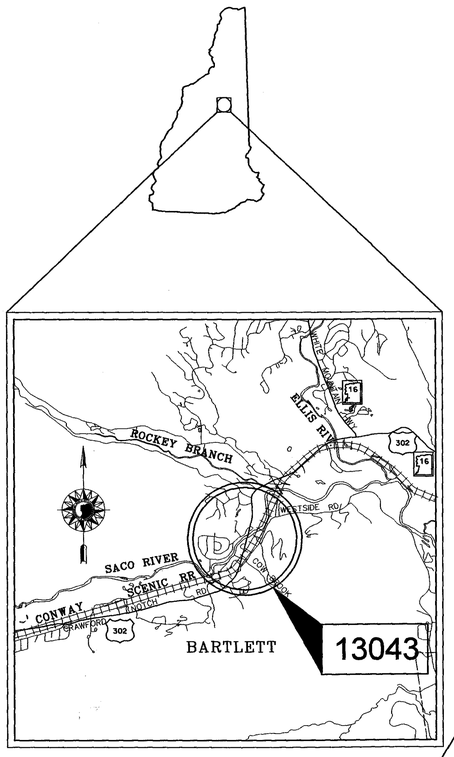
STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLANS
FEDERAL AID PROJECT

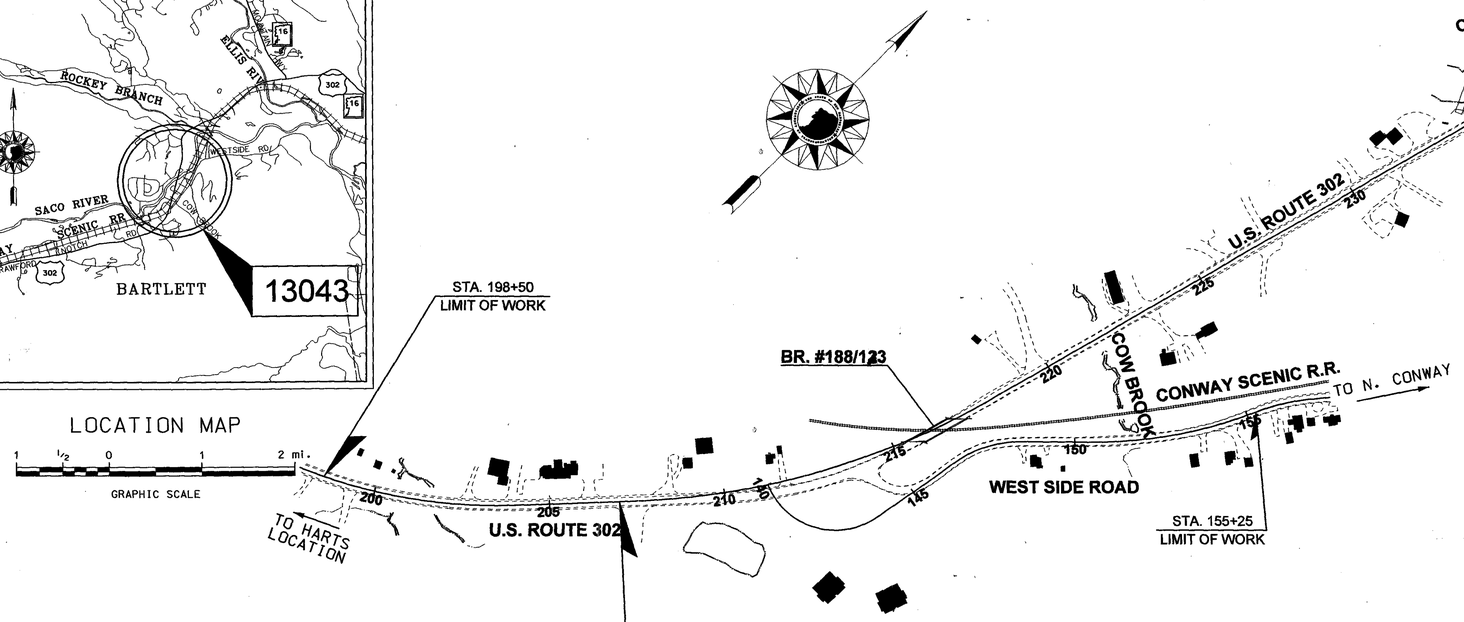
BRF-MGS-X-032-1(023)
N.H. PROJECT NO. 13043
US ROUTE 302

DESIGN DATA U.S. ROUTE 302	
AVERAGE DAILY TRAFFIC 20 05	6,630
AVERAGE DAILY TRAFFIC 20 25	8,090
PERCENT OF TRUCKS	7%
DESIGN SPEED	50
LENGTH OF PROJECT	1.25 miles



LOCATION MAP

GRAPHIC SCALE 1 1/2 0 1 2 mi.



NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

TOWN OF BARTLETT
COUNTY OF CARROLL
SCALE: 1" = 200'

SAMPLE PLAN
DATE: 8-2006

DRAWN BY E MILLIKEN DATE 5/05
CHECKED BY T REYNOLDS DATE 7/06

THE STATE OF NEW HAMPSHIRE CRAIG A. GREEN No. 5059 REGISTERED PROFESSIONAL ENGINEER

NHDOT THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

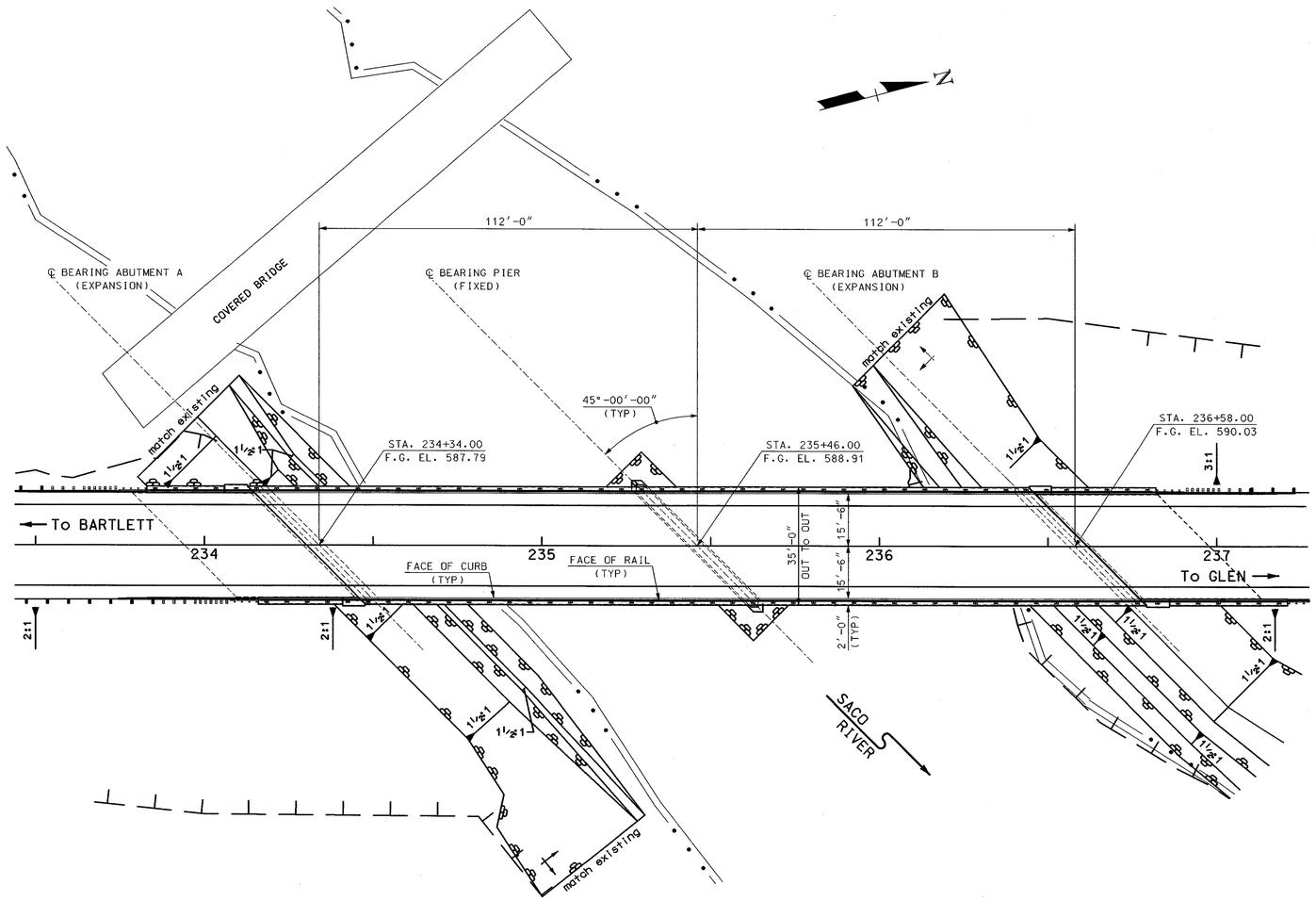
RECOMMENDED FOR APPROVAL:
James A. Moore — DIRECTOR OF PROJECT DEVELOPMENT — August 21, 2006 DATE

APPROVED: — ASSISTANT COMMISSIONER AND CHIEF ENGINEER — 8/21/06 DATE

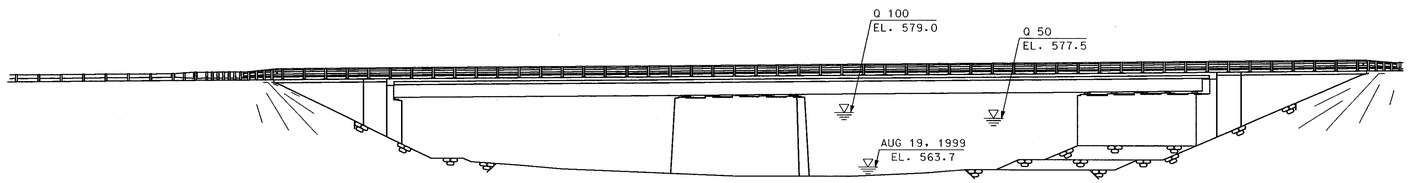
U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: — DIVISION ADMINISTRATOR — DATE

FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
SEE ABOVE	13043	1	191



PLAN



ELEVATION

SUMMARY OF BRIDGE QUANTITIES

	ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
	207.3	UNCLASSIFIED CHANNEL EXCAVATION	1475	CY
*	209.201	GRANULAR BACKFILL (BRIDGE) (F)	2200	CY
	403.911	HOT BITUMINOUS BRIDGE PAVEMENT, 1″ BASE COURSE (F)	46	TON
	500.02	ACCESS FOR BRIDGE CONSTRUCTION	1	U
	501.101	TEMPORARY BRIDGE	1	U
	502.101	REMOVAL OF EXISTING BRIDGE STRUCTURE	1	U
	502.102	REMOVAL OF EXISTING BRIDGE STRUCTURE	1	U
	503.201	COFFERDAMS	1	U
	503.204	COFFERDAMS	1	U
	503.301	COFFERDAMS WITH SHEETING LEFT-IN-PLACE	1	U
*	504.1	COMMON BRIDGE EXCAVATION (F)	3200	CY
*	504.2	ROCK BRIDGE EXCAVATION	50	CY
	520.0302	CONCRETE CLASS AA, APPROACH SLABS (QC/QA) (F)	110	CY
*	520.12	CONCRETE CLASS A, ABOVE FOOTINGS (F)	925	CY
*	520.213	CONCRETE CLASS B, FOOTINGS (ON SOIL) (F)	475	CY
	520.6	CONCRETE CLASS T, FOUNDATION SEAL	270	CY
	520.70026	CONCRETE BRIDGE DECK (QC/QA) (PANEL OPTION) (F)	300	CY
*	534.3	WATER REPELLENT (SILANE-SILOXANE)	50	GAL
	537.	CONCRETE SEALER (F)	5100	SF
*	538.2	BARRIER MEMBRANE, VERTICAL SURFACES (F)	45	SY
	538.6	BARRIER MEMBRANE, WELDED BY TORCH, MACHINE METHOD (F)	830	SY
*	541.4	PVC WATERSTOPS, NH TYPE 4 (F)	110	LF
	541.5	PVC WATERSTOPS, NH TYPE 5 (F)	90	LF
*	544.	REINFORCING STEEL (F)	102.609	LB
*	544.2	REINFORCING STEEL, EPOXY COATED (F)	102.732	LB
	547.	SHEAR CONNECTORS (F)	2230	EA
	548.21	ELASTOMERIC BEARING ASSEMBLIES (F)	10	EA
	550.1	STRUCTURAL STEEL (F)	293.500	LB
	550.2	BRIDGE SHOES (F)	5	EA
	559.4	ELASTOMERIC PLUG TYPE EXPANSION JOINT (F)	88	LF
*	559.5	SILICONE JOINT SEALANT (F)	165	LF
*	563.23	BRIDGE RAIL T3 (F)	600	LF
*	565.23	BRIDGE APPROACH RAIL T3 (F)	116.3	LF
	585.21	STONE FILL, CLASS B (BRIDGE)	1150	CY
	593.411	GEOTEXTILE PERMANENT EROSION CONTROL, CLASS 1, NON-WOVEN	2000	SY
	614.7318	3″ PVC PLASTIC CONDUIT, SCHEDULE 80	612	LF
	1002.1	REPAIRS OR REPLACEMENTS AS NEEDED	**	$
	1010.41	QUALITY CONTROL QUALITY ASSURANCE (QC/QA) FOR CONCRETE	**	$

* NOT AN ITEM TOTAL
** NOT A BID ITEM

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

HYDRAULIC DATA

(1) DRAINAGE AREA: 107.6 SQUARE MILES

(2) DESIGN FLOOD: Q100 = 29,750 CFS

(3) DESIGN VELOCITY: 12.4 FPS

(4) DESIGN FLOOD HEIGHT: 17 FEET OF WATER TO ELEVATION 579.0′

(5) BRIDGE WATERWAY OPENING: 2400 SQ.FT. BELOW Q100 ELEVATION

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco/Br-Site	GENPLAN	1" = 20'

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

GENERAL PLAN & ELEVATION

BRIDGE SHEET: B1 OF B37

REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	JAS	9/05	CHECKED	ABH	6/06
DRAWN	JAS	9/05	CHECKED	ABH	6/06
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	53	191

FILE NUMBER: 104-4-2

DESIGN LOADS, MATERIALS AND SPECIFICATIONS

(1) DESIGN LIVE LOADING: HS25 - 44 AS MODIFIED FOR 125% MILITARY LOADING

(2) DESIGN METHOD: STRENGTH DESIGN METHOD (LFD) FOR SUPERSTRUCTURE & SUBSTRUCTURE

(3) SPECIFICATIONS: AASHTO 2002 WITH INTERIMS
NHDOT 2006 STANDARD SPECIFICATIONS AS AMENDED
WELDING PER AASHTO/AWS D1.5-02 & NHDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION

(4) FOUNDATION DATA: ABUTMENTS - SPREAD FOOTINGS FOUNDED ON GLACIAL TILL (ALLOWABLE BEARING PRESSURE = 3.0 TSF)
PIER - SPREAD FOOTING ON TREMIE (FOUNDATION) SEAL FOUNDED ON GLACIAL TILL (ALLOWABLE BEARING PRESSURE = 3.0 TSF)

(5) REINFORCING STEEL: AASHTO M31 (ASTM A615) GRADE 60
ALL DECK & APPROACH SLAB REINFORCEMENT, AND SPECIFIED ABUTMENT & WINGWALL REINFORCEMENT, SHALL BE EPOXY COATED

(6) STRUCTURAL STEEL: AASHTO M270, GRADE 50W (ASTM A709, GRADE 50W), UNPAINTED

(7) CONCRETE: BRIDGE DECK, BRUSH CURBS, ABUTMENT BACKWALLS, COPINGS FOR PILASTERS & WINGWALLS, AND APPROACH SLABS = 4,000 PSI
ABUTMENTS (BELOW BEARING SEAT CONSTRUCTION JOINT), FOOTINGS, PIERS AND FOUNDATION SEAL = 3,000 PSI
FOOTINGS (ABUTMENTS & WINGWALLS):
ITEM 520.213, CONCRETE CLASS B, FOOTINGS (ON SOIL) (F)
ABUTMENTS & PILASTERS (BELOW BEARING SEAT CONSTRUCTION JOINT), AND WINGWALLS (BELOW BRUSH CURBS):
ITEM 520.12, CONCRETE CLASS A, ABOVE FOOTINGS (F)
ABUTMENTS & PILASTERS (ABOVE BEARING SEAT CONSTRUCTION JOINT, AND WINGWALLS BRUSH CURBS):
ITEM 520.70026, CONCRETE BRIDGE DECK (PANEL OPTION) (QC/QA) (F)
TREMIE SEAL (FOUNDATION SEAL @ PIER):
ITEM 520.6, CONCRETE CLASS T, FOUNDATION SEAL
PIER FOOTING:
ITEM 520.213, CONCRETE CLASS B, FOOTINGS (ON SOIL) (F)
PIER STEM (INCLUDING BRIDGE SEATS)
ITEM 520.12, CONCRETE CLASS A, ABOVE FOOTINGS (F)
DECK SLAB:
ITEM 520.70026, CONCRETE BRIDGE DECK (PANEL OPTION) (QC/QA) (F)
APPROACH SLABS:
ITEM 520.0302, CONCRETE CLASS AA, APPROACH SLABS (QC/QA) (F)

(8) SEISMIC CATEGORY A: A = 0.075

ACCESS FOR BRIDGE CONSTRUCTION

(1) ITEM 500.02, ACCESS FOR BRIDGE CONSTRUCTION, SHALL CONSIST OF THE DESIGN, CONSTRUCTION, MAINTENANCE AND REMOVAL OF THE TEMPORARY ACCESS BY THE CONTRACTOR. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

(2) TEMPORARY FILLS SHALL REMAIN WITHIN WETLAND IMPACT AREAS SHOWN ON THE WETLAND PERMIT AND WITHIN EASEMENTS SHOWN ON THE SITE PLAN. A GEOTEXTILE FABRIC SHALL BE PLACED UNDER ALL TEMPORARY FILLS TO MINIMIZE DISRUPTION OF THE NATIVE SOILS AND VEGETATION. ALL COSTS TO BE SUBSIDIARY TO ITEM 500.02.

(3) SEE THE SITE PLAN FOR APPROXIMATE LIMIT OF TEMPORARY FILLS FOR PIER WORK. TEMPORARY FILLS SHALL BE LIMITED TO ONE SIDE OF THE PIER AT A TIME.

BRIDGE REMOVAL NOTES

(1) THE CONTRACTOR'S METHOD FOR REMOVAL OF THE EXISTING BRIDGE SHALL SUBMITTED FOR DOCUMENTATION IN ACCORDANCE TO 105.02, PRIOR TO THE COMMENCEMENT OF ANY REMOVAL OPERATIONS.

(2) ITEM 502.101, REMOVAL OF EXISTING BRIDGE STRUCTURE, SHALL INCLUDE THE REMOVAL OF THE ENTIRE SUPERSTRUCTURE.

(3) ITEM 502.102, REMOVAL OF EXISTING BRIDGE STRUCTURE, SHALL INCLUDE THE FOLLOWING:
- COMPLETE REMOVAL OF BOTH EXISTING ABUTMENTS AND THE WINGWALLS
- COMPLETE REMOVAL OF THE EXISTING PIER

(4) THE CONTRACTOR IS ADVISED THAT EXISTING AERIAL POWER, CABLE AND TELEPHONE LINES WILL REMAIN IN PLACE UNTIL EACH UTILITY HAS FINISHED THEIR RELOCATION EFFORTS. IT IS LIKELY THAT AERIAL UTILITIES THAT CROSS U.S. ROUTE 302 BEHIND THE EXISTING NORTH ABUTMENT OF THE SACO RIVER BRIDGE WILL REMAIN IN PLACE THROUGHOUT THE DURATION OF BRIDGE REMOVAL AS PART OF ITEMS 502.101 AND 502.102. THESE ITEMS SHALL BE BID ACCORDINGLY. SEE THE UTILITIES SECTION OF THE PROSECUTION OF WORK FOR ADDITIONAL INFORMATION.

(5) PLANS OF THE EXISTING BRIDGE STRUCTURES ARE LOCATED IN FILE L-17.

TEMPORARY BRIDGE NOTES

(1) VEHICULAR TRAFFIC WILL BE MAINTAINED DURING CONSTRUCTION ON A TEMPORARY BRIDGE, ITEM 501.101. SEE ROADWAY PLANS FOR THE HORIZONTAL AND VERTICAL ALIGNMENT OF THE DETOUR.

(2) THE TEMPORARY BRIDGE, INCLUDING RAILING AND SUBSTRUCTURES, SHALL BE DESIGNED AS SPECIFIED IN 501. ADEQUATE CONNECTION AND TRANSITION SHALL BE PROVIDED FOR TEMPORARY GUARDRAIL IN THE DETOUR APPROACHES. SEE ROADWAY PLANS FOR BITUMINOUS PAVEMENT REQUIREMENTS.

(3) THE MINIMUM CLEAR ROADWAY WIDTH OF THE TEMPORARY BRIDGE IS 30 FEET FACE OF RAIL TO FACE OF RAIL.

(4) THE TEMPORARY BRIDGE SHALL BE SIZED TO PROVIDE A WATERWAY AREA BELOW ELEVATION 574.0 OF NOT LESS THAN 1600 SQUARE FEET. PLACEMENT OF ABUTMENTS WITHIN THE DELINEATED ORDINARY HIGH WATER ON THE SITE PLAN IS PROHIBITED. A SINGLE PIER BENT IN ALIGNMENT WITH THE EXISTING PIER IS ALLOWED. DETOUR FILLS NOT INCLUDED IN THE PROPOSED ROADWAY EMBANKMENTS SHALL BE REMOVED OR RECONSTRUCTED AS DETAILED IN THE PLANS. SEE ROADWAY PLANS AND CROSS-SECTIONS.

(5) ALL COSTS ASSOCIATED WITH THE DESIGN, CONSTRUCTION, MAINTENANCE AND REMOVAL OF THE TEMPORARY BRIDGE, TEMPORARY ABUTMENTS AND PIER, AND TEMPORARY BRIDGE AND BRIDGE RAIL TRANSITIONS SHALL BE PAID FOR UNDER ITEM 501.101, TEMPORARY BRIDGE. DETAILED PLANS AND CALCULATIONS SHALL BE SUBMITTED FOR DOCUMENTATION AS REQUIRED IN 501.

(6) APPROACHES TO THE TEMPORARY BRIDGE SHALL BE PAID UNDER ITEM 670.045, CONSTRUCT AND REMOVE DETOURS (ROADWAY ITEM).

COFFERDAM NOTES

(1) ALL ITEMS COVERED UNDER SECTION 503 OF THE SPECIFICATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF N.H. THE CONTRACTOR SHALL SUBMIT STAMPED WORKING DRAWINGS AND CALCULATIONS FOR REVIEW AND DOCUMENTATION IN ACCORDANCE WITH SECTION 105.02.

(2) TEMPORARY SHEETING OR A SUPPORT SYSTEM SHALL BE REQUIRED FOR MAINTENANCE OF VEHICULAR TRAFFIC ON THE DETOUR DURING CONSTRUCTION OF THE PROPOSED BRIDGE. THE LOCATIONS AND LIMITS FOR TEMPORARY SUPPORTS DETAILED ON THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED AS REQUIRED TO ACCOMODATE THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION. ALL COSTS FOR THIS SUPPORT SYSTEM SHALL BE INCLUDED IN ITEM 503.201, COFFERDAMS.

(3) COFFERDAM SHEETING SHALL BE REQUIRED DURING CONSTRUCTION OF THE PROPOSED PIER. ALL COSTS SHALL BE INCLUDED IN ITEM 503.301, COFFERDAMS WITH SHEETING LEFT-IN-PLACE. THE COFFERDAM SHALL BE INSTALLED TO ELEVATION 547.0 AND SHALL BE CUT-OFF AT THE STREAMBED AFTER IT IS NO LONGER REQUIRED FOR WATER CONTROL.

(4) COFFERDAMS MAY BE REQUIRED AT EACH PROPOSED ABUTMENT LOCATION TO CONTROL RIVER INFLOW AND ADEQUATELY DEWATER THE FOOTING EXCAVATION. STEEL SHEETING MAY BE NECESSARY DEPENDING ON THE AVERAGE RIVER LEVEL CONDITIONS DURING CONSTRUCTION AND THE CONTRACTOR'S METHOD OF DEWATERING. ALL COSTS FOR MATERIALS, INSTALLATION, MAINTENANCE AND REMOVAL SHALL BE INCLUDED IN TIEM 503.204, COFFERDAMS. ALL WORK REQUIRED TO MAINTAIN A DEWATERED CONDITION SHALL ALSO BE INCLUDED IN ITEM 503.204.

GENERAL NOTES

(1) THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF THE EXISTING STRUCTURES AND SHALL BE PREPARED TO MAKE ANY ADJUSTMENTS REQUIRED TO PROPERLY COMPLETE THE CONSTRUCTION OF PROPOSED STRUCTURES.

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

(3) NO SCAFFOLDS SHALL BE ERECTED OR OPERATIONS CONDUCTED IN THE WATERWAY, UNLESS APPROVED BY THE CONTRACT ADMINISTRATOR.

(4) ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED $\frac{3}{4}$", UNLESS OTHERWISE NOTED.

(5) THE CONCRETE BEARING PEDESTALS AT THE PIER AND ABUTMENTS SHALL BE POURED TO WITHIN $\frac{1}{4}$"± OF THE PLAN ELEVATIONS.

(6) WEEPERS SHALL BE PLACED SYMMETRICALLY 10'-0" APART AND CENTERED AT 12" ABOVE THE TOP OF FOOTINGS. WEEPERS SHALL BE 4" Ø AND SLOPED TO DRAIN WITH A 10:1 SLOPE. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 520.12.

(7) ITEM 585.21, STONE FILL, CLASS B (BRIDGE), SHALL BE 2'-0" THICK, UNLESS OTHERWISE NOTED.

(8) FOR SURVEY LAYOUT SEE BRIDGE SHEET B4.

ABUTMENT AND WINGWALL NOTES

(1) THE CONTRACTOR IS REQUIRED TO POUR ALL SUBSTRUCTURE CONCRETE IN THE DRY.

(2) CONTROL OF WATER WITHIN ABUTMENT AND WINGWALL EXCAVATION SHALL BE CONDUCTED IN ACCORDANCE WITH 503 AND PAID UNDER ITEM 503.204. PUMPING AREAS SHALL BE LOCATED OUTSIDE THE FOOTING SUPPORT LIMITS AND PROPERLY FILTERED TO PREVENT THE PUMPING OF FINES.

(3) DEWATERING AT THE ABUTMENTS SHALL BE CONTINOUS UNTIL MASONRY IS BACKFILLED TO THE ELEVATION OF THE SURROUNDING WATER TABLE, UNLESS OTHERWISE DIRECTED.

(4) ANY FOUNDATION MATERIALS WEAKENED AS A RESULT OF INSUFFICIENT CARE TAKEN IN MAINTAINING A DEWATERED CONDITION SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL AT THE EXPENSE OF THE CONTRACTOR.

(5) ALL MISCELLANEOUS FILL THAT IS ENCOUNTERED BELOW THE PROPOSED ABUTMENT FOOTINGS SHALL BE REMOVED DOWN TO THE GLACIAL TILL SURFACE AND REPLACED WITH STRUCTURAL FILL. LATERAL LIMITS FOR REMOVAL OF ANY UNSUITABLE MATERIAL AND PLACEMENT OF STRUCTURAL FILL FOR THE FOOTINGS SHALL BE A 1H:2V SLOPE EXTENDING FROM A POINT ON TOP OF GLACIAL TILL 2' OUTSIDE THE PROPOSED EDGE OF FOOTINGS.

(6) CLEAN STONE FILL, MEETING THE REQUIREMENTS OF SECTION 508.2.1.3, MAY BE SUBSTITUTED FOR STRUCTURAL FILL IF THE MAXIMUM DEPTH IS LESS THAN 12" AND DIRECTED BY THE ENGINEER.

(7) PROTRUDING BOULDERS OR COBBLES ENCOUNTERED AT THE FINAL EXCAVATION DEPTH SHALL BE REMOVED OR SPLIT TO PROVIDE A LEVEL BEARING SURFACE.

(8) ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE) (F), SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES OF PILASTERS AND WINGWALLS TO 1'-0" BELOW FILL LINES.

(9) ITEM 537, CONCRETE SEALER (F), SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES OF BOTH ABUTMENTS TO 1'-0" BELOW FILL LINES (EXCEPT THOSE SURFACES OF PILASTERS COATED WITH ITEM 534.3).

(10) ITEM 538.2, BARRIER MEMBRANE, VERTICAL SURFACES (F), SHALL BE PLACED OVER THE BEARING SEAT CONSTRUCTION JOINT, 1'-0" ABOVE AND BELOW THE JOINT.

PIER NOTES

(1) THE CONTRACTOR IS REQUIRED TO POUR ALL PIER CONCRETE, EXCEPT FOR THE FOUNDATION SEAL (PIER SUBFOOTING), IN THE DRY.

(2) WATER LEVELS WITHIN THE COFFERDAM AT THE PIER SHALL BE MAINTAINED AT THE SAME LEVEL AS THE RIVER UNTIL THE FOUNDATION SEAL (ITEM 520.6) IS IN PLACE AND CURED.

(3) FOUNDATION FOR THE PIER SHALL CONSIST OF A SPREAD FOOTING ON A CONCRETE TREMIE SEAL. THE TREMIE SEAL, ITEM 520.6, SHALL BE POURED TO ELEVATION 557.00 AND SHALL BE 7.25 FEET THICK (MINIMUM). TOP SURFACE OF THE TREMIE SEAL WHICH WILL BE IN CONTACT WITH THE PIER FOOTING SHALL HAVE A ROUGHENED SURFACE.

(4) THE DESIGN MAXIMUM VENT ELEVATION FOR THE TRMIE SEAL COFFERDAM IS 565.00. VENT ELEVATIONS HIGHER THAN ELEVATION 565.00 WILL REQUIRE A DEEPER SEAL POUR. THE FACTOR OF SAFETY FOR THE SEAL SHALL BE 1.10. THE USE OF A HIGHER VENT ELEVATION SHALL BE SUBMITTED TO THE BUREAU OF BRIDGE DESIGN FOR APPROVAL IN ACCORDANCE WITH 105.2.

(5) COAT ALL SURFACES OF THE PIER ABOVE THE FOOTING, INCLUDING THE BEARING SEAT AND PEDESTALS, WITH ITEM 537, CONCRETE SEALER (F).

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 $2\frac{1}{2}$" MINIMUM CLEAR COVER, UNLESS OTHERWISE NOTED.

(2) PLACE REINFORCING STEEL TO AVOID 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.

SUPERSTRUCTURE NOTES

(1) ALL STRUCTURAL STEEL SHALL BE PAID UNDER ITEM 550.1, STRUCTURAL STEEL (F), INCLUDING THE GIRDERS, CROSS FRAMES, GUSSET PLATES, FILL PLATES, CONNECTION PLATES, SPLICE PLATES, STIFFENERS, AND FASTENERS.

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

(3) NOTCH TOUGHNESS REQUIREMENTS OF NHDOT STANDARD SPECIFICATIONS SHALL APPLY TO THE WEB & FLANGES OF GIRDERS AND SPLICE PLATES.

(4) ALL BOLTED CONNECTIONS SHALL BE SLIP-CRITICAL (CLASS-B) MADE WITH $\frac{7}{8}$" Ø HIGH STRENGTH BOLTS IN $\frac{15}{16}$" Ø HOLES. ALL FASTENERS SHALL CONFORM TO REQUIREMENTS FOR AASHTO M164 (ASTM A325) TYPE 3.

(5) DIRECT TENSION INDICATOR WASHERS SHALL BE INSTALLED WITH HIGH STRENGTH BOLTS.

(6) GIRDERS SHALL BE CAMBERED FOR FULL DEAD LOAD DEFLECTION. THE CAMBER SHALL BE ACHIEVED BY CUTTING THE WEB PLATE ACCORDING TO DIMENSIONS SHOWN ON BRIDGE SHEET B28. CAMBER TOLERANCE IS + $\frac{3}{4}$", -0.

(7) BEARING STIFFENERS AND ENDS OF THE GIRDERS SHALL BE VERTICAL UNDER FULL DEAD LOAD DEFLECTION.

(8) ALL WELDS SHALL HAVE CORROSION RESISTANCE AND WEATHERING APPEARANCE AS SPECIFIED FOR WEATHERING STRUCTURAL STEEL.

(9) THE STRUCTURAL STEEL FABRICATOR SHALL ARRANGE FOR NON-DESTRUCTIVE TESTING OF THE WELDS. ALL COSTS TO BE INCLUDED IN ITEM 550.1.

(10) SHOP DRAWINGS SHALL INDICATE THE METHOD AND SEQUENCE TO BE FOLLOWED IN WELDING THE GIRDER COMPONENTS.

(11) CROSS FRAMES SHALL BE FABRICATED IN THE SHOP WITH $\frac{1}{4}$" FILLET WELDS, UNLESS NOTED OTHERWISE. GRAVITY AXES OF THE MEMBERS SHALL INTERSECT AS NEARLY AS PRACTICABLE AT THE CENTERLINE OF THE GIRDER.

(12) LOCATION OF WELDED SHOP SPLICES SHALL BE APPROVED BY THE BUREAU OF BRIDGE DESIGN. WEB SPLICES SHALL BE LOCATED A MINIMUM OF 9" FROM WELDED FLANGE SPLICES. WEB AND FLANGE SPLICES SHALL BE LOCATED A MINIMUM OF 6" FROM TRANSVERSE STIFFENERS OR CONNECTION PLATES.

(13) HOLES FOR FIELD SPLICES SHALL BE DRILLED IN THE SHOP WHILE GIRDERS ARE ASSEMBLED TO FINAL BEARING ELEVATIONS.

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

(15) THE CONTRACTOR SHALL SUBMIT A HANDLING AND ERECTION PLAN, IN ACCORDANCE WITH SECTIONS 550.3.14 AND 550.3.15, TO THE ENGINEER PRIOR TO HANDLING THE STRUCTURAL STEEL. THE ERECTION PLAN SHALL INDICATE THE LOCATION AND NUMBER OF LIFTING POINTS.

(16) STEEL ERECTION SHALL NOT BE PERMITTED UNTIL THE ABUTMENTS HAVE BEEN BACKFILLED TO THE LEVEL OF THE BRIDGE SEATS.

(17) 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.

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

(19) 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 CONCRETE SHALL REMAIN PLASTIC THROUGHOUT THE ENTIRE POURING SEQUENCE.

MISCELLANEOUS NOTES

(1) A NEW WATER LINE SHALL BE INSTALLED ACROSS THE SACO RIVER, AT THE APPROXIMATE LOCATION SHOWN ON THE SITE PLAN, DOWNSTREAM OF THE BRIDGE. SEE ROADWAY PLANS FOR DETAILS.

(2) TWO 3" DIAMETER CONDUITS SHALL BE INSTALLED IN THE BRUSH CURB OF DOWNSTREAM SIDE OF THE BRIDGE. CONDUITS SHALL BE PLACED FOR THE FULL LENGTH OF PROPOSED DECK, PILASTERS AND WINGWALLS AS SHOWN IN THE PLANS (SEE BRIDGE RAIL & APPROACH RAIL SHEETS FOR DETAILS). ALL COSTS TO BE PAID UNDER PLASTIC CONDUIT, SCHEDULE 80.

(3) FOR BEARING ASSEMBLY NOTES SEE BRIDGE SHEET 25B.

(4) FOR BRIDGE SHOE NOTES SEE BRIDGE SHEET 26B.

