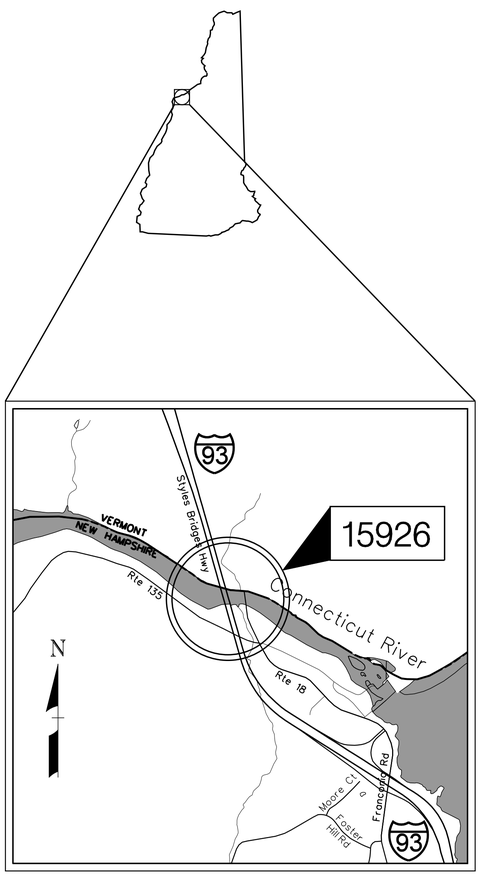
STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLANS
FEDERAL AID PROJECT

A001(041)
N. H. PROJECT NO. 15926
I-93 NB OVER CONNECTICUT RIVER
I-93 SB OVER CONNECTICUT RIVER

SB I-93 DESIGN DATA	
AVERAGE DAILY TRAFFIC 20 08	2802
AVERAGE DAILY TRAFFIC 20 28	4147
PERCENT OF TRUCKS	9%
DESIGN SPEED	70
LENGTH OF PROJECT	900 FT

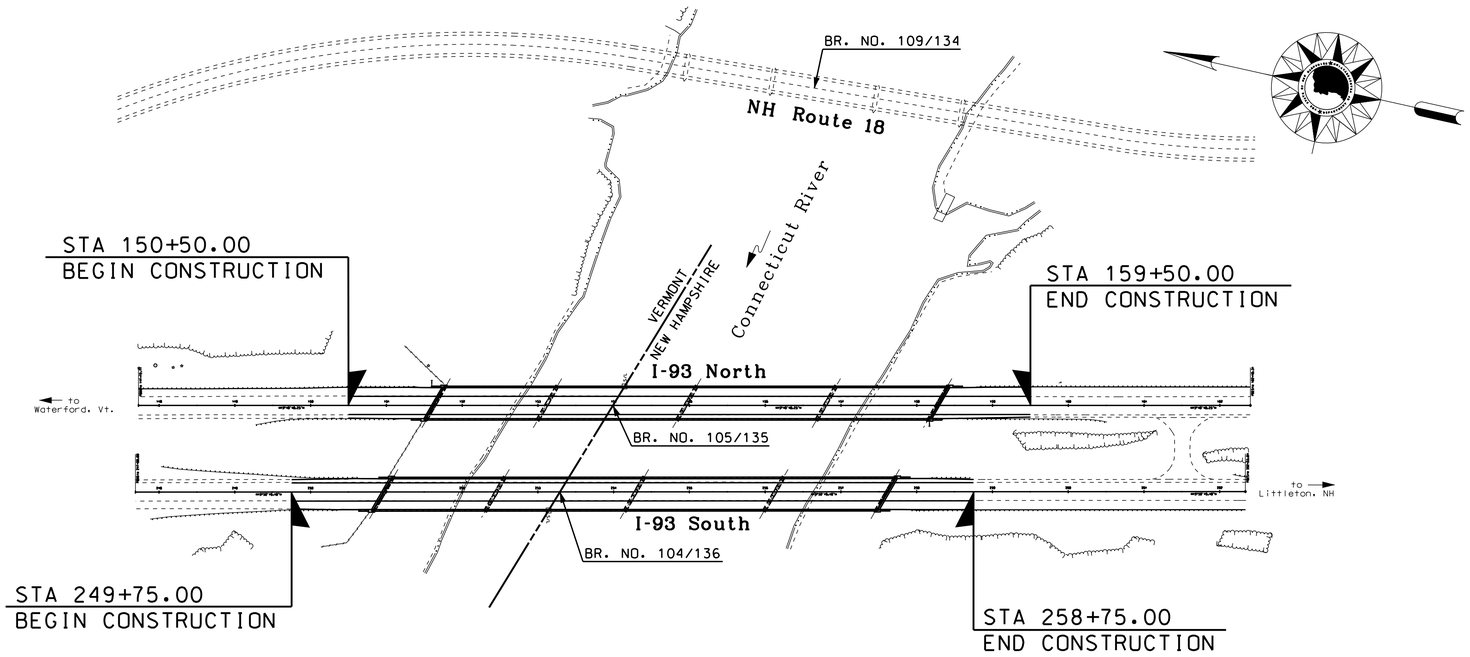
NB I-93 DESIGN DATA	
AVERAGE DAILY TRAFFIC 20 08	2801
AVERAGE DAILY TRAFFIC 20 28	4399
PERCENT OF TRUCKS	9%
DESIGN SPEED	70
LENGTH OF PROJECT	900 FT



LOCATION MAP

1/2 1/4 0 1/2 1 mi.

GRAPHIC SCALE



DRAWN BY J. BAILEY DATE 01-21-11
CHECKED BY C. CUCCO DATE 01-21-11

PLANS PREPARED BY

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

TOWN OF LITTLETON
GRAFTON
SCALE: 1" = 100'

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

NHDOT THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL:

DIRECTOR OF PROJECT DEVELOPMENT — DATE

APPROVED:

ASSISTANT COMMISSIONER AND CHIEF ENGINEER — DATE

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR — DATE

FILE NUMBER	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926	1	64

INDEX OF SHEETS

GENERAL NOTES

1. FOR STANDARD PLANS, SEE "STANDARD PLANS FOR ROAD CONSTRUCTION: DATED 2010 (A BOUND BOOK).
2. HIGH TENSION OVERHEAD TRANSMISSION LINES ARE LOCATED THROUGHOUT THE PROJECT WITH CROSSINGS AT VARIOUS LOCATIONS AND RUNNING ALONG THE ROAD THROUGHOUT THE PROJECT EVEN ON REGULAR POLES. THE CONTRACTOR IS ADVISED THAT EXTREME CAUTION WILL BE REQUIRED IN THE OPERATION OF EQUIPMENT, ESPECIALLY CRANES AND PILE DRIVING EQUIPMENT.
3. REMOVE TOPSOIL FOR ITS TOTAL DEPTH WITHIN THE LIMITS OF THE SLOPE LINES. UNLESS OTHERWISE DIRECTED, STOCKPILE TOPSOIL AND USE IT ON THIS PROJECT AS NEEDED UNDER SECTION 641 - LOAM AND/OR SECTION 647 - HUMUS.
4. REMOVAL OF EXISTING CONCRETE PAVEMENT WILL BE PAID UNDER ITEM 203.2 - ROCK EXCAVATION. THE BITUMINOUS PAVEMENT ABOVE THE CONCRETE WILL NOT BE PAID UNDER ITEM 203.2.
5. MODIFY SUPERELEVATION ON EXISTING CURVES BY THE USE OF A LEVELING COURSE TO THE RATES INDICATED ON THE PLANS OR AS ORDERED.
6. EXISTING DELINEATORS AND WITNESS MARKERS THAT ARE REMOVED AND DETERMINED BY THE ENGINEER TO BE IN ACCEPTABLE CONDITION SHALL BE RESET (SUBSIDIARY). ADDITIONAL DELINEATORS AND WITNESS MARKERS ORDERED WILL BE PAID UNDER THE APPROPRIATE ITEMS OF THE CONTRACT.
7. NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
8. PERFORM ALL WORK WITHIN THE EXISTING RIGHT-OF-WAY, UNLESS OTHERWISE SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER.
9. REMOVE UNPROTECTED PROJECT MARKERS (SUBSIDIARY).
10. SURVEY DATA FOR THIS PROJECT WAS COLLECTED BY SDR AND THE FIELD NOTES CAN BE FOUND IN THE FIELD BOOK(S) _____. COORDINATES ARE NEW HAMPSHIRE STATE PLANE COORDINATES OF NAD83, 1986 ADJUSTMENT AND THE BEARINGS ARE GRID. ELEVATIONS ARE REFERENCED TO NGVD 1929.
11. QUANTITIES FOR EMBANKMENT AND EXCAVATION FOR SLOPE ROUNDINGS AS SHOWN ON THE TYPICALS HAVE NOT BEEN CALCULATED AND ARE NOT INCLUDED IN THE QUANTITY SUMMARIES, AND ARE CONSIDERED SUBSIDIARY TO THE APPROPRIATE 203 ITEMS.

THE FOLLOWING GENERAL NOTES WILL BE USED ON THIS PROJECT:											
(1)	◯	◯	◯	◯	(6)	(7)	(8)	◯	◯	◯	◯
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

REVISIONS AFTER PROPOSAL

DESCRIPTION	STATION	STATION	DATE	NUMBER

SDR PROCESSED	XX	DATE XX
NEW DESIGN	J. BAILEY	DATE 01-21-11
SHEET CHECKED	C. CUCCO	DATE 01-21-11
AS BUILT DETAILS		DATE

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF BRIDGE DESIGN

INDEX OF SHEETS AND GENERAL NOTES

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926ind	15926	2	64

GENERAL

EDGE OF PAVEMENT
TRAVELED WAY

PROPOSED ROADWAY | existing roadway | (pavement removed outside slope lines)

DRIVEWAYS

(label surface type)

BUILDINGS

(building to be removed)

(label house or type of building)

FOUNDATION

(label type)

LEACH FIELD

leach field

BRIDGE CROSSINGS

STREAM | OVERPASS

STEPS AND WALK

(label type)

INTERMITTENT WATER COURSE

SHORE LINE

river/stream | pond | (label name of water body)

POTENTIAL WET AREA SYMBOL

BRUSH OR WOODS LINE

TREES (PLANS)

(deciduous) (coniferous) (stump)

TREE OR STUMP (CROSS-SECTIONS)

(show station, circumference in feet & type)

HEDGE

(label type)

MONITORING WELL

mon W

WELL

W

FLAG POLE

fp

ORIGINAL GROUND (TYPICALS)

ROCK OUTCROP

ROCK LINE (TYPICALS & SECTIONS ONLY)

existing | PROPOSED

GUARDRAIL (LABEL TYPE)

bgr
cgr

JERSEY BARRIER

CURB (LABEL TYPE)

STONE WALL

RETAINING WALL (LABEL TYPE)

(points toward retained ground)

FENCE (LABEL TYPE)

SIGNS

(single post)
(double post)

GAS PUMP

gp

FUEL TANK (ABOVE GROUND)

ft (label size & type)

STORAGE TANK FILLER CAP

fc

SEPTIC TANK

S

GRAVE

gr

MAILBOX

mb

VENT PIPE

vp

SATELLITE DISH ANTENNA

da

PHONE

ph

GROUND LIGHT/LAMP POST

gl lp

BORING LOCATION

B

TEST PIT

TP

INTERSTATE NUMBERED HIGHWAY

293

UNITED STATES NUMBERED HIGHWAY

3

STATE NUMBERED HIGHWAY

102

WETLANDS

WETLAND DESIGNATION AND TYPE — 2 / PUB2E

DELINEATED WETLAND — DW

PRIME WETLAND — PWET

ORDINARY HIGH WATER — OHW

TOP OF BANK — TOB

TOP OF BANK & ORDINARY HIGH WATER — TOBOHW

MEAN HIGH TIDE — MHT

TIDAL BUFFER ZONE — TBZ

HIGHEST OBSERVABLE TIDAL LINE — HOTL

SPECIAL AQUATIC SITE — SAS

VERNAL POOL — VP

INVASIVE SPECIES LABEL — I.S. I / I.S. II

INVASIVE SPECIES — INV

WATER FRONT BUFFER — WB50

NATURAL WOODLAND BUFFER — NWB150

PROTECTED SHORE LAND — PS250

FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY — FP500

100 YEAR FLOODPLAIN BOUNDARY — FP100

FLOODWAY — FW

ENGINEERING

CONSTRUCTION BASELINE — 30 | 31 | 32

PC, PT, POT (ON CONST BASELINE)

PI (IN CONSTRUCTION BASELINES)

INTERSECTION OR EQUATION OF TWO LINES

ORIGINAL GROUND LINE (PROFILES AND CROSS-SECTIONS)

PROFILE GRADE LINE (PROFILES AND CROSS-SECTIONS)

SLOPE LINE | CLEARING LINE

CLEARING LINE

SLOPE LINE

SLOPE LINE (FILL)

SLOPE LINE (CUT)

PROFILES AND CROSS SECTIONS:
ORIGINAL GROUND ELEVATION (LEFT) 72.5
FINISHED GRADE ELEVATION (RIGHT) 79.14

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

FILE NUMBER	REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	3/9/09	15926sym	15926	3	64

DRAINAGE

MANHOLE — mh (existing) — ● (PROPOSED)

CATCH BASIN — cb (existing) — ■ (PROPOSED)

DROP INLET — di (existing) — ■ (PROPOSED)

DRAINAGE PIPE (existing) — (label size & type)

DRAINAGE PIPE (PROPOSED) — (label size & type)

UNDERDRAIN (existing) W/ FLUSHING BASIN — fb

UNDERDRAIN (PROPOSED) W/ FLUSHING BASIN

show direction of flow

HEADER (existing & PROPOSED) — (with stone outlet protection)

END SECTION (existing & PROPOSED) — METAL or PLASTIC; RCP

OPEN DITCH (PROPOSED)

EROSION CONTROL/ STONE SLOPE PROTECTION

BOUNDARIES / RIGHT-OF-WAY

RIGHT-OF-WAY LINE — (label type)

RR RIGHT-OF-WAY LINE

PROPERTY LINE — PL

PROPERTY LINE (COMMON OWNER) — Z

TOWN LINE — BOW / CONCORD

COUNTY LINE — COOS / GRAFTON

STATE LINE — MAINE / NEW HAMPSHIRE

NATIONAL FOREST

LCHIP CONSERVATION EASEMENT

BENCH MARK / SURVEY DISK

BOUND — ○ bnd (PROPOSED) ●

STATE LINE/ TOWN LINE MONUMENT — S/L — T/L

NHDOT PROJECT MARKER

IRON PIPE OR PIN — ip

DRILL HOLE IN ROCK — dh

TAX MAP AND LOT NUMBER — 156 / 14

1642/341

6.80 Ac.±

PROPERTY PARCEL NUMBER — 12

HISTORIC PROPERTY — H

UTILITIES

existing / PROPOSED

TELEPHONE POLE

POWER POLE

JOINT OCCUPANCY

MISCELLANEOUS/UNKNOWN POLE

GUY POLE OR PUSH BRACE

(plot point at face not center of symbol)

LIGHT POLE

LIGHT ON POWER POLE

LIGHT ON JOINT POLE

POLE STATUS:
REMOVE, LEAVE, PROPOSED, OR TEMPORARY
AS APPLICABLE e.g.:

R L — P+04 25.0' — T+04 25.0'

RAILROAD — (label ownership)

RAILROAD SIGN

RAILROAD SIGNAL

UTILITY JUNCTION BOX — jb — JB

OVERHEAD ELECTRIC — OE — OE

UNDERGROUND UTILITIES

WATER (on existing lines label size, type and note if abandoned) — W — W — PW — PW

SEWER — S — S — PS — PS

TELEPHONE — T — T — PT — PT

ELECTRIC — E — E — PE — PE

GAS — G — G — PG — PG

LIGHTING — L — L — PL — PL

INTELLIGENT TRANSPORTATION SYSTEM — ITS — ITS — PITS — PITS

FIBER OPTIC — FO — FO — PFO — PFO

WATER GATE

WATER SHUT OFF

GAS SHUT OFF

HYDRANT

MANHOLES

SEWER — MHS

TELEPHONE — MHT

ELECTRICAL — MHE

GAS — MHG

TRAFFIC SIGNALS

existing / PROPOSED

MAST ARM (existing) — 30' MA (NOTE ANGLE FROM ℄)

OPTICOM RECEIVER

OPTICOM STROBE

TRAFFIC SIGNAL

PEDESTAL WITH PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON UNIT

SIGNAL CONDUIT — C — C — C — PC — PC — PC

CONTROLLER CABINET — cc — CC

METER PEDESTAL — mp — MP

PULL BOX — pb — PB

LOOP DETECTOR (QUADRUPOLE) — (label size)

LOOP DETECTOR (RECTANGULAR) — (label size)

CONSTRUCTION NOTES

CURB MARK NUMBER - BITUMINOUS	B-1
CURB MARK NUMBER - GRANITE	G-1
CLEARING AND GRUBBING AREA	A
DRAINAGE NOTE	1
EROSION CONTROL NOTE	A
FENCING NOTE	A
GUARDRAIL NOTE	1
LIGHTING NOTE	A
TRAFFIC SIGNAL NOTE	1

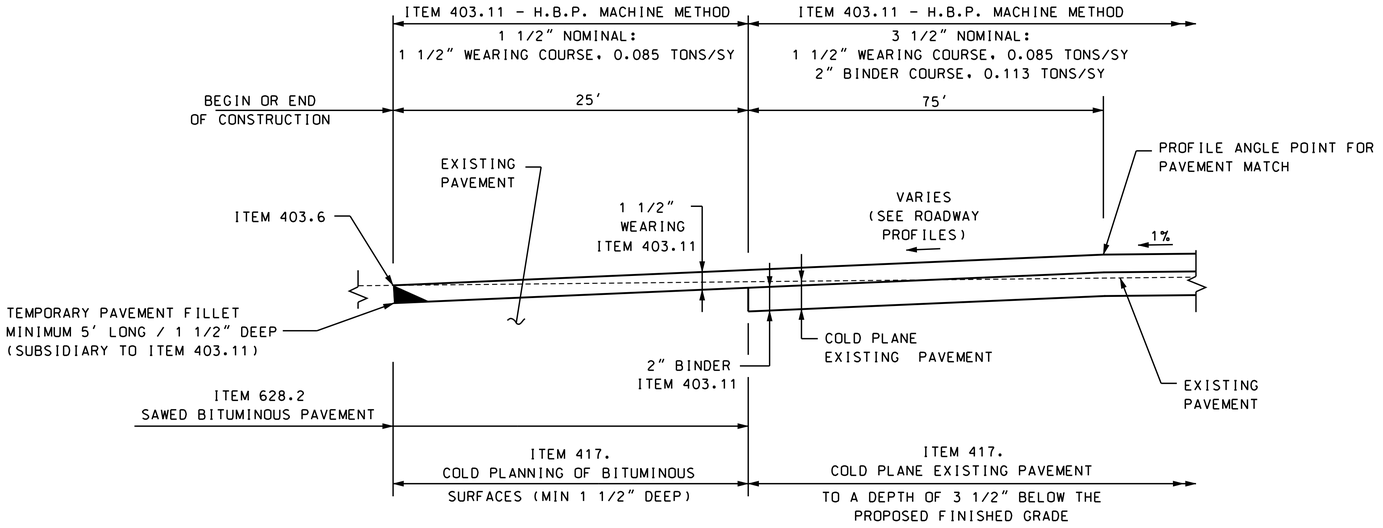
PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

FILE NUMBER	REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	3/9/09	15926sym	15926	4	64

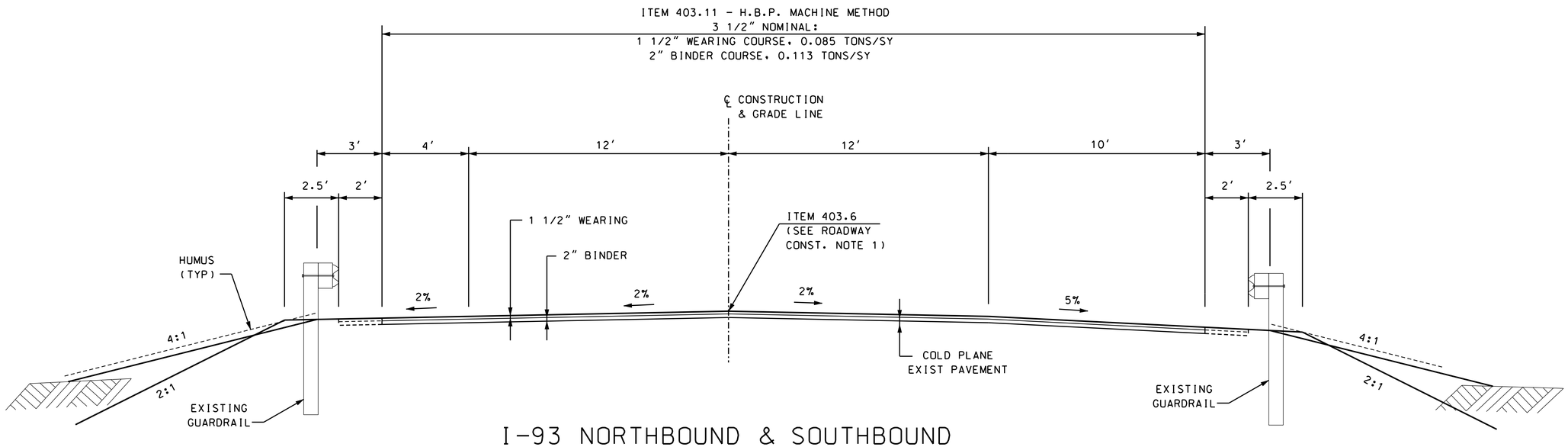


PAVEMENT MATCH

NOT TO SCALE

ROADWAY CONSTRUCTION NOTES

1) APPLY PAVEMENT JOINT ADHESIVE (ITEM 403.6) ON ALL EXPOSED LONGITUDINAL JOINTS PRIOR TO EACH WEARING COURSE PASS INCLUDING THE WEARING COURSE JOINT ACROSS THE PROPOSED BRIDGE DECK. PAVEMENT JOINT ADHESIVE SHALL ALSO BE APPLIED AT THE PAVEMENT MATCH TRANSVERSE JOINTS PRIOR TO INSTALLING THE WEARING COURSE.



I-93 NORTHBOUND & SOUTHBOUND

PRELIMINARY PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

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

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF BRIDGE DESIGN

TYPICAL SECTIONS FOR ROADWAY

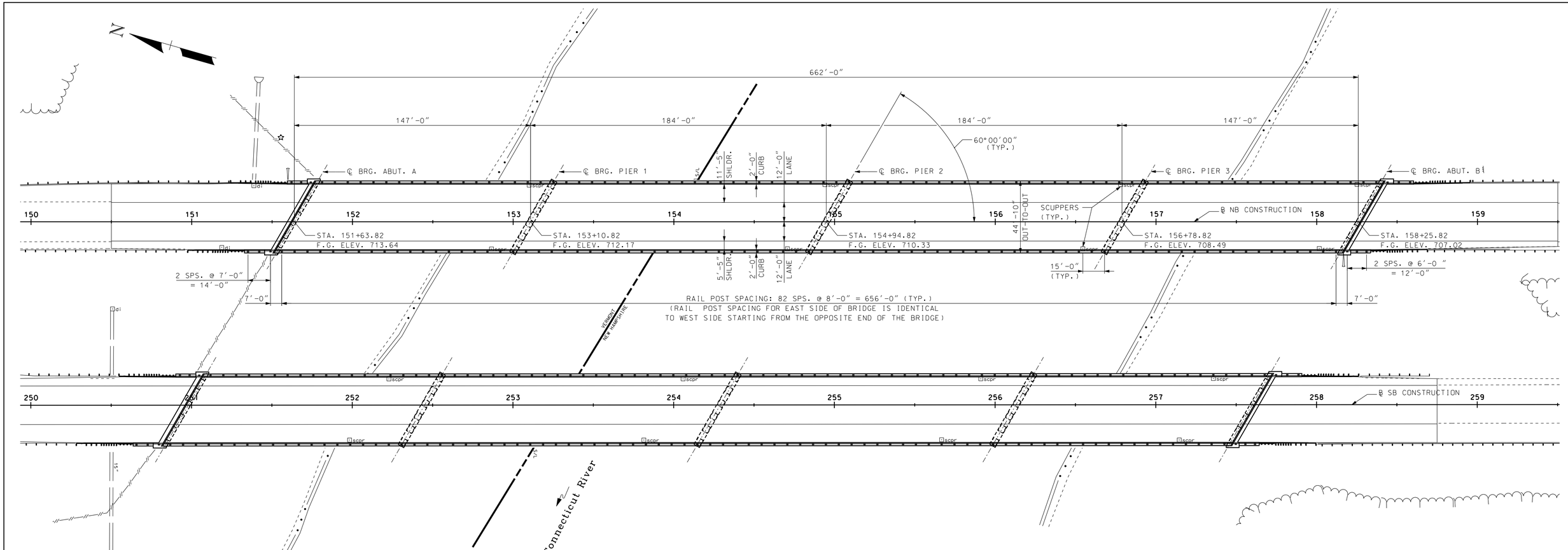
Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926typ	15926	5	64

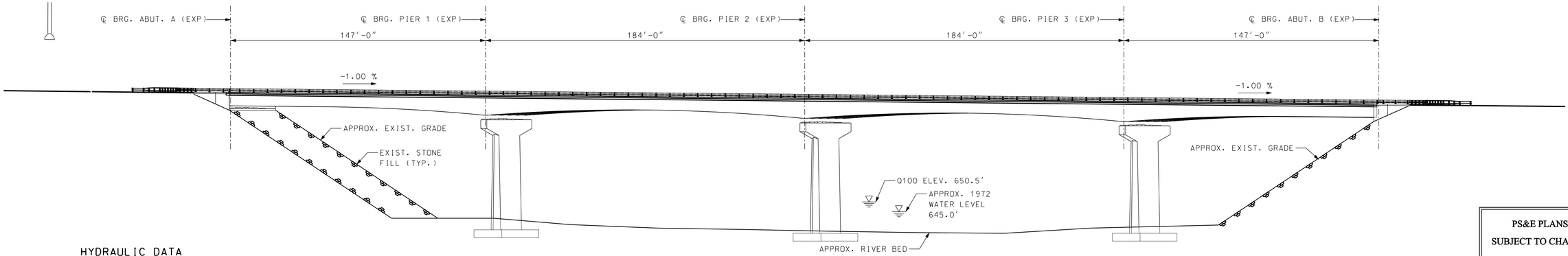
REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCCESSED	XX	DATE XX
NEW DESIGN	J. BAILEY	DATE 01-21-11
SHEET CHECKED	A. CIOLFI	DATE 01-21-11
AS BUILT DETAILS		DATE



GENERAL PLAN



ELEVATION

HYDRAULIC DATA

(1) DRAINAGE AREA: XX

(2) DESIGN FLOOD: XX

(3) DESIGN VELOCITY: XX

(4) DESIGN FLOOD ELEVATION: XXXX

(5) Q100 ELEVATION: 650.5'

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926GenPlan&Elevation105_135	1" = 30'

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926

LOCATION I-93 NB OVER CONNECTICUT RIVER

GENERAL PLAN & ELEVATION

BRIDGE SHEET: 1 OF 21

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A001(041)		6	64

FILE NUMBER: 30-2-3

DESIGN LOADS, MATERIALS AND SPECIFICATION

(1) DESIGN LOADING: HL-93 (NB DECK)

(2) DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN (LRFD) (NB DECK)

(3) SPECIFICATION: AASHTO 2007 LRFD BRIDGE DESIGN SPECIFICATIONS WITH 2008 INTERIMS
NHDOT 2010 STANDARD SPECIFICATIONS AS AMENDED

(4) FOUNDATION DATA: ABUTMENTS - END BEARING STEEL H-PILES
PIERS - SPREAD FOOTING

(5) REINFORCING STEEL: AASHTO M3.1 (ASTM A 615) GRADE 60
ITEM 544, REINFORCING STEEL
ITEM 544.11 REINFORCING STEEL, MECH. CONNECTORS
ITEM 544.2, REINFORCING STEEL, EPOXY COATED
ITEM 544.21, REINFORCONG STEEL, EPOXY COATED, MECH. CONNECTORS

(6) CONCRETE: ABUTMENTS AND WINGWALL PATCHING:
ITEM 520.01, CONCRETE CLASS AA
DECK SLAB AND BRUSH CURBS:
ITEM 520.70026, CONCRETE BRIDGE DECK
PANEL OPTION (QC/QA)(F)

BRIDGE REMOVAL NOTES

(1) THE CONTRACTOR SHALL SUBMIT, FOR DOCUMENTATION IN ACCORDANCE WITH SECTION 105.02, A DETAILED OUTLINE OR PLAN OF THE PROPOSED METHOD FOR THE REMOVAL OF THE EXISTING BRIDGE COMPONENTS PRIOR TO COMMENCEMENT OF ANY REMOVAL WORK.

(2) REMOVAL OF THE EXISTING BRIDGE STRUCTURE, ITEM 502.101, EXCEPT AS OTHERWISE SHOWN IN THE PLANS, SHALL INCLUDE THE COMPLETE REMOVAL OF THE EXISTING NB DECK AND REMOVAL OF NB AND SB ABUTMENT REINFORCED CONCRETE REQUIRED FOR RECONSTRUCTION AS SHOWN ON THE PLANS.

(3) THE VERMONT GEODETIC SURVEY BENCHMARK LOCATED AT THE NORTHEAST CORNER OF THE BRIDGE SHALL BE SALVAGED AND RETURNED TO:

DAN MARTIN - VERMONT GEODETIC SURVEY
NATIONAL LIFE DRIVE
MONTPELIER, VT 05633-5001
PHONE: 802-828-2952

GENERAL NOTES

(1) THE EXISTING PLANS, DATED 11-30-73, ARE LOCATED IN FILE NO. 30-2-3 AND MAY BE REVIEWED AT THE NHDOT, BUREAU OF BRIDGE DESIGN OFFICE DURING THE BIDDING PERIOD. AFTER THE CONTRACT IS AWARDED, A COMPLETE SET OF EXISTING PLANS WILL BE FORWARDED TO THE CONTRACTOR UPON REQUEST.

(2) THE CONTRACTOR SHOULD BE AWARE THAT THE EXISTING STRUCTURE PLAN ELEVATIONS SHOWN ON THESE PLANS WERE DECREASED BY 0.200 FT. FROM THE ORIGINAL BRIDGE PLANS. THE EXISTING STRUCTURE PLAN ELEVATIONS WERE ADJUSTED DUE TO DIFFERENCE FROM THE 2010 SURVEY DATUM AND THE AS-BUILT SURVEY DATUM. THE EXISTING DIMENSIONS AND ELEVATIONS SHOWN ON THE PLANS DO NOT NECESSARILY REPRESENT "AS BUILT" DIMENSION AND ELEVATIONS. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF THE EXISTING STRUCTURE AND BE PREPARED TO MAKE ANY ADJUSTMENTS REQUIRED TO PROPERLY REHABILITATE THE BRIDGE. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER, OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO ADVANCING THE WORK.

(3) PORTABLE BARRIERS AND ALL TRAFFIC CONTROL DEVICES & SIGNING SHALL BE IN PLACE BEFORE REMOVAL OPERATIONS BEGIN FOR EACH CONSTRUCTION PHASE.

(4) THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO INSURE THAT DEBRIS INCLUDING SLURRY FROM SAWCUTTING DOES NOT FALL INTO THE WATER BELOW THE EXISTING STRUCTURE. ALL COST SHALL BE PAID UNDER ITEM 502.101 AND SHALL INCLUDE ERECTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURES OR OTHER SUCH METHODS AS APPROVED.

(5) HOLES DRILLED IN EXISTING CONCRETE SHALL BE DRILLED $^1/_2$" LARGER THAN THE BAR DIAMETER AND GROUTED WITH HIGH STRENGTH, NON-SHRINK GROUT. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 502.101.

SUBSTRUCTURE REHABILITATION NOTES

(1) NEW CONCRETE TO RECONSTRUCT THE ABUTMENTS, WINGWALLS AND PIERS AS SHOWN ON THE PLANS OR DIRECTED SHALL BE ITEM 520.01, CONCRETE CLASS AA.

(2) EXISTING REINFORCING STEEL THAT IS TO REMAIN IN PLACE WITHIN THE REMOVAL AREAS SHALL BE CUT AS REQUIRED TO PROVIDE $2^1/_2$" MINIMUM CLEAR COVER FROM THE PROPOSED CONCRETE SURFACES, EXCEPT AS OTHERWISE NOTED. ALL COSTS INCLUDED IN ITEM 502.101. ALL NEW REINFORCING BARS SHALL HAVE A MINIMUM CLEAR COVER OF $2^1/_2$" FROM PROPOSED CONCRETE SURFACES.

(3) REMOVE ANY EXISTING LOOSE OR FLAKING EPOXY COATING FROM THE ABUTMENT AND PIER SEATS AS DIRECTED, COSTS PAID UNDER ITEM 502.101.

(4) PRIOR TO PLACING NEW CONCRETE AGAINST EXISTING CONCRETE SURFACES, BLAST CLEAN THE EXISTING CONCRETE SURFACES. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 512.0101 OR 512.0201.

(5) EXISTING ABUTMENTS AND WINGWALLS SHALL BE INSPECTED FOR DETERIORATED CONCRETE JOINTLY BY THE CONTRACT ADMINISTRATOR AND CONTRACTOR. ALL DETERIORATED CONCRETE SHALL BE REMOVED. CONCRETE SURFACES OF THE REMOVAL LIMITS SHALL BE SAWCUT TO A 1" DEPTH TO PROVIDE CLEAN REMOVAL LINES. THE EXISTING CONCRETE AND EXPOSED REINFORCEMENT SHALL BE BLASTED CLEANED PRIOR TO PLACING NEW CONCRETE. ALL INSPECTION, REMOVAL AND CLEANING SHALL BE AS SPECIFIED IN SECTION 512 AND PAID FOR UNDER ITEM 512.0101 OR 512.0201. NEW CONCRETE PLACED IN THESE AREAS SHALL BE PAID UNDER 520.01.

(6) EXISTING ABUTMENTS, WINGWALLS, AND PIER CAPS SHALL BE WASHED (SUBSIDIARY TO ITEM 534.3) IN SUCH A MANNER THAT OVERSPRAY INTO SURFACE WATERS IS KEPT TO A MINIMUM. IF THE WATER BEADS, NO COATING NEEDS TO BE APPLIED. IF THE WATER DOES NOT BEAD, COAT THE SURFACE WITH ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE), APPLICATION RATE OF 150 SF/GAL.

(7) ITEM 1002.1, REPAIRS OR REPLACEMENTS AS NEEDED, SHALL INCLUDE ALL UNANTICIPATED WORK IN CONNECTION WITH THE SCOPE OF THIS PROJECT.

REINFORCEMENT NOTES

(1) REINFORCEMENT IN THE BOTTOM OF FOOTINGS AND BOTTOM OF APPROACH SLABS SHALL HAVE 3" MINIMUM CLEAR COVER. ALL OTHER REINFORCEMENT SHALL HAVE $2^1/_2$" MINIMUM CLEAR COVER, UNLESS OTHERWISE NOTED.

(2) PLACE REINFORCING STEEL TO AVOID WEEPERS, RAIL POST ANCHOR ASSEMBLIES AND ANCHOR BOLTS.

(3) ANY EPOXY COATED REBARS CUT TO FIT SHALL BE TOUCHED UP WITH AN APPROVED EPOXY COATING MATERIAL. ALL COSTS SHALL BE INCLUDED IN ITEM 544.2.

(4) REINFORCING LEGEND: SP = SPACE, SPL = SPLICE, FS = FAR SIDE, NS = NEAR SIDE, BOT = BOTTOM, ALT = ALTERNATING.

(5) REINFORCING BAR MARKS APPENDED WITH AN (E), INDICATE EPOXY COATED BARS.

BEARING ASSEMBLY NOTES

(1) SEE ELASTOMERIC BEARING DETAIL SHEETS.

EXPANSION JOINT NOTES

(1) SEE EXPANSION JOINT DETAIL SHEETS.

DECK SLAB ELEVATIONS NOTES

(1) BEFORE THE DECK FORMS ARE BUILT, ELEVATIONS ON THE TOP FLANGE OF THE GIRDERS ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLE. THE DIFFERENCE BETWEEN THE ELEVATIONS OBTAINED AND THOSE IN THE TABLE IS THE ACTUAL BLOCKING DISTANCE FROM THE TOP OF THE GIRDER TO THE BOTTOM OF THE DECK SLAB AT THE ℄ OF THE GIRDERS. SEE ELEVATION TABLE AND HAUNCH DETAIL BRIDGE SHEET ??.

(2) ELEVATIONS SHOWN IN THE TABLE ARE FINISHED BOTTOM OF SLAB ELEVATIONS ADJUSTED FOR TOTAL DEAD LOAD DEFLECTION DUE TO THE GIRDER WEIGHT.

(3) FOR ELEVATIONS AT THE BOTTOM OF THE SLAB FOR THE PRECAST CONCRETE PANEL OPTION USE THE BOTTOM DECK ELEVATION PLUS $3^1/_2$" (SIP FORM THICKNESS) PLUS DEFLECTION DUE TO PRECAST CONCRETE PANELS.

SUPERSTRUCTURE NOTES

(1) STRUCTURAL STEEL FOR BOLSTERS, CROSS FRAME REPAIRS, AND SCUPPERS SHALL BE PAID UNDER ITEM 550.1.

(2) THE NHDOT WILL INSPECT THE SHOP FABRICATION OF THE STRUCTURAL STEEL.

(3) ANY SHOP OR FIELD WELDING OF ATTACHMENTS TO ANY PORTION OF THE GIRDER PLATES FOR CONSTRUCTION PURPOSES WILL NOT BE PERMITTED, UNLESS APPROVED BY THE BUREAU OF BRIDGE DESIGN.

(4) ALL SHEAR CONNECTORS SHALL BE FIELD WELDED TO THE TOP FLANGE WITH AUTOMATICALLY TIMED STUD WELDING EQUIPMENT. RELOCATE SHEAR CONNECTORS AT SPLICE LOCATIONS TO AVOID INTERFERENCE WITH FASTENERS.

(5) SCREED RAIL SUPPORTS REQUIRED FOR PLACEMENT OF THE DECK SLAB CONCRETE SHALL BE LOCATED AT THE CENTERLINE OF BEAMS.

(6) THE BRIDGE DECK POURING SEQUENCE SHALL BE SUBMITTED IN ACCORDANCE WITH 105.02 AND SUBJECT TO APPROVAL OF THE BUREAU OF BRIDGE DESIGN. BRIDGE DECK SHALL REMAIN PLASTIC THROUGHOUT THE ENTIRE SEQUENCE.

(7) ALL WELDING AND FABRICATION SHALL BE PERFORMED IN CONFORMANCE WITH THE AASHTO/AWS D1.5-05 BRIDGE WELDING CODE, (INCLUDING ALL REVISIONS PUBLISHED BY AASHTO AS OF THE BID OPENING DATE) AND NHDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.

PAINTING NOTES

(1) THE EXISTING PAINT SHALL BE COMPLETELY REMOVED BY ABRASIVE BLASTING TO AN SP10 NEAR WHITE FINISH WITH CLASS 1A CONTAINMENT. STEEL SHALL THEN BE PAINTED WITH A THREE-COAT HIGH-PERFORMANCE SYSTEM: ZINC RICH PRIMER, EPOXY MIDCOAT, AND ALIPHATIC URETHANE TOPCOAT. THIS SHALL BE PAID UNDER ITEM 556.

(2) ALL WORK SHALL CONFORM TO NHDOT SPECIFICATIONS FOR CLEANING & PAINTING, ENVIRONMENTAL PROTECTION, AND WORKER SAFETY & HEALTH.

(3) THE WORK SHALL BE MONITORED BY A CONSULTANT PAINT INSPECTOR FOR CONFORMANCE TO THE SPECIFICATIONS, PER NHDOT PRACTICE.

SUMMARY OF BRIDGE QUANTITIES (BRIDGE NO. 105/135)

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
209.201	Granular Backfill (Bridge) (F)	20	CY
403.11	Hot Bituminous Pavement, Machine Method	260	T
403.911	Hot Bituminous Bridge Pavement, 1" Base Course (F)	170	T
502.	Removal of Existing Bridge Structure	1	U
504.1	Common Bridge Excavation (F)	20	CY
512.0101	Preparation for Concrete Repairs, Class I	2	SY
512.0201	Preparation for Concrete Repairs, Class II	4	SY
520.01	Concrete Class AA	20	CY
520.7002	Concrete Bridge Deck (QC/QA) (F)	900	CY
534.3	Water Repellent (Silane-Siloxane)	85	GAL
538.6	Barrier Membrane, Welded by Torch, Machine Method (F)	3013	SY
544.2	Reinforcing Steel, Epoxy Coated (F)	272000	LB
544.21	Reinforcing Steel, Epoxy Coated, Mechanical Connectors (F)	23890	LB
547	Shear Connectors (F)	8100	EA
548.21	Elastomeric Bearing Assemblies (F)	30	EA
550.1	Structural Steel (F)	24193	LB
556	Painting Existing Structural Steel	1	U
561.301	Pre-Fabricated Expansion Joint	52	LF
562.1	Silicone Joint Sealant (F)	50	LF
563.22	Bridge Rail T2 (F)	1408	LF
565.222	Bridge Approach Rail, T2 (Steel Posts) (F)	4	U
585.3	Stone Fill Class C	3	CY
593.421	Geotextile Permanent Erosion Control, Class 2 Non-Woven	9	SY

SUMMARY OF HIGWAY QUANTITIES (BRIDGE NO. 105/135)

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
403.11	Pavement Joint Adhesive	190	TON
403.6	Pavement Joint Adhesive	1800	LF
417.	Cold Planing Bituminous Surfaces (F)	1100	SY
606.417	Portable Concrete Barrier for Traffic Control	800	LF
606.4175	Portable Concrete Barrier for Traffic Control - Anchored	1360	LF
606.9523	Temp. Impact Attenuation Device (Non-Directive) Test Level 3	2	EA
607.104	Temporary Portable Lighting	1	LS
618.61	Uniformed Officers w/ Vehicle	*	$
619.1	Maintenance of Traffic	1	U
619.25	Portable Changeable Message Sign	1	U
628.2	Sawed Bituminous Pavement	170	LF
632.0106	Retroreflective Paint Pavement Markings, 6" Line	17000	LF
632.9106	Obliterate Pavement Marking 6" Line	7500	LF
645.531	Silt Fence	300	LF
692.	Mobilization	1	U
1002.1	Repairs and Replacements as Needed	*	$
1010.15	Fuel Adjustment	*	$
1010.41	Quality Control / Quality Assurance (QC/QA) for Concrete	*	$

* NOT A BID ITEM

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BrSite	15926BrNotes105_135	-

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926

LOCATION I-93 NB OVER CONNECTICUT RIVER

PROJECT NOTES

BRIDGE SHEET: 2 OF 21

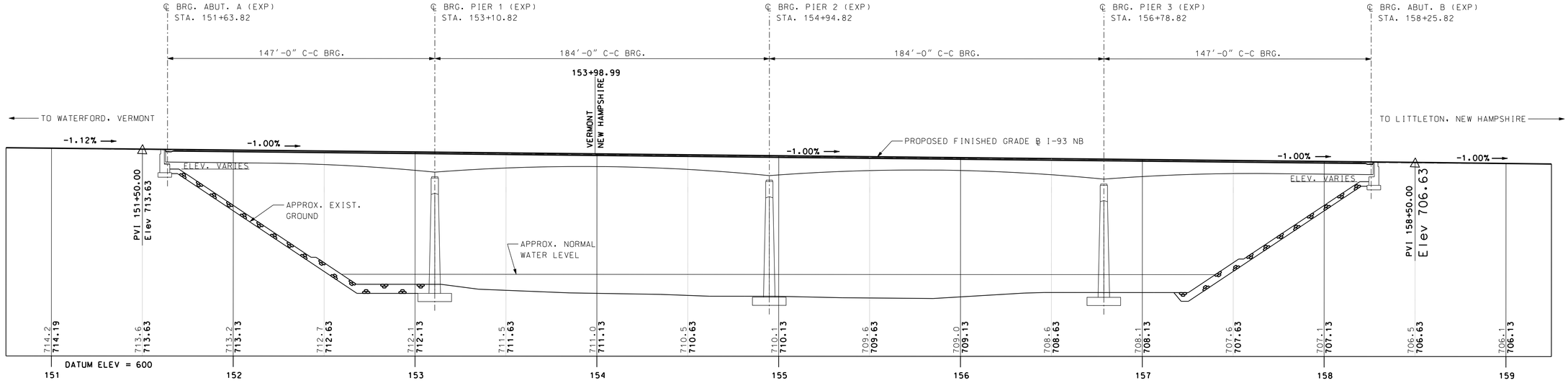
FILE NUMBER: 30-2-3

REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	TWP	01/11	CHECKED	CLC	01/11
DRAWN	JEB	01/11	CHECKED	CLC	01/11
QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
ISSUE DATE			FEDERAL PROJECT NO.		
REV. DATE			A001(041)		

SHEET NO. 7

TOTAL SHEETS 64



NORTHBOUND PROFILE

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926Profile105_135	AS NOTED

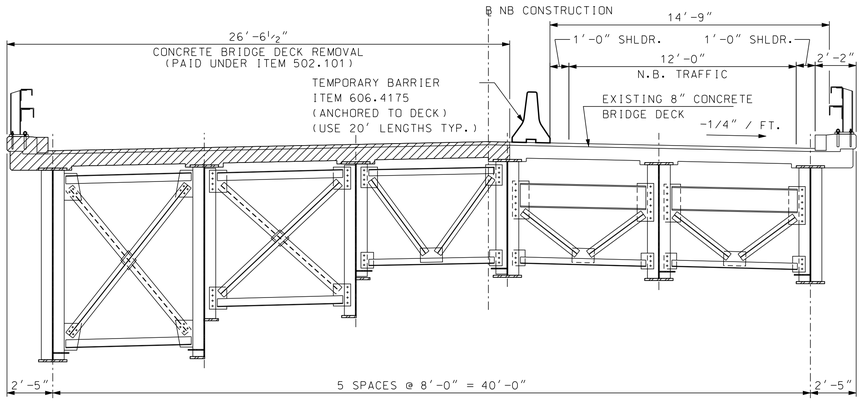
STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926
LOCATION I-93 NB OVER CONNECTICUT RIVER

BRIDGE PROFILE

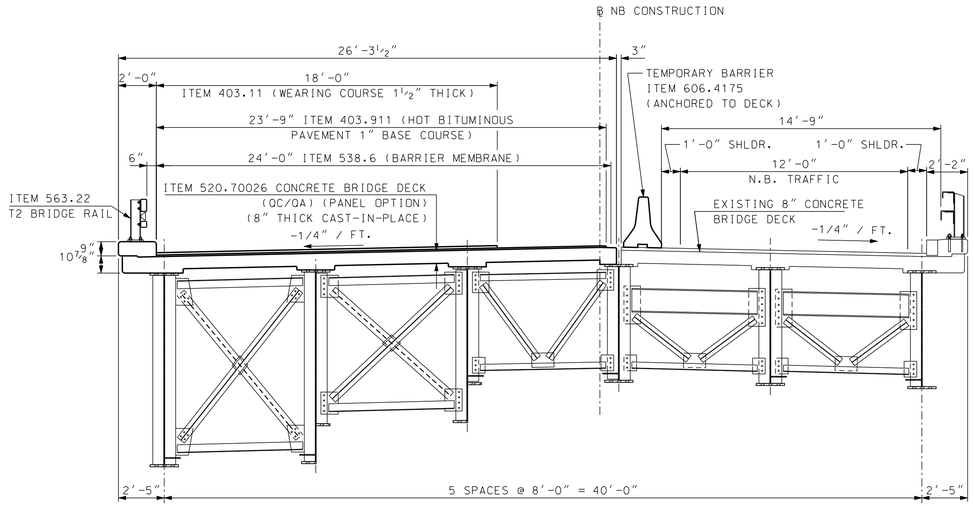
BRIDGE SHEET: 3 OF 21
FILE NUMBER: 30-2-3

REVISIONS AFTER PROPOSAL			BY	DATE		BY	DATE
		DESIGNED	TWP	01/11	CHECKED	CLC	01/11
		DRAWN	JEB	01/11	CHECKED	CLC	01/11
		QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
		ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
		REV. DATE		A001(041)		8	64



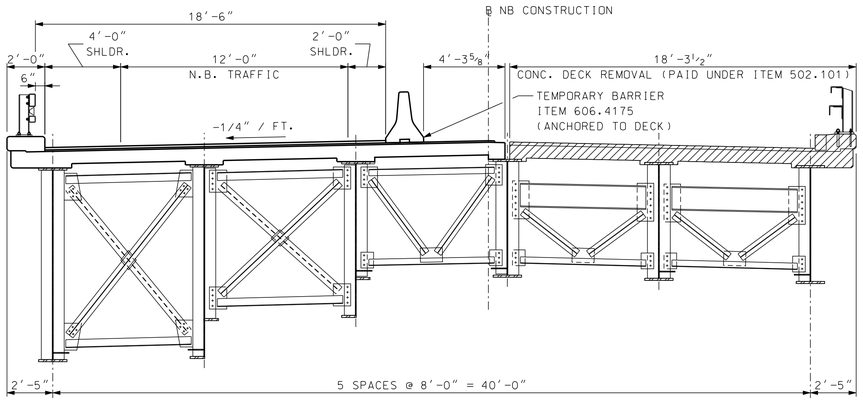
PHASE 1 – BRIDGE REMOVAL

SCALE: 1/4″ = 1′-0″



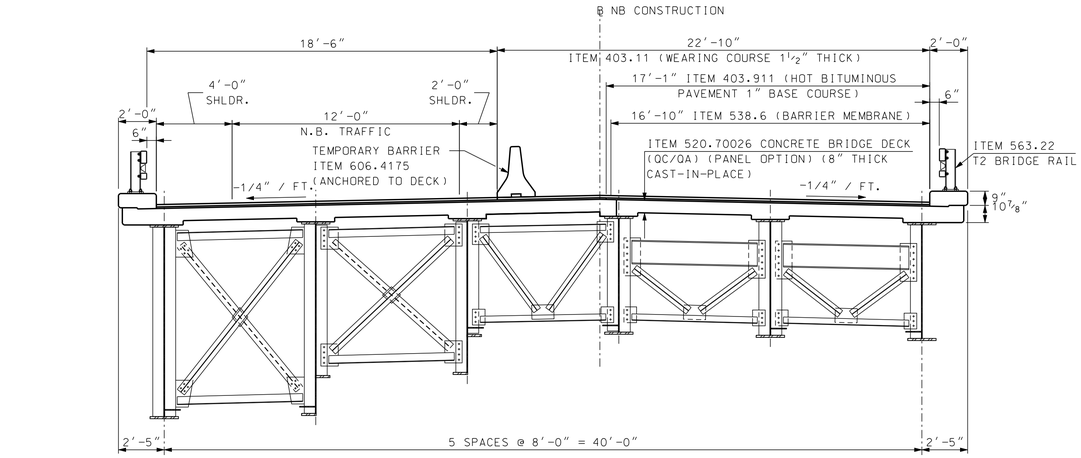
PHASE 1 – RECONSTRUCTION

SCALE: 1/4″ = 1′-0″



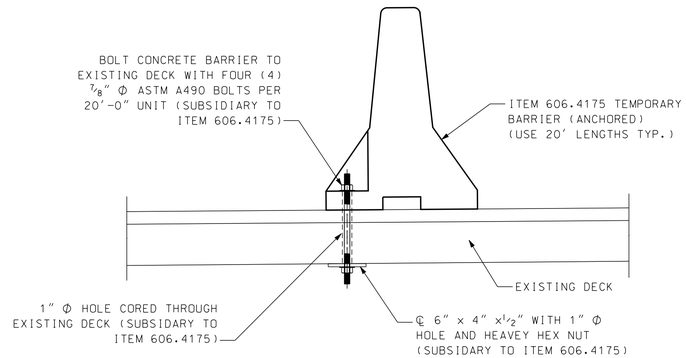
PHASE 2 – BRIDGE REMOVAL

SCALE: 1/4″ = 1′-0″



PHASE 2 – RECONSTRUCTION

SCALE: 1/4″ = 1′-0″



PORTABLE CONCRETE BARRIER FOR TRAFFIC CONTROL – ANCHORED (ITEM 606.4175)

SCALE 1″ =1′-0″

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926ConstSeq105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926

