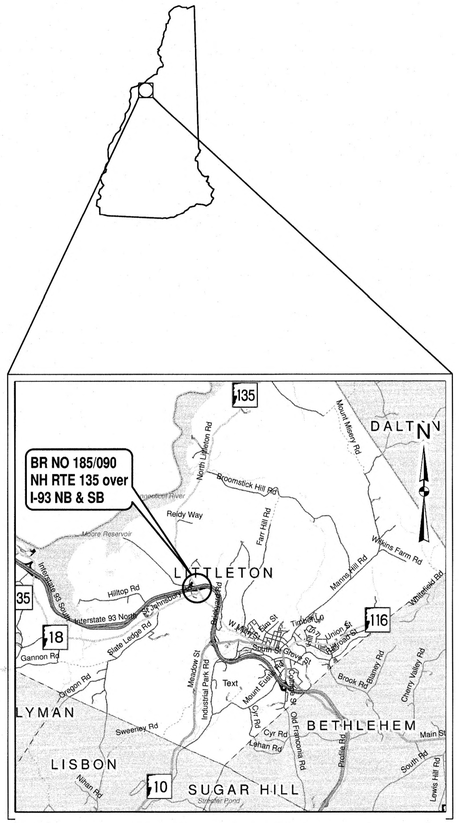
STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

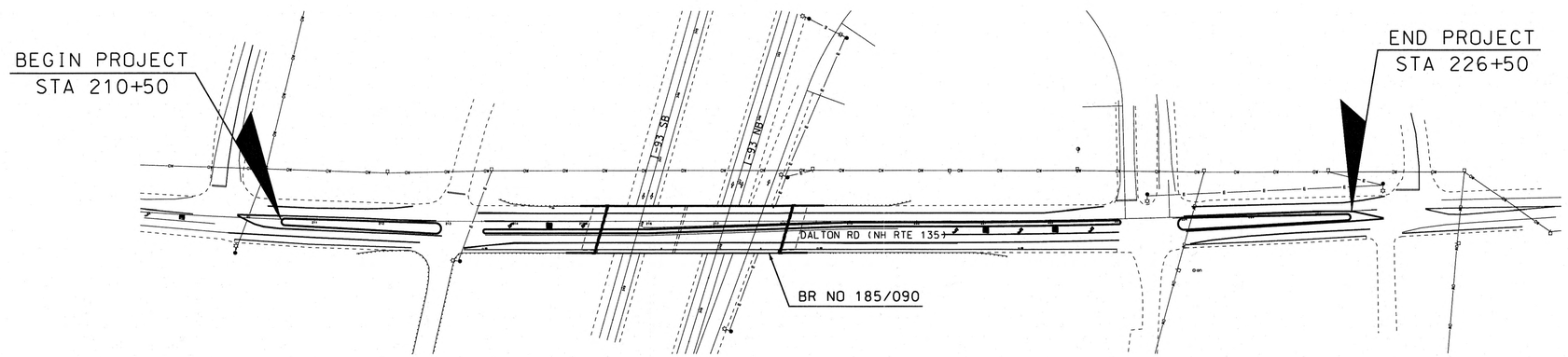
CONSTRUCTION PLANS
FEDERAL AID PROJECT

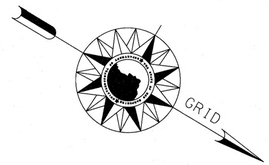
N.H. PROJECT NO. 43444
NH ROUTE 135
DALTON ROAD

DESIGN DATA	
AVERAGE DAILY TRAFFIC 20 19	3,549
AVERAGE DAILY TRAFFIC 20 41	5,252
PERCENT OF TRUCKS	10%
DESIGN SPEED	50 MPH
LENGTH OF PROJECT	1600 FT



LOCATION MAP





TOWN OF LITTLETON
COUNTY OF GRAFTON
SCALE: 1" = 100'

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
Details and notes may not be current.
Closely review before using details.

DRAWN BY	SMG	DATE	2/22
CHECKED BY	JAT	DATE	4/22

NHDOT THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

LORETTA GIRARD DOUGHTY No. 08320 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 6-3-22

RECOMMENDED FOR APPROVAL:
DIRECTOR OF PROJECT DEVELOPMENT — DATE 6/8/2022

APPROVED:
ASSISTANT COMMISSIONER AND CHIEF ENGINEER — DATE 6/8/22

DRAWING NAME	FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
43444fsc	---	43444	1	19

INDEX OF SHEETS

GENERAL NOTES

1. FOR STANDARD PLANS, SEE DEPARTMENT OF TRANSPORTATION WEBSITE AT: WWW.NH.GOV/DOT/ORG/PROJECTDEVELOPMENT/HIGHWAYDESIGN/STANDARDPLANS/INDEX.HTM.
2. HIGH TENSION OVERHEAD TRANSMISSION LINES ARE LOCATED THROUGHOUT THE PROJECT WITH CROSSINGS AT VARIOUS LOCATIONS AND RUNNING ALONG THE ROAD THROUGHOUT THE PROJECT EVEN ON REGULAR POLES. THE CONTRACTOR IS ADVISED THAT EXTREME CAUTION WILL BE REQUIRED IN THE OPERATION OF EQUIPMENT, ESPECIALLY CRANES AND PILE DRIVING EQUIPMENT.
3. MODIFY SUPERELEVATION ON EXISTING CURVES BY THE USE OF A LEVELING COURSE TO THE RATES INDICATED ON THE PLANS OR AS ORDERED.
4. EXISTING DELINEATORS AND WITNESS MARKERS THAT ARE REMOVED AND DETERMINED BY THE ENGINEER TO BE IN ACCEPTABLE CONDITION SHALL BE RESET (SUBSIDIARY). ADDITIONAL DELINEATORS AND WITNESS MARKERS ORDERED WILL BE PAID UNDER THE APPROPRIATE ITEMS OF THE CONTRACT.
5. NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
6. PERFORM ALL WORK WITHIN THE EXISTING RIGHT-OF-WAY, UNLESS OTHERWISE SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER.
7. REMOVE UNPROTECTED PROJECT MARKERS (SUBSIDIARY).
8. SURVEY DATA FOR THIS PROJECT WAS COLLECTED BY SDR AND THE FIELD NOTES CAN BE FOUND IN THE FIELD BOOK(S) _____. COORDINATES ARE NEW HAMPSHIRE STATE PLANE COORDINATES OF NAD83, ____ ADJUSTMENT AND THE BEARINGS ARE GRID. ELEVATIONS ARE REFERENCED TO ____ ____.
9. QUANTITIES FOR EMBANKMENT AND EXCAVATION FOR SLOPE ROUNDINGS AS SHOWN ON THE TYPICALS HAVE NOT BEEN CALCULATED AND ARE NOT INCLUDED IN THE QUANTITY SUMMARIES, AND ARE CONSIDERED SUBSIDIARY TO THE APPROPRIATE 203 ITEMS.

THE FOLLOWING GENERAL NOTES WILL BE USED ON THIS PROJECT:											
1				5	6						

NHDOT Bridge Design
6/8/22

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

INDEX OF SHEETS AND GENERAL NOTES

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	index_sheet	43444	2	19

GENERAL

EDGE OF PAVEMENT — PROPOSED ROADWAY
TRAVELED WAY — existing roadway — (pavement removed outside slope lines)

DRIVEWAYS — (label surface type)

BUILDINGS — (building to be removed)
(label house or type of building)

FOUNDATION — (label type)

LEACH FIELD — leach field

BRIDGE CROSSINGS — STREAM — OVERPASS

STEPS AND WALK — (label type)

INTERMITTENT WATER COURSE

SHORE LINE — river/stream — pond — (label name of water body)

POTENTIAL WET AREA SYMBOL

BRUSH OR WOODS LINE

TREES (PLANS) — (deciduous) (coniferous) (stump)

TREE OR STUMP (CROSS-SECTIONS) — (show station, circumference in feet & type)

HEDGE — (label type)

MONITORING WELL — mon W

WELL — W

FLAG POLE — fp

ORIGINAL GROUND (TYPICALS)

ROCK OUTCROP

ROCK LINE (TYPICALS & SECTIONS ONLY)

GUARDRAIL (label type) — existing — PROPOSED — bgr — cgr

JERSEY BARRIER

CURB (LABEL TYPE)

STONE WALL

RETAINING WALL (LABEL TYPE) — (points toward retained ground)

FENCE (LABEL TYPE)

SIGNS — (single post) — (double post)

GAS PUMP — gp

FUEL TANK (ABOVE GROUND) — ft (label size & type)

STORAGE TANK FILLER CAP — fc

SEPTIC TANK — S

GRAVE — gr

MAILBOX — mb

VENT PIPE — vp

SATELLITE DISH ANTENNA — da

PHONE — ph

GROUND LIGHT/LAMP POST — gl — lp

BORING LOCATION — B

TEST PIT — TP

INTERSTATE NUMBERED HIGHWAY — 293

UNITED STATES NUMBERED HIGHWAY — 3

STATE NUMBERED HIGHWAY — 102

SHORELAND - WETLAND

WETLAND DESIGNATION AND TYPE — 2 PUB2E

DELINEATED WETLAND — DW
ORDINARY HIGH WATER — OHW
TOP OF BANK — TOB
TOP OF BANK & ORDINARY HIGH WATER — TOBOHW
NORMAL HIGH WATER — NHW
WIDTH AT BANK FULL — WBF
PRIME WETLAND — PWET
PRIME WETLAND 100' BUFFER — PWET100
NON-JURISDICTIONAL DRAINAGE AREA — NJDA
COWARDIN DISTINCTION LINE — CDL
TIDAL BUFFER ZONE — TBZ
DEVELOPED TIDAL BUFFER ZONE — DTBZ
HIGHEST OBSERVABLE TIDE LINE — HOTL
MEAN HIGH WATER — MHW
MEAN LOW WATER — MLW
VERNAL POOL — VP
SPECIAL AQUATIC SITE — SAS
REFERENCE LINE — REF
WATER FRONT BUFFER — WB50
NATURAL WOODLAND BUFFER — NWB150
PROTECTED SHORELAND — PS250
INVASIVE SPECIES LABEL — I.S. I — I.S. II
INVASIVE SPECIES — INV

FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY — FP500
100 YEAR FLOODPLAIN BOUNDARY — FP100
FLOODWAY — FW

ENGINEERING

CONSTRUCTION BASELINE — 30 31 32

PC. PT. POT (ON CONST BASELINE)

PI (IN CONSTRUCTION BASELINES)

INTERSECTION OR EQUATION OF TWO LINES

ORIGINAL GROUND LINE (PROFILES AND CROSS-SECTIONS)

PROFILE GRADE LINE (PROFILES AND CROSS-SECTIONS)

CLEARING LINE — SLOPE LINE

SLOPE LINE

SLOPE LINE (FILL)

SLOPE LINE (CUT)

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

NHDOT Bridge Design
6/8/22

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SHEET 1 OF 2

STATE OF NEW HAMPSHIRE
LITTLETON
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11-21-2014	stdsymb1-2	43444	3	19

DRAINAGE

MANHOLE

CATCH BASIN

DROP INLET

(existing) (PROPOSED)

DRAINAGE PIPE (existing) (label size & type)

DRAINAGE PIPE (PROPOSED)

UNDERDRAIN (existing) W/ FLUSHING BASIN

UNDERDRAIN (PROPOSED) W/ FLUSHING BASIN

show direction of flow (label size & type)

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

END SECTION (existing & PROPOSED) METAL or PLASTIC, RCP

OPEN DITCH (PROPOSED)

EROSION CONTROL/ STONE SLOPE PROTECTION

BOUNDARIES / RIGHT-OF-WAY

RIGHT-OF-WAY LINE (label type)

RR RIGHT-OF-WAY LINE

PROPERTY LINE

PROPERTY LINE (COMMON OWNER)

TOWN LINE BOW / CONCORD

COUNTY LINE COOS / GRAFTON

STATE LINE MAINE / NEW HAMPSHIRE

NATIONAL FOREST

CONSERVATION LAND

BENCH MARK / SURVEY DISK

BOUND (PROPOSED)

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

NHDOT PROJECT MARKER

IRON PIPE OR PIN

DRILL HOLE IN ROCK

TAX MAP AND LOT NUMBER 156 / 14, 1642/341, 6.80 Ac.±

PROPERTY PARCEL NUMBER 12

HISTORIC PROPERTY

UTILITIES

existing PROPOSED

TELEPHONE POLE

POWER POLE

JOINT OCCUPANCY

MISCELLANEOUS/UNKNOWN POLE

GUY POLE OR PUSH BRACE

(plot point at face not center of symbol)

LIGHT POLE

LIGHT ON POWER POLE

LIGHT ON JOINT POLE

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

R L P+04 25.0' T+04 25.0'

RAILROAD (label ownership)

RAILROAD SIGN

RAILROAD SIGNAL

UTILITY JUNCTION BOX jb JB

OVERHEAD WIRE OW (label type) OW

UNDERGROUND UTILITIES

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

SEWER S PS

TELEPHONE T PT

ELECTRIC E PE

GAS G PG

LIGHTING L PL

INTELLIGENT TRANSPORTATION SYSTEM ITS PITS

FIBER OPTIC FO PFO

WATER SHUT OFF

GAS SHUT OFF

HYDRANT

MANHOLES

SEWER MHS

TELEPHONE MHT

ELECTRICAL MHE

GAS MHG

UNKNOWN

TRAFFIC SIGNALS / ITS

existing PROPOSED

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

OPTICOM RECEIVER

OPTICOM STROBE

TRAFFIC SIGNAL

PEDESTAL WITH PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON UNIT

SIGNAL CONDUIT C C C PC PC PC

CONTROLLER CABINET cc CC

METER PEDESTAL mp MP

PULL BOX pb PB

LOOP DETECTOR (QUADRUPOLE) (label size)

LOOP DETECTOR (RECTANGULAR) (label size)

CAMERA POLE (CCTV)

FIBER OPTIC DELINEATOR fod FOD

FIBER OPTIC SPLICE VAULT SVF

ITS EQUIPMENT CABINET its ITS

VARIABLE SPEED LIMIT SIGN

DYNAMIC MESSAGE SIGN

ROAD AND WEATHER INFO SYSTEM

CONSTRUCTION NOTES

CURB MARK NUMBER - BITUMINOUS B-1

CURB MARK NUMBER - GRANITE G-1

CLEARING AND GRUBBING AREA A

DRAINAGE NOTE 1

EROSION CONTROL NOTE A

FENCING NOTE A

GUARDRAIL NOTE 1

ITS NOTE 1

LIGHTING NOTE A

TRAFFIC SIGNAL NOTE 1

NHDOT Bridge Design
6/8/22

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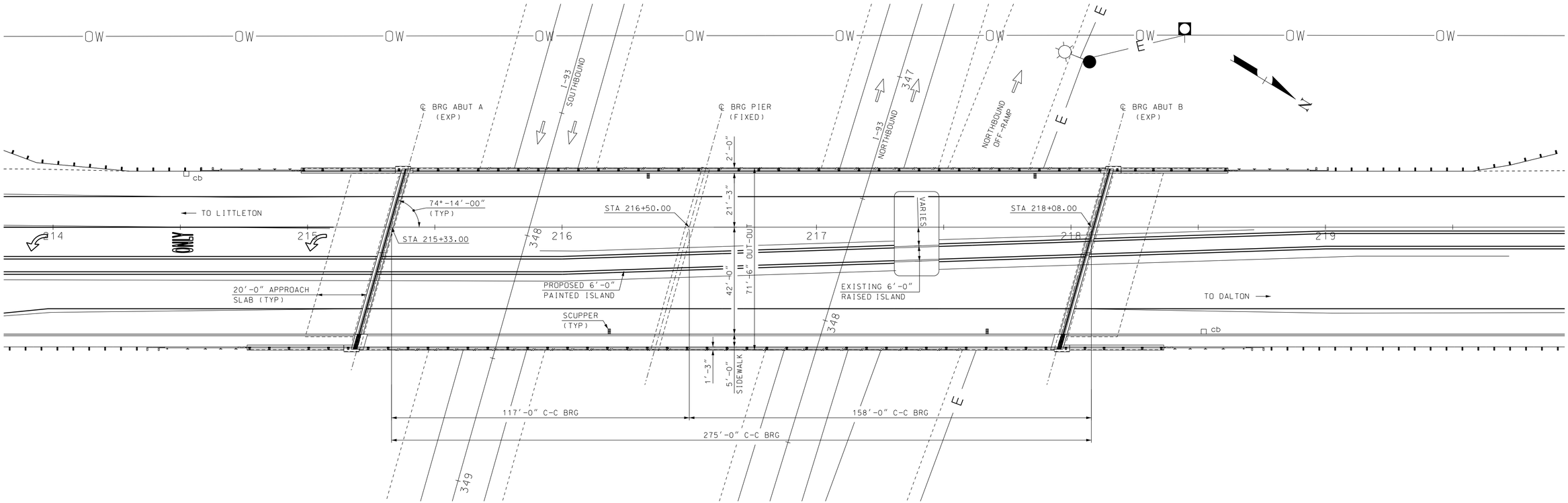
SHEET 2 OF 2

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

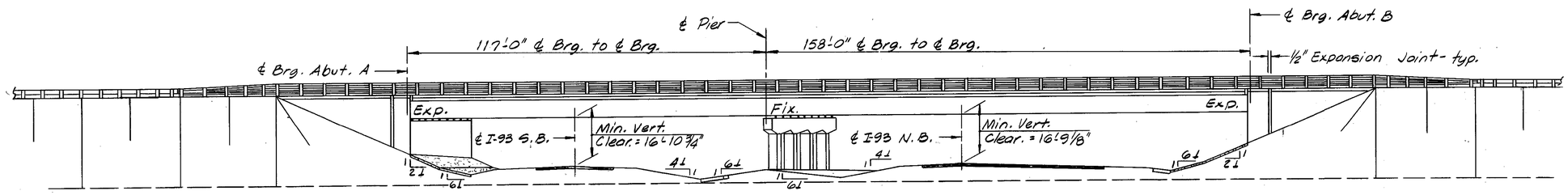
STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	stdsymb1-2	43444	4	19



GENERAL PLAN

SCALE: 1" = 20'



ELEVATION

SCALE: 1" = 20'

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
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Closely review before using details.

