

ESTIMATED PROJECT QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1
201-01	CLEARING AND GRUBBING	LS	1
(8) (23) (25) (10)	202-04.01 REMOVAL OF STRUCTURES (DECK, BACKWALLS, & FLOOR) 203-01 ROAD AND DRAINAGE EXCAVATION 203-99 THREE-PLY LAMINATED MATTING FOR HAUL ROAD 204-02.01 DRY EXCAVATION (BRIDGES)	LS C.Y. S.F. C.Y.	1 115 2800 64
(2) (1)(2)(4) (1)(2) (1)(2)(3) (1)(2)(11)	209-05 SEDIMENT REMOVAL 209-08.02 TEMPORARY SILT FENCE (WITH BACKING) 209-08.08 ENHANCED ROCK CHECK DAM 209-09.04 SEDIMENT FILTER BAG (15'X10') 209-65.01 TEMPORARY STREAM DIVERSION (SEWER CROSSING)	C.Y. L.F. EACH EACH LS	16 756 4 2 1
(2)(5)	303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D 303-10.01 MINERAL AGGREGATE (SIZE 57) 307-01.08 ASPHALT CONCRETE MIX (PG 64-22)(BPMP-HM) GRADING B-M2 402-01 BITUMINOUS MATERIAL FOR PRIME COAT (PC) 402-02 AGGREGATE FOR COVER MATERIAL (PC) 403-02.01 TRACKLESS TACK COAT 411-01.10 ACS MIX (PG 64-22) GRADING D RDWY 602-04.01 STEEL STRUCTURES (FLOOR SYSTEM) 602-10.01 STRUCTURAL STEEL REPAIRS 604-02.03 EPOXY COATED REINFORCING STEEL 604-03.01 CLASS A CONCRETE (BRIDGES) 604-03.02 STEEL BAR REINFORCEMENT (BRIDGES) 604-03.09 CLASS D CONCRETE (BRIDGE DECK) 617-04.01 TYPE 1 THIN EPOXY OVERLAY (EPOXY-URETHANE) 621-03.05 36" TEMPORARY DRAINAGE PIPE	TON TON TON TON TON TON LS LS LB. C.Y. LB. C.Y. S.Y. L.F.	125 57 57 1 2 1 27 1 1 13166 2 752 68 309 240
(3) (3)	707-03.01 STOCK FENCE (WWF) 707-03.03 STOCK FENCE GATE	L.F. EACH	120 1
(2)(5) (2)(5)	709-05.05 MACHINED RIPRAP (CLASS A-3) 709-05.06 MACHINED RIPRAP (CLASS A-1) 712-01 TRAFFIC CONTROL 712-04.01 FLEXIBLE DRUMS (CHANNELIZING) 712-05.01 WARNING LIGHTS (TYPE A) 712-06 SIGNS (CONSTRUCTION) 712-07.03 TEMPORARY BARRICADES (TYPE III)	TON TON LS EACH EACH S.F. L.F.	40 440 1 10 10 70 84
(24) (24)	714-03.03 DIRECT BURIAL CONDUIT (2" PVC, SCHEDULE 80) 714-05.06 PULL BOX (LARGE)	L.F. EACH	150 3
(1)(2)(5)(7)	740-10.03 GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	645
(18)(20) (18)(19)	795-05.99 FLOWABLE FILL (TRENCH PLUGS) 795-14.01 CLASS A CONCRETE	CY CY	12 3
(1)(2)(3) (1)(3)(6) (1)(3) (1)(3) (1)(3)	801-01.07 TEMPORARY SEEDING (WITH MULCH) 801-01 SEEDING (WITH MULCH) 801-03 WATER (SEEDING & SODDING) 801-07 SEED (SUPPLEMENTAL APPLICATION) 801-08 FERTILIZER (SUPPLEMENTAL APPLICATION)	UNIT UNIT M.G. LB. TON	16 4 4 5 1
(17)	908-21.01 BEARINGS (ELASTOMERIC)	EACH	18
(18) (18)(21) (18) (18) (18) (18) (18) (18) (18) (18) (18) (18) (18) (18) (18) (18)	SS1 18" PVC SDR 26 Gravity Sewer Main SS2 Connect Manhole to Existing 18" Gravity Sanitary Sewer SS3 Concrete Check Dam (Sanitary Sewer Main Line) SS4 Cut & Cap/Plug Exiting 18" Sanitary Sewer Main SS5 5' Diameter Sanitary Sewer Manhole (0'-6' Depth) SS6 5' Diameter Sanitary Sewer Dog House Manhole (0'-6' Depth) SS7 Additional Depth for 5' Diameter Sanitary Sewer Manhole SS8 Additional Payment for Watertight Frame and Cover SS9 Abandon Existing Manhole In Place SS10 Flowable Fill Existing Sanitary Sewer and MH (Abandon Existing Sewer Manhole (EX2) and Sanitary Sewer Main (A3-A1)) SS11 Sanitary Sewer Flow Control SS12 Sewer Television Inspection	LF EACH EACH EACH EACH EACH VF EACH EACH CY LS LF	278 2 3 2 1 2 16 3 1 15 1 278

PROJECT QUANTITY FOOTNOTES	
(1)	ALL QUANTITIES TO BE USED AS DIRECTED BY THE ENGINEER.
(2)	SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT.
(3)	QUANTITY CAN BE INCREASED OR DECREASED AS DIRECTED BY THE ENGINEER.
(4)	INCLUDES 176 L.F. FOR SEDIMENT FILTER BAG (15'X10')
(5)	INCLUDES ALL MATERIAL AND LABOR NECESSARY FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY CULVERT CROSSING AND TEMPORARY CONSTRUCTION ENTRANCE.
(6)	THE COST OF FERTILIZER AND LIME USED IN INITIAL SEED BED PREPARATION IS TO BE INCLUDED IN THE COST OF SEEDING. SEE SECTION 801 OF TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
(7)	INCLUDES 147 S.Y. FOR SEDIMENT FILTER BAG (15'X10'), 78 S.Y. FOR TEMPORARY CONSTRUCTION EXIT AND 420 S.Y. FOR TEMPORARY CULVERT CROSSING.
(8)	INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY FOR THE REMOVAL AND DISPOSAL OF TIMBER DECK, BOTH ABUTMENT BACKWALLS, STEEL STRINGERS, FLOORBEAMS, BEARINGS, AND CUTTING OF ANCHOR BOLTS AS INDICATED ON THE PLANS.
(9)	PAY ITEM SHALL INCLUDE ALL NECESSARY INCIDENTALS FOR STREAM DIVERSION AND DE-WATERING AROUND WORK AREA.
(10)	EXCAVATION BASED ON FINAL PROFILE AT ABUTMENTS.
(11)	INCLUDES COST OF ALL LABOR AND MATERIALS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE AND REMOVAL OF TEMPORARY STREAM DIVERSION AT SANITARY SEWER CROSSING INCLUDING BUT NOT LIMITED TO: EXCAVATION, SANDBAGS, PIPE, PUMPS AND STABILIZATION AS REQUIRED.
(12)	LUMP SUM: THE TOTAL ESTIMATED WEIGHT OF 54,333 LBS OF STRUCTURAL STEEL INCLUDES NEW W14X34 STRINGERS, W24X117 FLOORBEAMS, C10X15.3 DIAPHRAMS, L4X4X3/8 CROSS BRACES, SHEAR CONNECTORS, FILL PLATES, BOLTS, ETC. ALSO SEE THE STANDARD SPECIFICATIONS SECTIONS 602.49 AND 602.50.
(13)	INCLUDES ALL LABOR AND MATERIALS NECESSARY FOR SURFACE PREPARATION, STEEL END POST EXTENSIONS, STEEL RAILINGS, STEEL PLATES, BOLTS, AND TIMBER RUB RAILS.
(14)	INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY FOR THE INSTALLATION OF EPOXY COATED REINFORCING STEEL.
(15)	INCLUDES ALL LABOR AND MATERIALS NECESSARY FOR THE INSTALLATION OF STEEL BAR REINFORCEMENT.
(16)	INCLUDES COST OF ALL LABOR AND MATERIALS REQUIRED FOR INSTALLATION OF STAY-IN-PLACE METAL DECK FORMS.
(17)	INCLUDES COST OF ALL LABOR AND MATERIALS ASSOCIATED WITH THE INSTALLATION OF THE BEARING ASSEMBLY SHOWN ON SHEET B7, INCLUDING STEEL PLATES, ELASTOMERIC BEARING PAD, AND RUBBER BONDING CEMENT.
(18)	SEE SPECIAL PROVISION REGARDING UTILITY MEASUREMENT AND PAYMENT DATED JUNE 1, 2020.
(19)	6IN OF CLASS A CONCRETE SHALL BE PLACED ABOVE THE PROPOSED FLOWABLE FILL ENCASEMENT AS A SANITARY SEWER CAP.
(20)	FLOWABLE FILL FOR CHECK DAMS AND ENCASEMENT SHALL BE EXCAVATABLE. SEE DRAWING G-13 FOR ADDITIONAL INFORMATION.
(21)	INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR CONNECTING TO AN EXISTING SANITARY SEWER
(22)	INCLUDES ALL LABOR AND MATERIALS REQUIRED FOR INSTALLATION OF ABUTMENT RISER BLOCKS.
(23)	FOR REMOVAL OF PAVEMENT (SEE DETAIL ON SHEET B7).
(24)	PAYMENT FOR THIS WORK SHALL BE CONSIDERED AS FULL COMPENSATION FOR THIS ITEM, INCLUDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE ITEM IN ACCORDANCE WITH THE BIDDING DOCUMENTS.
(25)	PAYMENT FOR THIS WORK INCLUDES COST OF ALL LABOR AND MATERIALS ASSOCIATED WITH THE INSTALLATION MAINTENANCE AND REMOVAL OF TEMPORARY HAUL ROAD AT CREEK CROSSING INCLUDING BUT NOT LIMITED TO: EXCAVATION, INSTALLATION AND REMOVAL OF LAMINATED MATTING, TEMPORARY AND PERMANENT STABILIZATION AS REQUIRED FOR TEMPORARY HAUL ROAD.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2023	COF 2020-004	2

SEALED BY



CITY OF FRANKLIN
ENGINEERING DEPARTMENT

ESTIMATED
PROJECT
QUANTITIES

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GENERAL NOTES

GRADING

- (1) ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
- (2) CERTIFICATION FOR ALL BORROW PITS MUST BE OBTAINED IN ACCORDANCE WITH SUBSECTION 107.06 OF THE STANDARD SPECIFICATIONS.
- (3) THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOOD WAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) WITHOUT APPROVAL BY FEMA. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND ABOVE ORDINARY HIGH WATER OF ANY ADJACENT WATERCOURSE. THIS DOES NOT ELIMINATE THE NEED TO OBTAIN ANY OTHER LICENSES OR PERMITS THAT MAY BE REQUIRED BY ANY OTHER FEDERAL, STATE OR LOCAL AGENCY.

SEEDING AND SODDING

- (2) SOD SHALL BE PLACED AT LOCATIONS SHOWN ON THE PLANS TO PREVENT DAMAGE TO ADJACENT FACILITIES AND PROPERTY DUE TO EROSION ON ALL NEWLY GRADED CUT AND FILL SLOPES AS WORK PROGRESSES.
- (4) ITEM NO. 801-01 SEEDING (WITH MULCH) SHALL BE USED WHERE EROSION CONTROL BLANKET OR SOD ARE NOT APPLIED.

DRAINAGE

- (1) THE CONTRACTOR SHALL SHAPE DITCHES TO THE SPECIFIED DESIGN. THIS WORK WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS.
- (2) EXCAVATION FOR SEWERS AND ALL OTHER CULVERTS AND MINOR STRUCTURES WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT WILL BE INCLUDED IN THE COST OF OTHER ITEMS.
- (3) CULVERT EXCAVATION FOR CONCRETE BOX OR SLAB TYPE CULVERTS OR BRIDGES WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS.
- (4) THE CUTTING OF INLET AND OUTLET DITCHES WHERE SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER WILL BE MEASURED AND PAID FOR AS ITEM NO. 203-01 ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED).
- (5) WHERE A CULVERT (PIPE, SLAB OR BOX) IS MOVED TO A NEW LOCATION OTHER THAN THAT SHOWN ON THE PLANS, INCREASING OR DECREASING THE AMOUNT OF CULVERT EXCAVATION WILL NOT RESULT IN AN INCREASE OR DECREASE IN THE AMOUNT OF PAYMENT THAT WILL BE MADE DUE TO SUCH CHANGE.
- (6) DURING CONSTRUCTION OF DRAINAGE STRUCTURES ALL COST ASSOCIATED WITH MAINTAINING THE FLOW OF WATER AND TRAFFIC, AT THESE STRUCTURES, DURING THE PHASED CONSTRUCTION OF THIS PROJECT ARE TO BE INCLUDED IN THE UNIT PRICE OF THE DRAINAGE STRUCTURES AND TRAFFIC CONTROL ITEMS.

FENCING

- (1) LOCATION OF THE FENCE SHALL BE ONE FOOT INSIDE THE RIGHT-OF-WAY EXCEPT WHERE SHOWN OTHERWISE ON THE PLANS.
- (2) FENCES SHALL BE TURNED IN AT DRAINAGE STRUCTURES, STOCK PASSES AND BRIDGES WHERE DIRECTED BY THE ENGINEER SO AS TO ABUT WINGWALLS AND/OR ABUTMENTS.
- (3) THE CONTRACTOR SHALL GIVE THE AFFECTED PROPERTY OWNERS A TWO-WEEK NOTICE PRIOR TO CUTTING FENCES.
- (4) THE CONTRACTOR SHALL BE REQUIRED TO INSTALL ACCESS CONTROL FENCES PRIOR TO CUTTING EXISTING STOCK FENCES IN AREAS UTILIZED BY DOMESTIC LIVESTOCK OR OTHER AREAS AS DIRECTED BY THE ENGINEER.

MISCELLANEOUS

- (2) THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND RESET MAILBOXES AND POSTS WHERE AND AS DIRECTED BY THE ENGINEER. COST TO BE INCLUDED IN PRICE BID FOR OTHER CONSTRUCTION ITEMS.
- (3) NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE

SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA.

ROAD CLOSURE

- (1) NO LESS THAN SEVEN (7) DAYS PRIOR TO THE CLOSURE OF THE ROAD, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES COMPLETELY DESCRIBING THE AFFECTED ROADS AND THE APPROXIMATE DURATION OF THE CONSTRUCTION: THESE PARTIES INCLUDE, BUT ARE NOT LIMITED TO: (1) LOCAL LAW ENFORCEMENT OFFICE, (2) LOCAL FIRE DEPARTMENT, (3) AMBULANCE SERVICE, (4) LOCAL SCHOOL SUPERINTENDENT, (5) UNITED STATES POSTAL SERVICE, AND (6) LOCAL ROAD SUPERINTENDENT.

PAVEMENT

PAVING

- (1) THE CONTRACTOR SHALL BE REQUIRED TO PAVE IN THE DIRECTION OF TRAFFIC.
- (2) THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.
- (3) THE CONTRACTOR SHALL ATTACH A DEVICE TO THE SCREED OF THE PAVER SUCH THAT MATERIAL IS CONFINED AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A CONSOLIDATED WEDGE-SHAPE PAVEMENT EDGE OF APPROXIMATELY 25 TO 30 DEGREES AS IT LEAVES THE PAVER (MEASURED FROM A LINE PARALLEL TO THE PAVEMENT SURFACE.) THE DEVICE SHALL MEET THE REQUIREMENTS THAT ARE CURRENTLY SET FORTH IN SPECIAL PROVISION 407SE.

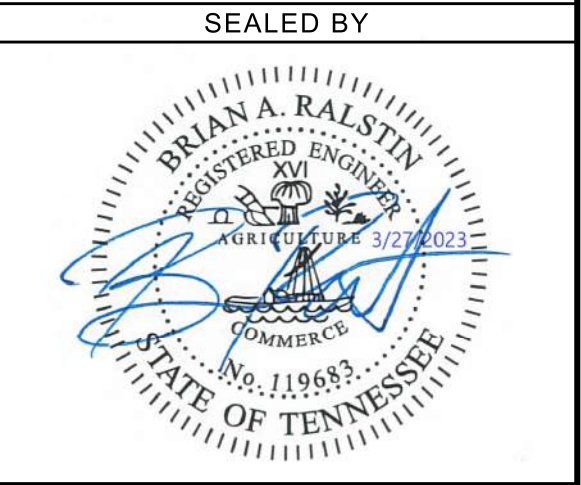
CONSTRUCTION WORK ZONE & TRAFFIC CONTROL

- (1) ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.
- (2) IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO. 712-06, SIGNS (CONSTRUCTION) PER SQUARE FOOT.
- (3) A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS A FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.
- (4) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
- (5) USE OF BARRICADES, PORTABLE BARRIER RAILS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL INCREASE TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS SUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.
- (6) THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO PARK WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR

THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

- (7) ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND SHALL BE APPROVED BY THE CITY'S PROJECT MANAGER OR THE CITY TRAFFIC ENGINEER PRIOR TO UTILIZATION OF DETOUR OR SIGNAGE.
- (8) ALL DETOURS SHALL BE PAVED, STRIPED, SIGNED, AND FLEXIBLE DRUMS ARE TO BE IN PLACE BEFORE IT IS OPENED TO TRAFFIC.
- (9) THE CONTRACTOR SHALL BE RESPONSIBLE FOR STAKING CONSTRUCTION SIGNS. THE COST OF THIS WORK SHALL BE INCLUDED IN ITEM NO. 712-06, SIGNS (CONSTRUCTION), S.F.

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CITY OF FRANKLIN
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GENERAL
NOTES

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SPECIAL NOTES

GRADING

- (1) THE GRADING TABULATIONS AND RESULTING EARTHWORK ASSOCIATED BID QUANTITIES WERE PREPARED UTILIZING AVAILABLE GEOTECHNICAL INFORMATION AND/OR REPORTS PREPARED FOR THIS PROJECT. THIS INFORMATION IS PROVIDED FOR GENERAL INFORMATION AND ESTIMATION GUIDANCE ONLY.
- (4) THE CONTRACTOR SHALL UTILIZE ALL INFORMATION PROVIDED IN THE PLANS, CROSS-SECTIONS AND CONTRACT DOCUMENTS INCLUDING ANY SPECIAL PROVISIONS AS WELL AS UTILIZING HIS PAST EXPERIENCE WITH PROJECTS OF SIMILAR NATURE, SCOPE AND LOCATION IN PREPARATION OF HIS BID FOR EARTHWORK ITEMS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND PROVIDE EQUIPMENT AND MEANS NECESSARY TO CONDUCT THE EXCAVATION ACTIVITIES IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.
- (5) EARTHWORK IS PAID FOR UNDER ITEM NO. 203-01, ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED). NO ADDITIONAL PAYMENT WILL BE MADE FOR EARTHWORK QUANTITIES BASED SOLELY ON A CLAIM THAT THE QUANTITIES SHOWN IN THE GRADING TABULATION OR ELSEWHERE IN THE PLANS ARE INACCURATE WITH RESPECT TO THE TYPE OF MATERIALS ENCOUNTERED DURING CONSTRUCTION EXCEPT AS PROVIDED FOR BY SECTION 104.02 IN THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OR AS AMENDED IN SUPPLEMENTAL SPECIFICATIONS.

