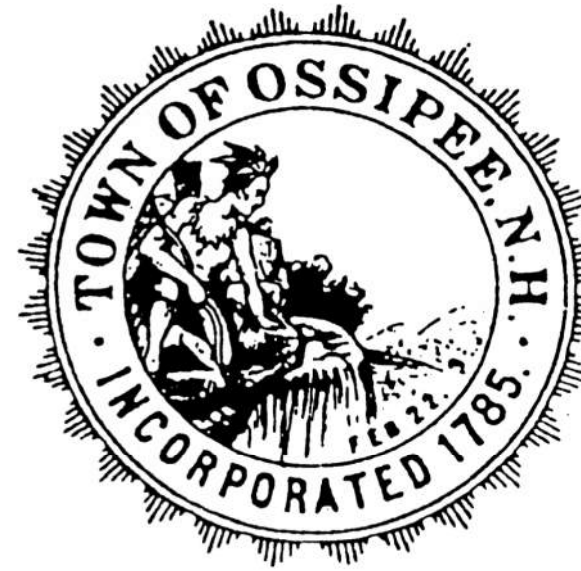


I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
 HOYLE, TANNER & ASSOCIATES, INC.
 SIGNED: *[Signature]*
 FEBRUARY 2023
 NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

TOWN OF OSSIPEE CARROLL COUNTY NEW HAMPSHIRE



PLANS OF PROPOSED REHABILITATION OF THE WHITTIER COVERED BRIDGE OVER THE BEARCAMP RIVER

BRIDGE NO. 108 /333
 NHDOT PROJECT NO. 23818
 FEDERAL PROJECT NO. X-A002(771)
 NH COVERED BRIDGE NO. 46
 WORLD GUIDE NO. 29-02-08

APRIL 2020

RECORD DRAWINGS

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.

HOYLE, TANNER & ASSOCIATES, INC.

SIGNED: *[Signature]*

FEBRUARY 2023

NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.



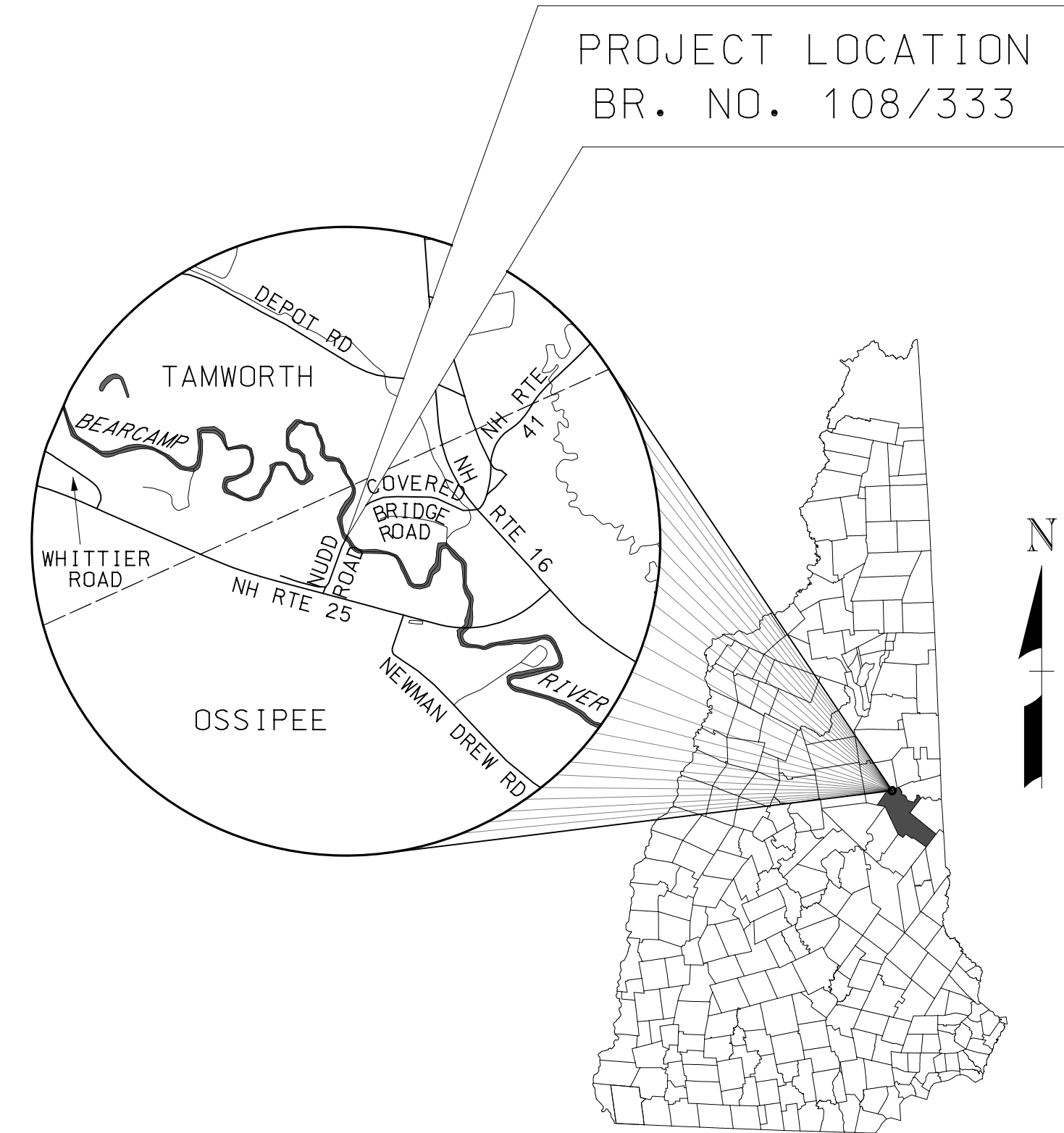
DRAWING SIZES HAVE BEEN REDUCED
 DO NOT SCALE, USE DIMENSIONS GIVEN

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LEGEND

	UTILITY POLE		PROPOSED ELECTRIC
	GUY WIRE ANCHOR		FILL SLOPE
	UTILITY POLE W/LIGHT		CUT SLOPE
	MAILBOX		PROPOSED EDGE OF PAVEMENT
	CATCH BASIN		EXISTING EDGE OF PAVEMENT
	WATER VALVE		OVERHEAD ELEC/TEL LINES
	WATER SHUTOFF		POST AND RAIL FENCE
	HYDRANT		APPROXIMATE PROPERTY LINE
	FLOODLIGHT		APPROXIMATE RIGHT-OF-WAY
	ELECTRIC METER		INVASIVE SPECIES
	CON. SHRUB		DELINEATED WETLAND
	DEC. SHRUB		TOP OF BANK
	SIGNS		ORDINARY HIGH WATER
	TREES		EDGE OF RIVER
	TREELINE		

REV	DESCRIPTION	DATE	CHKD BY	BY
1	RECORD COPY REVISIONS	2/2023		

APRIL 2020
 DESIGN BY: JCR
 DRAWN BY: PBD
 CHKD BY: STJ
 SCALE: AS SHOWN

Hoyle, Tanner & Associates, Inc.
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 www.hoyletanner.com

OSSIPEE
 OSSIPEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108/333
 TITLE SHEET

PROJECT NO.:	915003
FILE NAME:	915003FSC
MODEL NAME:	915003FSC
SHEET NO.	1
SHEET	1 OF 34

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GENERAL NOTES

- GENERAL NOTES SHALL APPLY TO ALL DRAWINGS PREPARED BY HOYLE, TANNER & ASSOCIATES (HOYLE, TANNER) AND THE PROPOSED WORK THEY CONVEY.
- ALL WORK SHALL CONFORM TO ALL FEDERAL, STATE AND LOCAL CODES, REGULATIONS AND STANDARDS, THE MORE STRINGENT SHALL GOVERN.
- THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS AND COORDINATION OF OTHER TRADES.
- THESE DOCUMENTS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. CARE OF ADJACENT PROPERTIES DURING CONSTRUCTION AND COMPLIANCE WITH STATE AND FEDERAL REGULATIONS REGARDING SITE SAFETY SHALL SOLELY BE THE CONTRACTORS RESPONSIBILITY.
- ALL DIMENSIONS, ELEVATIONS AND CONDITIONS MUST BE VERIFIED BY THE GENERAL CONTRACTOR OR RESPONSIBLE TRADES PRIOR TO COMMENCING WITH THE WORK, FABRICATION OR ORDERING MATERIALS. DO NOT SCALE DRAWINGS, USE DIMENSIONS SHOWN.
- ANY DISCREPANCIES BETWEEN THESE DRAWINGS AND AS-BUILT CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY, BEFORE PROCEEDING WITH THE WORK.
- IN THE PREPARATION OF THESE DRAWINGS, HOYLE, TANNER HAS RELIED UPON INFORMATION OBTAINED FROM THE FOLLOWING REPORTS, DRAWINGS, TEST DATA/RESULTS OR OTHER DOCUMENTATION AS FOLLOWS:
 - PHASE 1 CONTRACT DRAWINGS ENTITLED "PLANS OF PROPOSED RELOCATION OF THE WHITTIER COVERED BRIDGE", DATED 1/16/2008 AND PREPARED BY HOYLE, TANNER & ASSOCIATES, INC.
 - PHASE 2 CONTRACT DRAWINGS ENTITLED "PLANS OF PROPOSED REHABILITATION OF THE WHITTIER COVERED BRIDGE", PROJECT NO. 15296A, DATED 4/18/14 AND PREPARED BY DUBOIS & KING, INC.

THIS INFORMATION IS AVAILABLE FOR REVIEW DURING NORMAL BUSINESS HOURS AT THE OFFICE OF HOYLE, TANNER AND ASSOCIATES, INC., 150 DOW STREET, MANCHESTER, NH 03101.

- THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. ALL COSTS FOR DETERMINING UNDERGROUND UTILITY TYPES AND LOCATIONS SHALL BE SUBSIDIARY TO THE CONTRACT.
- ALL APPLICABLE UTILITY DEPARTMENTS AND COMPANIES SHALL BE NOTIFIED BEFORE EXCAVATION IS STARTED. UTILITIES WITHIN 50 FEET OF AN EXCAVATION SHALL BE MARKED IN THE FIELD.
- HOYLE, TANNER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT ARISE DUE TO THE FAILURE OF THE CONTRACTOR:
 - TO FOLLOW THESE DRAWINGS AND SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY.
 - TO NOTIFY HOYLE, TANNER OF ANY DISCREPANCIES, ERRORS, OMISSIONS OR CONFLICTS AND OBTAIN THEIR GUIDANCE TO RESOLVE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND BRACING REQUIRED DURING CONSTRUCTION.
- THE CONTRACTOR SHOULD NOTE THAT THE NHDOT "STANDARD PLANS FOR ROAD CONSTRUCTION" ARE MADE A PART OF THIS PROJECT AND ALL APPLICABLE DETAILS, STANDARDS AND SPECIFICATIONS SHALL APPLY. THIS PROJECT SHALL INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING STANDARD PLANS:
 - CR-1 – GRANITE CURB DETAILS
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3 EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" BY THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES.
- THIS PROJECT SHALL BE SUBJECT TO AVOIDANCE AND MINIMIZATION MEASURES TO PROTECT THE HABITAT OF THE NORTHERN LONG-EARED BAT. MEASURES APPLICABLE TO THIS PROJECT INCLUDE TIME-OF-YEAR (TOY) RESTRICTIONS FOR TREES ≥ 3" DIAMETER BREST HEIGHT (DBH). THE CONTRACTOR SHALL NOT CONDUCT ANY TREE CUTTING AND CLEARING ACTIVITIES FROM JUNE 1 THROUGH JULY 31.

CONSTRUCTION PHASES 1, 2 & 3

- PHASE 1 (COMPLETED):** INCLUDED REMOVAL OF THE BRIDGE SUPERSTRUCTURE OFF OF THE EXISTING ABUTMENTS AND RELOCATION TO THE SOUTH APPROACH ROAD WITHIN THE EXISTING RIGHT-OF-WAY. SUPERSTRUCTURE WAS SHORED, STABILIZED AND SECURED IN PLACE.
- PHASE 2 (COMPLETED):** INCLUDED REHABILITATION OF THE SUPERSTRUCTURE.
- PHASE 3 (CURRENT CONTRACT):** INCLUDES ABUTMENT AND SUPERSTRUCTURE REHABILITATION, LIGHTING AND BRIDGE FIRE ALARM SYSTEM INSTALLATION, RELOCATION OF THE SUPERSTRUCTURE ON THE ABUTMENTS AND MISCELLANEOUS SUPERSTRUCTURE WORK AS SHOWN ON THESE PLANS.

DESIGN LOADS, MATERIALS AND SPECIFICATIONS

- DESIGN SPEED: 25 MPH
- DESIGN METHOD: ALLOWABLE STRESS DESIGN
- DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, 2002
 NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2016 WITH CURRENT ADDITIONS AND MODIFICATIONS.
 WELDING PER ANSI/AASHTO/AWS D1.5-02 (INCLUDING ALL REVISIONS PUBLISHED BY AASHTO AS OF THE BID OPENING DATE)
- REINFORCING STEEL: AASHTO M 284 (ASTM A775) GRADE 60 EPOXY COATED
- CONCRETE: CLASS AA $f_c = 4000$ PSI
 CLASS B $f_c = 3000$ PSI

HYDRAULIC DATA NOTES

- THE PROPOSED CONSTRUCTION MAINTAINS THE EXISTING HYDRAULIC SPAN.
- DESIGN FLOOD: Q50
- Q50 FLOOD ELEVATION: 429 FT
 Q100 FLOOD ELEVATION: 430 FT

COVERED BRIDGE NOTES

- THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTIONS AND OTHER INFORMATION AVAILABLE AT THE TIME OF BIDDING. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO COMMENCING THE WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM AND THE DIMENSIONS AND DETAILS OF EXISTING BRIDGE FEATURES AND COMPONENTS PRIOR TO THE FABRICATION OF NEW BRIDGE COMPONENTS. ACTUAL WORK SHALL MATCH FIELD CONDITIONS. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE PROPOSED WORK.
- NO BURNING OF REMOVED MATERIALS AT THE PROJECT SITE WILL BE ALLOWED. THE EXISTING COVERED BRIDGE TIMBERS AND LUMBER MAY CONTAIN HAZARDOUS WOOD PRESERVATIVES. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE OWNER, ITS OFFICERS AND EMPLOYEES AND THE ENGINEER HARMLESS REGARDING THE CONTRACTOR'S HANDLING OF THESE MATERIALS AND SUBSEQUENT USE, RE-USE, OR DISPOSAL OF THESE MATERIALS.
- ALL JOINTS IN NEW, RELOCATED OR REPLACED MEMBERS SHALL MATCH THE EXISTING JOINT, INCLUDING ALL TIMBER CONNECTORS, NAILS, BOLTS, SCREWS OR OTHER FASTENERS REQUIRED UNLESS NOTED OTHERWISE.
- ALL EXISTING MEMBERS SHOWN TO BE REPLACED ARE TO BE REPLACED "IN-KIND" WITH NEW MEMBERS WITH THE DIMENSIONS INDICATED ON THE WOOD MATERIALS LIST AND CONFIGURATIONS AS THE MEMBERS ORIGINALLY USED IN THE COVERED BRIDGE (INCLUDING MORTISES, TENONS, NOTCHES, HOLES, ETC.) UNLESS NOTED OTHERWISE IN THESE PLANS.
- FILL ABANDONED SHORING BOLT HOLES (3/4" OR 1" DIAMETER HOLES FROM PHASE I WORK) IN TRUSS VERTICALS OR DIAGONALS WITH HARDWOOD DOWELS, TIGHT FIT, FOR FULL DEPTH/THICKNESS OF MEMBER (115 HOLE LOCATIONS). PAID FOR UNDER ITEM 568.08, STRUCTURAL TIMBER (HARDWOOD DOWEL REPAIRS).
- ONE LOCATION OF ITEM 568.03, STRUCTURAL TIMBER (EXPOXY REPAIR) HAS BEEN IDENTIFIED FOR THE CROSS BEAM END AT EAST TRUSS NODE 9. 9 ADDITIONAL LOCATIONS HAVE BEEN PROVIDED FOR BIDDING PURPOSES.

GENERAL CONSTRUCTION NOTES

- THE BRIDGE IS CURRENTLY CLOSED TO TRAFFIC AND WILL REMAIN CLOSED DURING CONSTRUCTION. TRAFFIC WILL BE MAINTAINED VIA THE EXISTING DETOUR.
- THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION.
- WATER LEVEL MAY VARY FROM THAT SHOWN.
- ITEM 1002.1, REPAIRS OR REPLACEMENTS AS NEEDED – BRIDGE STRUCTURES, SHALL INCLUDE ALL UNANTICIPATED WORK IN CONNECTION WITH THE SCOPE OF THIS PROJECT.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THAT DEBRIS DOES NOT FALL INTO THE WATERWAY BELOW THE EXISTING STRUCTURE DURING CONSTRUCTION. ALL COSTS SHALL BE PAID UNDER ITEM 568.85 AND SHALL INCLUDE ERECTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURES OR OTHER SUCH METHODS AS APPROVED.

INVASIVE SPECIES NOTES

- INVASIVE SPECIES HAVE BEEN IDENTIFIED WITHIN THE PROJECT LIMITS. UPON APPROVAL OF ITEM 697.11, INVASIVE SPECIES CONTROL AND MANAGEMENT PLAN THE CONTRACTOR SHALL PERFORM THE WORK NECESSARY TO CONTROL, REMOVE AND DISPOSE OF THE INVASIVE SPECIES INDICATED ON THE PLANS. ALL COSTS (MATERIAL AND LABOR REQUIRED) SHALL BE INCLUDED IN ITEM 201.881, INVASIVE SPECIES CONTROL TYPE I AND/OR ITEM 201.882, INVASIVE SPECIES CONTROL TYPE II AS RECOMMENDED IN THE APPROVED PLAN.
- WORK SHALL BE DONE IN ACCORDANCE WITH THE NHDOT BEST MANAGEMENT PRACTICES FOR ROADSIDE INVASIVE SPECIES PLANTS HANDBOOK.
- THE CONTRACTOR IS ADVISED TO REVIEW THE CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.

MOBILIZATION AREAS NOTES

- PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL LAYOUT LIMITS OF ALL EASEMENTS AND TOWN'S RIGHT-OF-WAY WITHIN THE PROJECT LIMITS. COST IS INCLUDED UNDER ITEM 692, MOBILIZATION. LAYOUT SHALL BE PERFORMED BY A LAND SURVEYOR LICENSED IN THE STATE OF NEW HAMPSHIRE. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL BE LIMITED TO MOBILIZATION WITHIN THE TOWN'S RIGHT-OF-WAY AND EASEMENTS LIMITS SHOWN IN THESE PLANS, UNLESS NOTED OTHERWISE. ADDITIONAL MOBILIZATION AREAS REQUIRED BY THE CONTRACTOR SHALL BE COORDINATED BY THE CONTRACTOR WITH THE AFFECTED PROPERTY OWNERS AND SHALL BE AT THE CONTRACTOR'S EXPENSE.

WATER DIVERSION NOTES

- A TEMPORARY WATER DIVERSION STRUCTURE WILL BE REQUIRED FOR THE CONSTRUCTION OF THE PROPOSED BANK STABILIZATION.
- ALL COSTS FOR THE INSTALLATION, MAINTENANCE AND REMOVAL OF THE WATER DIVERSION STRUCTURE, INCLUDING ANY AND ALL TEMPORARY COFFERDAMS AND RIVER ACCESS WILL BE PAID FOR UNDER ITEM 503.199, WATER DIVERSION STRUCTURE. SEE THE SPECIAL PROVISION FOR THIS ITEM.
- A TURBIDITY CURTAIN SHALL BE INSTALLED AROUND THE PERIMETER OF THE WATER DIVERSION STRUCTURE, PRIOR TO ANY EXCAVATION IN THE BEARCAMP RIVER TO PREVENT SILTATION OF THE RIVER OUTSIDE THE PROJECT LIMITS. ALL COSTS FOR SUCH WORK SHALL BE PAID FOR UNDER ITEM 645.0011, TURBIDITY BARRIER.
- FOR ANY WORK ASSOCIATED WITH ITEM 699, MISCELLANEOUS TEMPORARY EROSION AND SEDIMENT CONTROL, DETAILED ESTIMATES FOR THE WORK SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL 5 WORKING DAYS PRIOR TO START OF THE WORK.

STREAMBANK STABILIZATION NOTES

- STREAMBANK STABILIZATION RECOMMENDATIONS PREPARED BY HEADWATER HYDROLOGY, PLLC ARE INCLUDED IN BANK STABILIZATION PLANS 1 TO 6. THE PROPOSED WORK AS DETAILED ON SHEETS 1 TO 34 IS SHOWN HEREIN SOLELY TO ESTABLISH PAY LIMITS FOR BIDDING PURPOSES.
- THE CONTRACTOR IS ADVISED TO REVIEW THE CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.

UTILITY COORDINATION

- OVERHEAD UTILITIES ARE PRESENT WITHIN THE PROJECT SITE. THE CONTRACTOR SHALL BE FAMILIAR AND TAKE NECESSARY PRECAUTIONS WITH THESE UTILITIES DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE TEMPORARY RELOCATIONS; SHIELDING NECESSARY FOR COMPLETION OF THE WORK AND TEMPORARY DISCONNECTION OF POWER WITH THE UTILITY OWNERS IF REQUIRED. ALL COST FOR THIS COORDINATION SHALL BE INCLUDED IN ITEM 692, MOBILIZATION. ALL COSTS ASSOCIATED WITH MISCELLANEOUS TREE TRIMMING & CLEARING FOR TEMPORARY UTILITY RELOCATIONS SHALL BE INCLUDED IN ITEM 201.1, CLEARING AND GRUBBING (F).

OVERHEAD UTILITY OWNER INFORMATION:

- EVERSOURCE
 PHONE: (800) 362-7764
- FAIRPOINT COMMUNICATIONS
 PHONE: (866) 984-2001

TEMPORARY SHORING AND BRIDGE RELOCATION NOTES

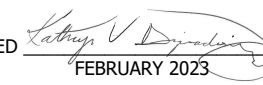
- THE EXISTING BRIDGE AND ARCHES SHALL BE JACKED AND SHORED AS NECESSARY TO STABILIZE THE BRIDGE PRIOR TO RELOCATION TO THE ABUTMENTS.
- PRIOR TO COMMENCEMENT OF SHORING AND RELOCATION OPERATIONS THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL, DETAILED DRAWINGS OR SKETCHES AND ENGINEERING CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE FOR THE PROPOSED METHODS OF TEMPORARY SHORING AND RELOCATION OF THE BRIDGE AS WELL AS A LOADING SEQUENCE (ITEM 568.85). TEMPORARY SHORING CONSTRUCTION SHALL NOT BEGIN UNTIL THESE SUBMITTALS HAVE BEEN APPROVED BY THE ENGINEER. SEE SHEET 27 FOR THE DESIGN SEQUENCE OF LOADING.
- SPECIAL CARE SHALL BE TAKEN TO AVOID MOVEMENT OF THE BRIDGE THAT COULD RESULT IN DISTORTION OR MISALIGNMENT OF THE TRUSS AND ITS JOINTS. MEMBERS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL MINIMIZE THE AMOUNT OF TEMPORARY MEMBER REMOVAL REQUIRED TO SHORE AND RELOCATE THE BRIDGE. THE DRILLING OF HOLES IN EXISTING MEMBERS WILL NOT BE ALLOWED WITHOUT APPROVAL OF THE ENGINEER.

PAVING NOTES

- ALL PAVING OPERATIONS SHALL BE PERFORMED BY A SUBCONTRACTOR THAT IS LISTED ON THE NHDOT PQUALIFIED CONTRACTORS LIST IN THE CATEGORY OF PAVING.
- THE BITUMINOUS MIXTURE SHALL BE THOROUGHLY UNIFORMLY COMPACTED BY ROLLING. THE INITIAL ROLLING SHALL BE DONE WITH A STATIC OR VIBRATORY STEEL-DRUM ROLLER. INTERMEDIATE ROLLING SHALL BE DONE BY A PNEUMATIC-TIRED ROLLER. FINAL ROLLING SHALL BE DONE WITH A STATIC-DRUM ROLLER. THE MINIMUM WEIGHT OF STATIC ROLLER SHALL BE 8 TONS.
- SUBMIT PAVEMENT MIX DESIGN TO ENGINEER FOR APPROVAL PRIOR TO PAVING. SEE SECTION 401 OF THE NHDOT STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- THE GRADE OF ASPHALT CEMENT SHALL BE 58-28.

ABUTMENT REHABILITATION NOTES

- ITEM 535.1, CONCRETE STAINING AND SEALING SHALL BE APPLIED TO ALL EXPOSED NEW AND EXISTING CONCRETE SURFACES OF THE ABUTMENTS AND WINGWALLS.
- LIGHTLY SANDBLAST ALL EXPOSED CONCRETE FACES OF ABUTMENTS AND WINGWALLS TO REMOVE GRAFFITI, OR USE APPROVED EQUAL METHOD. ALL COSTS SHALL BE INCLUDED IN ITEM 535.1, CONCRETE STAINING AND SEALING.
- ALL EXPOSED EDGES OF NEW CONCRETE SHALL BE CHAMFERED 3/4 " UNLESS NOTED OTHERWISE.
- REMOVE EXISTING ABUTMENTS AND WINGWALLS, AS SHOWN ON THE PLANS. SAWCUT THE CONCRETE 1" DEEP ON ALL EXPOSED CONCRETE SURFACES TO PROVIDE CLEAN REMOVAL LINES. CONCRETE SHALL BE REMOVED IN A MANNER WHICH AVOIDS DAMAGE TO REINFORCING STEEL AND CONCRETE TO REMAIN. REINFORCING STEEL OR CONCRETE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AS REQUESTED BY THE RESIDENT PROJECT REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE. REINFORCING STEEL TO BE RETAINED SHALL BE CLEANED OF ALL FOREIGN MATERIAL. IN AREAS WHERE CONCRETE IS DETERIORATED, REMOVAL SHALL BE TO SOUND CONCRETE. ALL COSTS SHALL BE INCLUDED IN ITEM 502, REMOVAL OF EXISTING BRIDGE STRUCTURE OR ITEM 512.0101, PREPARATION FOR CONCRETE REPAIRS, CLASS I AND ITEM 512.0201, PREPARATION FOR CONCRETE REPAIRS, CLASS II AS INDICATED ON THE PLANS.
- THE EXISTING ABUTMENTS AND WINGWALLS SHALL BE INSPECTED FOR DETERIORATED CONCRETE JOINTLY BY THE RESIDENT PROJECT REPRESENTATIVE AND CONTRACTOR. ALL DETERIORATED CONCRETE SHALL BE REMOVED. COST OF INSPECTION, REMOVAL AND CLEANING SHALL BE INCLUDED IN ITEM 502, REMOVAL OF EXISTING BRIDGE STRUCTURE OR ITEM 512.0101, PREPARATION FOR CONCRETE REPAIRS, CLASS I AND ITEM 512.0201, PREPARATION FOR CONCRETE REPAIRS, CLASS II AS INDICATED ON THE PLANS.
- PRIOR TO PLACING NEW CONCRETE, THE REMOVAL SURFACES OF THE EXISTING CONCRETE SHALL BE BLAST CLEANED AND SATURATED SURFACE-DRY. ALL COSTS SHALL BE INCLUDED IN ITEM 502, REMOVAL OF EXISTING BRIDGE STRUCTURE OR ITEM 512.0101, PREPARATION FOR CONCRETE REPAIRS, CLASS I AND ITEM 512.0201, PREPARATION FOR CONCRETE REPAIRS, CLASS II AS INDICATED ON THE PLANS.
- EXISTING REINFORCING STEEL THAT IS TO REMAIN IN PLACE IN RECONSTRUCTED AREAS SHALL BE CUT AS REQUIRED TO PROVIDE 2 1/2 " MINIMUM CLEARANCE FROM PROPOSED CONCRETE SURFACES. COSTS SHALL BE INCLUDED IN ITEM 502.
- NEW CONCRETE USED TO RECONSTRUCT THE ARCH BEARINGS, ABUTMENT BACKWALLS AND WINGWALLS AS SHOWN ON THE PLANS SHALL BE ITEM 520.01, CONCRETE CLASS AA.
- HOLES DRILLED IN EXISTING CONCRETE SHALL BE DRILLED 1/2 " DIAMETER LARGER THAN THE REINFORCING STEEL DIAMETER AND GROUTED WITH AN APPROVED HIGH STRENGTH, NON-SHRINK GROUT AS LISTED ON THE NHDOT QUALIFIED PRODUCTS LIST (QPL). REINFORCING STEEL SHALL HAVE A MINIMUM EMBEDMENT LENGTH OF 1'-0" UNLESS OTHERWISE NOTED. ALL COSTS FOR DRILLING AND GROUTING SHALL BE INCLUDED IN ITEM 544.

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.	
HOYLE, TANNER & ASSOCIATES, INC.	
SIGNED: 	DATE: _____
NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.	
REV: _____	DESCRIPTION: _____
APRIL 2020	DESIGN BY: JCR
	DRAWN BY: PBD
	CHKD. BY: STU
	SCALE: AS SHOWN

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 www.hoyletanner.com

TOWN OF OSS�PEE	WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
OSS�PEE, NEW HAMPSHIRE	PROJECT NOTES

PROJECT NO.: 915003
FILE NAME: 915003BrNotes
MODEL NAME: 915003BrNotes1
SHEET NO.
2
SHEET 2 OF 34

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STRUCTURAL STEEL NOTES

- ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATIONS.
- EXCEPT AS NOTED OTHERWISE IN THE CONTRACT PLANS, ITEM 550.1, STRUCTURAL STEEL SHALL INCLUDE THE FOLLOWING:
 - NEW ARCH HANGER RODS AND ASSOCIATED HARDWARE
 - NEW ARCH THROUGH BOLTS AT ARCH ENDS
 - LOWER LATERAL BRACING CONNECTION ASSEMBLIES FOR FLOOR BEAM 3 (SOUTH SIDE) AND FLOOR BEAM 17 (NORTH SIDE).
 - 3 ADDITIONAL LOWER LATERAL BRACING CONNECTION ASSEMBLIES AND 2 ADDITIONAL FLOOR BEAM BRACKETS (FOR BIDDING PURPOSES).

FABRICATION DRAWINGS SUBMITTAL ARE NOT REQUIRED FOR ITEM 550.1

- ALL STEEL PLATES, ANGLES AND RODS SHALL BE ASTM A36 (FY = 36 KSI).
- ALL NEW STRUCTURAL STEEL SHOWN IN THE PLANS INCLUDING PLATES, BOLTS, LAG BOLTS, TURNBUCKLES, NUTS, WASHERS, RODS, ANGLES AND MISCELLANEOUS STEEL, SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M 232M/M 232 EXCEPT FOR PLATES WHICH SHALL BE GALVANIZED PER AASHTO M 111M/ M 111.
- ALL EXPOSED NEW STEEL BELOW DECK LEVEL AND NEW ARCH HANGER RODS (FULL LENGTH) SHALL HAVE TWO COATS OF AN APPROVED COAL TAR EPOXY COATING APPLIED. ACCEPTABLE PRODUCTS INCLUDE A-H COAL TAR EPOXY 210 BY ANTI-HYDRO COMPANY, BITUMASTIC 300-M BY CARBOLINE, DURAL 306 BY TAMMS INDUSTRIES OR OTHER EQUIVALENT APPROVED EQUAL COAL TAR EPOXY. ALL COST FOR THIS WORK IS CONSIDERED INCIDENTAL/SUBSIDIARY TO ITEM 550.1.

RECOMMENDED SEQUENCE OF WORK

- COMPLETE ABUTMENT REHABILITATION TO THE EXTENT REQUIRED TO RELOCATE THE BRIDGE TO THE PROPOSED ELEVATIONS.
- COMPLETE STREAMBANK STABILIZATION AS DETAILED IN THE PROJECT SPECIFICATIONS AND BANK STABILIZATION PLANS.
- INSTALL TEMPORARY JACKING OR SHORING AS NECESSARY TO SUPPORT THE BRIDGE DURING RELOCATION.
- RELOCATE THE REHABILITATED COVERED BRIDGE AND REMOVE ALL TEMPORARY SHORING OR JACKING.
- REPLACE OR INSTALL BRIDGE MEMBERS, BRIDGE FIRE ALARM SYSTEM AND LIGHTING SYSTEM AS DETAILED IN THE CONTRACT DOCUMENTS. SEE SHEET 27 FOR THE DESIGN SEQUENCE OF LOADING.
- COMPLETE SUBSTRUCTURE REHABILITATION AS DETAILED IN THE CONTRACT DOCUMENTS AND REOPEN THE BRIDGE TO TRAFFIC.

TOPOGRAPHIC SURVEY NOTES

- THE SURVEY FOR THIS PROJECT WAS COMPLETED BY:

WHITE MOUNTAIN SURVEY, INC.
P.O. BOX 440
OSSISPEE, NH 03864
(603) 539-4118
WILSON W STEWART L.L.S. NUMBER 674

- THE SURVEY CONSISTED OF 1 SHEET TITLED:

EXISTING CONDITIONS WORKSHEET – WHITTIER COVERED BRIDGE 6/12/2015

- WETLAND RESOURCES WITHIN THE SURVEY AREA WERE DELINEATED BY:

GREGORY W. HOWARD C.W.S. NUMBER 078

- TEMPORARY EASEMENTS HAVE BEEN OBTAINED BY THE OWNER FOR THE FOLLOWING LOTS:

8-13
5. ELEVATION UPDATES WERE PROVIDED BY KEN SIENKO OF CPM CONSTRUCTORS INC. IN A SURVEY CLOSEOUT LETTER DATED 2/22/2022

SALVAGED MATERIALS NOTES

- THE "DEEP SHORING BEAMS" LOCATED TO THE WEST OF THE BRIDGE SUPERSTRUCTURE ARE THE PROPERTY OF 3G CONSTRUCTION AND WILL BE REMOVED BY THEM.
- THE EXISTING CONCRETE WASTE BLOCKS AND TIMBER BLOCKING USED FOR TEMPORARY BRIDGE SUPPORT ALONG WITH ALL WIRE ROPE AND ASSOCIATED HARDWARE ARE THE PROPERTY OF THE TOWN AND SHALL BE SALVAGED TO THE DPW. THE CONTRACTOR SHALL GIVE A MINIMUM OF TWO WEEKS OF ADVANCED NOTICE TO THE TOWN PRIOR TO SALVAGING OF MATERIALS TO THE DPW. COST ASSOCIATED WITH MOVING OR STOCKPILING OF THIS MATERIAL IS INCLUDED IN ITEM 692, MOBILIZATION.

DPW CONTACT: TONY ELDRIDGE
(603) 539-4181

REINFORCEMENT NOTES

- ALL REINFORCING STEEL SHALL HAVE 2 1/2" MINIMUM CLEAR COVER UNLESS OTHERWISE NOTED.

- REINFORCING LEGEND:

SP = SPACE	SPL = SPLICE
FS = FAR SIDE	NS = NEAR SIDE
MID = MIDDLE	BOT = BOTTOM
DOW = DOWELS	EQ = EQUAL
	ES = EACH SIDE
	ALT = ALTERNATING

- REINFORCING BAR MARKS WITH AN (E) REFERENCE, INDICATE EPOXY COATING.


WOOD NOTES

- ALL WOOD CONSTRUCTION SHALL COMPLY WITH THE LATEST AASHTO SPECIFICATIONS, THE NATIONAL DESIGN SPECIFICATION (NDS) AND SUPPLEMENT FOR WOOD CONSTRUCTION, AND THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) SPECIFICATION, 5TH EDITION.
- MATERIALS FOR ITEMS 568.11, STORED STRUCTURAL TIMBER (STRINGERS), ITEMS 568.12, STORED STRUCTURAL TIMBER (LOWER LATERAL BRACING) AND ITEMS 568.13, STORED STRUCTURAL TIMBER (ADDED ARCHES) ARE CURRENTLY LOCATED ONSITE. PRIOR TO INCORPORATING INTO THE WORK, ALL STORED MATERIALS SHALL BE INSPECTED JOINTLY BY THE RESIDENT PROJECT REPRESENTATIVE AND CONTRACTOR. MATERIALS DEEMED UNSUITABLE FOR THE PROJECT SHALL BE REPLACED USING MATERIALS LISTED ON THE WOOD MATERIALS LIST TABLE ON SHEET 27. ALL COSTS FOR INSPECTION SHALL BE SUBSIDIARY TO THE RELATIVE TIMBER ITEM. ALL COSTS FOR REPLACEMENT TIMBER SHALL BE PAID FOR UNDER ITEM 1002.1.

- THE MAXIMUM IN PLACE MOISTURE CONTENT OF THE WOOD USED SHALL BE AS FOLLOWS:

MEMBERS LESS THAN 5" THICK	16%
MEMBERS GREATER THAN 5" THICK	19%
TRUNNELS	10%
ALL HARDWOOD 2.5" AND THICKER MAY BE GREEN	

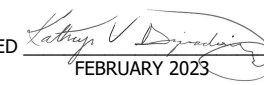
- EACH PIECE OF NEW LUMBER AND TIMBER (EXCLUDING EXISTING MATERIALS STORED ON SITE) SHALL BE GRADED, BY A RECOGNIZED LUMBER GRADING AGENCY. INDIVIDUAL PIECES SHOULD NOT BE STAMPED WITH A GRADE STAMP ON THE END GRAIN. A CERTIFICATE OF COMPLIANCE SHALL BE SUBMITTED FOR ALL NEW OR REPLACEMENT WOOD NOT CURRENTLY STORED ONSITE.
- ALL NUTS, BOLTS, WASHERS, AND SCREWS SHALL CONFORM TO ASTM A307, ALL NAILS AND SPIKES SHALL CONFORM TO ASTM F1667 AND BE DOUBLE HOT DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M 232M/M 232. THE USE OF ELECTRO GALVANIZED NAILS WILL NOT BE ALLOWED. STAINLESS STEEL NAILS WILL BE REQUIRED IF INSTALLED WITH PNEUMATIC EQUIPMENT. PORTAL SIDING BOARDS SHALL BE INSTALLED WITH STAINLESS STEEL NAILS.
- ALL WOOD NOT SHOWN ON THE WOOD MATERIALS LIST TABLE ON SHEET 27 SHALL BE DOUGLAS FIR NO.1 OR BETTER. LIKEWISE, ALL HARDWOOD SHALL BE WHITE OAK NO.1 OR BLACK LOCUST NO.1 OR BETTER WHERE THE SPECIES IS NOT NOTED.
- ALL FIELD FABRICATION CUTS AND BORINGS OF TREATED WOOD SHALL BE TREATED WITH TWO COATS OF AN APPROVED PRESERVATIVE LIBERALLY APPLIED. THE PRESERVATIVE SHALL BE COMPATIBLE WITH ANY PRESSURE TREATMENT PRESERVATIVE USED IN ACCORDANCE WITH AWWA STANDARD M4.
- THE SLEEPER BEAMS TREATMENT SHALL COMPLY WITH PENTACHLOROPHENOL TYPE C IN ACCORDANCE WITH AWWA STANDARD P5 TO A MINIMUM RETENTION LEVEL OF AS INDICATED IN THE SPECIFICATIONS.
- ALL LAG BOLTS AND NUTS FOR THROUGH BOLTS SHALL BE TIGHTENED SNUGLY BUT NOT SO TIGHTLY AS TO CAUSE CRUSHING OF THE WOOD UNDER THE WASHER OR PLATE.
- DECKING, CURBS AND CURB SPACER BLOCKS SHALL BE SURFACED FOUR SIDES (S4S). ALL OTHER NEW LUMBER AND TIMBER SHALL BE ROUGH SURFACED UNLESS NOTED OTHERWISE.
- DIMENSIONS OF ALL LUMBER AND TIMBER MEMBERS SHOWN IN THESE PLANS ARE THE ACTUAL SIZES AFTER SEASONING UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS. CROSS-SECTIONAL DIMENSION VARIATIONS OF UP TO 1/8 " WILL BE ALLOWED FOR ALL MEMBERS NOT SURFACED S4S.
- ALL NEW OR REPLACEMENT SOFTWOOD GREATER THAN 4" THICK SHALL HAVE EACH END OF THE MEMBER SEALED WITH AN APPROVED CLEAR LIQUID WAX EMULSION END SEALER AFTER DRYING AND BEFORE SHIPPING TO THE SITE AND ALSO AFTER FABRICATION CUTS. APPROVED PRODUCTS INCLUDE: "LIQUID WAX END SEALER" BY HERITAGE NATURAL FINISHES, "MOBIL-CER M" BY EXXON-MOBIL OIL COMPANY OR APPROVED EQUAL. ALL COST OF SUCH WORK SHALL BE CONSIDERED INCIDENTAL TO THE CORRESPONDING 568 PAY ITEM. STORED TIMBER IS EXEMPT FROM THIS REQUIREMENT
- ALL NEW HARDWOOD 2" AND THICKER (BEDDING TIMBER BLOCKING) SHALL HAVE EACH END OF THE MEMBER SEALED WITH AN APPROVED GREEN WOOD CLEAR SEALER PRIOR TO SHIPPING TO THE SITE AND ALSO AFTER FABRICATION CUTS. APPROVED PRODUCTS INCLUDE "ANCHORSEAL" BY U-C COATINGS CORPORATION, "END SEALER FOR HARDWOOD DECKING" BY ADVANTAGE TRIM & LUMBER COMPANY, INC., "IPE SEAL HARDWOOD END GRAIN SEALER" BY THE IPE CLIP FASTENER COMPANY, INC. OR APPROVED EQUAL. ALL COST OF SUCH WORK SHALL BE CONSIDERED INCIDENTAL TO THE CORRESPONDING 568 PAY ITEM.
- REMOVAL OF THE EXISTING TIMBER STRAPPING IN PLACE TO BRACE THE STRINGERS SHALL BE SUBSIDIARY TO ITEM 568.01, STRUCTURAL TIMBER (DECK).

SUMMARY OF QUANTITIES 

ITEM NO	ITEM DESCRIPTION	Quantity		
		Unit	Amount	
201.1	CLEARING AND GRUBBING (F)	A	0.4	
201.881	INVASIVE SPECIES CONTROL TYPE I	SY	220	210
201.882	INVASIVE SPECIES CONTROL TYPE II	SY	220	644
203.1	COMMON EXCAVATION	CY	305	
203.6	EMBANKMENT-IN-PLACE (F)	CY	21	
207.3	UNCLASSIFIED CHANNEL EXCAVATION	CY	350	
209.201	GRANULAR BACKFILL (BRIDGE) (F)	CY	50	
214.	FINE GRADING	U	1	0.75
304.2	GRAVEL (F)	CY	240	
304.3	CRUSHED GRAVEL (F)	CY	130	
403.11	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	TON	150	198.57
410.22	ASPHALT EMULSION FOR TACK COAT	GAL	35	40
417.	COLD PLANING BITUMINOUS SURFACES	SY	290	0
502.	REMOVAL OF EXISTING BRIDGE STRUCTURE	U	1	
503.199	WATER DIVERSION STRUCTURE	U	1	
504.1	COMMON BRIDGE EXCAVATION (F)	CY	50	
512.0101	PREPARATION FOR CONCRETE REPAIRS, CLASS I	SY	4	
512.0201	PREPARATION FOR CONCRETE REPAIRS, CLASS II	SY	7	5.5
520.01	CONCRETE CLASS AA	CY	55	47.35
520.213	CONCRETE CLASS B, FOOTINGS (ON SOIL) (F)	CY	11	
535.1	CONCRETE STAINING AND SEALING	SF	2800	
544.31	REINFORCING STEEL, EPOXY COATED (CONTRACTOR DETAILED)	LB	4500	4501
550.1	STRUCTURAL STEEL	U	1	
562.1	SILICONE JOINT SEALANT (F)	LF	11	
563.5266	TIMBER BRIDGE RAIL (2-RAIL) (F)	LF	161	
568.01	STRUCTURAL TIMBER (DECK)	MBM	6.15	
568.02	STRUCTURAL TIMBER (CURBS)	MBM	1.1	
568.03	STRUCTURAL TIMBER (EPOXY REPAIR)	EA	10	2
568.04	STRUCTURAL TIMBER (MISCELLANEOUS REPAIRS)	EA	8	
568.05	STRUCTURAL TIMBER (FLOOR BEAM SHIMS)	U	1	
568.06	STRUCTURAL TIMBER (TOE-NAIL STRINGERS)	U	1	
568.07	STRUCTURAL TIMBER (BOLSTER BEAMS AND BEDDING TIMBERS)	MBM	0.7	1.103
568.08	STRUCTURAL TIMBER (HARDWOOD DOWEL REPAIRS)	EA	115	92
568.11	STORED STRUCTURAL TIMBER (STRINGERS)	MBM	0.35	
568.12	STORED STRUCTURAL TIMBER (LOWER LATERAL BRACING)	MBM	0.2	
568.13	STORED STRUCTURAL TIMBER (ADDED ARCHES)	MBM	0.95	
568.85	RELOCATE COVERED BRIDGE	U	1	
571.1	CHINKING STONE MASONRY	U	1	
585.2	STONE FILL, CLASS B	CY	70	
585.99	GRANULAR BANK FILL	CY	320	
593.411	GEOTEXTILE; PERM CONTROL CL.1, NON-WOVEN	SY	150	300
606.5266	TIMBER APPROACH RAIL (2-RAIL) (F)	LF	156	
609.01	STRAIGHT GRANITE CURB	LF	28	
615.0301	TRAFFIC SIGN TYPE C	SF	10.75	
615.0601	TRAFFIC SIGN TYPE CC	SF	5	
628.2	SAWED BITUMINOUS PAVEMENT	LF	90	60
645.0002	SEDIMENTATION BASIN	U	1	
645.0011	TURBIDITY BARRIER	MON	5	1.5
645.44	TEMPORARY SLOPE STABILIZATION TYPE D (WILDLIFE FRIENDLY)	SY	575	695
645.512	COMPOST SOCK FOR EROSION AND SEDIMENT CONTROL	LF	700	900
645.531	SILT FENCE	LF	700	282
645.7	STORM WATER POLLUTION PREVENTION PLAN	U	1	
645.72	MONITORING SWPPP AND EROSION AND SEDIMENT CONTROLS	EA	31	27
646.512	TURF ESTABLISHMENT WITH MULCH, TACKIFIERS AND LOAM (F)	SY	1365	
647.1	HUMUS	CY	90	
650.99	ROOT WAD	U	1	
655.01	ALNUS INCANA SPECKLED ALDER	EA	160	
670.1	BRIDGE FIRE ALARM SYSTEM	U	1	
692.	MOBILIZATION	U	1	
697.11	INVASIVE SPECIES CONTROL AND MANAGEMENT PLAN	U	1	
698.12	FIELD OFFICE TYPE B	MON	5	5.5
699.	MISCELLANEOUS TEMPORARY EROSION AND SEDIMENT CONTROL		\$	\$0
1002.1	REPAIRS OR REPLACEMENTS AS NEEDED - BRIDGE STRUCTURES		\$	\$41,765.00


I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.

HOYLE, TANNER & ASSOCIATES, INC.

SIGNED:  FEBRUARY 2023

NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

DATE	BY	DESCRIPTION
2/2023	KVD	RECORD COPY REVISIONS

REV:  DESCRIPTION: RECORD COPY REVISIONS

APRIL 2020 DESIGN BY: JCR DRAWN BY: PBD CHKD BY: STU SCALE: AS SHOWN

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Hoyle, Tanner & Associates, Inc.

150 Dow Street, Manchester, NH 03101-1227
Tel (603) 669-5555 - Fax (603) 669-4168
www.hoyletanner.com

TOWN OF OSSISPEE
OSSISPEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 1081333

PROJECT NOTES AND SUMMARY OF QUANTITIES

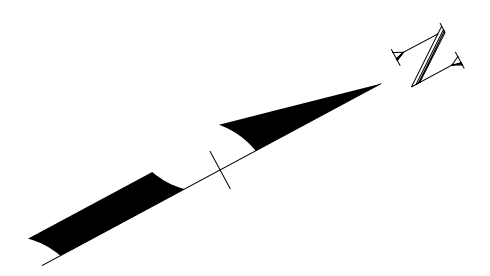
PROJECT NO.: 915003
FILE NAME: 915003BNotes
MODEL NAME: 915003BNotes2

SHEET NO.
3

SHEET 3 OF 34

MINIMUM ALLOWABLE WOOD STRESSES									
SPECIES	SIZE	GRADE	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (x10 ⁶ psi)	
DOUGLAS FIR	2" - 4" THICK	NO. 1	1000	675	180	1500	625	1.7	
DOUGLAS FIR	2" - 4" THICK	SEL. STR.	1500	1000	180	1700	625	1.9	
DOUGLAS FIR	POSTS & TIMBERS**	NO. 1	1200	825	170	1000	625	1.6	
SOUTHERN YELLOW PINE	2" - 4" THICK X 8" WIDE	NO. 1	1250	800	175	1500	565	1.6	
SOUTHERN YELLOW PINE	2" - 4" THICK X 10" WIDE	NO. 1	1050	700	175	1450	565	1.6	
SOUTHERN YELLOW PINE	POSTS & TIMBERS**	NO. 1	1350	900	165	825	375	1.5	

** 5" & THICKER AND NOT MORE THAN 2" GREATER THAN THICKNESS (E.G. 7x8x4)

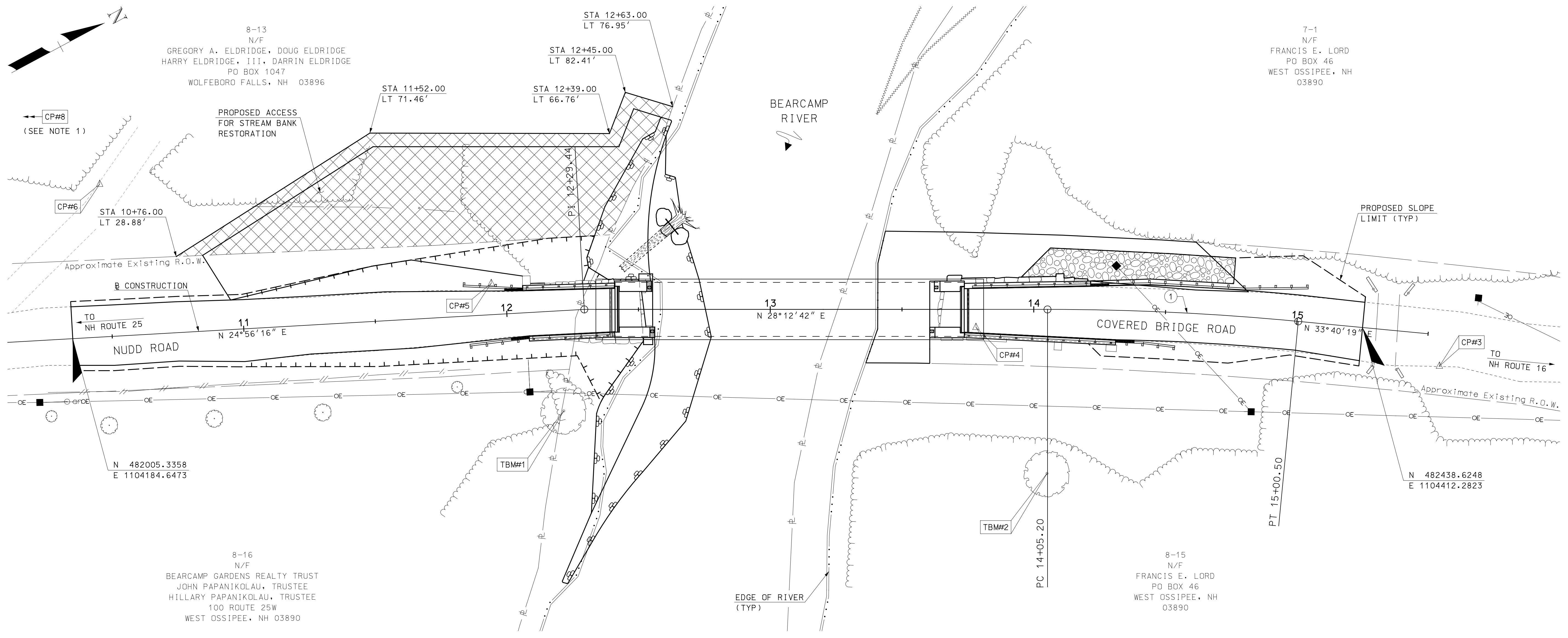


8-13
N/F
GREGORY A. ELDRIDGE, DOUG ELDRIDGE
HARRY ELDRIDGE, III, DARRIN ELDRIDGE
PO BOX 1047
WOLFEBORO FALLS, NH 03896

7-1
N/F
FRANCIS E. LORD
PO BOX 46
WEST OSSISPEE, NH
03890

8-16
N/F
BEARCAMP GARDENS REALTY TRUST
JOHN PAPANIKOLAOU, TRUSTEE
HILLARY PAPANIKOLAOU, TRUSTEE
100 ROUTE 25W
WEST OSSISPEE, NH 03890

8-15
N/F
FRANCIS E. LORD
PO BOX 46
WEST OSSISPEE, NH
03890



EASEMENT PLAN
SCALE: 1"=20'

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
HOYLE, TANNER & ASSOCIATES, INC.
SIGNED: [Signature]
FEBRUARY 2023
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REV	DESCRIPTION	DATE	DRW	CHKD	BY
APRIL 2020	JCR	PBD	STU	AS SHOWN	

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TOWN OF OSSISPEE
OSSISPEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
EASEMENT PLAN
PROJECT NO.: 915003
FILE NAME: 915003Easplan
MODEL NAME: 915003Easplan
SHEET NO.
4
SHEET 4 OF 34

NUMBER	ELEVATION	STATION & OFFSET	DESCRIPTION
TBM#1	431.37	12+19.46, RT 38.01'	RR SET IN MAPLE
TBM#2	426.25	14+05.01, RT 62.26'	RR SET IN MAPLE

NUMBER	NORTHING	EASTING	ELEVATION	STATION & OFFSET	DESCRIPTION
CP#3	482457.4203	1104438.9985	426.59	15+55.45, RT 11.81'	PINE HUB
CP#4	482309.3849	1104342.8483	430.63	13+78.03, RT 6.78'	PK SET
CP#5	482155.2159	1104241.2200	431.20	11+94.76, LT 11.90'	PINE HUB
CP#6	482042.0567	1104137.8118	431.77	10+48.55, LT 57.95'	PINE HUB
CP#8	481789.8257	1104045.1770	429.12	(SEE NOTE 1)	GRANITE BOUND

NOTE: INFORMATION PROVIDED FOR GENERAL LOCATION ONLY

PARCEL NO.	PROPERTY OWNER	TOTAL AREA OF PARCEL	AREA OF TAKE	REMAINDER		EASEMENT						CAROW PTS OF ACCESS		REV NO.
				LT	RT	PERMANENT			TEMPORARY			LT	RT	
				AC	AC	SF	TYPE	SF	TYPE	SF	DESCRIPTION	EXPIRES (DURATION)		
8-13	GREGORY A. ELDRIDGE DOUG ELDRIDGE HARRY ELDRIDGE, III DARRIN ELDRIDGE	20.00				5999	CONSTRUCTION				END OF CONSTRUCTION			

COVERED BRIDGE ROAD CURVE DATA

CURVE NO. ①
P1 = 14+52.89
N = 482378.552
E = 1104372.261
Δ = 5°27'36" RT
T = 47.68'
R = 1000.00'
L = 95.30'
E = 1.14'

NOTES

1. BOUND IS LOCATED AT THE CORNER OF THE PROPERTY LINE BETWEEN 4 NUDD ROAD AND 16 NUDD ROAD.

LEGEND

TEMPORARY EASEMENT

4/22/2020 9:48:30 AM K:\915003\2-CADD\BFC\B\915003Easplan.dgn

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.