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC/	43444 Genplan	AS NOTED

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

TOWN LITTLETON BRIDGE NO. 185\090 STATE PROJECT 43444

LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

GENERAL PLAN AND ELEVATION

BRIDGE SHEET: 1 OF 13

FILE NUMBER: 141-3-2

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	6/21	CHECKED	JAT	4/22
	DRAWN	SMG	6/21	CHECKED	JAT	4/22
	QUANTITIES	SMG	2/22	CHECKED	JAT	4/22

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	5	19

SCOPE OF WORK

LITTLETON 185/090
DALTON RD (NH RTE 135) over I-93 NB & SB
- REMOVE MEDIAN ISLAND ON BRIDGE AND APPROACHES AS SHOWN
- REMOVE AND REPLACE DECK PAVEMENT AND MEMBRANE
- FULL AND PARTIAL DEPTH DECK REPAIRS
- RESET EXISTING GRANITE CURBS AS DIRECTED OR REQUIRED
- REPLACE BOX SEAL EXPANSION JOINTS WITH STRIP SEAL EXPANSION JOINTS AT ABUTMENTS

MATERIALS AND SPECIFICATIONS

1. SPECIFICATIONS: AASHTO 2014, LRFD BRIDGE DESIGN SPECIFICATIONS
   WELDING PER AASHTO/AWS D1.5-02 & NHDOT 2016 STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, AS AMENDED
2. REINFORCING STEEL: AASHTO M31 (ASTM A615) GRADE 60 EPOXY COATED
3. CONCRETE: PARTIAL DEPTH DECK REPAIRS = 4000 psi
   ITEM 520.01, CONCRETE CLASS AA
   DECK AND BACKWALL EXPANSION JOINT BLOCKOUTS = 4000 psi
   ITEM 520.0201, CONCRETE CLASS AA, ABOVE FOOTINGS
   FULL DEPTH DECK REPAIRS = 4000 psi
   ITEM 520.02013, CONCRETE CLASS AA, ABOVE FOOTINGS (FULL DECK REPAIR)

TO THE CONTRACTOR

THE CONTRACTOR SHOULD BE AWARE THAT EXISTING STRUCTURE DIMENSIONS AND ELEVATIONS SHOWN IN THESE PLANS WERE TAKEN FROM THE ORIGINAL BRIDGE PLANS AND/OR SUBSEQUENT REHABILITATION PLANS AND DO NOT NECESSARILY REPRESENT "AS BUILT" DIMENSIONS AND ELEVATIONS. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES AND BE PREPARED TO MAKE ADJUSTMENTS REQUIRED TO PROPERLY COMPLETE THE PROPOSED RECONSTRUCTION. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER, OR EXTENT OF EXISTING FEATURES, SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO ADVANCING THE WORK.

REMOVAL NOTES

1. THE CONTRACTOR SHALL SUBMIT, FOR DOCUMENTATION IN ACCORDANCE WITH SECTION 105.02, A DETAILED OUTLINE OR PLAN OF THE PROPOSED METHOD FOR ITEM 502. PRIOR TO COMMENCEMENT OF ANY REMOVAL WORK.
2. REMOVAL OF EXISTING BRIDGE STRUCTURE, ITEM 502., EXCEPT AS OTHERWISE SHOWN IN THE PLANS, SHALL INCLUDE:
   A) REMOVAL OF CONCRETE MEDIAN, GRANITE BRIDGE CURB, EXPANSION JOINTS, AND DECK AS REQUIRED.
   B) REMOVAL OF EXISTING EPOXY COATING.
3. EXISTING DECK PAVEMENT AND MEMBRANE SHALL BE REMOVED UNDER ITEM 511., CONCRETE BRIDGE DECK PAVEMENT REMOVAL (F).

GENERAL CONSTRUCTION NOTES

1. EXISTING PLANS (FILE NO 30-4-2) ARE AVAILABLE, ON-LINE IN THE BID PACKAGE ON THE INVITATION TO BID WEBPAGE DURING THE BIDDING PERIOD. AFTER THE CONTRACT HAS BEEN AWARDED, A COMPLETE SET OF EXISTING PLANS WILL BE FORWARDED TO THE CONTRACTOR UPON REQUEST.
2. PORTABLE CONCRETE BARRIER OR CHANNELIZING DEVICES SHALL BE IN PLACE BEFORE REMOVAL OPERATIONS BEGIN FOR EACH CONSTRUCTION PHASE. SEE TRAFFIC CONTROL PLANS FOR BARRIER LAYOUT OF PROPOSED PHASED CONSTRUCTION.
3. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO INSURE THAT DEBRIS DOES NOT FALL INTO THE ROADWAY BELOW THE EXISTING STRUCTURE. ALL COSTS TO BE PAID UNDER ITEM 502. AND SHALL INCLUDE THE ERECTION, MAINTENANCE, AND REMOVAL OF TEMPORARY STRUCTURES OR OTHER SUCH METHODS AS APPROVED.
4. NO SCAFFOLDS SHALL BE ERECTED OR OPERATIONS CONDUCTED IN THE ROADWAY RIGHT OF WAY, UNLESS APPROVED BY THE CONTRACT ADMINISTRATOR.
5. DURING ALL REMOVAL AND REPAIR OPERATIONS EXTREME CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING DECK REINFORCEMENT OR TOP FLANGES OF EXISTING GIRDERS. ANY DAMAGE SHALL BE IMMEDIATELY REPORTED TO THE BUREAU OF BRIDGE DESIGN AND REPAIRED AS DIRECTED, AT THE CONTRACTOR'S EXPENSE.
6. TO ACCOMPLISH THE PROPOSED EXPANSION JOINT REPAIRS, THE EXISTING DECK SHALL BE REMOVED TO LIMITS SHOWN IN THE PLANS UNDER ITEM 502., REMOVAL OF EXISTING BRIDGE STRUCTURE. ALL EXPOSED CONCRETE SURFACES OF THE DECK SHALL BE SAWCUT 1" DEEP TO PROVIDE CLEAN REMOVAL LINES (ALL COSTS INCLUDED IN ITEM 520.0201, CONCRETE CLASS AA, ABOVE FOOTINGS). PRIOR TO PLACING NEW CONCRETE, THE REMOVAL SURFACES SHALL BE BLAST CLEANED AND SATURATED SURFACE DRY (ALL COSTS INCLUDED IN ITEM 520.0201).
7. AFTER REMOVAL OF EXISTING PAVEMENT AND MEMBRANE, AS REQUIRED IN THE SCOPE OF WORK, THE EXISTING CONCRETE BRIDGE DECKS SHALL BE "SOUNDED" TO DETERMINE AREAS REQUIRING PARTIAL AND FULL DEPTH DECK REPAIRS. ALL COSTS TO BE INCLUDED IN ITEM 511.02 OR ITEM 511.03.
8. DETERIORATED AREAS OF DECK SHALL BE PATCHED WITH CONCRETE CLASS AA. PRIOR TO PLACING NEW CONCRETE, THE PREPARED AREAS SHALL BE BLAST CLEANED AND SATURATED SURFACE DRY (ALL COSTS SUBSIDIARY TO ITEM 520.01 OR 520.02013).
9. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED $^{3}/_{4}$". UNLESS OTHERWISE NOTED.
10. ITEM 538.6, BARRIER MEMBRANE, HEAT WELDED - MACHINE METHOD (F) SHALL BE OVERLAPPED PER MANUFACTURER'S REQUIREMENTS. AT DECK ENDS, WHERE THE MEMBRANE WILL NOT OVERLAP NEW OR EXISTING MEMBRANE, A SEALANT/REPAIR MASTIC COMPATIBLE WITH ITEM 538.6 SHALL BRIDGE ANY GAP BETWEEN THE EXISTING MEMBRANE AND NEW MEMBRANE OR BETWEEN THE NEW MEMBRANE AND THE END DECK WHEN THERE IS NO EXISTING MEMBRANE. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 538.6.
11. PROFILE ADJUSTMENTS IN THE VICINITY OF THE REHABILITATED BRIDGES SHALL BE MADE AS REQUIRED OR AS DIRECTED TO ACCOUNT FOR VARIATIONS IN THE BRIDGE DECK CROSS SLOPES. ALL COSTS SHALL BE SUBSIDIARY TO THE APPROPRIATE ITEMS.
12. REMOVE ANY EXISTING LOOSE OR FLAKING EPOXY COATING FROM THE BACKWALL AND SEATS AS DIRECTED. COSTS PAID UNDER ITEM 502.
13. EXISTING BRIDGE DECK COPINGS, WINGS, BACKWALLS, BRIDGE SEATS, PIERS, AND ABUTMENT FACES SHALL BE WASHED, SUBSIDIARY TO ITEM 534.3, IN SUCH A MANNER THAT OVERSPRAY ONTO THE ROADWAY BELOW IS KEPT TO A MINIMUM. IF THE WATER BEADS, NO COATING NEEDS TO BE APPLIED. IF THE WATER DOES NOT BEAD, COAT THE SURFACE WITH ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE). APPLICATION RATE = 150 SF/GAL.
14. PROVIDE ITEMS 403.16 AND 403.26, AS REQUIRED, ALONG LONGITUDINAL JOINTS BETWEEN PAVEMENT PASSES FOR EACH PAVEMENT COURSE, ALONG EDGES OF HAND METHOD, ALONG ROADWAY CURBS, ALONG BRIDGE CURBS, AND ALONG EXPANSION JOINT ARMORING.
15. APPLY ITEM 410.22, ASPHALT EMULSION FOR TACK COAT, TO BOTH EXISTING AND PROPOSED BRIDGE AND ROADWAY PAVEMENT COURSES PRIOR TO PLACING THE NEXT COURSE.
16. FOR ROADWAY DETAILS SEE BRIDGE SHEET 3.
17. FOR SALVAGE OF MATERIALS SEE PROSECUTION OF WORK.

REINFORCING NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET - STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A615), GRADE 60.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRATICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. EXISTING REINFORCING STEEL THAT IS TO REMAIN IN PLACE WITHIN THE RECONSTRUCTED AREAS SHALL BE CUT AS REQUIRED TO PROVIDE $2^{1}/_{2}$" MINIMUM CLEAR COVER FROM THE PROPOSED CONCRETE SURFACES, EXCEPT AS OTHERWISE NOTED. THE CONTRACT ADMINISTRATOR SHALL APPROVE ANY BARS TO BE CUT. ALL COSTS INCLUDED IN ITEM 502. ALL NEW REINFORCING BARS SHALL HAVE A MINIMUM CLEAR COVER OF $2^{1}/_{2}$" FROM PROPOSED CONCRETE SURFACES UNLESS OTHERWISE NOTED.
4. ANY EPOXY COATED REINFORCING BARS CUT TO FIT SHALL BE TOUCHED UP WITH AN APPROVED EPOXY COATING MATERIAL. ALL COSTS SHALL BE INCLUDED IN ITEM 544.2 OR 544.21.
5. UNLESS OTHERWISE NOTED, HOLES DRILLED INTO EXISTING CONCRETE SHALL BE DRILLED $^{1}/_{2}$" DIAMETER LARGER THAN THE BAR DIAMETER AND GROUTED WITH HIGH STRENGTH, NON-SHRINK CEMENTITIOUS GROUT. ALL COSTS FOR DRILLING AND GROUTING SHALL BE PAID FOR UNDER ITEM 520.0201.
6. ANY EXISTING REINFORCING THAT IS EXPOSED SHALL BE CLEANED OF ALL FOREIGN MATERIAL, SUBSIDIARY TO ITEM 511.0X.
7. REINFORCING LEGEND: SP = SPACE, SPL = SPLICE, FS = FAR SIDE, NS = NEAR SIDE, BOT = BOTTOM, ALT = ALTERNATING.
8. PLACE REINFORCING STEEL TO AVOID RAIL POST ANCHOR ASSEMBLIES, ANCHOR BOLTS, AND EXPANSION JOINT ASSEMBLIES.
9. REINFORCING BAR MARKS APPENDED WITH AN (E), INDICATE EPOXY COATED BARS.
10. GALVANIC CORROSION PROTECTION SYSTEMS, ITEMS 540.511 AND 540.512, SHALL BE PLACED IN THE DECK AS SHOWN IN THE PLANS. SEE SPECIAL PROVISION FOR ADDITIONAL INFORMATION.

DRAINAGE NOTES

1. ADJUST EXISTING FRAMES AND GRATES IN ROADWAY AS REQUIRED (ITEM 604.52) AND INSTALL POLYETHELENE LINER (ITEM 604.0007) AT EACH OF THE FOLLOWING CATCH BASIN LOCATIONS:
   STA 213+52 ±, 42' RT
   STA 214+52 ±, 22' LT
   STA 218+52 ±, 42' RT
   STA 221+52 ±, 42' RT
2. SLOPE FINAL PAVEMENT ON BRIDGE AT AN APPROXIMATE 45 DEGREE ANGLE FROM THE EDGE OF THE EXISTING SCUPPERS TO FINISHED GRADE OF PAVEMENT AT THE FOLLOWING SCUPPER LOCATIONS:
   STA 216+18.6, 42' RT
   STA 216+33.9, 21.25' LT
   STA 217+67.1, 42' RT
   STA 217+85.9, 21.25' LT
3. CONTRACTOR SHALL USE EXTREME CAUTION DURING PAVEMENT REMOVAL OPERATIONS NOT TO DAMAGE THE EXISTING SCUPPERS ON THE BRIDGE DECK.