LOCATION I-93 NB OVER CONNECTICUT RIVER

CONSTRUCTION PHASING

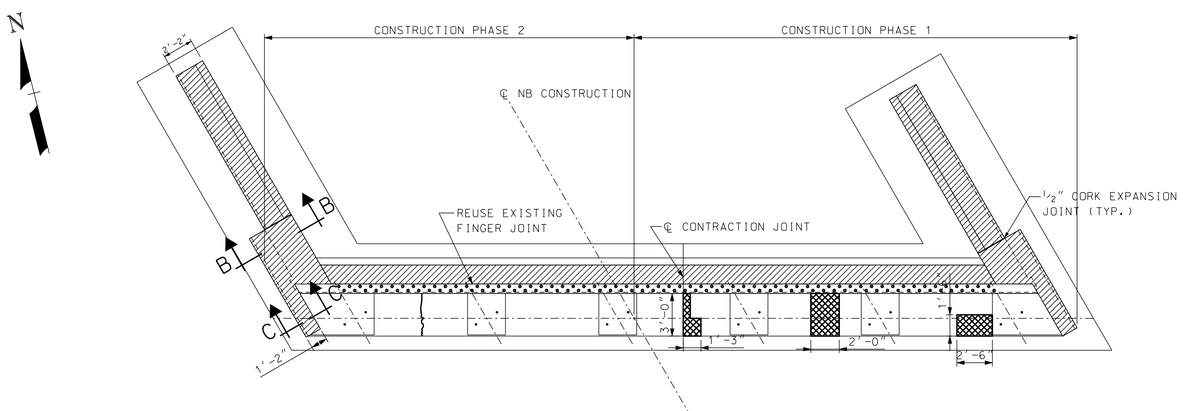
BRIDGE SHEET 6 OF 21

REVISIONS AFTER PROPOSAL	BY	DATE

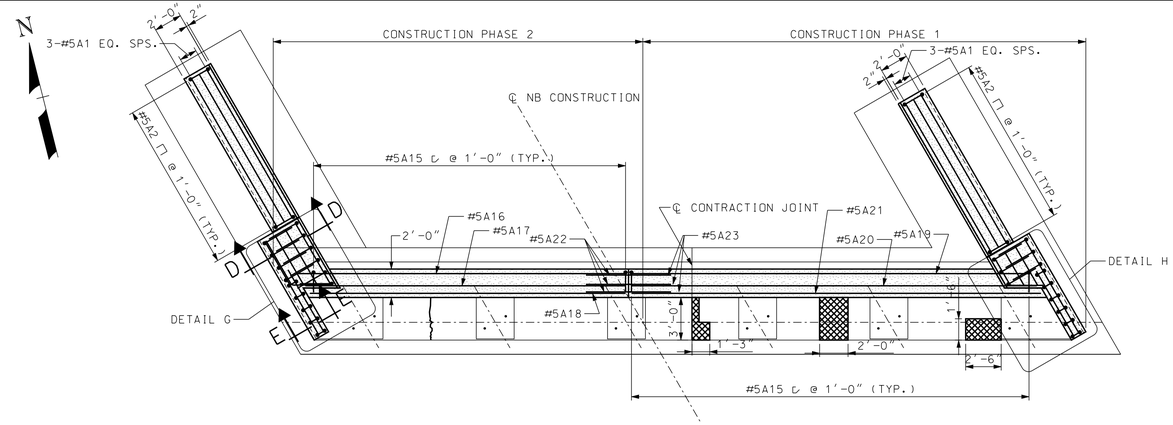
	BY	DATE		BY	DATE
DESIGNED	TWP	01/11	CHECKED	CLC	01/11
DRAWN	JEB	01/11	CHECKED	CLC	01/11
QUANTITIES	TWP	01/11	CHECKED	CLC	01/11

FILE NUMBER 30-2-3

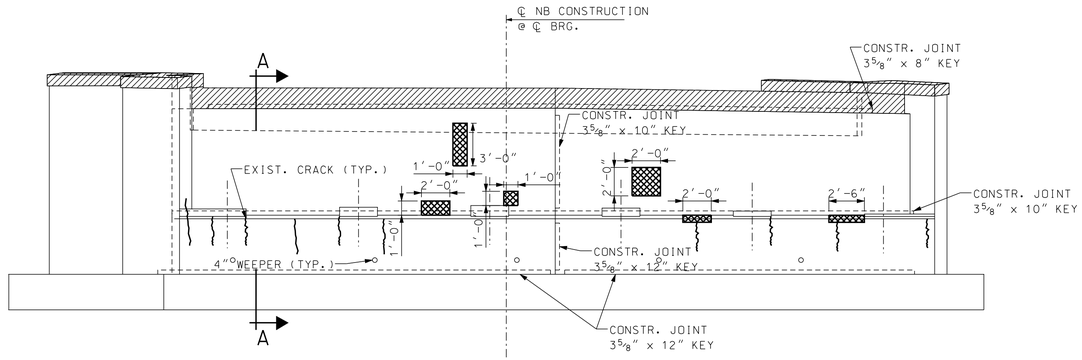
ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A001(041)	11	64



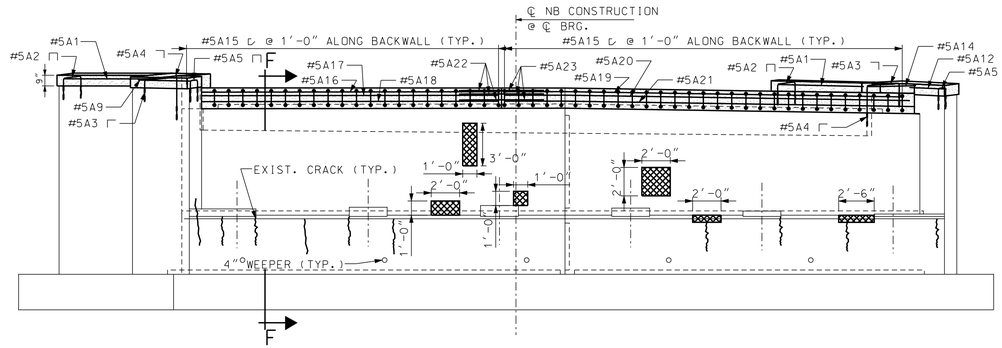
PLAN – ABUT. A
SCALE: 3/16" = 1'-0"



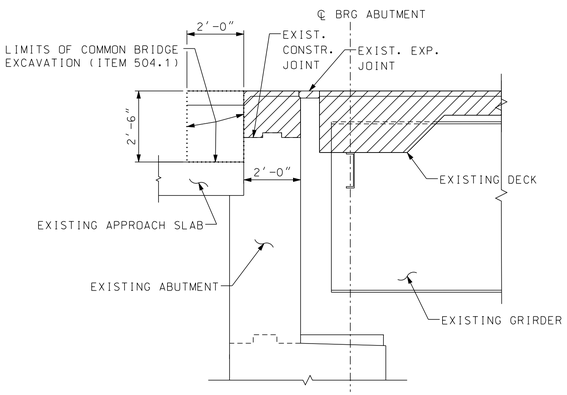
PLAN – ABUT. A
SCALE: 3/16" = 1'-0"



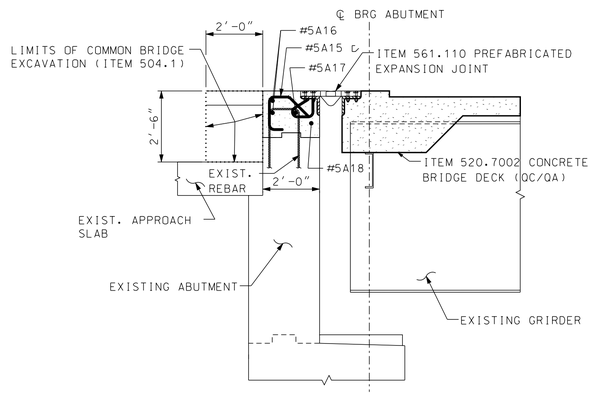
ELEVATION – ABUT. A
SCALE: 3/16" = 1'-0"



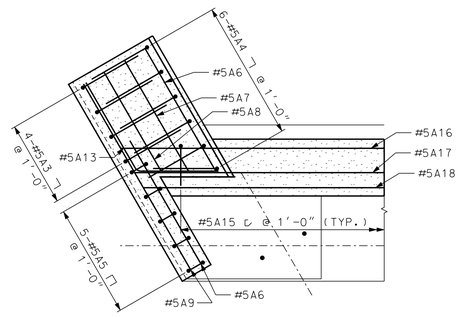
ELEVATION – ABUT. A
SCALE: 3/16" = 1'-0"



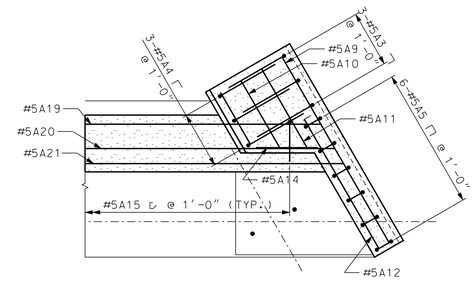
SECTION A-A (REMOVAL)
SCALE: 3/8" - 1'-0"



SECTION F-F (RECONSTRUCTION)
SCALE: 3/8" - 1'-0"



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



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

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

NOTES:

1. FOR CONCRETE REPAIR INFORMATION, REFER TO "SUBSTRUCTURE REHABILITATION NOTE 5", ON THE PROJECT NOTES SHEET.
2. FOR SECTION B-B THRU E-E, SEE WINGWALL RECONSTRUCTION DETAILS SHEET.

LEGEND

- LIMITS OF REMOVAL
- CONCRETE REPAIR
- CONCRETE RECONSTRUCTION

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926A-Abut105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926
LOCATION I-93 NB OVER CONNECTICUT RIVER

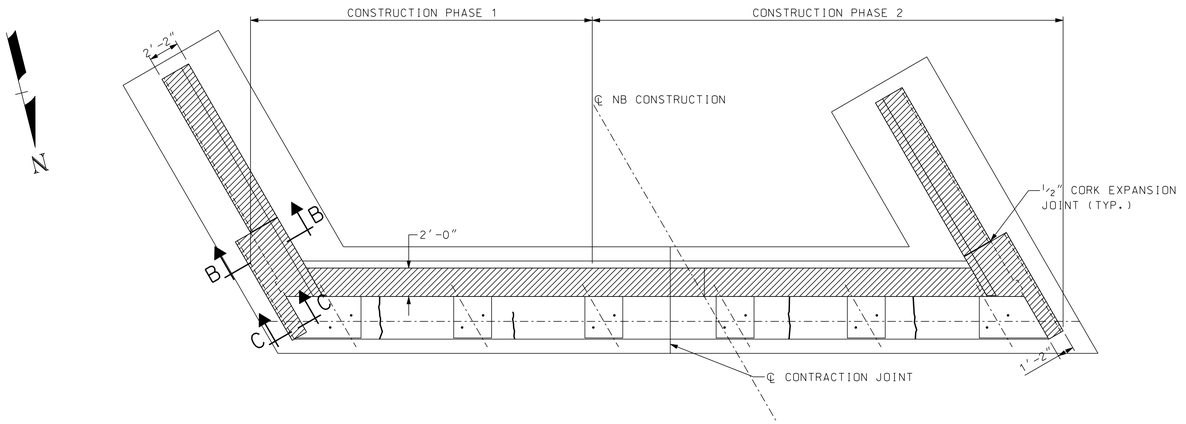
ABUTMENT A RECONSTRUCTION PLAN

BRIDGE SHEET: 7 OF 21
FILE NUMBER: 30-2-3

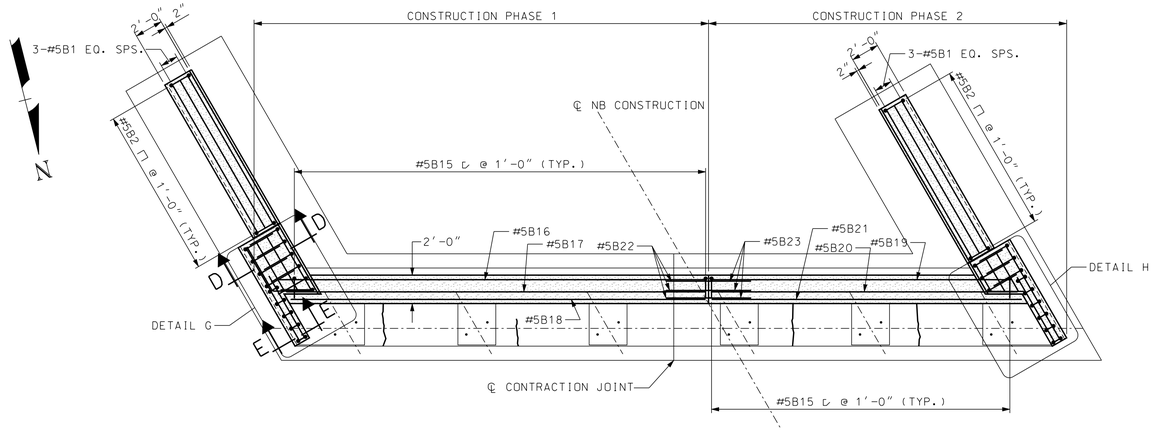
REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	TWP	01/11	CHECKED	CLC	01/11
DRAWN	JEB	01/11	CHECKED	CLC	01/11
QUANTITIES	TWP	01/11	CHECKED	CLC	01/11

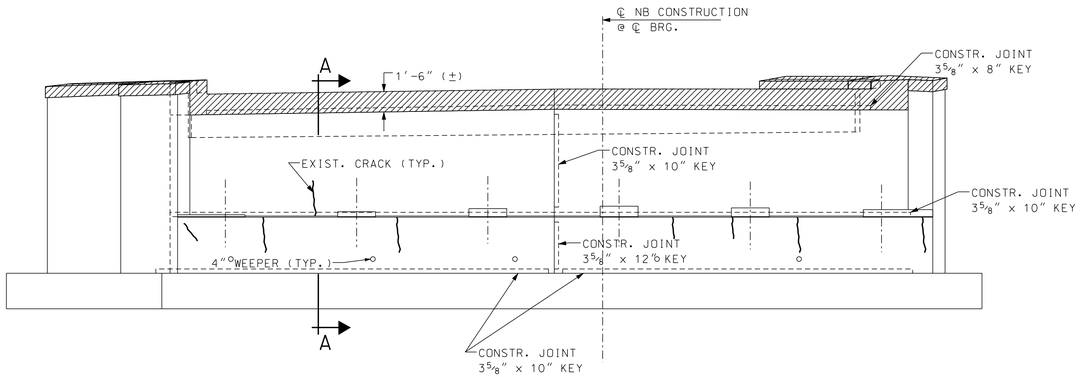
ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A001(041)	12	64



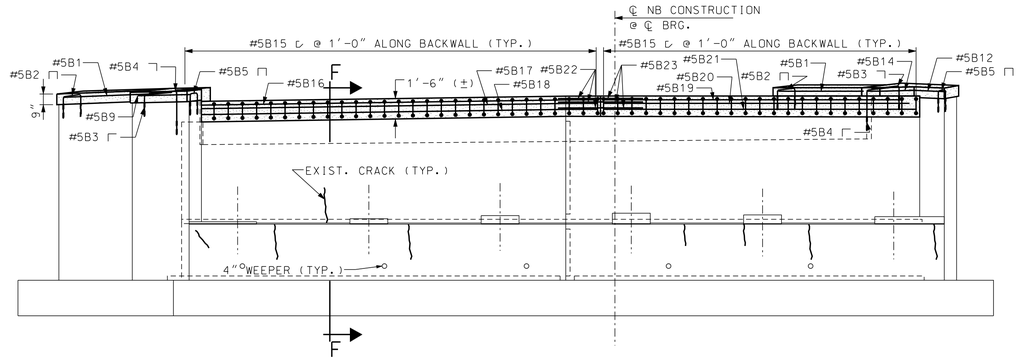
PLAN – ABUT. B
(NORTHBOUND BARREL)
SCALE: 3/16" = 1'-0"



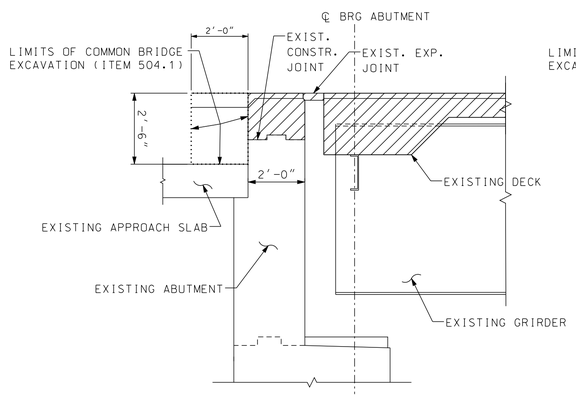
PLAN – ABUT. B
(NORTHBOUND BARREL)
SCALE: 3/16" = 1'-0"



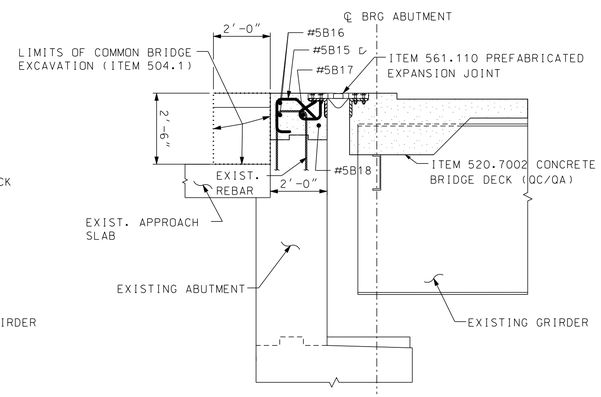
ELEVATION – ABUT. B
(NORTHBOUND BARREL)
SCALE: 3/16" = 1'-0"



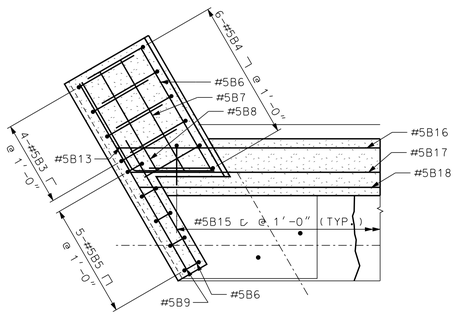
ELEVATION – ABUT. B
(NORTHBOUND BARREL)
SCALE: 3/16" = 1'-0"



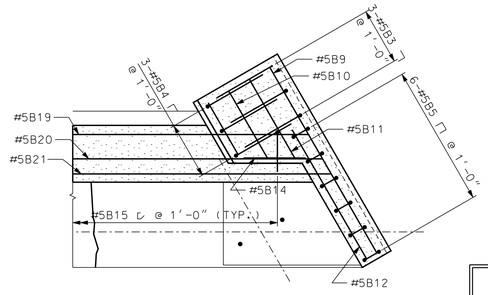
SECTION A–A (REMOVAL)
SCALE: 3/8" = 1'-0"



SECTION F–F (RECONSTRUCTION)
SCALE: 3/8" = 1'-0"



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



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

NOTES:
1. FOR CONCRETE REPAIR INFORMATION, REFER TO "SUBSTRUCTURE REHABILITATION NOTE 5", ON THE PROJECT NOTES SHEET.
2. FOR SECTION B-B THRU E-E, SEE WINGWALL RECONSTRUCTION DETAILS SHEET.

LEGEND
- LIMITS OF REMOVAL
- CONCRETE REPAIR
- CONCRETE RECONSTRUCTION

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926B-Abut105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

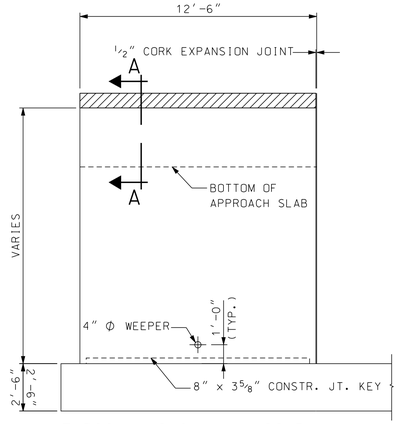
TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926
LOCATION I-93 NB OVER CONNECTICUT RIVER

ABUTMENT B RECONSTRUCTION PLAN

BRIDGE SHEET: 8 OF 21

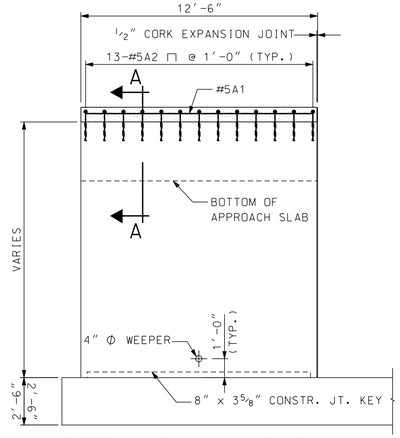
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
	ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.
	REV. DATE			A001(041)		13

FILE NUMBER: 30-2-3
TOTAL SHEETS: 64



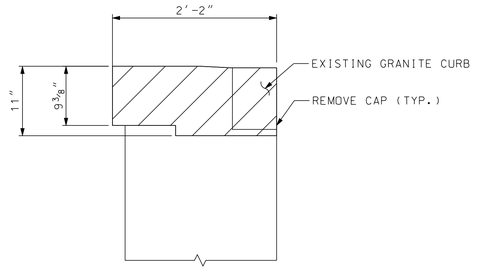
TYPICAL WINGWALL MASONRY REMOVAL

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



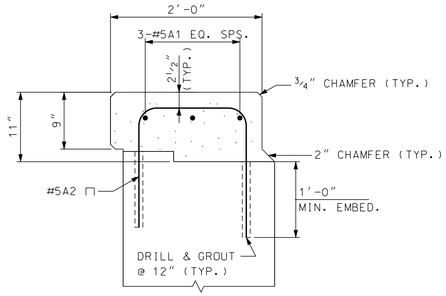
TYPICAL WINGWALL MASONRY RECONSTRUCTION

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



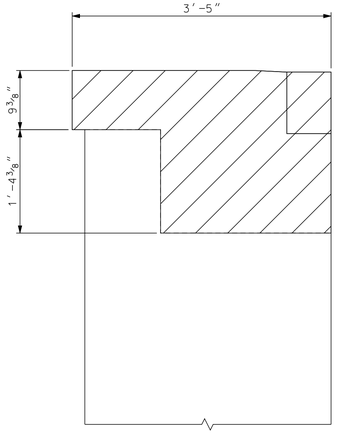
SECTION A-A TYPICAL WINGWALL REMOVAL

SCALE: 1" = 1'-0"



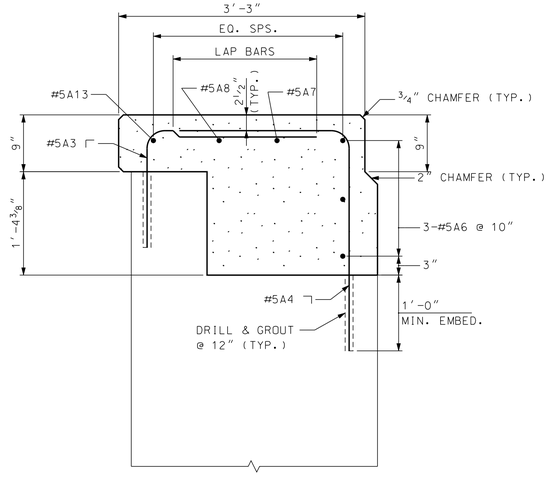
SECTION A-A TYPICAL WINGWALL RECONSTRUCTION

SCALE: 1" = 1'-0"



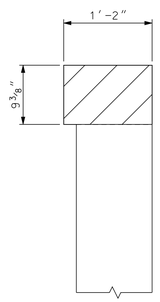
SECTION B-B TYPICAL PILASTER REMOVAL

SCALE: 1" = 1'-0"



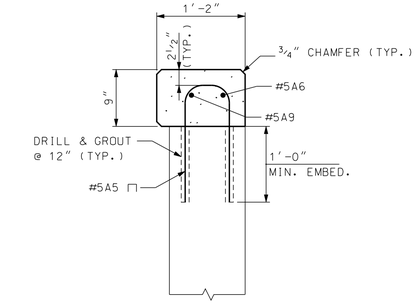
SECTION D-D TYPICAL PILASTER RECONSTRUCTION

SCALE: 1" = 1'-0"



SECTION C-C TYPICAL PLINTHWALL REMOVAL

SCALE: 1" = 1'-0"



SECTION E-E TYPICAL PLINTHWALL RECONSTRUCTION

SCALE: 1" = 1'-0"

LEGEND

LIMITS OF REMOVAL

CONCRETE RECONSTRUCTION

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
XX	15926A-Wings105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926

LOCATION I-93 NB OVER CONNECTICUT RIVER

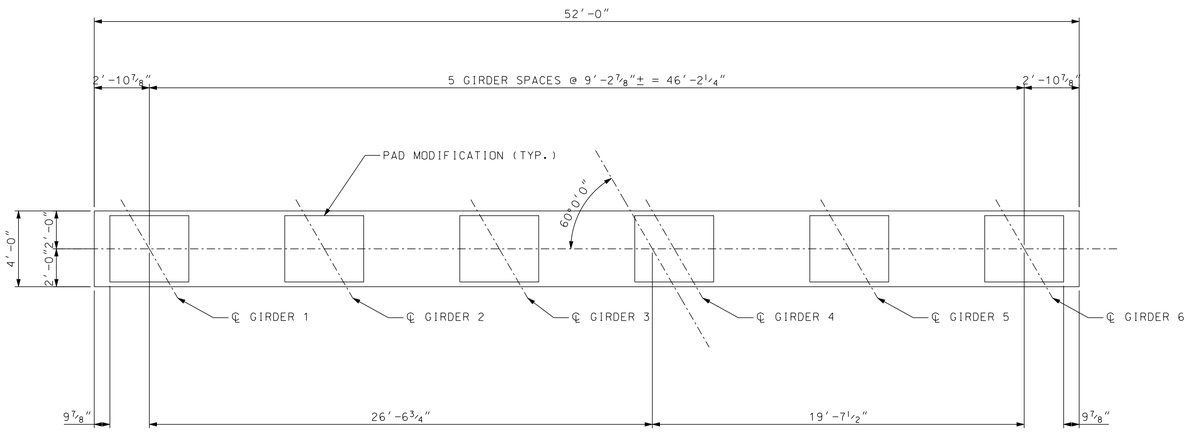
WINGWALL RECONSTRUCTION DETAILS

BRIDGE SHEET 9 OF 21

FILE NUMBER 30-2-3

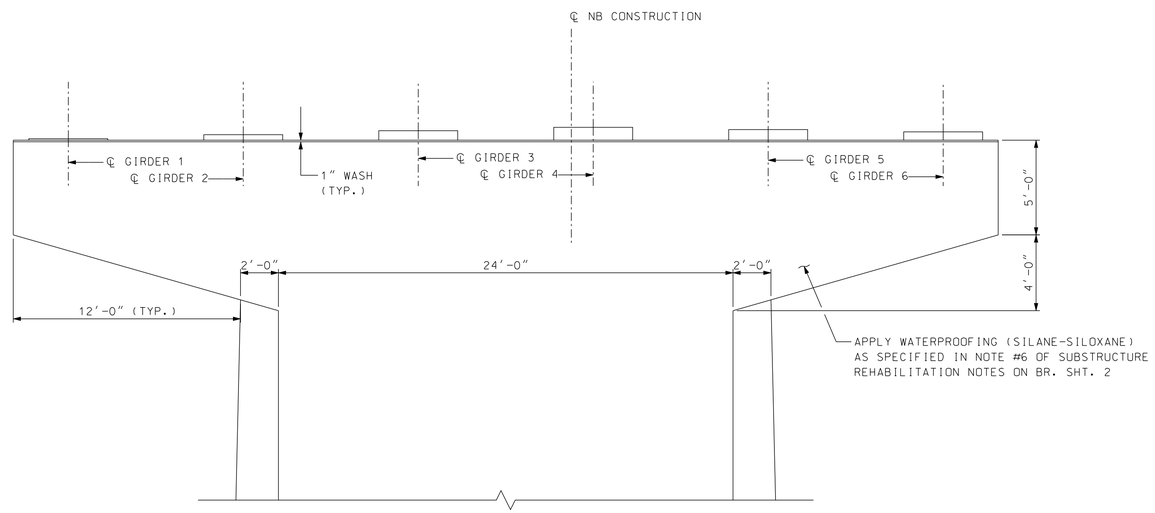
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A001(041)	14	64



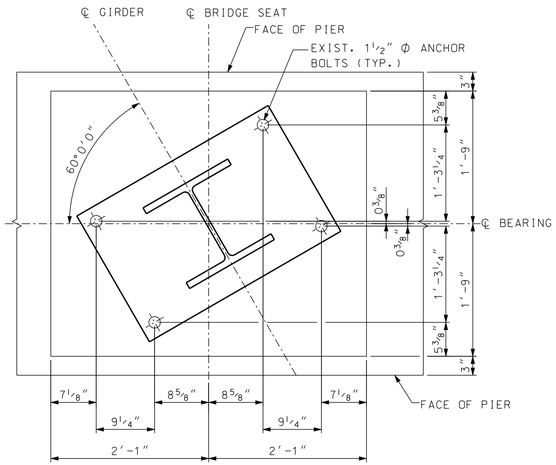
PLAN – (PIER MODIFICATION)

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



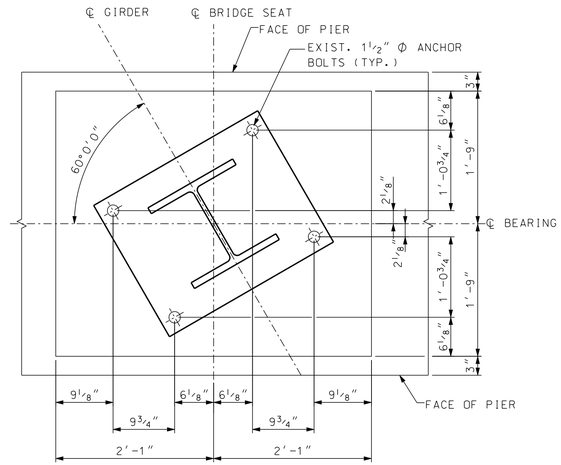
ELEVATION – (PIER MODIFICATION)

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



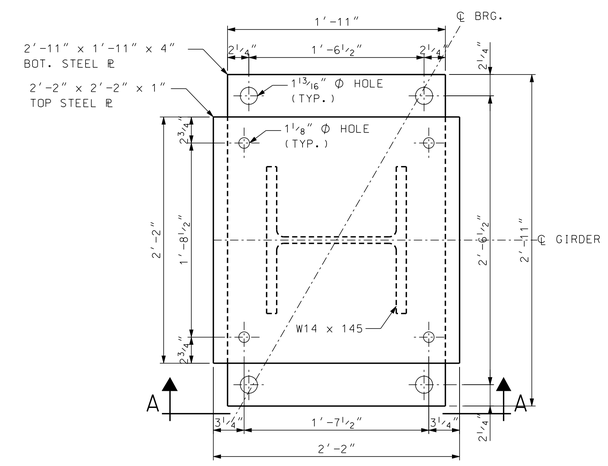
ANCHOR BOLT LAYOUT – PIERS 1 & 3

SCALE: 1" = 1'-0"



ANCHOR BOLT LAYOUT – PIER 2

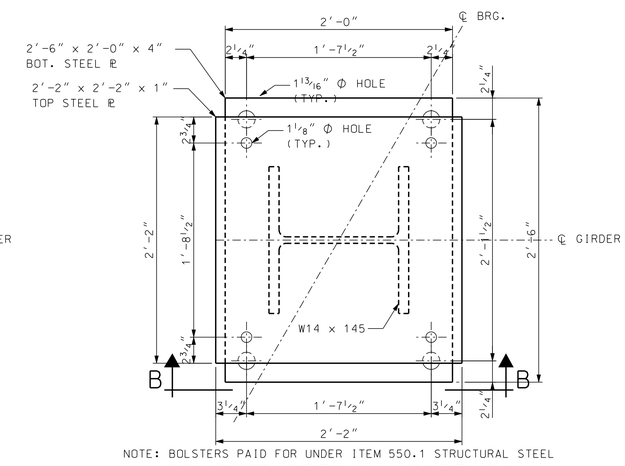
SCALE: 1" = 1'-0"



NOTE: BOLSTERS PAID FOR UNDER ITEM 550.1 STRUCTURAL STEEL

BOLSTER DETAIL (PIERS 1 & 3)

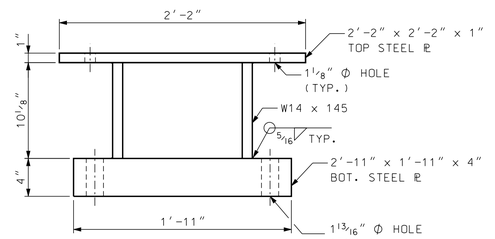
SCALE: 1 1/2" = 1'-0"



NOTE: BOLSTERS PAID FOR UNDER ITEM 550.1 STRUCTURAL STEEL

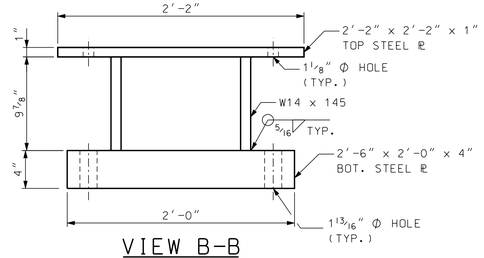
BOLSTER DETAIL (PIER 2)

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



VIEW A–A

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



VIEW B–B

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

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

LEGEND

EXISTING CONCRETE TO BE REMOVED

CONCRETE RECONSTRUCTION

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926Pier105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON | BRIDGE NO. 105/135 | STATE PROJECT 15926

LOCATION I-93 NB OVER CONNECTICUT RIVER

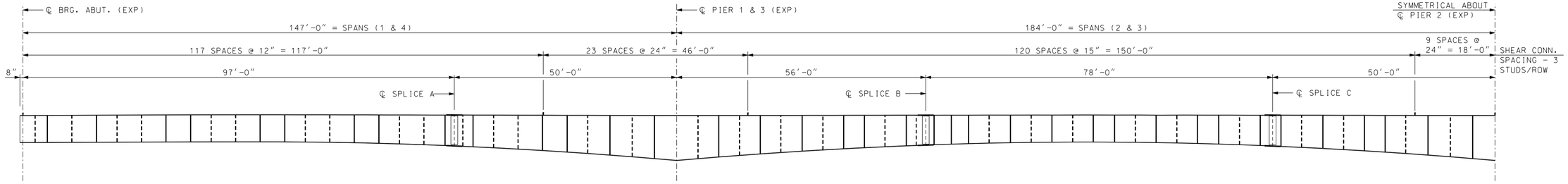
PIER SEAT MODIFICATIONS

BRIDGE SHEET: 10 OF 21

FILE NUMBER: 30-2-3

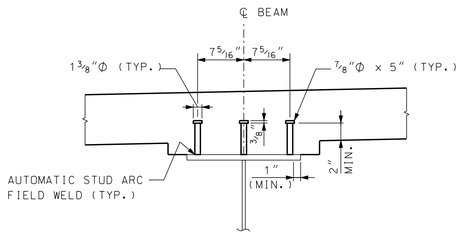
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
	ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.
	REV. DATE			A001(041)		15

TOTAL SHEETS: 64



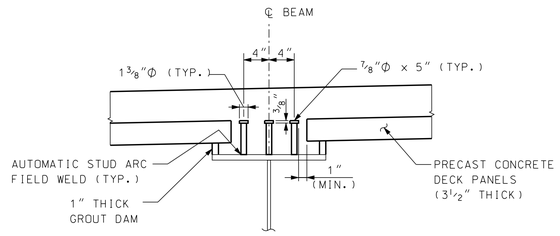
TYPICAL GIRDER ELEVATION

NOT TO SCALE



SHEAR CONNECTOR DETAIL

SCALE: 1" = 1'-0"



SHEAR CONNECTOR DETAIL
(DECK PANEL OPTION)

SCALE: 1" = 1'-0"

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03802

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926ShearConn105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926

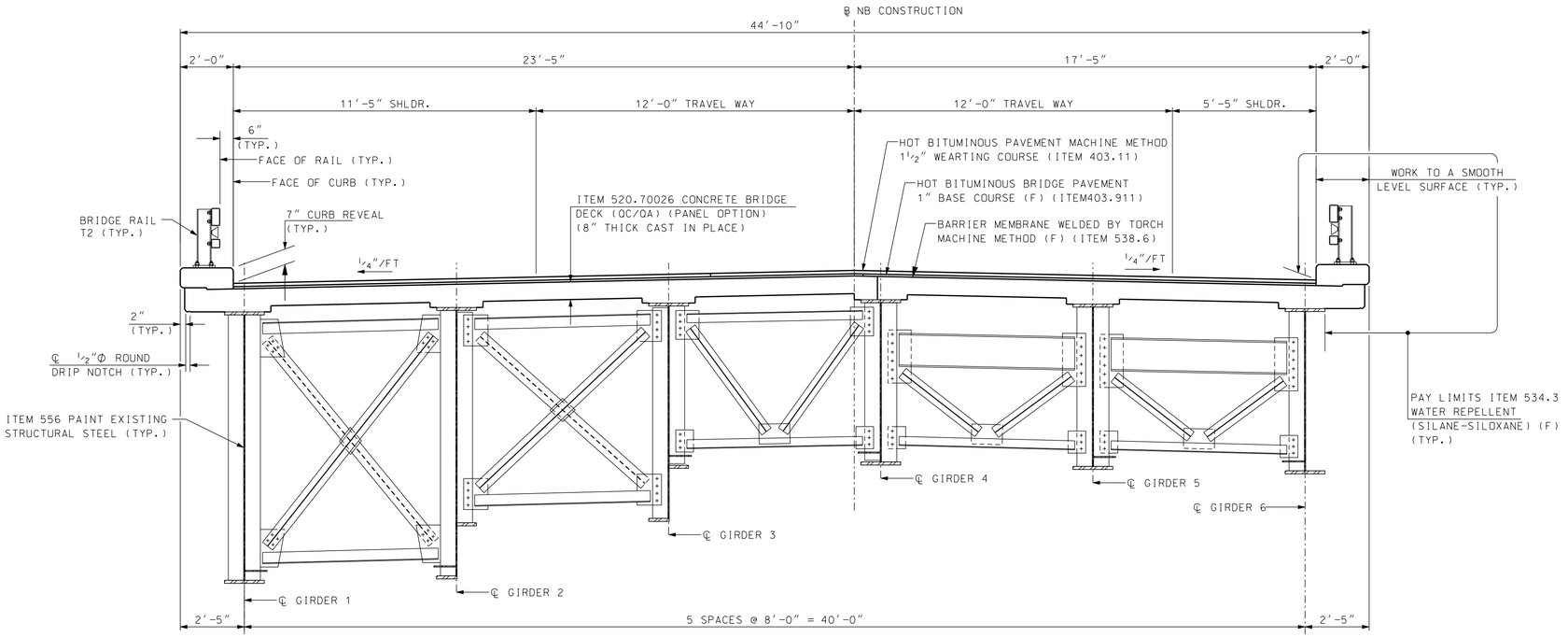
LOCATION I-93 NB OVER CONNECTICUT RIVER

SHEAR CONNECTOR LAYOUT

BRIDGE SHEET: 11 OF 21

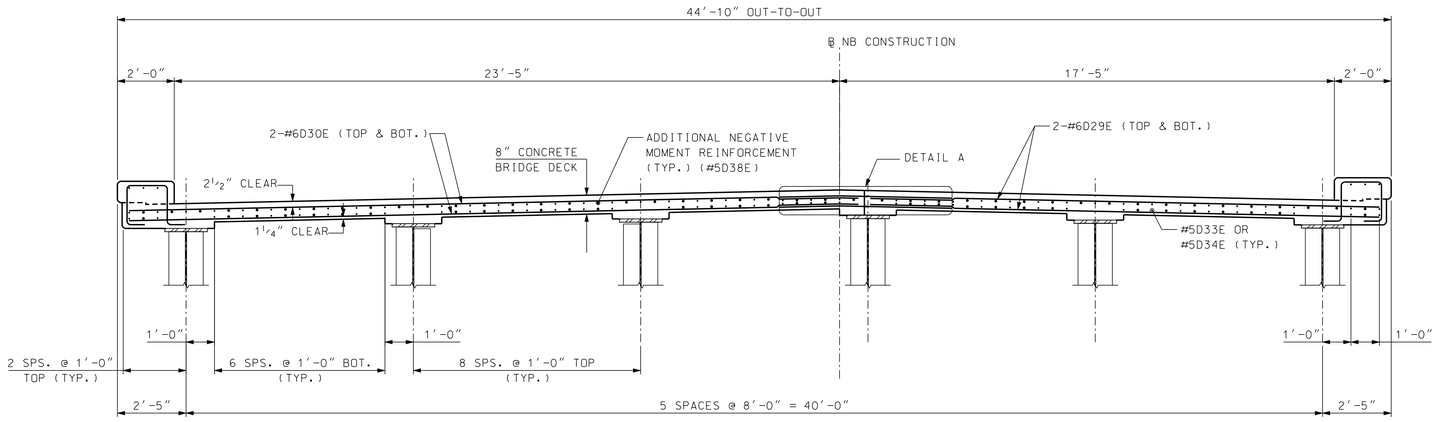
REVISIONS AFTER PROPOSAL				BY	DATE		BY	DATE
			DESIGNED	TWP	01/11	CHECKED	CLC	01/11
			DRAWN	JEB	01/11	CHECKED	CLC	01/11
			QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
			ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
			REV. DATE		A001(041)		16	64

FILE NUMBER: 30-2-3



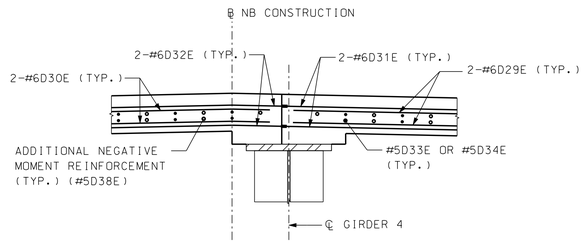
TYPICAL DECK SECTION

SCALE: $\frac{3}{8}$″ = 1′-0″



REINFORCEMENT LAYOUT – TYPICAL SECTION

SCALE: $\frac{3}{8}$″ = 1′-0″



DETAIL A

SCALE: $\frac{3}{4}$″ = 1′-0″

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

NOTES:

1. SPACE BRUSH CURB REINFORCEMENT TO AVOID RAIL POST ANCHOR BOLTS.

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926DeckSect105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926

LOCATION I-93 NB OVER CONNECTICUT RIVER

TYPICAL DECK SECTION AND DETAILS

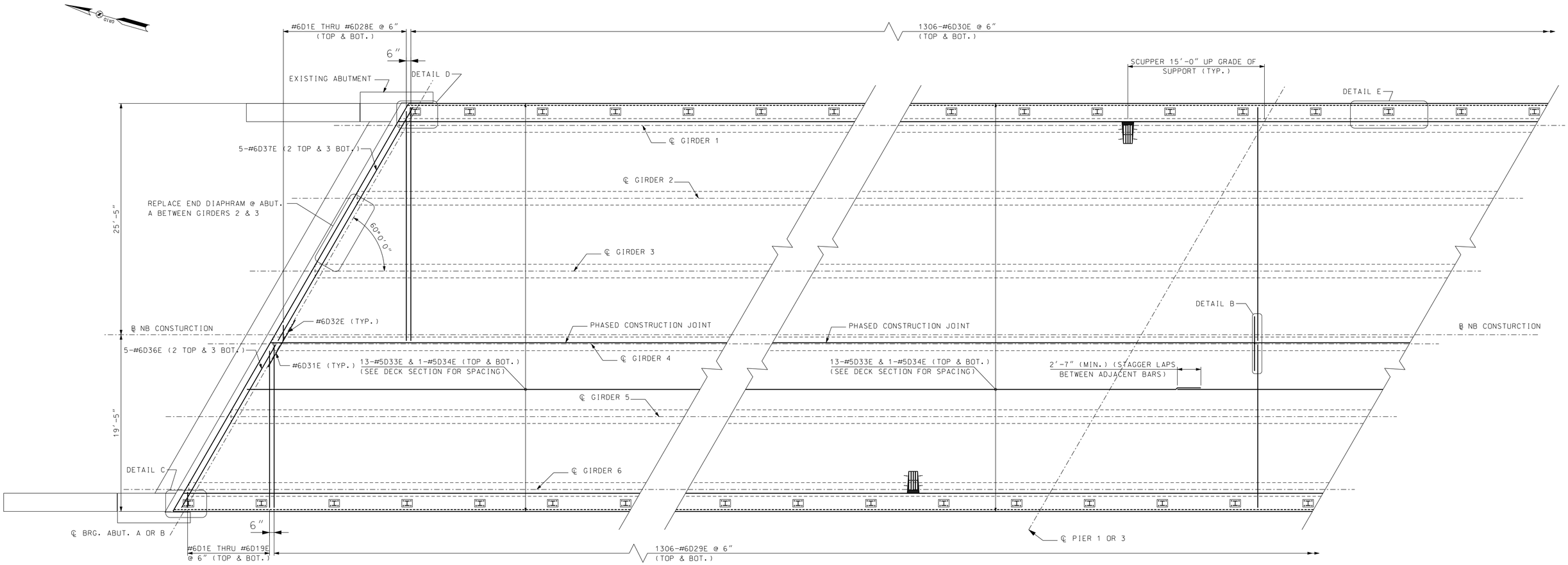
BRIDGE SHEET: 12 OF 21

REVISIONS AFTER PROPOSAL		BY	DATE

		BY	DATE		BY	DATE
DESIGNED	TWP	01/11	CHECKED	CLC	01/11	
DRAWN	JEB	01/11	CHECKED	CLC	01/11	
QUANTITIES	TWP	01/11	CHECKED	CLC	01/11	

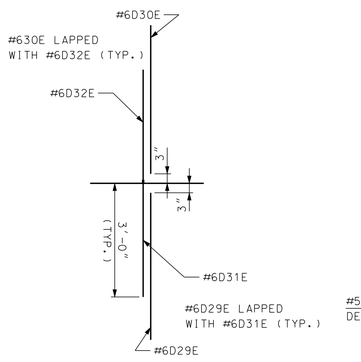
FILE NUMBER: 30-2-3

ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE		A001(041)	17	64



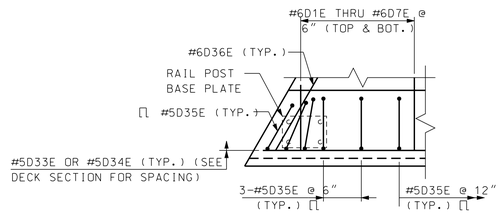
DECK PLAN - SPAN 1

SCALE: 3/16" = 1'-0"
SPAN 4 SIMILAR



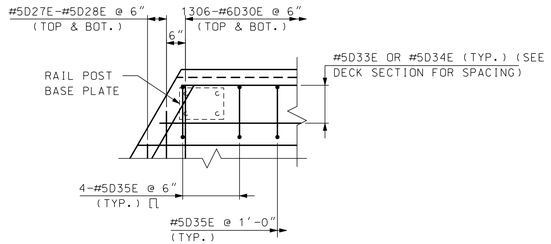
DETAIL B

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



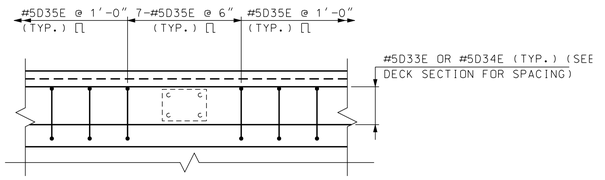
DETAIL C

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



DETAIL D

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



DETAIL E

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

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON | BRIDGE NO. 105/135 | STATE PROJECT 15926
LOCATION I-93 NB OVER CONNECTICUT RIVER

DECK REINFORCEMENT PLAN (1 OF 2)

BRIDGE SHEET: 13 OF 21

REVISIONS AFTER PROPOSAL	BY	DATE

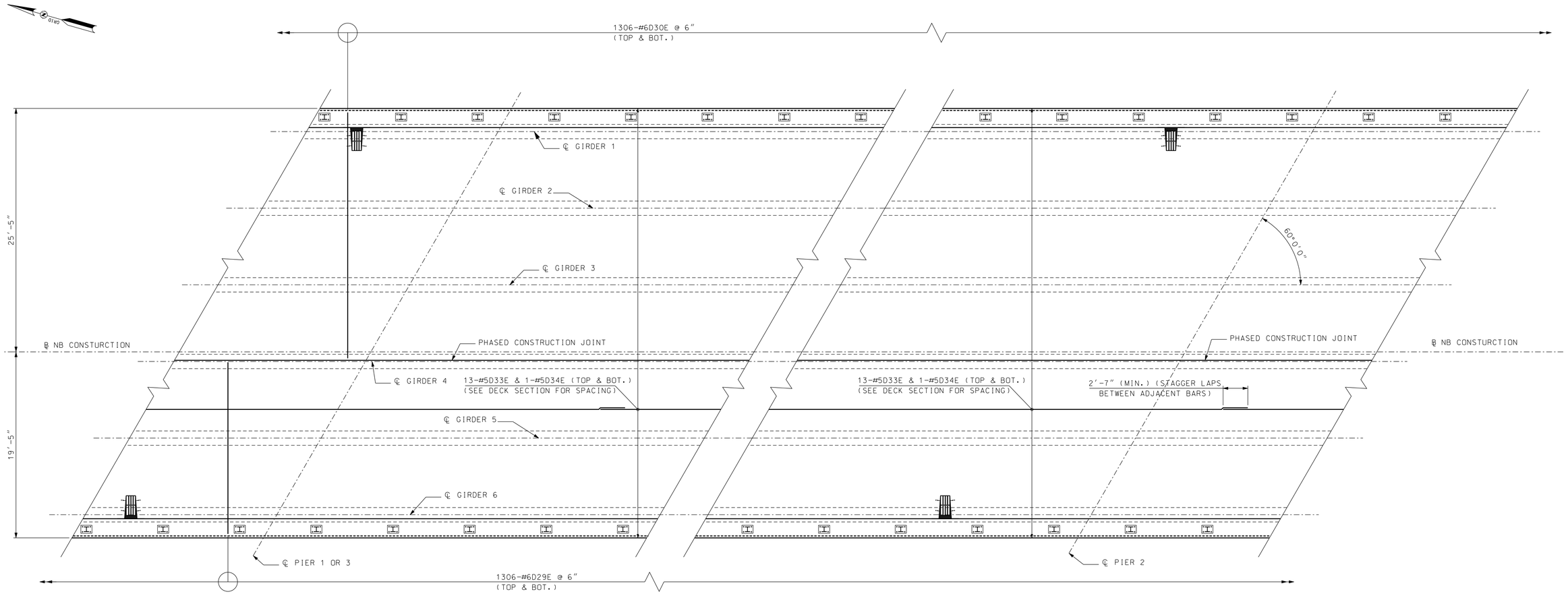
	BY	DATE		BY	DATE
DESIGNED	TWP	01/11	CHECKED	CLC	01/11
DRAWN	JEB	01/11	CHECKED	CLC	01/11
QUANTITIES	TWP	01/11	CHECKED	CLC	01/11

FILE NUMBER: 30-2-3

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A001(041)	18	64

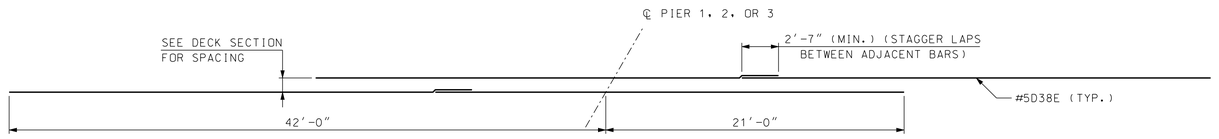
Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926DeckBars1105_135	AS NOTED



DECK PLAN - SPAN 2

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



ADDITIONAL REINFORCEMENT AT PIERS

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

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926DeckBars2105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926

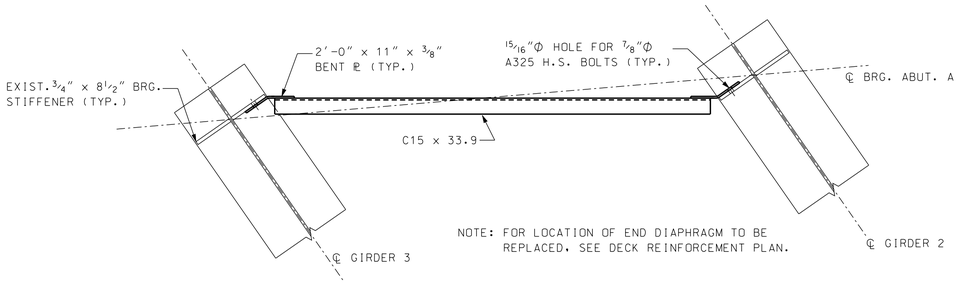
LOCATION I-93 NB OVER CONNECTICUT RIVER

DECK REINFORCMENT PLAN (2 OF 2)

