASTLE	DESIGNED BY: G. WISNIEWSKI
	CHECKED BY: J. KAPLAN

**FOURTH (3RD) ST. BRIDGE
LIVE LOAD ANCHORAGE
REPAIR DETAILS - 2**

FEDERAL AID NUMBER EBHN-2010(29)
SHEET NO. 83
TOTAL SHTS. 111



NOTES:

1. ALL MATERIAL SUBJECT TO MILL/SHOP TOLERANCES.
2. SERRATIONS TO BE APPROXIMATELY 3/16" DEEP BY 3/8" WIDE ON RANDOM CENTERS.
3. PROVIDE END TRIM BAR AT ALL MAIN BEAM AND CROSS BAR ENDS.
4. CONTRACTOR SHALL MEASURE THE EXISTING PANEL DIMENSIONS AND VERIFY CLEAR LENGTH AND WIDTH REQUIRED PRIOR TO ANY NEW PANEL FABRICATION.
5. SUPPORTS UNDER NEW GRID DECK PANEL SHALL BE CLEANED PRIOR TO WELDING NEW PANEL AND SHALL BE PAINTED AFTER PANEL IS WELDED IN PLACE. COST TO BE INCLUDED IN PAY ITEM "STEEL OPEN GRID BRIDGE DECK".
6. THE COST OF CLEANING THE EXISTING STEEL SHALL BE INCLUDED IN PAY ITEM "CLEANING EXISTING STEEL STRUCTURES, HAZARDOUS BASE". THE COST OF ALL OTHER WORK ASSOCIATED WITH GRID DECK REPLACEMENT AND WELDING OF EXISTING GRID DECK SHALL BE INCLUDED IN PAY ITEM 605591 "STEEL OPEN GRID BRIDGE DECK".
7. GRID DECK SEGMENTS 1 AND 2 SHALL BE INSTALLED DURING MOT PHASE 1 AND MOT PHASE 3, RESPECTIVELY.
8. FABRICATE GRID SO CROSS BARS AND STUDS MATCH EXISTING CROSS BARS AND STUDS.

WELDING OF EXISTING GRID DECK

1. THE EXISTING GRID DECK SHALL BE WELDED TO IT'S SUPPORTS WHERE THE GRID DECK IS LOOSE AND AS DIRECTED BY THE DEPARTMENT. IT IS ANTICIPATED THAT 100 L.F. OF WELDING WILL BE REQUIRED (800 - 1 1/2" WELDS). THE AREA OF THE WELDS WILL BE CLEANED AND COATED PER SECTION 826.36 FIELD REPAIR AND FIELD COATING OF THE STANDARD SPECIFICATIONS.

GRID DECK SUPPORT CLEANING AND PAINTING PROCEDURE

1. CLEAN THE SUPPORTS (LIMITS ARE AS-DIRECTED).
 - A. HAND CLEAN THE SUPPORTS TO REMOVE GROSS CORROSION.
 - B. CLEAN THE SUPPORTS USING CHLOR-RID (OR AN APPROVED EQUAL) TO REMOVE ANY RESIDUAL SALTS.
 - C. VACUUM BLAST CLEAN THE SUPPORTS PER SSPC 10/NACE NO. 2-NEAR-WHITE METAL BLAST CLEANING REQUIREMENTS. ACCEPTABILITY OF THE CLEANED SURFACE SHALL COMPLY WITH VISUAL STANDARD SSPC-VIS 1 RUST GRADE G3-SP10.
2. PAINT THE SUPPORTS PER DELDOT SPECIFICATIONS. COLOR TO MATCH EXISTING STEEL.

GRID DECK PROPERTIES

SECTION MODULUS (IN ³ /FT) *		APPROX. WEIGHT (LBS/SF) **
TOP STEEL	BOTTOM STEEL	19.2
4.281	5.260	

- * SECTION MODULUS BASED ON 50% OF SUPPLEMENTAL BARS ACTIVE.
- ** THE GRID DECK WEIGHT IS BASED ON AN UNCOATED DECK. ACTUAL WEIGHTS MAY VARY DUE TO COATING WEIGHT AND DECK ATTACHMENTS.

WELDING PROCESS

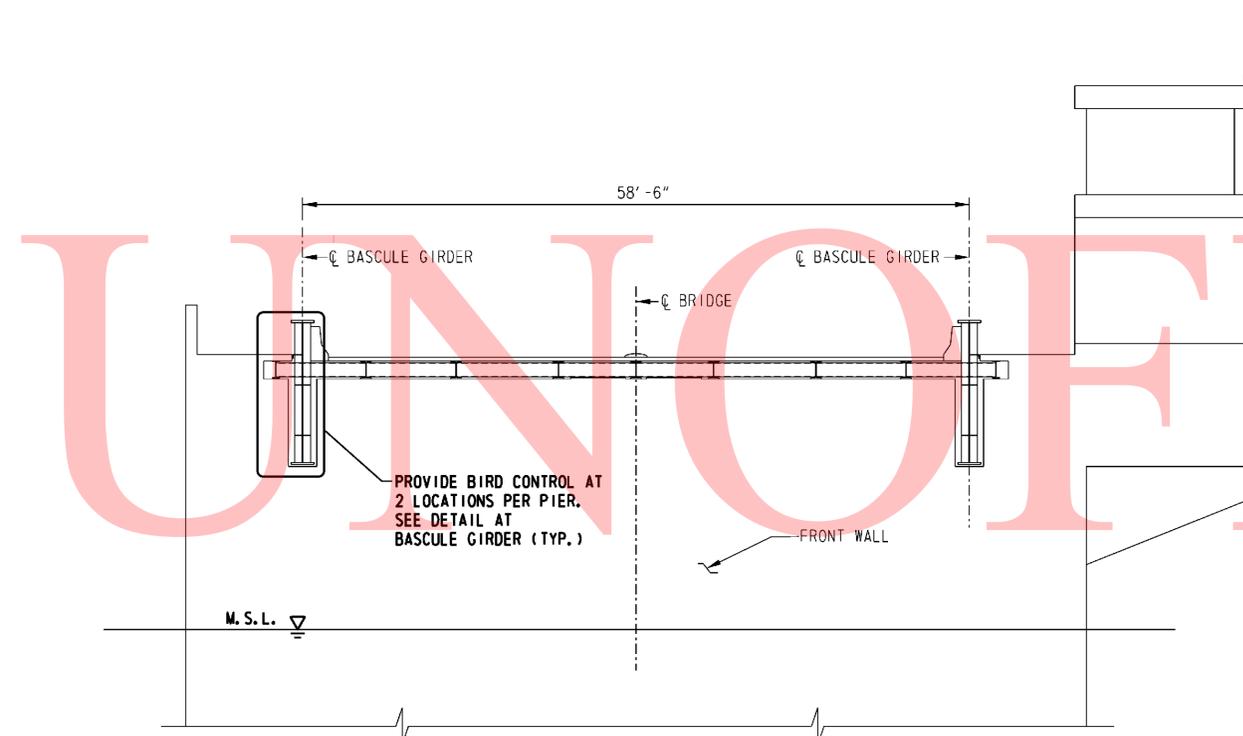
ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.5 (LATEST VERSION).

MATERIAL SPECIFICATIONS

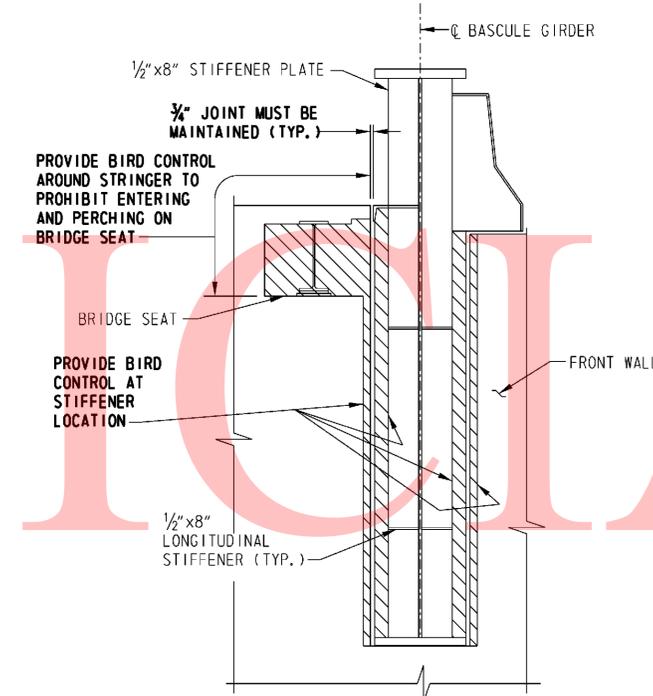
MAIN BEAMS (5.3#/FT.) TO BE ASTM A709, GR 50.
CROSS BARS (1/4"x2 1/2") TO BE ASTM A709, GR 50.
SUPPLEMENTAL BARS (2 BETWEEN EACH MAIN BAR) (1/4"x1") TO BE ASTM A709, GR 50.

FINISH SPECIFICATIONS

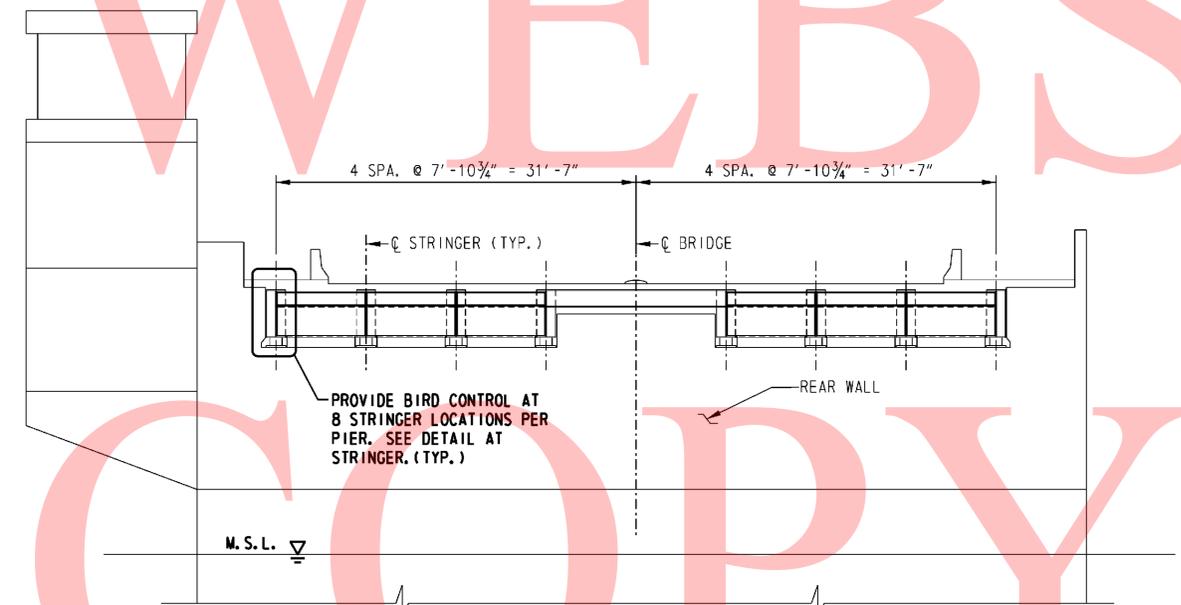
GALVANIZE PER DELDOT STANDARD SPECIFICATIONS.



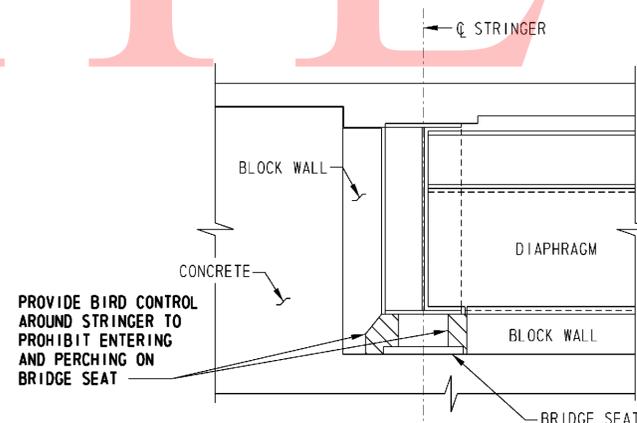
BASCULE PIER FRONT WALL ELEVATION
 (PIER 1N SOUTH ELEVATION, PIER 1S NORTH ELEVATION)
 SCALE: 1/8" = 1'-0"



BIRD CONTROL DETAIL AT BASCULE GIRDER
 (TYP. 4 LOCATIONS)
 SCALE: 1/2" = 1'-0"



BASCULE PIER REAR WALL ELEVATION
 (PIER 1N NORTH ELEVATION, PIER 1S SOUTH ELEVATION)
 SCALE: 1/8" = 1'-0"



BIRD CONTROL DETAIL AT STRINGER
 SCALE: 1/2" = 1'-0"

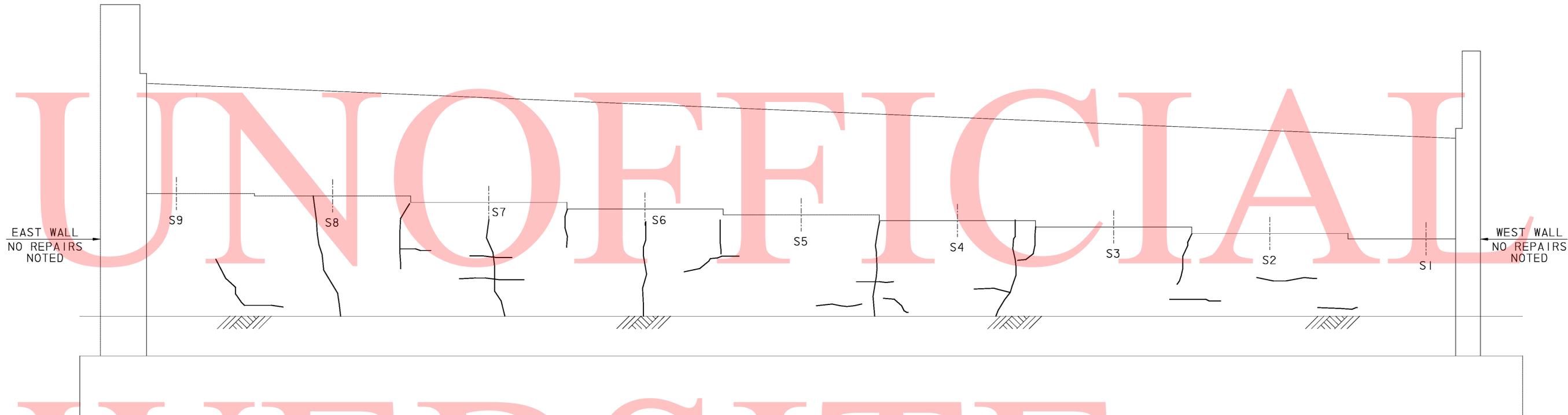
NOTES

1. THE CONTRACTOR SHALL SUBMIT ALL BIRD CONTROL SYSTEMS FOR APPROVAL. THE SUBMITTAL SHALL INCLUDE, BUT IS NOT LIMITED TO, ALL MATERIAL AND CATALOG CUTS (WHERE APPLICABLE) AND METHODS OF ATTACHMENT.
2. GAPS IN NETTING, SPACING OF INTERMITTENT ATTACHMENTS, CONCRETE ANCHORS AND TENSION IN NETTING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND SHALL BE DESIGNED FOR HEAVY DUTY APPLICATION TO RESIST BIRDS.
3. USE RUST RESISTANT MATERIAL.
4. THE SIZE OF ALL OPENINGS TO RECEIVE BIRD CONTROL SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING BIRD CONTROL DETAILS.

LEGEND

PROVIDE BIRD CONTROL

UNOFFICIAL



ELEVATION - SOUTH ABUTMENT

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

WEBSITE

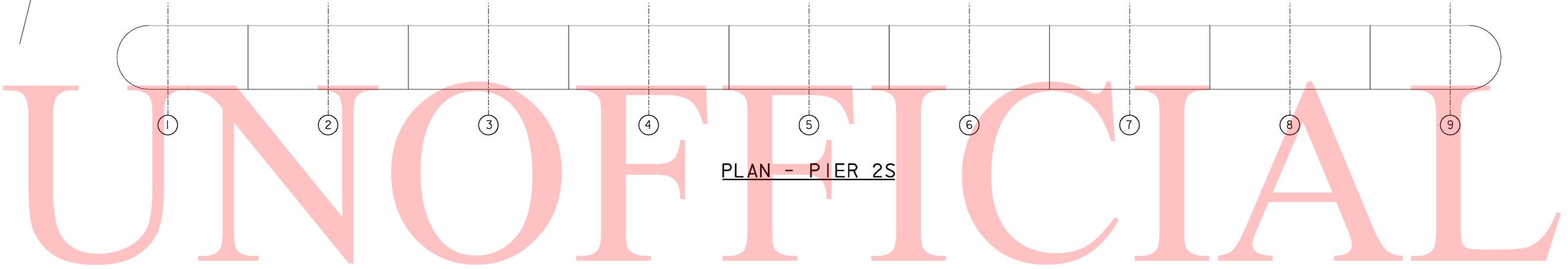
COPY

NOTE:

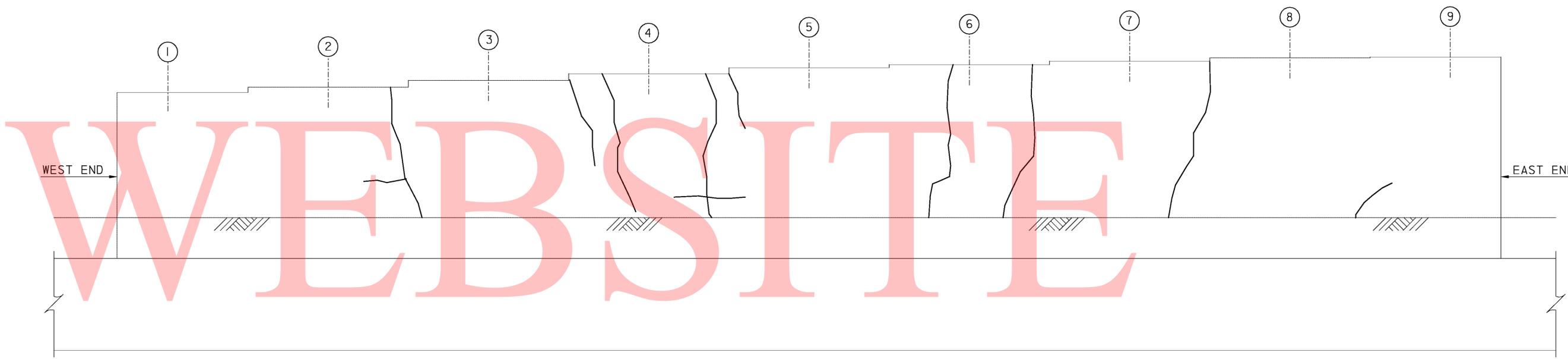
CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.