SUMMARY OF BRIDGE QUANTITIES

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
202.6	CURB REMOVAL FOR SALVAGE	2950	LF
203.1	COMMON EXCAVATION	450	CY
206.1	COMMON STRUCTURE EXCAVATION	120	CY
304.301	CRUSHED GRAVEL	220	CY
403.11023	HBP - 3/4" BINDER MIX, MACHINE METHOD	524	TON
403.11943	HBP - 1/2" SURFACE MIX, MACHINE METHOD, HIGH STRENGTH	970	TON
403.16	PAVEMENT JOINT ADHESIVE	14650	LF
403.19	HBP - TEMPORARY	23	TON
403.21053	HBP - 3/8" MIX, MACHINE METHOD (BRIDGE BASE)	110	TON
403.26	PAVEMENT JOINT ADHESIVE (BRIDGE BASE)	2050	LF
403.29	HBP - TEMPORARY (BRIDGE)	32	TON
410.22	ASPHALT EMULSION FOR TACK COAT	950	GAL
417.	COLD PLANING BITUMINOUS SURFACES	9400	SY
502.	REMOVAL OF EXISTING BRIDGE STRUCTURE	1	U
504.1	COMMON BRIDGE EXCAVATION (F)	60	CY
511.	CONCRETE BRIDGE DECK PAVEMENT REMOVAL (F)	1924	SY
511.02	PREPARATION FOR PARTIAL DEPTH CONCRETE BRIDGE DECK REPAIRS	192	SY
511.03	PREPARATION FOR FULL DEPTH CONCRETE BRIDGE DECK REPAIRS	10	SY
520.01	CONCRETE CLASS AA	52	CY
520.0201	CONCRETE CLASS AA, ABOVE FOOTINGS	32	CY
520.02013	CONCRETE CLASS AA, ABOVE FOOTINGS (FULL DECK REPAIR)	3	CY
534.3	WATER REPELLENT (SILANE/SILOXANE)	180	GAL
538.2	BARRIER MEMBRANE, PEEL AND STICK - VERTICAL SURFACES (F)	62	SY
538.6	BARRIER MEMBRANE, HEAT WELDED - MACHINE METHOD (F)	1924	SY
	(77 GAL TACK COAT SUBSIDIARY)		
540.511	GALVANIC CORROSION PROTECTION SYSTEM (DISTRIBUTED ANODES)	148	LF
540.512	GALVANIC CORROSION PROTECTION SYSTEM (DISCRETE ANODES)	1700	EA
541.5	PVC WATERSTOPS, NH TYPE 5 (F)	147	LF
544.2	REINFORCING STEEL, EPOXY COATED (F)	2398	LB
544.21	REINFORCING STEEL, EPOXY COATED, MECHANICAL CONNECTORS (F)	126	LB
561.1001	PREFABRICATED STRIP SEAL EXPANSION JOINT (F)	74	LF
561.1002	PREFABRICATED STRIP SEAL EXPANSION JOINT (F)	74	LF
562.1	SILICONE JOINT SEALANT (F)	10	LF
604.0007	POLYETHYLENE LINER	4	EA
604.52	RECONSTRUCTING/ADJUSTING DRAINAGE MANHOLES	4	LF
606.417	PORTABLE CONCRETE BARRIER FOR TRAFFIC CONTROL	430	LF
606.41741	PORTABLE CONCRETE BARRIER FOR TRAFFIC CONTROL - BRIDGE	800	LF
606.9523	TEMP. IMPACT ATTENUATION DEVICE (NON-REDIRECTIVE) TEST LEVEL 3	2	U
609.5	RESET GRANITE CURB	16	LF
609.55	RESET GRANITE CURB (BRIDGE)	30	LF
615.043	REMOVING TRAFFIC SIGN TYPE AA	6	U
618.61	UNIFORMED OFFICERS WITH VEHICLE	*	$
618.7	FLAGGERS	3500	HR
619.1	MAINTENANCE OF TRAFFIC	1	U
619.25	PORTABLE CHANGEABLE MESSAGE SIGNS	2	U
619.279	AUTOMATED TRAILER-MOUNTED SPEED LIMIT SIGN	2	U
628.2	SAWED BITUMINOUS PAVEMENT	2910	LF
628.22	SAWED BITUMINOUS PAVEMENT (BRIDGE)	690	LF
632.0104	RETROREFLECTIVE PAINT PAVE. MARKING, 4" LINE	29800	LF
632.02	RETROREFLECTIVE PAINT PAVEMENT MARKING, SYMBOL OR WORD	152	SF
632.1104	PREFORMED RETROREFLECTIVE TAPE, TYPE 1 (REMOVABLE) 4" LINE	4700	LF
632.911	OBLITERATE PAVE. MARKING LINE, 12" WIDE & UNDER	7200	LF
632.92	OBLITERATE PAVEMENT MARKING, SYMBOL OR WORD	152	SF
670.104	TEMPORARY PORTABLE LIGHTING	2	U
670.95	TEMPORARY SAFETY FENCE	1620	LF
692.	MOBILIZATION	1	U
698.13	FIELD OFFICE TYPE C	9	MON
699.	MISCELLANEOUS TEMPORARY EROSION AND SEDIMENT CONTROL	*	$
1002.1	REPAIRS OR REPLACEMENTS AS NEEDED - BRIDGE STRUCTURES	*	$
1008.251	ALTERATIONS AND ADDITIONS AS NEEDED - TEMPORARY PEDESTRIAN ACCOMMODATIONS	*	$
1010.15	FUEL ADJUSTMENT	*	$
1010.2	ASPHALT CEMENT ADJUSTMENT	*	$

* NOT A BID ITEM

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
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Closely review before using details.

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\	43444 Notes	AS NOTED

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

TOWN LITTLETON BRIDGE NO. 185\090 STATE PROJECT 43444
LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

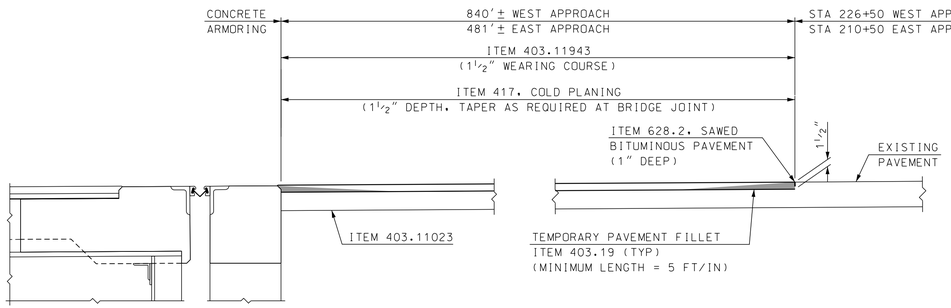
NOTES AND QUANTITY BOX

BRIDGE SHEET 2 OF 13

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED SMG	6/21	CHECKED JAT		4/22
	DRAWN SMG	6/21	CHECKED JAT		4/22
	QUANTITIES SMG	2/22	CHECKED JAT		4/22

FILE NUMBER 141-3-2

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	6	19



PAVEMENT MATCH DETAIL

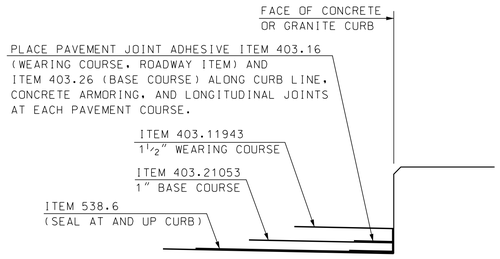
NOT TO SCALE

DISCRETE ANODE NOTES

1. LIMITS OF UNSOUND CONCRETE ARE TO BE DETERMINED BY THE ENGINEER.
2. DISCRETE ANODES SHALL BE PLACED AS REQUIRED AS SHOWN IN THE DETAIL. THE ANODES SHALL BE TIED TO THE EXISTING STEEL MATS. ALL COSTS SHALL BE INCLUDED IN ITEM 540.512.
3. SPACING OF DISCRETE ANODES AROUND THE PERIMETER OF THE CONCRETE DECK REPAIR AREA SHALL BE 24" MAX.

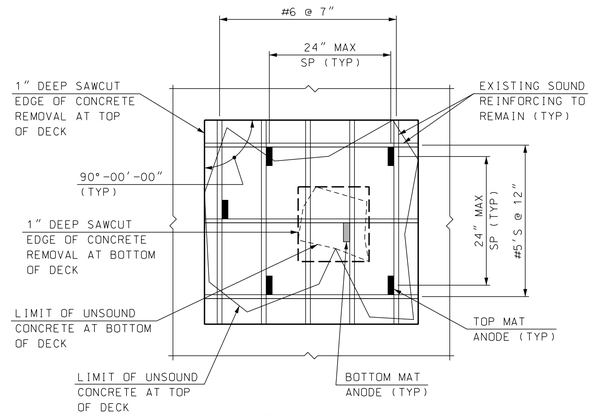
CONCRETE ISLAND NOTES

1. REMOVE CONCRETE ISLAND (PHASE 1 CONSTRUCTION) AND REPLACE WITH PAVEMENT AND PAINTED ISLAND (FINAL PAVEMENT MARKING) AT THE FOLLOWING LOCATIONS:
   STA 210+51 - STA 212+89 (10' - 16' WIDE)
   STA 213+52 - STA 215+31 (6' WIDE)
   STA 218+11 - STA 223+05 (6' WIDE)
   STA 223+90 - STA 226+48 (18' - 9' WIDE)
2. ITEM 202.6, CURB REMOVAL FOR SALVAGE, SHALL BE USED TO REMOVE THE EXISTING SLOPED GRANITE CURB AROUND CONCRETE ISLANDS AT THE FOLLOWING LOCATIONS:
   STA 210+51 - STA 212+89
   STA 213+52 - STA 215+31
   STA 218+11 - STA 223+05
   STA 223+90 - STA 226+48
3. DISCARD ITEM 203.11 BY SPREADING EVENLY ON SIDE SLOPES AT THE FOLLOWING LOCATIONS (MAX 30' FROM EDGE OF EXISTING PAVEMENT):
   - SIDE SLOPES TO NW OF BRIDGE BETWEEN DALTON RD AND I-93 NB OFF-RAMP
   - SIDE SLOPES TO SW OF BRIDGE BETWEEN DALTON RD AND I-93 SB OFF-RAMP
4. TREAT ALL DISTURBED AREAS WITH ITEM 646.41, TURF ESTABLISHMENT WITH MULCH, TACKIFIERS, AND HUMUS.

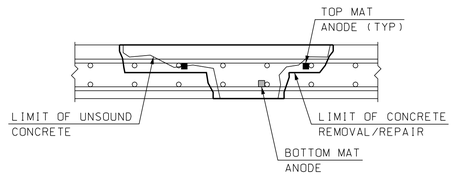


CURB DETAIL

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



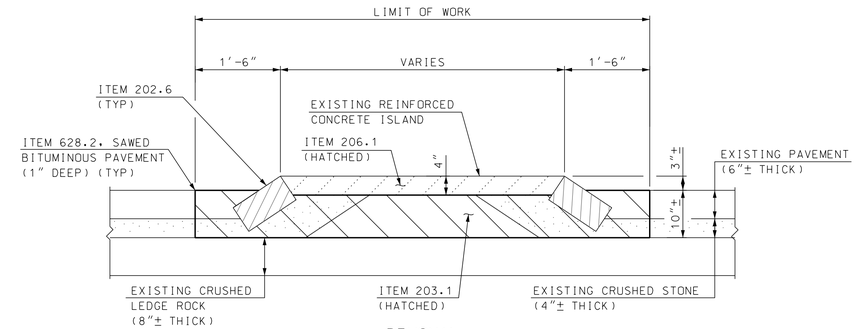
PLAN VIEW



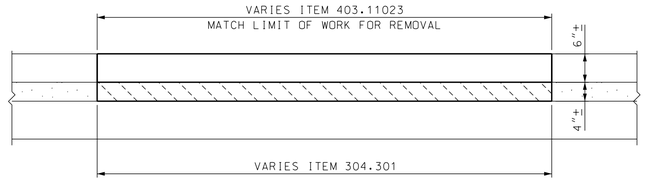
SECTION VIEW

TYPICAL DISCRETE ANODE PLACEMENT IN DECK

SCALE: 1" = 1'-0"



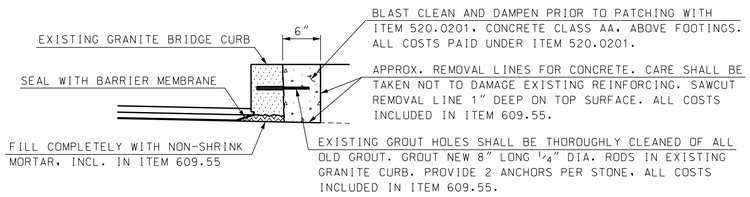
REMOVAL



RECONSTRUCTION

ROADWAY CONCRETE ISLAND DETAILS

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



** RESETTING GRANITE BRIDGE CURB DETAIL

SCALE: 1" = 1'-0"

** WHERE EXISTING GRANITE BRIDGE CURB HAS PULLED AWAY FROM THE CONCRETE BRUSH CURB, THE GRANITE CURB SHALL BE REMOVED AND RESET AS DIRECTED BY THE ENGINEER. ALL COSTS INCLUDED IN ITEM 609.55. RESET GRANITE CURB (BRIDGE).

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
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Closely review before using details.

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\	43444 Details	AS NOTED

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

TOWN LITTLETON BRIDGE NO. 185\090 STATE PROJECT 43444

LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

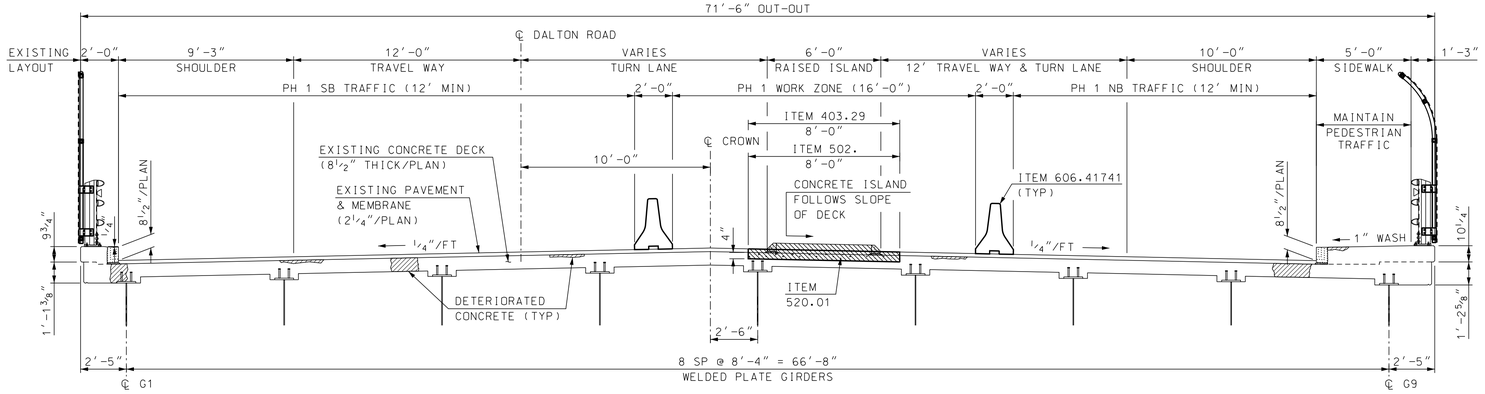
DETAILS

BRIDGE SHEET: 3 OF 13

FILE NUMBER: 141-3-2

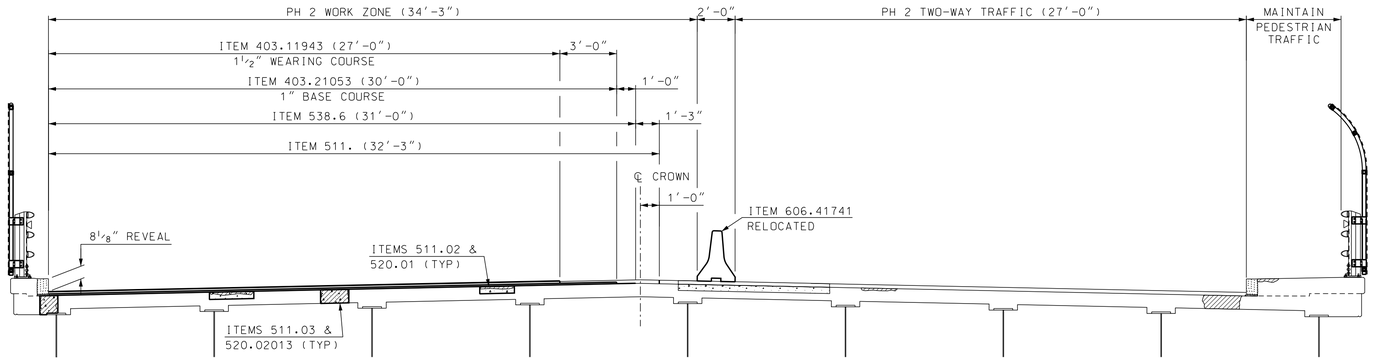
REVISIONS AFTER PROPOSAL			BY	DATE		BY	DATE
		DESIGNED	SMG	2/22	CHECKED	JAT	4/22
		DRAWN	SMG	2/22	CHECKED	JAT	4/22
		QUANTITIES	SMG	2/22	CHECKED	JAT	4/22

ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE		----------	7	19



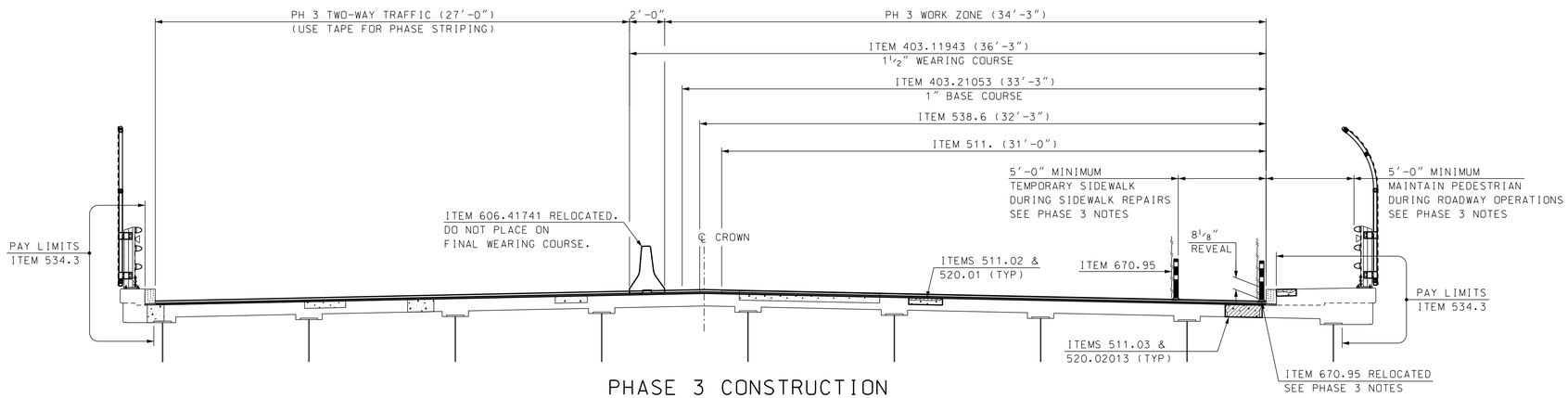
PHASE 1 CONSTRUCTION

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



PHASE 2 CONSTRUCTION

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



PHASE 3 CONSTRUCTION

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

PHASE 1 NOTES

1. REMOVE CONCRETE ISLAND ON BRIDGE DECK AND ROADWAY APPROACHES.
2. SEE BR SHT 3 FOR LIMITS.
3. REMOVE STEEL EXPANSION JOINT PLATES ACROSS CONCRETE ISLAND.
4. PROVIDE STEEL PLATE ACROSS EXPANSION JOINT GAP (FIELD WELD IN PLACE) BEFORE PLACING TEMPORARY PAVEMENT.