MULTIMODAL

- (1) DURING CONSTRUCTION, IF THE CONSTRUCTION SUPERVISOR IDENTIFIES CURB RAMP LOCATIONS WITHIN THE PROJECT LIMITS WHERE THE TDOT OR CITY OF FRANKLIN ROADWAY STANDARDS CANNOT BE USED DUE TO SITE LIMITATIONS, A SKETCH OR PICTURE, SHOWING EXISTING CONDITIONS AS WELL AS PROPOSED MODIFICATIONS SHOULD BE SUBMITTED TO THE CITY'S PROJECT MANAGER THREE WEEKS PRIOR TO THE BEGINNING OF CURB RAMP CONSTRUCTION. THE CITY WILL REVIEW AND EVALUATE THE LOCATIONS TO DEVELOP PROPER CURB RAMP DESIGN THAT WILL MEET REGULATIONS.

TRAFFIC OPERATIONS CENTER

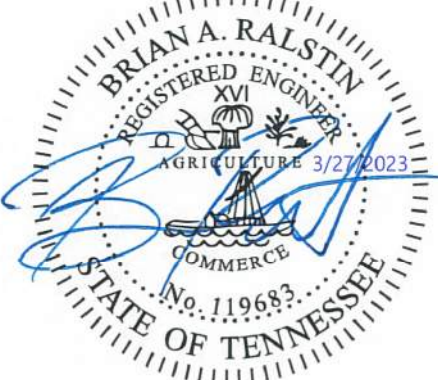
- (1) DURING CONSTRUCTION, THE CONTRACTOR AND ALL SUB-CONTRACTORS SHALL NOTIFY THE CITY OF FRANKLIN TRAFFIC OPERATIONS CENTER (TOC) OF ANY AND ALL TEMPORARY OR PERMANENT TRAFFIC PATTERN CHANGES (E.G. DETOURS, SHIFTS, TRAFFIC CONTROL CHANGES, ETC.) OR ROADWAY CLOSURES

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CITY OF FRANKLIN
ENGINEERING DEPARTMENT

SPECIAL
NOTES

ENVIRONMENTAL GENERAL NOTES

SUBSECTION 1 – ENVIRONMENTAL GENERAL NOTES

ENVIRONMENTAL GENERAL NOTES

NATURAL RESOURCES

- (1) SOIL MATERIALS MUST BE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. EPSC MEASURES TO PROTECT NATURAL RESOURCES AND WATER QUALITY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. APPROPRIATE EPSC MEASURES MUST BE INSTALLED ALONG THE BASE OF ALL FILLS AND CUTS, ON THE DOWNHILL SIDE OF STOCKPILED SOIL, AND ALONG NATURAL RESOURCES IN CLEARED AREAS TO PREVENT SEDIMENT MIGRATION INTO STREAMS, WETLANDS OR OTHER NATURAL FEATURES IN ACCORDANCE WITH TDOT STANDARDS. EPSC MEASURES SHALL BE INSTALLED ON THE CONTOUR, ENTRENCHED AND STAKED, AND EXTEND THE WIDTH OF THE AREA TO BE CLEARED.
- (2) NEW CHANNEL CONSTRUCTION SHALL BE COMPLETED IN THE DRY AND STABILIZED FOR AT LEAST 72 HOURS PRIOR TO DIVERTING WATER FROM THE EXISTING AND/OR TEMPORARY CHANNEL.
- (3) INSTREAM EPSC DEVICES REQUIRE THE CITY OF FRANKLIN REVIEW AND MUST BE PROCESSED BY THE CITY OF FRANKLIN TO OBTAIN WATER QUALITY PERMITS.
- (4) THE OPERATION OF EQUIPMENT IN WATERS OF THE STATE/U.S., INCLUDING WETLANDS AND EPHEMERAL, INTERMITTENT, AND PERENNIAL STREAMS, IS NOT ALLOWED.
- (5) THE WIDTH OF THE FILL ASSOCIATED WITH TEMPORARY CROSSINGS SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR THE ACTUAL CROSSING, NOT TO EXCEED THE WIDTH SPECIFIED IN THE STANDARD DRAWING.
- (6) STREAM BEDS SHALL NOT BE USED AS TRANSPORTATION ROUTES FOR CONSTRUCTION EQUIPMENT. TEMPORARY CULVERT CROSSINGS SHALL BE LIMITED TO ONE POINT PER STREAM AND EPSC MEASURES SHALL BE USED WHERE THE STREAM BANKS ARE DISTURBED. WHERE THE STREAMBED IS NOT COMPOSED OF BEDROCK, A PAD OF CLEAN ROCK SHALL BE USED AT THE CROSSING POINT AND CULVERTED TO PREVENT THE IMPOUNDMENT OF WATER FLOW. CLEAN ROCK IS ROCK OF VARIOUS TYPE AND SIZE, DEPENDING UPON APPLICATION, WHICH CONTAINS NO FINES, SOILS, OR OTHER WASTES OR CONTAMINANTS. OTHER MATERIALS USED FOR ALL TEMPORARY FILLS SHALL BE COMPLETELY REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED AND THE AFFECTED AREAS RETURNED TO PREEXISTING ELEVATIONS. ALL TEMPORARY CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DWG. EC-STR-25 UNLESS SPECIFICALLY ADDRESSED IN THE EPSC PLANS. ALTERNATIVELY, PLACING A TEMPORARY BRIDGE (E.G. BAILEY BRIDGE OR EQUIVALENT, TIMBERS, ETC.) FROM TOP OF BANK TO TOP OF BANK OR THE APPROPRIATE USE OF BARGES AT THE CROSSING TO AVOID DISTURBANCE OF THE STREAMBED IS AN ACCEPTABLE OPTION.
- (7) HEAVY EQUIPMENT WORKING IN WETLANDS WITH PERMITTED TEMPORARY IMPACTS SHALL BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE AND COMPACTION UNLESS SPECIFICALLY ADDRESSED IN THE CONSTRUCTION PLANS. ANY MATS AND OTHER MEASURES USED FOR HEAVY EQUIPMENT SHALL BE REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED. ALL AFFECTED AREAS SHOULD BE RETURNED TO PRE-EXISTING CONDITIONS.
- (8) WETLANDS SHALL NOT BE USED AS EQUIPMENT STORAGE, STAGING, OR TRANSPORTATION AREAS, UNLESS SPECIFICALLY PROVIDED FOR IN THE CONSTRUCTION PLANS AND PERMITS.
- (9) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS PRIOR TO ANY CONSTRUCTION AND MAINTENANCE ACTIVITIES TO ENSURE THAT ENVIRONMENTAL FEATURES (E.G., STREAMS, WETLANDS, SPRINGS, ETC.) ARE NOT IMPACTED BEYOND PERMITTED LOCATIONS. IF THE CONTRACTOR OR TDOT INSPECTOR IS UNSURE OF THE IDENTITY OF AN ENVIRONMENTAL FEATURE, THE INSPECTOR SHALL CONTACT THE TDOT REGION ENVIRONMENTAL TECH GROUP IMMEDIATELY.

SPECIES

- (10) NO ACTIVITY MAY SUBSTANTIALLY DISRUPT THE MOVEMENT OF THOSE SPECIES OF AQUATIC LIFE INDIGENOUS TO THE WATER BODY, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA.
- (11) SHOULD CLIFF SWALLOW OR BARN SWALLOW NESTS, EGGS, OR BIRDS (YOUNG AND ADULTS) BE PRESENT, THE CONTRACTOR SHALL CONTACT THE CITY OF FRANKLIN TO DETERMINE IF SEASONAL RESTRICTIONS WILL BE NECESSARY. GENERALLY, BIRDS, NESTS, AND EGGS MAY NOT BE

DISTURBED BETWEEN APRIL 15 AND JULY 31. FROM AUGUST 1 TO APRIL 14, NESTS CAN BE REMOVED OR DESTROYED SO LONG AS BIRDS OR EGGS ARE NOT PRESENT, AND MEASURES IMPLEMENTED TO PREVENT FUTURE NEST BUILDING AT THE SITE (I.E., CLOSING OFF AREA USING NETTING).

- (12) IF THE REMOVAL OF ANY TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) GREATER THAN 3 INCHES IS DEEMED NECESSARY THE PROJECT MANAGER SHALL CONTACT THE CITY OF FRANKLIN IMMEDIATELY.

PERMITS, PLANS & RECORDS

- (13) THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND OBTAIN ANY NECESSARY ENVIRONMENTAL PERMITS OR APPROVALS, INCLUDING BUT NOT LIMITED TO ARCHAEOLOGY, ECOLOGY, HISTORICAL, HAZARDOUS MATERIALS, AIR AND NOISE, TDEC ARAP/401, USACE SECTION 404, TVA SECTION 26A, AND TDEC NPDES PERMITS, FROM FEDERAL, STATE AND/OR LOCAL AGENCIES REGARDING ANY MATERIAL AND STAGING AREAS AND THE OPERATION OF ANY PROJECT-DEDICATED ASPHALT AND/OR CONCRETE PLANTS TO BE USED. ANY SUCH PERMITS SHALL BE SUPPLIED TO THE CITY OF FRANKLIN PRIOR TO THE USE OF THE PERMITTED AREA(S).
- (14) ANY DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, THE PROJECT AS CONSTRUCTED, AND THE PERMIT(S) ISSUED FOR THE PROJECT, SHALL BE BROUGHT TO THE ATTENTION OF THE CITY OF FRANKLIN. THEY WILL DECIDE WHICH HAS PRECEDENCE AND WHETHER PERMIT OR PLANS REVISIONS ARE NEEDED. IN GENERAL, PERMIT CONDITIONS WILL PREVAIL.
- (15) IF A CHANGE IN PROJECT SCOPE OCCURS DURING CONSTRUCTION, INCLUDING VALUE ENGINEERING, THE TDOT PERMIT SECTION SHALL BE CONTACTED TO DETERMINE WHETHER PERMIT REVISIONS ARE NEEDED. THE ROADWAY DESIGN DIVISION SHALL BE CONTACTED TO DETERMINE IF ANY PLAN REVISIONS ARE NEEDED.
- (16) THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATE. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE CITY OF FRANKLIN TO COMMENCE PERMIT RENEWAL PROCESS.
- (17) ALL WATER QUALITY PERMITS SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE ACCESSIBLE TO THE PUBLIC. THE NAME, COMPANY NAME, EMAIL ADDRESS, TELEPHONE NUMBER AND ADDRESS OF THE PROJECT SITE OWNER, OPERATOR, OR A LOCAL CONTACT PERSON WITH A BRIEF DESCRIPTION OF THE PROJECT SHALL ALSO BE POSTED. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFEASIBLE, THE INFORMATION SHALL BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION NEAR WHERE THE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY. THIS LOCATION SHALL BE POSTED AT THE CONSTRUCTION SITE. ALL POSTINGS SHALL BE MAINTAINED IN LEGIBLE CONDITION.

SUPPORT ACTIVITIES

- (18) MATERIALS AND STAGING AREAS SHALL NOT AFFECT ANY WATERS OF THE STATE/U.S. UNLESS THESE AREAS ARE SPECIFICALLY COVERED BY ENVIRONMENTAL PERMITS, OBTAINED SOLELY BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATES. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE CITY OF FRANKLIN TO COMMENCE PERMIT RENEWAL PROCESS.

STREAMS, WETLANDS & BUFFER ZONES

- (19) ONCE WATER IS DIVERTED INTO A NEWLY CONSTRUCTED AND STABILIZED RELOCATED STREAM / CHANNEL, THE ECOLOGY SECTION SHALL BE NOTIFIED. THE STREAM NAME, STREAM NUMBER, AND DATE THE WATER WAS DIVERTED INTO THE NEWLY CONSTRUCTED STREAM / CHANNEL SHALL BE SUPPLIED WITH THE NOTIFICATION.

ENVIRONMENTAL

- (20) EXCEPT AS OTHERWISE SPECIFIED, THERE ARE NO KNOWN SPECIAL ENVIRONMENTAL FACTORS PRESENT ON THIS PROJECT THAT INDICATE A NEED FOR SEASONAL LIMITATIONS ON THE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OPERATIONS OR ON THE TOTAL AREA OF EXPOSED SOIL.

SUBSECTION 2 – ENVIRONMENTAL SPECIAL NOTES

ENVIRONMENTAL SPECIAL NOTES

ENVIRONMENTAL

- (1) STAFF FROM THE CITY OF FRANKLIN SHALL BE INVITED TO ALL PRE-CONSTRUCTION MEETINGS.

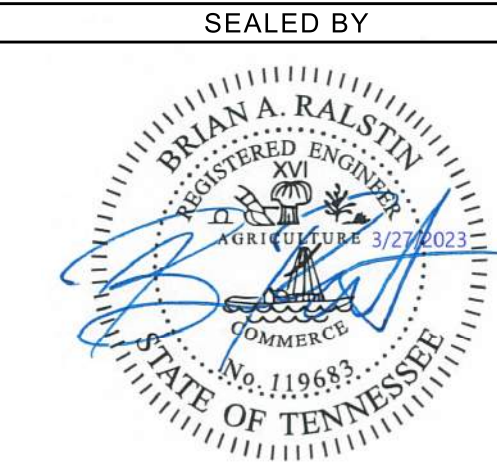
ECOLOGY

- (2) STAFF FROM THE CITY OF FRANKLIN OR A DESIGNEE SHALL ADVISE THE CONTRACTOR DURING THE PRE-CONSTRUCTION MEETING WHEN ENVIRONMENTAL DIVISION PERSONNEL OR A DESIGNATED CONSULTANT WILL NEED TO BE ONSITE FOR WORK BEING DONE WHICH COULD AFFECT WATERS OF THE STATE/U.S. OR SPECIES.
- (3) STAFF FROM THE CITY OF FRANKLIN OR A DESIGNEE SHALL ATTEND THE PRE-CONSTRUCTION MEETING FOR ALL PROJECTS WHICH HAVE THREATENED OR ENDANGERED SPECIES OR CRITICAL HABITAT PROXIMAL TO SCHEDULED WORK. THIS WILL PROVIDE THE OPPORTUNITY TO ENSURE THAT PERSONNEL INCLUDING THE CONTRACTOR'S PERSONNEL AND SUBCONTRACTORS ARE MADE AWARE OF THE NECESSARY PRECAUTIONS THAT MUST BE FOLLOWED.
- (4) ALL PROJECTS WITH LEGALLY PROTECTED SPECIES OR CRITICAL HABITAT IDENTIFIED SHALL HAVE MEASURES IN PLACE TO CONTAIN CONCRETE DUST, CEMENT DUST AND ALL OTHER MATERIALS. THESE MATERIALS ARE NOT ALLOWED TO ENTER WATERS OF THE STATE/U.S.

SCOPE OF WORK

- (5) THE GRADING AND PAVING OF THE ENTRANCE ROAD TO LIBERTY PARK TO MATCH THE REHABILITATED BRIDGE ELEVATIONS.
- (6) THE REHABILATION OF THE EXISTING BRIDGE INTO LIBERTY PARK OVER THE SOUTH PRONG OF SPENCER CREEK.
- (7) THE RELOCATION OF THE SANITARY SEWER LINE AS SHOWN ON THE PLANS.
- (8) THE INSTALLATION AND MAINTENANCE OF ALL NECESSARY TRAFFIC AND EROSION CONTROL MEASURES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- (9) THE INSTALLATION OF ALL INCIDENTALS NECESSARY FOR THE COMPLETION OF THIS PROJECT.

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HISTORIC
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TENNESSEE

CITY OF FRANKLIN
ENGINEERING DEPARTMENT

ENVIRONMENTAL
NOTES

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ENVIRONMENTAL NOTES

SUBSECTION 3 – EROSION PREVENTION AND SEDIMENT CONTROL GENERAL NOTES

EROSION PREVENTION AND SEDIMENT CONTROL GENERAL NOTES

DISTURBED AREA

- (1) IF DISTURBED ACREAGE IS EQUAL TO ONE ACRE OR MORE, PLEASE CONTACT TDEC, PERMITS SECTION AS SOON AS POSSIBLE BECAUSE AN NPDES PERMIT WILL BE REQUIRED.
- (2) AREAS TO BE UNDISTURBED SHALL BE CLEARLY MARKED IN THE FIELD BEFORE CONSTRUCTION ACTIVITIES BEGIN.
- (3) UNLESS OTHERWISE NOTED IN THE PLANS, THE CONTRACTOR SHALL NOT CLEAR/DISTURB ANY AREA BEYOND 15 FEET FROM SLOPE LINES.
- (4) PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED (I.E. CLEARING AND GRUBBING INITIATED) MORE THAN 14 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING ACTIVITIES UNLESS THE AREA IS MULCHED, SEEDED WITH MULCH, OR OTHER TEMPORARY COVER IS APPLIED.
- (5) CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR SLOPE CONSTRUCTION AND EQUIPMENT OPERATIONS. EXISTING VEGETATION, INCLUDING STREAM AND WETLAND BUFFERS (UNLESS PERMITTED), SHOULD BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. UNNECESSARY VEGETATION REMOVAL IS PROHIBITED.

SEDIMENT CONTROL

- (6) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.
- (7) TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY BUT MUST BE REINSTALLED AT THE END OF THE WORKDAY OR BEFORE/DURING A PRECIPITATION EVENT.
- (8) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT THE OFFSITE MIGRATION OR DEPOSIT OF SEDIMENT OFF THE PROJECT LIMITS (E.G. R.O.W., EASEMENTS, ETC.), INTO WATERS OF THE STATE/U.S., OR ONTO ROADWAYS USED BY THE GENERAL PUBLIC. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFFSITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS (E.G., FUGITIVE SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN A STREET MUST BE REMOVED SO THAT IT IS NOT SUBSEQUENTLY WASHED INTO STORM SEWERS AND STREAMS BY THE NEXT RAIN AND/OR SO THAT IT DOES NOT POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS). ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE NEGOTIATED WITH THE ADJOINING PROPERTY OWNER BEFORE REMOVAL OF SEDIMENT.
- (9) OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION EXIT (A POINT OF ENTRANCE/EXIT TO THE CONSTRUCTION PROJECT) SHALL BE PROVIDED TO REDUCE THE TRACKING OF MUD AND DIRT ONTO PUBLIC ROADS BY CONSTRUCTION VEHICLES.
- (10) THE DEWATERING OF WORK AREAS, TRENCHES, FOUNDATIONS, EXCAVATIONS, ETC. THAT HAVE COLLECTED STORMWATER, WATER FROM VEHICLE WASH AREAS, OR GROUNDWATER SHALL BE EITHER HELD IN SETTLING BASINS OR TREATED BY FILTRATION AND/OR CHEMICAL TREATMENT PRIOR TO ITS DISCHARGE. ALL PHYSICAL AND/OR CHEMICAL TREATMENT WILL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND FULLY DESCRIBED IN THE EPSC PLANS. WATER DISCHARGED SHALL NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITHIN THE RECEIVING NATURAL RESOURCE. WATER MUST BE HELD IN SETTLING BASINS UNTIL AT LEAST AS CLEAR AS THE RECEIVING WATERS. SETTLING BASINS SHALL NOT BE LOCATED CLOSER THAN 20 FEET FROM THE TOP BANK OF A STREAM. SETTLING BASINS AND SEDIMENT TRAPS SHALL BE PROPERLY DESIGNED ACCORDING TO THE SIZE OF THE DRAINAGE AREAS OR VOLUME OF WATER TO BE TREATED. TREATED WATER MUST BE DISCHARGED THROUGH A PIPE OR WELL-VEGETATED OR LINED CHANNEL, SO THAT THE DISCHARGE DOES NOT CAUSE EROSION OR SEDIMENT TRANSPORT. DISCHARGES FROM BASINS AND IMPOUNDMENTS SHALL UTILIZE OUTLET STRUCTURES THAT ONLY WITHDRAW WATER FROM NEAR THE SURFACE OF THE BASIN OR

IMPOUNDMENT. DISCHARGES MUST NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITH THE RECEIVING STREAM.

