

LIST OF DRAWINGS  LAYOUT OF BRIDGE  LAYOUT OF BRIDGE  LAYOUT OF BRIDGE  GENERAL NOTES & ESTIMATED QUANTITIES  FOUNDATION DATA  FOUNDATION DATA  FOUNDATION DATA  SUPERSTRUCTURE  SUPERSTRUCTURE DETAILS  SUPERSTRUCTURE DETAILS	LIST OF STANDARD DRAWINGS DWG.NO. REV.DATE  SLIDER PLATES AND DECK DRAINS STD-1-2 3-28-08 PAVEMENT AT BRIDGE ENDS STD-1-5 3-26-14  BRIDGE END DRAIN DETAILS WITH PAVEMENT AT BRIDGE ENDS STD-1-6 4-28-97  BRIDGE END DRAIN DETAILS WITH PAVEMENT AT BRIDGE ENDS STD-1-7 8-24-11  BRIDGE END DRAIN DETAILS 2'-0" × 8'-7" WITH PAVEMENT AT BRIDGE ENDS STD-1-8 5-01-95  STANDARD PILE DETAILS STD-5-1 10-25-93  STANDARD PILE DETAILS STD-5-2 5-01-14  STANDARD SEISMIC DETAILS STD-6-2 11-07-94  REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS STD-9-1 10-07-08  MISCELLANEOUS ABUTMENT \$ DRAINAGE DETAILS STD-1-1 4-08-05  BRIDGE RAILING WITH STRUCTURAL TUBING STD-11-1 5-01-14  SAFETY APPROACH TO UNDERPASSES GRADING DESIGH AND SLOPE PROTECTION RDD-1-1-1-0-15-02	PROJECT NO. YEAR SHEET NO.  NH-115(54) 2015  REVISIONS  NO. DATE BY BRIEF DESCRIPTION 1 5-1-18 A.L.P. REV. LAST REVISION DATES, ADDED NO
SUPERSTRUCTURE DETAILS U-73-51 SUPERSTRUCTURE DETAILS U-73-53 SUPERSTRUCTURE DETAILS U-73-53 SUPERSTRUCTURE DETAILS U-73-54 SUPERSTRUCTURE DETAILS U-73-56 SUPERSTRUCTURE DETAILS U-73-56 SUPERSTRUCTURE DETAILS U-73-56 SUPERSTRUCTURE DETAILS U-73-57 SUPERSTRUCTURE DETAILS U-73-57 SUPERSTRUCTURE DETAILS U-73-59 SUPERSTRUCTURE DETAILS U-73-69 SUPERSTRUCTURE DETAILS U-73-60 SUPERSTRUCTURE DETAILS U-73-61 ABUTMENT NO.1 DETAILS U-73-63 ABUTMENT NO.1 DETAILS U-73-63 ABUTMENT NO.1 DETAILS U-73-65 ABUTMENT NO.1 DETAILS U-73-65 ABUTMENT NO.2 U-73-65 ABUTMENT NO.2 DETAILS U-73-65 ABUTMENT NO.2 DETAILS U-73-68 DECORATIVE SURFACE FINISH AT ABUTMENTS U-73-69 BENT NO.1 U-73-71 BENT NO.1 DETAILS U-73-72 BENT NO.1 DETAILS U-73-73 BENT NO.1 DETAILS U-73-74 BILL OF STEEL U-73-75 5-1-18	LIST OF SPECIAL PROVISIONS PROV. NO. REV. DATE STEEL STRUCTURES	€ SURVEY \$ FINISHED GRADE LINE MALONEY ROAD  -0.02 -5TA. 1+253.968  0.00 -0.02 -5TA. 1+243.301 -0.02 -5TA. 1+232.635  -0.04  STA. 1+221.968
PAVE SLOPES AND EXPOSED EARTH UNDER BRIDGES WITH 102MM THICK CEMENT CONCRETE SLAB REINFORCED WITH 6MM GAGE WIRE FABRIC © 152MM CENTERS AND 283.2 KG, PER 100M² THE WIRE FABRIC REINFORCEMENT SHALL BE PLACED AT ONE-HALF THE DEPTH OF THE SLAB AND EXTEND TO WITHIN 76MM OF ITS EDGE WITH A 305MM LAP REG'D, ON ALL SHEETS. THE COST OF THE WIRE FABRIC REINFORCEMENT TO BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 709-04, REINFORCED CONCRETE SLOPE PAVEMENT. 13 MILLIMETER PREMOULDED EXPANSION JOINTS WITHOUT LOAD TRANSFERS SHALL BE FORMED ABOUT ALL STRUCTURES AND FEATURES PROJECTING THROUGH, IN OR AGAINST THE SLAB. THE SLAB SHALL BE GROOVED PARALLEL WITH AND AT RIGHT ANGLES TO THE UNDER ROADWAY CENTER LINE AT 1828MM CENTERS. DEPTH OF GROOVE TO BE NOT LESS THAN 25MM. (SEE STD. DWG. RD01-SA-1 FOR LIMITS OF SLOPE PROTECTION.)	P.C. STA. 1+180.000  ELEV. 263.741  P.I. STA. 1+240.000  FLEV. 267.200  ELEV. 266.400  ELEV. 266.400	TRANSITION SKETCH
P.C. STA. 10+348.0  13.000 m v.C.  CRADE SKETCH  P.T. STA. 10+478.0  ELEV. 259.153  ELEV. 259.153	I20.000 m V.C.  GRADE SKETCH  MALONEY ROAD  ENGINEER'S SEAL APPLIES ONLY TO THE 1ST REVISION ON THIS SHEET. ALL OTHER INFORMATION ON THIS SHEET IS SEALED UNDER THE ORIGINAL VERSION OF THIS SHEET.	NOTE: ALL DIMENSIONS SHOWN IN MILLIMETERS, WITH THE EXCEPTION OF STATIONS AND ELEVATIONS, UNLESS OTHERWISE NOTED.  STATE OF TENNESSEE  DEPARTMENT OF TRANSPORTATION BRIDGE NO. 1 LAYOUT OF BRIDGE
ADAM PRICE DATE 1-15  T. KIRK DATE 6-15  JELDS & DIETERS DATE 6-15	OF TENNS  05-01-2018  CORRECT	MALONEY ROAD  OVER  STATE ROUTE 115  STATION 1+269.563  KNOX COUNTY  2015  Lume J. Jeger  ENGINEER OF STRUCTURES