LEGEND:

-  DEEP SPALL REPAIR
-  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
-  CRACK REPAIR



PLAN - PIER 2S



ELEVATION - PIER 2S
(LOOKING TOWARD NORTH)
SCALE: 3/8" = 1'-0"

COPY

NOTE:
CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.

- LEGEND:**
-  DEEP SPALL REPAIR
 -  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
 -  CRACK REPAIR

ADDENDUMS / REVISIONS	

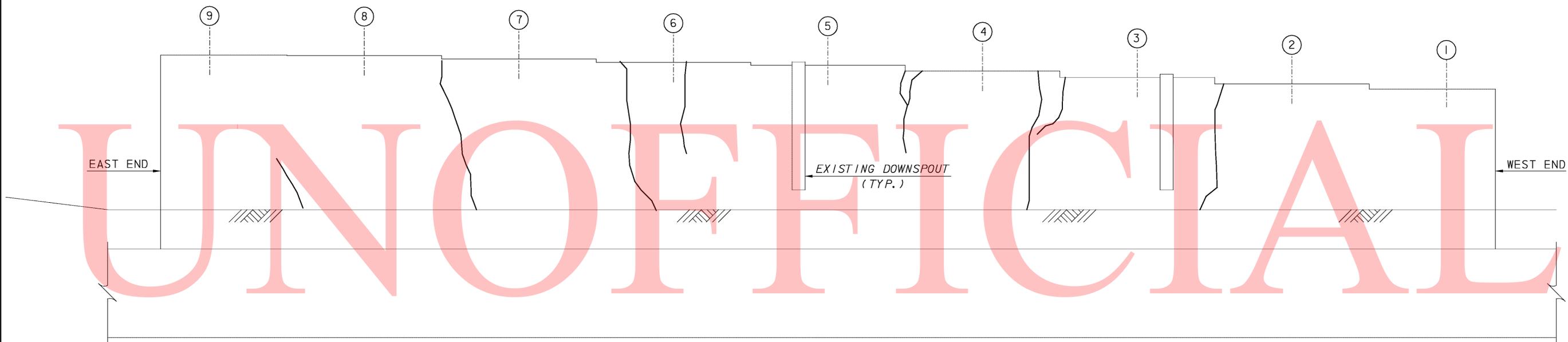
SCALE AS NOTED

BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT T201007405	BRIDGE NO. 1-693
COUNTY NEW CASTLE	DESIGNED BY: AJF
	CHECKED BY: JAC

PIER 2S REPAIRS-1

SHEET NO. 87
TOTAL SHTS. 111



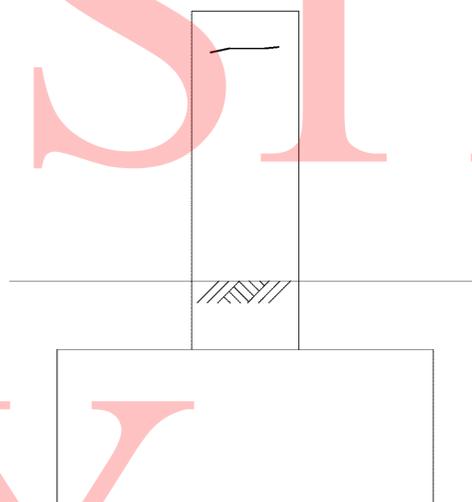
ELEVATION - PIER 2S

(LOOKING TOWARD SOUTH)

SCALE: $\frac{3}{8}$ " = 1'-0"

UNOFFICIAL

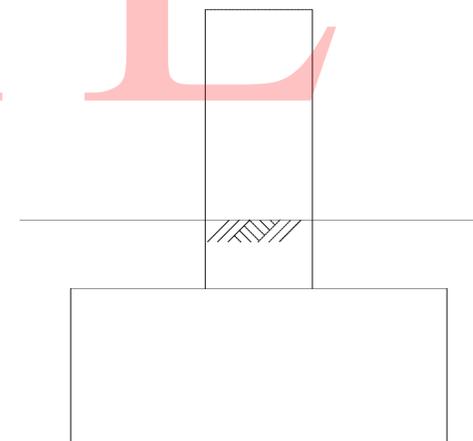
WEBSITE



END VIEW - PIER 2S

(EAST END)

SCALE: $\frac{3}{8}$ " = 1'-0"



END VIEW - PIER 2S

(WEST END)

SCALE: $\frac{3}{8}$ " = 1'-0"

NOTE:

CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.

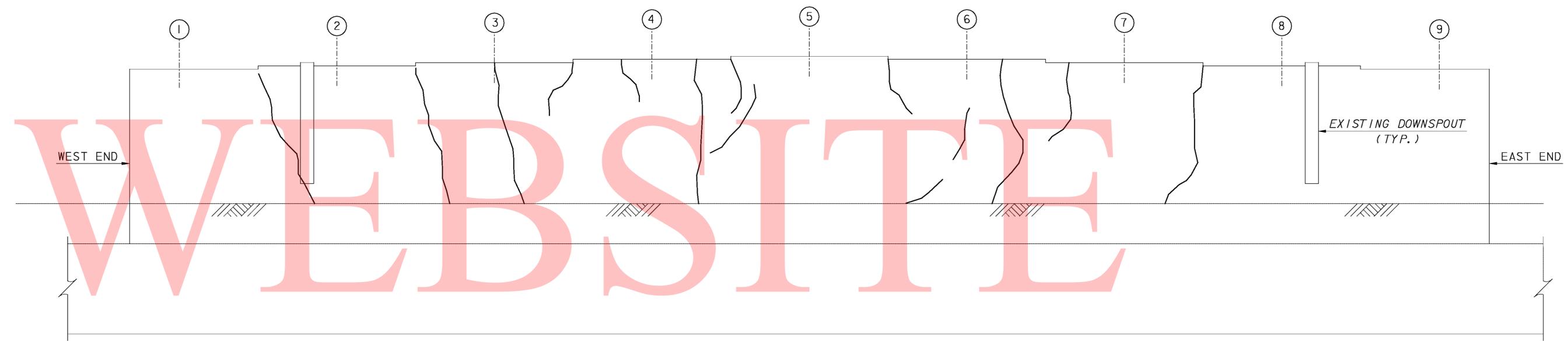
LEGEND:

-  DEEP SPALL REPAIR
-  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
-  CRACK REPAIR



UNOFFICIAL

PLAN - PIER 2N



ELEVATION - PIER 2N
(LOOKING TOWARD NORTH)
SCALE: 3/8" = 1'-0"

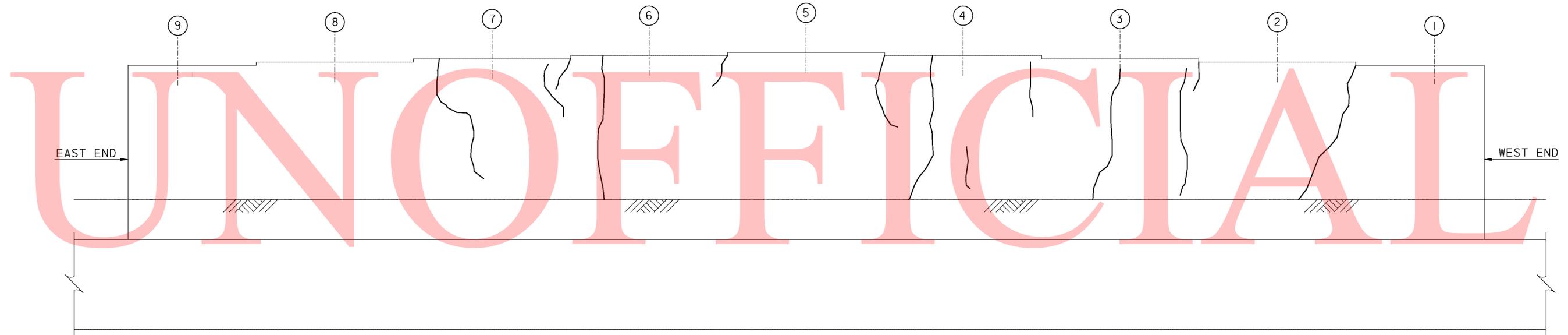
COPY

NOTE:
CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.

- LEGEND:
-  DEEP SPALL REPAIR
 -  DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
 -  CRACK REPAIR

ADDENDUMS / REVISIONS	

CONTRACT T201007405	BRIDGE NO. 1-693
COUNTY NEW CASTLE	DESIGNED BY: AJF
	CHECKED BY: JAC

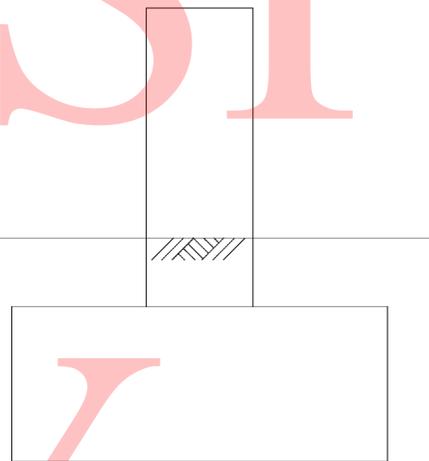


ELEVATION - PIER 2N

(LOOKING TOWARD SOUTH)

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

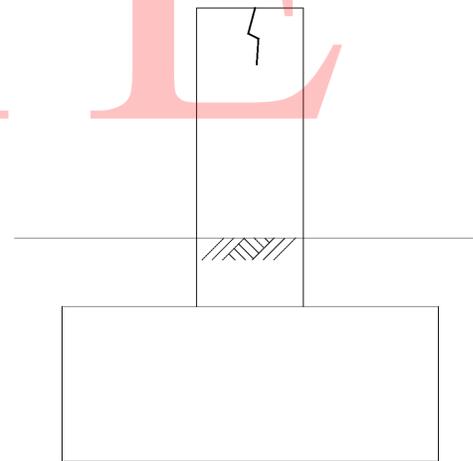
WEBSITE



END VIEW - PIER 2N

(EAST END)

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



END VIEW - PIER 2N

(WEST END)

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

LEGEND:

 DEEP SPALL REPAIR

 DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR

 CRACK REPAIR

NOTE:

CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.

UNOFFICIAL



WEBSITE

ELEVATION - NORTH ABUTMENT
SCALE: 3/8" = 1'-0"

COPY

NOTE:
CONCRETE REPAIRS SHOWN GRAPHICALLY. REPAIR AREAS ARE BASED ON FIELD INSPECTION OBSERVATIONS TAKEN IN MAY 2010. THE CONCRETE REPAIR QUANTITIES FOR ITEMS 602572, 602586, 602611 AND 602626 (AS APPLICABLE) HAVE BEEN INCREASED TO ACCOUNT FOR ADDITIONAL QUANTITIES DUE TO REMOVAL OF UNSOUND, LOOSE AND/OR DELAMINATED CONCRETE AND/OR LATENT DEFECTS THAT MAY HAVE OCCURED SINCE THE INSPECTIONS.

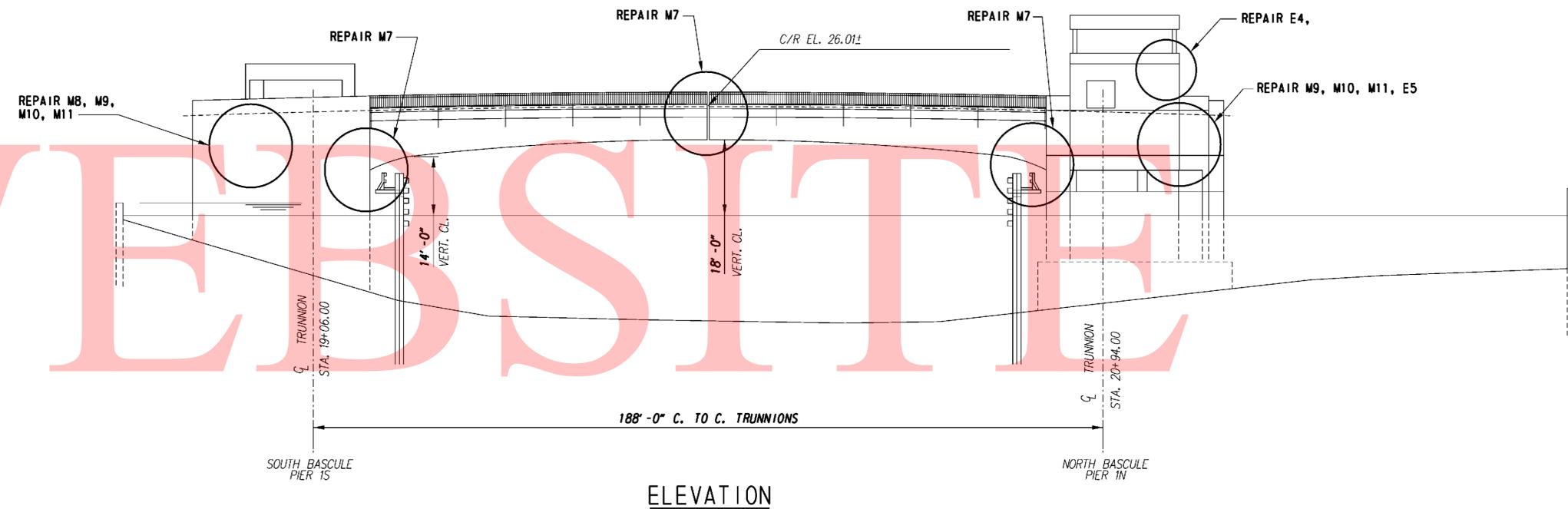
- LEGEND:**
- DEEP SPALL REPAIR
 - DELAMINATED CONCRETE AND/OR SHALLOW SPALL REPAIR
 - CRACK REPAIR

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		SCALE AS NOTED	BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER	CONTRACT	BRIDGE NO.	1-693	NORTH ABUTMENT REPAIRS	SHEET NO.	91
					T201007405	DESIGNED BY:	AJF		TOTAL SHTS.	111
					NEW CASTLE	CHECKED BY:	JAC			

REPAIR ITEMS

- E4 REMOVE EXISTING GENERATOR AND TRANSFER SWITCH AND REPLACE WITH NEW 125 KW DIESEL-GENERATOR AND NEW 400 AMP, 4 POLE AUTOMATIC TRANSFER SWITCH.
- E5 PROVIDE NEW AUXILIARY DRIVE MOTOR AND CONTROLS. PROVIDE NEW CONTROL INTERLOCKING TO PREVENT OPERATIONS OF EXISTING NORMAL DRIVES WHEN NEW AUXILIARY DRIVE SPROCKET CHAIN IS ATTACHED. REPLACE EXISTING HAND-RELEASED LIMIT SWITCHES ON ALL EXISTING BRAKES ON NORTH AND SOUTH SIDES.
- M7 LUBRICATE FORWARD AND REAR CENTERING GUIDES.
- M8 ADJUST BEARING CLEARANCE AT SOUTH LEAF BEARING B2.
- M9 CLEAN AND PAINT THE FOLLOWING COMPONENTS:
NORTH LEAF: SHAFT S1, COUPLINGS C2 AND C4, SHAFT AND COLLAR BETWEEN BEARINGS B5 AND B6, AND MACHINERY FRAME MOUNTING BOLTS.
SOUTH LEAF: SHAFT AND COLLAR BETWEEN BEARINGS B5 AND B6.
- M10 REMOVE SMALLER CAP BOLT NUTS FROM BEARINGS B1 AND B2 ON BOTH LEAVES TO VERIFY CORRECT SIZE BOLT IS INSTALLED. IF BOLT IS UNDERSIZED, INSTALL CORRECT SIZE BOLT.
- M11 INSTALL HANDRAIL SYSTEM AT REAR OF COUNTERWEIGHT ADJACENT TO MACHINERY.