INSPECTION, MAINTENANCE & REPAIR

- (12) THE HUMPHREYS COUNTY HIGHWAY DEPARTMENT SUPERVISOR (OR THEIR DESIGNEE) AND THE CONTRACTOR'S RESPONSIBLE PARTY ARE RESPONSIBLE FOR INSPECTIONS. MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE HUMPHREYS COUNTY HIGHWAY DEPARTMENT SUPERVISOR OR THEIR DESIGNEE SHALL COMPLETE THE EPSC INSPECTION REPORTS AND DISTRIBUTE COPIES PER THE CONTRACT.
- (13) HUMPHREYS COUNTY HIGHWAY DEPARTMENT AND CONTRACTOR STAFF RESPONSIBLE FOR THE INSPECTION, IMPLEMENTATION, MAINTENANCE, AND/OR REPAIR OF EPSC MEASURES SHALL SUCCESSFULLY COMPLETE THE TDEC "LEVEL 1 - FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES" COURSE AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION. HUMPHREYS COUNTY HIGHWAY DEPARTMENT STAFF AND SUPERVISORS RESPONSIBLE FOR THE INSPECTION, IMPLEMENTATION, MAINTENANCE, AND/OR REPAIR OF EPSC MEASURES SHALL SUCCESSFULLY COMPLETE THE TDOT "FUNDAMENTALS OF EROSION AND SEDIMENT CONTROL" CLASS AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION.
- (14) EPSC CONTROLS SHALL BE INSPECTED ACCORDING TO PERMIT REQUIREMENTS TO VERIFY MEASURES HAVE BEEN INSTALLED AND MAINTAINED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS, SPECIFICATIONS, AND GOOD ENGINEERING PRACTICES. EPSC INSPECTIONS SHALL BE DOCUMENTED ON THE TDOT EPSC INSPECTION REPORT.
- (15) DISCHARGE POINTS SHALL BE INSPECTED TO ASCERTAIN WHETHER EPSC MEASURES ARE EFFECTIVE IN PREVENTING EROSION AND CONTROLLING SEDIMENT INCLUDING SIGNIFICANT IMPACTS TO SURROUNDING NATURAL RESOURCES AND ADJACENT PROPERTY OWNERS. WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWN GRADIENT LOCATIONS SHALL BE INSPECTED. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE ROADWAY SEDIMENT TRACKING.
- (16) UPON CONCLUSION OF THE INSPECTIONS, EPSC MEASURES FOUND TO BE INEFFECTIVE SHALL BE REPAIRED, REPLACED, OR MODIFIED BEFORE THE NEXT RAIN EVENT, IF POSSIBLE, BUT IN NO CASE MORE THAN 24 HOURS AFTER THE INSPECTION OR WHEN THE CONDITION IS IDENTIFIED. IF THE REPAIR, REPLACEMENT OR MODIFICATION IS NOT PRACTICAL WITHIN THE 24 HOUR TIMEFRAME, WRITTEN DOCUMENTATION SHALL BE PROVIDED IN THE FIELD DIARY AND EPSC INSPECTION REPORT. AN ESTIMATED REPAIR, REPLACEMENT OR MODIFICATION SCHEDULE SHALL BE DOCUMENTED WITHIN 24 HOURS AFTER IDENTIFICATION.
- (17) INSPECTION, REPAIR, AND MAINTENANCE OF EPSC MEASURES SHALL BE PERFORMED ON A REGULAR BASIS. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL STRUCTURES WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT (50%). DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE STEPS TO ENSURE THAT STRUCTURAL COMPONENTS OF EPSC MEASURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE EPSC MEASURES AT THE CONTRACTOR'S OWN EXPENSE.
- (18) THE EPSC PLAN SHALL BE UPDATED WHENEVER EPSC INSPECTIONS INDICATE, OR WHERE STATE OR FEDERAL OFFICIALS DETERMINE EPSC MEASURES ARE PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANT SOURCES OR ARE OTHERWISE NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY.
- (19) SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES SHALL BE PLACED AND TREATED IN A MANNER SO THAT THE SEDIMENT IS CONTAINED WITHIN THE PROJECT LIMITS AND DOES NOT MIGRATE ONTO ADJACENT PROPERTIES AND INTO WATERS OF THE STATE/U.S. COST FOR THIS TREATMENT SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 209-05 SEDIMENT REMOVAL, C.Y.

EROSION PREVENTION

- (20) CONSTRUCTION SHALL BE SEQUENCED AND STAGED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED SOIL AREAS, PRESERVE TOPSOIL, AND MINIMIZE SOIL COMPACTION.
- (21) THE ACCEPTED EPSC PLAN SHALL REQUIRE THAT EPSC MEASURES BE IN PLACE BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CULVERT OR BRIDGE CONSTRUCTION, CUTTING, FILLING, OR ANY OTHER

EARTHWORK OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.

- (22) NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR'S PLAN FOR THE STAGING OF OPERATIONS, INCLUDING THE PLAN FOR STAGING OF TEMPORARY AND PERMANENT EPSC MEASURES, HAS BEEN ACCEPTED BY THE HUMPHREYS COUNTY HIGHWAY DEPARTMENT RESPONSIBLE PARTY. THE CONTRACTOR'S EPSC PLAN SHALL INCORPORATE AND SUPPLEMENT, AS ACCEPTABLE, THE BASIC EPSC DEVICES ON THE EPSC PLAN.
- (23) TEMPORARY STABILIZATION SHALL BE INITIATED WITHIN 14 CALENDAR DAYS WHEN CONSTRUCTION ACTIVITIES ON A PORTION OF THE SITE ARE TEMPORARILY CEASED AND EARTH DISTURBING ACTIVITIES WILL NOT RESUME UNTIL AFTER 14 CALENDAR DAYS. PERMANENT STABILIZATION MEASURES IN DISTURBED AREAS SHALL BE INITIATED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OF ANY PHASE OF CONSTRUCTION.
- (24) STEEP SLOPES SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. STEEP SLOPES ARE DEFINED AS A NATURAL OR CREATED SLOPE OF 35% GRADE OR GREATER REGARDLESS OF HEIGHT.
- (25) PERMANENT STABILIZATION WILL REPLACE TEMPORARY MEASURES AS SOON AS PRACTICABLE. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EPSC MEASURES OVER TEMPORARY EPSC MEASURES ON ALL PROJECTS.
- (26) TEMPORARY OR PERMANENT STABILIZATION MUST BE FREE OF FINES (SILT AND CLAY SIZED PARTICLES). UNPACKED GRAVEL CONTAINING FINES OR CRUSHER-RUN WILL NOT BE CONSIDERED SUFFICIENT STABILIZATION.
- (27) DELAYING THE PLANTING OF COVER VEGETATION UNTIL WINTER MONTHS OR DRY MONTHS SHOULD BE AVOIDED.

PERMITS, PLANS & RECORDS

- (28) THE EPSC PLAN IS TO SERVE AS AN INITIAL GUIDE FOR SITE PERSONNEL AS THE CONSTRUCTION PROCESS DEVELOPS. IT MUST BE AMENDED, MODIFIED, AND UPDATED WHENEVER A CHANGE IN THE DESIGN OR CONSTRUCTION OF THE PROJECT OCCURS. THE STAGES DEPICTED IN THE EPSC PLANS MAY NOT COINCIDE WITH THE ACTUAL PHASES OF CONSTRUCTION ESTABLISHED BY THE CONTRACTOR DURING CONSTRUCTION, THUS MODIFICATIONS WILL BE REQUIRED TO ENSURE THE EPSC PLAN IS MAINTAINED TO DEPICT CURRENT SITE CONDITIONS. IT SHOULD BE MAINTAINED SUCH THAT IT WILL ALWAYS REFLECT THE MEASURES THAT ARE INSTALLED DURING THE VARIOUS PHASES OF CONSTRUCTION. IT IS IMPRACTICAL TO DETERMINE ALL THE INTERMEDIATE PHASES OF CONSTRUCTION THAT WILL OCCUR; THUS THESE DOCUMENTS WILL HAVE TO BE UPDATED THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT.

GOOD HOUSEKEEPING MEASURES & WASTE DISPOSAL


- (29) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS SHALL BE REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFFSITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES. AFTER USE, MATERIALS USED FOR EPSC SHALL BE REMOVED FROM THE SITE.
- (30) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDINANCES, INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION. APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED.
- (31) CONTRACTORS SHALL PROVIDE DESIGNATED TRUCK WASHOUT AREAS ON THE SITE. THESE AREAS MUST BE SELF CONTAINED, NOT CONNECTED TO ANY STORMWATER OUTLET OF THE SITE, AND PROPERLY SIGNED. WASH DOWN OR WASTE DISCHARGE OF CONCRETE TRUCKS SHALL NOT BE PERMITTED ONSITE UNLESS PROPER SETTLEMENT AREAS HAVE BEEN PROVIDED IN ACCORDANCE WITH BOTH STATE AND FEDERAL REGULATIONS.

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TENNESSEE

EPSC NOTES

ENVIRONMENTAL NOTES

- (32)

WHEEL WASH WATER SHALL BE COLLECTED AND ALLOWED TO SETTLE OUT SUSPENDED SOLIDS PRIOR TO DISCHARGE. WHEEL WASH WATER SHALL NOT BE DISCHARGED DIRECTLY INTO ANY STORMWATER SYSTEM OR STORMWATER TREATMENT SYSTEM.
- (33)

IF PORTABLE SANITARY FACILITIES ARE PROVIDED ON CONSTRUCTION SITES, SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS IN A TIMELY MANNER BY A LICENSED WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY ANY REGULATIONS. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF SANITARY WASTE.
- (34)

ONLY CONSTRUCTION PRODUCTS NEEDED SHALL BE STORED ONSITE BY THE CONTRACTOR. THE CONTRACTOR SHALL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS. PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED. MATERIAL MIXING SHALL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR'S RESPONSIBLE PARTY SHALL INSPECT MATERIALS STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL.
- (35)

WHEN POSSIBLE, ALL PRODUCTS SHALL BE USED COMPLETELY BEFORE PROPERLY DISPOSING OF THE CONTAINER OFFSITE. THE MANUFACTURER'S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS SHALL BE FOLLOWED.
- (36)

ALL PAINT CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT SHALL BE DISPOSED OF ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND APPLICABLE STATE AND LOCAL REGULATIONS.
- (37)

ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN A MANNER WHICH IS COMPLIANT WITH LOCAL OR STATE REGULATIONS. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES, AND THE INDIVIDUAL DESIGNATED AS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF HAZARDOUS MATERIAL.
- (38)

OPEN BURNING IS PROHIBITED UNLESS IT IS SPECIFICALLY ALLOWED BY LAW. IF ALLOWED, NATURAL VEGETATION, TREES, AND UNTREATED LUMBER SHALL BE THE ONLY MATERIALS THAT CAN BE OPEN BURNED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE STATE AND LOCAL PERMITS PRIOR TO ANY BURNING.
- (39)

DISPOSAL OF ONSITE VEGETATION AND TREES BY CHIPPING THEM INTO MULCH IS PREFERABLE TO OPEN BURNING. THIS MULCH MAY BE USED AS AN ONSITE SOIL STABILIZATION MEASURE WHERE APPROPRIATE.
- (40)

WASTE MATERIAL (EARTH, ROCK, ASPHALT, CONCRETE, ETC.) NOT REQUIRED FOR THE CONSTRUCTION OF THE PROJECT WILL BE DISPOSED OF BY THE CONTRACTOR. IMPACTS TO WATERS OF THE STATE/U.S. SHALL BE AVOIDED IF POSSIBLE. IF UNAVOIDABLE, THE CONTRACTOR WILL OBTAIN ANY AND ALL NECESSARY PERMITS INCLUDING, BUT NOT LIMITED TO NPDES, AQUATIC RESOURCES ALTERATION PERMIT(S), CORPS OF ENGINEERS SECTION 404 PERMITS, AND TVA SECTION 26A PERMITS TO DISPOSE OF WASTE MATERIALS.

SUPPORT ACTIVITIES

- (41)

IF OFFSITE BORROW AND WASTE AREAS BECOME NECESSARY DURING THE LIFE OF THE PROJECT, THIS SUPPORT ACTIVITY SHALL BE ADDRESSED PER THE TDOT WASTE AND BORROW MANUAL.
- (42)

MATERIALS AND STAGING AREAS SHALL BE LOCATED IN NON-WETLAND AREAS AND ABOVE THE 100-YEAR, FEDERAL EMERGENCY MANAGEMENT AGENCY FLOODPLAIN.
- (43)

IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY EPSC PLANS FOR THE MATERIAL AND STAGING AREAS TO THE ENVIRONMENTAL DIVISION COMPLIANCE AND FIELD SERVICES OFFICE FOR REVIEW.

SPILL PREVENTION, MANAGEMENT & NOTIFICATION

- (44)

ALL ONSITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE AND SPILLS.
- (45)

FOR ALL HAZARDOUS MATERIALS STORED ONSITE, THE MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEAN UP SHALL BE CLEARLY POSTED. SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATIONS OF THE INFORMATION AND CLEANUP SUPPLIES.
- (46)

APPROPRIATE CLEANUP MATERIALS AND EQUIPMENT SHALL BE MAINTAINED BY THE CONTRACTOR IN THE MATERIALS STORAGE AREA ONSITE AND UNDER COVER. SPILL RESPONSE EQUIPMENT SHALL BE
- INSPECTED AND MAINTAINED BY THE CONTRACTOR AS NECESSARY TO REPLACE ANY MATERIALS USED IN SPILL RESPONSE ACTIVITIES.

(47)

ALL SPILLS SHALL BE CLEANED IMMEDIATELY AFTER DISCOVERY AND THE MATERIALS DISPOSED OF PROPERLY. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

(48)

THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SITE SUPERINTENDENT HAS HAD APPROPRIATE TRAINING FOR HAZARDOUS MATERIALS HANDLING, SPILL MANAGEMENT, AND CLEANUP.

(49)

IF AN OIL SHEEN IS OBSERVED ON SURFACE WATER (E.G. SETTLING PONDS, DETENTION PONDS, SWALES), ACTION SHALL BE TAKEN IMMEDIATELY TO REMOVE THE MATERIAL CAUSING THE SHEEN. THE CONTRACTOR SHALL USE APPROPRIATE MATERIALS TO CONTAIN AND ABSORB THE SPILL. THE SOURCE OF THE OIL SHEEN WILL ALSO BE IDENTIFIED AND REMOVED OR REPAIRED AS NECESSARY TO PREVENT FURTHER RELEASES.

(50)

FERTILIZERS SHALL BE APPLIED ONLY IN THE AMOUNTS SPECIFIED. ONCE APPLIED, FERTILIZERS SHALL BE WORKED INTO THE SOIL TO LIMIT THE EXPOSURE TO STORMWATER.

(51)

IF A SPILL OCCURS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR COMPLETING THE SPILL REPORTING FORM AND FOR REPORTING THE SPILL TO THE HUMPHREYS COUNTY HIGHWAY DEPARTMENT PROJECT RESPONSIBLE PARTY. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.

(52)

WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTABLE QUANTITY ESTABLISHED UNDER EITHER 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24 HOUR PERIOD, SEE THE LATEST TENNESSEE GENERAL PERMIT NO. TNR100000 STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SECTION 5.1 FOR REPORTING REQUIREMENTS.

(53)

CONTRACTOR'S BULK FUEL AND PETROLEUM PRODUCTS STORED ONSITE OR ADJACENT TO THE R.O.W. IN ABOVE GROUND STORAGE CONTAINERS WITH A COMBINED CAPACITY OF 1320 GALLONS OR MORE SHALL HAVE SECONDARY CONTAINMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN FOR THE BULK STORAGE AND BE SOLELY RESPONSIBLE FOR OBTAINING ANY NECESSARY LOCAL, STATE, AND FEDERAL PERMITS. THE SPCC PLAN AND/OR PERMITS SHALL BE KEPT ONSITE AND A COPY PROVIDED TO THE HUMPHREYS COUNTY HIGHWAY DEPARTMENT PROJECT RESPONSIBLE PARTY PRIOR TO STORING 1320 GALLONS ON SITE.
- STREAMS, WETLANDS & BUFFER ZONES
- (54)

ANY WORK WITHIN THE STREAM CHANNEL AREA (E.G., PIER FOOTING, RIP-RAP PLACEMENT, CULVERT/BRIDGE CONSTRUCTION, ETC.) SHALL BE SEPARATED FROM FLOWING WATER OR EXPECTED FLOW PATH AND PERFORMED DURING LOW FLOW CONDITIONS. ALL ITEMS USED WITHIN THE STREAM CHANNEL AREA FOR DIVERSION OF FLOW (OR EXPECTED FLOW), UNLESS SPECIFIED IN THE PLANS, SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE COST OF OTHER ITEMS. THIS NOTE EXCLUDES ANY ITEMS SPECIFIED IN THE PLANS FOR THE TEMPORARY DIVERSION CHANNELS (EC-STR-31) AND TEMPORARY DIVERSION CULVERTS (EC STR-32) FOR SINGLE BARREL CULVERT CONSTRUCTION.
- SUBSECTION 4 – EROSION PREVENTION AND SEDIMENT CONTROL SPECIAL NOTES
- EROSION PREVENTION AND SEDIMENT CONTROL SPECIAL NOTES
- STREAMS, WETLANDS & BUFFER ZONES
- (1)

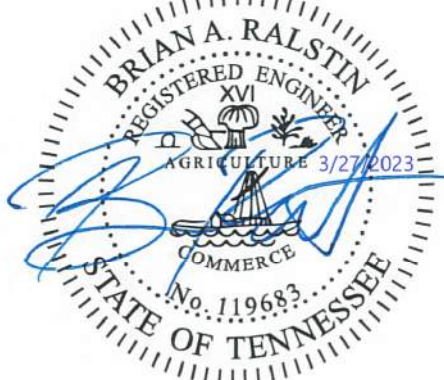
FOR PROJECTS THAT DISCHARGE INTO KNOWN EXCEPTIONAL TENNESSEE WATERS OR WATERS IMPAIRED BY SILTATION, A 60 FOOT NATURAL RIPARIAN BUFFER ZONE ADJACENT TO AND ON BOTH SIDES OF THE RECEIVING STREAM WITH THIS DESIGNATION SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE DURING CONSTRUCTION ACTIVITIES
- AT THE SITE. THE 60 FOOT CRITERION FOR THE WIDTH OF THE BUFFER ZONE CAN BE ESTABLISHED ON AN AVERAGE WIDTH BASIS AT A PROJECT, AS LONG AS THE MINIMUM WIDTH OF THE BUFFER ZONE IS MORE THAN 30 FEET AT ANY MEASURED LOCATION.
- (2)

A 30 FOOT NATURAL RIPARIAN BUFFER ZONE ADJACENT TO AND ON BOTH SIDES OF THE RECEIVING STREAM SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE DURING CONSTRUCTION ACTIVITIES AT THE SITE. THE 30 FOOT CRITERION FOR THE WIDTH OF THE BUFFER ZONE CAN BE ESTABLISHED ON AN AVERAGE WIDTH BASIS AT A PROJECT, AS LONG AS THE MINIMUM WIDTH OF THE BUFFER ZONE IS MORE THAN 15 FEET AT ANY MEASURED LOCATION. EVERY ATTEMPT SHALL BE MADE FOR CONSTRUCTION ACTIVITIES NOT TO TAKE PLACE WITHIN THE BUFFER ZONES.