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Br-Site	BR-NOTES	-----

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

TOWN BARTLETT — BRIDGE NO. 190/130 — STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

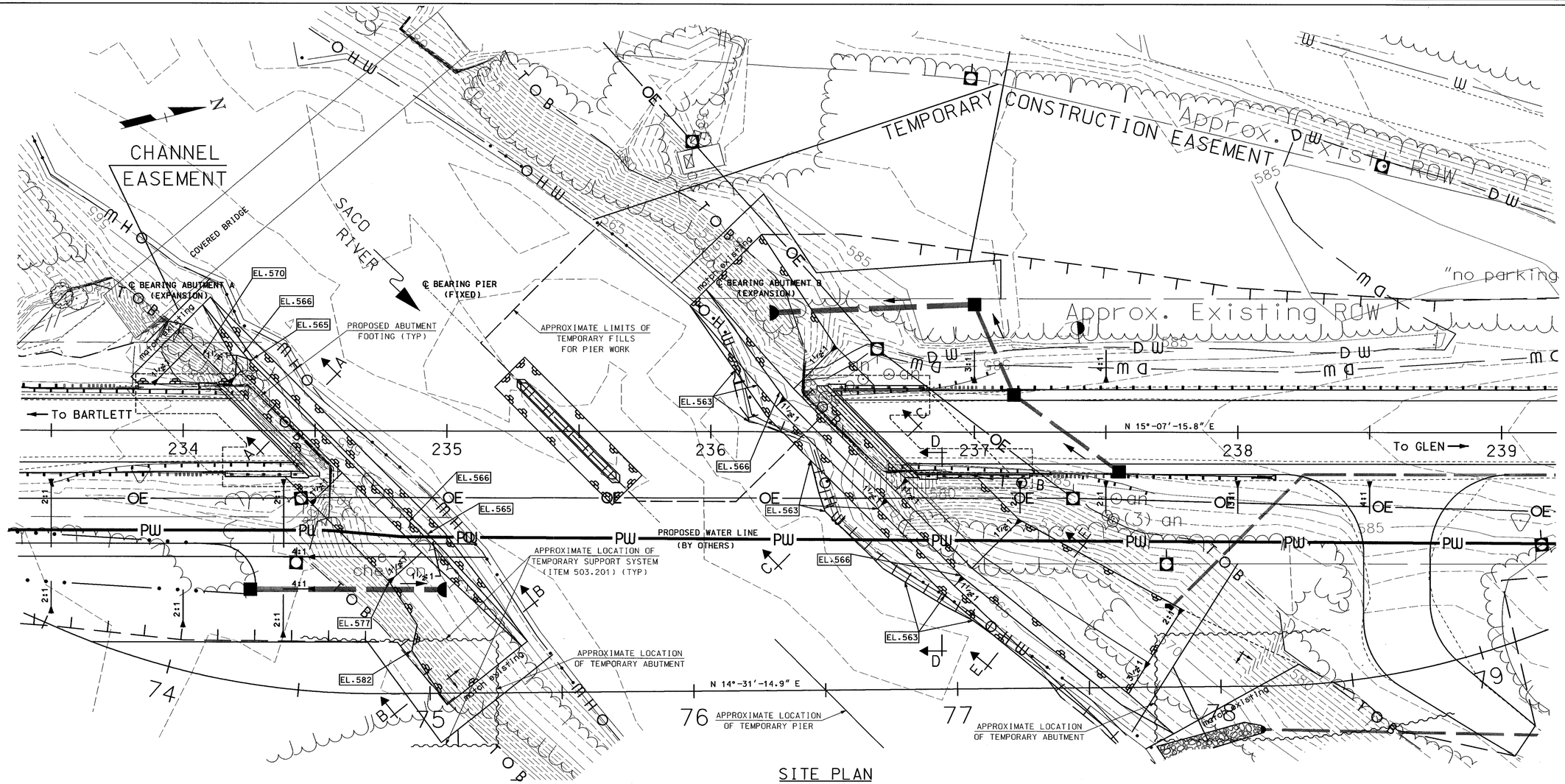
PROJECT NOTES

BRIDGE SHEET: B2 OF B37

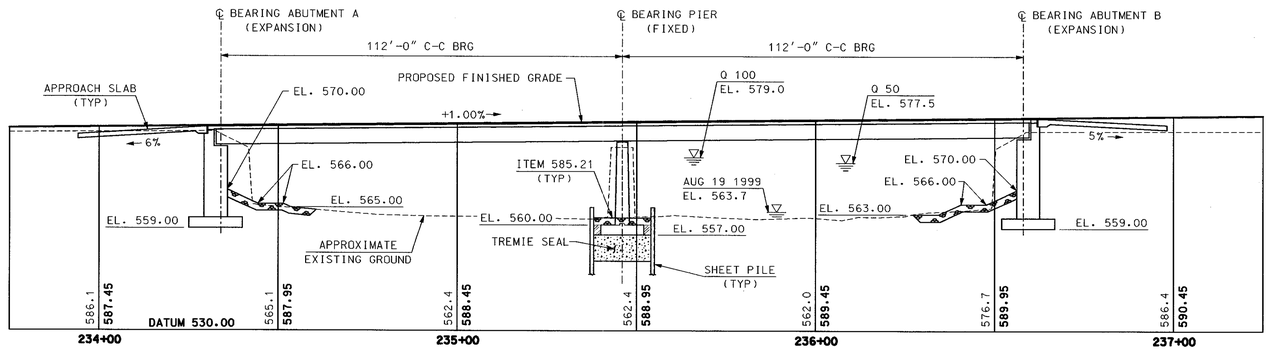
FILE NUMBER: 104-4-2

TOTAL SHEETS: 191

REVISIONS AFTER PROPOSAL			BY	DATE		BY	DATE
		DESIGNED	JAS	09/05	CHECKED	ABH	6/06
		DRAWN	JAS	09/05	CHECKED	ABH	6/06
		QUANTITIES	---	---	CHECKED	---	---
		ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
		REV. DATE		----------		54	



SITE PLAN



PROFILE

NOTE:
FOR SITE PLAN SECTIONS SEE BRIDGE SHEET B4.

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco/Br-Site	SITEPLAN	1" = 20'

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

SITE PLAN AND PROFILE

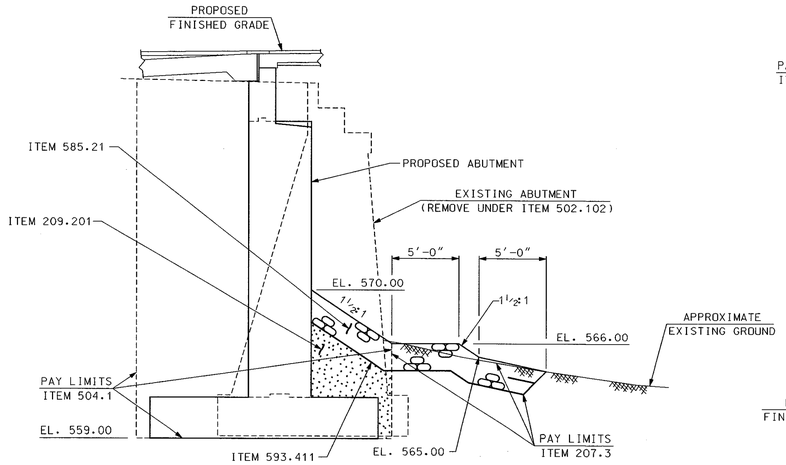
BRIDGE SHEET: B3 OF B37

REVISIONS AFTER PROPOSAL	BY	DATE

DESIGNED	JAS	9/05	CHECKED	ABH	7/06
DRAWN	JAS	9/05	CHECKED	ABH	7/06
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06

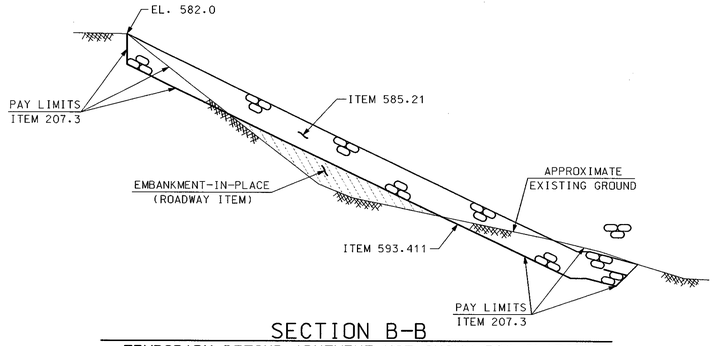
ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	55	191

FILE NUMBER: 104-4-2



SECTION A-A

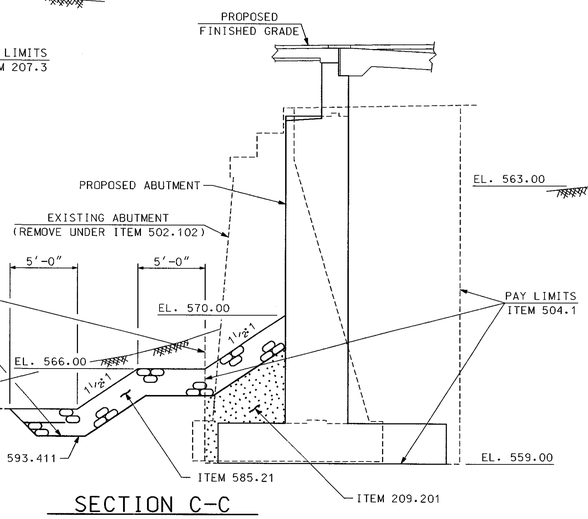
3/16" = 1' 0"



SECTION B-B

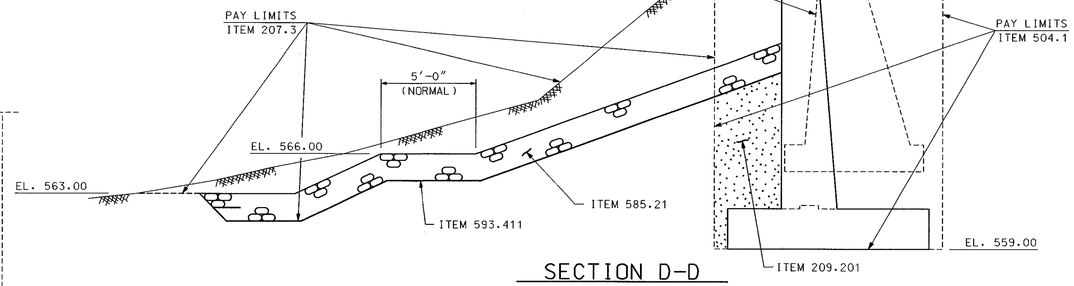
TEMPORARY DETOUR ABUTMENT NOT SHOWN FOR CLARITY

3/16" = 1' 0"



SECTION C-C

3/16" = 1' 0"

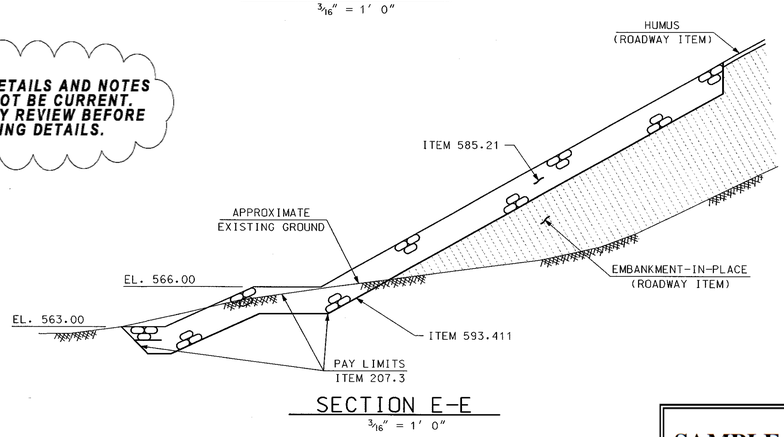


SECTION D-D

3/16" = 1' 0"

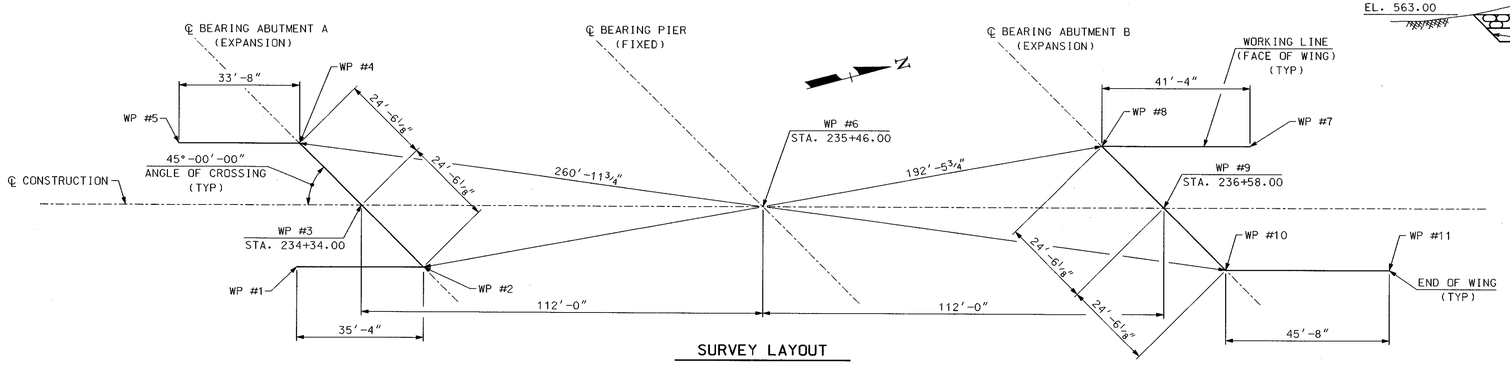
WORKING POINT COORDINATES		
WORKING POINT	NORTH	EAST
#1	581649.403	1106031.512
#2	581683.513	1106040.729
#3	581671.302	1106019.475
#4	581659.090	1105998.220
#5	581626.589	1105989.437
#6	581779.424	1106048.691
#7	581915.237	1106067.435
#8	581875.335	1106056.652
#9	581887.546	1106077.907
#10	581899.758	1106099.162
#11	581943.843	1106111.075

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



SECTION E-E

3/16" = 1' 0"



SURVEY LAYOUT

SCALE 1" = 20'

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco/BrSite	CHANLSECTS	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

CHANNEL SECTIONS & SURVEY LAYOUT

BRIDGE SHEET: B4 OF B37

FILE NUMBER: 104-4-2

TOTAL SHEETS: 191

REVISIONS AFTER PROPOSAL							
		BY	DATE			BY	DATE
	DESIGNED	JAS	9/05	CHECKED	ABH	7/06
	DRAWN	PJP	5/06	CHECKED	ABH	7/06
	QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
	ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.	
	REV. DATE			----------		56	

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B201
SHEET NO. 1 OF 3
STA. 74+58 OFF. LT. 36
BASELINE Detour Road CL
ELEVATION (ft) 582.7
START/END 5/25/05 / 5/2/05
DRILLER A. Volk (NHDOT)
INSPECTOR John Soper
CLASSIFIER JKS
NORTHEAST (ft) 581674/1100086

GROUNDWATER					EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	MW	NX
5/27/05	9:00 am	18.8	563.9	65	65	SIZE I.D. (in)	1.375	3	1.875
6/2/05	7:00 am	18.4	568.3	65	85.4	HAMMER WT. (lb)	140	DRILL RIG	
						HAMMER FALL (in)	30	CME 45-C Track rig	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			WOH			0.0		
			WOH	S1	1.8 [90]		Very loose, dark yellowish brown, FINE SAND, little to trace silt	
			1				-GLACIAL OUTWASH-	
580.00			1			2.0		
			23			5.0		
			30	S2	0.8 [40]		Very dense, grayish brown, FINE to COARSE SAND and FINE GRAVEL, trace silt	
			21					
			27			7.0		
			6			10.0		
			6	S3	0.6 [30]		Medium dense, grayish brown, FINE to MEDIUM SAND, trace coarse sand, trace silt	
			6			12.0		
			12			15.0		
			14	S4	1.0 [50]		Medium dense, grayish brown, FINE to COARSE SAND, some fine gravel, trace silt	
			10					
			13			17.0		
AUG 1999 563.70			12			20.0		
			16	S5	0.4 [20]		Dense, grayish brown, FINE GRAVEL, some fine to coarse sand, trace silt	
			16					
			17			22.0		
			12			25.0		
			12	S6	0.3 [15]		Medium dense, similar to S5	
			9					
			6			27.0		

Sample	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
31 - 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 - 4	Very Loose
5 - 10	Loose
11 - 24	Medium Dense
25 - 50	Dense
> 50	Very Dense

WOR - Weight of Rod
WOH - Weight of Hammer

Soil Descriptions Capitalized Soil Name	Proportion Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TRA-4 S:\DOT\WORK\JEST\MAST\JEST1043\MAST0_B3.OVR\ BACO.RIVER.INC. MB-1\DRAWORKS\ LOGS FOR BRIDGE OVER THE BACO.GPJ 7/20/2006 8:48:04 AM TRA-4

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B201
SHEET NO. 2 OF 3
STA. 74+58 OFF. LT. 36
BASELINE Detour Road CL
ELEVATION (ft) 582.7

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30			14			30.0		
			19	S7	1.0 [50]		Dense, grayish brown, FINE to COARSE SAND, some fine gravel, trace silt	
			24				-GLACIAL OUTWASH-	
			18			32.0		
35			18			35.0		
			37	S8	0.5 [25]		Very dense, similar to S7	
			24					
			11			37.0		
40			38			40.0		
			33	S9	0.5 [25]		Very dense, grayish brown, FINE to COARSE SAND, trace fine gravel, trace silt	
			22					
			29			42.0		
45			24			45.0		
			66	S10	0.5 [25]		Very dense, grayish brown, FINE to COARSE SAND, some fine gravel, some to little silt	
			74					
			32			47.0		
50			91			50.0		
			75	S11	0.7 [58]		Weathered boulder	
			113/0.2			51.2		
55			90	S12	0.5 [83]	55.0	Very dense, grayish brown, FINE to MEDIUM SAND, some silt, little coarse sand, little fine and coarse gravel, with cobbles	
			256/0.1			55.6		
60			31			60.0		
			74	S13	1.0 [83]		Very dense, FINE SAND, some silt, trace medium to coarse sand, trace fine gravel, trace coarse gravel, with occasional cobble	
			100/0.2			61.2	-GLACIAL TILL-	
65	58.5	524.2					Advanced 3" casing to 65.0 feet then open hole.	
			34			66.0	Very dense, similar to S13	

TRA-4 S:\DOT\WORK\JEST\MAST\JEST1043\MAST0_B3.OVR\ BACO.RIVER.INC. MB-1\DRAWORKS\ LOGS FOR BRIDGE OVER THE BACO.GPJ 7/20/2006 8:48:04 AM TRA-4

TEST BORING REPORT

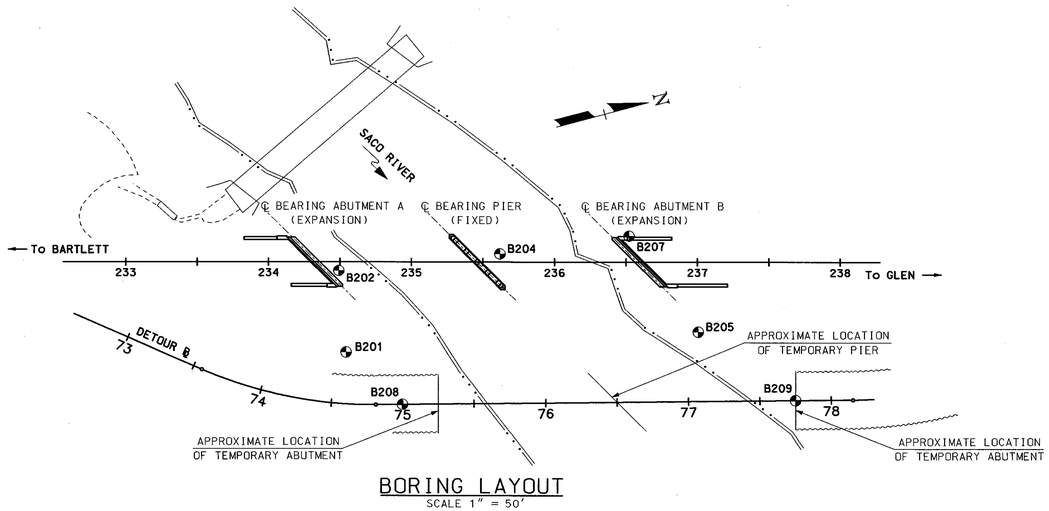
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B201
SHEET NO. 3 OF 3
STA. 74+58 OFF. LT. 36
BASELINE Detour Road CL
ELEVATION (ft) 582.7

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
			90			68.3		
			125/0.3	S14	1.1 [85]		-GLACIAL TILL-	
70			25			70.0		
			53	S15	2.0 [100]		Very dense, dark olive gray, SILT and FINE SAND, trace medium to coarse sand, trace fine and coarse gravel, trace clay	
			75					
			77			72.0		
75			18			75.0		
			29	S16	2.0 [100]		Very dense, dark olive gray, SILT and FINE SAND, trace medium to coarse sand, trace clay	
			36					
			82			77.0		
80			12			80.0		
			24	S17	2.0 [100]		Very dense, dark olive gray, SILT and FINE SAND, trace medium to coarse sand, trace fine gravel, trace clay	
			34					
			54			82.0		
85	85.4	497.3	176/0.4	S18	0.0 [0]	86.2	No recovery	
						85.4	-APPROXIMATE BEDROCK SURFACE-	
90				C1	4.8 [100]		Hard, extremely fractured to sound, slightly to very slightly weathered, coarse grained, red, GRANITE and fine grained, reddish brown, RHYOLITE. Contact between granite and rhyolite at 89.3 feet. Vertical fracture at 89.8 to 90.2 feet, iron stained, smooth. Several shallow and horizontal fractures throughout run. RQD: 1.3 / 4.8 = 27%	
						90.2		
95				C2	4.8 [100]		Hard, extremely to slightly fractured, very slightly weathered, fine grained, reddish brown, RHYOLITE. Moderately dipping fractures at 90.5, 91.1, 92.6 and 93.2 feet. Steep fracture at 94.2 feet, smooth, iron stained. All other fractures are shallow angle and horizontal. RQD: 3.2 / 4.8 = 67%	
						95.0		
100							Bottom of Exploration @ 95.0 ft (El. 487.7)	

TRA-4 S:\DOT\WORK\JEST\MAST\JEST1043\MAST0_B3.OVR\ BACO.RIVER.INC. MB-1\DRAWORKS\ LOGS FOR BRIDGE OVER THE BACO.GPJ 7/20/2006 8:48:04 AM TRA-4



BORING LAYOUT

SCALE 1" = 50'

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

BORING NOTES

(1) BORINGS INDICATED THUS ✪ WERE MADE BY THE NH DOT IN MAY AND JUNE OF 2005. FIGURES IN THE "BLOWS PER" COLUMN INDICATE THE NUMBER OF BLOWS REQUIRED TO DRIVE A 2" STANDARD SPLIT SPOON SAMPLER 6". USING A 140 LB. WEIGHT FALLING 30 INCHES.

(2) BORINGS ARE FOR DESIGN PURPOSES SHOWING CONDITIONS AT BORING POINTS ONLY. AND DO NOT NECESSARILY INDICATE MATERIAL TO BE ENCOUNTERED DURING CONSTRUCTION.

(3) THE SOILS REPORT IS AVAILABLE IN THE NHDOT BUREAU OF MATERIALS AND RESEARCH OFFICE. SEE PROSECUTION OF WORK FOR A MORE INFORMATION.

(4) ROCK CORES WERE MADE USING AN NX 1 7/8" I.D. CORE BARREL.

(5) THE WATER LEVELS INDICATED WERE MEASURED AT TIME OF EXPLORATION. WATER LEVELS ENCOUNTERED DURING CONSTRUCTION MAY VARY CONSIDERABLY DUE TO PREVAILING CLIMATE. RAINFALL OR OTHER FACTORS.

SAMPLE PLAN
DATE: 8-2006

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043
LOCATION U.S. ROUTE 302 over SACO RIVER

BORINGS (SHEET 1 OF 7)

BRIDGE SHEET B5 OF B37

REVISIONS AFTER PROPOSAL	BY	DATE

DESIGNED	JAS	09/05	CHECKED	ABH	6/06
DRAWN	JAS	09/05	CHECKED	ABH	6/06
QUANTITIES	---	---	CHECKED	---	---
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
REV. DATE		----------		57	191

FILE NUMBER 104-4-2

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Br-Site	BORINGS	AS NOTED

...\brd-saco\Br-Site\BORINGS.dgn 8/24/2006 8:10:58 PM n18pjp

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B202
SHEET NO. 1 OF 3
STA. 234+49 OFF. RT 06
BASELINE US Route 302 Cl.
ELEVATION (ft) 586.6
START/END 5/9/05 / 5/17/05
DRILLER C. Cleveland (NHDOT)
INSPECTOR John Soper
CLASSIFIER JKS
NORTH/EAST (ft) 581684/1106029

GROUNDWATER					EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	ISO	NW	HK
5/10/05	7:00 am	21.0	565.0	45	45.0	SIZE I.D. (in):	1.375/1.25	3	1.815
5/16/05	9:00 am	20.8	565.2	60	60	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	CME 45 Truck	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0								
	0.5	586.1					Asphalt	
	1.0	585.6					Concrete with rebar	
							-APPROXIMATE BOTTOM OF BRIDGE DECK-	
5								
10								
15								
20	20.5	566.1	2			20.5		
			3	S1	0.9 [45]		-APPROXIMATE RIVER BED SURFACE-	
			7				Loose, grayish brown, FINE to MEDIUM SAND, trace silt.	
			3			22.5	-ALLUVIUM-	
25	24.5	562.1	75/0.1				S2, 25' - 25.1', no recovery.	
							Boulder from 24.5 to 26.6 feet	
			21			27.0	-GLACIAL OUTWASH-	
			10	S3	1.3 [65]		Medium dense, grayish brown, FINE to MEDIUM SAND, some to little coarse sand, trace silt	
			6			29.6		
			10					

580.00
AUG 1999 563.70
TF 562.00
BF 559.00

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
31 - 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 - 4	Very Loose
5 - 10	Loose
11 - 24	Medium Dense
25 - 50	Dense
> 50	Very Dense

WOR - Weight of Rod
WOH - Weight of Hammer

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

7504 S:\WWW\GEOTECH\BARTLETT\DIGIMTEDS~1\BRD-SACO\BR-SITE\BORINGS.DGN 8/24/2005 8:11:04 PM 7504

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B202
SHEET NO. 2 OF 3
STA. 234+49 OFF. RT 06
BASELINE US Route 302 Cl.
ELEVATION (ft) 586.6

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30								
			31			30.0		
			23	S4	0.9 [45]		Dense, grayish brown, FINE to COARSE SAND, little to trace fine gravel, trace silt.	
			15			32.0	-GLACIAL OUTWASH-	
35			12					
			7			35.0		
			7	S5	1.0 [50]		Medium dense, grayish brown, FINE to COARSE SAND, trace silt	
			6			37.0		
40			11			40.0		
			9	S6	0.9 [45]		Medium dense, grayish brown, FINE to MEDIUM SAND, some coarse sand, little fine gravel, little to trace silt	
			15			42.0		
45			15					
			10	S7	0.6 [75]	45.0	Very dense, similar to S6	
			100/0.3			45.8		
				C1	1.6 [38]		Boulder from 45.8 to 47.9 feet. Sample was not saved.	
						50.0		
50								
			10			52.0		
			22	S8	1.5 [88]		Very dense, yellowish brown, FINE to MEDIUM SAND, some coarse sand, trace fine gravel, with occasional cobble or boulder.	
			39			53.7		
			75/0.2			55.0		
				C2	1.1 [22]			
55	56.7	529.9					Olive gray, FINE to COARSE SAND, some silt, trace fine gravel, trace clay, with occasional cobble. Sample was not saved	
							-GLACIAL TILL-	
				C3	1.0 [100]	60.0	Dark olive gray, SILT, some fine sand, trace medium to coarse sand, trace fine gravel, trace clay, with occasional coarse gravel and cobble. Sample was not saved.	
			43			61.0		
			105	O1	1.7 [85]		Very dense, dark olive gray, SILT, some fine sand, trace medium to coarse sand, trace fine gravel, trace clay, with occasional coarse gravel and cobble.	
			163			63.0		
60			242					
				C4	5.0 [100]		Description Continues on Next Page<<>>	
65								

7504 S:\WWW\GEOTECH\BARTLETT\DIGIMTEDS~1\BRD-SACO\BR-SITE\BORINGS.DGN 8/24/2005 8:11:04 PM 7504

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B202
SHEET NO. 3 OF 3
STA. 234+49 OFF. RT 06
BASELINE US Route 302 Cl.
ELEVATION (ft) 586.6

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
70							Dark olive gray, SILT, some fine sand, trace medium to coarse sand, trace fine gravel, trace clay, with occasional coarse gravel and cobble. Sample was not saved.	
			38			68.0		
			38	C2	1.4 [70]		Very dense, similar to C4	
			63			70.0		
			68			76.0	-GLACIAL TILL-	
				C5	5.0 [100]		Dark olive gray, SILT, some fine sand, trace medium to coarse sand, trace fine gravel, trace coarse gravel, with occasional cobble. Sample was not saved.	
75						75.0		
			31					
			65	C3	1.5 [75]		Very dense, dark olive gray, SILT, some fine sand, trace medium to coarse sand, trace fine gravel, trace clay.	
			95			77.0		
			71			77.6		
				C6	2.4 [80]		Dark olive gray, SILT, little clay, trace fine gravel, trace medium to coarse sand, trace fine gravel. Sample was not saved.	
80						80.0		
			23			80.3		
			54	C4	1.8 [90]		Very dense, dark olive gray, SILT, little clay, trace fine sand, trace fine gravel	
			64			82.0		
			88			82.2		
				C7	3.6 [72]		Similar to C4. Sample was not saved.	
85						87.0		
			12	C5	1.0 [77]		Very dense, similar to C4	
	88.3	498.3	40			88.3	-APPROXIMATE BEDROCK SURFACE-	
			75/0.3					
				C8	4.8 [100]		Hard, slightly weathered to fresh, moderately fractured to sound, coarse grained, red, GRANITE. Steep fracture at 88.8 feet, smooth, iron stained. Steep fracture at 92.1 feet, slightly weathered. RQD: 3.4 / 4.8 = 71%	
90						93.1		
				C9	3.8 [79]		Hard, slightly weathered to fresh, extremely fractured to sound, coarse grained, red, GRANITE. Vertical fracture from 93.2 to 94.6 feet, slightly weathered. All other fractures are shallow angle and horizontal. RQD: 1.7 / 4.8 = 35%	
95						97.9		
							Bottom of Exploration @ 97.9 ft (El. 488.7)	
100							Note: Sampled to 50 feet before casing broke off at 45 feet below the existing bridge deck (24.5 feet below the approximate river bed surface). Exploration shifted approximately 2.0 feet north, and began again. Drilled down to 52.0 feet in new location then took first sample.	

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TF = TOP OF FOOTING
BF = BOTTOM OF FOOTING

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Br-Site	BORINGS	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043
LOCATION U.S. ROUTE 302 over SACO RIVER

BORINGS (SHEET 2 OF 7)

BRIDGE SHEET: B6 OF B37

REVISIONS AFTER PROPOSAL	BY	DATE

DESIGNED	JAS	09/05	CHECKED	ABH	6/06
DRAWN	JAS	09/05	CHECKED	ABH	6/06
QUANTITIES	---	---	CHECKED	---	---
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
REV. DATE		----------		58	191

FILE NUMBER: 104-4-2

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TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B204
SHEET NO. 1 OF 3
STA. 235+62 OFF. LT 06
BASELINE US Route 302 Ct.
ELEVATION (ft) 586.6

GROUNDWATER					EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	NW	NX
5/24/05	7:00 am	22.1	564.5	65	67	SIZE I.D. (in)	1.375	3	1.875
						HAMMER WT. (lb)	140	DRILL RIG	
						HAMMER FALL (in)	30	CME 45 Truck	
						HAMMER TYPE	Automatic		

START/END 5/19/05 / 5/24/05
DRILLER C. Cleveland (NHDOT)
INSPECTOR John Soper
CLASSIFIER JKS
NORTHEAST (ft) 581796/1109047

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0								
	0.5	585.1					Asphalt	
	1.0	585.6					Concrete with rebar	
							-APPROXIMATE BOTTOM OF BRIDGE DECK-	
5								
580.00								
10								
15								
AUG 1999 563.70								
20								
25	24.3	562.3	5	S1	1.1 [55]	24.3-26.3	-APPROXIMATE TOP OF RIVERBED-	
TF 560.00			10				Dense, grayish brown, FINE to COARSE SAND, some fine gravel, trace coarse gravel, trace silt, with cobbles	
			31				-ALLUVIUM-	
BF 557.00			28					

Sample:	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS			NON-COHESIVE SOILS		
Blows/foot		Consistency	Blows/foot		Density
0	1	Very Soft	0	4	Very Loose
2	4	Soft	5	10	Loose
5	8	Medium Stiff	11	24	Medium Dense
9	15	Stiff	25	50	Dense
16	30	Very Stiff	> 50		Very Dense
31	60	Hard	WOR - Weight of Rod		
> 60		Very Hard	WOH - Weight of Hammer		

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

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TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B204
SHEET NO. 2 OF 3
STA. 235+62 OFF. LT 06
BASELINE US Route 302 Ct.
ELEVATION (ft) 586.6

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30								
			24				-ALLUVIUM-	
			18					
BF 557.00			18	S2	1.1 [55]	30.0	Dense, grayish brown, FINE to MEDIUM SAND, some coarse sand, little to trace fine gravel, trace coarse gravel	
	32.0	554.6	23			32.0		
							-GLACIAL OUTWASH-	
35			24					
			13	S3	1.0 [50]	35.0	Medium dense, grayish brown, FINE to COARSE SAND, some fine gravel, little to trace silt	
BS 549.75			7					
			11			37.0		
							Advanced through occasional cobble with gravel	
40			13					
			11	S4	0.4 [20]	40.0	Medium dense, similar to S3	
			9					
			12			42.0		
45							Similar to S3	
	46.0	540.6	3			45.0		
			14	S5	1.0 [50]		Olive gray, SILT and FINE SAND, trace medium to coarse sand, trace fine gravel, trace coarse gravel, with cobbles	
			30					
			36			47.0		
							-GLACIAL TILL-	
50			31					
			54	S6	1.0 [100]	50.0	Very dense, similar to S5	
			102					
			100/0.3			51.0		
55			42					
			72	S7	1.0 [94]	55.0	Very dense, similar to S5	
			89					
			100/0.2			56.1		
60			28					
			50	S8	1.5 [88]	60.0	Very dense, similar to S5	
			69					
			70/0.2			61.7		
							Boulder from 61.7 to 63.2 feet	
65								
			26			66.0		

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TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B204
SHEET NO. 3 OF 3
STA. 235+62 OFF. LT 06
BASELINE US Route 302 Ct.
ELEVATION (ft) 586.6

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
70			99					
			85	S9	2.0 [100]		Very dense, olive gray, SILT and FINE SAND, trace medium to coarse sand, trace fine gravel, trace coarse gravel, with cobbles	
			107			72.5		
							-GLACIAL TILL-	
75							Boulder from 69.5 to 72.6 feet	
			30	S10	2.0 [100]	75.0	Very dense, dark olive gray, SILT, little fine sand, trace medium to coarse sand, trace clay	
			59					
			75			77.0		
	78.5	508.1					-APPROXIMATE BEDROCK SURFACE-	
80						79.5		
				C1	4.8 [100]		Hard, slightly weathered to fresh, moderately fractured to sound, coarse grained, red, GRANITE. All fractures are shallow angle and horizontal. Slight weathered zone at 83.1 and 83.4, strong iron staining, smooth. RQD: 3.0 / 4.8 = 63%	
						84.3		
85				C2	4.8 [83]		Hard, slightly weathered to fresh, moderately fractured to sound, coarse grained, red, GRANITE. Slight weathered zone at 84.8 and 87.3 feet. Moderately dipping fracture at 88.5, rough. RQD: 4.2 / 5.8 = 72%	
90						89.1	Bottom of Exploration @ 90.1 ft (El. 496.5)	
95								
100								

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TF = TOP OF FOOTING
BF = BOTTOM OF FOOTING
BS = BOTTOM OF SEAL

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Br-Site	BORINGS	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043
LOCATION U.S. ROUTE 302 over SACO RIVER

BORINGS (SHEET 3 OF 7)

REVISIONS AFTER PROPOSAL	BY	DATE

DESIGNED	JAS	09/05	CHECKED	ABH	6/06
DRAWN	JAS	09/05	CHECKED	ABH	6/06
QUANTITIES	---	---	CHECKED	---	---
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
REV. DATE		----------		59	191