UNOFFICIAL



WEBSITE

COPY

FEDERAL AID NUMBER
EBHN-2010(29)

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE AS NOTED

**BRS 1-687, 1-688 AND 1-693
S. WALNUT ST., S. MARKET ST.
AND 4TH ST. OVER CHRISTINA RIVER**

CONTRACT T201007405	BRIDGE NO. 1 - 693
COUNTY NEW CASTLE	DESIGNED BY: G. FOREST CHECKED BY: D. BARRETT

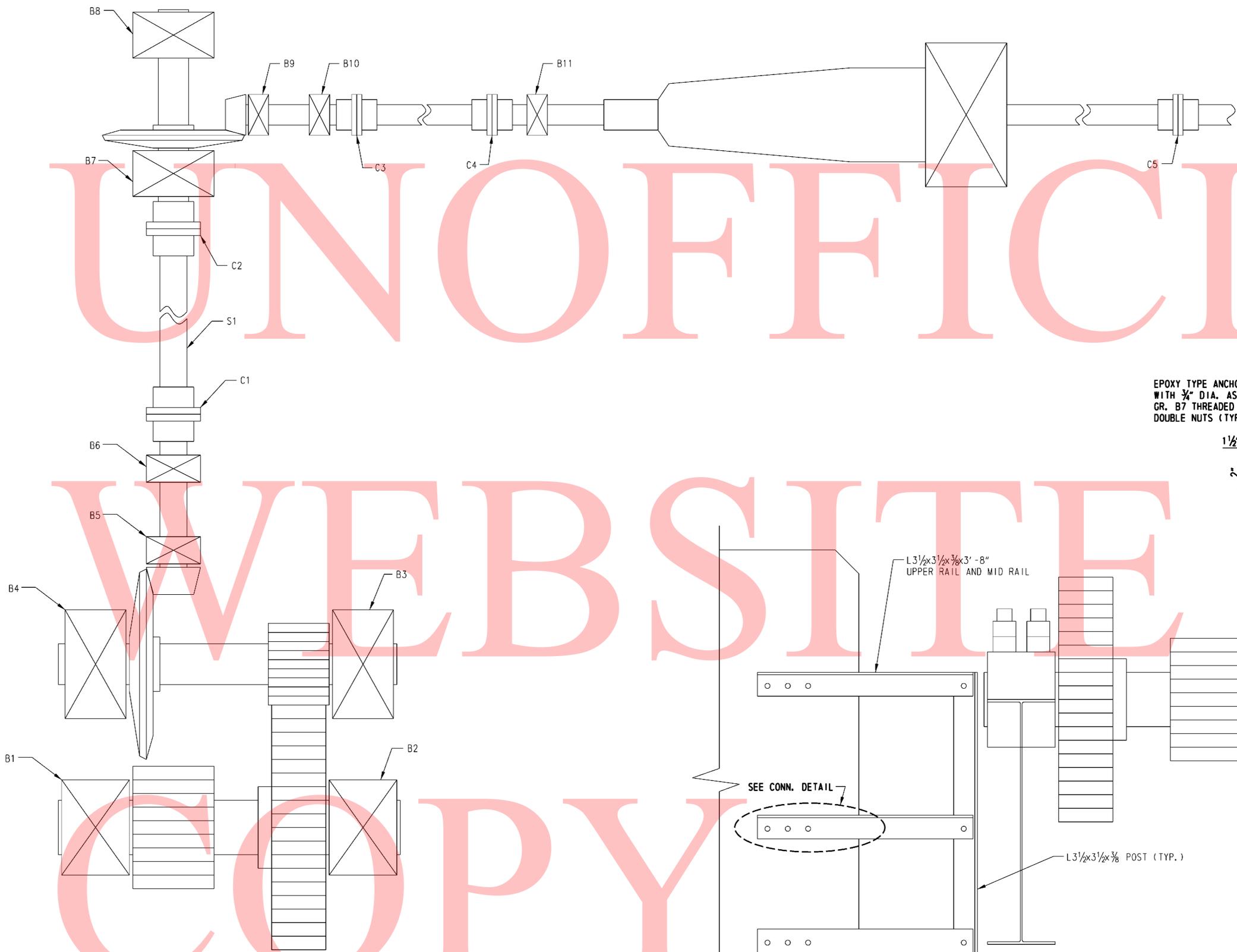
FOURTH (3RD) ST. BRIDGE MECHANICAL AND ELECTRICAL REPAIR	SHEET NO. 92
	TOTAL SHTS. 111

NOTES:
 1. STEEL FOR HANDRAIL SHALL BE ASTM A709 GR. 50.

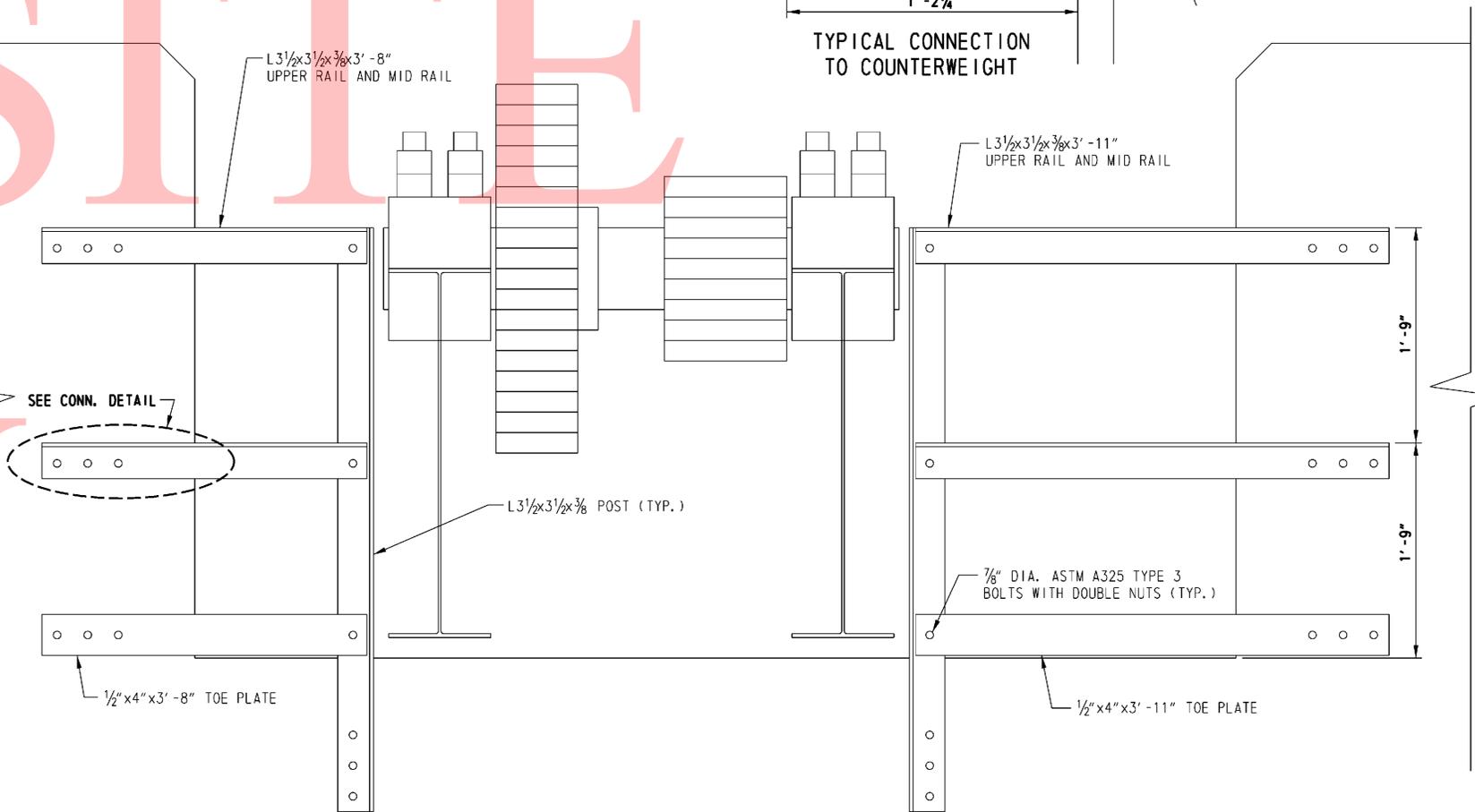
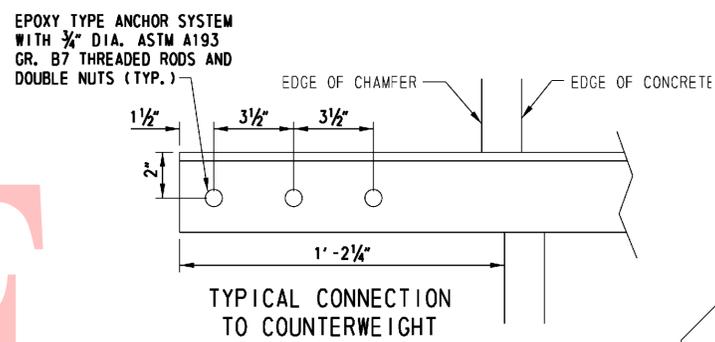
UNOFFICIAL

WEBSITE

COPY

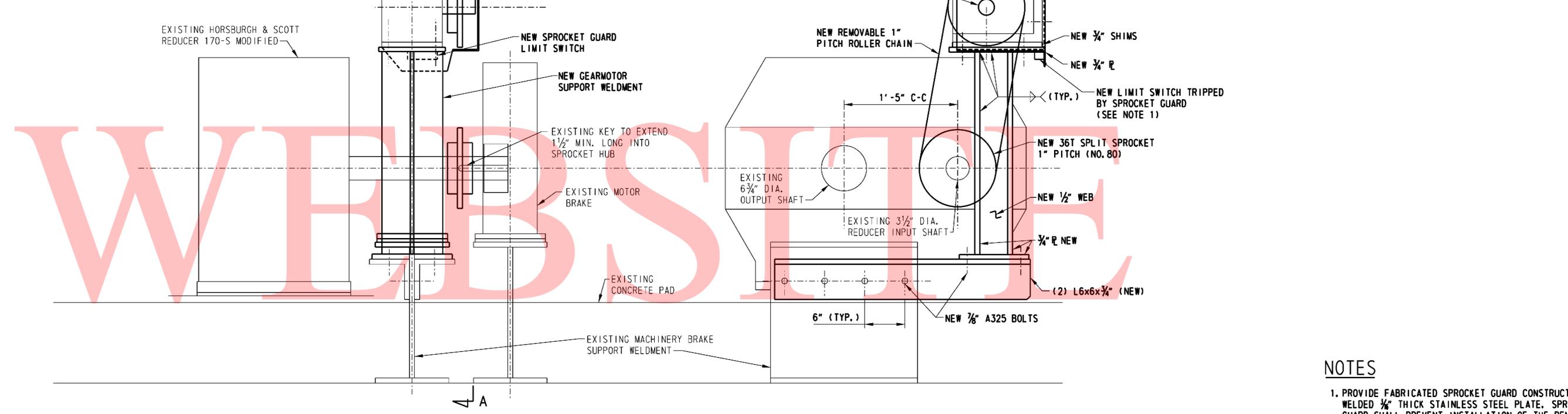


SPAN DRIVE MACHINERY GENERAL LAYOUT
 NOT TO SCALE



ITEM M11 - INSTALL HANDRAIL AT REAR END OF COUNTERWEIGHT

UNOFFICIAL



**NEW AUXILIARY DRIVE MOUNTING
ELEVATION VIEW**

VIEW A-A

NORTH BRIDGE MACHINERY SHOWN,
SOUTH BRIDGE MACHINERY SIMILAR
(EXISTING MACHINERY BRAKE AND GEAR
REDUCER OUTPUT SHAFT NOT SHOWN FOR CLARITY)

NOTES

1. PROVIDE FABRICATED SPROCKET GUARD CONSTRUCTED FROM WELDED 3/8" THICK STAINLESS STEEL PLATE. SPROCKET GUARD SHALL PREVENT INSTALLATION OF THE REMOVABLE CHAIN WITHOUT REMOVING THE GUARD. LIMIT SWITCH SHALL BE TRIPPED WHEN GUARD IS REMOVED TO PREVENT OPERATION OF EXISTING NORMAL DRIVE SYSTEM THAT CAN BACK-DRIVE THE AUXILIARY DRIVE MOTOR.
2. NEW AUXILIARY DRIVE INCLUDED IN REPAIR ITEM E5.

ADDENDUMS / REVISIONS	

SCALE AS NOTED

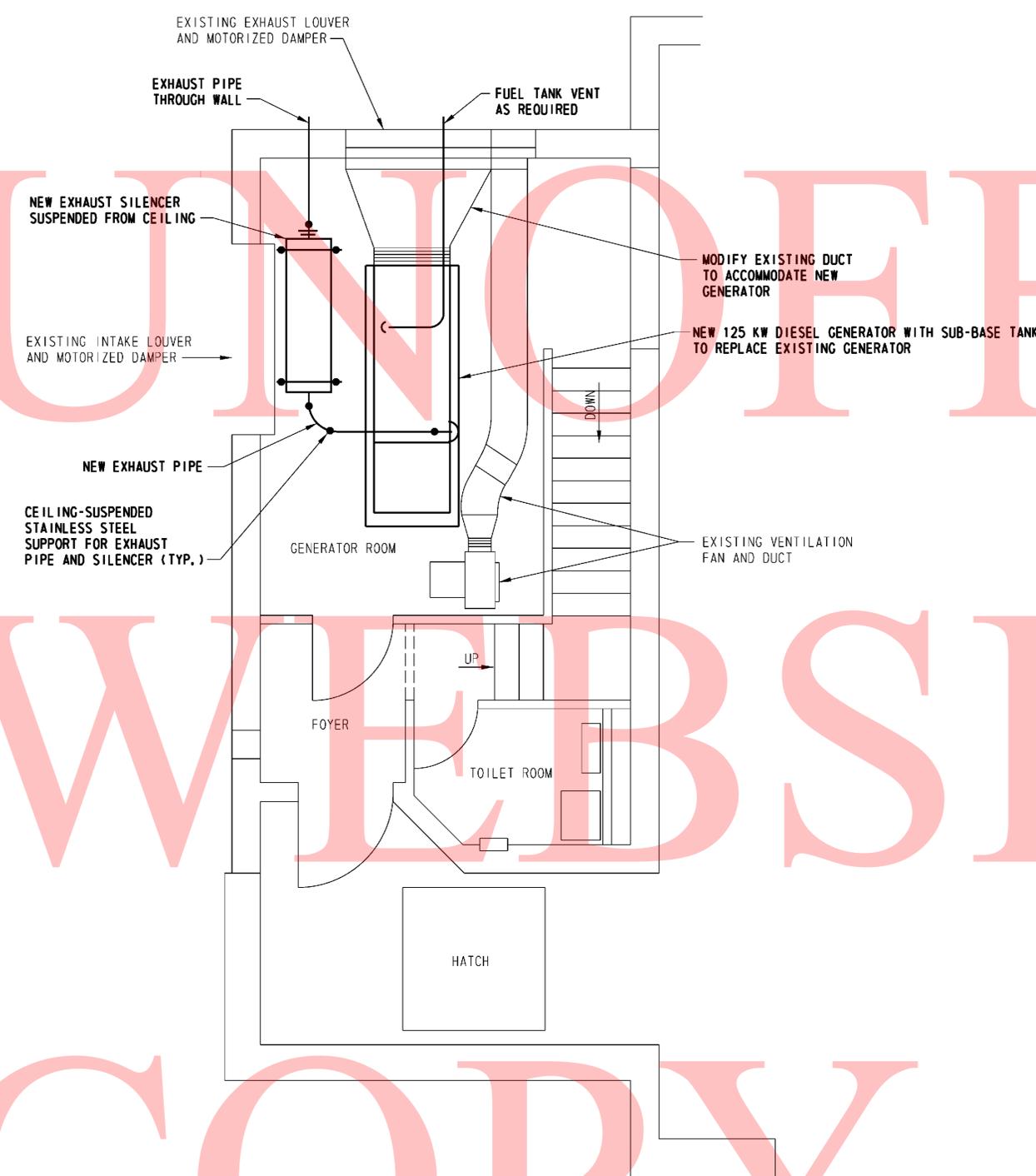
**BRIS 1-687, 1-688 AND 1-693
S. WALNUT ST., S. MARKET ST.
AND 4TH ST. OVER CHRISTINA RIVER**

CONTRACT T201007405	BRIDGE NO. 1 - 693
COUNTY NEW CASTLE	DESIGNED BY: D. MILLER CHECKED BY: L. LENTZ

**FOURTH (3RD) ST. BRIDGE
MECHANICAL
REPAIR DETAILS - 2**

FEDERAL AID NUMBER EBHN-2010(29)	SHEET NO. 94
	TOTAL SHTS. 111

UNOFFICIAL
WEBSITE
COPY



PLAN AT EL. 25.00

NOTES

1. LOCATIONS OF EXISTING EQUIPMENT ARE APPROXIMATE, EXACT LOCATIONS SHALL BE FIELD VERIFIED.
2. TO THE PRACTICAL EXTENT, USE EXISTING WALL PENETRATIONS FOR ENGINE EXHAUST PIPE AND FUEL TANK VENT PIPE. SEAL ALL WALL PENETRATION AND MAKE WATER-TIGHT AFTER INSTALLATION.
3. PROVIDE STAINLESS STEEL ANCHORS FOR CEILING-SUSPENDED SUPPORTS.