BRIDGE SHEET: 14 OF 21

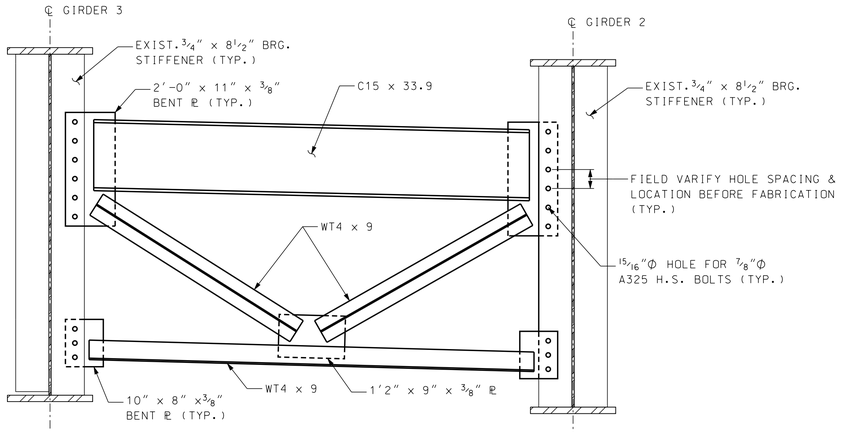
REVISIONS AFTER PROPOSAL			BY	DATE		BY	DATE
		DESIGNED	TWP	01/11	CHECKED	CLC	01/11
		DRAWN	JEB	01/11	CHECKED	CLC	01/11
		QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
		ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
		REV. DATE		A001(041)		19	64

FILE NUMBER: 30-2-3



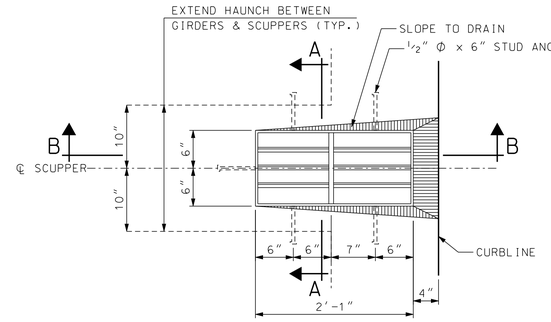
END DIAPHRAM REPLACEMENT PLAN VIEW

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



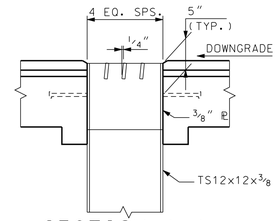
END DIAPHRAM REPLACEMENT ELEVATION VIEW

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



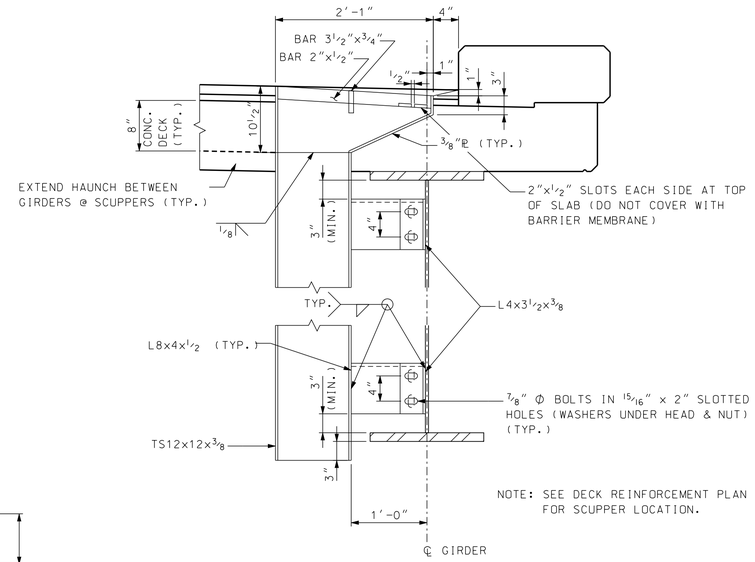
TYPICAL PLAN OF SCUPPER

SCALE: 1" = 1'-0"



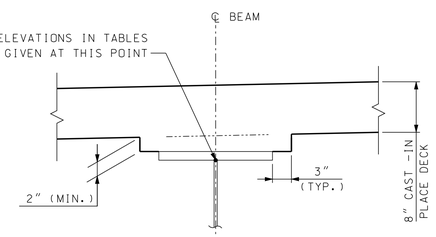
SECTION A-A

SCALE: 1" = 1'-0"



SECTION B-B

SCALE: 1" = 1'-0"



HAUNCH DETAIL

SCALE: 1" = 1'-0"

BLOCKING POINT ELEVATIONS @ BOTTOM OF SLAB (SPAN 1)

GIRDER	℄ Brg. Abut. A	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	℄ BRG. PIER 1
1	711.671	711.579	711.476	711.357	711.218	711.060	710.887	710.708	710.530	710.360	710.201
2	711.884	711.800	711.705	711.590	711.452	711.292	711.115	710.931	710.748	710.574	710.414
3	712.097	712.013	711.918	711.803	711.665	711.505	711.328	711.144	710.961	710.787	710.627
4	712.268	712.177	712.076	711.957	711.818	711.660	711.487	711.308	711.129	710.957	710.798
5	712.148	712.064	711.968	711.853	711.716	711.556	711.379	711.194	711.012	710.838	710.678
6	712.027	711.935	711.832	711.713	711.574	711.416	711.243	711.064	710.886	710.716	710.557

BLOCKING POINT ELEVATIONS @ BOTTOM OF SLAB (SPAN 2)

GIRDER	℄ BRG. PIER 1	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	℄ BRG. PIER 2
1	710.201	710.024	709.864	709.714	709.560	709.390	709.196	708.984	708.766	708.556	708.361
2	710.414	710.238	710.082	709.937	709.788	709.620	709.425	709.208	708.985	708.770	708.574
3	710.627	710.450	710.295	710.150	710.001	709.833	709.637	709.421	709.198	708.983	708.787
4	710.798	710.621	710.463	710.314	710.160	709.990	709.796	709.583	709.365	709.153	708.958
5	710.678	710.501	710.345	710.200	710.052	709.883	709.688	709.471	709.248	709.034	708.838
6	710.557	710.380	710.220	710.070	709.916	709.746	709.552	709.340	709.122	708.912	708.717

BLOCKING POINT ELEVATIONS @ BOTTOM OF SLAB (SPAN 3)

GIRDER	℄ BRG. PIER 2	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	℄ BRG. PIER 3
1	708.361	708.188	708.030	707.880	707.724	707.550	707.352	707.138	706.920	706.712	706.521
2	708.574	708.402	708.249	708.104	707.953	707.780	707.580	707.361	707.138	706.926	706.734
3	708.787	708.615	708.462	708.317	708.165	707.993	707.793	707.574	707.351	707.138	706.947
4	708.958	708.785	708.629	708.479	708.324	708.150	707.952	707.737	707.519	707.309	707.118
5	708.838	708.666	708.512	708.367	708.216	708.043	707.844	707.624	707.401	707.189	706.998
6	708.717	708.544	708.386	708.236	708.080	707.906	707.708	707.494	707.276	707.068	706.877

BLOCKING POINT ELEVATIONS @ BOTTOM OF SLAB (SPAN 4)

GIRDER	℄ BRG. PIER 3	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	℄ BRG. ABUT. B
1	706.521	706.386	706.262	706.146	706.031	705.910	705.774	705.619	705.444	705.253	705.051
2	706.734	706.600	706.480	706.369	706.259	706.142	706.008	705.852	705.673	705.474	705.264
3	706.947	706.813	706.693	706.582	706.472	706.355	706.221	706.065	705.886	705.687	705.477
4	707.118	706.983	706.861	706.746	706.631	706.510	706.374	706.219	706.044	705.851	705.648
5	706.998	706.864	706.744	706.632	706.523	706.406	706.272	706.115	705.936	705.738	705.528
6	706.877	706.742	706.618	706.502	706.387	706.266	706.130	705.975	705.800	705.609	705.407

DECK ELEVATION NOTES:

1. ELEVATIONS SHOWN IN THE TABLE ARE TOP OF THE WEB AT THE ℄ OF BEARING. ELEVATIONS ARE ADJUSTED FOR TOTAL DEAD LOAD DEFLECTION LESS THE DEFLECTION DUE TO STRUCTURAL STEEL WEIGHT.
2. IF PRECAST DECK PANELS ARE USED. THE TOP OF GIRDER ELEVATIONS SHALL BE ADJUSTED (REDUCED) BY THE DIFFERENCE BETWEEN THE FULL DEPTH CAST-IN-PLACE DECK THICKNESS AND THE TOTAL COMPOSITE DECK THICKNESS. SEE PRECAST CONCRETE DECK PANEL DETAILS SHEET FOR DETAILS.
3. FOR GIRDER DEFLECTIONS DUE TO DECK PANEL DEAD LOAD SEE TABLE ON PRECAST CONCRETE DECK PANEL DETAILS SHEET.

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03802

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC\Super	15926SSDetls105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926

LOCATION I-93 NB OVER CONNECTICUT RIVER

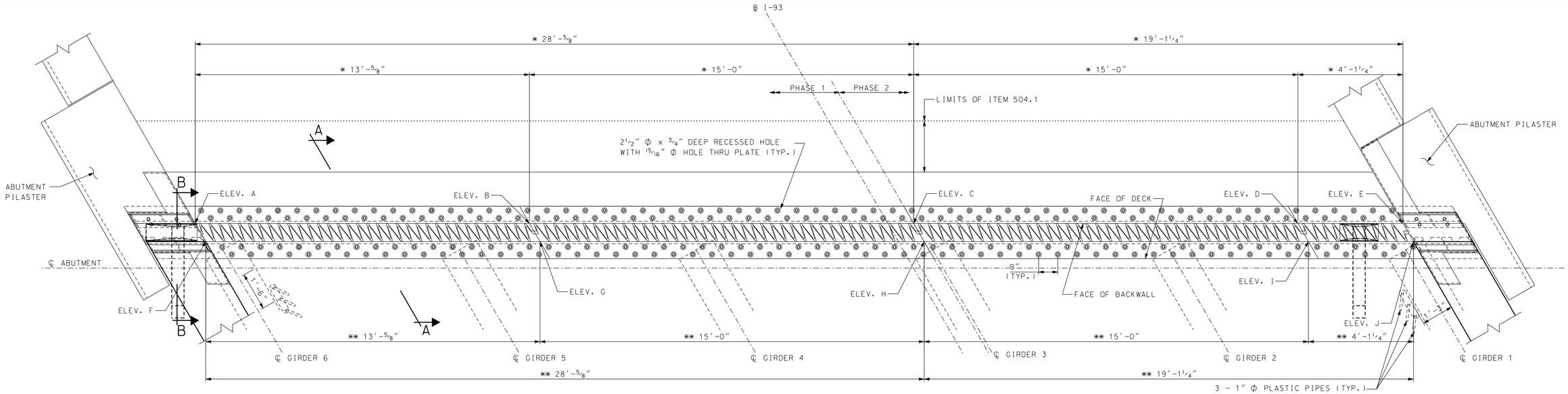
SUPERSTRUCTURE DETAILS

BRIDGE SHEET 15 OF 21

FILE NUMBER 30-2-3

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A001(041)	20	64



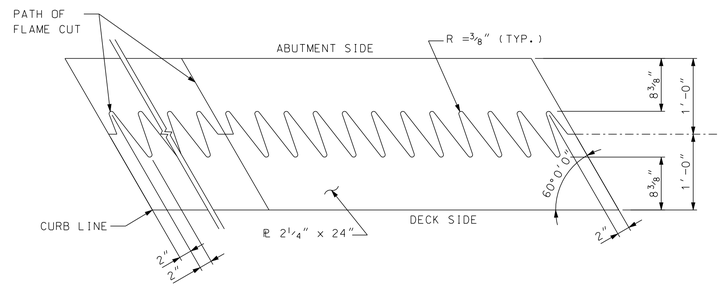
✱ = DIMENSIONS MEASURED ALONG FACE OF BACKWALL
✱✱ = DIMENSIONS MEASURED ALONG END OF DECK

PARTIAL PLAN

SCALE: 1/2″ = 1′-0″

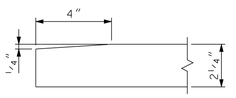
	ELEVATION AT EDGE OF BACKWALL					ELEVATION AT EDGE OF DECK				
	A	B	C	D	E	F	G	H	I	J
ABUTMENT B	706.22	706.52	706.83	706.63	706.58	706.23	706.53	706.84	706.64	706.59
ABUTMENT A	713.24	–	713.48	–	712.88	713.23	–	713.47	–	712.87

TEMP °F	"T" (IN)
15	11″
30	10 5/8″
45	10 1/4″
60	9 7/8″
75	9 1/2″



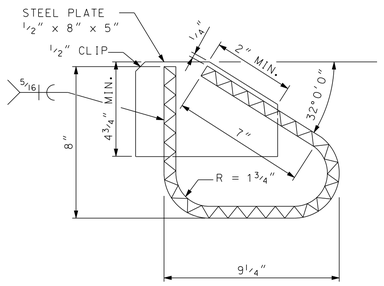
FINGER CUTTING DETAIL

SCALE: 1″ = 1′-0″



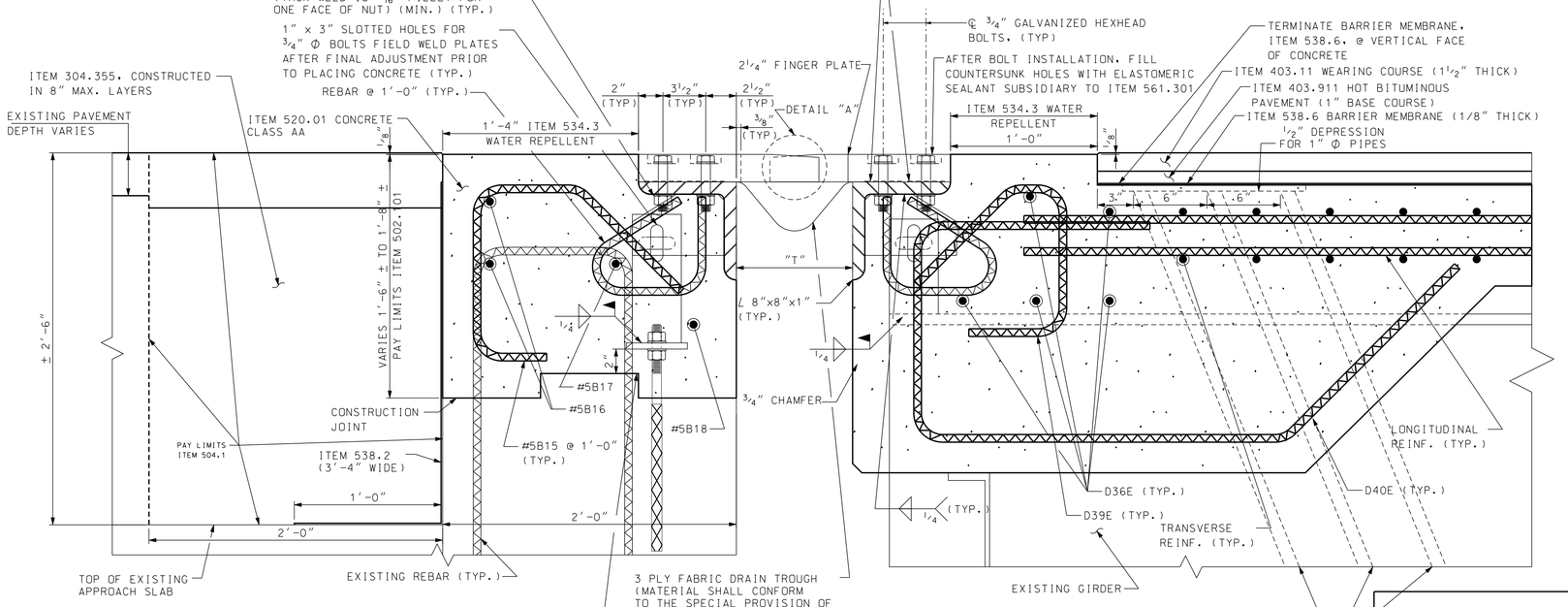
DETAIL "A"

SCALE: 3″ = 1′-0″



ANCHORAGE DETAIL

SCALE: 3″ = 1′-0″



SECTION A-A

SCALE: 2″ = 1′-0″

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926ExpJT1105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926

LOCATION I-93 NB OVER CONNECTICUT RIVER

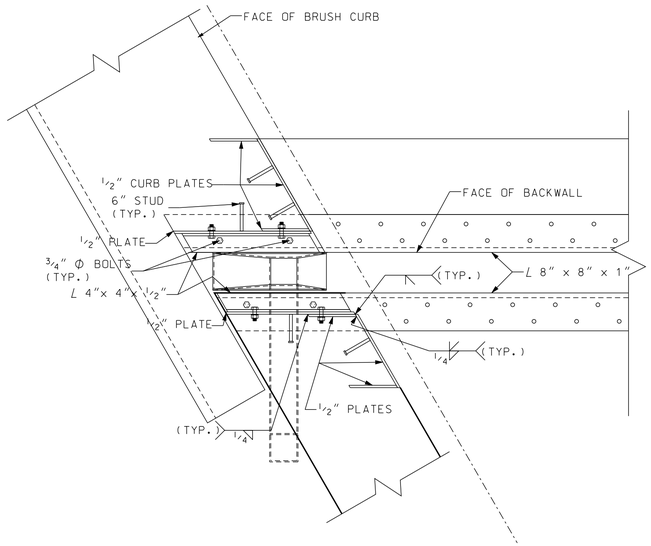
TYPICAL EXPANSION (FINGER) JOINT DETAILS

BRIDGE SHEET 16 OF 21

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
	ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.
	REV. DATE			A001(041)		21

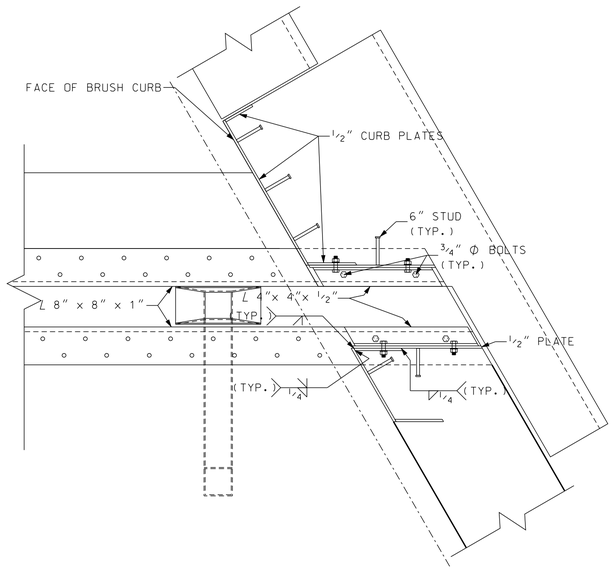
FILE NUMBER 30-2-3

TOTAL SHEETS 64



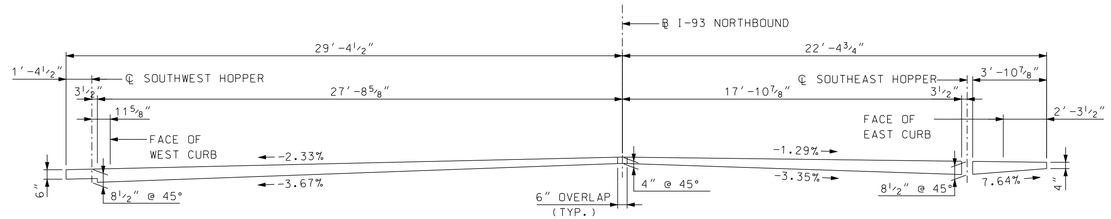
S.E. CORNER LOWER ASSEMBLY

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



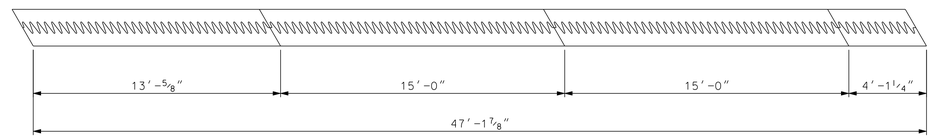
S.W. CORNER LOWER ASSEMBLY

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



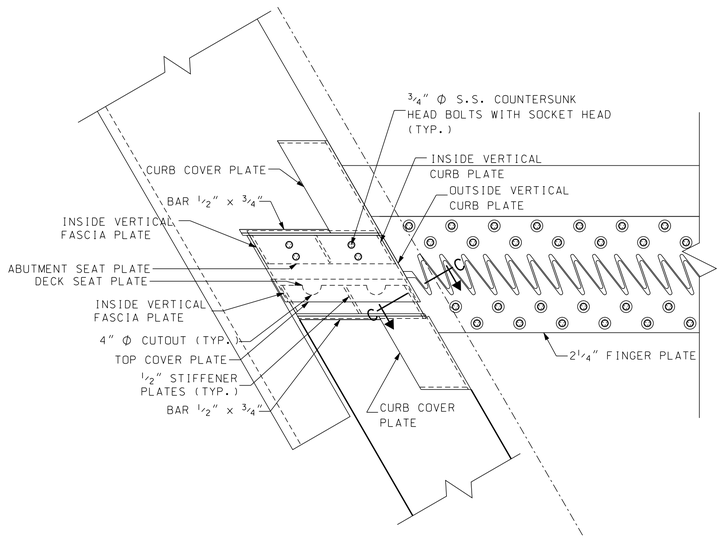
FABRIC DRAIN TROUGH PROFILE

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



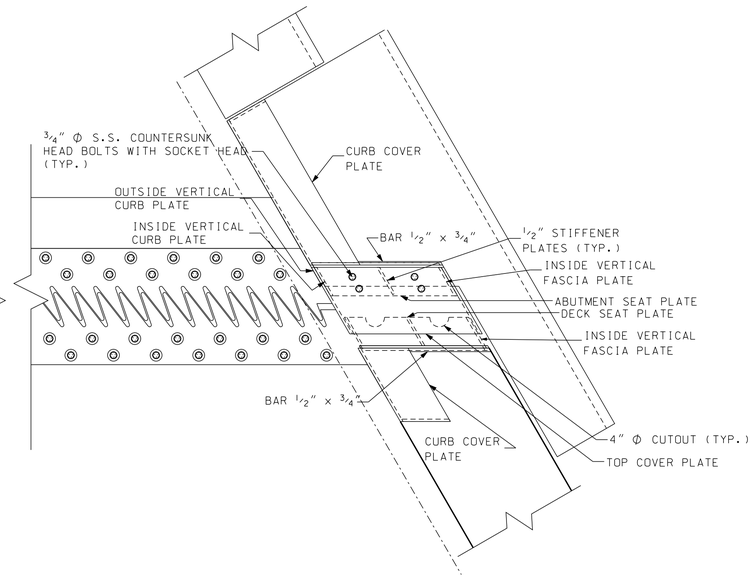
FINGER PLATE PLAN

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



S.E. CORNER UPPER ASSEMBLY

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



S.W. CORNER UPPER ASSEMBLY

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

EXPANSION JOINT NOTES

1. EXPANSION JOINT STEEL SHALL BE AASHTO M270 GRADE 50W (ASTM A709, GR 50W) GALVANIZED, EXCEPT AS OTHERWISE ALLOWED. THE ENTIRE ASSEMBLY SHALL BE PAID AS ITEM 561.301, PREFABRICATED EXPANSION JOINT, FINGER JOINT (F).
2. SPLICES FOR EXPANSION JOINT STEEL SHALL DEVELOP FULL STRENGTH.
3. THE EXPANSION JOINT SHALL BE PRESET TO THE TEMPERATURE ANTICIPATE AT THE TIME OF INSTALLATION. FINAL SETTING IN THE FIELD SHALL BE DETERMINED BY THE ENGINEER (SEE TEMPERATURE TABLE ON BRIDGE SHEET 16). THE MAXIMUM ALLOWABLE MOVEMENT SHALL BE XXX INCHES.
4. PROTECT TOP OF EXPANSION JOINT DURING PLACEMENT OF CONCRETE AND BITUMINOUS PAVEMENT.
5. JOINT SUPPORT PLATES SHALL BE SHOP WELDED TO THE EXPASION JOINT STEEL AND SHALL BE VERTICAL AFTER THE JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE.
6. FASCIA AND CURB PLATES SHALL BE SHOP WELDED AND SHALL BE VERTICAL AFTER THE JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE.
7. IMMEDIATELY AFTER THE JOINT HAS BEEN SECURED TO THE STRUCTURAL STEEL AND BACKWALL, REMOVE SHIPPING DEVICES. WELDING OF SHIPPING DEVICES TO FINGER PLATE SHALL NOT BE ALLOWED.
8. THE FINGER PLATES SHALL BE CUT FROM ONE CONTINUOUS 2'-0" WIDE x 2 1/4" THICK PLATE AS SHOWN ON THE FINGER CUTTING DETAIL, AND FURNISHED IN FOUR LENGTHS.
9. THE HOPPERS AND DOWNSPOUTS SHALL BE A-36 GALVANIZED IN ACCORDANCE WITH SECTION 550. PAYMENT FOR HOPPERS, BLOCKING PADS AND ALL ATTACHMENTS WILL BE SUBSIDIARY TO ITEM 561.301.
10. ELEVATIONS SHOWN AT TOP OF FINGER PLATES ARE 1/8" LOWER THAN THE PROPOSED FINISHED ROADWAY GRADE.
11. SEE BRIDGE SHEET 18 FOR HOPPER DETAILS.
12. THE FABRIC TROUGH SHALL BE PREFORMED FABRIC MATERIAL AND SHALL BE CUT DURING SHOP PRE-ASSEMBLY. THE TROUGH MAY BE SUPPLIED IN THREE LENGTHS WITH 6" OVERLAP AT PHASING LINE AND ℄ I-93

PS&E PLANS SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926ExpJT2105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926

LOCATION I-93 NB OVER CONNECTICUT RIVER

TYPICAL EXPANSION (FINGER) JOINT DETAILS

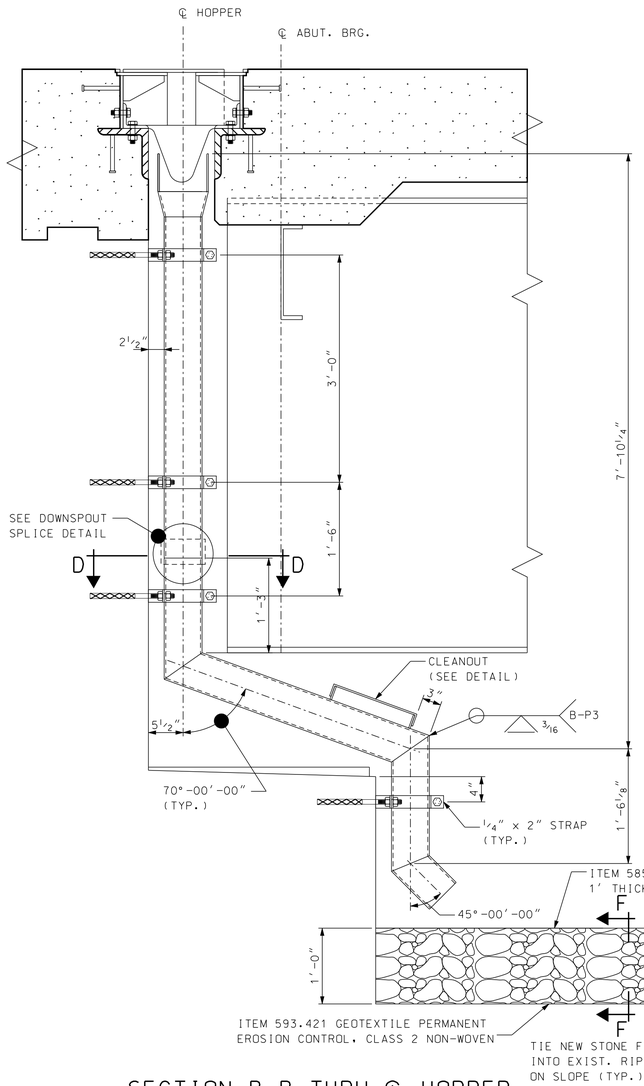
BRIDGE SHEET 17 OF 21

FILE NUMBER 30-2-3

REVISIONS AFTER PROPOSAL	BY	DATE

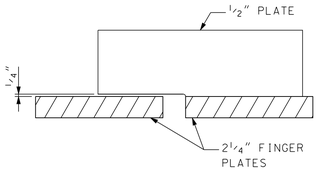
	BY	DATE		BY	DATE
DESIGNED	TWP	01/11	CHECKED	CLC	01/11
DRAWN	JEB	01/11	CHECKED	CLC	01/11
QUANTITIES	TWP	01/11	CHECKED	CLC	01/11

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A001(041)	22	64



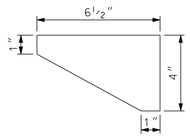
SECTION B-B THRU ℄ HOPPER

SCALE: 1" = 1'-0"



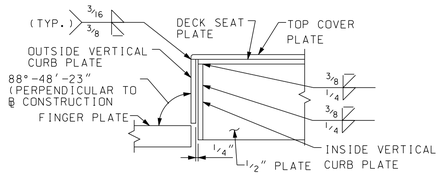
OUTSIDE VERTICAL CURB PLATE DETAIL

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



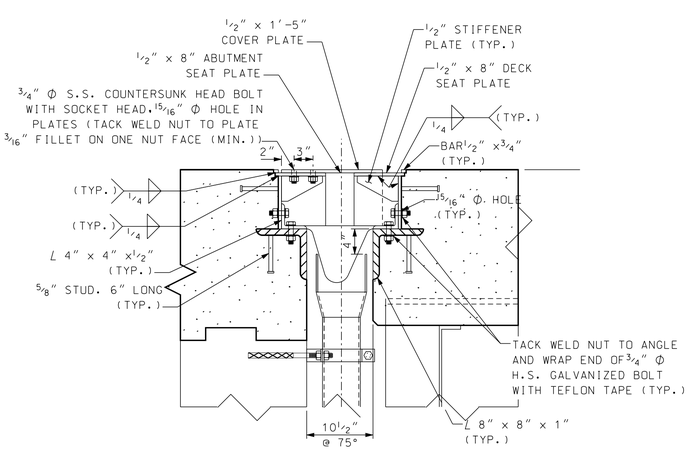
STIFFENER PLATE

SCALE: 3" = 1'-0"



SECTION C-C

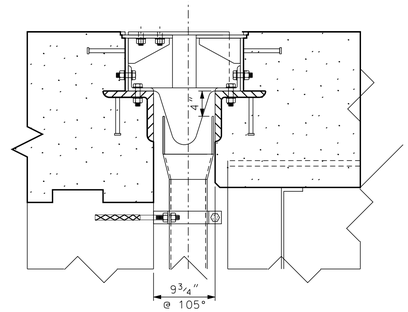
SCALE: 1 1/2" = 1'-0"



SECTION B-B IN CURB

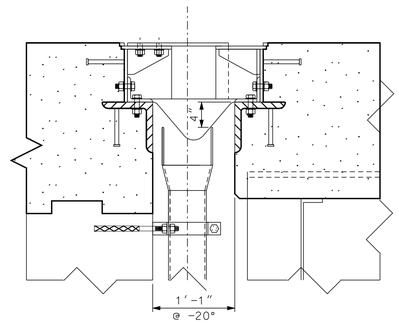
SCALE: 1" = 1'-0"

NOTE:
FOR LOCATION OF SECTION B-B SEE BRIDGE SHEET 16.
FOR LOCATION OF SECTION C-C SEE BRIDGE SHEET 17.



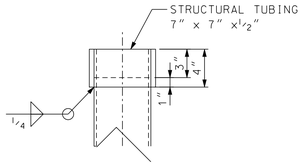
SECTION B-B

SCALE: 1" = 1'-0"
(MIN. OPENING)



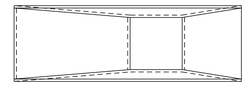
SECTION B-B

SCALE: 1" = 1'-0"
(MAX. OPENING)

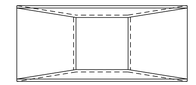


DOWNSPOUT SPLICE DETAIL

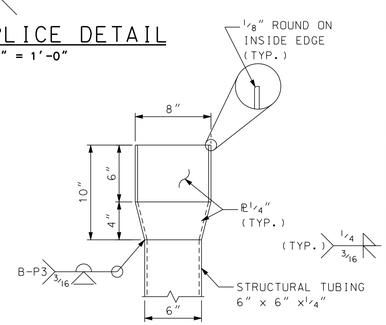
SCALE: 1 1/2" = 1'-0"



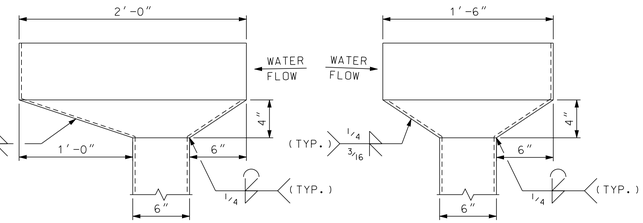
TOP VIEW



TOP VIEW



SIDE VIEW

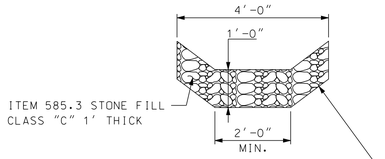


FRONT VIEW
SOUTHEAST HOPPER @ ABUT. B

FRONT VIEW
SOUTHWEST HOPPER @ ABUT. B

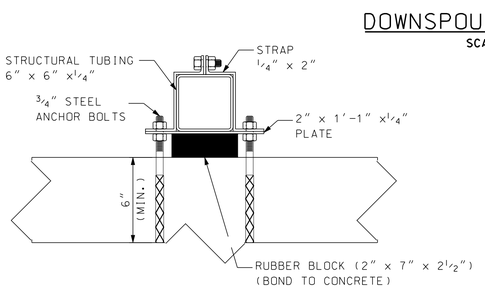
HOPPER DETAIL

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



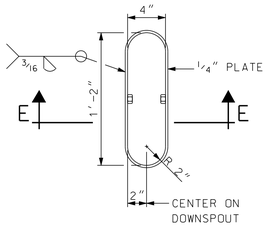
SECTION F-F

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



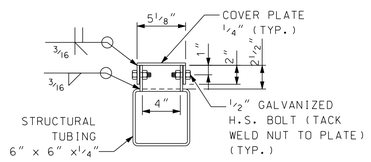
SECTION D-D

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



CLEANOUT DETAIL

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



SECTION E-E

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

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
XX	15926ExpJT3105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926
LOCATION I-93 NB OVER CONNECTICUT RIVER

TYPICAL EXPANSION (FINGER) JOINT DETAILS

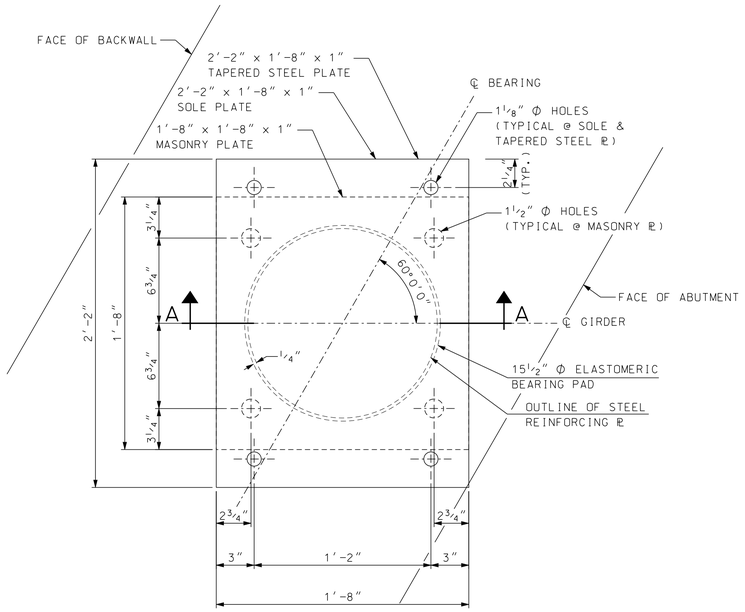
BRIDGE SHEET 18 OF 21

REVISIONS AFTER PROPOSAL	BY	DATE

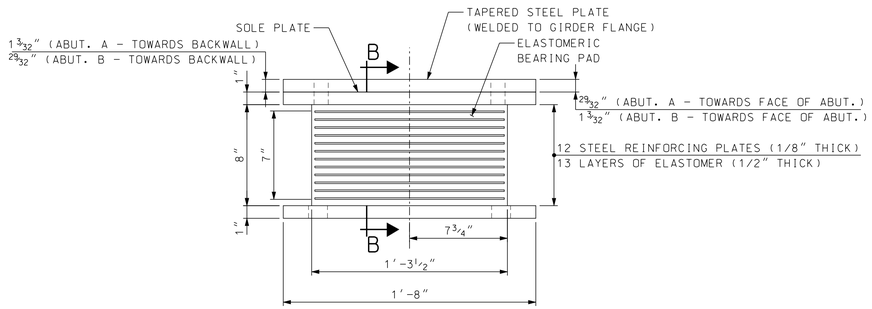
	BY	DATE		BY	DATE
DESIGNED	TWP	01/11	CHECKED	CLC	01/11
DRAWN	JEB	01/11	CHECKED	CLC	01/11
QUANTITIES	TWP	01/11	CHECKED	CLC	01/11

FILE NUMBER 30-2-3

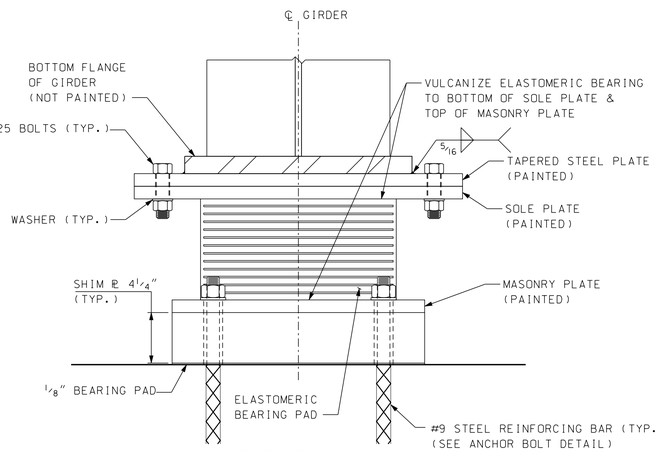
ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A001(041)	23	64



PLAN VIEW



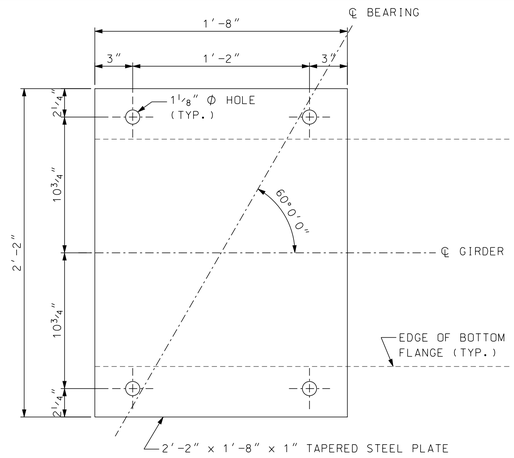
SECTION A-A



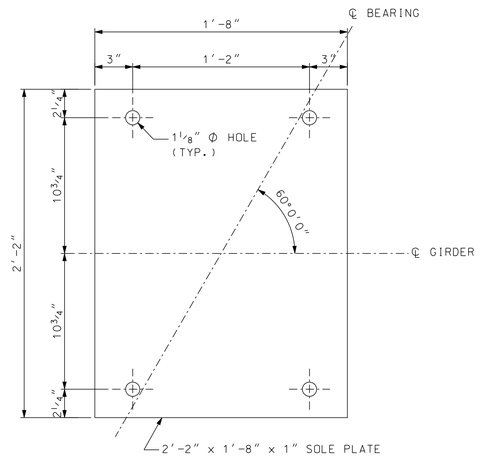
SECTION B-B

ELASTOMERIC BEARING ASSEMBLY - ABUTMENT (12 TOTAL REQUIRED)

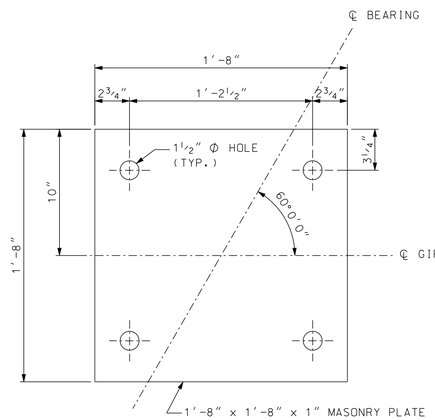
SCALE: 2" = 1'-0"



TAPERED STEEL PLATE



SOLE PLATE



MASONRY PLATE

BEARING ASSEMBLY NOTES

(1) BEARING ASSEMBLIES, INCLUDING ELASTOMERIC BEARING PADS, TAPERED STEEL PLATES, SOLE PLATES, MASONRY PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE PAID AS ELASTOMERIC BEARING ASSEMBLIES (F), ITEM 548.21.

(2) DESIGN LOADS: (METHOD A, LRFD SECTION 14.7.6)

MAXIMUM DEAD LOAD	302.39 KIPS
MAXIMUM SUPERIMPOSED DEAD LOAD	18.99 KIPS
MAXIMUM LIVE LOAD	196.89 KIPS
ROTATION	0.00001745 RADIANS
DESIGN MOVEMENT	
COMPRESSION DEFLECTION	0.111"
THERMAL EXPANSION	1.76"

(3) ELASTOMERIC CEARING PADS SHALL BE VIRGIN NATURAL RUBBER, HARDNESS (SHORE "A" DUROMETER) OF 60, GRADE 3, BUT WITH A SHEAR MODULAS RANGE 130 PSI TO 160 PSI.

(4) ANCHOR BOLTS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 550.2.5. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION AND CONFORM TO AASHTO M232 ASTM A153.

(5) STEEL PLATES SHALL CONFORM TO AASHTO M 270 GRADE 50W (ASTM A709 GRADE 50W). THE STEEL REINFORCING PLATES SHALL CONFORM TO AASHTO M 270 GRADE 50W (ASTM A709 GRADE 50W).

(6) SURFACE FINISH OF ALL PLATES SHALL BE IN ACCORDANCE WITH AASHTO DIVISION II, SECTION 11.4.6.

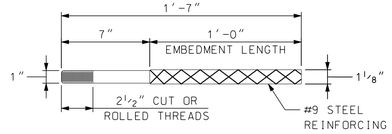
(7) SOLE PLATES & MASONRY PLATE SHALL BE VULCANIZED TO THE ELASTOMER. ALL SURFACES THAT ARE TO BE BONDED TO THE ELASTOMER SHALL BE BLAST CLEAN AS SPECIFIED IN SSPC-SP 10.

(8) TAPERED SOLE, AND MASONRY PLATES SHALL BE BLAST CLEANED (SSPC-SP) AFTER THE VULCANIZING PROCEDURE PRIOR TO PAINTING. SHOP PAINT BEARING ASSEMBLIES PER SPECIAL PROVISION 550. AFTER WELDING TO THE GIRDER FLANGE, CLEAN AND APPLY FINISH COATS TO THE TAPERED PLATES.

(9) BEARINGS SHALL BE INSTALLED AT TEMPERATURES BETWEEN 20°F AND 70°F. INSTALLATION TEMPERATURES OUTSIDE THIS RANGE WILL REQUIRE ADJUSTMENT.

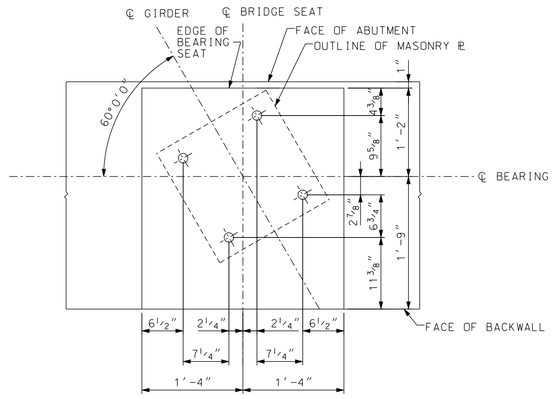
(10) THE MANUFACTURER SHALL CLEARLY MARK THE FRONT OF THE BEARINGS TO ENSURE PROPER ORIENTATION IN THE FIELD.

(11) STEEL REINFORCING FOR ELASTOMERIC BEARING PADS SHALL CONFORM TO SECTION 548.2.3.



ANCHOR BOLT DETAIL

SCALE: 2" = 1'-0"



ANCHOR BOLT LAYOUT

SCALE: 1" = 1'-0"

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926Shoes1105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926

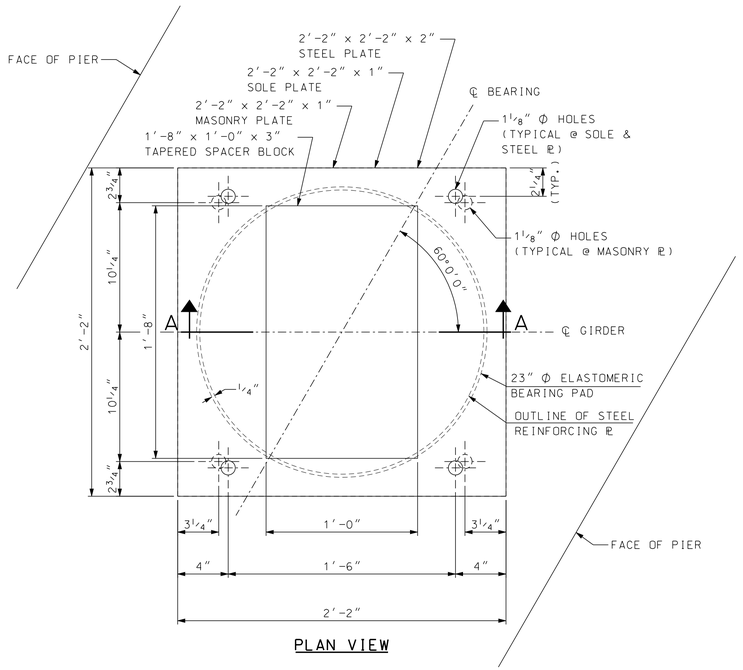
LOCATION I-93 NB OVER CONNECTICUT RIVER

ELASTOMERIC BEARING DETAILS - ABUTMENTS

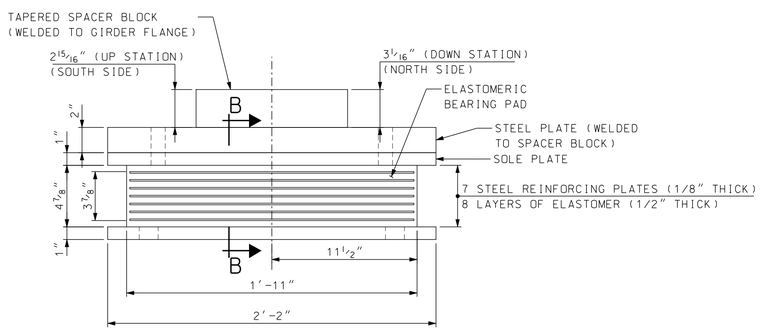
BRIDGE SHEET 19 OF 21

FILE NUMBER 30-2-3

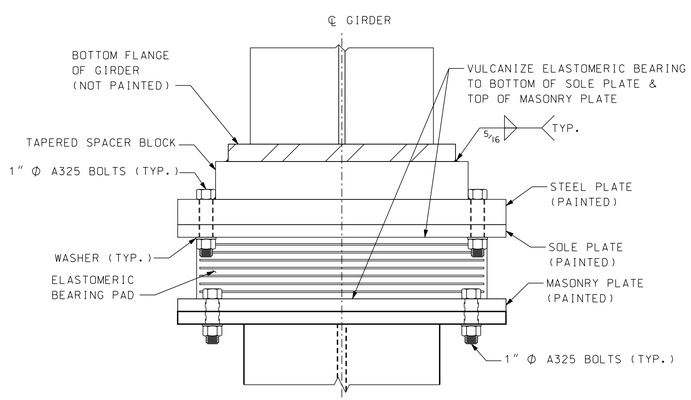
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A001(041)		24	64



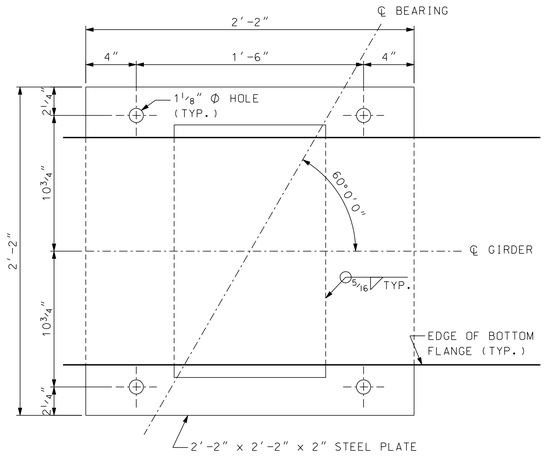
PLAN VIEW



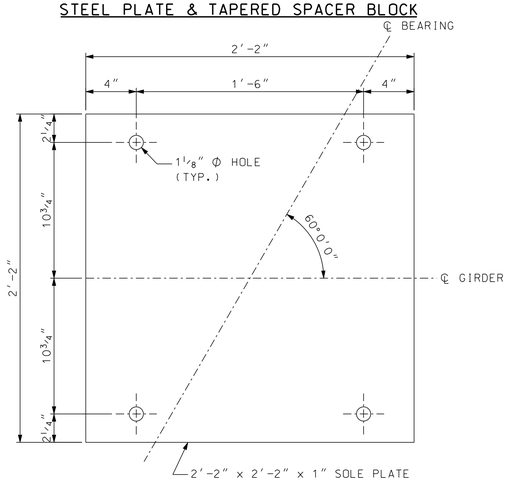
SECTION A-A



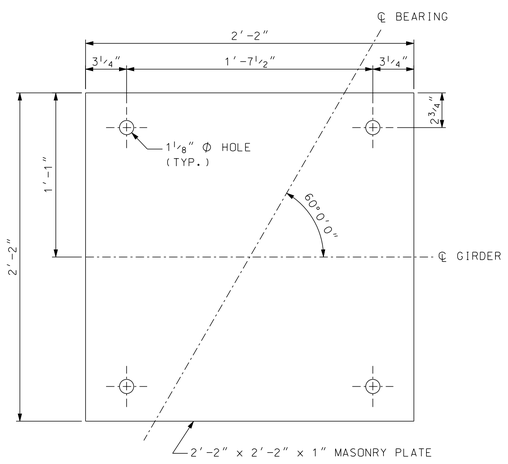
SECTION B-B



STEEL PLATE & TAPERED SPACER BLOCK



SOLE PLATE



MASONRY PLATE

BEARING ASSEMBLY NOTES

(1) BEARING ASSEMBLIES, INCLUDING ELASTOMERIC BEARING PADS, TAPERED STEEL PLATES, SOLE PLATES, MASONRY PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE PAID AS ELASTOMERIC BEARING ASSEMBLIES (F), ITEM 548.21.

(2) PIER 1 & 3:

DESIGN LOADS: (METHOD A. LRFD SECTION 14.7.6)	
MAXIMUM DEAD LOAD	302.39 KIPS
MAXIMUM SUPERIMPOSED DEAD LOAD	18.99 KIPS
MAXIMUM LIVE LOAD	196.89 KIPS
ROTATION	0.00001745 RADIANS
DESIGN MOVEMENT	
COMPRESSION DEFLECTION	0.111"
THERMAL EXPANSION	1.76"

PIER 2:

DESIGN LOADS: (METHOD A. LRFD SECTION 14.7.6)	
MAXIMUM DEAD LOAD	288.03 KIPS
MAXIMUM SUPERIMPOSED DEAD LOAD	18.18 KIPS
MAXIMUM LIVE LOAD	198.77
ROTATION	0.00001745 RADIANS
DESIGN MOVEMENT	
COMPRESSION DEFLECTION	0.107"
THERMAL EXPANSION	0"

(3) ELASTOMERIC CEARING PADS SHALL BE VIRGIN NATURAL RUBBER, HARDNESS (SHORE "A" DUROMETER) OF 60, GRADE 3, BUT WITH A SHEAR MODULAS RANGE 130 PSI TO 160 PSI.

(4) ANCHOR BOLTS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 550.2.5. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION AND CONFORM TO AASHTO M232 ASTM A153.

(5) STEEL PLATES SHALL CONFORM TO AASHTO M 270 GRADE 50W (ASTM A709 GRADE 50W). THE STEEL REINFORCING PLATES SHALL CONFORM TO AASHTO M 270 GRADE 50W (ASTM A709 GRADE 50W).