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
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PHASE 3 NOTES

1. INSTALL TRAFFIC CONTROL AND DIVERT ROADWAY AND PEDESTRIAN TRAFFIC TO TEMPORARY LOCATIONS.
2. THE TEMPORARY SIDEWALK SHALL MEET ADA REQUIREMENTS.
3. A TEMPORARY WOODEN BRIDGE OR STEEL PLATE MAY BE UTILIZED OVER THE PEDESTRIAN FACILITIES TO AVOID A FIELD SPLICE.
4. ANY OPEN AREAS IN THE WORKZONE SHALL BE PLATED WHEN THE CONTRACTOR IS NOT PRESENT.
5. COMPLETE SIDEWALK REPAIRS, RELOCATE TEMPORARY FENCE TO THE FACE OF CURB, AND OPEN SIDEWALK BEFORE ANY WORK IN THE ROADWAY SHALL COMMENCE.

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

TOWN LITTLETON | BRIDGE NO. 185\090 | STATE PROJECT 43444

LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

DECK PHASING

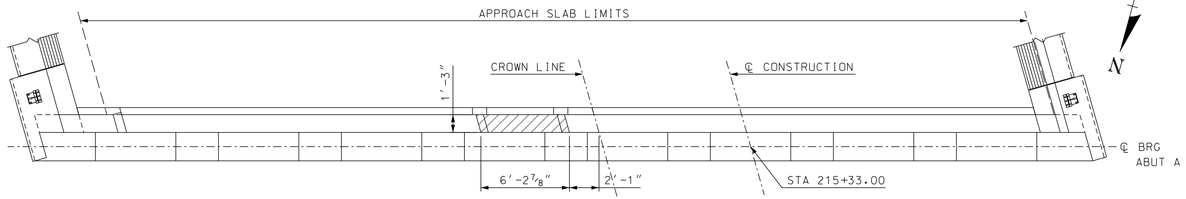
BRIDGE SHEET: 4 OF 13

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	SMG	6/21	CHECKED	JAT	4/22
DRAWN	SMG	6/21	CHECKED	JAT	4/22
QUANTITIES	SMG	2/22	CHECKED	JAT	4/22

FILE NUMBER: 141-3-2

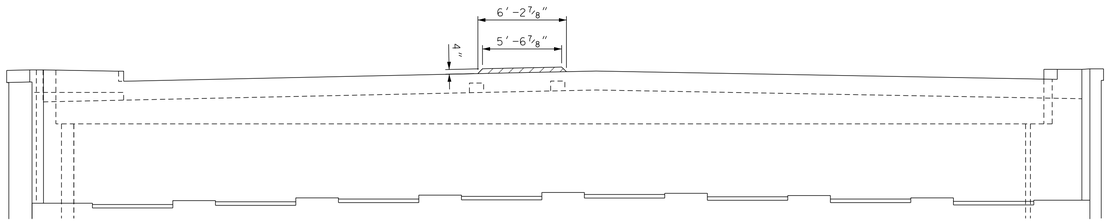
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC/	43444 Deck	AS NOTED

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	8	19



PHASE 1 PLAN

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



PHASE 1 ELEVATION

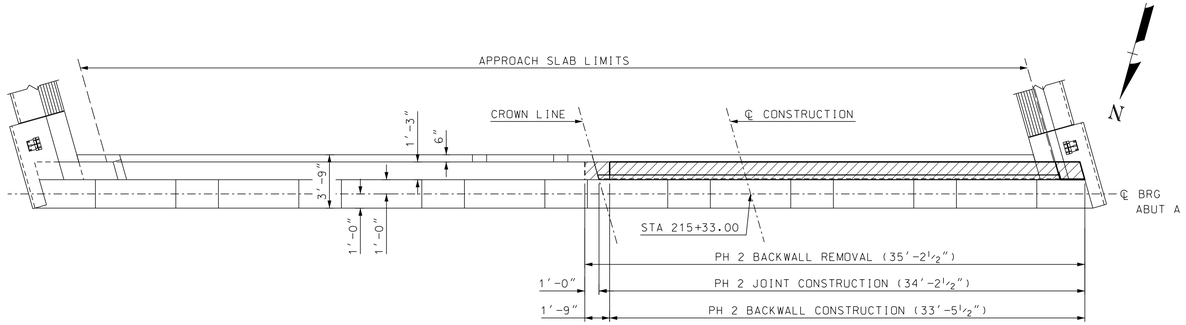
SCALE: 3/16" = 1'-0"

LIMIT OF REMOVAL

LIMIT OF PROPOSED CONCRETE

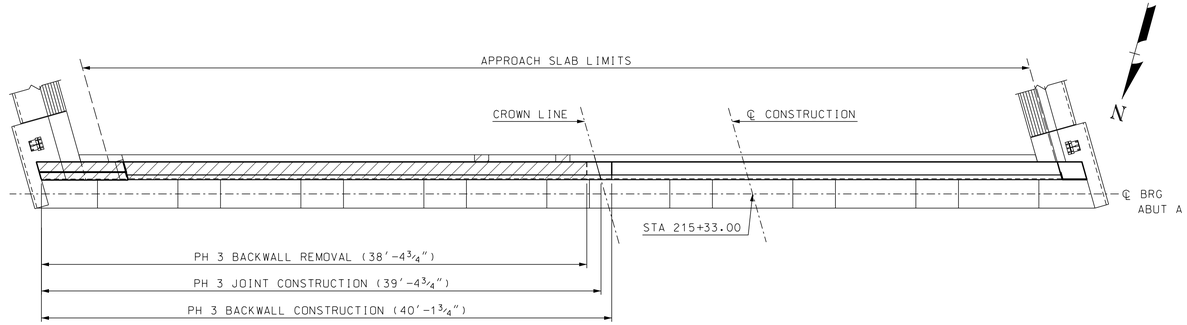
NOTES:

1. SEE EXISTING SECTION A-A AND THE PROPOSED SECTION A-A ON BRIDGE SHEET 8 FOR FURTHER DETAILS.
2. ALL DIMENSIONS ARE GIVEN ALONG FACE OF BACKWALL UNLESS NOTED OTHERWISE.



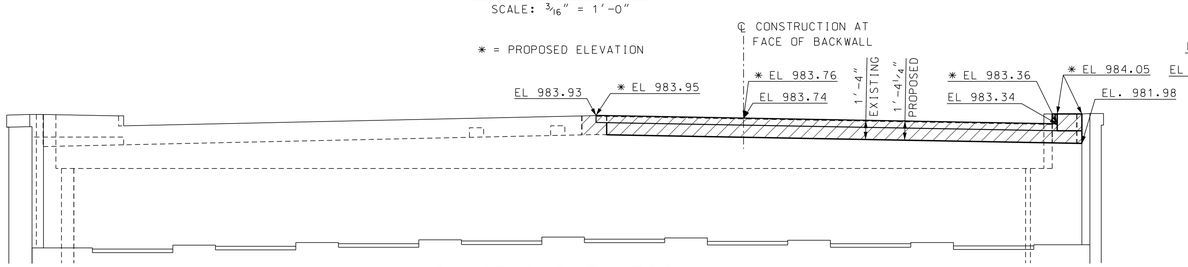
PHASE 2 PLAN

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



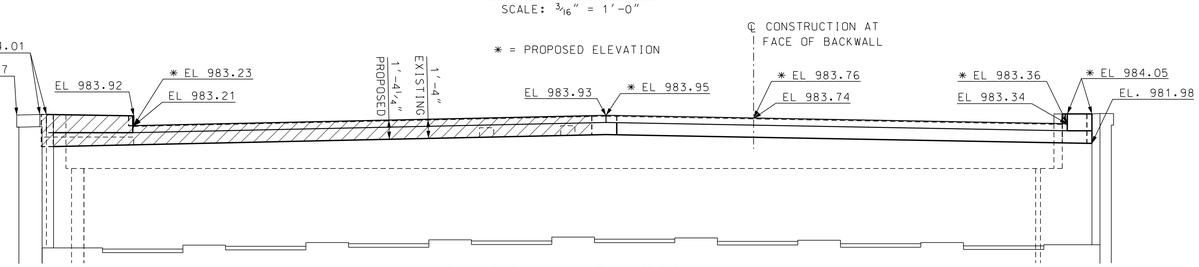
PHASE 3 PLAN

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



PHASE 2 ELEVATION

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



PHASE 3 ELEVATION

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

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
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SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\	43444 A-abut	AS NOTED

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

TOWN LITTLETON BRIDGE NO. 185\090 STATE PROJECT 43444

LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

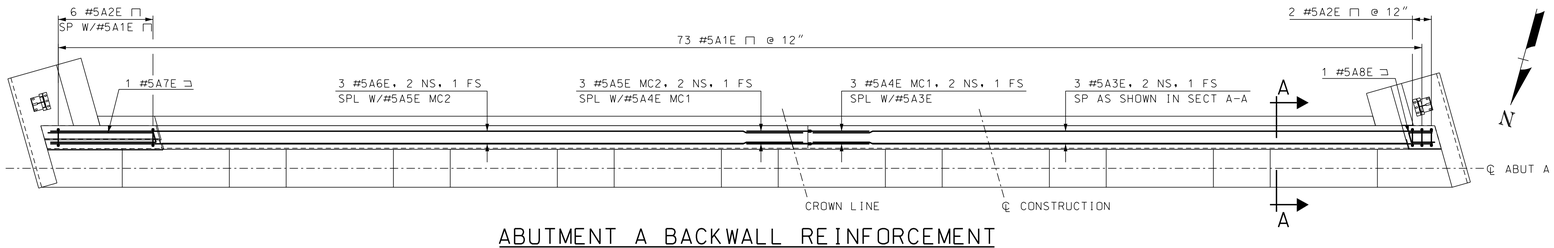
ABUTMENT A CONSTRUCTION

BRIDGE SHEET: 5 OF 13

FILE NUMBER: 141-3-2

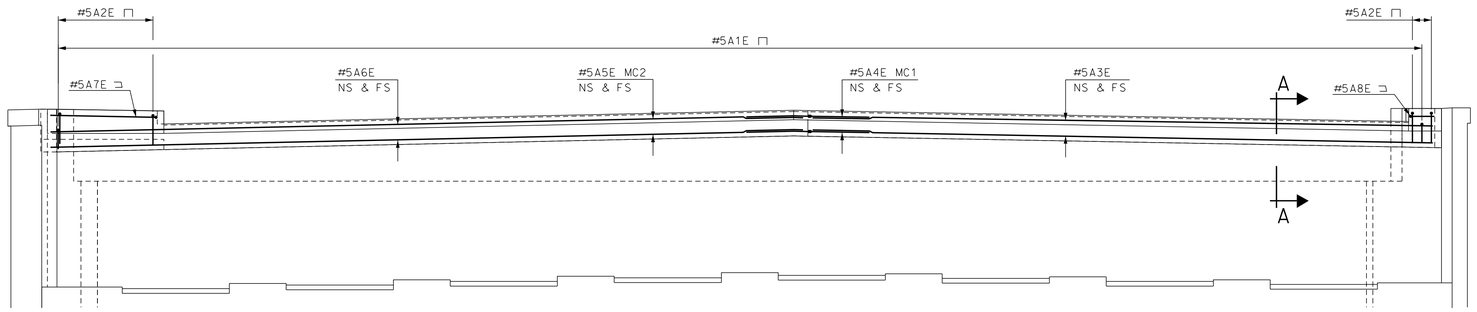
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	8/21	CHECKED	JAT	4/22
	DRAWN	SMG	8/21	CHECKED	JAT	4/22
	QUANTITIES	SMG	2/22	CHECKED	JAT	4/22
	ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.
	REV. DATE			----------		9

TOTAL SHEETS: 19



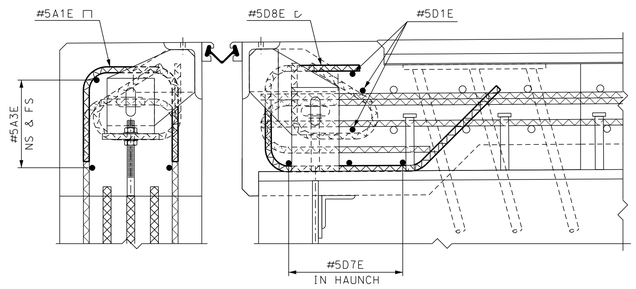
ABUTMENT A BACKWALL REINFORCEMENT

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



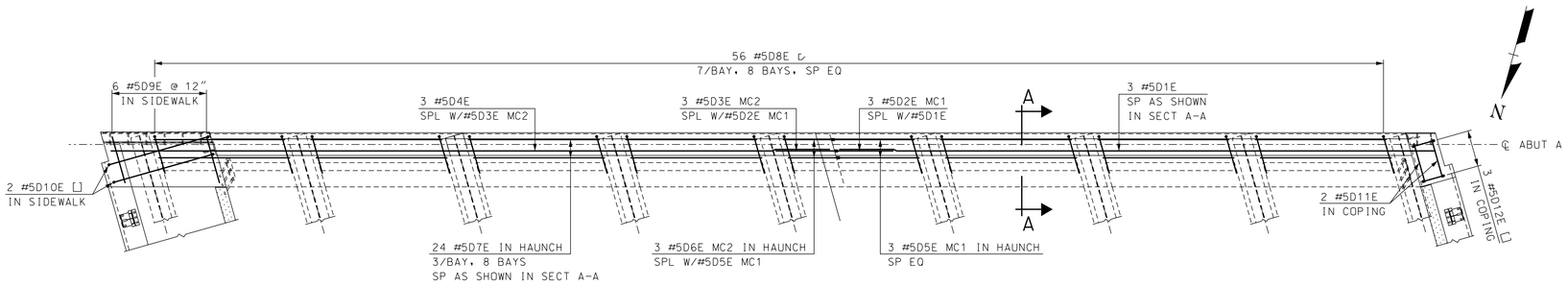
ABUTMENT A BACKWALL ELEVATION

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



SECTION A-A

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



ABUTMENT A DECK END REINFORCEMENT

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

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
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SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\	43444 A-rein	AS NOTED

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

TOWN LITTLETON BRIDGE NO. 185\090 STATE PROJECT 43444

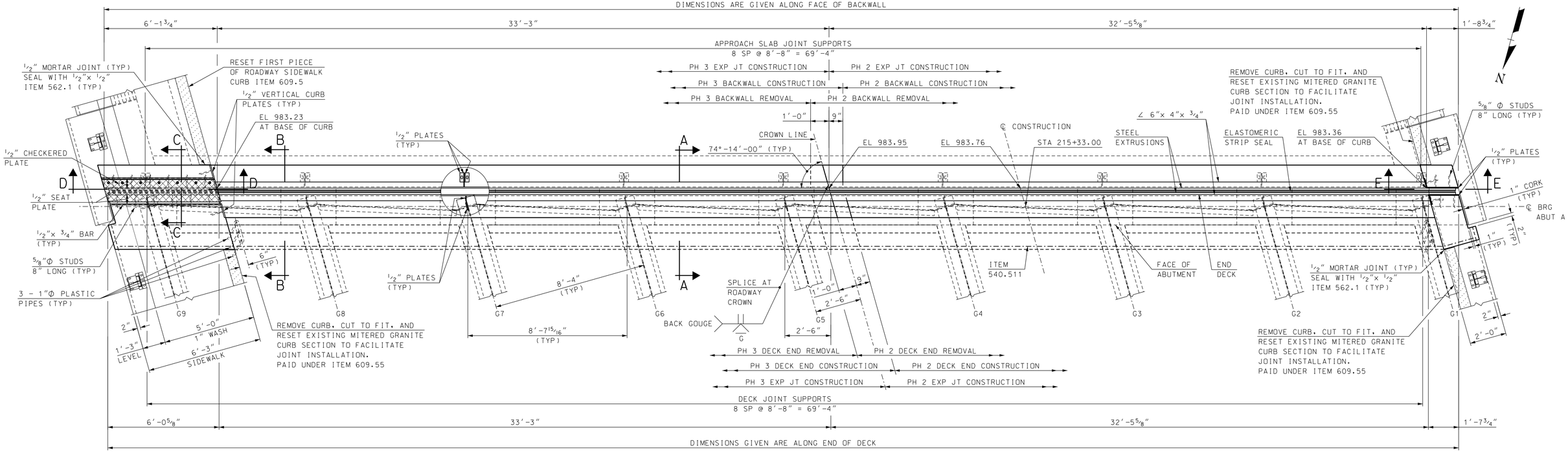
LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

ABUTMENT A & DECK END REINFORCEMENT

BRIDGE SHEET: 6 OF 13

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	8/21	CHECKED	JAT	4/22
	DRAWN	SMG	8/21	CHECKED	JAT	4/22
	QUANTITIES	SMG	2/22	CHECKED	JAT	4/22
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		----------		10	19

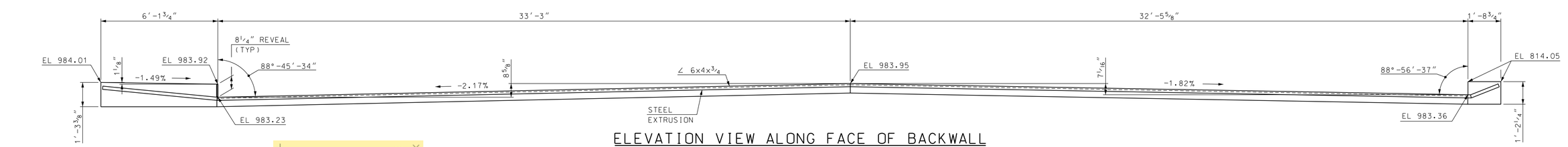
FILE NUMBER: 141-3-2



EXPANSION JOINT CONSTRUCTION NOT INCLUDED IN PHASE 1 CONSTRUCTION.