DESIGNED BY ADAM PRICE DATE 1-15

DRAWN BY T.KIRK DATE 6-15

SUPERVISED BY FIELDS & DIETERS DATE 6-15

CHECKED BY ADAM PRICE DATE 9-15

## GENERAL NOTES:

- SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (JANUARY 1, 2015
- LOADING: HL-93 LIVE LOADING: SEISMIC CATEGORY "A" WITH As = 0.190, Sps = 0.340, Sp1 = 0.119, (1000 YEAR RETURN PERIOD). DEAD LOAD INCLUDES 171 KG/M² FOR FUTURE WEARING SURFACE.
- DESIGN SPECIFICATIONS: AASHTO LRFD SEVENTH EDITION, 2014. AND THE 2011 AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN, EDITION 2 (WITH INTERIMS.)
- CONCRETE: TO BE CLASS "A" f.'c = 21 MPA EXCEPT AS NOTED OTHERWISE.
- CLASS "D" CONCRETE FOR BRIDGE DECKS SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.
- BRIDGE DECK SURFACE FINISH: TO BE IN ACCORDANCE WITH METHOD 3 IN ARTICLE 604.22 OF THE STANDARD SPECIFICATIONS.
- BRIDGE DECK FORMS: BRIDGE DECK FORMS FOR CONCRETE DECKS SHALL BE CONSTRUCTED USING EITHER REMOVABLE FORMS OR PERMANENT FORMS. PERMANENT FORMS SHALL BE REMAIN-IN-PLACE STEEL. IN EITHER CASE, FORMS SHALL BE ATTACHED BY MEANS OTHER THAN WELDING TO MAIN STRUCTURAL MEMBERS OR REINFORCING STEEL. SEE ARTICLE 604.05 OF THE STANDARD SPECIFICATIONS.
- BEARING DEVICES SHALL BE IN ACCORDANCE WITH THE DETAILS AND DIMENSIONS SHOWN ON DRAWING NO. U-73-64 FOR ABUTMENT NO. 1, U-73-68 FOR ABUTMENT NO.2 AND U-73-72 BOR BENT NO.1.
- REINFORCING STEEL: SHALL BE ASTM A615M GRADE 420 UNLESS NOTED OTHERWISE. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS.
- SPECIAL NOTE: FOUNDATIONS FOR BENTS SHALL BE EXCAVATED TO THE BOTTOM OF FOOTING ELEVATIONS SHOWN; ROD SOUNDINGS SHALL THEN BE MADE AS DIRECTED BY THE ENGINEER. FROM THE RESULTS OBTAINED THE ENGINEER WILL DECIDE IF PILES WILL BE USED OR THE FOOTINGS CARRIED TO ROCK. COST OF ROD SOUNDING TO BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS. NO REINFORCING STEEL FOR BENT COLUMNS OR FOOTINGS SHALL BE ORDERED UNTIL FINAL ELEVATIONS HAVE BEEN DETERMINED.
- PILES: TO BE HP 250X62 DRIVEN TO REFUSAL ON ROCK OR A MINIMUM BEARING OF 50 TONNE FOR THE ABUTMENTS.
  - NOTE: PILES SHALL BE EQUIPPED WITH CAST STEEL POINTS. ALSO, SEE STANDARD DRAWING STD-5-1 FOR ADDITIONAL NOTES.

- BRIDGE RAIL SYSTEM: BUILD BRIDGE RAILINGS ACCORDING TO STANDARD DRAWING STD-11-1. THE RAILING SHALL BE FORMED AND CAST PLUMB, NOT PERPENDICULAR TO THE SLAB. THE DIMENSIONS AT THE TRAFFIC FACE SHALL BE KEPT CONSTANT, WITH VARIATION DUE TO CROSS SLOPE ACCOMMODATED AT THE REAR FACE.
- NOTE: THE CONTRACTOR SHALL PROVIDE 100% CONVENTIONAL FALL PROTECTION FOR WORKERS INSTALLING DECKING ABOVE 4572mm.
- SPECIAL NOTE FOR UTILITIES: IT IS INTENDED THAT THE COST OF MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION OF UTILITIES SHALL NOT BE PAID FOR AS A BRIDGE ITEM. THE CONTRACTOR SHALL COOPERATE WITH OTHERS IN THE INSTALLATION OF UTILITIES WITH NO ADDITIONAL COMPENSATION ALLOWED THE CONTRACTOR AS A RESULT.
- SHOP DRAWINGS: SEE SECTION 105.02 OF THE STANDARD SPECIFICATIONS.
- WELDING: SEE SECTION 602 OF THE STANDARD SPECIFICATIONS AND NOTES ON DRAWING NO. U-73-46.
- RADIOGRAPHIC, ULTRASONIC, AND MAGNETIC INSPECTION: SEE SECTION 602 OF THE STANDARD SPECIFICATIONS AND NOTES ON DRAWING NO. U-73-41.
- STEEL STRUCTURES: SEE TENNESSEE STANDARD SPECIFICATIONS SECTION 602 AND NOTES ON DRAWING NO. U-73-41.
- VALUE ENGINEERING ALTERNATE BRIDGE DESIGN CRITERIA: ALTERNATE BRIDGE DESIGN PROPOSALS MAY NOT DIMINISH THE FUNCTIONAL OR STRUCTURAL EQUIVALENCY OF THE BRIDGE AND MUST MEET OR EXCEED BOTH THE SERVICE LEVEL AND ULTIMATE CAPACITIES OF THE CONTRACT PLANS STRUCTURE. ADDITIONALLY, THE WATERWAY OPENING AND FLOOD CLEARANCES MAY NOT BE REDUCED CLEARANCES MAY NOT BE REDUCED; FOR GRADE SEPARATIONS, THE HORIZONTAL CLEARANCES MAY NOT BE REDUCED, NOR MAY THE VERTICAL CLEARANCES BE LESS THAN THE MINIMUM ACCEPTABLE FOR THE TYPE FACILITY CROSSED.
- FINISHING CONCRETE SURFACES: CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.21 OF THE TENNESSEE STANDARD SPECIFICATIONS. A CLASS I FINISH FOLLOWED BY AN APPLIED TEXTURE FINISH SHALL BE USED IN LIEU OF A CLASS II FINISH. NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE. THE APPLIED TEXTURE FINISH SHALL BE MEASURED AND PAID FOR UNDER ITEM NO. 604M04.01.
- SPECIAL NOTE SPREAD FOOTING FOR BENTS: AFTER EXCAVATION TO ROCK FOR FOOTING HAS BEEN COMPLETED, HOLES 6'DEEP SHALL BE DRILLED AT POINTS DESIGNATED BY THE ENGINEER. FROM THE RESULTS OBTAINED, THE ENGINEER SHALL DETERMINE THE FINAL FOOTING ELEVATIONS. NO REINFORCING STEEL FOR BENT COLUMNS OR FOOTINGS SHALL BE ORDERED UNTIL FINAL FOOTING ELEVATIONS HAVE BEEN DETERMINED.