BRIDGE SHEET B7 OF B37
FILE NUMBER 104-4-2

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TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B205
SHEET NO. 1 OF 2
STA. 77+07 OFF. LT 48
BASELINE Detour Road CL
ELEVATION (ft) 567.9
STARTEND 5/16/05 / 5/19/05
DRILLER A. Volk (NHDOT)
INSPECTOR John Soper
CLASSIFIER JKS
NORTH/EAST (ft) 581916/1106138

GROUNDWATER					EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	HW	NX
5/17/05	7:00 am	2.4	565.5	19	19	SPT I.D. (in)	1.375	3	1.675
5/18/05	9:00 am	2.7	565.2	43	43	HAMMER WT. (lb)	140	DRILL RIG	
						HAMMER FALL (in)	30	JKS	
						HAMMER TYPE:	Automatic	CME 45-C Track rig	

AUG 1999
563.70

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) (%)	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			WOH 1 1	S1	1.1 [55]	0.0 2.0	Very loose, grayish brown, FINE to COARSE SAND, little fine gravel, trace silt -ALLUVIUM-	
5			11 11 8	S2	1.0 [50]	5.0 7.0	Medium dense, grayish brown, FINE to MEDIUM SAND, some coarse sand, little fine gravel, trace silt	
10			6 5 5	S3	1.1 [55]	10.0 12.0	Loose, grayish brown, FINE to COARSE SAND and FINE GRAVEL, trace silt	
	13.5	554.4						
15			11 9 11	S4	1.1 [55]	14.0 16.0	Medium dense, gray, FINE to COARSE SAND and FINE GRAVEL, trace coarse gravel, trace silt -GLACIAL OUTWASH-	
20			13 5 5	S5	1.0 [50]	19.0 21.0	Medium dense, gray, FINE to MEDIUM SAND, some coarse sand, some fine gravel, trace silt, trace coarse gravel	
	22.5	545.4				23	-GLACIAL TILL-	
25			14 13 19 21	S6	1.3 [65]	25.0 27.0	Dense, olive gray, FINE SAND and SILT, trace medium to coarse sand, trace fine gravel, trace clay	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS	
Blows/foot	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
31 - 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS	
Blows/foot	Density
0 - 4	Very Loose
5 - 10	Loose
11 - 24	Medium Dense
25 - 50	Dense
> 50	Very Dense
WOR - Weight of Rod	
WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B205
SHEET NO. 2 OF 2
STA. 77+07 OFF. LT 48
BASELINE Detour Road CL
ELEVATION (ft) 567.9

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) (%)	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30			50 84 120/0.4	S7	1.4 [100]	29.0 30.4	Very dense, olive gray, FINE SAND and SILT, trace medium to coarse sand, trace fine gravel, trace clay -GLACIAL TILL-	
35			27 50 95 100/0.4	S8	1.9 [100]	34.0 35.9	Very dense, olive gray, FINE SAND and SILT, trace medium to coarse sand, trace fine gravel, trace clay, with occasional cobble	
40			29 57 29 120	S9	2.0 [100]	39.0 41.0	Very dense, olive gray, FINE SAND and SILT, trace medium to coarse sand, trace fine gravel, trace coarse gravel, trace clay, with occasional cobble Advanced 3" casing to 42.0 feet. Open hole below 42.0 feet. Cobbles and gravel layer from 41.5 to 43.7 feet.	
45			31 63 132 115	S10	2.0 [100]	44.0 46.0	Very dense, olive gray, FINE SAND and SILT, trace medium to coarse sand, trace fine gravel, trace clay	
50	51.8	516.1	750/0.1	S11	0.1 [20]	49.0 49.1	S11, 49' - 49.1', no recovery. -APPROXIMATE BEDROCK SURFACE-	
55				C1	4.7 [98]	54.2 59.0	Hard, slightly weathered to fresh, extremely to moderately fractured, coarse grained, red, GRANITE. Vertical fracture from 54.4 to 57.9 feet, smooth, strong iron staining. Moderately dipping fracture intersecting vertical fracture at 57.9 feet, strong iron staining, smooth. Moderately dipping fracture at 58.2 feet, smooth, fresh. RQD: 0.3 / 4.8 = 6%	
60				C2	4.8 [100]	59.0 63.8	Hard, slightly weathered to fresh, extremely to slightly fractured, coarse grained, red, GRANITE. Steep fracture at 59.3, smooth, strong iron staining. Vertical fracture from 61.2 to 61.7 feet and 62.2 to 62.7 feet, strong iron staining, smooth. Steep angle fracture at 63.4 feet, smooth, iron staining. All other fractures are shallow angle to horizontal. RQD: 1.6 / 4.8 = 33%	
65							Bottom of Exploration @ 63.8 ft (El. 504.1)	

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Br-Site	BORINGS	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043
LOCATION U.S. ROUTE 302 over SACO RIVER

BORINGS (SHEET 4 OF 7)

BRIDGE SHEET B8 OF B37

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	JAS	09/05	CHECKED	ABH	6/06
	DRAWN	JAS	09/05	CHECKED	ABH	6/06
	QUANTITIES	---	---	CHECKED	---	---
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		----------		60	191

FILE NUMBER 104-4-2

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TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B207
SHEET NO. 1 OF 3
STA. 236+52 OFF. LT 18
BASELINE US Route 302 Ct.
ELEVATION (ft) 585.2
START/END 5/19/05 / 5/20/05
DRILLER A. Volk (NHDOT)
INSPECTOR John Soper
CLASSIFIER JKS
NORTHEAST (ft) 581887/1106059

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	NW	HC
						SIZE I.D. (in)	1.375	3	1.875
5/20/05	7:00 am	17.3	567.9	45	45.3	HAMMER WT. (lb)	140	DRILL RIG	
						HAMMER FALL (in)	30	CME 45-C Track rig	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			1 2 3	S1	0.5 [25]	0.0 – 2.0	Loose, grayish brown, FINE to MEDIUM SAND, some coarse sand, little to trace fine gravel, trace silt -FILL-	
5			5 4 11 20	S2	0.5 [25]	5.0 – 7.0	Medium dense, similar to S1 While advancing to 10.0 feet, drilled through cobbles and occasional boulder	
10			8 7 3 3	S3	0.0 [0]	10.0 – 12.0	Loose, no recovery Void at 15.0 to 15.8 feet. Void maybe washed out fill behind abutment.	
15			3 3 7 6	S4	0.4 [20]	15.0 – 16.0 16.0 – 18.0	Loose, grayish brown, FINE to MEDIUM SAND, some coarse sand, little to trace fine gravel, trace coarse gravel, trace silt, with cobbles	
20	19.5	565.7	5 5 4 3	S5	1.5 [75]	20.0 – 22.0	Loose, grayish brown, FINE to COARSE SAND and FINE GRAVEL, trace silt, with occasional seam of fine to medium sand, trace silt -GLACIAL OUTWASH-	
25			12 40 11 10	S6	0.3 [15]	25.0 – 27.0	Very dense, brown, FINE to MEDIUM SAND, some coarse sand, little gravel, trace coarse gravel, with occasional cobble	

AUG 1999 563.70 ▽
TF 562.00
BF 559.00
580.00

Sample	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
31 - 60	Hard
>60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 - 4	Very Loose
5 - 10	Loose
11 - 24	Medium Dense
25 - 50	Dense
> 50	Very Dense

WOR - Weight of Rod
WOH - Weight of Hammer

Soil Descriptions Capitalized Soil Name	Proportion Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

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TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B207
SHEET NO. 2 OF 3
STA. 236+52 OFF. LT 18
BASELINE US Route 302 Ct.
ELEVATION (ft) 585.2

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30	29.0	556.2	5 4 6	S7	0.7 [35]	30.0 – 32.0	Loose, olive gray, FINE to MEDIUM SAND, some coarse sand, little silt, little to trace fine gravel -GLACIAL TILL-	
35			28 27 34 30	S8	1.1 [55]	35.0 – 37.0	Very dense, olive gray, FINE to MEDIUM SAND, some coarse sand, little silt, little to trace fine gravel, trace coarse gravel, with cobbles	
40			44 80 116 115	S9	1.5 [75]	40.0 – 42.0	Very dense, olive gray, SILT and FINE SAND, little to trace medium to coarse sand, trace fine gravel, trace coarse gravel, with cobbles	
45			157/0.3	S10	0.3 [100]	45.2 – 45.5	S10, 45' - 45.3', 0.3' recovered. Very dense, similar to S9 Boulder at 45.3 to 46.5 feet	
50			38 66 115/0.2	S11	1.1 [92]	50.0 – 51.2	Very dense, dark olive gray, SILT and FINE SAND, little to trace medium to coarse sand, trace fine gravel, trace coarse gravel, with cobbles	
55			125 120 109 108	S12	2.0 [100]	55.0 – 57.0	Very dense, similar to S11	
60			150/0.4	S13	0.3 [75]	60.0 – 60.3	Very dense, dark olive gray, SILT and FINE SAND, little to trace medium to coarse sand, trace fine gravel, trace coarse gravel, with cobbles	
65			90			65.0	Very dense, similar to S13	

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TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B207
SHEET NO. 3 OF 3
STA. 236+52 OFF. LT 18
BASELINE US Route 302 Ct.
ELEVATION (ft) 585.2

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
70			100 75/0.2	S14	1.0 [83]	68.2 – 69.2	-GLACIAL TILL-	
75	78.0	507.2	28 53 63 100	S15	2.0 [100]	73.0 – 75.0	Very dense, similar to S13 Advanced through several cobbles and coarse gravel from 72.7 to 77.5 feet	
80				C1	4.8 [100]	78.0 – 82.8	-APPROXIMATE BEDROCK SURFACE- Soft, extremely fractured, severely weathered, fine grained, greenish gray, altered RHYOLITE with SERPENTINITE. RQD=0%	
85				C2	4.8 [100]	82.8 – 87.6	Similar to C1 RQD=0%	
90						87.6	Bottom of Exploration @ 87.6 ft (El. 497.6)	
95								
100								

TS-A S:\SNTW\ROJECTS\BARTLETT\13043\TB\BORINGS.DGN 8/24/2006 8:04:44 PM TSA

TF = TOP OF FOOTING
BF = BOTTOM OF FOOTING

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Br-Site	BORINGS	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043
LOCATION U.S. ROUTE 302 over SACO RIVER

BORINGS (SHEET 5 OF 7)

BRIDGE SHEET B9 OF B37
FILE NUMBER 104-4-2

REVISIONS AFTER PROPOSAL							
		BY	DATE		BY	DATE
	DESIGNED	JAS	09/05	CHECKED	ABH	6/06
	DRAWN	JAS	09/05	CHECKED	ABH	6/06
	QUANTITIES	---	---	CHECKED	---	---
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		----------		61	191

...\brd-saco\Br-Site\BORINGS.dgn 8/24/2006 8:11:07 PM n18pjp

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B208
SHEET NO. 1 OF 3
STA. 75+00 OFF. Cl.
BASELINE Detour Road Cl.
ELEVATION (ft) 581.8
START/END 7/10/06 / 7/13/06
DRILLER A. Volk (NHDOT)
INSPECTOR Doug Rogers
CLASSIFIER DRR
NORTHEAST (ft) 5817031/1106131

GROUNDWATER						EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE:	S	NW	NE
						SIZE I.D. (in):	1.375	3	1.615
7/11/06	7:00 am	17.1	564.7	44	45.8	HAMMER WT. (lb):	140	DRILL RIG	
						HAMMER FALL (in):	30	CME 45-C Track (6)	
						HAMMER TYPE:	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0	0.2	581.6	1			0.0	Dark brown, fibrous TOPSOIL	
			1	S1	1.2 [60]		Very loose, dark yellowish brown to yellowish brown, FINE SAND, occasional root fiber	
580.00			2			2.0	-SUBSOIL (DISTURBED)-	
	2.8	579.0	3				Dark brown, FINE SAND, slight trace of silt	
			3	S2	1.1 [55]		Dark yellowish brown and greyish brown, COARSE-FINE SAND, little gravel	
			12			4.0		
			19					
5			19	S3	0.9 [45]		Very dense, dark yellowish brown and dark greyish brown, gravelly COARSE-FINE SAND, little silt, cobble likely	
			32					
			26			6.0		
			28				-GLACIAL OUTWASH-	
			21			9.0		
10			25	S4	1.1 [55]		Dense, greyish brown and dark greyish brown, gravelly COARSE-FINE SAND, little silt	
			21					
			15			11.0		
			4					
15			8	S5	1.1 [55]		Dense, greyish brown and dark greyish brown, MEDIUM-FINE SAND over gravelly COARSE-FINE SAND, some-little silt (stratified)	
			17					
			15			14.0		
AUG 1999						16.0		
563.70			3					
			2	S6	0.6 [30]		Very loose, dark greyish brown, COARSE-MEDIUM SAND, little fine sand, trace fine gravel	
20			2					
			3			21.0		
							Advanced hole to 24.3' through cobble (24.0'-24.3')	
						24.3		
25			4					
			6	S7	0.7 [35]		Medium dense, dark greyish brown, COARSE-FINE SAND, some gravel to "gravelly"	
			11					
			12			26.3		

Sample	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS			NON-COHESIVE SOILS	
Blows/foot		Consistency	Blows/foot	Density
0 -	1	Very Soft	0 - 4	Very Loose
2 -	4	Soft	5 - 10	Loose
5 -	8	Medium Stiff	11 - 24	Medium Dense
9 -	15	Stiff	25 - 50	Dense
16 -	30	Very Stiff	> 50	Very Dense
31 -	60	Hard	WOR - Weight of Rod	
> 60		Very Hard	WOH - Weight of Hammer	

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

TRA-S:\SOW\PWRJOB\TEMP.STT\NAMITE_302 OVER SACO RIVER\NO. 190-130\BORDER\LOGS FOR BRIDGE OVER THE SACO.DR (1250)6 8:50:01 AM TRA

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B208
SHEET NO. 2 OF 3
STA. 75+00 OFF. Cl.
BASELINE Detour Road Cl.
ELEVATION (ft) 581.8

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30			12			30.0		
			17	S8	1.0 [50]		Dense, dark greyish brown, gravelly COARSE-FINE SAND, some-little silt	
			18					
			23			31.0		
							-GLACIAL OUTWASH-	
35			36			34.0		
			32	S9	1.3 [65]		Very dense, similar to S8	
			22					
			18			36.0		
							Note: many cobbles encountered while advancing hole to 39.0'	
			55			39.0		
40			24	S10	0.4 [20]		Dense, dark greyish brown, gravelly MEDIUM-FINE SAND, little coarse sand, little-trace silt	
			18					
			9			41.0		
			10			44.0		
45			25	S11	1.0 [50]		Dense, dark greyish brown, gravelly MEDIUM-FINE SAND, some-little coarse sand, w/ isolated pockets of olive brown silt, trace clay	
			22					
			24			46.0		
							Note: while advancing to 49.0', many cobbles encountered along with periodic water loss in this zone	
			39	S12	0.4 [67]	48.0		
50			75/0.1			49.0	Dark greyish brown, gravelly COARSE-FINE SAND	
							Note: advanced hole to 54.0' w/ roller bit; boulder from 49.6'-50.8'; broke off bottom 5' section of 3" casing while driving at 52.5', removed remainder of casing, moved hole location 1.0' and re-advanced hole to 53.2'	
	53.0	528.8	44			52.2		
			67	S13	1.4 [93]		Very dense, olive grey-dark olive grey, fine sandy SILT, little gravel, little coarse-medium sand, occasional rock fragment	
55			131			54.7		
							-GLACIAL TILL-	
			53			56.0		
			77	S14	1.3 [97]		Very dense, similar to S13	
			100			59.3		
60								
			37			60.0		
			103	S15	0.8 [73]		Grey-dark grey and dark olive grey, SILT, little gravel, little coarse-medium sand, trace fine sand, occasional weathered rock fragment	
			500/1			64.1		
65								

TRA-S:\SOW\PWRJOB\TEMP.STT\NAMITE_302 OVER SACO RIVER\NO. 190-130\BORDER\LOGS FOR BRIDGE OVER THE SACO.DR (1250)6 8:50:01 AM TRA

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B208
SHEET NO. 3 OF 3
STA. 75+00 OFF. Cl.
BASELINE Detour Road Cl.
ELEVATION (ft) 581.8

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
							-GLACIAL TILL-	
70			21					
			50	S16	2.0 [100]	69.0	Very dense, dark grey and dark olive grey, SILT, trace gravel, trace coarse sand	
			70					
			109			70.0		
	72.5	509.3					-APPROXIMATE BEDROCK SURFACE-	
75						73.0		
				C1	4.3 [90]		Hard, slightly to moderately weathered, slightly to moderately fractured, coarse-medium grained, grey and pinkish grey, GRANITE. All fracture/joint surfaces are stained/discolored. Most all joints are horizontal and near horizontal. Vertical fracture at 74.7'. Seam at 75.0'-75.3'. RQD: 2.5 / 4.8 = 52%	
						77.6		
				C2	4.8 [100]		Hard to moderately hard, slightly to moderately weathered, moderately fractured, coarse-medium grained, GRANITE. Many fractures ranging from horizontal to near-vertical. Some minor cracks and/or minor staining is evident throughout the run. RQD: 2.2 / 4.8 = 46%	
80						82.4		
							Bottom of Exploration @ 82.6 ft (El. 499.2)	
85								
90								
95								
100								

TRA-S:\SOW\PWRJOB\TEMP.STT\NAMITE_302 OVER SACO RIVER\NO. 190-130\BORDER\LOGS FOR BRIDGE OVER THE SACO.DR (1250)6 8:50:01 AM TRA

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Br-Site	BORINGS	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043
LOCATION U.S. ROUTE 302 over SACO RIVER

BORINGS (SHEET 6 OF 7)

BRIDGE SHEET: B10 OF B37

REVISIONS AFTER PROPOSAL	BY	DATE

DESIGNED	JAS	8/06	CHECKED	ABH	8/06	
DRAWN	JAS	8/06	CHECKED	ABH	8/06	
QUANTITIES	---	---	CHECKED	---	---	
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.		TOTAL SHEETS
REV. DATE		----------		62		191

FILE NUMBER: 104-4-2

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TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B209
SHEET NO. 1 OF 2
STA. 77+75 OFF. CL
BASELINE Detour Road CL
ELEVATION (ft) 567.9
START/END 7/13/06 / 7/17/06
DRILLER A. Volk (NHEXOT)
INSPECTOR Doug Rogers
CLASSIFIER DRR
NORTHEAST (ft) 681959/1106200

GROUNDWATER					EQUIPMENT	SAMPLER	CASING	CORE
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING	BOTTOM OF HOLE	TYPE	S	NW	NX
7/14/06	7:00 am	2.5	565.4	28	27.3	SIZE I.D. (in)	1.375	3	1.875
						HAMMER WT. (lb)	140	DRILL RIG	
						HAMMER FALL (in)	30	CME 45-C Track rig	
						HAMMER TYPE	Automatic		

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
0			WOH 1 2	S1	1.7 [85]	0.0 2.0	Very loose, grayish brown-brown, FINE SAND (micaceous), occasional fiber, w/ isolated pockets of dark greyish brown fine sand	
							-ALLUVIUM-	
5			1 14 21 15 16	S2	0.6 [30]	4.0 6.0	Dense, dark yellowish brown, gravelly COARSE-FINE SAND, occasional weathered stone, trace of silt	
10	11.0	556.9	9 6 7 9	S3	0.6 [30]	9.0 11.0	Medium dense, dark yellowish brown and dark greyish brown, gravelly COARSE-FINE SAND, little-trace silt	
							-GLACIAL OUTWASH-	
15			34 25 28 16	S4	0.5 [25]	14.0 16.0	Very dense, dark yellowish brown and dark greyish brown, gravelly MEDIUM-FINE SAND, some-little coarse sand, little silt	
						19.0	Note: cobble likely at 19.0'	
20			114 65 33 24	S5	0.5 [25]	19.0 21.0	Very dense, dark yellowish brown and dark greyish brown, MEDIUM-FINE SAND, slight trace silt over MEDIUM-FINE SAND, some gravel, little coarse sand	
25			51 500.1	S6	0.1 [17]	24.0 24.6	Grey-brownish grey, MEDIUM-FINE SAND, little gravel Note: cobble likely at 24.6'	
			61 21 19 20	S7	0.3 [15]	26.0 28.0	Note: small cobble likely at 26.0' Dense, dark brownish gray, MEDIUM-FINE SAND, little gravel, little-trace coarse sand, little-trace silt	

Sampler	Identification
S	Standard Split Spoon
SL	Large Spoon (O.D.= 3 in)
T	Thin Wall Tube
U	Undisturbed Piston
O	Open End Rod
A	Auger Flight
C	Core Barrel
NR	Not Recorded

COHESIVE SOILS Blows/foot	Consistency
0 - 1	Very Soft
2 - 4	Soft
5 - 8	Medium Stiff
9 - 15	Stiff
16 - 30	Very Stiff
31 - 60	Hard
> 60	Very Hard

NON-COHESIVE SOILS Blows/foot	Density
0 - 4	Very Loose
5 - 10	Loose
11 - 24	Medium Dense
25 - 50	Dense
> 50	Very Dense

WOR - Weight of Rod
WOH - Weight of Hammer

Soil Descriptions	Proportion
Capitalized Soil Name	Major Component
Lower Case Adjective	35% - 50%
Some	20% - 35%
Little	10% - 20%
Trace	1% - 10%

ENGLISH

AUG 1999
563.70

TEST BORING REPORT

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION

PROJECT BARTLETT 13043 BRIDGE NO. 190/130
DESCRIPTION NH Route 302 over the Saco River

BORING NO. B209
SHEET NO. 2 OF 2
STA. 77+75 OFF. CL
BASELINE Detour Road CL
ELEVATION (ft) 567.9

DEPTH (ft)	STRATUM CHANGE (ft) DEPTH	STRATUM CHANGE (ft) ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS	STRATUM SYMBOL
30	31.0	536.9	87 44 52 120	S8	0.0 [0]	29.0 31.0	Very dense, no recovery; sample spoon tip broke off, spoon bent badly around cobbles	
			31 26 51 43	S9	1.4 [70]	31.0 33.0	Very dense, olive brown-dark olive brown, SILT, some-little fine gravel, little coarse-medium sand, trace fine sand, slight trace clay	
35			17 36 53 79	S10	1.3 [65]	34.0 36.0	Very dense, light olive brown, SILT, little gravel, little coarse sand, little-trace medium sand, trace clay	
							-GLACIAL TILL-	
40			32 93 500.1	S11	0.9 [82]	38.0 40.1	Very dense, olive and olive brown, fine sandy SILT, little gravel, little-trace coarse-medium sand	
45	47.3	520.6	74 112 500.1	S12	1.0 [91]	44.0 46.1	Very dense, similar to S11 Advanced to 48.0' w/ roller bit; boulder from 45.1'-46.0', rapid drop of drill head from 46.6' to 47.3'	
							-APPROXIMATE BEDROCK SURFACE-	
50				C1	3.8 [75]	48.0 52.8	Hard to moderately hard, moderately to severely weathered, moderately to extremely fractured, coarse-medium grained, pinkish grey, GRANITE. Zone of moderately severe to severe weathering and extreme fracturing from 48.9'-52.1'. Many fractures are high-angle and have silt-coated surfaces. Majority of the core is stained. RQD: 0.4 / 4.8 = 8%	
55				C2	4.8 [100]	52.8 57.6	Hard, slightly to moderately weathered, moderately fractured, coarse-medium grained, grey and pinkish grey, GRANITE. Few moderately dipping fractures, most are near-horizontal. Most all joint surfaces are discolored, occasionally silt-coated. Isolated minor pitting of the core at 56.6'. RQD: 2.8 / 4.8 = 57%	
60						57.6	Bottom of Exploration @ 57.6 ft (El. 510.3)	
65								

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Br-Site	BORINGS	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043
LOCATION U.S. ROUTE 302 over SACO RIVER

BORINGS (SHEET 7 OF 7)

BRIDGE SHEET B11 OF B37

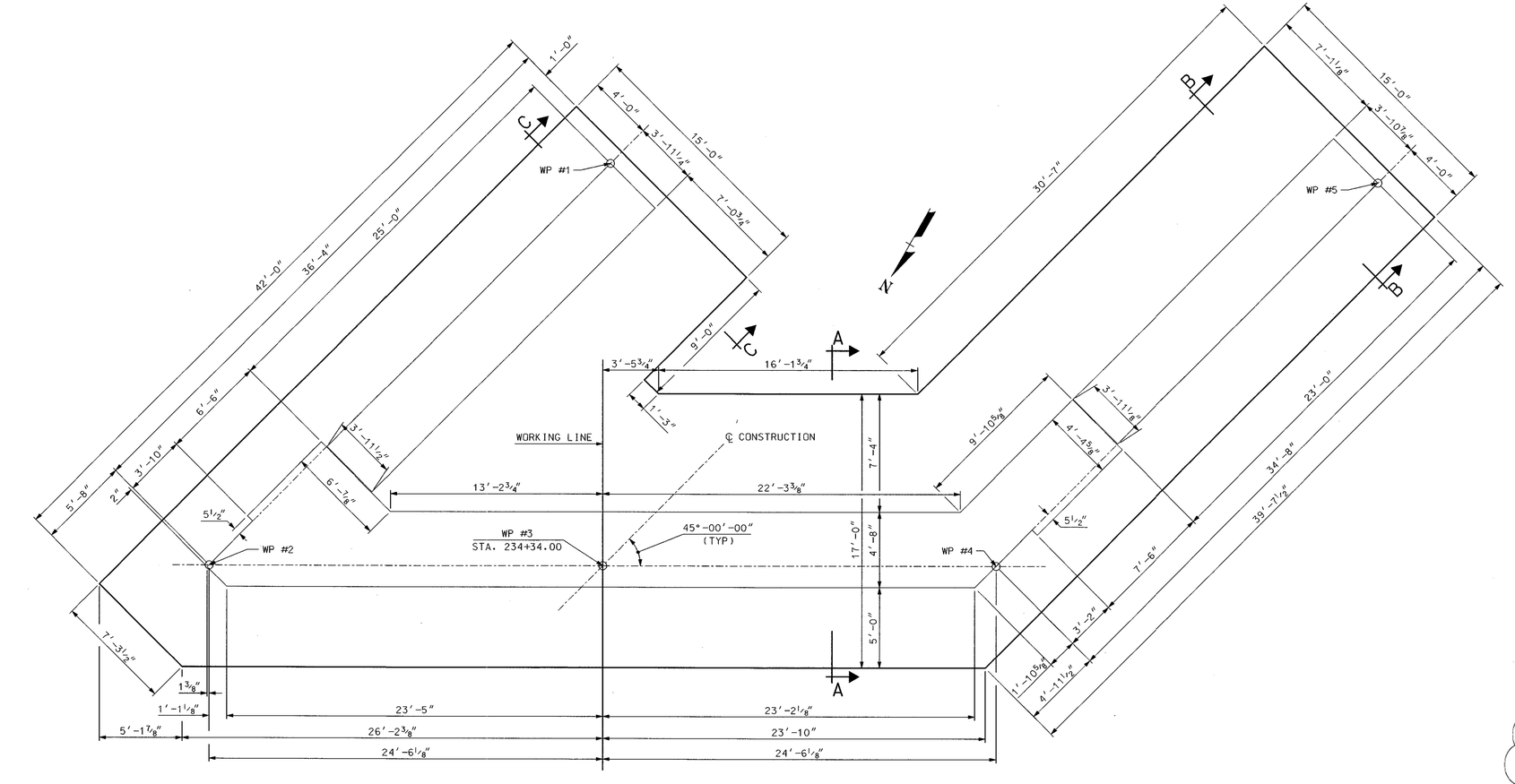
REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	JAS	8/06	CHECKED	ABH	8/06
DRAWN	JAS	8/06	CHECKED	ABH	8/06
QUANTITIES	---	---	CHECKED	---	---

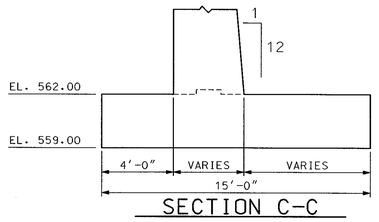
ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	63	191

FILE NUMBER 104-4-2

...\brd-saco\Br-Site\BORINGS.dgn 8/24/2006 8:11:09 PM n18pjp



FOOTING A – MASONRY



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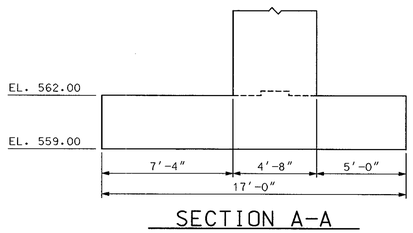
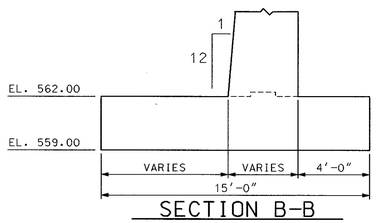


SECTION A–A



SECTION B–B

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Abut-A	FTG A MASONRY	¼" = 1'-0"

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

ABUTMENT A FOOTING - MASONRY

BRIDGE SHEET: B12 OF B37

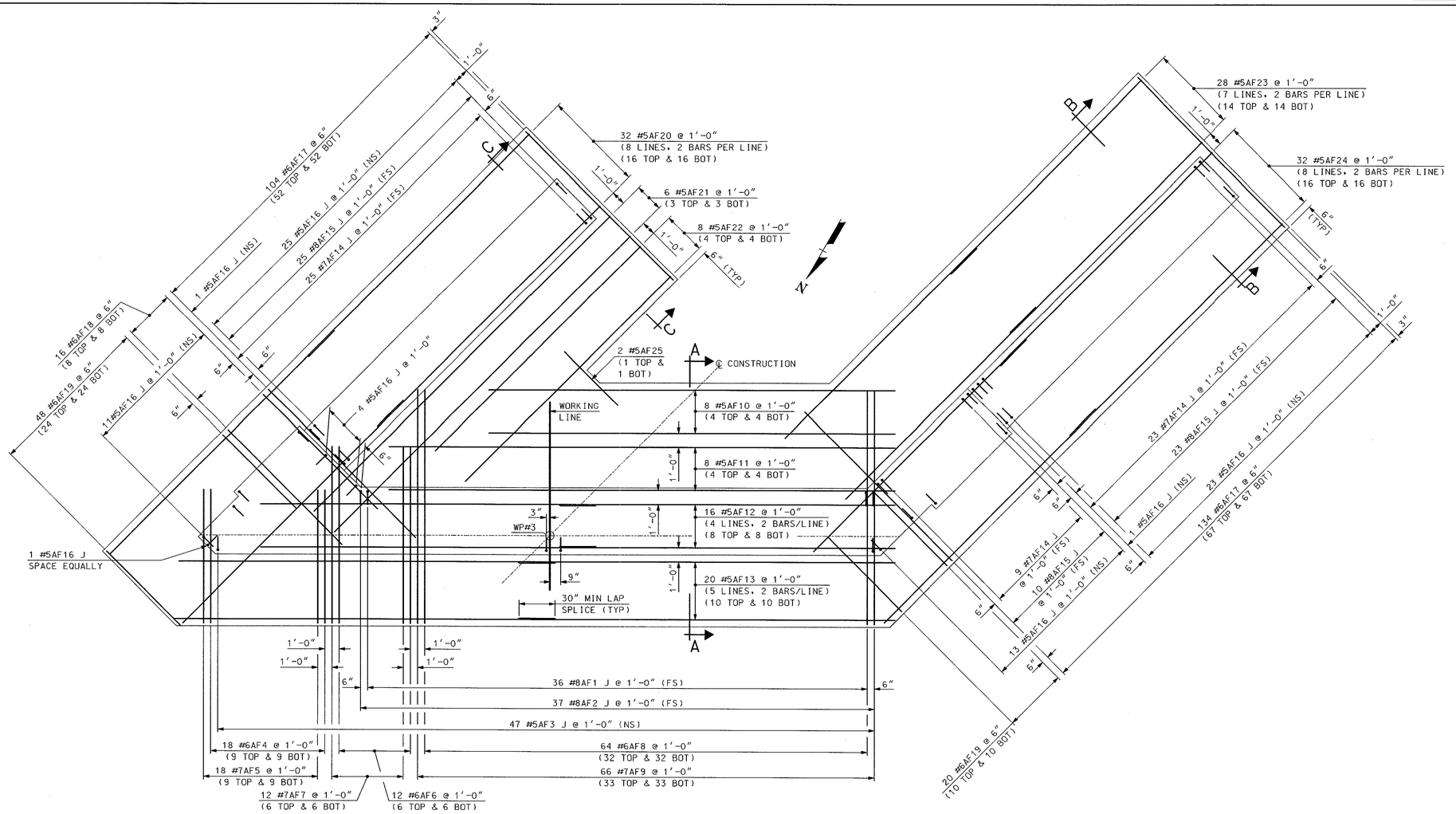
FILE NUMBER: 104-4-2

TOTAL SHEETS: 191

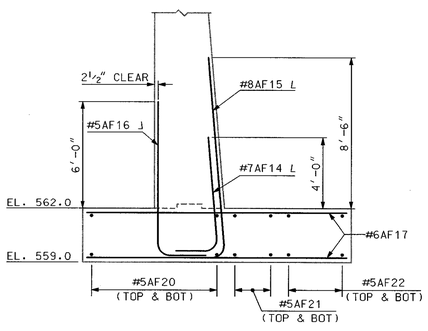
REVISIONS AFTER PROPOSAL	BY	DATE

DESIGNED	JAS	9/05	CHECKED	SDF	7/06
DRAWN	JAS/PJP	5/06	CHECKED	SDF	7/06
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06

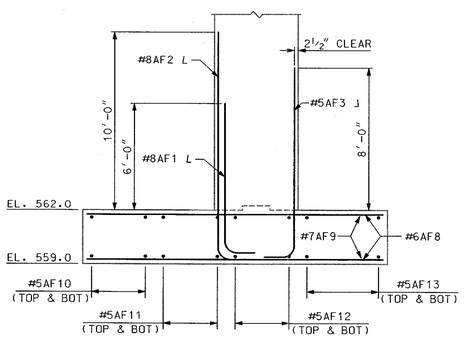
ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.
REV. DATE		----------	64



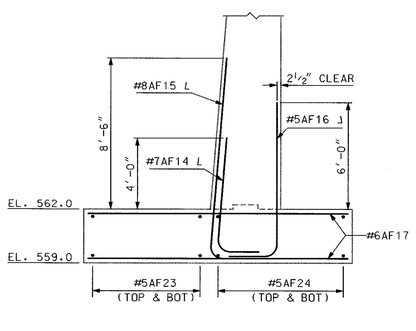
FOOTING A - REINFORCEMENT



SECTION C-C



SECTION A-A



SECTION B-B

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Abut-A	FTG A REBAR	1/4" = 1'-0"

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

TOWN BARTLETT BRIDGE NO. 189/129 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

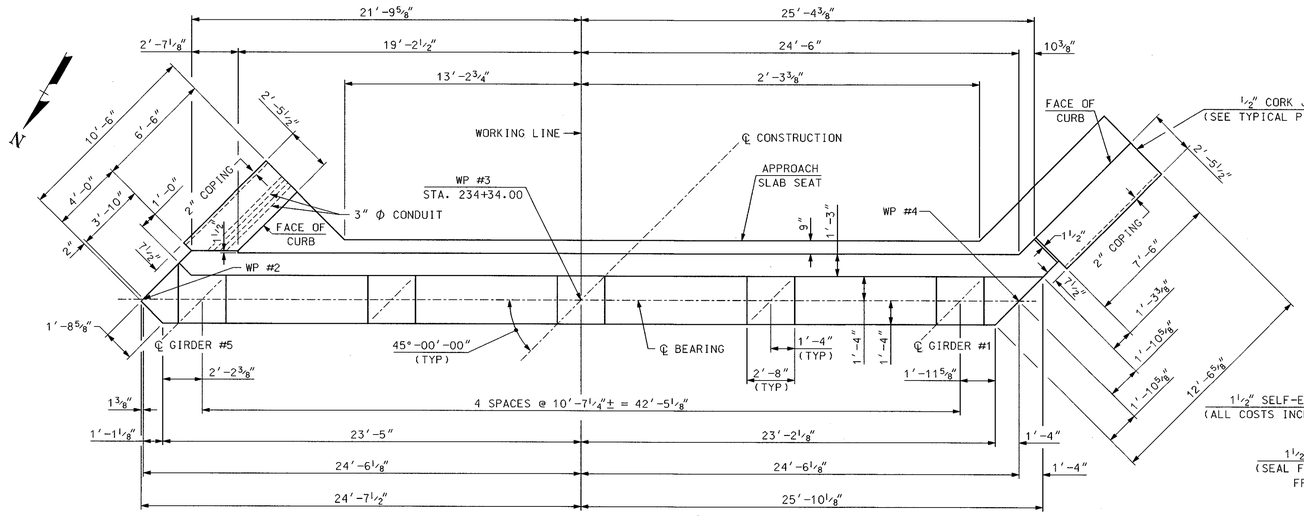
ABUTMENT A FOOTING - REINFORCEMENT

REVISIONS AFTER PROPOSAL	BY	DATE

		BY	DATE		BY	DATE
DESIGNED	JAS	9/05	CHECKED	SDF	8/06	
DRAWN	JAS/PJP	6/06	CHECKED	SDF	8/06	
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06	