PLAN

SCALE: 3/8″ = 1′-0″



ELEVATION VIEW ALONG FACE OF BACKWALL

SCALE: 3/8″ = 1′-0″

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
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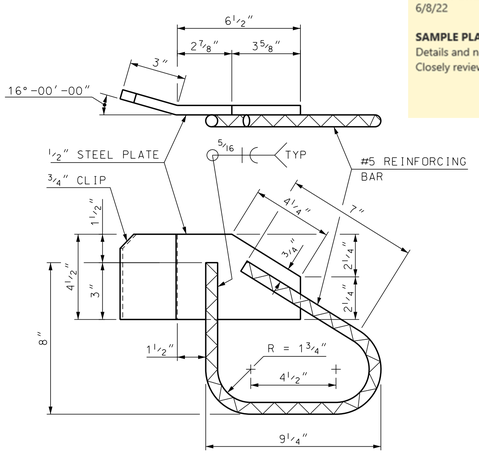
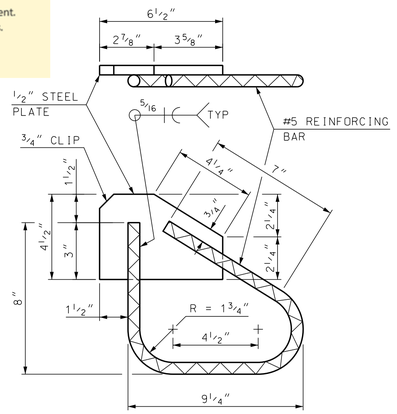


DECK ANCHORAGE DETAIL

SCALE: 3″ = 1′-0″



BACKWALL ANCHORAGE DETAIL

SCALE: 3″ = 1′-0″

EXPANSION JOINT NOTES

(1) ALL EXPANSION JOINT STEEL, INCLUDING ANCHORS, SHALL BE GALVANIZED. STEEL ANGLES SHALL BE ASTM A572 GRADE 50. MINOR STEEL PLATES MAY CONFORM TO ASTM A36. THE ENTIRE ASSEMBLY, INCLUDING STRIP SEAL, SHALL BE PAID FOR AS ITEM 561.1001, PREFABRICATED STRIP SEAL EXPANSION JOINT (F).

(2) SPLICES FOR STEEL ANGLES SHALL DEVELOP FULL STRENGTH.

(3) EXPANSION JOINT OPENING SHALL BE ADJUSTED TO TEMPERATURE ANTICIPATED JUST PRIOR TO POURING DECK BLOCKOUT. FINAL SETTING IN THE FIELD SHALL BE DETERMINED BY THE CONTRACT ADMINISTRATOR. SEE TEMPERATURE ADJUSTMENT TABLE & NOTES.

(4) STRIP SEAL SHALL BE FURNISHED IN ONE CONTINUOUS LENGTH. NO SPLICES WILL BE ALLOWED. SEAL SHALL BE INSTALLED IN THE FIELD BY THE CONTRACTOR, IN ACCORDANCE WITH THE MANUFACTURER OF THE SEAL, USING AN APPROVED TOOL THAT WILL NOT DAMAGE THE SEAL.

(5) JOINT SUPPORT PLATES AND CURB PLATES SHALL BE SHOP WELDED TO EXPANSION JOINT STEEL AND SHALL BE NORMAL TO GRADE AFTER JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE. STEEL ANGLES AND EXTRUSIONS SHALL BE ASSEMBLED WITH A CONSTANT JOINT OPENING TO ENSURE PROPER PERFORMANCE AND WATER TIGHTNESS.

(6) IMMEDIATELY AFTER THE JOINT HAS BEEN SECURED TO THE STRUCTURAL STEEL AND BACKWALL, REMOVE SHIPPING DEVICES AND GRIND SMOOTH ANY WELDS ON EXPOSED SURFACES. REPAIR ANY DAMAGE TO GALVANIZED SURFACES IN ACCORDANCE WITH SECTION 550.2.

(7) PROTECT TOP OF EXPANSION JOINT DURING PLACEMENT OF CONCRETE AND BITUMINOUS PAVEMENT.

(8) THE STRIP SEAL HAS BEEN DESIGNED FOR A TOTAL FACTORED MOVEMENT OF 1.37 INCHES. DESIGN INCLUDES MOVEMENT DUE TO TEMPERATURE, SKEW, SHRINKAGE AND MINIMUM INSTALLATION WIDTH. THE CONTRACTOR SHALL USE AN SE-400 SEAL BY WATSON BOWMAN OR A2R-400 BY D.S. BROWN, AS NOTED IN THE OPL.

(9) ELEVATIONS SHOWN AT TOP OF ANGLES ARE 1/8″ LOWER THAN PROPOSED FINISHED ROADWAY GRADE.

(10) NO "LOW PROFILE" STEEL EXTRUSIONS SHALL BE ALLOWED. SEE OPL FOR APPROVED PRODUCTS.

(11) PRIOR TO INSTALLING THE SEAL, ALL TEMPORARY FORM WORK SHALL BE REMOVED. STEEL ANGLES AND EXTRUSIONS SHALL BE MAINTAINED FREE FROM DIRT, WATER AND ANY OTHER LOOSE DEBRIS, WITH THE USE OF COMPRESSED AIR, TO ENSURE PROPER FIT OF THE SEAL. CARE SHALL BE TAKEN NOT TO DAMAGE GALVANIZED SURFACES.

(12) A TEMPORARY SEAL(S) SHALL BE INSTALLED PRIOR TO THE START OF THE WINTER MAINTENANCE PERIOD FOR ALL JOINT ASSEMBLIES OR PORTIONS THEREOF THAT WILL BE IN PLACE THROUGHOUT THE WINTER. ALL TEMPORARY SEALS SHALL BE REMOVED AND JOINT OPENINGS AND SUBSTRUCTURE SHALL BE CLEANED PRIOR TO INSTALLING THE FINAL SEAL. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 561.1001.

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

TOWN LITTLETON BRIDGE NO. 185\090 STATE PROJECT 43444

LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

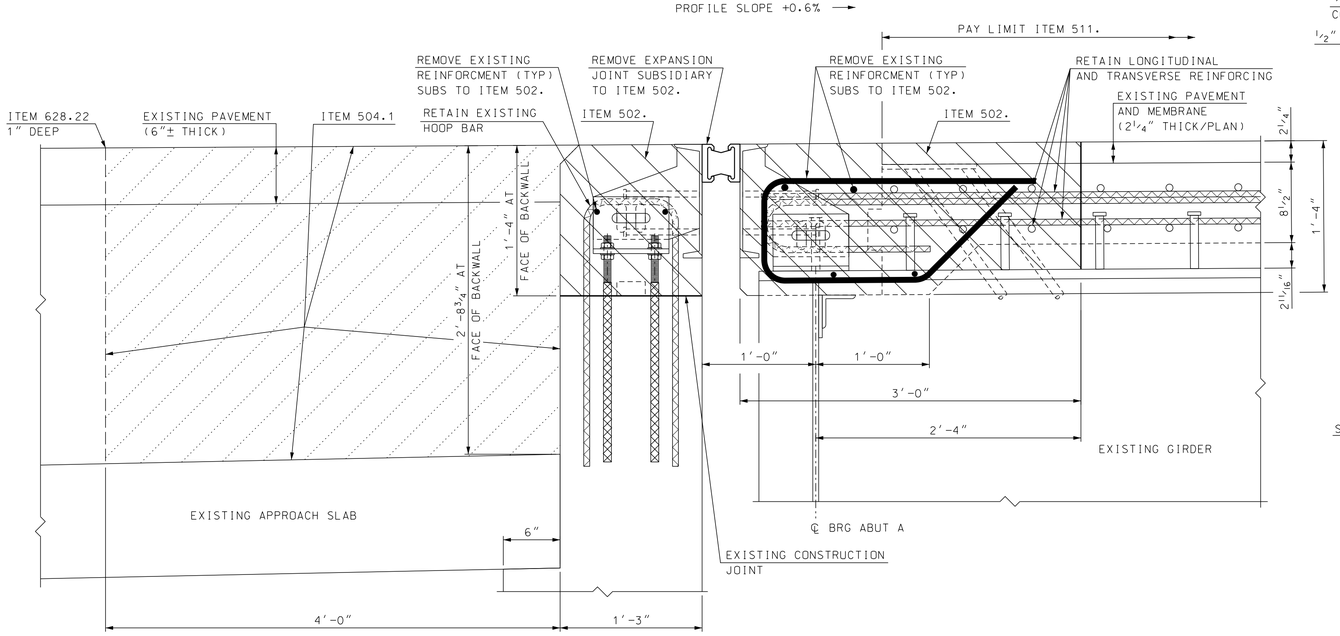
ABUTMENT A STRIP SEAL EXPANSION JOINT (1 OF 2)

BRIDGE SHEET 7 OF 13

FILE NUMBER 141-3-2

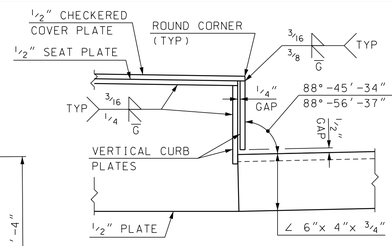
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	6/21	CHECKED	JAT	4/22
	DRAWN	SMG	6/21	CHECKED	JAT	4/22
	QUANTITIES	SMG	2/22	CHECKED	JAT	4/22
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		----------		11	19

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\	43444 A-strip	AS NOTED



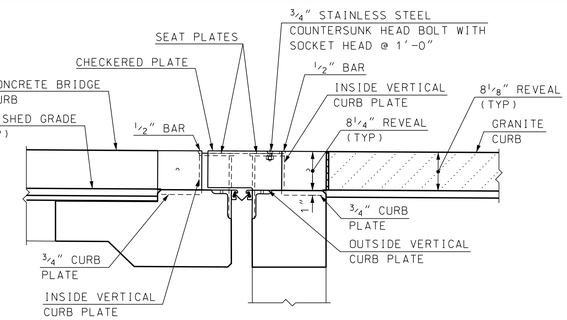
SECTION A-A REMOVAL

SCALE: 1½" = 1'-0"



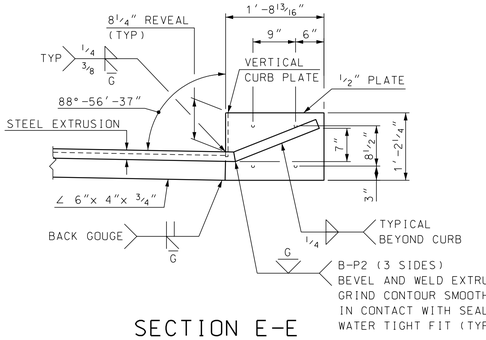
CURB INSET

SCALE: 1½" = 1'-0"



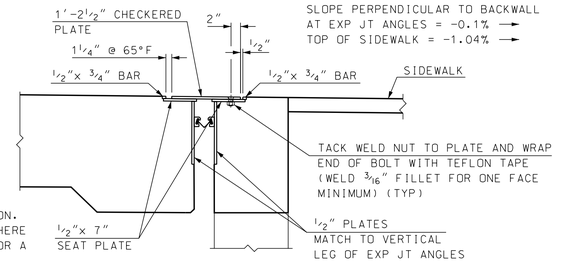
SECTION B-B

SCALE: ¾" = 1'-0"



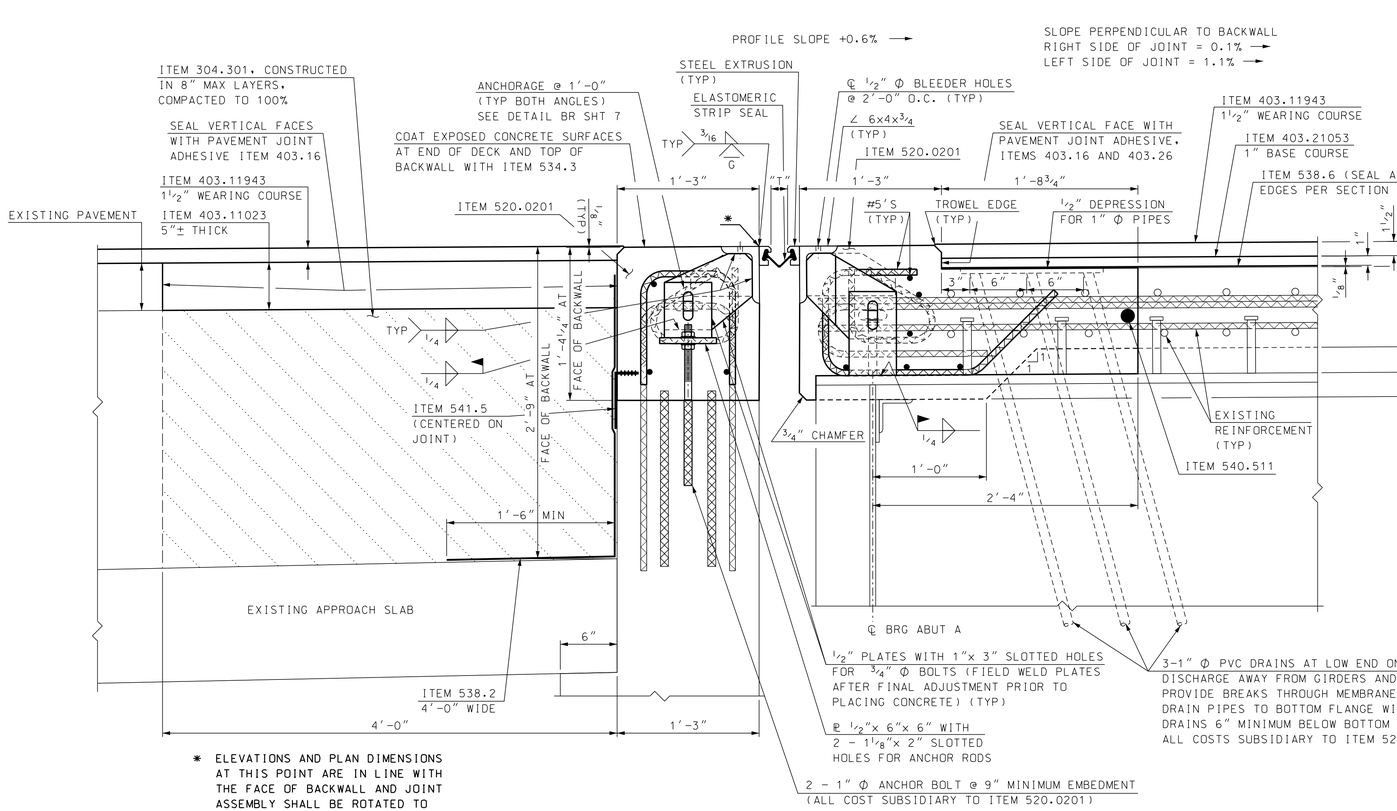
SECTION E-E

SCALE: ¾" = 1'-0"



SECTION C-C

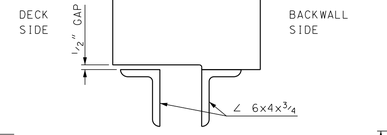
SCALE: ¾" = 1'-0"



✱ ELEVATIONS AND PLAN DIMENSIONS AT THIS POINT ARE IN LINE WITH THE FACE OF BACKWALL AND JOINT ASSEMBLY SHALL BE ROTATED TO PROFILE GRADE ABOUT THIS POINT.