ADDENDUMS / REVISIONS	

SCALE AS NOTED

BRS 1-687, 1-688 AND 1-693
S. WALNUT ST., S. MARKET ST.
AND 4TH ST. OVER CHRISTINA RIVER

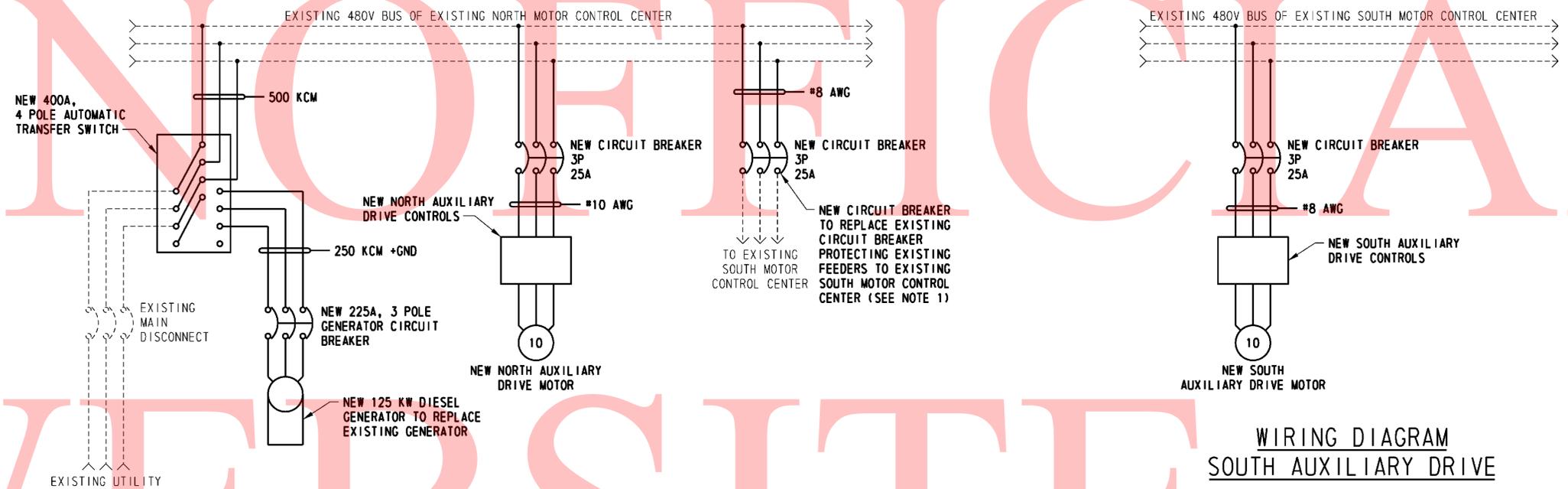
CONTRACT T201007405	BRIDGE NO. 1 - 693
COUNTY NEW CASTLE	DESIGNED BY: O. TON
	CHECKED BY: A. MARINO

FOURTH (3RD) ST. BRIDGE
ELECTRICAL
REPAIR DETAILS - 1

FEDERAL AID NUMBER
EBHN-2010(29)

SHEET NO. 95
TOTAL SHTS. 111

UNNOTIFIED



WIRING DIAGRAM
BACK-UP POWER AND NORTH AUXILIARY DRIVE

WIRING DIAGRAM
SOUTH AUXILIARY DRIVE

WEBSITE

COPY

NOTES

1. NEW CIRCUIT BREAKER FOR REPLACEMENT OF EXISTING CIRCUIT BREAKER SHALL BE FOR PROTECTION OF EXISTING FEEDERS WITH SIZE #10 AWG OR LARGER. THE CONTRACTOR SHALL FIELD-VERIFY SIZE OF EXISTING FEEDERS INCLUDING NORMAL AND ALTERNATE FEEDERS IN EXISTING SUBMARINE CABLES. IF EXISTING FEEDERS ARE SMALLER THAN #10 AWG, NOTIFY THE ENGINEER PRIOR TO REPLACEMENT OF EXISTING CIRCUIT BREAKER.

ADDENDUMS / REVISIONS	

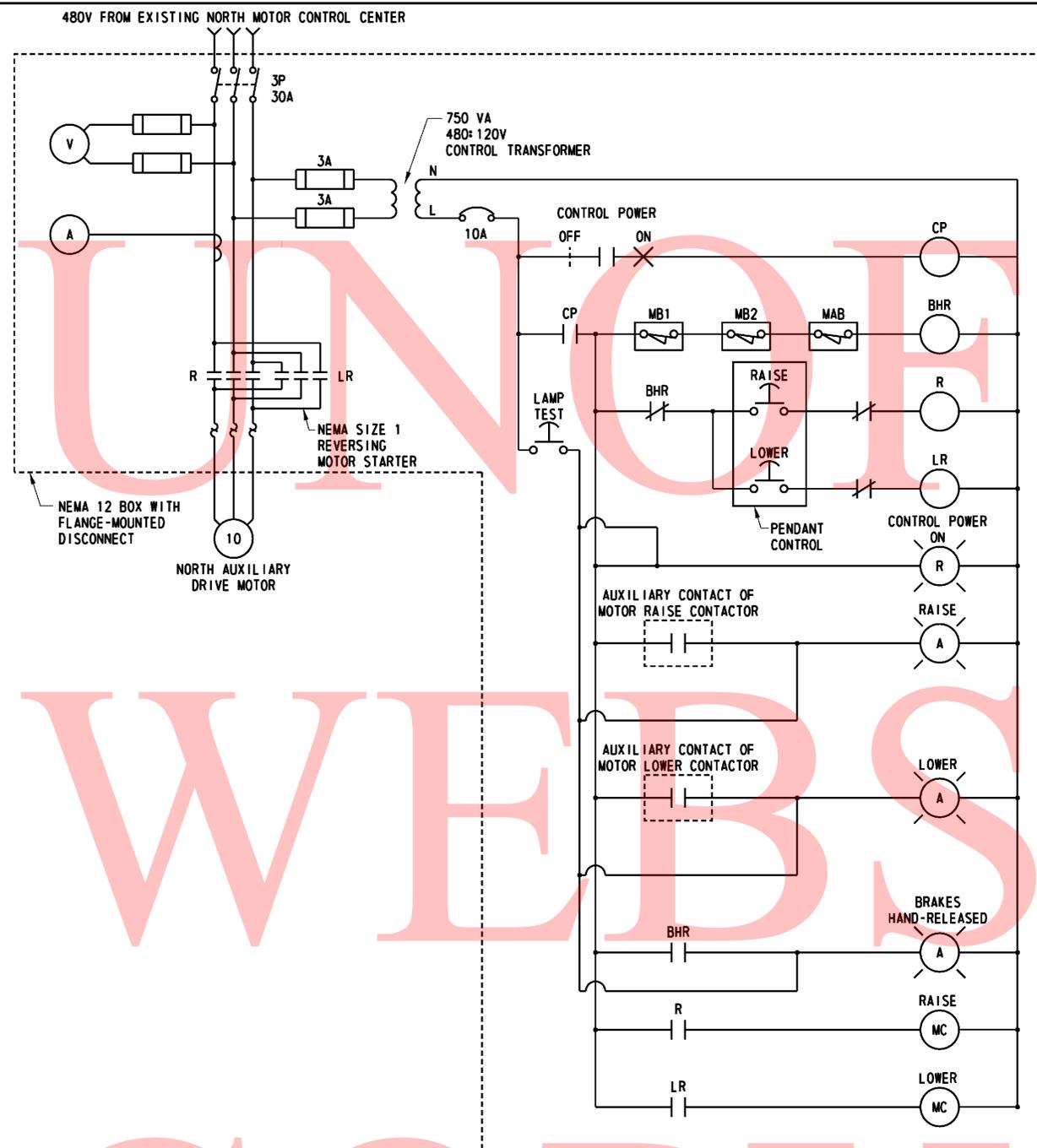
SCALE AS NOTED

BRS 1-687, 1-688 AND 1-693
S. WALNUT ST., S. MARKET ST.
AND 4TH ST. OVER CHRISTINA RIVER

CONTRACT T201007405	BRIDGE NO. 1 - 693
COUNTY NEW CASTLE	DESIGNED BY: O. TON
	CHECKED BY: A. MARINO

FOURTH (3RD) ST. BRIDGE
ELECTRICAL
REPAIR DETAILS - 2

FEDERAL AID NUMBER EBHN-2010(29)
SHEET NO. 96
TOTAL SHTS. 111



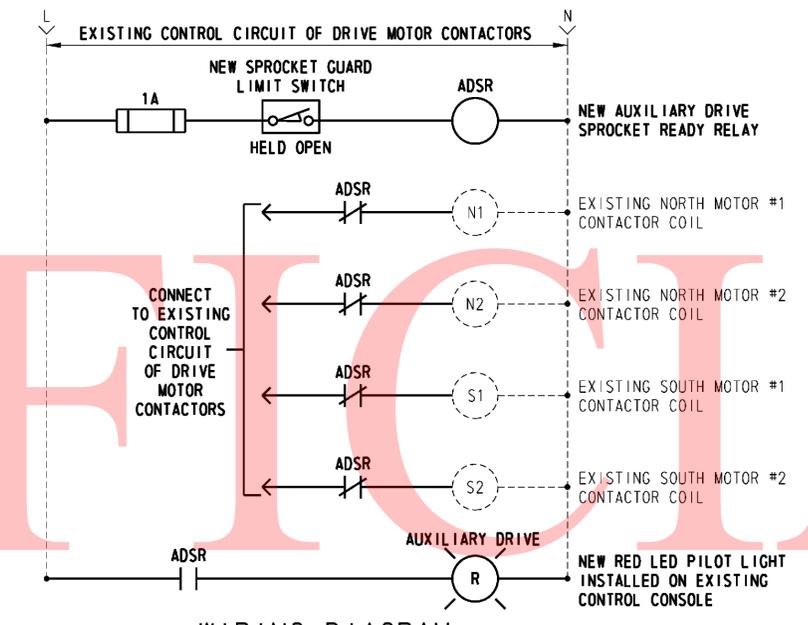
WIRING DIAGRAM AUXILIARY DRIVE CONTROL

(NORTH AUXILIARY DRIVE CONTROL SHOWN, SOUTH AUXILIARY DRIVE SIMILAR)

NEW RED PILOT LIGHT INSTALLED ON EXISTING CONTROL CONSOLE, 30mm SQUARE INDICATOR, PROVIDE LABELED INSERT AS INDICATED.

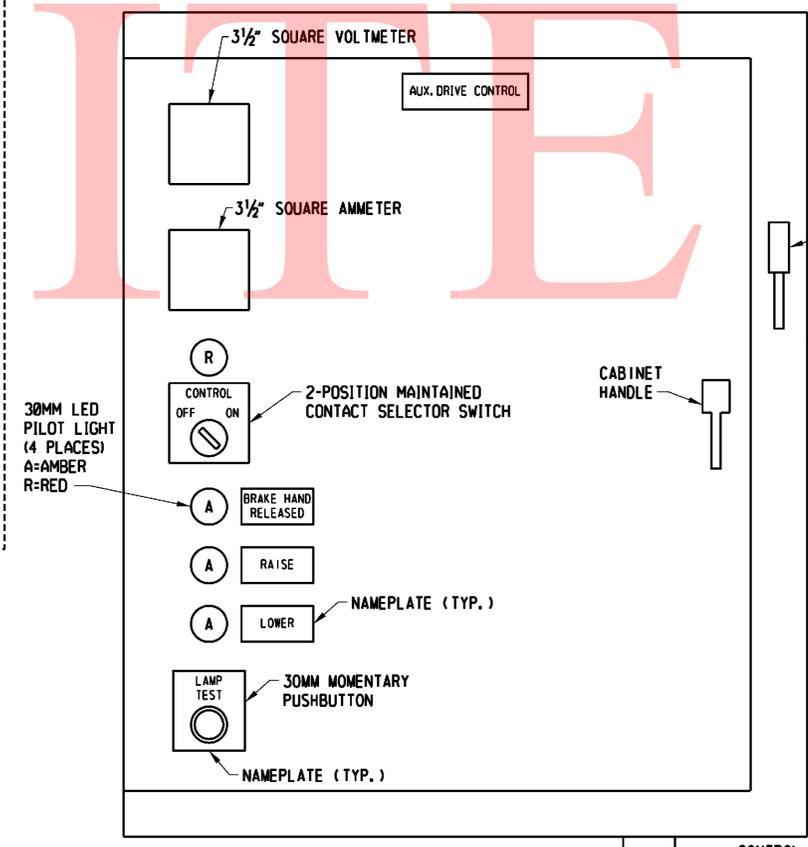


PLAN - PARTIAL LAYOUT OF EXISTING CONTROL CONSOLE
NO SCALE



WIRING DIAGRAM

(DASHED LINE DENOTES EXISTING WIRING, SOLID LINE DENOTES NEW WIRING)



ELEVATION VIEW-AUXILIARY DRIVE CONTROL BOX

CONTROL LEGEND

- VOLTMETER
- PHASE SELECTOR SWITCH
- AMMETER
- TRANSFORMER
- FUSE
- DISCONNECT SWITCH
- OVERLOAD
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- 2-POSITION SELECTOR SWITCH
- RELAY COIL
- MOTOR CONTACTOR COIL
- MOMENTARY CONTACT PUSHBUTTON
- LED LIGHT, R= RED, A= AMBER
- LIMIT SWITCH, NORMALLY HELD CLOSE
- MB1: MOTOR BRAKE #1, MB2: MOTOR BRAKE #2, MAB: MACHINERY BRAKE (SEE NOTE 1)
- CIRCUIT BREAKER

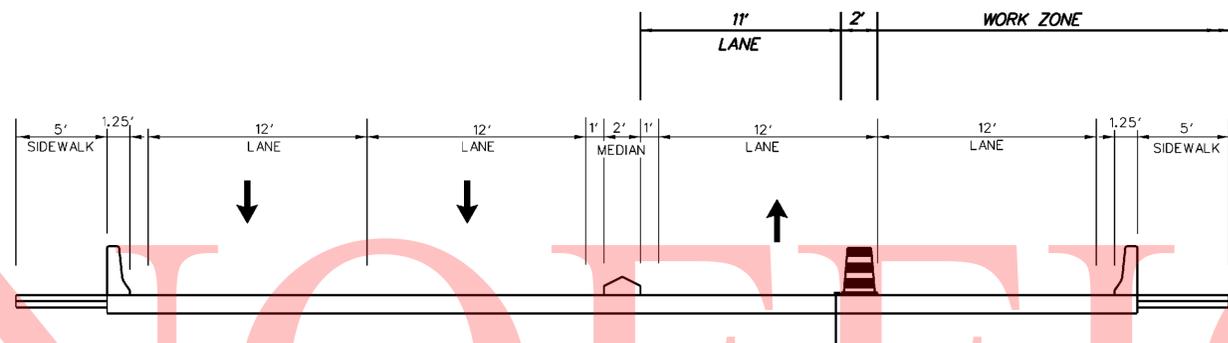
NOTES

1. REPLACE EXISTING HAND RELEASED LIMIT SWITCHES ON ALL EXISTING MOTOR BRAKES AND MACHINERY BRAKES FOR NORTH AND SOUTH BASCULE LEAVES WITH NEW 2 POLE LEVER ARM LIMIT SWITCHES, AND CONNECT NEW LIMIT SWITCHES TO EXISTING CONTROL WIRING OF EXISTING NORMAL DRIVES AND TO NEW WIRING FOR CONTROLS OF NEW AUXILIARY DRIVE MOTORS AS SHOWN ON THIS SHEET.
2. ALL MATERIAL IS NEW, UNLESS INDICATED EXISTING.
3. SIZE NEW AUXILIARY DRIVE CONTROL BOX TO ENCLOSE ALL CONTROL COMPONENTS, AND MOUNT BOX IN THE MACHINERY ROOM, BESIDES EXISTING MOTOR DISCONNECT SWITCHES.
4. SEE DRAWING "MECHANICAL REPAIR DETAILS - 3" FOR MOUNTING OF NEW AUXILIARY DRIVE SPROCKET GUARD AND LIMIT SWITCH.

UNOFFICIAL

WEBSITE

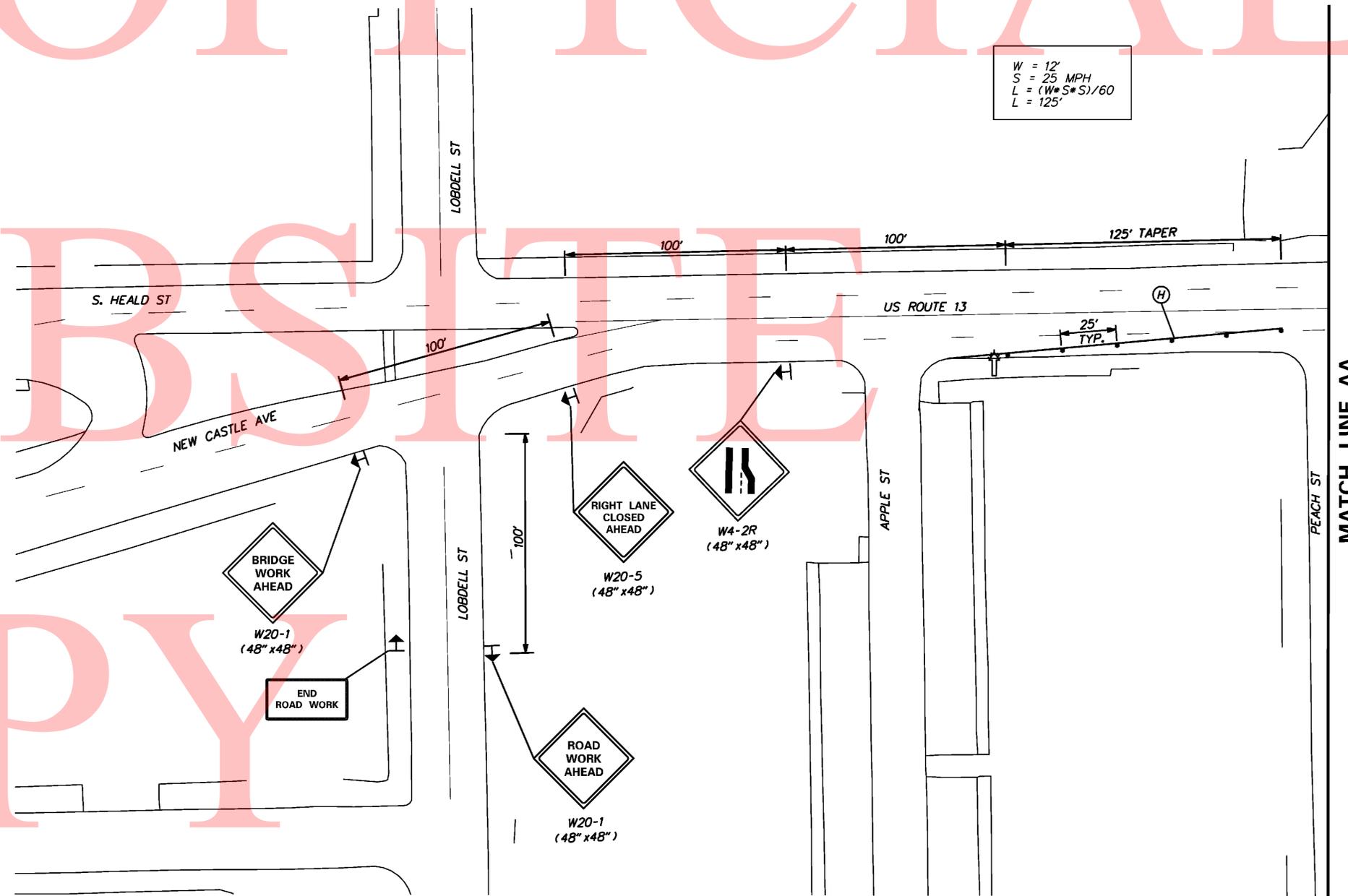
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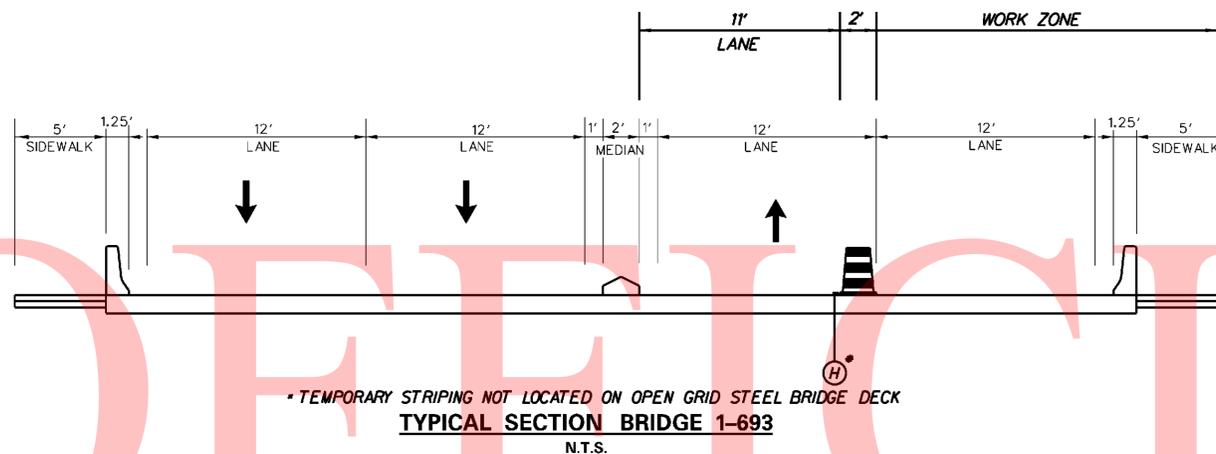
TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(H)	4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	155 LF

$$\begin{aligned}
 W &= 12' \\
 S &= 25 \text{ MPH} \\
 L &= (W \cdot S \cdot S) / 60 \\
 L &= 125'
 \end{aligned}$$