HOYLE, TANNER & ASSOCIATES, INC.
 SIGNED: *[Signature]*
 FEBRUARY 2023

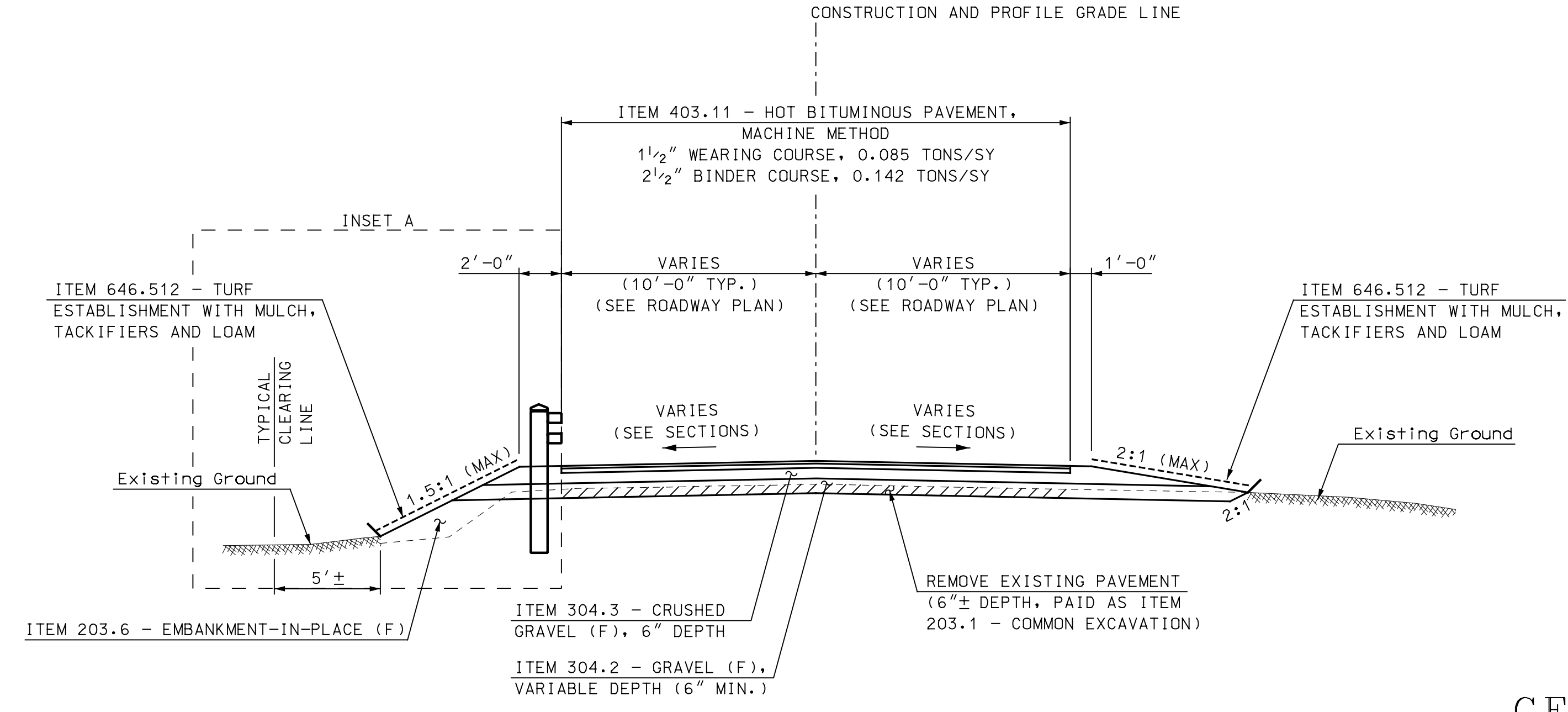
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1	RECORD COPY REVISIONS	2/2023	KVD	STJ	
APRIL 2020	DESIGN BY: BKM				
	DRAWN BY: BKM				
	CHKD. BY: GAB				
	SCALE: AS SHOWN				

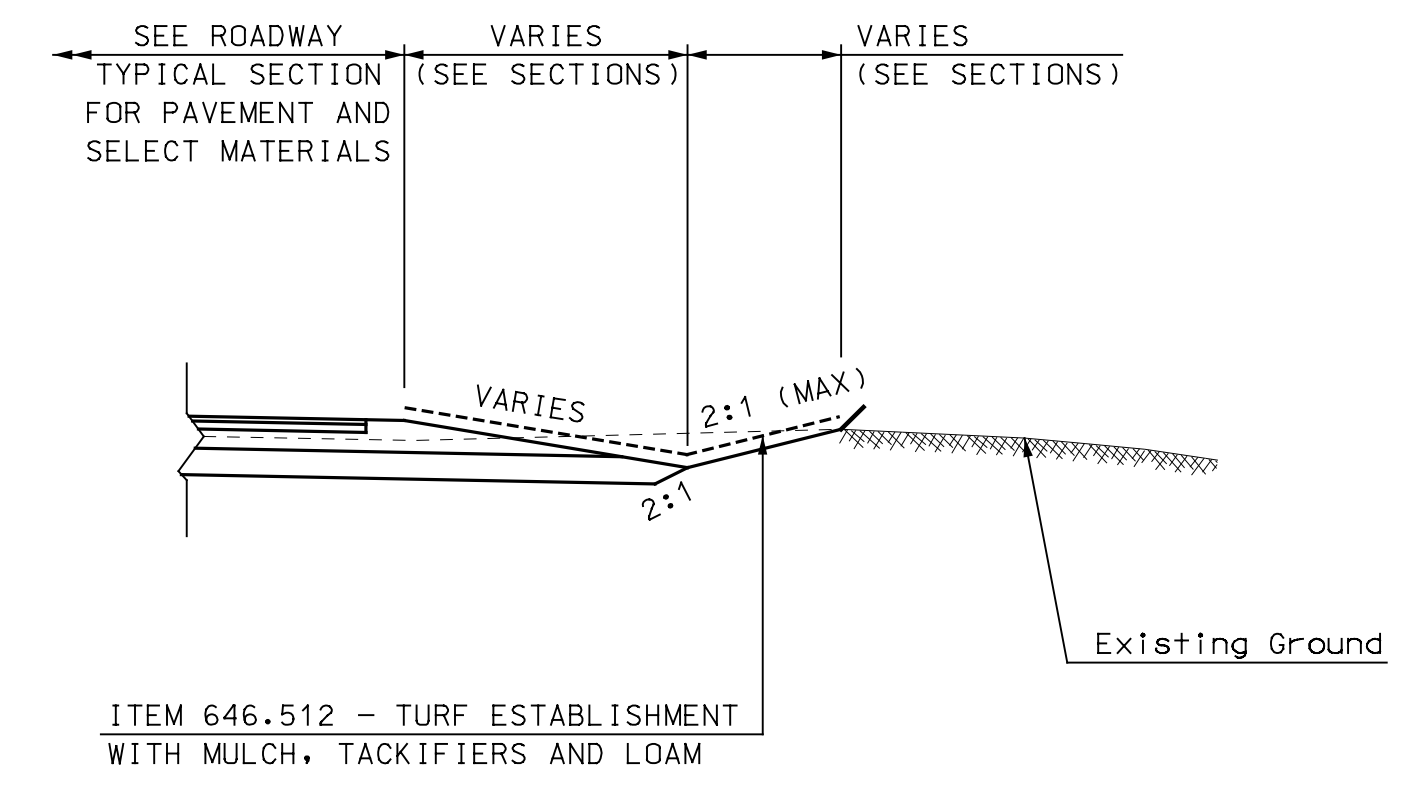
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TOWN OF OSSISPEE
 OSSISPEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
 ROADWAY TYPICAL SECTION AND DETAILS

PROJECT NO.: 915003
 FILE NAME: 915003TY
 MODEL NAME: TY1
 SHEET NO.
5
 SHEET 5 OF 34

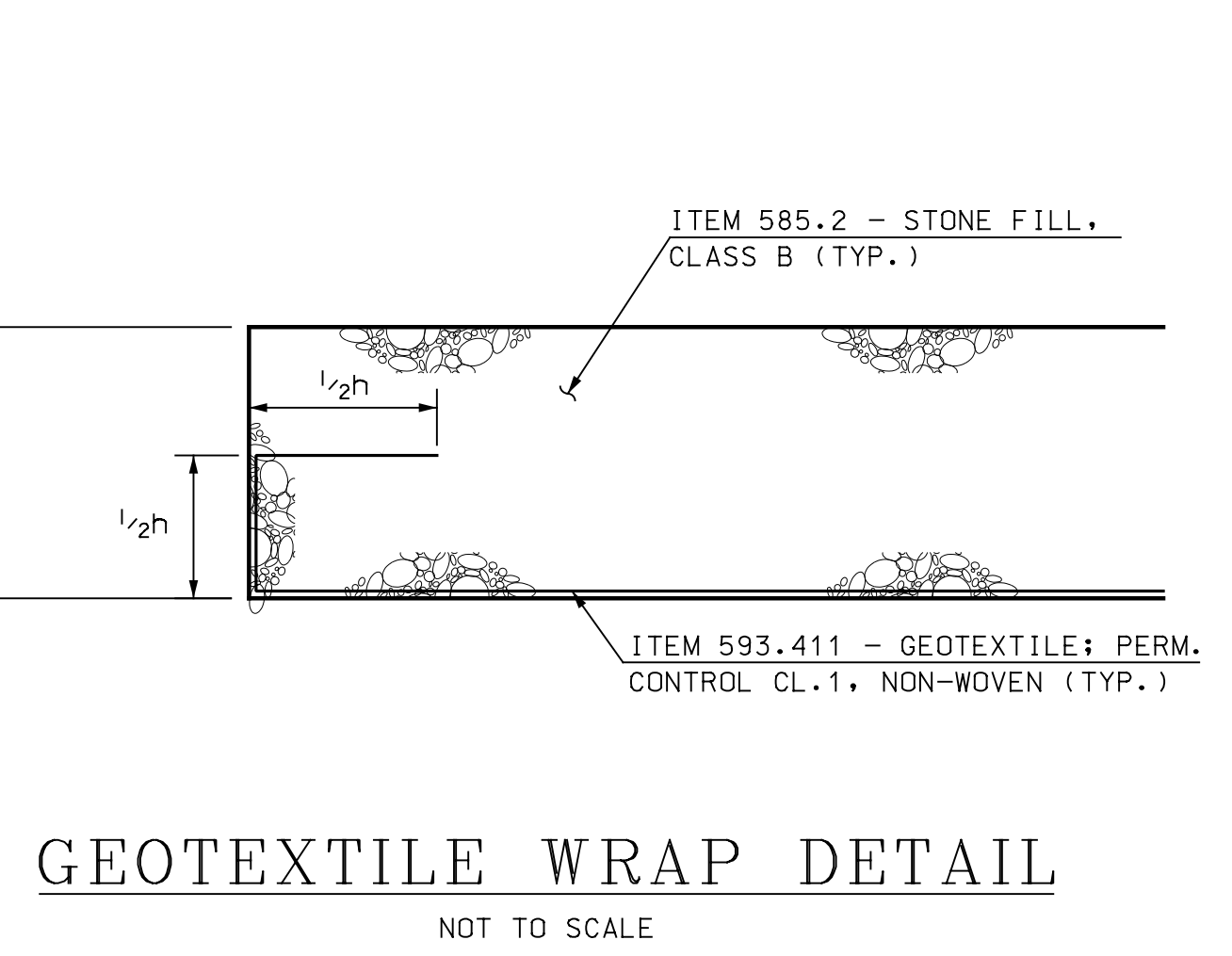
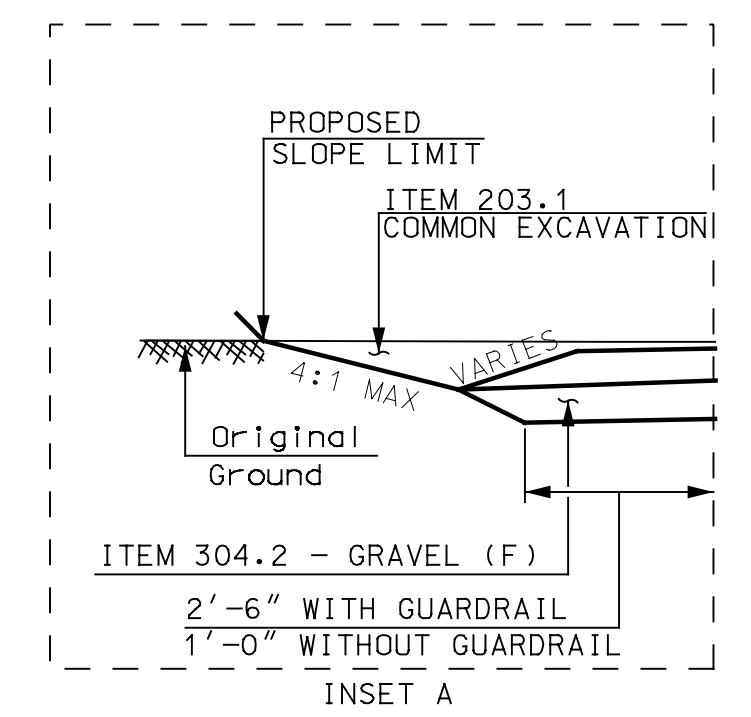


ROADWAY TYPICAL SECTION
 STA. 11+50 TO STA. 12+41
 STA. 13+74 TO STA. 14+75
 NOT TO SCALE

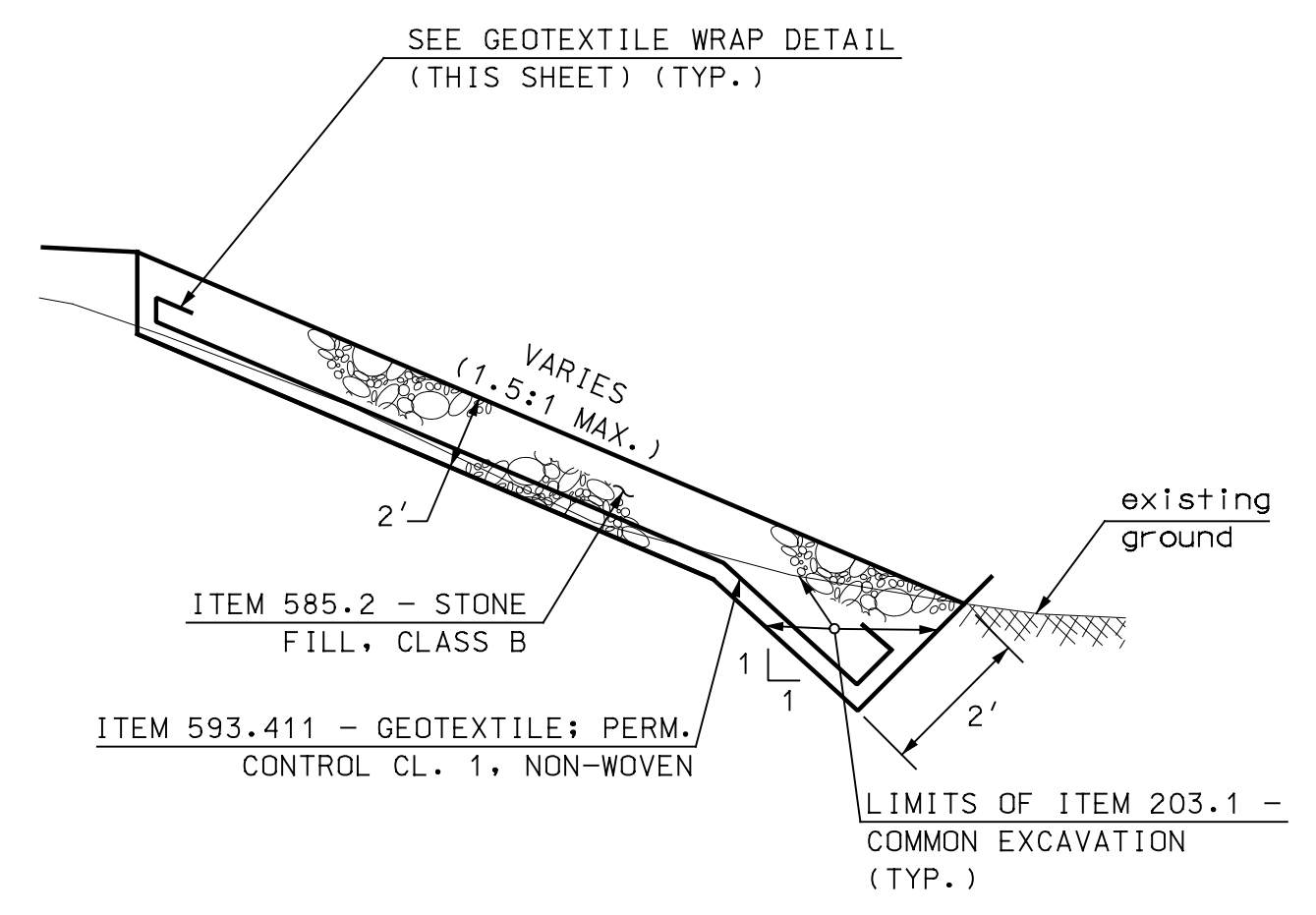


TYPICAL DITCH DETAIL
 NOT TO SCALE

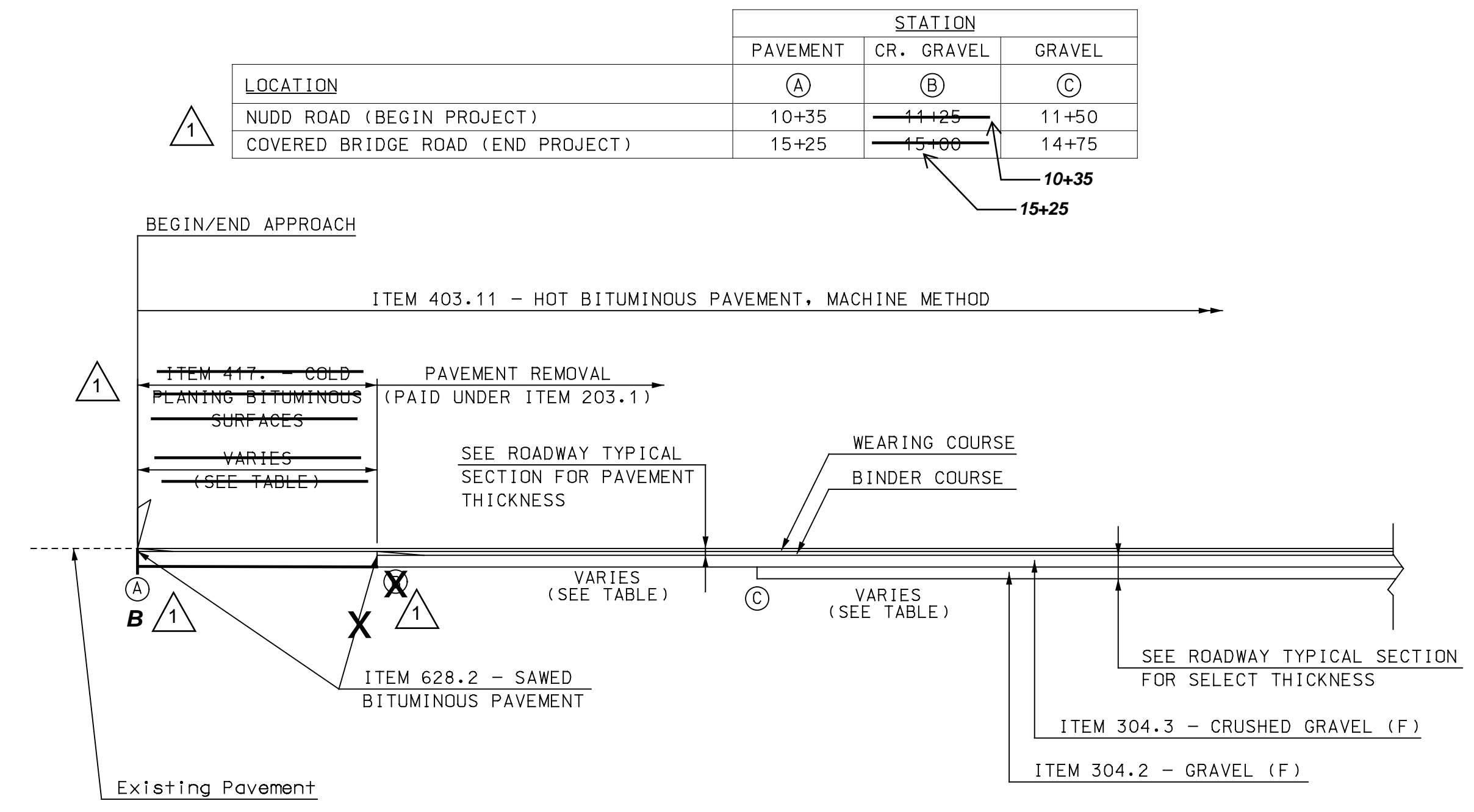
- GENERAL NOTES** 1
- ITEM 410.22 - ASPHALT EMULSION FOR TACK COAT SHALL BE APPLIED BETWEEN HOT BITUMINOUS PAVEMENT COURSES.
 - SEE PAVEMENT MATCH DETAIL (THIS SHEET) FOR ROADWAY APPROACH WORK, STA. 10+35 TO STA. 11+25 AND STA. 15+00 TO STA. 15+25.
 11+50 14+75
 - CLEAR TO LIMITS SHOWN ON PLANS ONLY. PAID UNDER ITEM 201.1 - CLEARING AND GRUBBING (F).
 - SEE ROADWAY CROSS SECTIONS FOR PAVEMENT AND SIDE SLOPE VALUES.



GEOTEXTILE WRAP DETAIL
 NOT TO SCALE



STONE SLOPE DETAIL
 NOT TO SCALE



PAVEMENT MATCH DETAIL 1
 NOT TO SCALE

LOCATION	STATION		
	PAVEMENT (A)	CR. GRAVEL (B)	GRAVEL (C)
NUDD ROAD (BEGIN PROJECT)	10+35	11+25	11+50
COVERED BRIDGE ROAD (END PROJECT)	15+25	15+00	14+75

4/22/2020 9:48:36 AM K:\915003\2-CADD\DWG\CutSheet\915003TY.dgn

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
 HOYLE, TANNER & ASSOCIATES, INC.
 SIGNED: *Francis E. Lord*
 FEBRUARY 2023
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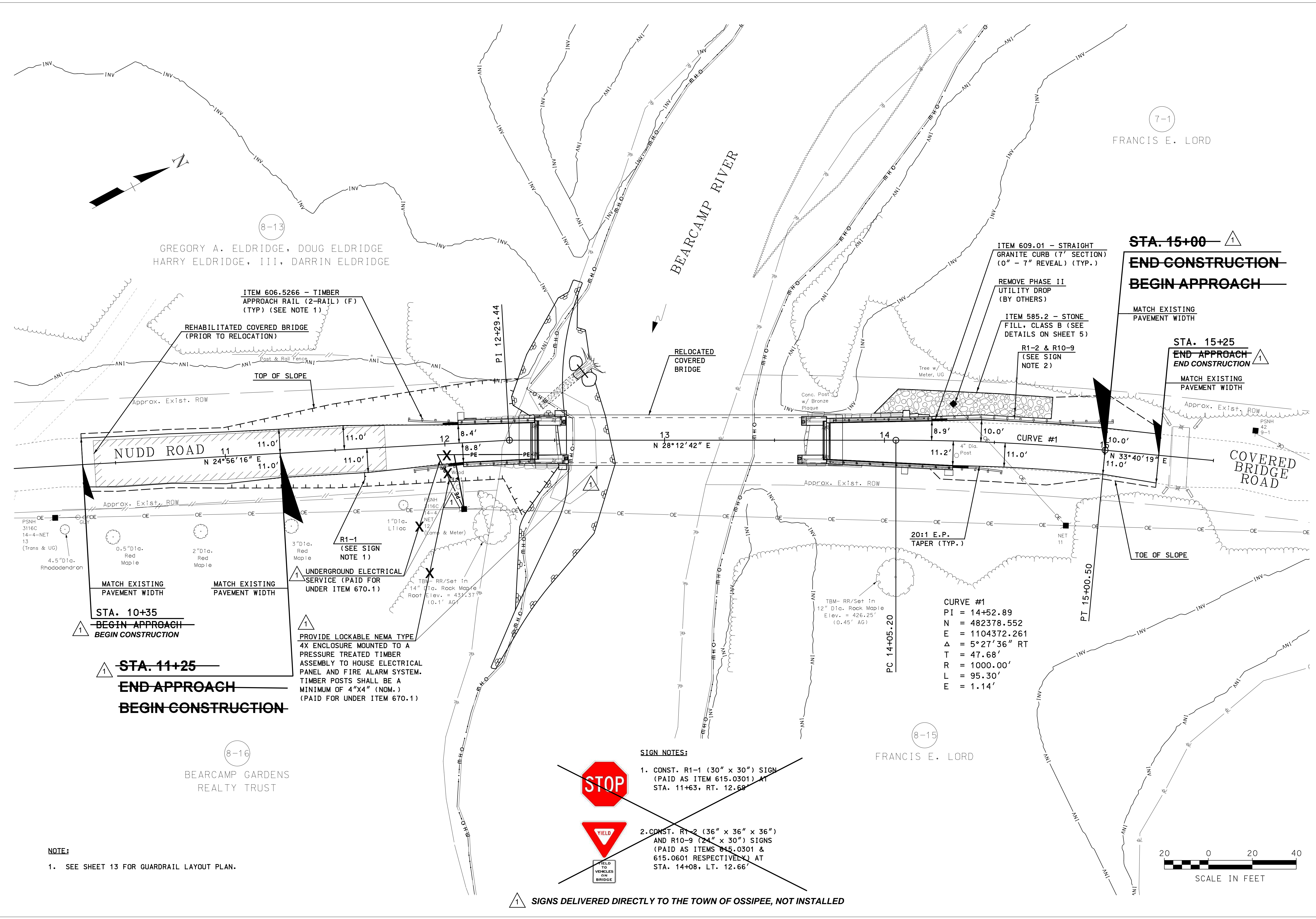
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APRIL 2020	DESIGN BY:	DRAWN BY:	CHKD. BY:	SCALE:
	BKM	BKM	GAB	AS SHOWN

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TOWN OF OSSISPEE
 OSSISPEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
 ROADWAY PLAN

PROJECT NO.: 915003
 FILE NAME: 915003genplans
 MODEL NAME: GEN01
 SHEET NO.
6
 SHEET 6 OF 34

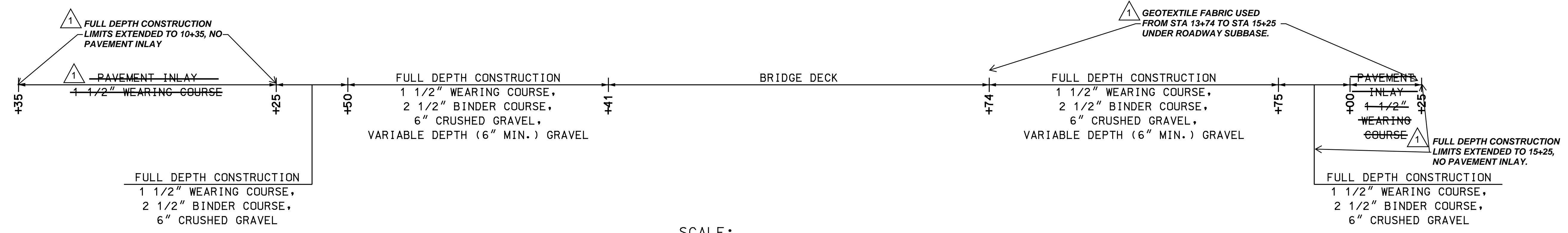
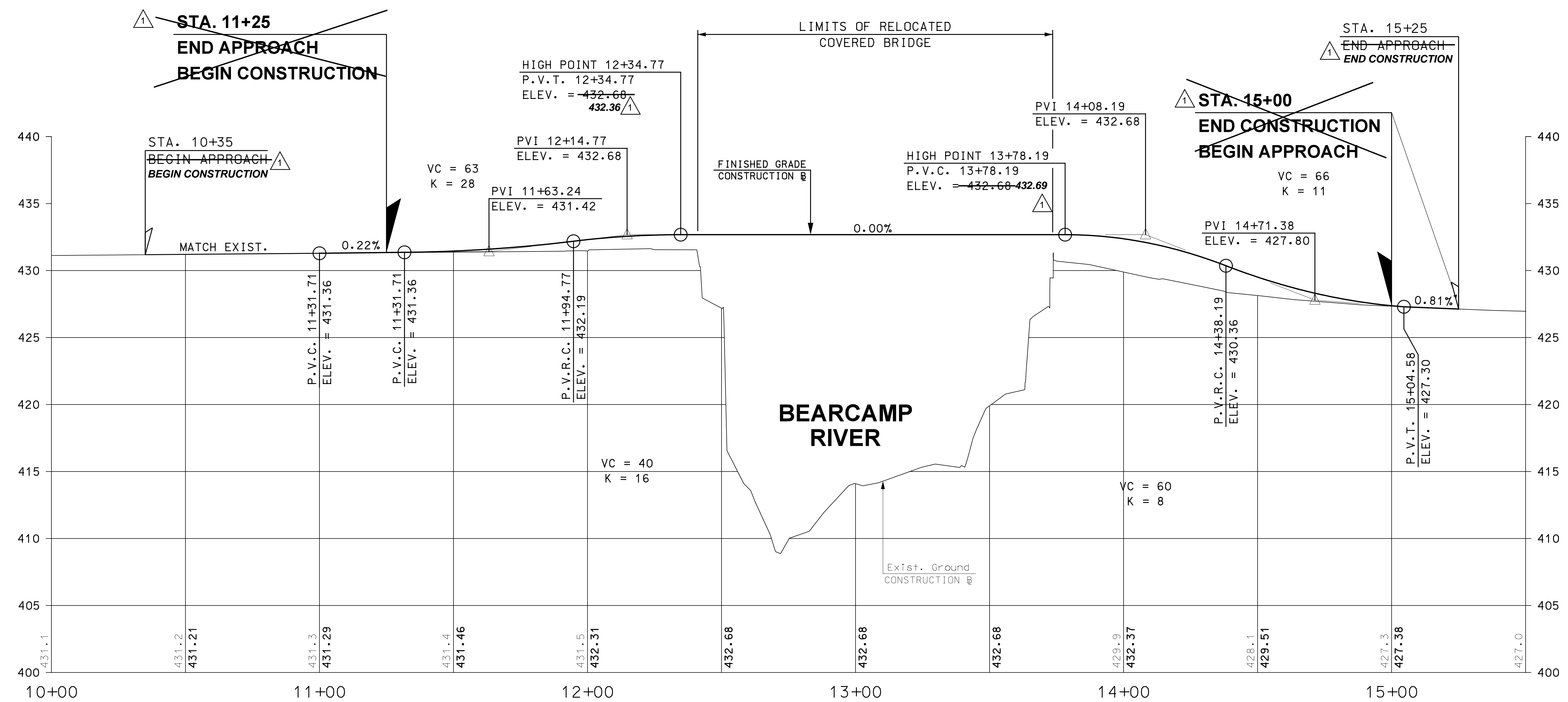


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I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.

HOYLE, TANNER & ASSOCIATES, INC.
 SIGNED: *[Signature]*
 FEBRUARY 2023

NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.



SCALE:
 1" = 20' HORIZ.
 1" = 4' VERT.

NOTE:
 1. SEE CROSS SECTIONS FOR SUPERELEVATION TRANSITIONS.

REV	DESCRIPTION	DATE
1	RECORD COPY REVISIONS	2/2023

DESIGN BY:	BKM
DRAWN BY:	BKM
CHKD. BY:	GAB
SCALE:	AS SHOWN

Hoyle, Tanner & Associates, Inc.
 150 Dow Street, Manchester, NH 03101-1227
 Tel (603) 669-5555 - Fax (603) 669-4168
 www.hoyletanner.com

TOWN OF OSSISPEE
 OSSISPEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
 ROADWAY PROFILE

PROJECT NO.: 915003
 FILE NAME: 915003proplans
 MODEL NAME: Profile
 SHEET NO.
7
 SHEET 7 OF 34

4/22/2020 9:48:45 AM K:\915003\2-CADD\DWG\CutSheet\915003proplans.dgn

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HOYLE, TANNER & ASSOCIATES, INC.
 SIGNED: [Signature]
 FEBRUARY 2023

NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

REV	DESCRIPTION	DATE
1	RECORD COPY REVISIONS	2/2023

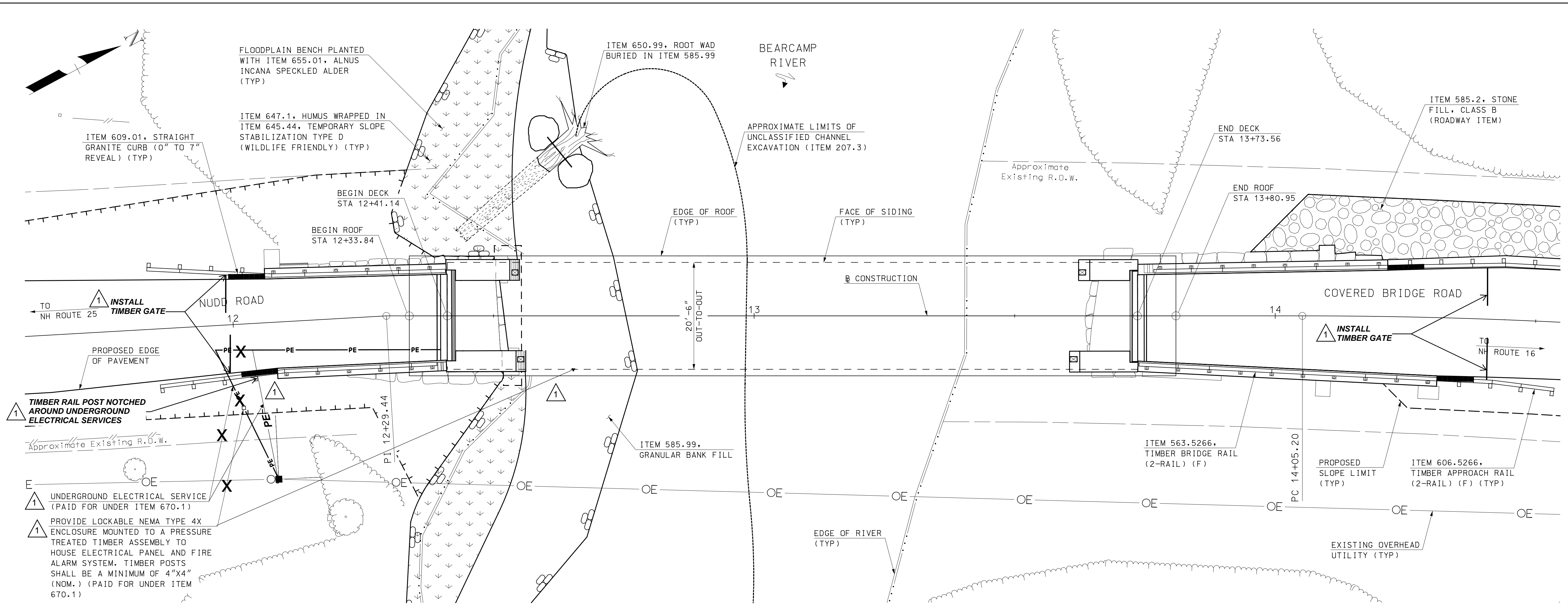
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KVD	STJ	

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JCR	PBD	STJ	AS SHOWN

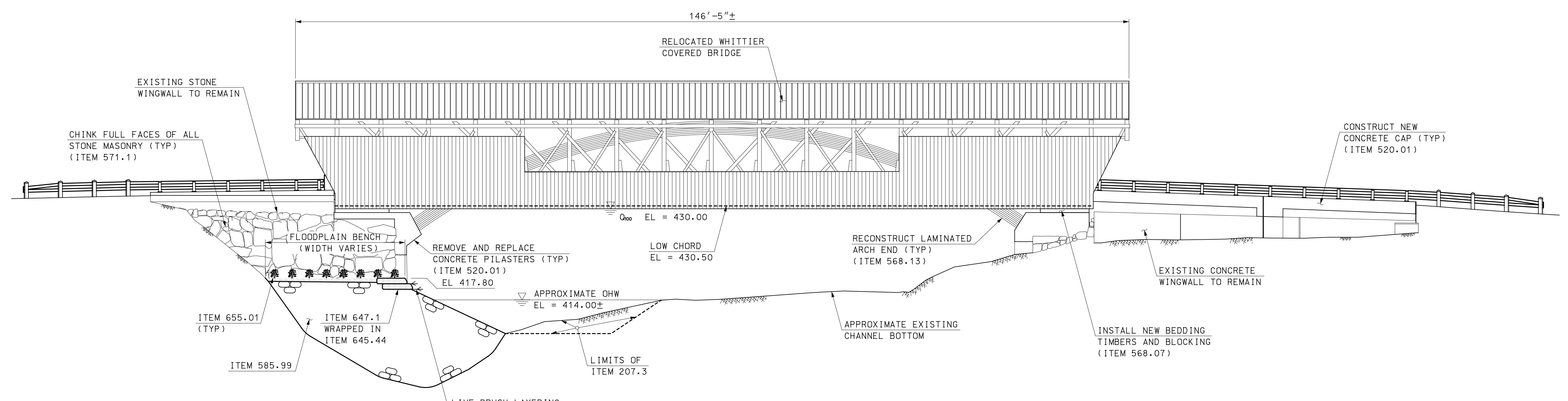
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 Tel (603) 669-5555 - Fax (603) 669-4168
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TOWN OF OSSISPEE
 OSSISPEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
 GENERAL PLAN AND ELEVATION

PROJECT NO.: 915003
 FILE NAME: 915003Genplan
 MODEL NAME: 915003Genplan
 SHEET NO.
8
 SHEET 8 OF 34

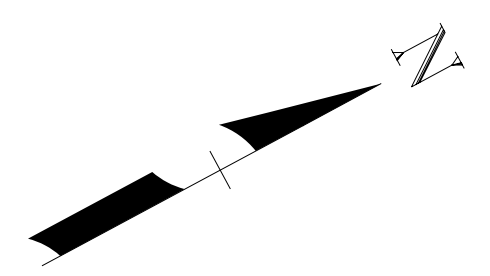


PLAN
 SCALE: 1" = 10'



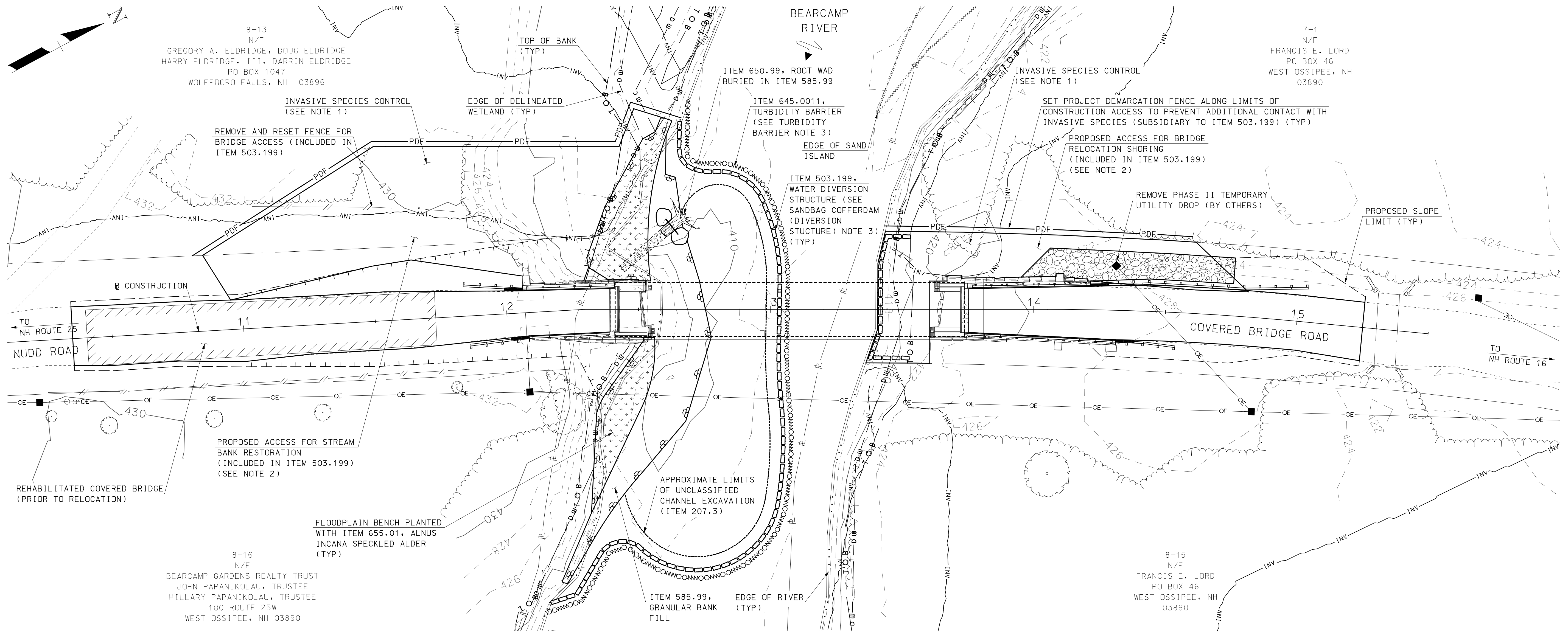
ELEVATION
 SCALE: 1" = 10'

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8-13
N/F
GREGORY A. ELDRIDGE, DOUG ELDRIDGE
HARRY ELDRIDGE, III, DARRIN ELDRIDGE
PO BOX 1047
WOLFEBORO FALLS, NH 03896

7-1
N/F
FRANCIS E. LORD
PO BOX 46
WEST OSSIPPEE, NH
03890

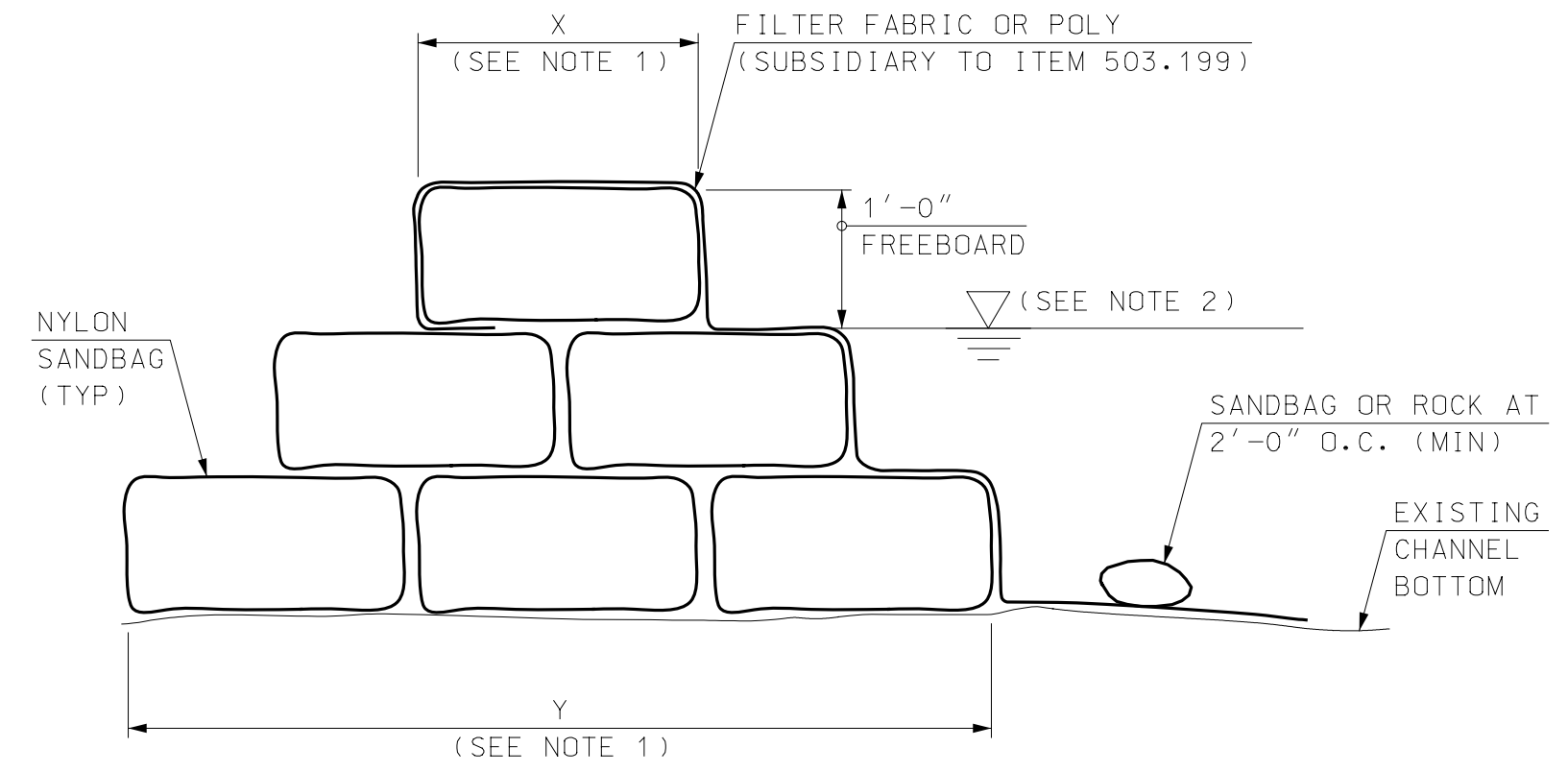


I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
HOYLE, TANNER & ASSOCIATES, INC.
SIGNED: *Francis E. Lord*
FEBRUARY 2023
NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

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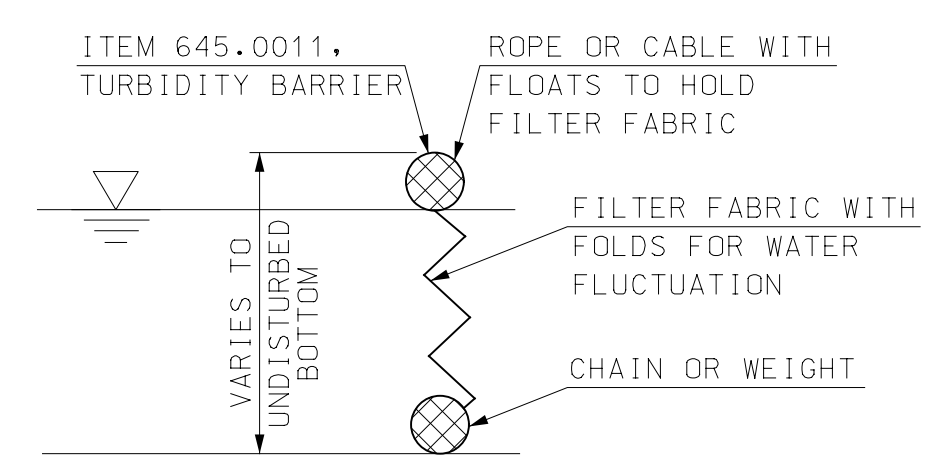
Hoyle, Tanner & Associates, Inc.
150 Dow Street, Manchester, NH 03101-1227
Tel (603) 669-5555 - Fax (603) 669-4168
www.foyletanner.com

SITE PLAN
SCALE: 1" = 20'



- NOTES**
1. THE ABOVE DETAIL IS CONCEPTUAL IN NATURE AND IS PROVIDED FOR BIDDING PURPOSES ONLY. THE SANDBAG SIZE NUMBER AND ORIENTATION SHALL BE DETERMINED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
 2. WATER SURFACE ELEVATION FOR WATER DIVERSION TO BE DETERMINED BY CONTRACTOR.
 3. RESET COFFERDAM TO LIMITS OF BANK STABILIZATION AFTER UNCLASSIFIED CHANNEL EXCAVATION IS COMPLETE. COST INCLUDED IN ITEM 503.199.

SANDBAG COFFERDAM (DIVERSION STRUCTURE)
NOT TO SCALE



- NOTES**
1. THE TURBIDITY BARRIER SHALL BE PLACED AS CLOSE TO THE WORK AREA AS POSSIBLE WITHOUT INTERFERING WITH CONSTRUCTION OPERATIONS. PAYMENT FOR THE INSTALLATION, MAINTENANCE, REMOVAL AND REINSTALLATION (AS NEEDED) OF THE TURBIDITY BARRIER SHALL BE MADE UNDER ITEM 645.0011, TURBIDITY BARRIER.
 2. THE TURBIDITY BARRIER SHALL CONTAIN A WEIGHTED ANCHOR SYSTEM THAT ALLOWS THE BARRIER TO CONFORM TO THE CONTOUR ON THE BOTTOM OF THE WATERWAY.
 3. RESET TURBIDITY CURTAIN TO LIMITS OF BANK STABILIZATION AFTER UNCLASSIFIED CHANNEL EXCAVATION IS COMPLETE. COST INCLUDED IN ITEM 645.011.

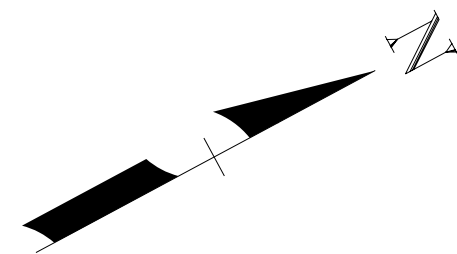
TURBIDITY BARRIER
NOT TO SCALE

- LEGEND**
- FLOOD PLAIN BENCH
 - INVASIVE SPECIES CONTROL
 - CONSTRUCTION ACCESS
 - PROJECT DEMARCATION FENCE

- NOTE**
1. FOR INVASIVE SPECIES NOTES, SEE SHEET 2.
 2. ALL TREES TO BE REMOVED MUST BE FLAGGED A MINIMUM OF 48 HOURS PRIOR TO TREE REMOVAL. THE CONTRACTOR SHALL MAINTAIN EXISTING TREES TO THE GREATEST EXTENT POSSIBLE.

TOWN OF OSSIPPEE
OSSIPPEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
SITE PLAN
PROJECT NO.: 915003
FILE NAME: 915003Siteplan
MODEL NAME: 915003Siteplan
SHEET NO.
9
SHEET 9 OF 34

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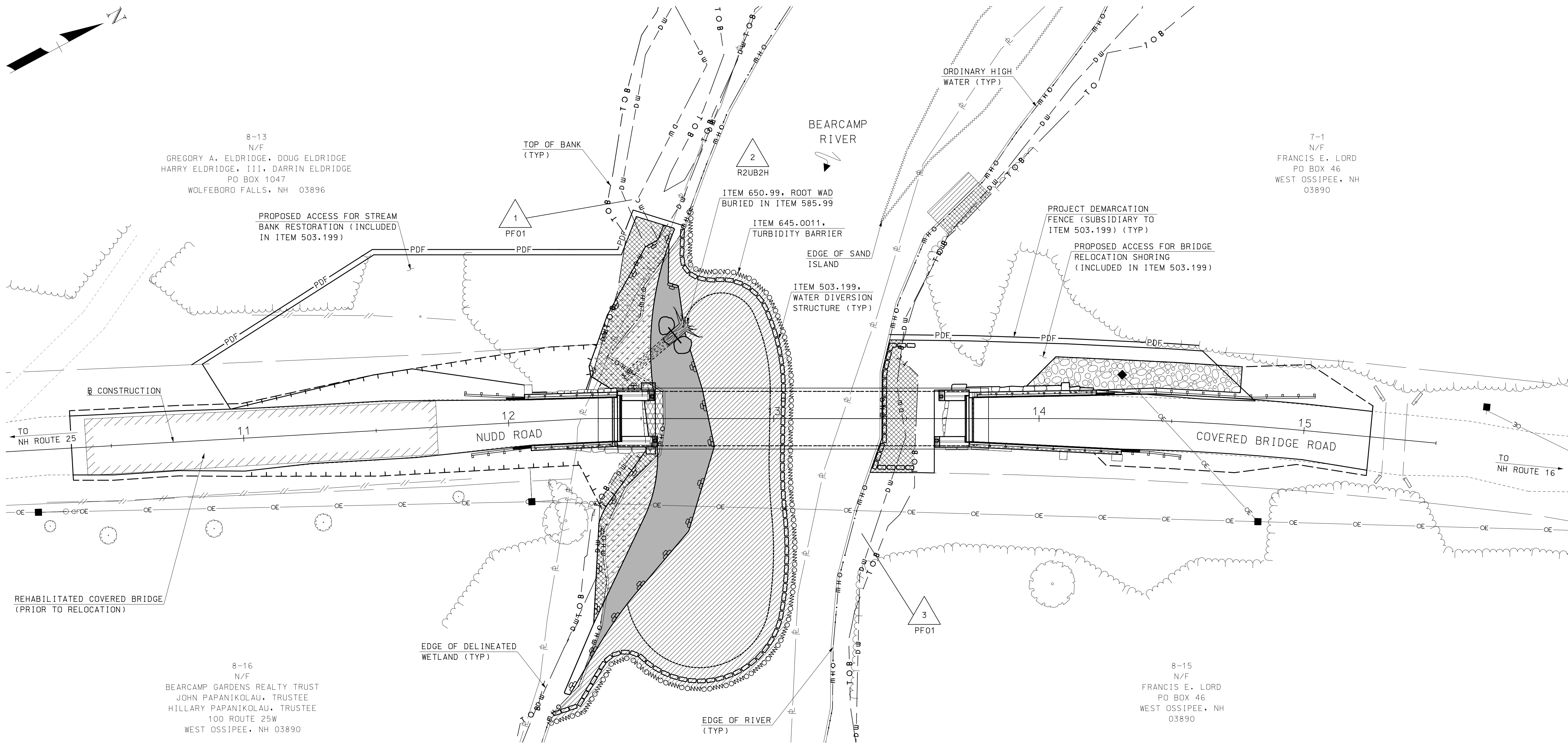


8-13
N/F
GREGORY A. ELDRIDGE, DOUG ELDRIDGE
HARRY ELDRIDGE, III, DARRIN ELDRIDGE
PO BOX 1047
WOLFEBORO FALLS, NH 03896

7-1
N/F
FRANCIS E. LORD
PO BOX 46
WEST OSSISPEE, NH
03890

8-16
N/F
BEARCAMP GARDENS REALTY TRUST
JOHN PAPANIKOLAOU, TRUSTEE
HILLARY PAPANIKOLAOU, TRUSTEE
100 ROUTE 25W
WEST OSSISPEE, NH 03890

8-15
N/F
FRANCIS E. LORD
PO BOX 46
WEST OSSISPEE, NH
03890



WETLAND IMPACTS PLAN
SCALE: 1" = 20'

WETLAND CLASSIFICATION	
PF01	PALUSTRINE, SCRUB-SHRUB, BROAD-LEAVED DECIDUOUS
R2UB2H	RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, SAND, PERMANENTLY FLOODED

GREGORY W. HOWARD, CERTIFIED WETLAND SCIENTIST #78, OF NORTH COUNTRY SOIL SERVICES OF WEST OSSISPEE, NH, PERFORMED THE WETLAND MAPPING ON JANUARY 13, 2015 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH-CENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

GENERAL WETLAND IMPACT NOTES

- PERMANENT BANK OF STREAM OR RIVER IMPACT = 120 SF
TEMPORARY BANK OF STREAM OR RIVER IMPACT = 1757 SF
PERMANENT BED OF PERENNIAL STREAM IMPACT = 2022 SF
TEMPORARY BED OF PERENNIAL STREAM IMPACT = 7695 SF
TOTAL NEW PERMANENT IMPACT = 2142 SF
TOTAL NEW TEMPORARY IMPACT = 9452 SF
TOTAL LENGTH OF PERMANENT BANK IMPACT = 82 LF
TOTAL LENGTH OF TEMPORARY BANK IMPACT = 161 LF
TOTAL LENGTH OF PERMANENT STREAM IMPACT = 196 LF
- ORDINARY HIGH WATER ELEVATION = 414.

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AN EROSION AND SEDIMENT CONTROL PLAN IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3 EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" BY THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES.
- AFTER COMPLETION OF IN-WATER WORK, REMOVE ALL WATER DIVERSION STRUCTURES AND RESTORE ALL DISTURBED AREAS TO PRE-CONSTRUCTION CONDITIONS. ALL COSTS FOR SUCH WORK SHALL BE SUBSIDIARY TO ITEM 503.199.
- THE SLOPE LIMITS IN THE NORTHEAST, SOUTHEAST AND SOUTHWEST QUADRANTS WERE MODIFIED (REDUCED) SLIGHTLY AFTER GRANTING OF THE WETLANDS PERMIT, HOWEVER NO WETLAND IMPACTS HAVE CHANGED.

LEGEND

- PERMANENT BANK OF STREAM IMPACTS
- TEMPORARY BANK OF STREAM IMPACTS
- PERMANENT BED OF STREAM IMPACTS
- TEMPORARY BED OF STREAM IMPACTS
- SANDBAG COFFERDAM
- WETLAND DESIGNATION NUMBER
- TURBIDITY BARRIER
- PROJECT DEMARCATION FENCE

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
HOYLE, TANNER & ASSOCIATES, INC.
SIGNED: FRANCIS E. LORD
FEBRUARY 2023
NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

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APRIL 2020	DESIGN BY: JCR				
	DRAWN BY: PBD				
	CHKD. BY: STJ				
	SCALE: AS SHOWN				

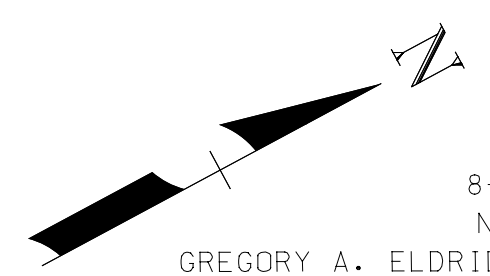
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Tel (603) 669-5555 - Fax (603) 669-4168
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TOWN OF OSSISPEE
OSSISPEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
WETLAND IMPACTS PLAN

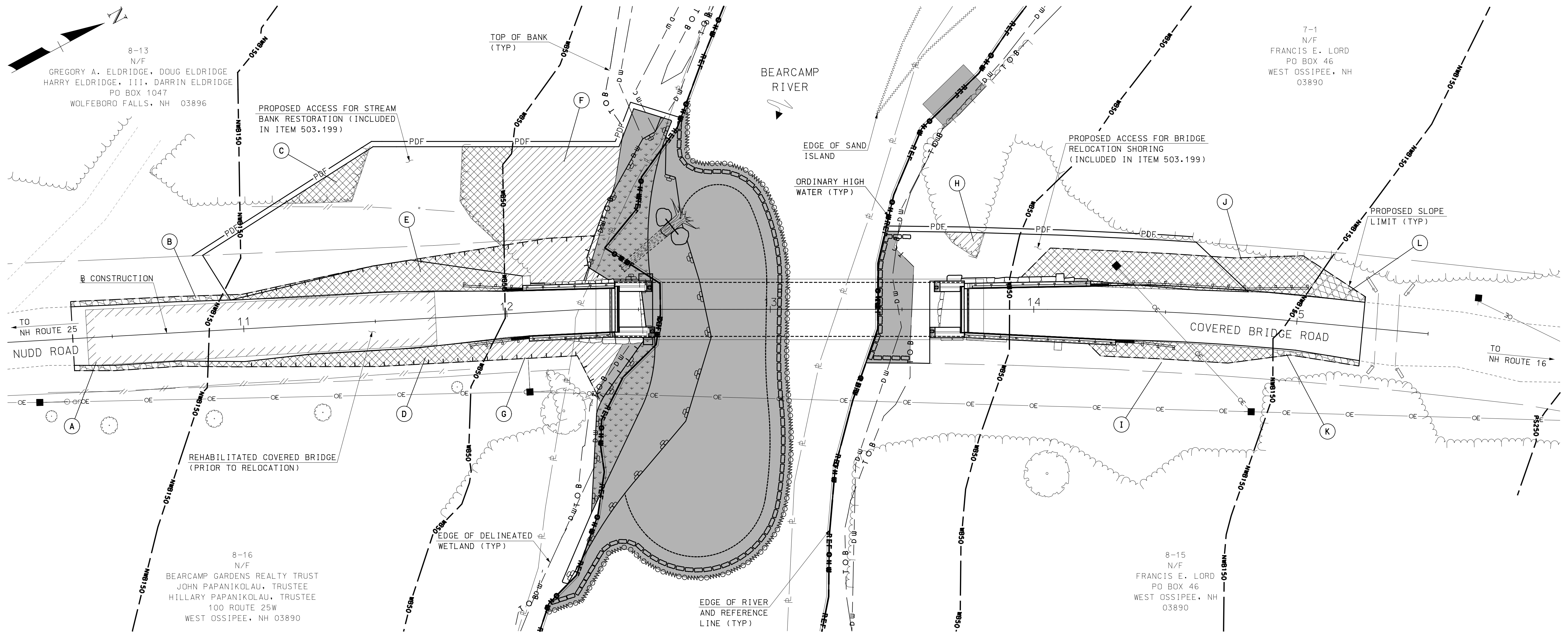
PROJECT NO.: 915003
FILE NAME: 915003Wetplan
MODEL NAME: 915003Wetplan

SHEET NO.
10
SHEET 10 OF 34



8-13
N/F
GREGORY A. ELDRIDGE, DOUG ELDRIDGE
HARRY ELDRIDGE, III, DARRIN ELDRIDGE
PO BOX 1047
WOLFEBORO FALLS, NH 03896

PROPOSED ACCESS FOR STREAM
BANK RESTORATION (INCLUDED
IN ITEM 503.199)



8-16
N/F
BEARCAMP GARDENS REALTY TRUST
JOHN PAPANIKOLAOU, TRUSTEE
HILLARY PAPANIKOLAOU, TRUSTEE
100 ROUTE 25W
WEST OSSISPEE, NH 03890

7-1
N/F
FRANCIS E. LORD
PO BOX 46
WEST OSSISPEE, NH
03890

8-15
N/F
FRANCIS E. LORD
PO BOX 46
WEST OSSISPEE, NH
03890

SWQPA IMPACTS PLAN
SCALE: 1" = 20'

- NOTES**
- AREAS WITHIN THE PROPOSED ACCESS FOR STREAM BANK RESTORATION THAT ARE NOT QUANTIFIED FOR SHORELAND IMPACT ARE EITHER GRASS, SHRUBS OR SAND.
 - THE SLOPE LIMITS IN THE NORTHEAST, SOUTHEAST AND SOUTHWEST QUADRANTS WERE MODIFIED (REDUCED) SLIGHTLY AFTER GRANTING OF THE SHORELAND PERMIT BY NOTIFICATION.

SHORELAND IMPACT SUMMARY			
LOCATION	AREAS (SF)		
	REF TO WB50	WB50 TO NWB150	NWB150 TO PS250
A			102
B			114
C		255	
D		533	
E		1519	
F	2001		
G	424		
H	85		
I		393	
J		1380	
K			64
L			143

TOTAL REF TO WB50 = 2510 SF
 TOTAL WB50 TO NWB150 = 4080 SF
 TOTAL NWB150 TO PS250 = 423 SF
 TOTAL IMPACTS REF TO PS250 = 7013 SF

LEGEND
 (X) SHORELAND IMPACT LOCATION

TYPE OF SHORELAND IMPACT	SHADING/HATCHING
REF TO WB50	
WB50 TO NWB150	
NWB150 TO PS250	
WETLANDS JURISDICTION IMPACT	

- D W- DELINEATED WETLAND
- T O B- TOP OF BANK
- REF- REFERENCE LINE
- WB50- WATERFRONT BUFFER LINE
- NWB150- NATURAL WOODLAND BUFFER LINE
- PS250- PROTECTED SHORELAND LINE

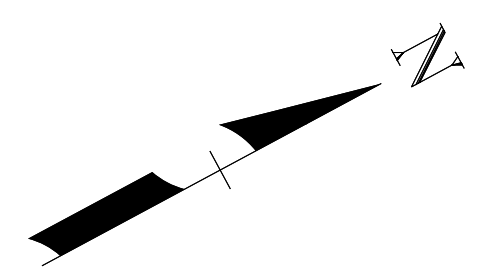
I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
 HOYLE, TANNER & ASSOCIATES, INC.
 SIGNED:
 FRANCIS E. LORD
 PO BOX 46
 WEST OSSISPEE, NH
 03890
 FEBRUARY 2023
 NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE IN FULL TENSE.

REV	DESCRIPTION	DATE	CHKD BY	DATE
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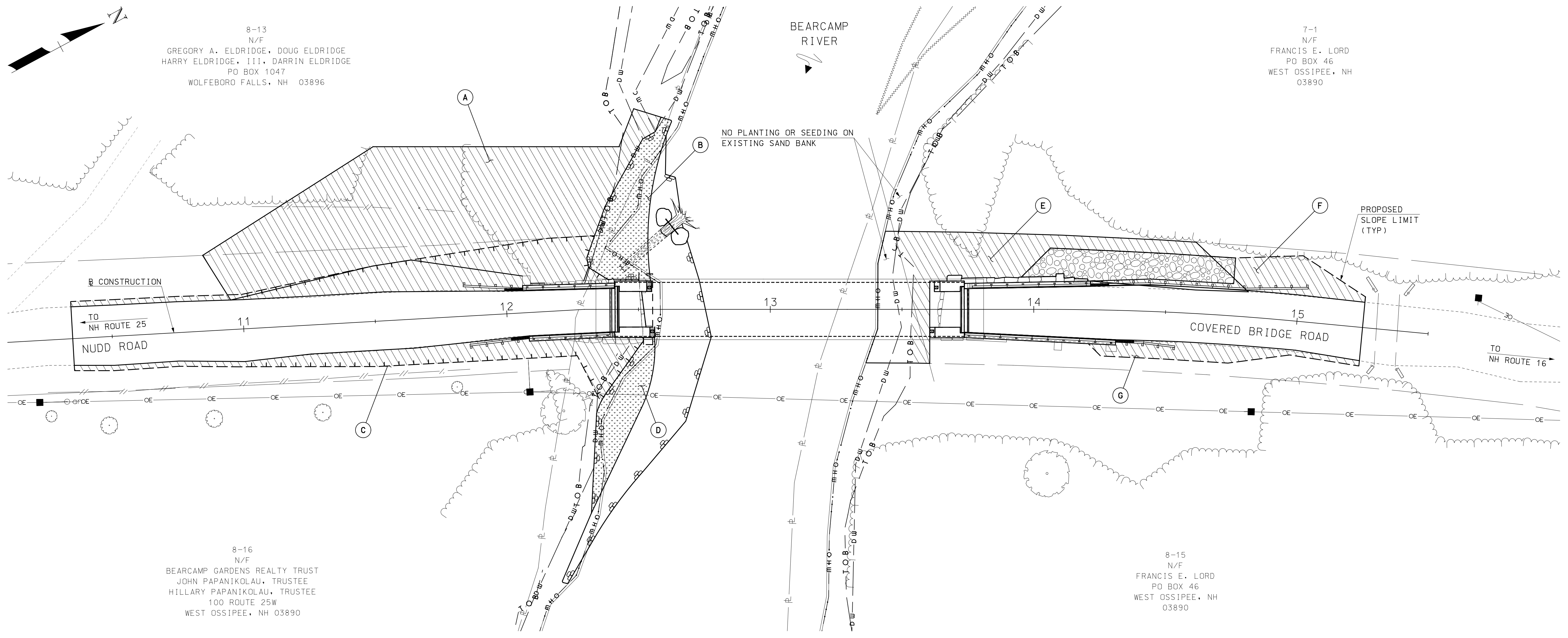
TOWN OF OSSISPEE
 OSSISPEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
 SHORELAND WATER QUALITY PROTECTION ACT IMPACTS PLAN
 PROJECT NO.: 915003
 FILE NAME: 915003Shoreplan
 MODEL NAME: 915003Shoreplan
 SHEET NO.
11
 SHEET 11 OF 34

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8-13
N/F
GREGORY A. ELDRIDGE, DOUG ELDRIDGE
HARRY ELDRIDGE, III, DARRIN ELDRIDGE
PO BOX 1047
WOLFEBORO FALLS, NH 03896

7-1
N/F
FRANCIS E. LORD
PO BOX 46
WEST OSSISPEE, NH
03890



PLANTING PLAN
SCALE: 1" = 20'

8-16
N/F
BEARCAMP GARDENS REALTY TRUST
JOHN PAPANIKOLAOU, TRUSTEE
HILLARY PAPANIKOLAOU, TRUSTEE
100 ROUTE 25W
WEST OSSISPEE, NH 03890

8-15
N/F
FRANCIS E. LORD
PO BOX 46
WEST OSSISPEE, NH
03890

LOCATION	AREAS (SF)	
	UPLAND SEEDING	FLOOD PLAIN BENCH SEEDING
A	7286	
B		915
C	1219	
D		634
E	1407	
F	664	
G	468	

TOTAL UPLAND SEEDING = 11044 SF
TOTAL FLOOD PLAIN BENCH SEEDING = 1549 SF

LEGEND

- FLOOD PLAIN BENCH SEEDING SUBSIDIARY TO ITEM 647.1, HUMUS
- UPLAND SEED MIXTURE, INCLUDED IN ITEM 646.512, TURF ESTABLISHED WITH MULCH, TACKIFIERS AND LOAM (F).