PROTECTION OF SUBSTRUCTURES: SINCE THIS BRIDGE UTILIZES WEATHERING STEEL, THE CONTRACTOR MUST TAKE SPECIAL PRECAUTIONS TO PREVENT STAINING OF BENTS AND ABUTMENTS. PRIOR TO THE ERECTION OF ANY STEEL THE TOPS AND SIDES OF THE COMPLETED SUBSTRUCTURES SHALL BE PROTECTED FROM STAINING BY WRAPPING WITH TRANSLUCENT, REINFORCED, HIGH DENSITY, TWO-PLY, CROSS-LAMINATED POLYETHYLENE. IN LIEU OF THIS PROTECTION, THE CONTRACTOR MAY ELECT TO THOROUGHLY CLEAN THE CONCRETE OF RUST STAINING BY SANDBLASTING OR NO. DATE BY OTHER APPROVED METHODS, PRIOR TO APPLYING A TEXTURE-COATED FINISH, NO SEALANT-TYPE MATERIALS SHALL BE APPLIED WHICH ARE INCOMPATIBLE WITH THE TEXTURE-COATED FINISH UNLESS THEY CAN BE THOROUGHLY REMOVED PRIOR TO APPLYING THE FINISH. TEXTURE COATING OF THE SUBSTRUCTURE SHOULD BE DELAYED UNTIL AFTER THE DECK IS COMPLETED. AFTER A SUBSTRUCTURE HAS RECEIVED ITS FINAL FINISH, THE TOP AND SIDES SHALL BE PROTECTED FROM STAINING BY WRAPPING WITH REINFORCED POLYETHYLENE, WHICH, IF BEING REUSED, SHALL BE IN GOOD CONDITION AND FREE FROM HOLES AND TEARS. IT SHALL BE THE CONTRACTOR'S

RESPONSIBILITY TO PROTECT THE SUBSTRUCTURES FROM STAINING FOR THE DURATION

OF THE CONTRACT. ANY CORRECTIVE TEXTURE COATING SHALL BE AT HIS EXPENSE.

BLAST CLEANING: ALL GIRDERS AND ALL FAYING SURFACES OF FIELD SPLICES OF ALL GIRDERS SHALL BE BLAST-CLEANED IN ACCORDANCE WITH THE STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS "NO.6 COMMERCIAL BLAST CLEANING" SSPC-SP 6. PRIOR TO BOLTING, ANY LOOSE RUST ON THE FAYING SURFACES SHALL BE REMOVED.

COST TO BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.

- UTILITIES: WHERE UNDERGROUND UTILITIES MAY BE ENCOUNTERED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THESE UTILITIES FROM ANY DAMAGE. WHERE RELOCATION OR READJUSTMENT OF THE UTILITY MAY BE REQUIRED, IT SHALL BE DONE BY THE OWNER OF THE
- FINAL APPEARANCE: PRIOR TO FINAL ACCEPTANCE, ALL STRUCTURAL STEEL SHALL BE FREE OF GREASE, OIL, CHALK MARKS, PAINT, CONCRETE SPATTER AND SIMILAR SOILAGE. DEPENDING ON THE LOCATION, WITH RESPECT TO VIEW, AND SEVERITY OF THE FORE-GOING SOILAGE, THE STRUCTURAL STEEL SHALL BE CLEANED UNDER THE PROVISIONS OF ONE OF THE FOLLOWING STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS: "NO.1 SOLVENT CLEANING" SSPC-SP 1, "NO.2 HAND CLEANING" SSPC-SP 2, "NO. 3 POWER TOOL CLEANING" SSPC-SP 3 OR "NO. 7 BRUSH-OFF BLAST CLEANING" SSPC-SP 7.
- WEATHERING BOLTS: ALL BOLTS SHALL BE ASTM A-325, TYPE 3 UNLESS OTHERWISE NOTED. ALL BOLTS, NUTS AND WASHERS SHALL HAVE THE SAME WEATHERING CHARACTERISTICS AS THE STRUCTURAL STEEL USED. IN LIEU OF USING DIRECT TENSION INDICATORS (DTI'S), ALL BOLTS SHALL BE INSTALLED BY EITHER TURN-OF-NUT TIGHTENING OR CALIBRATED WRENCH TIGHTENING IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, CURRENT EDITION.
- WEATHERING STEEL: ALL WEATHERING STEEL SHALL HAVE ATMOSPHERIC CORROSION RESISTANCE EQUAL TO OR BETTER THAN TWO TIMES THAT OF CARBON STRUCTURAL STEEL WITH COPPER.
- NOTE: THE FILLS AT THE ENDS OF THE BRIDGE SHALL BE IN PLACE AND THOROUGHLY COMPACTED BEFORE ANY ABUTMENT PILES ARE DRIVEN.