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 1
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR

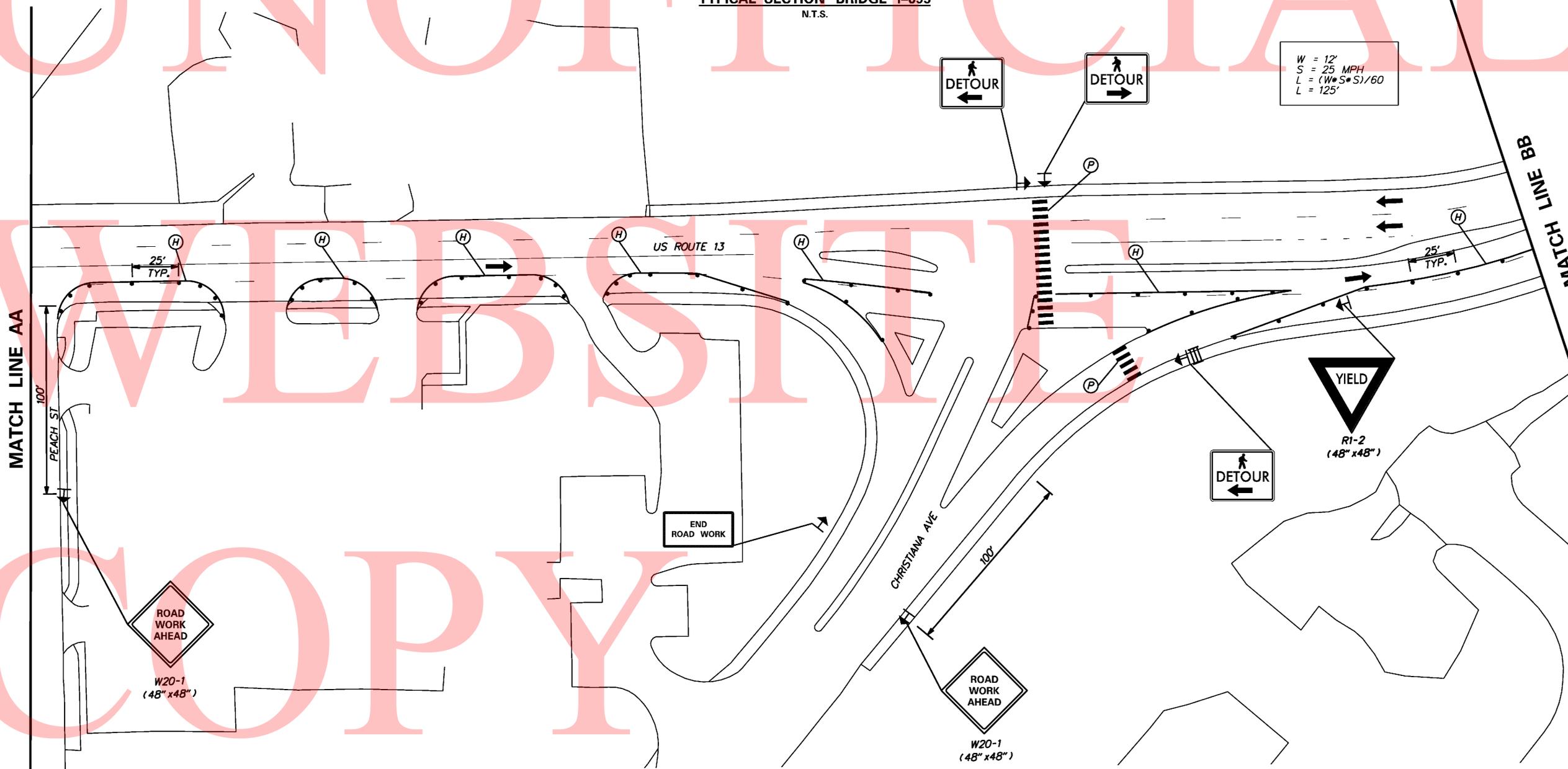


CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 1
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR

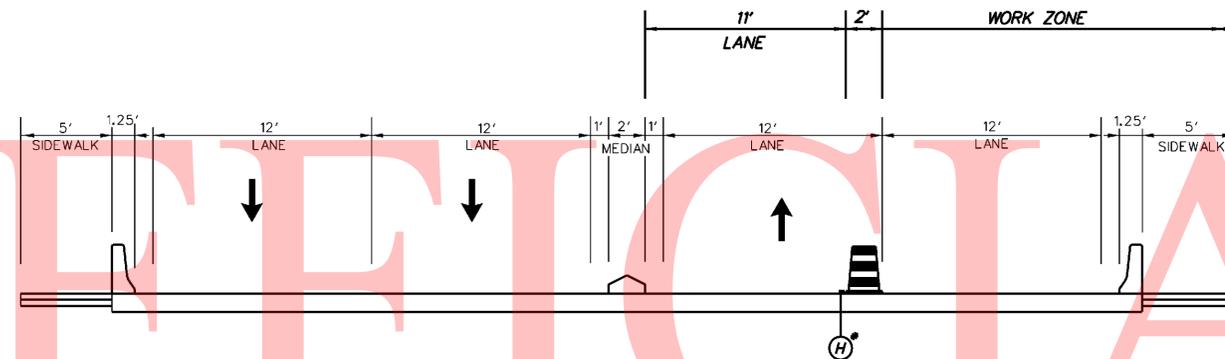


TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(H)	4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	885 LF
(P)	WHITE TEMPORARY TAPE PAVEMENT SYMBOL (ITEM 748527)	350 SF

$$\begin{aligned}
 W &= 12' \\
 S &= 25 \text{ MPH} \\
 L &= (W \cdot S^2) / 60 \\
 L &= 125'
 \end{aligned}$$

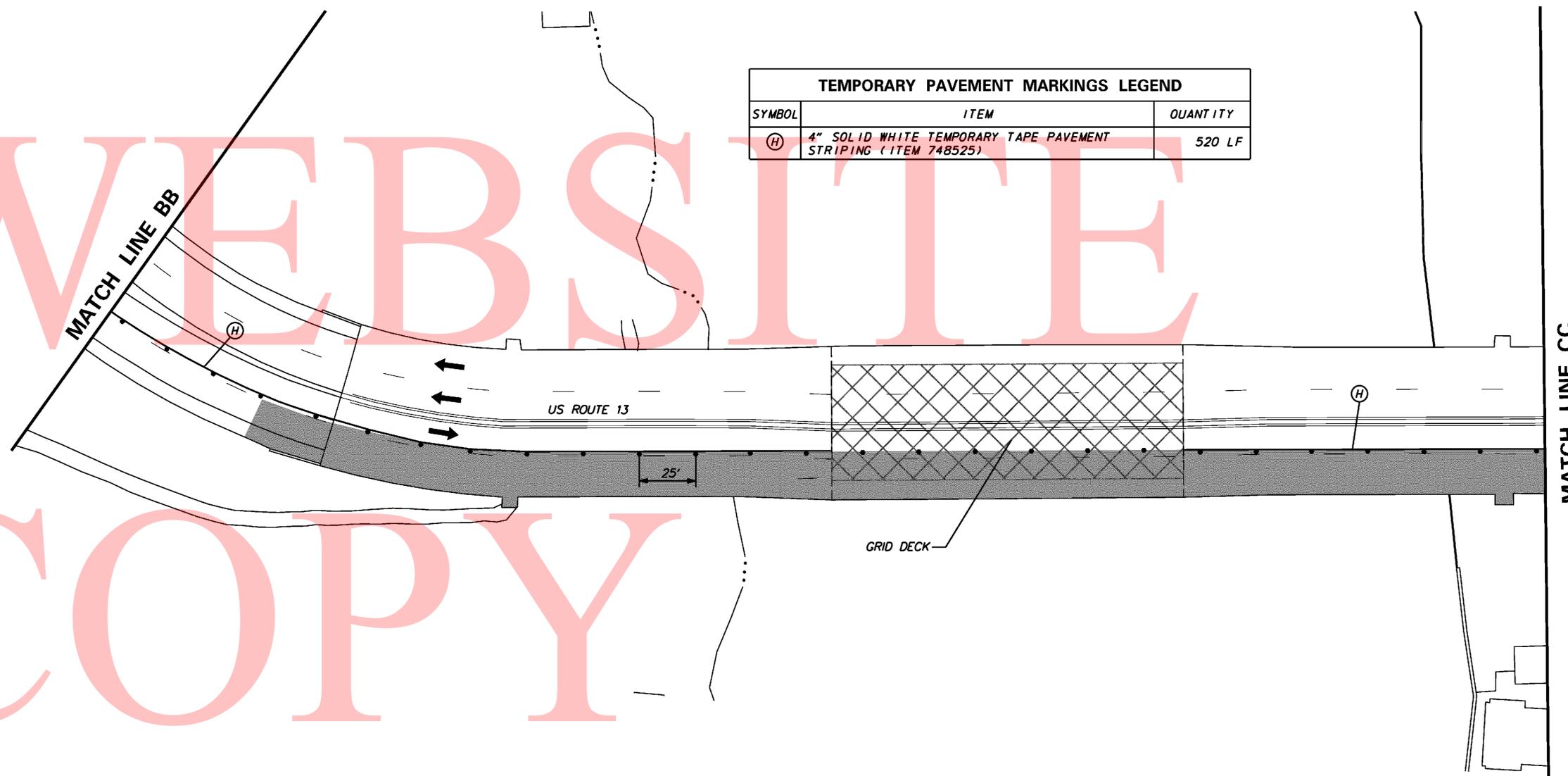


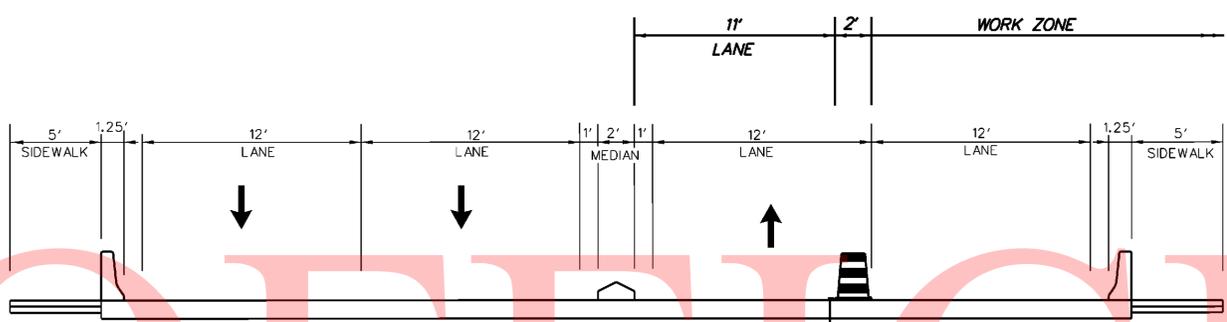
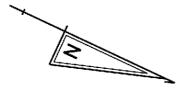
CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 1
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR



TEMPORARY STRIPING NOT LOCATED ON OPEN GRID STEEL BRIDGE DECK
TYPICAL SECTION BRIDGE 1-693
 N.T.S.

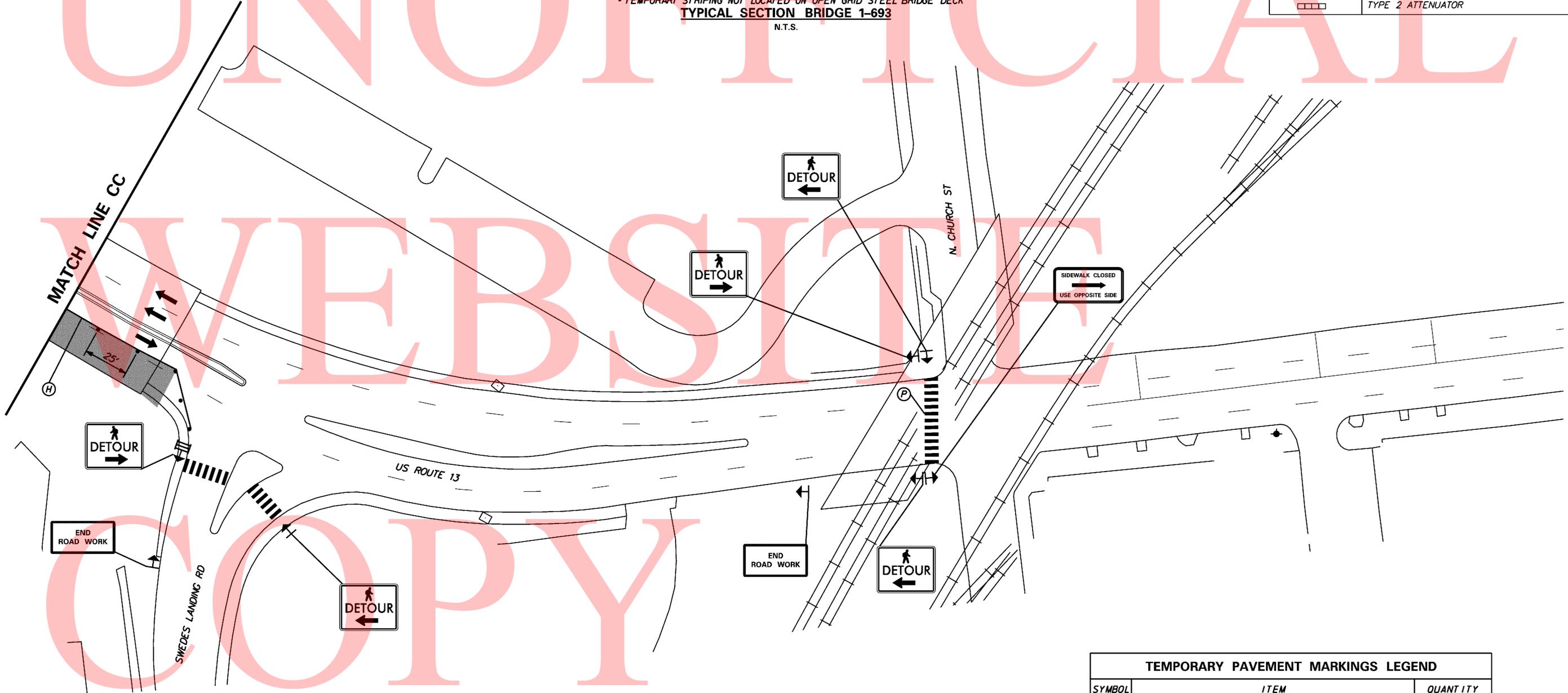
TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(H)	4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	520 LF





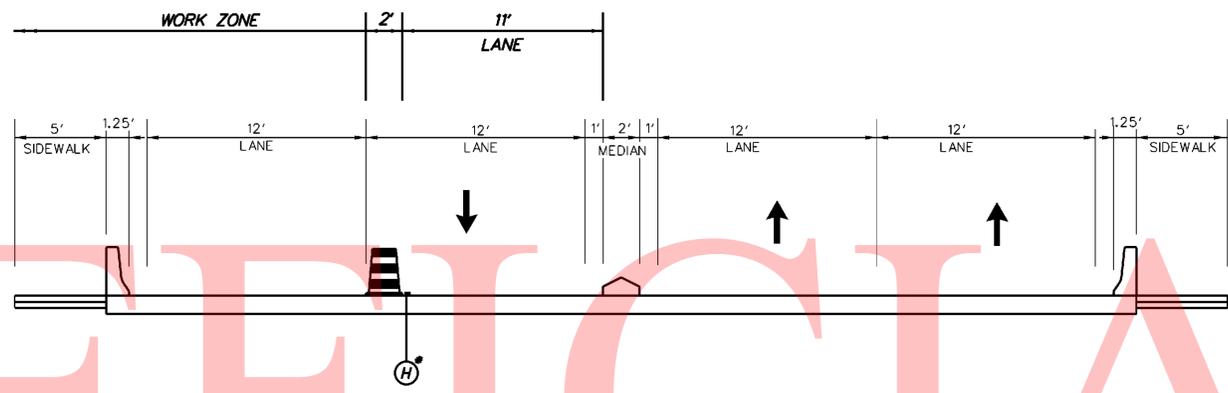
TEMPORARY STRIPING NOT LOCATED ON OPEN GRID STEEL BRIDGE DECK
TYPICAL SECTION BRIDGE 1-693
 N.T.S.