NOTE

1. SEE SEEDING AND PLANTING NOTES ON BANK STABILIZATION SHEET 2 FOR MATERIAL INFORMATION.

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
HOYLE, TANNER & ASSOCIATES, INC.
SIGNED: *Francis E. Lord*
FEBRUARY 2023

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APRIL 2020	JCR	PBD	STU	AS SHOWN	

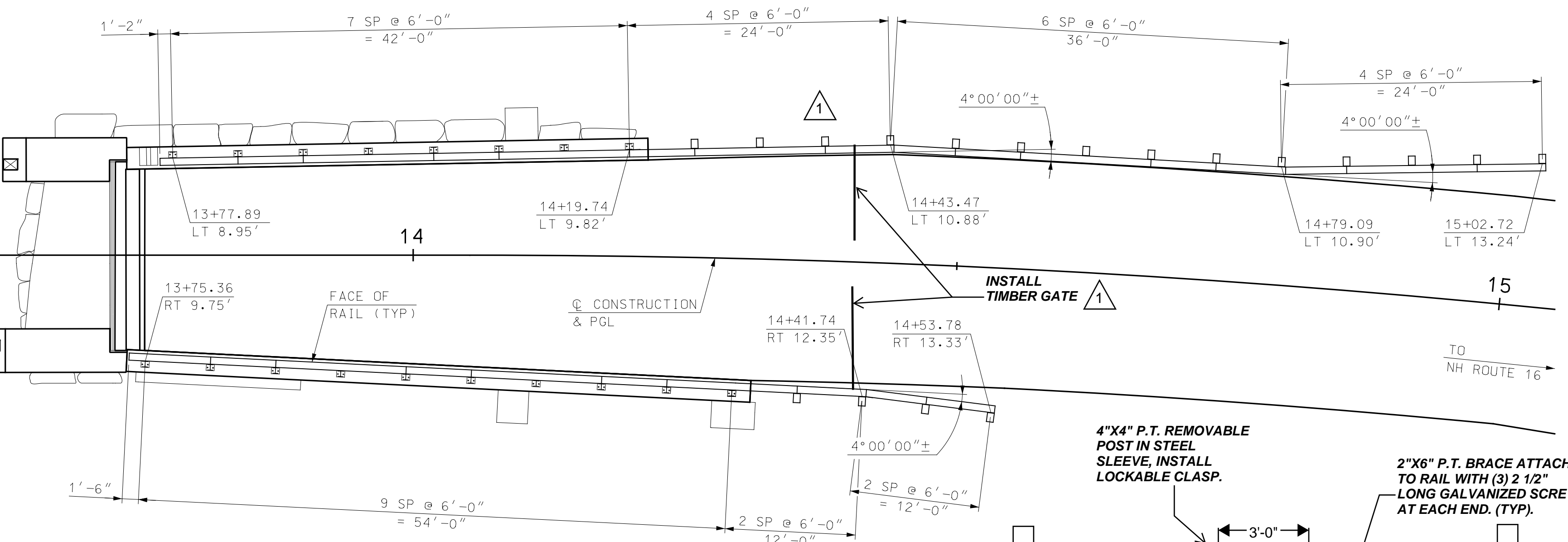
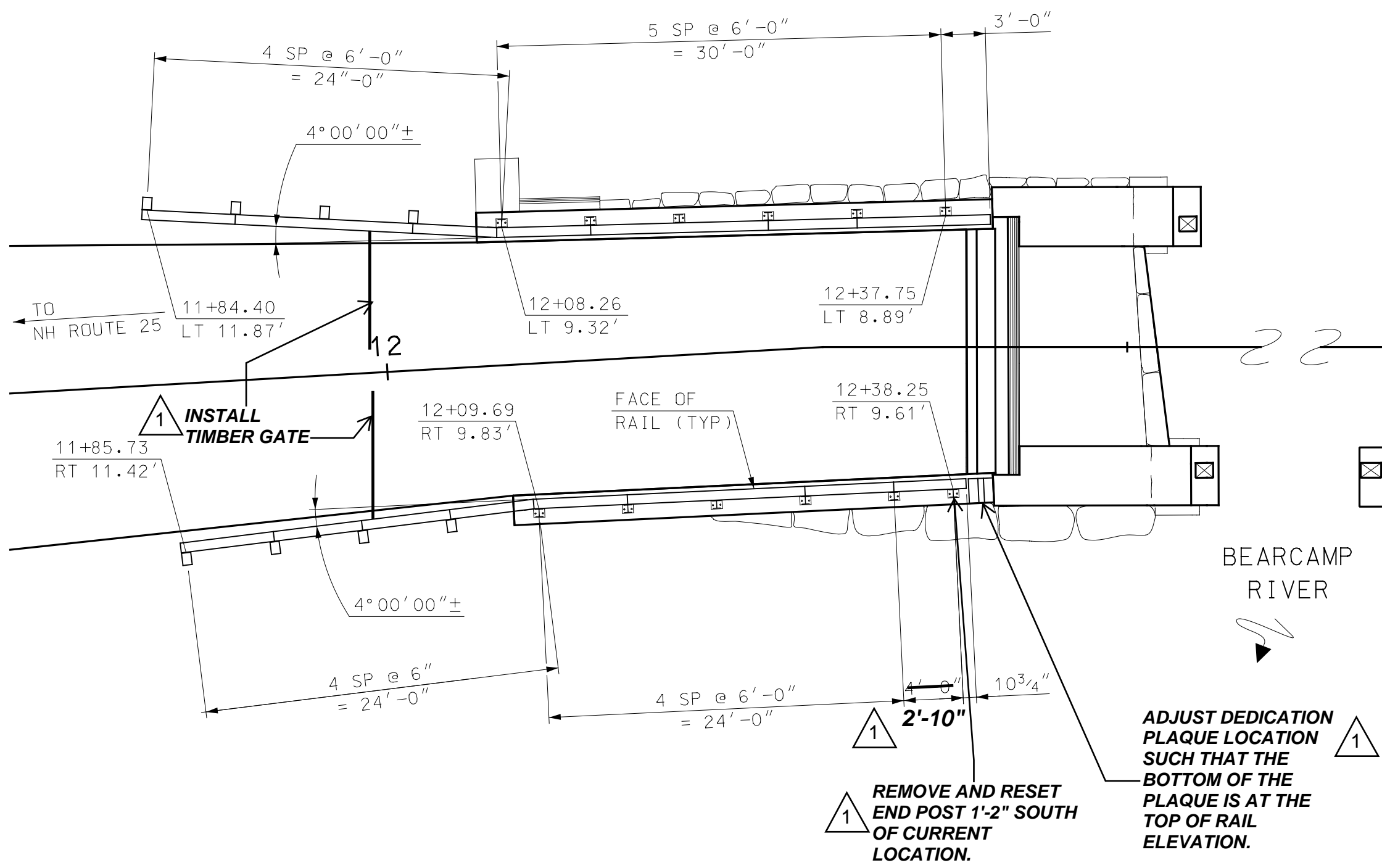
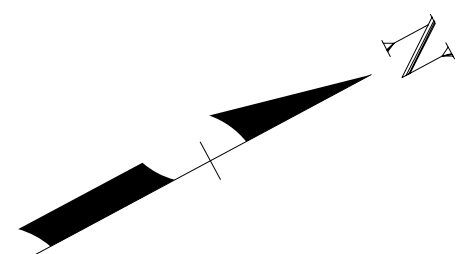
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TOWN OF OSSISPEE
OSSISPEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
PLANTING PLAN

PROJECT NO.: 915003
FILE NAME: 915003Plantplan
MODEL NAME: 915003Plantplan

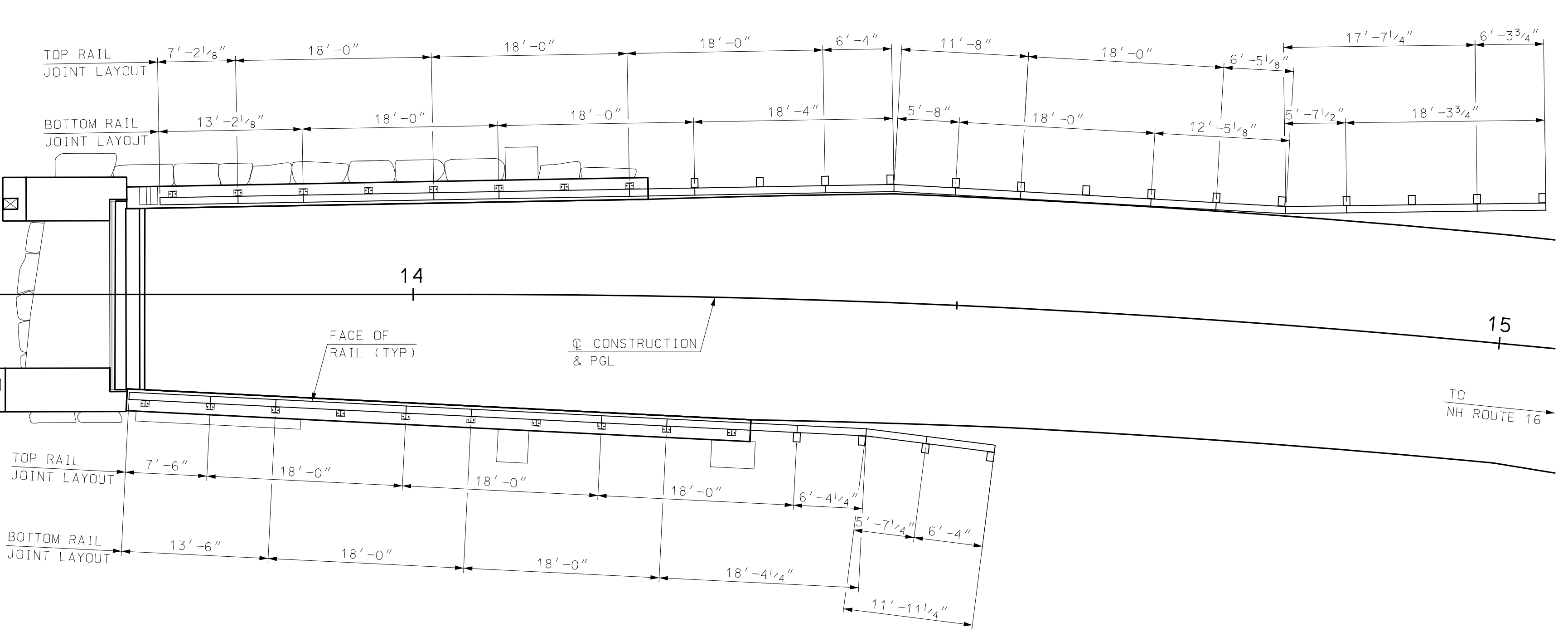
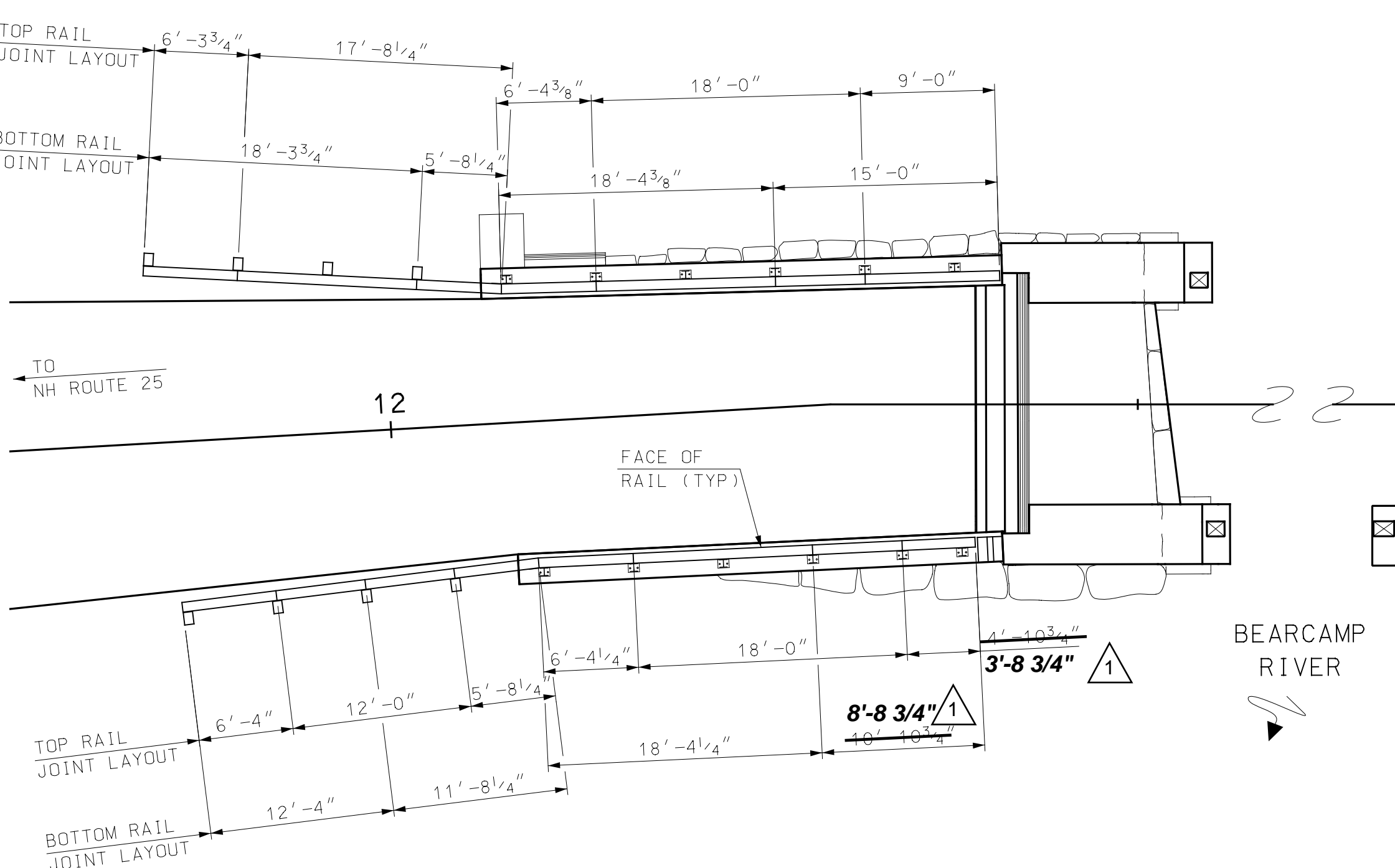
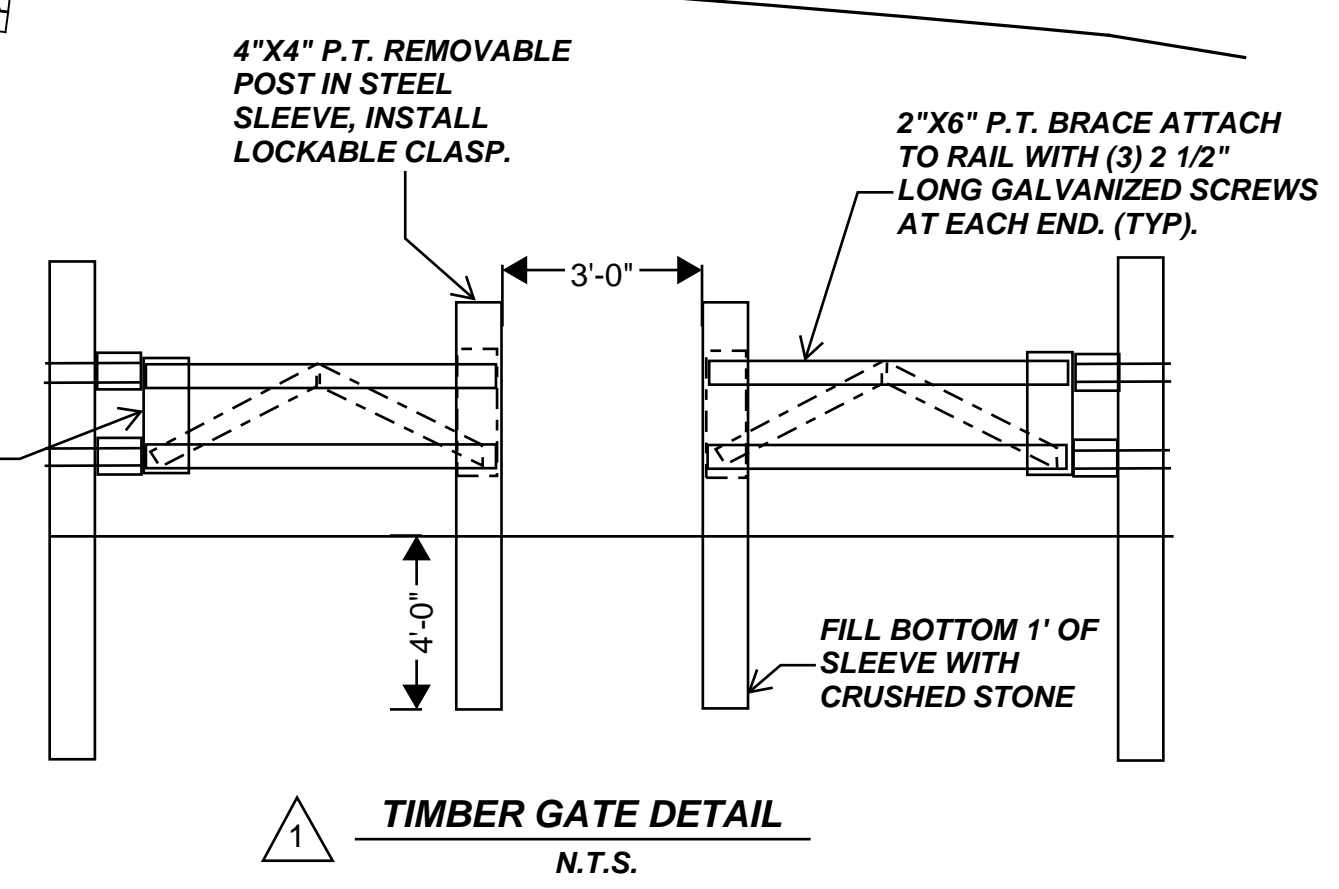
SHEET NO.
12
SHEET 12 OF 34

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NOTE
1. STATIONS AND OFFSETS ARE PROVIDED AT THE FRONT FACE OF RAIL POSTS AT POST CENTERLINE.

1 **GUARDRAIL LAYOUT PLAN**
SCALE: 1/8" = 1'-0"



1 **GUARDRAIL JOINT LAYOUT PLAN**
SCALE: 1/8" = 1'-0"

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.

HOYLE, TANNER & ASSOCIATES, INC.
SIGNED: [Signature]
FEBRUARY 2023

NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

REV	DESCRIPTION	DATE
1	RECORD COPY REVISIONS	2/2023

APRIL 2020
DESIGN BY: JCR
DRAWN BY: PBD
CHKD. BY: STJ
SCALE: AS SHOWN

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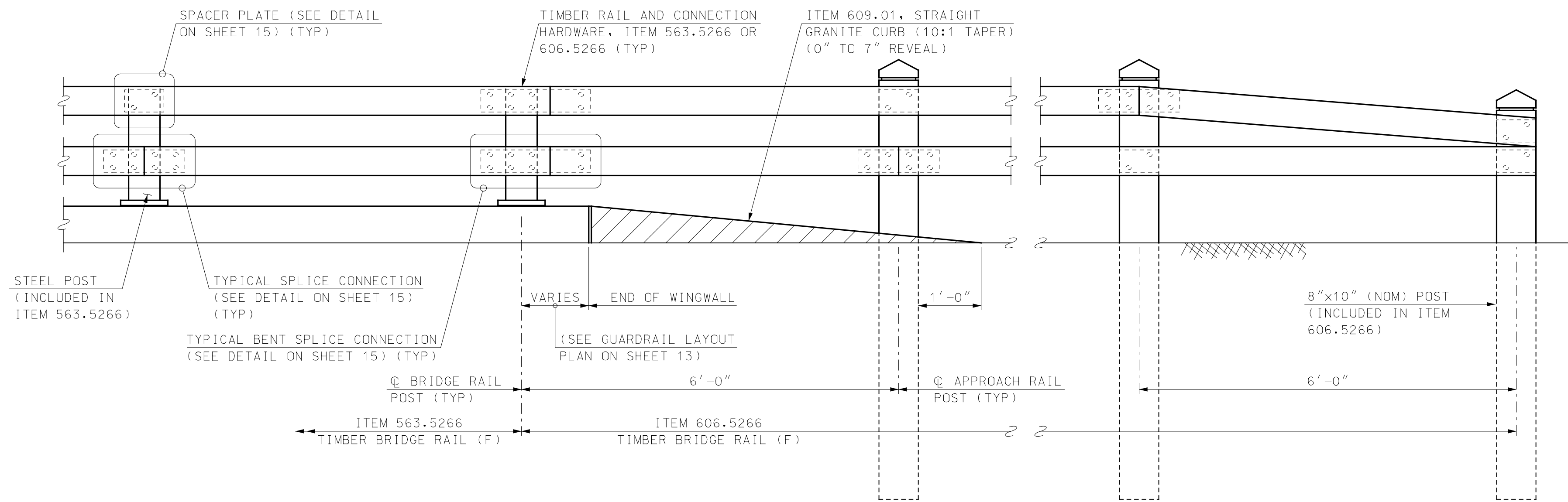
Hoyle, Tanner & Associates, Inc.
150 Dow Street, Manchester, NH 03101-1227
Tel (603) 669-5555 - Fax (603) 669-4168
www.hoyletanner.com

TOWN OF OSSISPEE
OSSISPEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
GUARDRAIL LAYOUT PLAN

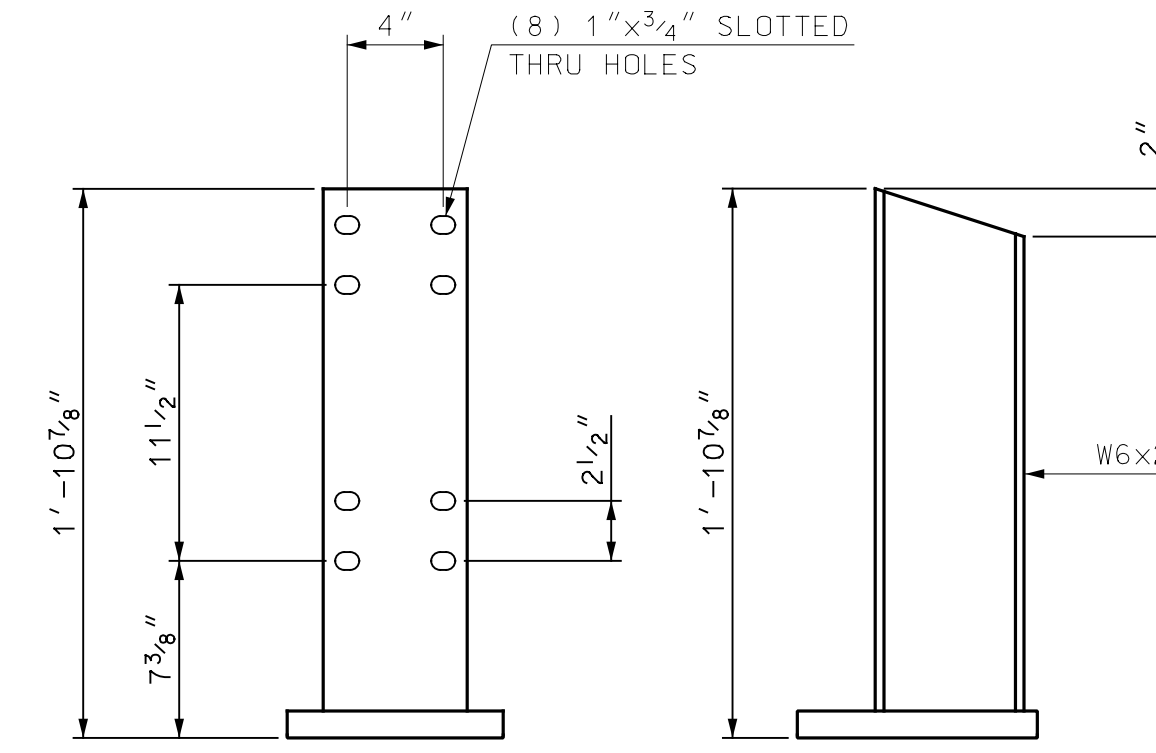
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FILE NAME: 915003Railplan
MODEL NAME: 915003Railplan

SHEET NO.
13
SHEET 13 OF 34

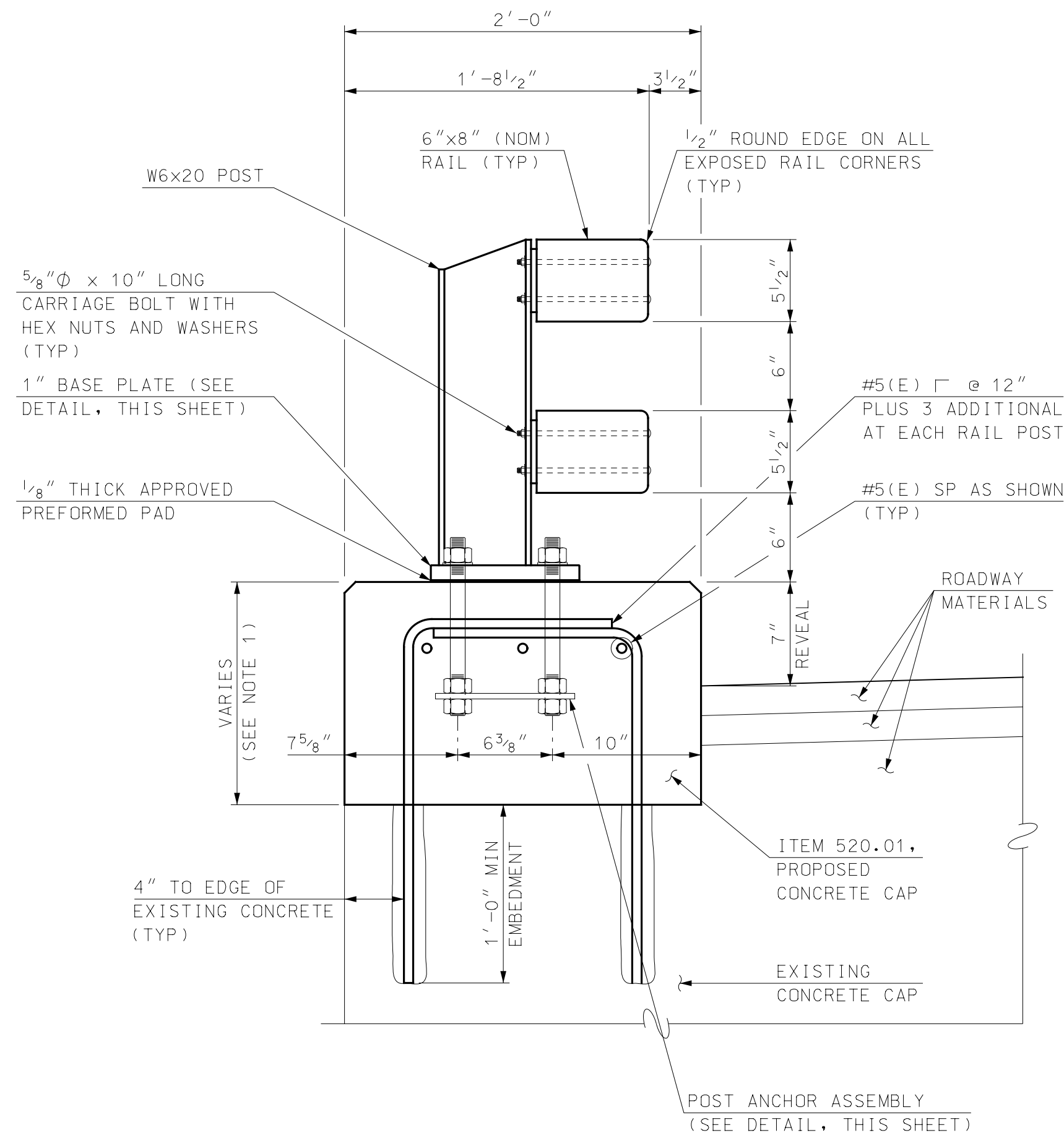
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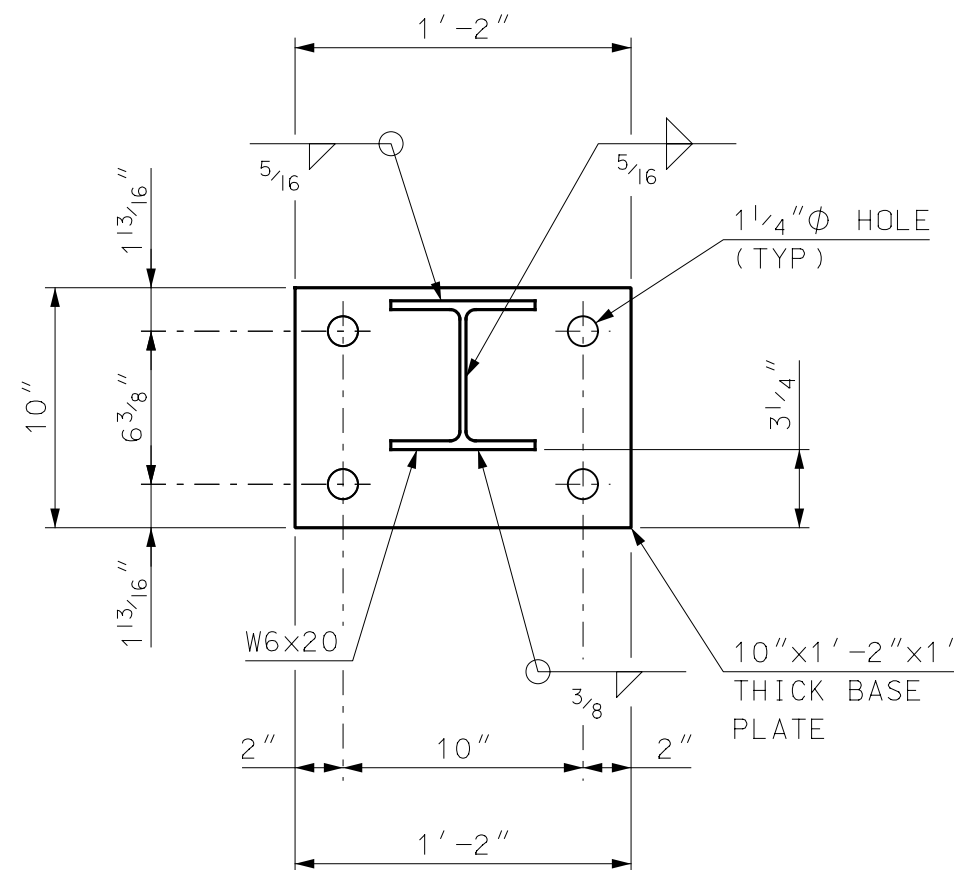
TYPICAL TIMBER RAIL ASSEMBLY ELEVATION
SCALE: 3/4" = 1'-0"



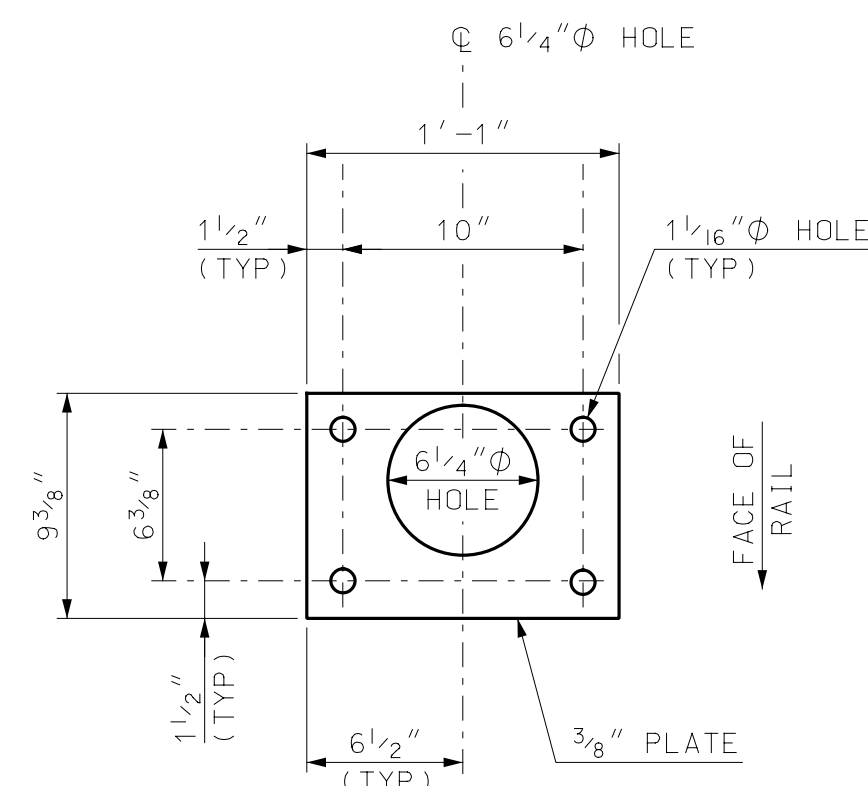
BRIDGE RAIL POST DETAIL
SCALE: 1 1/2" = 1'-0"



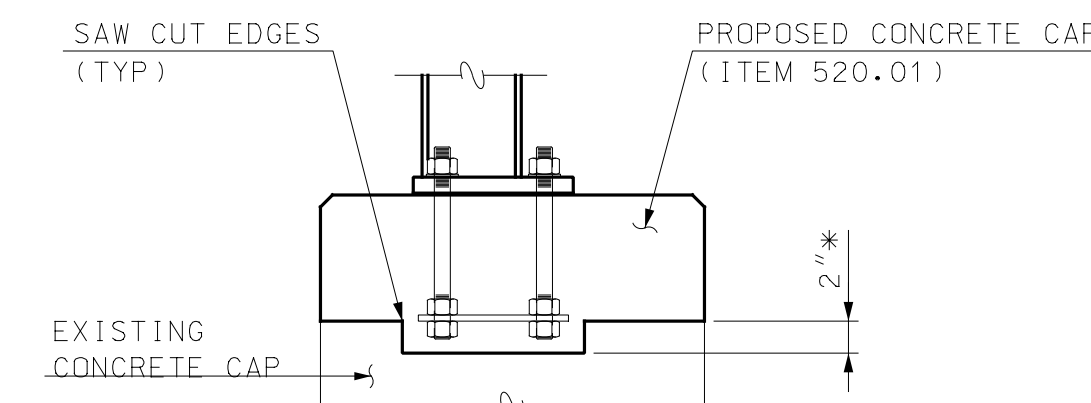
BRIDGE RAIL ASSEMBLY SECTION
SCALE: 1 1/2" = 1'-0"



BASE PLATE DETAIL
SCALE: 1 1/2" = 1'-0"

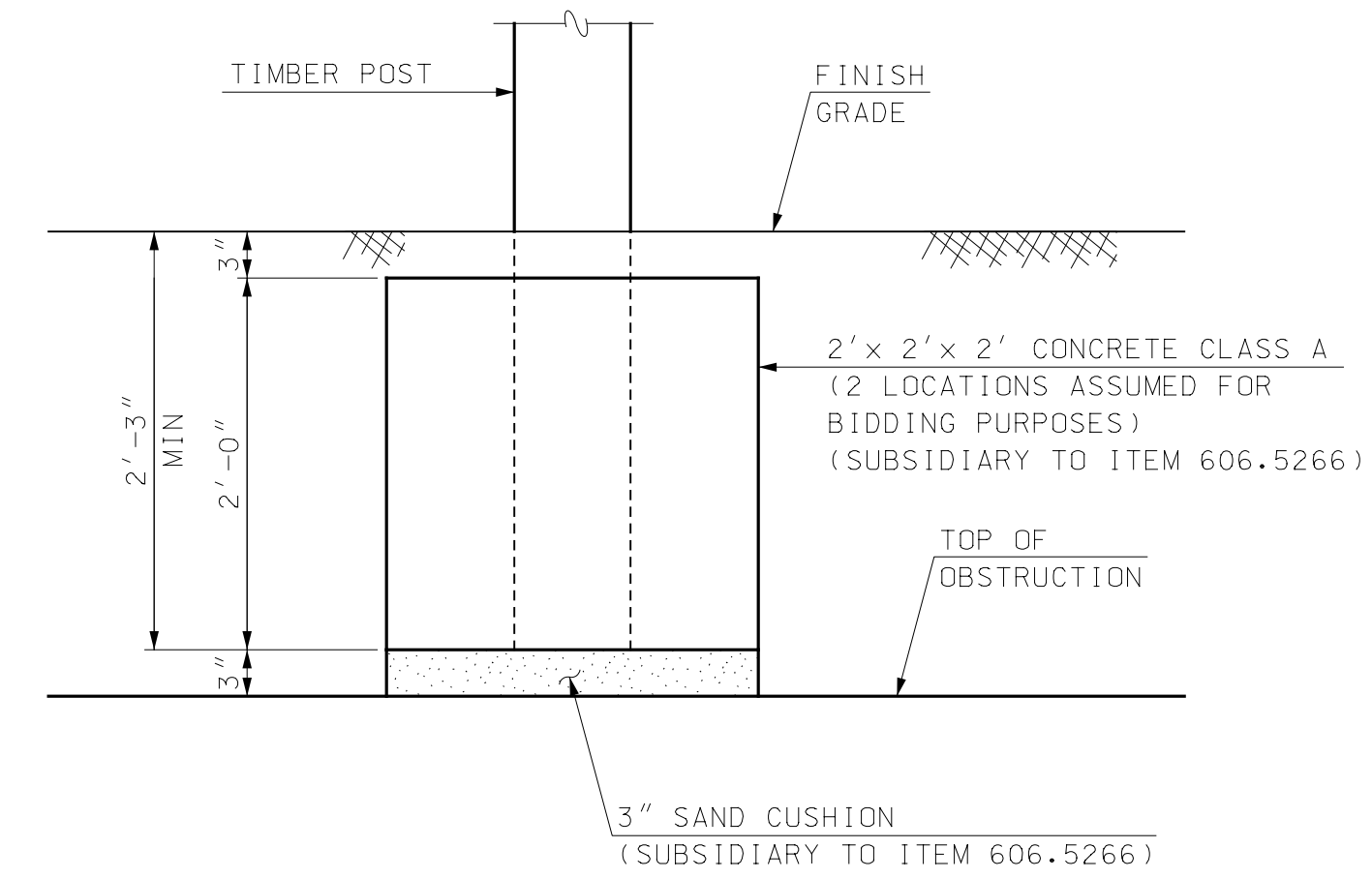


ANCHOR PLATE DETAIL
SCALE: 1 1/2" = 1'-0"

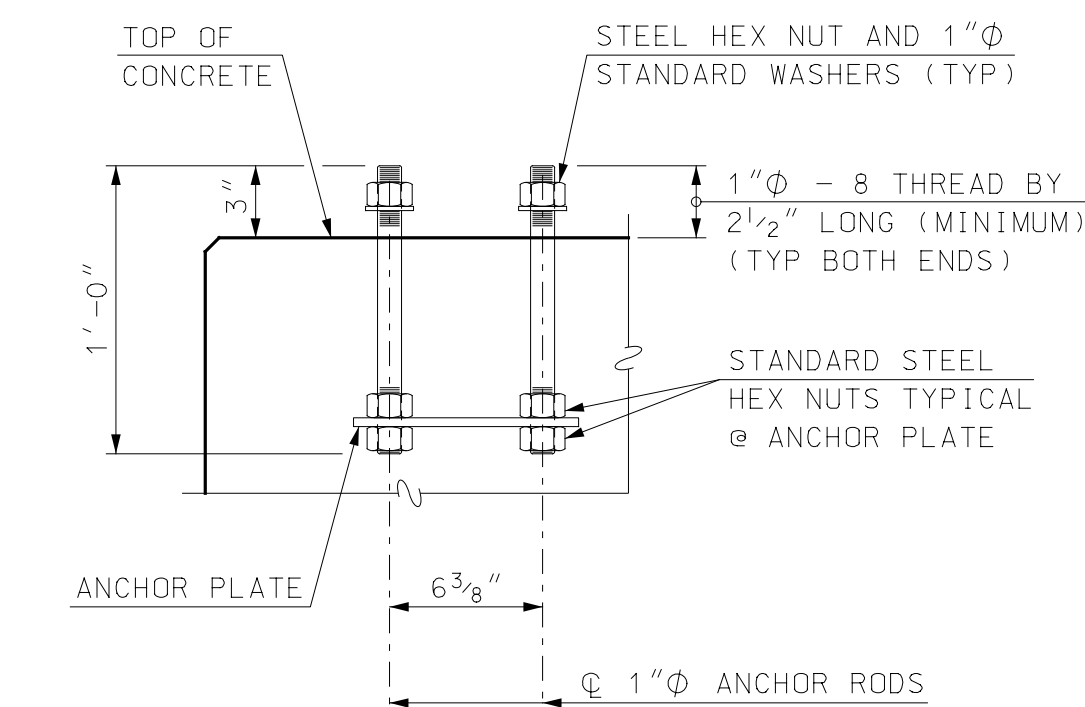


* LIMITS OF CONCRETE REMOVAL FOR SOUTH WINGWALLS ONLY (SUBSIDIARY TO ITEM 563.5266)

CONCRETE REMOVAL DETAIL
SCALE: 1" = 1'-0"



MODIFIED TIMBER RAIL POST INSTALLATION
SCALE: 1" = 1'-0"



POST ANCHOR ASSEMBLY
SCALE: 1 1/2" = 1'-0"

NOTE

1. FOR NOTES THAT APPLY TO THIS SHEET, SEE SHEET 15.

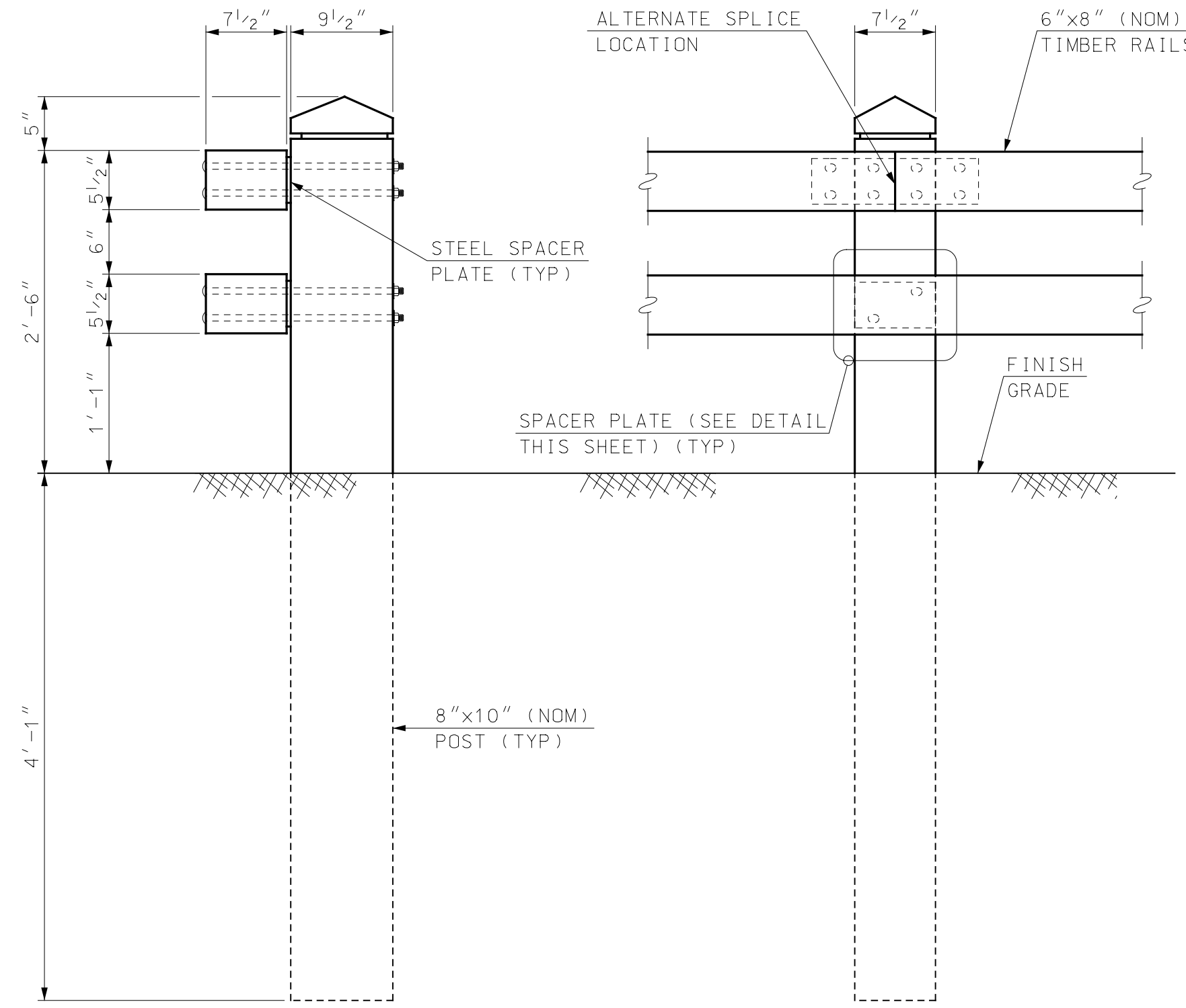
I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.	
HOYLE, TANNER & ASSOCIATES, INC.	
SIGNED	DATE
NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.	
REV	DESCRIPTION
APRIL 2020	
DESIGN BY: JCR	
DRAWN BY: PBD	
CHKD. BY: STJ	
SCALE: AS SHOWN	

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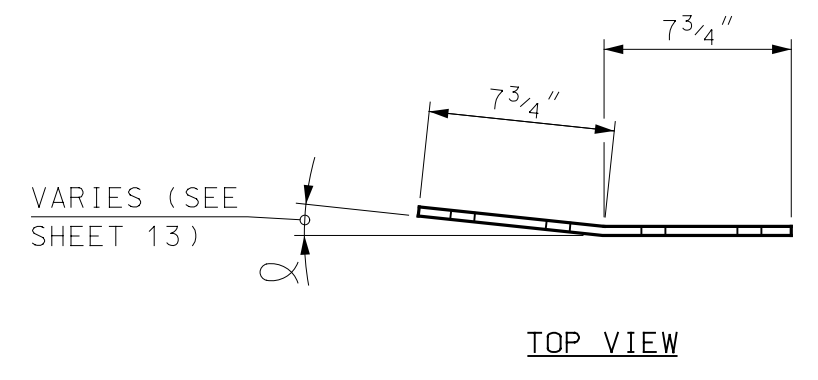
TOWN OF OSSISPEE
 OSSISPEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
 GUARDRAIL DETAILS (1 OF 2)

PROJECT NO.: 915003
 FILE NAME: 915003RailDetails
 MODEL NAME: 915003RailDetails1
 SHEET NO.
14
 SHEET 14 OF 34

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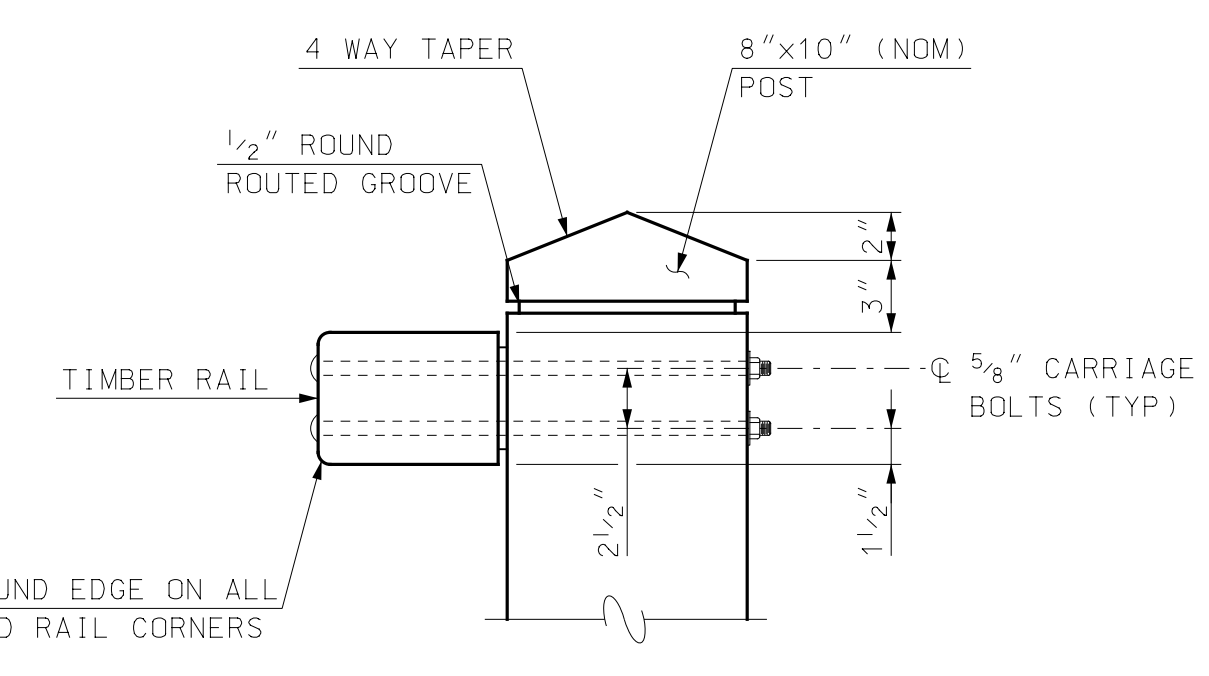


TIMBER APPROACH RAIL
 SCALE: 1" = 1'-0"



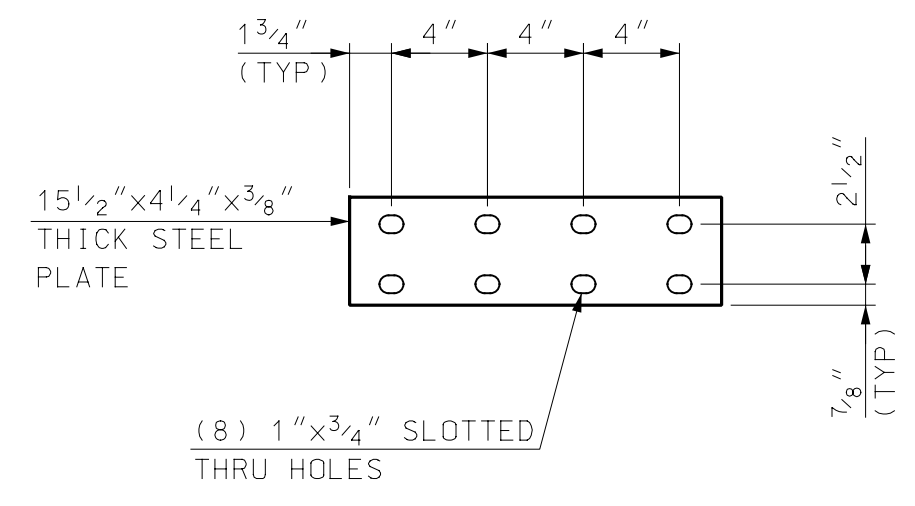
NOTE
 FOR OTHER SPLICE PLATE DIMENSIONS, SEE "SPLICE BACKER PLATE DETAIL", THIS SHEET

BENT SPLICE BACKER PLATE DETAIL
 SCALE: 1 1/2" = 1'-0"

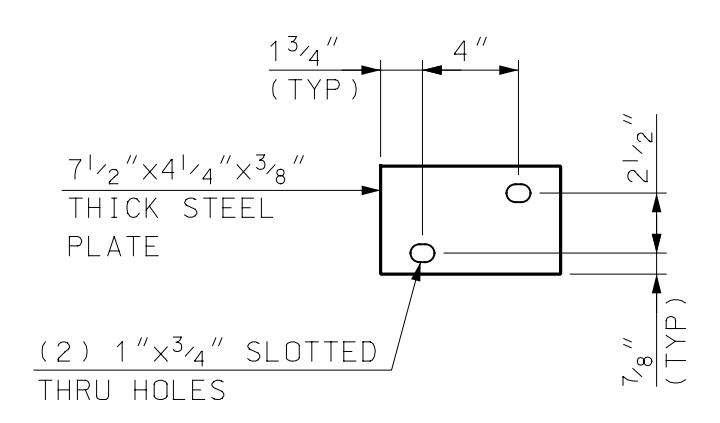


NOTE
 1. GALVANIZED BOLTS SHOWN. SEE NOTE 4 IF STAINLESS STEEL BOLTS ARE TO BE USED.

TIMBER POST DETAIL
 SCALE: 1 1/2" = 1'-0"



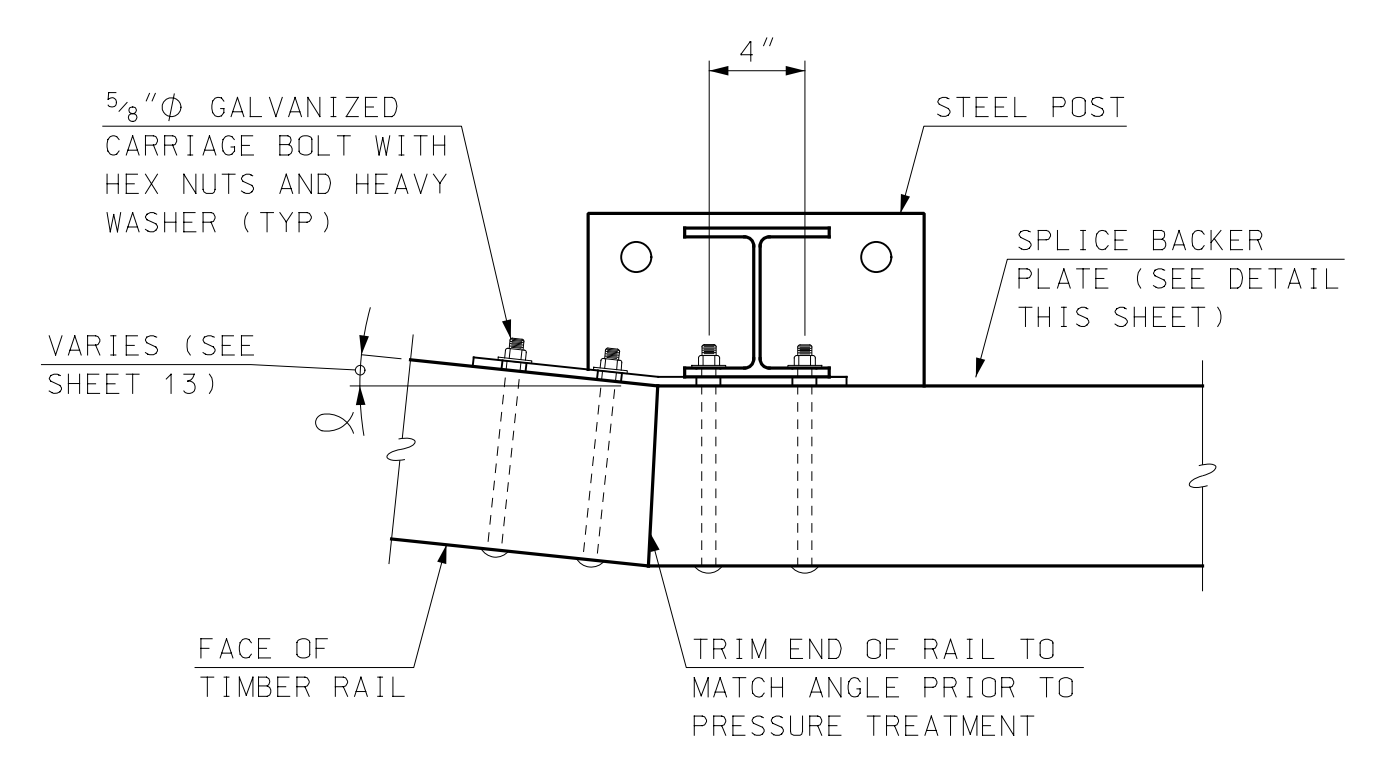
SPLICE BACKER PLATE DETAIL
 SCALE: 1 1/2" = 1'-0"



SPACER PLATE DETAIL
 SCALE: 1 1/2" = 1'-0"

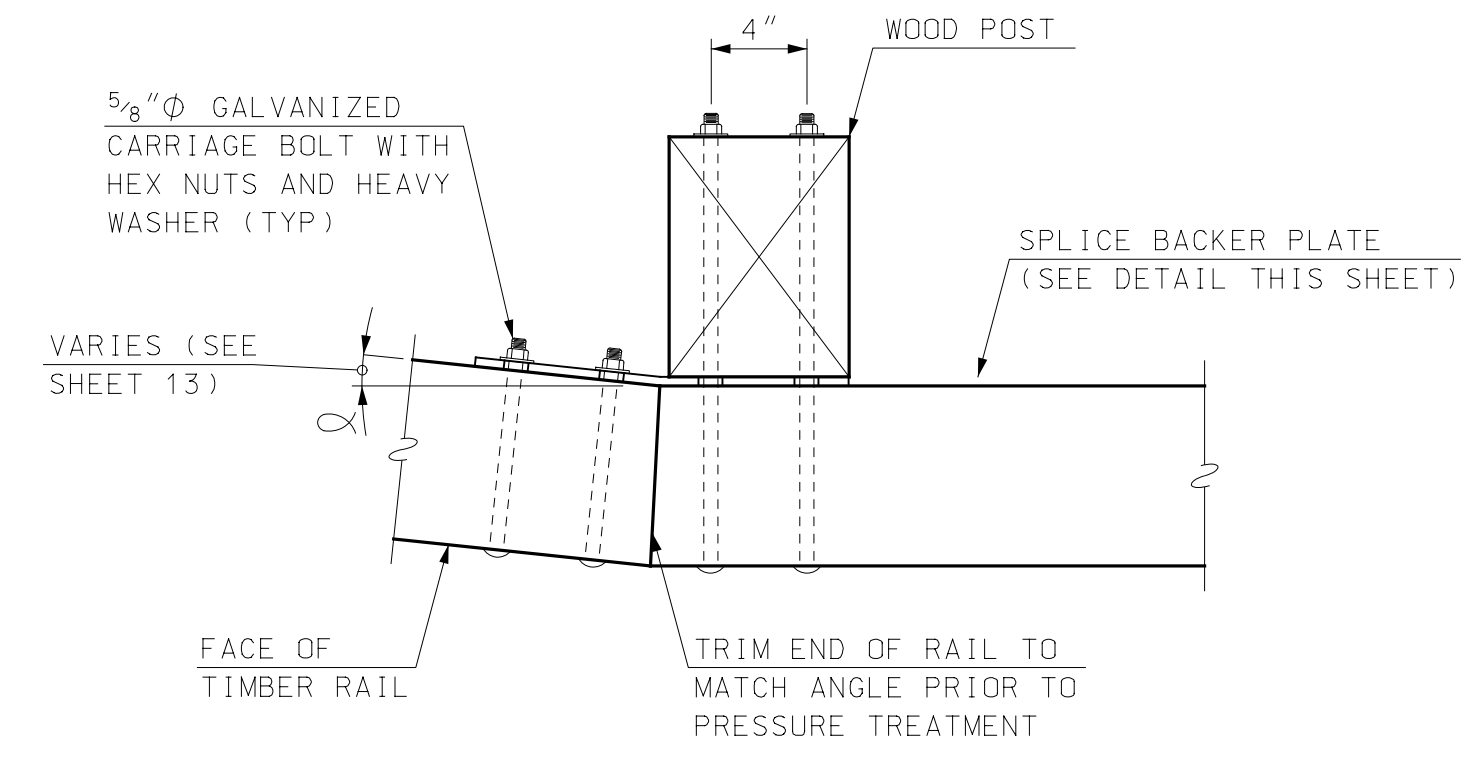
TIMBER RAIL NOTES

- ITEM 563.5266 AND ITEM 606.5266 SHALL INCLUDE POSTS, BASE PLATES, ANCHOR PLATES, SPACER PLATES, SPLICE PLATES, ANCHOR STUDS, PREFORMED PADS, RAIL ASSEMBLY BOLTS, NUTS AND WASHERS, AS APPROPRIATE.
 - ASTM A572 GRADE 50 : POSTS AND BASE PLATES
 - ASTM A36 : ANCHOR PLATES, SPACER PLATES AND SPLICE PLATES
 - A449 : ANCHOR STUDS
 - A307 : RAIL BOLTS
 - ASTM F844 : WASHERS
 - ASTM A563 : NUTS
- ALL STEEL COMPONENTS SHALL BE GALVANIZED AFTER FABRICATION IN CONFORMANCE WITH AASHTO M232 (ASTM A153) AND AASHTO M111 (ASTM A123). GALVANIZED SURFACES SHALL HAVE A UNIFORM APPEARANCE AND GALVANIZED MATERIAL SHALL BE PROPERLY STORED.
- ALL TIMBER RAILS AND POSTS SHALL BE TREATED IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATION SECTION 568 USING A PENTACHLOROPHENOL TYPE C PRESERVATIVE TREATMENT. PRESERVATIVE, PRESSURE TREATMENT PROCESSES, MATERIALS AND MINIMUM NET RETENTION OF PRESERVATIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 133. EXCESSIVE RESIDUAL PRESERVATIVE MATERIAL WILL BE REJECTED. THE CONTRACTOR HAS THE OPTION OF USING A PRESERVATIVE TREATMENT OF ACQ WITH A MINIMUM OF 0.4 PCF NET RETENTION. HOWEVER, IF ACQ IS USED, THEN ALL CONNECTION HARDWARE (INCLUDING BOLTS, NUTS, WASHERS AND PLATES) IN CONTACT WITH TIMBER COMPONENTS SHALL BE STAINLESS STEEL (ASTM A240 TYPE 304) AT NO ADDITIONAL COST TO THE OWNER.
- ALL EXPOSED STEEL SHALL HAVE TWO (2) COATS OF AN APPROVED COAL TAR EPOXY COATING APPLIED. ACCEPTABLE PRODUCTS INCLUDE A-H COAL TAR EPOXY 210 BY ANTI-HYDRO COMPANY, BITUMASTIC 300-M BY CARBOLINE, DURAL 306 BY TAMMS INDUSTRIES OR OTHER EQUIVALENT APPROVED EQUAL COAL TAR EPOXY. ALL COST FOR THIS WORK IS CONSIDERED SUBSIDIARY TO ITEM 563.5266 AND ITEM 606.5266 AS APPROPRIATE.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE TIMBER RAIL SYSTEM. THE SHOP DRAWINGS SHALL INCLUDE A FULL LENGTH ELEVATION VIEW OF THE BRIDGE AND APPROACH RAIL AND LOCATIONS OF RAIL SPLICES, SPLICE PLATES AND SPACER PLATES. THE SHOP DRAWINGS SHALL INDICATE THE THREADED LENGTH OF THE CARRIAGE BOLTS AND SHALL INCLUDE ALL FABRICATION DETAILS AND A BILL OF MATERIAL.
- STRUCTURAL TIMBER POSTS SHALL BE 8"x10" (NOM.) SOUTHERN YELLOW PINE NO. 1 OR BETTER HAVING A MINIMUM ALLOWABLE BENDING STRESS OF 1350 PSI. COST INCLUDED IN ITEM 606.5266.
- STRUCTURAL TIMBER RAILS SHALL BE 6"x8" (NOM.) SOUTHERN YELLOW PINE NO. 1 OR BETTER HAVING A MINIMUM ALLOWABLE BENDING STRESS OF 1350 PSI. COST INCLUDED IN 563.5266 OR 606.5266 AS APPROPRIATE.
- ALL JOB SITE FABRICATION CUTS AND BORINGS OF WOOD TO BE TREATED SHALL HAVE TWO COATS OF COPPER NAPHTHENATE SOLUTION LIBERALLY APPLIED. THE FIELD TREATMENT APPLICATIONS OF PRESERVATIVE SPECIFIED SHALL BE IN ACCORDANCE WITH AWP STANDARD M4.
- RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF TWO (2) POSTS, UNLESS OTHERWISE NOTED/DETAILED.
- HOLES IN BASE PLATES SHALL BE FILLED FLUSH WITH ELASTOMERIC SEALANT AFTER RAIL INSTALLATION. (SUBSIDIARY TO 563.5266).
- PREFORMED BEARING PADS SHALL CONFORM TO AASHTO M251. (SUBSIDIARY TO 563.5266).
- NUTS FOR THREADED ANCHOR STUDS CONNECTING THE BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
- ALL WOOD CONSTRUCTION SHALL COMPLY WITH THE LATEST AASHTO SPECIFICATIONS, THE NATIONAL DESIGN SPECIFICATION (NDS) AND SUPPLEMENT FOR WOOD CONSTRUCTION, AND THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) SPECIFICATIONS.
- EACH PIECE OF WOOD OR TIMBER SHALL BE GRADED, BY A RECOGNIZED LUMBER GRADING AGENCY. A CERTIFICATE OF COMPLIANCE SHALL BE SUBMITTED FOR ALL WOOD.