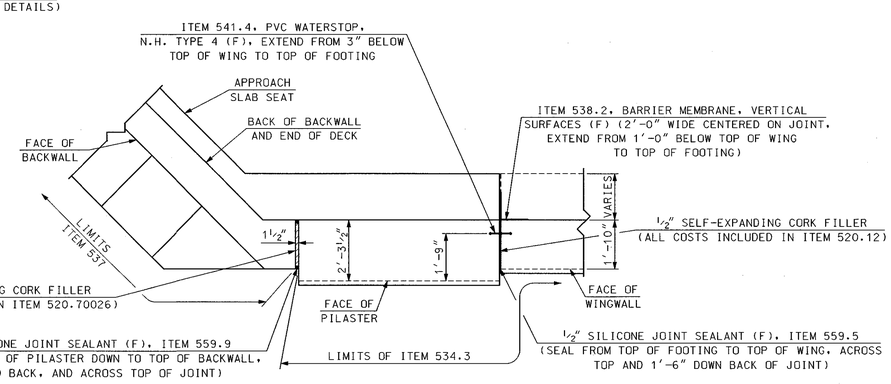
ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.
REV. DATE		----------	65

BRIDGE SHEET	FILE NUMBER	TOTAL SHEETS
B13 OF B37	104-4-2	191



PLAN – ABUTMENT A

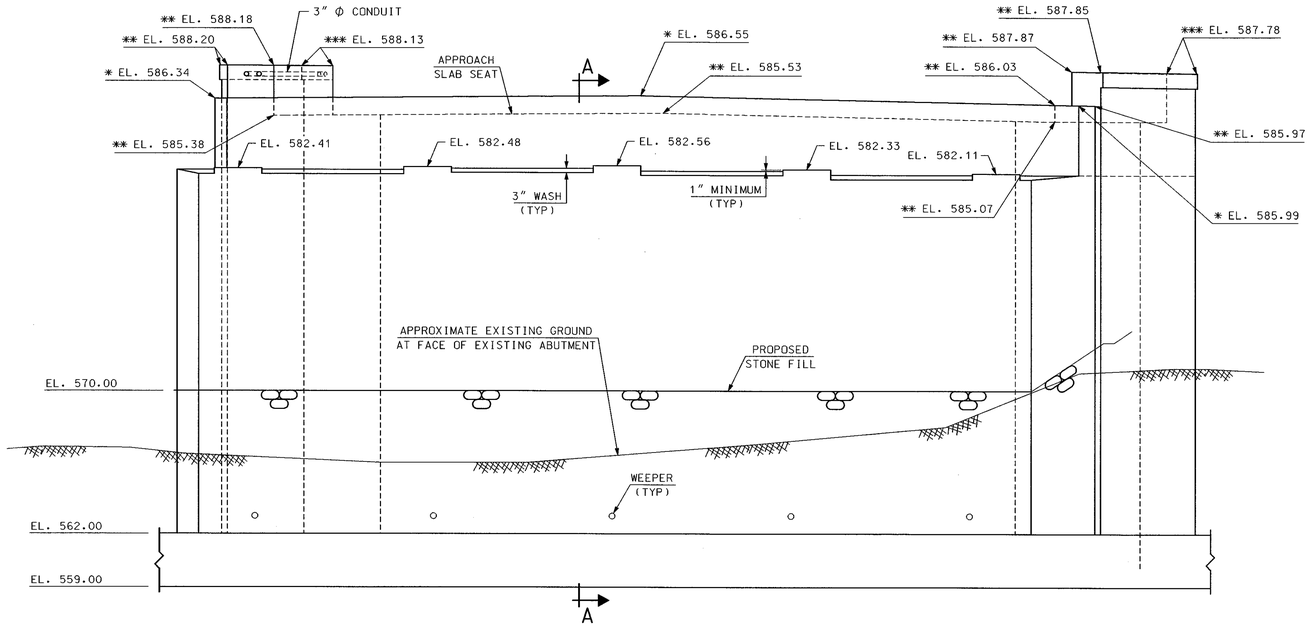
SCALE: ¼″ = 1′-0″



TYPICAL PILASTER DETAILS

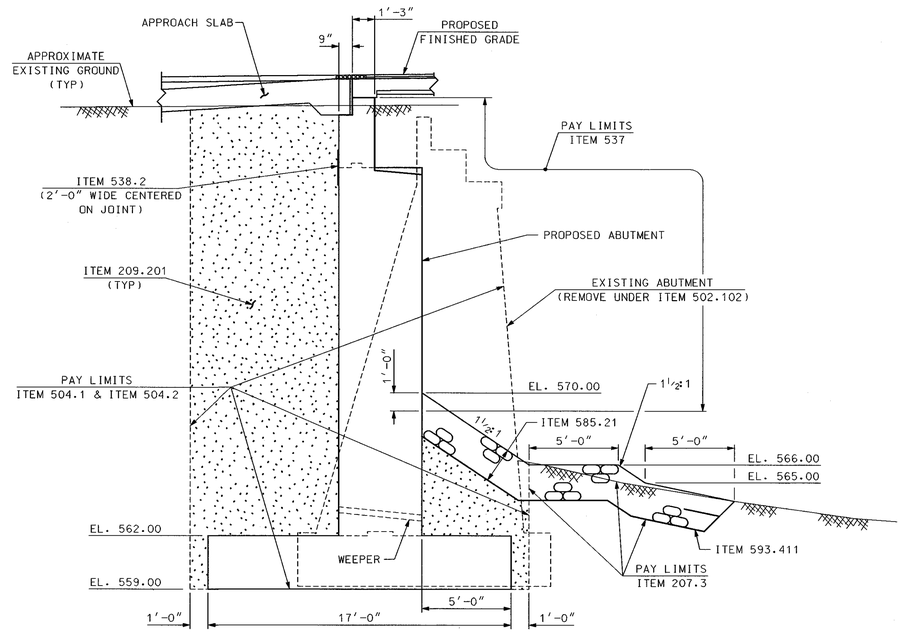
SCALE: ⅜″ = 1′-0″

* ELEVATIONS @ FACE OF BACKWALL
** ELEVATIONS @ BACK OF BACKWALL
*** ELEVATIONS @ ABUTMENT/WING JOINT



ELEVATION – ABUTMENT A

SCALE: ¼″ = 1′-0″



SECTION A–A

SCALE: ¼″ = 1′-0″

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Abut-A	ABUTA MASONRY	AS NOTED

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

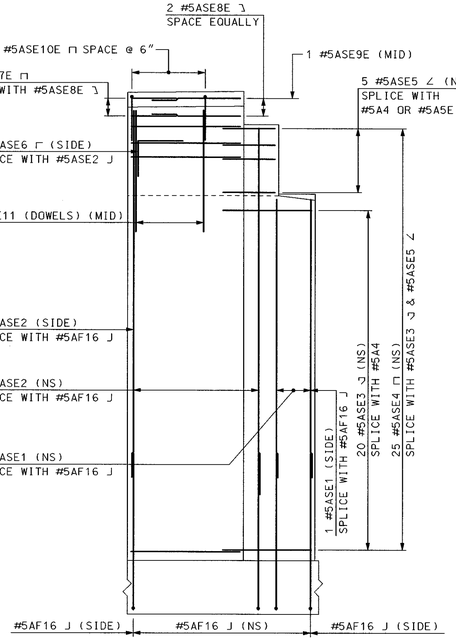
TOWN BARTLETT — BRIDGE NO. 190/130 — STATE PROJECT 13043
LOCATION U.S. ROUTE 302 over SACO RIVER

ABUTMENT A - MASONRY

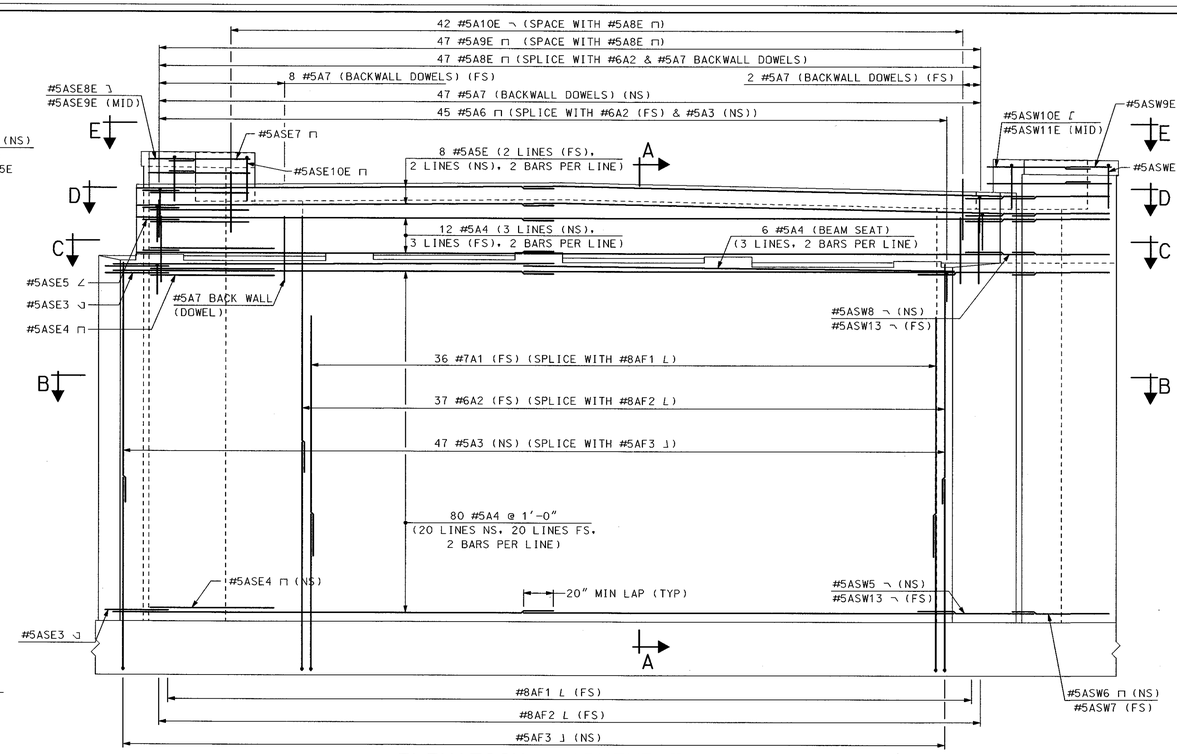
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	JAS	9/05	CHECKED	SDF	7/06
	DRAWN	JAS/PJP	5/06	CHECKED	SDF	7/06
	QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
	REV. DATE		----------		66	

BRIDGE SHEET: B14 OF B37
FILE NUMBER: 104-4-2
TOTAL SHEETS: 191

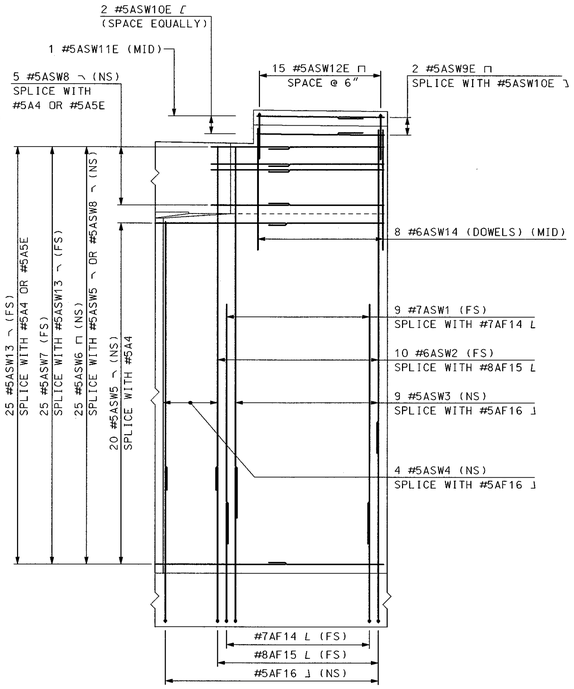
...\Abut-A\ABUTA MASONRY.dgn 8/24/2006 8:11:13 PM ntbpjp



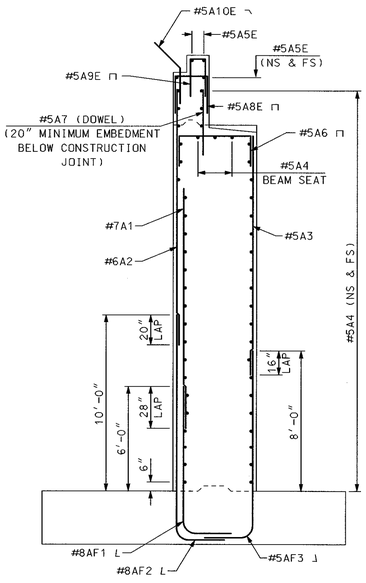
ELEVATION – SE PILASTER



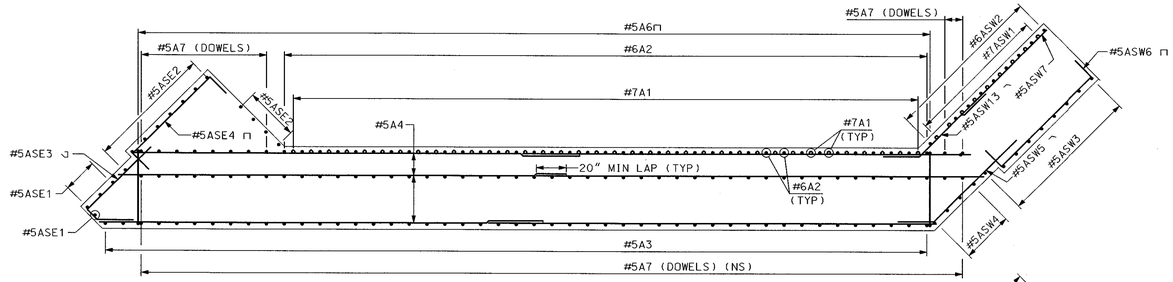
ELEVATION – ABUTMENT A



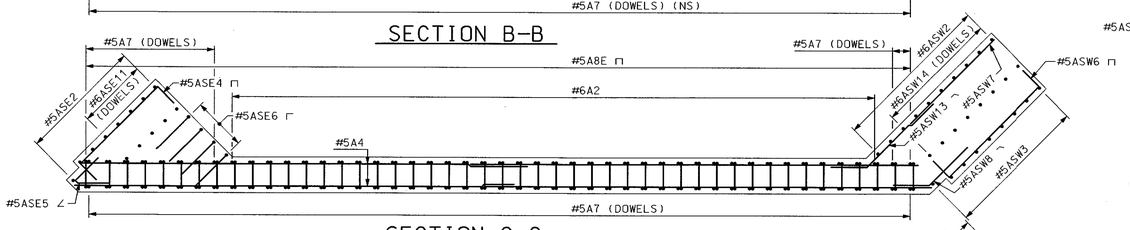
ELEVATION – SW PILASTER



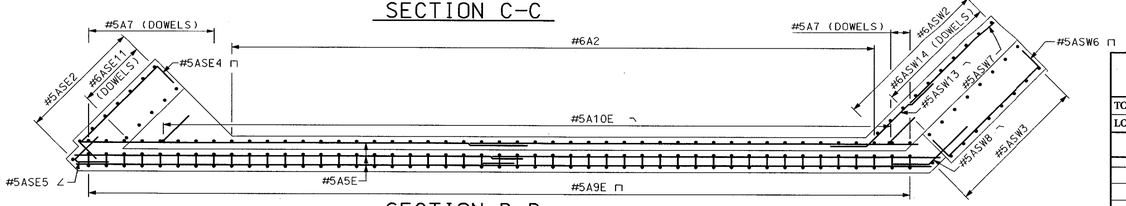
SECTION A–A



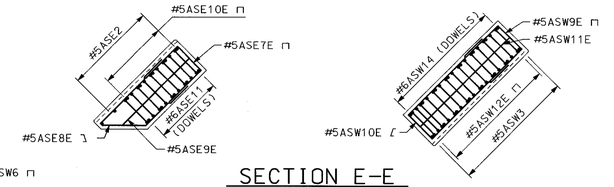
SECTION B–B



SECTION C–C



SECTION D–D



SECTION E–E

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Abut-A	ABUTA REBAR	1/4" = 1'-0"

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

ABUTMENT A - REINFORCEMENT

BRIDGE SHEET: B15 OF B37

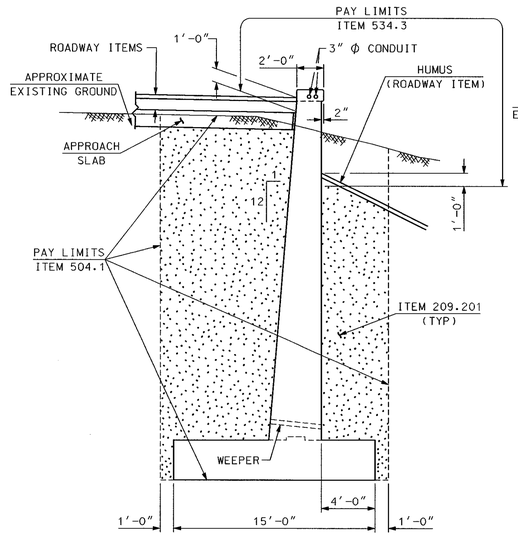
REVISIONS AFTER PROPOSAL	BY	DATE

DESIGNED	JAS	9/05	CHECKED	SDF	8/06
DRAWN	JAS/PJP	6/06	CHECKED	SDF	8/06
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06

ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE		----------	67	191

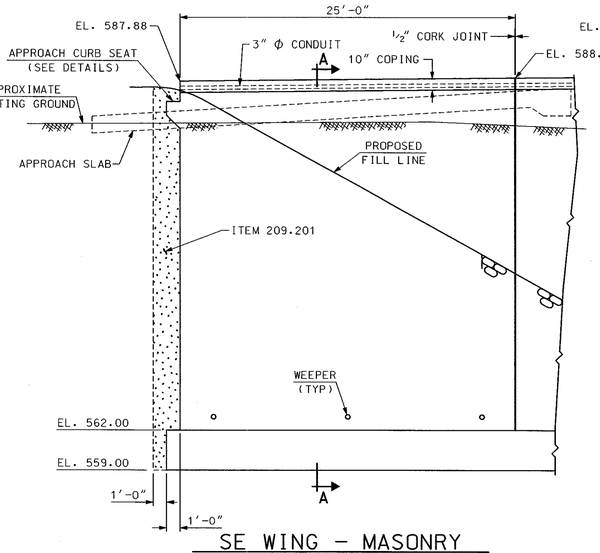
FILE NUMBER: 104-4-2

...\Abut-A\ABUTA REBAR.dgn 8/24/2006 8:11:14 PM rlbpjp



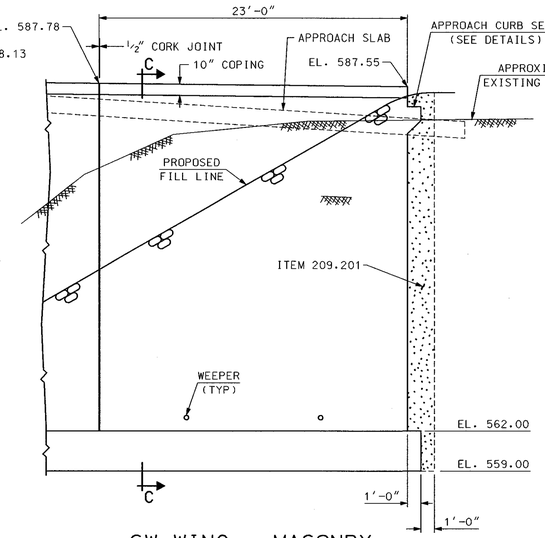
SECTION A-A

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



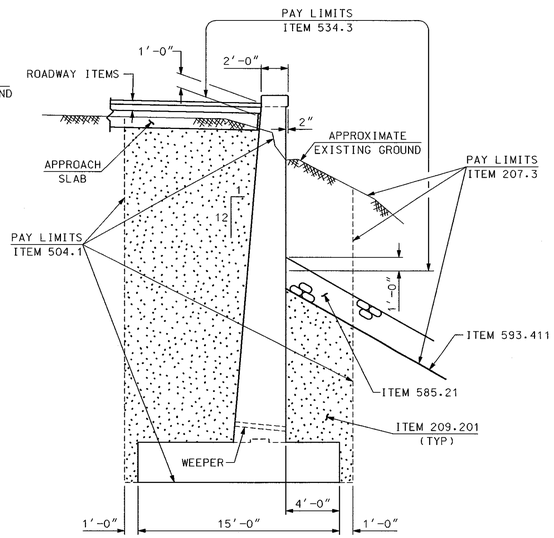
SE WING - MASONRY

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



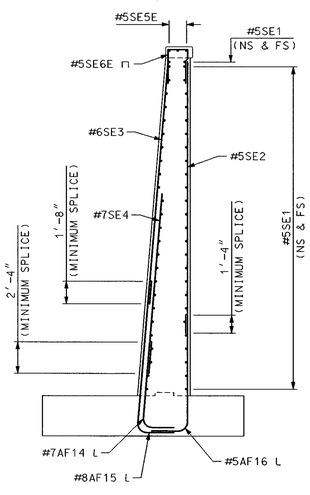
SW WING - MASONRY

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



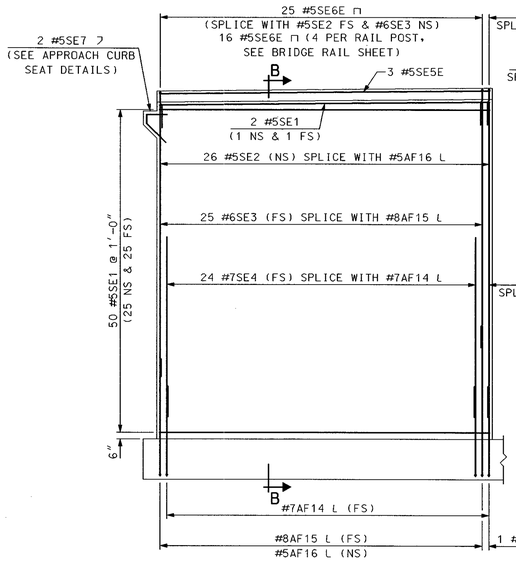
SECTION C-C

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



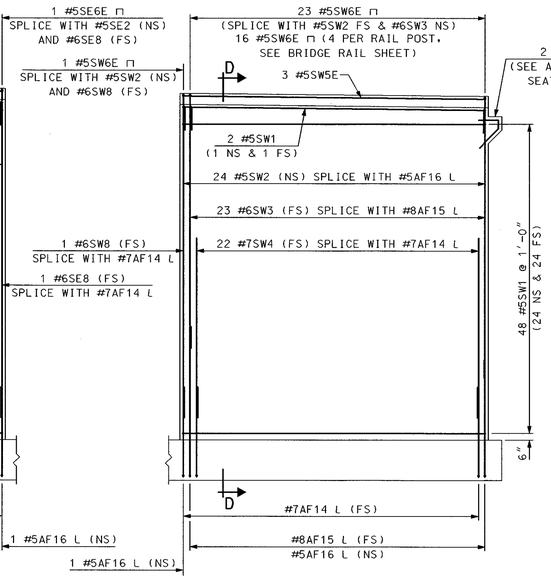
SECTION B-B

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



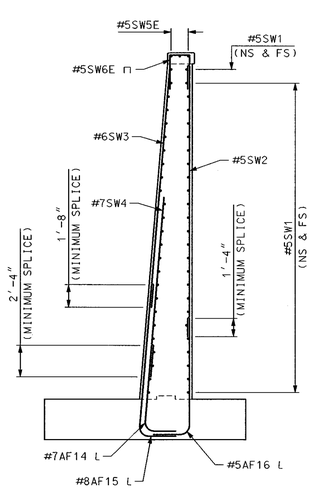
SE WING - REINFORCEMENT

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



SW WING - REINFORCEMENT

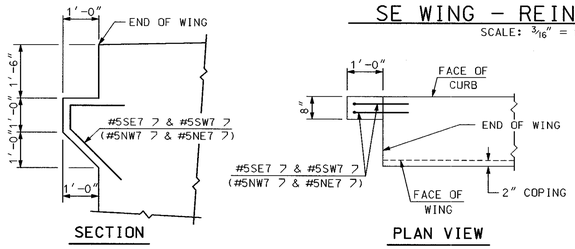
SCALE: 3/16" = 1'-0"



SECTION D-D

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

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



APPROACH CURB SEAT DETAILS

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

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Abut-A	WINGS ABUTA	AS NOTED

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

TOWN BARTLETT — BRIDGE NO. 190/130 — STATE PROJECT 13043

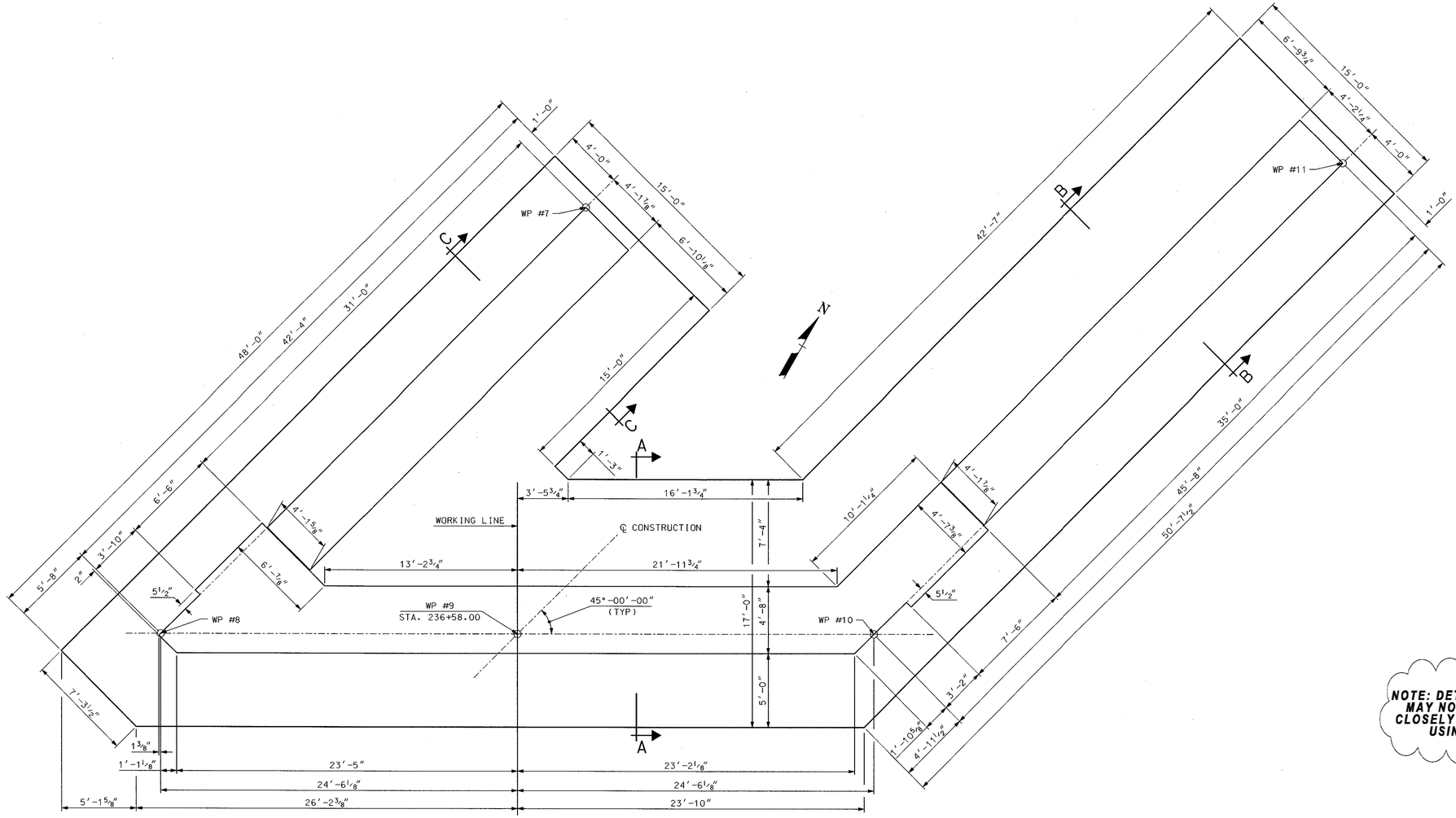
LOCATION U.S. ROUTE 302 over SACO RIVER

ABUTMENT A WINGS - MASONRY & REINFORCEMENT

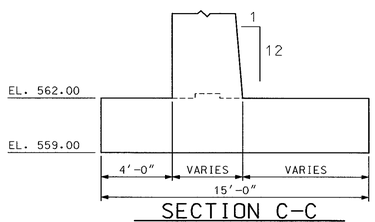
BRIDGE SHEET: B16 OF B37

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	JAS	9/05	CHECKED	SDF	7/06
	DRAWN	JAS/PJP	6/06	CHECKED	SDF	7/06
	QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		----------		68	191

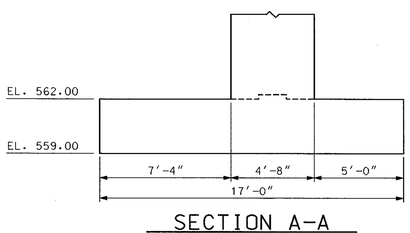
FILE NUMBER: 104-4-2



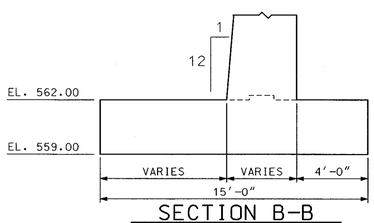
FOOTING B – MASONRY



SECTION C–C



SECTION A–A



SECTION B–B

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Abut-B	FTG B MASONRY	¼" = 1'-0"

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

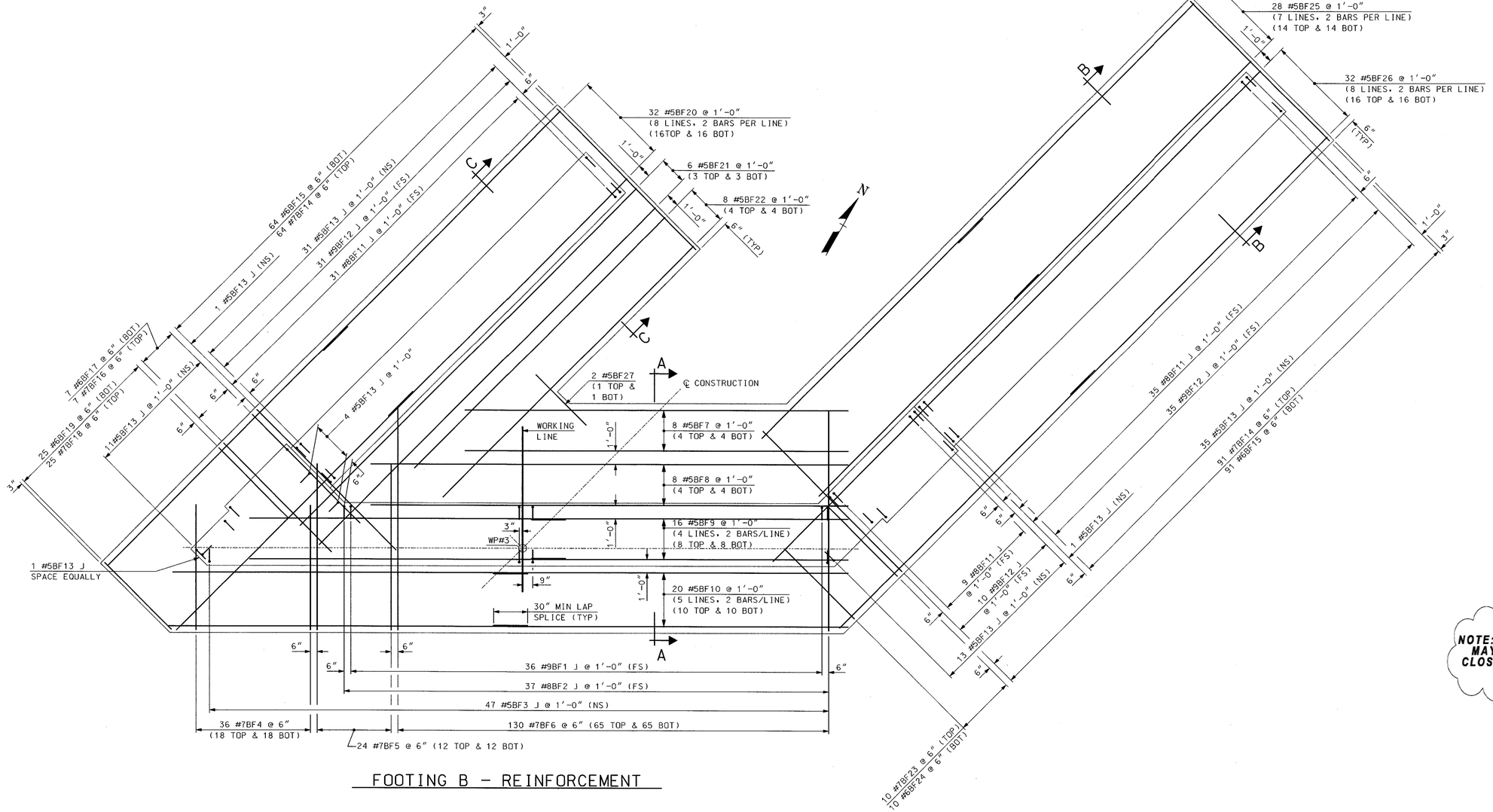
ABUTMENT B FOOTING - MASONRY

BRIDGE SHEET: B17 OF B37

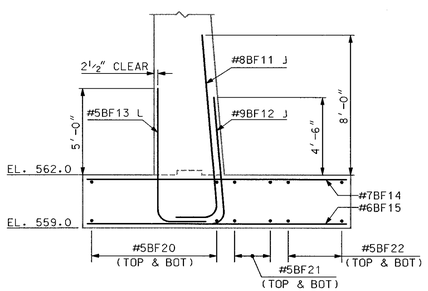
REVISIONS AFTER PROPOSAL	BY	DATE

DESIGNED	JAS	8/05	CHECKED	SDF	7/06
DRAWN	JAS/PJP	5/06	CHECKED	SDF	7/06
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
REV. DATE		----------		69	191

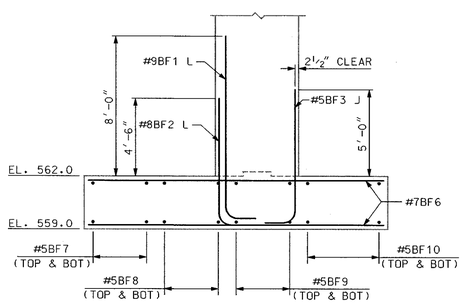
FILE NUMBER: 104-4-2



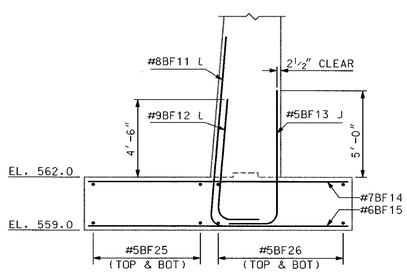
FOOTING B – REINFORCEMENT



SECTION C–C



SECTION A–A



SECTION B–B

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
Brd-Saco\Abut-B	FTG B REBAR	¼" = 1'-0"