(3)

BUFFER ZONES ARE NOT SEDIMENT CONTROL MEASURES AND MUST NOT BE RELIED UPON AS PRIMARY SEDIMENT CONTROL MEASURES. THE RIPARIAN BUFFER ZONE SHALL BE ESTABLISHED BETWEEN THE TOP OF THE STREAM BANK AND THE DISTURBED CONSTRUCTION AREA. EVERY ATTEMPT SHALL BE MADE FOR CONSTRUCTION ACTIVITIES NOT TO TAKE PLACE WITHIN THE BUFFER ZONES. BEST MANAGEMENT PRACTICES (BMPs) PROVIDING EQUIVALENT PROTECTION AS THE NATURAL RIPARIAN ZONE MAY BE USED. A JUSTIFICATION FOR USE AND DESIGN EQUIVALENCY SHALL BE DOCUMENTED WITHIN THE SWPPP. THE ENVIRONMENTAL AND ROADWAY DESIGN DIVISIONS SHALL REVIEW AND APPROVE THIS REVISION OF THE EPSC PLANS BEFORE DISTURBANCE OF THE SITE PROCEEDS, UNLESS PREVIOUSLY EXEMPT IN THE NPDES CONSTRUCTION GENERAL PERMIT. WHERE ISSUED, ARAP/401 REQUIREMENTS WILL PREVAIL IF IN CONFLICT WITH THESE BUFFER ZONE REQUIREMENTS.
- | | | | |
|--------|------|--------------|-----------|
| TYPE | YEAR | PROJECT NO. | SHEET NO. |
| CONST. | 2023 | COF 2020-004 | 4 |
| | | | |
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SEALED BY



CITY OF FRANKLIN
ENGINEERING DEPARTMENT

EPSC NOTES

ENVIRONMENTAL NOTES

UTILITY RELOCATION

- (5)

STORMWATER WHICH COLLECTS IN THE UTILITY TRENCH SHALL BE PUMPED INTO A DEWATERING STRUCTURE OR SEDIMENT FILTER BAG AND TREATED PRIOR TO DISCHARGE.
- (6)

SILT FENCE SHALL BE INSTALLED ON THE DOWNGRADIENT SIDE OF STOCKPILED SOIL. TRENCHING ACROSS WET WEATHER CONVEYANCES SHALL BE DONE DURING DRY CONDITIONS AND STABILIZED BY THE END OF THE WORK DAY.
- (7)

UTILITY CROSSINGS IN ENVIRONMENTAL FEATURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH TDOT STANDARDS AND NO WORK SHALL BE CONDUCTED IN FLOWING WATERS. ENVIRONMENTAL PERMITS APPLY TO UTILITIES IN THIS PROJECT. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE PERMITS.
- (8)

IT IS THE RESPONSIBILITY OF THE UTILITY CONTRACTOR TO PROTECT EXPOSED EARTH FROM EROSION AND TO PROVIDE FOR CONTAINMENT OF SEDIMENT THAT MAY RESULT FROM THEIR WORK. PRIOR TO BEGINNING WORK, ADEQUATE MEASURES MUST BE IN PLACE TO TRAP ANY SEDIMENT THAT MAY TRAVEL OFFSITE IN THE EVENT OF RAIN. DURING THE PROGRESSION OF THEIR WORK, EXPOSED EARTH AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE TO PREVENT EROSION. AT NO TIME SHALL EXPOSED EARTH RESULTING FROM THEIR OPERATIONS HAVE UNPROTECTED ACCESS TO FLOWING OFFSITE AND ENTERING WATERS OF THE STATE/U.S.
- (9)

FOR THE INSTALLATION OF BURIED UTILITIES (PIPES AND CABLES), TRENCHES SHALL BE BACKFILLED DAILY AS CONSTRUCTION PROCEEDS. BACKFILLED TRENCHES SHALL BE SEEDED AND MULCHED OR SODDED DAILY IF POSSIBLE, BUT NO LATER THAN SEVEN DAYS AFTER BEING BACKFILLED. ANY TEMPORARY SPOILS OF EXCAVATED EARTH SHALL BE LOCATED WITHIN TDOT EPSC MEASURES OR RECEIVE SEPARATE EPSC MEASURES. IF TRENCHES ARE NOT BACKFILLED OVERNIGHT, APPROPRIATE EPSC MEASURES WILL BE INSTALLED BY THE UTILITY CONTRACTOR UNTIL SUCH TIME AS THE TRENCH IS BACKFILLED.
- (10)

IN REGARD TO EPSC, TDEC REGULATIONS APPLY TO THE UTILITY CONTRACTORS ON THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR EPSC MEASURES RELATED TO UTILITY CONSTRUCTION INCLUDED IN THE CONTRACT.
- (11)

TRENCHES FORMED FOR THE INSTALLATION OF BURIED UTILITIES MAY CAUSE STORMWATER RUNOFF TO CONCENTRATE AT THE TRENCH LINE. ADDITIONAL EPSC MEASURES MAY BE REQUIRED TO BE INSTALLED AS APPROVED BY THE HUMPHREYS COUNTY HIGHWAY DEPARTMENT PROJECT RESPONSIBLE PARTY.
- (12)

FOR THE INSTALLATION OF UNDERGROUND UTILITIES OUTSIDE OF THE RIGHT-OF-WAY, EPSC MEASURES SHALL BE INSTALLED PRIOR TO CLEARING (TRENCHING AND ASSOCIATED BLASTING) IN THOSE AREAS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION AREA. THESE EPSC MEASURES SHALL REMAIN UNTIL THE BACKFILLED TRENCH IS STABILIZED WITH FINAL VEGETATIVE COVER.
- (13)

THE UTILITY CONTRACTOR SHALL RESTORE ALL AFFECTED WET WEATHER CONVEYANCES TO THE EXISTING TOPOGRAPHIC CONDITIONS AS APPROVED BY THE HUMPHREYS COUNTY HIGHWAY DEPARTMENT RESPONSIBLE PARTY.
- (14)

THE UTILITY CONTRACTOR WILL PROVIDE APPROPRIATE EPSC MEASURES TO REPLACE ONSITE EPSC MEASURES REMOVED TO FACILITATE THE INSTALLATION OF UTILITIES. REPLACEMENT OF EPSC MEASURES WILL BE COORDINATED WITH THE HUMPHREYS COUNTY HIGHWAY DEPARTMENT RESPONSIBLE PARTY BEFORE COMMENCING WORK.

EROSION PREVENTION AND SEDIMENT CONTROL QUANTITIES				
	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
(8)	203-99	THREE-PLY LAMINATED MATTING FOR HAUL ROAD	S.F.	2800
(1)	209-05	SEDIMENT REMOVAL	C.Y.	16
(1)(2)	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	756
(1)	209-08.08	ENHANCED ROCK CHECK DAM	EACH	4
(1)	209-09.04	SEDIMENT FILTER BAG (15' X 10')	EACH	2
(1)(7)	209-65.01	TEMPORARY STREAM DIVERSION (SEWER CROSSING)	LS	1
(1)(3)(6)(9)	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	57
(1)(9)	621-03.05	36" TEMPORARY DRAINAGE PIPE	L.F.	240
(1)(3)	709-05.05	MACHINED RIPRAP (CLASS A-3)	TON	40
(1)(9)	709-05.06	MACHINED RIPRAP (CLASS A-1)	TON	440
(1)(3)(4)(9)	740-10.03	GEOTEXTILE (TYPE III) (EROSION CONTROL)	S.Y.	645
(1)(5)	801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	16

- FOOTNOTES:**
- (1)

SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATION FOR MAINTENANCE REPLACEMENT. ALL ITEMS ARE TO BE USED AS DIRECTED BY THE ENGINEER.
- (2)

INCLUDES 176 L.F. FOR SEDIMENT FILTER BAG (15' X 10')
- (3)

FOR TEMPORARY CONSTRUCTION EXITS.
- (4)

INCLUDES 147 S.Y. FOR SEDIMENT FILTER BAG (15' X 10'), 78 S.Y. FOR TEMPORARY CONSTRUCTION EXIT AND 420 S.Y. FOR TEMPORARY CULVERT CROSSING.
- (5)

PAY ITEM SHALL INCLUDE ALL INCIDENTALS INCLUDING WATER.
- (6)

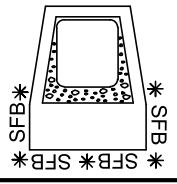
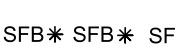

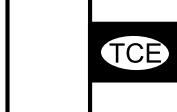
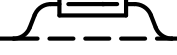
12 TON FOR SEDIMENT FILTER BAG. 45 TON FOR TEMPORARY CULVERT CROSSING
- (7)

INCLUDES COST OF ALL LABOR AND MATERIALS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE AND REMOVAL OF TEMPORARY STREAM DIVERSION AT SANITARY SEWER CROSSING INCLUDING BUT NOT LIMITED TO: EXCAVATION, SANDBAGS, PIPE, PUMPS AND STABILIZATION AS REQUIRED.
- (8)

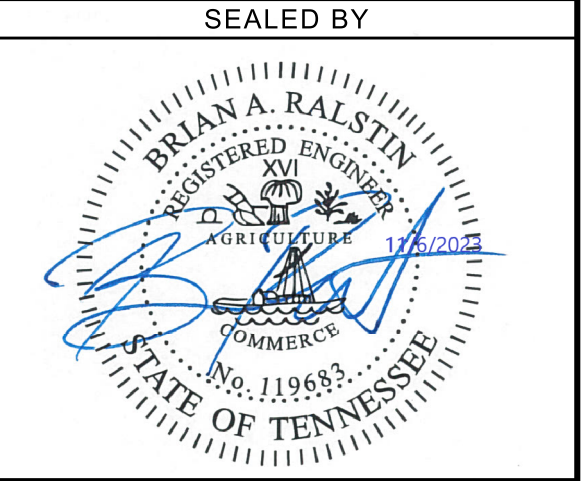
INCLUDES COST OF ALL LABOR AND MATERIALS ASSOCIATED WITH THE INSTALLATION MAINTENANCE AND REMOVAL OF TEMPORARY HAUL ROAD AT CREEK CROSSING INCLUDING BUT NOT LIMITED TO: EXCAVATION, INSTALLATION AND REMOVAL OF LAMINATED MATTING, TEMPORARY AND PERMANENT STABILIZATION AS REQUIRED FOR TEMPORARY HAUL ROAD.
- (9)

INCLUDES ALL MATERIAL AND LABOR NECESSARY FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY CULVERT CROSSING.

OUTFALL INFORMATION								
OUTFALL LABEL	SUB-OUTFALL (e.g. A, B, C)	STAGE 1			STAGE 2			RECEIVING NATURAL RESOURCE NAME OR LABEL
		STATION LT OR RT	SLOPE WITHIN ROW (%)	DRAINAGE AREA (AC)	STATION LT OR RT	SLOPE WITHIN ROW (%)	DRAINAGE AREA (AC)	
OUTFALL 1		RIGHT	2.0%	0.02	RIGHT	2.0%	0.02	STR-1 (SOUTH PRONG SPENCER CREEK)
OUTFALL 2		RIGHT	2.0%	0.02	RIGHT	2.0%	0.02	STR-1 (SOUTH PRONG SPENCER CREEK)
OUTFALL 3		LEFT	3.0%	0.03	LEFT	3.0%	0.05	STR-1 (SOUTH PRONG SPENCER CREEK)
OUTFALL 4		LEFT	3.0%	0.03	LEFT	3.0%	0.05	STR-1 (SOUTH PRONG SPENCER CREEK)

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
	SEDIMENT FILTER BAG	EC-STR-2
	SILT FENCE WITH WIRE BACKING	EC-STR-3C
	ENHANCED ROCK CHECK DAM (V-DITCH)	EC-STR-6A
	TEMPORARY CONSTRUCTION EXIT	EC-STR-25
	TEMPORARY DIVERSION CULVERT (DESCRIBE NUMBER AND SIZE OF PIPES)	EC-STR-32

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2023	COF 2020-004	5

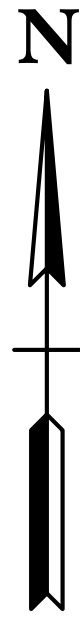


CITY OF FRANKLIN
ENGINEERING DEPARTMENT

EPSC NOTES,
LEGEND,
QUANTITIES, &
OUTFALL TABLE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2023	COF 2020-004	7

CONTOUR LEGEND	
--- 105 ---	EXISTING CONTOURS
— 105 —	PROPOSED CONTOURS



NOTE:
ROCK CHECK DAMS ARE
TO REMAIN IN PLACE
UNTIL FINAL STABILIZATION
IS COMPLETE

NOTE:
WITHIN THE 60' STREAM BUFFER ZONE,
THERE SHALL BE NO CLEARING, GRADING,
CONSTRUCTION, OR DISTURBANCE OF
VEGETATION EXCEPT AS PERMITTED BY
CITY OF FRANKLIN.

ANY WORK WITHIN THE STREAM CHANNEL
AREA (E.G., PIPE TRENCHING AND SEWER PIPE
PLACEMENT) SHALL BE SEPARATED FROM FLOWING
WATER OR EXPECTED FLOW PATH AND
PERFORMED DURING LOW FLOW CONDITIONS.

SOUTH PRONG SPENCER CREEK

LIBERTY PARK ACCESS ROAD

STAGE 2

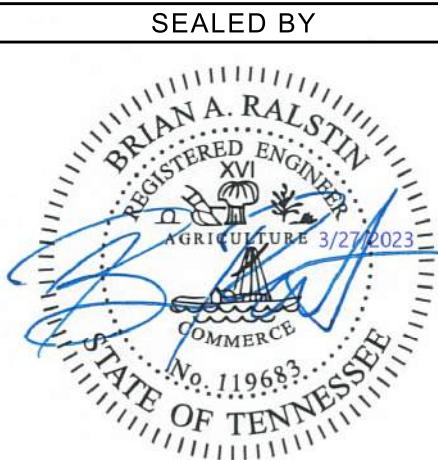


HISTORIC
FRANKLIN
TENNESSEE

CITY OF FRANKLIN
ENGINEERING DEPARTMENT

EPSC PLANS

SCALE: 1"=20'



PAVEMENT EDGE DROP-OFF TRAFFIC CONTROL NOTES

A. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES OR TRAFFIC LANE AND SHOULDER WHERE THE TRAFFIC LANE IS BEING USED BY TRAFFIC, CAUSED BY BASE, PAVING OR RESURFACING:

1.

Differences in elevation between adjacent roadway elements greater than 0.75 inch and not exceeding 1.75 inches:

a.

Warning signs, uneven lanes (W8-11) and/or shoulder drop-off with plaque (W8-17 and W8-17P), shall be placed in advance of and throughout the exposed area. Maximum spacing between signs shall be 2,000 feet with a minimum of 2 signs per exposed area. Where uneven pavement is encountered, signs shall be placed on each side of the roadway.

b.

Differences in elevation between adjacent traffic lanes being utilized by traffic caused by added pavement shall be eliminated within three workdays.

c.

Differences in elevation between adjacent traffic lanes being utilized by traffic caused by cold planing shall be eliminated within three workdays.

d.

When the difference in elevation is between the traffic lane being utilized by traffic and shoulder the difference in elevation shall be eliminated within seven workdays after the condition is created.
2.

Differences in elevation between adjacent roadway elements greater than 1.75 inches and not exceeding 6 inches, traffic is not to be allowed to traverse this difference in elevation.

a.

Separation shall be accomplished by drums, barricades or other approved devices in accordance with the following:

(1)

Where posted speeds are 50 mph or greater, spacing of the protective devices shall not exceed 100 feet.

(2)

Where posted speeds are less than 50 mph, the maximum spacing of the protective devices in feet shall not exceed twice the posted speed in miles per hour or 50 feet, whichever spacing is greater.

b.

If the difference in elevation is eliminated or decreased to 2 inches or less by the end of each workday, cones may be used during daylight hours in lieu of drums, barricades or other approved protective devices mentioned in paragraph a, provided warning signs are erected. Warning signs (uneven lanes and/or shoulder drop-off) shall be placed in advance of and throughout the exposed area. Maximum spacing between signs shall be 2,000 feet with a minimum of 2 signs per exposed area. Where uneven pavement is encountered, signs shall be placed on each side of the roadway.

c.

When the difference in elevation is between the through traffic lane and the shoulder and the elevation difference is less than 3 inches, the contractor may use warning signs and/or protective devices as applicable and approved by the regional traffic engineer. See paragraph a regarding use of drums, barricades or other approved protective devices. Warning signs (uneven lanes and/or shoulder drop-off) will be placed in advance of and throughout the exposed area. Maximum spacing between signs shall be 2,000 feet with a minimum of 2 signs per exposed area. Where uneven pavement is encountered, signs shall be placed on each side of the roadway.

In these situations, the contractor shall limit his operations to one work zone not exceeding 2 miles in length unless otherwise noted on the plans or approved by the engineer. Once the contractor begins work in a work zone, a continuous operation shall be maintained until the difference in elevation is eliminated. Simultaneous work on separate roadways of divided highways will be considered independently in regard to restriction of work zone activity.

3.

Differences in elevation between adjacent roadway elements greater than 6 inches but not exceeding 18 inches, the contractor, with the engineer's approval, may utilize one of the following:

- a.

The contractor shall accomplish separation by drums, barricades or other approved devices in accordance with the following:

(1)

Where posted speeds are 50 mph or greater, spacing of the protective devices shall not exceed 100 feet.

(2)

Where posted speeds are less than 50 mph, the maximum spacing of the protective devices in feet shall not exceed twice the posted speed in miles per hour or 50 feet, whichever spacing is greater.

In order to use this method, the contractor must reduce the difference in elevation to 6 inches or less by the end of the workday that the condition is created.

- b.

The contractor shall provide drums, barricades or other approved separation devices as specified in paragraph a, and construct a stone wedge with a 4:1 slope, or flatter, to eliminate the vertical offset if the lower elevation is at or below subgrade at the end of each day.
- c.

The contractor shall provide drums, barricades or other approved separation devices as specified in paragraph a and if the lower elevation is base stone or asphalt pavement, placement of subsequent layers of pavement must begin the next work day and progress continuously until the difference in elevation is eliminated or reduced to six inches or less.
- d.

The contractor shall provide separation by portable barrier rail.

For preceding conditions a, b, and c, the contractor shall use the shoulder drop-off warning sign with plaque (W8-17 and W8-17P). It shall be placed in advance of and throughout the exposed area. Maximum spacing between the signs shall be 2,000 feet with a minimum of 2 signs per exposed area. In these situations, the contractor shall limit his operations to one work zone not exceeding 1 mile in length unless otherwise noted on the plans or approved by the engineer. Once the contractor begins work in a work zone, a continuous operation shall be maintained until the difference is eliminated. Simultaneous work on separate roadways of divided highways will be considered independently in regard to restriction of work zone activity.

4.

For differences in elevation between adjacent roadway elements greater than 18 inches.

Separation will be provided by use of portable barrier rail.

In this situation the contractor shall limit his operations to one work zone not exceeding 1 mile in length unless otherwise noted on the plans or approved by the engineer. Once the contractor begins work in a work zone, a continuous operation shall be maintained until the difference in elevation is eliminated. Simultaneous work on separate roadways of divided highways will be considered independently in regard to restriction of work zone activity.

B. IF THE DIFFERENCE IN ELEVATION IS WITHIN 30 FEET OF THE NEAREST TRAFFIC LANE BEING USED BY TRAFFIC CAUSED BY GRADING, EXCAVATION FOR UTILITIES, DRAINAGE STRUCTURES, UNDERCUTTING, ETC.:

1.

If the difference in elevation is within 8 feet of the nearest traffic lane with difference in elevation greater than 3/4 inch and not exceeding 2 inches.

a.