NOTE
 1. GALVANIZED BOLTS SHOWN. SEE NOTE 4 IF STAINLESS STEEL BOLTS ARE TO BE USED.

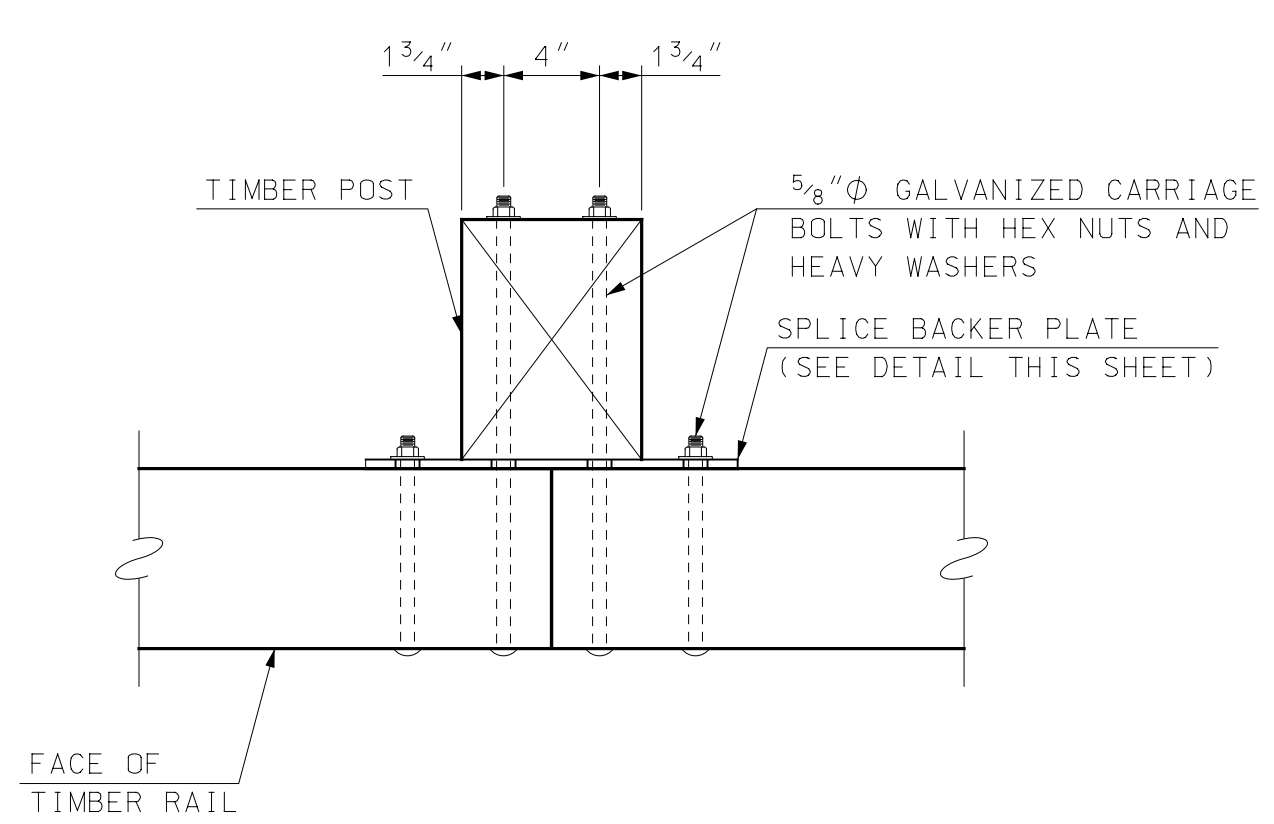
STEEL POST



NOTE
 1. GALVANIZED BOLTS SHOWN. SEE NOTE 4 IF STAINLESS STEEL BOLTS ARE TO BE USED.

WOOD POST

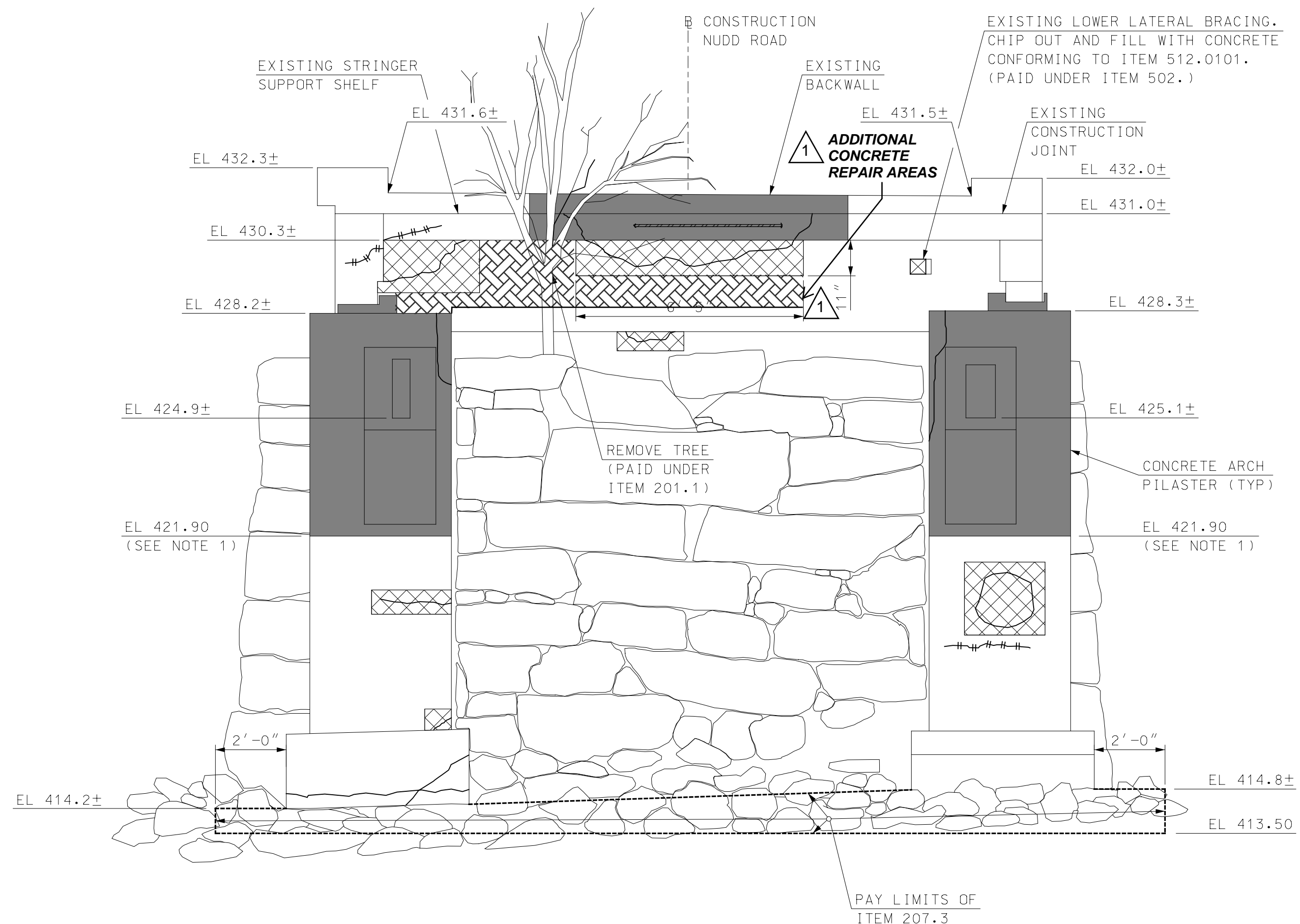
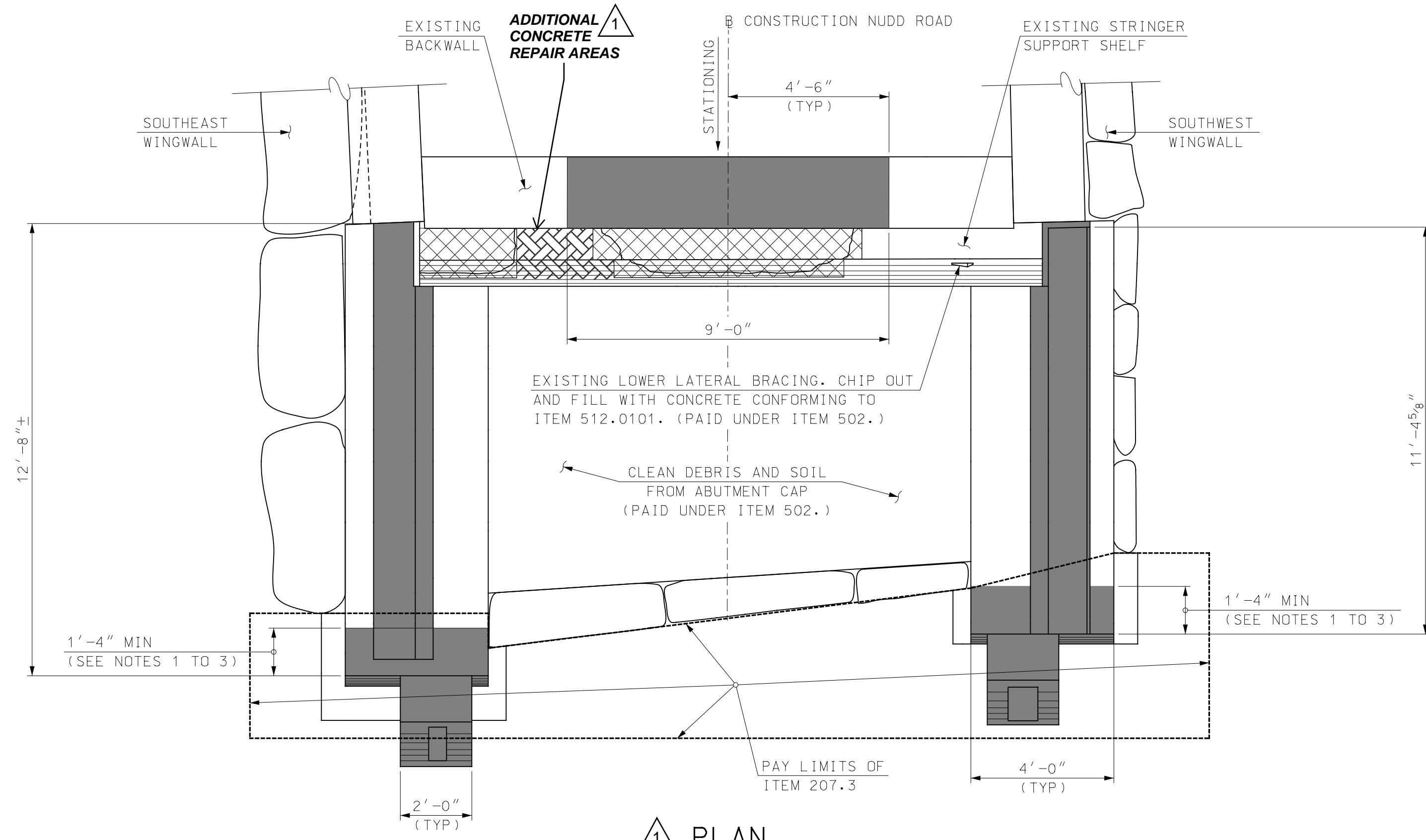
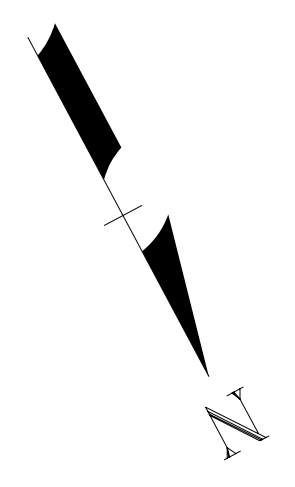
BENT SPLICE CONNECTION
 SCALE: 1 1/2" = 1'-0"



NOTES
 1. GALVANIZED BOLTS SHOWN. SEE NOTE 4 IF STAINLESS STEEL BOLTS ARE TO BE USED.
 2. TIMBER POSTS SHOWN. STEEL POSTS ARE SIMILAR.

TYPICAL SPLICE CONNECTION
 SCALE: 1 1/2" = 1'-0"

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NOTES

- CONSTRUCTION JOINTS AT REMOVAL LIMITS IN THE EXISTING CONCRETE ARCH PILASTERS SHALL BE SAWCUT FOR THE FULL WIDTH OF THE PILASTER.
- CONTRACTOR SHALL USE EXTREME CAUTION DURING REMOVAL OF THE EXISTING ARCH PILASTERS. USE OF CHIPPING HAMMERS HEAVIER THAN 15 POUND CLASS ARE NOT PERMITTED FOR REMOVAL OF THE FINAL 6" OF CONCRETE CAST AGAINST THE EXISTING STONE MASONRY.
- FOR BIDDING PURPOSES THE CONTRACTOR SHALL ASSUME REMOVAL OF 6" OF EXISTING CONCRETE INFILL PAST THE FACE OF THE EXISTING STONE MASONRY FOR ADEQUATE INTERLOCK BETWEEN THE PROPOSED CONCRETE AND EXISTING STONE. EXACT REMOVAL LIMITS PAST THE FACE OF EXISTING STONE MASONRY SHALL BE JOINTLY DETERMINED IN THE FIELD BETWEEN THE CONTRACTOR AND THE ENGINEER.
- ANY EXISTING STONE MASONRY DAMAGED DURING THE REMOVAL OF THE EXISTING CONCRETE ARCH PILASTERS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE TOWN. FOR THE PURPOSES OF THIS WORK, DAMAGED SHALL BE DEFINED AS: SPLITS, BREAKS, DISPLACEMENT OR PULVERIZATION OF EXISTING STONES. CONSIDERED REPAIRS INCLUDE, BUT ARE NOT LIMITED TO, COMPLETE STONE REPLACEMENT, REPLACEMENT WITH CONCRETE INFILL OR REPLACEMENT WITH SMALLER IRREGULAR STONES (CHINKING). CONTRACTOR SHALL BE AWARE THAT REMOVAL AND REPLACEMENT OF EXISTING CONCRETE MAY BE REQUIRED FOR DAMAGED STONE REPAIRS.
- REMOVAL ALL SHRUBS, TREES, VINES AND STUMPS ON AND WITHIN 5' HORIZONTALLY OF THE ABUTMENT AND WINGWALLS. PAID FOR UNDER ITEM 201.1, CLEARING AND GRUBBING (F).

LEGEND

- DENOTES APPROXIMATE LIMITS OF DETERIORATED CONCRETE
- DENOTES APPROXIMATE REPAIR LIMITS OF DETERIORATED CONCRETE (ITEMS 512.0101 OR 512.0201) (SEE DETAILS ON SHEET 24)
- DENOTES APPROXIMATE LIMITS OF CONCRETE REMOVAL (ITEM 502.)
- ROUTE AND SEAL CRACK. SUBSIDIARY TO ITEMS 512.0101 AND 512.0201 (SEE DETAIL ON SHEET 24)

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
HOYLE, TANNER & ASSOCIATES, INC.
SIGNED: [Signature]
FEBRUARY 2023

NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

REV	DESCRIPTION	DATE	CHKD BY	DATE
1	RECORD COPY REVISIONS	2/2023	KVD	STJ

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www.hoyletanner.com

TOWN OF OSS�PEE
OSS�PEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
ABUTMENT A EXISTING MASONRY

PROJECT NO.: 915003
FILE NAME: 915003A-Abut
MODEL NAME: 915003A-Abut1

SHEET NO.
16
SHEET 16 OF 34

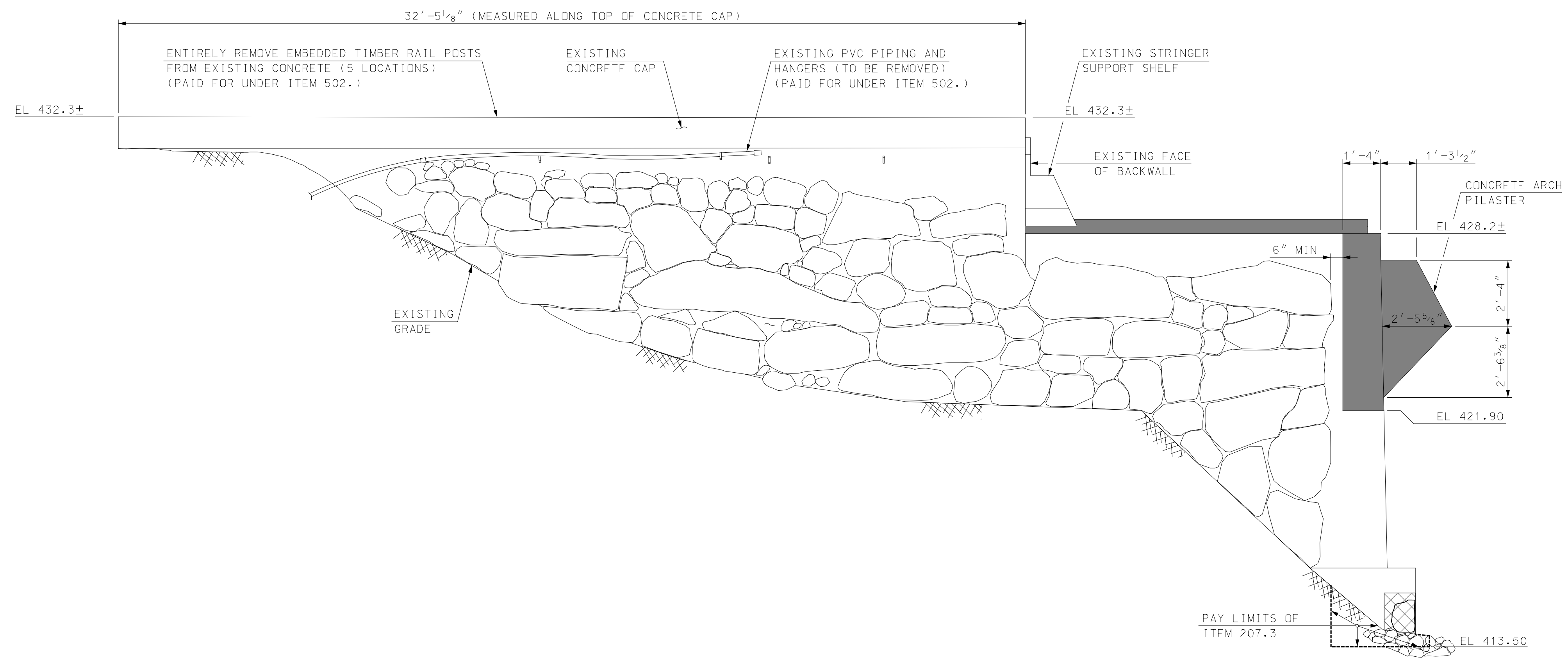
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HOYLE, TANNER & ASSOCIATES, INC.
 SIGNED: *[Signature]*
 FEBRUARY 2023

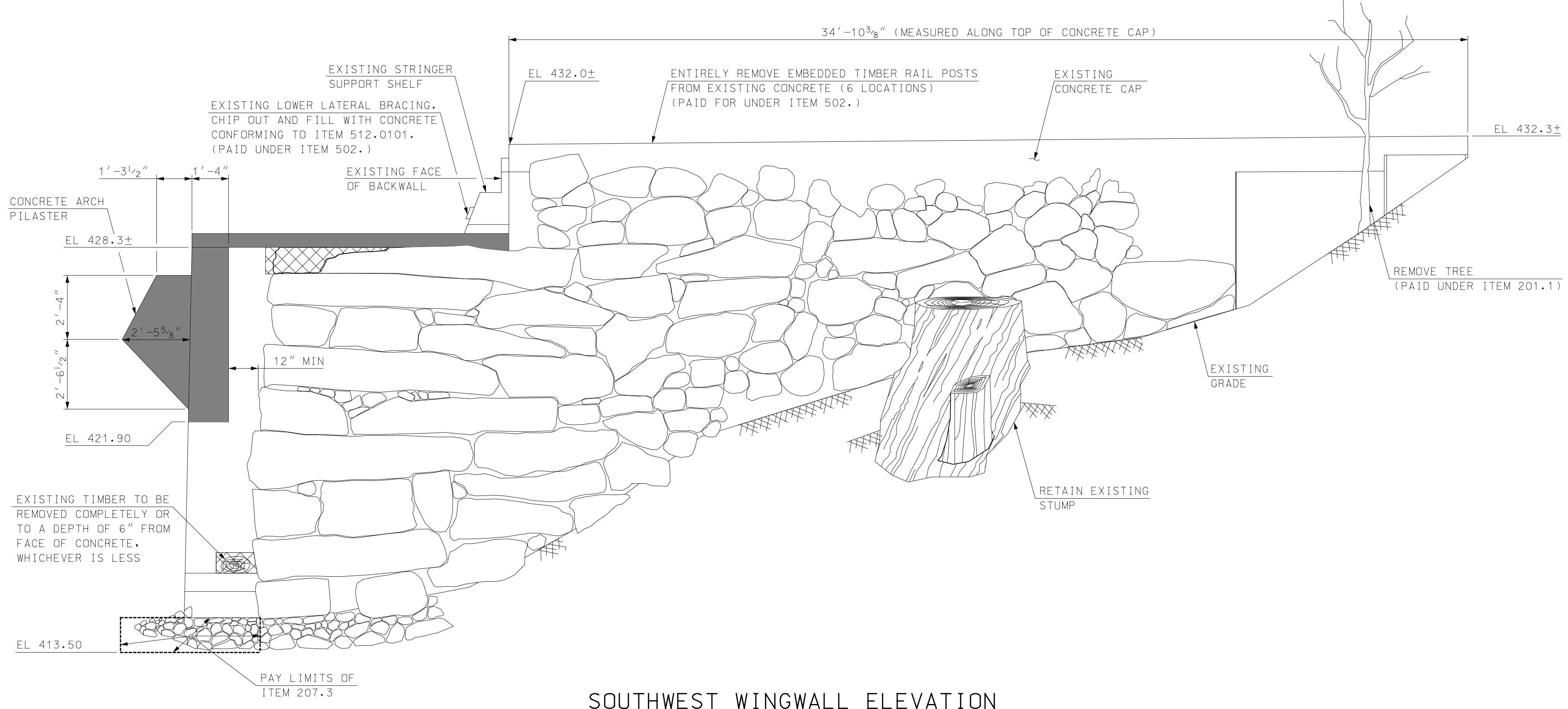
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SOUTHEAST WINGWALL ELEVATION
 SCALE: 3/8" = 1'-0"



SOUTHWEST WINGWALL ELEVATION
 SCALE: 3/8" = 1'-0"

LEGEND

- DENOTES APPROXIMATE LIMITS OF DETERIORATED CONCRETE
- DENOTES APPROXIMATE REPAIR LIMITS OF DETERIORATED CONCRETE (ITEMS 512.0101 OR 512.0201) (SEE DETAILS ON SHEET 24)
- DENOTES APPROXIMATE LIMITS OF CONCRETE REMOVAL (ITEM 502.)
- ROUTE AND SEAL CRACK, SUBSIDIARY TO ITEMS 512.0101 AND 512.0201 (SEE DETAIL ON SHEET 24)

NOTES

1. SEE SHEET 16 FOR NOTES THAT APPLY TO THIS SHEET.

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TOWN OF OSSISPEE
 OSSISPEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
 SE AND SW WINGWALL EXISTING MASONRY

PROJECT NO.:	915003
FILE NAME:	915003A-Wings
MODEL NAME:	915003A-Wing1

4/22/2020 9:49:08 AM K:\91500302-CADD\BRC\Aur\A915003A-Wings.dgn

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.

HOYLE, TANNER & ASSOCIATES, INC.

SIGNED: *[Signature]*
FEBRUARY 2023

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APRIL 2020
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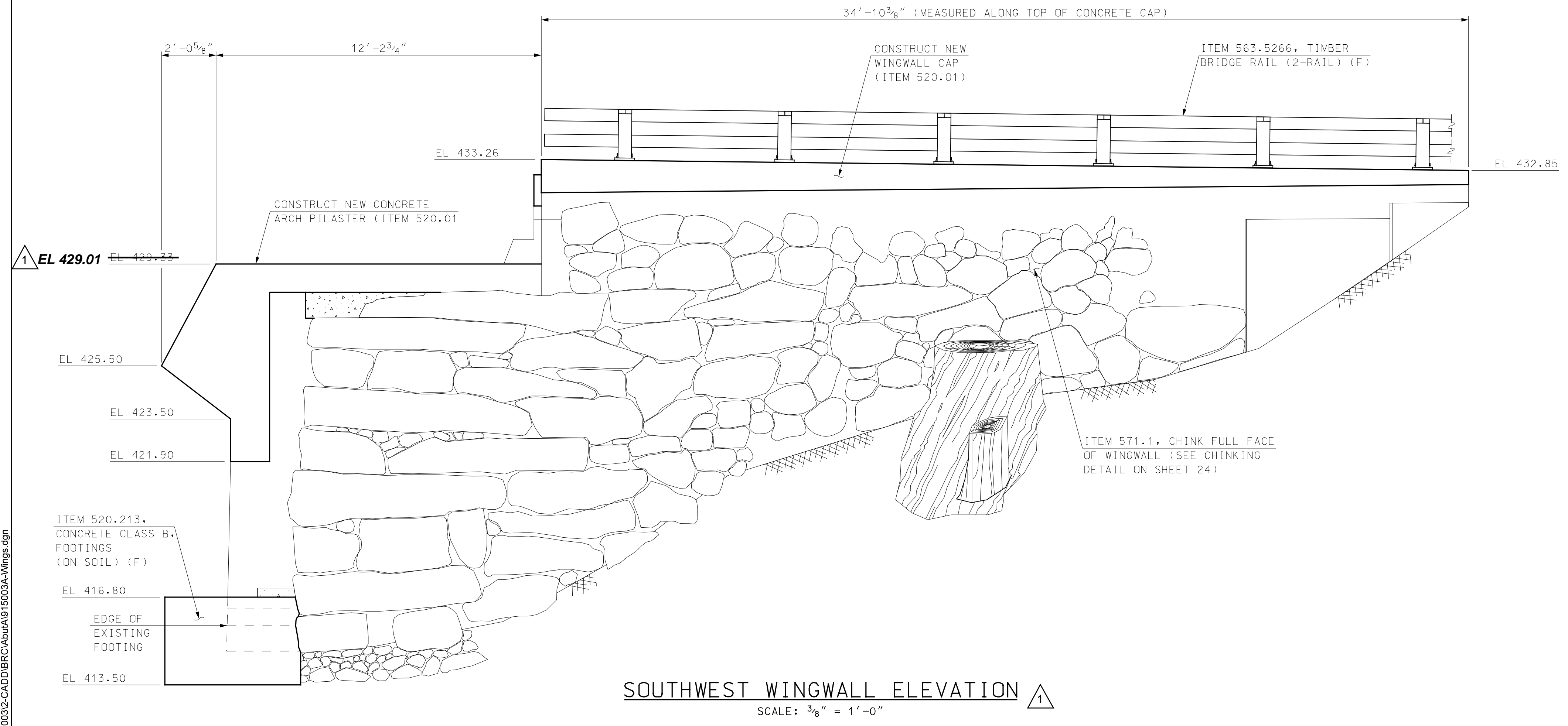
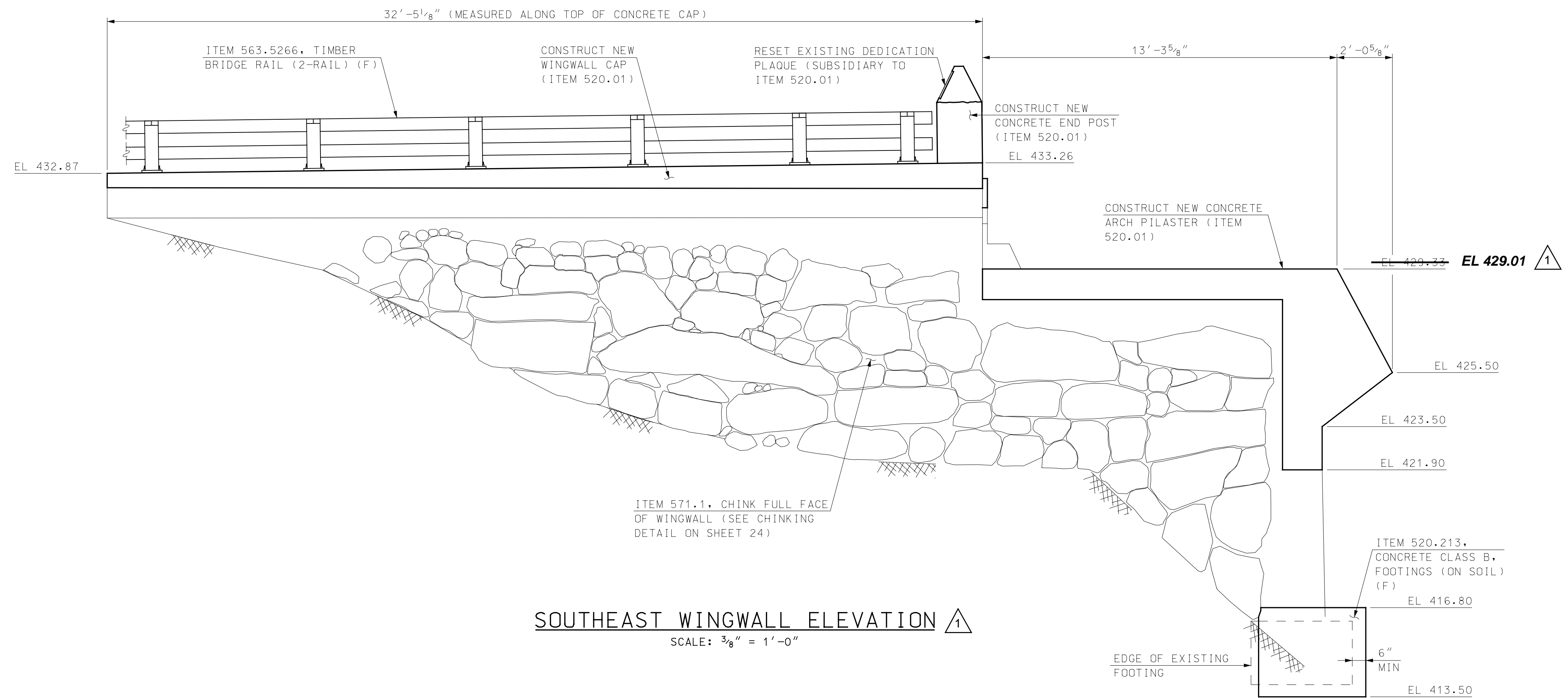
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TOWN OF OSS�PEE
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WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
SE AND SW WINGWALL MODIFICATIONS

PROJECT NO.: 915003
FILE NAME: 915003A-Wings
MODEL NAME: 915003A-Wing2

SHEET NO.
19
SHEET 19 OF 34



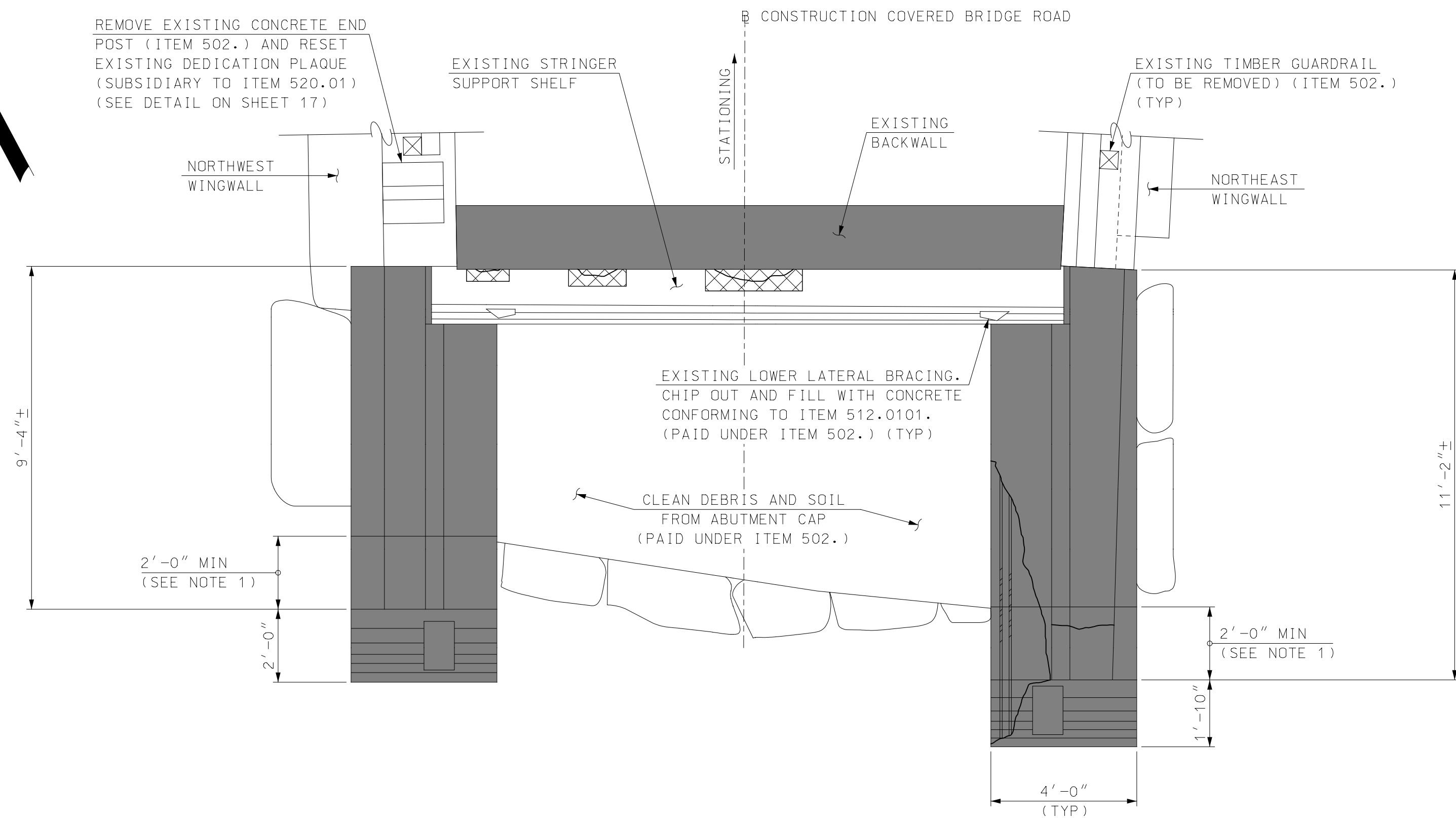
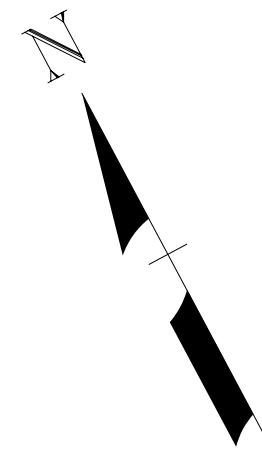
LEGEND

- DENOTES LIMITS OF REPAIRED CONCRETE (SEE DETAILS ON SHEET 24)
- ROUTE AND SEAL CRACK, SUBSIDIARY TO ITEMS 512.0101 AND 512.0201 (SEE DETAIL ON SHEET 24)

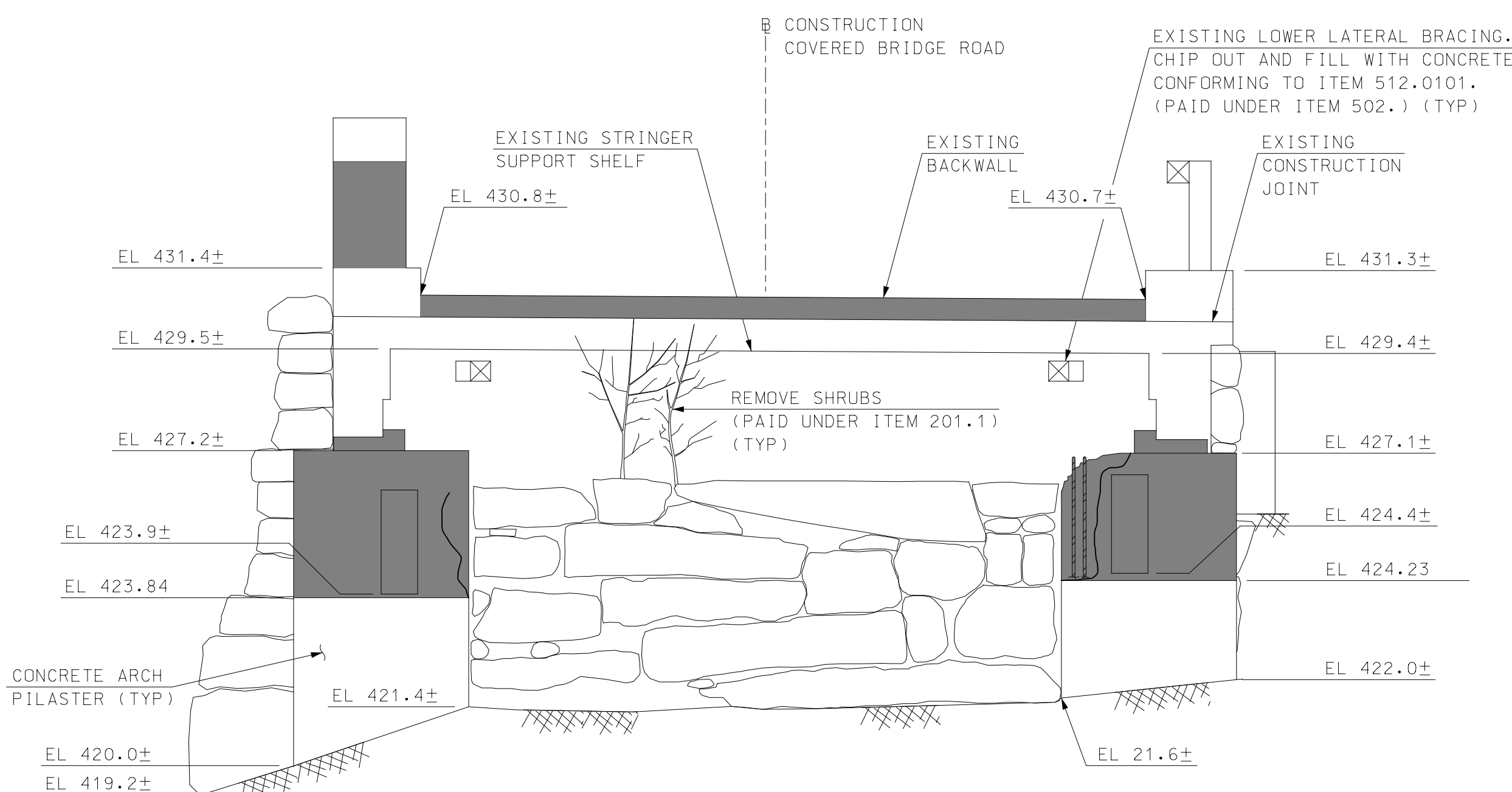
NOTES

- SEE SHEET 17 FOR NOTES THAT APPLY TO THIS SHEET.

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



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

LEGEND

- DENOTES APPROXIMATE LIMITS OF DETERIORATED CONCRETE
- DENOTES APPROXIMATE REPAIR LIMITS OF DETERIORATED CONCRETE (ITEMS 512.0101 OR 512.0201) (SEE DETAILS ON SHEET 24)
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NOTES

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HOYLE, TANNER & ASSOCIATES, INC.
SIGNED: *[Signature]*
FEBRUARY 2023

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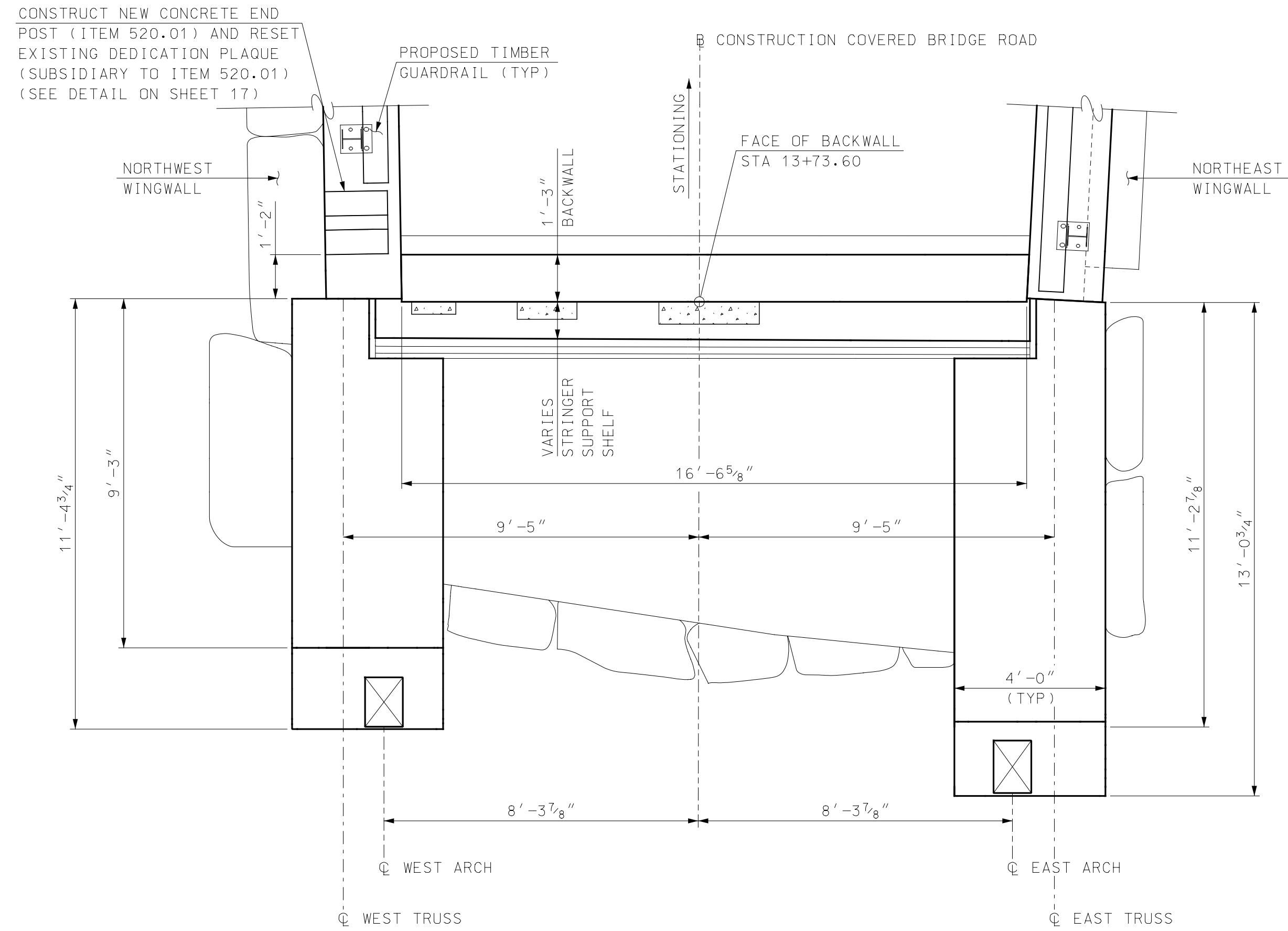
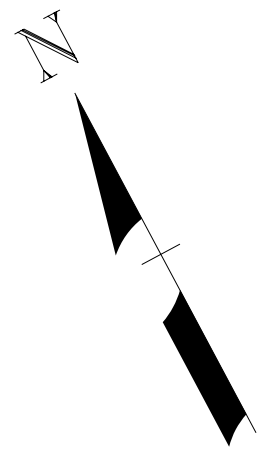
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TOWN OF OSSISPEE
OSSISPEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
ABUTMENT B EXISTING MASONRY

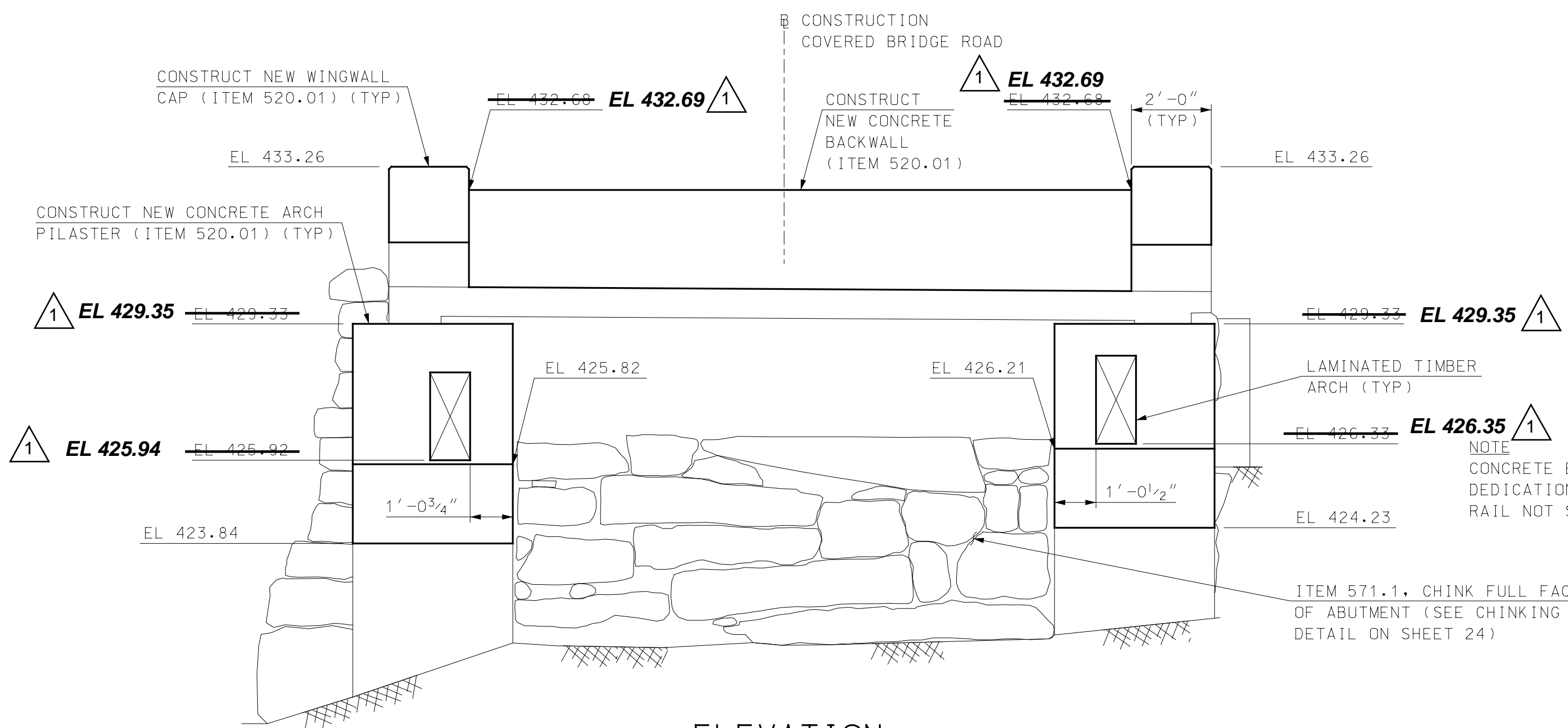
PROJECT NO.: 915003
FILE NAME: 915003B-Abut
MODEL NAME: 915003B-Abut1

SHEET NO.
20
SHEET 20 OF 34

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



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

LEGEND

- DENOTES LIMITS OF REPAIRED CONCRETE (SEE DETAILS ON SHEET 24)
- ROUTE AND SEAL CRACK, SUBSIDIARY TO ITEMS 512.0101 AND 512.0201 (SEE DETAIL ON SHEET 24)

NOTES

1. APPLY ITEM 535.1, CONCRETE STAINING AND SEALING TO ALL EXPOSED NEW AND EXISTING CONCRETE SURFACES OF ABUTMENTS AND WINGWALLS TO THE FILL LINE. ALL SURFACE PREPARATION AS REQUIRED BY THE MANUFACTURER SHALL BE SUBSIDIARY TO ITEM 535.1. SEE SPECIFICATIONS FOR MORE INFORMATION.

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
HOYLE, TANNER & ASSOCIATES, INC.
SIGNED: [Signature]
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CHKD. BY:	PBD			

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TOWN OF OSSISPEE
OSSISPEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
ABUTMENT B MODIFICATIONS

PROJECT NO.: 915003
FILE NAME: 915003B-Abut

MODEL NAME: 915003B-Abut2
SHEET NO.
21
SHEET 21 OF 34

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.

HOYLE, TANNER & ASSOCIATES, INC.

SIGNED: *[Signature]*
FEBRUARY 2023

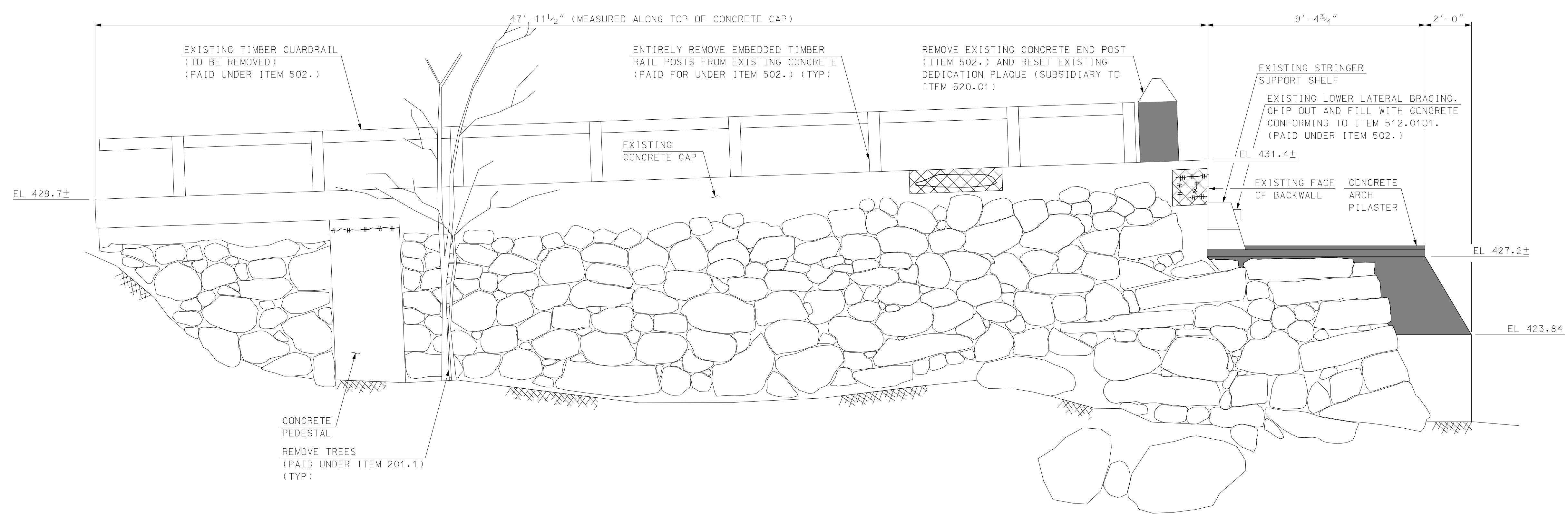
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1	RECORD COPY REVISIONS	2/2023	KVD	AS SHOWN
APRIL 2020	DESIGN BY: JCR			
	DRAWN BY: PBD			
	CHKD. BY: STJ			

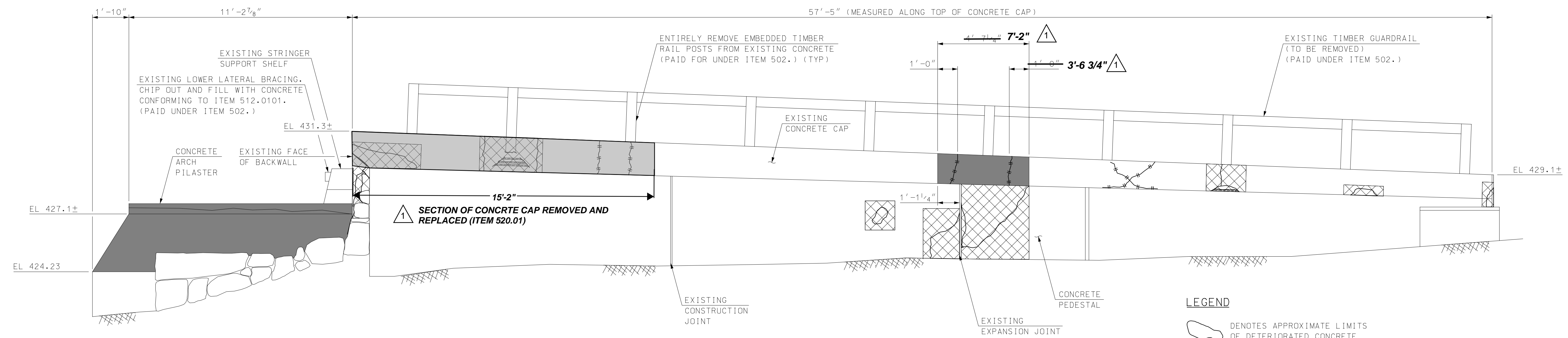
Hoyle, Tanner & Associates, Inc.
150 Dow Street, Manchester, NH 03101-1227
Tel (603) 669-5655 - Fax (603) 669-4168
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TOWN OF OSSISPEE
OSSISPEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
NE AND NW WINGWALL EXISTING MASONRY

PROJECT NO.: 915003
FILE NAME: 915003B-Wings
MODEL NAME: 915003B-Wing1
SHEET NO.
22
SHEET 22 OF 34



NORTHWEST WINGWALL ELEVATION
SCALE: 3/8" = 1'-0"



NORTHEAST WINGWALL ELEVATION
SCALE: 3/8" = 1'-0"

LEGEND

- DENOTES APPROXIMATE LIMITS OF DETERIORATED CONCRETE
- DENOTES APPROXIMATE REPAIR LIMITS OF DETERIORATED CONCRETE (ITEMS 512.0101 OR 512.0201) (SEE DETAILS ON SHEET 24)
- DENOTES APPROXIMATE LIMITS OF CONCRETE REMOVAL (ITEM 502.)
- ROUTE AND SEAL CRACK. SUBSIDIARY TO ITEMS 511.0101 AND 512.0201 (SEE DETAIL ON SHEET 24)

NOTES

1. SEE SHEET 16 FOR NOTES THAT APPLY TO THIS SHEET.

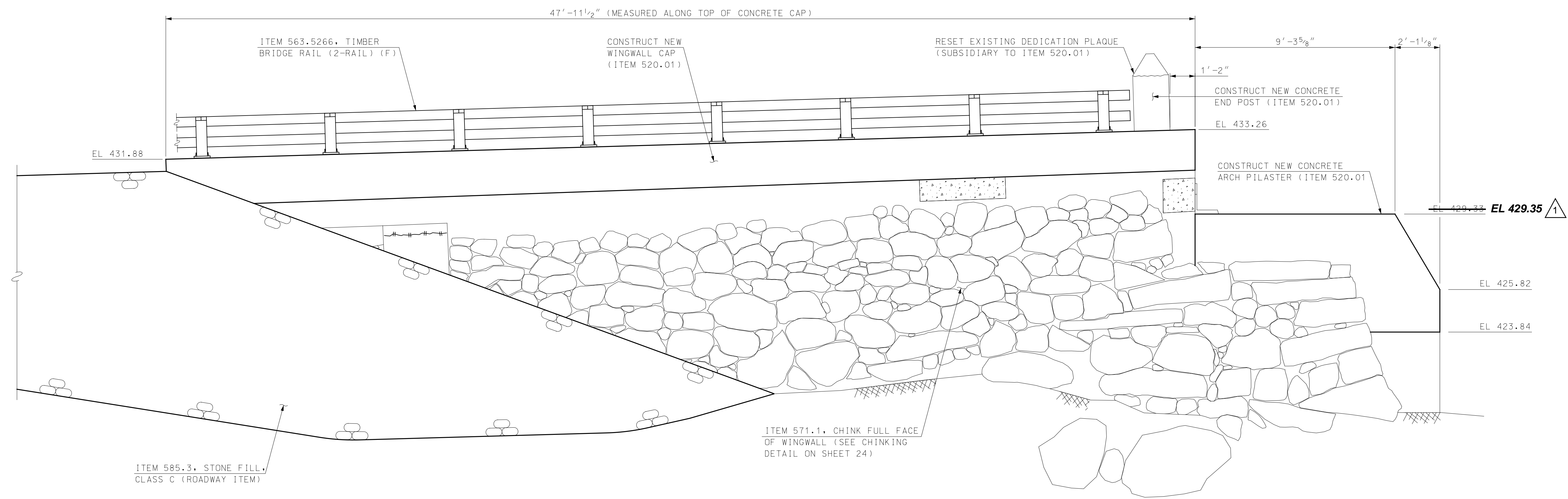
4/22/2020 9:49:16 AM K:\915003\2-CADD\BRC\A\ut\915003B-Wings.dgn

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
 HOYLE, TANNER & ASSOCIATES, INC.
 SIGNED: [Signature]
 FEBRUARY 2023
 NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

REV	DESCRIPTION	DATE	CHKD BY	DATE
1	RECORD COPY REVISIONS	2/2023	KVD	STJ

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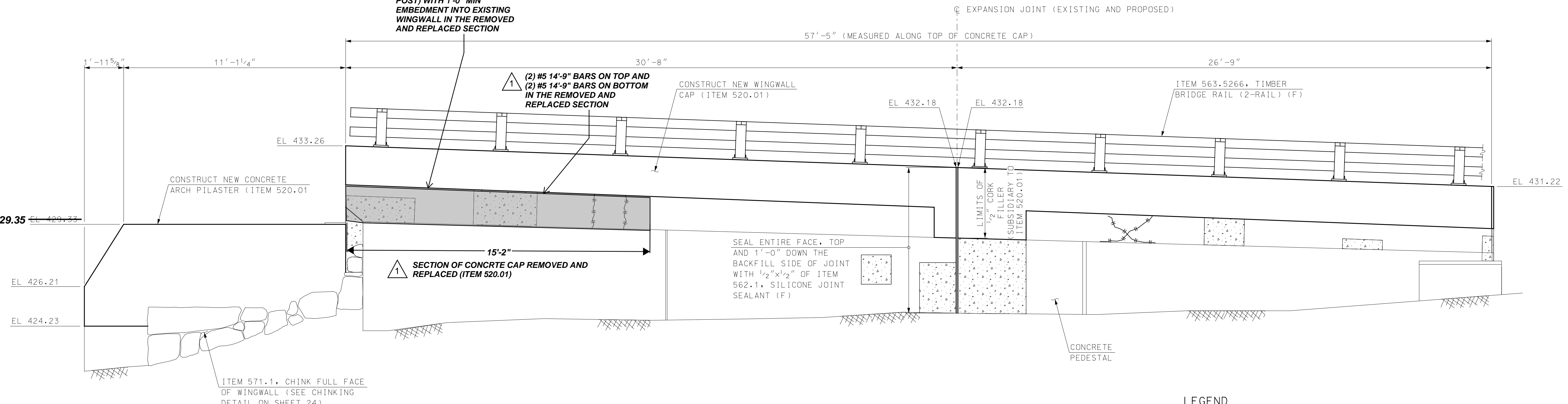


NORTHWEST WINGWALL ELEVATION

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

1 #5 BENT BARS AT 12" O.C. (PLUS 3 ADDITIONAL AT EACH RAIL POST) WITH 1'-0" MIN EMBEDMENT INTO EXISTING WINGWALL IN THE REMOVED AND REPLACED SECTION

1 (2) #5 14'-9" BARS ON TOP AND (2) #5 14'-9" BARS ON BOTTOM IN THE REMOVED AND REPLACED SECTION



NORTHEAST WINGWALL ELEVATION

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

LEGEND

- △ DENOTES LIMITS OF REPAIRED CONCRETE (SEE DETAILS ON SHEET 24)
- ROUTE AND SEAL CRACK, SUBSIDIARY TO ITEMS 512.0101 AND 512.0201 (SEE DETAIL ON SHEET 24)

NOTES

1. SEE SHEET 21 FOR NOTES THAT APPLY TO THIS SHEET.

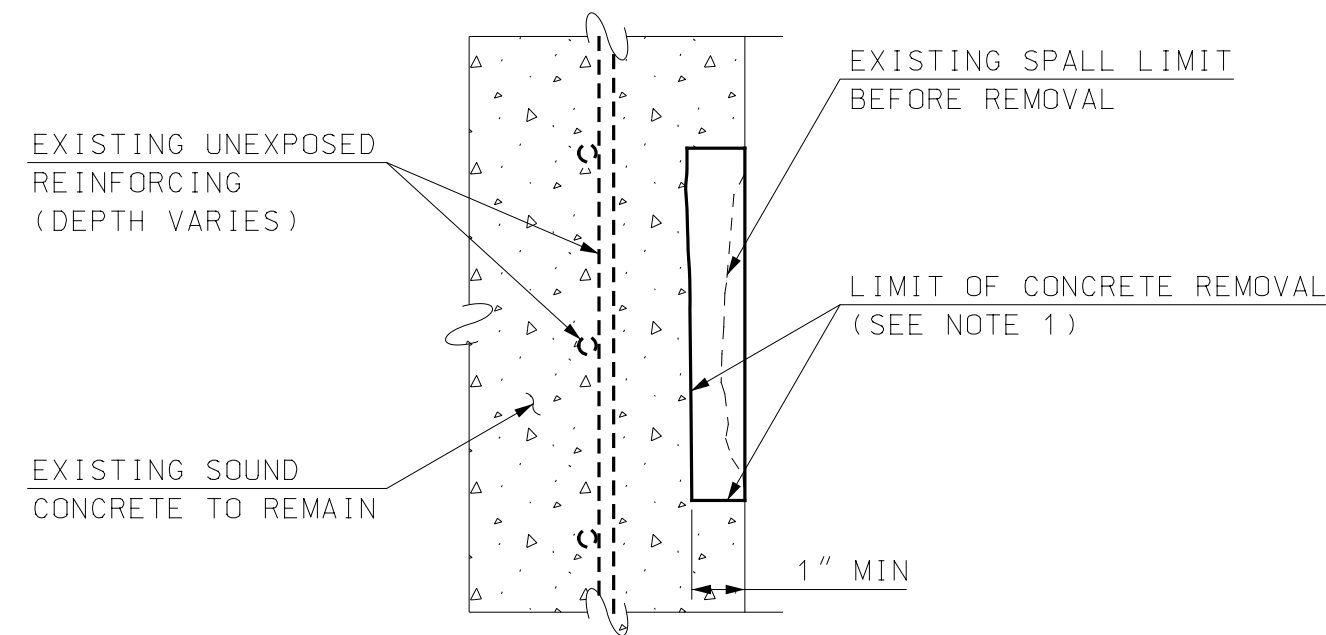
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TOWN OF OSSISPEE
 OSSISPEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
 NE AND NW WINGWALL MODIFICATIONS

PROJECT NO.: 915003
 FILE NAME: 915003B-Wings
 MODEL NAME: 915003B-Wing2

SHEET NO.
23
 SHEET 23 OF 34

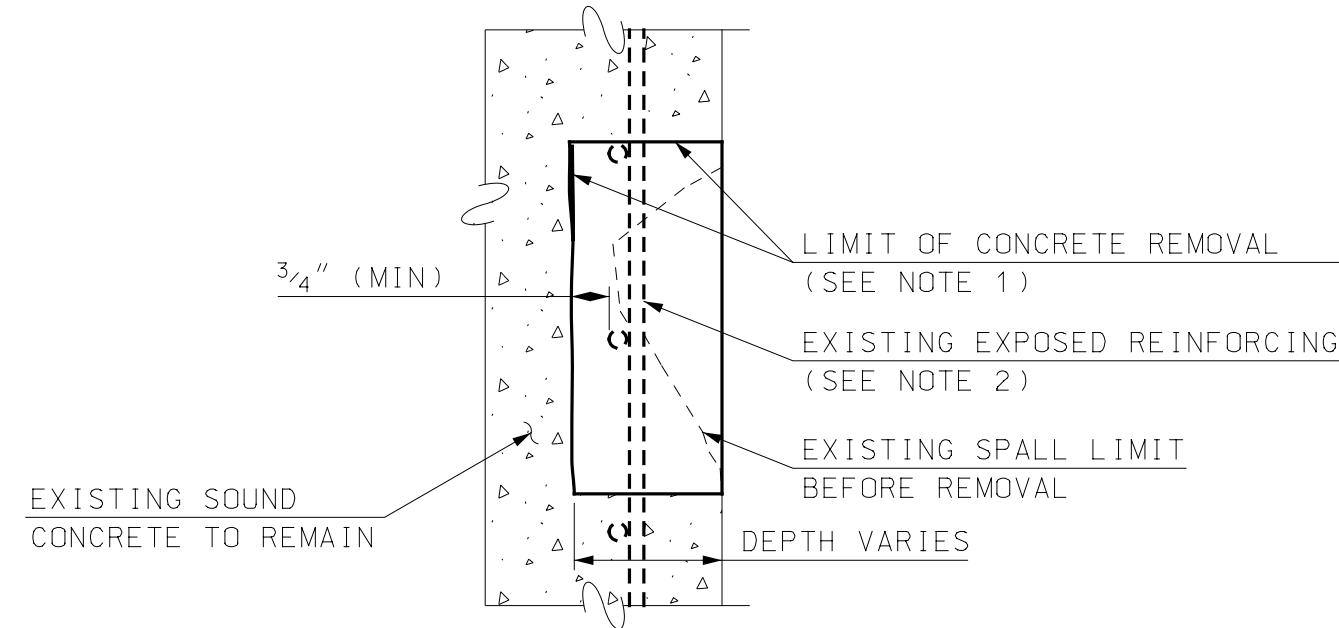
4/22/2020 9:49:17 AM K:\915003\2-CADD\BRC\A\utb\915003B-Wings.dgn



NOTES

1. PREPARE SPALLED AREA BY REMOVAL OF ALL DETERIORATED CONCRETE TO A MINIMUM DEPTH OF 1" OR AS SHOWN ON ELEVATION VIEW BY SQUARE CUTTING REPAIR AREA. FEATHERED REMOVAL EDGES WILL NOT BE PERMITTED. MINIMUM REPAIR AREA SHALL BE 1'x1'.
2. USE OF CHIPPING HAMMERS HEAVIER THAN NOMINAL 15 POUND CLASS ARE NOT PERMITTED.
3. AFTER CONCRETE REMOVAL, THE REPAIR SURFACE SHALL BE THOROUGHLY CLEANED OF INJURIOUS RUST, CONCRETE, DIRT, GREASE, OR ANY OTHER BOND-INHIBITING MATERIALS.
4. COAT ALL REPAIR SURFACES WITH AN APPROVED BONDING AGENT OR GROUT SCRUB COAT PRIOR TO PLACING REPAIR MATERIAL.
5. PATCH REPAIR AREA WITH AN APPROVED REPAIR MATERIAL. THE CONCRETE REPAIR MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES.
6. REPAIR MATERIAL SHALL BE A FAST-SETTING CEMENT REPAIR MORTAR LISTED BELOW OR AN APPROVED EQUAL WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI IN 28 DAYS:
 - SIKA CORPORATION PRODUCT: SIKATOP 123 PLUS
 - EUCLID CHEMICAL PRODUCT: EUCLID DURAL TOP GEL
 - MASTER BUILDING TECHNOLOGIES PRODUCT: MASTER EMACO W 1501 HCR
7. APPLY A PENETRATING, CORROSION-INHIBITING IMPREGNATION COATING. SIKA FERROGARD 903, CORTEC CORPORATION MCI-2020, GRACE CONSTRUCTION PRODUCTS POSTRITE OR APPROVED EQUAL FOR A DISTANCE OF 3' BEYOND THE EDGE OF THE CONCRETE REPAIR 7 DAYS AFTER APPLYING REPAIR MATERIAL.
8. ALL COSTS FOR WORK DESCRIBED ABOVE IS PAID UNDER ITEM 512.0101, PREPARATION FOR CONCRETE REPAIRS, CLASS I. SEE SPECIAL PROVISIONS.