SECTION A-A RECONSTRUCTION

SCALE: 1½" = 1'-0"



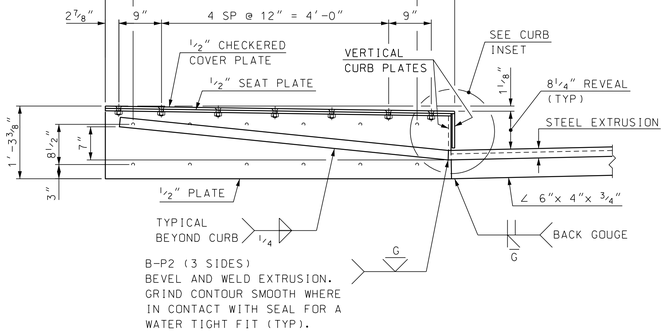
OUTSIDE VERTICAL CURB PLATE DETAIL

SCALE: 1½" = 1'-0"

TEMPERATURE ADJUSTMENT TABLE	
TEMPERATURE	"T"
20°F	2⅛"
35°F	2"
50°F	1⅞"
65°F	1¾"
80°F	1⅝"
95°F	1½"

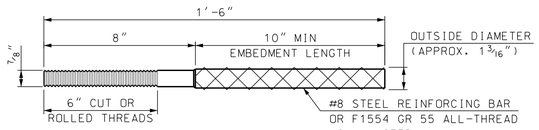
TEMPERATURE ADJUSTMENT NOTES

1. "T" DIMENSIONS ARE PERPENDICULAR TO FACE OF BACKWALL.
2. MINIMUM "T" WIDTH FOR SEAL INSTALLATION = 1¾" (APPROXIMATELY 65°F OR LESS).
3. VALUES IN THE TEMPERATURE ADJUSTMENT TABLE ARE FOR SETTING THE EXPANSION JOINT ASSEMBLY IMMEDIATELY PRIOR TO POURING THE DECK BLOCKOUT.



SECTION D-D

SCALE: ¾" = 1'-0"



ANCHOR ROD DETAIL

(18 REQUIRED)
SCALE: 3" = 1'-0"

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
Details and notes may not be current. Closely review before using details.

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

TOWN LITTLETON BRIDGE NO. 185\090 STATE PROJECT 43444

LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

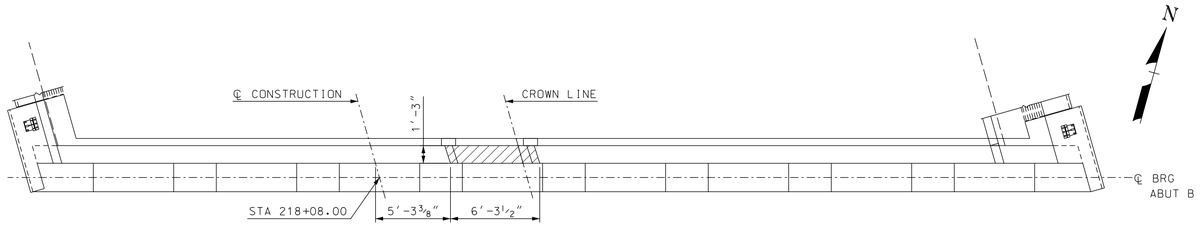
ABUTMENT A STRIP SEAL EXPANSION JOINT (2 OF 2)

BRIDGE SHEET 8 OF 13

FILE NUMBER 141-3-2

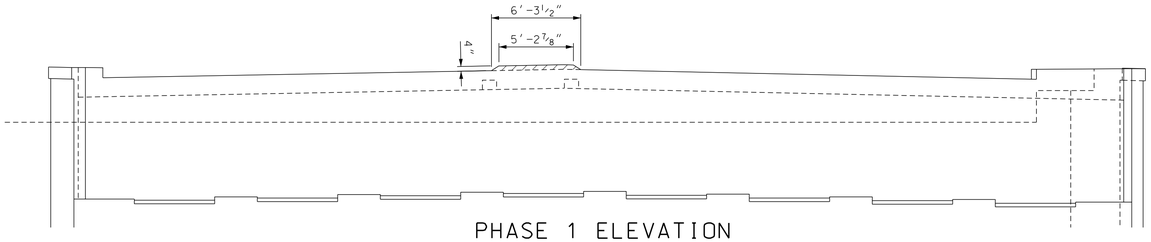
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	6/21	CHECKED	JAT	4/22
	DRAWN	SMG	6/21	CHECKED	JAT	4/22
	QUANTITIES	SMG	2/22	CHECKED	JAT	4/22
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		----------		12	19

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\	43444 A-strip	AS NOTED



PHASE 1 PLAN

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



PHASE 1 ELEVATION

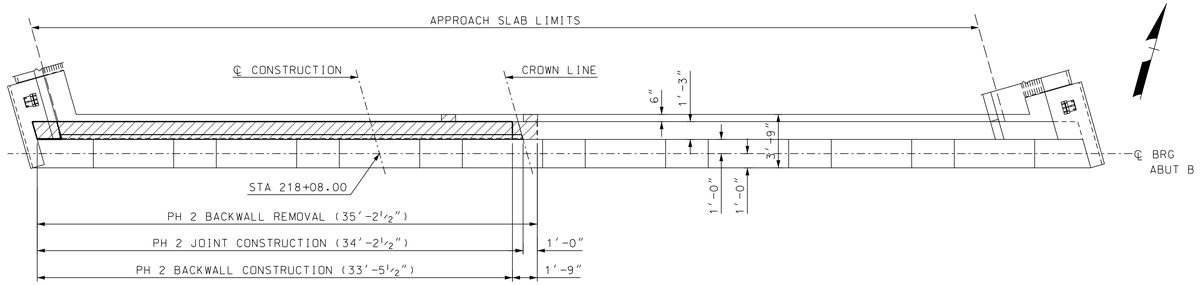
SCALE: 3/16" = 1'-0"

LIMIT OF REMOVAL

LIMIT OF PROPOSED CONCRETE

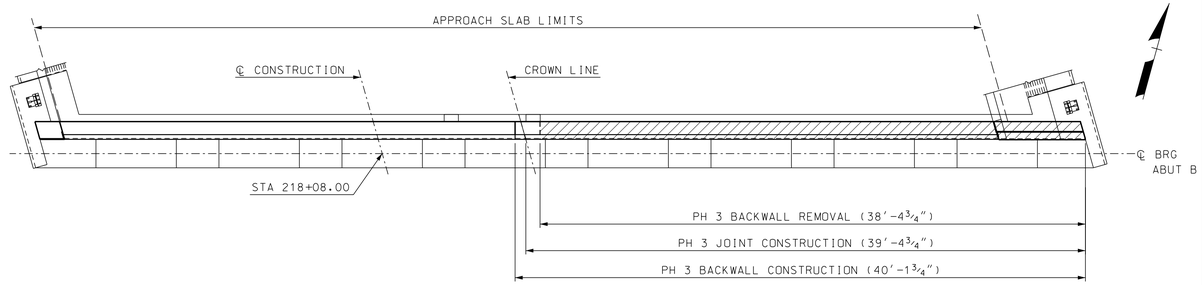
NOTES:

1. SEE EXISTING SECTION A-A AND THE PROPOSED SECTION A-A ON BRIDGE SHEET 12 FOR FURTHER DETAILS.
2. ALL DIMENSIONS ARE GIVEN ALONG FACE OF BACKWALL UNLESS NOTED OTHERWISE.



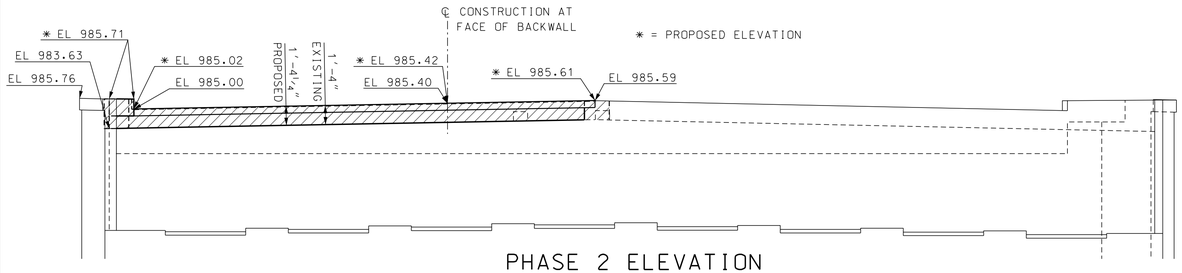
PHASE 2 PLAN

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



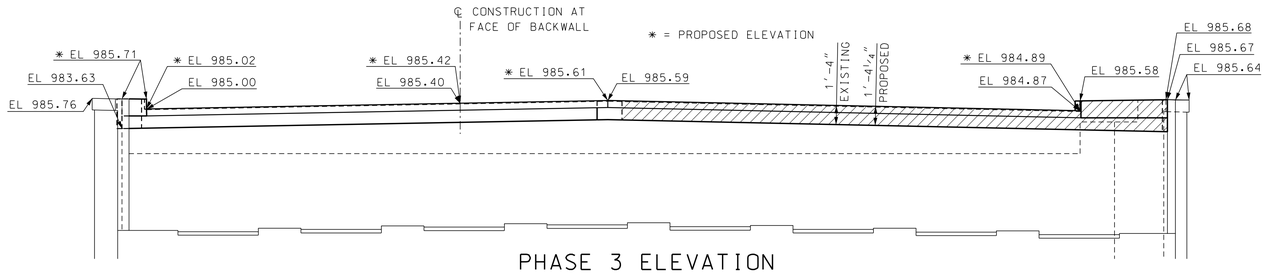
PHASE 3 PLAN

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



PHASE 2 ELEVATION

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



PHASE 3 ELEVATION

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

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
Details and notes may not be current.
Closely review before using details.

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

TOWN LITTLETON BRIDGE NO. 185\090 STATE PROJECT 43444

LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

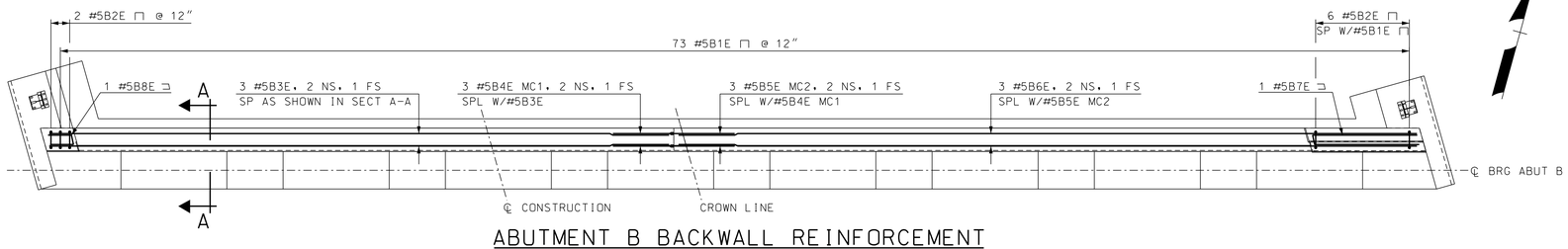
ABUTMENT B CONSTRUCTION

BRIDGE SHEET 9 OF 13

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	9/21	CHECKED	JAT	4/22
	DRAWN	SMG	9/21	CHECKED	JAT	4/22
	QUANTITIES	SMG	2/22	CHECKED	JAT	4/22
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		----------		13	19

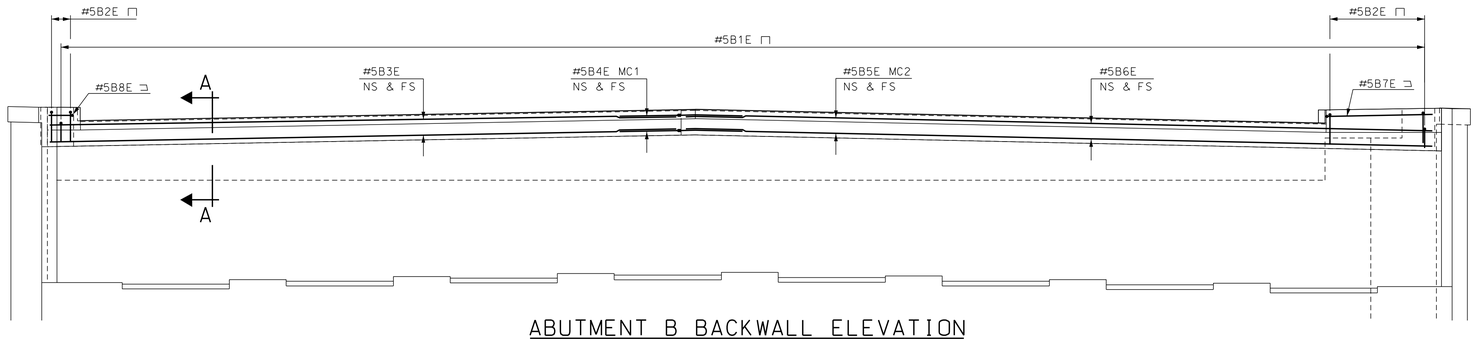
FILE NUMBER 141-3-2

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\	43444 B-abut	AS NOTED



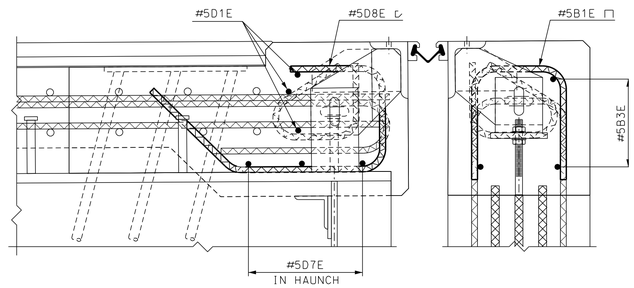
ABUTMENT B BACKWALL REINFORCEMENT

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



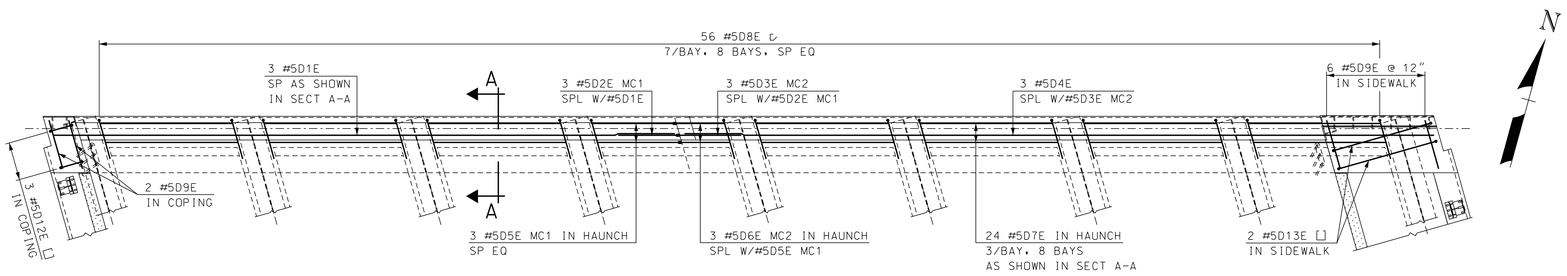
ABUTMENT B BACKWALL ELEVATION

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



SECTION A-A

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



ABUTMENT B DECK END REINFORCEMENT

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

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
Details and notes may not be current.
Closely review before using details.

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

TOWN LITTLETON | BRIDGE NO. 185\090 | STATE PROJECT 43444

LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

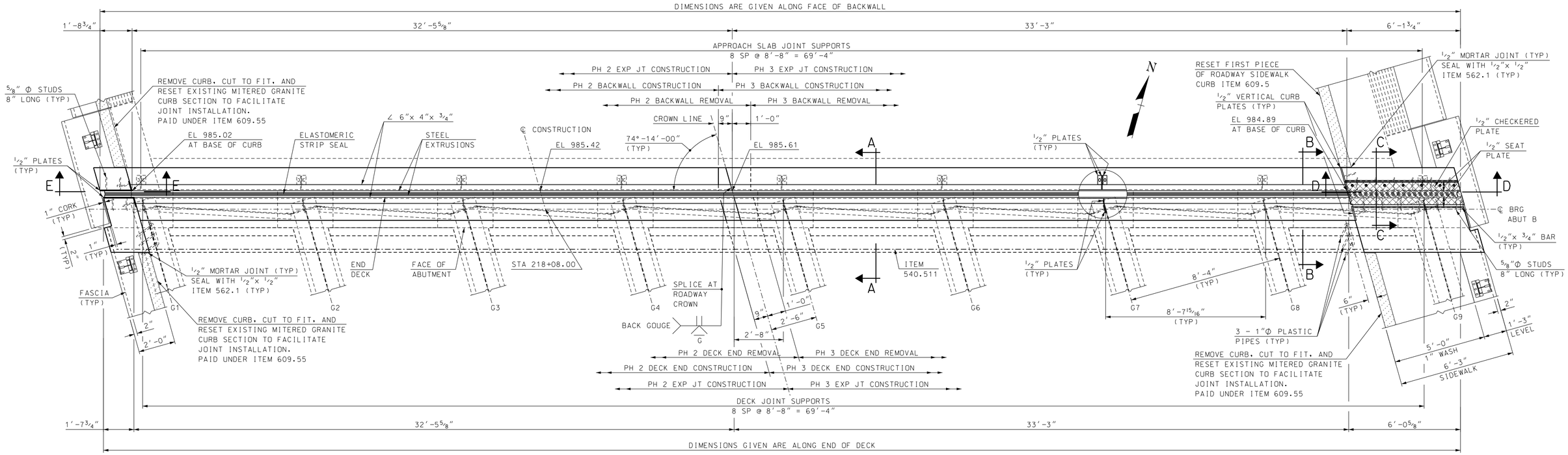
ABUTMENT B & DECK END REINFORCEMENT

BRIDGE SHEET: 10 OF 13

REVISIONS AFTER PROPOSAL				BY	DATE		BY	DATE
			DESIGNED	SMG	8/21	CHECKED	JAT	4/22
			DRAWN	SMG	8/21	CHECKED	JAT	4/22
			QUANTITIES	SMG	2/22	CHECKED	JAT	4/22