## ESTIMATED QUANTITIES 1

_	ITEM NO.	DESCRIPTION	UNIT	TOTAL	SUPERSTRUCTURE	ABUTMENT NO.1	BENT NO.1	ABUTMENT NO. 2
2	204M02.01	DRY EXCAVATION (BRIDGES)	М3	309		65	177	67
(5) (3)	204M05	ROCK DRILLING (BRIDGES)	L.F.	36			36	
	303M01.02	GRANULAR BACKFILL (BRIDGES)	TONNE	36		18		18
		STEEL STRUCTURES (BRIDGE NO.1)	L.S.	1				
	604M02.03	EPOXY COATED REINFORCING STEEL	KG	75172	72988	1095		1089
$\sim$	604M03.01	CLASS A CONCRETE (BRIDGES)	М3	254		55	144	55
	604M03.02	STEEL BAR REINFORCEMENT (BRIDGES)	KG	24517		3473	17699	3345
	604M03.04	PAVEMENT @ BRIDGE ENDS	M2	224				
	604M03.09	CLASS D CONCRETE (BRIDGE DECK)	М3	337	337			
	604M04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	M2	852				
	604M05.31	BRIDGE DECK GROOVING (MECHANICAL)	M2	1515				
	606M02.03	STEEL PILES (250 mm)	М	434		231		203
(8)	606M02.06	PILE TIPS (STEEL PILES, 250 mm)	EACH	36		18		18
(7)	620M05	CONCRETE PARAPET WITH STRUCTURAL TUBING (STD-11-1)	М	186				
<ul><li>(4)</li></ul>	709M04	REINFORCED CONCRETE SLOPE PAVEMENT	М3	56				
	710M09 <b>.</b> 01	150 mm PERF.PIPE WITH VERTICAL DRAIN SYSTEM	М	49		24		25
	710M09.02	150 mm PIPE UNDERDRAIN	М	10		5		5

- (1) NOTE: PRIOR TO CONSTRUCTION OF THE PAVEMENT AT BRIDGE ENDS, THE CONTRACTOR SHALL SUBMIT A PROPOSED BILL OF STEEL TO THE ENGINEER FOR APPROVAL.
- (2) NOTE: EXCAVATION BASED ON FINAL PROFILE AT ABUTMENTS AND BENTS.
- (3) NOTE: LUMP SUM: TOTAL ESTIMATED WEIGHT OF 307630 KG. OF STRUCTURAL STEEL INCLUDES GIRDER BEARING DEVICES, GIRDERS, FIELD SPLICES, SHEAR CONNECTORS, BOLTS, TAB CONNECTOR PLATES, STIFFENERS, AND CROSS-FRAMES. ALSO SEE TENNESSEE STANDARD SPECIFICATIONS SECTION 602.49 AND 602.50.
- (4) NOTE: COST OF POLYETHYLENE SHEETING AND ALL MISCELLANEOUS ITEMS NECESSARY FOR INSTALLATION TO BE INCLUDED IN THE UNIT PRICE BID FOR PERFORATED PIPE.
- (5) GRANULAR BACKFILL SHALL BE CLASS "A" GRADING "D" MATERIAL. SEE STANDARD DRAWING STD-10-1.
- (6)NOTE: THE COST OF BITUMINOUS-FIBERBOARD AND ALL MISCELLANEOUS JOINT MATERIAL TO BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.

- (7)NOTE: COST OF (2) TYPE 1 BRIDGE DECK GRATE DRAINS AND TYPE 2 BRIDGE DECK GRATE DRAINS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PARAPET.
- (8) NOTE: THE UNIT PRICE BID FOR THE CAST STEEL POINTS SHALL INCLUDE FURNISHING AND INSTALLATION TO THE PILES.

	— APPLIED TEXTURE FINISH WHITE FED. SPEC. NO. 37886
	F
APPLIED TEXTURE FINISH MOUNTAIN GRAY FED. SPEC. NO. 36440	

APPLIED TEXTURE FINISH SKETCH

ENDWALLS ARE TO RECEIVE AN APPLIED TEXTURE FINISH

TEXTURE FINISH SKETCH, ALL EXPOSED SURFACES OF

(MOUNTAIN GRAY, FED. SPEC. NO. 36440).

NOTE: IN ADDITION TO THE SURFACES SHOWN IN THE APPLIED

THE WINGWALLS, ABUTMENT BEAMS, BENTS, AND EXTERIOR PORTIONS OF

ENGINEER'S SEAL APPLIES ONLY TO THE 1ST REVISION ON THIS SHEET. ALL OTHER INFORMATION ON THIS SHEET IS SEALED UNDER THE ORIGINAL VERSION OF THIS SHEET.

05-01-2018



CONST. NO. 47026-3279-14

YEAR

BRIEF DESCRIPTION

2015

**REVISIONS** 

5-1-18 ALP REV. AND ADDED NOTES, REV. QUANTITIES.

ADDED ROCK DRILLING

SHEET NO.

PROJECT NO.

NH-115(54)

NOTE: ALL DIMENSIONS SHOWN IN MILLIMETERS. WITH THE EXCEPTION OF STATIONS AND ELEVATIONS, UNLESS OTHERWISE NOTED.