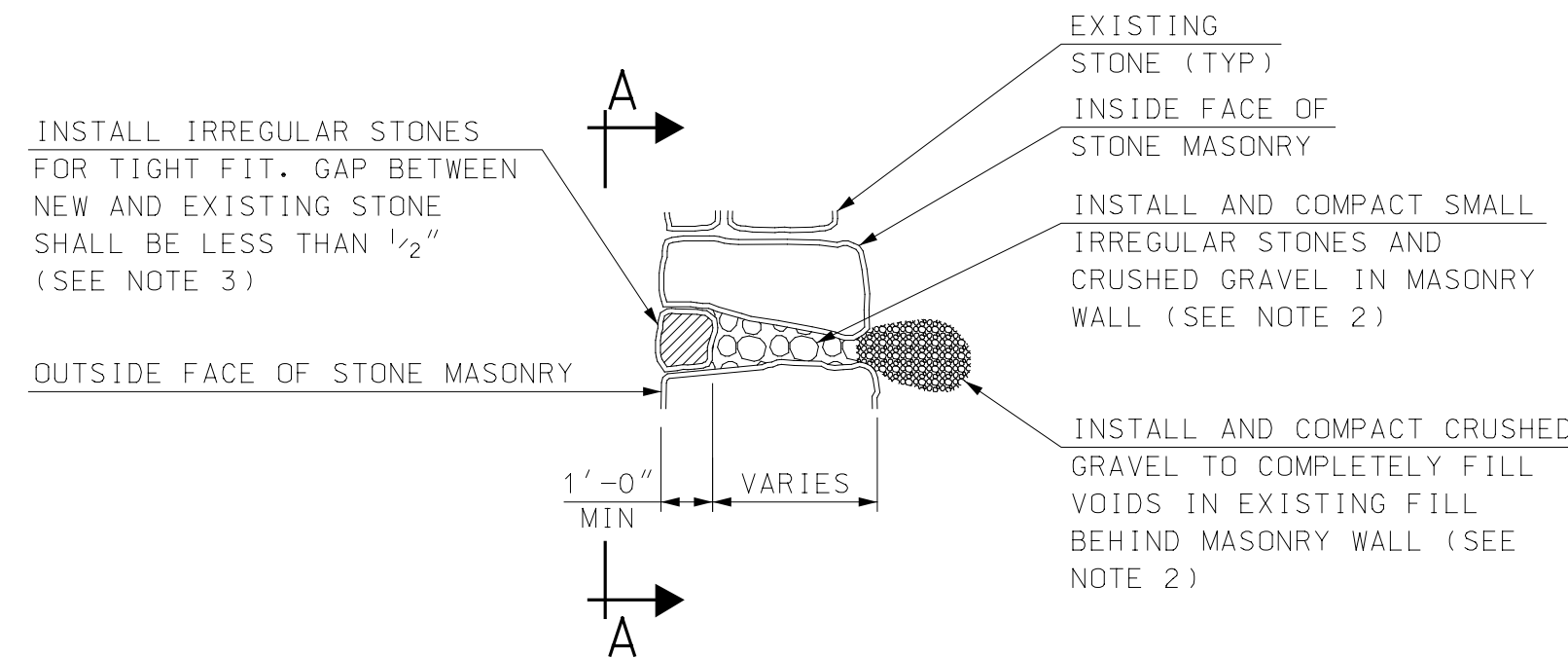
TYPE I CONCRETE REPAIR DETAIL
NOT TO SCALE



NOTES

1. PREPARE SPALLED AREA BY REMOVAL OF ALL DETERIORATED CONCRETE TO A MINIMUM DEPTH OF 3/4" BEHIND THE REAR FACE OF THE FIRST MAT OF REINFORCING STEEL AND TO SOUND CONCRETE BY SQUARE CUTTING REPAIR AREA.
2. USE OF CHIPPING HAMMERS HEAVIER THAN NOMINAL 15 POUND CLASS ARE NOT PERMITTED.
3. AFTER CONCRETE REMOVAL, THE REPAIR SURFACE AND EXISTING REINFORCING BARS SHALL BE THOROUGHLY CLEANED OF INJURIOUS RUST, CONCRETE, DIRT, GREASE, OR ANY OTHER BOND-INHIBITING MATERIALS. APPLY ONE COAT OF CONPROCO CORPORATION ECB (ELECTRO-CHEMICAL BARRIER), FERROSEAL BY ISOMAT, MAPEFER BY MAPEI OR APPROVED EQUAL TO ANY EXPOSED REINFORCING.
4. COAT ALL REPAIR SURFACES WITH AN APPROVED BONDING AGENT OR GROUT SCRUB COAT PRIOR TO PLACING REPAIR MATERIAL.
5. PATCH REPAIR AREA WITH AN APPROVED REPAIR MATERIAL. THE CONCRETE REPAIR MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES.
6. REPAIR MATERIAL SHALL BE A FAST-SETTING CEMENT REPAIR MORTAR LISTED BELOW OR AN APPROVED EQUAL WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI IN 28 DAYS:
 - SIKA CORPORATION PRODUCT: SIKATOP 123 PLUS
 - EUCLID CHEMICAL PRODUCT: EUCLID DURAL TOP GEL
 - MASTER BUILDING TECHNOLOGIES PRODUCT: MASTER EMACO W 1501 HCR
7. APPLY A PENETRATING, CORROSION-INHIBITING IMPREGNATION COATING. SIKA FERROGARD 903, CORTEC CORPORATION MCI-2020, GRACE CONSTRUCTION PRODUCTS POSTRITE OR APPROVED EQUAL FOR A DISTANCE OF 3' BEYOND THE EDGE OF THE CONCRETE REPAIR 7 DAYS AFTER APPLYING REPAIR MATERIAL.
8. ALL COSTS FOR WORK DESCRIBED AND SHOWN ABOVE SHALL BE PAID UNDER ITEM 512.0201, PREPARATION FOR CONCRETE REPAIRS, CLASS II. SEE SPECIAL PROVISIONS.

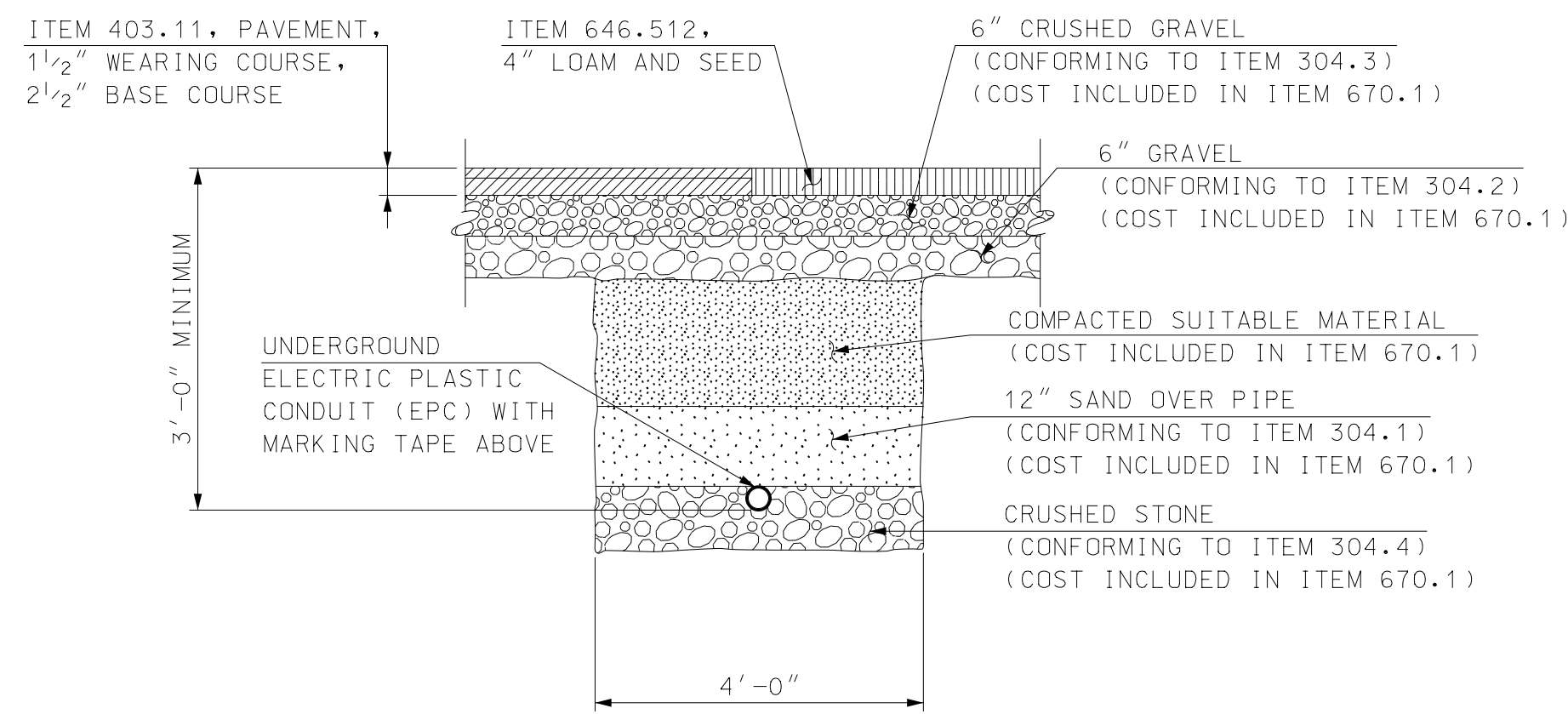
TYPE II CONCRETE REPAIR DETAIL
NOT TO SCALE



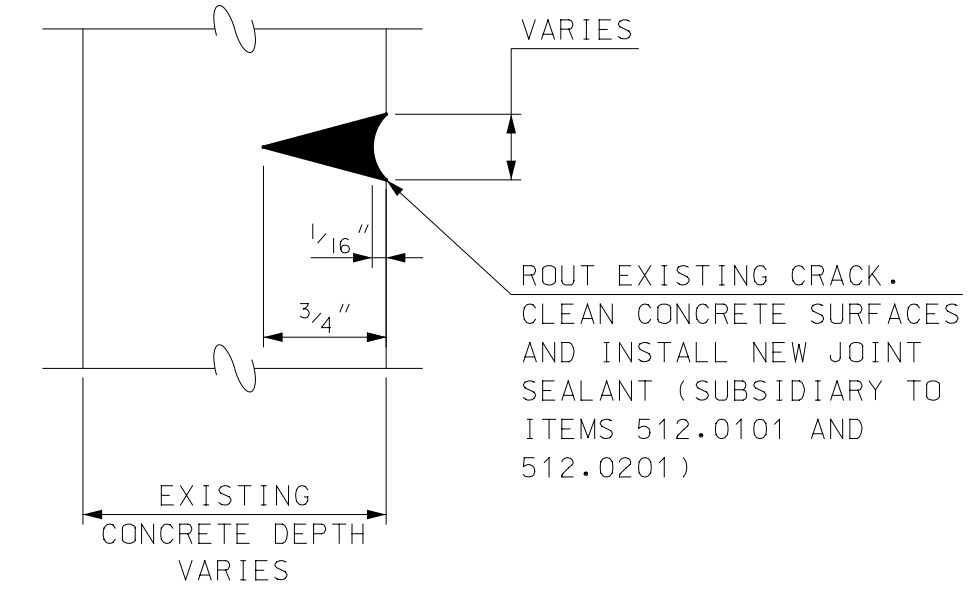
NOTES

1. PAYMENT UNDER ITEM 571.1, CHINKING STONE MASONRY SHALL INCLUDE COMPACTION OF LOOSE FILL BEHIND WALL STONES, RESETTING OF STONES AND THE ADDITION OF SIMILAR STONES AS REQUIRED.
2. COMPACT MATERIAL BEHIND AND INTO MASONRY WALL BY USING TAMPING RODS OR OTHER METHODS ACCEPTABLE TO THE RESIDENT ENGINEER (PAID UNDER ITEM 571.1).
3. NEW STONES SHALL CLOSELY MATCH THE COLOR, TEXTURE AND PATTERN OF EXISTING STONES. STONES SHALL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO USE.
4. NEW STONES SHALL HAVE A MINIMUM OF 75% OF TOP AND BOTTOM SURFACES IN BEARING WITH EXISTING STONES.
5. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

CHINKING DETAIL (ITEM 571.1)
NOT TO SCALE



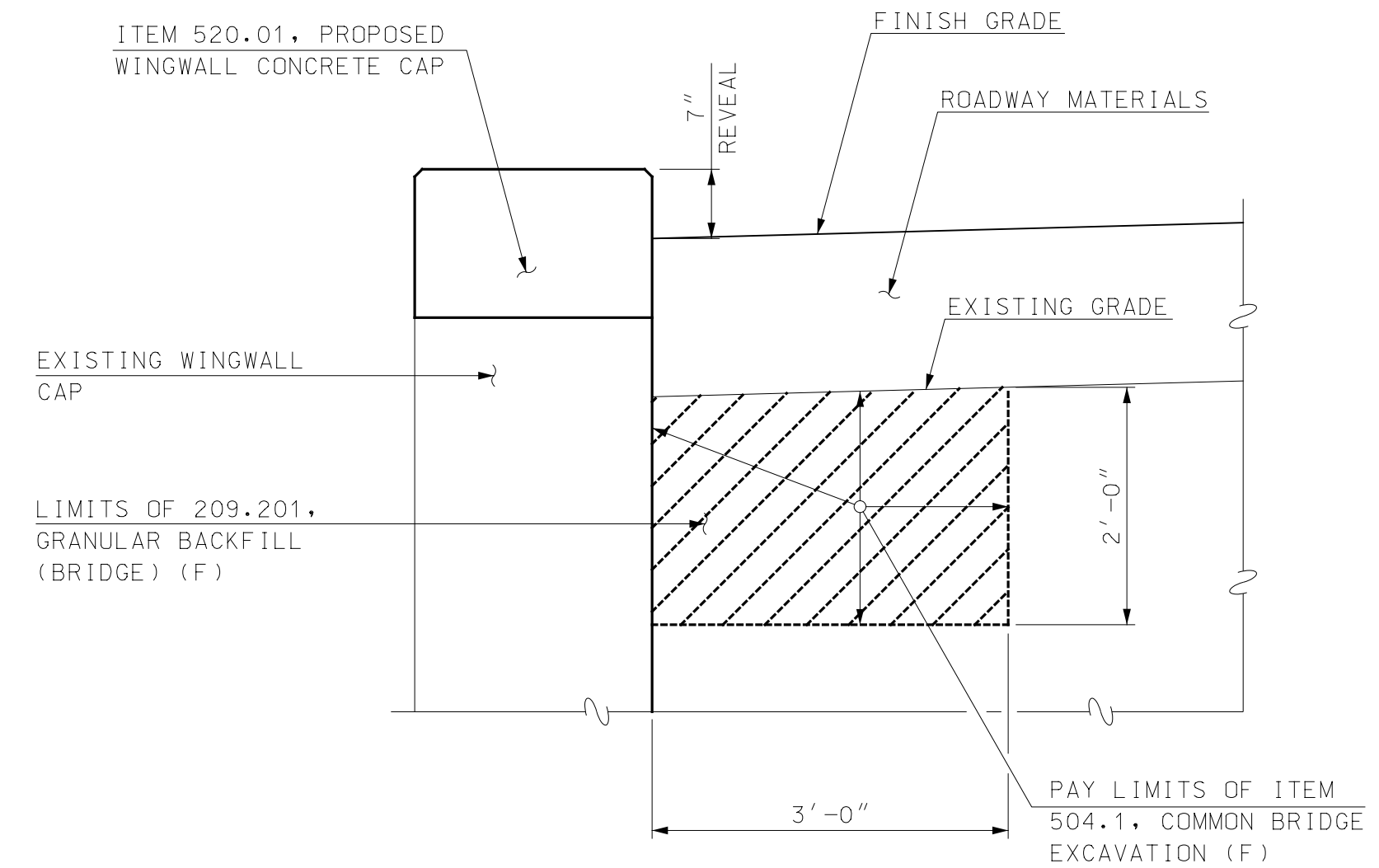
TYPICAL TRENCH DETAIL
NOT TO SCALE



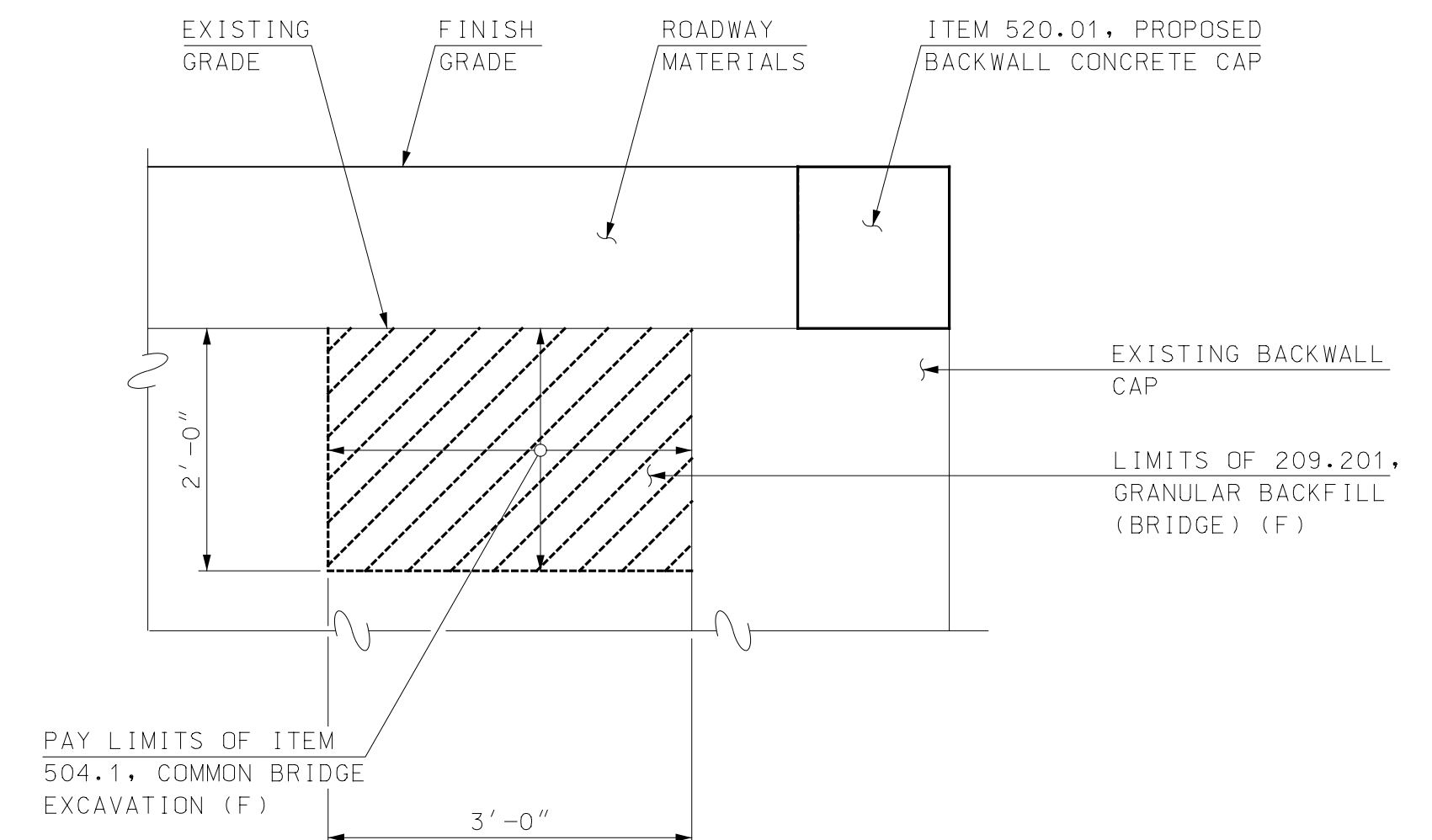
NOTE

NEW JOINT SEALANT SHALL BE AN APPROVED NON-SAG ONE COMPONENT POLYURETHANE ELASTOMERIC SEALANT COMPLIANT WITH STANDARD SPECIFICATIONS SECTION 562 AND LISTED ON THE NHDOT QUALIFIED PRODUCTS LIST.

CRACK SEAL DETAIL
NOT TO SCALE



WINGWALL CAP EARTHWORK SECTION
SCALE: 3/4" = 1'-0"



BACKWALL CAP EARTHWORK SECTION
SCALE: 3/4" = 1'-0"

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
HOYLE, TANNER & ASSOCIATES, INC.
SIGNED: [Signature]
FEBRUARY 2023
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TOWN OF OSS�PEE
OSS�PEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
ABUTMENT DETAILS (1 OF 3)

PROJECT NO.: 915003
FILE NAME: 915003AButDetails
MODEL NAME: 915003AButDetails1

4/22/2020 9:49:21 AM K:\915003\2-CADD\BRC\Details\915003AButDetails.dgn

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.

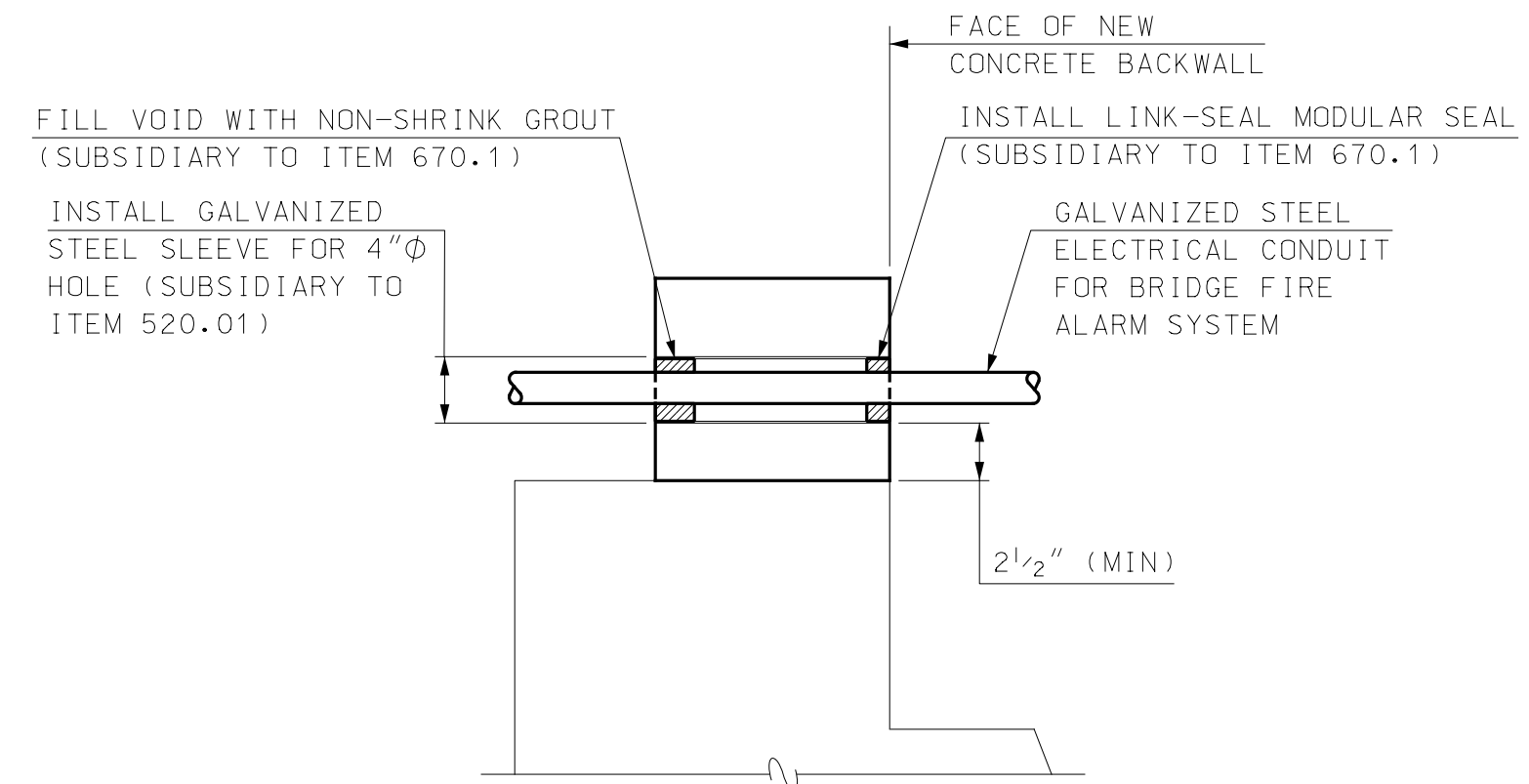
HOYLE, TANNER & ASSOCIATES, INC.
 SIGNED: *[Signature]*
 FEBRUARY 2023

NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

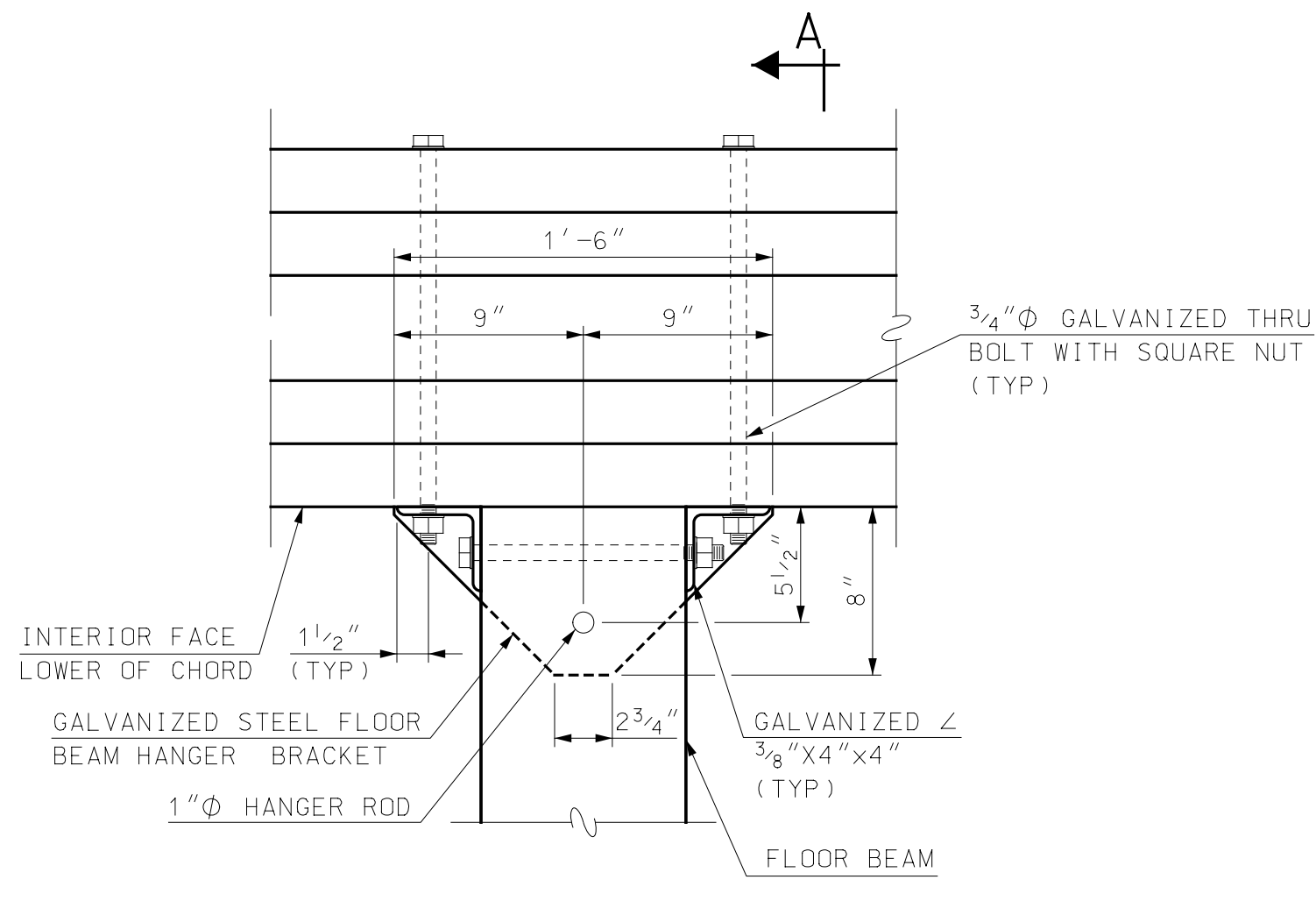
REV	DESCRIPTION	DATE	BY	CHKD
1	RECORD COPY REVISIONS	2/2023	KVD	STJ

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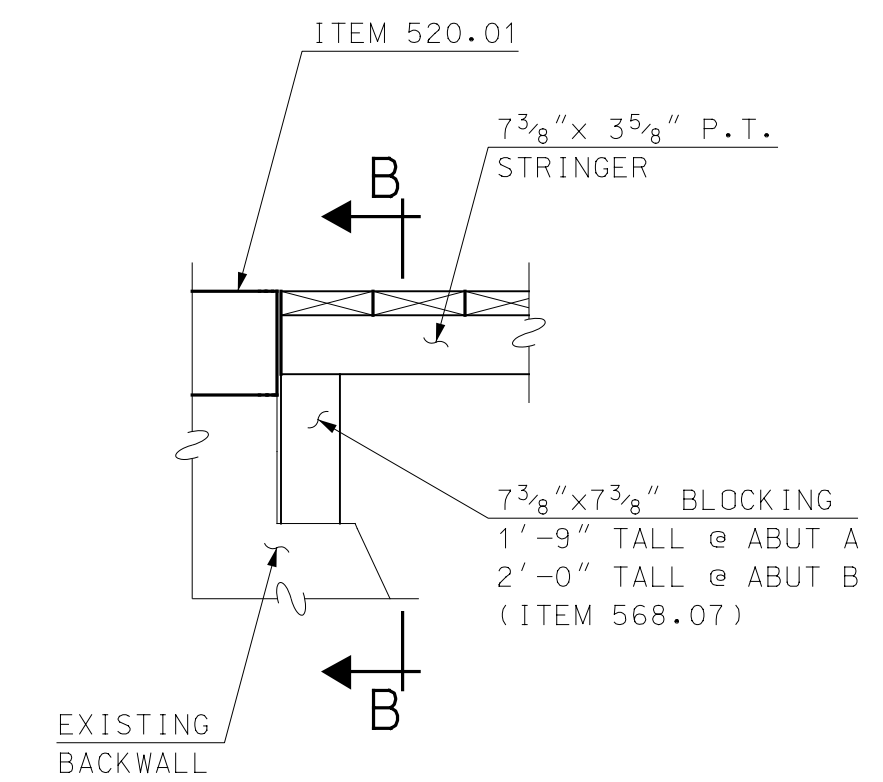
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DESIGN BY:	JCR	DRAWN BY:	PBD	CHKD. BY:
			STJ	SCALE:



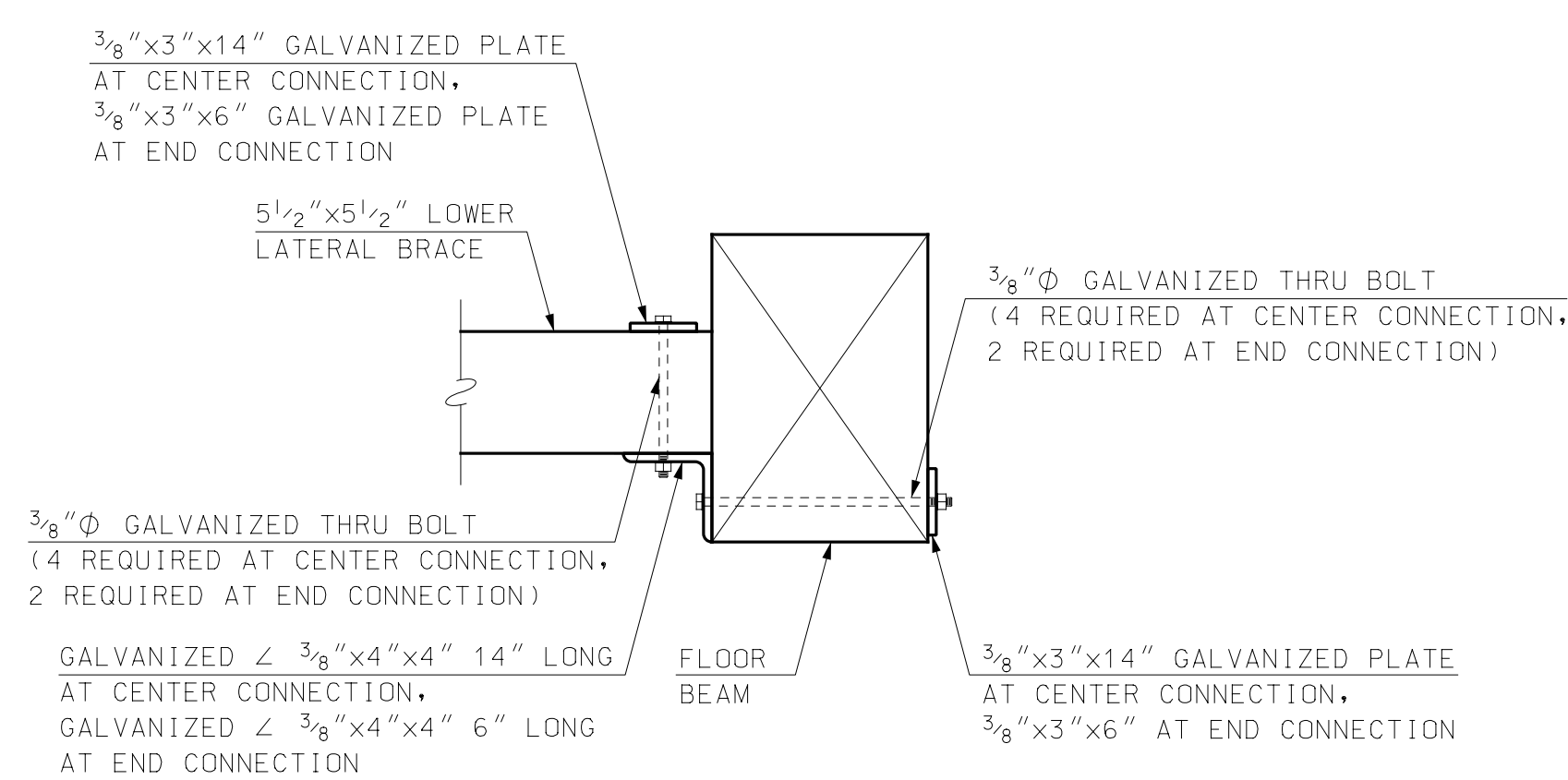
ABUTMENT A BACKWALL PENETRATION
 SCALE: 1" = 1'-0"



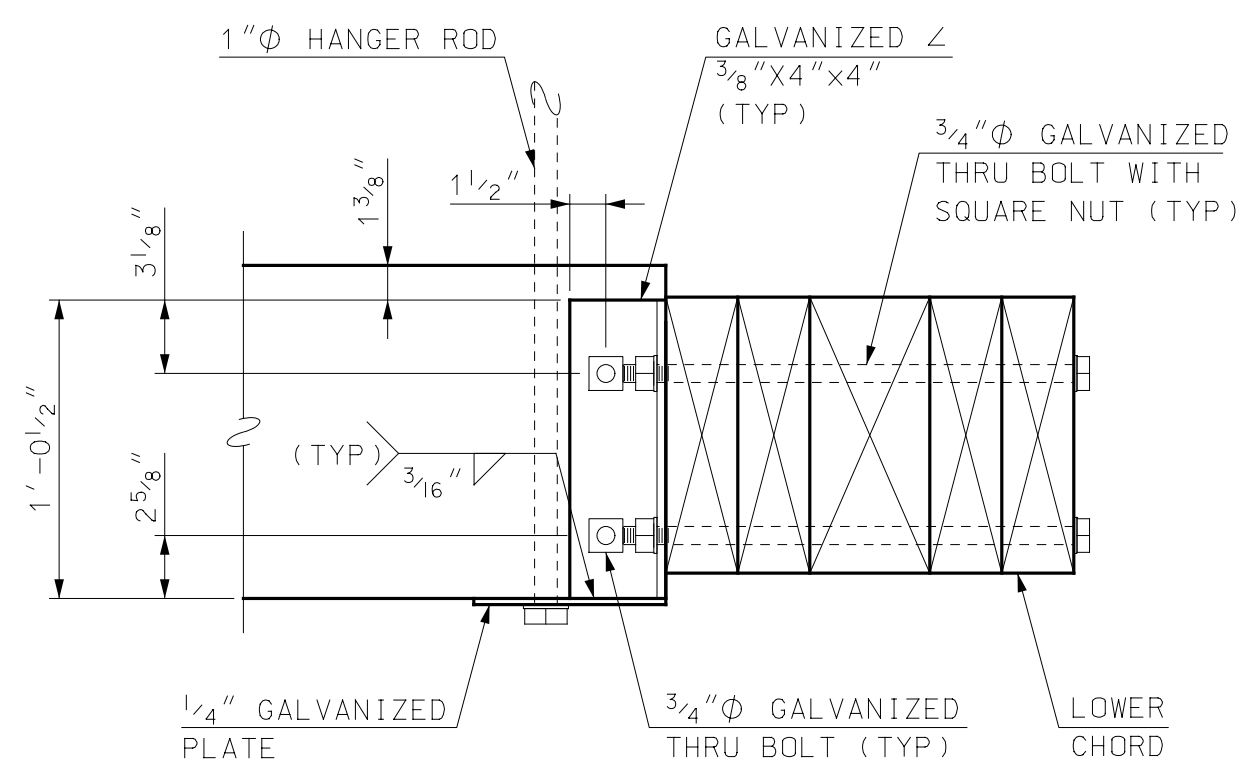
FLOOR BEAM BRACKET - PLAN VIEW
 SCALE: 1/2" = 1'-0"



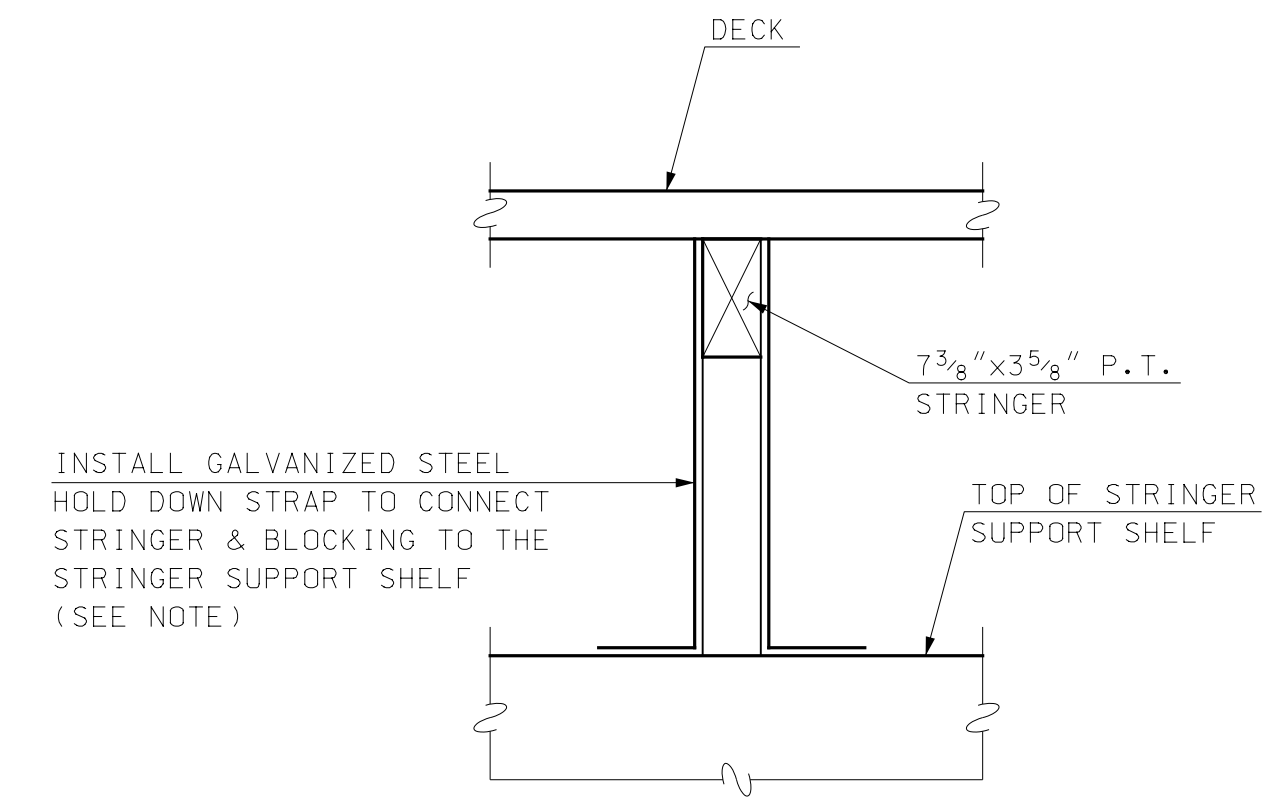
STRINGER SHELF DETAIL
 SCALE: 1/2" = 1'-0"



LATERAL BRACKET DETAIL
 SCALE: 1/2" = 1'-0"

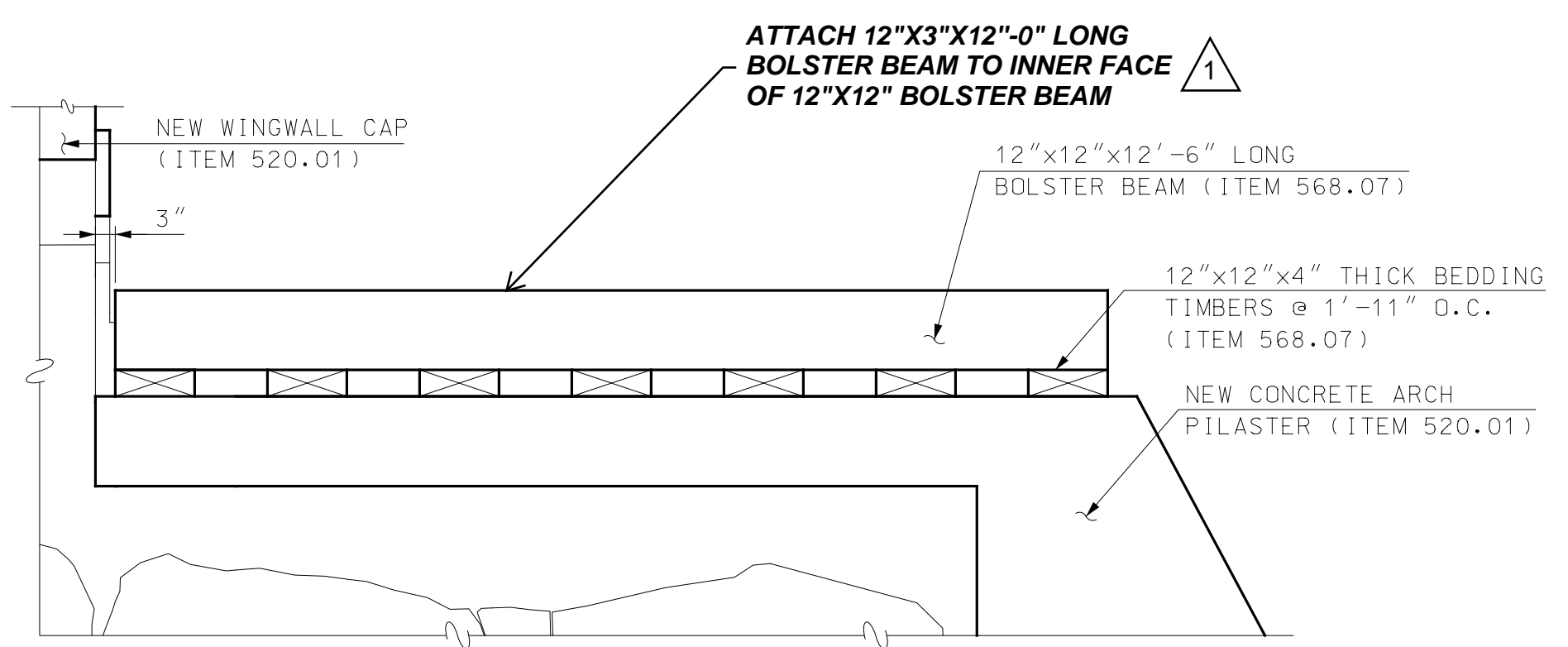


SECTION A-A
 SCALE: 1/2" = 1'-0"



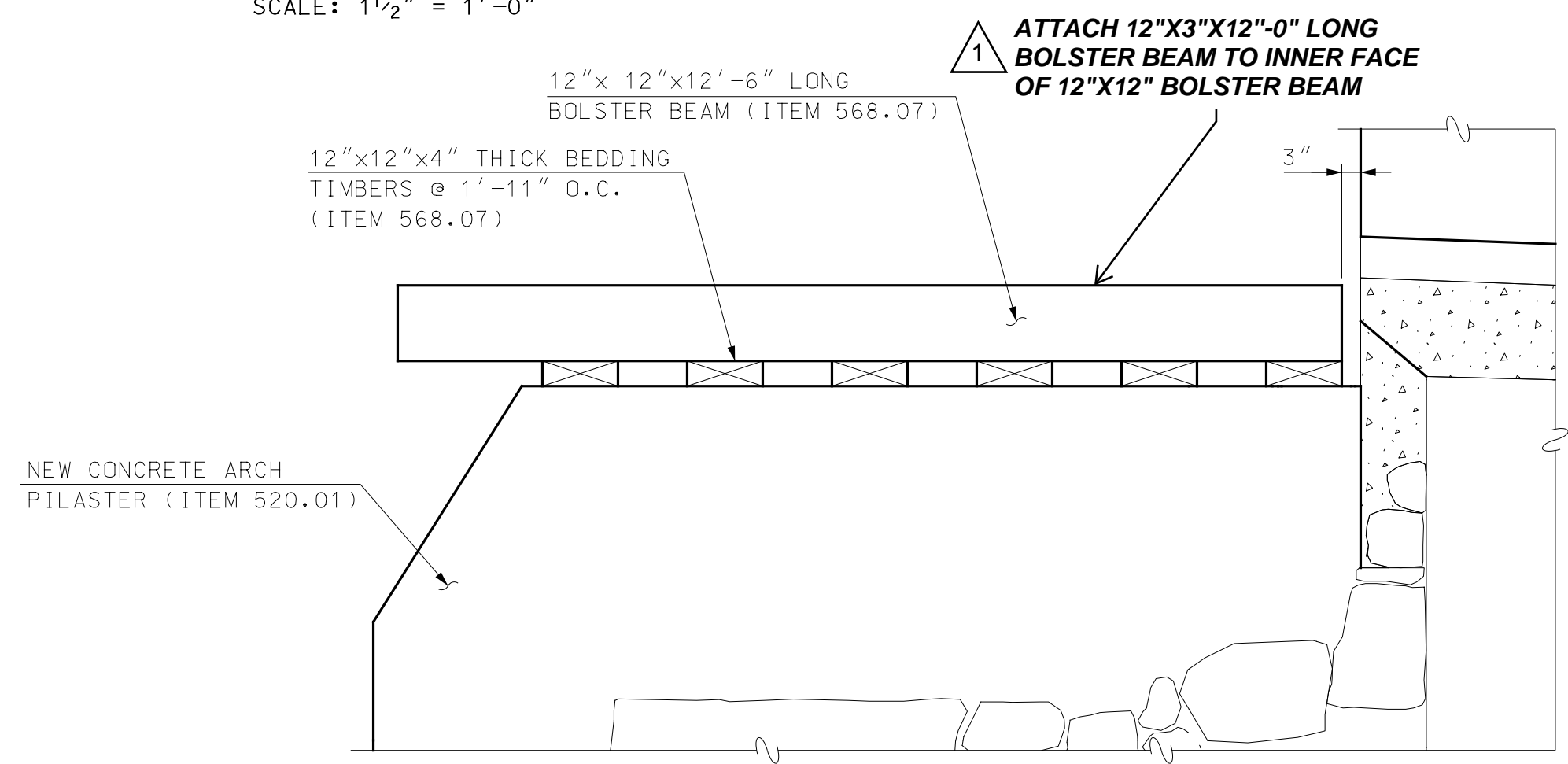
NOTE
 STRINGER HOLD DOWN STRAPS SHALL BE GALVANIZED WITH A MINIMUM UPLIFT CAPACITY OF 1,000 LBS PER STRINGER. ACCEPTABLE PRODUCTS ARE SIMPSON STRONG-TIE HTT4 OR USP CONNECTORS HTT16 OR APPROVED EQUAL. (PAID UNDER ITEM 550.1, STRUCTURAL STEEL).

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



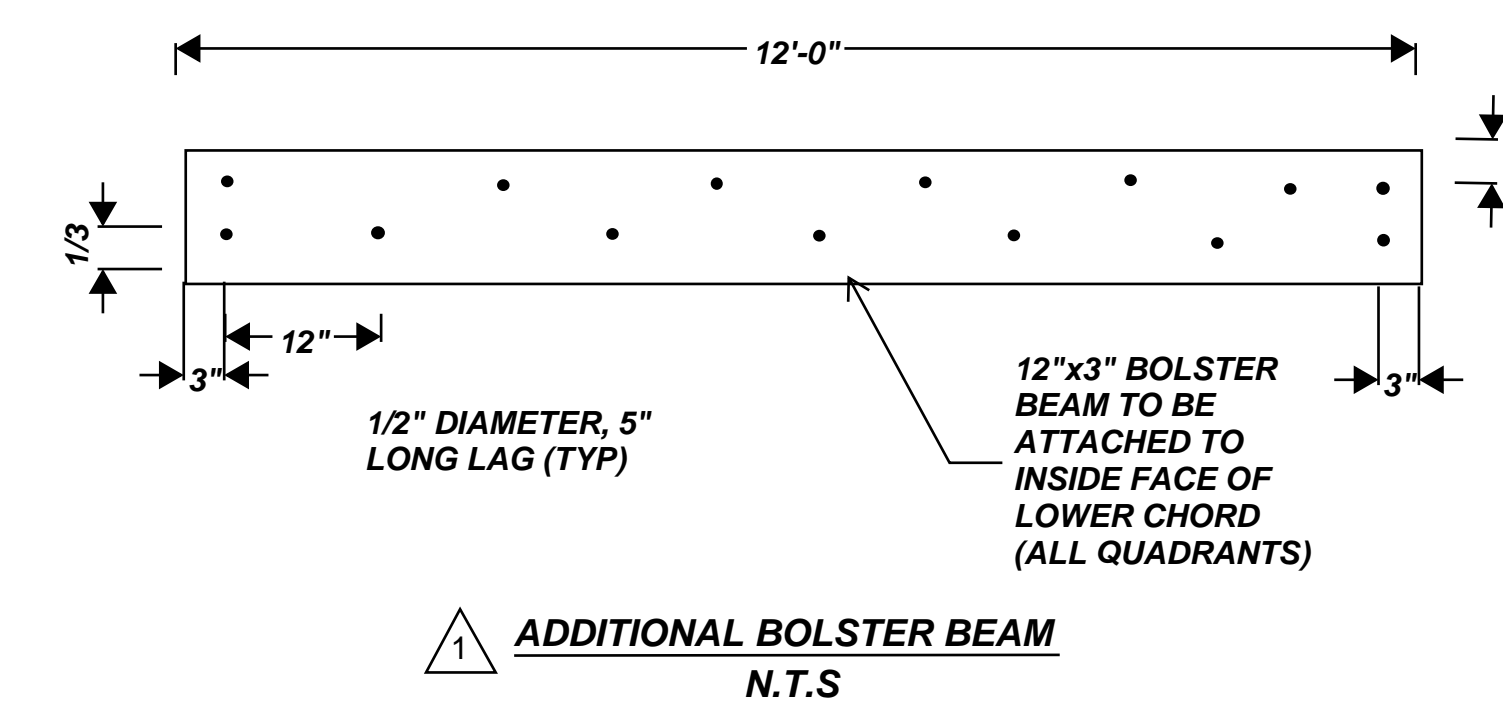
NOTE
 SOUTHEAST TIMBERS SHOWN, SOUTHWEST TIMBERS ARE SIMILAR.

ABUTMENT A BEDDING TIMBERS
 SCALE: 1/2" = 1'-0"



NOTE
 NORTHEAST TIMBERS SHOWN, NORTHWEST TIMBERS ARE SIMILAR EXCEPT 5- 12"x12"x4" BLOCKS USED.

ABUTMENT B BEDDING TIMBERS
 SCALE: 1/2" = 1'-0"



ADDITIONAL BOLSTER BEAM
 N.T.S

NOTE
 1. BRACKET DETAILS ARE TAKEN FROM PHASE II PLANS. SIZES AND HOLE LOCATIONS SHALL BE FIELD VERIFIED AGAINST EXISTING BRACKETS PRIOR TO FABRICATION. SEE STRUCTURAL STEEL NOTES ON SHEET 3.