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 1
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR

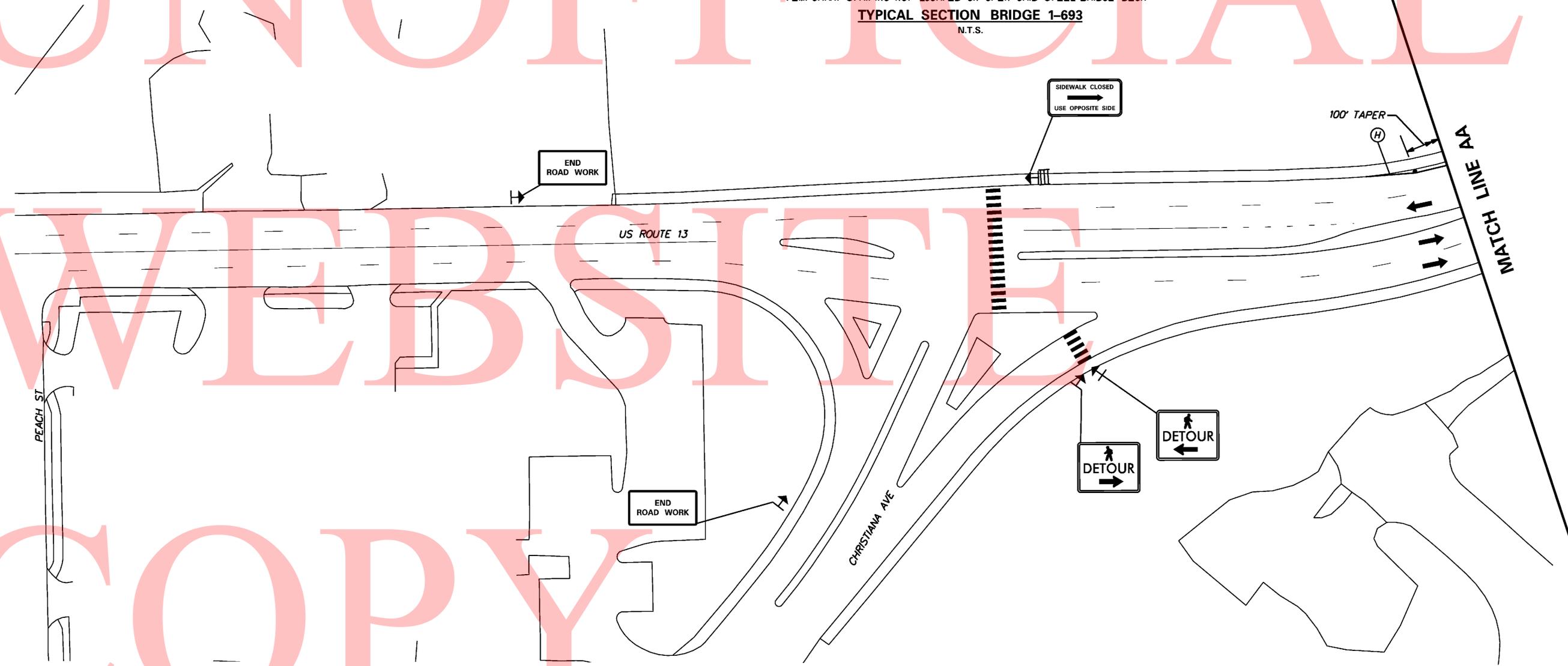


TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(H)	4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	100 LF
(P)	WHITE TEMPORARY TAPE PAVEMENT SYMBOL (ITEM 748527)	205 SF

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 2
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR

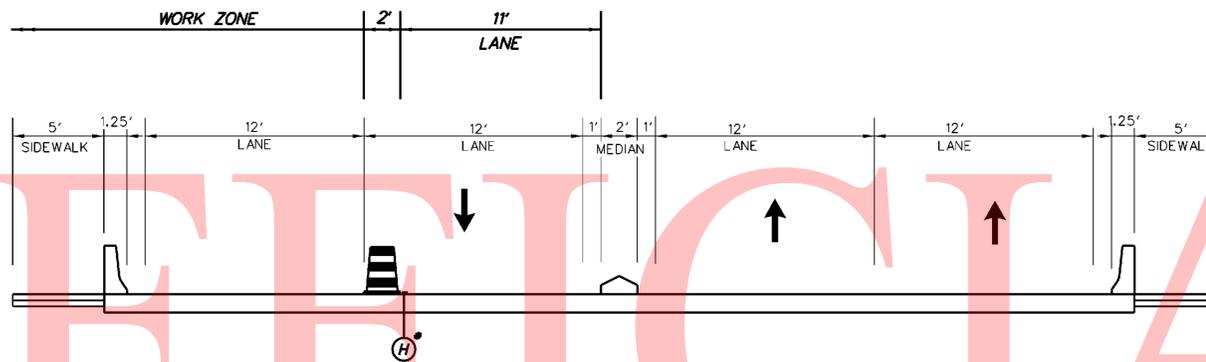


* TEMPORARY STRIPING NOT LOCATED ON OPEN GRID STEEL BRIDGE DECK
TYPICAL SECTION BRIDGE 1-693
 N.T.S.



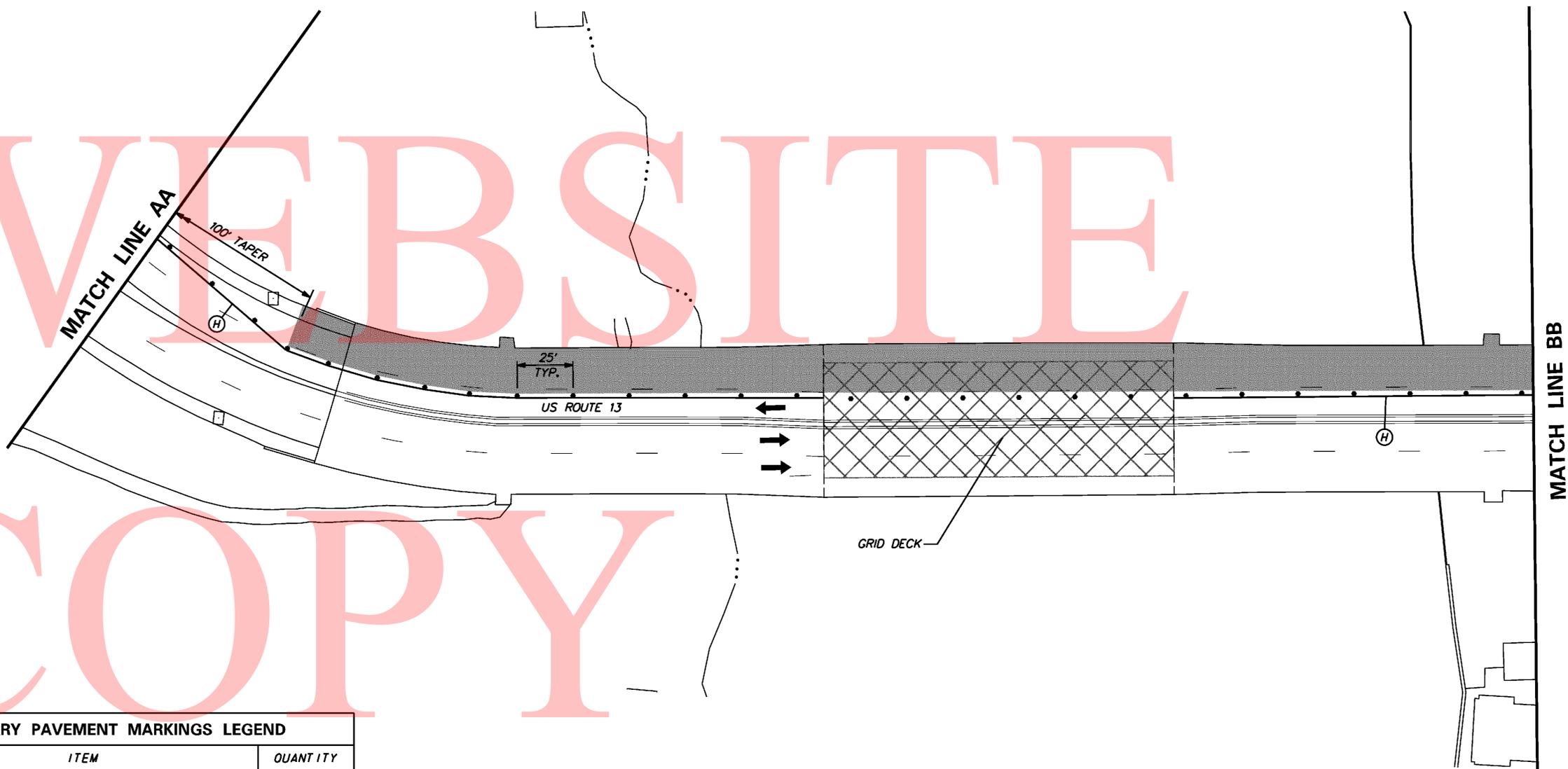
TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(H)	4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	45 LF
(P)	WHITE TEMPORARY TAPE PAVEMENT SYMBOL (ITEM 748527)	350 SF

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 2
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR

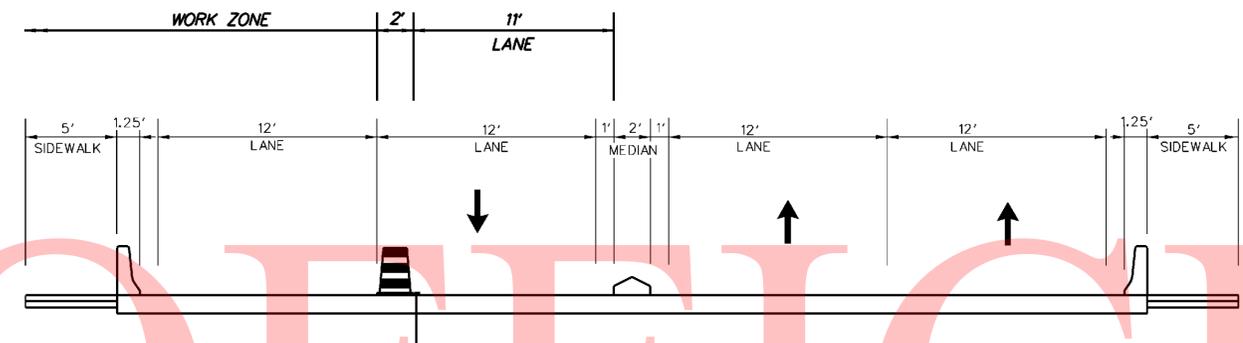
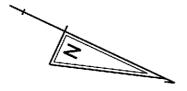


* TEMPORARY STRIPING NOT LOCATED ON OPEN GRID STEEL BRIDGE DECK

TYPICAL SECTION BRIDGE 1-693
N.T.S.



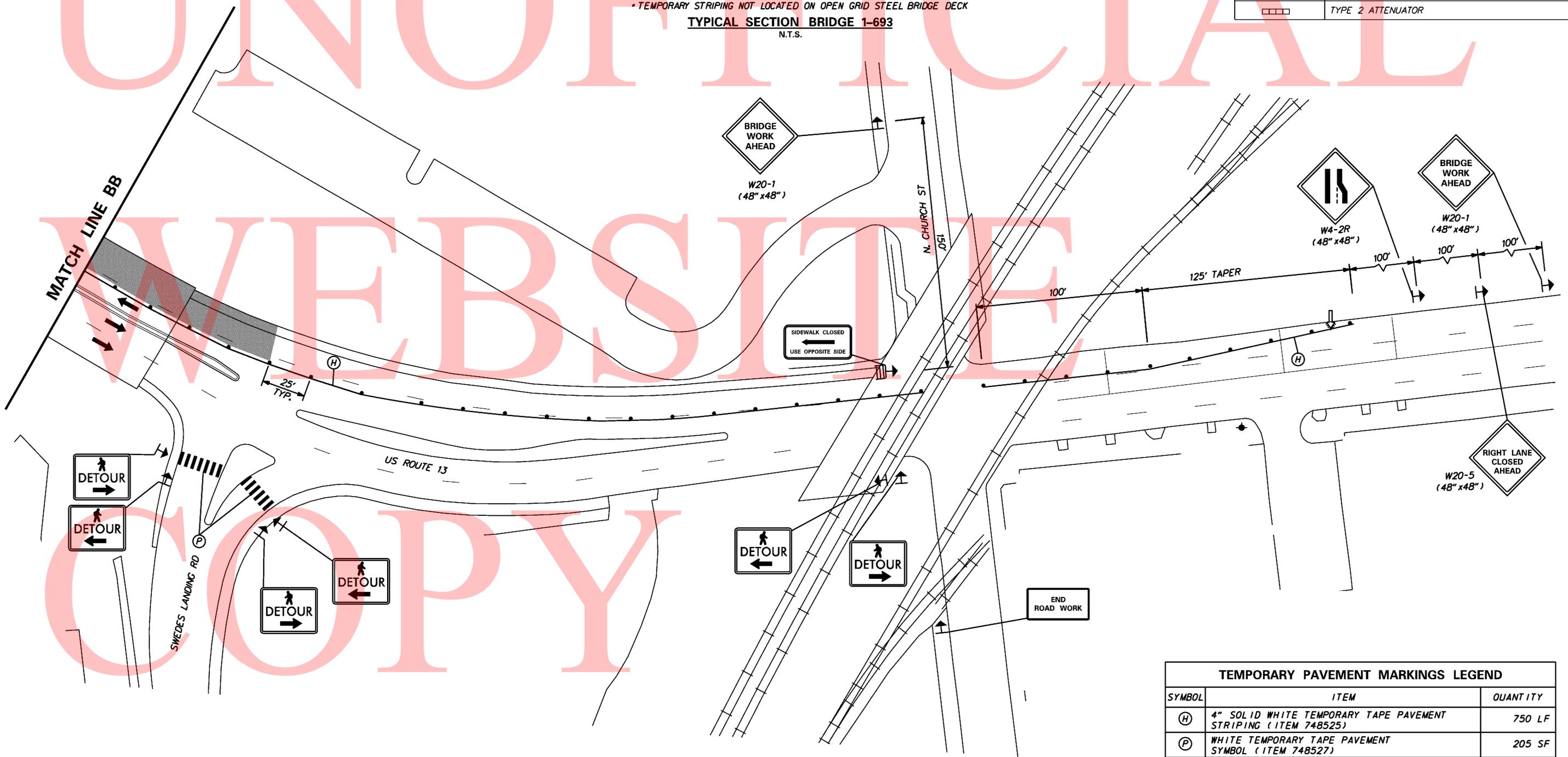
TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(H)	4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	505 LF



$W = 15'$
 $S = 25 \text{ MPH}$
 $L = (W * S * S) / 60$
 $L = 160'$

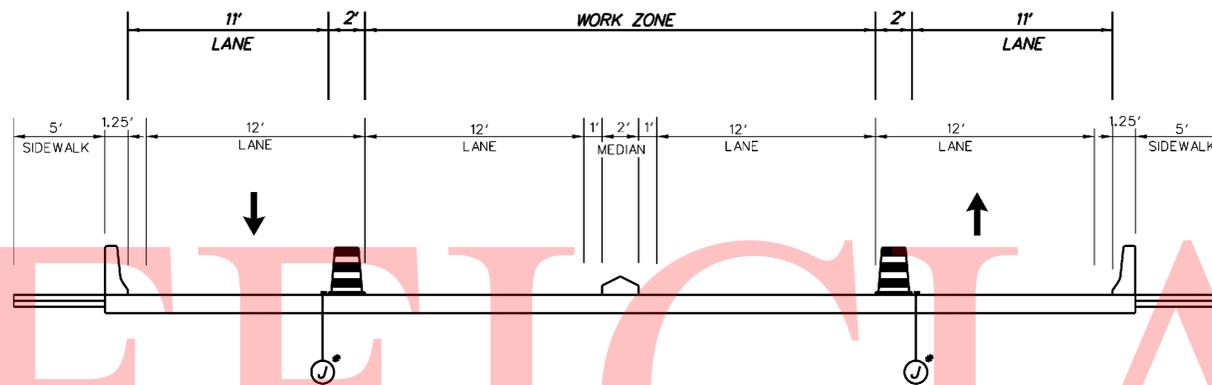
* TEMPORARY STRIPING NOT LOCATED ON OPEN GRID STEEL BRIDGE DECK
TYPICAL SECTION BRIDGE 1-693
 N.T.S.