Warning signs (uneven lanes and/or shoulder drop-off) shall be placed in advance of and throughout the exposed area. Maximum spacing between signs shall be 2,000 feet with a minimum of 2 signs per exposed area. Where uneven pavement is encountered, signs shall be placed on each side of the roadway.
2.

If the difference in elevation is within 8 feet of the nearest traffic lane with difference in elevation greater than 2 inches and not exceeding 6 inches:

a.

Separation shall be accomplished by drums, barricades or other approved devices in accordance with the following:

(1)

Where posted speeds are 50 mph or greater, spacing of the protective devices shall not exceed 100 feet.

(2)

Where posted speeds are less than 50 mph the maximum spacing of the protective devices in feet shall not exceed twice the posted speed in miles per hour or 50 feet, whichever spacing is greater.
3.

If the difference in elevation is within 8 feet of the nearest traffic lane with difference in elevation greater than 6 inches:

a.

Separation shall be accomplished by drums, barricades or other approved devices in accordance with the following:

(1)

Where posted speeds are 50 mph or greater, spacing of the protective devices shall not exceed 100 feet.

(2)

Where posted speeds are less than 50 mph the maximum spacing of the protective devices in feet shall not exceed twice the posted speed in miles per hour or 50 feet, whichever spacing is greater.

b.

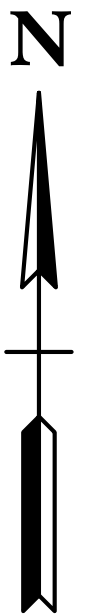
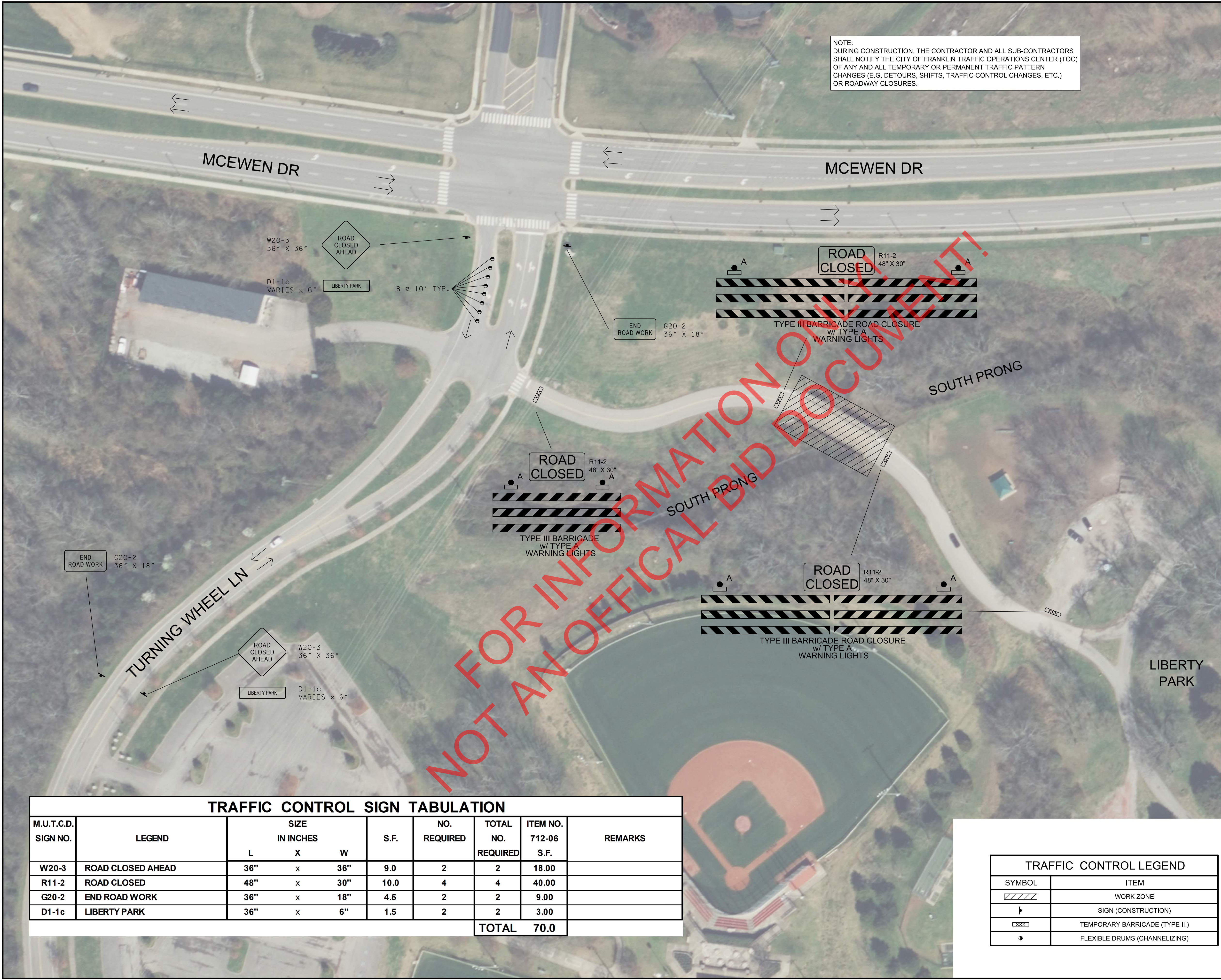
Eliminate vertical offset by constructing a stone wedge or grading to a 4:1 slope, or flatter, or use portable barrier rail.
- The contractor shall schedule the work so as to minimize the time traffic is exposed to an elevation difference. Once the contractor begins an activity that creates an elevation difference within 8 feet of a traffic lane, the activity shall be pursued as a continuous operation until the elevation difference is eliminated.
- C. IF THE DIFFERENCE IN ELEVATION IS FARTHER THAN 8 FEET FROM THE NEAREST TRAFFIC LANE BUT NOT MORE THAN 30 FEET FROM THE NEAREST TRAFFIC LANE:
- Separation shall be accomplished by drums, barricades or other approved devices in accordance with the following:
1.

Where posted speeds are 50 mph or greater, spacing of the protective devices shall not exceed 100 feet.

2.

Where posted speeds are less than 50 mph, the maximum spacing of the protective devices in feet shall not exceed twice the posted speed in miles per hour or 50 feet, whichever spacing is greater.
- The contractor shall schedule the work so as to minimize the time traffic is exposed to an elevation difference. Once the contractor begins an activity that creates an elevation difference, the activity shall be pursued as a continuous operation until the elevation difference is eliminated.
- | TYPE | YEAR | PROJECT NO. | SHEET NO. |
|--------|------|--------------|-----------|
| CONST. | 2023 | COF 2020-004 | T1 |
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| | | | |
- SEALED BY
-
- CITY OF FRANKLIN
ENGINEERING DEPARTMENT
- PAVEMENT EDGE
DROP-OFF NOTES
FOR
TRAFFIC CONTROL

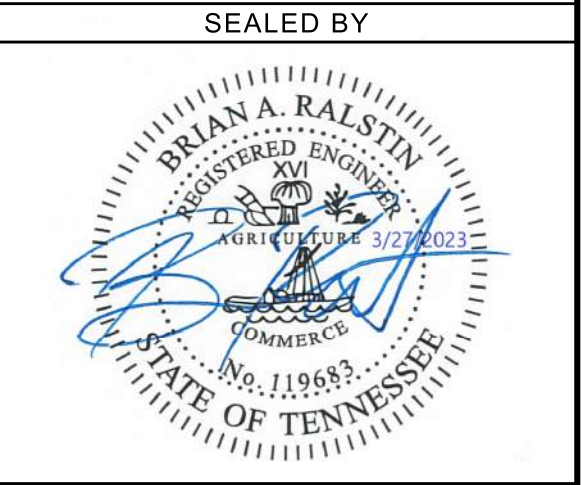
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2023	COF 2020-004	T2

TRAFFIC CONTROL SIGN TABULATION							
M.U.T.C.D. SIGN NO.	LEGEND	SIZE IN INCHES			NO. REQUIRED	TOTAL NO. REQUIRED	ITEM NO. 712-06 S.F.
		L	X	W			
W20-3	ROAD CLOSED AHEAD	36"	x	36"	2	2	18.00
R11-2	ROAD CLOSED	48"	x	30"	4	4	40.00
G20-2	END ROAD WORK	36"	x	18"	2	2	9.00
D1-1c	LIBERTY PARK	36"	x	6"	2	2	3.00
TOTAL						70.0	

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	SIGN (CONSTRUCTION)
	TEMPORARY BARRICADE (TYPE III)
	FLEXIBLE DRUMS (CHANNELIZING)



CITY OF FRANKLIN
ENGINEERING DEPARTMENT

ROAD
CLOSURE
PLAN

SCALE: 1"= 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2023	COF 2020-004	U1-1

ESTIMATED UTILITY QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
(5) 714-03.03	Direct Burial Conduit (2" PVC, Schedule 80)	L.F.	150
(5) 714-05.06	Pull Box (Large)	EACH	3
(1)(3) 795-05.99	Flowable Fill (Trench Plugs)	CY	12
(1)(2) 795-14.01	Class A Concrete	CY	3
(1) SS1	18" PVC SDR 26 Gravity Sewer Main	LF	278
(1)(4) SS2	Connect Manhole to Existing 18" Gravity Sanitary Sewer	EACH	2
(1) SS3	Concrete Check Dam (Sanitary Sewer Main Line)	EACH	3
(1) SS4	Cut & Cap/Plug Exiting 18" Sanitary Sewer Main	EACH	2
(1) SS5	5' Diameter Sanitary Sewer Manhole (0'-6' Depth)	EACH	1
(1) SS6	5' Diameter Sanitary Sewer Dog House Manhole (0'-6' Depth)	EACH	2
(1) SS7	Additional Depth for 5' Diameter Sanitary Sewer Manhole	VF	16
(1) SS8	Additional Payment for Watertight Frame and Cover	EACH	3
(1) SS9	Abandon Existing Manhole In Place	EACH	1
(1) SS10	Flowable Fill Existing Sanitary Sewer and MH (Abandon Existing Sewer Manhole (EX2) and Sanitary Sewer Main (A3-A1))	CY	15
(1) SS11	Sanitary Sewer Flow Control	LS	1
(1) SS12	Sewer Television Inspection	LF	278

FOOTNOTES	
(1)	SEE SPECIAL PROVISION REGARDING UTILITY MEASUREMENT AND PAYMEND DATED JUNE 1, 2020
(2)	6IN OF CLASS A CONCRETE SHALL BE PLACED ABOVE THE PROPOSED FLOWABLE FILL ENCASEMENT AS A SANITARY SEWER CAP.
(3)	FLOWABLE FILL FOR CHECK DAMS AND ENCASEMENT SHALL BE EXCAVATABLE. SEE DRAWING G-13 FOR ADDITIONAL INFORMATION.
(4)	INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR CONNECTING TO AN EXISTING SANITARY SEWER.
(5)	PAYMENT FOR THIS WORK SHALL BE CONSIDERED AS FULL COMPENSATION FOR THIS ITEM, INCLUDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE ITEM IN ACCORDANCE WITH THE BIDDING DOCUMENTS

CONTACT INFORMATION

SIGNATURE:

DocuSigned by:
Brian Goodwin
F73B1DA284D9435...

PRINT NAME: BRIAN GOODWIN

TITLE: ASSISTANT DIRECTOR WATER MANAGEMENT

UTILITY NAME: CITY OF FRANKLIN WATER MANAGEMENT DEPARTMENT

UTILITY ADDRESS: 124 LUMBER DRIVE

CITY, STATE, ZIP: FRAKLIN, TN 37064

PHONE NUMBER: 615-794-4554

FAX NUMBER:

EMAIL ADDRESS: BRIAN.GOODWIN@FRANKLINTN.GOV

NOTE:

Contractor agrees to assume liability for, and agrees to indemnify, defend and save and keep City of Franklin and the owner of any facilities being relocated by Contractor, their agents, employees and representatives, from and against, any and all liabilities, obligations, losses, damages, penalties, fines, amounts in settlement, claims, actions, proceedings, suits, judgments, costs, interest, expenses and disbursements of any kind and nature whatsoever arising under any theory, of legal liability (including attorneys fees and costs) (a "Claim") that may be imposed on, incurred by or asserted against the indemnified party, its agents, employees or representatives, in any way relating to, resulting from, based upon or arising out of Contractor's relocation of utility facilities or work or activities in connection therewith; provided, however, that Contractor is not required to indemnify the indemnified party, its agents, employees or representatives, for any Claim against an indemnitee (unless attributed of imputed to such indemnitee by reason of any act or omission of the Contractor, whether as agent for the Contractor or otherwise). "Theories of Legal Liability" include, but are not limited to, contract, tort, strict liability, breach of express or implied warranty and breach of implied covenant.

The obligation of a Contractor to defend City of Franklin and the owner of any facilities being relocated by Contractor, their agents, employees or representatives, against any Claim is separate and distinct from the obligation of indemnity set forth in this Agreement. Contractor shall have the right and obligation to assume the defense of any Claim with counsel chosen by the indemnified party and reasonably acceptable to Contractor, provided that counsel to Contractor may participate in the defense of the Claim with counsel for the indemnified party, and such counsel shall remain at the cost and expense of the Contractor. Contractor will not have the right to assume the defense of a Claim made against both the indemnified party, its agents, representatives or employees, and Contractor if counsel for the Contractor or the indemnified party advises in writing that conflicts of interest would under applicable ethical principles preclude a single counsel or firm from defending both parties.

SANITARY SEWER NOTES:

- CONTRACTOR SHALL LOCATE EXISTING UTILITIES AT ANY CROSSING OR ANY OTHER LOCATION WHERE HIS WORK MAY ENCOUNTER THEM AND SHALL TAKE WHATEVER STEPS NECESSARY TO PROTECT THE EXISTING UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR COST OF ALL DAMAGES CAUSED BY HIS FAILURE TO ACCURATELY LOCATE AND PROTECT EXISTING UTILITIES.
- THE EXISTENCE, ABSENCE, LOCATIONS, AND DEPTHS OF UTILITIES AND UNDERGROUND ITEMS HAVE BEEN DEFINED BY ORDINARY SURVEYING METHODS FROM FIELD OBSERVATIONS AND FROM INFORMATION FURNISHED BY THE UTILITY COMPANIES, AND ARE NOT GUARANTEED.
- CONTRACTOR SHALL COORDINATE THE ELEVATION AND ALIGNMENT OF THE PROPOSED SEWER LINES WITH OTHER CONSTRUCTION WORK IN PROGRESS TO AVOID CONFLICTS WITH PROPOSED AND EXISTING UTILITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL NECESSARY AGENCIES (CITY OF FRANKLIN, ETC.).
- IN AREAS SUBJECT TO TRAFFIC THE ENTIRE TRENCH SHALL BE BACKFILLED WITH CRUSHED STONE UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER.
- CONSTRUCTION SHALL CONFORM TO THE STANDARD SEWER SPECIFICATIONS FOR THE CITY OF FRANKLIN UNLESS OTHERWISE NOTED AND APPROVED BY THE ENGINEER.
- THE CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF FRANKLIN WATER MANAGEMENT DEPARTMENT TO SET-UP A SEPARATE PRE-CONSTRUCTION MEETING PRIOR TO BEGINNING WORK ON THE WATER LINE RELOCATION.

WPN 23.0266

APPROVED FOR CONSTRUCTION

THE DOCUMENT BEARING THIS STAMP HAS BEEN RECEIVED AND REVIEWED BY THE

TENNESSEE DEPT. OF ENVIRONMENT & CONSERVATION

DIVISION OF WATER RESOURCES

AND IS HEREBY APPROVED FOR CONSTRUCTION BY THE COMMISSIONER

Michael G. Givens

06/08/2023

THIS APPROVAL SHALL NOT BE CONSTRUED AS CREATING A PRESUMPTION OF CORRECT OPERATION OR AS WARRANTING BY THE COMMISSIONER THAT THE APPROVED FACILITIES WILL REACH THE DESIGNED GOALS.