Hoyle, Tanner & Associates, Inc.
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TOWN OF OSSISPEE
 OSSISPEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
 ABUTMENT DETAILS (2 OF 3)

PROJECT NO.: 915003
 FILE NAME: 915003AbutDets
 MODEL NAME: 915003AbutDets2
 SHEET NO.
25
 SHEET 25 OF 34

4/22/2020 9:49:21 AM K:\915003\2-CADD\BPC\Details\915003AbutDets.dgn

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 SIGNED: [Signature]
 FEBRUARY 2023
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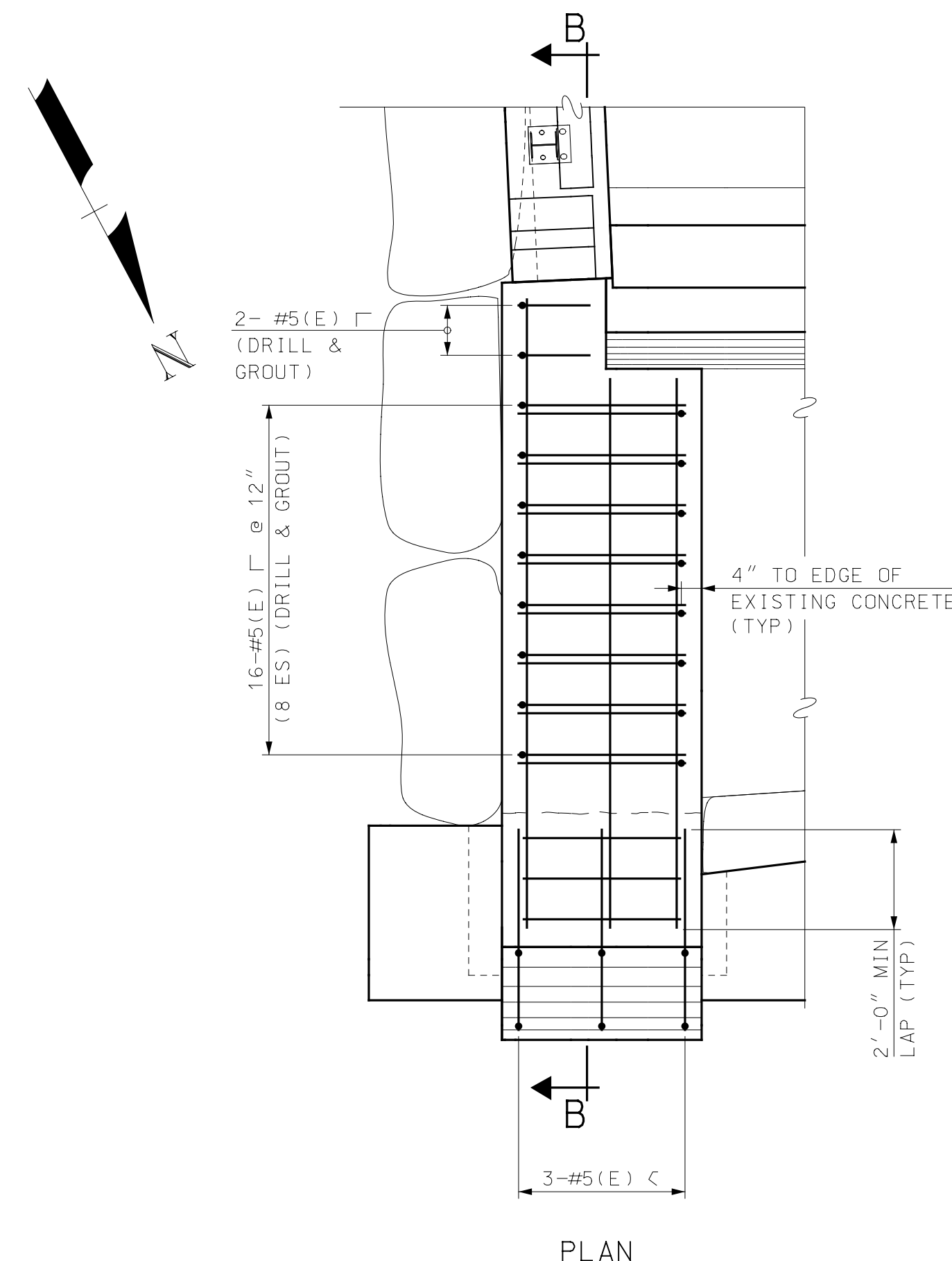
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CHKD. BY:	PBD	DATE:		

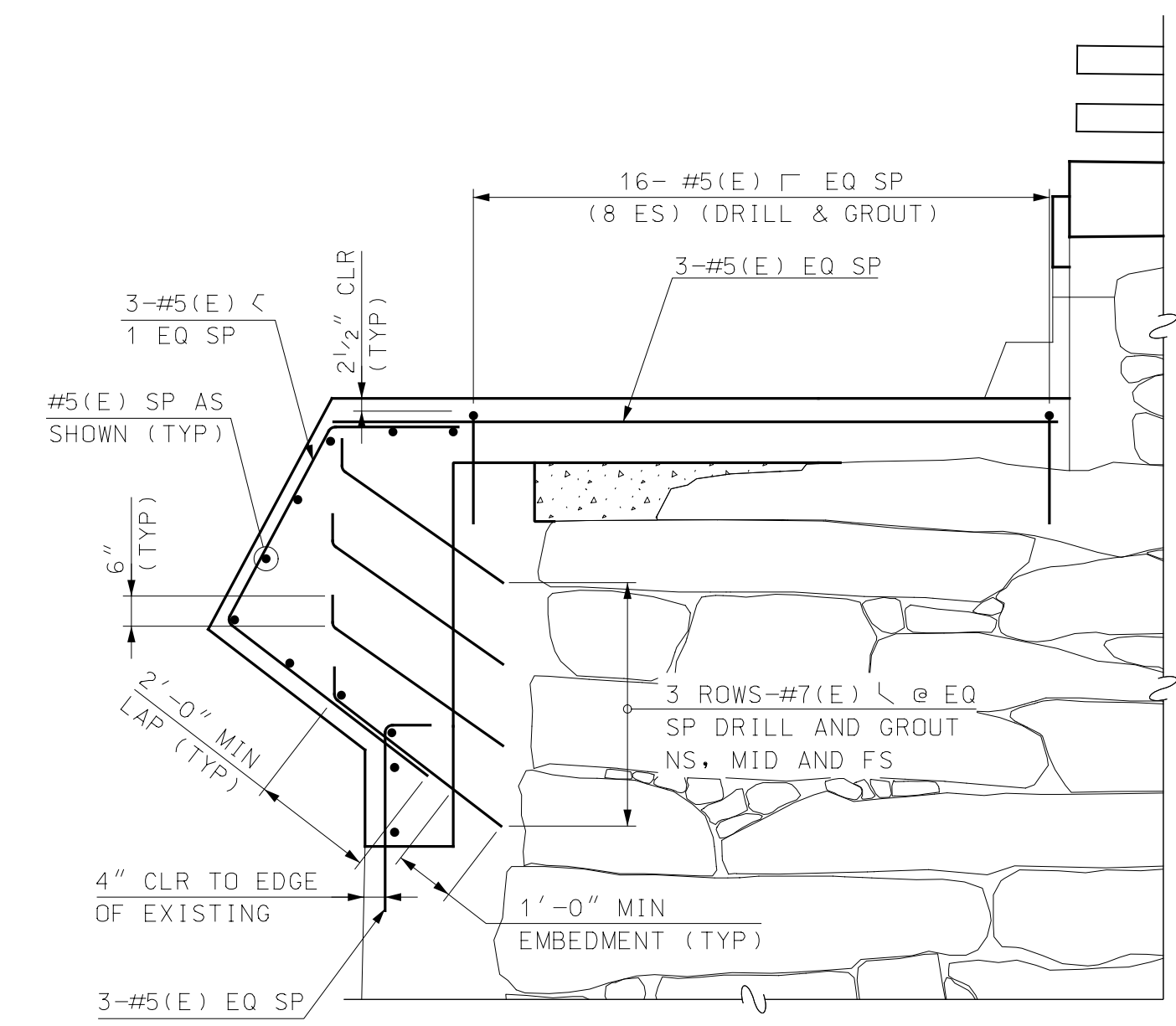
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TOWN OF OSSISPEE
 OSSISPEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
 ABUTMENT DETAILS (3 OF 3)

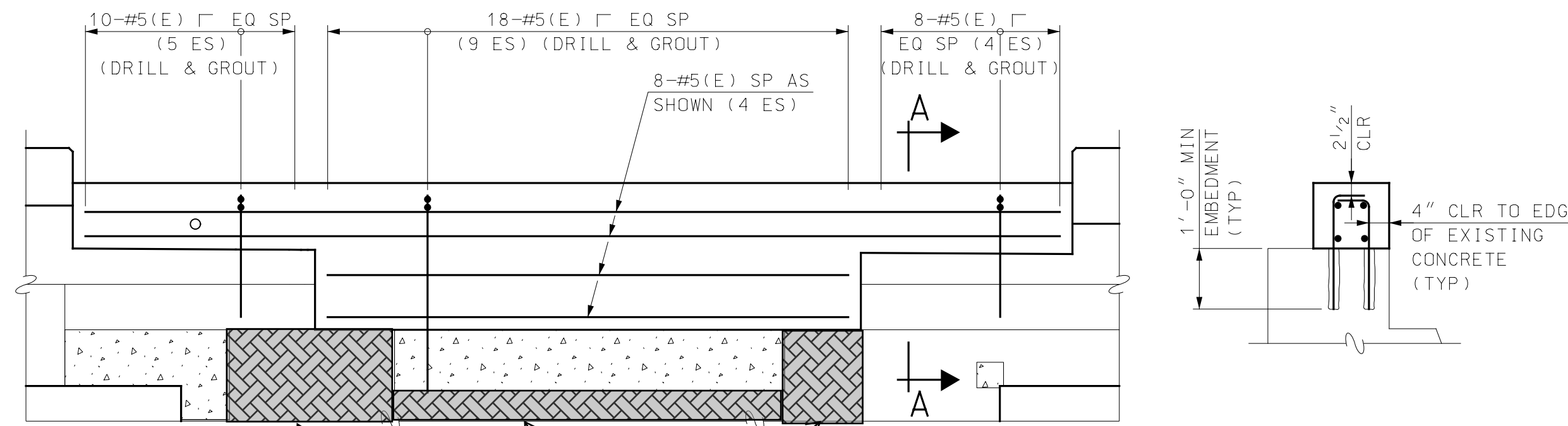
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 FILE NAME: 915003AbutDetails
 MODEL NAME: 915003AbutDetails3
 SHEET NO.
26
 SHEET 26 OF 34



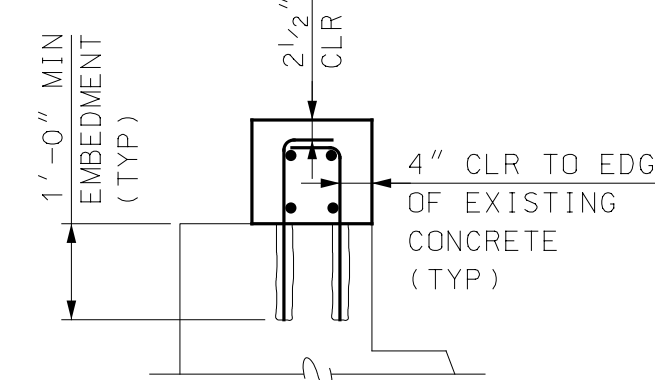
PLAN
ABUTMENT A PEDESTAL REINFORCEMENT
 SCALE: 3/8" = 1'-0"



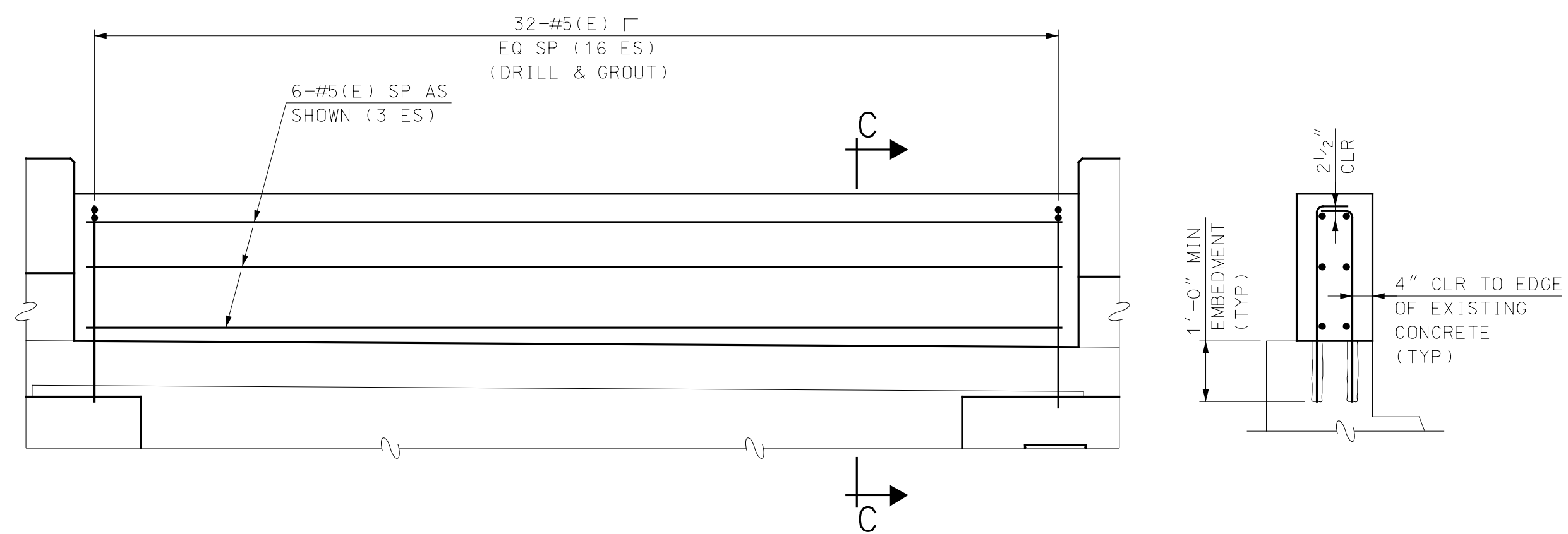
SECTION B-B



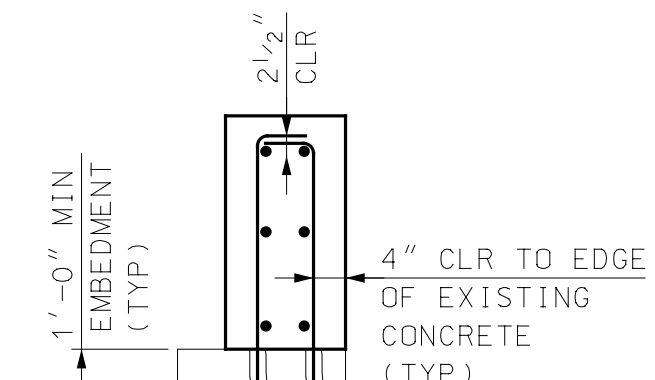
ELEVATION
ABUTMENT B BACKWALL REINFORCEMENT
 SCALE: 1/2" = 1'-0"



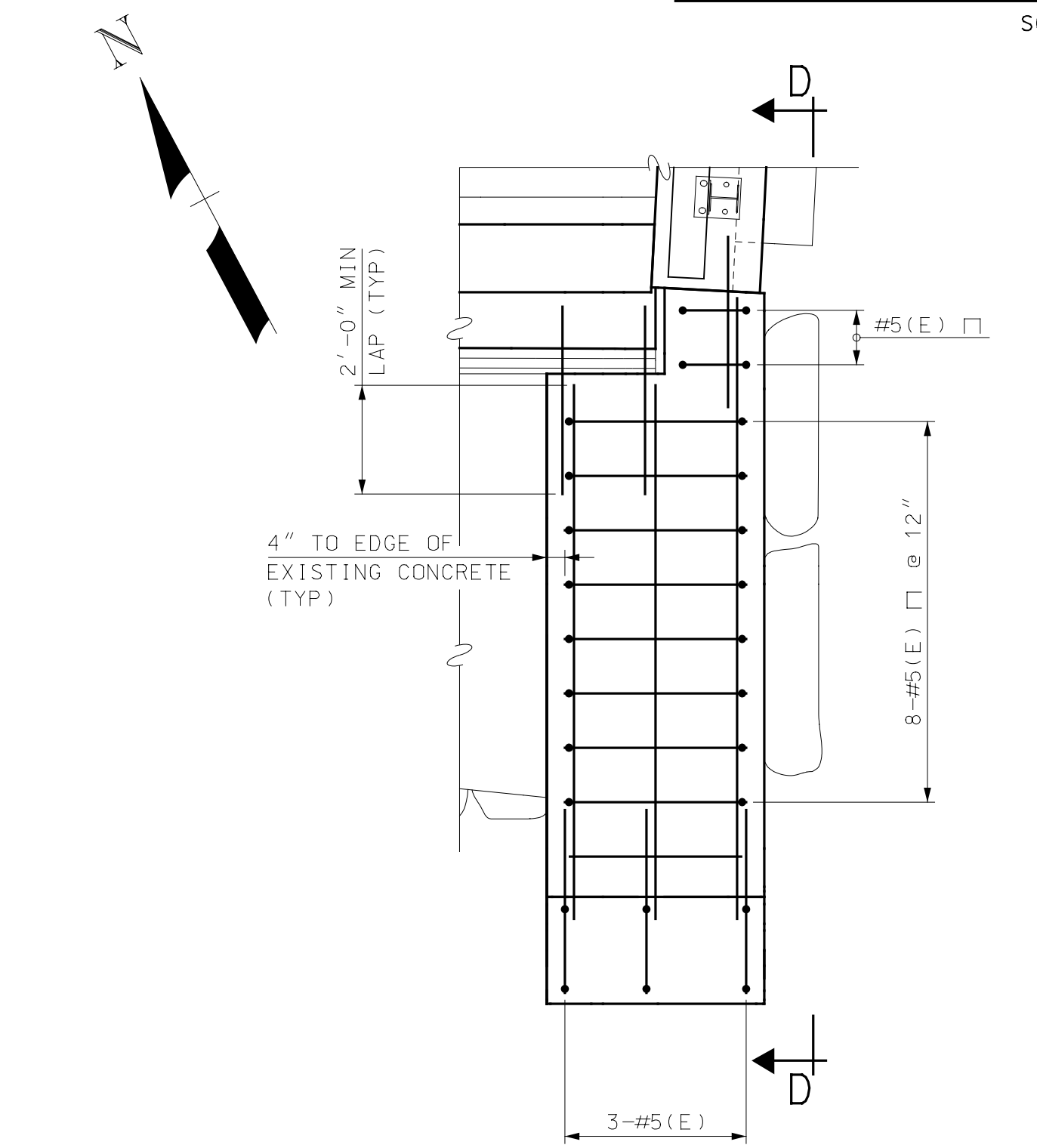
SECTION A-A



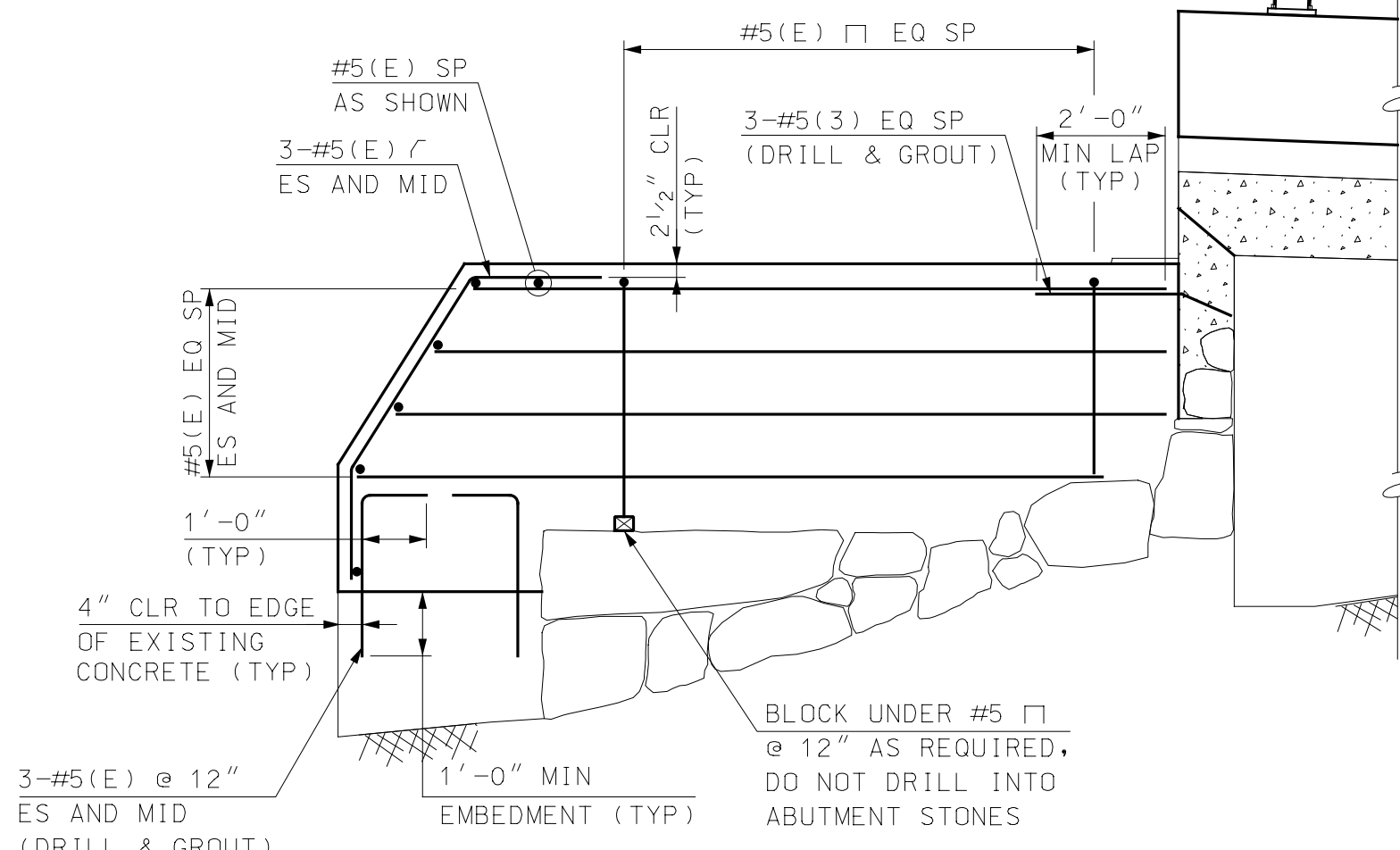
ELEVATION
ABUTMENT B BACKWALL REINFORCEMENT
 SCALE: 1/2" = 1'-0"



SECTION C-C



PLAN
ABUTMENT B PEDESTAL REINFORCEMENT
 SCALE: 3/8" = 1'-0"

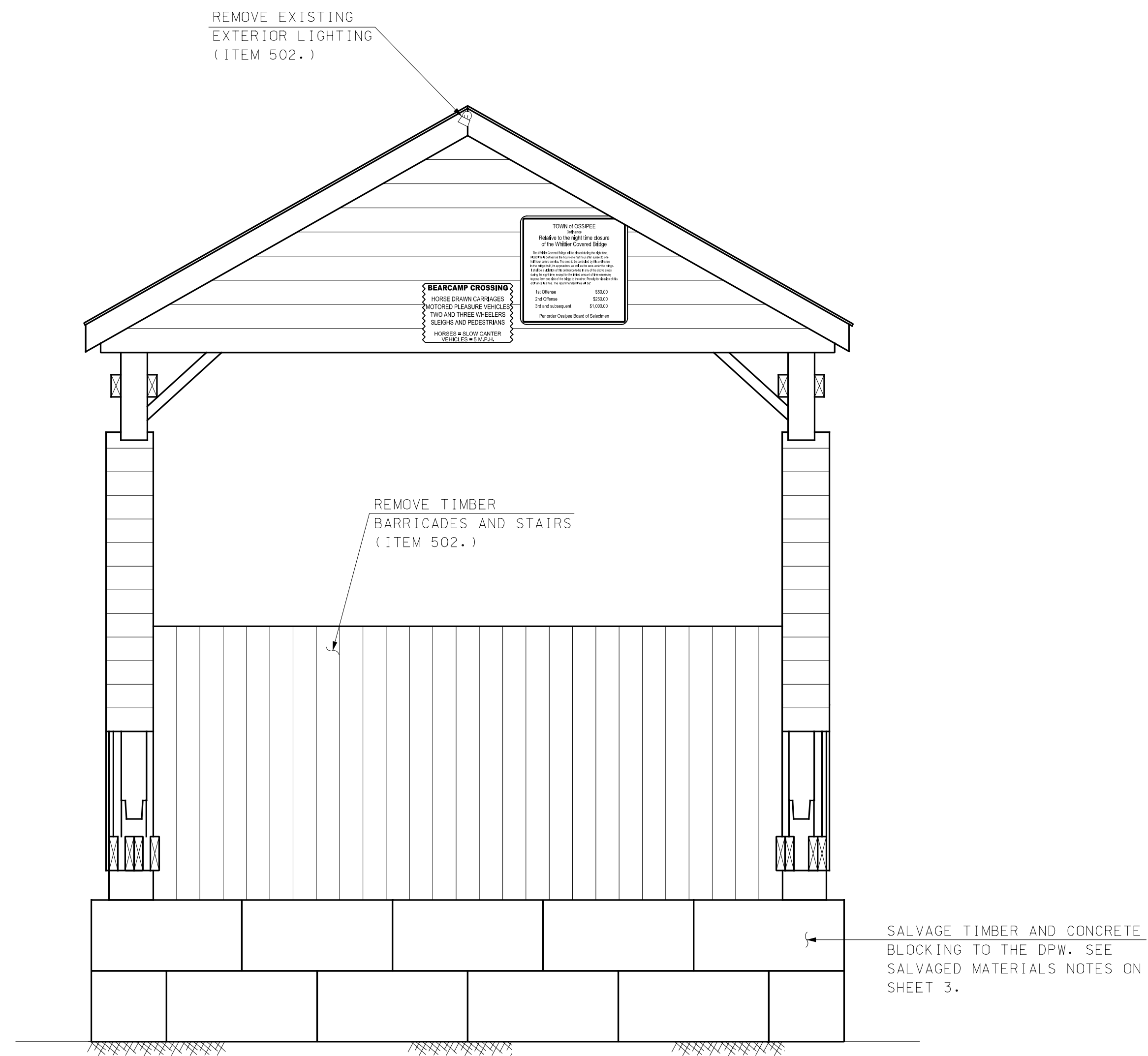


SECTION D-D

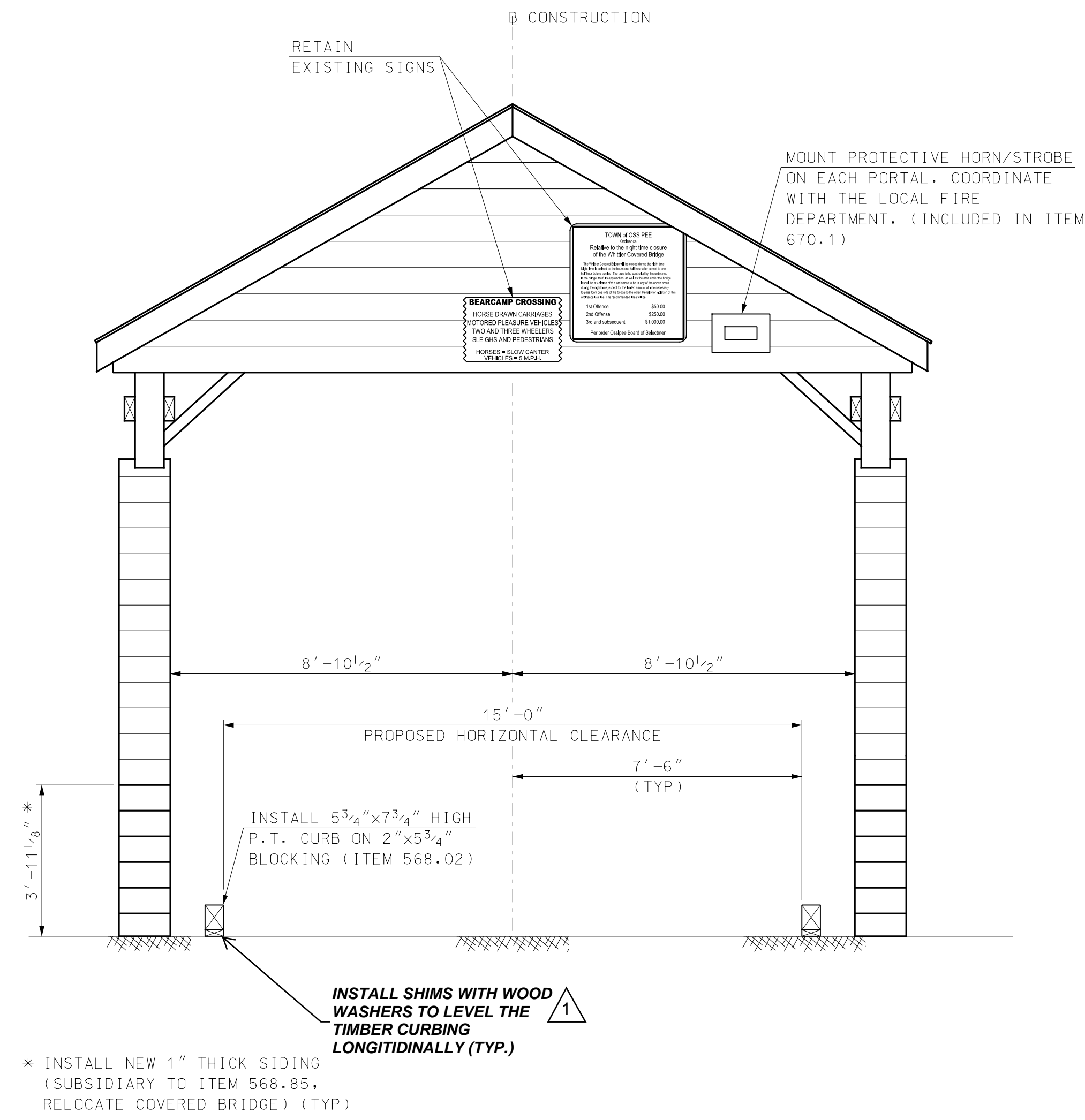
NOTE
 1. SEE REINFORCEMENT NOTES ON SHEET 3 FOR NOTES THAT PERTAIN TO THIS SHEET.

LEGEND
 ES EACH SIDE

4/22/2020 9:49:22 AM K:\915003\2-CADD\BRC\Details\915003AbutDetails.dgn



EXISTING PORTAL ELEVATION
 (SOUTH PORTAL SHOWN, NORTH PORTAL SIMILAR)
 (LOOKING NORTH)
 SCALE: $\frac{3}{8}'' = 1' - 0''$



PROPOSED PORTAL ELEVATION
 (SOUTH PORTAL SHOWN, NORTH PORTAL SIMILAR)
 (LOOKING NORTH)
 SCALE: $\frac{3}{8}'' = 1' - 0''$

DESIGN SEQUENCE OF LOADING NOTES

1. THESE NOTES ARE INTENDED TO PROVIDE GUIDELINES FOR THE CONTRACTOR WHEN DEVELOPING THE BRIDGE RELOCATION SEQUENCE. WHILE THE EXACT DETAILS FOR BRIDGE RELOCATION ARE CONSIDERED MEANS AND METHODS, THE SEQUENCE BELOW SHALL BE MAINTAINED SUCH THAT THE BRIDGE WILL SUPPORT THE DESIGN LOAD OF H6. BASED ON THE DESIGN CALCULATIONS, THE TRUSSES ARE INTENDED TO CARRY DEAD AND SNOW LOADS WHILE THE ARCHES WILL CARRY LIVE LOAD.
2. AFTER THE BRIDGE HAS BEEN RELOCATED TO THE ABUTMENTS, AND BEFORE THE LAMINATED ARCH ENDS HAVE BEEN REPLACED, ALL SHORING SHALL BE REMOVED OR RESET SUCH THAT THE TRUSSES CARRY THE FULL DEAD LOAD OF THE BRIDGE.
3. REPLACE THE LAMINATED ARCH ENDS, AND INSTALL NEW ARCH HANGER RODS. ARCH HANGER RODS SHALL NOT BE TIGHTENED UNTIL THE FLOOR SYSTEM IS COMPLETELY IN PLACE.
4. TIGHTEN THE ARCH HANGER RODS SUCH THAT THEY ARE SNUG BUT DO NOT TIGHTEN TO THE POINT WHERE THEY RELIEVE STRESS IN THE TRUSS CHORDS.

LEGEND

P.T. PRESSURE TREATED

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.

HOYLE, TANNER & ASSOCIATES, INC.
 SIGNED: *[Signature]*
 FEBRUARY 2023

NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

REV	DESCRIPTION	DATE
1	RECORD COPY REVISIONS	2/2023

DRW: KVD
 BY: STJ

APRIL 2020
 DESIGN BY: JCR
 DRAWN BY: PBD
 CHKD. BY: STJ
 SCALE: AS SHOWN

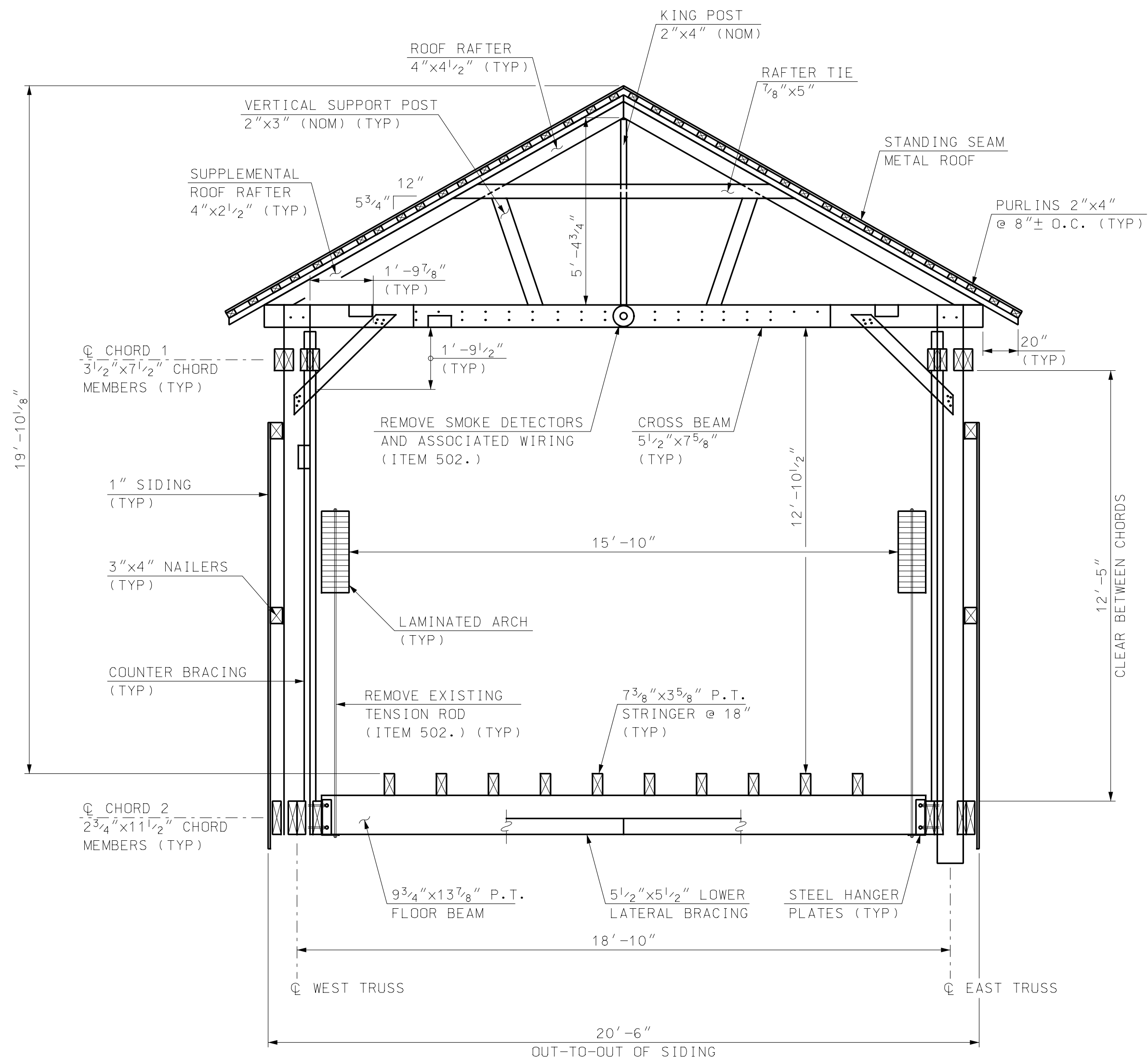
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TOWN OF OSSISPEE
 OSSISPEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 1083333
 EXISTING AND PROPOSED PORTAL ELEVATIONS

PROJECT NO.: 915003
 FILE NAME: 915003DeckSect
 MODEL NAME: 915003Portals

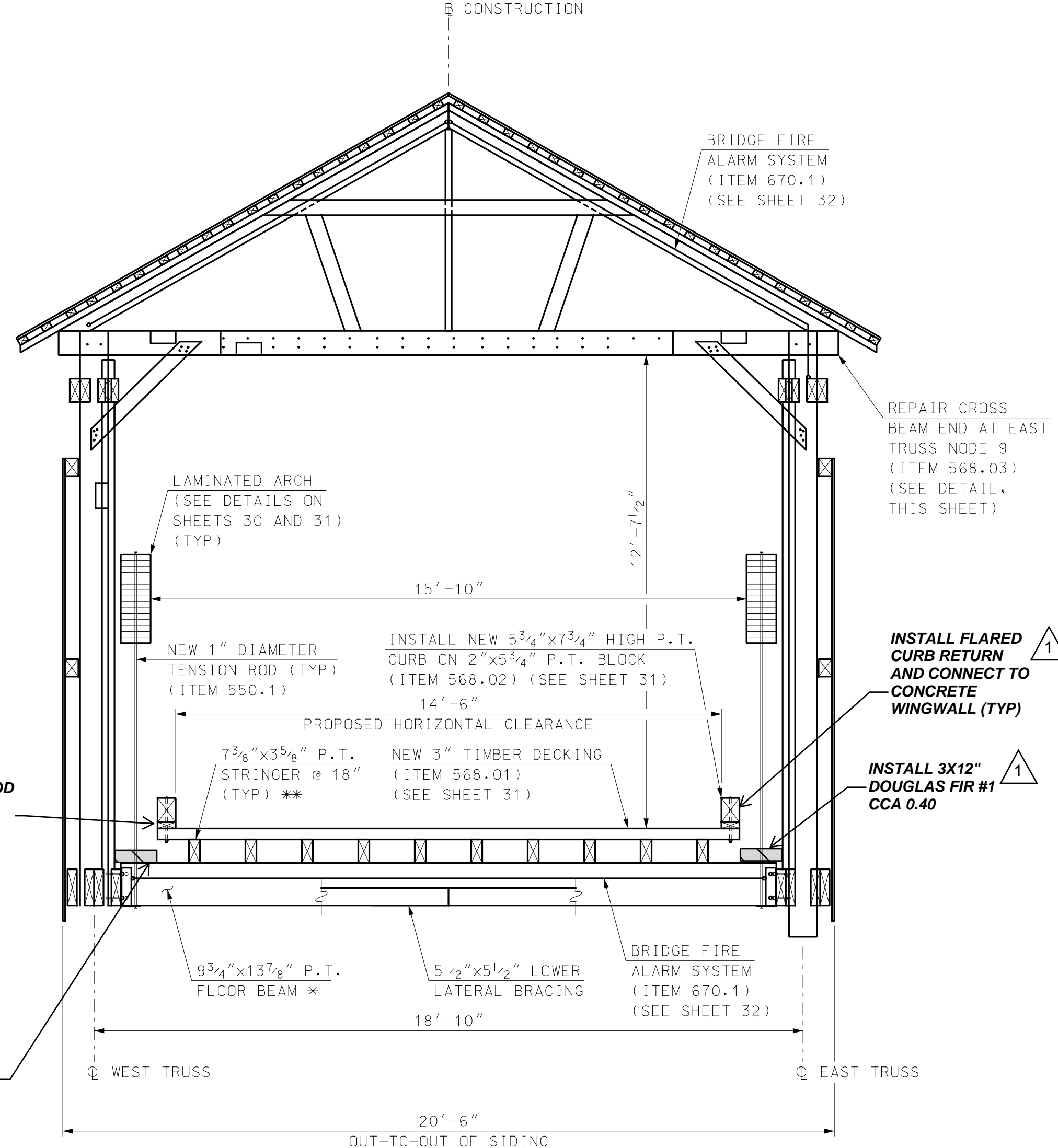
SHEET NO.
27
 SHEET 27 OF 34

4/22/2020 9:49:23 AM K:\915003\2-CADD\BRC\Super\915003DeckSect.dgn



NOTE
 1. ALL EXISTING MEMBER SIZES AND GEOMETRY ARE FROM PHASE II PLANS. SEE CONSTRUCTION PHASES 1, 2 AND 3 NOTES ON SHEET 2.

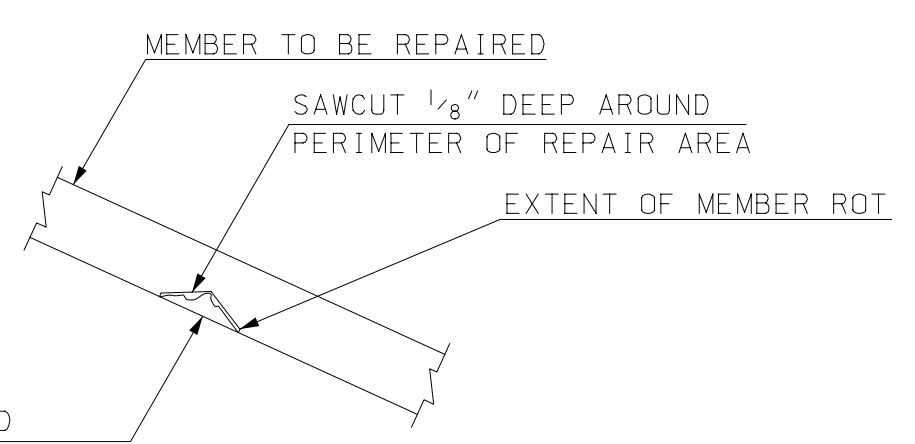
EXISTING BRIDGE SECTION
 SCALE: 3/8" = 1'-0"



NOTES
 1. INSTALL STRINGERS IN BAY 1 (NODES 2-3) AND 16 (NODES 17-18). PAID FOR UNDER ITEM 568.11, STORED TIMBER (STRINGERS).
 2. INSTALL LOWER LATERAL BRACING IN BAY 1, 2 (NODES 3-4) AND 16. PAID FOR UNDER ITEM 568.12, STORED TIMBER (LOWER LATERAL BRACING).

PROPOSED BRIDGE SECTION
 SCALE: 3/16" = 1'-0"

3. REMOVE AND REPLACE STRINGERS WITH EXCESS DETERIORATION, LOCATIONS INCLUDING THE 2ND STRINGER IN FROM THE WEST BETWEEN NODES 13 TO 15, THE THIRD STRINGER FROM THE WEST BETWEEN NODES 13 TO 15 AND AGAIN BETWEEN NODES 16 TO 17.



CROSS BEAM OR OTHER MEMBER (ITEM 568.03)

EPOXY REPAIR DETAIL
 NOT TO SCALE

RECOMMENDED REPAIR SEQUENCE

- R-1. IDENTIFIED ROTTED MATERIAL IN LUMBER AND TIMBER MEMBERS, IF LESS THAN 1 INCH IN DEPTH, SHALL BE REPAIRED AS SHOWN ON THE "EPOXY REPAIR DETAIL". IF ROT IS GREATER THAN 1 INCH IN DEPTH, THE ENTIRE MEMBER SHALL BE REPLACED AS REQUESTED BY THE RESIDENT ENGINEER.
- R-2. REMOVE ALL ROTTED MATERIAL TO A MINIMUM OF 1/4" BEYOND EXTENT OF ROT. SAWCUT 1/8" DEEP AROUND PERIMETER OF REPAIR AREA.
- R-3. CLEAN EXISTING MEMBER OF ALL DIRT, SAWDUST, ETC. AND PREPARE SURFACE PER MANUFACTURER'S RECOMMENDATIONS.
- R-4. INSTALL/INJECT APPROVED EPOXY REPAIR MATERIAL PER MANUFACTURER'S RECOMMENDATIONS. COLOR OF REPAIR MATERIAL TO MATCH EXISTING WOOD. A COMPLETED TEST SECTION SHALL BE MADE FOR APPROVAL BY THE RESIDENT ENGINEER.
- R-5. INSTALL TWO GALVANIZED LAG SCREWS INTO EXISTING SPLIT THROUGH REPAIR MATERIAL (IF REQUIRED). SIZE OF LAG SCREWS TO BE DETERMINED BY THE RESIDENT ENGINEER.

DIMENSIONS OF TIMBER AND LUMBER MEMBERS SHOWN ON THESE PLANS ARE THE ACTUAL SIZES UNLESS NOTED OTHERWISE.

LEGEND

P.T. PRESSURE TREATED

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
 HOYLE, TANNER & ASSOCIATES, INC.
 SIGNED: [Signature]
 FEBRUARY 2023
 NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

REV	DESCRIPTION	DATE	DRW	CHKD	BY
1	RECORD COPY REVISIONS	2/2023	KVD	STJ	

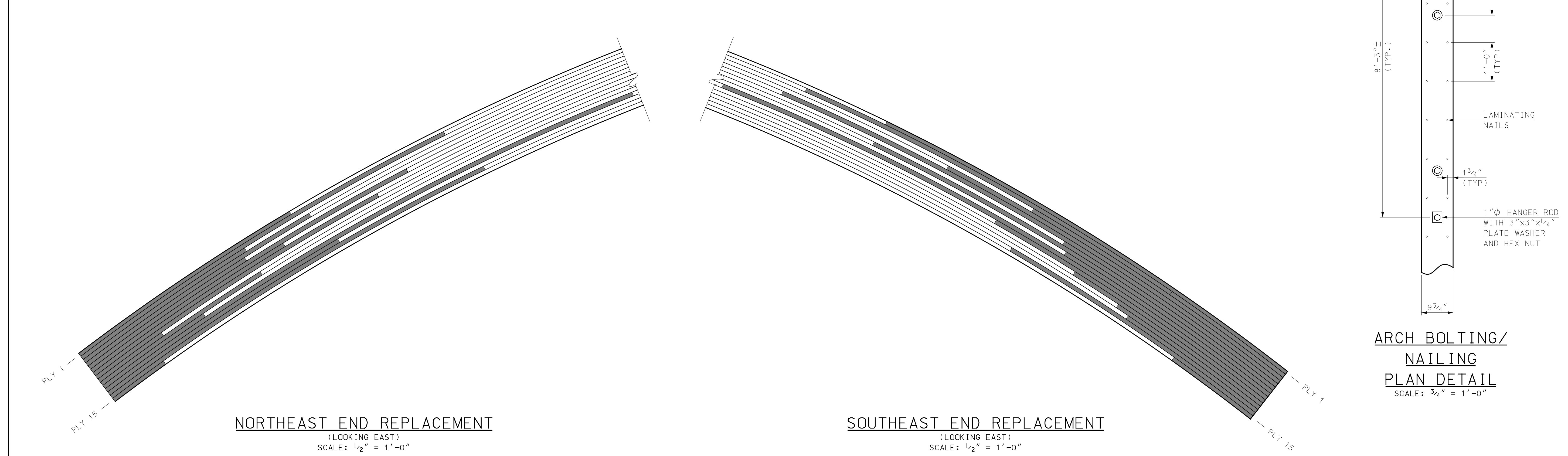
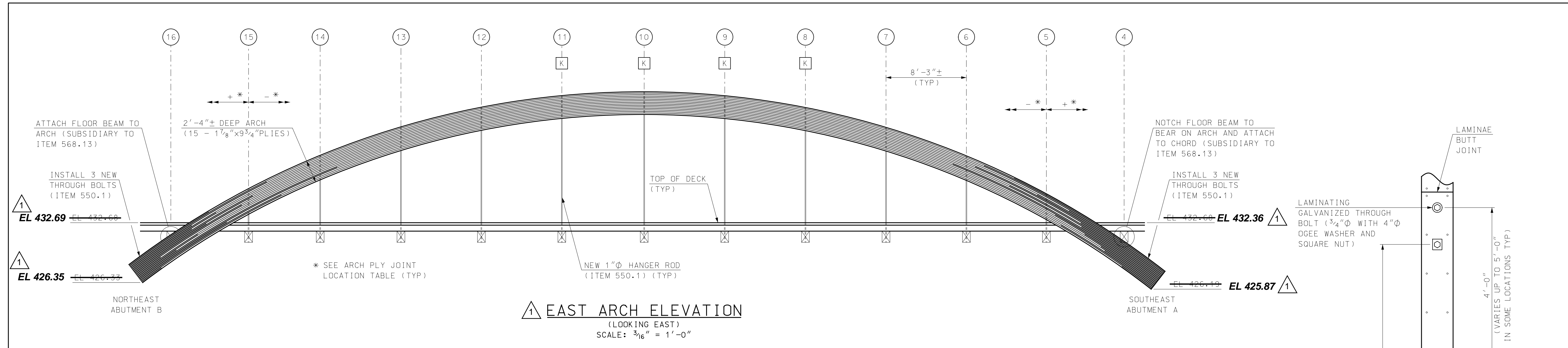
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APRIL 2020	DESIGN BY: JCR	DRAWN BY: PBD	CHKD. BY: STJ	SCALE: AS SHOWN
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Hoyle, Tanner & Associates, Inc.
 150 Dow Street, Manchester, NH 03101-1227
 Tel (603) 669-5555 - Fax (603) 669-4168
 www.hoyletanner.com

TOWN OF OSSISPEE
 OSSISPEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
 EAST ARCH ELEVATION AND DETAILS

PROJECT NO.: 915003
 FILE NAME: 915003ArchDets1
 MODEL NAME: 915003ArchDets1
 SHEET NO.
29
 SHEET 29 OF 34



**ARCH BOLTING/
 NAILING
 PLAN DETAIL**
 SCALE: 3/4" = 1'-0"

PLY	SOUTHEAST ABUTMENT A		NORTHEAST ABUTMENT B	
	(+) INCHES	(-) INCHES	(+) INCHES	(-) INCHES
1		44	57.5	
2		85	73	
3	33		82	
4		12	47	
5		97	82	
6	50		92	
7		50.5	61	
8	51		10	
9		127	120.5	
10	13.5		73.5	
11	56		105	
12	80			120
13	85.5		31.5	
14	22			-45
15		111.5	114	

* SEE NOTE 1

NOTES

- ARCH PLY REPLACEMENT LIMITS ARE APPROXIMATE AND ARE SHOWN FOR BIDDING PURPOSES. REPLACEMENT LIMITS ARE BASED ON FIELD MEASUREMENTS AND REPRESENT THE APPROXIMATE LOCATION OF AN EXISTING BUTT JOINT BETWEEN ADJACENT PLIES OR TO THE END OF AN EXISTING ARCH PLY. DIMENSIONS SHOWN ARE MEASURED ALONG THE ARCH PLY FROM NODE 5 OR 15.
- THE CONTRACTOR SHALL VERIFY THE LENGTH OF EACH PLY AFTER THE BRIDGE HAS BEEN REINSTALLED ON THE REHABILITATED ABUTMENTS PRIOR TO THE CUTTING OR INSTALLING A NEW MEMBER.
- NO GAPS OR SHIMS BETWEEN ADJACENT PLIES AT BUTT JOINT LOCATIONS SHALL BE PERMITTED. ALL NEW PLIES SHALL HAVE FULL BEARING AT EXISTING ARCH PLIES AND AT ABUTMENT PILASTERS.
- REPLACEMENT ARCH PLIES ARE CURRENTLY STORED ON SITE. SEE WOOD NOTES ON SHEET 3 FOR MORE INFORMATION.
- ALL COSTS FOR REMOVAL OF EXISTING ARCH PLIES, WHERE REQUIRED, AND INSTALLATION OF NEW ARCH PLIES SHALL BE PAID FOR UNDER ITEM 568.04, STORED STRUCTURAL TIMBER (ADDED ARCHES).
- TRUSS NODES ARE LOCATED AT THE CENTER OF EACH CROSS BEAM.

LEGEND

- DENOTES APPROXIMATE LIMITS OF ARCH PLY REPLACEMENT
- TRUSS NODE LOCATION (SEE NOTE 6)
- CONNECT EXISTING KNEE BRACE TO ARCH (ITEM 568.04), SEE DETAIL ON SHEET 30

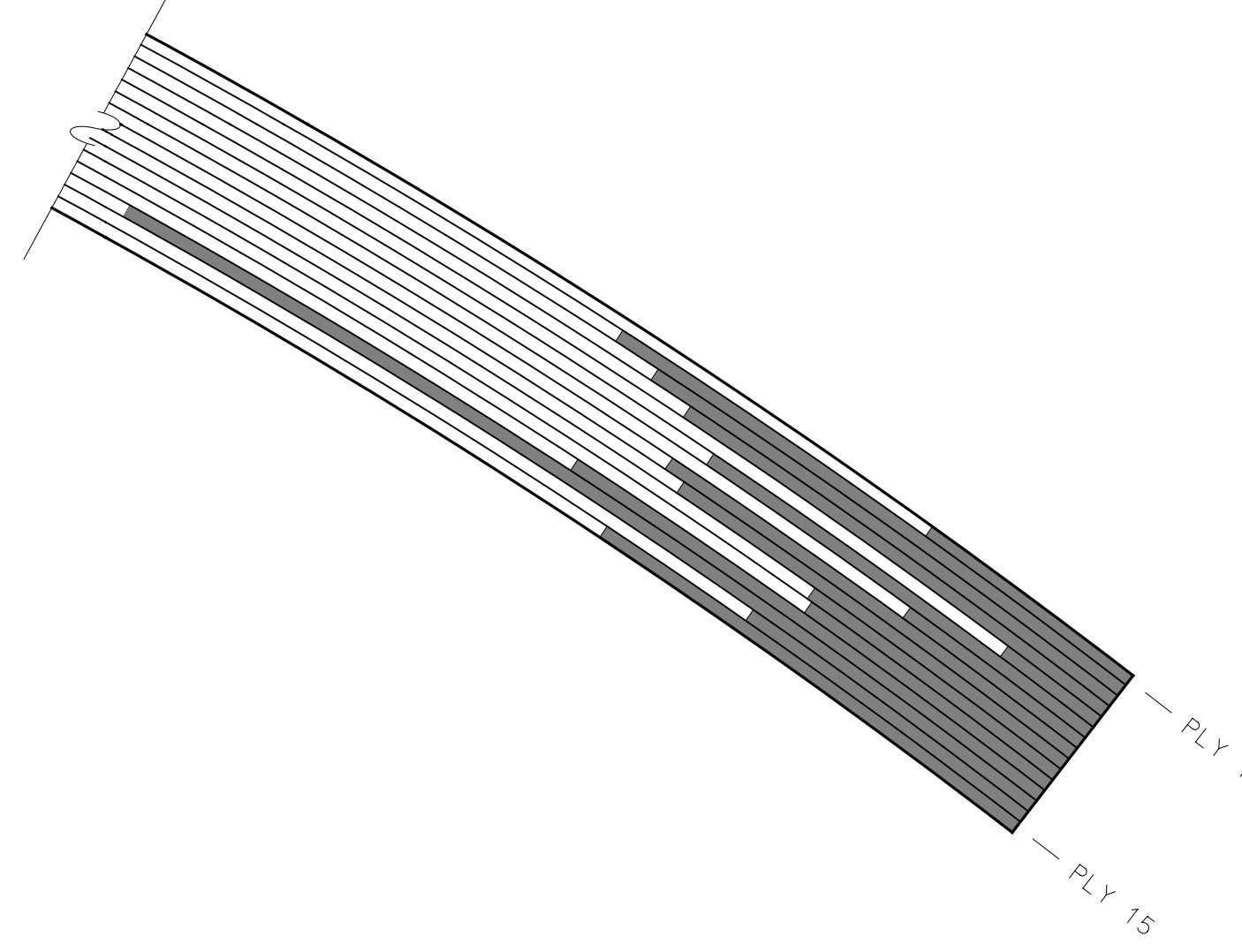
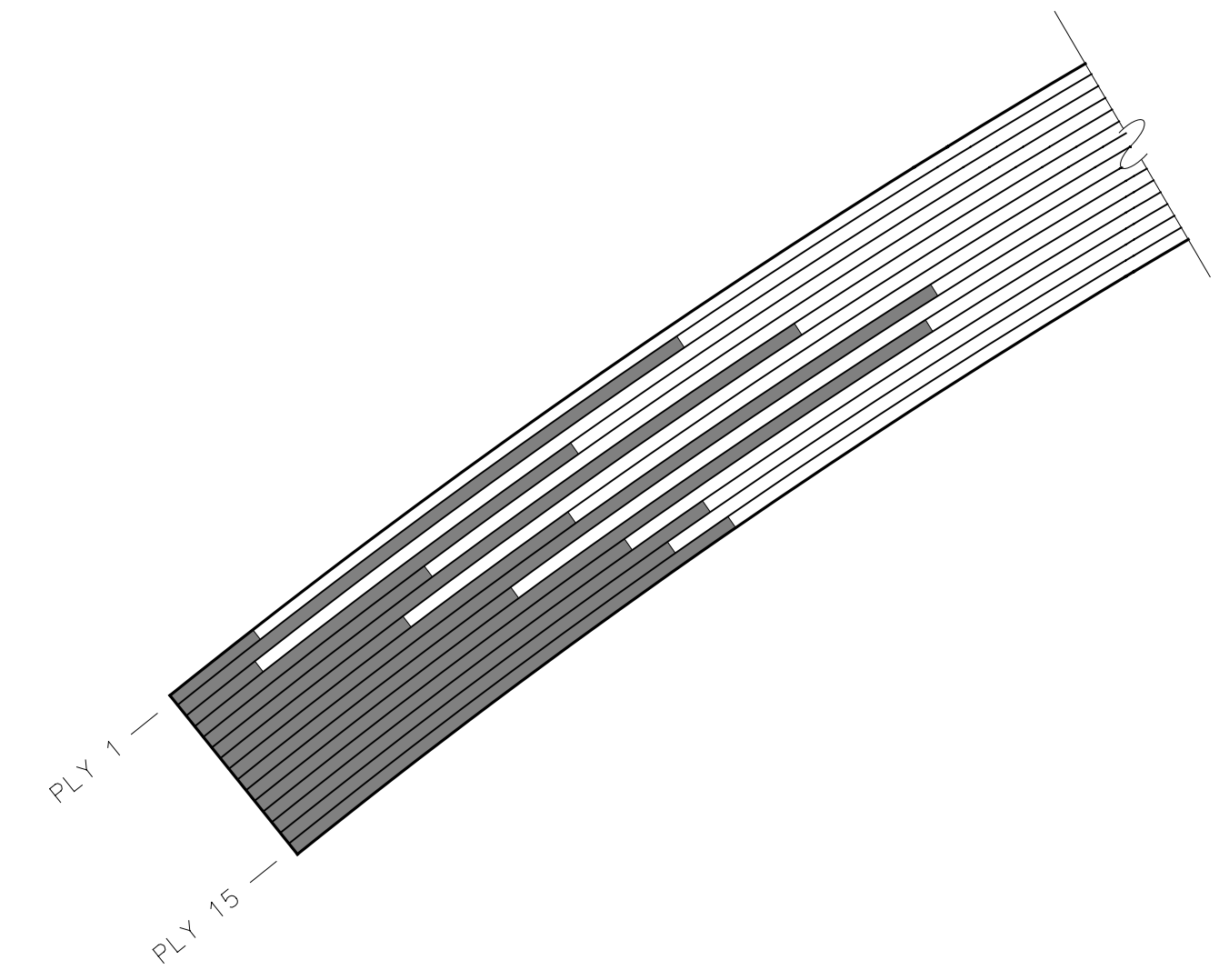
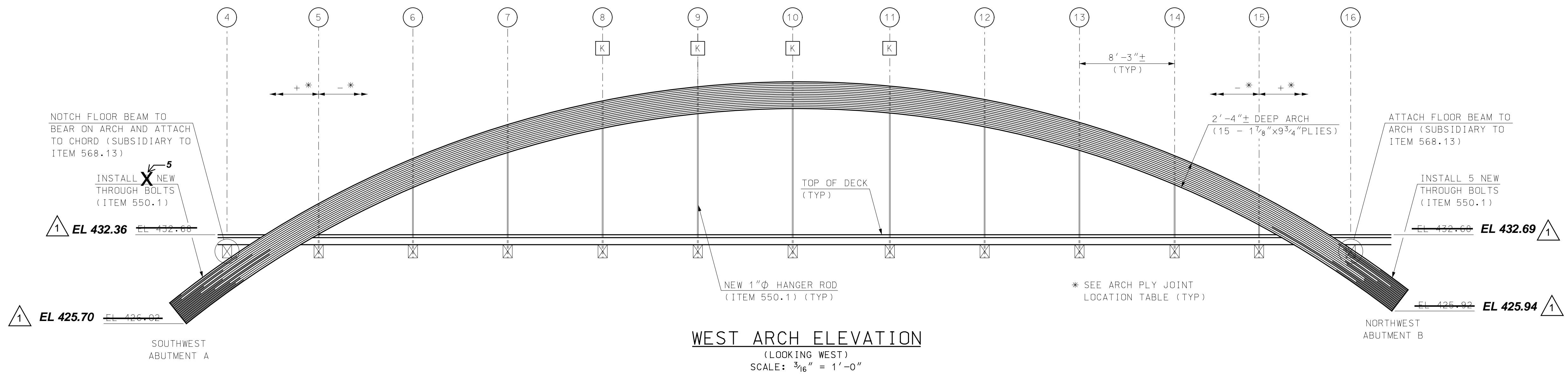
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I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
 HOYLE, TANNER & ASSOCIATES, INC.
 SIGNED: [Signature]
 FEBRUARY 2023
 NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

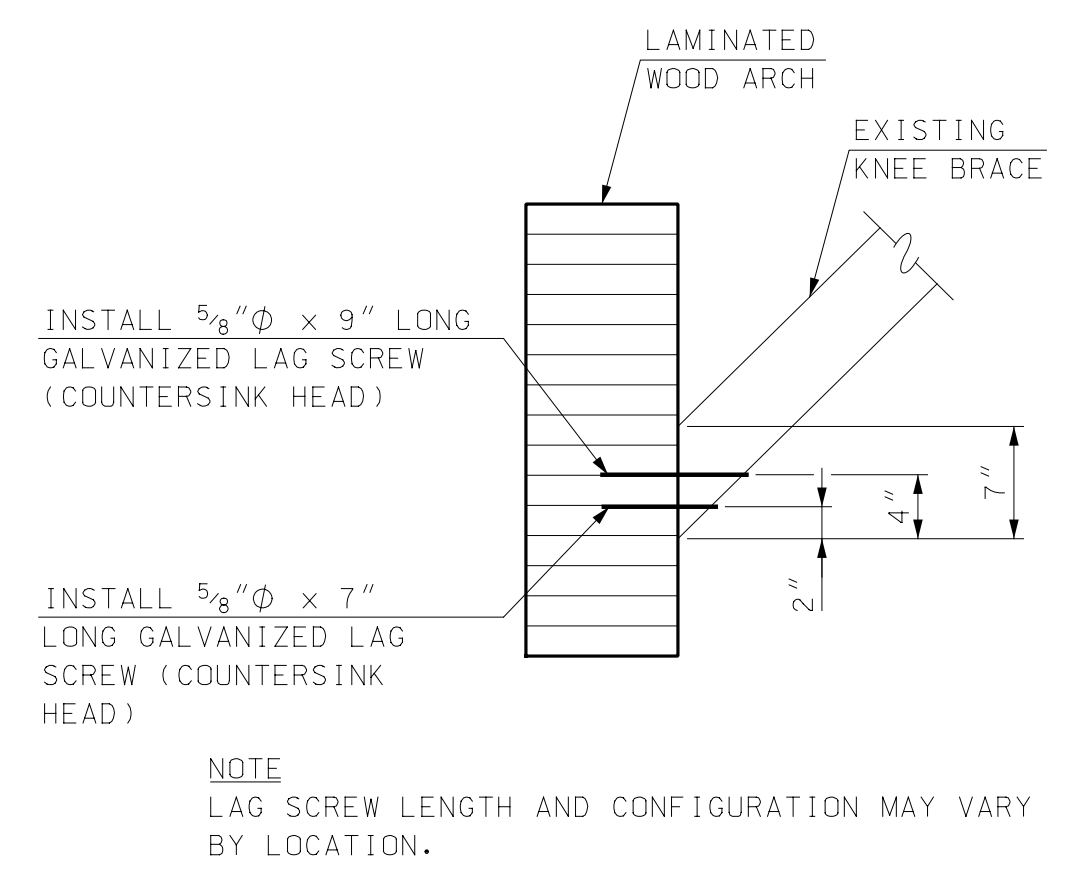
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1	RECORD COPY REVISIONS	2/2023	KVD	STJ	

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			STJ	SCALE:



PLY	SOUTHWEST ABUTMENT A		NORTHWEST ABUTMENT B	
	(+) INCHES	(-) INCHES	(+) INCHES	(-) INCHES
1	171		150.25	
2	99		99.5	
3	171		105.5	
4	117		111	
5	132		166	
6	80		115	
7	146		149	
8	118		108	
9	58		110	
10	128		132.5	
11	59		132	
12	109		92	
13	96		18	
14	102		122	
15	92		97	



- LEGEND**
- DENOTES APPROXIMATE LIMITS OF ARCH PLY REPLACEMENT
 - X TRUSS NODE LOCATION
 - K CONNECT EXISTING KNEE BRACE TO ARCH (ITEM 568.04), SEE DETAIL ON THIS SHEET