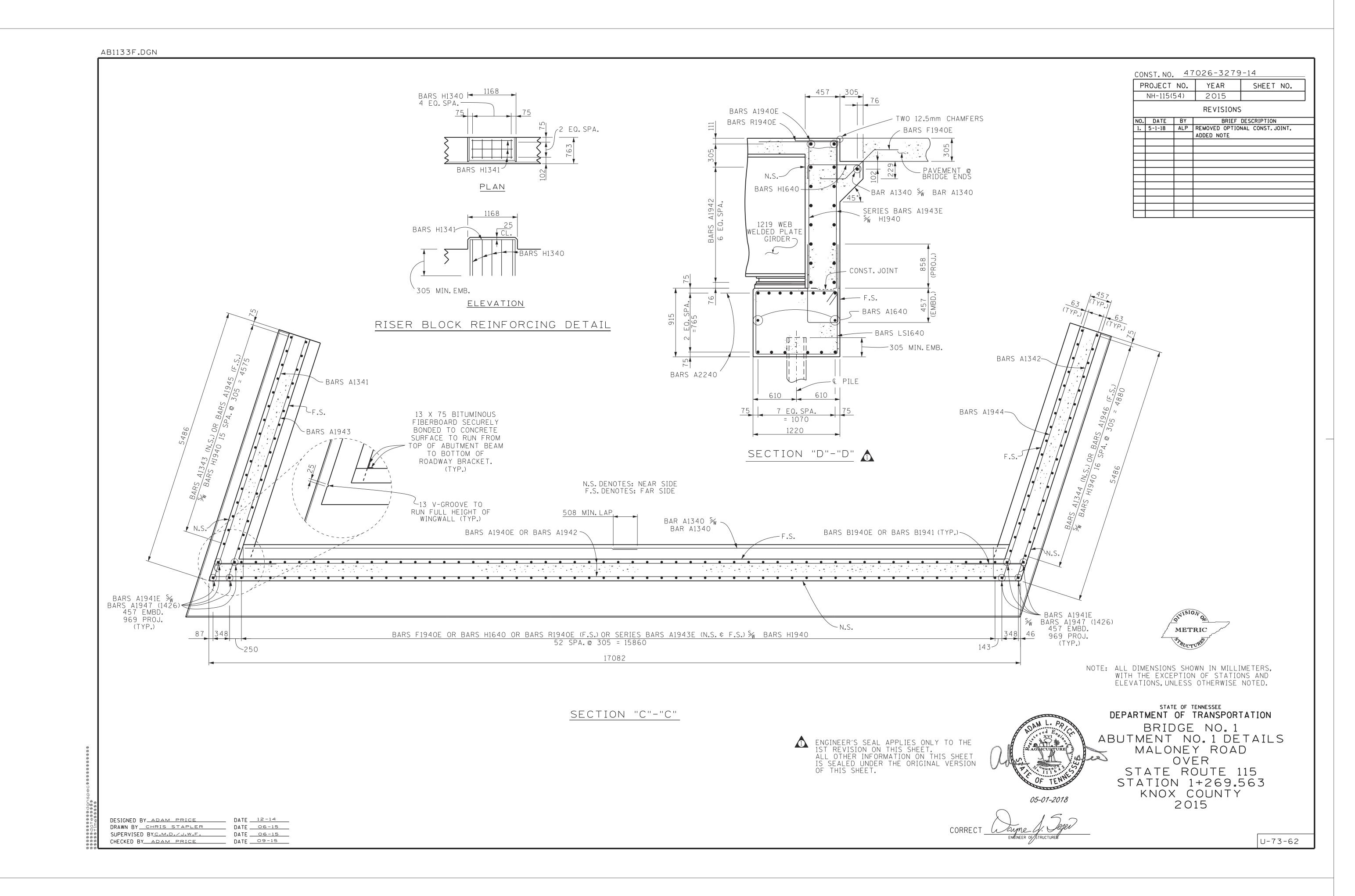
STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION BRIDGE NO. 1 GENERAL NOTES AND ESTIMATED QUANTITIES MALONEY ROAD OVER

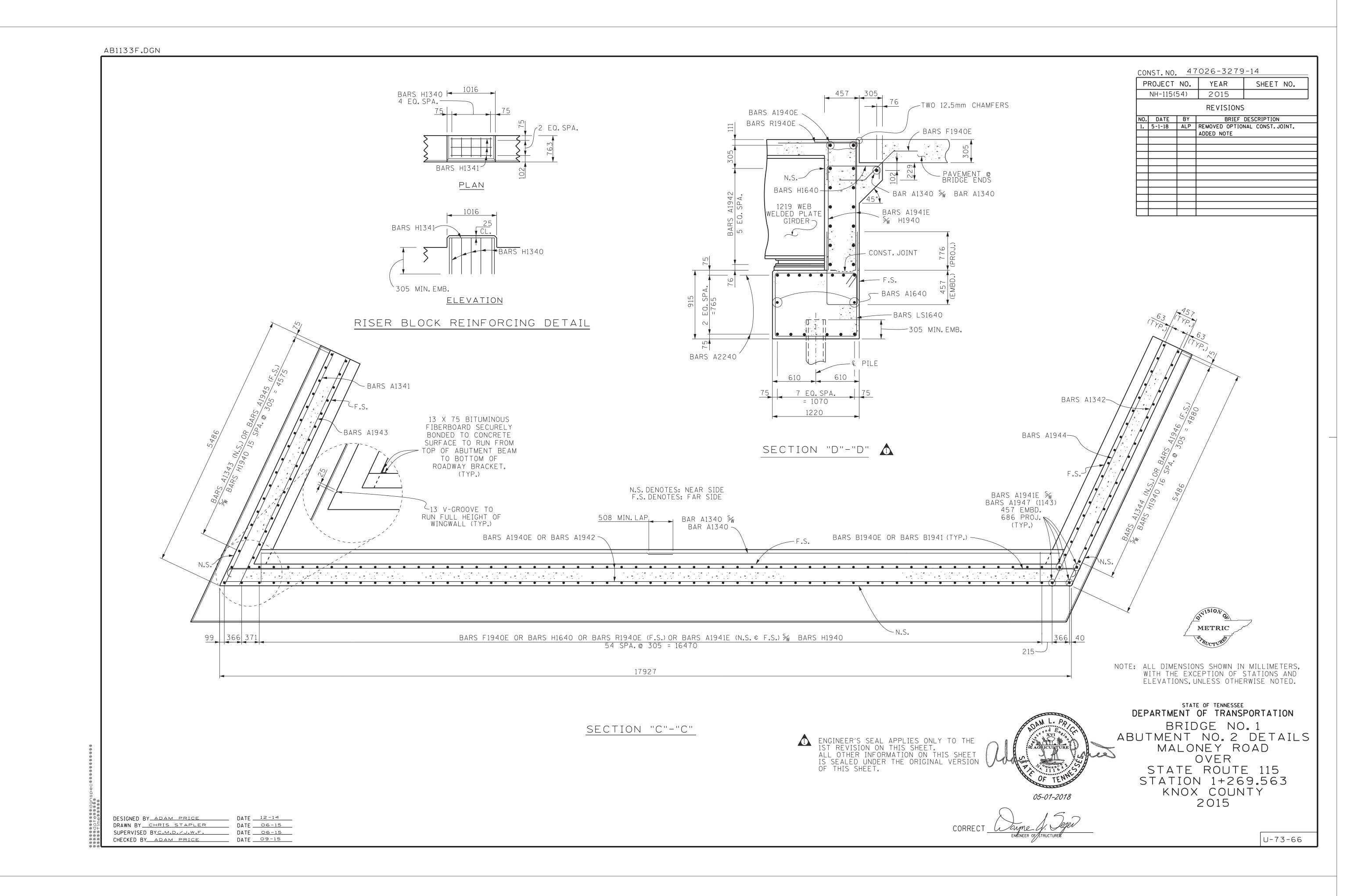
STATE ROUTE 115 STATION 1+269.563 KNOX COUNTY