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 2
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR

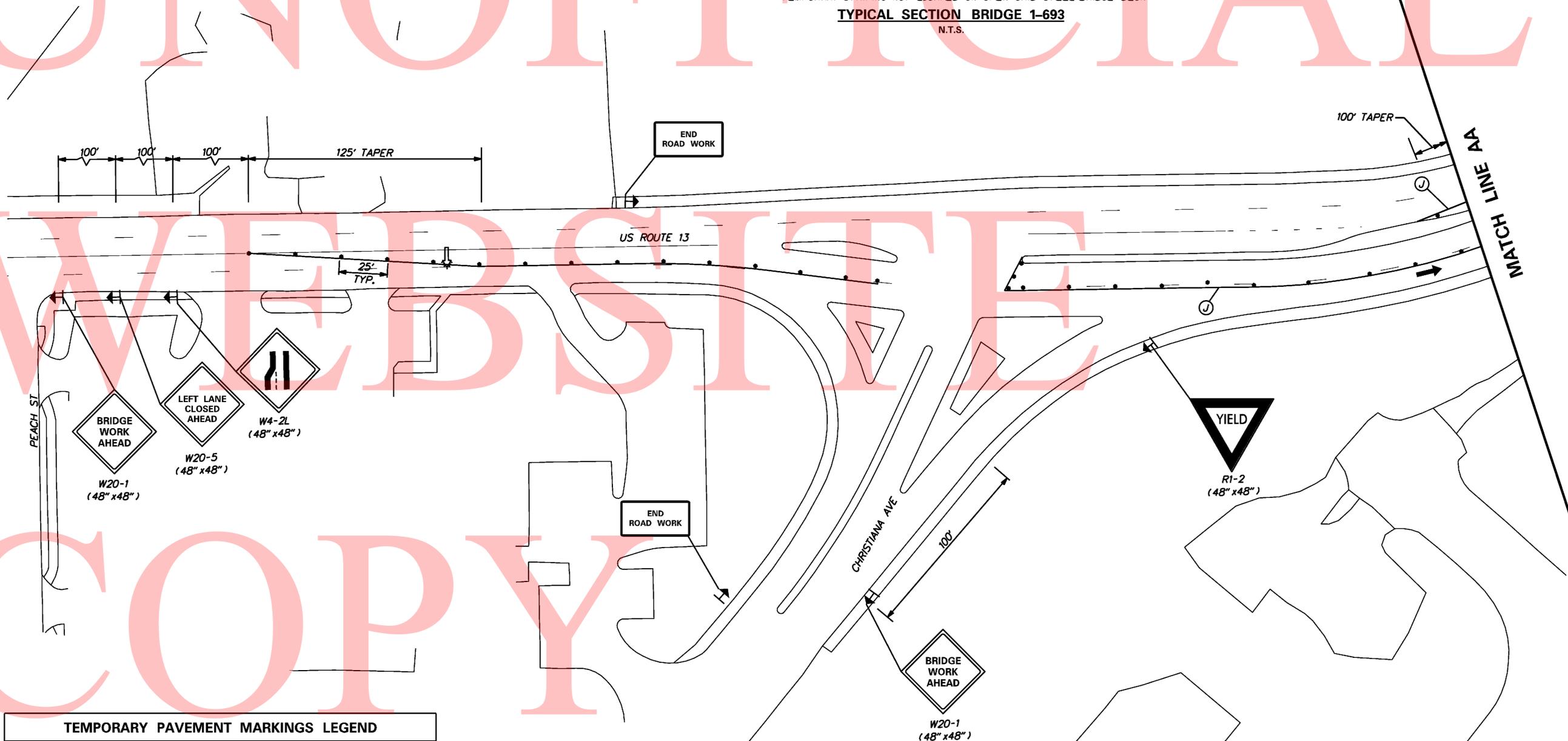


TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(H)	4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	750 LF
(P)	WHITE TEMPORARY TAPE PAVEMENT SYMBOL (ITEM 748527)	205 SF

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 3
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR

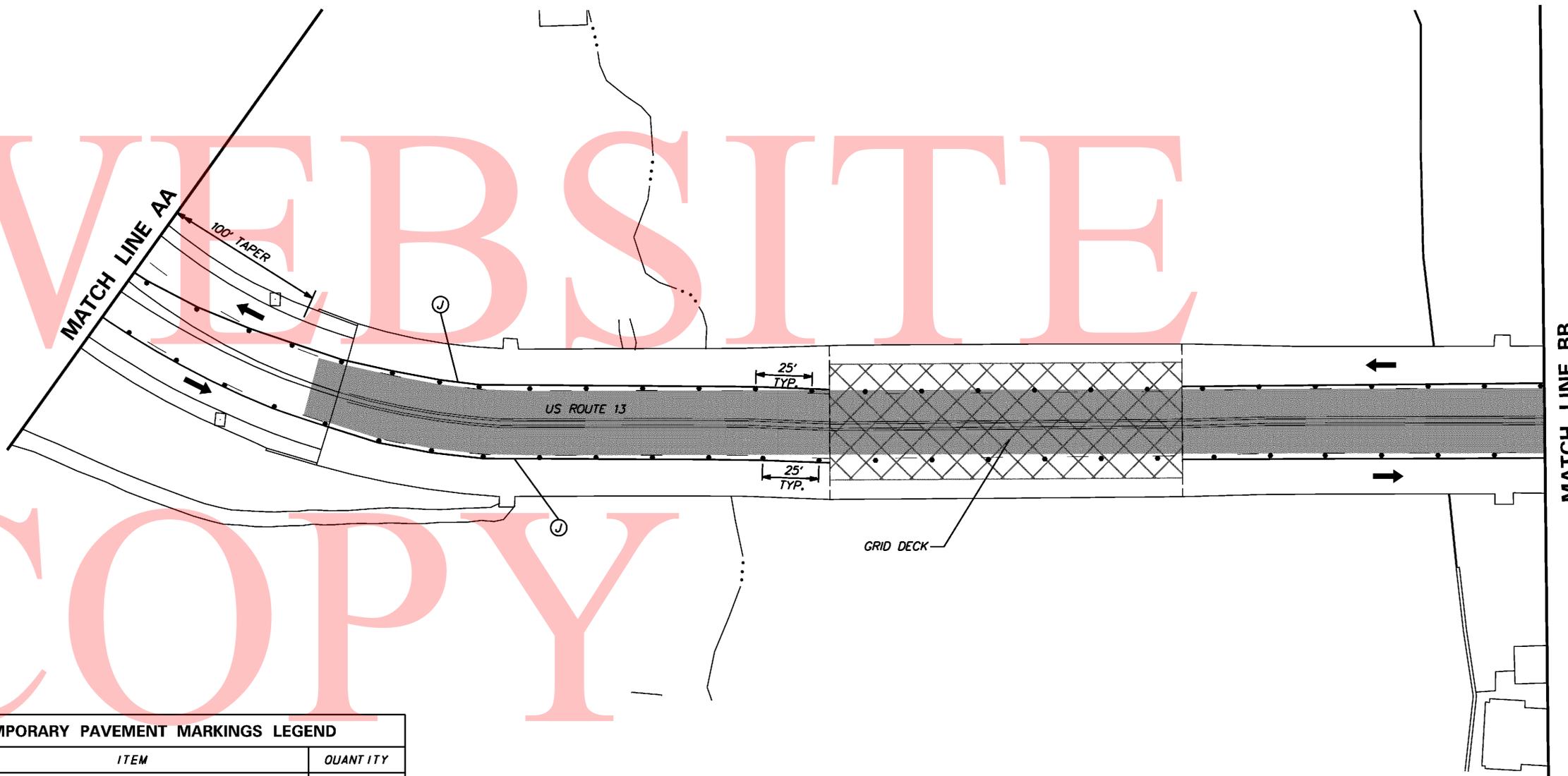
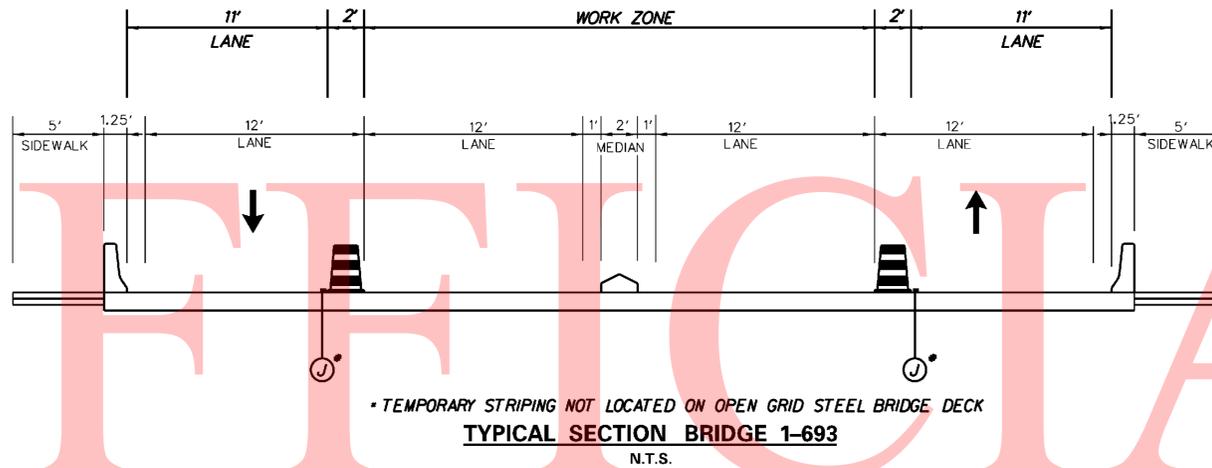


* TEMPORARY STRIPING NOT LOCATED ON OPEN GRID STEEL BRIDGE DECK
TYPICAL SECTION BRIDGE 1-693
 N.T.S.

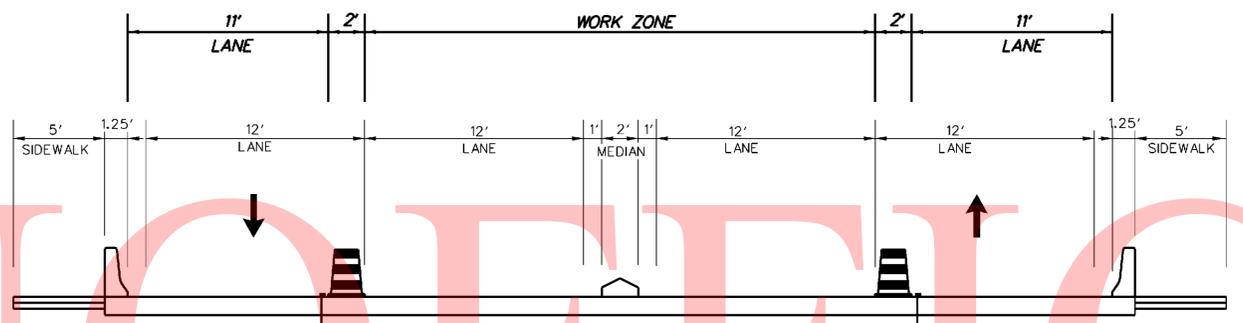
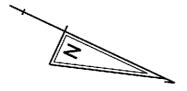


TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
	4" SOLID YELLOW TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	625 LF

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 3
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR



TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
	4" SOLID YELLOW TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	1025 LF

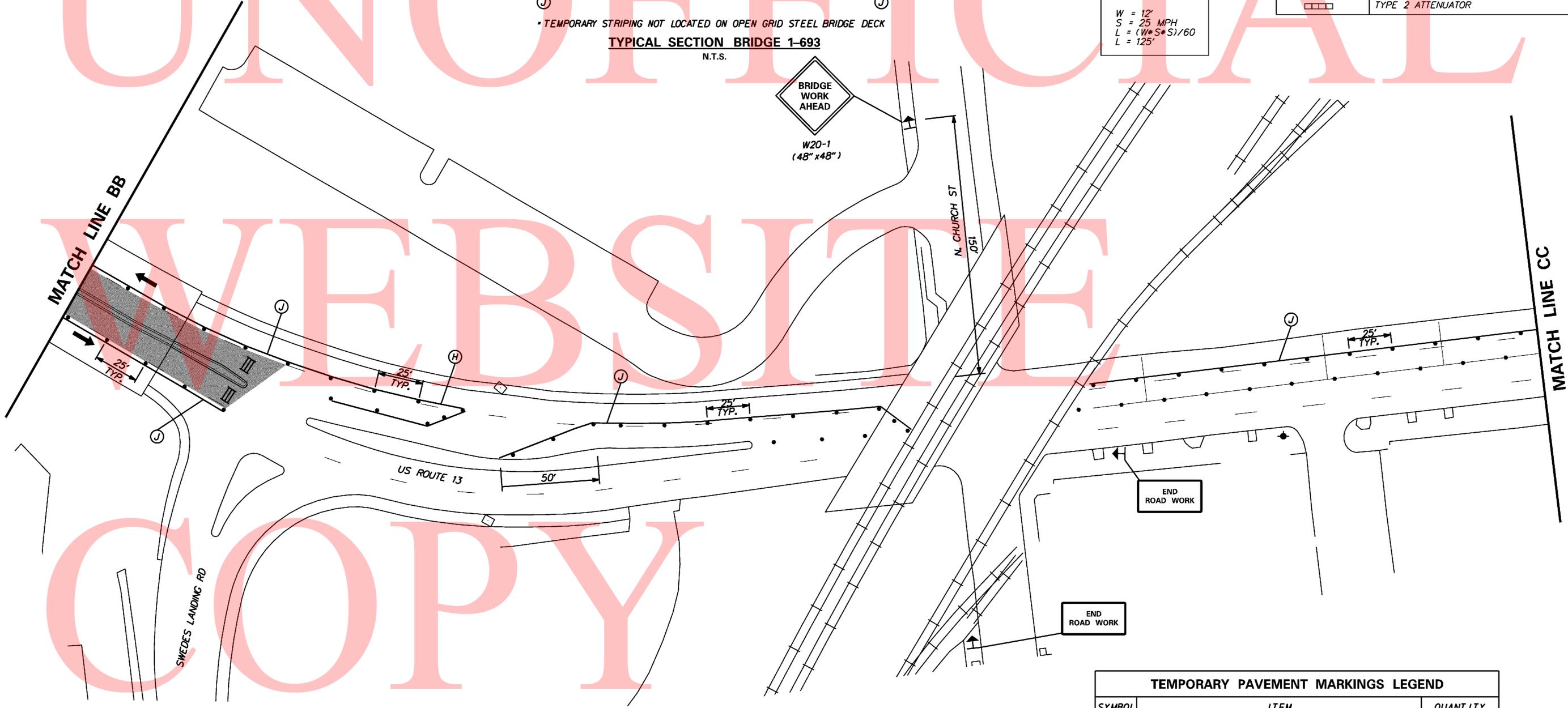


* TEMPORARY STRIPING NOT LOCATED ON OPEN GRID STEEL BRIDGE DECK

TYPICAL SECTION BRIDGE 1-693
N.T.S.

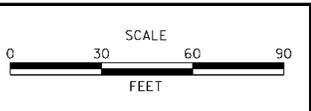
W = 12'
S = 25 MPH
L = (W*S*S)/60
L = 125'

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 3
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	TYPE 2 ATTENUATOR



TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(J)	4" SOLID YELLOW TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	775 LF
(H)	4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	210 LF

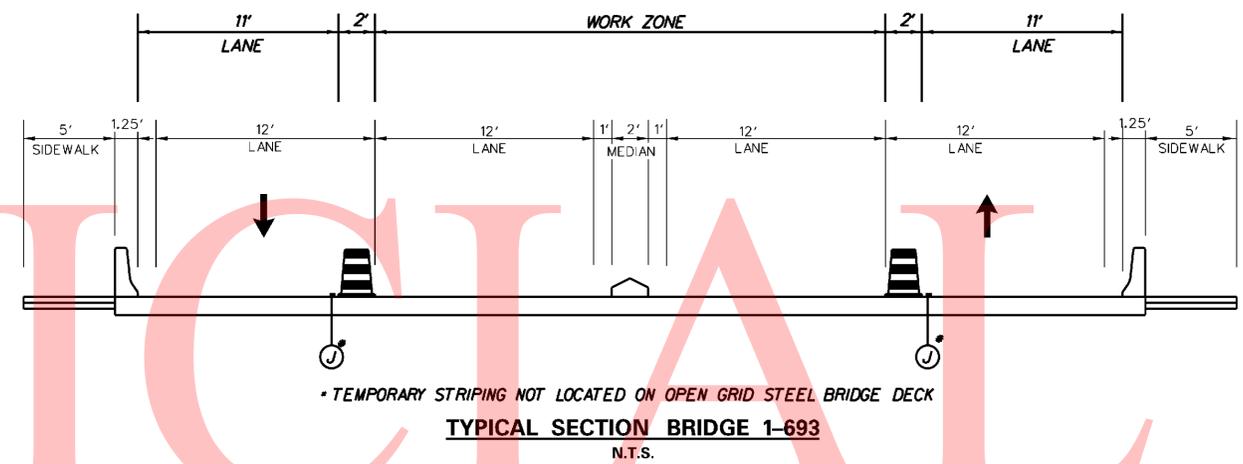
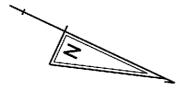
ADDENDUMS / REVISIONS	