APPROVAL EXPIRES ONE YEAR FROM ABOVE DATE

SEALED BY

BRIAN A. RALSTIN

REGISTERED ENGINEER

NO. 119683

COMMENCED

3/27/2023

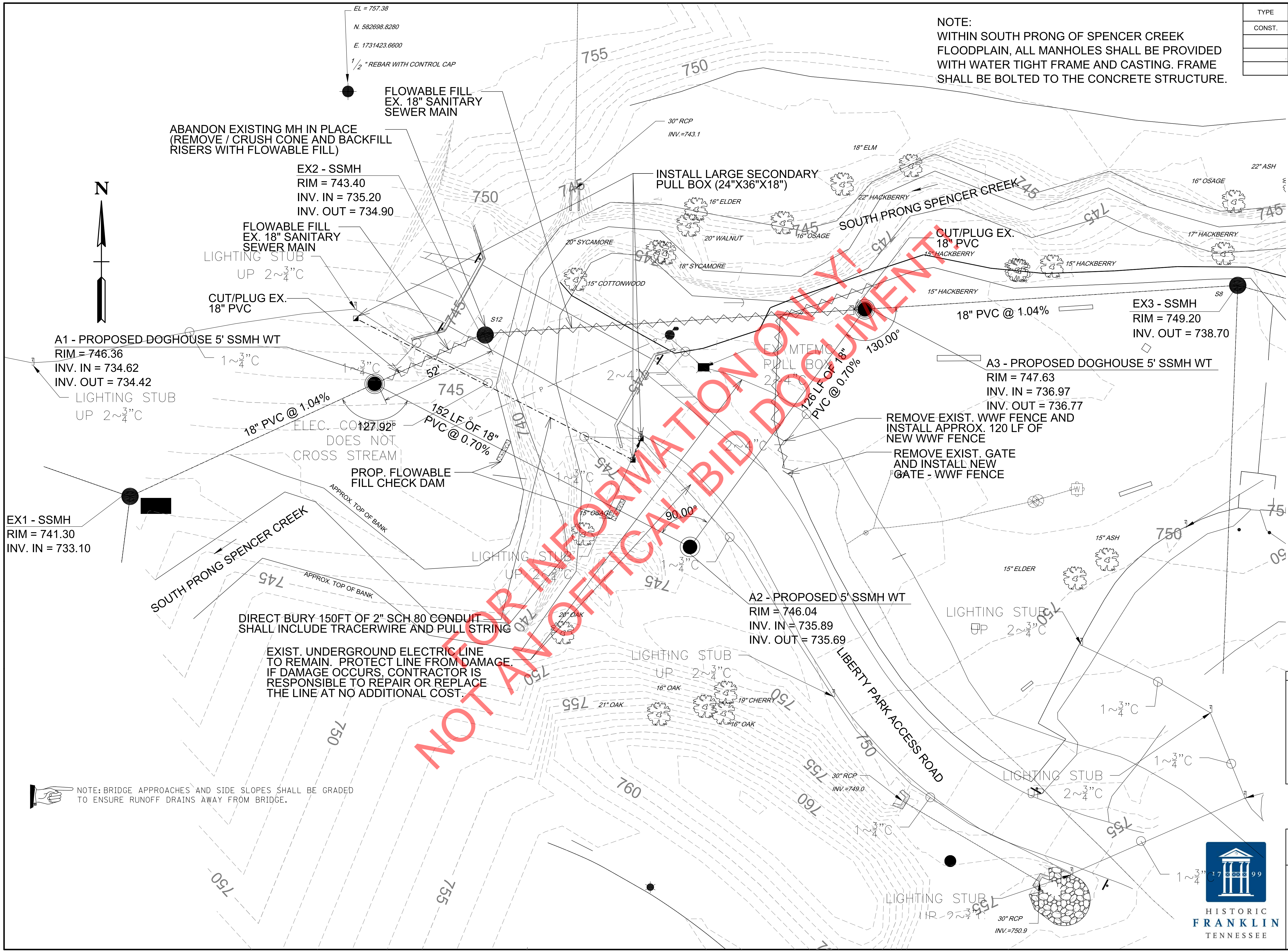
STATE OF TENNESSEE



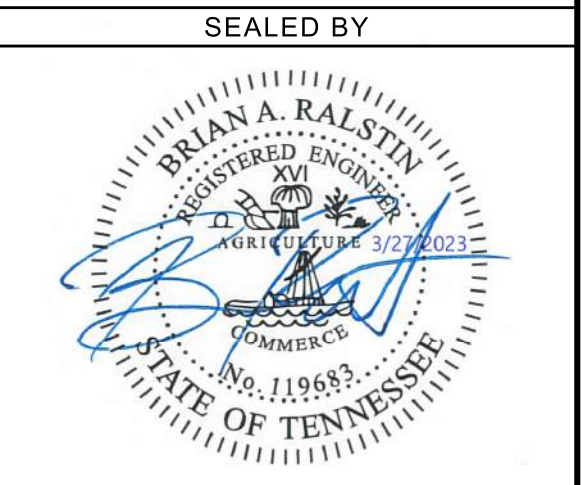
CITY OF FRANKLIN
ENGINEERING DEPARTMENT

ESTIMATED
UTILITY
QUANTITIES

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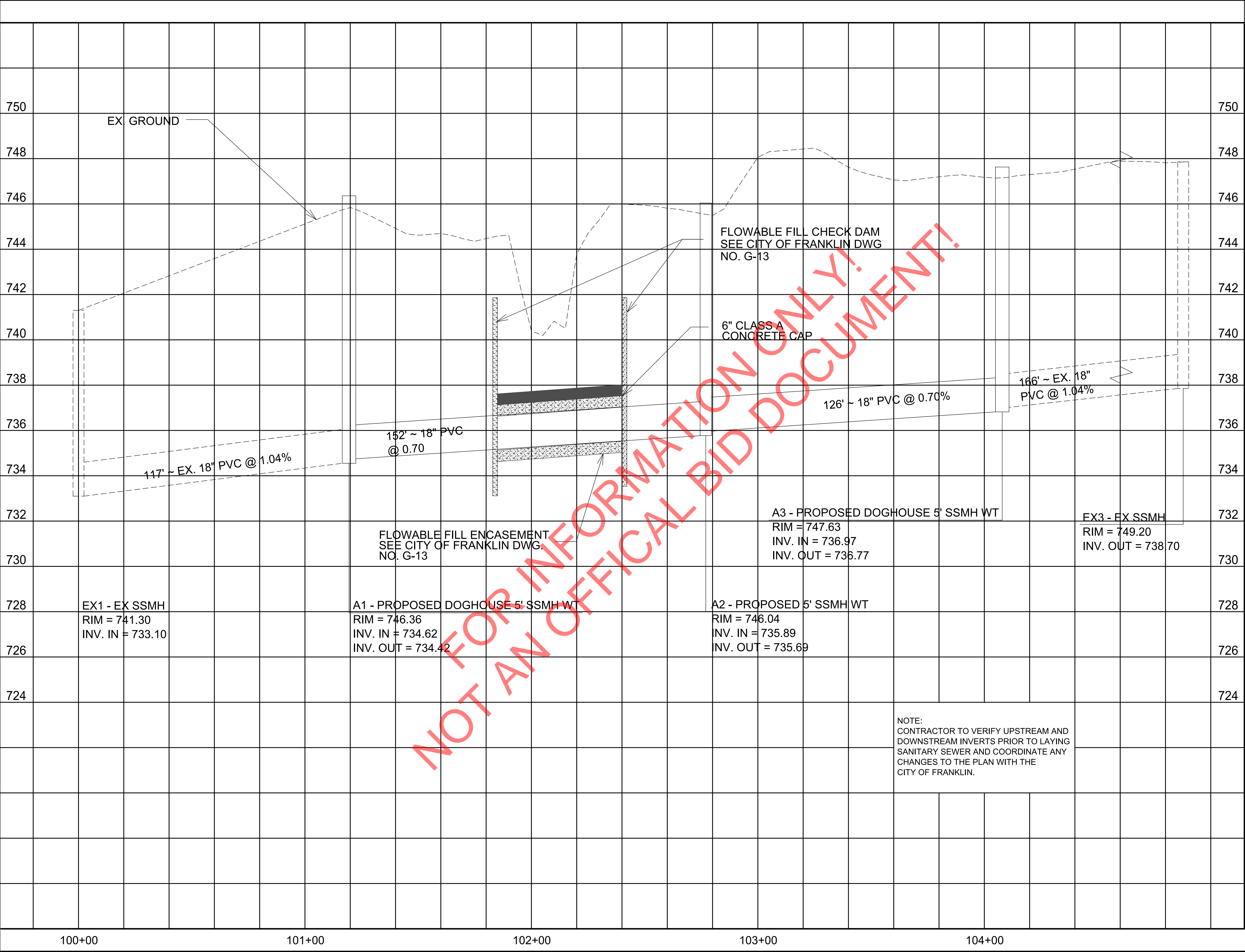
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2023	COF 2020-004	U1-3



CITY OF FRANKLIN
ENGINEERING DEPARTMENT

PROPOSED
SANITARY SEWER
LAYOUT
SCALE: 1"=20'

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NOT FOR INFORMATION ONLY!
NOT AN OFFICAL BID DOCUMENT!

NOTE:
CONTRACTOR TO VERIFY UPSTREAM AND
DOWNSTREAM INVERTS PRIOR TO LAYING
SANITARY SEWER AND COORDINATE ANY
CHANGES TO THE PLAN WITH THE
CITY OF FRANKLIN.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022		U1-4

SEALED BY

HISTORIC FRANKLIN
TENNESSEE

CITY OF FRANKLIN
ENGINEERING DEPARTMENT

SANITARY SEWER PROFILE

SCALE: 1"=20' HORIZ.
1"=2' VERT.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2023	COF 2020-004	U1-5

RECLAIMED WATER MARKER LABEL:
CAUTION - RECLAIMED WATER PIPELINE
NON-POTABLE WATER
DO NOT DRINK
CITY OF FRANKLIN WATER MANAGEMENT
DEPARTMENT (615) 794-4554
MARKER COLOR: PURPLE

SANITARY SEWER MARKER LABEL:
CAUTION - SANITARY SEWER PIPELINE
DO NOT DRINK
CITY OF FRANKLIN WATER MANAGEMENT
DEPARTMENT (615) 794-4554
MARKER COLOR: GREEN

DRINKING WATER LABEL:
CAUTION - WATER PIPELINE
CITY OF FRANKLIN WATER MANAGEMENT
DEPARTMENT (615) 794-4554
MARKER COLOR: BLUE

- NOTES:
- 1) MARKER SHALL BE INSTALLED DIRECTLY BEHIND STRUCTURE WITH LABEL FACING ROADWAY.
 - 2) MARKERS TO BE INSTALLED AS INDICATED ON PLANS OR WHERE DIRECTED BY OWNER.
 - 3) MARKER SHALL BE CONSTRUCTED OF DURABLE, UV RESISTANT, COMPOSITE MATERIAL.

N.T.S.

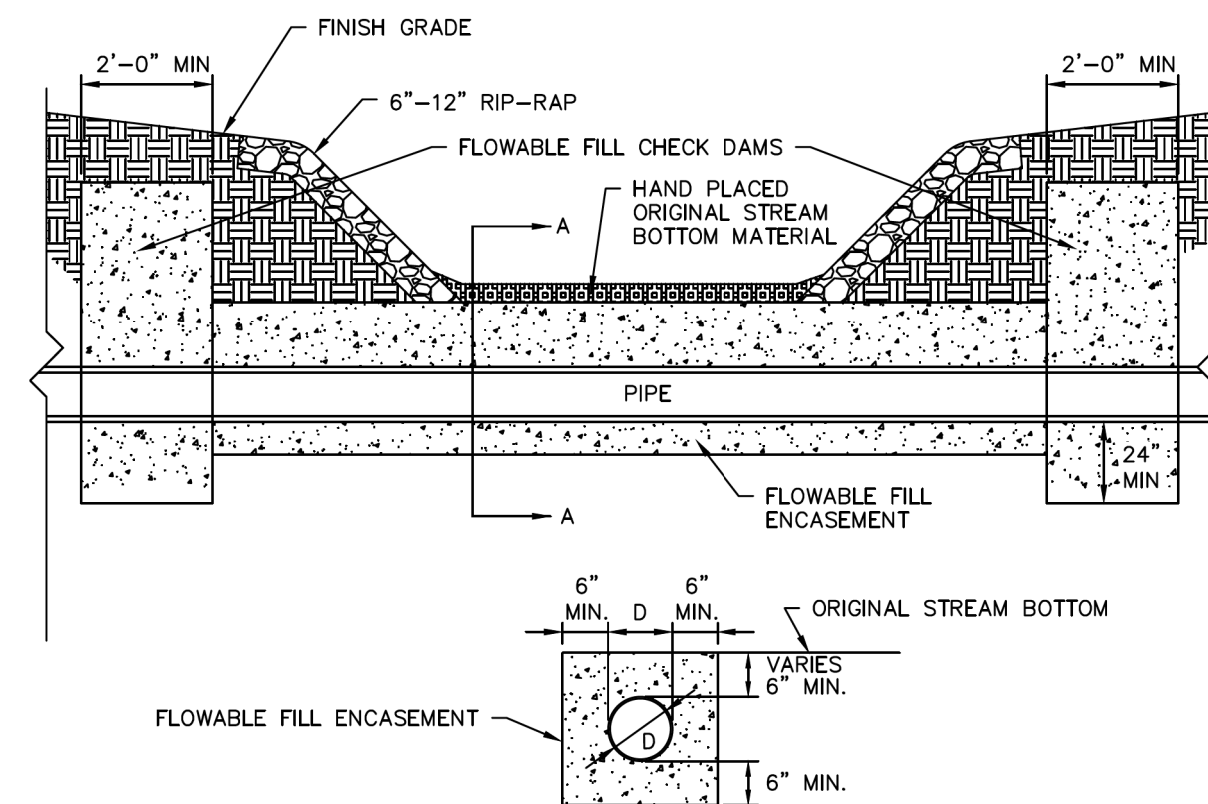
CITY OF FRANKLIN

UTILITY IDENTIFICATION MARKER

DWG. NO. G-4

EFFECTIVE DATE: 06/05/2018

XX/XX/2017
CITY ENGINEER DATE



SECTION A-A

- NOTES:
- 1) NO BLASTING IS PERMITTED IN THE EXCAVATION OF TRENCHES THAT LIE WITHIN 50 FEET OF A STREAM OR WETLAND, INCLUDING ALL STREAM CROSSINGS.
 - 2) CROSSINGS SHALL INTERSECT THE STREAM CHANNEL AS CLOSE TO 90 DEGREES (PERPENDICULAR) TO THE STREAM AS POSSIBLE.
 - 3) FLOWABLE FILL FOR CHECK DAMS AND ENCASEMENT SHALL BE EXCAVATABLE AND ACHIEVE A 1,000 TO 1,200 PSI STRENGTH. COMPRESSIVE STRENGTH TESTING TO BE PERFORMED IN ACCORDANCE WITH ASTM D 4832, LATEST EDITION. CEMENT CONTENT RANGE TO BE 25 TO 250 LBS WITH THE REMAINDER OF THE VOLUME COMPOSED OF SAND, WATER, AND ADMIXTURES.
 - 4) ENCASEMENT WIDTH TO BE POURED THE WIDTH OF TRENCH WITH A MINIMUM OF 6" ON EACH SIDE OF PIPE. PROVIDE NECESSARY HOLD-DOWNS TO PREVENT PIPE FROM FLOATING DURING FLOWABLE FILL PLACEMENT.
 - 5) CHECK DAMS TO HAVE A 24" POURED KEYWAY IN DIRT EXCAVATION (BOTTOM AND SIDES). IN ROCK EXCAVATION, REMOVE FRACTURED AND SHOT ROCK IN TRENCH, AND EXTEND CHECK DAM TO CLEAN, SOLID ROCK SURFACE (BOTTOM AND SIDES).
 - 6) CROSSINGS THAT UTILIZE HORIZONTAL DIRECTIONAL DRILLING MAY BE USED INSTEAD OF OPEN CUT WITH WMD APPROVAL.
- A. BORE ENTRY/EXIT LOCATIONS ARE TO BE AT LEAST 50 FEET FROM THE STREAM BANK.
B. BORE DEPTH BELOW STREAM BED TO BE SUFFICIENT TO PREVENT RELEASE OF DRILLING FLUID.
C. A SITE-SPECIFIC CONTINGENCY AND CONTAINMENT PLAN FOR INADVERTENT RELEASE OF DRILLING FLUID MUST BE ESTABLISHED PRIOR TO COMMENCEMENT OF WORK.

N.T.S.

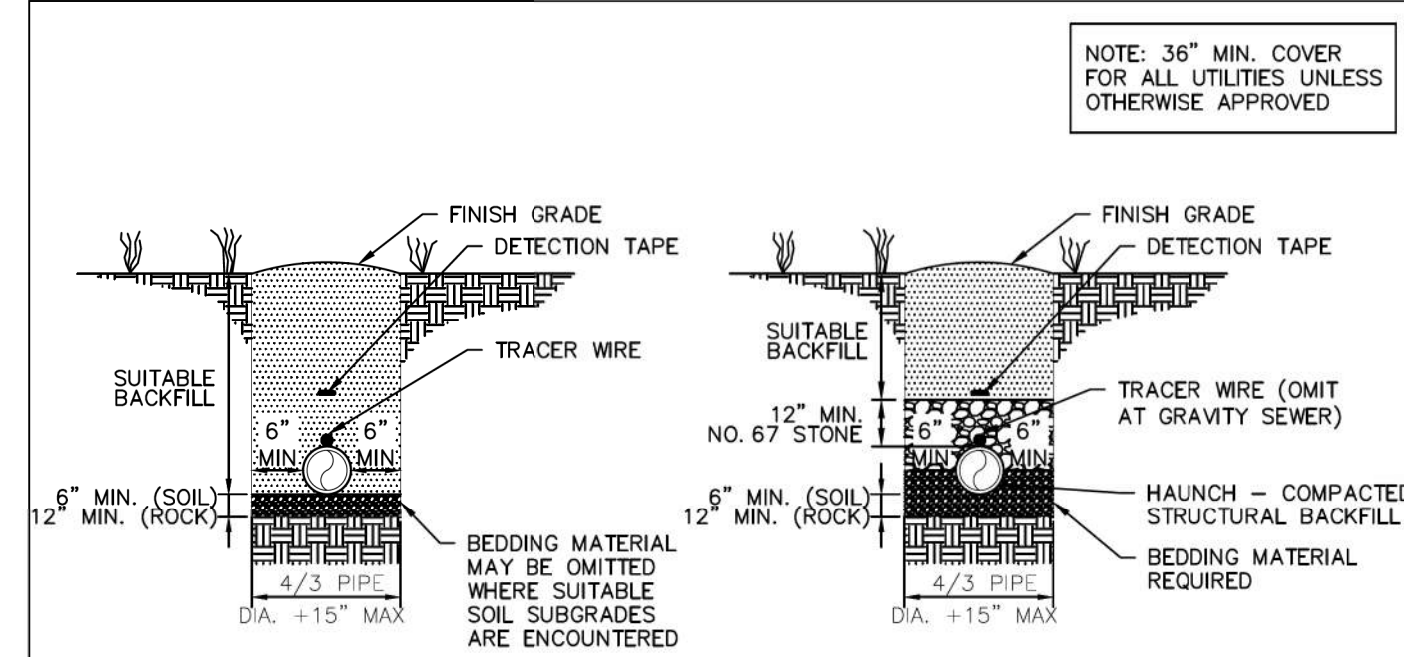
CITY OF FRANKLIN

UTILITY STREAM CROSSINGS

DWG. NO. G-13

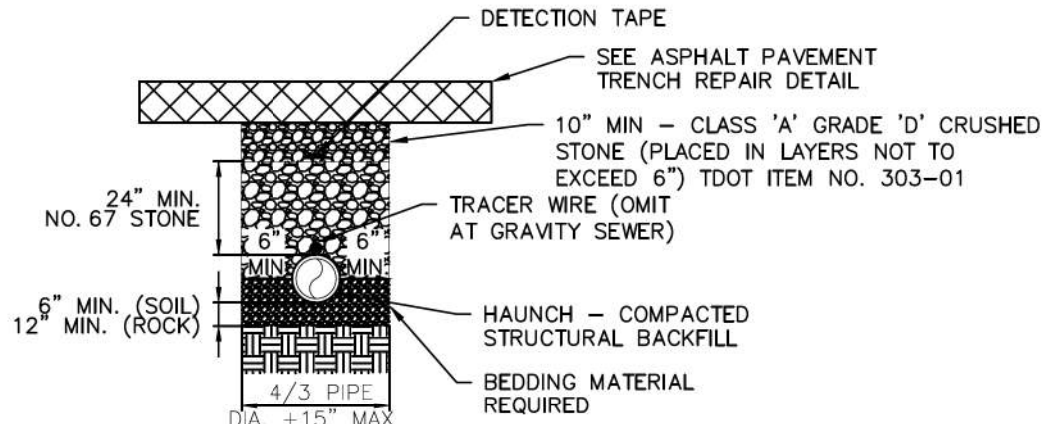
EFFECTIVE DATE: 06/05/2018

XX/XX/2017
CITY ENGINEER DATE



DIP PRESSURE PIPE

OTHER PIPE



ALL PIPE UNDER PAVEMENT

- NOTE:
- 1) ALL SUITABLE BACKFILL MATERIAL AND SUBGRADES SHALL BE APPROVED BY THE WATER MANAGEMENT DEPT.
 - 2) ALL ROCK LOOSEENED SHALL BE REMOVED; VOIDS CREATED BY SUCH REMOVAL SHALL BE FILLED WITH CRUSHED STONE.
 - 3) REMOVE STONE FOR PIPE BELLS TO PROVIDE FULL CONTACT OF BEDDING.
 - 4) BACKFILL SHALL BE TAMPED IN 6" LIFTS.
 - 5) ACHIEVE 95% COMPACTION ON ALL BACKFILL.
 - 6) NO ROCKS 6" IN DIAMETER OR GREATER ALLOWED IN SUITABLE BACKFILL.
 - 7) PROVIDE STONE BACKFILL FOR PIPING WITHIN DRIVEWAYS, ROADWAYS AND PARKING AREAS UNLESS OTHERWISE APPROVED. SEE ASPHALT PAVEMENT TRENCH REPAIR DETAIL WHEN IN PAVED AREAS.
 - 8) TRENCH DEWATERING SHALL BE DONE IN ACCORDANCE WITH TDOT STD DRAWING EC-STR-1 AND EC-STR-2.
 - 9) TRACER WIRE SHALL BE COPPER CLAD, 12 GA. MIN., WITH COLOR-CODED 30 MIL. HDPE INSULATED JACKET. PROVIDE WATERPROOF GREASE FILLED CONNECTIONS AT JUNCTIONS. TRACER WIRE SYSTEM SHALL BE TESTED FOR FUNCTIONALITY PRIOR TO ACCEPTANCE. TRACER WIRE SHALL NOT BE USED FOR GRAVITY SEWER LINES.
 - 10) PROVIDE CHECK DAMS AT 50'-0" O.C. MINIMUM, UNLESS OTHERWISE DIRECTED BY WMD.
- N.T.S.