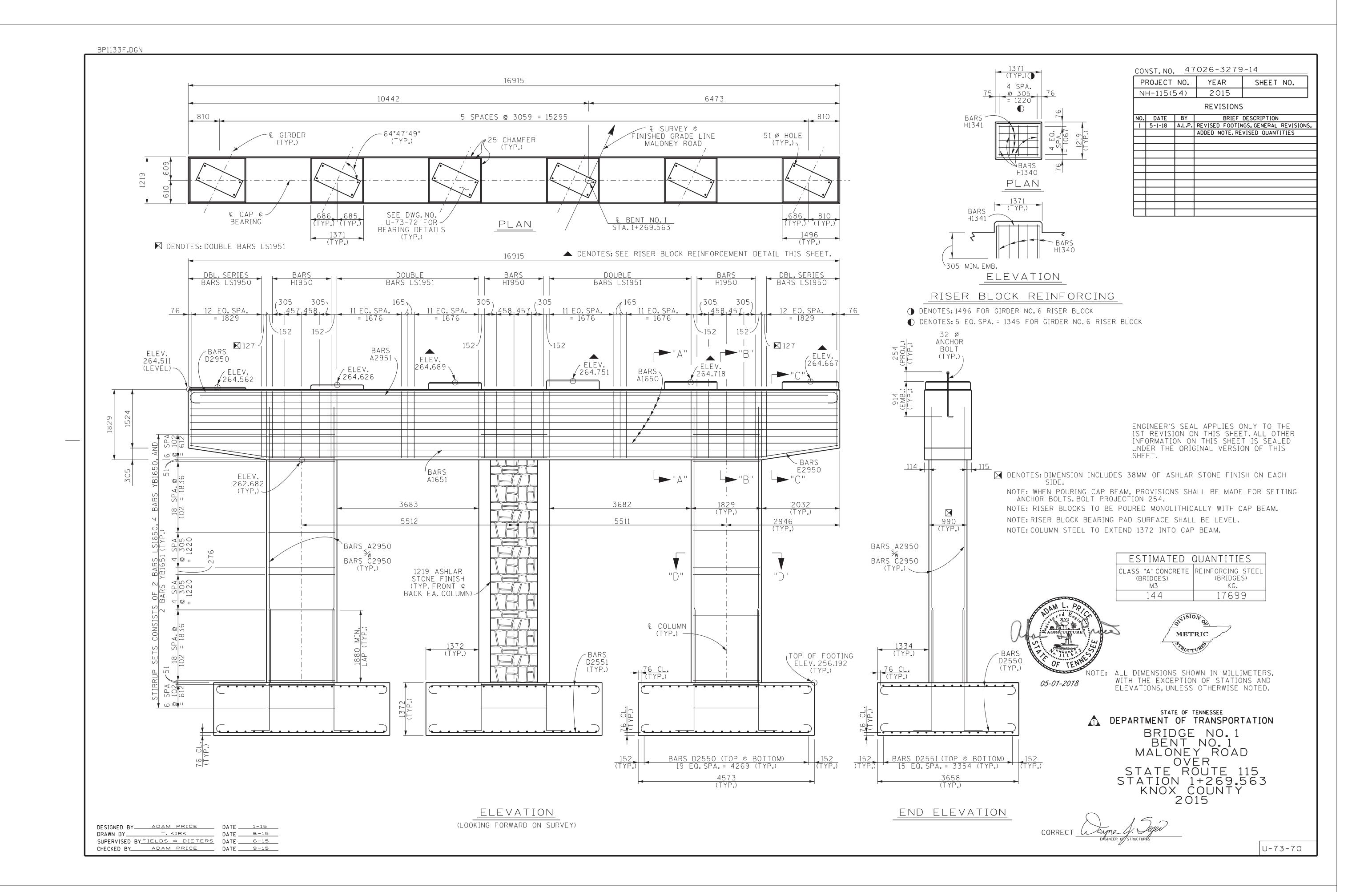
2015

DESIGNED BY \_\_ADAM PRICE \_\_\_\_\_ DATE \_\_\_\_12-14 \_\_\_\_\_ DATE \_\_\_07-15 DRAWN BY CHRIS STAPLER SUPERVISED BY \_\_\_\_\_C.M.D./J.W.F. DATE \_\_\_\_O7-15 CHECKED BY ADAM PRICE