(6) SURFACE FINISH OF ALL PLATES SHALL BE IN ACCORDANCE WITH AASHTO DIVISION II, SECTION 11.4.6.

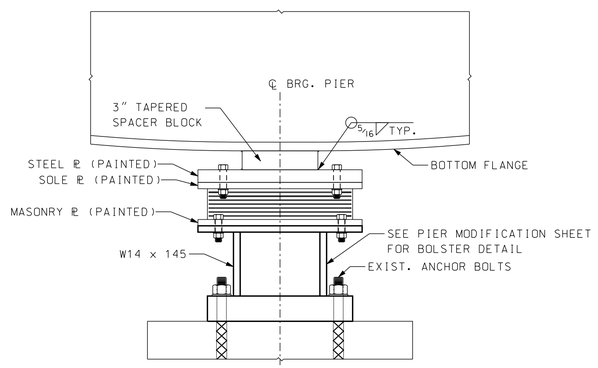
(7) SOLE PLATES & MASONRY PLATE SHALL BE VULCANIZED TO THE ELASTOMER. ALL SURFACES THAT ARE TO BE BONDED TO THE ELASTOMER SHALL BE BLAST CLEAN AS SPECIFIED IN SSPC-SP 10.

(8) TAPERED SOLE, AND MASONRY PLATES SHALL BE BLAST CLEANED (SSPC-SP) AFTER THE VULCANIZING PROCEDURE PRIOR TO PAINTING. SHOP PAINT BEARING ASSEMBLIES PER SPECIAL PROVISION 550. AFTER WELDING TO THE GIRDER FLANGE, CLEAN AND APPLY FINISH COATS TO THE TAPERED PLATES.

(9) BEARINGS SHALL BE INSTALLED AT TEMPERATURES BETWEEN 20°F AND 70°F. INSTALLATION TEMPERATURES OUTSIDE THIS RANGE WILL REQUIRE ADJUSTMENT.

(10) THE MANUFACTURER SHALL CLEARLY MARK THE FRONT OF THE BEARINGS TO ENSURE PROPER ORIENTATION IN THE FIELD.

(11) STEEL REINFORCING FOR ELASTOMERIC BEARING PADS SHALL CONFORM TO SECTION 548.2.3.



ELEVATION - BEARING ASSEMBLY
SCALE: 1" = 1'-0"

ELASTOMERIC BEARING ASSEMBLY - PIER (18 TOTAL REQUIRED)
SCALE: 2" = 1'-0"

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926Shoes2105_135	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926

LOCATION I-93 NB OVER CONNECTICUT RIVER

ELASTOMERIC BEARING DETAILS - PIERS

BRIDGE SHEET: 20 OF 21

FILE NUMBER: 30-2-3

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	TWP	01/11	CHECKED	CLC	01/11
DRAWN	JEB	01/11	CHECKED	CLC	01/11
QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.
REV. DATE			A001(041)		25

TOTAL SHEETS: 64

MARK	SIZE	LENGTH	NO. PIECES	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
DECK																
D1E	6	1′-8″	8		–	–	–	–	–	–	–	–	–	–	–	–
D2E	6	2′-7″	8		–	–	–	–	–	–	–	–	–	–	–	–
D3E	6	3′-5″	8		–	–	–	–	–	–	–	–	–	–	–	–
D4E	6	4′-3″	8		–	–	–	–	–	–	–	–	–	–	–	–
D5E	6	5′-2″	8		–	–	–	–	–	–	–	–	–	–	–	–
D6E	6	6′-0″	8		–	–	–	–	–	–	–	–	–	–	–	–
D7E	6	6′-11″	8		–	–	–	–	–	–	–	–	–	–	–	–
D8E	6	7′-9″	8		–	–	–	–	–	–	–	–	–	–	–	–
D9E	6	8′-7″	8		–	–	–	–	–	–	–	–	–	–	–	–
D10E	6	9′-6″	8		–	–	–	–	–	–	–	–	–	–	–	–
D11E	6	10′-4″	8		–	–	–	–	–	–	–	–	–	–	–	–
D12E	6	11′-2″	8		–	–	–	–	–	–	–	–	–	–	–	–
D13E	6	12′-1″	8		–	–	–	–	–	–	–	–	–	–	–	–
D14E	6	12′-11″	8		–	–	–	–	–	–	–	–	–	–	–	–
D15E	6	13′-9″	8		–	–	–	–	–	–	–	–	–	–	–	–
D16E	6	14′-8″	8		–	–	–	–	–	–	–	–	–	–	–	–
D17E	6	15′-6″	8		–	–	–	–	–	–	–	–	–	–	–	–
D18E	6	16′-4″	8		–	–	–	–	–	–	–	–	–	–	–	–
D19E	6	17′-2″	8		–	–	–	–	–	–	–	–	–	–	–	–
D20E	6	18′-1″	4		–	–	–	–	–	–	–	–	–	–	–	–
D21E	6	19′-0″	4		–	–	–	–	–	–	–	–	–	–	–	–
D22E	6	19′-10″	4		–	–	–	–	–	–	–	–	–	–	–	–
D23E	6	20′-8″	4		–	–	–	–	–	–	–	–	–	–	–	–
D24E	6	21′-6″	4		–	–	–	–	–	–	–	–	–	–	–	–
D25E	6	22′-4″	4		–	–	–	–	–	–	–	–	–	–	–	–
D26E	6	23′-3″	4		–	–	–	–	–	–	–	–	–	–	–	–
D27E	6	24′-1″	4		–	–	–	–	–	–	–	–	–	–	–	–
D28E	6	25′-1″	4		–	–	–	–	–	–	–	–	–	–	–	–
D29E	6	17′-11″	2612		–	–	–	–	–	–	–	–	–	–	–	–
D30E	6	25′-8″	2612		–	–	–	–	–	–	–	–	–	–	–	–
D31E	6	3′-0″	2650	C1	–	3′-0″	–	–	–	–	–	–	–	–	–	–
D32E	6	3′-0″	2650	C2	–	3′-0″	–	–	–	–	–	–	–	–	–	–
D33E	5	50′-0″	1157		–	–	–	–	–	–	–	–	–	–	–	–
D34E	5	47′-3″	89		–	–	–	–	–	–	–	–	–	–	–	–
D35E	5	4′-11″	1826	S5	0′-6″	1′-2″	1′-7″	1′-2″	–	–	0′-6″	–	–	–	–	–
D36E	6	20′-8″	10		–	–	–	–	–	–	–	–	–	–	–	–
D37E	6	29′-7″	10		–	–	–	–	–	–	–	–	–	–	–	–
D38E	5	33′-0″	456		–	–	–	–	–	–	–	–	–	–	–	–
D39E	5	3′-0″	104	16	0′-8″	1′-0″	0′-5″	0′-11″	–	–	–	0′-8″	–	0′-7½″	–	–
D40E	5	4′-9″	104	N2	–	1′-7″	0′-10″	1′-6″	0-10″	–	–	0′-7¼″	–	0′-6¾″	–	–

MARK	SIZE	LENGTH	NO. PIECES	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
NORTH ABUTMENT (ABUT. A)																
A1	5	12′-0″	6		–	–	–	–	–	–	–	–	–	–	–	–
A2	5	4′-9″	26		–	1′-7″	1′-5″	1′-9″	–	–	–	–	–	–	–	–
A3	5	3′-10″	7		–	1′-7″	2′-3″	–	–	–	–	–	–	–	–	–
A4	5	5′-2″	9		–	–	2′-3″	2′-11″	–	–	–	–	–	–	–	–
A5	5	3′-9″	11		–	1′-7″	0′-7″	1′-7″	–	–	–	–	–	–	–	–
A6	5	5′-0″	4		–	–	–	–	–	–	–	–	–	–	–	–
A7	5	4′-6″	1		–	–	–	–	–	–	–	–	–	–	–	–
A8	5	4′-0″	1		–	–	–	–	–	–	–	–	–	–	–	–
A9	5	7′-6″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
A10	5	2′-8″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
A11	5	3′-2″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
A12	5	5′-3″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
A13	5	6′-5″	1		–	3′-7″	2′-10″	–	–	–	–	3′-1⅜″	–	1′-7¾″	–	–
A14	5	4′-6″	1		–	2′-3″	2′-3″	–	–	–	–	2′-1¼″	–	1′-1¾″	–	–
A15	5	3′-5″	52		0′-6″	1′-2″	0′-9″	1′-0″	–	–	–	0′-8½″	–	0′-8½″	–	–
A16	5	23′-0″	1	19	–	–	–	–	–	–	–	–	–	–	–	–
A17	5	22′-6″	2	19	–	–	–	–	–	–	–	–	–	–	–	–
A18	5	22′-2″	1	16	–	–	–	–	–	–	–	–	–	–	–	–
A19	5	28′-0″	1		–	–	–	–	–	–	–	–	–	–	–	–
A20	5	28′-6″	2		–	–	–	–	–	–	–	–	–	–	–	–
A21	5	28′-10″	1		–	–	–	–	–	–	–	–	–	–	–	–
A22	5	3′-0″	4	C1	–	3′-0″	–	–	–	–	–	–	–	–	–	–
A23	5	3′-0″	4	C2	–	3′-0″	–	–	–	–	–	–	–	–	–	–
SOUTH ABUTMENT (ABUT. B)																
B1	5	12′-0″	6		–	–	–	–	–	–	–	–	–	–	–	–
B2	5	4′-9″	26		–	1′-7″	1′-5″	1′-9″	–	–	–	–	–	–	–	–
B3	5	3′-10″	7		–	1′-7″	2′-3″	–	–	–	–	–	–	–	–	–
B4	5	5′-2″	9		–	–	2′-3″	2′-11″	–	–	–	–	–	–	–	–
B5	5	3′-9″	11		–	1′-7″	0′-7″	1′-7″	–	–	–	–	–	–	–	–
B6	5	5′-0″	4		–	–	–	–	–	–	–	–	–	–	–	–
B7	5	4′-6″	1		–	–	–	–	–	–	–	–	–	–	–	–
B8	5	4′-0″	1		–	–	–	–	–	–	–	–	–	–	–	–
B9	5	7′-6″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
B10	5	2′-8″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
B11	5	3′-2″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
B12	5	5′-3″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
B13	5	6′-5″	1		–	3′-7″	2′-10″	–	–	–	–	3′-1⅜″	–	1′-7¾″	–	–
B14	5	4′-6″	1		–	2′-3″	2′-3″	–	–	–	–	2′-1¼″	–	1′-1¾″	–	–
B15	5	3′-5″	52		0′-6″	1′-2″	0′-9″	1′-0″	–	–	–	0′-8½″	–	0′-8½″	–	–
B16	5	30′-0″	1	19	–	–	–	–	–	–	–	–	–	–	–	–
B17	5	29′-6″	2	19	–	–	–	–	–	–	–	–	–	–	–	–
B18	5	29′-2″	1	16	–	–	–	–	–	–	–	–	–	–	–	–
B19	5	21′-0″	1		–	–	–	–	–	–	–	–	–	–	–	–
B20	5	21′-5″	2		–	–	–	–	–	–	–	–	–	–	–	–
B21	5	21′-10″	1		–	–	–	–	–	–	–	–	–	–	–	–
B22	5	3′-0″	4	C1	–	3′-0″	–	–	–	–	–	–	–	–	–	–
B23	5	3′-0″	4	C2	–	3′-0″	–	–	–	–	–	–	–	–	–	–

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

SHEET SUMMARY–TOTAL WEIGHT (LBS.)

BRIDGE NUMBER 105/135												SECTION TOTAL
ITEM NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	
544	–	–	1580	–	–	–	–	–	–	–	–	1580
544.11	–	–	52	–	–	–	–	–	–	–	–	52
544.2	–	–	90900	181100	–	–	–	–	–	–	–	272000
544.21	–	–	–	23890	–	–	–	–	–	–	–	23890

GRAND SUMMARY–TOTAL WEIGHT (LBS.)

BRIDGE NUMBER 105/135												GRAND TOTAL
ITEM NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	
544	–	–	1580	–	–	–	–	–	–	–	–	1580
544.11	–	–	52	–	–	–	–	–	–	–	–	52
544.2	–	–	90900	181100	–	–	–	–	–	–	–	272000
544.21	–	–	–	23890	–	–	–	–	–	–	–	23890

NOTES: 1. REINFORCING BARS MARKED "E" SHALL BE EPOXY COATED.
2. REINFORCING BARS GRADE 60.

ASTM STANDARD REINFORCING BARS

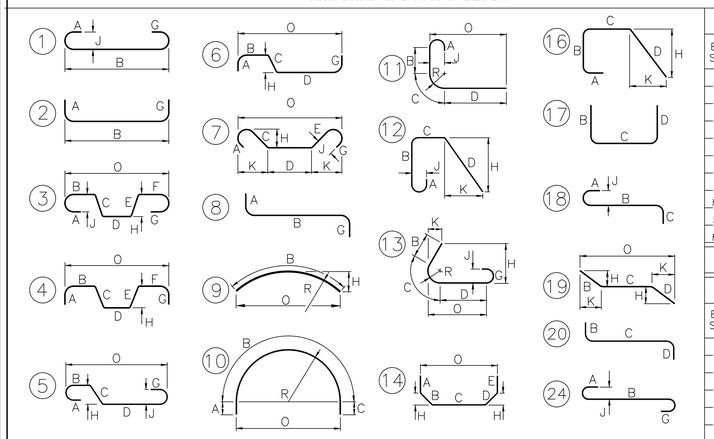
BAR SIZE DESIG-NATION	WEIGHT POUNDS PER FOOT	NOM. DIMENSIONS (ROUND) DIAMETER INCHES	NOM. DIMENSIONS (ROUND) CROSS SECTIONAL AREA SQ. INCHES
#3	0.376	0.375	0.11
#4	0.668	0.500	0.20
#5	1.043	0.625	0.31
#6	1.502	0.750	0.44
#7	2.044	0.875	0.60
#8	2.670	1.000	0.79
#9	3.400	1.128	1.00
#10	4.303	1.270	1.27
#11	5.313	1.410	1.56
#14	7.650	1.693	2.25
#18	13.600	2.257	4.00

NOTES:
1. FIGURES IN CIRCLES SHOW TYPE OF BEND.
2. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET – STEEL BARS FOR CONCRETE REINFOREMENT", AASHTO M 31 (ASTM A 615–S1).
3. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRACTICE SEE CURRENT (1986) CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE", P.6–4.
4. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
5. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180° AND 135° HOOKS.
6. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
7. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
8. WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H' AND "K" MUST BE SHOWN.

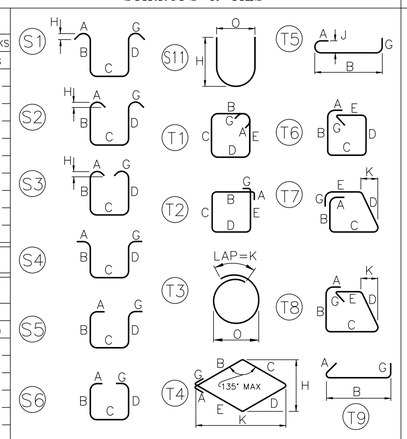
▲ DENOTES BARS TO BE CUT IN FIELD.
△ DENOTES BARS TO BE BENT IN FIELD.

TYPICAL BAR BENDS

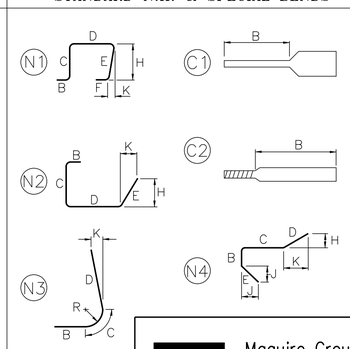
STANDARD INDUSTRY BENDS



STIRRUPS & TIES



STANDARD N.H. & SPECIAL BENDS



RECOMMENDED END HOOKS
ALL GRADES

BAR SIZE	180° HOOKS D	180° HOOKS A or G	180° HOOKS J	90° HOOKS A or G
#3	2½″	5″	3″	6″
#4	3″	6″	4″	8″
#5	3¾″	7″	5″	10″
#6	4½″	8″	6″	1′-0″
#7	5¼″	10″	7″	1′-2″
#8	6″	11″	8″	1′-4″
#9	9½″	1′-3″	11⅜″	1′-7″
#10	10¾″	1′-5″	1′-1½″	1′-10″
#11	12″	1′-7″	1′-2¾″	2′-0″
#14	18¼″	2′-3″	1′-9¾″	2′-7″

NOTE: D=finished inside bend ø of hook. See 1986 CRSI Manual p6–3&4.

STIRRUP & TIE HOOK DIMENSIONS
GRADES 40–50–60 ksi

BAR SIZE	D (IN.)	90° HOOKS A or G	135° HOOKS A or G	135° HOOKS H(appr)
#3	1½″	4″	4″	2½″
#4	2″	4½″	4½″	3″
#5	2½″	6″	5½″	3½″
#6	4½″	1′-0″	7½″	4½″
#7	5¼″	1′-2″	9″	5¼″
#8	6″	1′-4″	10¼″	6″

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\Super	15926REINFS1105_135	AS NOTED

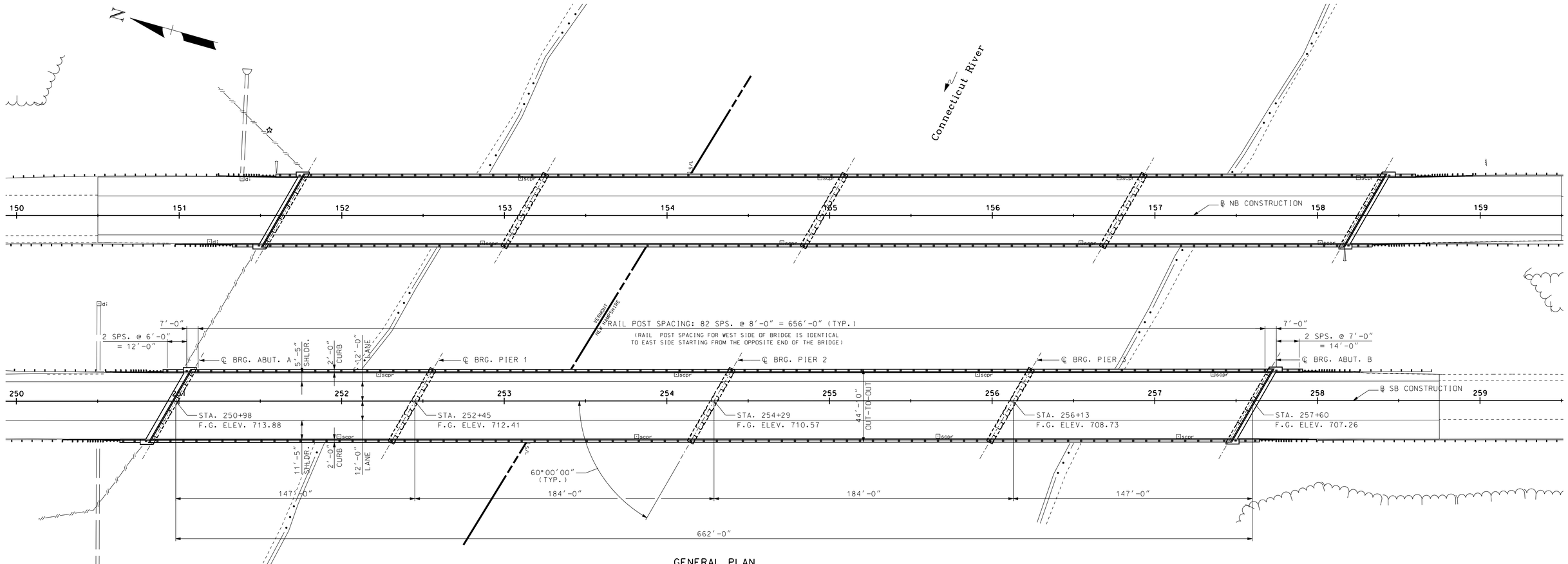
STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 STATE PROJECT 15926
LOCATION I-93 NB OVER CONNECTICUT RIVER

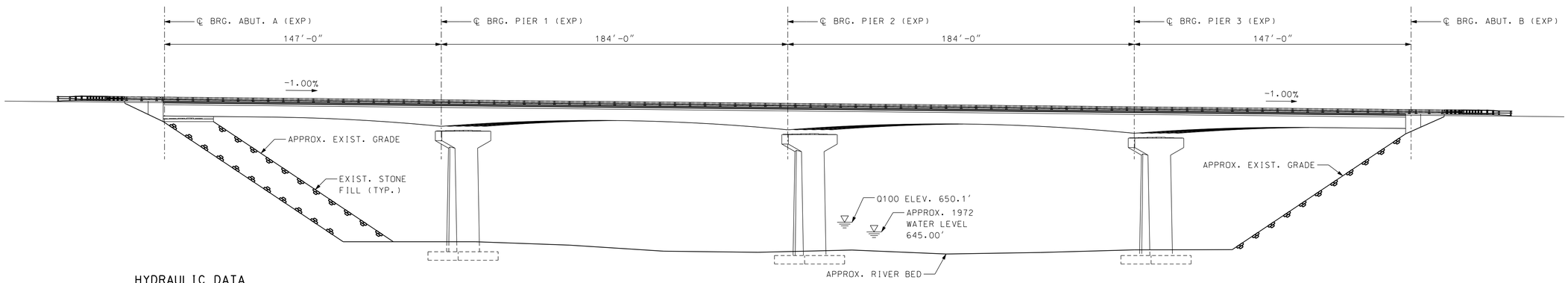
REINFORCING SCHEDULE

BRIDGE SHEET 21 OF 21
FILE NUMBER 30-2-3

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A001(041)		26	64



GENERAL PLAN



ELEVATION

HYDRAULIC DATA

(1) DRAINAGE AREA: XX

(2) DESIGN FLOOD: XX

(3) DESIGN VELOCITY: XX

(4) DESIGN FLOOD ELEVATION: XXXX

(5) Q100 ELEVATION: 650.1'

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926Genplan&Elevation104_136	1" = 30'

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 104/136 STATE PROJECT 15926

LOCATION I-93 SB OVER CONNECTICUT RIVER

GENERAL PLAN & ELEVATION

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
			DESIGNED	TWP	01/11
			DRAWN	JEB	01/11
			QUANTITIES	TWP	01/11
			ISSUE DATE		
			REV. DATE		

CHECKED	BY	DATE
CHECKED	CLC	01/11
CHECKED	CLC	01/11
CHECKED	CLC	01/11

FEDERAL PROJECT NO.	SHEET NO.
A001(041)	27

BRIDGE SHEET	FILE NUMBER	TOTAL SHEETS
1 OF 18	30-2-4	64

DESIGN LOADS, MATERIALS AND SPECIFICATION

(1) SPECIFICATION: AASHTO 2007 LRFD BRIDGE DESIGN SPECIFICATIONS WITH 2008 INTERIMS
NHDOT 2010 STANDARD SPECIFICATIONS AS AMENDED

(2) FOUNDATION DATA: ABUTMENTS - END BEARING STEEL H-PILES
PIERS - SPREAD FOOTING

(3) REINFORCING STEEL: AASHTO M31.1 (ASTM A 615) GRADE 60
ITEM 544, REINFORCING STEEL
ITEM 544.11, REINFORCING STEEL, MECH. CONNECTORS
ITEM 544.2, REINFORCING STEEL, EPOXY COATED
ITEM 544.21, REINFORCONG STEEL, EPOXY COATED, MECH. CONNECTORS

(4) CONCRETE: ABUTMENTS AND WINGWALL PATCHING:
ITEM 520.01, CONCRETE CLASS AA
DECK SLAB AND BRUSH CURBS:
ITEM 520.70026, CONCRETE BRIDGE DECK
PANEL OPTION (QC/QA)(F)

GENERAL NOTES

(1) THE EXISTING PLANS, DATED 6-23-80, ARE LOCATED IN FILE NO. 30-2-4 AND MAY BE REVIEWED AT THE NHDOT. BUREAU OF BRIDGE DESIGN OFFICE DURING THE BIDDING PERIOD. AFTER THE CONTRACT IS AWARDED, A COMPLETE SET OF EXISTING PLANS WILL BE FORWARDED TO THE CONTRACTOR UPON REQUEST.

(2) THE CONTRACTOR SHOULD BE AWARE THAT THE EXISTING STRUCTURE PLAN ELEVATIONS SHOWN ON THESE PLANS WERE DECREASED BY 0.101 FT. FROM THE ORIGINAL BRIDGE PLANS. THE EXISTING STRUCTURE PLAN ELEVATIONS WERE ADJUSTED DUE TO DIFFERENCE FROM THE 2010 SURVEY DATUM AND THE AS-BUILT SURVEY DATUM. THE EXISTING DIMENSIONS AND ELEVATIONS SHOWN ON THE PLANS DO NOT NECESSARILY REPRESENT "AS BUILT" DIMENSION AND ELEVATIONS. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF THE EXISTING STRUCTURE AND BE PREPARED TO MAKE ANY ADJUSTMENTS REQUIRED TO PROPERLY REHABILITATE THE BRIDGE. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER, OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO ADVANCING THE WORK.

(3) PORTABLE BARRIERS AND ALL TRAFFIC CONTROL DEVICES & SIGNING SHALL BE IN PLACE BEFORE REMOVAL OPERATIONS BEGIN FOR EACH CONSTRUCTION PHASE.

(4) THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO INSURE THAT DEBRIS INCLUDING SLURRY FROM SAWCUTTING DOES NOT FALL INTO THE WATER BELOW THE EXISTING STRUCTURE. ALL COST SHALL BE PAID UNDER ITEM 502. AND SHALL INCLUDE ERECTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURES OR OTHER SUCH METHODS AS APPROVED.

(5) HOLES DRILLED IN EXISTING CONCRETE SHALL BE DRILLED 1/2" LARGER THAN THE BAR DIAMETER AND GROUTED WITH HIGH STRENGTH, NON-SHRINK GROUT. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 502.102.

SUBSTRUCTURE REHABILITATION NOTES

(1) NEW CONCRETE TO RECONSTRUCT THE ABUTMENTS, WINGWALLS AND PIERS AS SHOWN ON THE PLANS OR DIRECTED SHALL BE ITEM 520.01, CONCRETE CLASS AA.

(2) EXISTING REINFORCING STEEL THAT IS TO REMAIN IN PLACE WITHIN THE REMOVAL AREAS SHALL BE CUT AS REQUIRED TO PROVIDE 2 1/2" MINIMUM CLEAR COVER FROM THE PROPOSED CONCRETE SURFACES, EXCEPT AS OTHERWISE NOTED. ALL COSTS INCLUDED IN ITEM 502.102. ALL NEW REINFORCING BARS SHALL HAVE A MINIMUM CLEAR COVER OF 2 1/2" FROM PROPOSED CONCRETE SURFACES.

(3) REMOVE ANY EXISTING LOOSE OR FLAKING EPOXY COATING FROM THE ABUTMENT AND PIER SEATS AS DIRECTED, COSTS PAID UNDER ITEM 502.102.

(4) PRIOR TO PLACING NEW CONCRETE AGAINST EXISTING CONCRETE SURFACES, BLAST CLEAN THE EXISTING CONCRETE SURFACES. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 512.0101 OR 512.0201.

(5) EXISTING ABUTMENTS AND WINGWALLS SHALL BE INSPECTED FOR DETERIORATED CONCRETE JOINTLY BY THE CONTRACT ADMINISTRATOR AND CONTRACTOR. ALL DETERIORATED CONCRETE SHALL BE REMOVED. CONCRETE SURFACES OF THE REMOVAL LIMITS SHALL BE SAWCUT TO A 1" DEPTH TO PROVIDE CLEAN REMOVAL LINES. THE EXISTING CONCRETE AND EXPOSED REINFORCEMENT SHALL BE BLASTED CLEANED PRIOR TO PLACING NEW CONCRETE. ALL INSPECTION, REMOVAL AND CLEANING SHALL BE AS SPECIFIED IN SECTION 512 AND PAID FOR UNDER ITEM 512.0101 OR 512.0201. NEW CONCRETE PLACED IN THESE AREAS SHALL BE PAID UNDER 520.01.

(6) EXISTING ABUTMENTS, WINGWALLS, AND PIER CAPS SHALL BE WASHED (SUBSIDIARY TO ITEM 534.3) IN SUCH A MANNER THAT OVERSPRAY INTO SURFACE WATERS IS KEPT TO A MINIMUM. IF THE WATER BEADS, NO COATING NEEDS TO BE APPLIED. IF THE WATER DOES NOT BEAD, COAT THE SURFACE WITH ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE), APPLICATION RATE OF 150 SF/GAL.

(7) ITEM 1002.1, REPAIRS OR REPLACEMENTS AS NEEDED, SHALL INCLUDE ALL UNANTICIPATED WORK IN CONNECTION WITH THE SCOPE OF THIS PROJECT.

REINFORCEMENT NOTES

(1) REINFORCEMENT IN THE BOTTOM OF FOOTINGS AND BOTTOM OF APPROACH SLABS SHALL HAVE 3" MINIMUM CLEAR COVER. ALL OTHER REINFORCEMENT SHALL HAVE 2 1/2" MINIMUM CLEAR COVER, UNLESS OTHERWISE NOTED.

(2) PLACE REINFORCING STEEL TO AVOID WEEPERS, RAIL POST ANCHOR ASSEMBLIES AND ANCHOR BOLTS.

(3) ANY EPOXY COATED REBARS CUT TO FIT SHALL BE TOUCHED UP WITH AN APPROVED EPOXY COATING MATERIAL. ALL COSTS SHALL BE INCLUDED IN ITEM 544.2.

(4) REINFORCING LEGEND: SP = SPACE, SPL = SPLICE, FS = FAR SIDE, NS = NEAR SIDE, BOT = BOTTOM, ALT = ALTERNATING.

(5) REINFORCING BAR MARKS APPENDED WITH AN (E), INDICATE EPOXY COATED BARS.

BEARING ASSEMBLY NOTES

(1) SEE ELASTOMERIC BEARING DETAIL SHEETS.

EXPANSION JOINT NOTES

(1) SEE EXPANSION JOINT DETAIL SHEETS.

SUPERSTRUCTURE NOTES

(1) ANY SHOP OR FIELD WELDING OF ATTACHMENTS TO ANY PORTION OF THE GIRDER PLATES FOR CONSTRUCTION PURPOSES WILL NOT BE PERMITTED, UNLESS APPROVED BY THE BUREAU OF BRIDGE DESIGN.

PAINTING NOTES

(1) THE EXISTING PAINT SHALL BE COMPLETELY REMOVED BY ABRASIVE BLASTING TO AN SP10 NEAR WHITE FINISH WITH CLASS 1A CONTAINMENT. STEEL SHALL THEN BE PAINTED WITH A THREE-COAT HIGH-PERFORMANCE SYSTEM: ZINC RICH PRIMER, EPOXY MIDCOAT, AND ALIPHATIC URETHANE TOPCOAT. THIS SHALL BE PAID UNDER ITEM 556.

(2) ALL WORK SHALL CONFORM TO NHDOT SPECIFICATIONS FOR CLEANING & PAINTING, ENVIRONMENTAL PROTECTION, AND WORKER SAFETY & HEALTH.

(3) THE WORK SHALL BE MONITORED BY A CONSULTANT PAINT INSPECTOR FOR CONFORMANCE TO THE SPECIFICATIONS, PER NHDOT PRACTICE.

SUMMARY OF BRIDGE QUANTITIES (BRIDGE NO. 104/136)

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
209.201	Granular Backfill (Bridge) (F)	20	CY
403.11	Hot Bituminous Pavement, Machine Method	260	T
403.911	Hot Bituminous Bridge Pavement, 1" Base Course (F)	170	T
504.1	Common Bridge Excavation (F)	40	CY
511	Concrete Bridge Deck Pavement Removal (F)	2988	SY
511.02	Preparation for Partial Depth Concrete Bridge Deck Repairs	330	SY
511.03	Preparation for Full Depth Concrete Bridge Deck Repairs	66	SY
512.0101	Preparation for Concrete Repairs, Class I	2	SY
512.0201	Preparation for Concrete Repairs, Class II	3	SY
520.01	Concrete Class AA,	20	CY
520.7002	Concrete Bridge Deck (QC/QA) (F)	75	CY
534.3	Water Repellent (Silane-Siloxane)	85	GAL
538.6	Barrier Membrane, Welded by Torch, Machine Method (F)	3013	SY
544	Reinforcing Steel (F)	14230	LB
544.11	Reinforcing Steel, Mechanical Connectors (F)	102	LB
548.21	Elastomeric Bearing Assemblies (F)	30	EA
550.1	Structural Steel (F)	18392	LB
556	Painting Existing Structural Steel	1	U
561.301	Pre-Fabricated Expansion Joint	104	LF
562.1	Silicone Joint Sealant (F)	50	LF
563.22	Bridge Rail T2 (F)	1408	LF
565.222	Bridge Approach Rail, T2 (Steel Posts) (F)	4	U
585.3	Stone Fill Class C	3	CY
593.421	Geotextile Permanent Erosion Control, Class 2 Non-Woven	9	SY

SUMMARY OF HIGWAY QUANTITIES (BRIDGE NO. 104/136)

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
403.11	Pavement Joint Adhesive	190	TON
403.6	Pavement Joint Adhesive	1800	LF
417.	Cold Planing Bituminous Surfaces (F)	1100	SY
585.3	Stone Fill Class C	8	CY
593.421	Geotextile Permanent Erosion Control, Class 2 Non-Woven	30	SY
604.242	Drop Inlet Type D-B	2	EA
606.417	Portable Concrete Barrier for Traffic Control	800	LF
606.4175	Portable Conrete Barrier for Traffic Control - Anchored	1360	LF
606.9523	Temp. Impact Attenuation Device (Non-Directive) Test Level 3	2	EA
607.104	Temporary Portable Lighting	1	LS
618.61	Uniformed Officers w/ Vehicle	*	$
619.1	Maintenance of Traffic	1	U
619.25	Portable Changeable Message Sign	1	U
628.2	Sawed Bituminous Pavement	170	LF
632.0106	Retroreflective Paint Pavement Markings, 6" Line	17000	LF
632.9106	Obliterate Pavement Marking 6" Line	7500	LF
645.531	Silt Fence	300	LF
692.	Mobilization	1	U
1002.1	Repairs and Replacements as Needed	*	$
1010.15	Fuel Adjustment	*	$
1010.41	Quality Control / Quality Assurance (QC/QA) for Concrete	*	$

* NOT A BID ITEM

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BrSite	15926BrNotes104_136	-

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

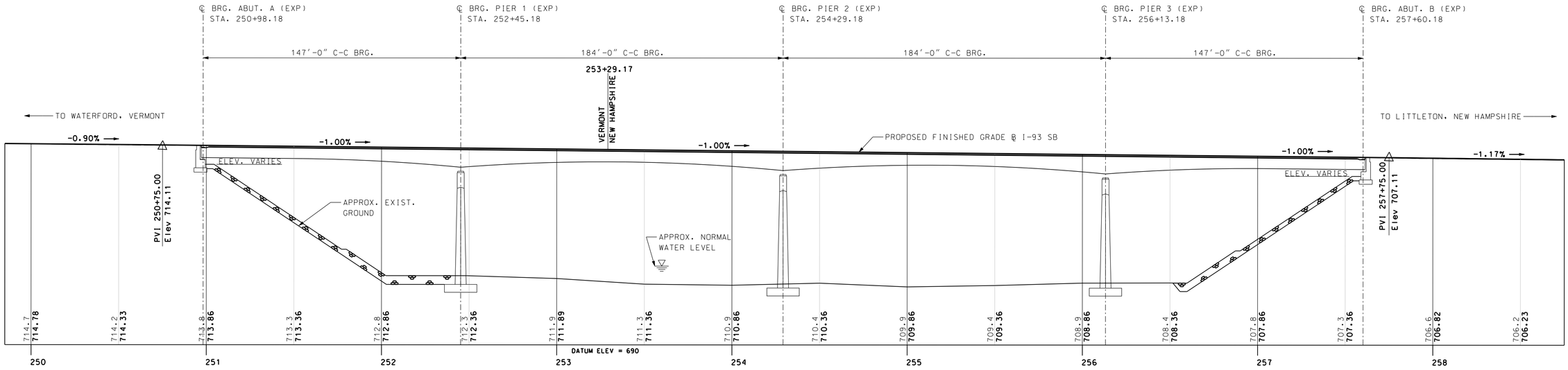
TOWN LITTLETON BRIDGE NO. 104/136 STATE PROJECT 15926
LOCATION I-93 SB OVER CONNECTICUT RIVER

PROJECT NOTES

BRIDGE SHEET 2 OF 18
FILE NUMBER 30-2-4

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED TWP	01/11	CHECKED	CLC	01/11
	DRAWN JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES TWP	01/11	CHECKED	CLC	01/11

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A001(041)	28	64



SOUTHBOUND PROFILE

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926Profile104_136	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 104/136 STATE PROJECT 15926

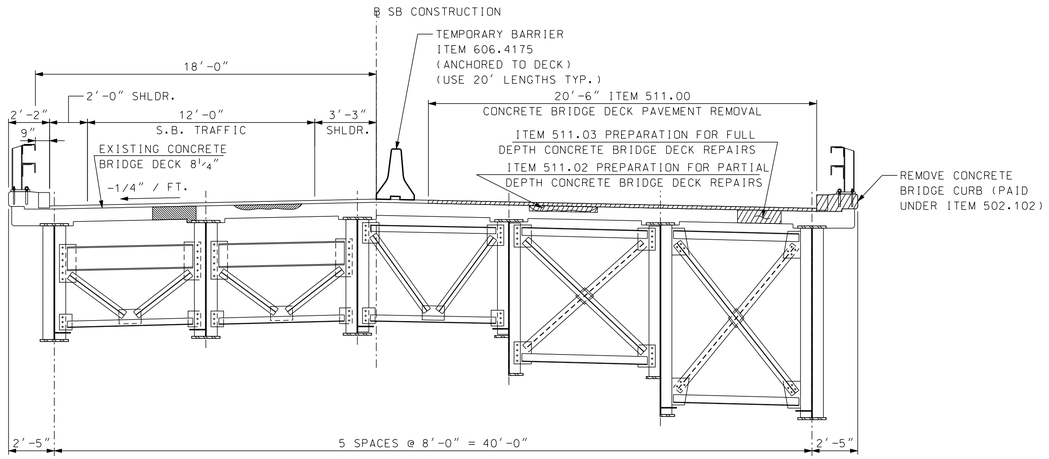
LOCATION I-93 SB OVER CONNECTICUT RIVER

BRIDGE PROFILE

BRIDGE SHEET: 3 OF 18

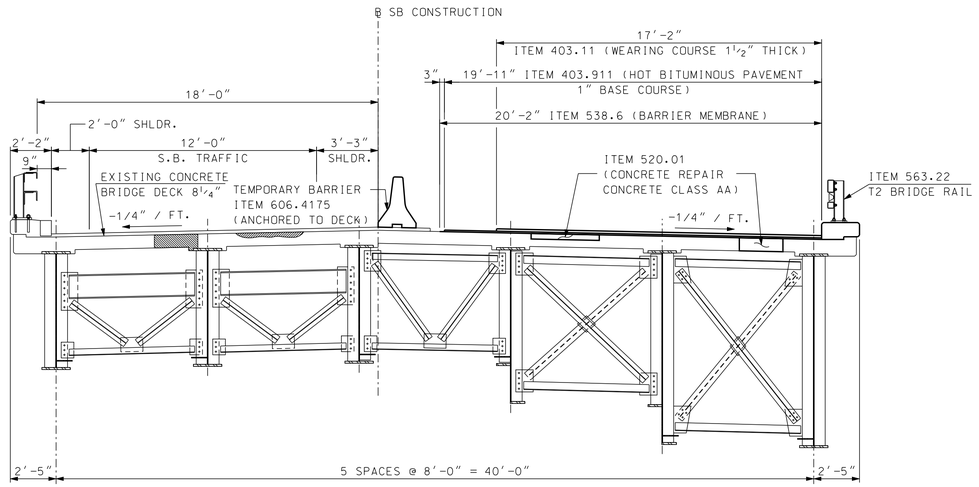
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A001(041)		29	64

FILE NUMBER: 30-2-4



PHASE 1 - BRIDGE REMOVAL

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



PHASE 1 - RECONSTRUCTION

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

PHASE 2 - BRIDGE REMOVAL

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

PHASE 2 - RECONSTRUCTION

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

PORTABLE CONCRETE BARRIER FOR TRAFFIC CONTROL - ANCHORED (ITEM 606.4175)

SCALE 1" =1'-0"

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
XX	15926ConstSeq104_136	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 104/136 STATE PROJECT 15926

LOCATION I-93 SB OVER CONNECTICUT RIVER

CONSTRUCTION PHASING

BRIDGE SHEET: 6 OF 18

REVISIONS AFTER PROPOSAL		BY	DATE
	DESIGNED	TWP	01/11
	DRAWN	JEB	01/11
	QUANTITIES	TWP	01/11
	ISSUE DATE		
	REV. DATE		

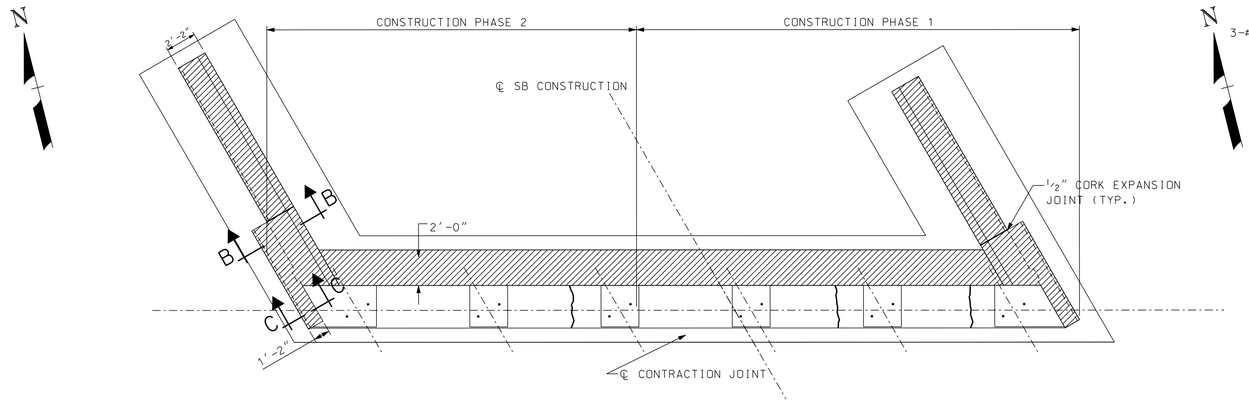
	BY	DATE
CHECKED	CLC	01/11
CHECKED	CLC	01/11
CHECKED	CLC	01/11

FILE NUMBER: 30-2-4

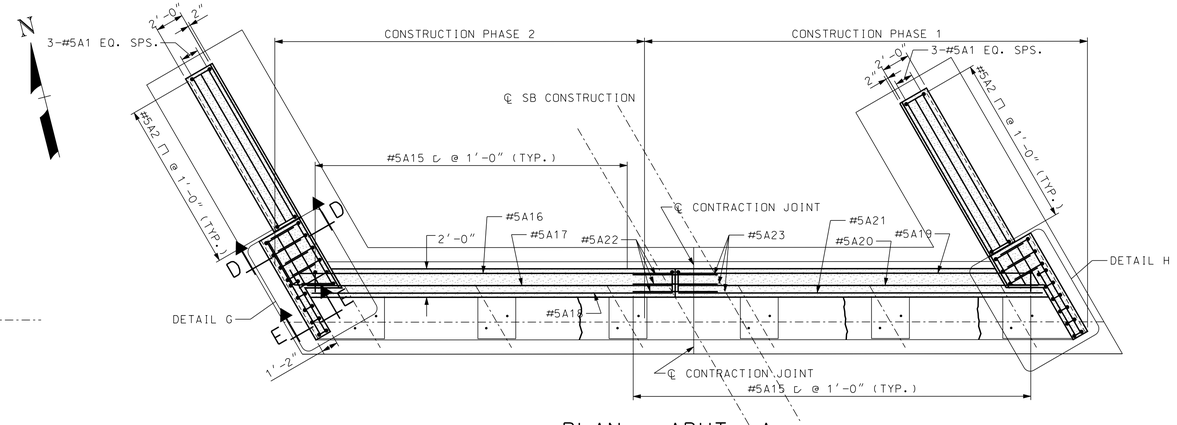
FEDERAL PROJECT NO.: A001(041)

SHEET NO.: 32

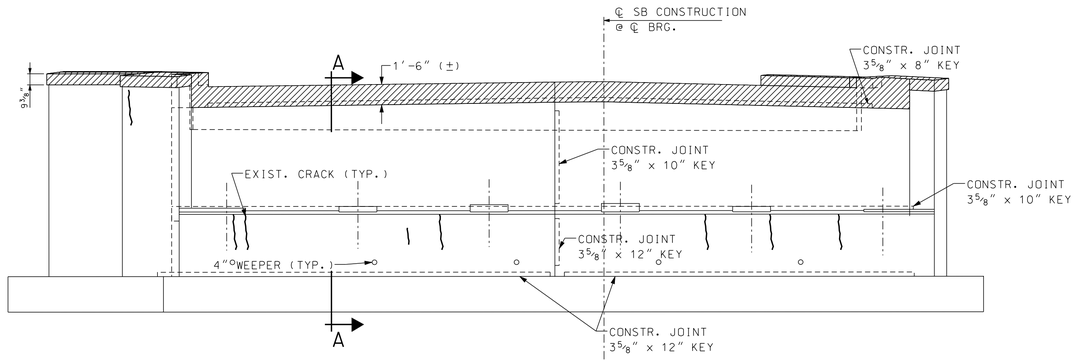
TOTAL SHEETS: 64



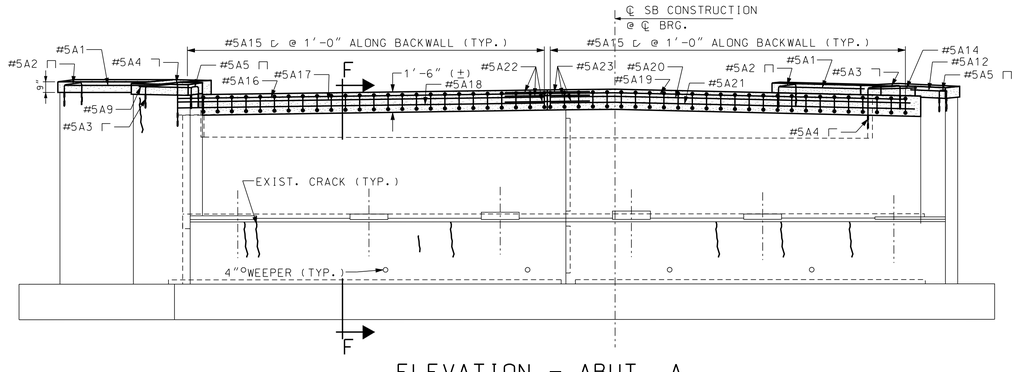
PLAN – ABUT. A
SCALE: 3/16" = 1'-0"



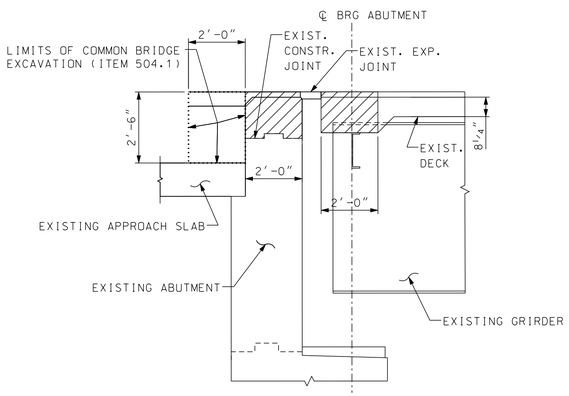
PLAN – ABUT. A
SCALE: 3/16" = 1'-0"



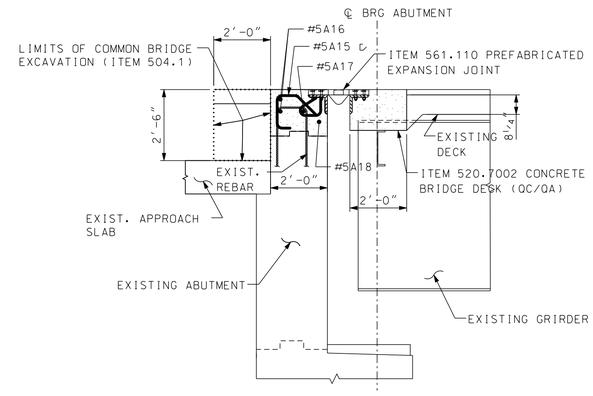
ELEVATION – ABUT. A
SCALE: 3/16" = 1'-0"



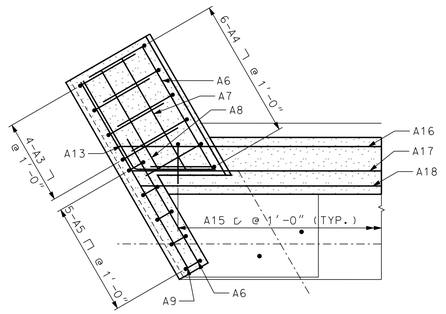
ELEVATION – ABUT. A
SCALE: 3/16" = 1'-0"



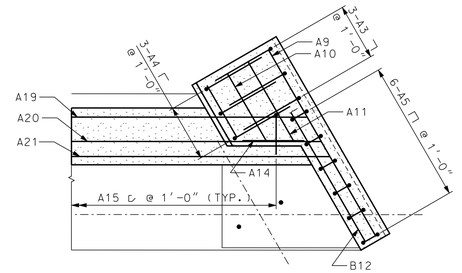
SECTION A–A (REMOVAL)
SCALE: 3/8" = 1'-0"



SECTION F–F (RECONSTRUCTION)
SCALE: 3/8" = 1'-0"



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



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

NOTES:

1. FOR CONCRETE REPAIR INFORMATION, REFER TO "SUBSTRUCTURE REHABILITATION NOTE 5", ON THE PROJECT NOTES SHEET.
2. FOR SECTION B–B THRU E–E, SEE WINGWALL RECONSTRUCTION DETAILS SHEET.