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

TOWN BARTLETT BRIDGE NO. 189/129 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

ABUTMENT B FOOTING - REINFORCEMENT

BRIDGE SHEET: B18 OF B37

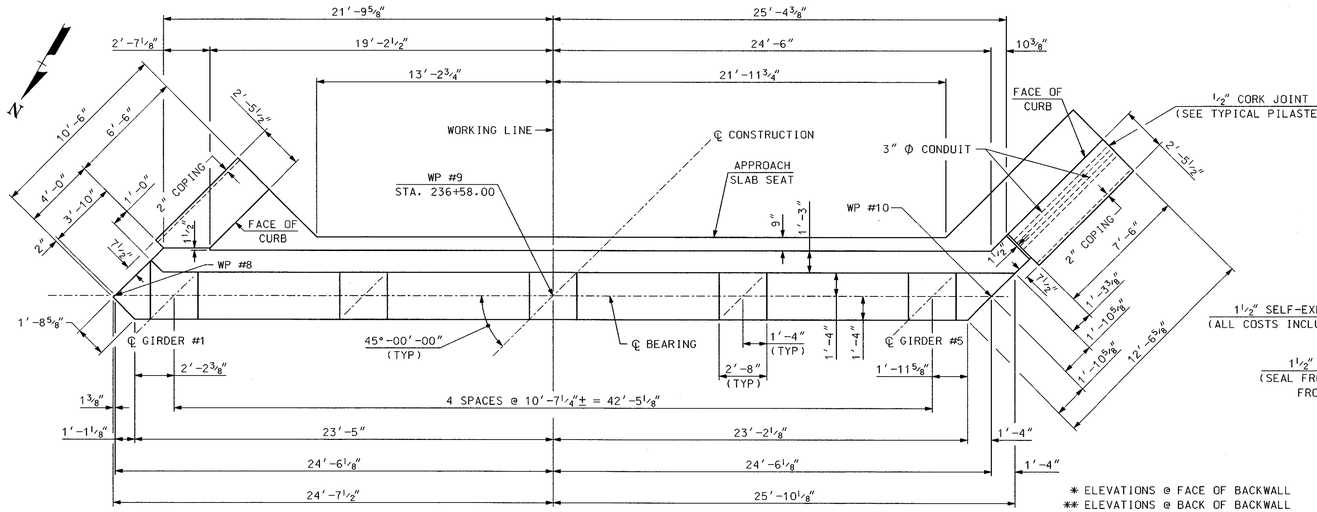
REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	JAS	8/05	CHECKED	SDF	8/06
DRAWN	JAS/PJP	6/06	CHECKED	SDF	8/06
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06

ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE		----------	70	191

FILE NUMBER: 104-4-2

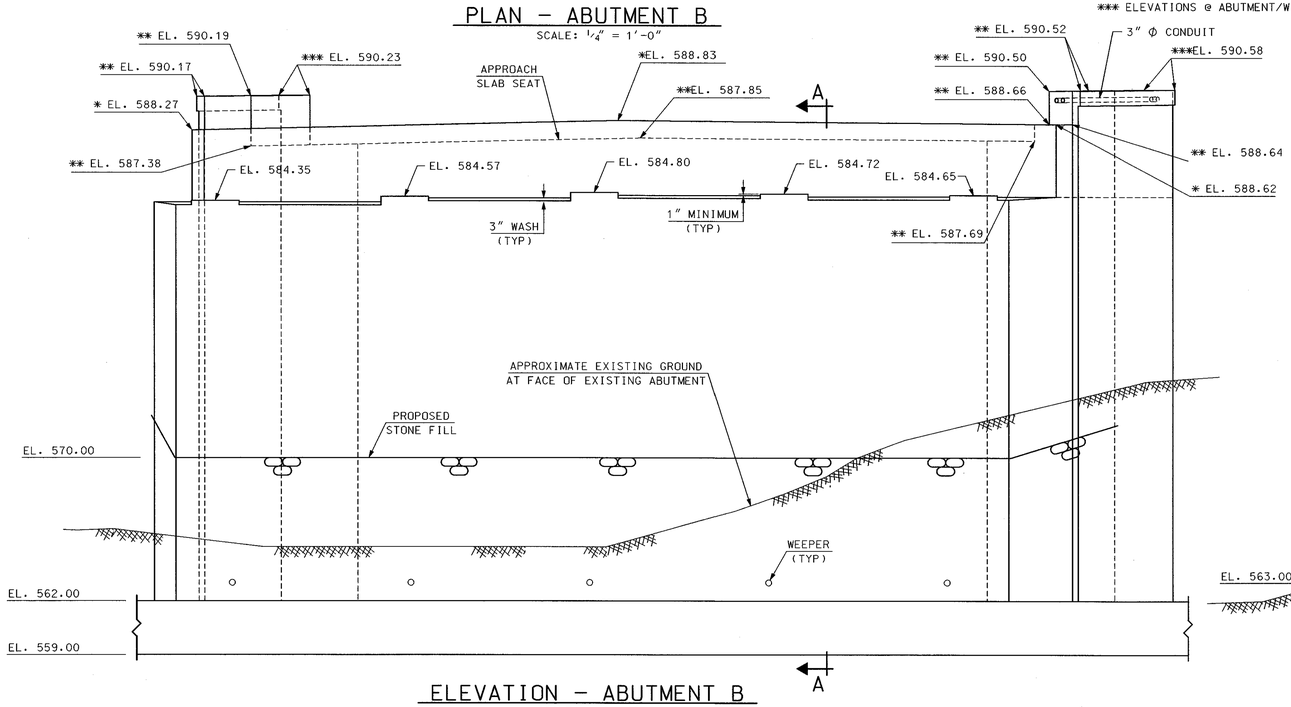
...\Abut-B\FTG B REBAR.dgn 8/24/2006 8:11:18 PM n18pjp



PLAN – ABUTMENT B

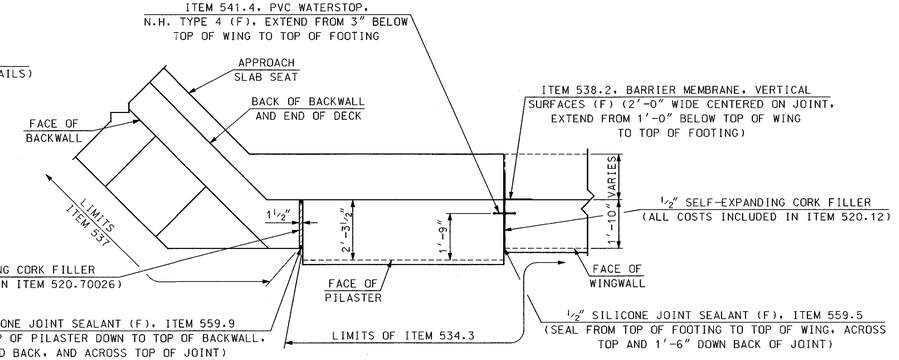
SCALE: ¼″ = 1′-0″

* ELEVATIONS @ FACE OF BACKWALL
** ELEVATIONS @ BACK OF BACKWALL
*** ELEVATIONS @ ABUTMENT/WING JOINT



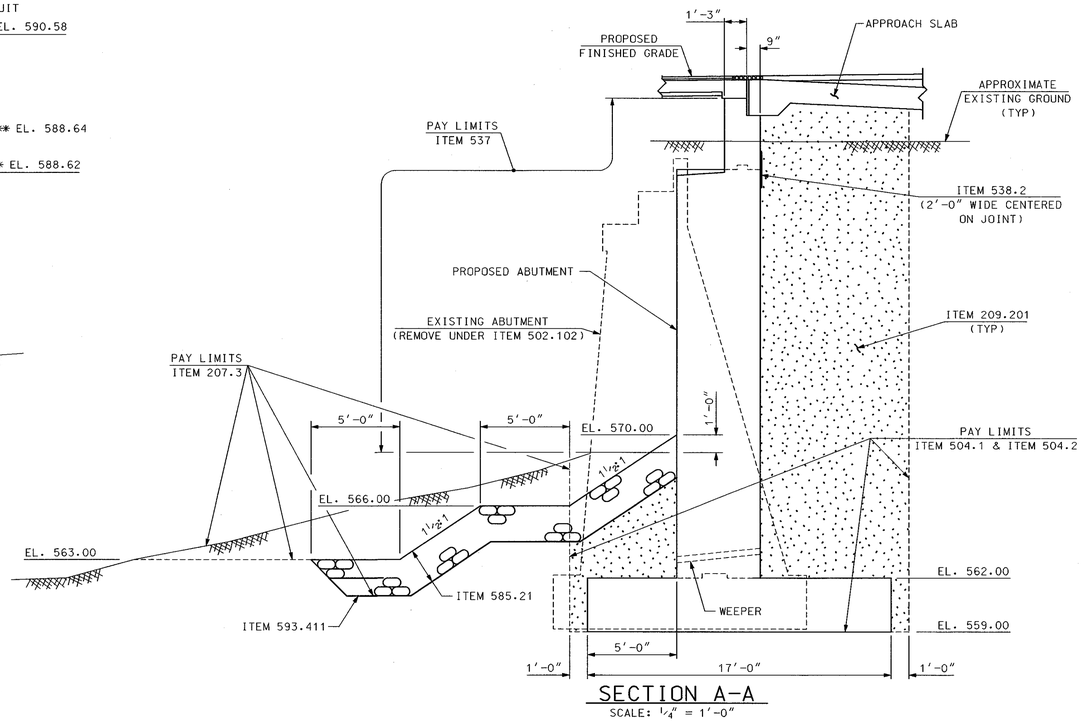
ELEVATION – ABUTMENT B

SCALE: ¼″ = 1′-0″



TYPICAL PILASTER DETAILS

SCALE: ⅜″ = 1′-0″



SECTION A–A

SCALE: ¼″ = 1′-0″

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
Brd-Saco\Abut-B	ABUTB MASONRY	AS NOTED

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

TOWN BARTLETT — BRIDGE NO. 190/130 — STATE PROJECT 13043
LOCATION U.S. ROUTE 302 over SACO RIVER

ABUTMENT B - MASONRY

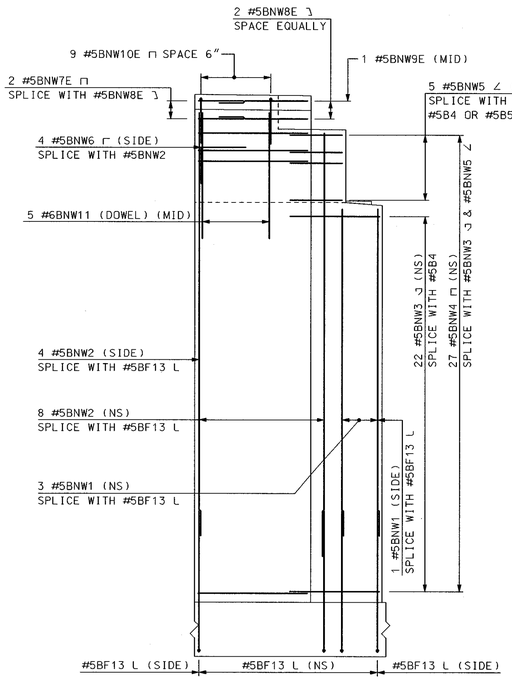
BRIDGE SHEET: B19 OF B37

REVISIONS AFTER PROPOSAL	BY	DATE

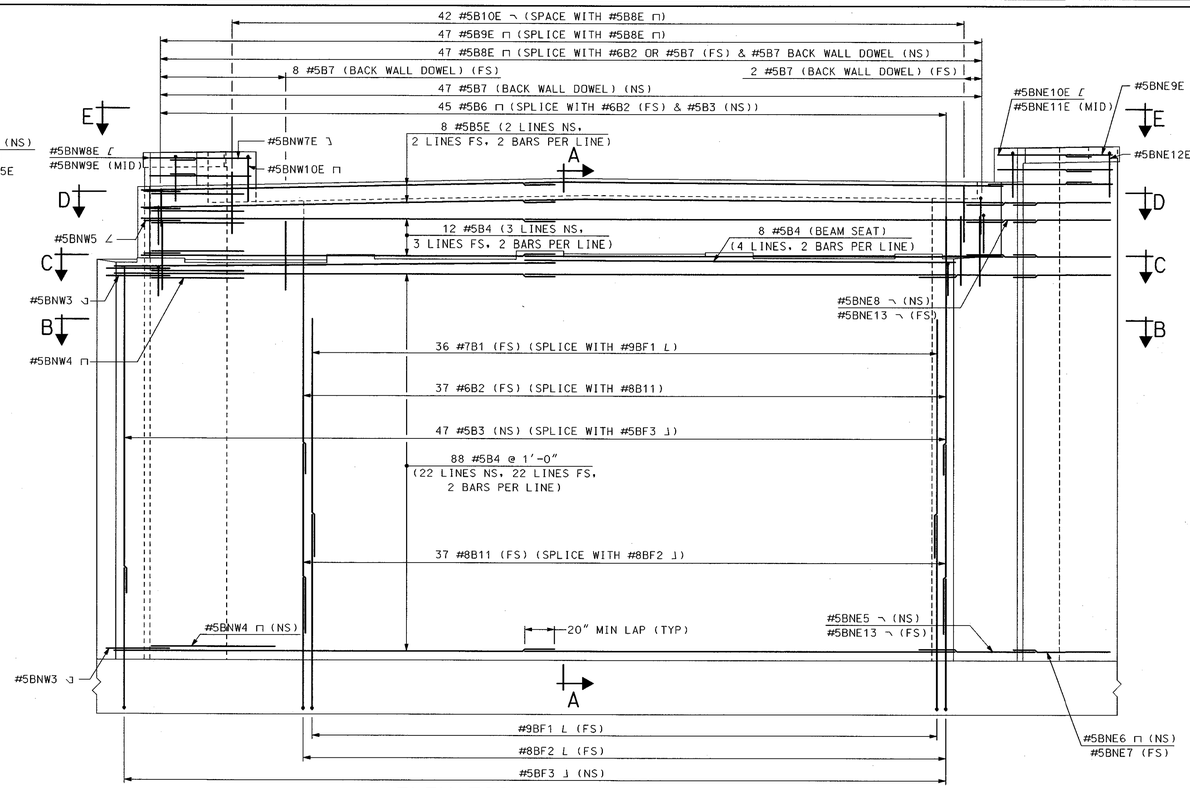
DESIGNED	JAS	9/05	CHECKED	SDF	7/06
DRAWN	JAS/PJP	5/06	CHECKED	SDF	7/06
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
ISSUE DATE			FEDERAL PROJECT NO.		
REV. DATE			----------		

FILE NUMBER: 104-4-2
SHEET NO.: 71
TOTAL SHEETS: 191

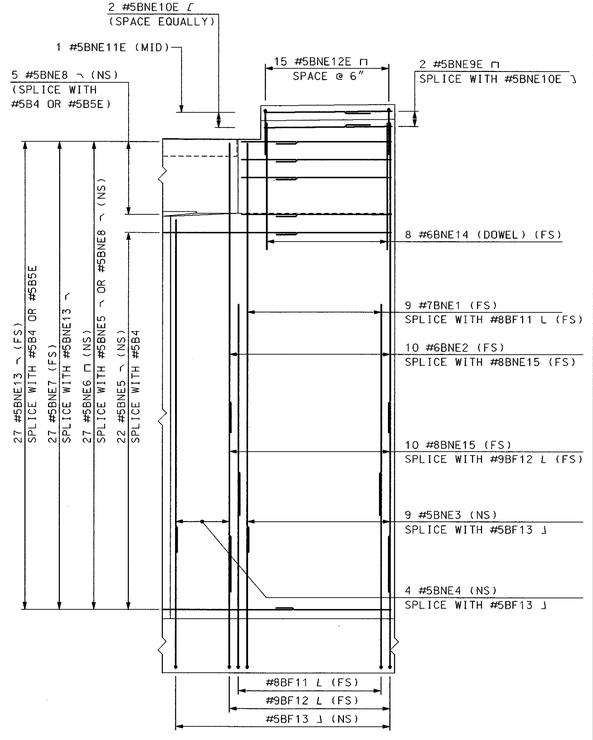
...\Abut-B\ABUTB MASONRY.dgn 8/24/2006 8:11:19 PM n18pjp



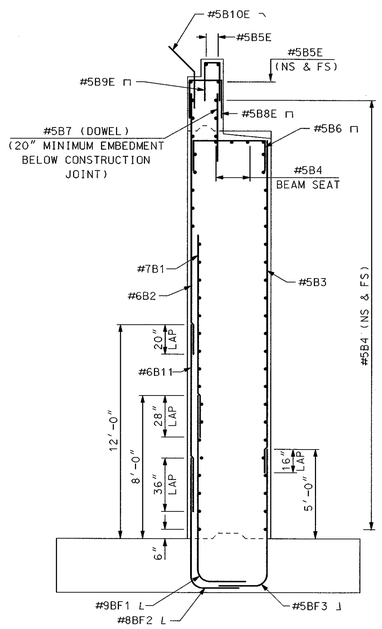
ELEVATION – NW PILASTER



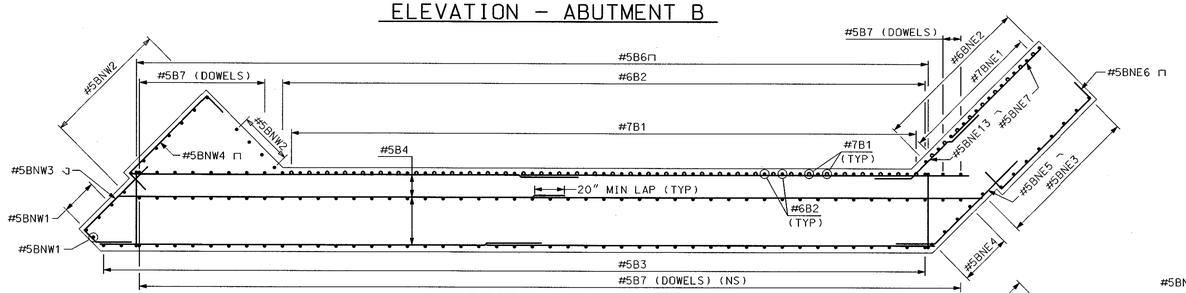
ELEVATION – ABUTMENT B



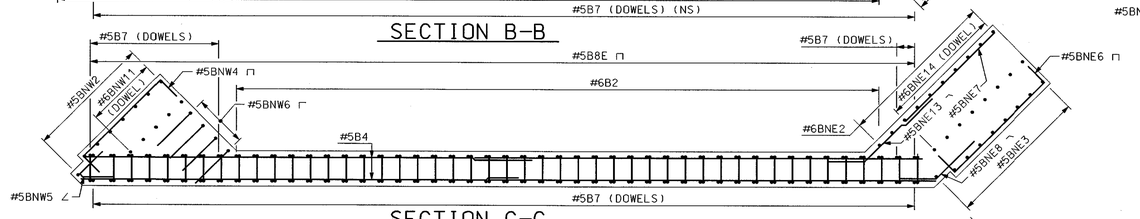
ELEVATION – NE PILASTER



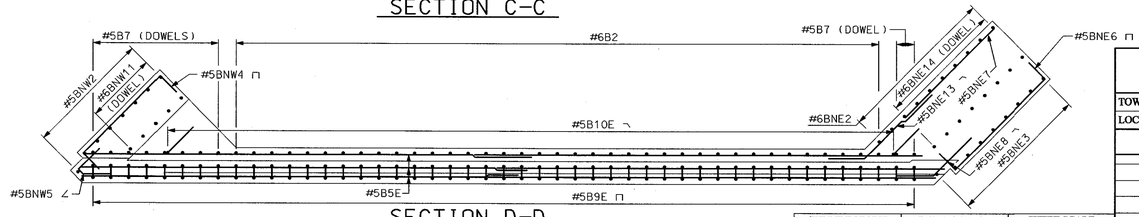
SECTION A–A



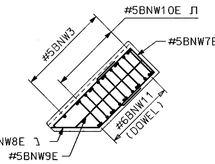
SECTION B–B



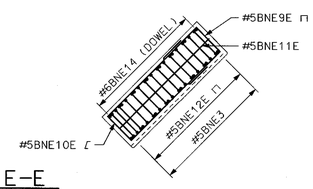
SECTION C–C



SECTION D–D



SECTION E–E



NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Abut-B	ABUTB REBAR	1/4" = 1'-0"

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

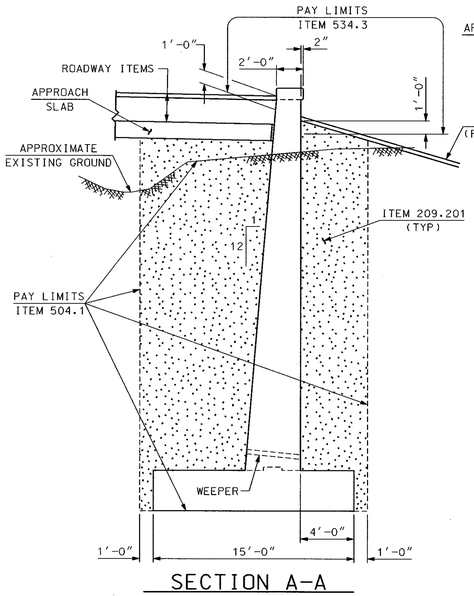
ABUTMENT B - REINFORCEMENT

REVISIONS AFTER PROPOSAL		BY	DATE

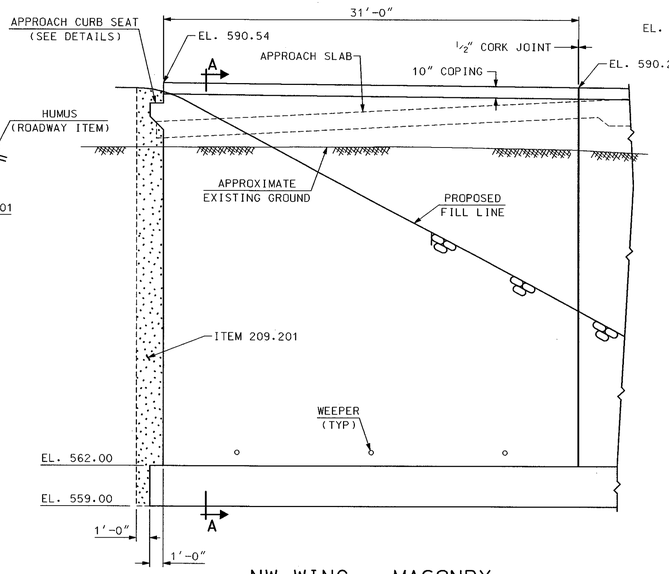
		BY	DATE		BY	DATE
DESIGNED	JAS		10/05	CHECKED	SDF	8/06
DRAWN	JAS/PJP		6/06	CHECKED	SDF	8/06
QUANTITIES	JAS		7/06	CHECKED	WPS	8/06
ISSUE DATE				FEDERAL PROJECT NO.		
REV. DATE				----------		

BRIDGE SHEET: B20 OF B37
FILE NUMBER: 104-4-2
SHEET NO.: 72
TOTAL SHEETS: 191

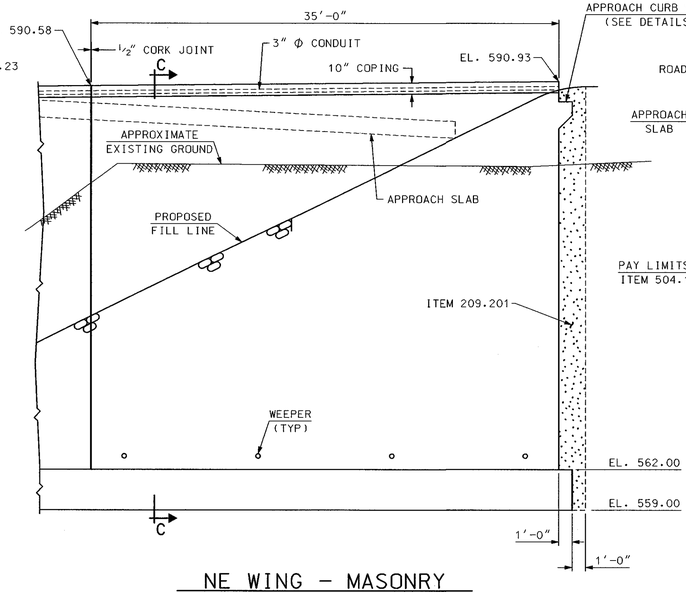
...\Abut-B\ABUTB REBAR.dgn 8/24/2006 8:11:20 PM rdbpjp



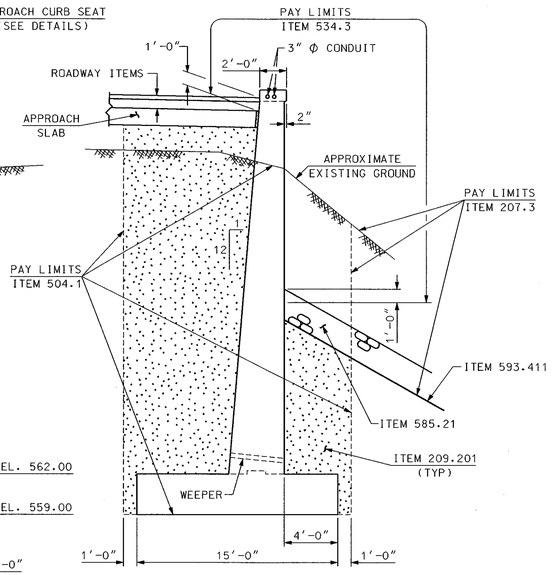
SECTION A-A



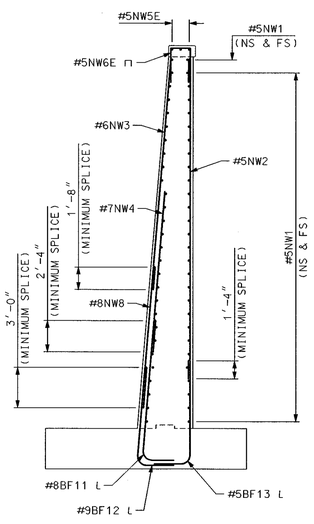
NW WING - MASONRY



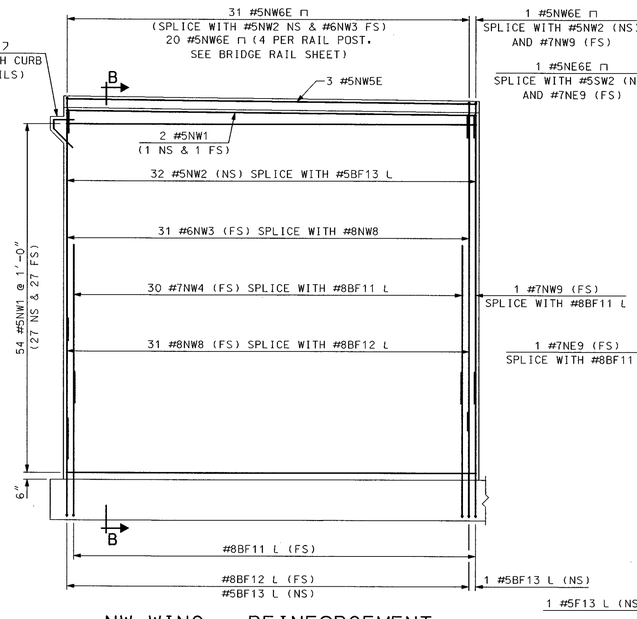
NE WING - MASONRY



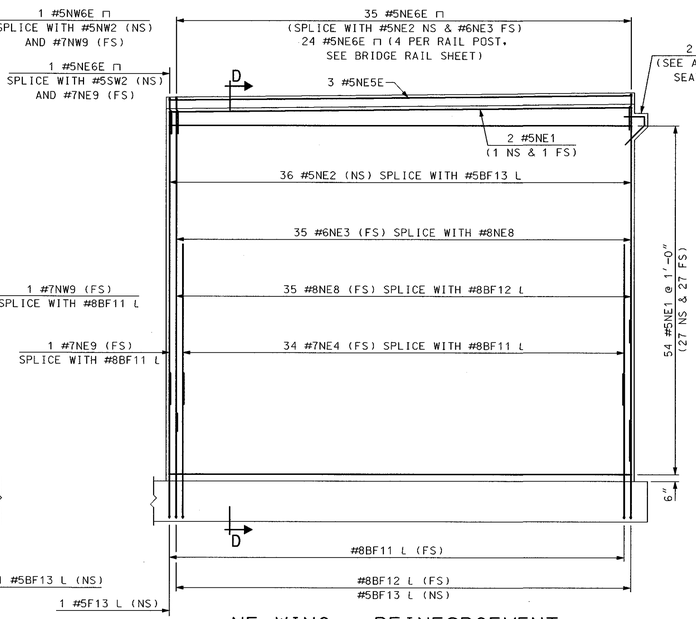
SECTION C-C



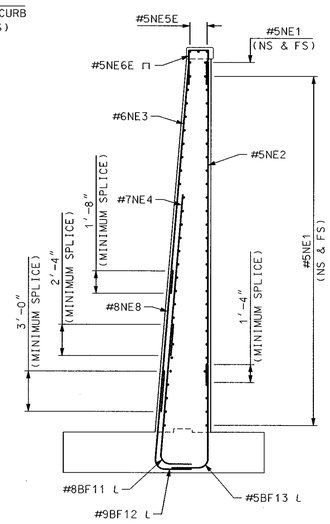
SECTION B-B



NW WING - REINFORCEMENT



NE WING - REINFORCEMENT



SECTION D-D

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

NOTE: SEE BRIDGE SHEET B16 FOR APPROACH CURB SEAT DETAILS

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Abut-B	WINGS ABUTB	3/16" = 1'-0"

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

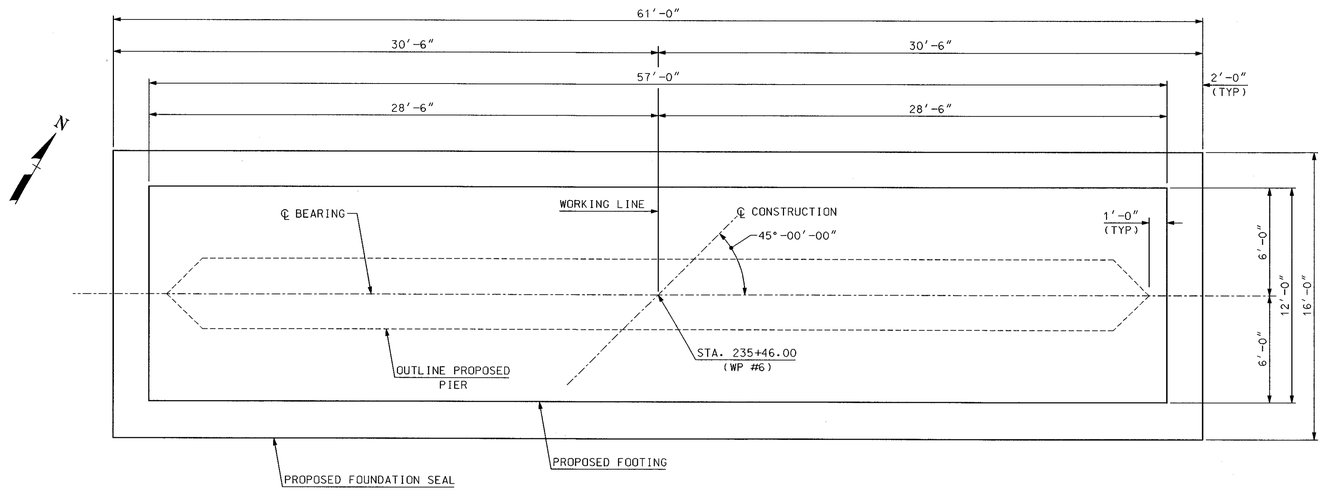
LOCATION U.S. ROUTE 302 over SACO RIVER

ABUTMENT B WINGS - MASONRY & REINFORCEMENT

BRIDGE SHEET: B21 OF B37

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	JAS	9/05	CHECKED	SDF	7/06
	DRAWN	JAS/PJP	6/06	CHECKED	SDF	7/06
	QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		----------		73	191

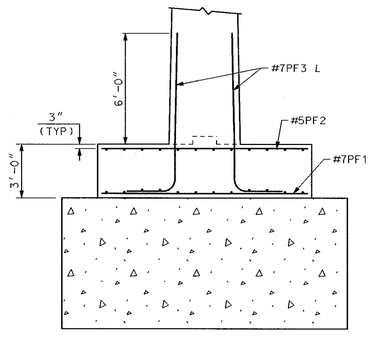
FILE NUMBER: 104-4-2



PIER PLAN VIEW

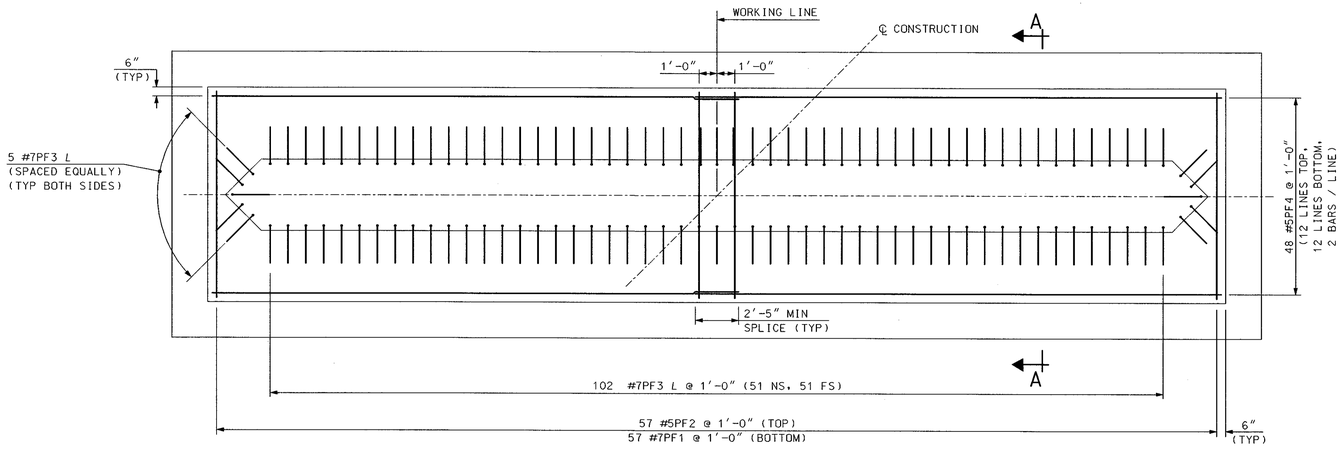
SCALE: 1/4 = 1′-0″

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



SECTION A–A

SCALE: 1/4 = 1′-0″



PIER FOOTING REINFORCEMENT

SCALE: 1/4 = 1′-0″

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Pier	PIER FOOTING	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

PIER FOOTING - MASONRY & REINFORCEMENT

BRIDGE SHEET: B22 OF B37

REVISIONS AFTER PROPOSAL			BY	DATE		BY	DATE
			DESIGNED	JAS	11/05	CHECKED SDF	7/06
			DRAWN	JAS/PJP	5/06	CHECKED SDF	7/06
			QUANTITIES	JAS	7/06	CHECKED WPS	8/06
			ISSUE DATE				
			REV. DATE				