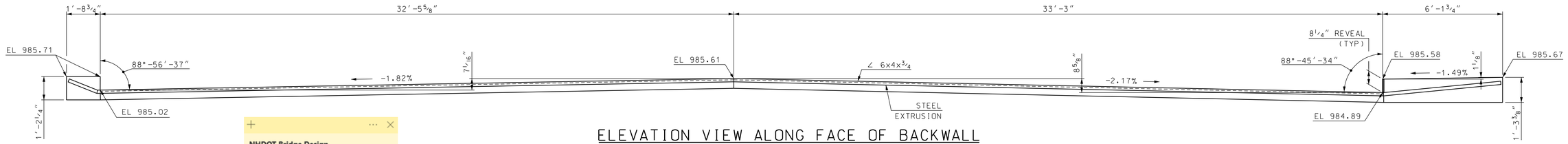
FILE NUMBER: 141-3-2

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC\	43444 B-rein	AS NOTED	REV. DATE		----------	14	19



PLAN

SCALE: ⅜″ = 1′-0″

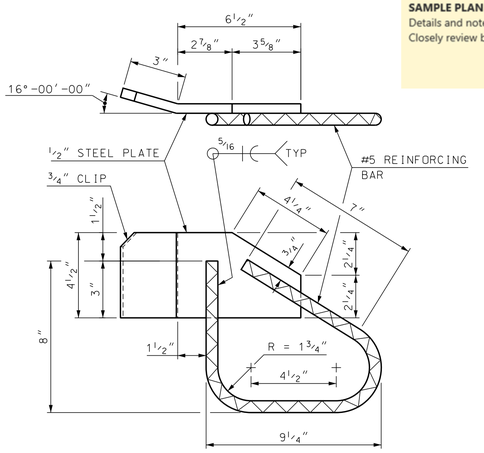


ELEVATION VIEW ALONG FACE OF BACKWALL

SCALE: ⅜″ = 1′-0″

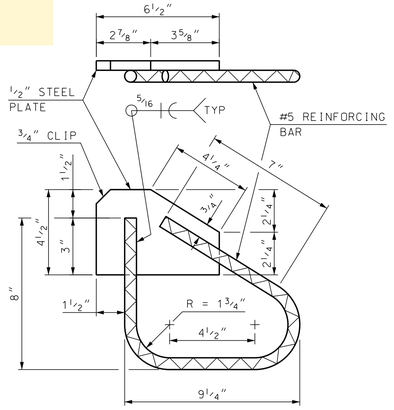
NHDOT Bridge Design
6/8/22

SAMPLE PLAN
Details and notes may not be current. Closely review before using details.



DECK ANCHORAGE DETAIL

SCALE: 3″ = 1′-0″



BACKWALL ANCHORAGE DETAIL

SCALE: 3″ = 1′-0″

EXPANSION JOINT NOTES

(1) ALL EXPANSION JOINT STEEL, INCLUDING ANCHORS, SHALL BE GALVANIZED. STEEL ANGLES SHALL BE ASTM A572 GRADE 50. MINOR STEEL PLATES MAY CONFORM TO ASTM A36. THE ENTIRE ASSEMBLY, INCLUDING STRIP SEAL, SHALL BE PAID FOR AS ITEM 561.1002, PREFABRICATED STRIP SEAL EXPANSION JOINT (F).

(2) SPLICES FOR STEEL ANGLES SHALL DEVELOP FULL STRENGTH.

(3) EXPANSION JOINT OPENING SHALL BE ADJUSTED TO TEMPERATURE ANTICIPATED JUST PRIOR TO POURING DECK BLOCKOUT. FINAL SETTING IN THE FIELD SHALL BE DETERMINED BY THE CONTRACT ADMINISTRATOR. SEE TEMPERATURE ADJUSTMENT TABLE & NOTES.

(4) STRIP SEAL SHALL BE FURNISHED IN ONE CONTINUOUS LENGTH. NO SPLICES WILL BE ALLOWED. SEAL SHALL BE INSTALLED IN THE FIELD BY THE CONTRACTOR, IN ACCORDANCE WITH THE MANUFACTURER OF THE SEAL, USING AN APPROVED TOOL THAT WILL NOT DAMAGE THE SEAL.

(5) JOINT SUPPORT PLATES AND CURB PLATES SHALL BE SHOP WELDED TO EXPANSION JOINT STEEL AND SHALL BE NORMAL TO GRADE AFTER JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE. STEEL ANGLES AND EXTRUSIONS SHALL BE ASSEMBLED WITH A CONSTANT JOINT OPENING TO ENSURE PROPER PERFORMANCE AND WATER TIGHTNESS.

(6) IMMEDIATELY AFTER THE JOINT HAS BEEN SECURED TO THE STRUCTURAL STEEL AND BACKWALL, REMOVE SHIPPING DEVICES AND GRIND SMOOTH ANY WELDS ON EXPOSED SURFACES. REPAIR ANY DAMAGE TO GALVANIZED SURFACES IN ACCORDANCE WITH SECTION 550.2.

(7) PROTECT TOP OF EXPANSION JOINT DURING PLACEMENT OF CONCRETE AND BITUMINOUS PAVEMENT.

(8) THE STRIP SEAL HAS BEEN DESIGNED FOR A TOTAL FACTORED MOVEMENT OF 1.85 INCHES. DESIGN INCLUDES MOVEMENT DUE TO TEMPERATURE, SKEW, SHRINKAGE AND MINIMUM INSTALLATION WIDTH. THE CONTRACTOR SHALL USE AN SE-400 SEAL BY WATSON BOWMAN OR A2R-400 BY D.S. BROWN, AS NOTED IN THE OPL.

(9) ELEVATIONS SHOWN AT TOP OF ANGLES ARE ⅛″ LOWER THAN PROPOSED FINISHED ROADWAY GRADE.

(10) NO "LOW PROFILE" STEEL EXTRUSIONS SHALL BE ALLOWED. SEE OPL FOR APPROVED PRODUCTS.

(11) PRIOR TO INSTALLING THE SEAL, ALL TEMPORARY FORM WORK SHALL BE REMOVED. STEEL ANGLES AND EXTRUSIONS SHALL BE MAINTAINED FREE FROM DIRT, WATER AND ANY OTHER LOOSE DEBRIS, WITH THE USE OF COMPRESSED AIR, TO ENSURE PROPER FIT OF THE SEAL. CARE SHALL BE TAKEN NOT TO DAMAGE GALVANIZED SURFACES.

(12) A TEMPORARY SEAL(S) SHALL BE INSTALLED PRIOR TO THE START OF THE WINTER MAINTENANCE PERIOD FOR ALL JOINT ASSEMBLIES OR PORTIONS THEREOF THAT WILL BE IN PLACE THROUGHOUT THE WINTER. ALL TEMPORARY SEALS SHALL BE REMOVED AND JOINT OPENINGS AND SUBSTRUCTURE SHALL BE CLEANED PRIOR TO INSTALLING THE FINAL SEAL. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 561.1002.

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

TOWN LITTLETON BRIDGE NO. 185\090 STATE PROJECT 43444

LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

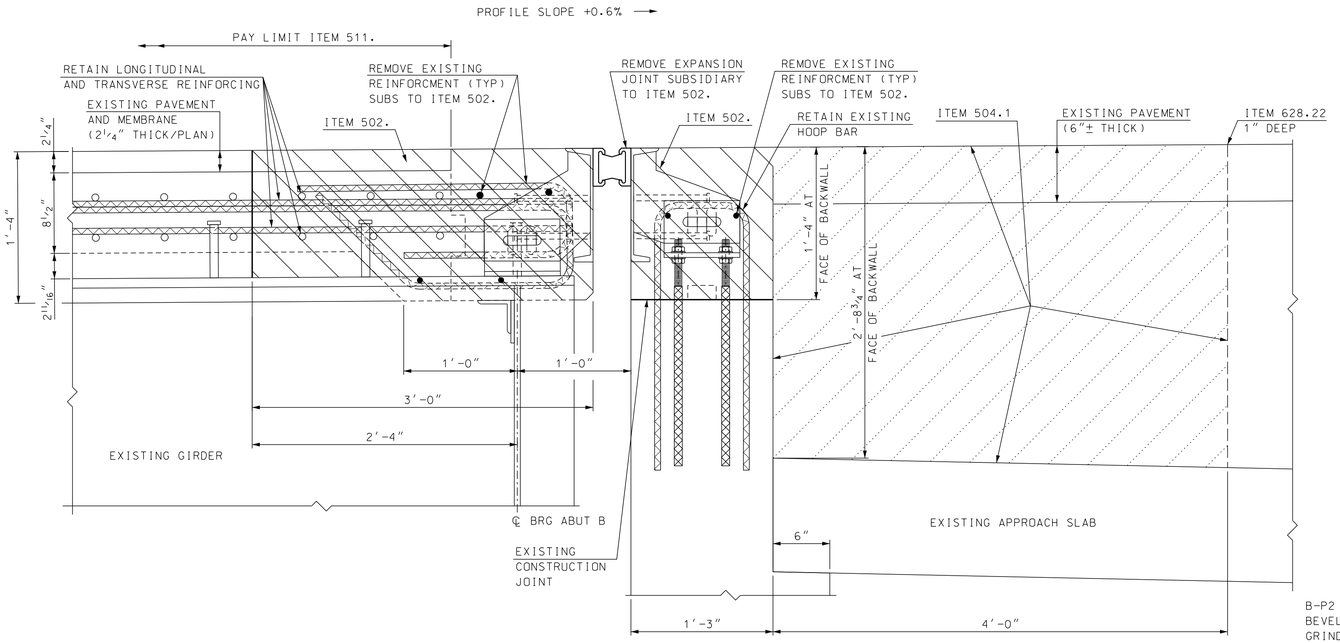
ABUTMENT B STRIP SEAL EXPANSION JOINT (1 OF 2)

BRIDGE SHEET 11 OF 13

FILE NUMBER 141-3-2

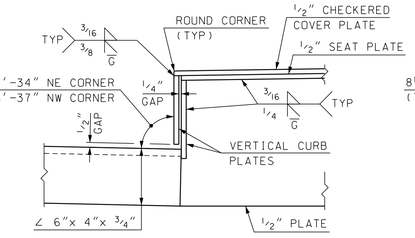
REVISIONS AFTER PROPOSAL			BY	DATE		BY	DATE
		DESIGNED	SMG	1/22	CHECKED	JAT	4/22
		DRAWN	SMG	1/22	CHECKED	JAT	4/22
		QUANTITIES	SMG	2/22	CHECKED	JAT	4/22
		ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
		REV. DATE		----------		15	19

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\	43444 B-strip	AS NOTED



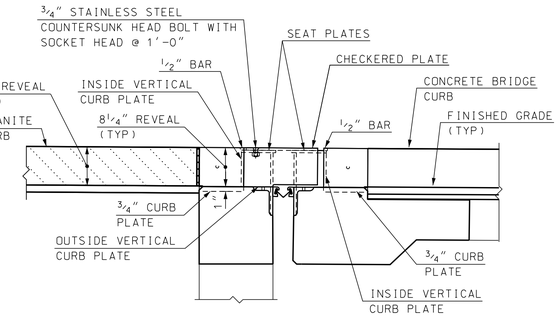
SECTION A-A REMOVAL

SCALE: 1½" = 1'-0"



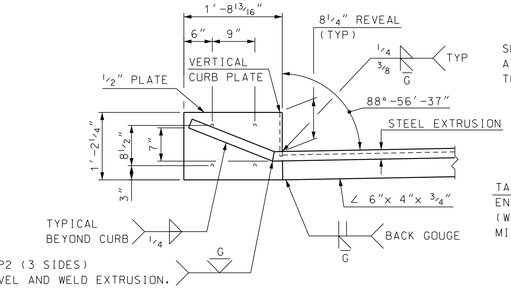
CURB INSET

SCALE: 1½" = 1'-0"



SECTION B-B

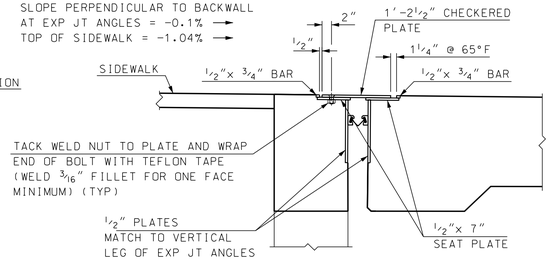
SCALE: ¾" = 1'-0"



B-P2 (3 SIDES) BEVEL AND WELD EXTRUSION. GRIND CONTOUR SMOOTH WHERE IN CONTACT WITH SEAL FOR A WATER TIGHT FIT (TYP).

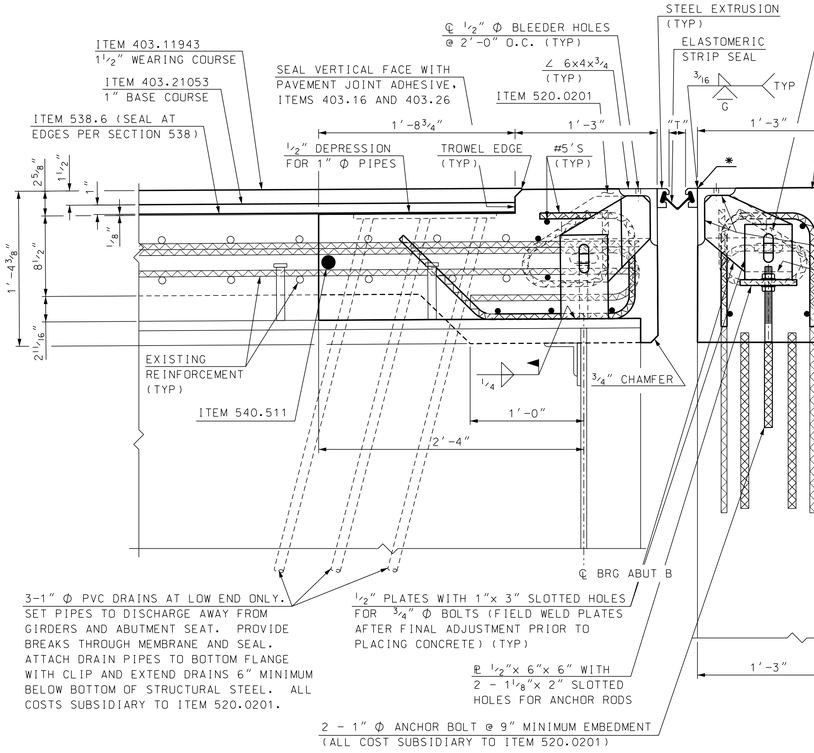
SECTION E-E

SCALE: ¾" = 1'-0"



SECTION C-C

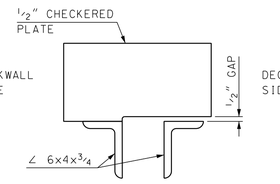
SCALE: ¾" = 1'-0"



SECTION A-A RECONSTRUCTION

SCALE: 1½" = 1'-0"

✱ ELEVATIONS AND PLAN DIMENSIONS AT THIS POINT ARE IN LINE WITH THE FACE OF BACKWALL AND JOINT ASSEMBLY SHALL BE ROTATED TO PROFILE GRADE ABOUT THIS POINT.



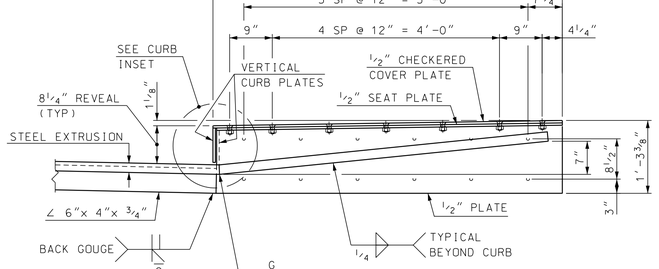
OUTSIDE VERTICAL CURB PLATE DETAIL

SCALE: 1½" = 1'-0"

TEMPERATURE ADJUSTMENT TABLE	
TEMPERATURE	"T"
20°F	2 5/16"
35°F	2 1/8"
50°F	1 15/16"
65°F	1 3/4"
80°F	1 9/16"
95°F	1 3/8"

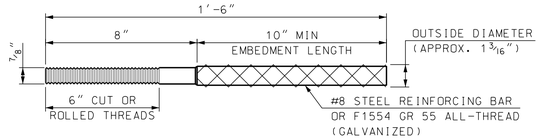
TEMPERATURE ADJUSTMENT NOTES

1. "T" DIMENSIONS ARE PERPENDICULAR TO FACE OF BACKWALL.
2. MINIMUM "T" WIDTH FOR SEAL INSTALLATION = 1¾" (APPROXIMATELY 65°F OR LESS).
3. VALUES IN THE TEMPERATURE ADJUSTMENT TABLE ARE FOR SETTING THE EXPANSION JOINT ASSEMBLY IMMEDIATELY PRIOR TO POURING THE DECK BLOCKOUT.