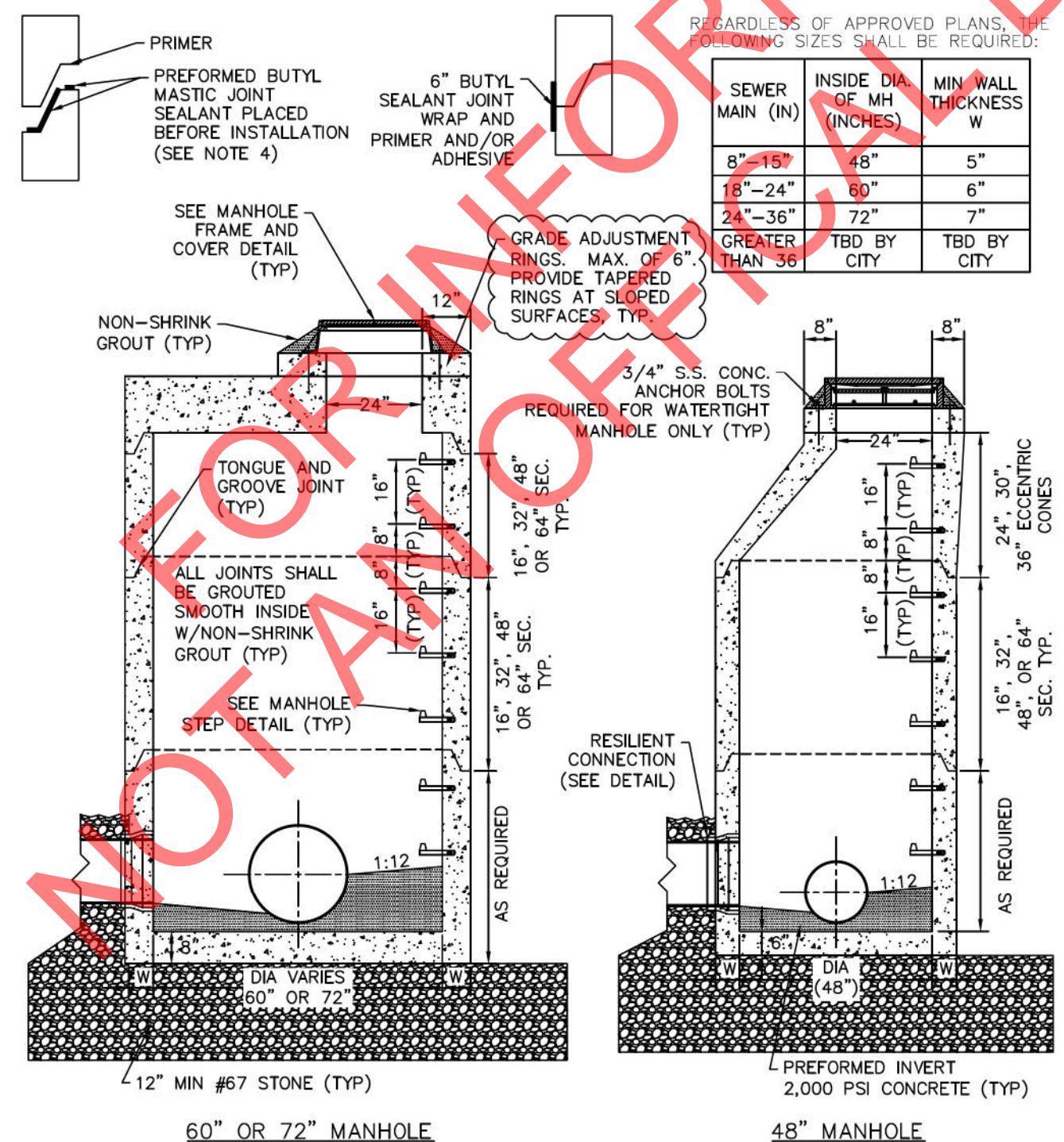
CITY OF FRANKLIN

BEDDING AND BACKFILLING DETAIL

DWG. NO. G-8

EFFECTIVE DATE: 06/05/2018

XX/XX/2017
CITY ENGINEER DATE



- NOTES:
- 1) STRUCTURE SHALL CONFORM TO ASTM C478, LATEST REVISION.
 - 2) CONCRETE - $f_c = 4,000$ PSI MIN.
 - 3) REBAR - ASTM A615 GRADE 60 AND ASTM A1064.
 - 4) LOADS - AASHTO H-20 LOAD RATED WITH 30% IMPACT.
 - 5) EXISTING MANHOLES SHALL BE CORE DRILLED FOR SEWER CONNECTION.
 - 6) ALL PRECAST MANHOLES SHALL CONTAIN XYPEX ADMIXTURE ACCORDING TO SPECIFICATIONS.
 - 7) COMPRESS MANHOLE RISERS TOGETHER PERMITTING VISUAL INSPECTION OF SEALANT. SEALANT SHALL PROTRUDE FROM JOINT OR CIRCUMFERENCE FOR ACCEPTANCE. WHERE MASTIC DOES NOT PROTRUDE, EITHER INSIDE OR OUTSIDE, INJECT JOINT WITH CONSEAL CS-231, CONTROLLED EXPANSION WATERSTOP.
- N.T.S.

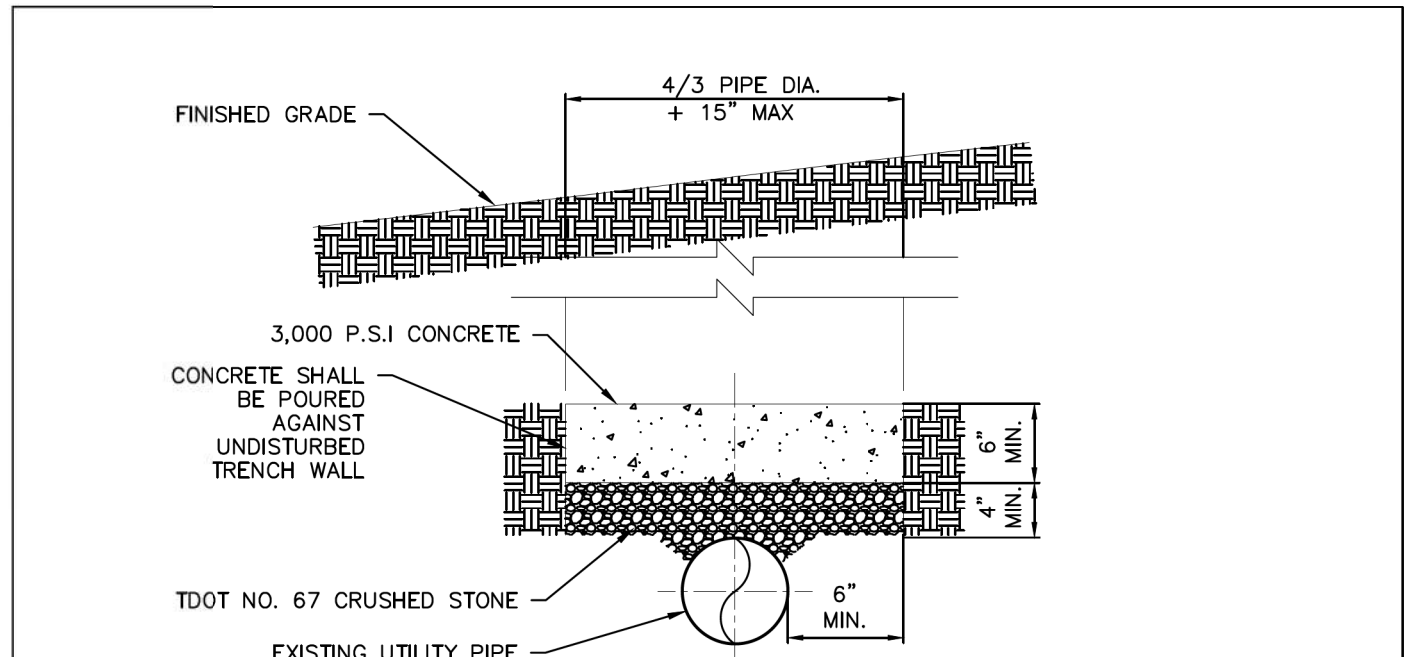
CITY OF FRANKLIN

48", 60" AND 72" DIA PRECAST MANHOLE

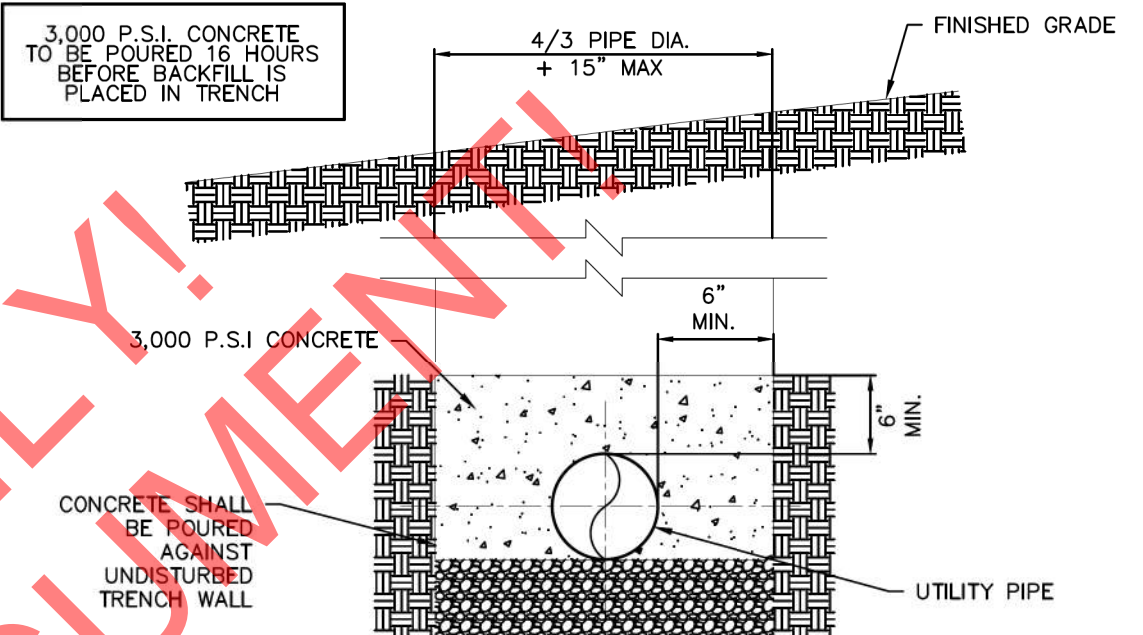
DWG. NO. WW-1

EFFECTIVE DATE: 06/05/2018

XX/XX/2017
CITY ENGINEER DATE



CONCRETE PROTECTION FOR EXISTING UTILITY LINES



CONCRETE ENCASEMENT FOR NEW UTILITY LINES

N.T.S.

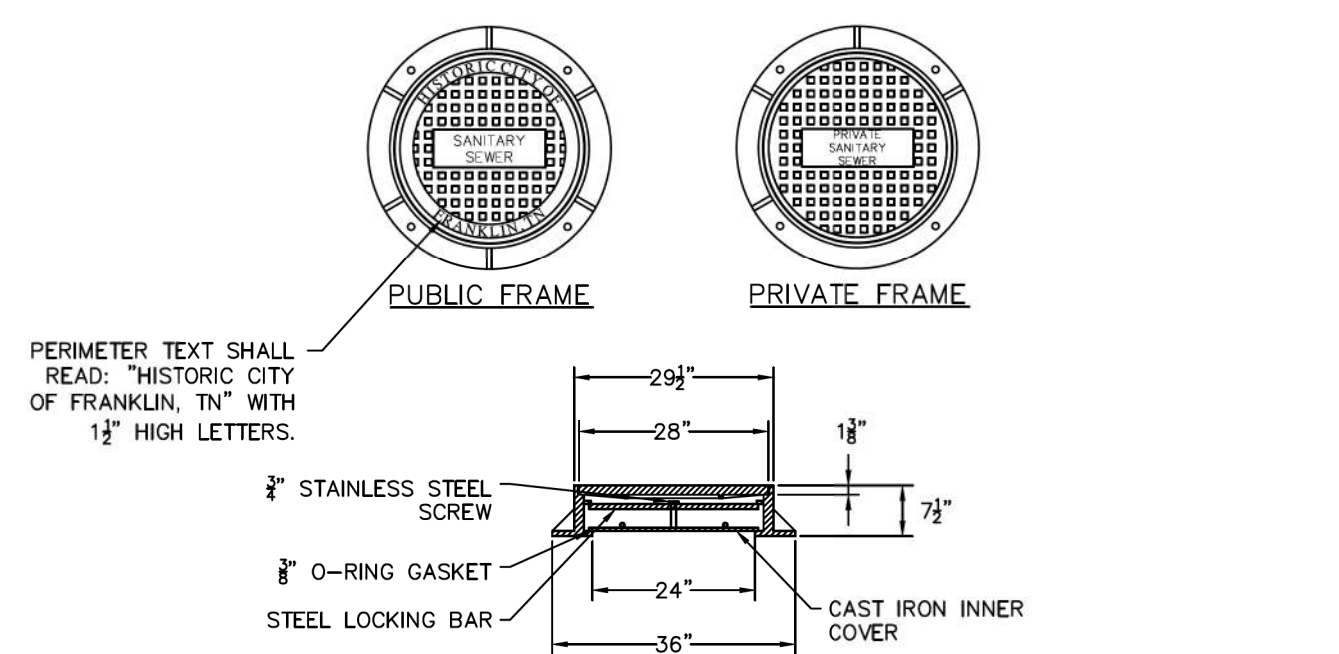
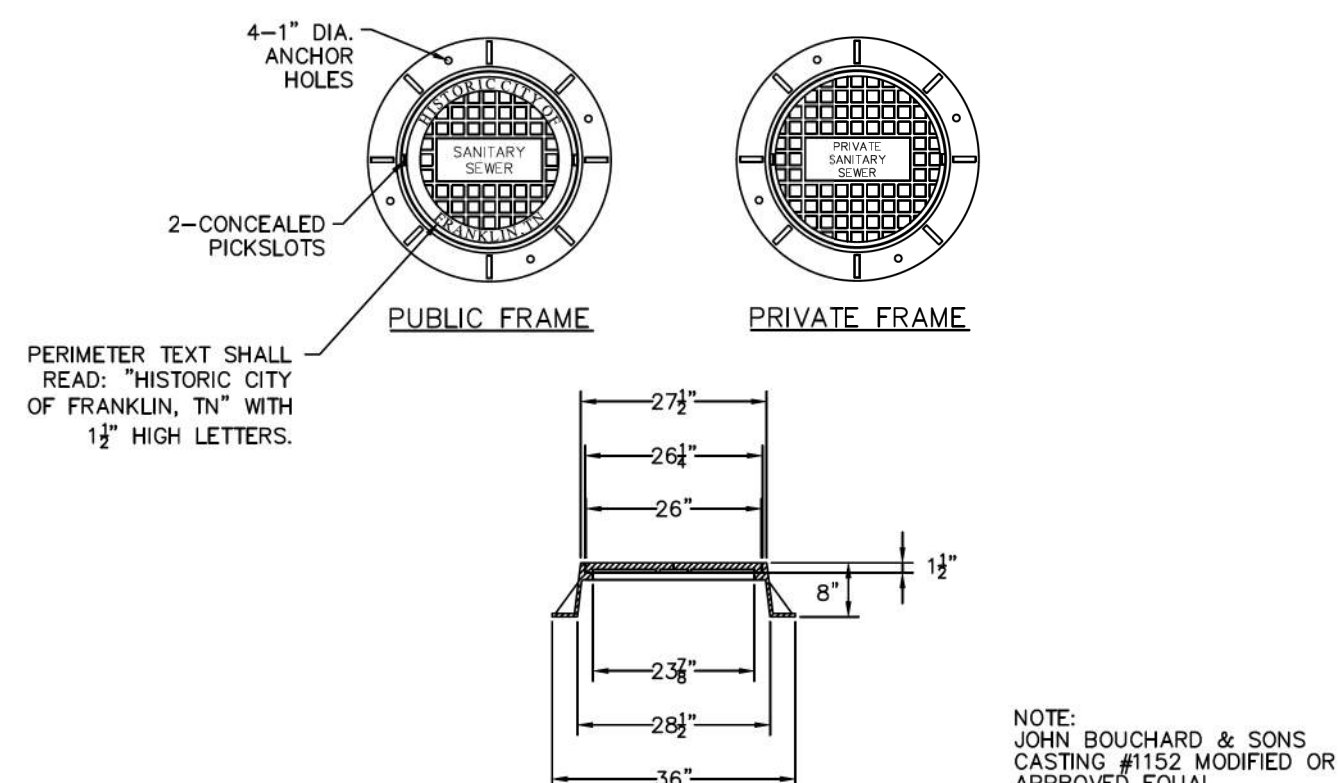
CITY OF FRANKLIN

CONCRETE PROTECTION FOR BURIED UTILITIES

DWG. NO. G-9

EFFECTIVE DATE: 06/05/2018

XX/XX/2017
CITY ENGINEER DATE



N.T.S.