LEGEND

- LIMITS OF REMOVAL
- CONCRETE REPAIR
- CONCRETE RECONSTRUCTION

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926A-Abut104_136	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON | BRIDGE NO. 104/136 | STATE PROJECT 15926

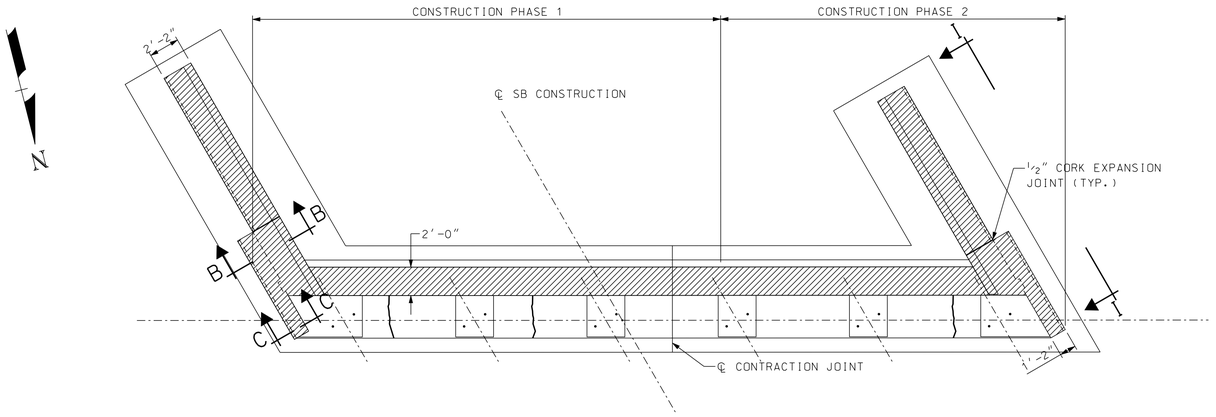
LOCATION I-93 SB OVER CONNECTICUT RIVER

ABUTMENT A RECONSTRUCTION PLAN

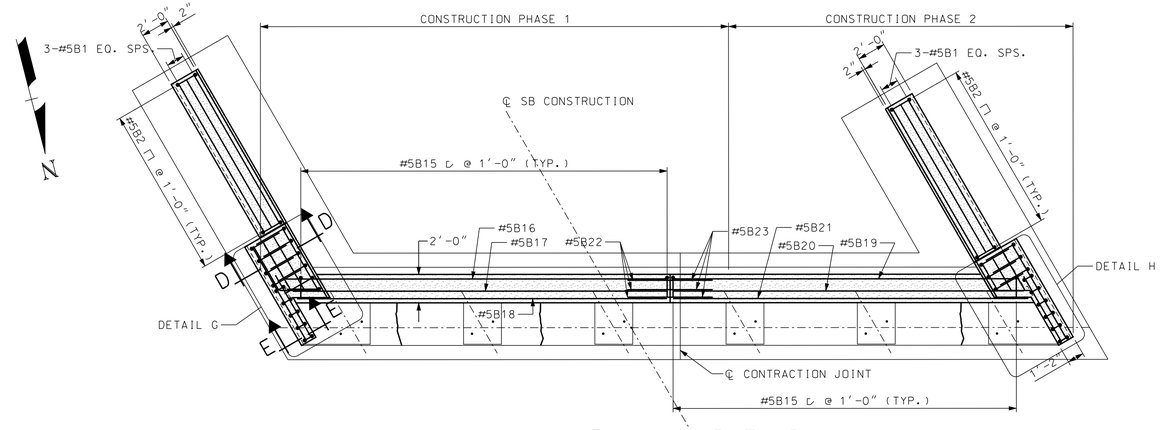
BRIDGE SHEET: 7 OF 18

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A001(041)		33	64

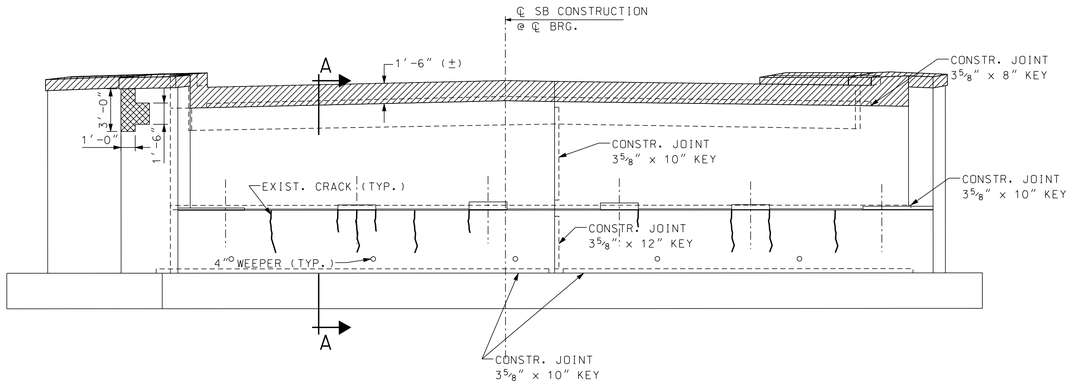
FILE NUMBER: 30-2-4



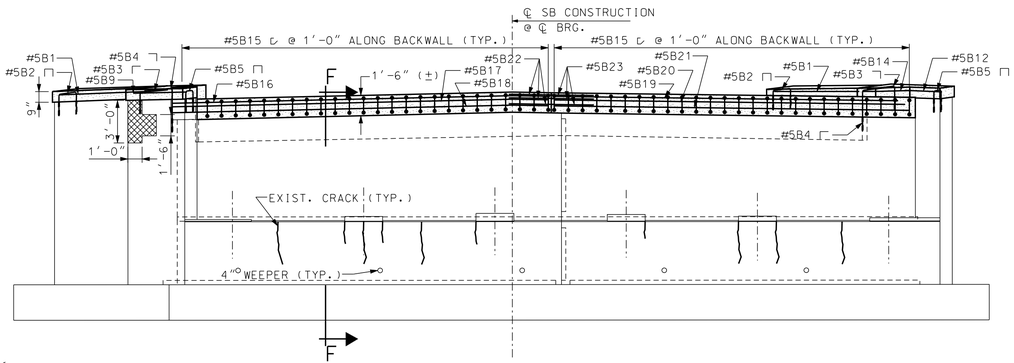
PLAN – ABUT. B
(SOUTHBOUND BARREL)
SCALE: 3/16" = 1'-0"



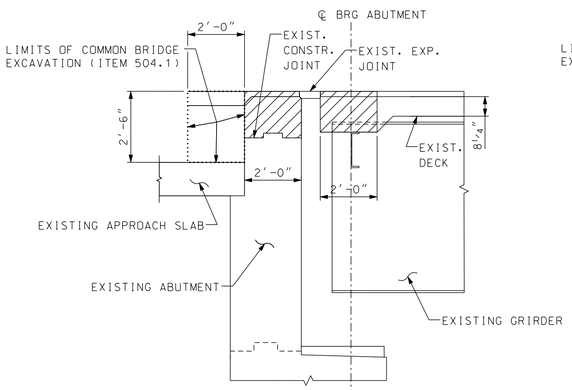
PLAN – ABUT. B
(SOUTHBOUND BARREL)
SCALE: 3/16" = 1'-0"



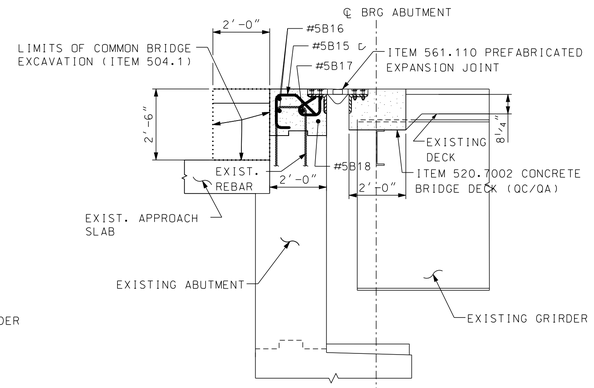
ELEVATION – ABUT. B
(SOUTHBOUND BARREL)
SCALE: 3/16" = 1'-0"



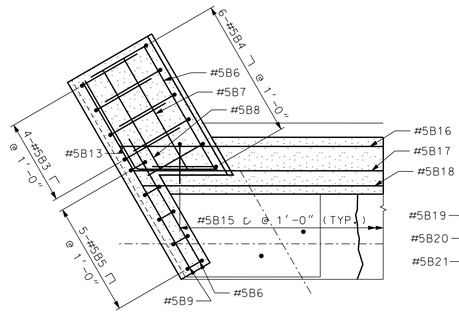
ELEVATION – ABUT. B
(SOUTHBOUND BARREL)
SCALE: 3/16" = 1'-0"



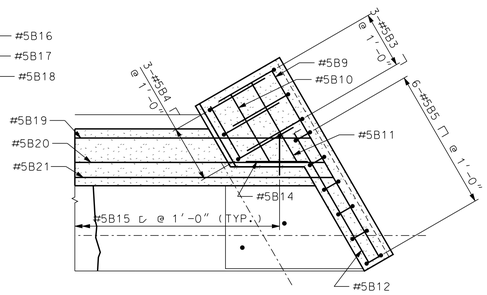
SECTION A–A (REMOVAL)
SCALE: 3/8" = 1'-0"



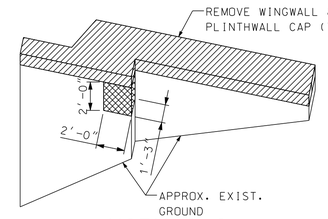
SECTION F–F (RECONSTRUCTION)
SCALE: 3/8" = 1'-0"



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



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



VIEW I–I
SCALE: 3/16" = 1'-0"

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

NOTES:

1. FOR CONCRETE REPAIR INFORMATION, REFER TO "SUBSTRUCTURE REHABILITATION NOTE 5", ON THE PROJECT NOTES SHEET.
2. FOR SECTION B-B THRU E-E, SEE WINGWALL RECONSTRUCTION DETAILS SHEET.

LEGEND

- LIMITS OF REMOVAL
- CONCRETE REPAIR
- CONCRETE RECONSTRUCTION

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926B-Abut104_136	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON | BRIDGE NO. 104/136 | STATE PROJECT 15926

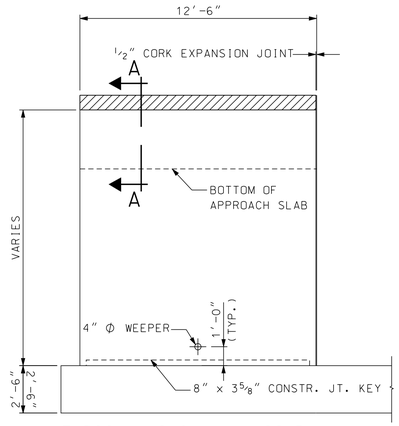
LOCATION I-93 SB OVER CONNECTICUT RIVER

ABUTMENT B RECONSTRUCTION PLAN

BRIDGE SHEET: 8 OF 18

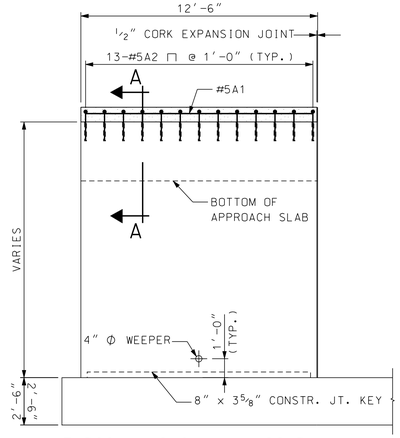
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A001(041)		34	64

FILE NUMBER: 30-2-4



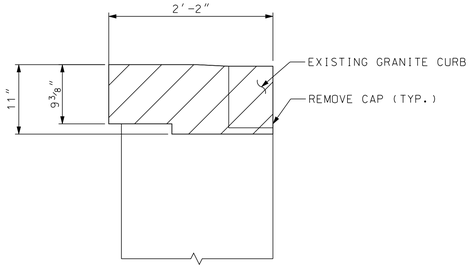
TYPICAL WINGWALL MASONRY REMOVAL

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



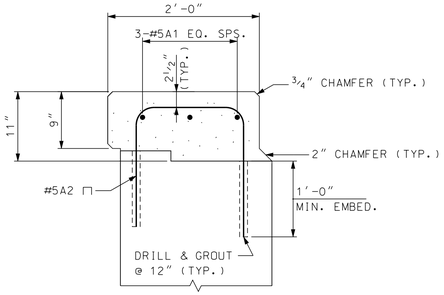
TYPICAL WINGWALL MASONRY RECONSTRUCTION

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



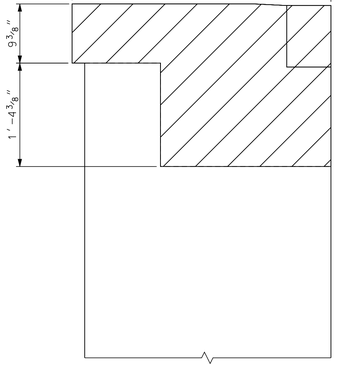
SECTION A-A TYPICAL WINGWALL REMOVAL

SCALE: 1" = 1'-0"



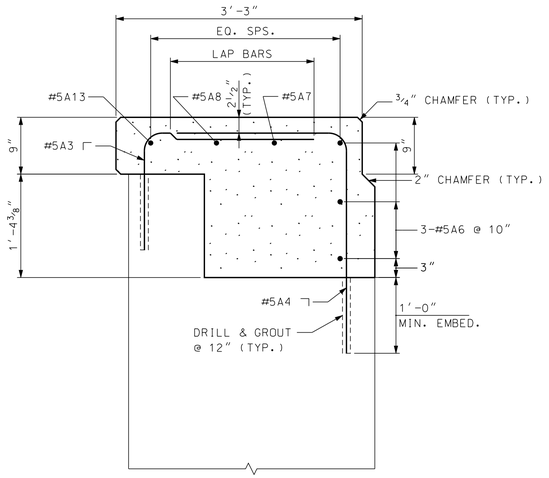
SECTION A-A TYPICAL WINGWALL RECONSTRUCTION

SCALE: 1" = 1'-0"



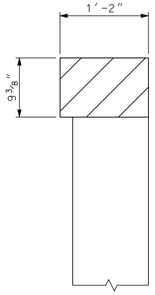
SECTION B-B TYPICAL PILASTER REMOVAL

SCALE: 1" = 1'-0"



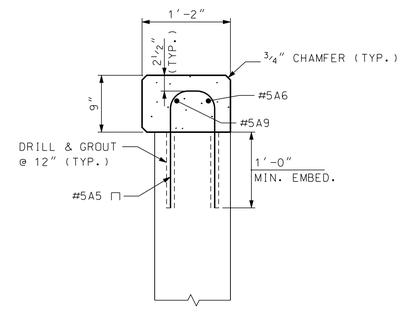
SECTION D-D TYPICAL PILASTER RECONSTRUCTION

SCALE: 1" = 1'-0"



SECTION C-C TYPICAL PLINTHWALL REMOVAL

SCALE: 1" = 1'-0"



SECTION E-E TYPICAL PLINTHWALL RECONSTRUCTION

SCALE: 1" = 1'-0"

LEGEND

LIMITS OF REMOVAL

CONCRETE RECONSTRUCTION

PS$E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926A-Wings104_136	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 104/136 STATE PROJECT 15926

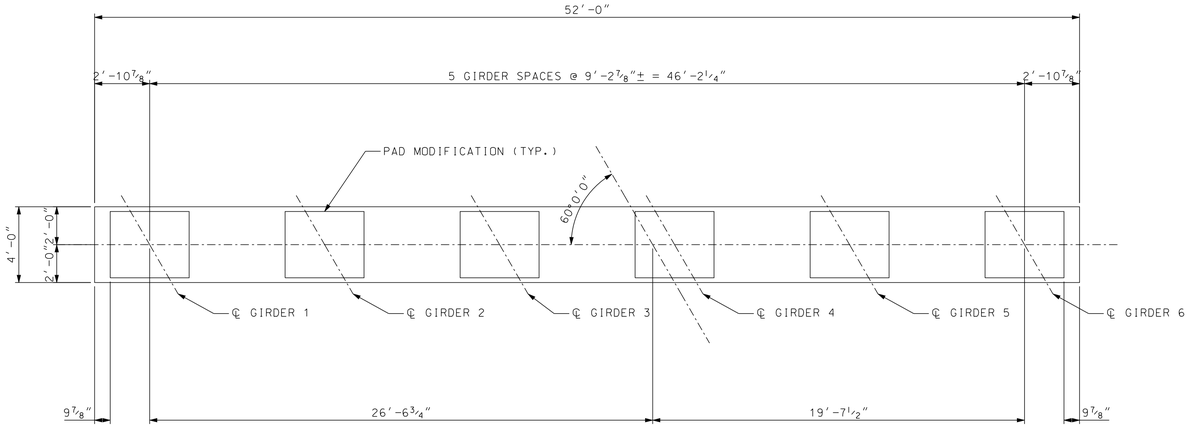
LOCATION I-93 SB OVER CONNECTICUT RIVER

WINGWALL RECONSTRUCTION DETAILS

REVISIONS AFTER PROPOSAL			BY	DATE		BY	DATE
		DESIGNED	TWP	01/11	CHECKED	CLC	01/11
		DRAWN	JEB	01/11	CHECKED	CLC	01/11
		QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
		ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
		REV. DATE		A001(041)		35	64

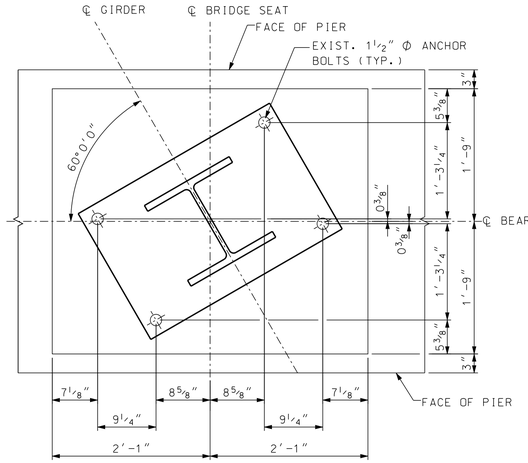
BRIDGE SHEET 9 OF 18

FILE NUMBER 30-2-4



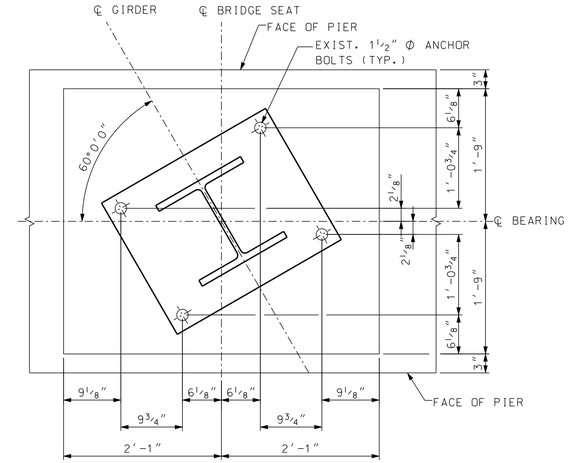
PLAN – (PIER MODIFICATION)

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



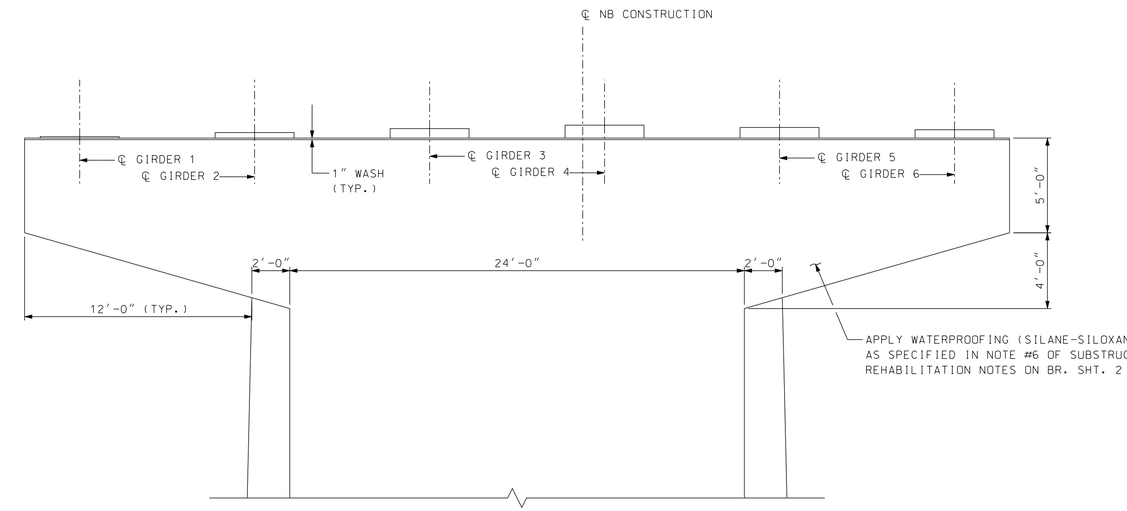
ANCHOR BOLT LAYOUT – PIERS 1 & 3

SCALE: 1" = 1'-0"



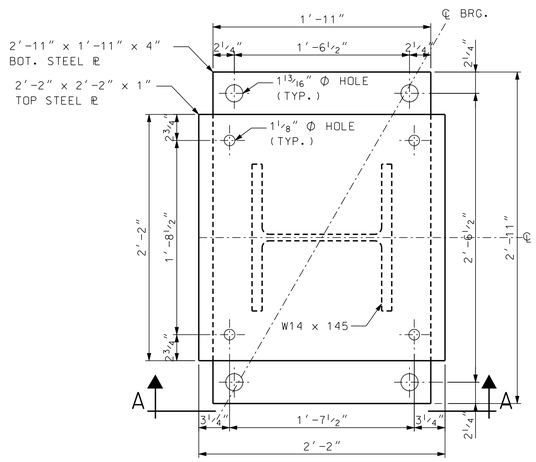
ANCHOR BOLT LAYOUT – PIER 2

SCALE: 1" = 1'-0"



ELEVATION – (PIER MODIFICATION)

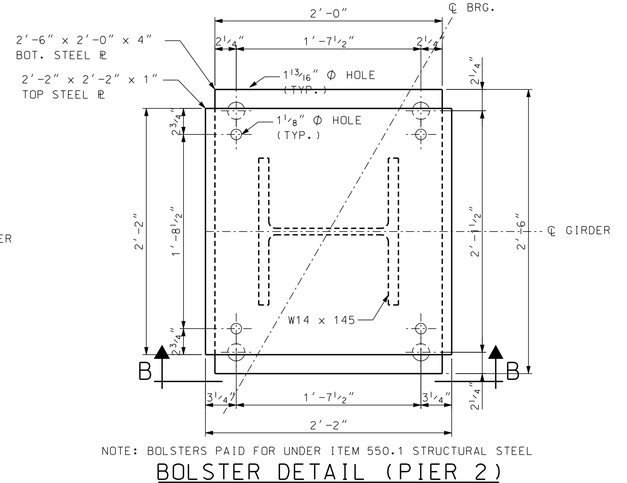
SCALE: 1/4" = 1'-0"



NOTE: BOLSTERS PAID FOR UNDER ITEM 550.1 STRUCTURAL STEEL

BOLSTER DETAIL (PIERS 1 & 3)

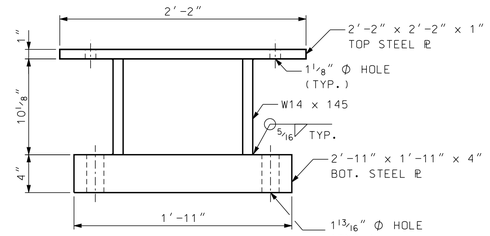
SCALE: 1 1/2" = 1'-0"



NOTE: BOLSTERS PAID FOR UNDER ITEM 550.1 STRUCTURAL STEEL

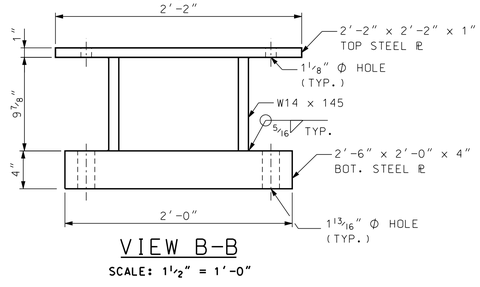
BOLSTER DETAIL (PIER 2)

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



VIEW A–A

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



VIEW B–B

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

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

LEGEND

EXISTING CONCRETE TO BE REMOVED

CONCRETE RECONSTRUCTION

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926Pier104_136	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 104/136 STATE PROJECT 15926

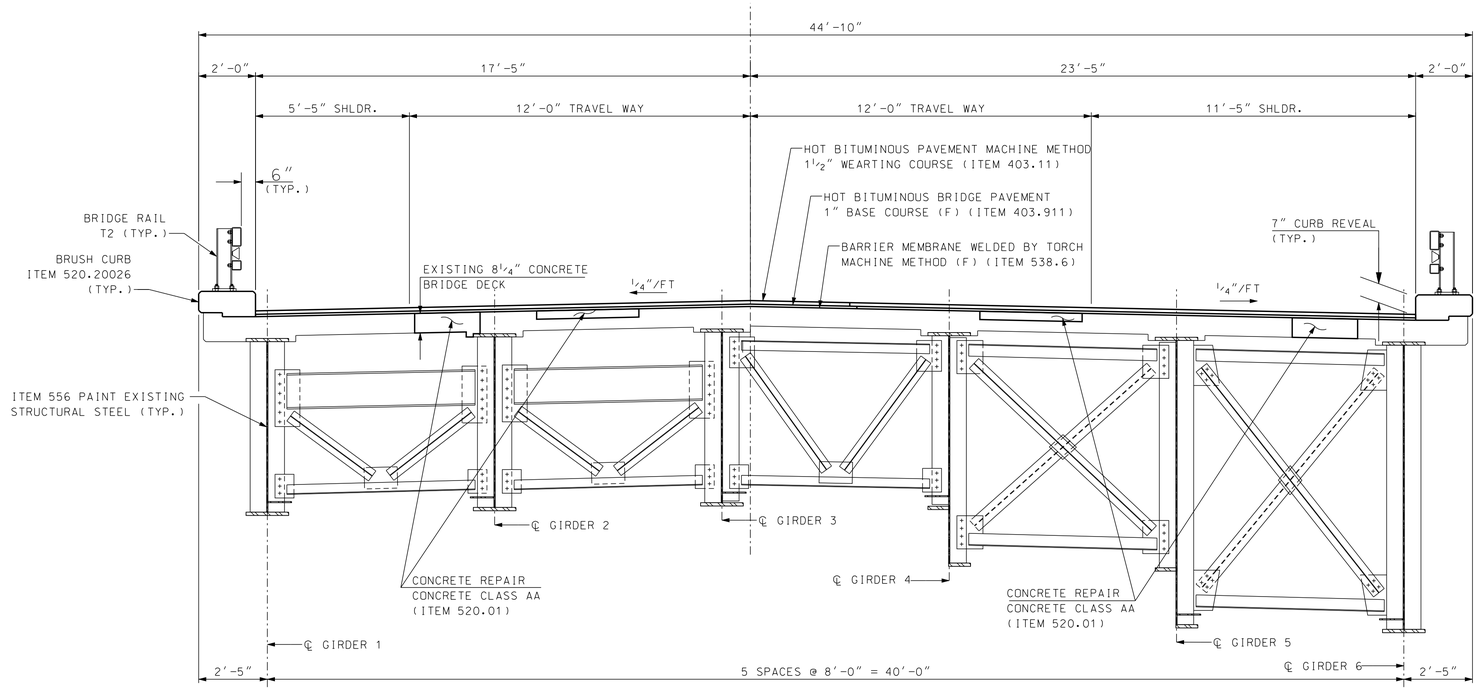
LOCATION I-93 SB OVER CONNECTICUT RIVER

PIER SEAT MODIFICATIONS

BRIDGE SHEET 10 OF 18

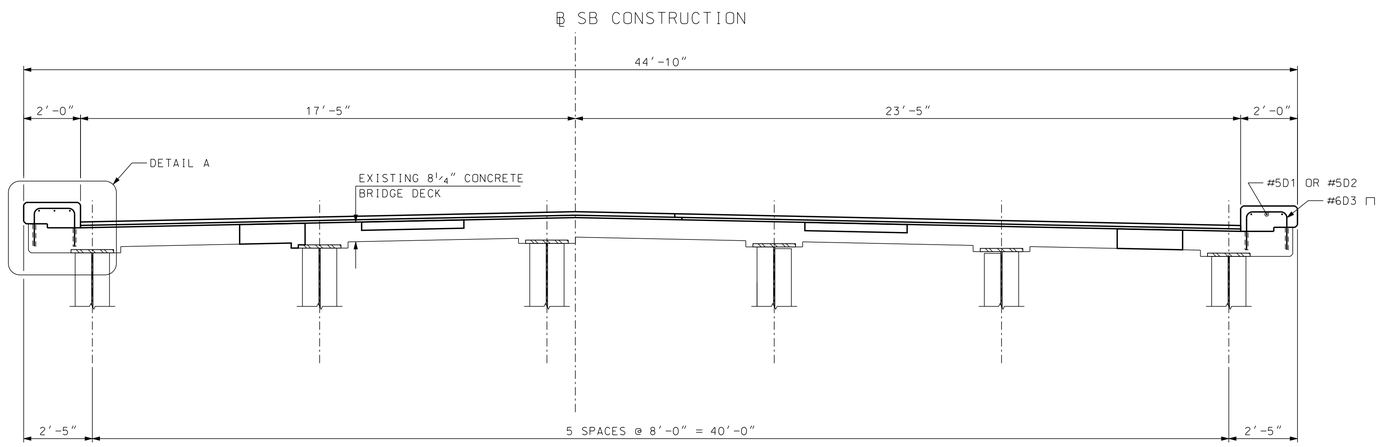
FILE NUMBER 30-2-4

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	TWP	01/11	CHECKED	CLC	01/11
DRAWN	JEB	01/11	CHECKED	CLC	01/11
QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
REV. DATE		A001(041)		36	64



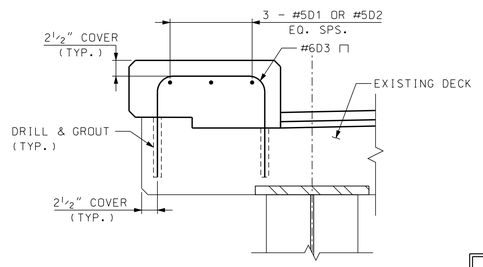
TYPICAL DECK SECTION

SCALE: 3/8″ = 1′-0″



REINFORCEMENT LAYOUT - TYPICAL SECTION

SCALE: 3/8″ = 1′-0″



DETAIL A

SCALE: 1″ = 1′-0″

NOTES:

1. SPACE BRUSH CURB REINFORCEMENT TO AVOID RAIL POST ANCHOR BOLTS.

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926DeckSect104_136	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 104/136 STATE PROJECT 15926

LOCATION I-93 SB OVER CONNECTICUT RIVER

TYPICAL SECTIONS AND DETAILS

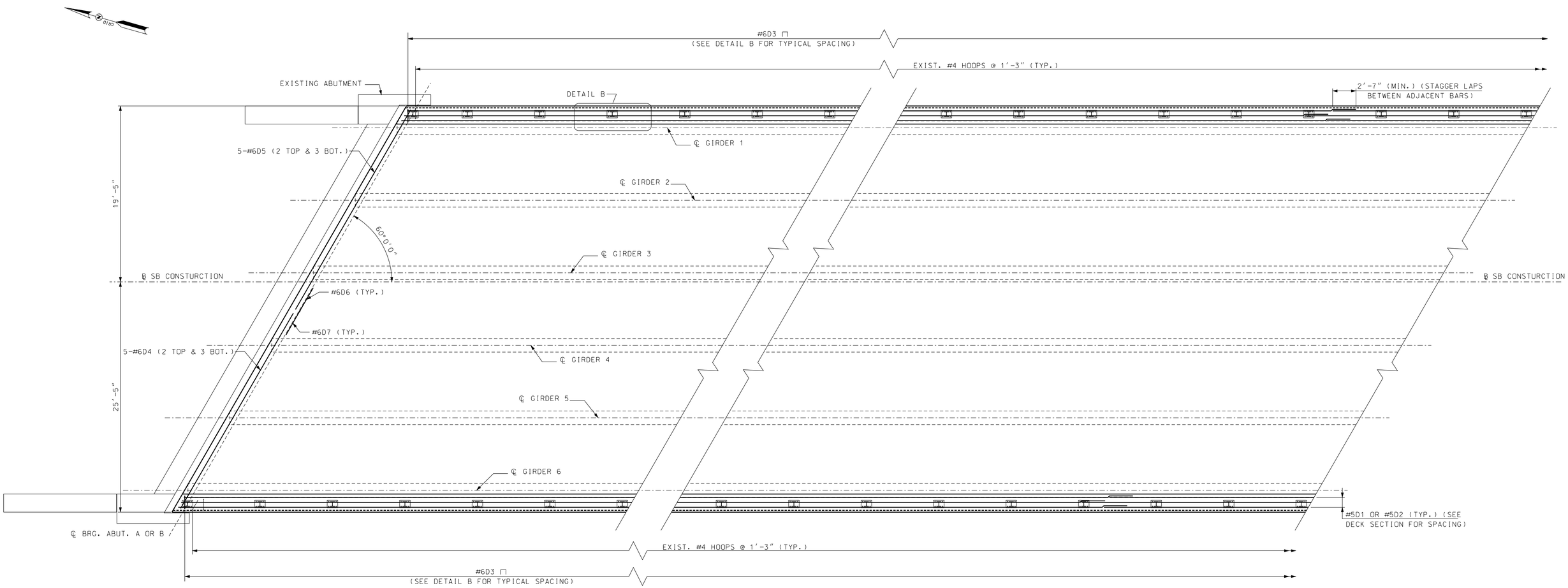
BRIDGE SHEET 11 OF 18

REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	TWP	01/11	CHECKED	CLC	01/11
DRAWN	JEB	01/11	CHECKED	CLC	01/11
QUANTITIES	TWP	01/11	CHECKED	CLC	01/11

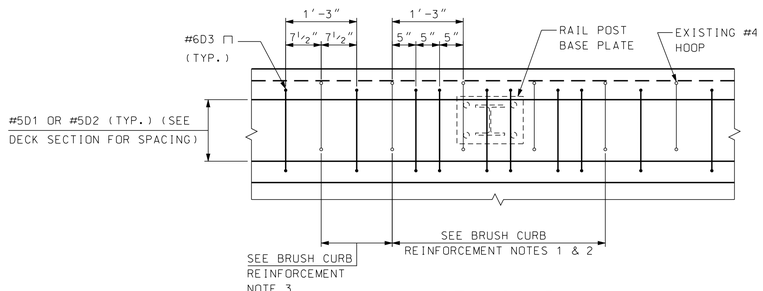
ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A001(041)	37	64

FILE NUMBER 30-2-4



DECK PLAN

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



DETAIL B

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

BRUSH CURB REINFORCEMENT NOTES

1. 3 SETS OF 2-#6D3 HOOPS SHALL BE SPACED BETWEEN THE EXISTING #4 HOOPS DIRECTLY SURROUNDING THE PROPOSED LOCATION OF A NEW RAIL POST.
2. THE NEW HOOPS SHALL BE SPACED SUCH THAT THE REBAR DOES NOT INTERFERE WITH THE PROPOSED ANCHOR BOLT LAYOUT FOR THE RAIL POST BASE PLATE.
3. 1-#6D3 HOOP SHALL BE CENTERED BETWEEN THE EXISTING #4 HOOPS WHEN THE REINFORCEMENT IS NOT DIRECTLY ADJACENT TO A PROPOSED RAIL POST.

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
XX	15926DeckBars104_136	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON | BRIDGE NO. 104/136 | STATE PROJECT 15926

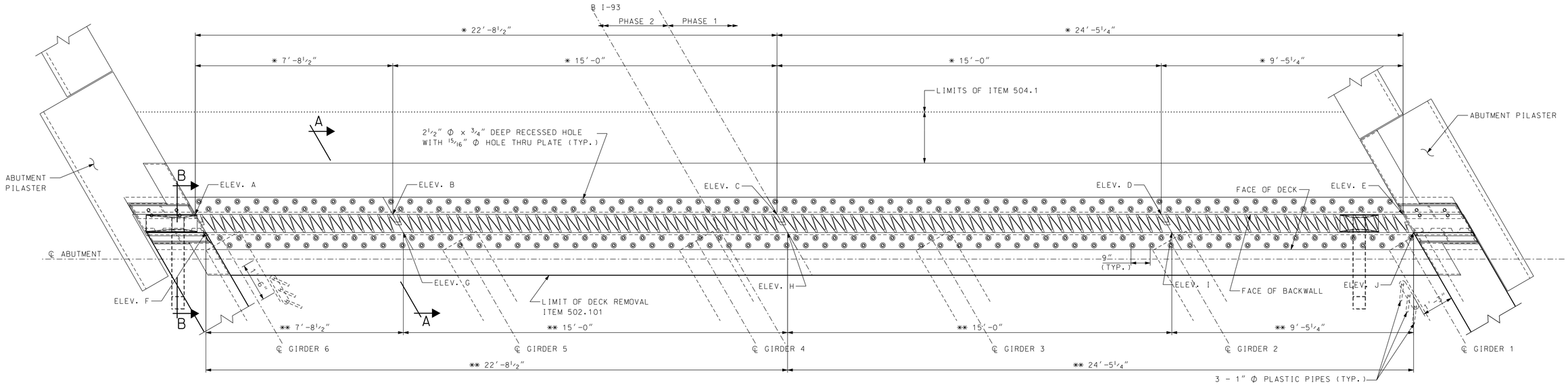
LOCATION I-93 SB OVER CONNECTICUT RIVER

DECK REINFORCEMENT PLAN

BRIDGE SHEET: 12 OF 18

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED TWP	01/11	CHECKED	CLC	01/11
	DRAWN JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES TWP	01/11	CHECKED	CLC	01/11
	ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
	REV. DATE		A001(041)	38	64

FILE NUMBER: 30-2-4



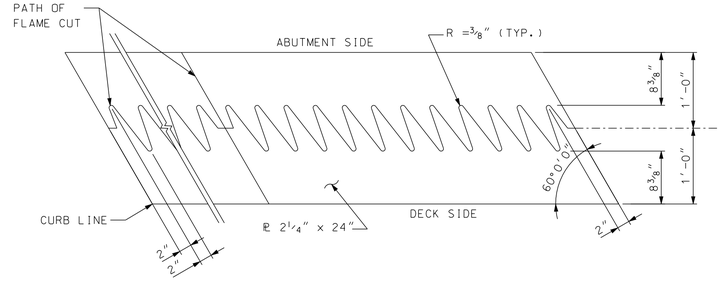
* = DIMENSIONS MEASURED ALONG FACE OF BACKWALL
** = DIMENSIONS MEASURED ALONG END OF DEC

PARTIAL PLAN
SCALE: ½″ = 1′-0″

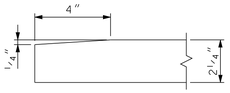
NOTE: ABUT. B IS SHOWN, ABUT. A IS IDENTICAL ROTATED 180°

	ELEVATION AT EDGE OF BACKWALL					ELEVATION AT EDGE OF DECK				
	A	B	C	D	E	F	G	H	I	J
ABUTMENT B	706.77	706.94	707.19	707.00	706.88	706.77	706.95	707.20	707.01	706.88
ABUTMENT A	713.54	713.66	713.86	713.60	713.43	713.53	713.65	713.85	713.60	713.42

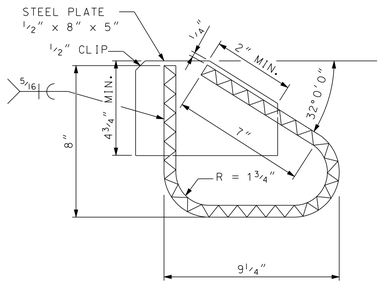
TEMP °F	"T" (IN)
15	11″
30	10⅝″
45	10¼″
60	9⅞″
75	9½″



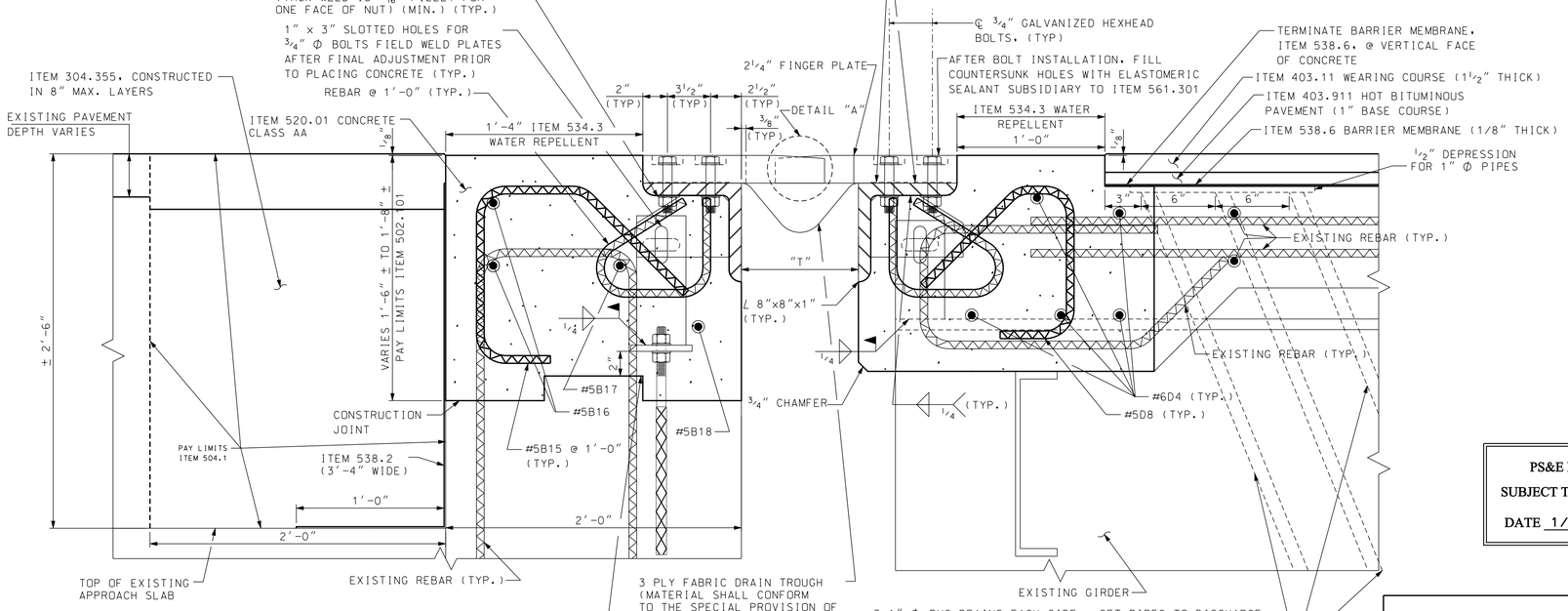
FINGER CUTTING DETAIL
SCALE: 1″ = 1′-0″



DETAIL "A"
SCALE: 3″ = 1′-0″



ANCHORAGE DETAIL
SCALE: 3″ = 1′-0″



SECTION A-A
SCALE: 2″ = 1′-0″

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926ExpJT1104_136	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 104/136 STATE PROJECT 15926

LOCATION I-93 SB OVER CONNECTICUT RIVER

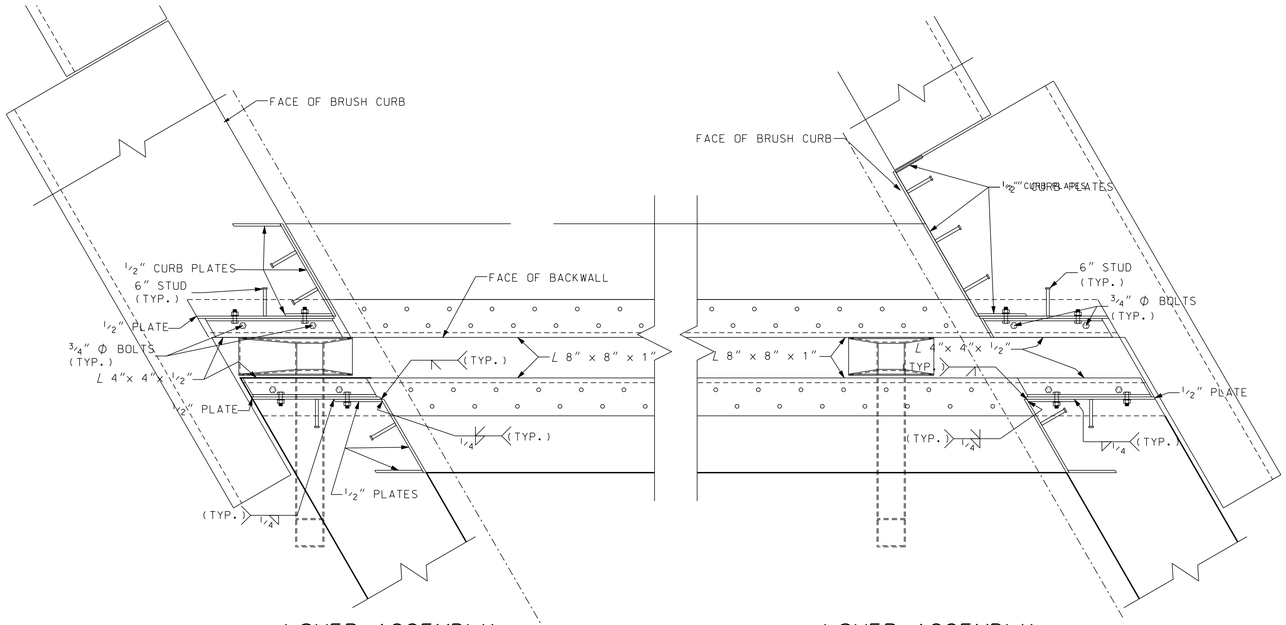
TYPICAL EXPANSION (FINGER) JOINT DETAILS

BRIDGE SHEET 13 OF 18

FILE NUMBER 30-2-4

TOTAL SHEETS 64

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	TWP	01/11	CHECKED	CLC	01/11
DRAWN	JEB	01/11	CHECKED	CLC	01/11
QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.
REV. DATE			A001(041)		39

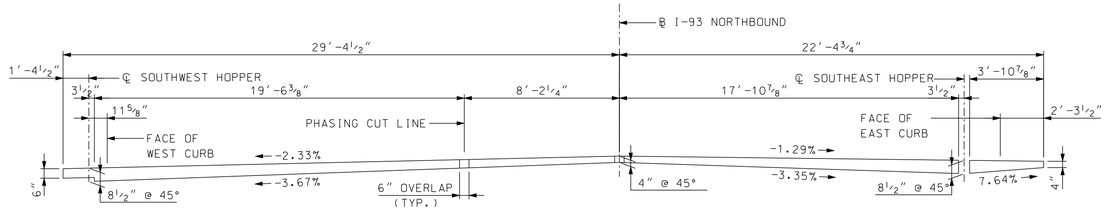


LOWER ASSEMBLY
SOUTHEAST @ ABUT. B
NORTHWEST @ ABUT. A

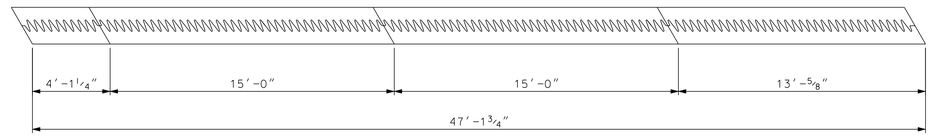
SCALE: 3/4" = 1'-0"

LOWER ASSEMBLY
SOUTHWEST @ ABUT. B
NORTHEAST @ ABUT. A

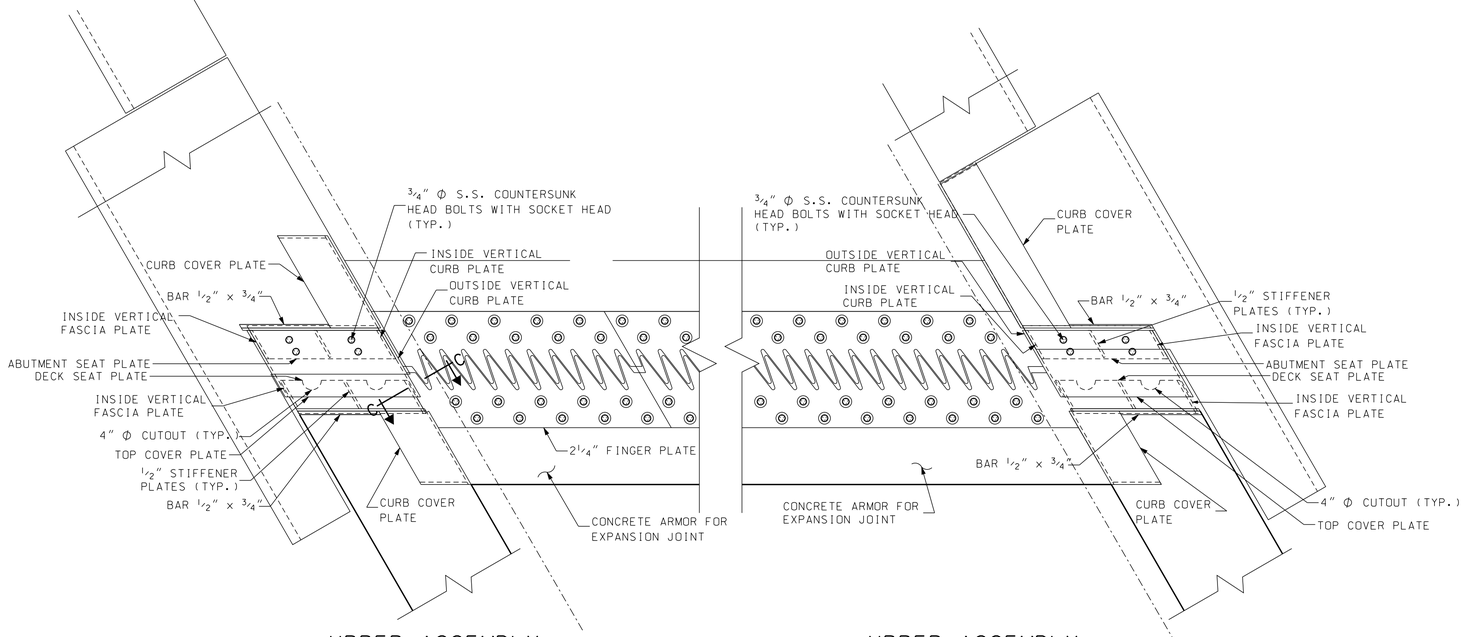
SCALE: 3/4" = 1'-0"



FABRIC DRAIN TROUGH PROFILE
SCALE: 1/4" = 1'-0"



FINGER PLATE PLAN
SCALE: 1/4" = 1'-0"



UPPER ASSEMBLY
SOUTHEAST @ ABUT. B
NORTHWEST @ ABUT. A

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

UPPER ASSEMBLY
SOUTHWEST @ ABUT. B
NORTHEAST @ ABUT. A

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

EXPANSION JOINT NOTES

1. EXPANSION JOINT STEEL SHALL BE AASHTO M270 GRADE 50W (ASTM A709, GR 50W) GALVANIZED, EXCEPT AS OTHERWISE ALLOWED. THE ENTIRE ASSEMBLY SHALL BE PAID AS ITEM 561.301, PREFABRICATED EXPANSION JOINT, FINGER JOINT (F).
2. SPLICES FOR EXPANSION JOINT STEEL SHALL DEVELOP FULL STRENGTH.
3. THE EXPANSION JOINT SHALL BE PRESET TO THE TEMPERATURE ANTICIPATE AT THE TIME OF INSTALLATION. FINAL SETTING IN THE FIELD SHALL BE DETERMINED BY THE ENGINEER (SEE TEMPERATURE TABLE ON BRIDGE SHEET 13). THE MAXIMUM ALLOWABLE MOVEMENT SHALL BE XXX INCHES.
4. PROTECT TOP OF EXPANSION JOINT DURING PLACEMENT OF CONCRETE AND BITUMINOUS PAVEMENT.
5. JOINT SUPPORT PLATES SHALL BE SHOP WELDED TO THE EXPASION JOINT STEEL AND SHALL BE VERTICAL AFTER THE JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE.
6. FASCIA AND CURB PLATES SHALL BE SHOP WELDED AND SHALL BE VERTICAL AFTER THE JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE.
7. IMMEDIATELY AFTER THE JOINT HAS BEEN SECURED TO THE STRUCTURAL STEEL AND BACKWALL, REMOVE SHIPPING DEVICES. WELDING OF SHIPPING DEVICES TO FINGER PLATE SHALL NOT BE ALLOWED.
8. THE FINGER PLATES SHALL BE CUT FROM ONE CONTINUOUS 2'-0" WIDE x 2 1/4" THICK PLATE AS SHOWN ON THE FINGER CUTTING DETAIL, AND FURNISHED IN FOUR LENGTHS.
9. THE HOPPERS AND DOWNSPOUTS SHALL BE A-36 GALVANIZED IN ACCORDANCE WITH SECTION 550. PAYMENT FOR HOPPERS, BLOCKING PADS AND ALL ATTACHMENTS WILL BE SUBSIDIARY TO ITEM 561.301.
10. ELEVATIONS SHOWN AT TOP OF FINGER PLATES ARE 1/8" LOWER THAN THE PROPOSED FINISHED ROADWAY GRADE.
11. SEE BRIDGE SHEET 15 FOR HOPPER DETAILS.
12. THE FABRIC TROUGH SHALL BE PREFORMED FABRIC MATERIAL AND SHALL BE CUT DURING SHOP PRE-ASSEMBLY. THE TROUGH MAY BE SUPPLIED IN THREE LENGTHS WITH 6" OVERLAP AT PHASING LINE AND ℄ I-93

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926ExpJT2104_136	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 104/136 STATE PROJECT 15926

LOCATION I-93 SB OVER CONNECTICUT RIVER

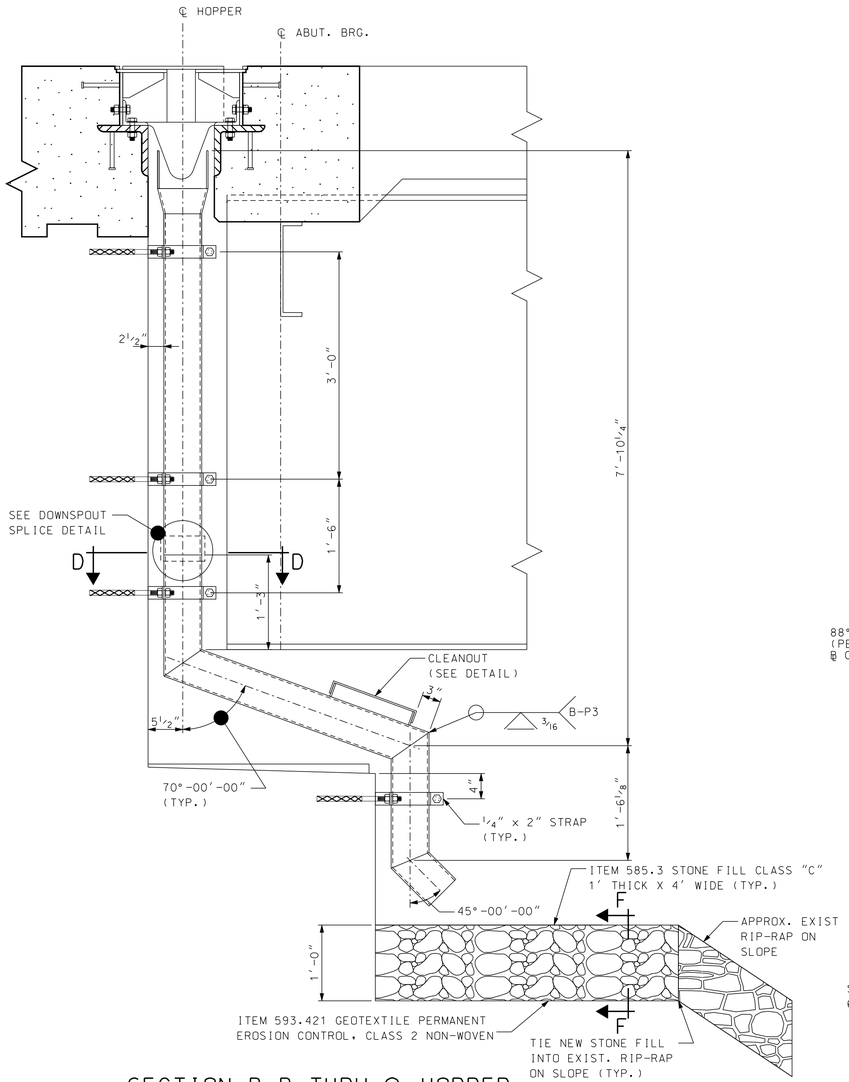
TYPICAL EXPANSION (FINGER) JOINT DETAILS

BRIDGE SHEET: 14 OF 18

FILE NUMBER: 30-2-4

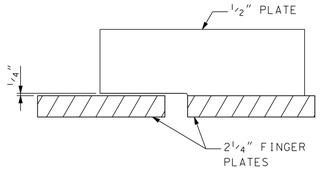
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A001(041)	40	64



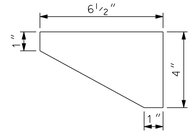
SECTION B-B THRU ℄ HOPPER

SCALE: 1" = 1'-0"



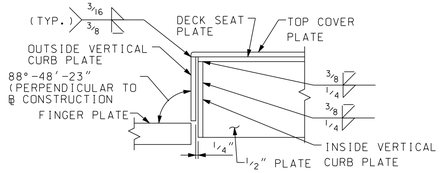
OUTSIDE VERTICAL CURB PLATE DETAIL

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



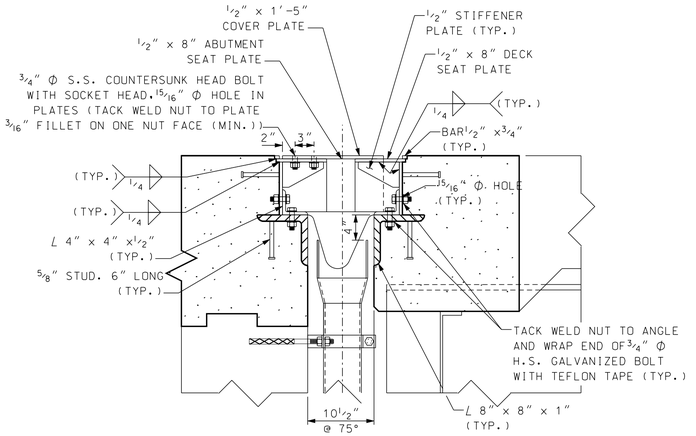
STIFFENER PLATE

SCALE: 3" = 1'-0"



SECTION C-C

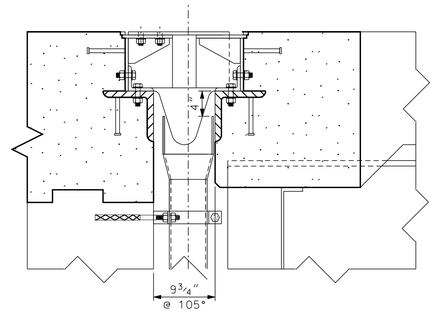
SCALE: 1 1/2" = 1'-0"



SECTION B-B IN CURB

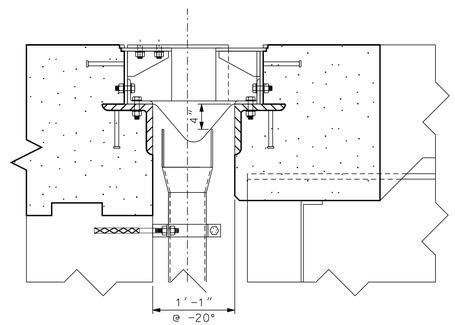
SCALE: 1" = 1'-0"

NOTE:
FOR LOCATION OF SECTION B-B SEE BRIDGE SHEET 14.
FOR LOCATION OF SECTION C-C SEE BRIDGE SHEET 15.