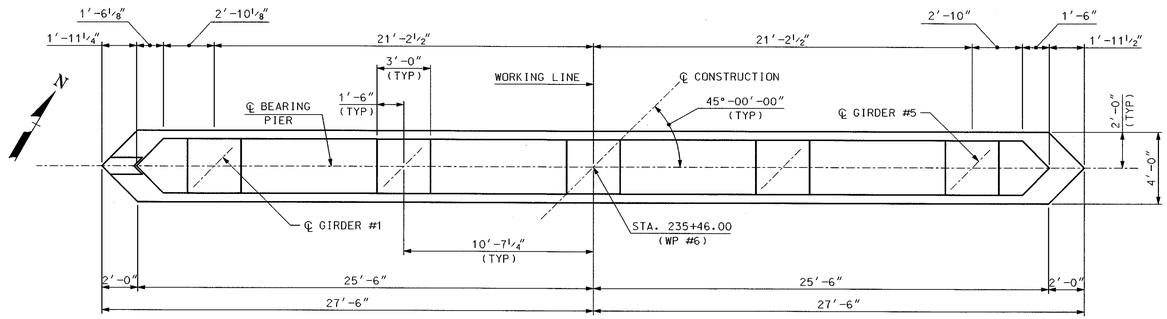
FEDERAL PROJECT NO.: ----------

FILE NUMBER: 104-4-2

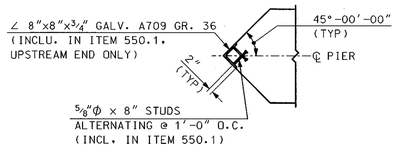
SHEET NO.: 74

TOTAL SHEETS: 191

...\brd-saco\Pier\PIER FOOTING.dgn 8/24/2006 8:11:23 PM n18pjp

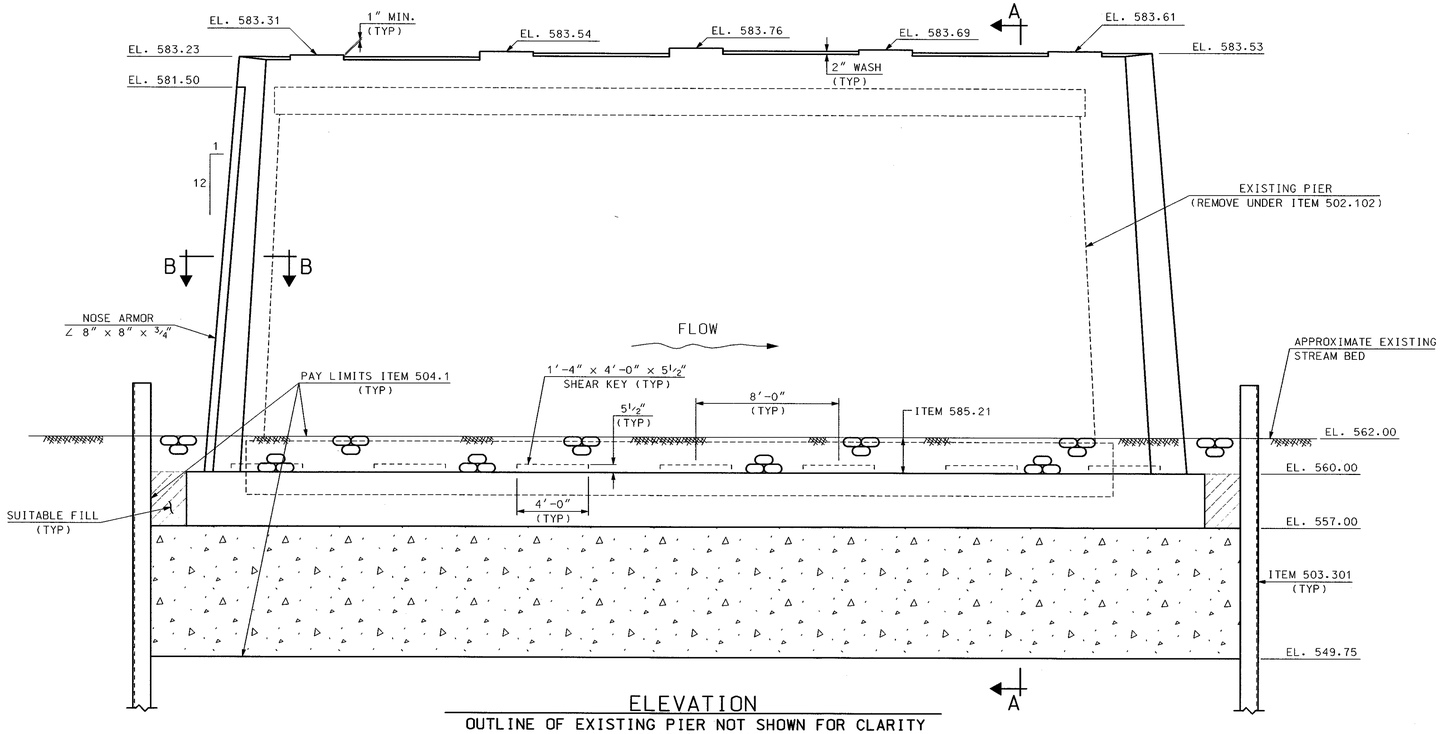


PLAN
SCALE: 1/4 = 1'-0"

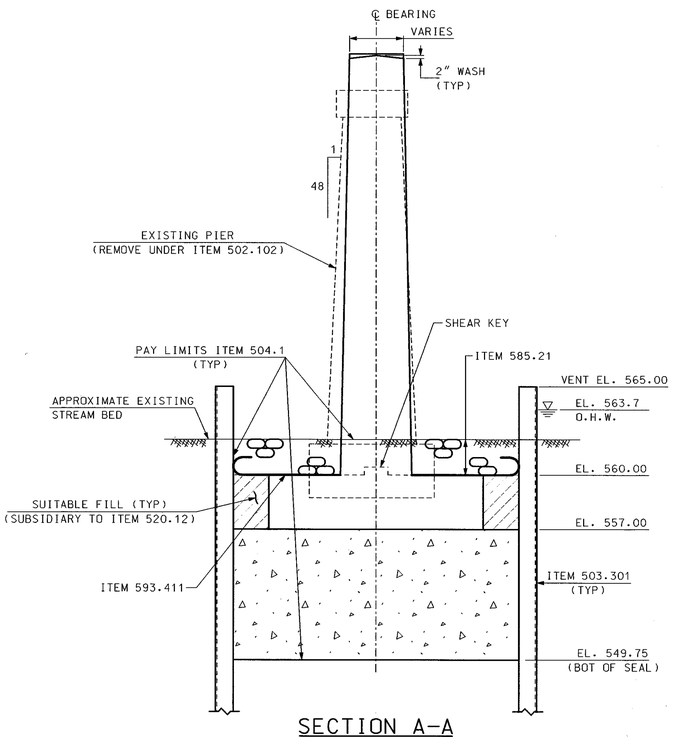


SECTION B-B
SCALE: 3/8" - 1'-0"

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



ELEVATION
OUTLINE OF EXISTING PIER NOT SHOWN FOR CLARITY
SCALE: 1/4 = 1'-0"



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

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Pier	PIER MASONRY	AS NOTED

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

TOWN BARTLETT | BRIDGE NO. 190/130 | STATE PROJECT 13043
LOCATION U.S. ROUTE 302 over SACO RIVER

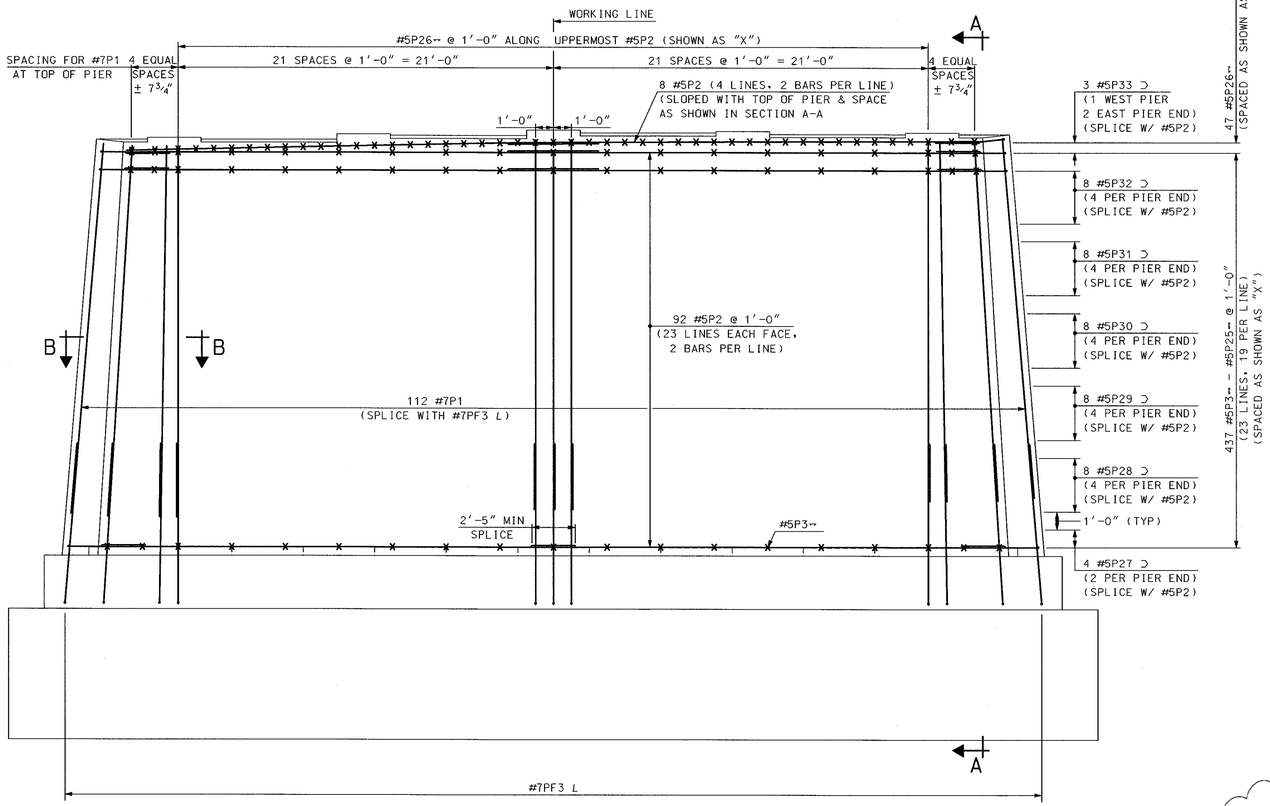
PIER MASONRY

BRIDGE SHEET: B23 OF B37
FILE NUMBER: 104-4-2

REVISIONS AFTER PROPOSAL				BY	DATE		BY	DATE
			DESIGNED	JAS	11/05	CHECKED	SDF	7/06
			DRAWN	JAS/PJP	5/06	CHECKED	SDF	7/06
			QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
			ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.
			REV. DATE			----------		75

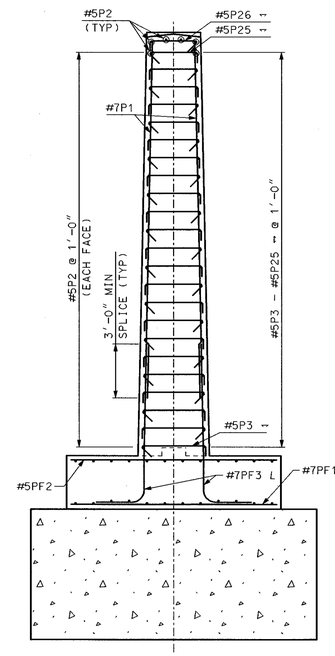
TOTAL SHEETS: 191

...\brd-saco\Pier\PIER MASONRY.dgn 8/24/2006 8:11:24 PM n18pjp



PIER STEM REINFORCEMENT

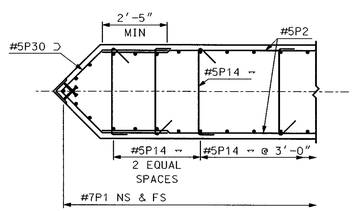
SCALE: 1/4 = 1'-0"



SECTION A-A

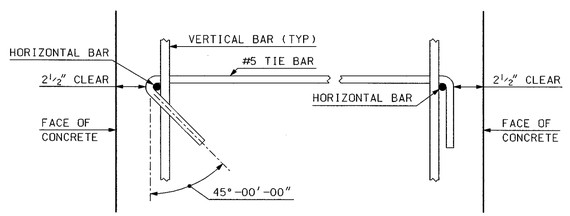
SCALE: 1/4 = 1'-0"

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



SECTION B-B

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



NOTE: ALTERNATE 90° & 135° HOOKS IN BOTH THE VERT & HORZ SPACING DIRECTIONS

TYPICAL TIE BAR DETAIL

SCALE 2" = 1'-0"

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Pier	PIER REBAR	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

PIER REINFORCEMENT

BRIDGE SHEET: B24 OF B37

REVISIONS AFTER PROPOSAL	BY	DATE

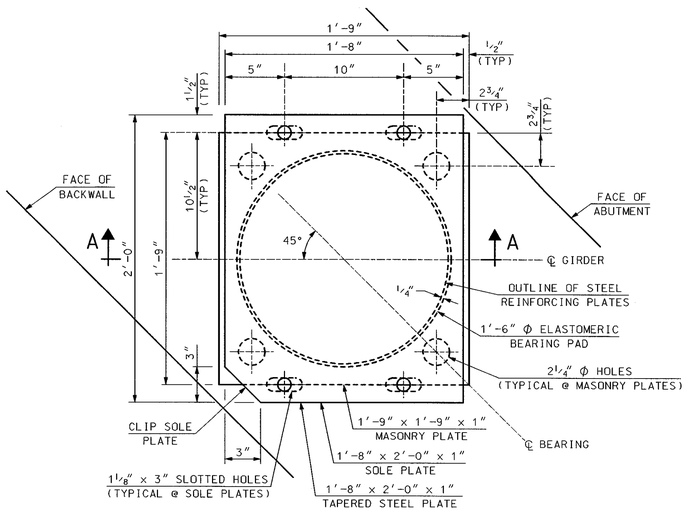
	BY	DATE		BY	DATE
DESIGNED	JAS	11/05	CHECKED	SDF	8/06
DRAWN	JAS/PJP	5/06	CHECKED	SDF	8/06
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
ISSUE DATE			FEDERAL PROJECT NO.		
REV. DATE			----------		

FILE NUMBER: 104-4-2

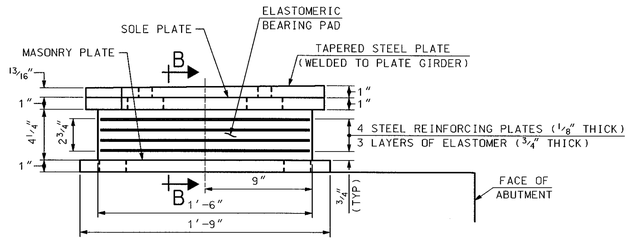
SHEET NO.: 76

TOTAL SHEETS: 191

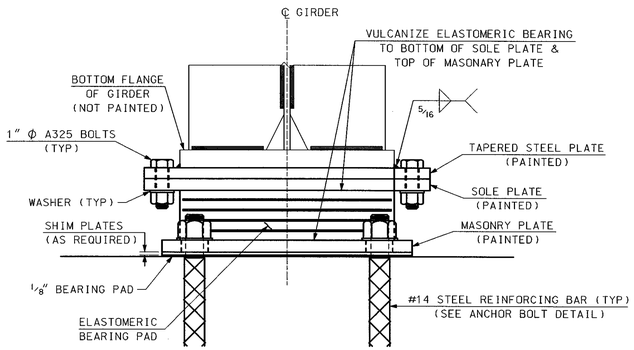
...\brd-saco\Pier\PIER REBAR.dgn 8/24/2006 8:11:25 PM ntilpjp



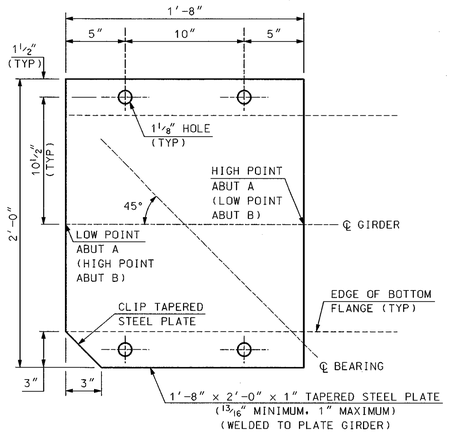
PLAN



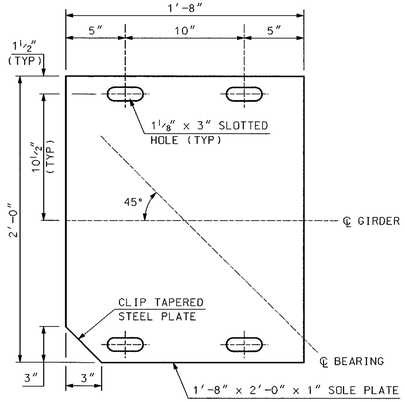
SECTION A-A
BEARINGS AT ABUTMENT A SHOWN
BEARINGS AT ABUTMENT B OPPOSITE HAND



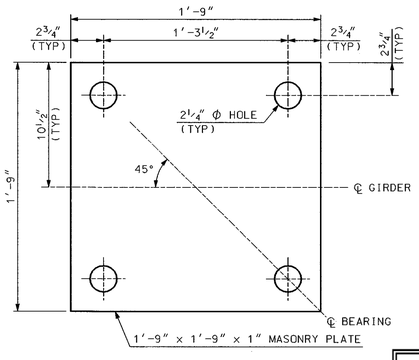
SECTION B-B



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 AASHTO, SECTION 14.6.6)

MAXIMUM DEAD LOAD	43.5 KIPS
MAXIMUM SUPERIMPOSED DEAD LOAD	13.2 KIPS
MAXIMUM LIVE LOAD	61.0 KIPS
ROTATION	0.007 RADIANS
DESIGN MOVEMENT	
COMPRESSION DEFLECTION	0.074"
TOTAL MOVEMENT (-20°F TO 105°F)	1.1"
DESIGN MOVEMENT (SHEAR DEFORM)	2.95"

(3) ELASTOMERIC BEARING 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 FABRICATTION 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.

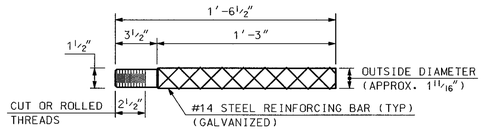
(7) SOLE PLATES & MASONRY PLATE SHALL BE VULCANIZED TO THE ELASTOMER. ALL SURFACES THAT ARE TO BE BONDED TO THE ELASTOMER SHALL BE BLAST CLEAN AS SPECIFIED IN SSPC-SP 10.

(8) TAPERED, SOLE, AND MASONRY PLATES SHALL BE BLAST CLEANED (SSPC-SP 10) 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.

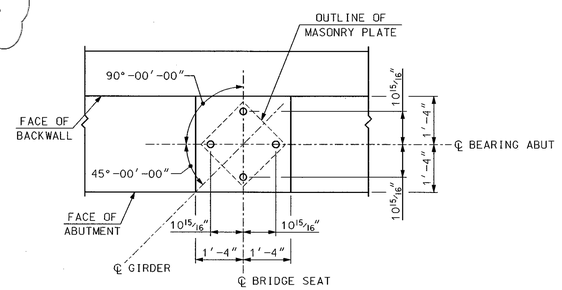
(10) THE MANUFACTURER SHALL CLEARLY MARK THE FRONT OF THE BEARINGS TO ENSURE PROPER ORIENTATION IN THE FIELD.

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



BEARING ASSEMBLY ANCHOR BOLT DETAIL (40 REQUIRED)
SCALE 2" = 1'-0"

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



ANCHOR BOLT LAYOUT
SCALE: ½" = 1'-0"

ELASTOMERIC BEARING ASSEMBLY - ABUTMENTS (10 TOTAL REQUIRED)
SCALE 2" = 1'-0"

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
Brd-Saco/Super	BEARINGS	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

BEARING DETAILS

BRIDGE SHEET: B25 OF B37

FILE NUMBER: 104-4-2

TOTAL SHEETS: 191

REVISIONS AFTER PROPOSAL	BY	DATE

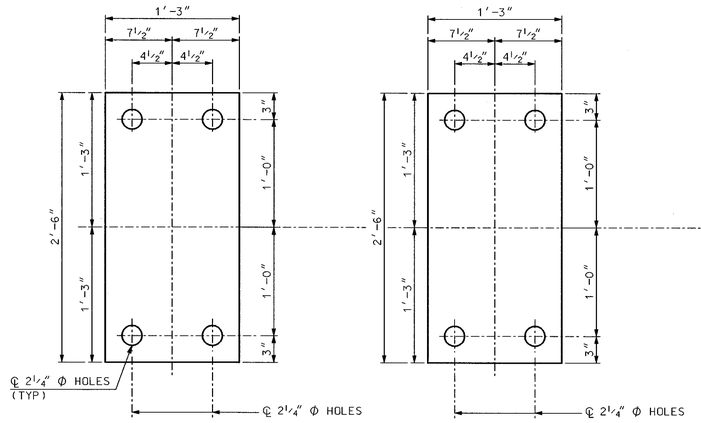
	BY	DATE		BY	DATE
DESIGNED	JAS	9/05	CHECKED	ABH	6/06
DRAWN	JAS	9/05	CHECKED	ABH	6/06
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06

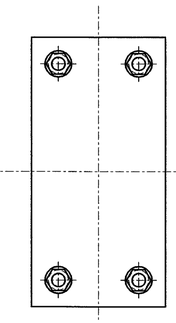
ISSUE DATE

REV. DATE

FEDERAL PROJECT NO. ----------

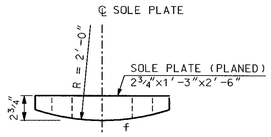
SHEET NO. 77



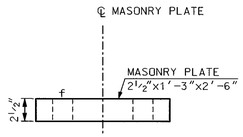


NOTE:

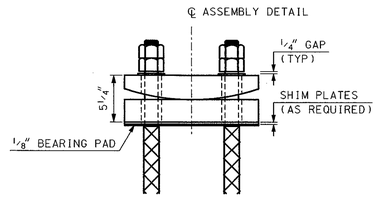
LEAVE A ¼" GAP BETWEEN THE SOLE PLATE & BOTTOM NUT. DOUBLE NUT THE ANCHOR BOLTS (PIER ONLY)



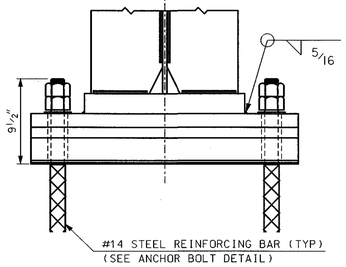
SOLE PLATE



MASONRY PLATE

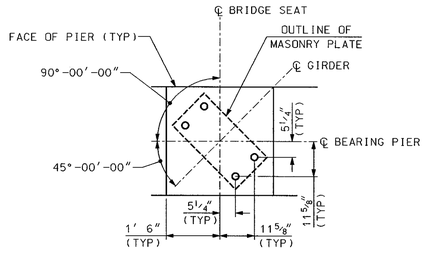


FIXED SHOE ASSEMBLY



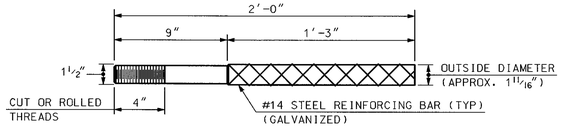
FIXED SHOE DETAILS – PIER (5 REQUIRED)

SCALE: 1½" = 1'-0"



PIER ANCHOR BOLT LAYOUT

SCALE: ½" = 1'-0"



ANCHOR BOLT DETAIL

SCALE: 2" = 1'-0"
(10 REQUIRED)

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

BRIDGE SHOE NOTES

(1) FIXED SHOE ASSEMBLIES, INCLUDING ANCHOR BOLTS, SHALL BE PAID FOR UNDER ITEM 550.2, BRIDGE SHOES (F).

(2) ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.

(3) ALL STEEL PLATES SHALL CONFORM TO AASHTO M 270 GRADE 50W (ASTM A709 GRADE 50W).

(4) ANCHOR BOLTS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 550.2.5. OF THE NHDOT STANDARD SPECIFICATIONS, 2006.

(5) BEARING SURFACES MARKED "f", OR SURFACES IN CONTACT TO BE WELDED, SHALL BE FINISHED IN ACCORDANCE WITH AASHTO DIVISION II, SECTION 11.4.6.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
Brd-Saco/Super	BR-SHOES	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

BRIDGE SHOE DETAILS

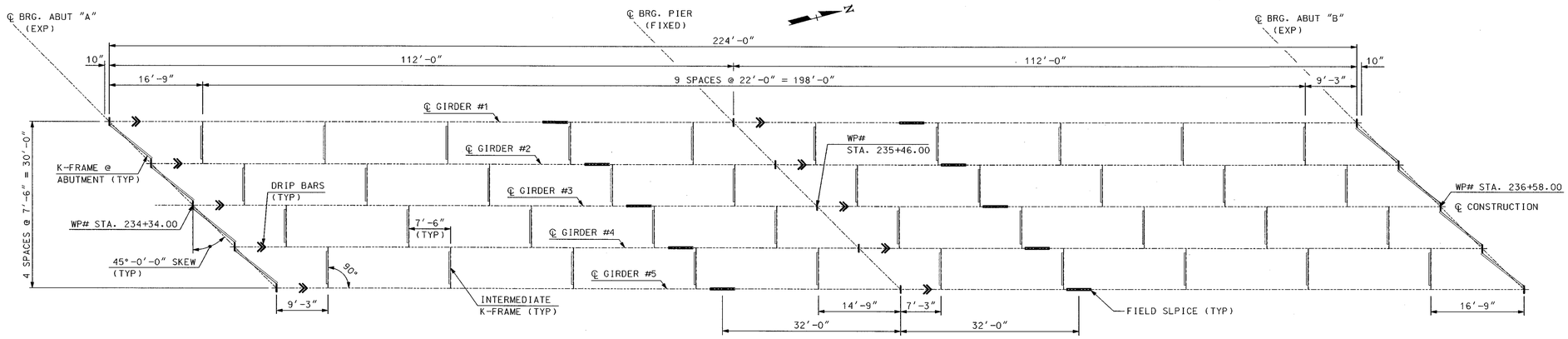
BRIDGE SHEET: B26 OF B37

FILE NUMBER: 104-4-2

TOTAL SHEETS: 191

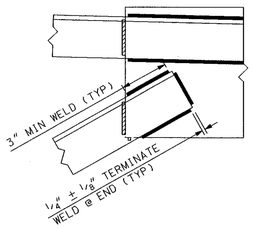
REVISIONS AFTER PROPOSAL			BY	DATE		BY	DATE
		DESIGNED	JAS	9/05	CHECKED	ABH	6/06
		DRAWN	JAS	9/05	CHECKED	ABH	6/06
		QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
		ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
		REV. DATE		----------		78	

...\brd-saco\Super\BR-SHOES.dgn 8/24/2006 8:11:27 PM nisbjp



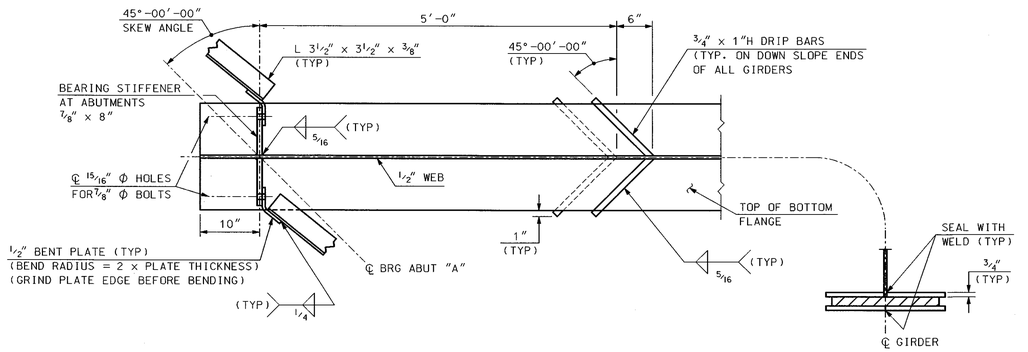
FRAMING PLAN

SCALE: $\frac{3}{32}$" = 1'-0"



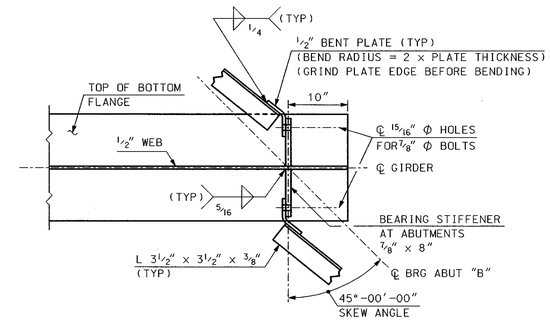
DETAIL A

SCALE 2" = 1'-0"



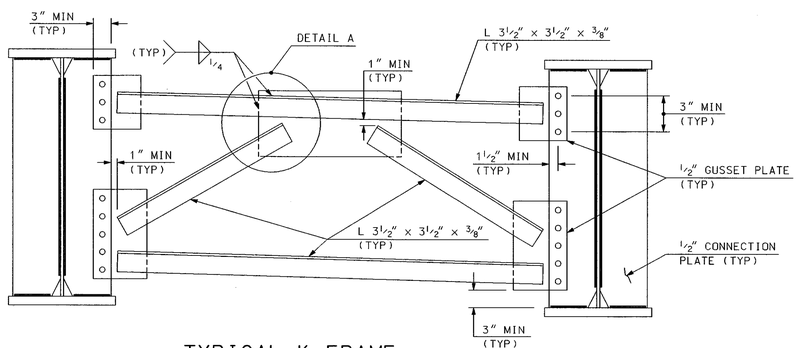
ABUTMENT A K-FRAME & DRIP BAR DETAIL

SCALE: 1" = 1'



ABUTMENT B K-FRAME DETAIL

SCALE: 1" = 1'



TYPICAL K-FRAME (SKEWED AT ABUTMENTS)

SCALE: 1" = 1'-0"

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
Brd-Saco/Super	FRAMPLAN	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

FRAMING PLAN

BRIDGE SHEET: B27 OF B37

REVISIONS AFTER PROPOSAL	BY	DATE

DESIGNED	JAS	9/05	CHECKED	ABH	5/06
DRAWN	JAS	9/05	CHECKED	ABH	5/06
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06

ISSUE DATE
REV. DATE
FEDERAL PROJECT NO. ----------
SHEET NO. 79
TOTAL SHEETS 191
FILE NUMBER 104-4-2

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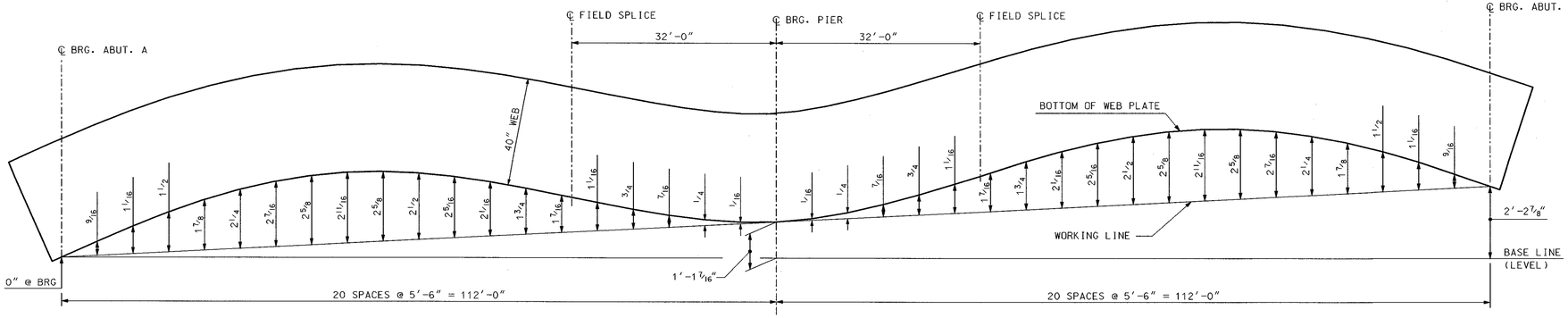
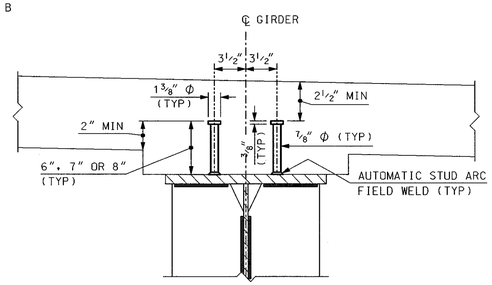


GIRDER WEB LAYOUT

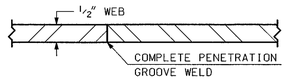
N.T.S.

NOTE: SEE BRIDGE SHEET B30 FOR CAMBER TABLES



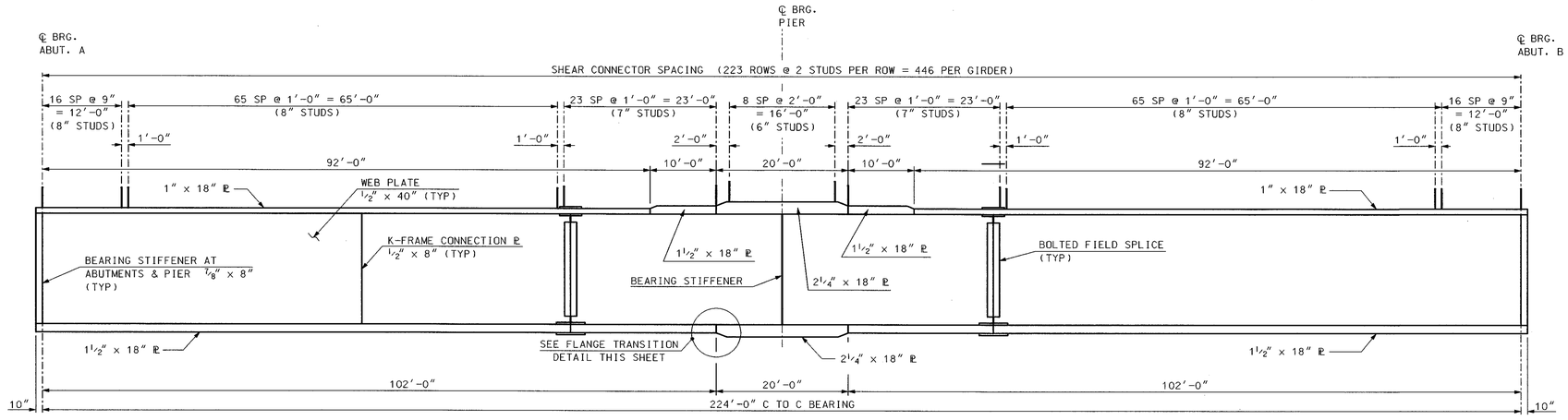
SHEAR CONNECTOR DETAIL

SCALE: 1 1/2″ = 1′



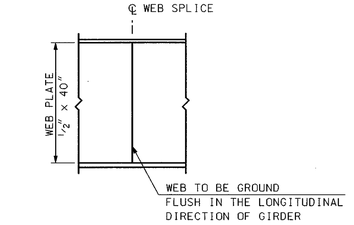
SECTION

SCALE 6″ = 1′



GIRDER ELEVATION & SHEAR CONNECTOR LAYOUT

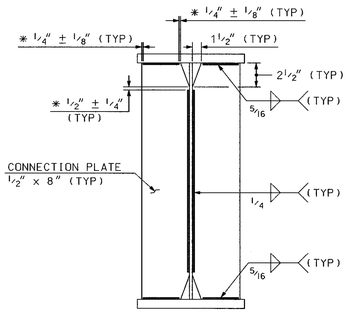
N.T.S.