\_ DATE \_\_\_\_9-15





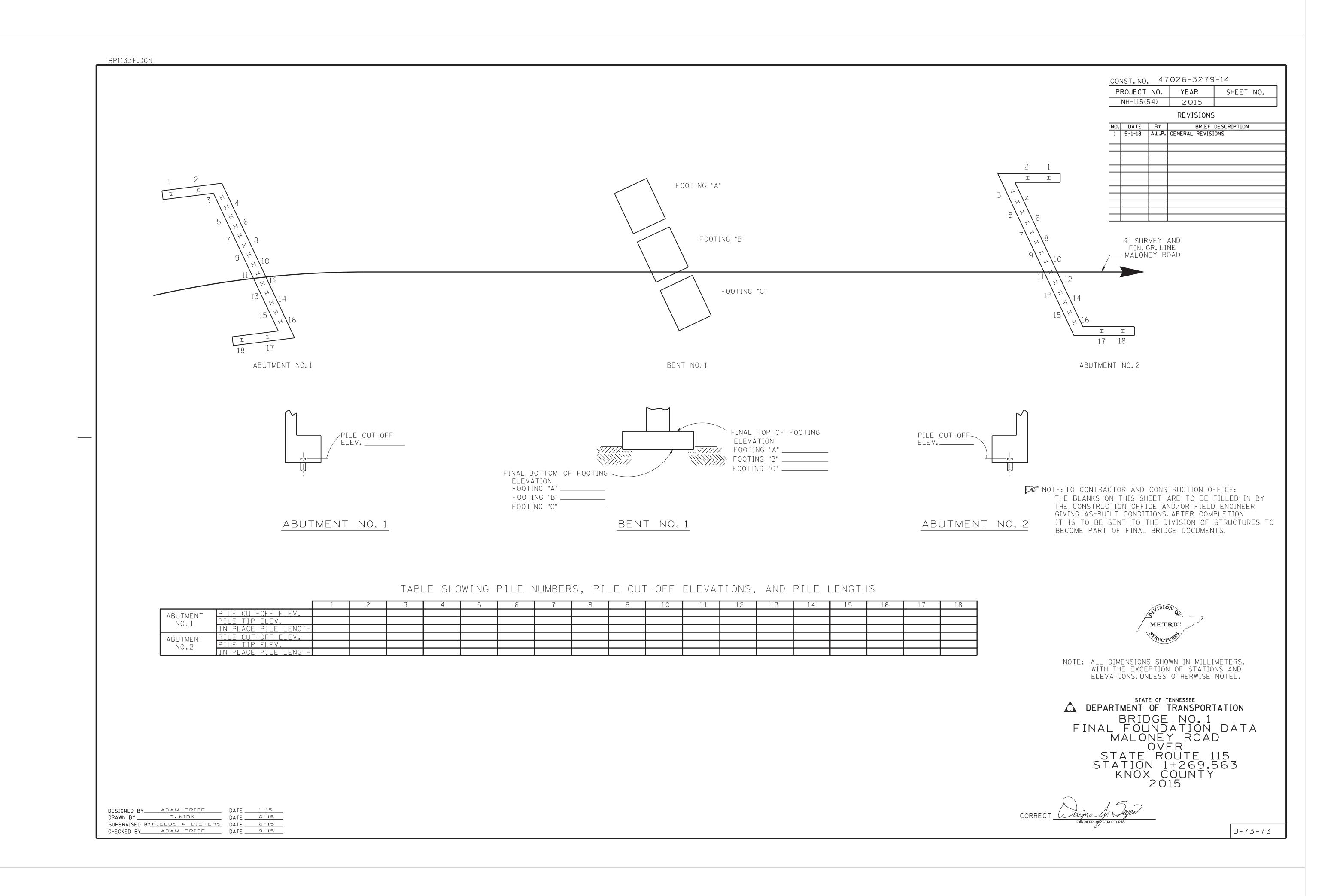


BP1133F.DGN CONST. NO. 47026-3279-14 PROJECT NO. YEAR SHEET NO. NH-115(54) 2015 REVISIONS NO. DATE BY BRIEF DESCRIPTION

1 5-1-18 A.L.P. REVISED FOOTING, ADDED NOTE 1106 BASE R, SOLE R, & ELASTOMERIC PAD 864 REINFORCED BEARING PAD ------483 BASE R, Sole R, \$ Elastomeric Pad HOLE (TYP.) 433 REINFORCED BEARING PAD 152 (TYP.) BARS D2550 19 EQ. SPA. = 4269 (TOP & BOTTOM)(TYP.) - |-------<u>PLAN</u> DENOTES: 25 X 483 X 1106 SOLE PLATE DENOTES: REINFORCED ELASTOMERIC BEARING CONSISTS OF: FOUR - 19 THICK INTERNAL LAYERS OF ELASTOMER BEARING PADS SHALL
BE VULCANIZED TO BOTH
PLATES (TYP.) TWO - 6 THICK COVER LAYERS OF ELASTOMER FIVE - 3 THICK GRADE 250 STEEL REINF. LAYERS NOTE: ELASTOMER: SHORE "A" HARDNESS = 60 SHEAR MODULUS @ 23°C:896 KPA MIN. 1379 KPA MAX. ARS D255115 EQ.SPA. = 335 (TOP & BOTTOM)(TYP.) BEARING STIFFENERS-HEAVY HEX NUT (TYP.) — PLAIN (UNCOATED) WASHER (TYP.) 3 ELASTOMERIC 32 Ø 1346 ASTM F1554 ANCHOR BOLT (178 90°HOOK, 914 EMB., 254 PROJ. GRADE 250, 380, OR 724, GALVANIZED) (TYP.) PAD (TYP.) 6 STYROFOAM BOND TO ANCHOR BOLT AS SHOWN (TYP.) 70 864 REINFORCED BEARING PAD ENGINEER'S SEAL APPLIES ONLY TO THE 1ST REVISION ON THIS SHEET. ALL OTHER INFORMATION ON THIS SHEET IS SEALED UNDER THE ORIGINAL VERSION OF THIS SHEET. ELEVATION 152 (TYP<sub>e</sub>) BEARING DEVICE DETAIL AT BENT 4573 (TYP.) NOTE: USE ASTM A709M GRADE 345 STEEL UNLESS OTHERWISE NOTED. PLAN OF FOOTING 1 NOTE: ANCHOR BOLTS SHALL BE GALVANIZED ACCORDING TO ASTM F2329 OR MECHANICALLY GALVANIZED TO ASTM B695. NOTE: ALL EXPOSED SURFACES OF ASSEMBLED BEARING DEVICES TO BE PAINTED UTILIZING THE FOLLOWING PAINT: INORGANIC ZINC WITH URETHANE FINISH BROWN TOP COAT CONFORMING TO FEDERAL STANDARDS 595C (30059). NOTE: ALL DIMENSIONS SHOWN IN MILLIMETERS, WITH THE EXCEPTION OF STATIONS AND ELEVATIONS, UNLESS OTHERWISE NOTED. STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION BRIDGE NO. 1 BENT NO. 1 DETAILS MALONEY ROAD \_\_\_OVER\_\_