NOTES

1. SEE SHEET 29 FOR NOTES THAT APPLY TO THIS SHEET.

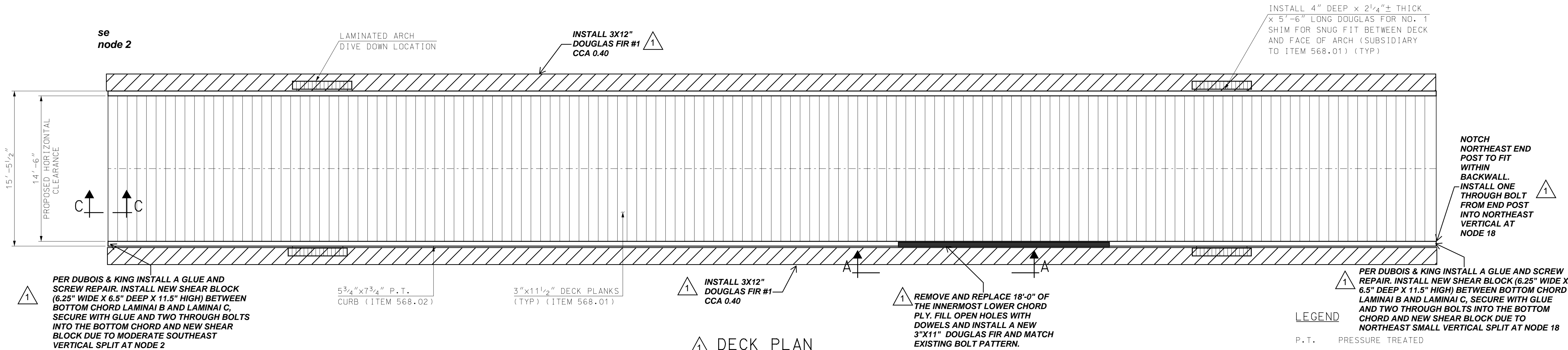
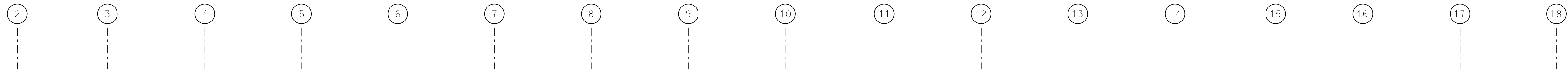
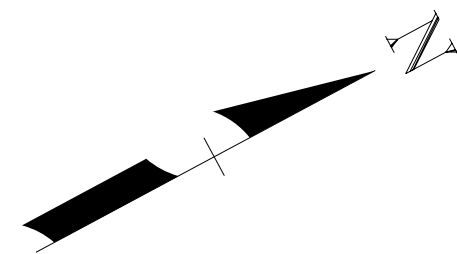
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TOWN OF OSS�PEE
 OSS�PEE, NEW HAMPSHIRE
 WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
 WEST ARCH ELEVATION AND DETAILS

PROJECT NO.: 915003
 FILE NAME: 915003ArchDets
 MODEL NAME: 915003ArchDets2

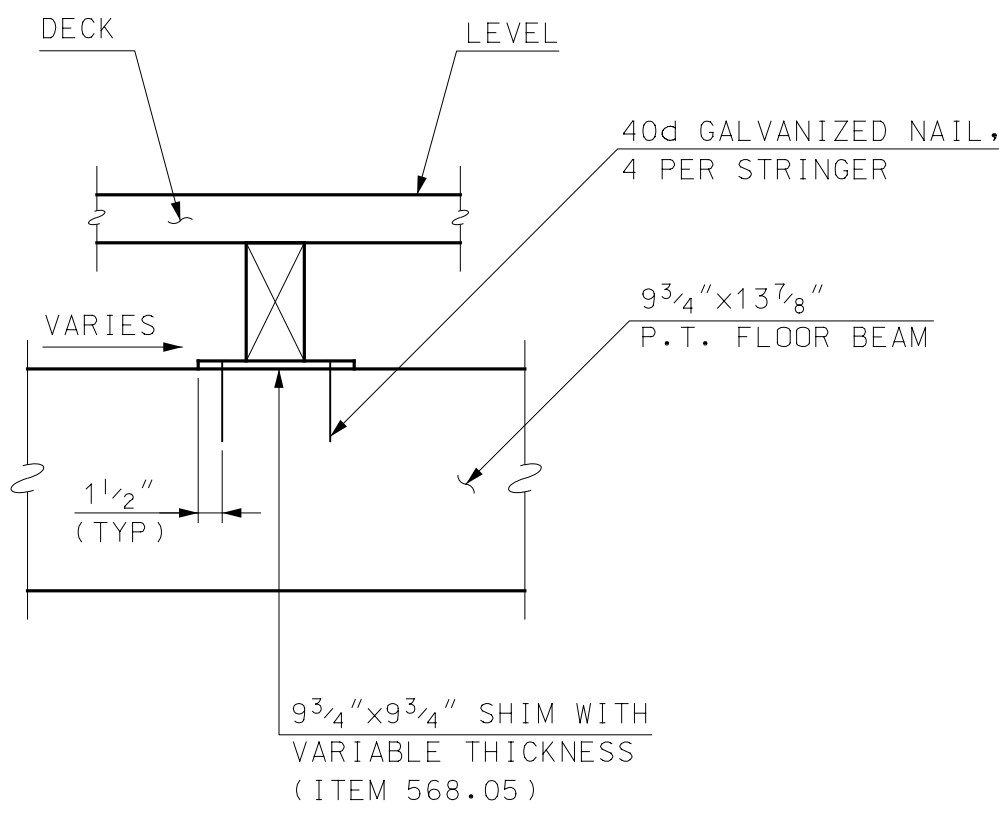
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30
 SHEET 30 OF 34

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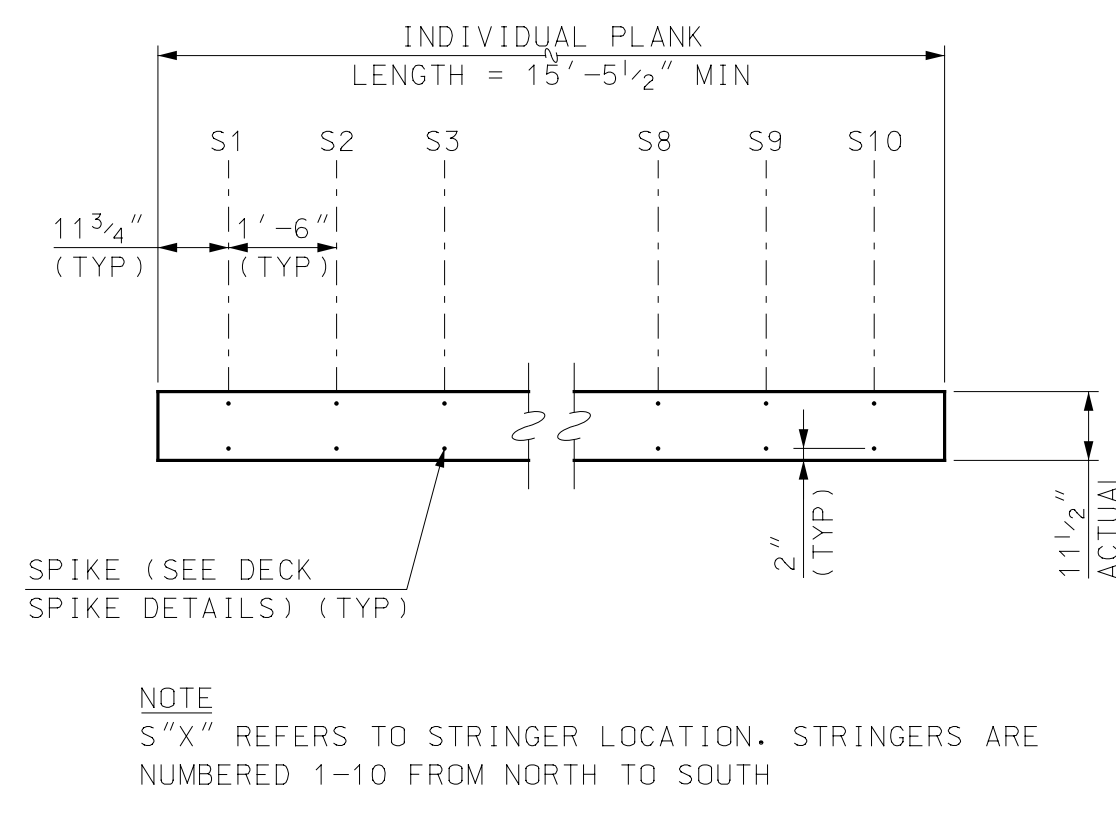


DECK PLAN
SCALE: 3/16" = 1'-0"

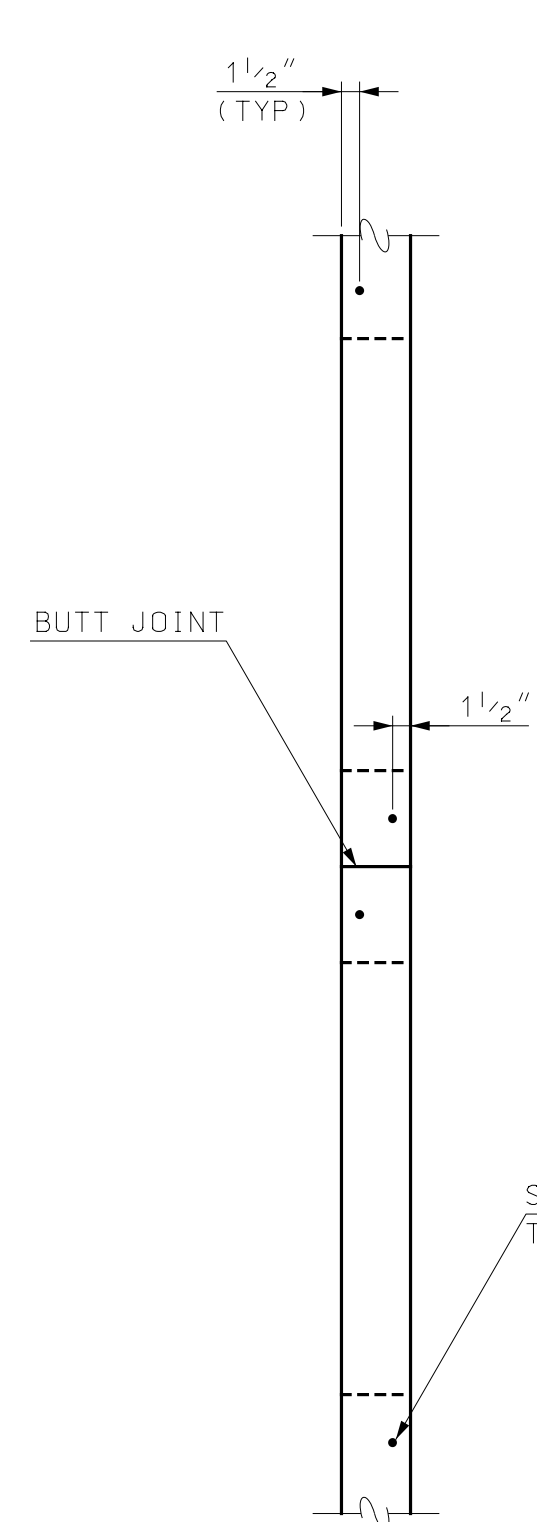
LEGEND
P.T. PRESSURE TREATED



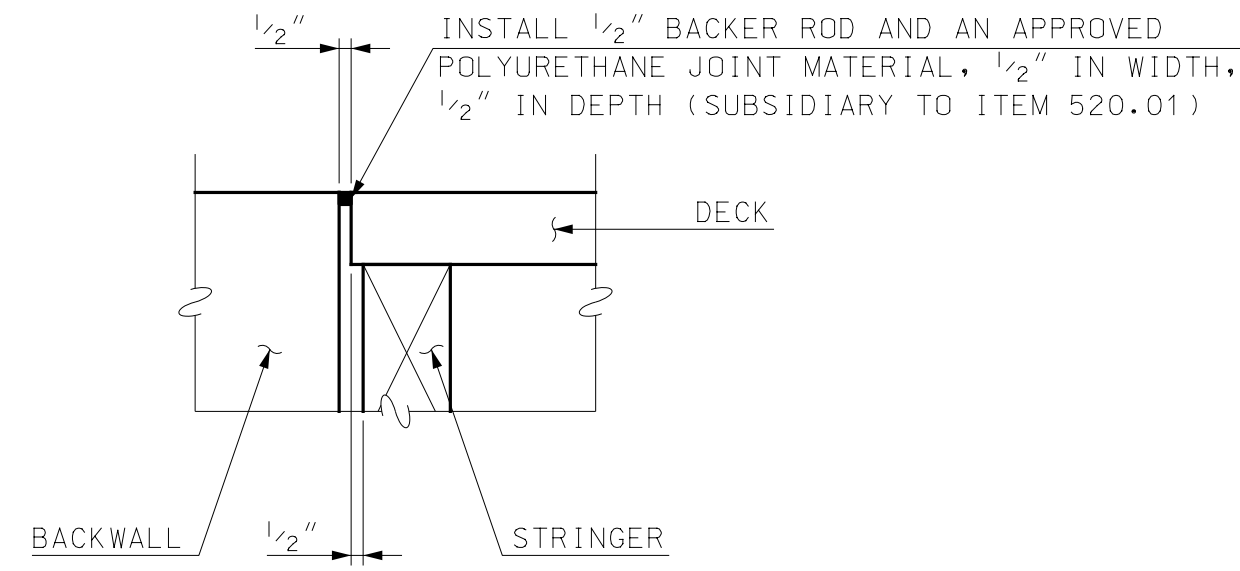
FLOOR BEAM SHIM DETAIL
SCALE: 1" = 1'-0"



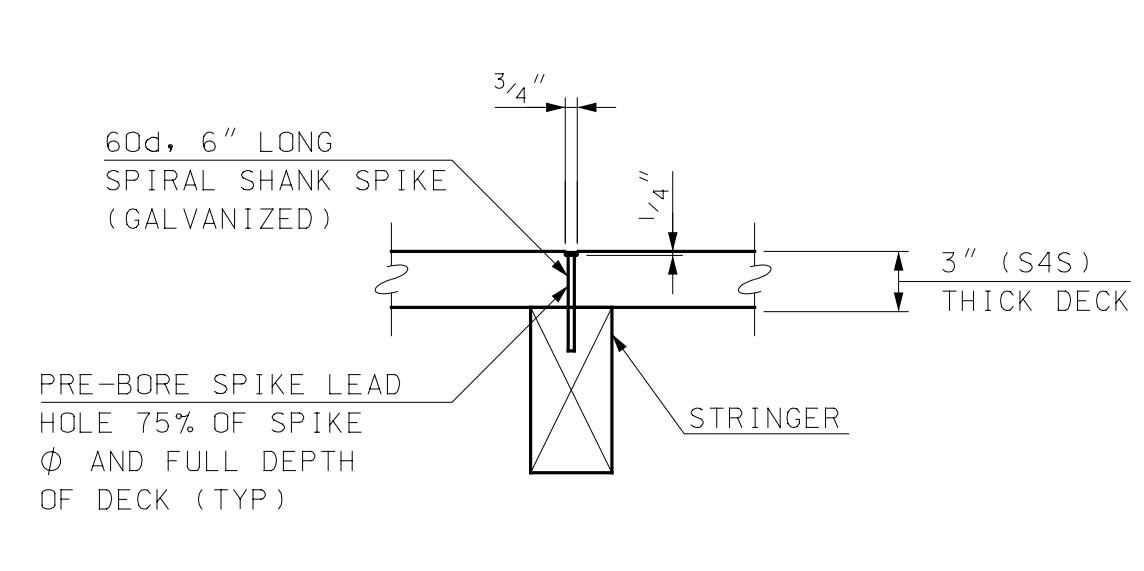
DECK PLANK ATTACHMENT
NOT TO SCALE



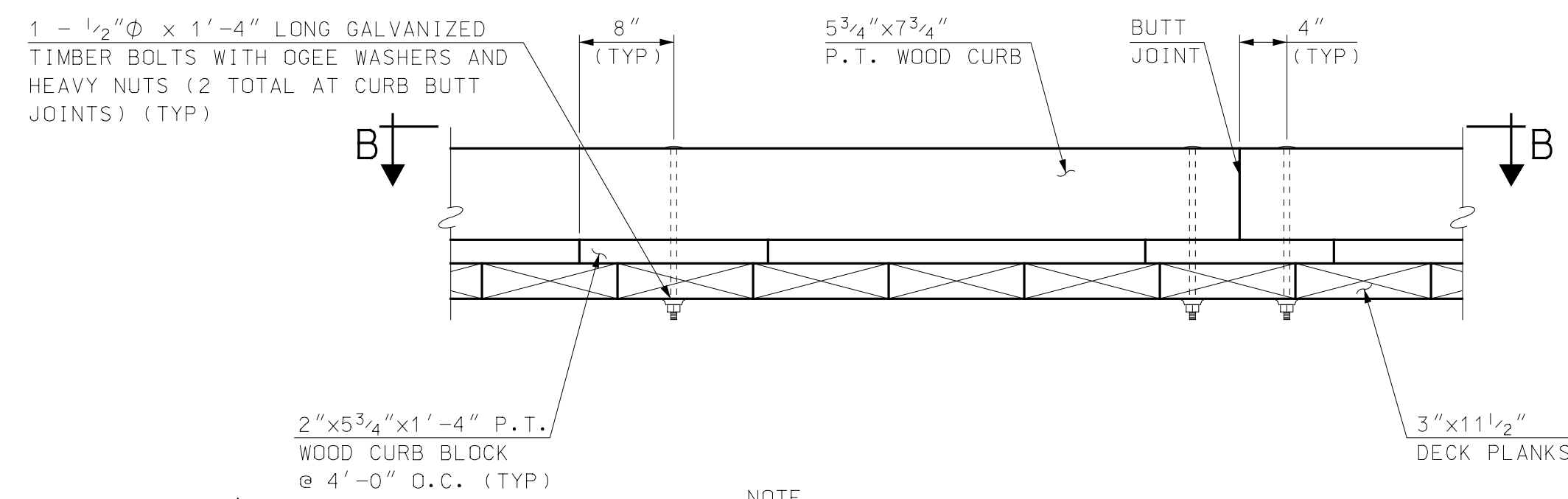
SECTION B-B
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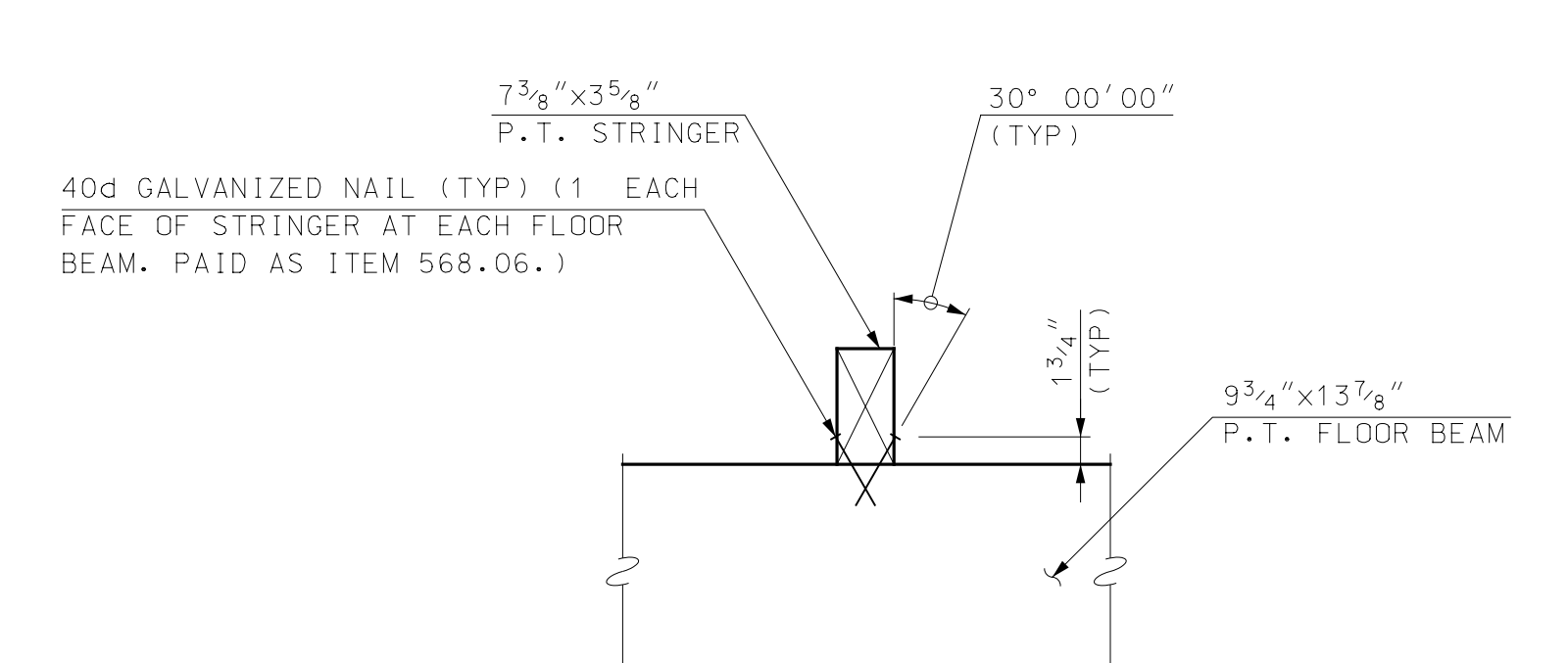
SECTION C-C
SCALE: 1 1/2" = 1'-0"



DECK SPIKE DETAIL
NOT TO SCALE



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



STRINGER TO FLOOR BEAM TOE NAIL DETAIL
SCALE: 1" = 1'-0"

1 INSTALL SHIMS WITH WOOD WASHERS TO LEVEL THE TIMBER CURBING LONGITUDINALLY (TYP.)

NOTE
ALL WORK INCLUDED IN ITEM 568.02.

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
HOYLE, TANNER & ASSOCIATES, INC.
SIGNED: [Signature]
FEBRUARY 2023
NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

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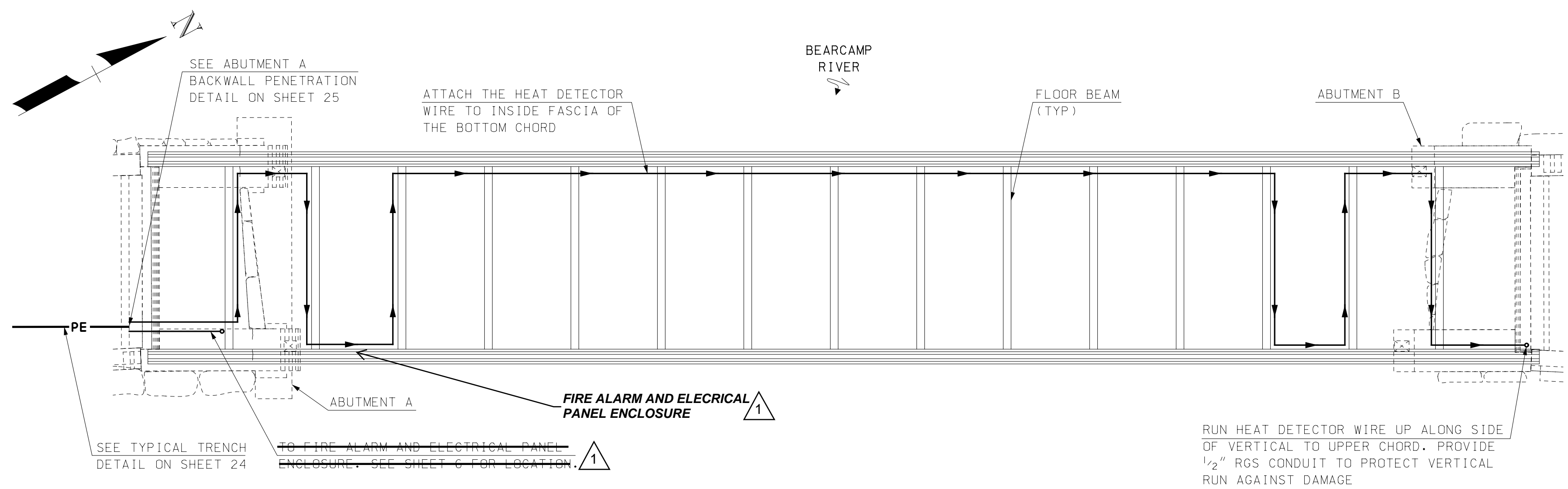
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TOWN OF OSSISPEE
OSSISPEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
DECK DETAILS

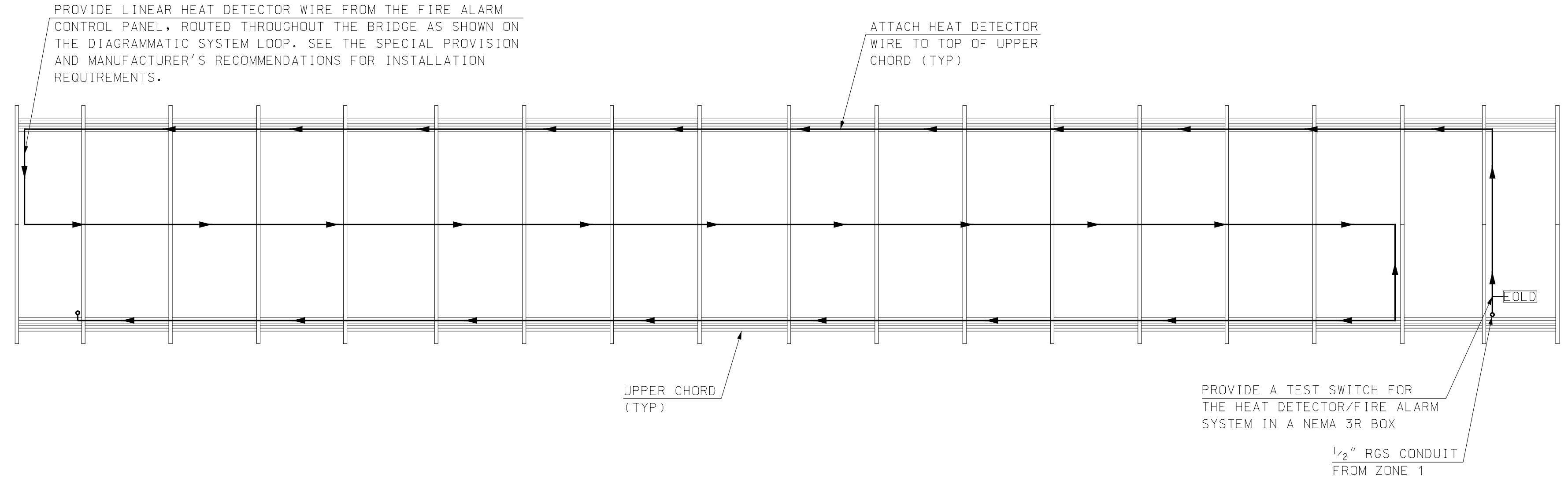
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FILE NAME: 915003DeckDets
MODEL NAME: 915003DeckDets

SHEET NO.
31
SHEET 31 OF 34

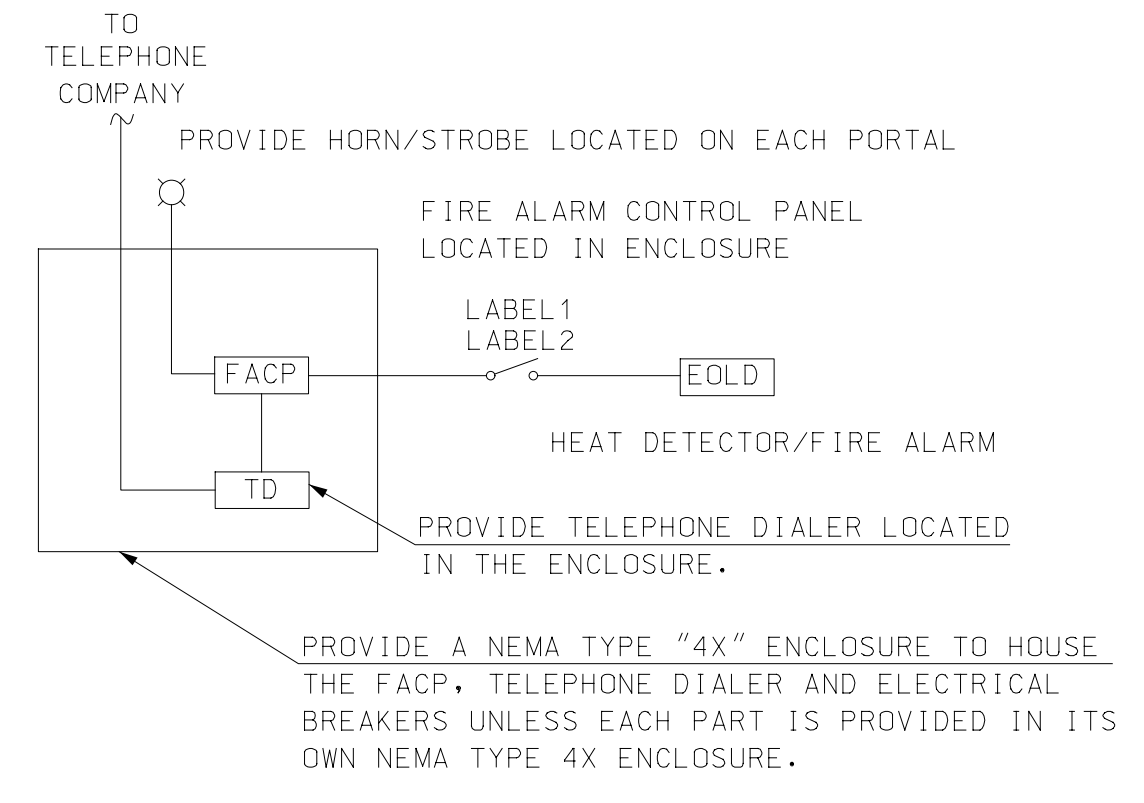
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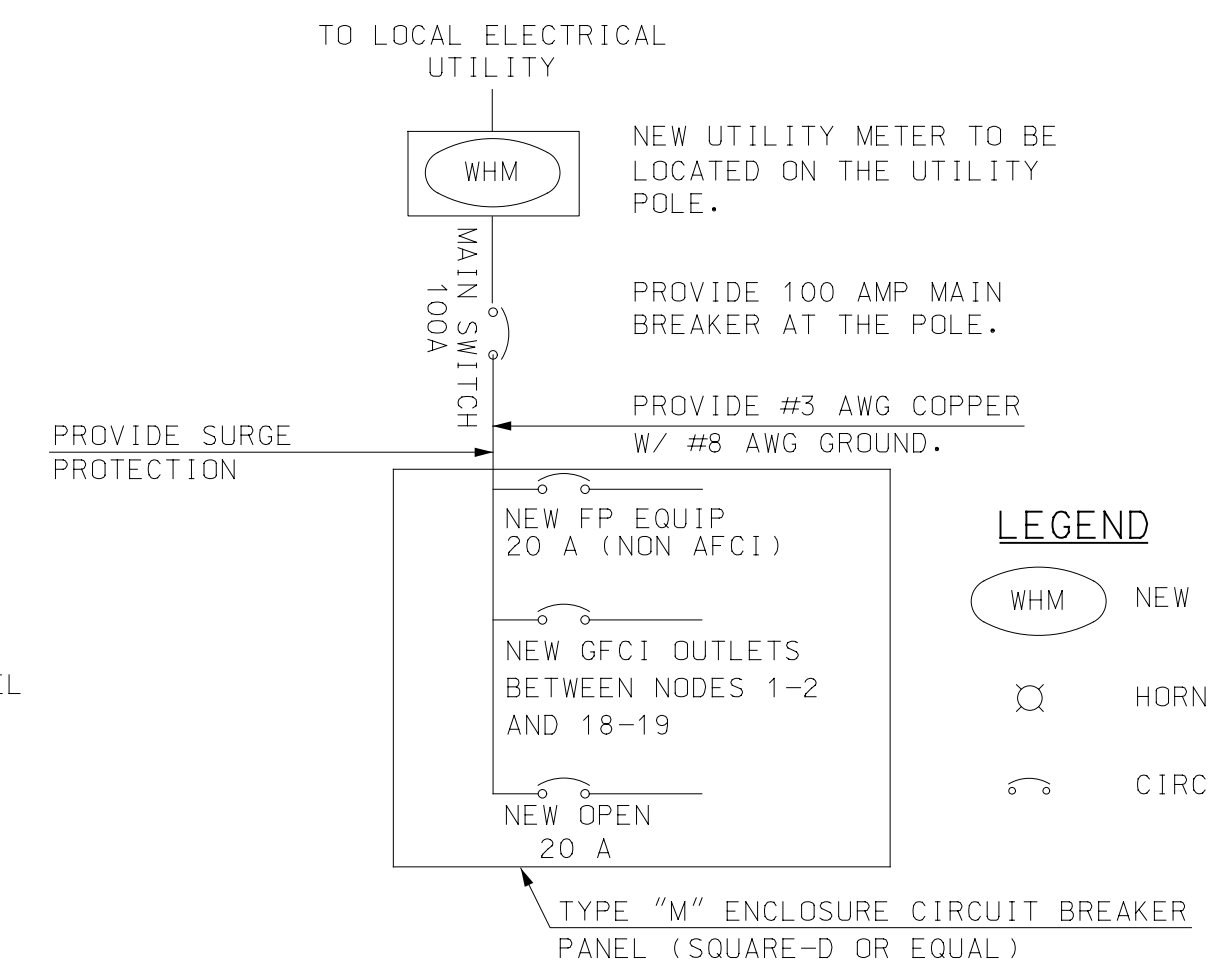
ZONE 1 DIAGRAMMATIC SYSTEM LOOP (FLOOR SYSTEM)
NOT TO SCALE



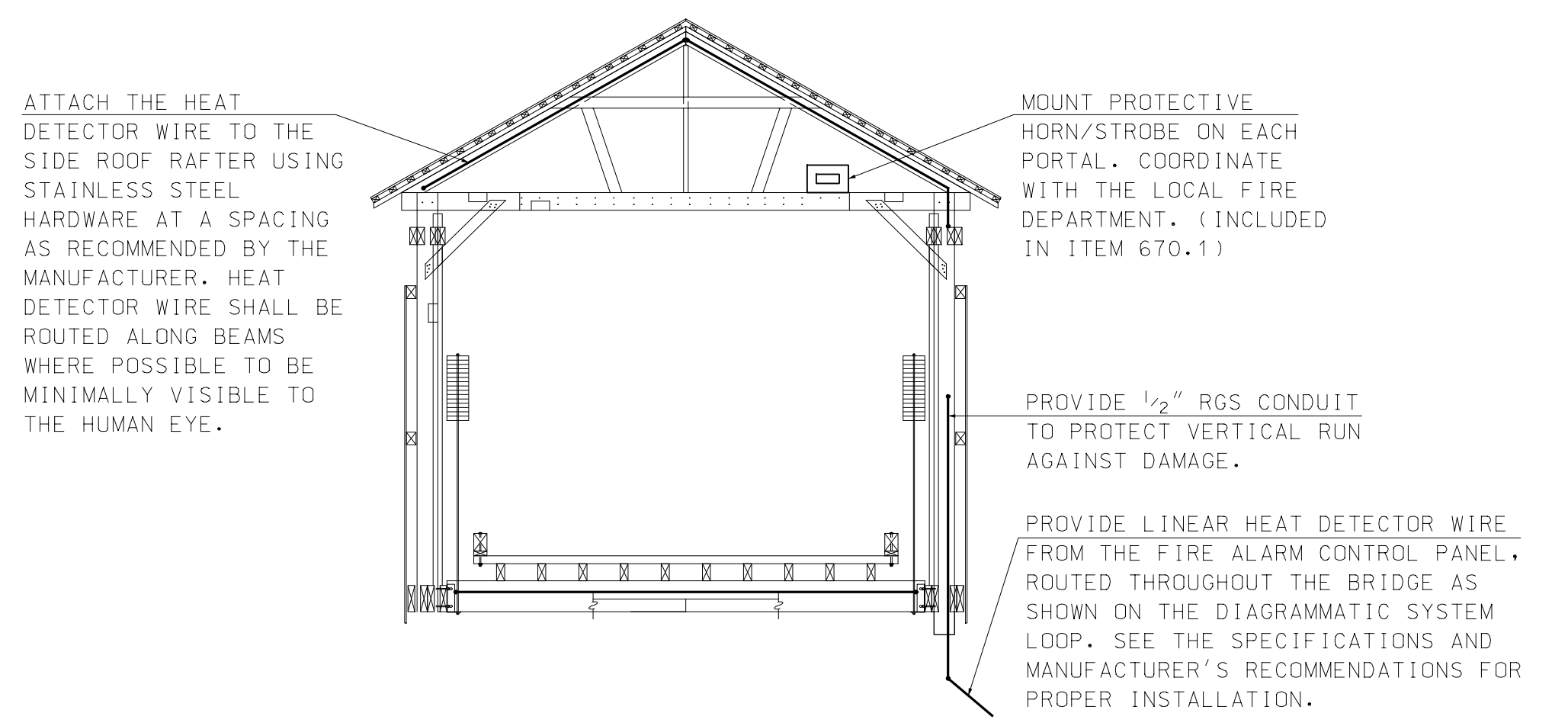
ZONE 2 DIAGRAMMATIC SYSTEM LOOP (ROOF SYSTEM)
NOT TO SCALE



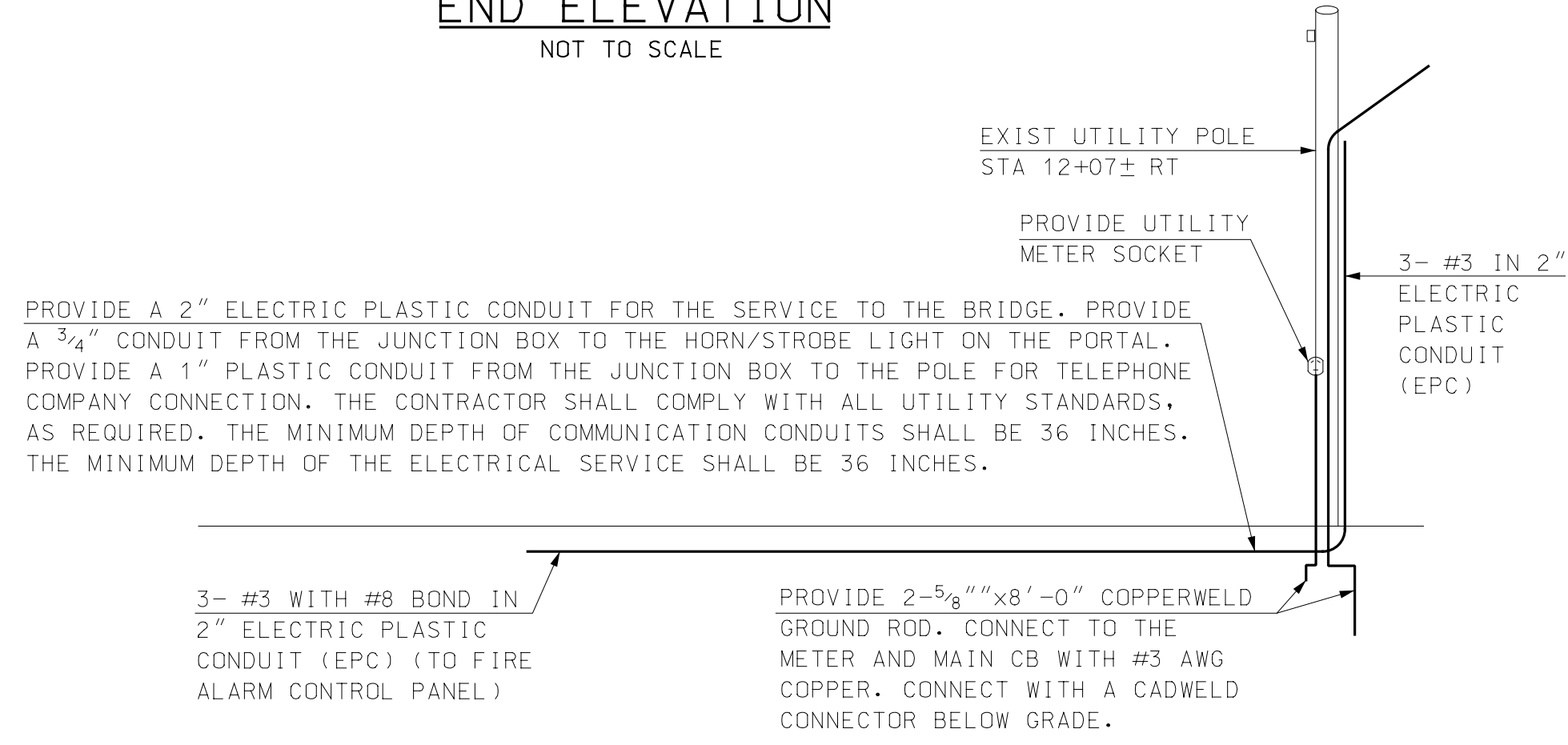
RISER DIAGRAM
NOT TO SCALE



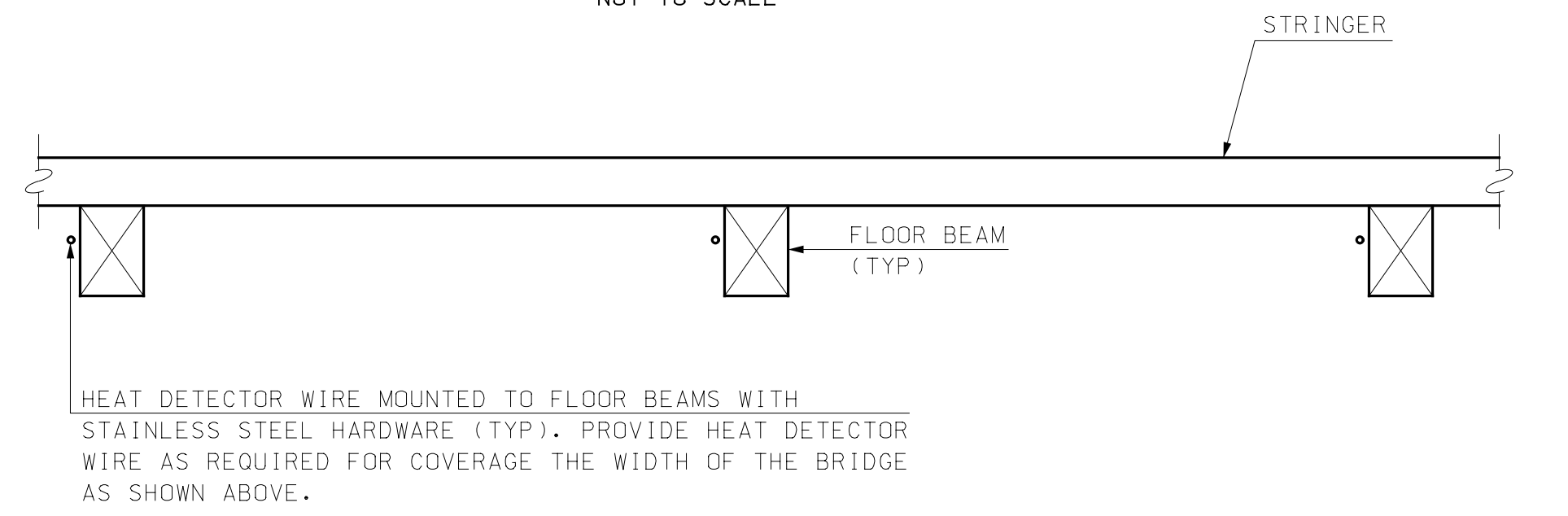
ELECTRICAL ONE-LINE
NOT TO SCALE



END ELEVATION
NOT TO SCALE



PARTIAL SIDE ELEVATION
NOT TO SCALE



UNDER-DECK DETAIL
NOT TO SCALE

NOTES

1. ALL WORK SHALL APPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES. WORK SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER.
2. THE DRAWINGS FOR THE LINEAR HEAT DETECTOR/ FIRE ALARM SYSTEM IS DIAGRAMMATIC ONLY. THE CONTRACTOR SHALL INSTALL A SYSTEM IN ACCORDANCE WITH THE DRAWINGS, SPECIAL PROVISIONS AND THE MANUFACTURER GUIDELINES FOR PROPER INSTALLATION. THE LOCATIONS OF WIRE AND EQUIPMENT ARE APPROXIMATE AND SHALL BE VERIFIED WITH THE ENGINEER PRIOR TO INSTALLATION.
3. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL UTILITIES TO VERIFY THEIR REQUIREMENTS ARE MET WITH THE CONSTRUCTION.
4. THE BRIDGE IS 146'-5" LONG, AN OVERALL WIDTH OF 21'-6" FEET AND A ROADWAY WIDTH OF 14'-6". THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXACT DIMENSIONS AS REQUIRED.
5. NO STRUCTURAL MEMBERS OF THE BRIDGE SHALL BE CUT OR NOTCHED BY THE CONTRACTOR AS PART OF INSTALLING THE FIRE DETECTION SYSTEM.
6. THE CONTRACTOR SHALL COORDINATE WITH THE TOWN AND ITS ALARM MONITORING COMPANY AND ENSURE THAT THE SYSTEM IS FUNCTIONING PROPERLY.
7. THE CONTRACTOR SHALL PROVIDE A RECORD DRAWING OF THE HEAT DETECTOR WIRE INSTALLATION UPON COMPLETION OF THE WORK. THE DRAWING SHALL INCLUDE THE EXACT LOCATION OF THE WIRE EVERY 100' WITHIN THE ZONE.
8. ALL WORK DESCRIBED AND DETAILED ON THIS SHEET WILL BE PAID UNDER ITEM 670.1, BRIDGE FIRE ALARM SYSTEM.

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.

HOYLE, TANNER & ASSOCIATES, INC.
SIGNED: [Signature]
FEBRUARY 2023

NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

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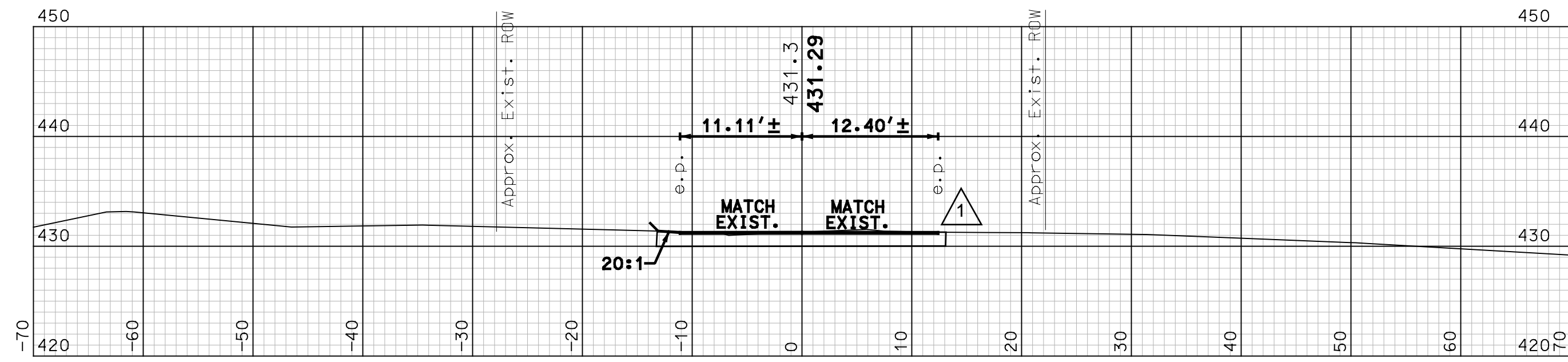
TOWN OF OSS�PEE
OSS�PEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
FIRE ALARM PLAN AND DETAILS

PROJECT NO.: 915003
FILE NAME: 915003FPDets
MODEL NAME: 915003FPDets

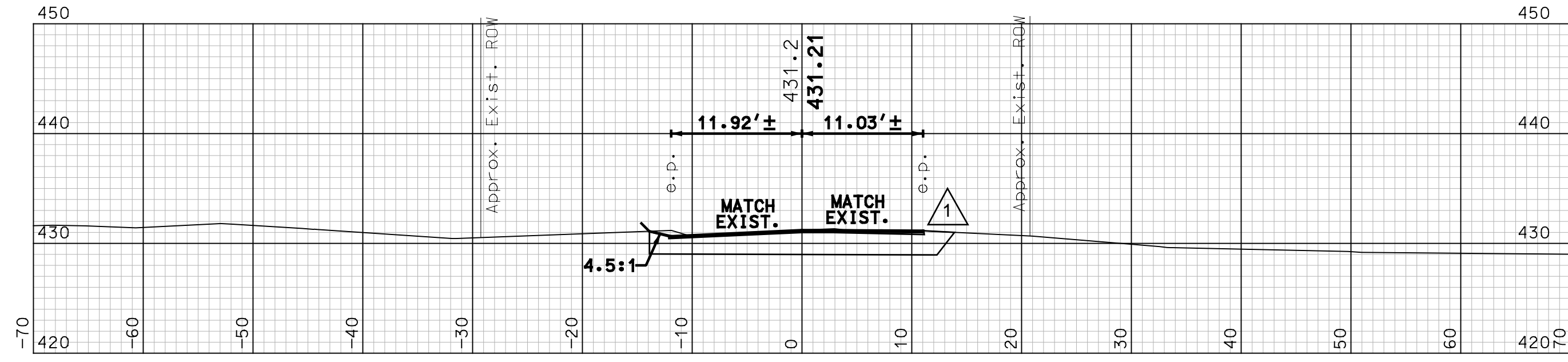
SHEET NO.
32
SHEET 32 OF 34

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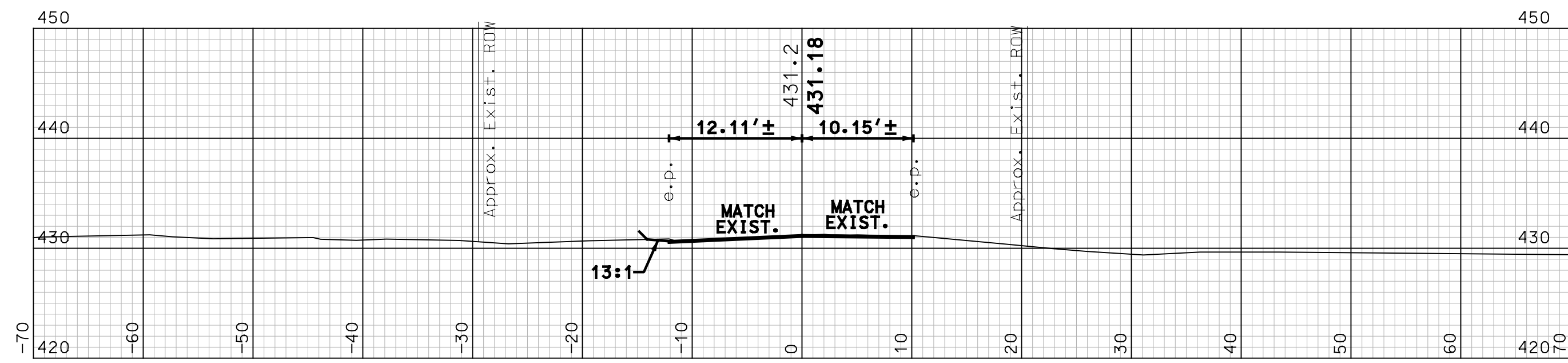
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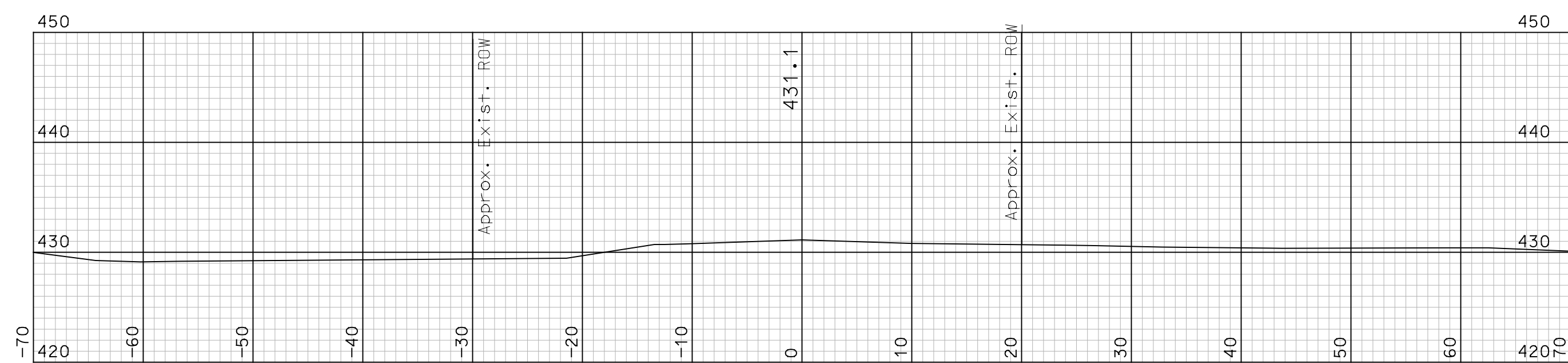
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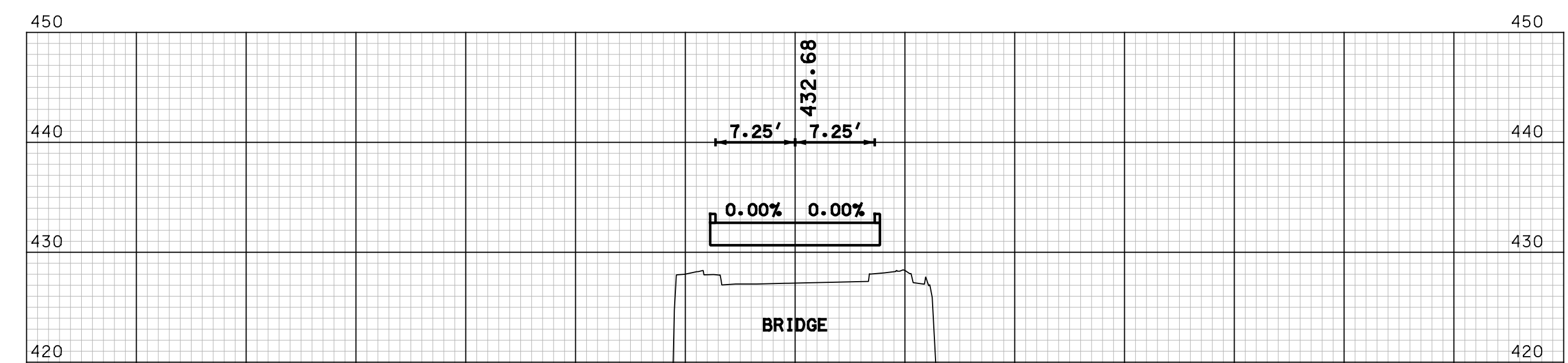
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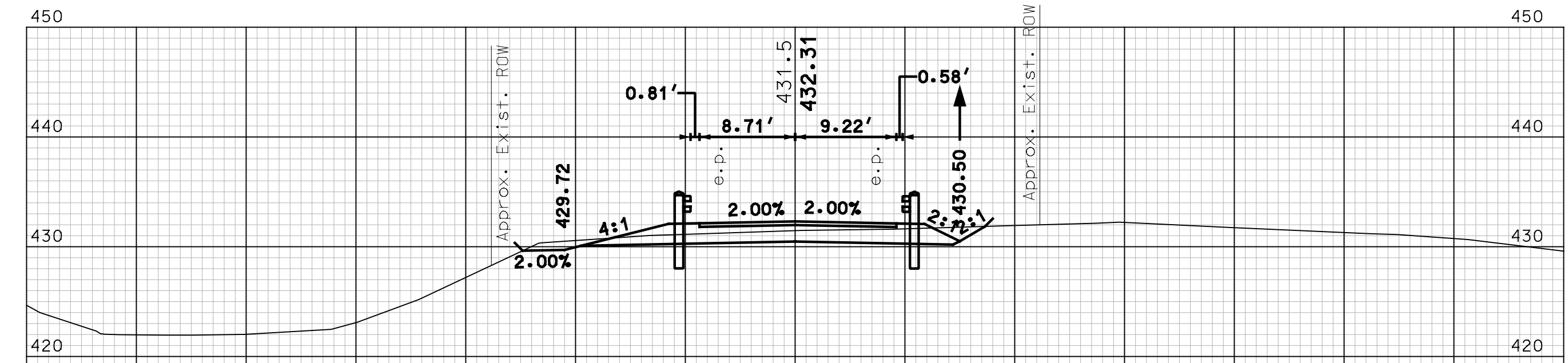
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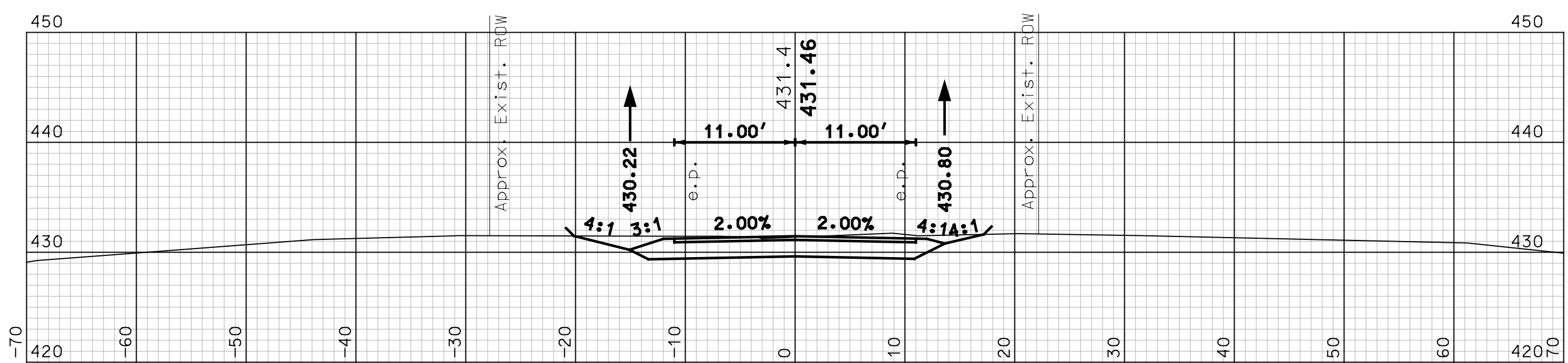
10+00



12+50



12+00



11+50

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
HOYLE, TANNER & ASSOCIATES, INC.
SIGNED: [Signature]
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DRAWN BY: BKM
CHKD BY: GAB
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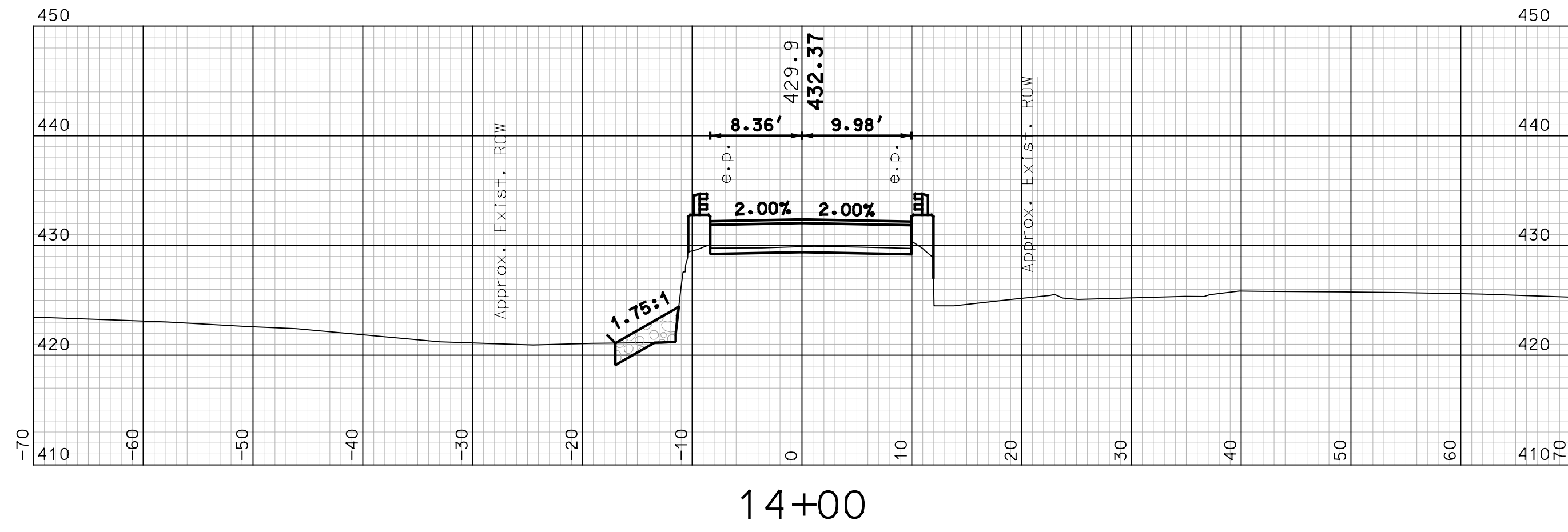
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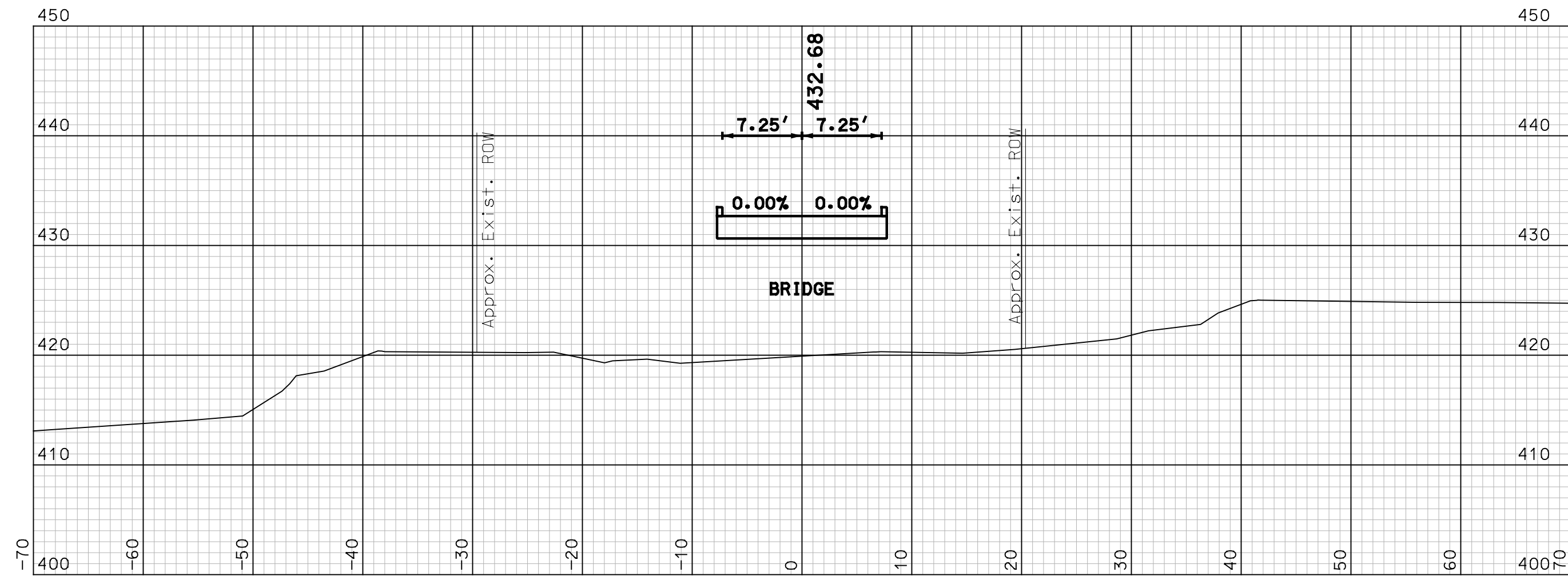
TOWN OF OSSIPPEE
OSSIPPEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
ROADWAY CROSS SECTIONS (1 OF 2)