ELEVATION

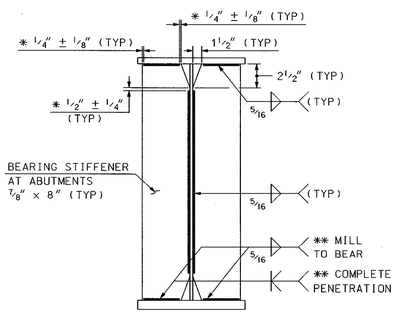
SCALE 1/2″ = 1′

SHOP WEB SPLICE DETAILS



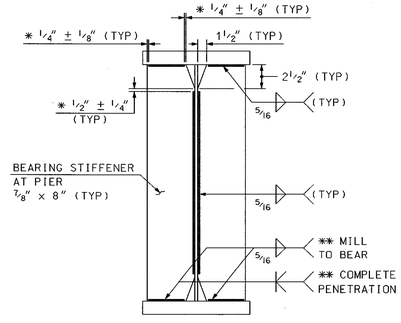
CONNECTION PLATE DETAIL

SCALE 1″ = 1′-0″



BEARING STIFFENER DETAIL AT ABUTMENTS

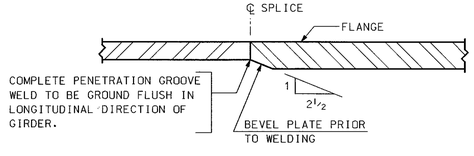
SCALE 1″ = 1′-0″



BEARING STIFFENER DETAIL AT PIER

SCALE 1″ = 1′-0″

* WELD TERMINATION
** CONTRACTOR'S OPTION



SHOP SPLICE FLANGE TRANSITION

SCALE: 2″ = 1′

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
Brd-Saco/Super	GIRDERS	AS NOTED

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

TOWN BARTLETT — BRIDGE NO. 190/130 — STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

GIRDERS AND DETAILS

BRIDGE SHEET: B28 OF B37

FILE NUMBER: 104-4-2

REVISIONS AFTER PROPOSAL				BY	DATE		BY	DATE
			DESIGNED	JAS	10/05	CHECKED	ABH	5/06
			DRAWN	JAS	10/05	CHECKED	ABH	5/06
			QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
			ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
			REV. DATE		----------		80	191

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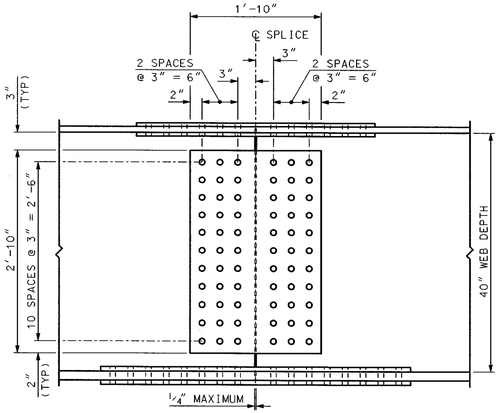
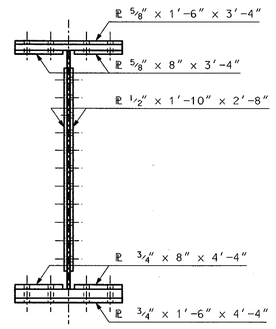
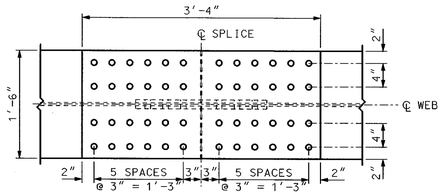


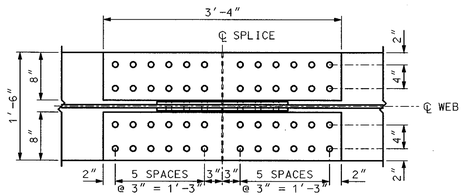
ELEVATION



SECTION

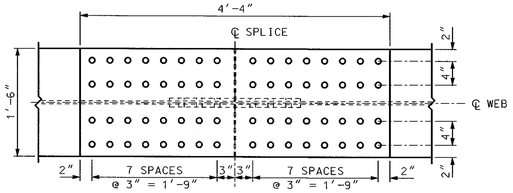


PLAN TOP FLANGE TOP SIDE

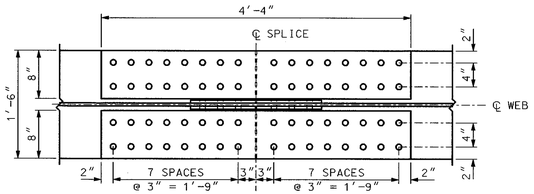


PLAN TOP FLANGE WEB SIDE

NOTE:
HOLES FOR FIELD SPLICES SHALL BE DRILLED IN THE SHOP WHILE GIRDERS ARE ASSEMBLED TO FIT BEARING ELEVATIONS



PLAN BOTTOM FLANGE BOTTOM SIDE



PLAN BOTTOM FLANGE WEB SIDE

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

FIELD SPLICE DETAILS

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
Brd-Saco/Super	SS-DETAILS	1" = 1'-0"

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043
LOCATION U.S. ROUTE 302 over SACO RIVER

SUPERSTRUCTURE DETAILS

REVISIONS AFTER PROPOSAL			BY	DATE		BY	DATE
		DESIGNED	JAS	5/06	CHECKED	ABH	5/06
		DRAWN	JAS/PJP	5/06	CHECKED	ABH	5/06
		QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
		ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
		REV. DATE		----------		81	

BRIDGE SHEET B29 OF B37
FILE NUMBER 104-4-2
TOTAL SHEETS 191

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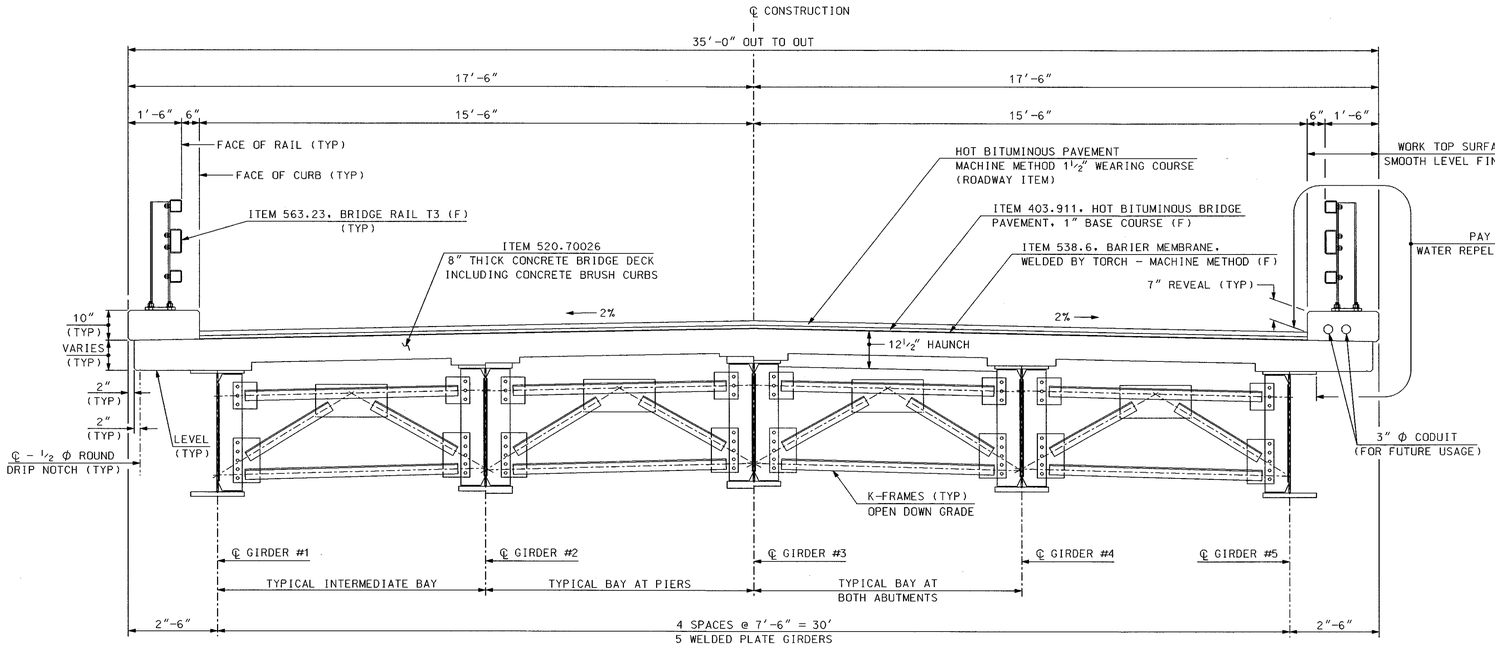
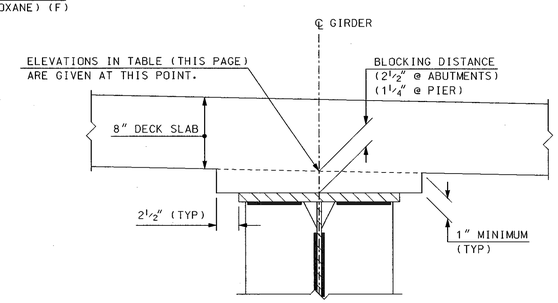


NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

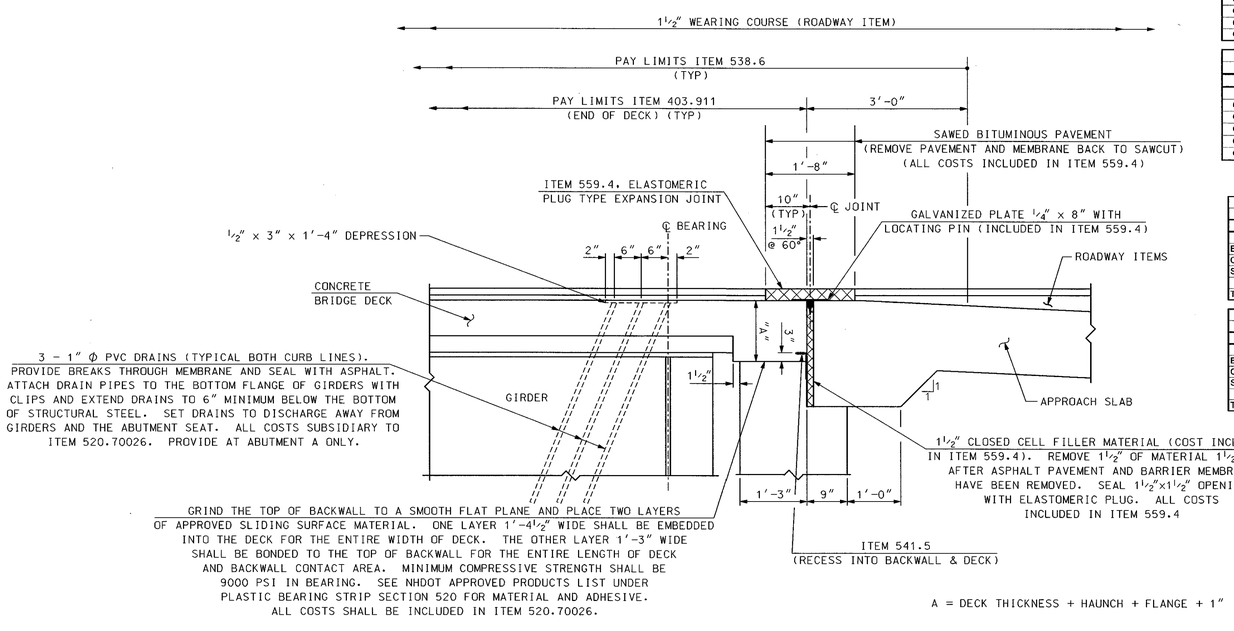


HAUNCH DETAIL

SCALE 1½″ = 1′

TYPICAL DECK SECTION

SCALE: ½″ = 1′-0″



A = DECK THICKNESS + HAUNCH + FLANGE + 1″

ABUTMENT A & B
ELASTOMERIC PLUG JOINT W/APPROACH SLAB

SCALE: ¾″ = 1′

SPAN 1	ELEVATIONS AT BOTTOM OF CONCRETE DECK SLAB																				
	ABUT A	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
GIRDER #1	586.45	586.55	586.63	586.72	586.80	586.88	586.95	587.02	587.08	587.13	587.18	587.22	587.26	587.30	587.33	587.36	587.40	587.43	587.48	587.52	587.57
GIRDER #2	586.68	586.77	586.86	586.95	587.03	587.10	587.18	587.24	587.30	587.36	587.41	587.45	587.49	587.52	587.56	587.59	587.62	587.66	587.70	587.75	587.80
GIRDER #3	586.90	587.00	587.08	587.17	587.25	587.33	587.40	587.47	587.53	587.58	587.63	587.67	587.71	587.75	587.78	587.81	587.85	587.88	587.93	587.97	588.02
GIRDER #4	586.83	586.92	587.01	587.10	587.18	587.25	587.33	587.39	587.45	587.51	587.56	587.60	587.64	587.67	587.71	587.74	587.77	587.81	587.85	587.90	587.95
GIRDER #5	586.75	586.85	586.93	587.02	587.10	587.18	587.25	587.32	587.38	587.43	587.48	587.52	587.56	587.60	587.63	587.66	587.70	587.73	587.78	587.82	587.87

SPAN 2	ELEVATIONS AT BOTTOM OF CONCRETE DECK SLAB																				
	PIER	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
GIRDER #1	587.57	587.63	587.70	587.77	587.85	587.92	588.00	588.08	588.16	588.23	588.30	588.36	588.42	588.47	588.52	588.56	588.59	588.62	588.65	588.67	588.69
GIRDER #2	587.80	587.86	587.92	588.00	588.07	588.15	588.23	588.31	588.38	588.46	588.53	588.59	588.65	588.70	588.74	588.78	588.82	588.85	588.88	588.90	588.92
GIRDER #3	588.02	588.08	588.15	588.22	588.30	588.37	588.45	588.53	588.61	588.68	588.75	588.81	588.87	588.92	588.97	589.01	589.04	589.07	589.10	589.12	589.14
GIRDER #4	587.95	588.01	588.07	588.15	588.22	588.30	588.38	588.46	588.53	588.61	588.68	588.74	588.80	588.85	588.89	588.93	588.97	589.00	589.03	589.05	589.07
GIRDER #5	587.87	587.93	588.00	588.07	588.15	588.22	588.30	588.38	588.46	588.53	588.60	588.66	588.72	588.77	588.82	588.86	588.89	588.92	588.95	588.97	588.99

SPAN 1	CAMBER TABLE WITH 8" CIP DECK (INCHES)																				
	ABUT A	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	PIER 1.00
BEAM DL	0.000	0.095	0.186	0.268	0.340	0.399	0.442	0.469	0.480	0.474	0.453	0.417	0.370	0.313	0.251	0.188	0.127	0.075	0.034	0.009	0.00
CONC SLAB	0.000	0.339	0.662	0.958	1.214	1.422	1.577	1.674	1.712	1.691	1.615	1.488	1.320	1.118	0.897	0.669	0.453	0.268	0.122	0.033	0.00
SUPER IMPOSED DL	0.000	0.076	0.149	0.216	0.274	0.322	0.358	0.382	0.392	0.389	0.374	0.347	0.310	0.266	0.216	0.164	0.113	0.068	0.032	0.009	0.00
TOTAL DL DEFLECTION	0.000	0.510	0.997	1.442	1.828	2.143	2.377	2.525	2.584	2.554	2.442	2.252	2.000	1.697	1.364	1.021	0.693	0.409	0.188	0.051	0.000

SPAN 2	CAMBER TABLE WITH 8" CIP DECK (INCHES)																				
	PIER	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	ABUT B 1.00
BEAM DL	0.000	0.009	0.034	0.075	0.127	0.188	0.251	0.313	0.370	0.417	0.453	0.474	0.480	0.469	0.442	0.399	0.340	0.268	0.186	0.095	0.00
CONC SLAB	0.000	0.033	0.122	0.266	0.453	0.669	0.897	1.118	1.320	1.488	1.615	1.691	1.712	1.674	1.577	1.422	1.214	0.958	0.662	0.339	0.00
SUPER IMPOSED DL	0.000	0.009	0.032	0.068	0.113	0.164	0.216	0.266	0.310	0.347	0.374	0.389	0.392	0.382	0.358	0.322	0.274	0.216	0.149	0.076	0.00
TOTAL DL DEFLECTION	0.000	0.051	0.188	0.409	0.693	1.021	1.364	1.697	2.000	2.252	2.442	2.554	2.584	2.525	2.377	2.143	1.828	1.442	0.997	0.510	0.000

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
Brd-Saco/Super	DECKSECT	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

DECK SECTION AND DETAILS

BRIDGE SHEET: B30 OF B37

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	JAS	9/05	CHECKED	ABH	5/06
	DRAWN	JAS	9/05	CHECKED	ABH	5/06
	QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		----------		82	191

FILE NUMBER: 104-4-2

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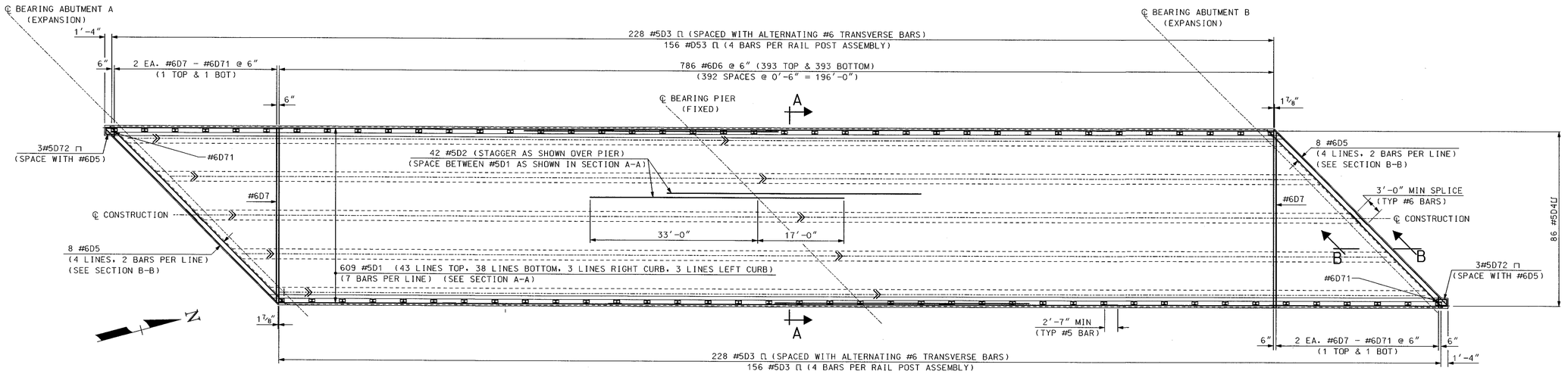
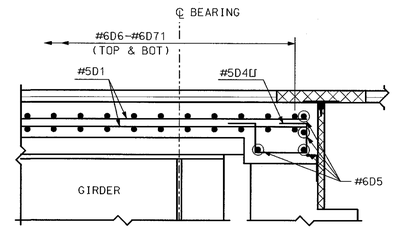


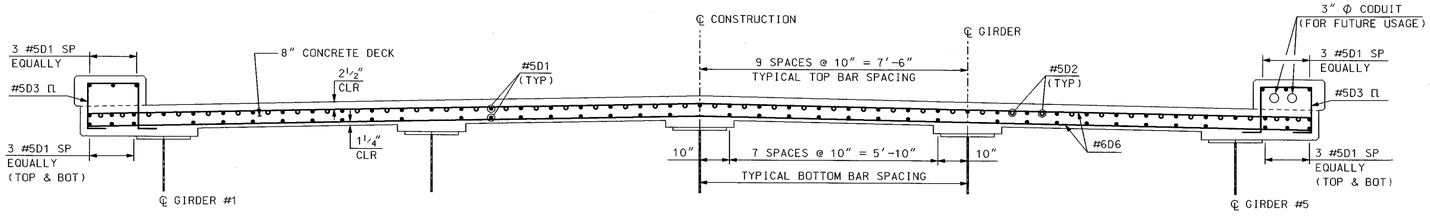
DECK REINFORCING PLAN

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



SECTION B-B

SCALE: 3/4" = 1'



SECTION A-A DECK REINFORCING

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

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
Brd-Saco/Super	DECKBARS	AS NOTED

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

TOWN BARTLETT | BRIDGE NO. 190/130 | STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

DECK REINFORCEMENT

BRIDGE SHEET: B31 OF B37

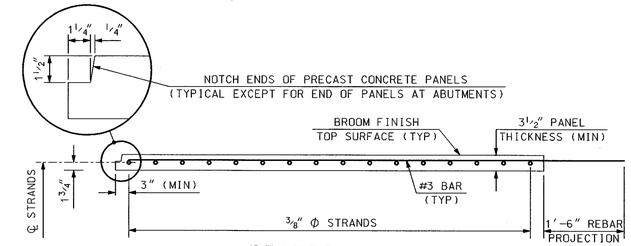
REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED	JAS	9/05	CHECKED	ABH	7/06
DRAWN	JAS	9/05	CHECKED	ABH	7/06
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06

ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE		----------	83	191

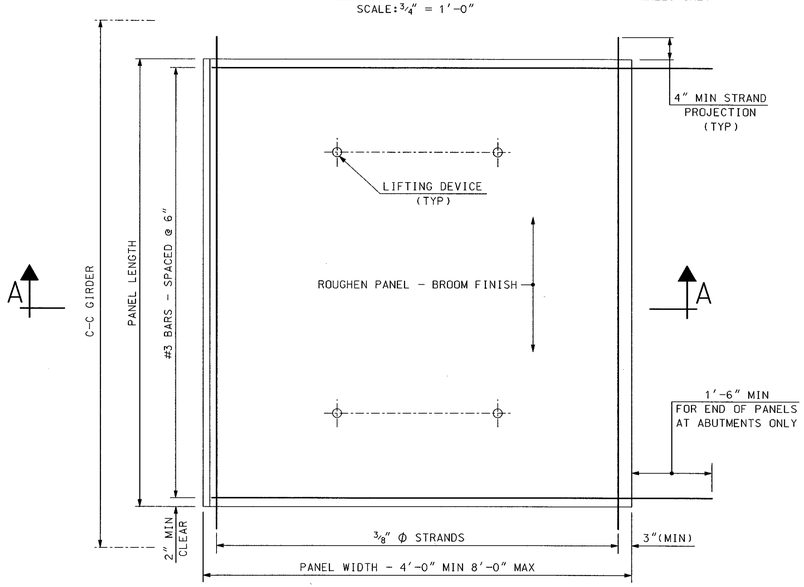
FILE NUMBER: 104-4-2

...\brd-saco\Super\DECKBARS.dgn 8/24/2006 8:11:35 PM nfabjp



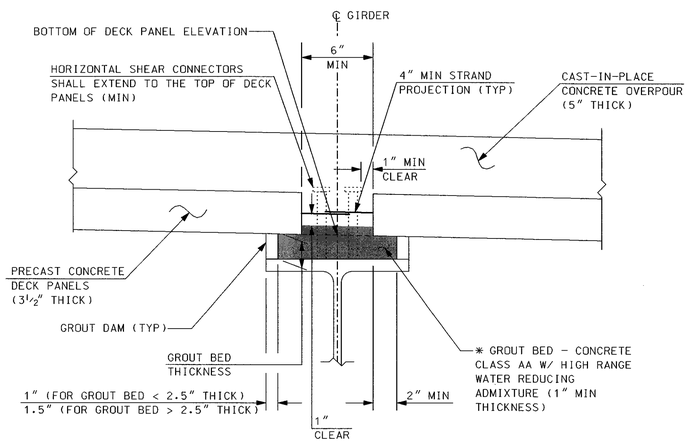
SECTION A-A

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"

PRESTRESSED CONCRETE DECK PANEL NOTES

(1) CONCRETE STRENGTH: f'c = 6.000 PSI MINIMUM AT 28 DAYS
f'ci = 4.000 PSI MINIMUM

(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 = 7'-6"
PANEL LENGTH = 6'-6"
PANEL THICKNESS = 3 1/2"

CONCRETE STRENGTHS
f'ci = 4.000
f'c = 6.000

STRAND SPACING = 8"

MULTI SPANS ONLY:
REINFORCEMENT REQUIREMENTS IN TOP MAT OVER PIER TO MEET AASHTO 10.38.4.3
BAR SIZE = #5D2
BAR SPACING = BETWEEN #5D1 (SEE DECK REINFORCING SHEET FOR LAYOUT)

SAMPLE PLAN
DATE: 8-2006

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

TABLE C - DL DEFLECTIONS DUE TO DECK PANEL & C.I.P. OVERPOUR											
	0L	.1L	.2L	.3L	.4L	.5L	.6L	.7L	.8L	.9L	1.0L
SPAN 1	.000	.687	1.259	1.635	1.775	1.675	1.368	.930	.470	.127	.000
SPAN 2	.000	.127	.470	.930	1.368	1.675	1.775	1.635	1.259	.687	.000

DESIGN ASSUMPTIONS:

- LIVE LOAD = HS25
- ALLOWABLE TENSION IN CONCRETE = $6\sqrt{f'c}$
- MAXIMUM INITAL COMPRESSION = 750 psi (W/ f'ci = 4000 psi)
- C-I-P DECK THICKNESS = 5"
- PAVEMENT THICKNESS = 2"
- STEEL FLANGE WIDTH = 12"
- GROUT DAM WIDTH = 1 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 TABLES A & B, 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 ACCOMODATE THIS OPTION.

DECK SLAB ELEVATION NOTES

1) AFTER GIRDERS ARE ERECTED AND BEFORE PRECAST DECK PANELS ARE SET, ELEVATIONS ON THE TOP FLANGE OF THE GIRDERS ARE TO BE OBTAINED AT POINTS INDICATED IN "BOTTOM OF SLAB ELEVATION TABLE" SHOWN IN THE PLANS AND GIRDER HAUNCH DETAILS ON BRIDGE SHEET B30.

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.

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043
LOCATION U.S. ROUTE 302 over SACO RIVER

PRECAST CONCRETE DECK PANEL DETAILS

BRIDGE SHEET: B32 OF B37

REVISIONS AFTER PROPOSAL	BY	DATE

DESIGNED	MGL	4/02	CHECKED	JAS	4/02
DRAWN	GMC	4/02	CHECKED	JAS/ABH	7/06
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
ISSUE DATE	4/02	FEDERAL PROJECT NO.		SHEET NO.	
REV. DATE	5/04	----------		84	

FILE NUMBER: 104-4-2
TOTAL SHEETS: 191

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
Brd-Saco/Super	DECK PANELS	AS NOTED

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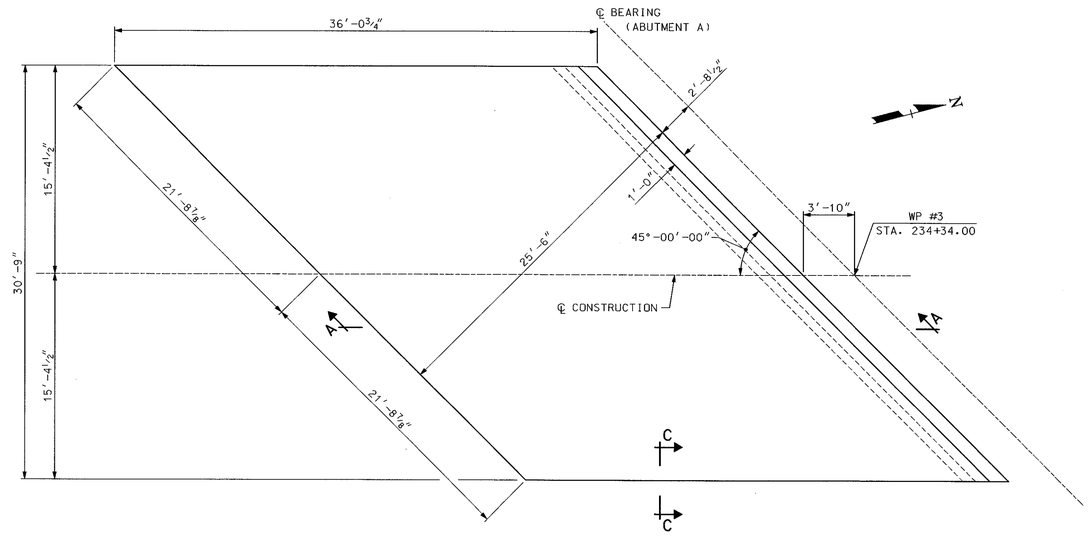
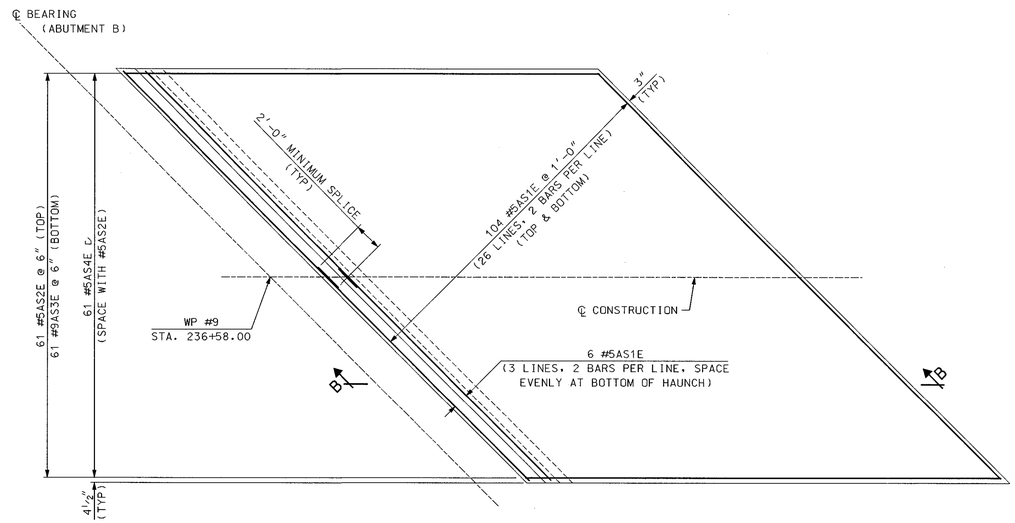


APPROACH SLAB MASONRY

(APPROACH SLAB A SHOWN, APPROACH SLAB B SIMILAR)

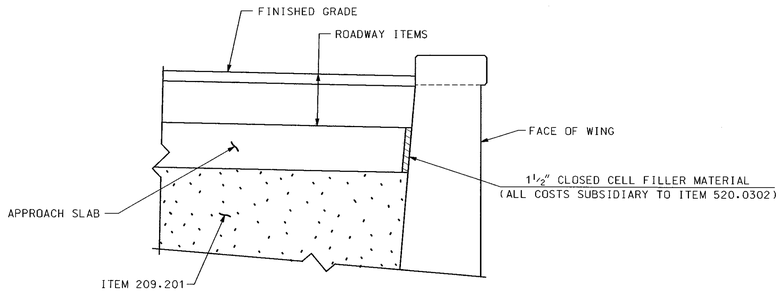
SCALE: 3/16″ = 1′-0″



APPROACH SLAB REINFORCEMENT

(APPROACH SLAB B SHOWN, APPROACH SLAB A SIMILAR)

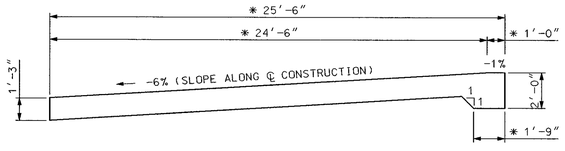
SCALE: 3/16″ = 1′-0″



SECTION C-C

(APPROACH SLAB A SHOWN, APPROACH SLAB B SIMILAR)

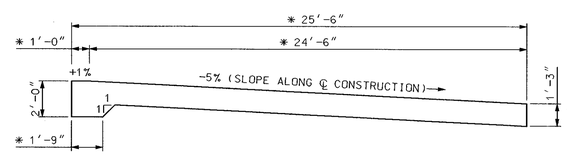
SCALE: 1/2″ = 1′-0″



SECTION A-A MASONRY

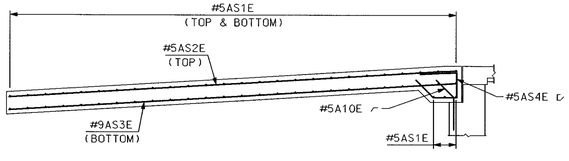
SCALE: 1/4″ = 1′-0″

* - NORMAL TO ABUTMENT



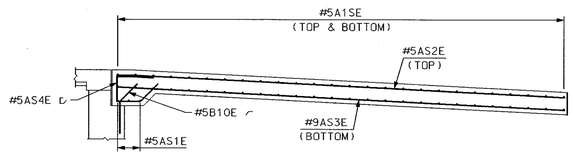
SECTION B-B MASONRY

SCALE: 1/4″ = 1′-0″



SECTION A-A REINFORCEMENT

SCALE: 1/4″ = 1′-0″



SECTION B-B REINFORCEMENT

SCALE: 1/4″ = 1′-0″

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
Brd-Saco/Super	APPR-SLABS	AS NOTED

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

TOWN BARTLETT — BRIDGE NO. 190/130 — STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

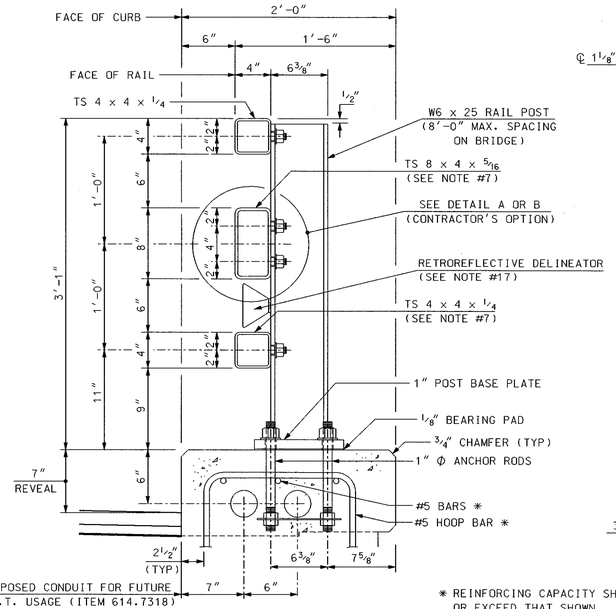
APPROACH SLABS - MASONRY & REINFORCEMENT

BRIDGE SHEET: B33 OF B37

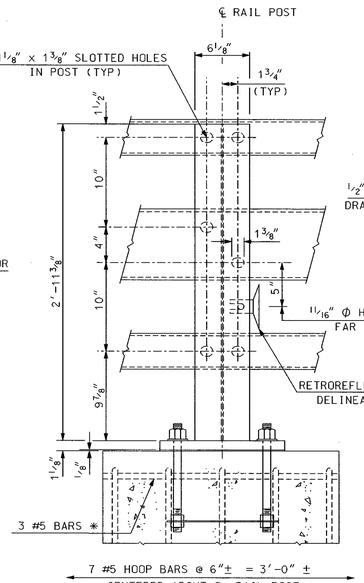
REVISIONS AFTER PROPOSAL				BY	DATE		BY	DATE
			DESIGNED	JAS	6/06	CHECKED	ABH	7/06
			DRAWN	JAS	6/06	CHECKED	ABH	7/06
			QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
			ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
			REV. DATE		----------		85	191

FILE NUMBER: 104-4-2

...\brd-saco\Super\APPR-SLABS.dgn 8/24/2006 8:11:38 PM n18pjp

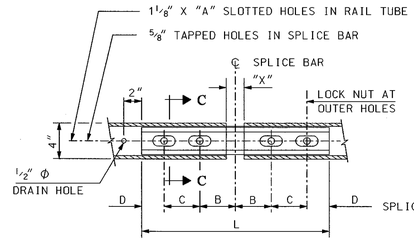


SECTION VIEW



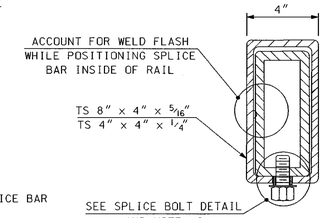
* REINFORCING CAPACITY SHALL MEET OR EXCEED THAT SHOWN

BACK ELEVATION VIEW

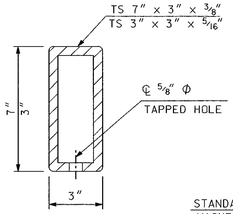


RAIL SPLICE (BOTTOM VIEW)

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



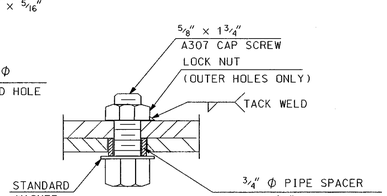
SECTION C-C



SPLICE BAR SECTION

RAIL SPLICE DETAILS

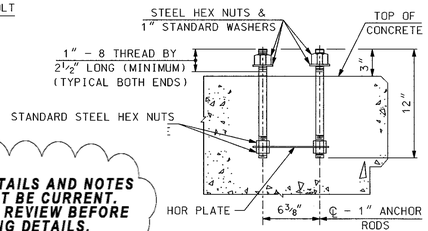
SCALE: 3" = 1'-0"



SPLICE BOLT DETAIL

SCALE: 6" = 1'-0"

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



'OST ANCHOR ASSEMBLY

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

RAIL NOTES

(1) ITEM 563.23, BRIDGE RAIL T3 (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. ALL RAILS IN A SPLICE 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. DAMAGED AREAS OF GALVANIZING SHALL BE THOROUGHLY CLEANED, PRETREATED, AND PAINTED WITH TWO COATS OF ORGANIC ZINC-RICH GALVANIZING REPAIR PAINT, HAVING MIN. 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.