DESIGNED BY ADAM PRICE DATE 1-15 DRAWN BY T. KIRK DATE 6-15 SUPERVISED BYFIELDS & DIETERS DATE 6-15 CHECKED BY ADAM PRICE DATE 9-15

STATE ROUTE 115 STATION 1+269.563 KNOX COUNTY 2015



BS1133F.DGN

BILL OF STEEL BENT NO.1 1 SIZE NO. BENDING DIMENSIONS REO'D A B C D SIZE NO. BENDING DIMENSIONS LENGTH SIZE NO. BENDING DIMENSIONS LENGTH SIZE NO. BENDING DIMENSIONS REO'D A B C D BAR BAR BAR BAR LENGTH LOCATION LOCATION LOCATION LOCATION A1650 16814 A1651 16 2 15554 A2950 COLUMN / CAP 7925 29 | 96 | A2951 16510 FOOTING / COLUMN 29 | 96 | 3125 | 3608 FOOTING 4064 25 | 120 | 3505 | FOOTING 25 | 96 | 4421 | 4980 CAP 17575 D2950 29 7 16813 E2950 CAP 29 7 | 12841 | 2009 | 298 | 1987 | 16859 H1340 RISERS | 13 | 21 | 1117 | 494 2105 H1341 RISERS 2257 | 13 | 20 | 1269 | 494 | H1950 19 | 15 | 1117 | 1727 | 4571 LS1650 COLUMN 16 | 360 | 965 | 813 | 3847 SERIES LS1950 CAP 19 4 762 \* \* DIM "B" VARIES FROM 1743 TO 1455 IN INC OF 24 (13 BARS) LS1951 19 | 104 | 762 | 1743 | 5416 YB1650 COLUMN 16 720 495 153 928 1262 16 | 360 | 829 | 153

CONST.NO. <u>47026-3279-14</u>

PROJECT NO. YEAR SHEET NO.

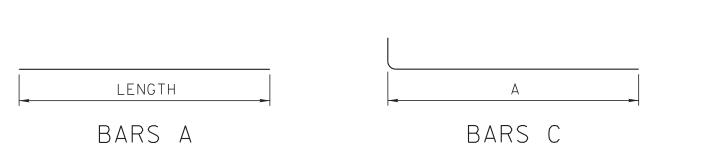
NH-115(54) 2015

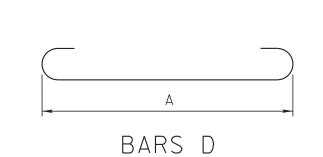
REVISIONS

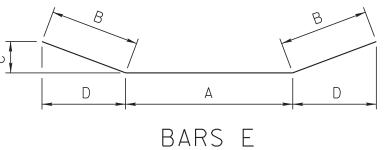
NO. DATE BY BRIEF DESCRIPTION

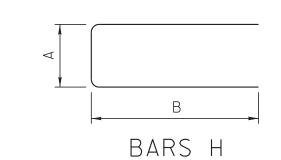
1. 5-1-18 ALP REV.BENT 1 REINFORCEMENT, ADDED NOTE

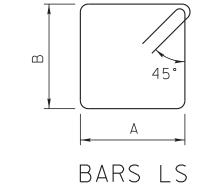
NOTE: BAR NUMBERS ARE REPEATED ON BILL OF STEEL FOR EACH SUBSTRUCTURE. THE SUPPLIER SHALL SHIP THE BARS TO THE JOB SITE WITH THE SUBSTRUCTURE DESIGNATION INCLUDED AS PART OF THE LABEL.



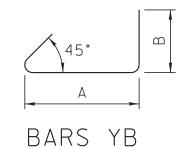








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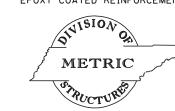


REINFORCING STEEL CODE

TYPE SIZE SERIES
A 16 06

NOTE: DIMENSIONS SHOWN ON THIS SHEET ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK DETAILS SHALL APPLY, EXCEPT AS NOTED.

NOTE: The suffix E for BARS SO MARKED DENOTES EPOXY COATED REINFORCEMENT.



NOTE: ALL DIMENSIONS SHOWN IN MILLIMETERS, WITH THE EXCEPTION OF STATIONS AND ELEVATIONS, UNLESS OTHERWISE NOTED.

DEPARTMENT OF TRANSPORTATION

BRIDGE NO.1
BILL OF STEEL
MALONEY ROAD
OVER
STATE ROUTE 115
STATION 1+269.563
KNOX COUNTY
2015

DESIGNED BY ADAM PRICE DATE 12-14

DRAWN BY CHRIS STAPLER DATE 09-15

SUPERVISED BYC.M.D./BIRDWELL DATE 09-15

CHECKED BY ADAM PRICE DATE 09-15