PROJECT NO.: 915003
FILE NAME: 915003xsuplans
MODEL NAME: 915003xsu1
SHEET NO.
33
SHEET 33 OF 34

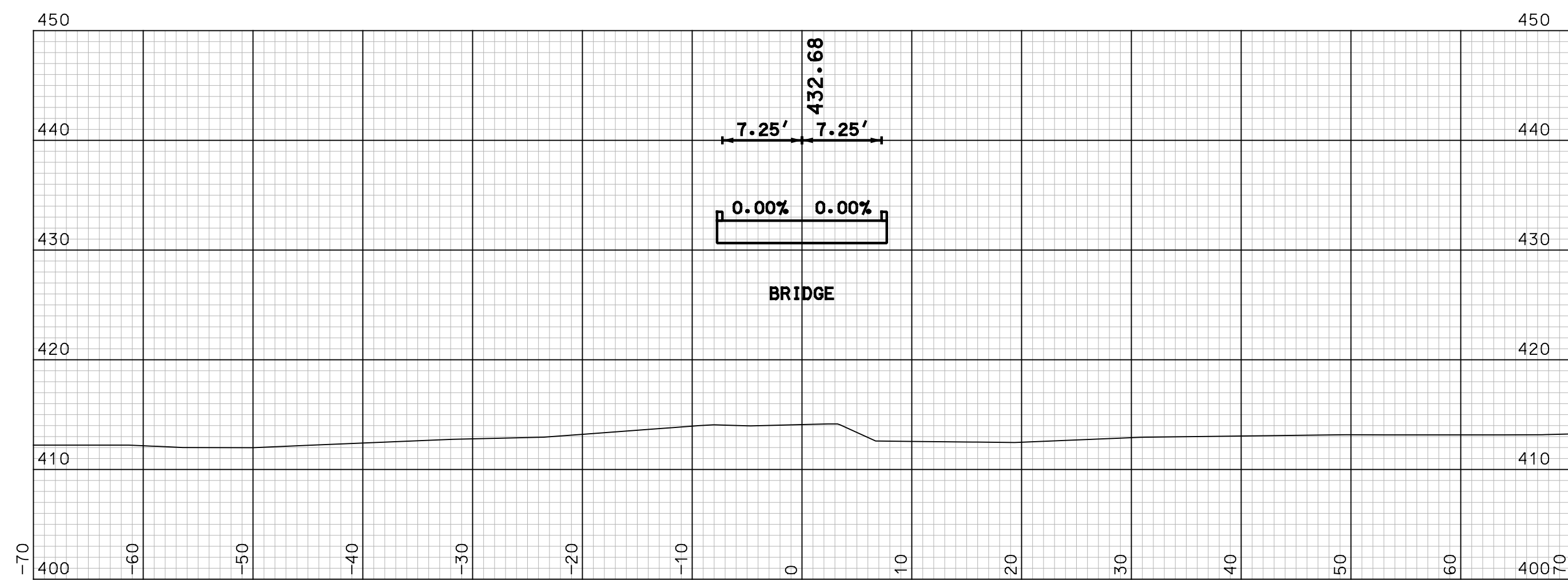
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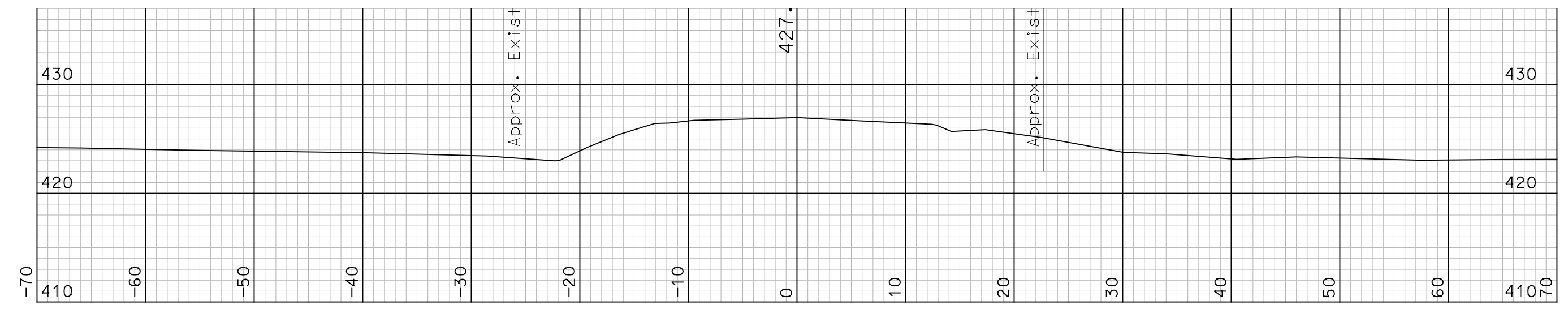
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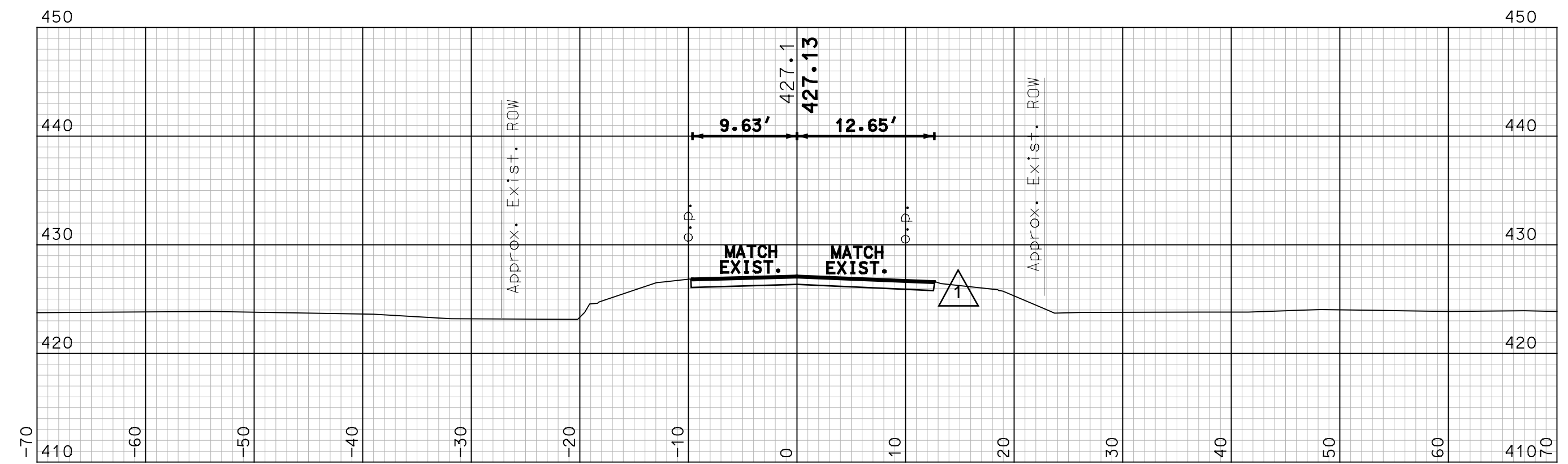
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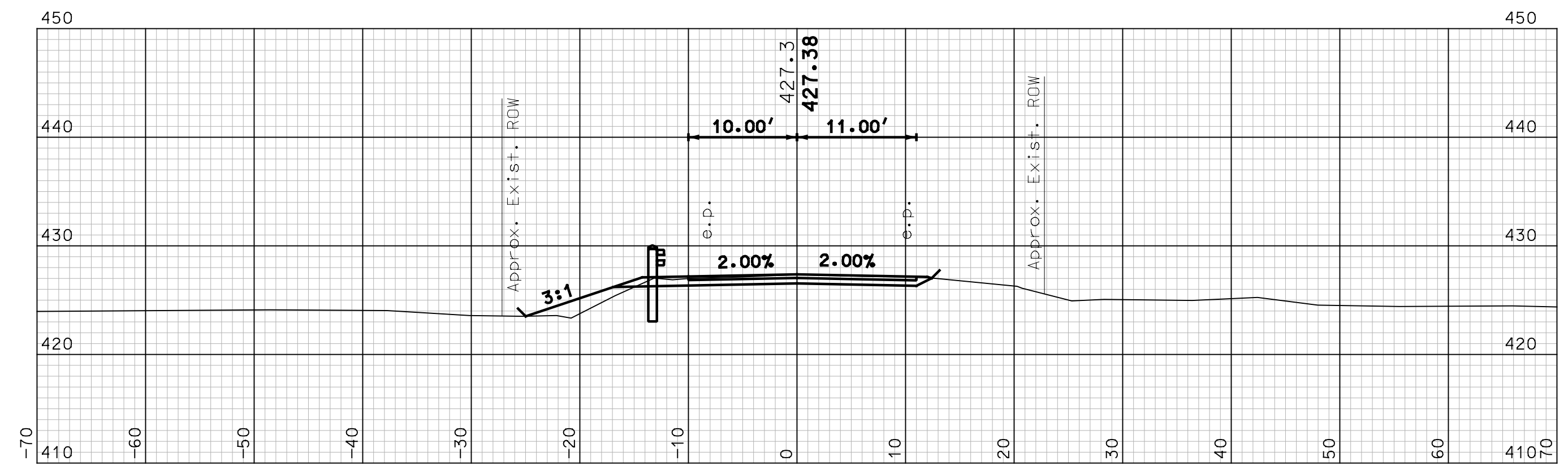
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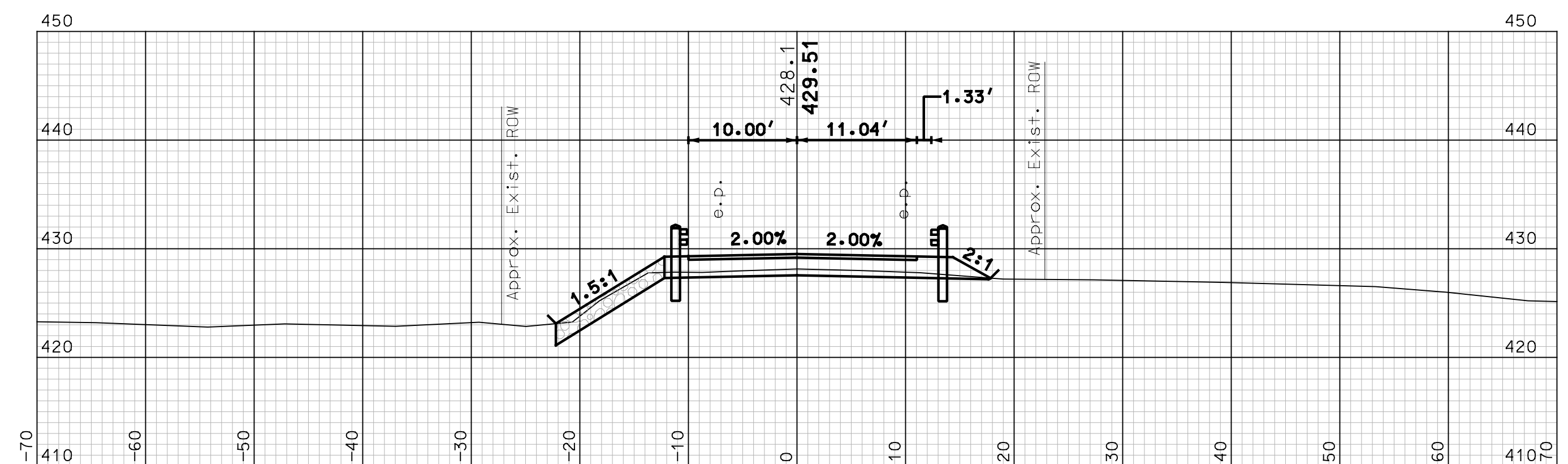
15+50



15+25 (END PROJECT)



15+00



14+50

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BASED UPON CONSTRUCTION RECORDS, THAT ALL WORK SHOWN IN THESE DRAWINGS HAS BEEN COMPLETED AS SHOWN.
HOYLE, TANNER & ASSOCIATES, INC.
SIGNED: [Signature]
FEBRUARY 2023
NOTE: WORDING CONTAINED HEREON IS UNDERSTOOD TO BE PAST TENSE.

REV	DESCRIPTION	DATE	DRW	CHKD	BY
1	RECORD COPY REVISIONS	2/2023	KVD	STJ	

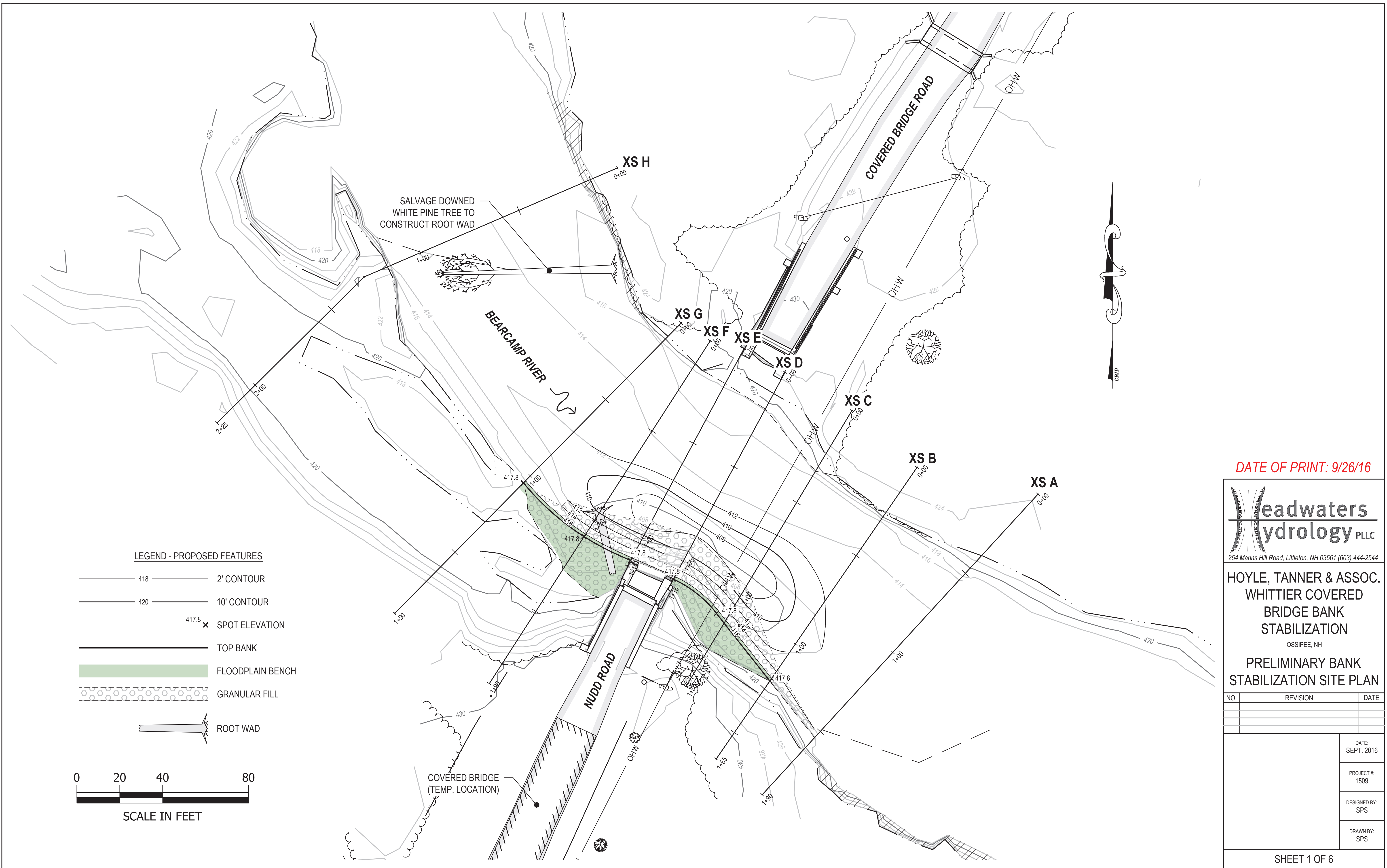
DESIGN BY: BKM
DRAWN BY: BKM
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SCALE: AS SHOWN

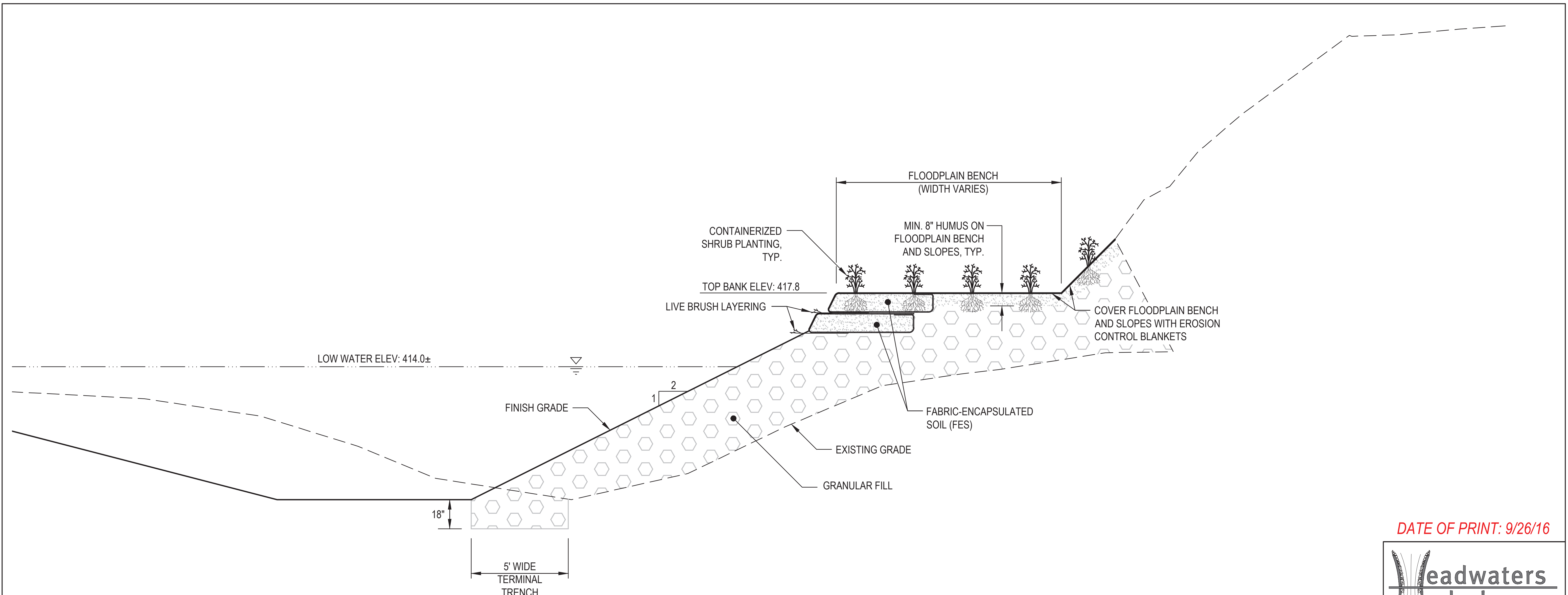
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TOWN OF OSSISPEE
OSSISPEE, NEW HAMPSHIRE
WHITTIER COVERED BRIDGE NHDOT BRIDGE NO. 108333
ROADWAY CROSS SECTIONS (2 OF 2)

PROJECT NO.: 915003
FILE NAME: 915003xsuplans
MODEL NAME: 915003xsu2
SHEET NO.
34
SHEET 34 OF 34





NOTES:

1. FILL PLACED BELOW THE FES AND HUMUS SHALL BE GRANULAR FILL. GRANULAR FILL SHALL BE A MIX OF NATURALLY OCCURRING (NOT CRUSHED OR BLASTED) GRAVEL, COBBLE, AND BOULDER HAVING THE FOLLOWING GRADATION:

% BY WEIGHT	GRAIN SIZE (INCHES)	
	LOWER LIMIT	UPPER LIMIT
100	23	26
85	15	17
50	7	8
15	2	3

AREAS OVER-EXCAVATED FOR INSTALLATION OF THE ROOTWAD STRUCTURE SHALL BE BACKFILLED WITH GRANULAR FILL. PLACE GRANULAR FILL IN LOOSE LIFTS NO THICKER THAN THE D100 GRAIN SIZE AND MACHINE COMPACT TO CREATE A MONOLITHIC MASS OF GRANULAR MATERIAL.

2. EROSION CONTROL BLANKETS (ECBs) SHALL BE INSTALLED OVER THE ENTIRE FLOODPLAIN BENCH AND ADJACENT SLOPES IMMEDIATELY AFTER THEY ARE SEEDDED. ECBs SHALL BE INSTALLED IN CONTINUOUS STRIPS ORIENTED PERPENDICULAR TO THE STREAM FLOW WITH ADJACENT STRIPS LAPPED SHINGLE STYLE SUCH THAT THE UPSTREAM BLANKETS OVERLIE THE DOWNSTREAM BLANKETS WITH A MINIMUM OVERLAP OF 6". ECBs USED FOR THE FES, FLOODPLAIN BENCH, AND SLOPES SHALL BE EAST COAST EROSION CONTROL ECC-2B BIODEGRADABLE OR APPROVED EQUAL. ALL ENDS SHALL BE SECURELY KEYED BELOW GRADE AND THE BLANKETS SHALL BE SECURED WITH MINIMUM 6" LONG METAL STAPLES OR WOOD STAKES PER THE MANUFACTURERS RECOMMENDED STAPLING PATTERN.

3. REFER TO FABRIC-ENCAPSULATED SOIL (FES) DETAIL FOR FES AND LIVE BRUSH MATERIAL AND INSTALLATION SPECIFICATIONS.

4. REFER TO ROOT WAD DETAIL FOR ROOT WAD MATERIAL AND CONSTRUCTION SPECIFICATIONS.

5. REFER TO SEEDING AND PLANTING NOTES FOR SEEDING AND PLANTING SPECIFICATIONS.

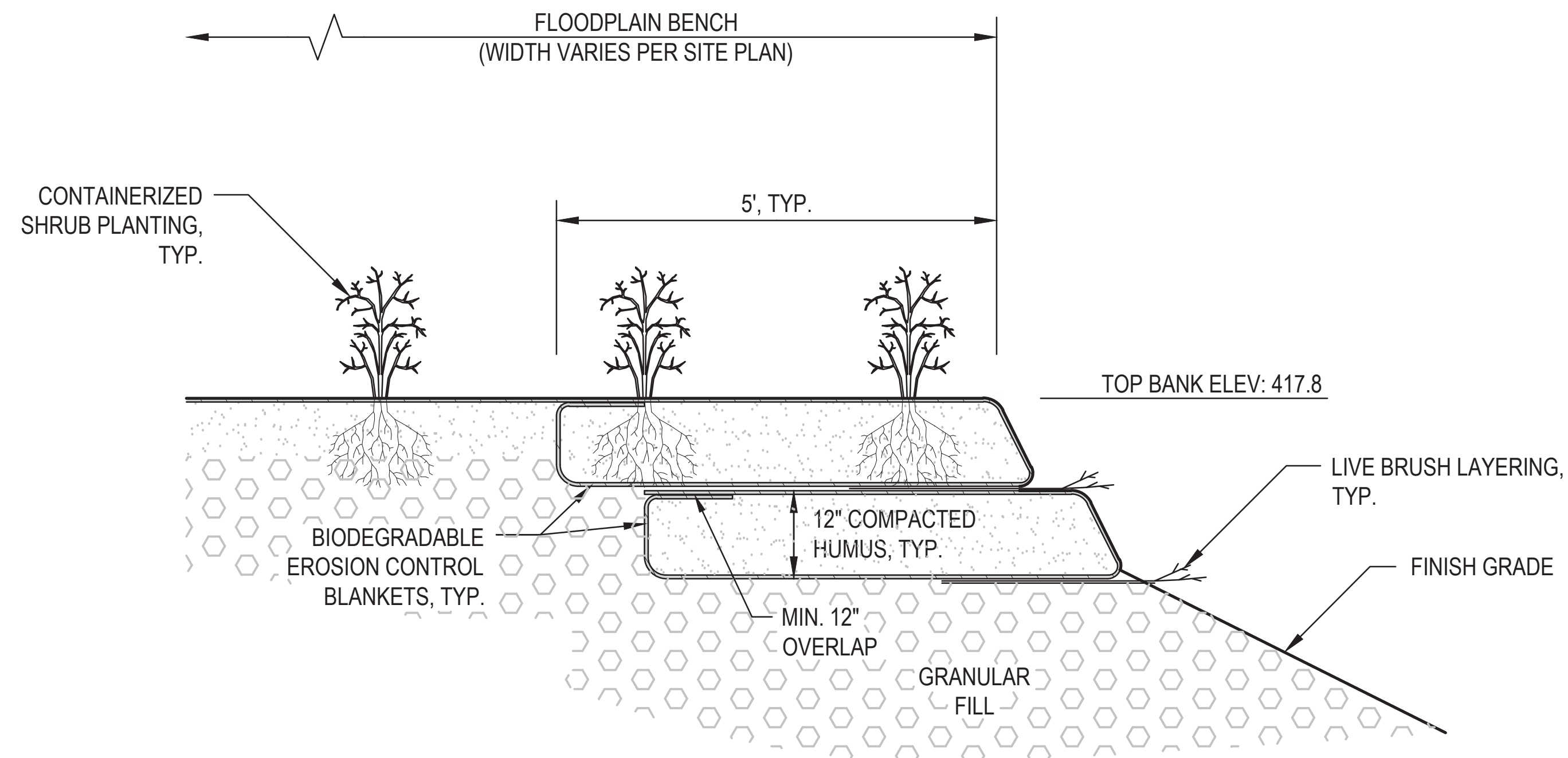
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WHITTIER COVERED
BRIDGE BANK
STABILIZATION
 OSSIPEE, NH
TYPICAL BANK
STABILIZATION DETAIL

NO.	REVISION	DATE

DATE: SEPT. 2016
PROJECT #: 1509
DESIGNED BY: SPS
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NOTES:

1. LIFTS OF FABRIC-ENCAPSULATED SOIL (FES) SHALL BE 5' WIDE AND COMPACTED TO 12" THICK. EROSION CONTROL BLANKETS SHALL TIGHTLY WRAP THE HUMUS SOIL MATERIAL ON ALL SIDES.
2. EROSION CONTROL BLANKETS SHALL BE ECC-2B (COCONUT, BIODEGRADABLE) MANUFACTURED BY EAST COAST EROSION CONTROL BLANKETS, OR APPROVED EQUAL.
3. LIVE BRUSH LAYERS SHALL BE COMPRISED OF LIVE, DORMANT DOGWOOD AND WILLOW CUTTINGS. EACH LAYER SHALL HAVE 10 CUTTINGS PER LINEAR FOOT ARRANGED IN A SLIGHTLY CRISS-CROSSED PATTERN. THE LOWEST LAYER SHALL BE PLACED ON TOP OF THE GRANULAR FILL AND THE UPPER LAYER SHALL BE PLACED ON TOP OF THE LOWER FES LIFT AS SHOWN ON THE DETAIL DRAWING. THE CUTTINGS SHALL BE COVERED WITH A SMALL AMOUNT OF HUMUS, COMPACTED, AND WATERED LIBERALLY BEFORE PLACING THE OVERLYING FES LIFTS.
4. LIVE CUTTINGS MUST BE HARVESTED AND INSTALLED WHEN DORMANT AND PRIOR TO BUD SWELL. LIVE CUTTINGS MUST BE KEPT COOL AND DAMP AT ALL TIMES BETWEEN HARVEST AND PLANTING. LIVE CUTTINGS MAY BE STORED ON SITE FOR UP TO 2 DAYS IN A COOL, DARK, SHELTERED LOCATION AND MUST BE THOROUGHLY WETTED DAILY.
5. LIVE CUTTINGS SHALL BE 1/2" - 1" IN DIAMETER AT THE BASAL (BOTTOM) END, AT LEAST 4' IN LENGTH WITH NO PORTIONS SMALLER THAN 1/4" IN DIAMETER ALONG THIS LENGTH, CONTAIN AT LEAST TWO LEAF BUDS ALONG THE TOP 12" OF THE CUTTING, AND BE REASONABLY STRAIGHT. SIDE BRANCHES SHALL BE REMOVED AND THE BARK LEFT INTACT.
6. THE TOTAL QUANTITY OF LIVE CUTTINGS SHALL BE COMPRISED OF A COMBINATION OF THE FOLLOWING WILLOW AND DOGWOOD SPECIES :

 SILKY DOGWOOD (CORNUS AMOMUM)
 BEBB'S WILLOW (SALIX BEBBIANA)
 PUSSY WILLOW (SALIX DISCOLOR)

 50% OF THE CUTTINGS SHALL BE DOGWOOD AND THE REMAINING 50% SHALL BE COMPRISED OF ONE OR BOTH WILLOW SPECIES.
7. LIVE CUTTINGS SHALL BE INSTALLED WITH THE BASAL (BOTTOM) ENDS PLACED INTO THE BANK AND THE TOP ENDS PROTRUDING FROM THE BANK SUCH THAT THE BUDS ARE ORIENTATED IN AN UPWARD POSITION. ONE-QUARTER OF THE TOTAL CUTTING LENGTH (12" MINIMUM) SHALL PROTRUDE FROM THE BANK.

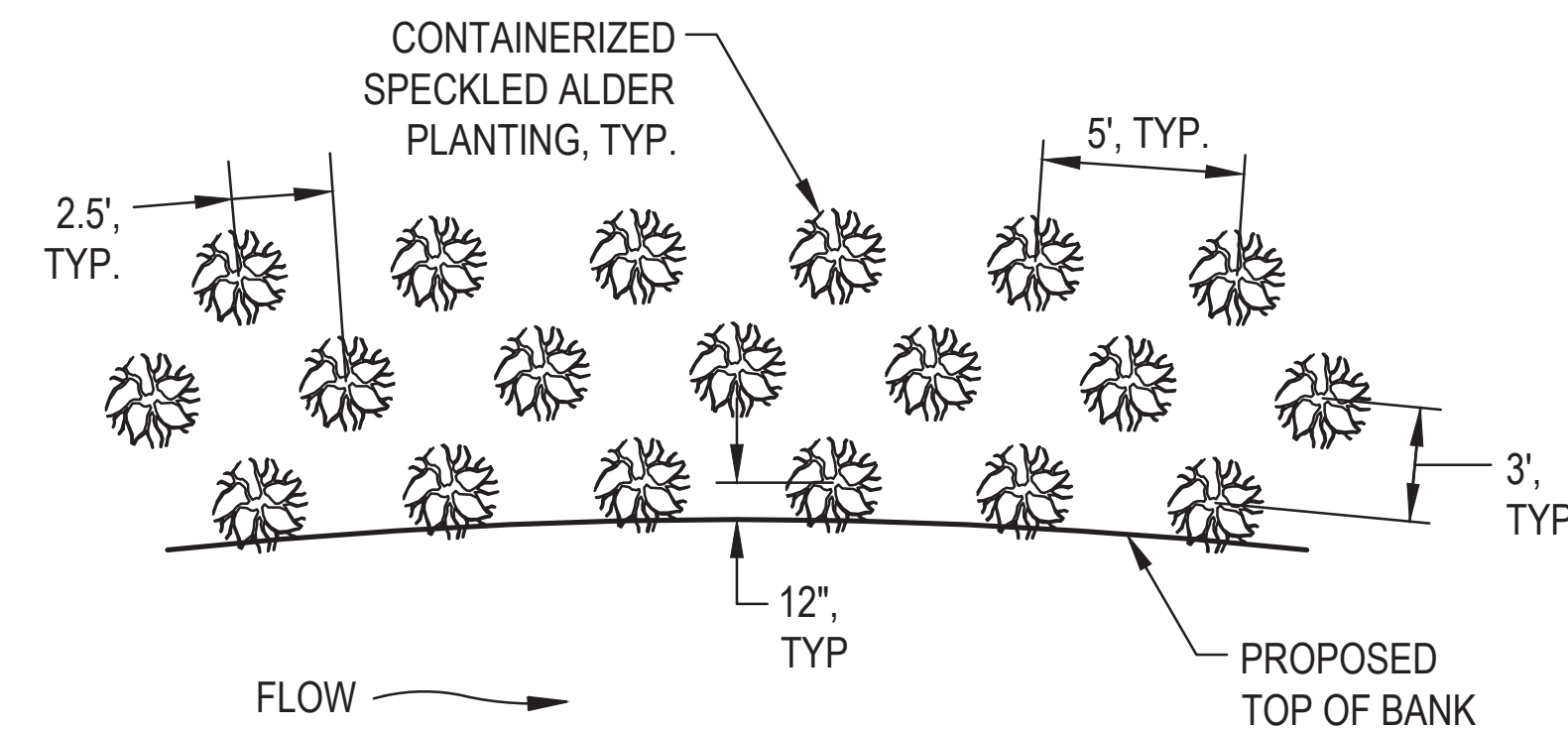
FABRIC-ENCAPSULATED SOIL (FES) DETAIL
(NOT TO SCALE)

SEEDING AND PLANTING NOTES

1. THE FOLLOWING SEED MIXTURES SHALL BE APPLIED AT THE SPECIFIED APPLICATION RATES. SEED SHALL BE SPREAD PRIOR TO MULCHING OR INSTALLING ECBs.

 FLOODPLAIN BENCH, FES, AND LOWER SLOPES WITHIN 2 VERTICAL FEET OF THE FLOODPLAIN ELEVATION: "NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR MOIST SITES" FROM NEW ENGLAND WETLAND PLANTS, INC. AT 1 LB/1000 SF.

 SLOPES AND OTHER DISTURBED AREAS GREATER THAN 2 VERTICAL FEET ABOVE THE FLOODPLAIN ELEVATION: "NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES" FROM NEW ENGLAND WETLAND PLANTS, INC. AT 1 LB/1000 SF.
2. ALL PLANT MATERIAL SHALL BE SUPPLIED BY A PROPERLY LICENSED NURSERY IN ACCORDANCE WITH RSA 433 AND SHALL INCLUDE A TAG OR LABEL INDICATING SPECIES (SCIENTIFIC NAME).
3. CONTAINERIZED PLANTINGS ON THE FLOODPLAIN BENCH AND LOWER SLOPES SHALL BE SPECKLED ALDER (*ALNUS INCANA*). THESE SHALL BE IN MINIMUM 1 GALLON POTS AND 18" TALL OR GREATER. ALDER PLANTINGS SHALL BE PLANTED IN STAGGERED ROWS PARALLELING THE BANK PER THE FOLLOWING LAYOUT PATTERN:



4. FOR PLANTINGS LOCATED IN AREAS COVERED WITH EROSION CONTROL BLANKETS, AN 'X' SHALL BE SLICED IN THE EROSION CONTROL BLANKET AT EACH PLANTING SITE TO ALLOW INSTALLATION.
5. THE PLANTING PIT SHALL BE EXCAVATED TO THE DEPTH OF THE ROOT BALL AND TWICE AS WIDE AS THE ROOT BALL.
6. THE CONTAINER SHALL BE REMOVED AND COMPACTED ROOTS SHALL BE LOOSENED PRIOR TO PLANTING.
7. THE PLANTING PIT SHALL BE BACKFILLED WITH HUMUS, COMPACTED, AND WATERED.
8. FOR PLANTINGS LOCATED IN AREAS COVERED WITH EROSION CONTROL BLANKETS, THE EROSION CONTROL BLANKET FLAPS CREATED BY SLICING THE 'X' SHALL BE SECURED AROUND THE BASE OF EACH PLANTING WITH STAPLES AFTER INSTALLATION.

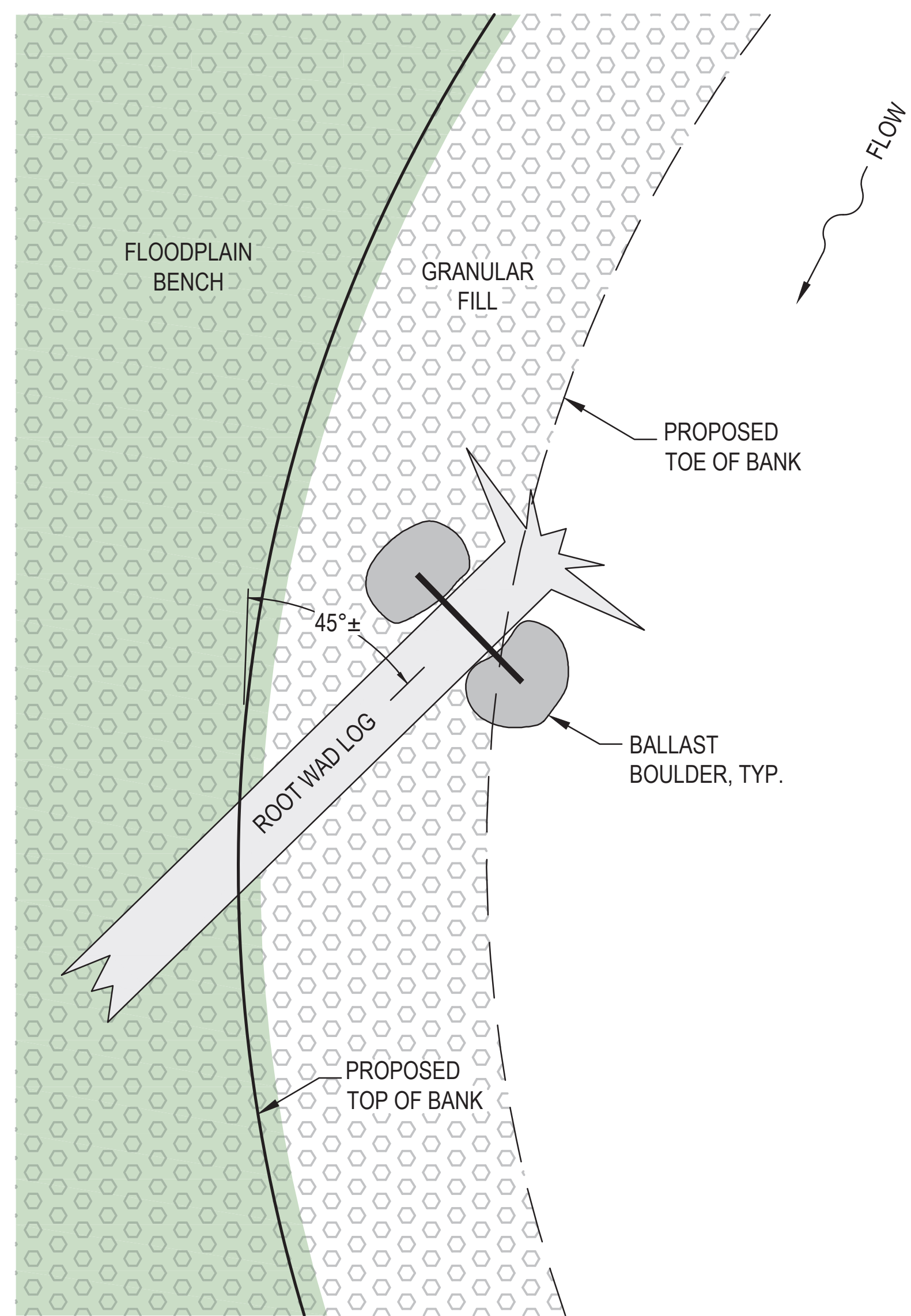
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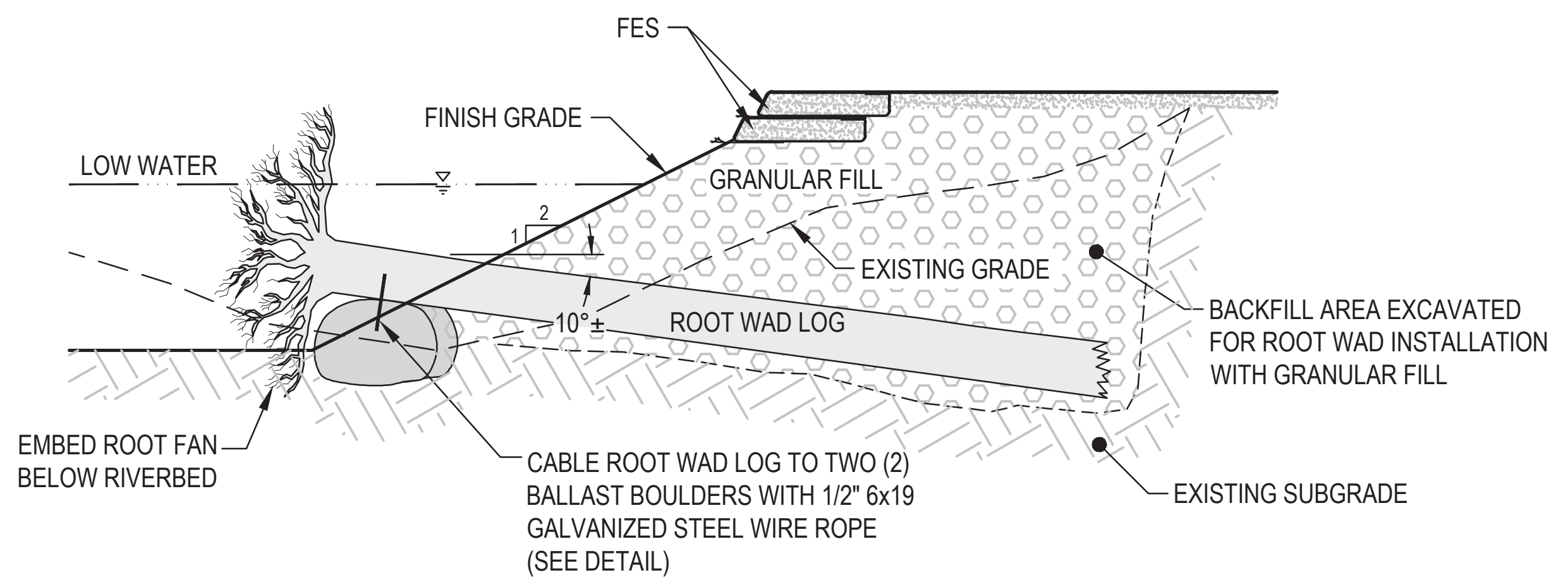
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WHITTIER COVERED
BRIDGE BANK
STABILIZATION
OSSISPEE, NH
FES DETAIL AND
PLANTING NOTES

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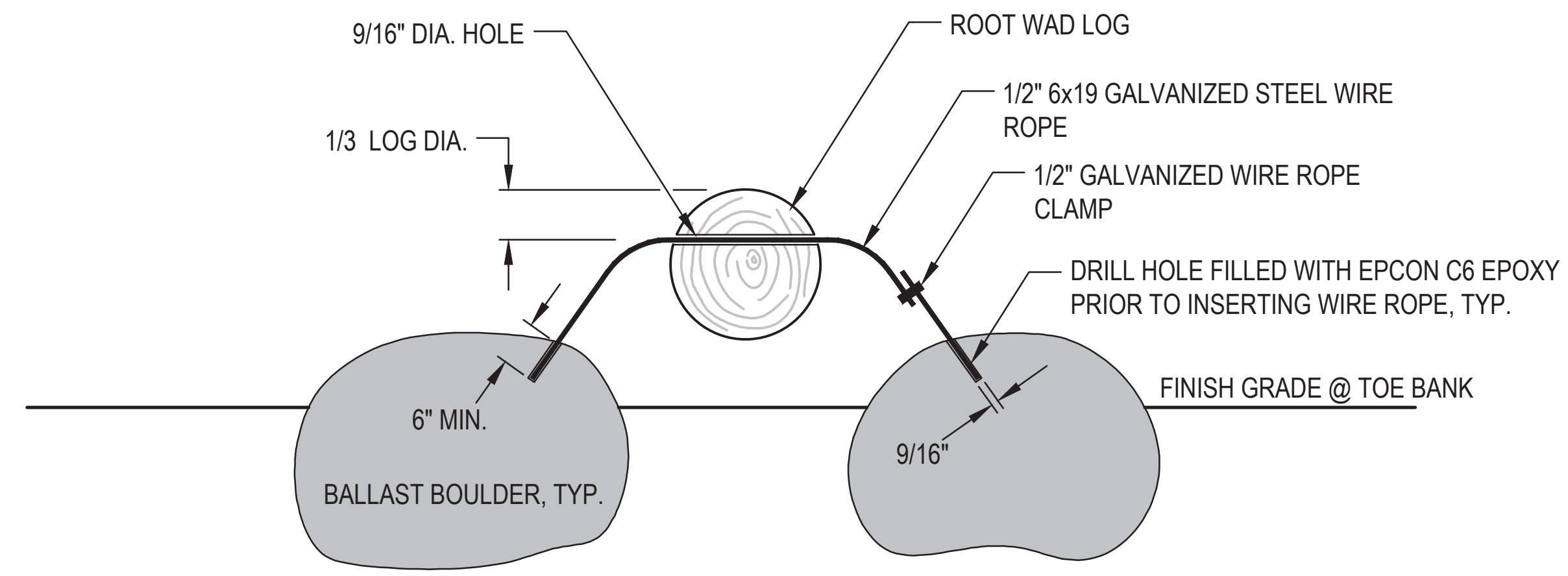
PLAN VIEW



SECTION VIEW

NOTES:

1. THE LARGE DOWNED WHITE PINE TREE IN THE RIVER CHANNEL APPROXIMATELY 100' UPSTREAM FROM THE BRIDGE SHALL BE SALVAGED AND USED TO CONSTRUCT THE ROOT WAD STRUCTURE.
2. THE TRUNK PORTION OF THE ROOTWAD LOG SHALL BE AT LEAST 28 FEET LONG, ANGLED DOWNWARD AT APPROXIMATELY 10°, AND BURIED IN THE BANK SUCH THAT THE ROOT MASS WILL FACE UPSTREAM AT AN ANGLE OF APPROXIMATELY 45° FROM THE BANK.
3. THE ROOT FAN SHALL BE EMBEDDED BELOW THE FINISH STREAMBED GRADE. ROOTS PROTRUDING ABOVE THE TOP OF BANK ELEVATION SHALL BE TRIMMED SUCH THAT THEY PROTRUDE NO MORE THAN 6" ABOVE THE TOP OF BANK ELEVATION.
4. THE ROOT WAD LOG SHALL BE SECURED TO TWO (2) BALLAST BOULDERS USING 1/2" 6x19 GALVANIZED STEEL WIRE ROPE AND CLAMPS PER THE FOLLOWING DETAIL:



5. BALLAST BOULDERS SHALL HAVE A MINIMUM VOLUME OF 24 FT³ AND MINIMUM DENSITY OF 165 LB/FT³.
6. WIRE ROPE SHALL BE 1/2" 9X16 GALVANIZED STEEL. THREAD WIRE ROPE THROUGH A 9/16" DIAMETER HOLE DRILLED THROUGH THE LOG. CLEAN ENDS OF WIRE ROPE WITH ACETONE PRIOR TO INSERTING INTO DRILL HOLES. INSTALL CLAMP ON EITHER SIDE OF HOLE THROUGH LOG TO PREVENT PULL THROUGH. THERE SHALL BE NO SLACK IN THE WIRE ROPE AFTER INSTALLATION.
7. DRILL HOLES IN BALLAST BOULDERS SHALL BE 9/16" DIA., 6" OR MORE DEEP, AND BE LOCATED IN SOLID ROCK. DO NOT DRILL IN OR NEAR CRACKS. DRILL HOLES MUST BE THOROUGHLY CLEANED OF ROCK FRAGMENTS AND OTHER DEBRIS USING WATER, WIRE BRUSH, AND/OR COMPRESSED AIR PRIOR TO FILLING WITH EPOXY.
8. EPOXY USED TO CONNECT WIRE ROPE TO BOULDERS SHALL BE EPCON C6. APPLY PER MANUFACTURER'S INSTRUCTIONS.

ROOT WAD DETAIL
(NOT TO SCALE)

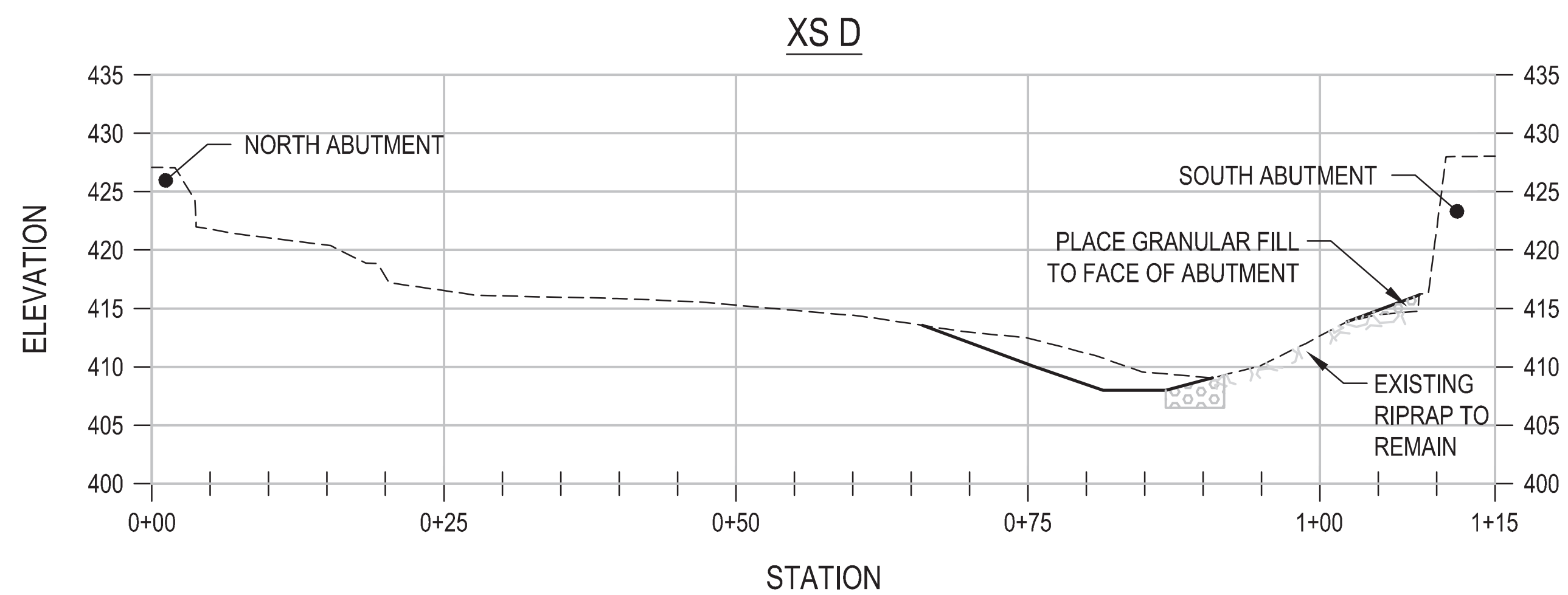
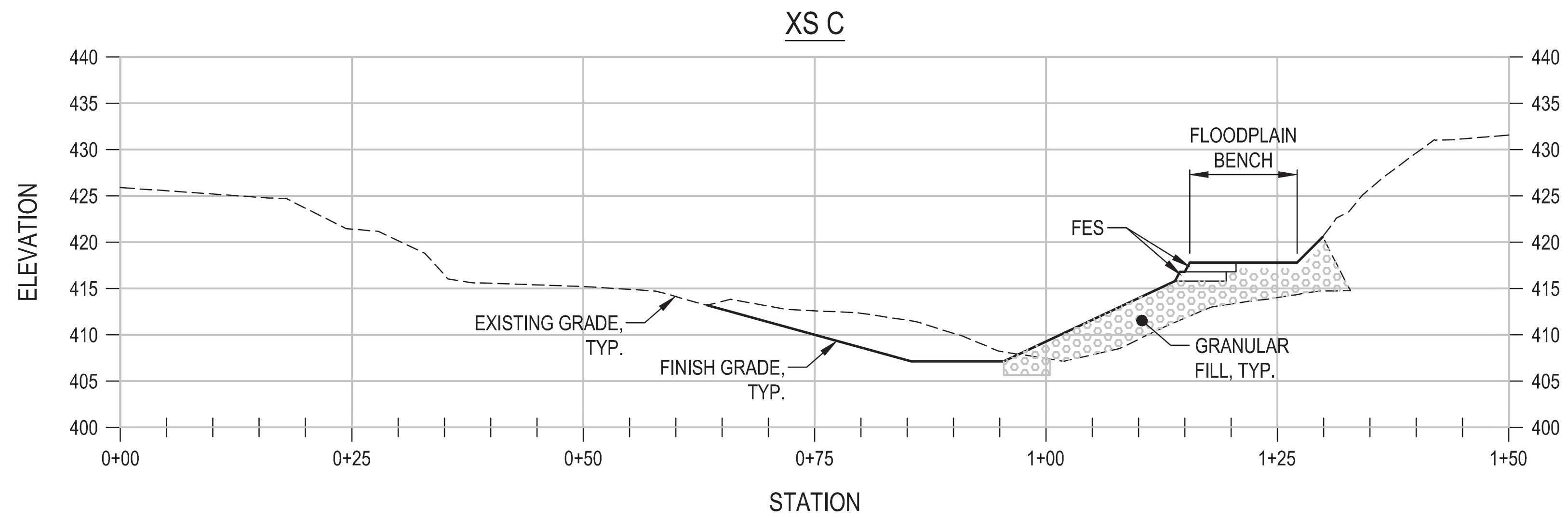
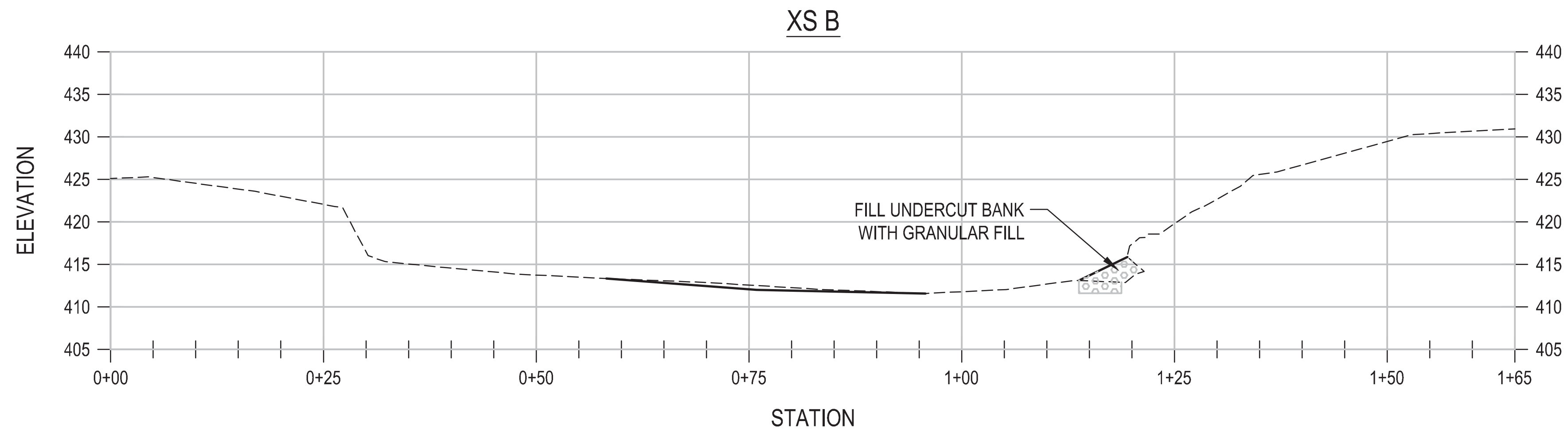
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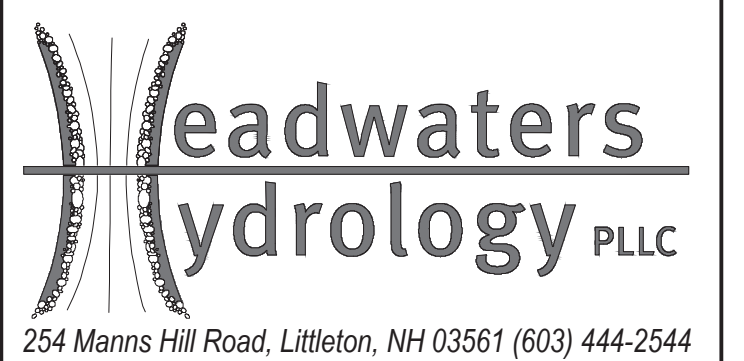
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BRIDGE BANK
STABILIZATION
OSS�PEE, NH
ROOT WAD DETAIL

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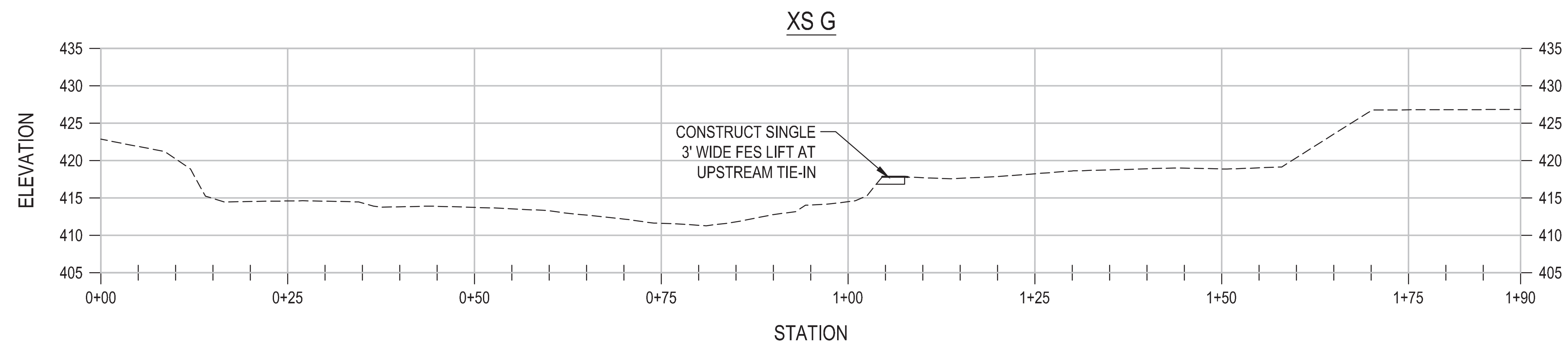
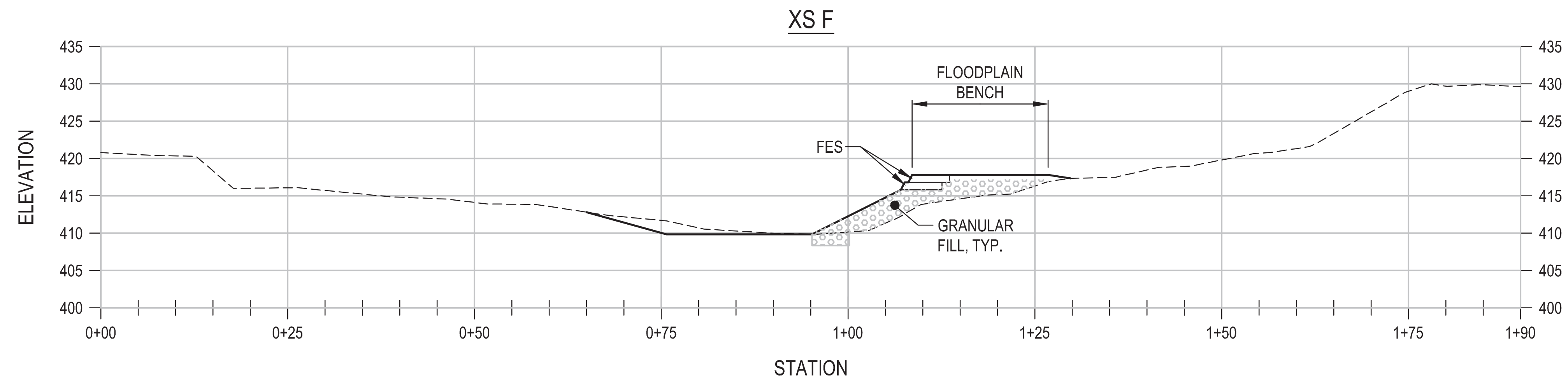
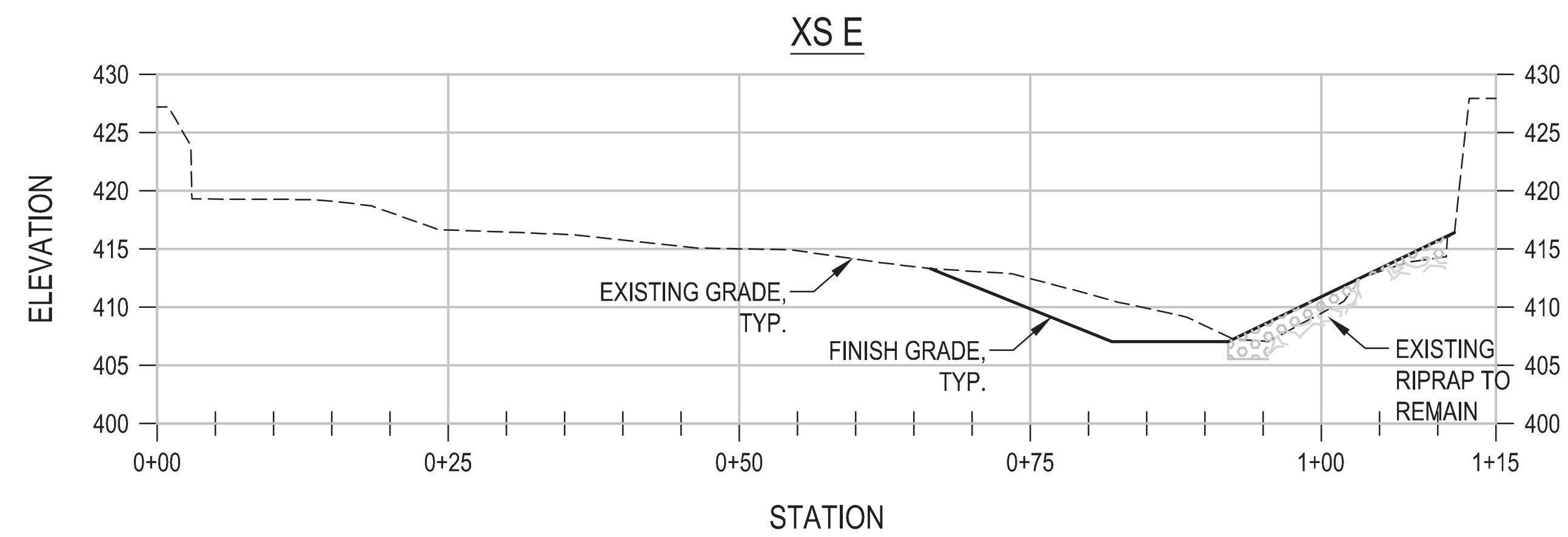
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STABILIZATION
OSSISPEE, NH
CONSTRUCTION
SECTIONS B - D

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