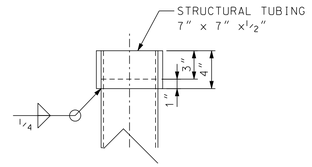
SECTION B-B

SCALE: 1" = 1'-0"
(MIN. OPENING)



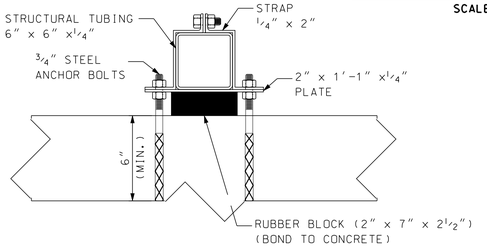
SECTION B-B

SCALE: 1" = 1'-0"
(MAX. OPENING)



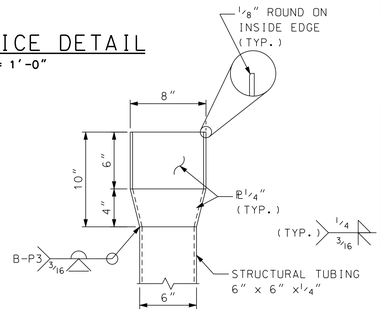
DOWNSPOUT SPLICE DETAIL

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

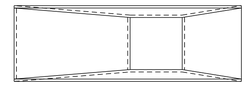


SECTION D-D

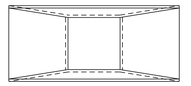
SCALE: 1 1/2" = 1'-0"



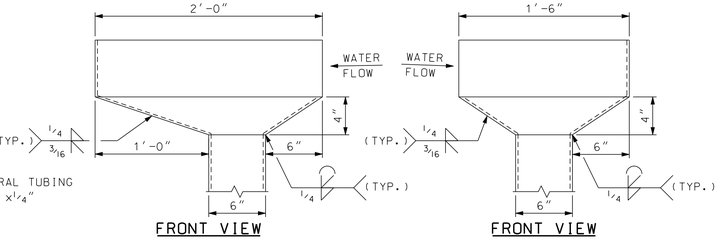
SIDE VIEW



TOP VIEW



TOP VIEW

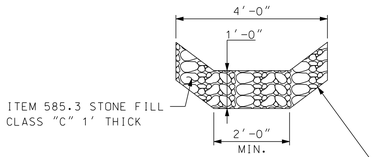


FRONT VIEW
SOUTHEAST HOPPER @ ABUT. B
NORTHWEST HOPPER @ ABUT. A

FRONT VIEW
SOUTHWEST HOPPER @ ABUT. B
NORTHEAST HOPPER @ ABUT. A

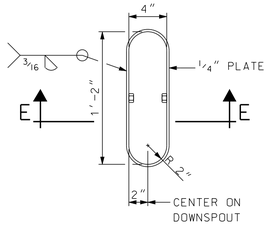
HOPPER DETAIL

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



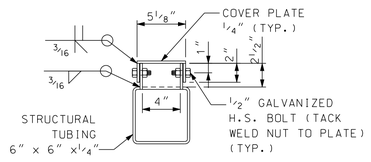
SECTION F-F

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



CLEANOUT DETAIL

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



SECTION E-E

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

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926ExpJT3104_136	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 104/136 STATE PROJECT 15926

LOCATION I-93 SB OVER CONNECTICUT RIVER

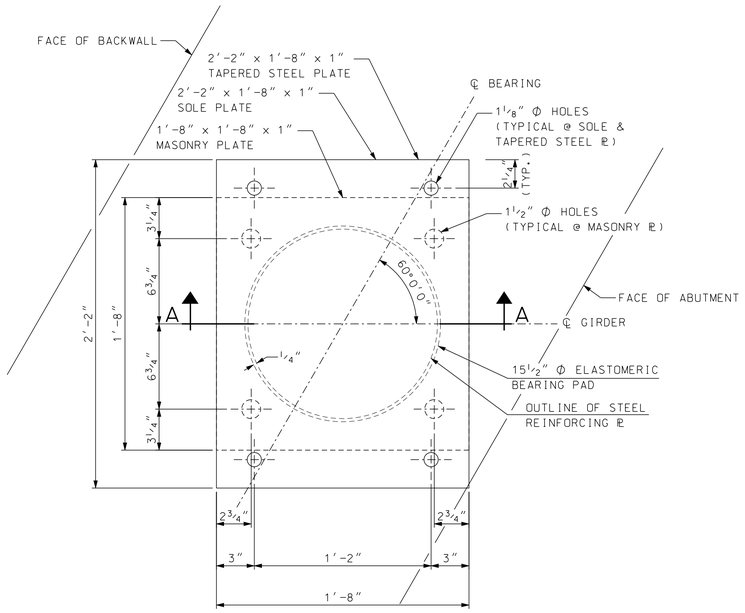
TYPICAL EXPANSION (FINGER) JOINT DETAILS

BRIDGE SHEET: 15 OF 18

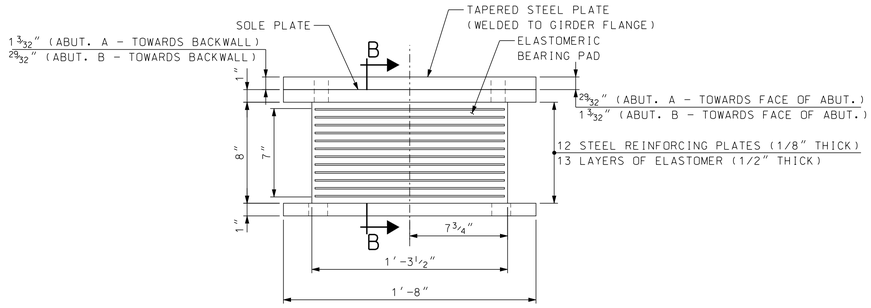
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	A001(041)	41	64

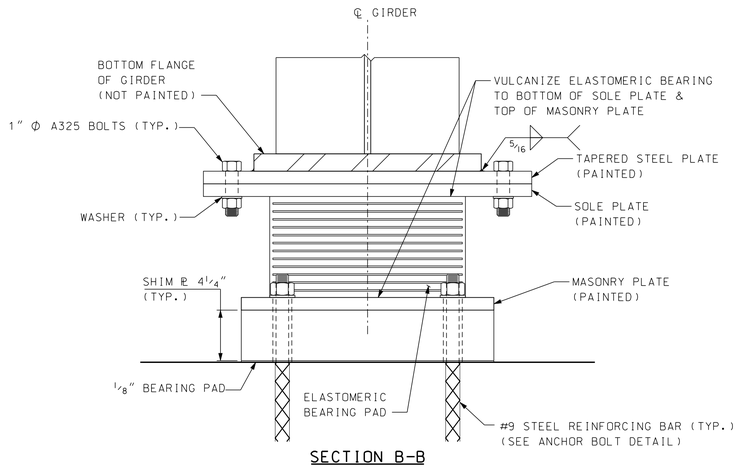
FILE NUMBER: 30-2-4



PLAN VIEW



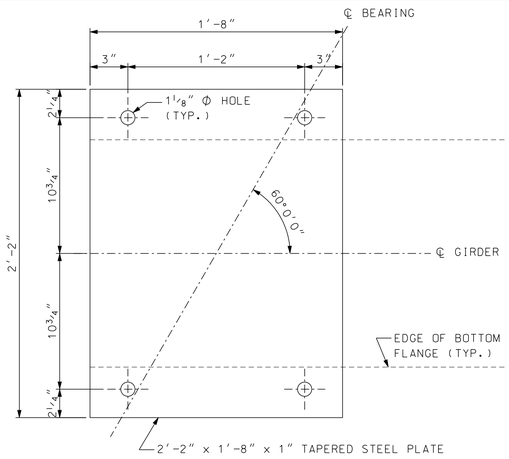
SECTION A-A



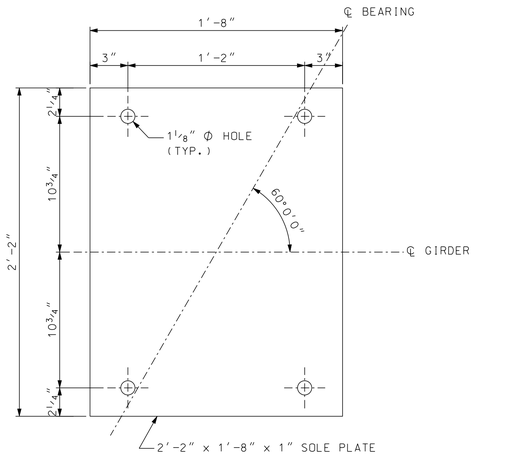
SECTION B-B

ELASTOMERIC BEARING ASSEMBLY - ABUTMENT (12 TOTAL REQUIRED)

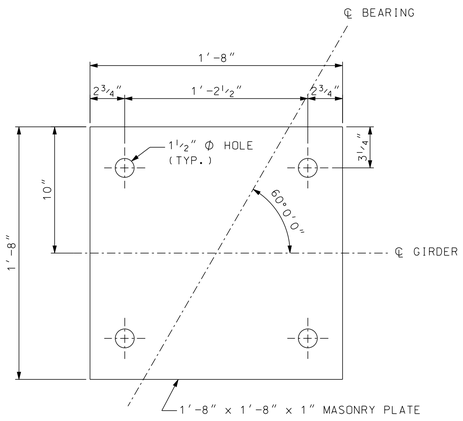
SCALE: 2" = 1'-0"



TAPERED STEEL PLATE



SOLE PLATE



MASONRY PLATE

BEARING ASSEMBLY NOTES

(1) BEARING ASSEMBLIES, INCLUDING ELASTOMERIC BEARING PADS, TAPERED STEEL PLATES, SOLE PLATES, MASONRY PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE PAID AS ELASTOMERIC BEARING ASSEMBLIES (F), ITEM 548.21.

(2) DESIGN LOADS: (METHOD A. LRFD SECTION 14.7.6)

MAXIMUM DEAD LOAD	302.39 KIPS
MAXIMUM SUPERIMPOSED DEAD LOAD	18.99 KIPS
MAXIMUM LIVE LOAD	196.89 KIPS
ROTATION	0.00001745 RADIANS
DESIGN MOVEMENT	
COMPRESSION DEFLECTION	0.111"
THERMAL EXPANSION	1.76"

(3) ELASTOMERIC CEARING PADS SHALL BE VIRGIN NATURAL RUBBER, HARDNESS (SHORE "A" DUROMETER) OF 60, GRADE 3. BUT WITH A SHEAR MODULAS RANGE 130 PSI TO 160 PSI.

(4) ANCHOR BOLTS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 550.2.5. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION AND CONFORM TO AASHTO M232 ASTM A153.

(5) STEEL PLATES SHALL CONFORM TO AASHTO M 270 GRADE 50W (ASTM A709 GRADE 50W). THE STEEL REINFORCING PLATES SHALL CONFORM TO AASHTO M 270 GRADE 50W (ASTM A709 GRADE 50W).

(6) SURFACE FINISH OF ALL PLATES SHALL BE IN ACCORDANCE WITH AASHTO DIVISION II, SECTION 11.4.6.

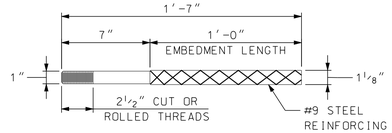
(7) SOLE PLATES & MASONRY PLATE SHALL BE VULCANIZED TO THE ELASTOMER. ALL SURFACES THAT ARE TO BE BONDED TO THE ELASTOMER SHALL BE BLAST CLEAN AS SPECIFIED IN SSPC-SP 10.

(8) TAPERED SOLE, AND MASONRY PLATES SHALL BE BLAST CLEANED (SSPC-SP) AFTER THE VULCANIZING PROCEDURE PRIOR TO PAINTING. SHOP PAINT BEARING ASSEMBLIES PER SPECIAL PROVISION 550. AFTER WELDING TO THE GIRDER FLANGE, CLEAN AND APPLY FINISH COATS TO THE TAPERED PLATES.

(9) BEARINGS SHALL BE INSTALLED AT TEMPERATURES BETWEEN 20°F AND 70°F. INSTALLATION TEMPERATURES OUTSIDE THIS RANGE WILL REQUIRE ADJUSTMENT.

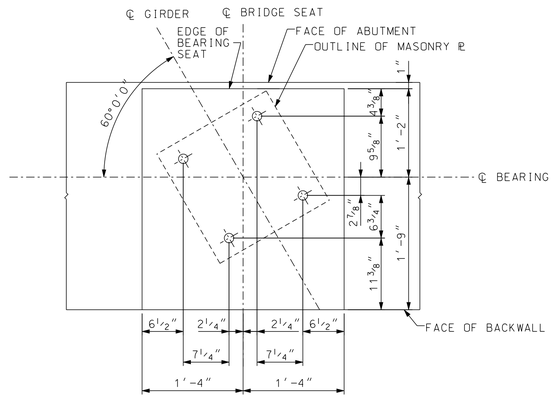
(10) THE MANUFACTURER SHALL CLEARLY MARK THE FRONT OF THE BEARINGS TO ENSURE PROPER ORIENTATION IN THE FIELD.

(11) STEEL REINFORCING FOR ELASTOMERIC BEARING PADS SHALL CONFORM TO SECTION 548.2.3.



ANCHOR BOLT DETAIL

SCALE: 2" = 1'-0"



ANCHOR BOLT LAYOUT

SCALE: 1" = 1'-0"

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926Shoes1104_136	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 104/136 STATE PROJECT 15926

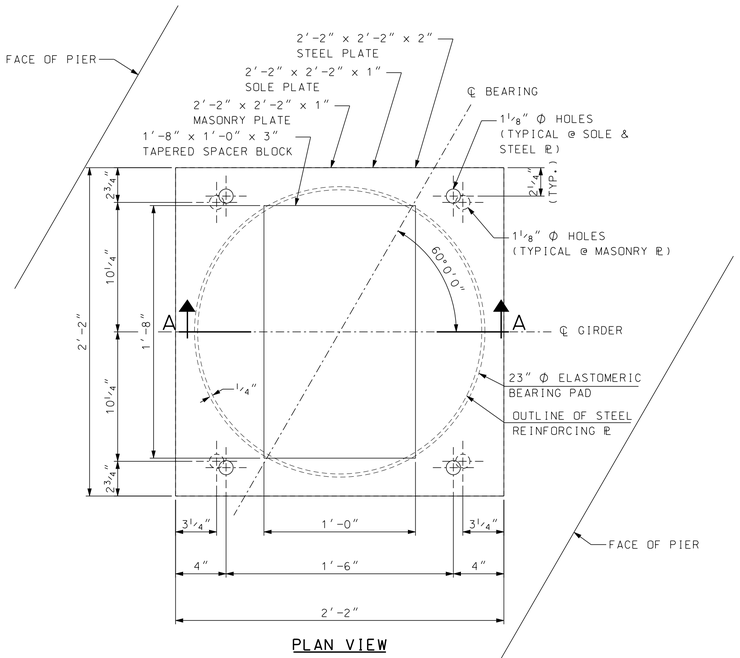
LOCATION I-93 SB OVER CONNECTICUT RIVER

ELASTOMERIC BEARING DETAILS - ABUTMENTS

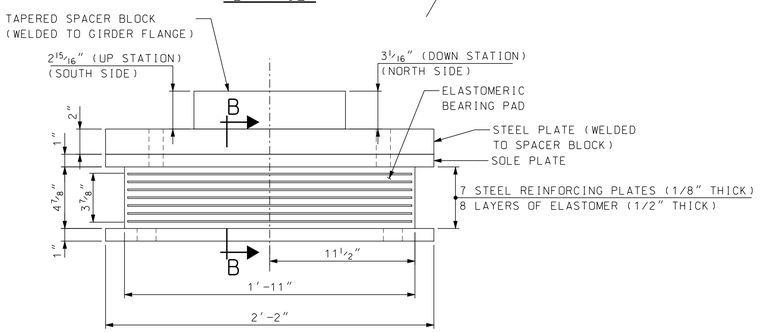
BRIDGE SHEET: 16 OF 18

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
	ISSUE DATE			FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
	REV. DATE			A001(041)	42	64

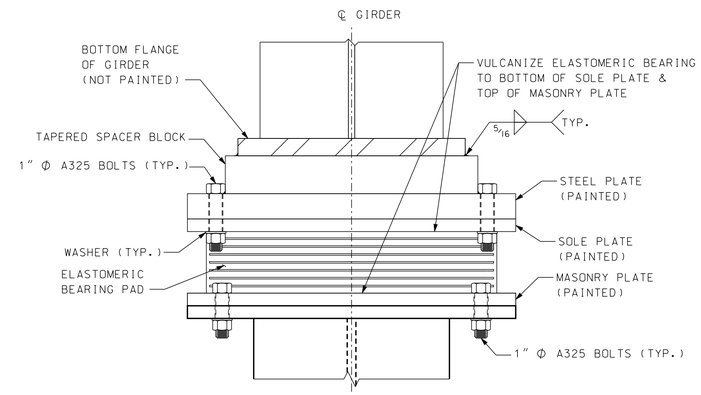
FILE NUMBER: 30-2-4



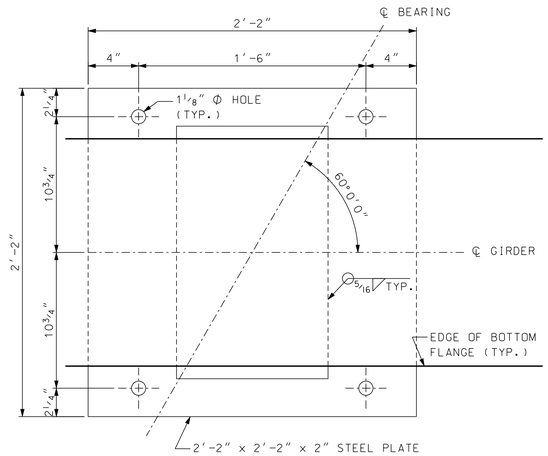
PLAN VIEW



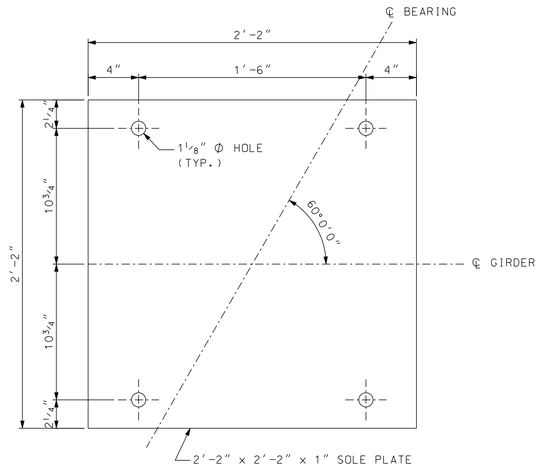
SECTION A-A



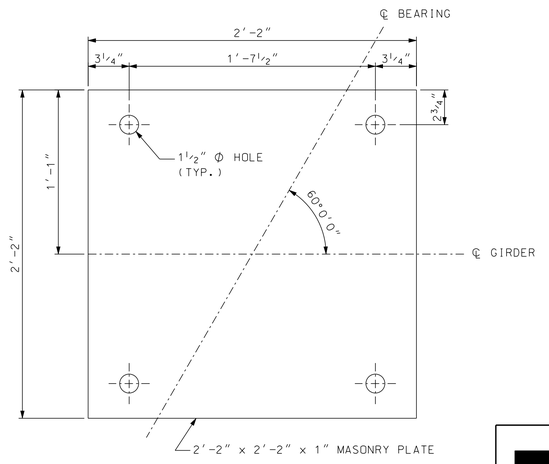
SECTION B-B



STEEL PLATE & TAPERED SPACER BLOCK



SOLE PLATE



MASONRY PLATE

BEARING ASSEMBLY NOTES

(1) BEARING ASSEMBLIES, INCLUDING ELASTOMERIC BEARING PADS, TAPERED STEEL PLATES, SOLE PLATES, MASONRY PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE PAID AS ELASTOMERIC BEARING ASSEMBLIES (F), ITEM 548.21.

(2) PIER 1 & 3:

DESIGN LOADS: (METHOD A. LRFD SECTION 14.7.6)	
MAXIMUM DEAD LOAD	302.39 KIPS
MAXIMUM SUPERIMPOSED DEAD LOAD	18.99 KIPS
MAXIMUM LIVE LOAD	196.89 KIPS
ROTATION	0.00001745 RADIANS
DESIGN MOVEMENT	
COMPRESSION DEFLECTION	0.111"
THERMAL EXPANSION	1.76"

PIER 2:

DESIGN LOADS: (METHOD A. LRFD SECTION 14.7.6)	
MAXIMUM DEAD LOAD	288.03 KIPS
MAXIMUM SUPERIMPOSED DEAD LOAD	18.18 KIPS
MAXIMUM LIVE LOAD	198.77
ROTATION	0.00001745 RADIANS
DESIGN MOVEMENT	
COMPRESSION DEFLECTION	0.107"
THERMAL EXPANSION	0"

(3) ELASTOMERIC CEARING PADS SHALL BE VIRGIN NATURAL RUBBER, HARDNESS (SHORE "A" DUROMETER) OF 60, GRADE 3, BUT WITH A SHEAR MODULAS RANGE 130 PSI TO 160 PSI.

(4) ANCHOR BOLTS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 550.2.5. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION AND CONFORM TO AASHTO M232 ASTM A153.

(5) STEEL PLATES SHALL CONFORM TO AASHTO M 270 GRADE 50W (ASTM A709 GRADE 50W). THE STEEL REINFORCING PLATES SHALL CONFORM TO AASHTO M 270 GRADE 50W (ASTM A709 GRADE 50W).

(6) SURFACE FINISH OF ALL PLATES SHALL BE IN ACCORDANCE WITH AASHTO DIVISION II, SECTION 11.4.6.

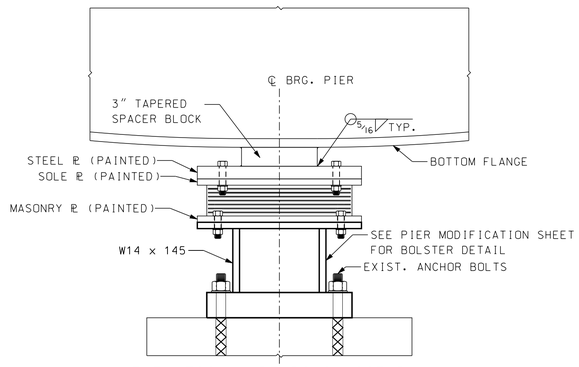
(7) SOLE PLATES & MASONRY PLATE SHALL BE VULCANIZED TO THE ELASTOMER. ALL SURFACES THAT ARE TO BE BONDED TO THE ELASTOMER SHALL BE BLAST CLEAN AS SPECIFIED IN SSPC-SP 10.

(8) TAPERED SOLE, AND MASONRY PLATES SHALL BE BLAST CLEANED (SSPC-SP) AFTER THE VULCANIZING PROCEDURE PRIOR TO PAINTING. SHOP PAINT BEARING ASSEMBLIES PER SPECIAL PROVISION 550. AFTER WELDING TO THE GIRDER FLANGE, CLEAN AND APPLY FINISH COATS TO THE TAPERED PLATES.

(9) BEARINGS SHALL BE INSTALLED AT TEMPERATURES BETWEEN 20°F AND 70°F. INSTALLATION TEMPERATURES OUTSIDE THIS RANGE WILL REQUIRE ADJUSTMENT.

(10) THE MANUFACTURER SHALL CLEARLY MARK THE FRONT OF THE BEARINGS TO ENSURE PROPER ORIENTATION IN THE FIELD.

(11) STEEL REINFORCING FOR ELASTOMERIC BEARING PADS SHALL CONFORM TO SECTION 548.2.3.



ELEVATION - BEARING ASSEMBLY
SCALE: 1" = 1'-0"

ELASTOMERIC BEARING ASSEMBLY - PIER (18 TOTAL REQUIRED)
SCALE: 2" = 1'-0"

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	15926Shoes2104_136	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON | BRIDGE NO. 104/136 | STATE PROJECT 15926

LOCATION I-93 SB OVER CONNECTICUT RIVER

ELASTOMERIC BEARING DETAILS - PIERS

BRIDGE SHEET 17 OF 18

FILE NUMBER 30-2-4

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A001(041)		43	64

MARK	SIZE	LENGTH	NO. PIECES	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
DECK																
D1	5	50′-0″	39		–	–	–	–	–	–	–	–	–	–	–	–
D2	5	47′-3″	3		–	–	–	–	–	–	–	–	–	–	–	–
D3	6	3′-11″	1660	17	–	1′-3″	1′-5″	1′-3″	–	–	–	–	–	–	–	–
D4	6	24′-10″	5		–	–	–	–	–	–	–	–	–	–	–	–
D5	6	25′-5″	5		–	–	–	–	–	–	–	–	–	–	–	–
D6	6	3′-0″	5	C1	–	3′-0″	–	–	–	–	–	–	–	–	–	–
D7	6	3′-0″	5	C2	–	3′-0″	–	–	–	–	–	–	–	–	–	–
D8	5	3′-0″	104	16	0′-8″	1′-0″	0′-5″	0′-11″	–	–	–	0′-8″	–	0′-7½″	–	–
NORTH ABUTMENT (ABUT. A)																
A1	5	12′-0″	6		–	–	–	–	–	–	–	–	–	–	–	–
A2	5	4′-9″	26		–	1′-7″	1′-5″	1′-9″	–	–	–	–	–	–	–	–
A3	5	3′-10″	7		–	1′-7″	2′-3″	–	–	–	–	–	–	–	–	–
A4	5	5′-2″	9		–	–	2′-3″	2′-11″	–	–	–	–	–	–	–	–
A5	5	3′-9″	11		–	1′-7″	0′-7″	1′-7″	–	–	–	–	–	–	–	–
A6	5	5′-0″	4		–	–	–	–	–	–	–	–	–	–	–	–
A7	5	4′-6″	1		–	–	–	–	–	–	–	–	–	–	–	–
A8	5	4′-0″	1		–	–	–	–	–	–	–	–	–	–	–	–
A9	5	7′-6″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
A10	5	2′-8″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
A11	5	3′-2″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
A12	5	5′-3″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
A13	5	6′-5″	1		–	3′-7″	2′-10″	–	–	–	–	3′-1⅜″	–	1′-7¾″	–	–
A14	5	4′-6″	1		–	2′-3″	2′-3″	–	–	–	–	2′-1¼″	–	1′-1¾″	–	–
A15	5	3′-5″	52		0′-6″	1′-2″	0′-9″	1′-0″	–	–	–	0′-8½″	–	0′-8½″	–	–
A16	5	29′-2″	1	19	–	–	–	–	–	–	–	–	–	–	–	–
A17	5	25′-8″	2	19	–	–	–	–	–	–	–	–	–	–	–	–
A18	5	25′-4″	1	16	–	–	–	–	–	–	–	–	–	–	–	–
A19	5	24′-10″	1		–	–	–	–	–	–	–	–	–	–	–	–
A20	5	25′-4″	2		–	–	–	–	–	–	–	–	–	–	–	–
A21	5	25′-8″	1		–	–	–	–	–	–	–	–	–	–	–	–
A22	5	3′-0″	4	C1	–	3′-0″	–	–	–	–	–	–	–	–	–	–
A23	5	3′-0″	4	C2	–	3′-0″	–	–	–	–	–	–	–	–	–	–
SOUTH ABUTMENT (ABUT. B)																
B1	5	12′-0″	6		–	–	–	–	–	–	–	–	–	–	–	–
B2	5	4′-9″	26		–	1′-7″	1′-5″	1′-9″	–	–	–	–	–	–	–	–
B3	5	3′-10″	7		–	1′-7″	2′-3″	–	–	–	–	–	–	–	–	–
B4	5	5′-2″	9		–	–	2′-3″	2′-11″	–	–	–	–	–	–	–	–
B5	5	3′-9″	11		–	1′-7″	0′-7″	1′-7″	–	–	–	–	–	–	–	–
B6	5	5′-0″	4		–	–	–	–	–	–	–	–	–	–	–	–
B7	5	4′-6″	1		–	–	–	–	–	–	–	–	–	–	–	–
B8	5	4′-0″	1		–	–	–	–	–	–	–	–	–	–	–	–
B9	5	7′-6″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
B10	5	2′-8″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
B11	5	3′-2″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
B12	5	5′-3″	1	17	–	–	–	–	–	–	–	–	–	–	–	–
B13	5	6′-5″	1		–	3′-7″	2′-10″	–	–	–	–	3′-1⅜″	–	1′-7¾″	–	–
B14	5	4′-6″	1		–	2′-3″	2′-3″	–	–	–	–	2′-1¼″	–	1′-1¾″	–	–
B15	5	3′-5″	52		0′-6″	1′-2″	0′-9″	1′-0″	–	–	–	0′-8½″	–	0′-8½″	–	–
B16	5	26′-10″	1	19	–	–	–	–	–	–	–	–	–	–	–	–
B17	5	26′-4″	2	19	–	–	–	–	–	–	–	–	–	–	–	–
B18	5	26′-0″	1	16	–	–	–	–	–	–	–	–	–	–	–	–
B19	5	24′-2″	1		–	–	–	–	–	–	–	–	–	–	–	–
B20	5	24′-8″	2		–	–	–	–	–	–	–	–	–	–	–	–
B21	5	25′-0″	1		–	–	–	–	–	–	–	–	–	–	–	–
B22	5	3′-0″	4	C1	–	3′-0″	–	–	–	–	–	–	–	–	–	–
B23	5	3′-0″	4	C2	–	3′-0″	–	–	–	–	–	–	–	–	–	–

SHEET SUMMARY–TOTAL WEIGHT (LBS.)

	BRIDGE NUMBER 104/136											SECTION TOTAL
ITEM NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	
544	–	–	4090	10140	–	–	–	–	–	–	–	14230
544.11	–	–	102	–	–	–	–	–	–	–	–	102

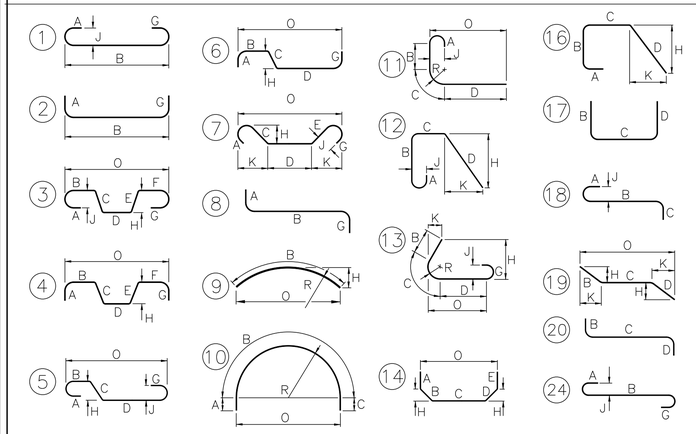
GRAND SUMMARY–TOTAL WEIGHT (LBS.)

	BRIDGE NUMBER 104/136											GRAND TOTAL
ITEM NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	
544	–	–	4090	10140	–	–	–	–	–	–	–	14230
544.11	–	–	102	–	–	–	–	–	–	–	–	102

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

TYPICAL BAR BENDS

STANDARD INDUSTRY BENDS



RECOMMENDED END HOOKS ALL GRADES

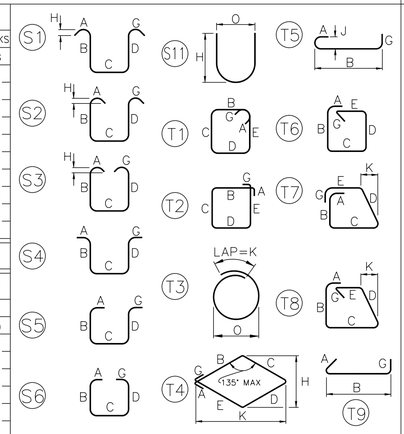
BAR SIZE	180° HOOKS D	180° HOOKS A or G	180° HOOKS J	90° HOOKS A or G
#3	2½″	5″	3″	6″
#4	3″	6″	4″	8″
#5	3¾″	7″	5″	10″
#6	4½″	8″	6″	1′-0″
#7	5¼″	10″	7″	1′-2″
#8	6″	11″	8″	1′-4″
#9	9½″	1′-3″	11½″	1′-7″
#10	10¾″	1′-5″	1′-1¼″	1′-10″
#11	12″	1′-7″	1′-2¾″	2′-0″
#14	18¼″	2′-3″	1′-9¾″	2′-7″

NOTE: D=finished inside bend ø of hook. See 1986 CRSI Manual p6-3&4.

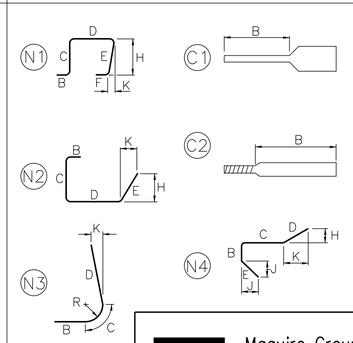
STIRRUP & TIE HOOK DIMENSIONS GRADES 40-50-60 ksi

BAR SIZE	D (IN.)	90° HOOKS A or G	135° HOOKS A or G	135° HOOKS H(appr)
#3	1½″	4″	4″	2½″
#4	2″	4½″	4½″	3″
#5	2½″	6″	5½″	3¾″
#6	4½″	1′-0″	7½″	4½″
#7	5¼″	1′-2″	9″	5¼″
#8	6″	1′-4″	10¼″	6″

STIRRUPS & TIES



STANDARD N.H. & SPECIAL BENDS



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOM. DIMENSIONS (ROUND) DIAMETER INCHES	NOM. DIMENSIONS (ROUND) CROSS SECTIONAL AREA SQ. INCHES
#3	0.376	0.375	0.11
#4	0.668	0.500	0.20
#5	1.043	0.625	0.31
#6	1.502	0.750	0.44
#7	2.044	0.875	0.60
#8	2.670	1.000	0.79
#9	3.400	1.128	1.00
#10	4.303	1.270	1.27
#11	5.313	1.410	1.56
#14	7.650	1.693	2.25
#18	13.600	2.257	4.00

NOTES: 1. REINFORCING BARS MARKED "E" SHALL BE EPOXY COATED.
2. REINFORCING BARS GRADE 60.

NOTES:
1. FIGURES IN CIRCLES SHOW TYPE OF BEND.
2. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET – STEEL BARS FOR CONCRETE REINFOREMENT", AASHTO M 31 (ASTM A 615–S1).
3. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRACTICE SEE CURRENT (1986) CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE", P.6–4.
4. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
5. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180° AND 135° HOOKS.
6. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
7. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
8. WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H' AND "K" MUST BE SHOWN.

▲ DENOTES BARS TO BE CUT IN FIELD.
△ DENOTES BARS TO BE BENT IN FIELD.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 104/136 STATE PROJECT 15926

LOCATION I-93 SB OVER CONNECTICUT RIVER

REINFORCING SCHEDULE

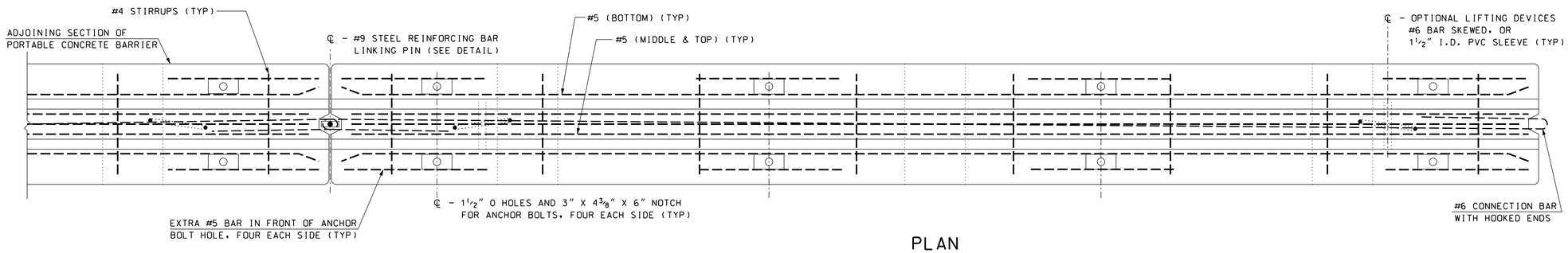
BRIDGE SHEET 18 OF 18

FILE NUMBER 30-2-4

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	TWP	01/11	CHECKED	CLC	01/11
	DRAWN	JEB	01/11	CHECKED	CLC	01/11
	QUANTITIES	TWP	01/11	CHECKED	CLC	01/11
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		A001(041)		44	64

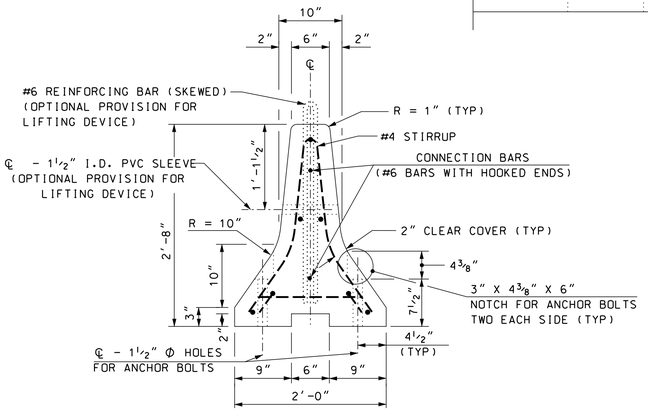
Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\Super	15926REINFS1104_136	AS NOTED



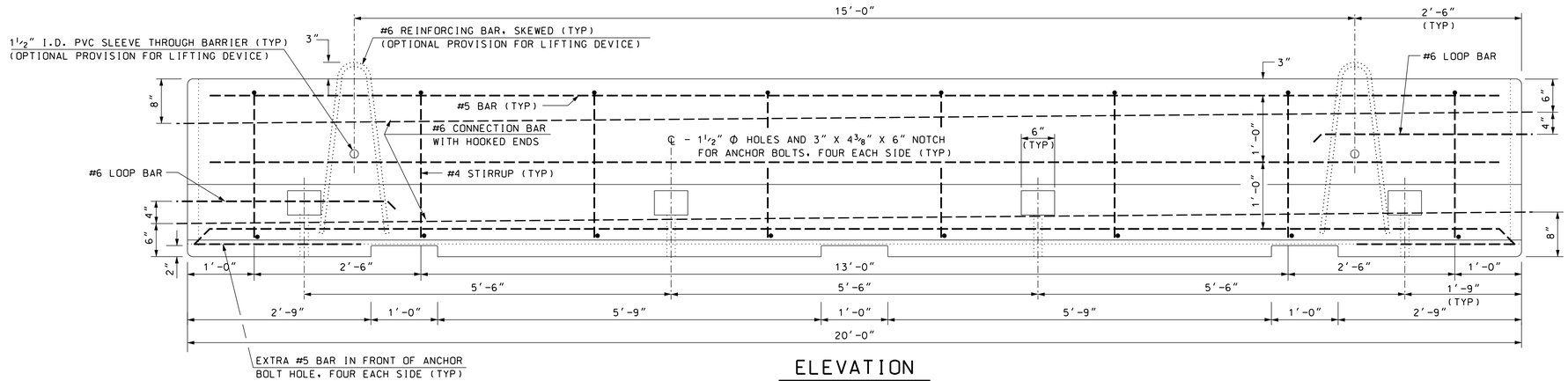
PLAN

SCALE: 1" = 1'-0"



TYPICAL SECTION

SCALE: 1"= 1'-0"



ELEVATION

SCALE:1" = 1'-0"

GENERAL NOTES

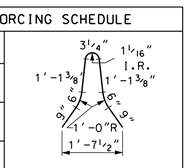
1. THE PORTABLE CONCRETE BARRIER DETAILS, AS SHOWN ON THIS SHEET, ARE IN COMPLIANCE WITH THE REQUIREMENTS OF NCHRP REPORT 350.
2. CONCRETE BARRIER SHALL BE FURNISHED BY THE CONTRACTOR AND PAID AS ITEM 606.4175, PORTABLE CONCRETE BARRIER FOR TRAFFIC CONTROL - ANCHORED. END TREATMENTS AND CONNECTIONS TO EXISTING BARRIERS, WHEN REQUIRED, SHALL BE SUBSIDIARY TO ITEM 606.4175.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL APPROVED RETROREFLECTIVE DELINEATORS AT 25-FOOT INTERVALS ALONG THE TOP AND/OR ONE FOOT DOWN THE SIDE OF THE PORTABLE CONCRETE BARRIER, SUBSIDIARY TO ITEM 606.4175. THE COLOR OF DELINEATORS SHALL, IN ALL CASES, CONFORM TO THE COLOR OF EDGE LINE MARKINGS. DELINEATORS SUPPLEMENT, BUT DO NOT REPLACE, THE NEED FOR RETROREFLECTIVE SOLID EDGE LINE MARKINGS.
4. UNPROTECTED OPENINGS IN PORTABLE CONCRETE BARRIER WILL NOT BE PERMITTED, UNLESS SPECIFICALLY AUTHORIZED BY THE ENGINEER.
5. OTHER BARRIER CONFIGURATIONS AND END CONNECTIONS ARE SUBJECT TO APPROVAL BY THE ENGINEER. BARRIERS OF DIFFERENT GEOMETRIC SHAPES SHALL NOT BE MIXED ON THE SAME RUN.
6. PLACE RETROREFLECTORIZED DRUMS OR BARRICADES IN ACCORDANCE WITH 6C-2 OF THE MUTCD IN ADVANCE OF PORTABLE CONCRETE BARRIER TO WARN AND ALERT DRIVERS.

MATERIAL NOTES

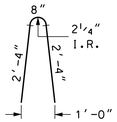
1. BARRIERS SHALL BE LIGHT COLORED CLASS "AA" CONCRETE HAVING A MINIMUM 28 DAY COMPRESSION STRENGTH OF 4,000 PSI. BARRIERS SHALL HAVE A SMOOTH UNIFORM SURFACE FREE OF DEFECTS AND IRREGULARITIES. CASTING DATE SHALL BE SHOWN ON BARRIER. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED ¾" UNLESS OTHERWISE NOTED.
2. ALL REINFORCING STEEL SHALL BE AASHTO M31 (ASTM-A615) GRADE 60. REINFORCEMENT SHOWN IS THE MINIMUM REQUIRED.
3. EACH BARRIER UNIT SHALL INCLUDE ONE LINKING PIN.
4. LIFTING OPTIONS SHOWN ARE ADVISORY ONLY. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO PROVIDE ADEQUATE LIFTING POINTS ON EACH BARRIER.
5. CONNECTING DEVICES SHALL BE COMPATIBLE WITH OTHER UNITS AND SHALL ALLOW PLACEMENT ON A 110' RADIUS. BARRIERS OF DIFFERING GEOMETRIC SHAPES SHALL NOT BE MIXED.
6. DELINEATORS SHALL BE ATTACHED TO THE BARRIER USING AN APPROVED ADHESIVE MATERIAL OR BY BOLTS AND ANCHORS AS SHOWN ON STANDARD NO. DL-1.

PORTABLE CONCRETE BARRIER REINFORCING SCHEDULE

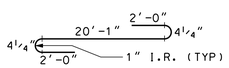
DESCRIPTION	SIZE	NO.	UNBENT LENGTH	TYPE
CONNECTION BARS	#6	2	24'-9½"	
BOTTOM LONGITUDINAL	#5	2	19'-10"	
CENTER & TOP LONGITUDINAL	#5	3	19'-4"	
BOTTOM TRANSVERSE	#5	8	1'-4"	
STIRRUPS	#4	8	5'-0"	
EXTRA ANCHOR HOLE BARS	#5	8	2'-5"	
LIFTING DEVICE (OPTIONAL)	#6	2	5'-4"	
LOOP BAR	#6	2	6'-10¼"	



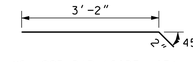
#4 STIRRUP BARS



#6 LIFTING DEVICES (OPTIONAL)

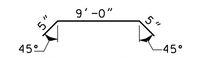


#6 LOOP BAR (TOP VIEW)

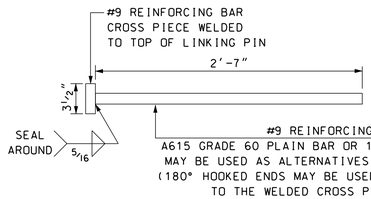


#6 LOOP BAR (SIDE VIEW)

#6 CONNECTION BARS

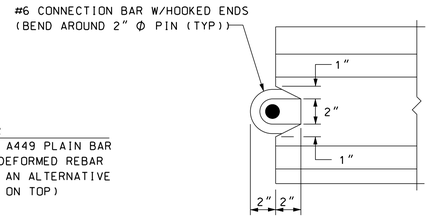


#5 BOTTOM LONGITUDINAL BARS



LINKING PIN

SCALE: 1" = 1'-0"



END NOTCH DETAIL

SCALE: 2" = 1'-0"

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
English/LAN-CLOS	PCB4-3LP20	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 & 104/136 STATE PROJECT 15926

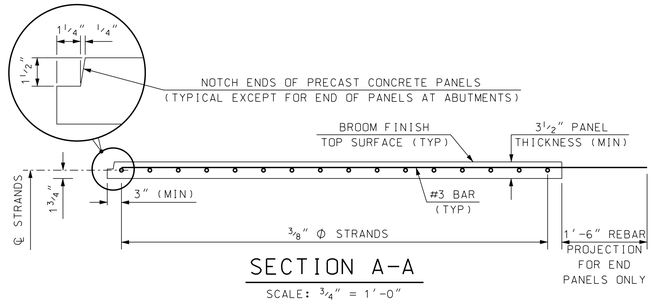
LOCATION I-93 NB & SB OVER CONNECTICUT RIVER

PORTABLE CONCRETE BARRIER

BRIDGE SHEET - OF -

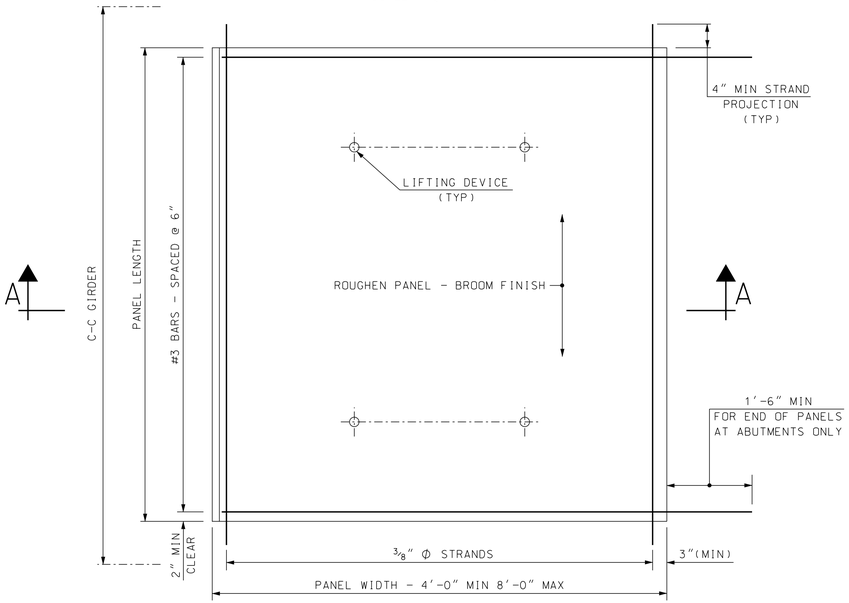
FILE NUMBER $(BRFILNO)

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	NHDOT	9/02	CHECKED	NHDOT	11/02
DRAWN	PJP/GMC	9/02	CHECKED	NHDOT	11/02
QUANTITIES			CHECKED		
ISSUE DATE	-----	FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
REV. DATE	7/1/04	A001(041)		48	64



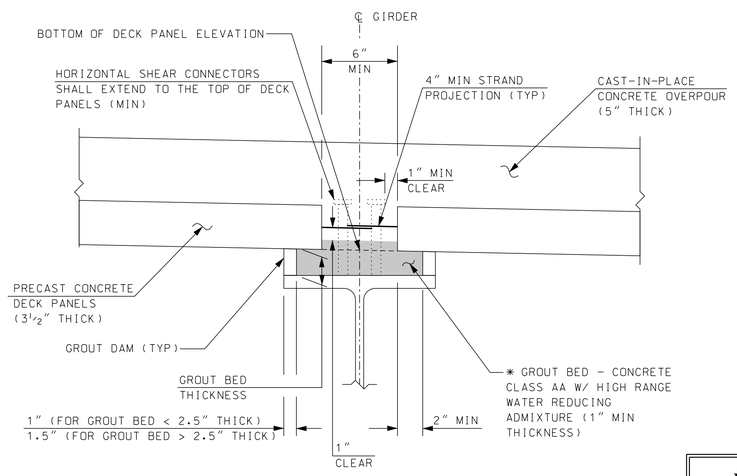
SECTION A-A

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



DECK PANEL DETAIL

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



* ENSURE GROUT FLOWS UNDER PANEL FOR COMPLETE BEARING

STEEL GIRDER HAUNCH DETAIL

SCALE: 2" = 1'-0"

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

TABLE A - DECK PANEL DESIGN (STEEL-GIRDER)

C-C GIRDER SPACING	PANEL LENGTH	PANEL THICKNESS	f'ci (PSI)	f'c (PSI)	STRAND SPACING
5'-6"	5'-0"	3 1/2"	4000	6000	8"
6'-0"	5'-6"	3 1/2"	4000	6000	8"
6'-6"	6'-0"	3 1/2"	4000	6000	8"
7'-0"	6'-6"	3 1/2"	4000	6000	8"
7'-6"	7'-0"	3 1/2"	4000	6000	8"
8'-0"	7'-6"	3 1/2"	4000	6000	8"
8'-6"	8'-0"	3 1/2"	4000	6000	6"
9'-0"	8'-6"	3 1/2"	4000	6000	6"
9'-6"	9'-0"	3 1/2"	4000	6000	5"
10'-0"	9'-6"	3 1/2"	5000	6000	4 1/2"

TABLE B - GIRDER DEFLECTIONS DUE TO DECK PANEL DEAD LOAD

	0L	.1L	.2L	.3L	.4L	.5L	.6L	.7L	.8L	.9L	1.0L
SPAN 1	0.000	0.206	0.374	0.479	0.510	0.466	0.369	0.246	0.129	0.042	0.000
SPAN 2	0.000	0.022	0.112	0.238	0.353	0.404	0.368	0.262	0.136	0.038	0.000
SPAN 3	0.000	0.038	0.136	0.262	0.368	0.404	0.353	0.238	0.112	0.022	0.000
SPAN 4	0.000	0.042	0.129	0.246	0.368	0.466	0.509	0.479	0.374	0.206	0.000

DESIGN CRITERIA:

- LIVE LOAD = HL-93
- ALLOWABLE TENSION IN CONCRETE = $0.19\sqrt{f'c}$
- MAXIMUM INITIAL COMPRESSION = 0.750 ksi (W/ f'ci = 4 ksi)
- C-I-P DECK THICKNESS = 5"
- PAVEMENT THICKNESS = 2 1/2"
- STEEL FLANGE WIDTH = 18"
- GROUT DAM WIDTH = 1"
- GROUT BED THICKNESS < 2 1/2"

NOTES TO DESIGNER:

1) A HAUNCH THICKNESS SHALL BE PROVIDED THAT ACCOUNTS FOR GIRDER CAMBER TOLERANCE, ADDITIONAL DECK THICKNESS DUE TO DECK PANELS, FIELD SPLICE PLATES AND ANY OTHER DETAIL THAT MIGHT IMPACT THE 1" MINIMUM HAUNCH THICKNESS REQUIREMENT. THE INTENT IS TO HOLD FINISHED GRADE ELEVATIONS AND TAKE UP CHANGES IN DECK THICKNESS WITHIN THE HAUNCH PROVIDED.
2) WHEN C-C GIRDER SPACING DIFFERS FROM THOSE LISTED IN TABLE A, OR IF THE FLANGE WIDTH IS NOT 12", THE ACTUAL PANEL LENGTH DETAILED IN NOTE #10 (THIS SHEET) SHALL BE CALCULATED. THE PANEL DESIGN SHALL BE BASED ON THE NEXT LONGER TABULATED C-C GIRDER SPACING.
3) THE DESIGNER SHOULD NOTE THAT IN MOST CASES, AN ADDITIONAL 1/2" OF DECK DEAD LOAD SHOULD BE INCLUDED IN THE DESIGN OF THE GIRDERS (8 1/2" TOTAL THICKNESS MINIMUM). THE BOTTOM OF DECK SLAB ELEVATIONS DETAILED IN THE PLANS SHALL BE BASED ON THE FULL DEPTH CAST IN PLACE DECK DETAILED FOR USE AND NOT TAKE ACCOUNT OF THE ADDITIONAL 1/2" OF DECK DEAD LOAD.
4) HORIZONTAL SHEAR CONNECTOR HEIGHTS MAY NEED ADJUSTMENT TO ACCOMMODATE THIS OPTION.
5) IF LEVELING SCREWS ARE USED, THEIR LOCATIONS SHALL NOT INTERFERE WITH THE LOCATION OF THE GROUT DAM.