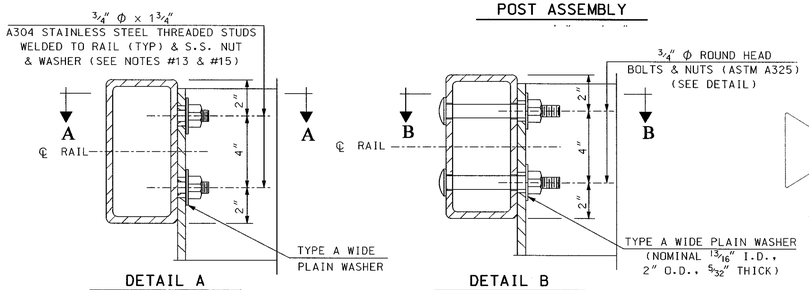
(15) DETAIL A STUDS SHALL BE WELDED ON AFTER TUBES ARE GALVANIZED BY SPOT GRINDING OFF GALVANIZING, WELDING ON STUDS, THEN TOUCH UP GALVANING PER NOTE #8 ABOVE.

(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 563.23. 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 1997 BY THE NEW ENGLAND TRANSPORTATION CONSORTIUM.

POST ASSEMBLY

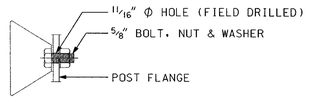


DETAIL A

SCALE: 3" = 1'-0"

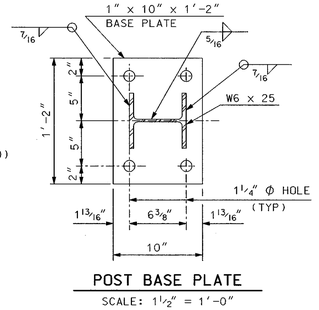
DETAIL B

SCALE: 3" = 1'-0"



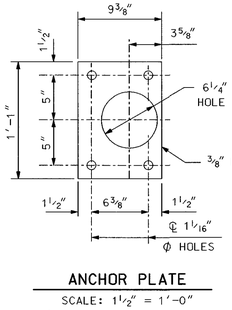
DELINEATOR MOUNTING

N.T.S.



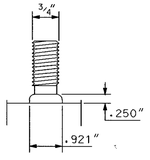
POST BASE PLATE

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



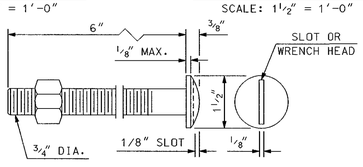
ANCHOR PLATE

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



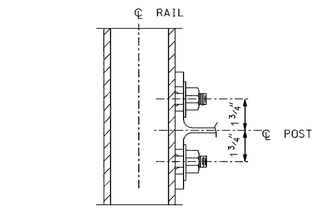
STUD WELD DETAIL

SCALE: 6" = 1'-0"



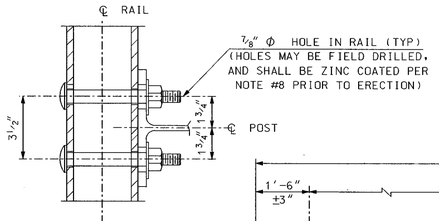
A325 ROUND HEAD BOLT DETAIL

SCALE: 6" = 1'-0"



SECTION A-A

SCALE: 3" = 1'-0"

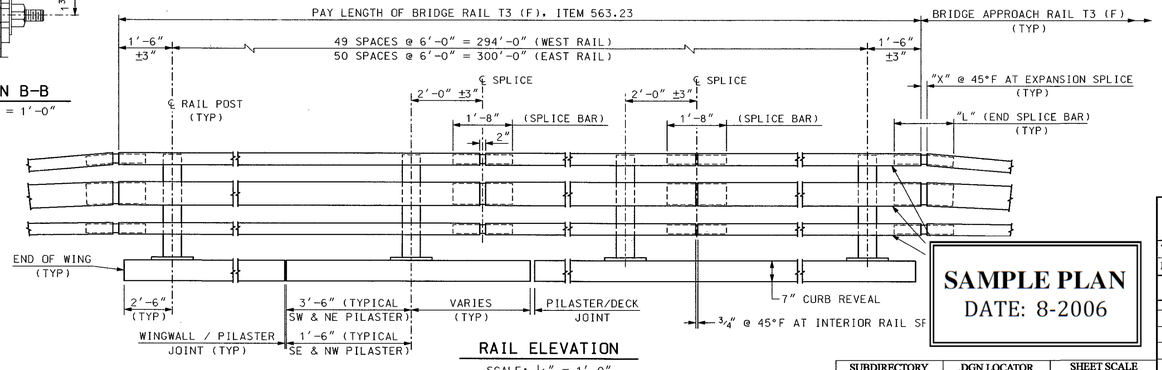


SECTION B-B

SCALE: 3" = 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"

SAMPLE PLAN
DATE: 8-2006

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Br-Rail	T3_BR-RAIL	AS NOTED

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

TOWN BARTLETT BRIDGE NO. 190/130 STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

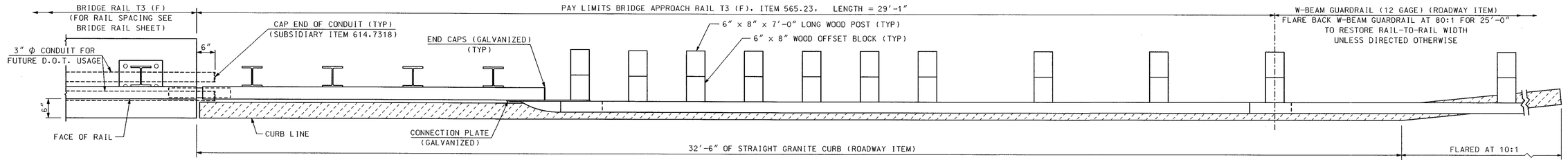
T3 STEEL BRIDGE RAIL (PL2)

BRIDGE SHEET: B34 OF B37

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	NETC/JSZ	3/02	CHECKED	NHDOT	
DRAWN	PJP	10/05	CHECKED	JSZ	10/05
QUANTITIES	JAS	7/06	CHECKED	WPS	8/06
ISSUE DATE	11/15/05	FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
REV. DATE	11/15/05	----------		86	191

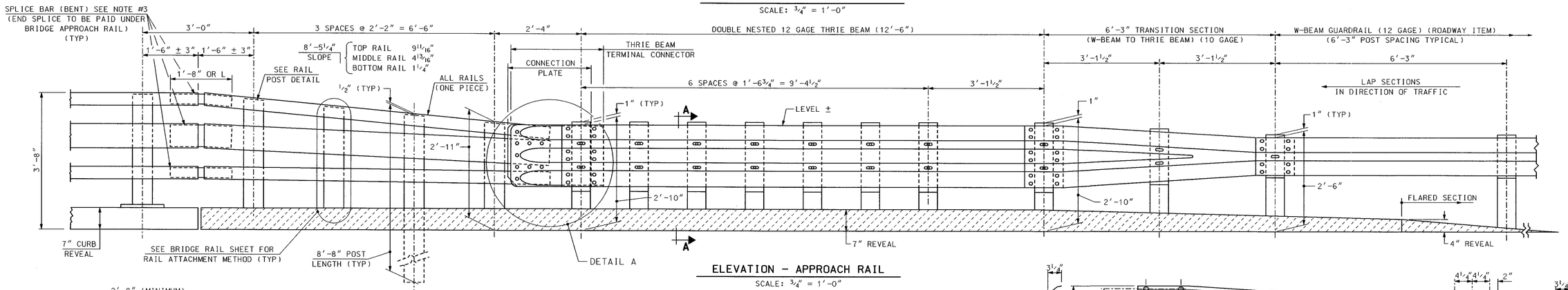
FILE NUMBER: 104-4-2

...\Br-Rail\T3_BR-RAIL.dgn 8/24/2006 8:11:39 PM nt8pjp



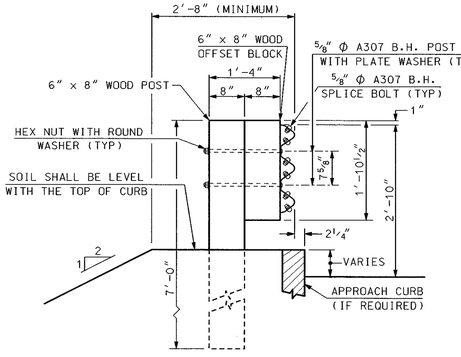
PLAN VIEW – APPROACH RAIL

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



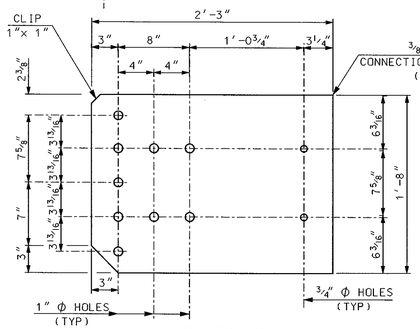
ELEVATION – APPROACH RAIL

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



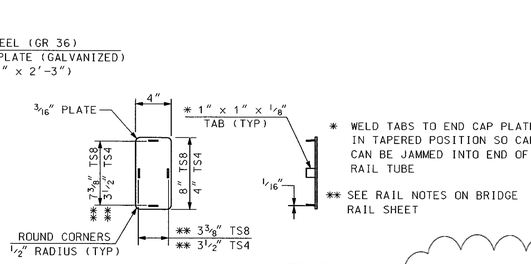
SECTION A-A (POST RAIL ASSEMBLY)

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



CONNECTION PLATE

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

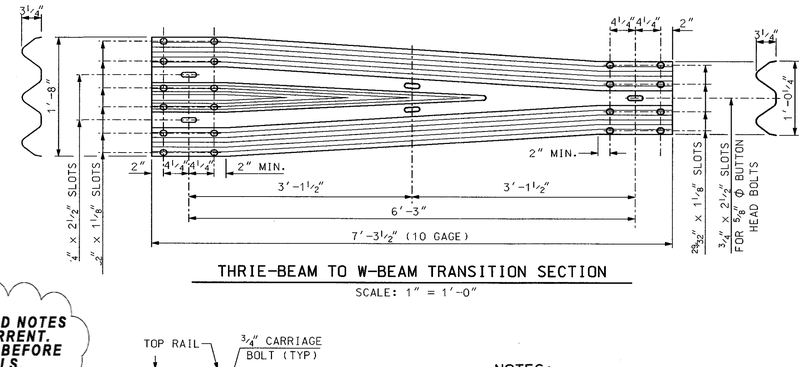


* WELD TABS TO END CAP PLATE IN TAPERED POSITION SO CAP CAN BE JAMMED INTO END OF RAIL TUBE

** SEE RAIL NOTES ON BRIDGE RAIL SHEET

END CAP DETAILS

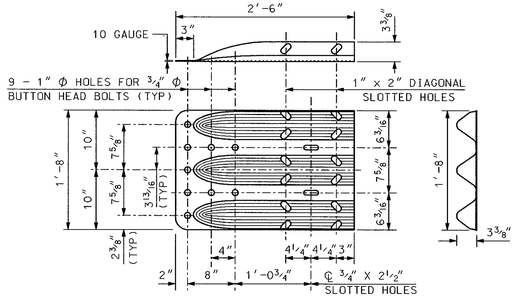
SCALE: 1 1/2" = 1'-0"



THRIE-BEAM TO W-BEAM TRANSITION SECTION

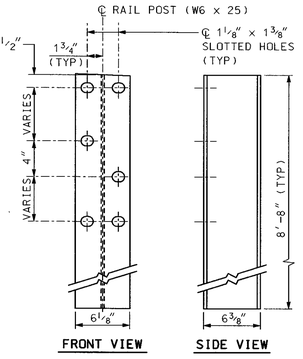
SCALE: 1" = 1'-0"

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



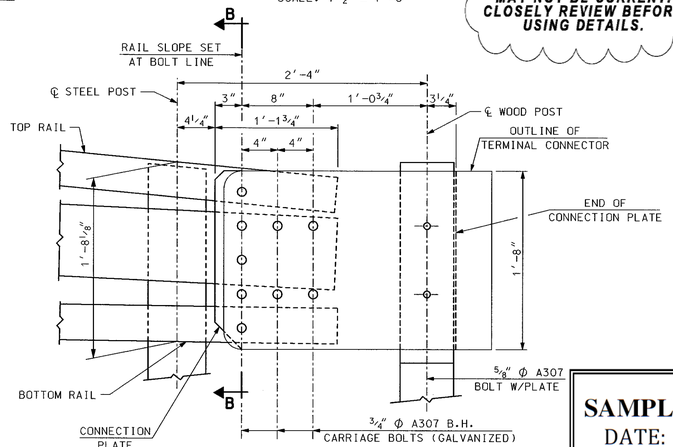
THRIE-BEAM TERMINAL CONNECTOR

SCALE: 1" = 1'-0"



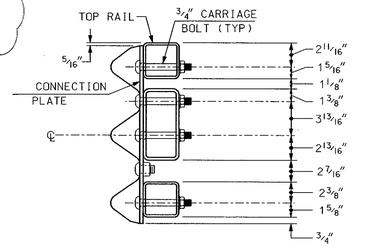
RAIL POST

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



DETAIL A

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



SECTION B-B (CONNECTION PLATE)

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 SPLICE BAR AND RAIL TUBES TO FIT BEND. USE COMPLETE JOINT PENETRATION BUTT WELD (B-U2).

(4) THIS BRIDGE RAIL TRANSITION SYSTEM HAS BEEN ACCEPTED FOR NCHRP 350 FOR TL3 BASED ON CRASH TESTING APRIL 2005 BY THE NETC.

SAMPLE PLAN
DATE: 8-2006

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

TOWN BARTLETT | BRIDGE NO. 190/130 | STATE PROJECT 13043

LOCATION U.S. ROUTE 302 over SACO RIVER

T3 STEEL BRIDGE APPROACH RAIL

BRIDGE SHEET B35 OF B37

FILE NUMBER 104-4-2

REVISIONS AFTER PROPOSAL	BY	DATE

		BY	DATE		BY	DATE
DESIGNED	NETC/JSZ		3/02	CHECKED	NHDOT	
DRAWN	PJP		10/05	CHECKED	JSZ	10/05
QUANTITIES	JAS		7/06	CHECKED	WPS	8/06
ISSUE DATE	11/15/05	FEDERAL PROJECT NO.			SHEET NO.	TOTAL SHEETS
REV. DATE	11/15/05	----------			87	191

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD-Saco\Br-Rail	T3_APP-RAIL	AS NOTED

...\Br-Rail\T3_APP-RAIL.dgn 8/24/2006 8:11:40 PM nfabjp

Abutment A Footing

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
AF1	#8	11.17	36	N3		2.00	1.17	8.00						0.00	0.67	
AF2	#8	15.17	37	N3		2.00	1.17	12.00						0.00	0.67	
AF3	#5	13.13	47	N3		2.00	1.13	10.00						0.00	0.67	
AF4	#6	9.50	18	—												
AF5	#7	9.50	18	—												
AF6	#6	12.50	12	—												
AF7	#7	12.50	12	—												
AF8	#6	16.50	64	—												
AF9	#7	16.50	66	—												
AF10	#5	28.50	8	—												
AF11	#5	35.50	8	—												
AF12	#5	23.50	16	—												
AF13	#5	26.50	20	—												
AF14	#7	9.17	57	N3		2.00	1.10	6.07						-0.50	0.67	
AF15	#8	13.68	58	N3		2.00	1.12	10.56						-0.88	0.67	
AF16	#5	11.16	78	N3		2.00	1.13	8.03						0.00	0.67	
AF17	#6	14.50	238	—												
AF18	#6	11.50	16	—												
AF19	#6	7.50	68	—												
AF20	#5	22.00	32	—												
AF21	#5	29.50	6	—												
AF22	#5	20.50	8	—												
AF23	#5	19.00	28	—												
AF24	#5	21.00	32	—												
AF25	#5	5.50	2	—												

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	5387	8294	3950	4690	0	0	0	0	0	22322
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

Abutment A

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
A1	#7	13.50	36	—												
A2	#6	14.50	37	—												
A3	#5	13.75	47	—												
A4	#5	25.25	98	—												
A5E	#5	25.25	8	—												EPOXY
A6	#5	8.25	45	17		2.00	4.25	2.00								
A7	#5	4.00	57	—												
A8E	#5	6.08	47	17		2.25	1.58	2.25								EPOXY
A9E	#5	5.83	47	17		2.50	0.83	2.50								EPOXY
A10E	#5	4.00	42	N7			2.00	2.00				2.00		1.41		EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	3880	806	993	0	0	0	0	0	0	5679
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	970	0	0	0	0	0	0	0	0	970
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

Abutment A South West Pilaster

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
ASW1	#7	13.50	9	—												
ASW2	#6	18.50	10	—												
ASW3	#5	20.50	9	—												
ASW4	#5	15.50	4	—												
ASW5	#5	8.50	20	N7			2.00	6.50				1.41		1.41		
ASW6	#5	9.50	25	17		1.25	7.00	1.25								
ASW7	#5	7.00	25	—												
ASW8	#5	5.00	5	N7			2.00	3.00				1.41		1.41		
ASW9E	#5	6.88	2	17		2.50	1.88	2.50								EPOXY
ASW10E	#5	13.88	2	17		6.00	1.88	6.00								EPOXY
ASW11E	#5	7.00	1	—												EPOXY
ASW12E	#5	7.25	15	17		2.75	1.75	2.75								EPOXY
ASW13	#5	7.50	25	N7			2.00	5.50				1.41		1.41		
ASW14	#6	7.00	8	—												

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	1086	362	248	0	0	0	0	0	0	1697
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	164	0	0	0	0	0	0	0	0	164
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

Abutment A South East Pilaster

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
ASE1	#5	16.00	4	—												
ASE2	#5	20.75	12	—												
ASE3	#5	8.00	20	N2		0.00	5.00	1.00	2.00			1.41		1.41		
ASE4	#5	8.50	25	17		1.25	6.00	1.25								
ASE5	#5	4.00	5	N4		2.00	2.00	0.00				1.41		1.41		
ASE6	#5	4.50	4	N8		2.50	2.00									
ASE7E	#5	6.88	2	17		2.50	1.88	2.50								EPOXY
ASE8E	#5	11.25	2	N4		5.25	2.50	3.50				1.77		1.77		EPOXY
ASE9E	#5	5.25	1	—												EPOXY
ASE10E	#5	7.25	9	17		2.75	1.75	2.75								EPOXY
ASE11	#6	7.00	5	—												

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	792	53	0	0	0	0	0	0	0	845
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	74	0	0	0	0	0	0	0	0	74
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

South West Wing

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
SW1	#5	22.50	50	—												
SW2	#5	20.50	24	—												
SW3	#6	18.50	23	—												
SW4	#7	13.50	22	—												
SW5E	#5	22.50	3	—												EPOXY
SW6E	#5	6.42	40	17		2.50	1.42	2.50								EPOXY
SW7	#5	7.91	2	N2		0.00	3.00	0.67	4.24			3.00		3.00		
SW8	#6	23.00	1	—												

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	1703	674	607	0	0	0	0	0	0	2984
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	338	0	0	0	0	0	0	0	0	338
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

South East Wing

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
SE1	#5	25.50	52	—												
SE2	#5	20.50	26	—												
SE3	#6	18.50	25	—												
SE4	#7	13.50	24	—												
SE5E	#5	25.50	3	—												EPOXY
SE6E	#5	6.42	42	17		2.50	1.42	2.50								EPOXY
SE7	#5	7.91	2	N2		0.00	3.00	0.67	4.24			3.00		3.00		
SE8	#6	23.00	1	—												

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	1955	729	662	0	0	0	0	0	0	3347
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	361	0	0	0	0	0	0	0	0	361
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

Abutment B Footing

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
BF1	#9	13.19	36	N3		2.00	1.19	10.00						0.00	0.67	
BF2	#8	9.68	37	N3		2.00	1.18	6.50						0.00	0.67	
BF3	#5	10.16	47	N3		2.00	1.13	7.03						0.00	0.67	
BF4	#7	9.50	36	—												
BF5	#7	12.50	24	—												
BF6	#7	16.50	130	—												
BF7	#5	28.50	8	—												
BF8	#5	35.50	8	—												
BF9	#5	23.50	16	—												
BF10	#5	26.50	20	—												
BF11	#8	13.22	75	N3		2.00	1.12	10.10						-0.84	0.67	
BF12	#9	9.68	76	N3		2.00	1.13	6.55						-0.54	0.67	
BF13	#5	10.16	96	N3		2.00	1.13	7.03						0.00	0.67	
BF14	#7	14.50	155	—												
BF15	#6	14.50	155	—												
BF16	#7	11.50	7	—												
BF17	#6	11.50	7	—												
BF18	#7	7.50	25	—												
BF19	#6	7.50	25	—												
BF20	#5	25.00	32	—												
BF21	#5	35.50	6	—												
BF22	#5	26.50	8	—												
BF23	#7	7.50	10	—												
BF24	#6	7.50	10	—												
BF25	#5	24.00	28	—												
BF26	#5	27.00	32	—												
BF27	#5	5.50	2	—												

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	5885	3891	10992	3603	4116	0	0	0	0	28486
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

Abutment B

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
B1	#7	13.25	36	—												
B2	#6	15.25	37	—												
B3	#5	19.25	47	—												
B4	#5	25.25	108	—												
B5E	#5	25.25	8	—												EPOXY
B6	#5	8.25	45	17		2.00	4.25	2.00								
B7	#5	4.00	57	—												
B8E	#5	6.08	47	17		2.25	1.58	2.25								EPOXY
B9E	#5	5.83	47	17		2.50	0.83	2.50								EPOXY
B10E	#5	4.00	42	N17			2.00	2.00					2.00		1.41	EPOXY
B11	#8	11.00	37	—												

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	4413	848	975	1087	0	0	0	0	0	7322
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	970	0	0	0	0	0	0	0	0	970
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

Abutment B North West Pilaster

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
BNW1	#5	18.75	4	—												
BNW2	#5	24.00	12	—												
BNW3	#5	8.00	22	N2		0.00	5.00	1.00	2.00			1.41		1.41		
BNW4	#5	8.50	27	17		1.25	6.00	1.25								
BNW5	#5	4.00	5	N4		2.00	2.00	0.00				1.41		1.41		
BNW6	#5	4.50	4	N8		2.00	2.50									
BNW7E	#5	6.88	2	17		2.50	1.88	2.50								EPOXY
BNW8E	#5	11.25	2	N4		5.25	2.50	3.50				1.77		1.77		EPOXY
BNW9E	#5	5.25	1	—												EPOXY
BNW10E	#5	7.25	9	17		2.75	1.75	2.75								EPOXY
BNW11	#6	7.00	5	—												

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	884	53	0	0	0	0	0	0	0	937
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	68	0	0	0	0	0	0	0	0	68
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

SAMPLE PLAN
DATE: 8-2006

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

STANDARD INDUSTRY BENDS, STIRRUPS, & TIES

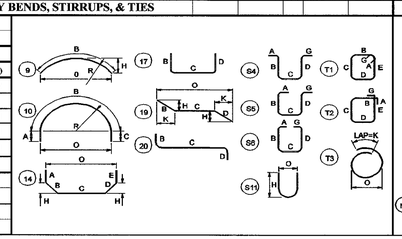
RECOMMENDED END HOOKS
ALL GRADES (in.)

BAR	180° HOOKS			90° HOOKS
SIZE	D(∅)	A or G	J	A or G
#3	2 1/4	5	3	6
#4	3	6	4	8
#5	3 3/4	7	5	10
#6	4 1/2	8	6	12
#7	5 1/4	10	7	14
#8	6	11	8	16
#9	9 1/2	15	11 3/4	19
#10	10 3/4	17	13 1/4	22
#11	12	19	14 3/4	24
#14	18 1/4	27	21 3/4	31

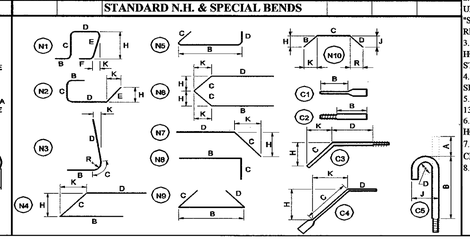
STIRRUP & TIE HOOK DIMENSIONS
GRADES 40-50-60 ksi

BAR	D(∅)	90° HOOKS	135° HOOKS	
SIZE	(in.)	A or G	A or G	H(appr)
#3	1 1/2	4	4	2 1/2
#4	2	4 1/2	4 1/2	3
#5	2 1/2	6	5 1/2	3 3/4
#6	4 1/2	12	7 3/4	4 1/4
#7	5 1/4	14	9	5 1/4
#8	6	16	10 1/4	6

NOTE: D = finished inside bend d of hook.
See 1997 CRSI Manual p6-3&4.
For additional data on standard bar bends not shown on this sheet see 1997 CRSI Manual p6-3&4.



STANDARD N.H. & SPECIAL BENDS



NOTES:
1. FIGURES IN CIRCLE 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 REINFORCEMENT", AASHTO M 31-94 (ASTM A615).
3. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRACTICE SEE CURRENT (1990) 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. "R" 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, AS REQUIRED.
Δ DENOTES BARS TO BE BENT IN FIELD.

ASTM STANDARD
REINFORCING BARS

BAR SIZE DESIG-NATION	WEIGHT LBS. PER FOOT	NOM. DIMEN. DIAM. in	NOM. DIMEN. CROSS SECT. AREA in²
#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

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGE DESIGN

TOWN: BARTLETT | BRIDGE NO. 190/130 | STATE PROJECT 13043
LOCATION: U.S. ROUTE 302 OVER THE SACO RIVER
REINFORCING SCHEDULE (SHEET 1 OF 2) | BRIDGE SHEET

	BY	DATE		BY	DATE	REVISIONS AFTER PROPOSAL	
DESIGNED			CHECKED				FILE NO.
DRAWN			CHECKED				104-4-2
TRACED			CHECKED			FEDERAL PROJECT NUMBER	SHEET
QUANTITIES	JAS	07/06	CHECKED	SDF	08/06	———	88 of 191

B36 of B37

Abutment B North East Pilaster

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
BNE1	#7	12.50	9	---												
BNE2	#6	17.50	10	---												
BNE3	#5	24.50	9	---												
BNE4	#5	19.00	4	---												
BNE5	#5	8.50	22	N7			2.00	6.50				1.41		1.41		
BNE6	#5	9.50	27	17		1.25	7.00	1.25								
BNE7	#5	7.00	27	---												
BNE8	#5	5.00	5	N7			2.00	3.00				1.41		1.41		
BNE9E	#5	6.88	2	17		2.50	1.88	2.50								EPOXY
BNE10E	#5	13.88	2	17		6.00	1.88	6.00								EPOXY
BNE11E	#5	7.00	1	---												EPOXY
BNE12E	#5	7.25	15	17		2.75	1.75	2.75								EPOXY
BNE13	#5	7.50	27	N7			2.00	5.50				1.41		1.41		
BNE14	#6	7.00	8	---												
BNE15	#8	11.00	10	---												

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	1206	347	230	294	0	0	0	0	0	2077
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	164	0	0	0	0	0	0	0	0	164
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

North West Wing

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
NW1	#5	30.50	56	---												
NW2	#5	24.25	32	---												
NW3	#6	17.50	31	---												
NW4	#7	12.00	30	---												
NW5E	#5	30.50	3	---												EPOXY
NW6E	#5	6.42	52	17		2.50	1.42	2.50								EPOXY
NW7	#5	7.91	2	N2		0.00	3.00	0.67	4.24			3.00		3.00		
NW8	#8	11.00	31	---												
NW9	#7	22.00	1	---												

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	2607	815	781	910	0	0	0	0	0	5113
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	444	0	0	0	0	0	0	0	0	444
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

North East Wing

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
NE1	#5	34.50	56	---												
NE2	#5	24.50	36	---												
NE3	#6	18.00	35	---												
NE4	#7	12.00	34	---												
NE5E	#5	34.50	3	---												EPOXY
NE6E	#5	6.42	60	17		2.50	1.42	2.50								EPOXY
NE7	#5	7.91	2	N2		0.00	3.00	0.67	4.24			3.00		3.00		
NE8	#8	11.00	35	---												
NE9	#7	22.50	1	---												

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	2952	946	880	1028	0	0	0	0	0	5806
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	510	0	0	0	0	0	0	0	0	510
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

Deck

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
D1E	#5	35.00	609	---												EPOXY
D2E	#5	50.00	42	---												EPOXY
D3E	#5	4.92	768	N1		0.50	1.25	1.42	1.25	0.50		1.25		0.00		EPOXY
D4E	#5	3.33	86	N1		0.50	0.50	1.33	0.50	0.50		0.50		0.00		EPOXY
D5E	#6	26.00	16	---												EPOXY
D6E	#6	34.25	786	---												EPOXY
D7E	#6	34.00	2	---												EPOXY
D8E	#6	33.50	2	---												EPOXY
D9E	#6	33.00	2	---												EPOXY
D10E	#6	32.50	2	---												EPOXY
D11E	#6	32.00	2	---												EPOXY
D12E	#6	31.50	2	---												EPOXY
D13E	#6	31.00	2	---												EPOXY
D14E	#6	30.50	2	---												EPOXY
D15E	#6	30.00	2	---												EPOXY
D16E	#6	29.50	2	---												EPOXY
D17E	#6	29.00	2	---												EPOXY
D18E	#6	28.50	2	---												EPOXY
D19E	#6	28.00	2	---												EPOXY
D20E	#6	27.50	2	---												EPOXY
D21E	#6	27.00	2	---												EPOXY
D22E	#6	26.50	2	---												EPOXY
D23E	#6	26.00	2	---												EPOXY
D24E	#6	25.50	2	---												EPOXY
D25E	#6	25.00	2	---												EPOXY
D26E	#6	24.50	2	---												EPOXY
D27E	#6	24.00	2	---												EPOXY
D28E	#6	23.50	2	---												EPOXY
D29E	#6	23.00	2	---												EPOXY
D30E	#6	22.50	2	---												EPOXY
D31E	#6	22.00	2	---												EPOXY
D32E	#6	21.50	2	---												EPOXY
D33E	#6	21.00	2	---												EPOXY
D34E	#6	20.50	2	---												EPOXY
D35E	#6	20.00	2	---												EPOXY
D36E	#6	19.50	2	---												EPOXY
D37E	#6	19.00	2	---												EPOXY
D38E	#6	18.50	2	---												EPOXY
D39E	#6	18.00	2	---												EPOXY
D40E	#6	17.50	2	---												EPOXY
D41E	#6	17.00	2	---												EPOXY
D42E	#6	16.50	2	---												EPOXY
D43E	#6	16.00	2	---												EPOXY
D44E	#6	15.50	2	---												EPOXY
D45E	#6	15.00	2	---												EPOXY
D46E	#6	14.50	2	---												EPOXY
D47E	#6	14.00	2	---												EPOXY
D48E	#6	13.50	2	---												EPOXY
D49E	#6	13.00	2	---												EPOXY
D50E	#6	12.50	2	---												EPOXY
D51E	#6	12.00	2	---												EPOXY
D52E	#6	11.50	2	---												EPOXY
D53E	#6	11.00	2	---												EPOXY
D54E	#6	10.50	2	---												EPOXY
D55E	#6	10.00	2	---												EPOXY
D56E	#6	9.50	2	---												EPOXY
D57E	#6	9.00	2	---												EPOXY
D58E	#6	8.50	2	---												EPOXY
D59E	#6	8.00	2	---												EPOXY
D60E	#6	7.50	2	---												EPOXY
D61E	#6	7.00	2	---												EPOXY
D62E	#6	6.50	2	---												EPOXY
D63E	#6	6.00	2	---												EPOXY
D64E	#6	5.50	2	---												EPOXY
D65E	#6	5.00	2	---												EPOXY
D66E	#6	4.50	2	---												EPOXY
D67E	#6	4.00	2	---												EPOXY
D68E	#6	3.50	2	---												EPOXY
D69E	#6	3.00	2	---												EPOXY
D70E	#6	2.50	2	---												EPOXY
D71E	#6	2.00	2	---												EPOXY
D72E	#5	5.33	4	17		2.00	1.33	2.00								EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	28684	44574	0	0	0	0	0	0	0	73258
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

Pier Footing

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
PF1	#7	11.50	57	---												
PF2	#5	11.50	57	---												
PF3	#7	11.17	112	N3		2.00	1.17	8.00						0.00	0.67	
PF4	#5	29.50	48	---												

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	2161	0	3896	0	0	0	0	0	0	6057
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

Pier

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
P1	#7	20.75	112	---												
P2	#5	26.75	100	---												
P3	#5	4.56	19	N5		3.56	0.50	0.50								
P4	#5	4.52	19	N5		3.52	0.50	0.50								
P5	#5	4.48	19	N5		3.48	0.50	0.50								
P6	#5	4.44	19	N5		3.44	0.50	0.50								
P7	#5	4.40	19	N5		3.40	0.50	0.50								
P8	#5	4.35	19	N5		3.35	0.50	0.50								
P9	#5	4.31	19	N5		3.31	0.50	0.50								
P10	#5	4.27	19	N5		3.27	0.50	0.50								
P11	#5	4.23	19	N5		3.23	0.50	0.50								
P12	#5	4.19	19	N5		3.19	0.50	0.50								
P13	#5	4.15	19	N5		3.15	0.50	0.50								
P14	#5	4.10	19	N5		3.10	0.50	0.50								
P15	#5	4.06	19	N5		3.06	0.50	0.50								
P16	#5	4.02	19	N5		3.02	0.50	0.50								
P17	#5	3.98	19	N5		2.98	0.50	0.50								
P18	#5	3.94	19	N5		2.94	0.50	0.50								
P19	#5	3.90	19	N5		2.90	0.50	0.50								
P20	#5	3.85	19	N5		2.85	0.50	0.50								
P21	#5	3.81	19	N5		2.81	0.50	0.50								
P22	#5	3.77	19	N5		2.77	0.50	0.50								
P23	#5	3.73	19	N5		2.73	0.50	0.50								
P24	#5	3.69	19	N5		2.69	0.50	0.50								
P25	#5	3.65	19	N5		2.65	0.50	0.50								
P26	#5	3.60	47	N5		2.60	0.50	0.50								
P27	#5	7.47	4	N6		2.50	2.47	2.50				1.75		1.75		
P28	#5	7.36	8	N6		2.50	2.36	2.50				1.67		1.67		
P29	#5	7.24	8	N6		2.50	2.24	2.50				1.58		1.58		
P30	#5	7.12	8	N6		2.50	2.12	2.50				1.50		1.50		
P31	#5	7.00	8	N6		2.50	2.00	2.50				1.42		1.42		
P32	#5	6.89	8	N6		2.50	1.89	2.50				1.33		1.33		
P33	#5	6.77	3	N6		2.50	1.77	2.50				1.25		1.25		

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	5187	0	4750	0	0	0	0	0	0	9937
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

Approach Slab

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O
AS1E	#5	23.00	220	---												EPOXY
AS2E	#5	35.50	122	---												EPOXY
AS3E	#9	35.50	122	---												EPOXY
AS4E	#5	7.00	122	N2		2.00	1.50	1.33	2.17			1.25		1.75		EPOXY

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	10686	0	0	0	14725	0	0	0	0	25411
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

GRAND SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	40098	17818	28964	11612	4116	0	0	0	0	102609
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	43433	44574	0	0	14725	0	0	0	0	102732
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 8-2006

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGE DESIGN

TOWN:	BARTLETT	BRIDGE NO.	190/130	STATE PROJECT	13043
LOCATION:	U.S. ROUTE 302 OVER THE SACO RIVER				
REINFORCING SCHEDULE	**(SHEET 2 OF2)**				BRIDGE SHEET

	BY	DATE		BY	DATE	REVISIONS AFTER PROPOSAL	B37 of B37
DESIGNED			CHECKED				FILE NO.
DRAWN			CHECKED				104-4-2
TRACED			CHECKED			FEDERAL PROJECT NUMBER	SHEET
QUANTITIES	JAS	07/06	CHECKED	SDF	08/06	------	89 of 191