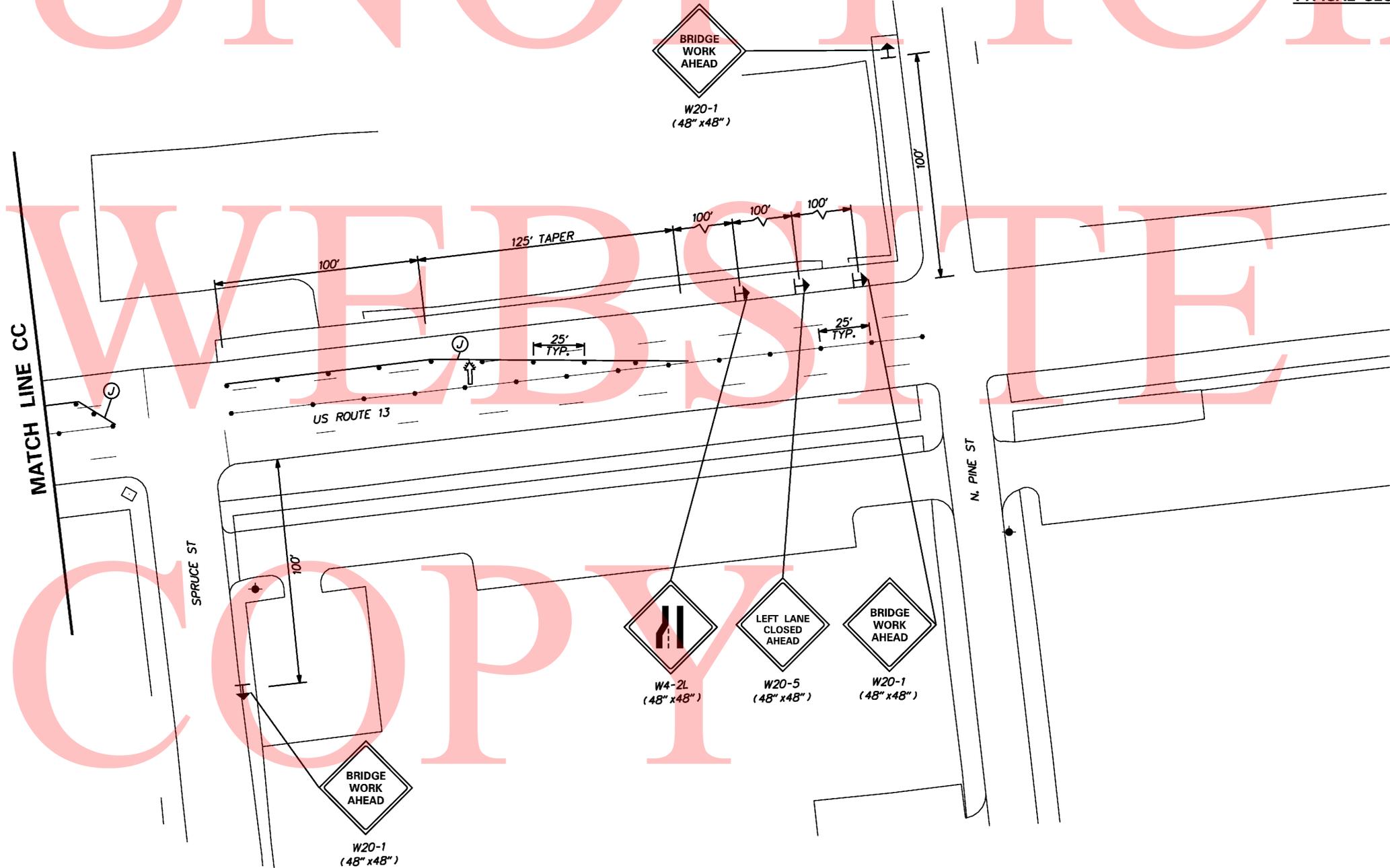
BR 1-687,1-688,1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT	BRIDGE NO.	1-693
T201007405	DESIGNED BY: TM	
COUNTY	CHECKED BY: MAA	
NEW CASTLE		

MOT - PHASE 3



UNOFFICIAL

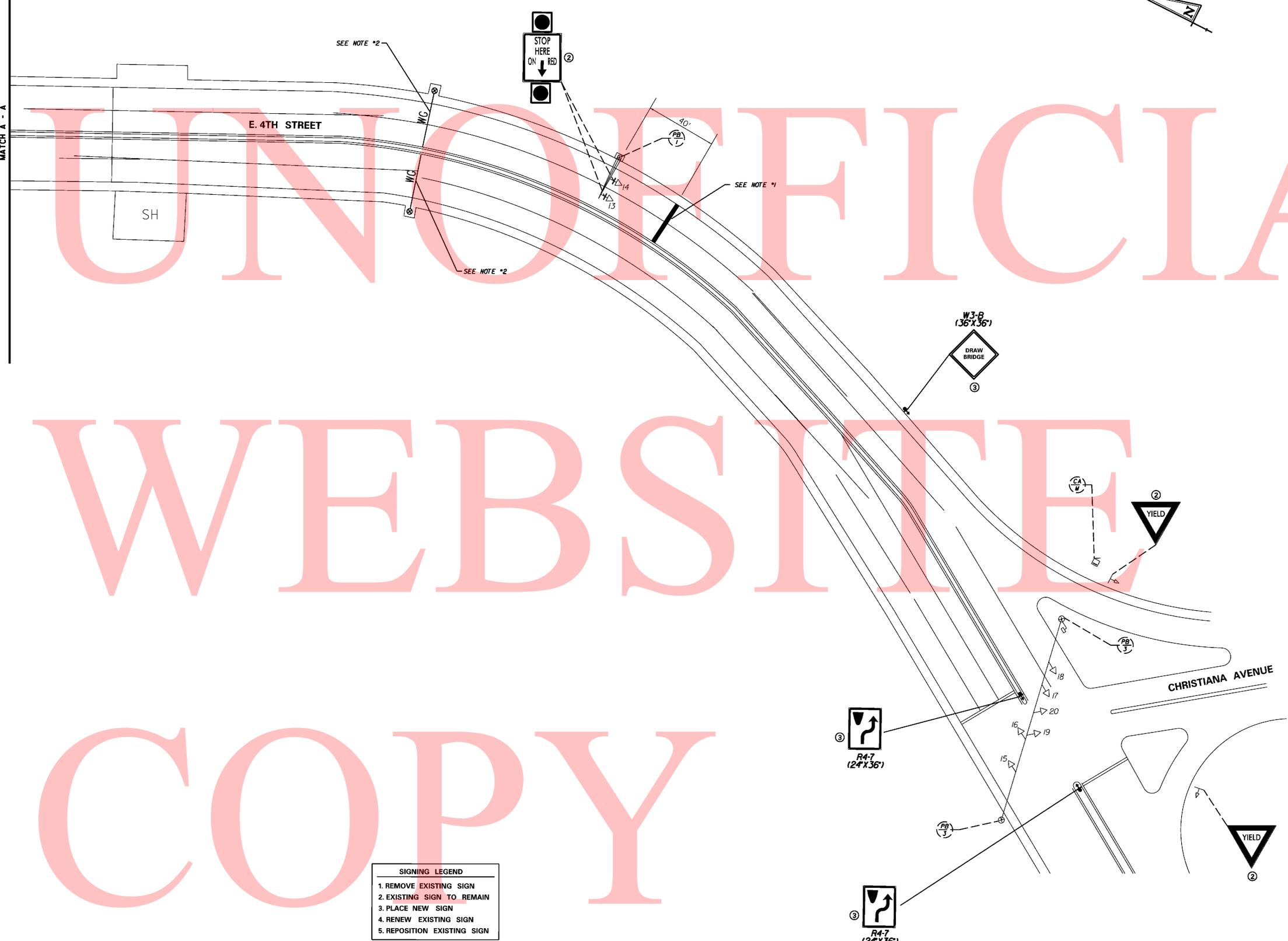


$W = 12'$
 $S = 25 \text{ MPH}$
 $L = (W * S * S) / 60$
 $L = 125'$

CONSTRUCTION PHASING LEGEND	
	WORK AREA PHASE 3
	STRUCTURE MOUNTED TEMPORARY CONCRETE BARRIER
	PHASING TRAFFIC FLOW ARROW
	WARNING SIGN
	PLASTIC DRUM
	ARROW PANEL
	TRUCK MOUNTED ATTENUATOR
	BARRICADE, TYPE 3
	CRASH CUSHION ARRAY

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
	4" SOLID YELLOW TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525)	250 LF

MATCH A - A



UNOFFICIAL
WEBSITE
COPY

SIGNING LEGEND

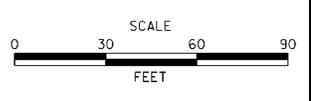
1. REMOVE EXISTING SIGN
2. EXISTING SIGN TO REMAIN
3. PLACE NEW SIGN
4. RENEW EXISTING SIGN
5. REPOSITION EXISTING SIGN

LEGEND

	PROPOSED SIGNAL CABINET		REMOVE BY CONTRACTOR
	EXISTING SIGNAL CABINET		REMOVE BY OTHERS
	PROPOSED SIGNAL POLE BASE		ABANDON
	EXISTING SIGNAL POLE BASE		PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
	PROPOSED PEDESTRIAN POLE BASE		EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
	EXISTING PEDESTRIAN POLE BASE		PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
	PROPOSED WOOD POLE		EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
	EXISTING UTILITY POLE		PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)
	PROPOSED JUNCTION WELL		EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)
	EXISTING JUNCTION WELL		PROPOSED OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
	PROPOSED SIGNAL HEAD		EXISTING OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
	EXISTING SIGNAL HEAD		PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)
	PROPOSED PEDESTRIAN SIGNAL HEAD		EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)
	EXISTING PEDESTRIAN SIGNAL HEAD		PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)
	PROPOSED PEDESTRIAN PUSHBUTTON		EXISTING CABINET IDENTIFIER (TYPE OF CABINET)
	EXISTING PEDESTRIAN PUSHBUTTON		PROPOSED SPAN WIRE
	PROPOSED VIDEO DETECTION		EXISTING SPAN WIRE
	EXISTING VIDEO DETECTION		RIGHT-OF-WAY OR PROPERTY LINE
	PROPOSED MICROWAVE DETECTION		PROPOSED FLASHING SIGN ASSEMBLY
	EXISTING MICROWAVE DETECTION		PROPOSED WARNING GATE
	PROPOSED OVERHEAD SIGNING		EXISTING WARNING GATE
	EXISTING OVERHEAD SIGNING		PROPOSED RESISTANCE GATE
	PROPOSED OPTICOM RECEIVER		EXISTING RESISTANCE GATE
	EXISTING OPTICOM RECEIVER		
	PROPOSED MAST ARM		
	EXISTING MAST ARM		
	PROPOSED SIGN		
	EXISTING SIGN		
	STORAGE HOUSE		
	CONTROL HOUSE		

- NOTES**
1. INSTALL 16" THICK STOP LINE AS SHOWN.
 2. REPLACE EXISTING WARNING GATES WITH GATES THAT MEET THE REQUIREMENTS OF THE 2009 MUTCD SECTION 4J.02. THE WARNING GATES SHALL BE AT LEAST STANDARD RAILROAD SIZE STRIPED WITH 16-INCH ALTERNATE VERTICAL FULLY REFLECTORIZED RED AND WHITE STRIPES. FLASHING RED LIGHTS IN ACCORDANCE WITH THE STANDARDS FOR THOSE ON RAILROAD GATES (SEE SECTION 8C.04) SHALL BE INCLUDED ON THE GATE ARM AND THEY SHALL ONLY BE OPERATED IF THE GATE IS CLOSED OR IN THE PROCESS OF BEING OPENED OR CLOSED. IN THE HORIZONTAL POSITION, THE TOP OF THE GATE SHALL BE APPROXIMATELY 4 FEET ABOVE THE PAVEMENT. THE LENGTH, MATERIAL AND CONFIGURATION SHALL BE THE SAME AS THE EXISTING GATE ARMS AND SHALL BE SUPPLIED BY B&B ROADWAY OR AN APPROVED EQUAL.
 3. ALL SIGNAL EQUIPMENT REMOVED FROM THE PROJECT IS TO BE RETURNED TO DELDOT TRAFFIC - DOVER, DELAWARE.

ADDENDUM / REVISIONS	

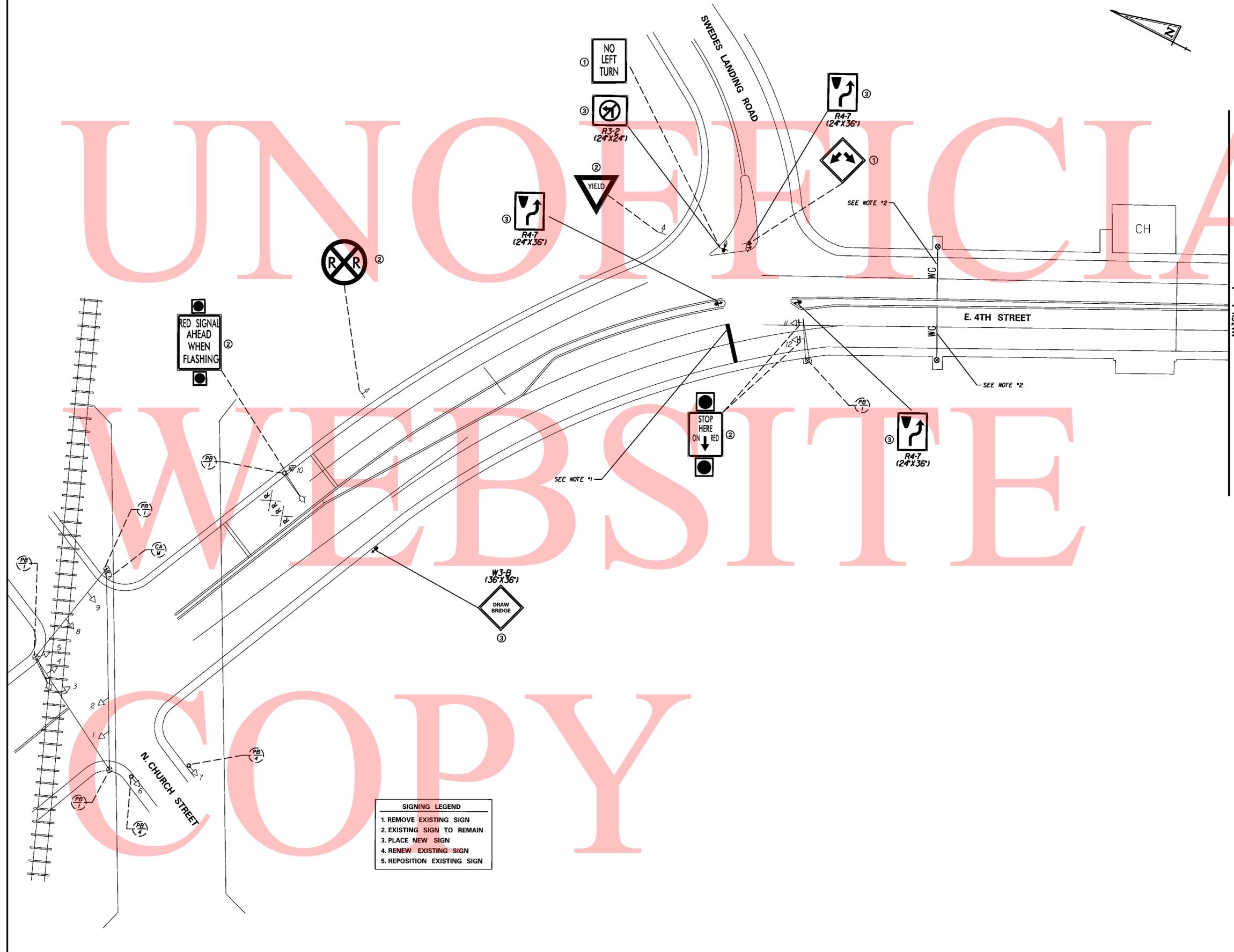


BR 1-687, 1-688, 1-693; SOUTH WALNUT STREET, SOUTH MARKET STREET AND FOURTH STREET OVER CHRISTINA RIVER

CONTRACT	BRIDGE NO.	I-693
T201007405	DESIGNED BY:	SJE
COUNTY	CHECKED BY:	JTE
NEW CASTLE		

SIGNING AND STRIPING PLAN		SHEET NO.
		109
		TOTAL SHTS.
		111

UNOFFICIAL



LEGEND			
	PROPOSED SIGNAL CABINET		REMOVE BY CONTRACTOR
	EXISTING SIGNAL CABINET		REMOVE BY OTHERS
	PROPOSED SIGNAL POLE BASE		ABANDON
	EXISTING SIGNAL POLE BASE		PROPOSED POLE BASE IDENTIFIER (TYPE OF POLE BASE)
	PROPOSED PEDESTRIAN POLE BASE		EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
	EXISTING PEDESTRIAN POLE BASE		PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
	PROPOSED WOOD POLE		EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
	EXISTING UTILITY POLE		PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)
	PROPOSED JUNCTION WELL		EXISTING CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)
	EXISTING JUNCTION WELL		PROPOSED OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
	PROPOSED SIGNAL HEAD		EXISTING OVERHEAD RUN IDENTIFIER (# OF OVERHEAD RUN)
	EXISTING SIGNAL HEAD		PROPOSED MAST ARM IDENTIFIER (LENGTH OF ARM)
	PROPOSED PEDESTRIAN SIGNAL HEAD		EXISTING MAST ARM IDENTIFIER (LENGTH OF ARM)
	EXISTING PEDESTRIAN SIGNAL HEAD		PROPOSED CABINET IDENTIFIER (TYPE OF CABINET)
	PROPOSED PEDESTRIAN PUSHBUTTON		EXISTING CABINET IDENTIFIER (TYPE OF CABINET)
	EXISTING PEDESTRIAN PUSHBUTTON		PROPOSED SPAN WIRE
	PROPOSED VIDEO DETECTION		EXISTING SPAN WIRE
	EXISTING VIDEO DETECTION		RIGHT-OF-WAY OR PROPERTY LINE
	PROPOSED MICROWAVE DETECTION		PROPOSED FLASHING SIGN ASSEMBLY
	EXISTING MICROWAVE DETECTION		PROPOSED WARNING GATE
	PROPOSED OVERHEAD SIGNING		EXISTING WARNING GATE
	PROPOSED OPTICOM RECEIVER		PROPOSED RESISTANCE GATE
	EXISTING OPTICOM RECEIVER		EXISTING RESISTANCE GATE
	PROPOSED MAST ARM		
	EXISTING MAST ARM		
	EXISTING SIGN		
	PROPOSED SIGN		
	STORAGE HOUSE		
	CONTROL HOUSE		

SIGNING LEGEND
1. REMOVE EXISTING SIGN
2. EXISTING SIGN TO REMAIN
3. PLACE NEW SIGN
4. RENEW EXISTING SIGN
5. REPOSITION EXISTING SIGN

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