PRESTRESSED CONCRETE DECK PANEL NOTES

(1) CONCRETE STRENGTH: f'c = 6,000 PSI MINIMUM AT 28 DAYS; f'ci = 4,000 PSI MINIMUM } SEE TABLE A & B DECK PANEL DESIGN

(2) PRESTRESSING STRANDS SHALL BE 3/8 in. DIAMETER, GRADE 270 SEVEN WIRE LOW-RELAXATION TYPE, CONFORMING TO THE REQUIREMENTS OF ASTM A416. ALL STRANDS SHALL BE PULLED TO HAVE A NET TENSION OF 17.2 KIPS PER STRAND AFTER ALLOWING FOR CHUCK SLIPPAGE.

(3) THE TOP SURFACE OF THE DECK PANELS SHALL BE BROOMED TO A SURFACE ROUGHNESS OF 0.06 in. BROOM THE SURFACE PARALLEL TO THE STRAND.

(4) IF HIGH DENSITY EXPANDED POLYSTYRENE FOAM IS USED AS A TEMPORARY SUPPORT, IT SHALL BE CUT IN THE FIELD TO THE REQUIRED HEIGHT AND AFFIXED TO THE GIRDERS WITH AN APPROVED HIGH STRENGTH ADHESIVE.

(5) PANEL LIFTING LOCATIONS SHOWN ARE ADVISORY ONLY. ACTUAL LIFTING LOCATIONS SHALL BE DETERMINED BY THE FABRICATOR AND INDICATED ON THE SHOP DRAWINGS.

(6) CORROSION INHIBITOR (CALCIUM NITRITE) ADMIXTURE SHALL BE USED.

(7) SEE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS FOR SECTIONS 520 AND 528 FOR ADDITIONAL INFORMATION.

(8) IF LEVELING SCREWS ARE USED, THEY SHALL BE COMPLETELY REMOVED AFTER THE GROUTING OPERATIONS AND PRIOR TO DECK PLACEMENT. HOLES LEFT BY LEVELING SCREWS SHALL BE FILLED WITH AN APPROVED GROUT PRIOR TO DECK PLACEMENT.

(9) TEMPORARY BRACING BETWEEN ENDS OF PANELS SHALL BE SUPPLIED AS REQUIRED TO PREVENT PANEL MOVEMENT TRANSVERSE TO THE GIRDERS.

(10) THE FOLLOWING DECK PANEL DESIGN INFORMATION SHALL BE USED FOR THIS PROJECT:
C-C GIRDER SPACING = 8'-0"
PANEL LENGTH = 7'-0"
PANEL THICKNESS = 3 1/2"

CONCRETE STRENGTHS
f'ci = 4000 psi
f'c = 6000 psi

STRAND SPACING = 8"

MULTI SPANS ONLY:
REINFORCEMENT REQUIREMENTS IN TOP MAT OVER PIER TO MEET LRFD 6.10.1.7
BAR SIZE = #6
BAR SPACING = 7"

(11) REINFORCING IN PANELS SHALL BE BLACK BAR EXCEPT FOR END PANELS AT ABUTMENTS WHICH SHALL HAVE EPOXY COATED REBAR. CAST-IN-PLACE OVERPOUR SHALL HAVE EPOXY COATED REBAR AND FOLLOW LAYOUT OF TOP MAT OF STEEL SHOWN ON THE DECK REINFORCING SHEET.

DECK SLAB ELEVATION NOTES

1) AFTER THE GIRDERS ARE ERECTED AND BEFORE PRECAST DECK PANELS ARE SET, ELEVATIONS ON THE TOP FLANGE OF THE GIRDERS ARE TO BE OBTAINED AT THE POINTS INDICATED IN "BOTTOM OF SLAB ELEVATION TABLE" DETAILED IN THE PLANS AND GIRDER HAUNCH DETAILS ON THIS SHEET.
2) THE BOTTOM OF SLAB ELEVATIONS SHALL BE ADJUSTED BY THE DIFFERENCE BETWEEN THE CAST-IN-PLACE DECK THICKNESS AND THE TOTAL COMPOSITE DECK THICKNESS.

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
English/DKPANLS15926A-DECKPANELS_HL93		AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 & 104/136 STATE PROJECT 15926

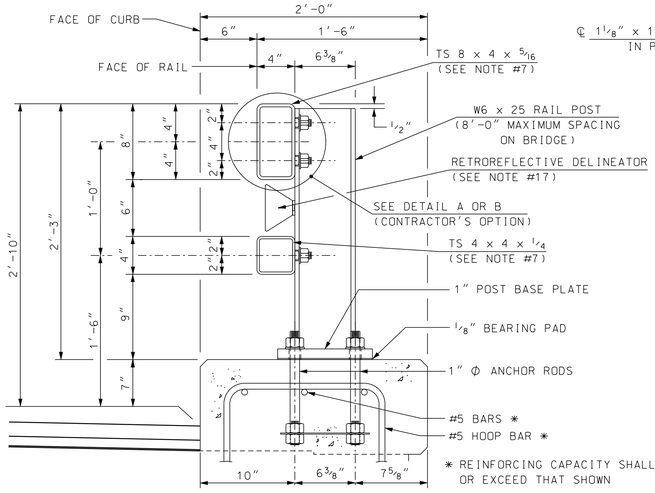
LOCATION I-93 NB & SB OVER CONNECTICUT RIVER

PRECAST CONCRETE DECK PANEL DETAILS

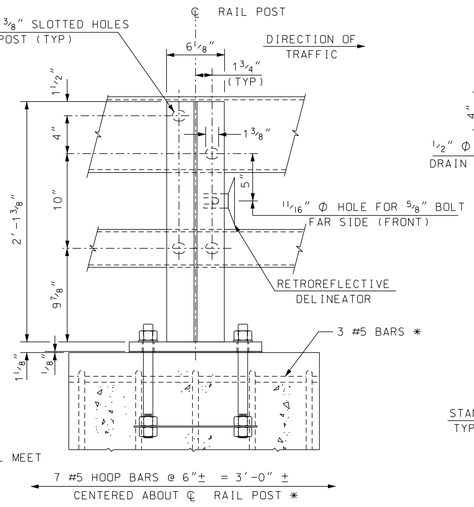
BRIDGE SHEET - OF -

FILE NUMBER $(BRFILNO)

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	NHDOT	4/02	CHECKED	NHDOT	4/02
	DRAWN	NHDOT	12/10	CHECKED	NHDOT	12/10
	QUANTITIES			CHECKED		
	ISSUE DATE	4/02	FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE	12/10	A001(041)		49	64



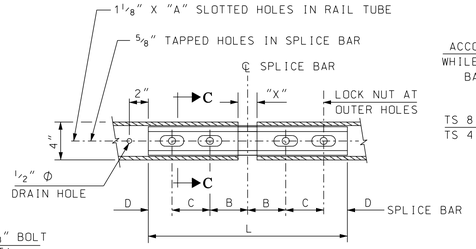
SECTION VIEW



BACK ELEVATION VIEW

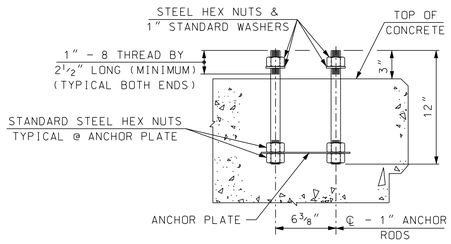
POST ASSEMBLY

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



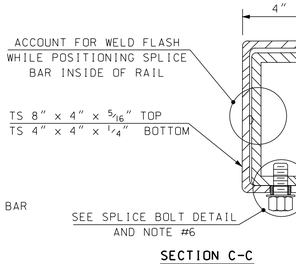
RAIL SPLICE (BOTTOM VIEW)

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

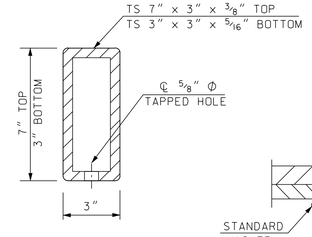


POST ANCHOR ASSEMBLY

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



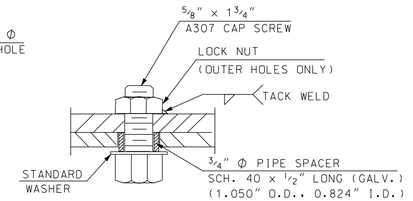
SECTION C-C



SPLICE BAR SECTION

RAIL SPLICE DETAILS

SCALE: 3" = 1'-0"



SPLICE BOLT DETAIL

SCALE: 6" = 1'-0"

RAIL NOTES

(1) ITEM 563.22, BRIDGE RAIL T2 (F), SHALL INCLUDE POSTS, BASE PLATES, ANCHOR PLATES, ANCHOR RODS, PREFORMED PADS, RAIL ASSEMBLY BOLTS, NUTS, WASHERS, STUDS, STRUCTURAL TUBING, SPLICE BARS, PIPE SPACERS, ALL APPURTENANCES, AND GALVANIZING.

(2) BRIDGE RAIL POSTS SHALL BE SET NORMAL (90 DEGREES) TO THE PROFILE GRADE, EXCEPT ON GRADES OVER 5% WHERE POSTS SHALL BE SET VERTICAL.

(3) ENDS OF RAIL TUBE SECTIONS SHALL BE SAWED OR MILLED AND SHALL BE TRUE AND SMOOTH. ALL CUT EDGES OF ALL MATERIAL SHALL BE GROUND SMOOTH.

(4) EACH PIECE OF RAIL TUBING SHALL BE ATTACHED TO A MINIMUM OF THREE (3) POSTS.

(5) BOLT HOLES SHALL BE DRILLED OR PUNCHED. FLAME CUTTING MAY BE USED TO FINISH SLOTTED HOLES IF MECHANICALLY GUIDED.

(6) AT INTERIOR SPLICES, PIPE SPACERS SHALL BE USED ON ONLY ONE SIDE OF THE SPLICE TO ALLOW MOVEMENT ON THAT SIDE. THE TOP AND BOTTOM RAIL SHALL RECEIVE THE SAME TREATMENT. AT END SPLICES PIPE SPACERS SHALL BE USED ON BOTH SIDES OF THE SPLICE TO ALLOW MOVEMENT ON EACH SIDE.

(7) MILL OR SHOP TRANSVERSE WELDS SHALL NOT BE PERMITTED ON ANY RAIL ELEMENT. RAIL ELEMENTS USED ON CURVES SHALL USE 3/8" WALL TUBES AND SHALL BE SHOP FORMED TO THE REQUIRED CURVATURE.

(8) NO PUNCHING, DRILLING, CUTTING OR WELDING SHALL BE PERMITTED AFTER GALVANIZING, EXCEPT AS ALLOWED IN DETAILS A AND B, AND FOR INSTALLATION OF DELINEATORS. DAMAGED AREAS OF GALVANIZING SHALL BE THOROUGHLY CLEANED, PRETREATED, AND PAINTED WITH TWO COATS OF ORGANIC ZINC-RICH GALVANIZING REPAIR PAINT, HAVING A MINIMUM 94% ZINC BY WEIGHT, TO A THICKNESS EQUAL TO THE ORIGINAL COATING ACCORDING TO THE STANDARD SPECIFICATIONS AND ASTM A780.

(9) NUTS FOR 1" Ø THREADED ANCHOR RODS CONNECTING THE BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.

(10) THREADS FOR ANCHOR RODS MAY BE ROLLED OR CUT. IF CUT THREADS ARE USED, BOLT DIAMETER SHALL NOT BE LESS THAN NOMINAL DIAMETER. IF ROLLED THREADS ARE USED, ROD DIAMETER SHALL NOT BE LESS THAN ROOT DIAMETER OF THREADS.

MATERIAL NOTES

(11) STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500, GRADE B. STRUCTURAL STEEL TUBING. RAIL TUBING SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH REQUIREMENTS OF 15 FT. LBS. AT 0°F. FOR ASTM A500, GRADE B, THE TEST SAMPLES SHALL BE TAKEN AFTER FORMING THE TUBES. CHARPY V-NOTCH IS NOT REQUIRED FOR SPLICE TUBES.

(12) RAIL POSTS AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A572 GR 50, EXCEPT ANCHOR PLATES MAY BE ASTM A36.

(13) THREADED STUDS AND MATCHING NUTS FOR RAIL-TO-POST ATTACHMENT (DETAIL A) SHALL CONFORM TO ASTM A276 TYPE 304, STAINLESS STEEL, AND SHALL BE TORQUE TESTED PER AWS D1.5, 7.7.1. DETAIL B BOLTS SHALL BE ASTM A325 OR A449. ALL OTHER BOLTS AND NUTS SHALL CONFORM TO ASTM A307 AND ASTM 563 GRADE A RESPECTIVELY OR BETTER, EXCEPT THAT ASTM A307 NUTS MAY BE USED ON THE BOTTOM OF ANCHOR ASSEMBLY. WASHERS SHALL BE HARDENED STEEL COMMERCIAL TYPE A PLAIN WIDE WASHERS AND SHALL MEET THE DIMENSIONAL REQUIREMENTS OF A.N.S.I. B18.22. ANCHOR RODS SHALL CONFORM TO ASTM A449.

(14) ALL STEEL COMPONENTS (EXCEPT STAINLESS) SHALL BE GALVANIZED AFTER FABRICATION IN CONFORMANCE TO AASHTO M232 (ASTM A153) AND AASHTO M111 (ASTM A123). THE GALVANIZING KETTLE SHALL HAVE 0.05 TO 0.09 PERCENT NICKEL. GALVANIZED SURFACES SHALL HAVE A UNIFORM APPEARANCE AND GALVANIZED MATERIAL SHALL BE PROPERLY STORED. IF PAINTING IS REQUIRED SEE SPECIAL PROVISIONS FOR 708.

(15) DETAIL A STUDS SHALL BE WELDED ON AFTER TUBES ARE GALVANIZED BY SPOT GRINDING OFF GALVANIZING, WELDING ON STUDS, THEN TOUCH UP GALVANING PER NOTE #8 ABOVE.

(16) PREFORMED BEARING PADS (1/8" THICK) SHALL CONFORM TO AASHTO M251.

(17) RETROREFLECTIVE DELINEATORS, BOLTS, NUTS, WASHERS AND FIELD DRILLING OF POSTS, INCLUDING GALVANIZING TOUCH-UP, SHALL BE SUBSIDIARY TO ITEM 563.22. SEE STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION (DL-1) FOR ADDITIONAL DETAILS AND SPACING.

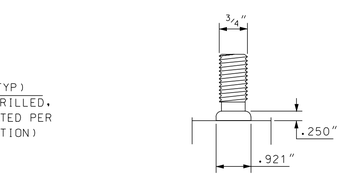
(18) THIS BRIDGE RAIL SYSTEM WAS SUCCESSFULLY CRASH TESTED FOR AASHTO PL2 IN 1994 BY THE NEW ENGLAND TRANSPORTATION CONSORTIUM.

DETAIL A

SCALE: 3" = 1'-0"

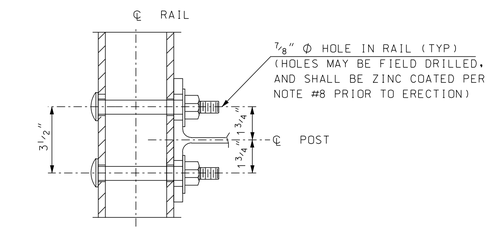
DETAIL B

SCALE: 3" = 1'-0"



DELINEATOR MOUNTING

N.T.S.



SCALE: 3" = 1'-0"

SCALE: 3" = 1'-0"

STUD WELD DETAIL

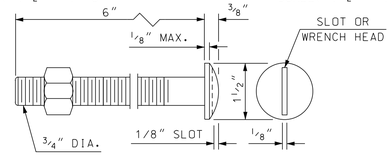
SCALE: 6" = 1'-0"

POST BASE PLATE

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

ANCHOR PLATE

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



A325 ROUND HEAD BOLT DETAIL

SCALE: 6" = 1'-0"

SPLICE BAR DIMENSION TABLE						
T	A	B	C	D	X	L
INTERIOR	2 1/2"	4"	4"	2"	3/4"	1'-8"
* ≤ 3 1/4"	2 1/2"	4"	4"	2"	2"	1'-8"
* 3 1/4" <T≤ 5 1/4"	3 1/2"	5"	5"	2 1/2"	3"	2'-1"

T = TOTAL MOVEMENT OF BRIDGE
* = END SPLICE BAR

RAIL ELEVATION

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

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON — BRIDGE NO. 105/135 & 104/136 STATE PROJECT 15926

LOCATION I-93 NB & SB OVER CONNECTICUT RIVER

T2 STEEL BRIDGE RAIL (PL2)

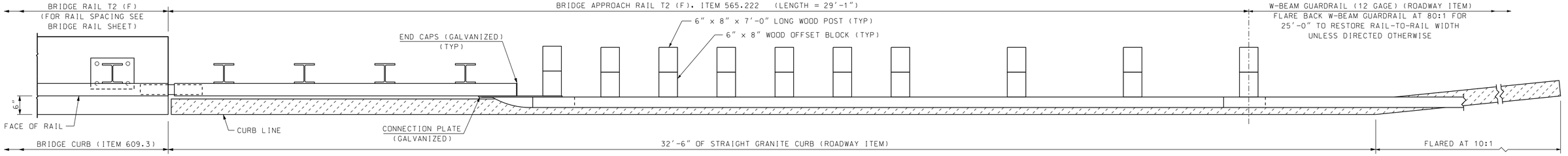
BRIDGE SHEET - OF -

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED NETC/JSZ	3/02	CHECKED	NHDOT	-
	DRAWN PJP	10/05	CHECKED	JSZ	10/05
	QUANTITIES XXX	XX/XX	CHECKED	XXX	XX/XX

ISSUE DATE	11/15/05	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	8/30/06	----------	50	64

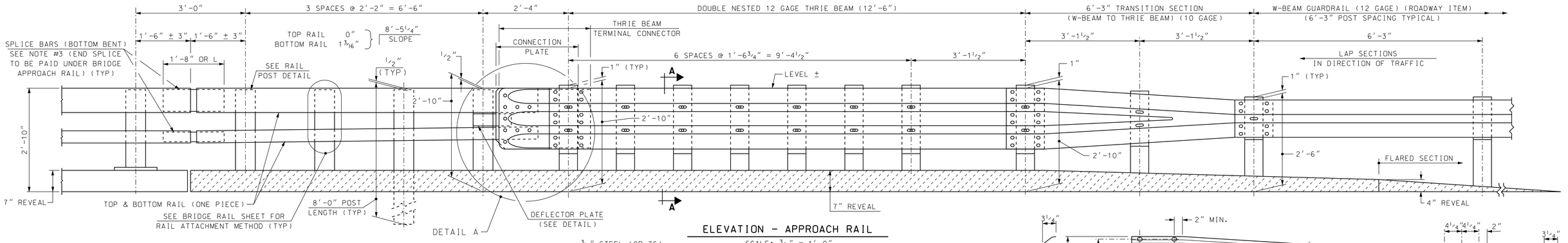
FILE NUMBER $(BRFILNO)

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
XX	T2 Bridge Rail	AS NOTED



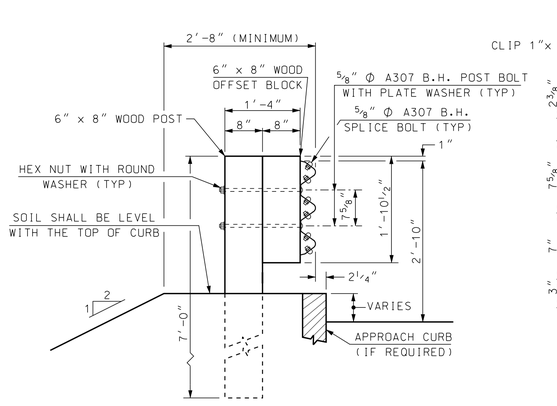
PLAN VIEW - APPROACH RAIL

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



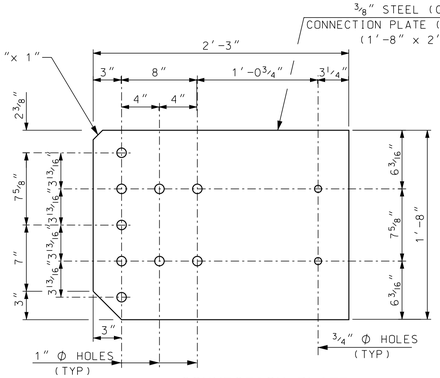
ELEVATION - APPROACH RAIL

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



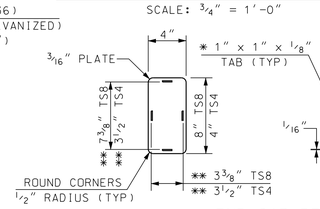
SECTION A-A (POST RAIL ASSEMBLY)

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



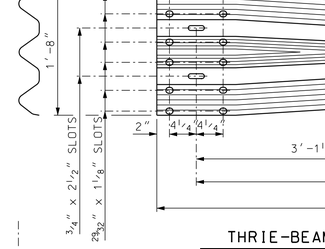
CONNECTION PLATE

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



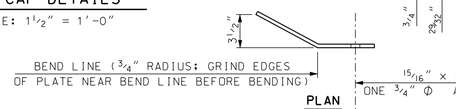
END CAP DETAILS

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



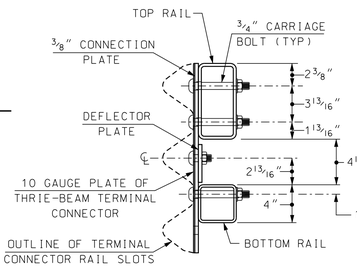
THRIE-BEAM TO W-BEAM TRANSITION SECTION

SCALE: 1" = 1'-0"



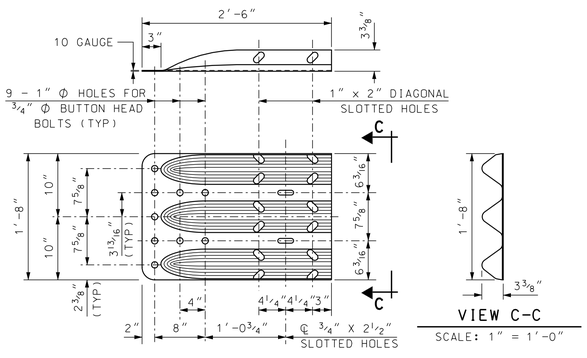
DEFLECTOR PLATE DETAIL

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



SECTION B-B (CONNECTION PLATE)

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

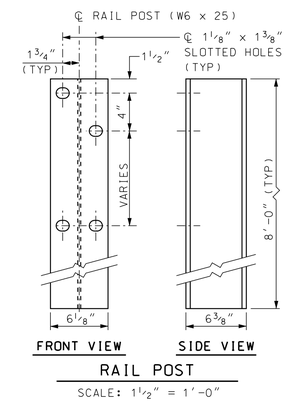


THRIE-BEAM TERMINAL CONNECTOR

SCALE: 1" = 1'-0"

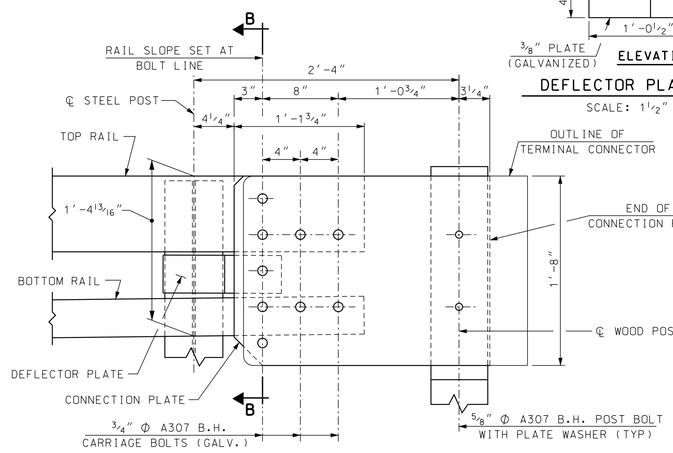
VIEW C-C

SCALE: 1" = 1'-0"



RAIL POST

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



DETAIL A

OVERLAPPING OF DOUBLE NESTED THRIE-BEAM
NOT SHOWN FOR CLARITY

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

NOTES:

(1) ALL BRIDGE APPROACH RAIL MATERIALS, DIMENSIONS, SIZES, AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED. SEE BRIDGE RAIL SHEET FOR NOTES AND ADDITIONAL INFORMATION.

(2) CARRIAGE BOLTS SHALL BE ASTM A307, AND NUTS SHALL BE ASTM A563 GRADE A OR BETTER (GALVANIZED).

(3) WELD BOTTOM SPLICE BAR TO FIT BEND. USE COMPLETE JOINT PENETRATION BUTT WELD (B-U2).

(4) THIS BRIDGE RAIL TRANSITION SYSTEM WAS SUCCESSFULLY CRASH TESTED TO NCHRP 350 TL3 IN APRIL 2005 BY THE NEW ENGLAND TRANSPORTATION CONSORTIUM.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 105/135 & 104/136 STATE PROJECT 15926

LOCATION I-93 NB & SB OVER CONNECTICUT RIVER

T2 STEEL BRIDGE APPROACH RAIL

BRIDGE SHEET - OF -

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	NETC/JSZ	3/02	CHECKED	NHDOT	
DRAWN	PJP	10/05	CHECKED	JSZ	10/05
QUANTITIES			CHECKED		
ISSUE DATE	11/15/05		FEDERAL PROJECT NO.		SHEET NO.
REV. DATE	8/30/06		A001(041)		51

FILE NUMBER $(BRFILNO)

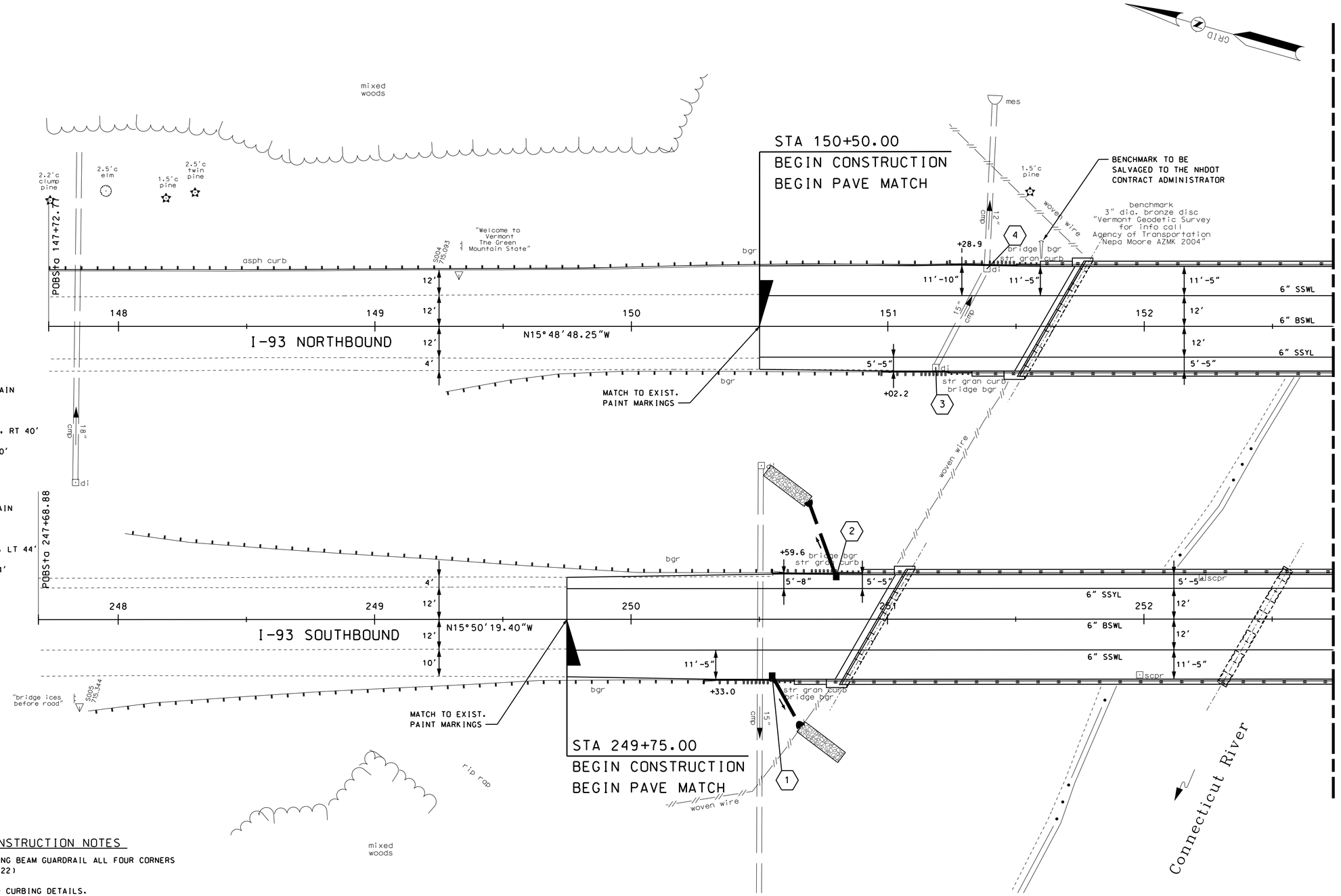
TOTAL SHEETS 64

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\Details	t2-apprail	AS NOTED

REVISIONS AFTER PROPOSAL

STATION	DESCRIPTION	STATION	NUMBER	DATE

SDR PROCCESSED	XX	DATE XX
NEW DESIGN	J. BAILEY	DATE 01-21-11
SHEET CHECKED	A. CIOLFI	DATE 01-21-11
AS BUILT DETAILS		DATE



DRAINAGE NOTES

1. STA 250+65, RT 40' to 250+55, RT 22'
   CONST. 20.0 LF X 12" PIPE FOR SLOPE DRAIN
   CONST. DI-DB @ +55, RT 22'
   RIM = 713.53
   INV OUT = 709.36
   CONST. 12" ALUM. STEEL END SECT. @ +65, RT 40'
   INV OUT = 706.00
   STA 250+84, RT 49' TO STA 250+65, RT 40'
   CONST. STONE FILL CLASS C, L=20'
   (1' THICK X 5' WIDE)

2. STA 250+70, LT 44' to 250+80, LT 16.5'
   CONST. 28.5 LF X 12" PIPE FOR SLOPE DRAIN
   CONST. DI-DB @ +80, LT 16.5'
   RIM = 713.34
   INV OUT = 709.17
   CONST. 12" ALUM. STEEL END SECT. @ +70, LT 44'
   INV OUT = 706.00
   STA 250+54, LT 58' TO STA 250+70, LT 44'
   CONST. STONE FILL CLASS C, L=20'
   (1' THICK X 5' WIDE)

3. STA 151+18.7, RT 16'
   ADJUST DROP INLET TO
   1" BELOW FINISHED GRADE

4. STA 151+38.7, LT 22.5'
   ADJUST DROP INLET TO
   1" BELOW FINISHED GRADE

GENERAL ROADWAY CONSTRUCTION NOTES

1. MATCH BRIDGE APPROACH RAIL TO EXISTING BEAM GUARDRAIL ALL FOUR CORNERS OF BRIDGE. (SUBSIDIARY TO ITEM 565.222)

2. SEE BRIDGE PLANS FOR BRIDGE RAIL AND CURBING DETAILS.

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

20 0 20 40
SCALE IN FEET

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF BRIDGE DESIGN

GENERAL ROADWAY PLAN

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926G01	15926	52	64

MATCH TO SHEET 52

MATCH TO SHEET 54

Connecticut River

bronze disc
"Supreme Court of US.
Vermont - NH Boundary
#4-AA"

S/L

VERMONT
NEW HAMPSHIRE

scpr

11'-5"
12'
12'
5'-5"

6" SSWL
6" BSWL
6" SSYL

153 154 155 156 157

I-93 NORTHBOUND

N15°48'48.25"W

5'-5"
12'
12'
11'-5"

6" SSYL
6" BSWL
6" SSWL

253 254 255 256 257

I-93 SOUTHBOUND

N15°50'19.40"W

11'-5"
str
br

S/S

"state line
Littleton. N.H."

bronze disc
"Supreme Court of US.
Vermont - NH Boundary
#4-A"

GRID

20 0 20 40
SCALE IN FEET

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF BRIDGE DESIGN

GENERAL RAODWAY PLAN

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926G01	15926	53	64

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCESSED	XX	DATE	XX
NEW DESIGN	J. BAILEY	DATE	01-21-11
SHEET CHECKED	A. CIOLFI	DATE	01-21-11
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

SDR PROCCESSED	XX	DATE XX
NEW DESIGN	J. BAILEY	DATE 01-21-11
SHEET CHECKED	A. CIOLFI	DATE 01-21-11
AS BUILT DETAILS		DATE

MATCH TO SHEET 53

STA 159+50.00
END CONSTRUCTION
END PAVE MATCH

granite block
copper plaque
"Senator Andrew Poulsen
Memorial Bridge
5/16/84"

"Connecticut River"

"north 93 131 .6"

SO02 704.190

mes

12" cmp

bridge bgr
str gran curb
+90.8
bgr
asphalt curb
cb

POES to 162+40.31

scpr
11'-5"
6" SSWL
12'
6" BSWL
6" SSYL
5'-5"
5'
asph curb
bgr
str gran curb
bridge bgr
+64.2

benchmark
State of NH
disc
"26.5/0080"

158 159 160 161 162

N15°48'48.25"W

I-93 NORTHBOUND

MATCH TO EXIST.
PAINT MARKINGS

mixed woods

wood w/ steel cabinet

post

cb

"closed to unauthorized vehicles"

15" cmp

pines

asphalt crossover

POES to 262+33.84

bgr

bridge bgr
str gran curb
+21.5
bgr
5'-5"
6" SSYL
6" BSWL
6" SSWL
11'-7"
4'
12'

258 259 260 261 262

N15°50'19.40"W

I-93 SOUTHBOUND

to Littleton, NH

SO03 704.857

"south I-93"

"south I-93 131 .6"

cmp 15"

cmp 12"

asphalt curb

bgr

"Welcome to Bienvenue N.H. Live free or die"

mixed woods

mixed woods

mes

mes

STA 258+75.00
END CONSTRUCTION
END PAVE MATCH

20 0 20 40
SCALE IN FEET

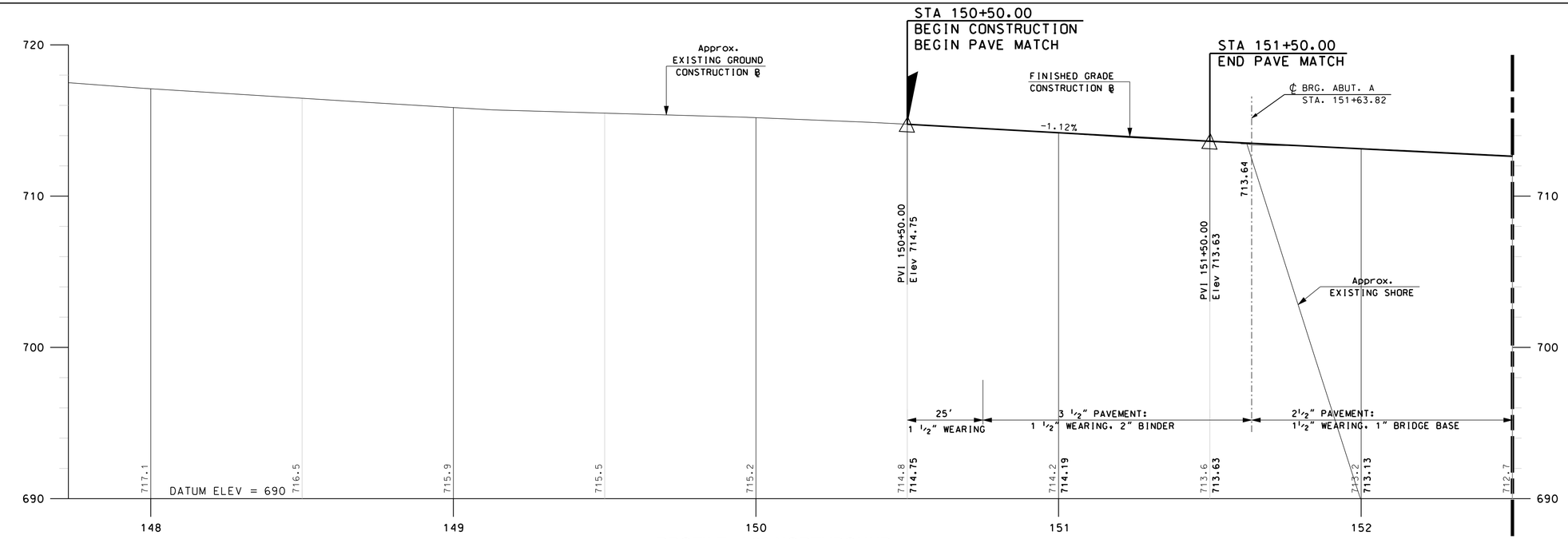
PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

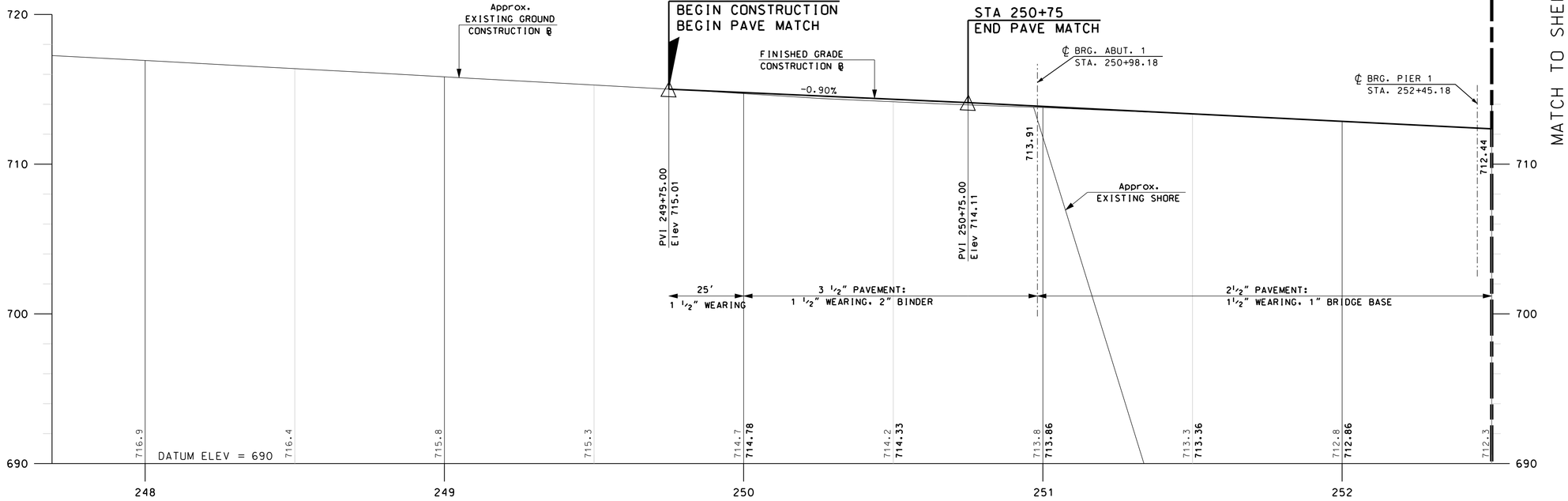
STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF BRIDGE DESIGN

GENERAL ROADWAY PLAN

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926G01	15926	54	64



PROFILE - I-93 NORTHBOUND



PROFILE - I-93 SOUTHBOUND

VERTICAL SCALE IN FEET: 4 0 4 8

HORIZONTAL SCALE IN FEET: 20 0 20 40

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF BRIDGE DESIGN

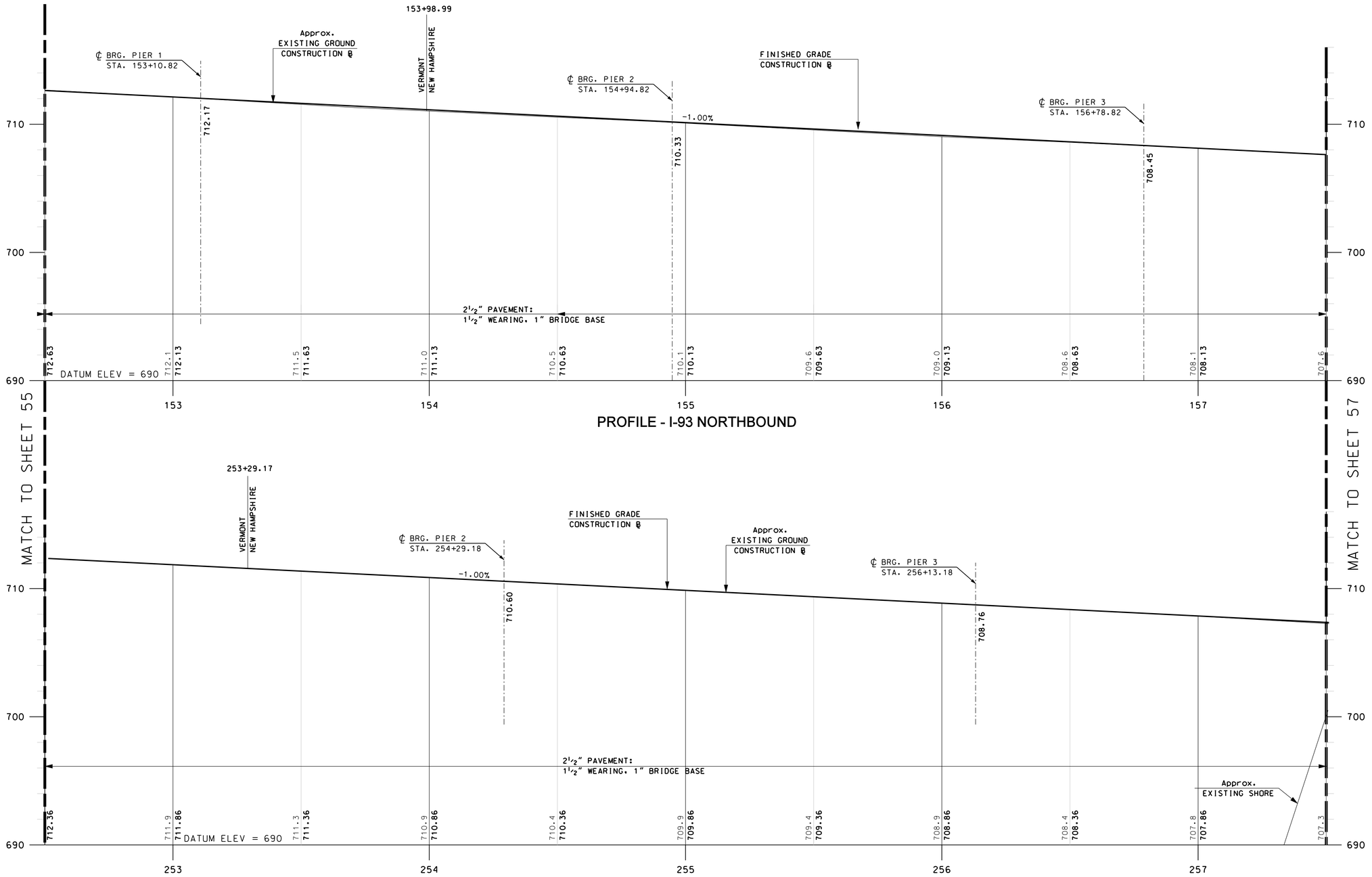
ROADWAY PROFILE

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926P01	15926	55	64

REVISIONS AFTER PROPOSAL

STATION	DESCRIPTION	NUMBER	DATE	STATION

SDR PROCESSED	XX	DATE XX
NEW DESIGN	J. BAILEY	DATE 01-21-11
SHEET CHECKED	A. CIOLFI	DATE 01-21-11
AS BUILT DETAILS		DATE



PROFILE - I-93 NORTHBOUND

PROFILE - I-93 SOUTHBOUND

4 0 4 8
VERTICAL SCALE IN FEET

20 0 20 40
HORIZONTAL SCALE IN FEET

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF BRIDGE DESIGN

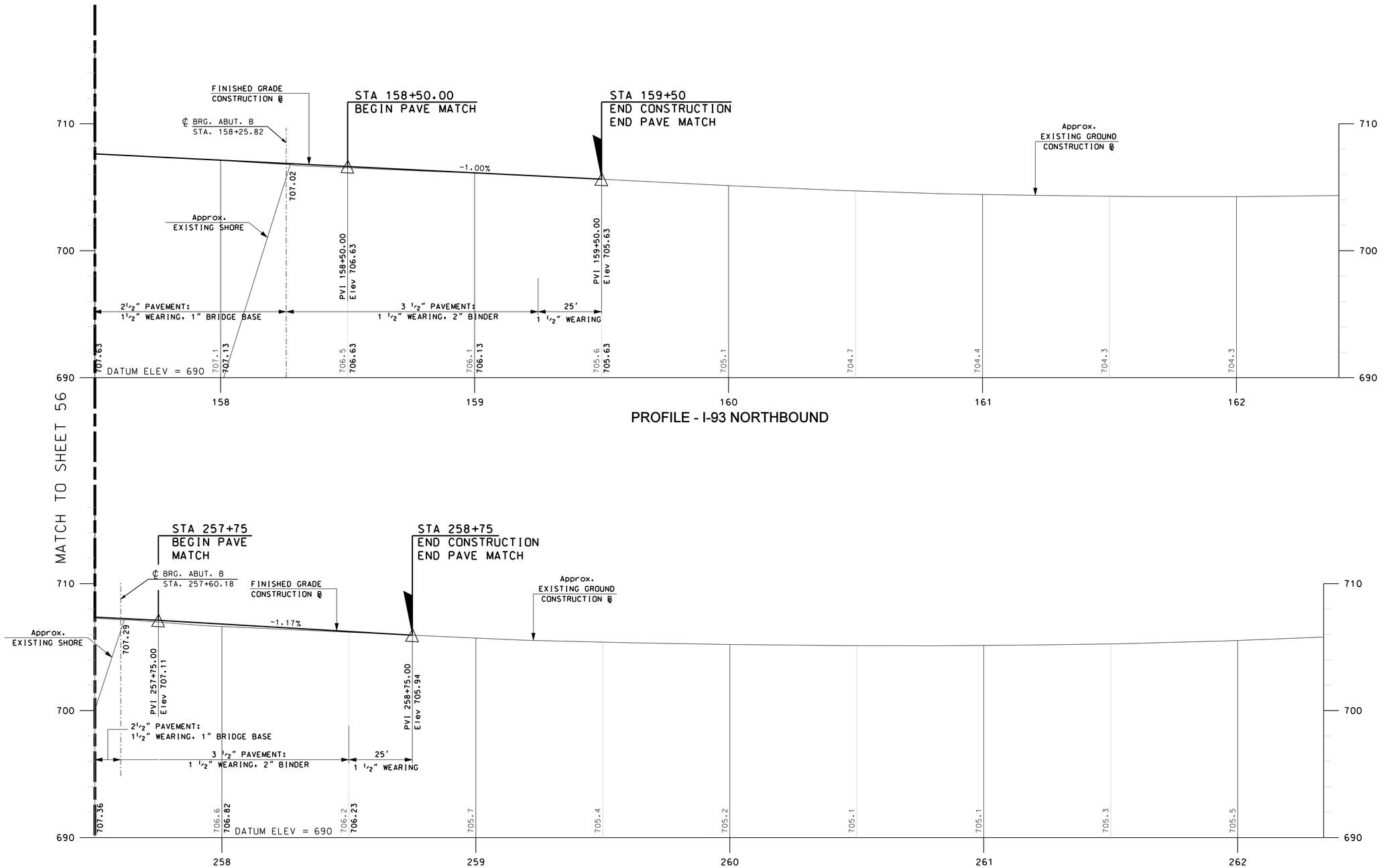
ROADWAY PROFILE

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926P01	15926	56	64

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION

SDR PROCCESSED	XX	DATE XX
NEW DESIGN	J. BAILEY	DATE 01-21-11
SHEET CHECKED	A. CIOLFI	DATE 01-21-11
AS BUILT DETAILS		DATE



PROFILE - I-93 NORTHBOUND

PROFILE - I-93 SOUTHBOUND

VERTICAL SCALE IN FEET
4 0 4 8

HORIZONTAL SCALE IN FEET
20 0 20 40

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF BRIDGE DESIGN

ROADWAY PROFILE

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926P01	15926	57	64

REVISIONS AFTER PROPOSAL

STATION	DESCRIPTION	STATION	DATE	NUMBER

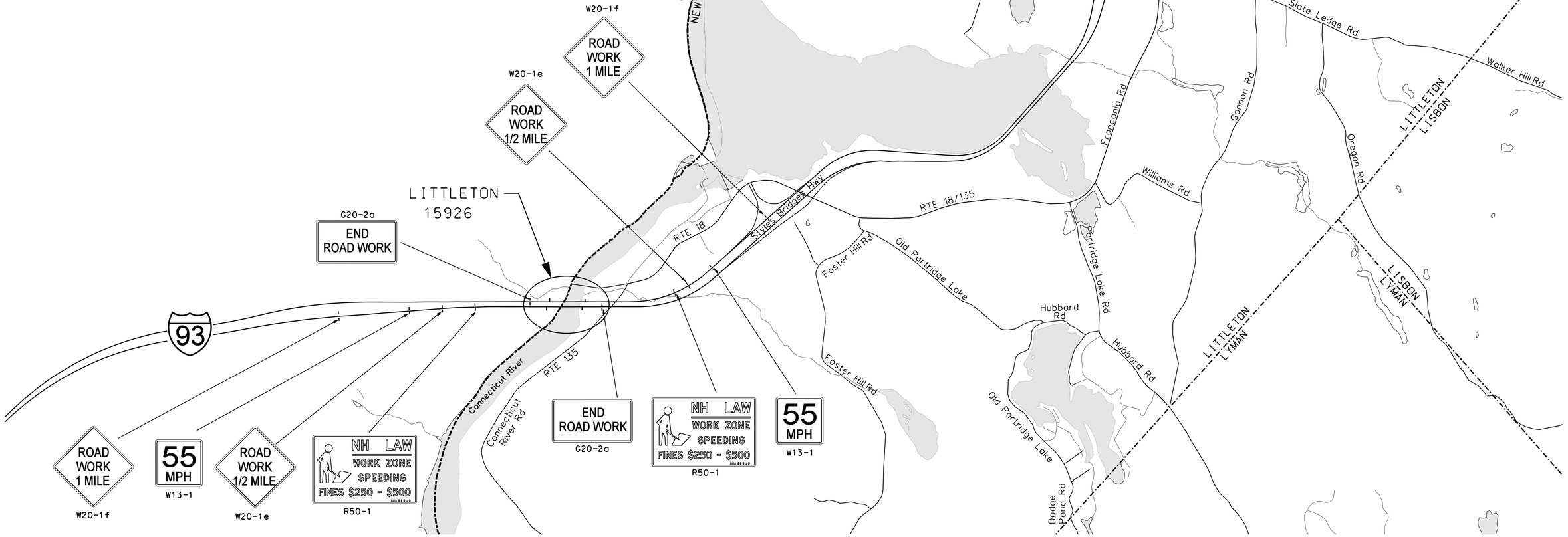
SDR PROCCESSED	XX	DATE XX
NEW DESIGN	J. BAILEY	DATE 01-21-11
SHEET CHECKED	A. CIOLFI	DATE 01-21-11
AS BUILT DETAILS		DATE

PERMANENT CONSTRUCTION SIGNS AND WARNING DEVICES

(INCLUDED IN ITEM NO. 619.1)

SIGN NO.	DESCRIPTION	SIZE (ft)	S.F.	NO. REQ.	TOTAL AREA	POSTS		REMARKS
G20-2a	END ROAD WORK	2X4	8	4	32	8		
W20-1e	ROAD WORK 1/2 MILE	4X4	16	4	64	8		FLUORESCENT ORANGE
W20-1f	ROAD WORK 1 MILE	4X4	16	4	64	8		FLUORESCENT ORANGE
W20-5e	RIGHT LANE CLOSE 1/2 MILE	4X4	16	4	64	8		FLUORESCENT ORANGE
W20-5eL	RIGHT LANE CLOSE 1/2 MILE	4X4	16	4	64	8		FLUORESCENT ORANGE
W9-1L	LEFT LANE ENDS	4X4	16	4	64	8		FLUORESCENT ORANGE
W9-1R	RIGHT LANE ENDS	4X4	16	4	64	8		FLUORESCENT ORANGE
W9-2L	LANE ENDS MERGE LEFT	4X4	16	2	32	4		FLUORESCENT ORANGE
W9-2R	LANE ENDS MERGE RIGHT	4X4	16	2	32	4		FLUORESCENT ORANGE
R50-1	NH LAW WORK ZONE	4X6	24	4	96	8		
W13-1	ADVISORY SPEED 55 MPH	2X2	4	4	16	4		FLUORESCENT ORANGE

The estimated quantities of "Permanent Controls" are hereby listed. The Contractor is responsible for all "Operational Controls" required under section 619 of the NHDOT Specifications and the Manual on Uniform Traffic Control Devices (MUTCD), Part VI.