SECTION D-D

SCALE: ¾" = 1'-0"



ANCHOR ROD DETAIL

(18 REQUIRED)
SCALE: 3" = 1'-0"

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
Details and notes may not be current. Closely review before using details.

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

TOWN LITTLETON BRIDGE NO. 185\090 STATE PROJECT 43444

LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

ABUTMENT B STRIP SEAL EXPANSION JOINT (2 OF 2)

BRIDGE SHEET 12 OF 13

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	SMG	1/22	CHECKED	JAT	4/22
DRAWN	SMG	1/22	CHECKED	JAT	4/22
QUANTITIES	SMG	2/22	CHECKED	JAT	4/22

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\	43444 B-strip	AS NOTED

ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	16	19

FILE NUMBER 141-3-2

ABUTMENT A BRIDGE SHEET 6

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
A1	#5	2.83	73	17		1.00	0.83	1.00									EPOXY
A2	#5	4.00	8	17		1.58	0.83	1.58									EPOXY
A3	#5	32.75	3	—													EPOXY
A4	#5	3.25	3	C1	3.25												EPOXY
A5	#5	3.25	3	C2	3.25												EPOXY
A6	#5	39.75	3	—													EPOXY
A7	#5	11.90	1	N4		5.60	0.69	5.60				0.67		0.19			EPOXY
A8	#5	3.19	1	N4		1.25	0.69	1.25				0.67		0.19			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	492	0	0	0	0	0	0	0	0	492
544.21	EPOXY MECH. CON.	0	0	20	0	0	0	0	0	0	0	0	20

ABUTMENT B BRIDGE SHEET 10

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
B1	#5	2.83	73	17		1.00	0.83	1.00									EPOXY
B2	#5	4.00	8	17		1.58	0.83	1.58									EPOXY
B3	#5	33.08	3	—													EPOXY
B4	#5	3.25	3	C1	3.25												EPOXY
B5	#5	3.25	3	C2	3.25												EPOXY
B6	#5	39.42	3	—													EPOXY
B7	#5	11.90	1	N4		5.60	0.69	5.60				0.67		0.19			EPOXY
B8	#5	3.19	1	N4		1.25	0.69	1.25				0.67		0.19			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	492	0	0	0	0	0	0	0	0	492
544.21	EPOXY MECH. CON.	0	0	20	0	0	0	0	0	0	0	0	20

DECK BRIDGE SHEET 6 & 10

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
D1	#5	32.83	6	—													EPOXY
D2	#5	3.25	6	C1	3.25												EPOXY
D3	#5	3.25	6	C2	3.25												EPOXY
D4	#5	39.58	6	—													EPOXY
D5	#5	4.58	6	C1	4.58												EPOXY
D6	#5	2.67	6	C2	2.67												EPOXY
D7	#5	7.25	48	—													EPOXY
D8	#5	4.10	112	N2		0.83	0.94	1.33	1.00			0.71		0.71			EPOXY
D9	#5	2.67	14	—													EPOXY
D10	#5	10.33	2	S6	0.83	1.50	5.67	1.50			0.83						EPOXY
D11	#5	2.25	2	—													EPOXY
D12	#5	5.17	6	S6	0.50	1.50	1.17	1.50			0.50						EPOXY
D13	#5	10.00	2	S6	0.83	1.50	5.33	1.50			0.83						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	1414	0	0	0	0	0	0	0	0	1414
544.21	EPOXY MECH. CON.	0	0	86	0	0	0	0	0	0	0	0	86

GRAND 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	2398	0	0	0	0	0	0	0	0	2398
544.21	EPOXY MECH. CON.	0	0	126	0	0	0	0	0	0	0	0	126

STANDARD INDUSTRY BENDS, STIRRUPS, & TIES

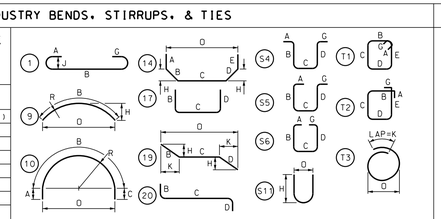
RECOMMENDED END HOOKS ALL GRADES (IN)

BAR SIZE	D Φ	180° HOOKS A,G	180° HOOKS J	90° HOOKS A,G	90° HOOKS H(appr)	135° HOOKS A,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		

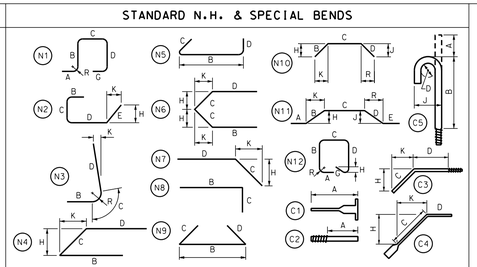
STIRRUP & TOE HOOK DIMENSIONS ALL GRADES (IN)

BAR SIZE	D Φ	90° HOOKS A,G	90° HOOKS A,G	135° HOOKS H(appr)	135° HOOKS A,G
#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 1/2
#7	5 1/4	14	9		5 1/4
#8	6	16	10 1/4		6

NOTE: D = finished inside bend d of hook. For additional data on standard bar bends not shown on this sheet see current CRSI Manual.



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 #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 REFER TO THE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
4. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
5. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180° AND 135° HOOKS.
6. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
7. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
8. WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H" AND "K" MUST BE SHOWN.

▲ DENOTES BARS TO BE CUT IN FIELD. AS REQUIRED.
Δ DENOTES BARS TO BE BENT IN FIELD.

ASTM STANDARD REINFORCING BARS

BAR SIZE	WEIGHT LBS/FT	DIAM IN	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

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\	43444 Rebar	AS NOTED

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
Details and notes may not be current. Closely review before using details.

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

TOWN LITTLETON BRIDGE NO. 185\090 STATE PROJECT 43444

LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

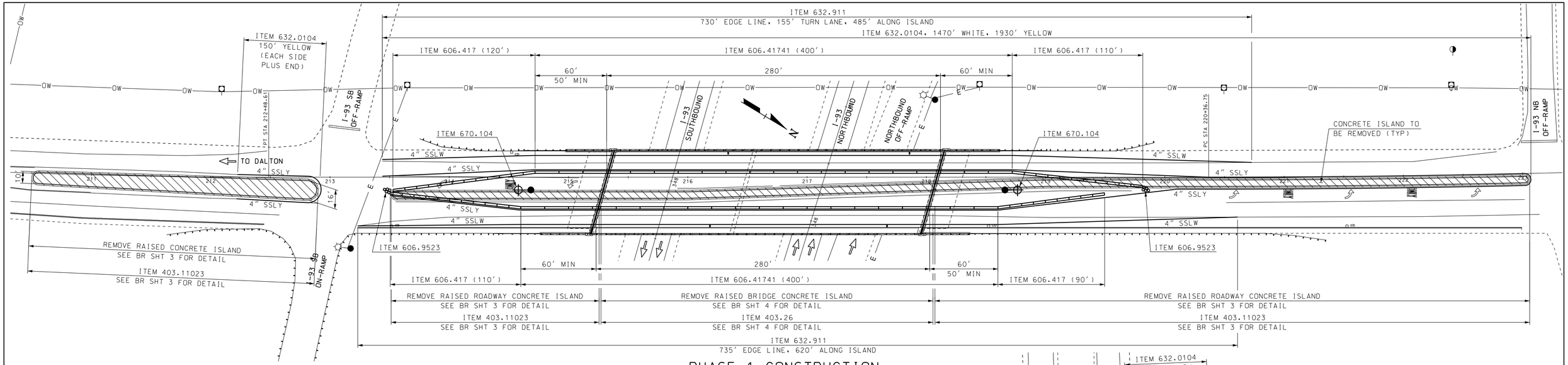
REINFORCEMENT SCHEDULE

BRIDGE SHEET 13 OF 13

FILE NUMBER 141-3-2

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	2/22	CHECKED	JAT	4/22
	DRAWN	SMG	2/22	CHECKED	JAT	4/22
	QUANTITIES	SMG	2/22	CHECKED	JAT	4/22

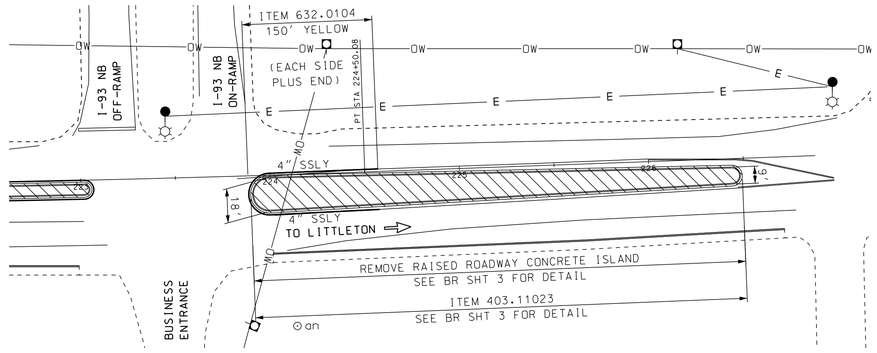
ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE	----------	17	19

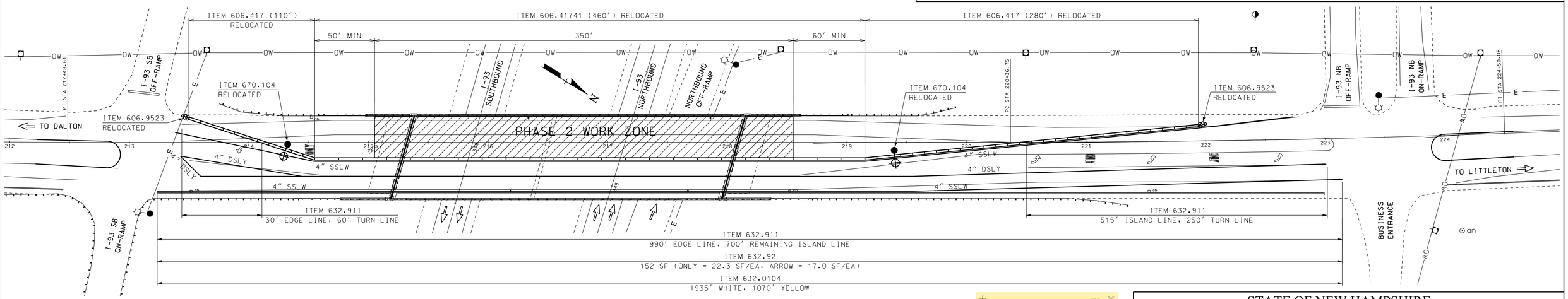


PHASE 1 CONSTRUCTION

SCALE: 1" = 40'

NOTE;
USE TRAFFIC CONTROL DEVICES TO REMOVE CONCRETE ISLAND IN ROADWAY PRIOR TO PHASE 1 CONSTRUCTION. SEE CONCRETE ISLAND DETAIL ON BRIDGE SHEET 3.





PHASE 2 CONSTRUCTION

SCALE: 1" = 40'

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
Details and notes may not be current.
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STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN LITTLETON BRIDGE NO. 185\090 STATE PROJECT 43444

LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

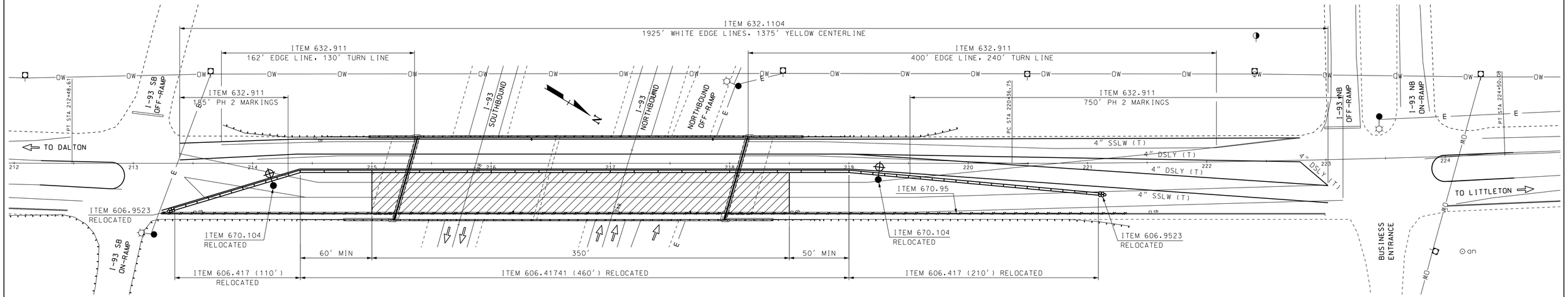
BARRIER LAYOUT (1 OF 2)

BRIDGE SHEET --- OF ---

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	6/21	CHECKED	JAT	4/22
	DRAWN	SMG	6/21	CHECKED	JAT	4/22
	QUANTITIES	SMG	2/22	CHECKED	JAT	4/22
	ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
	REV. DATE		----------		18	19

FILE NUMBER 141-3-2

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC/	43444 Barrier	AS NOTED

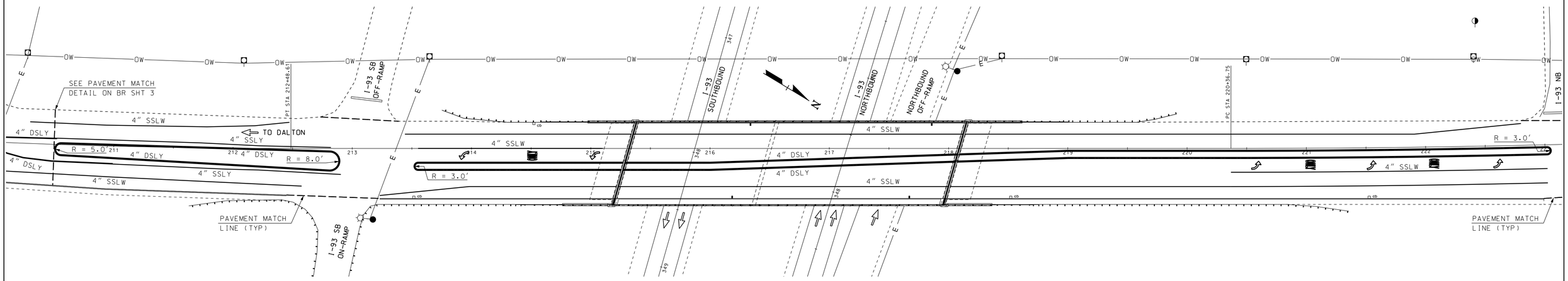


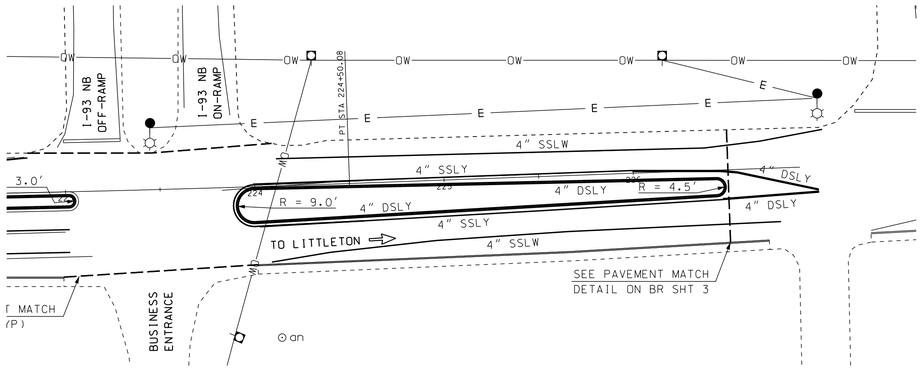
PHASE 3 CONSTRUCTION

SCALE: 1" = 40'

PHASE 3 NOTE

TO CONSTRUCT EXPANSION JOINTS, SHORT TERM TEMPORARY RELOCATION OF THE SIDEWALK WILL BE REQUIRED. TEMPOARY WOODEN BRIDGE OR STEEL PLATE OVER THE GAP CAN BE UTILIZED TO AVOID A FIELD SPLICE. ALL TEMPORARY PEDESTRIAN FACILITIES SHALL MEET ADA REQUIREMENTS. SEE PHASE 3 NOTES ON BRIDGE SHEET 4.





FINAL PAVEMENT MARKING

SCALE: 1" = 40'

FINAL PAVEMENT MARKING NOTE

COLDPLANE APPROACHES AND PLACE 1½" WEARING COURSE PRIOR TO FINAL PAVEMENT MARKING. SEE PAVEMENT MATCH DETAIL ON BRIDGE SHEET 3.

NHDOT Bridge Design
6/8/22

SAMPLE PLAN
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Closely review before using details.

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

TOWN LITTLETON BRIDGE NO. 185\090 STATE PROJECT 43444

LOCATION DALTON RD (NH RTE 135) over I-93 NB & SB

BARRIER LAYOUT (2 OF 2)

BRIDGE SHEET --- OF ---

REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	SMG	6/21	CHECKED	JAT	4/22
	DRAWN	SMG	6/21	CHECKED	JAT	4/22
	QUANTITIES	SMG	2/22	CHECKED	JAT	4/22

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC/	43444 Barrier	AS NOTED

ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
REV. DATE		----------	19	19

FILE NUMBER 141-3-2