CONSTRUCTION SIGN LAYOUT

1000 0 1000 2000
SCALE IN FEET

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF BRIDGE DESIGN
TRAFFIC CONTROL PLANS

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926tcpplans	15926	58	64

REVISIONS AFTER PROPOSAL

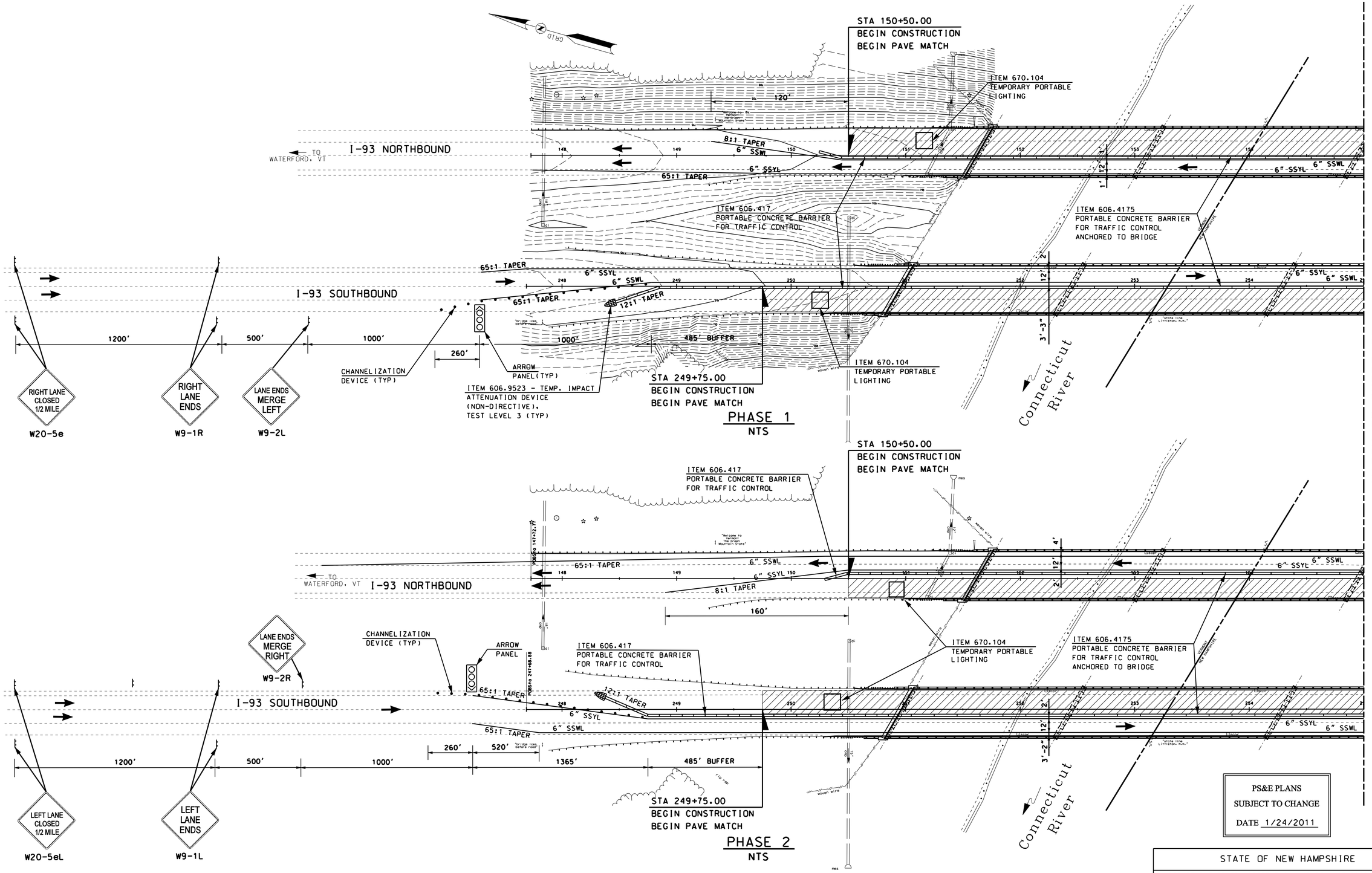
NUMBER	DESCRIPTION	DATE	STATION

SDR PROCCESSED XX DATE XX
NEW DESIGN J. BAILEY DATE 01-21-11
SHEET CHECKED A. CIOLFI DATE 01-21-11
AS BUILT DETAILS DATE

REVISIONS AFTER PROPOSAL

STATION	DESCRIPTION	NUMBER	DATE

SDR PROCESSED	XX	DATE XX
NEW DESIGN	J. BAILEY	DATE 01-21-11
SHEET CHECKED	A. CIOLFI	DATE 01-21-11
AS BUILT DETAILS		DATE



PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

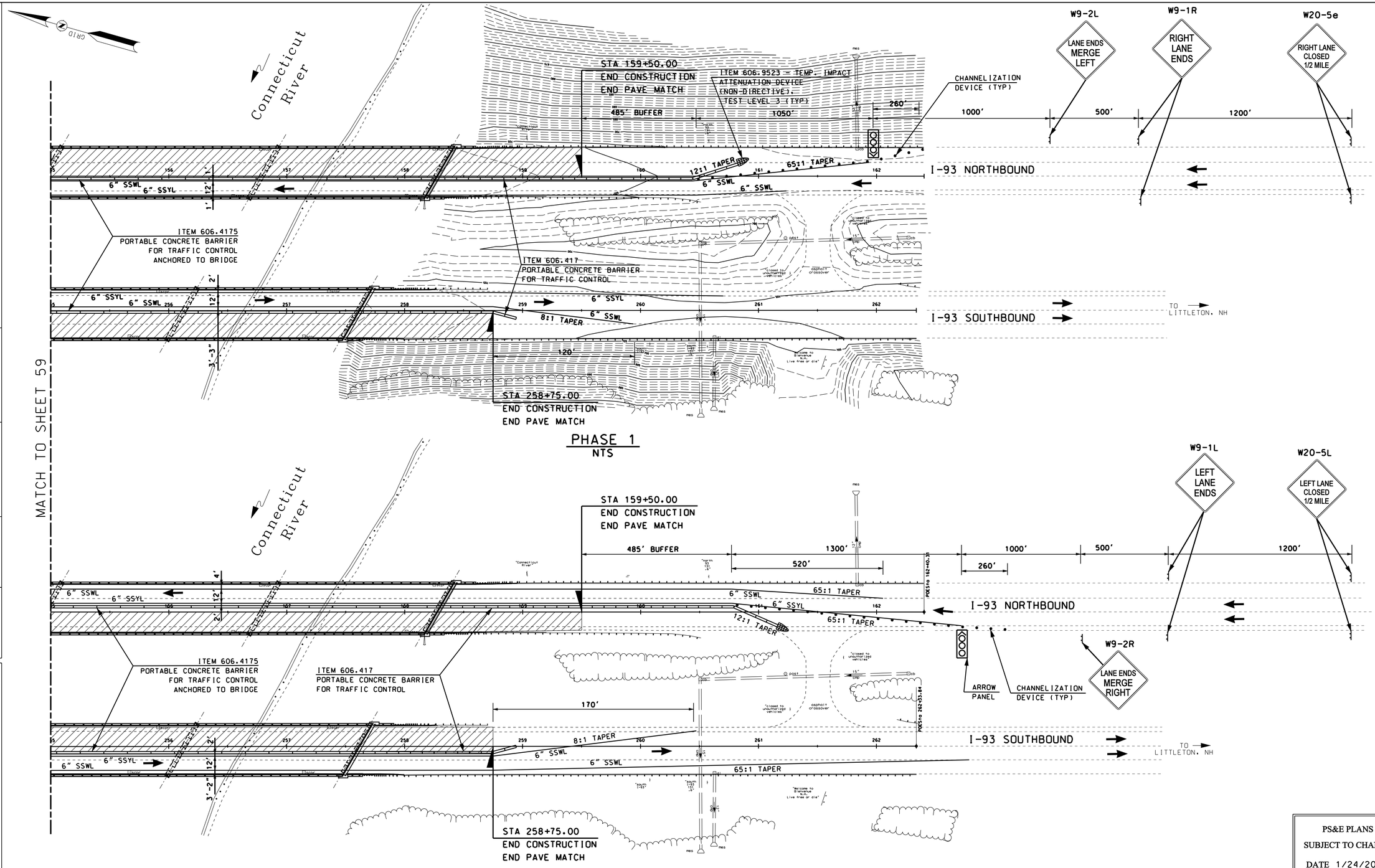
20 0 20 40
SCALE IN FEET

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF BRIDGE DESIGN

TRAFFIC CONTROL PLANS

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926tcpplans	15926	59	64



PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

20 0 20 40
SCALE IN FEET

Maguire Group Inc.
Architects/Engineers/Planners
110 Corporate Drive, Suite 6
Portsmouth, NH 03801

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF BRIDGE DESIGN

TRAFFIC CONTROL PLANS

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926tcpplans	15926	60	64

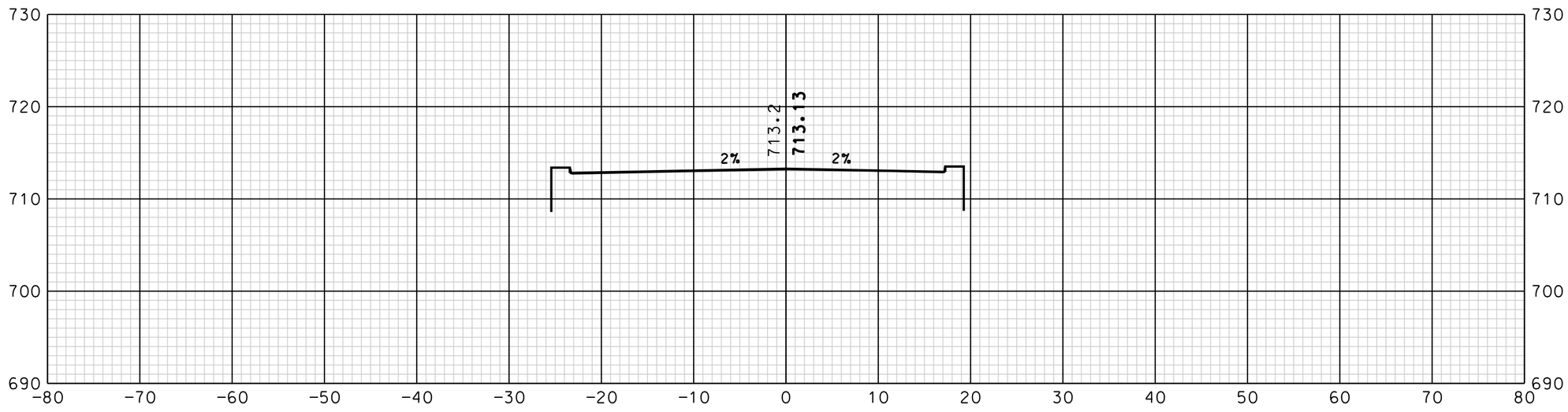
REVISIONS AFTER PROPOSAL			
DESCRIPTION	STATION	DATE	NUMBER

SDR PROCCESSED	XX	DATE XX
NEW DESIGN	J. BAILEY	DATE 01-21-11
SHEET CHECKED	A. CIOLFI	DATE 01-21-11
AS BUILT DETAILS		DATE

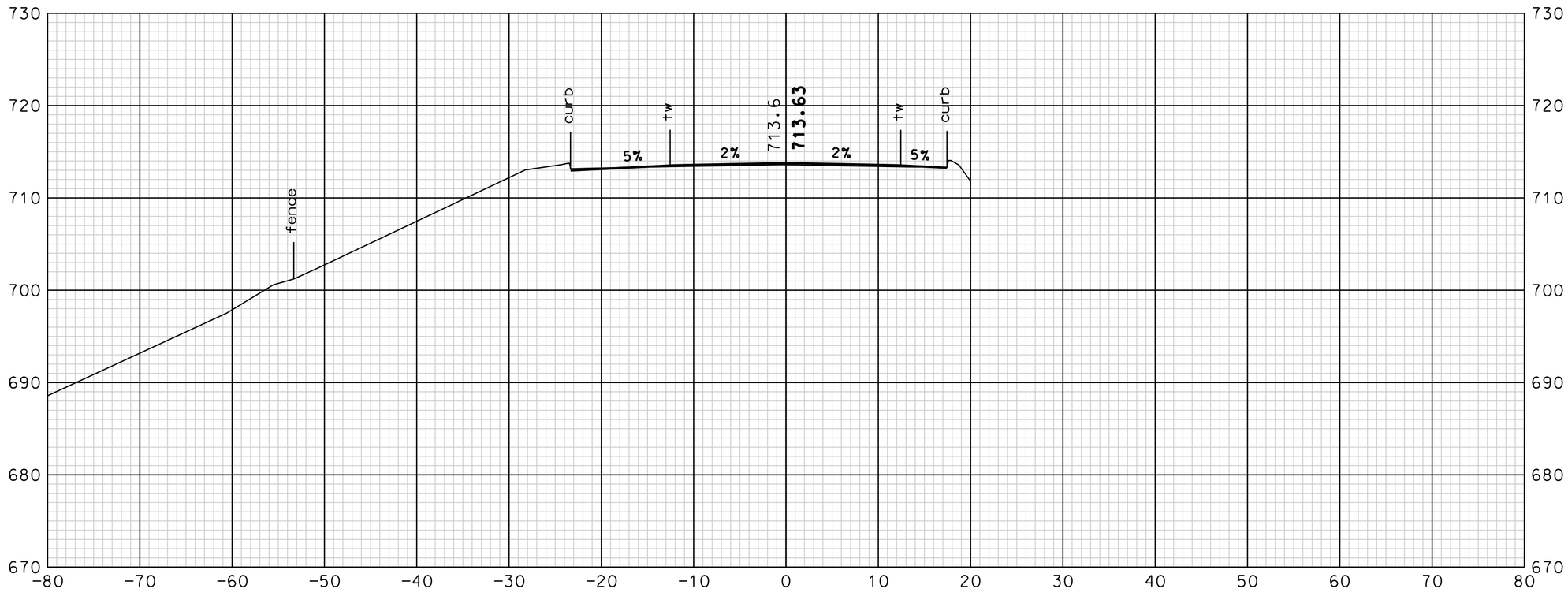
SDR PROCCESSED	NAME1	DATE	DATE1
NEW DESIGN	J. BAILEY	DATE	01-21-11
SHEET CHECKED	A. CIOLFI	DATE	01-21-11
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

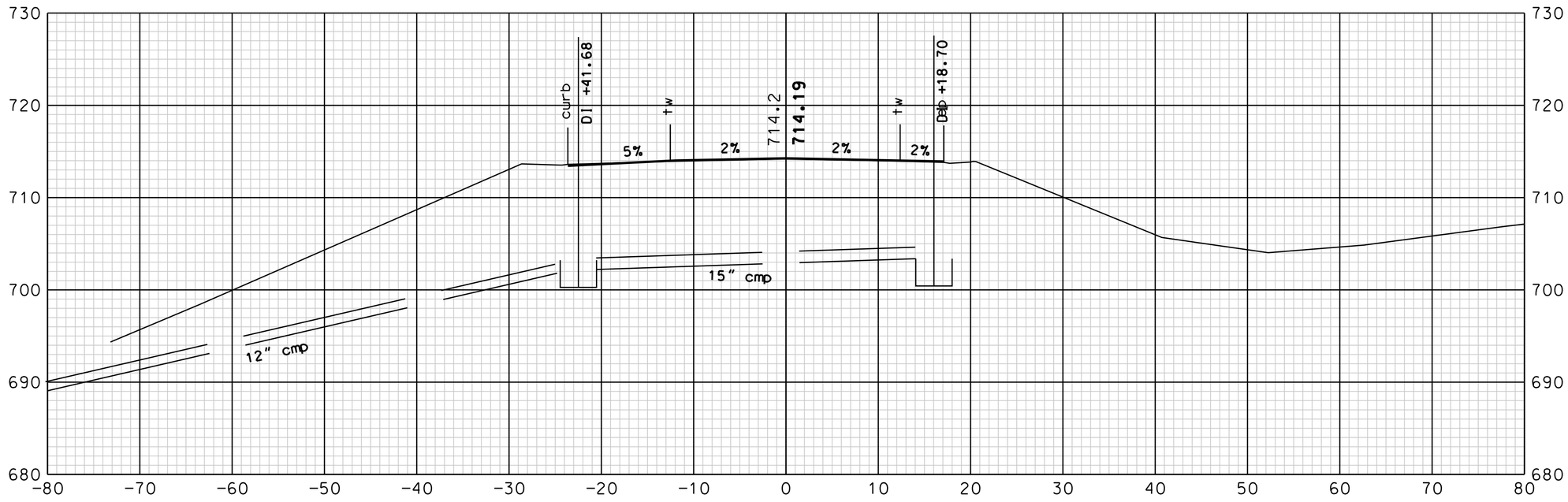
NUMBER	DATE	STATION	STATION	DESCRIPTION



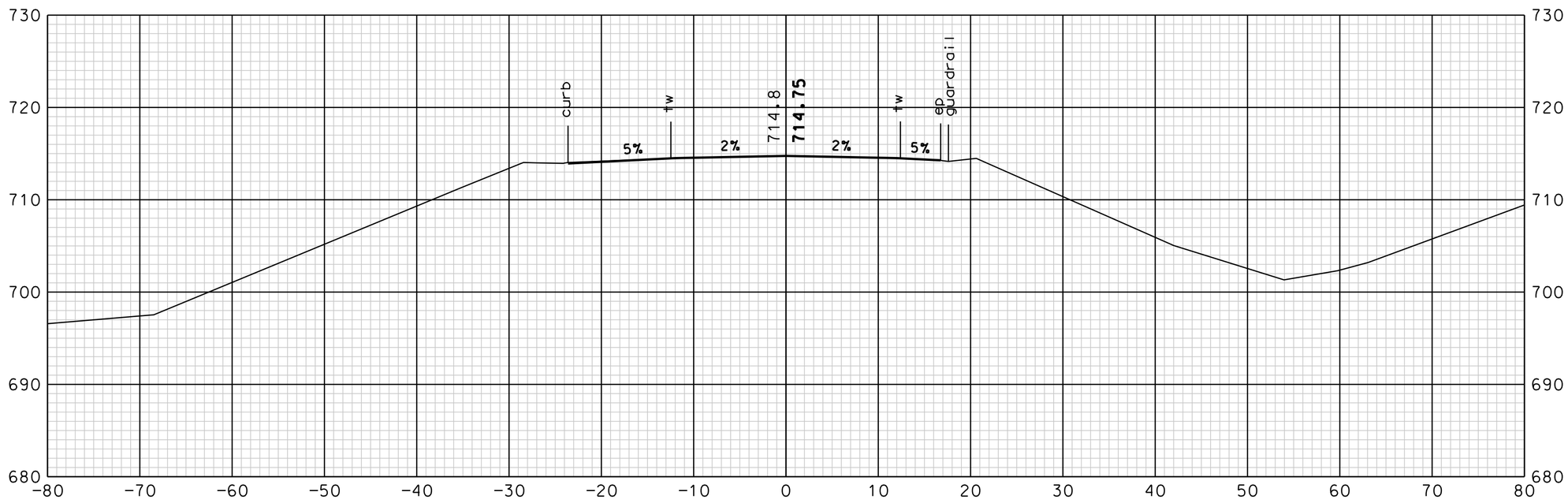
152+00



151+50



151+00



150+50

BEGIN CONSTRUCTION NORTH BOUND

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

SHEET TOTALS

COMMON EXCAV. X ROCK EXCAV. X

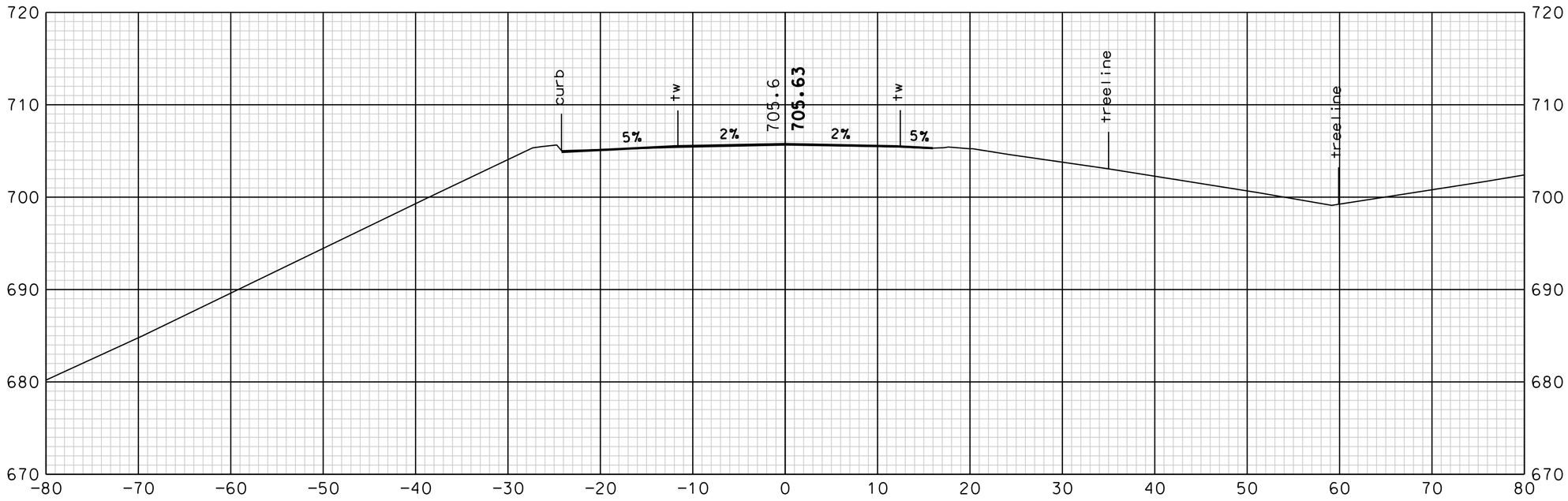
FILL X MUCK EXCAV. X

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926X01	15926	61	64

SDR PROCCESSED	NAME1	DATE	DATE1
NEW DESIGN	J. BAILEY	DATE	01-21-11
SHEET CHECKED	A. CIOLFI	DATE	01-21-11
AS BUILT DETAILS		DATE	

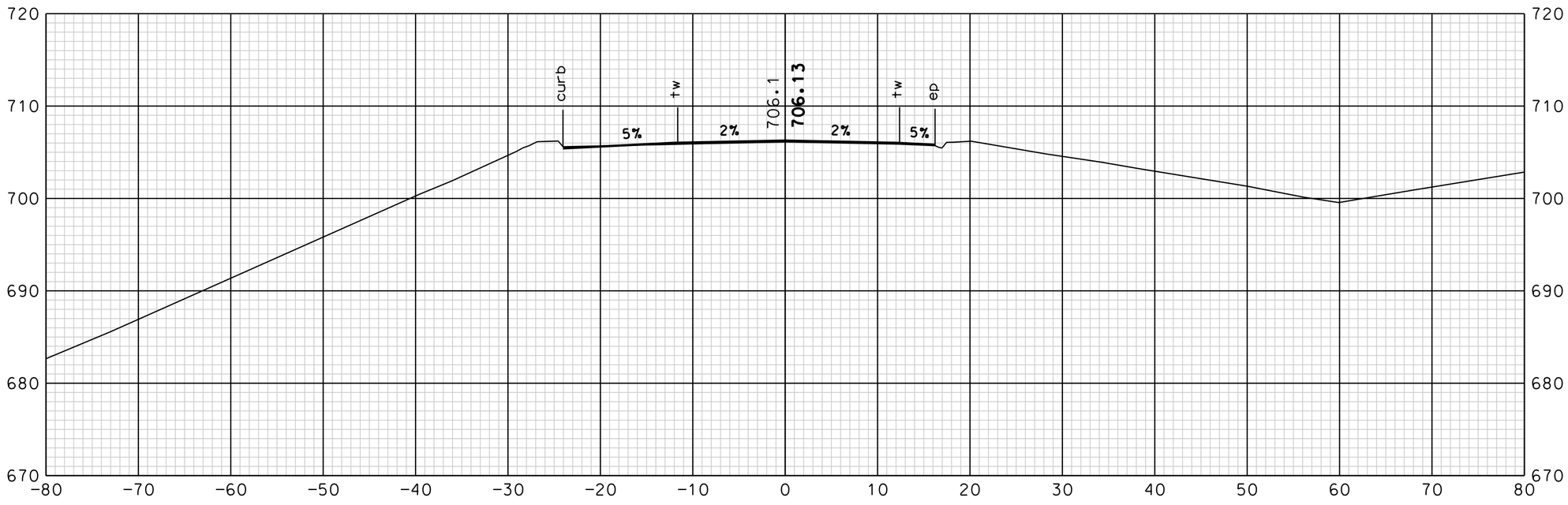
REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

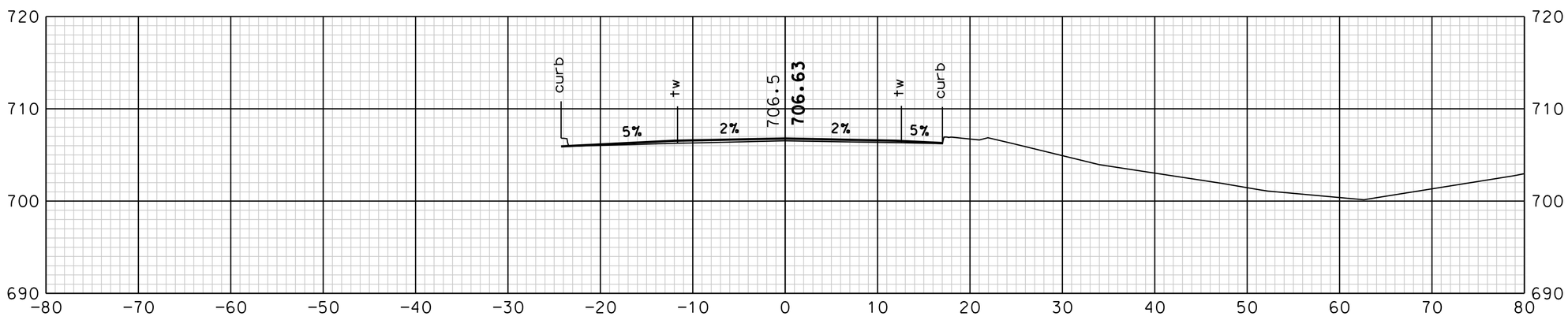


159+50

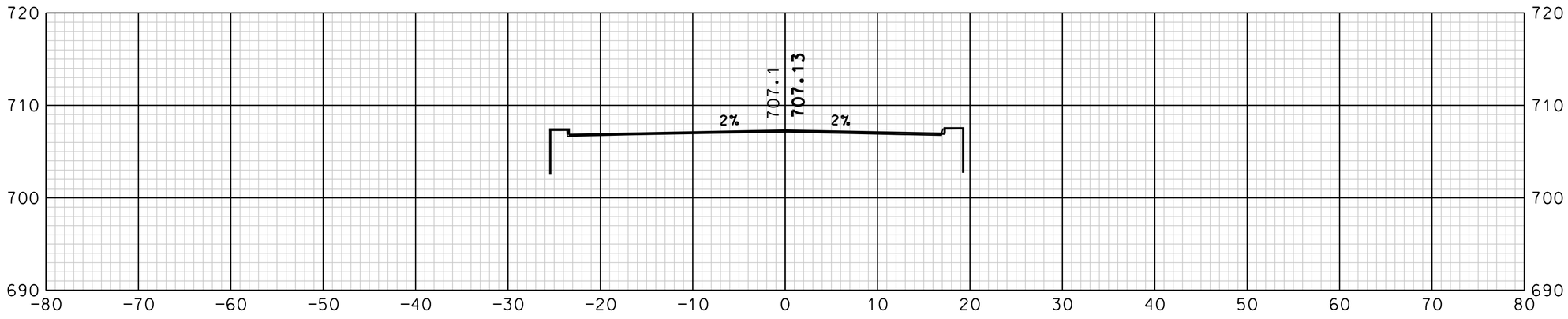
END CONSTRUCTION NORTH BOUND



159+00



158+50



158+00

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

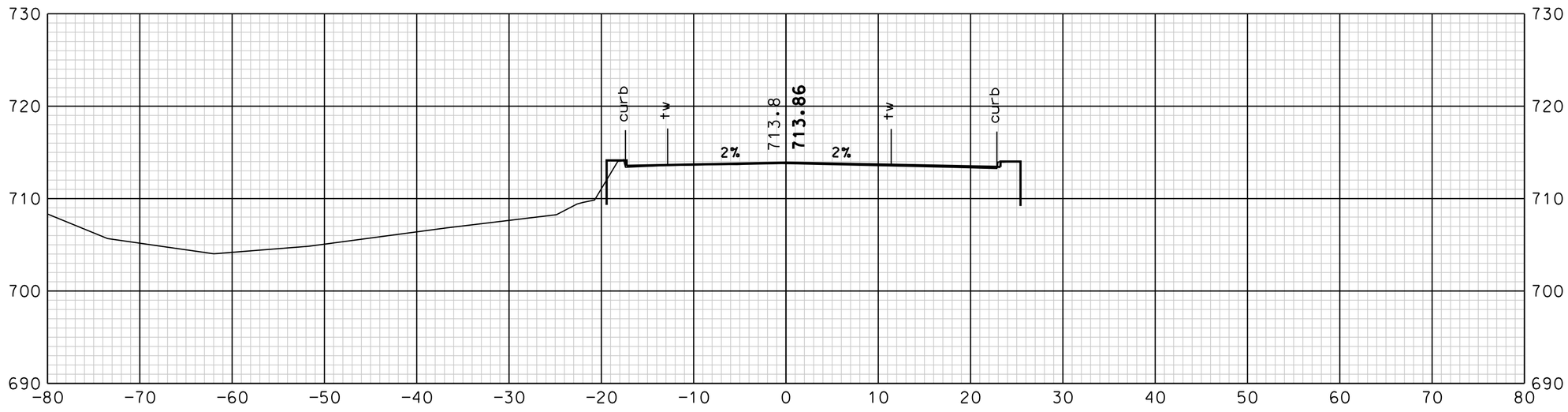
SHEET TOTALS
COMMON EXCAV. X ROCK EXCAV. X
FILL X MUCK EXCAV. X

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926X01	15926	62	64

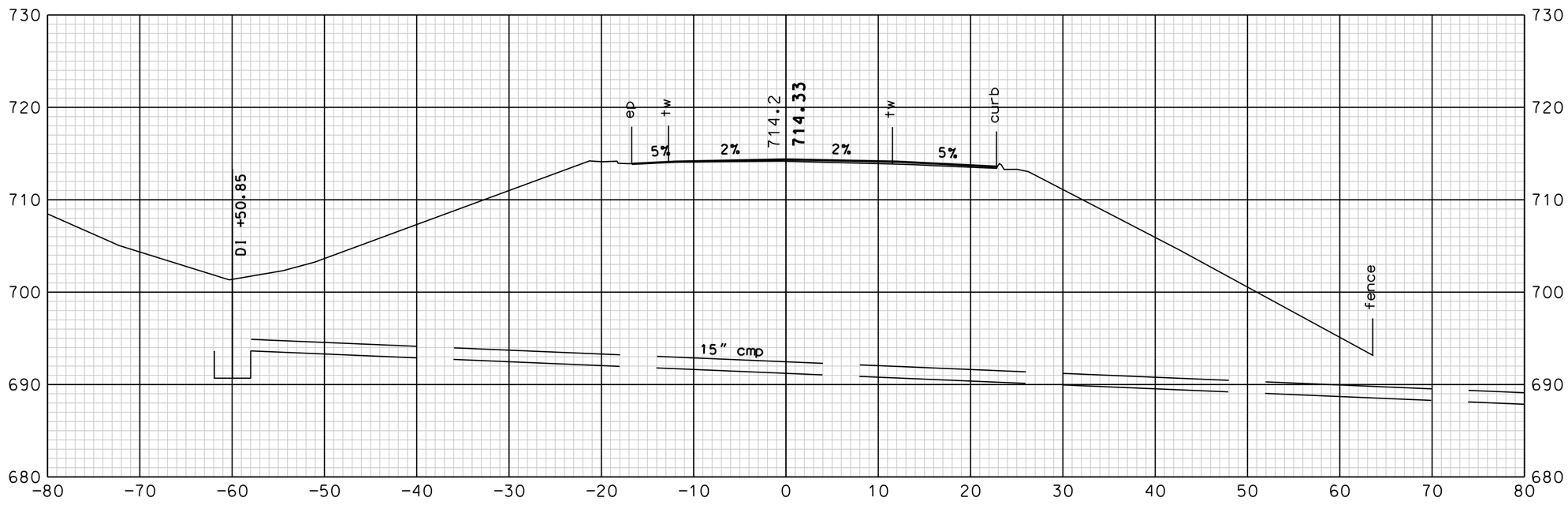
SDR PROCCESSED	NAME1	DATE	DATE1
NEW DESIGN	J. BAILEY	DATE	01-21-11
SHEET CHECKED	A. CIOLFI	DATE	01-21-11
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

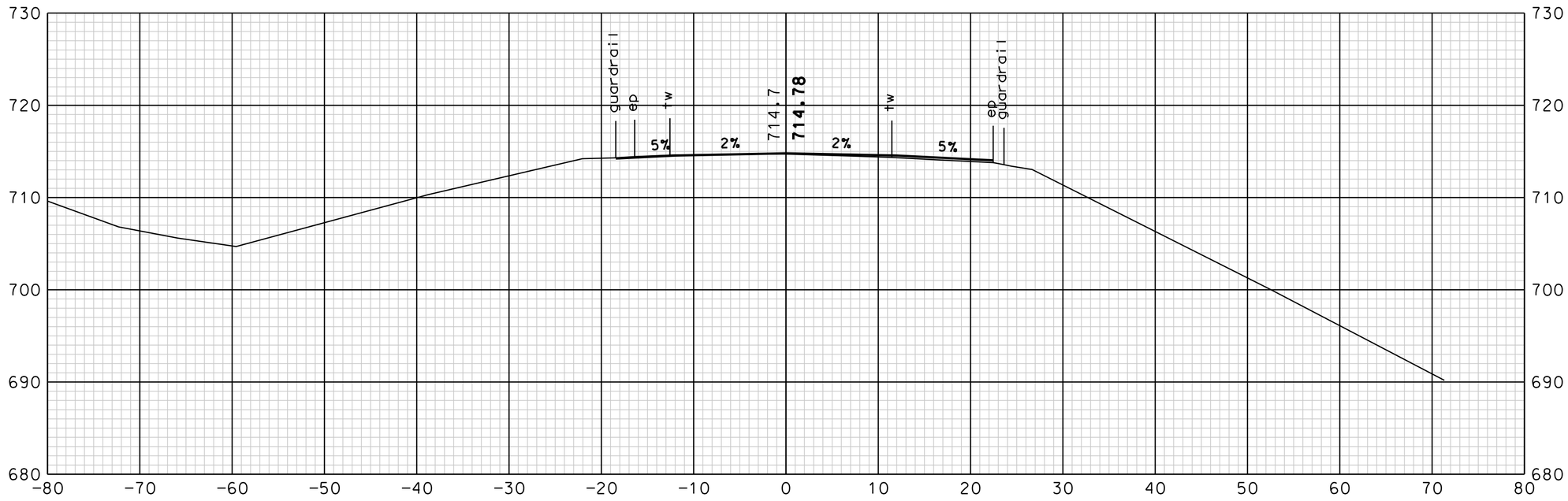
NUMBER	DATE	STATION	STATION	DESCRIPTION



251+00

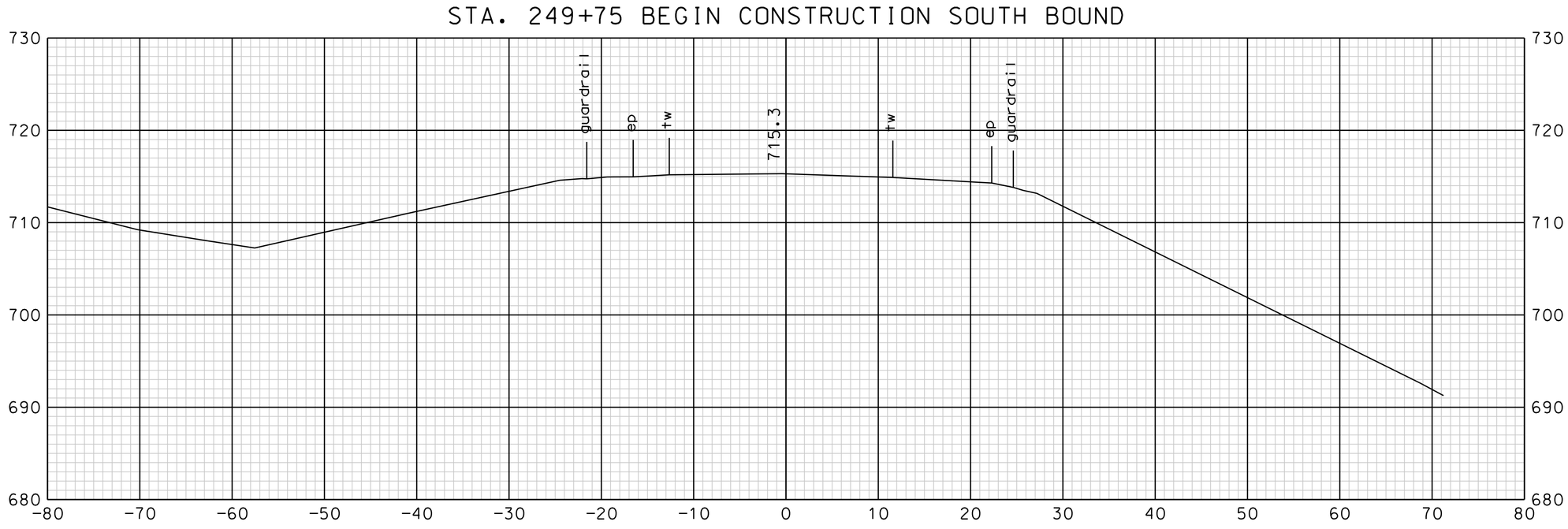


250+50



250+00

STA. 249+75 BEGIN CONSTRUCTION SOUTH BOUND



249+50

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

SHEET TOTALS

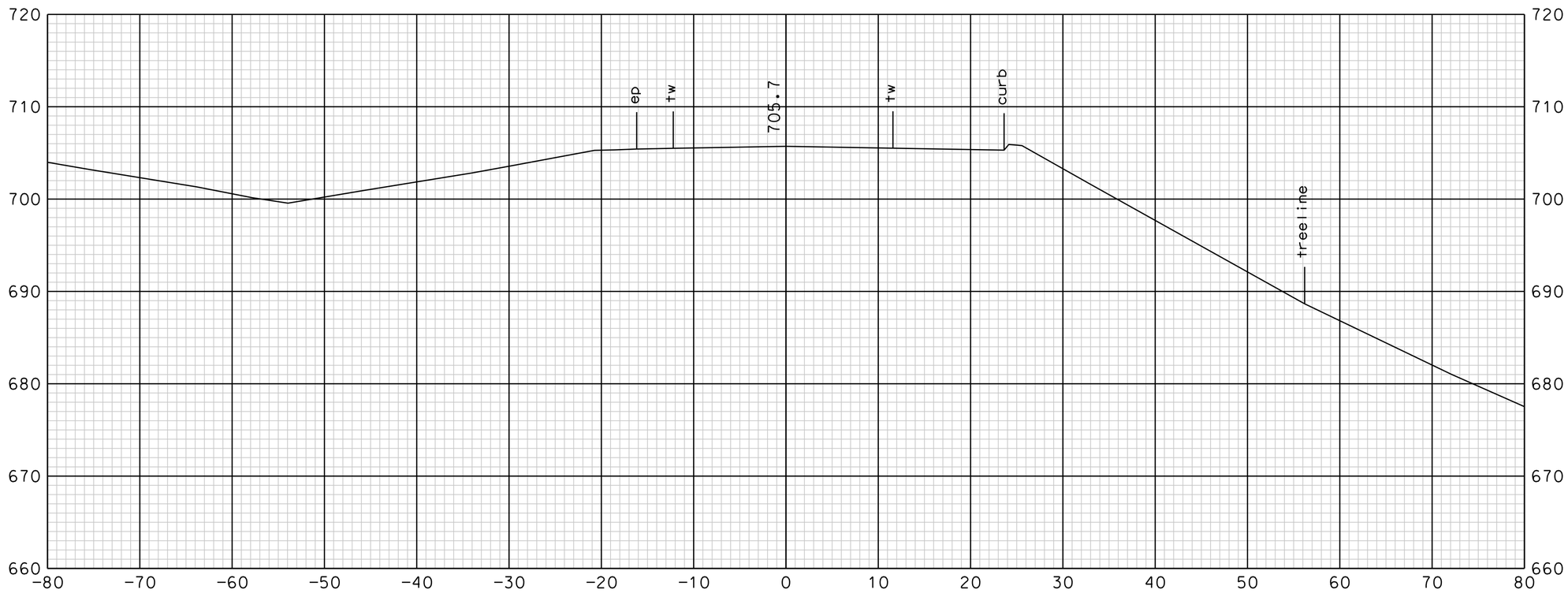
COMMON EXCAV.	X	ROCK EXCAV.	X
FILL	X	MUCK EXCAV.	X

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926X01	15926	63	64

SDR PROCCESSED	NAME1	DATE	DATE1
NEW DESIGN	J. BAILEY	DATE	01-21-11
SHEET CHECKED	A. CIOLFI	DATE	01-21-11
AS BUILT DETAILS		DATE	

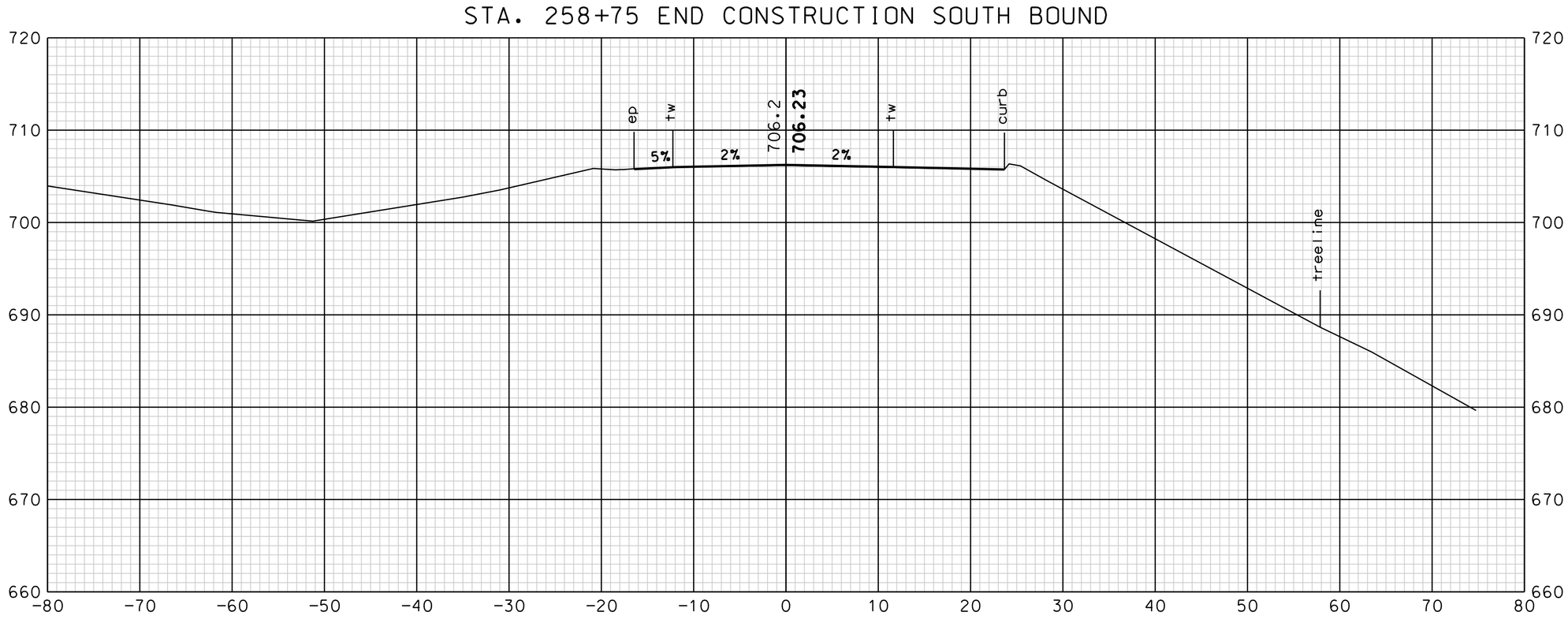
REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

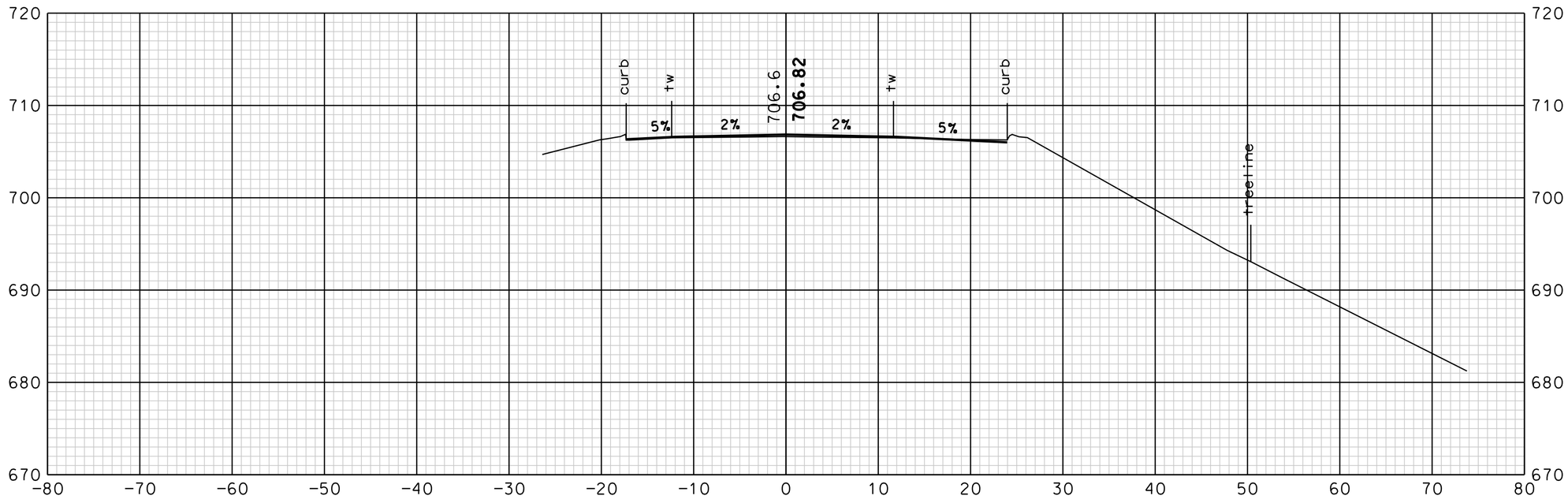


259+00

STA. 258+75 END CONSTRUCTION SOUTH BOUND



258+50



258+00

257+50

PS&E PLANS
SUBJECT TO CHANGE
DATE 1/24/2011

SHEET TOTALS

COMMON EXCAV.	X	ROCK EXCAV.	X
FILL	X	MUCK EXCAV.	X

FILE NUMBER	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
$(BRFILNO)	15926X01	15926	64	64