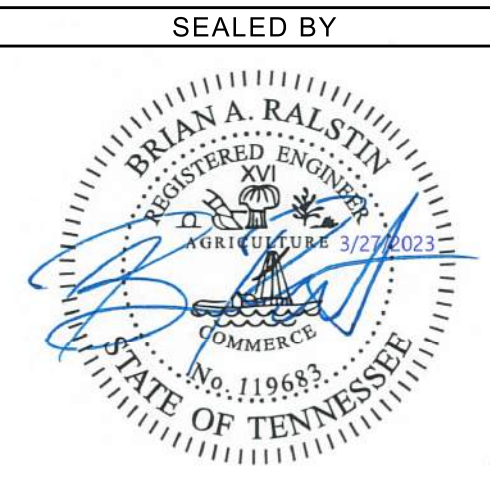
CITY OF FRANKLIN

MANHOLE FRAME AND COVER

DWG. NO. WW-2

EFFECTIVE DATE: 06/05/2018

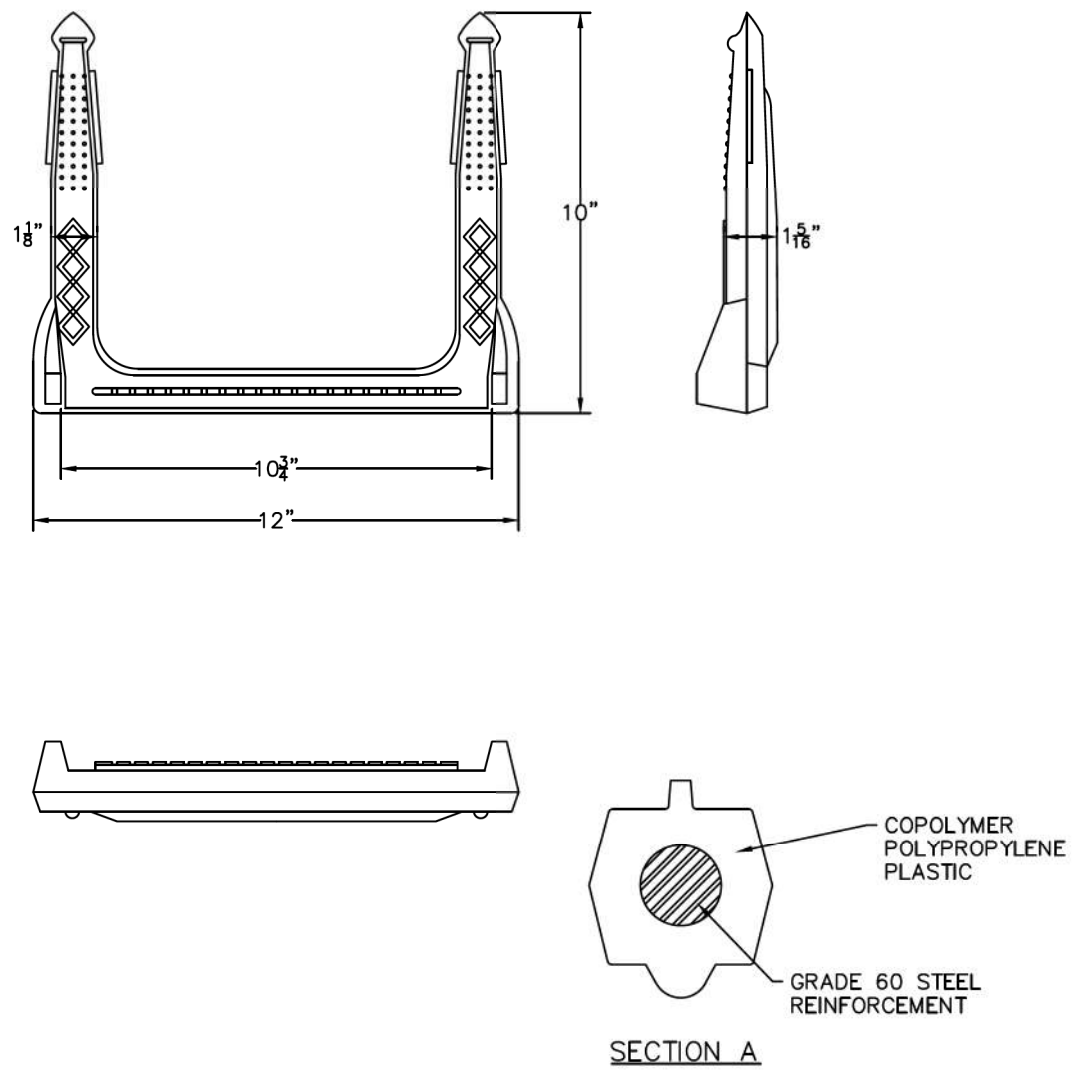
XX/XX/2017
CITY ENGINEER DATE



CITY OF FRANKLIN
ENGINEERING DEPARTMENT

SANITARY
SEWER
RELOCATION
DETAILS

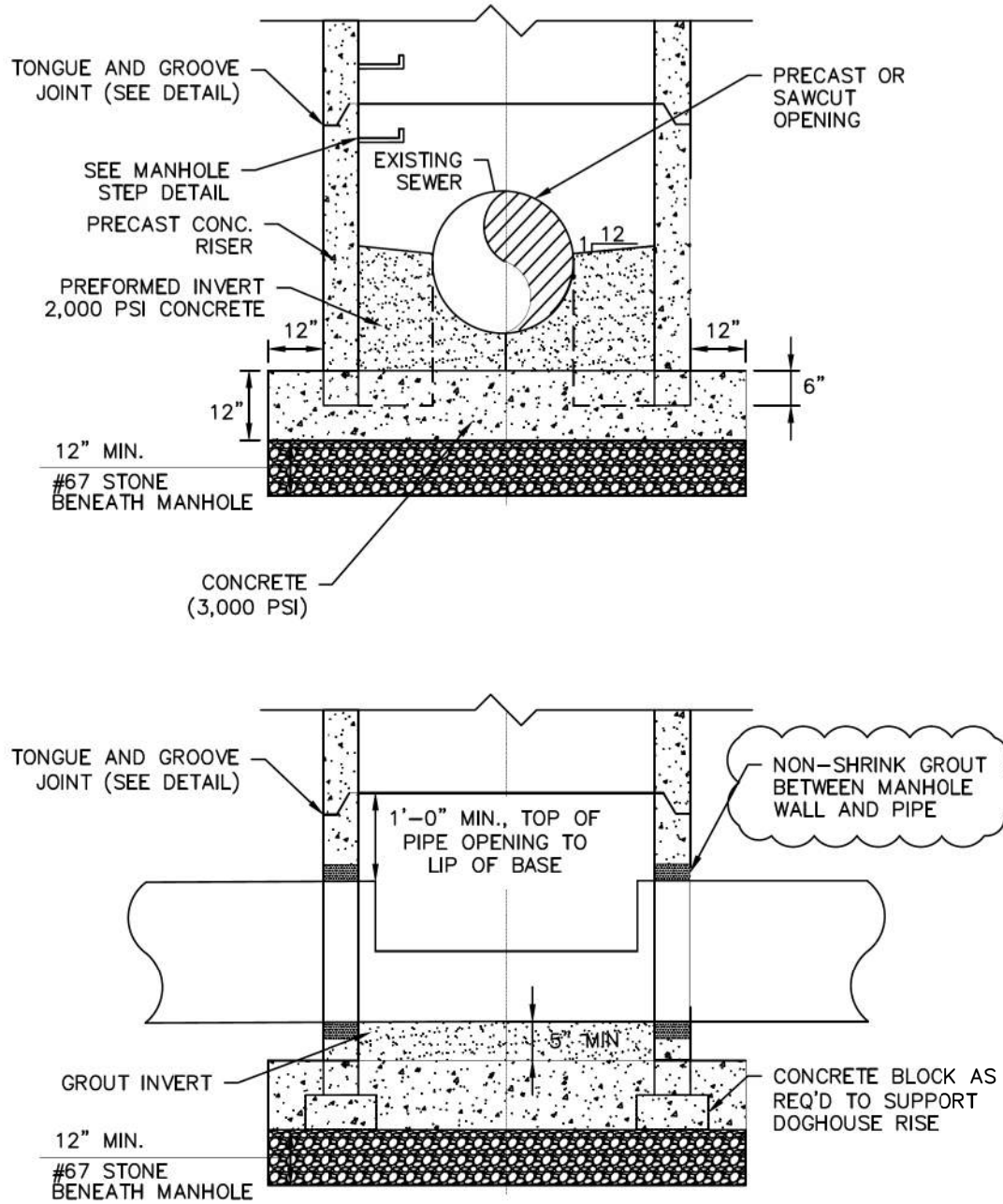
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2023	COF 2020-004	U1-6



NOTE:
MANHOLE FRAME AND COVER SHALL ALIGN WITH
THE STEPS OVER THE BENCH OF THE INVERT
CHANNEL.

N.T.S

CITY OF FRANKLIN	
MANHOLE AND VAULT STEPS	<div><div></div><div>XX/XX/2017</div></div> <div>CITY ENGINEERDATE</div>
DWG. NO. WW-3	EFFECTIVE DATE: 06/05/2018



NOTES

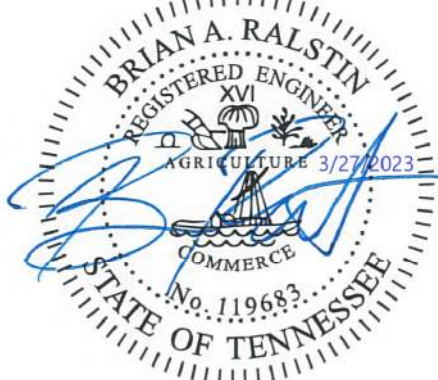
- 1) ALL PRECAST ELEMENTS SHALL CONFORM TO ASTM C478.
- 2) ALL PRECAST MANHOLES SHALL CONTAIN XYPEX ADMIXTURE ACCORDING TO SPECIFICATIONS.

N.T.S

CITY OF FRANKLIN	
DOGHOUSE MANHOLE OVER EXISTING SEWER	<div><div></div><div>XX/XX/2017</div></div> <div>CITY ENGINEERDATE</div>
DWG. NO. WW-6	EFFECTIVE DATE: 06/05/2018

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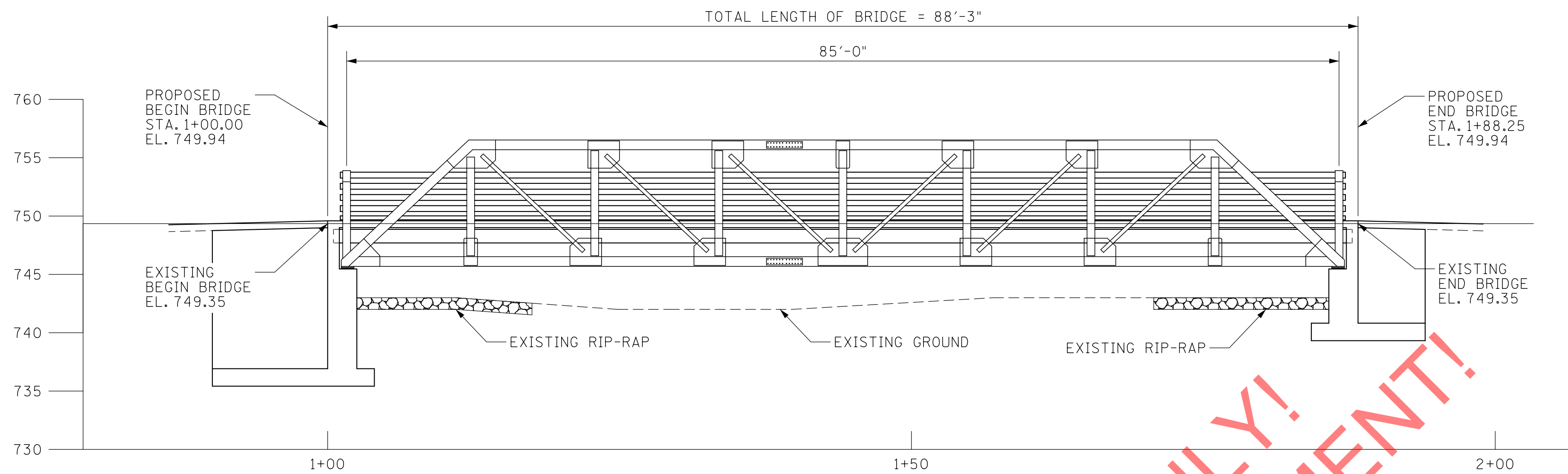


CITY OF FRANKLIN
ENGINEERING DEPARTMENT

SANITARY
SEWER
RELOCATION
DETAILS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2023	COF 2020-004	B1



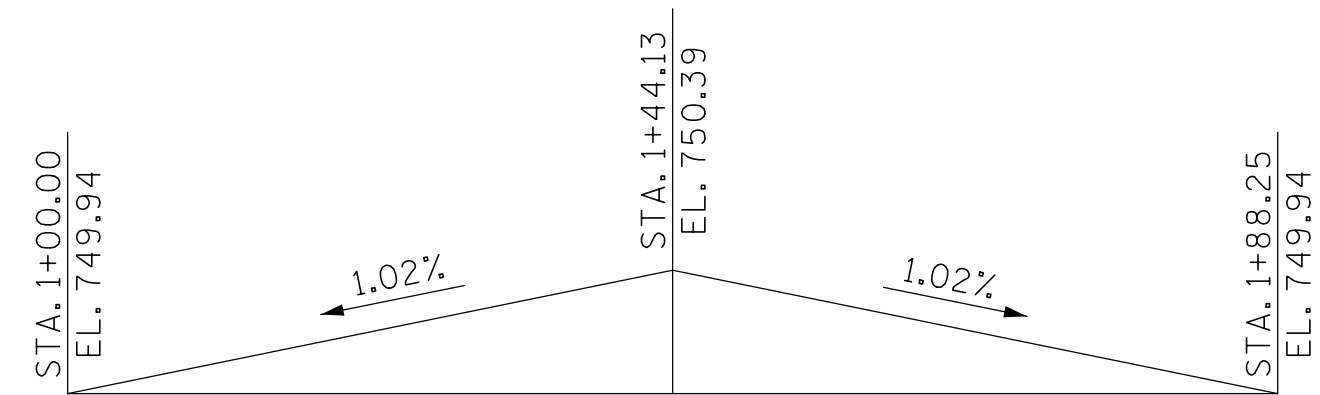
ELEVATION
(SCALE 1" = 7'-0")

LAST
LIST OF DRAWINGS DWG. NO. REV. DATE

BRIDGE LAYOUT	B1
GENERAL NOTES & ESTIMATED QUANTITIES	B2
SUPERSTRUCTURE	B3
SUPERSTRUCTURE DETAILS	B4
FRAMING PLAN	B5
STEEL DETAILS	B6
DETAILS	B7
ABUTMENT DETAILS	B8
BILL OF STEEL	B9

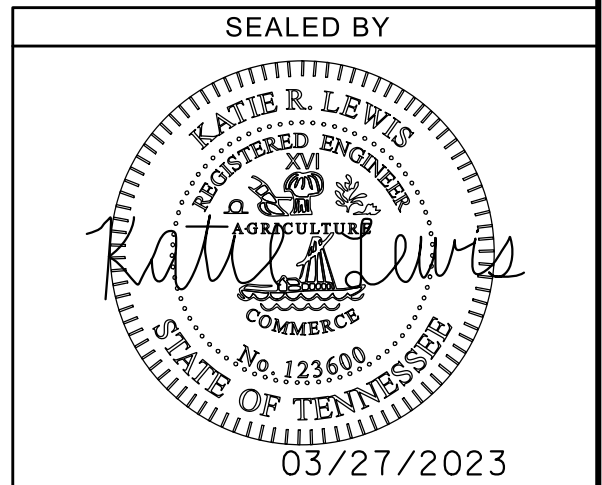
SCOPE OF WORK

1. REMOVE EXISTING FLOOR SYSTEM INCLUDING ALL FLOORBEAMS, STRINGERS, DIAPHRAGMS, CROSS BRACES, AND TIMBER DECK.
2. REPLACE FLOOR SYSTEM WITH NEW FLOORBEAMS, STRINGERS, DIAPHRAGMS, CROSS BRACES, AND A CONCRETE DECK.
3. REMOVE AND REPLACE BEARINGS AT BOTH ABUTMENTS.
4. POUR NEW RISER BLOCKS AT BOTH ABUTMENTS.
5. REMOVE AND REPLACE SECTION OF BOTH ABUTMENT BACKWALLS.
6. REMOVE AND REPLACE SECTION OF APPROACH PAVEMENT.
7. MODIFY EXISTING BRIDGE RAILS TO MEET CURRENT SAFETY STANDARDS.



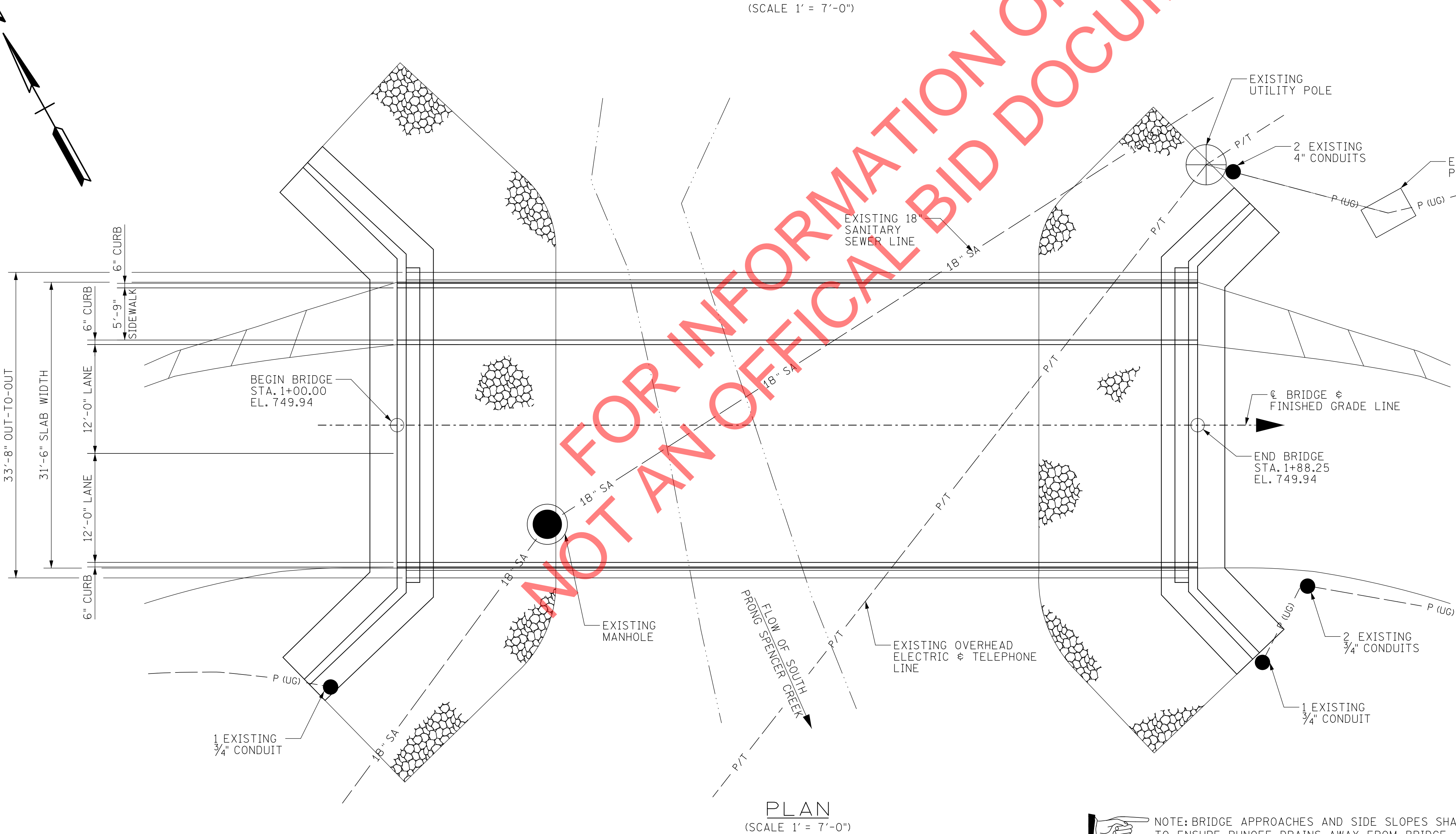
GRADE SKETCH

COORDINATES ARE NAD 83(1983), ARE DATUM ADJUSTED BY THE FACTOR OF 1.000082257 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 2003.

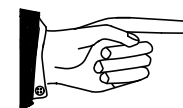


CITY OF FRANKLIN
ENGINEERING DEPARTMENT

BRIDGE LAYOUT



PLAN
(SCALE 1" = 7'-0")



NOTE: BRIDGE APPROACHES AND SIDE SLOPES SHALL BE GRADED TO ENSURE RUNOFF DRAINS AWAY FROM BRIDGE.

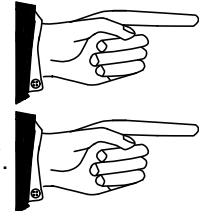
GENERAL NOTES

- (1) **CONSTRUCTION SPECIFICATIONS:** STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (JANUARY 1, 2021 EDITION), AND THE 4TH EDITION (2017) AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS WITH INTERIMS.
- (2) **DESIGN SPECIFICATIONS:** 9TH EDITION (2020) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS WITH INTERIMS, AND THE 2ND EDITION (2011) AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN WITH INTERIMS.
- (3) **LOADING:**

A. HS-20 LIVE LOADING

B. SEISMIC CATEGORY A WITH $A_S = 0.103$, $S_Ds = 0.249$, $S_{D1} = 0.132$.(1000 YEAR RETURN PERIOD).

C. DEAD LOAD INCLUDES 35 LB/SQ. FT. FOR FUTURE WEARING SURFACE.
- (4) **STRUCTURAL STEEL:** SHALL CONFORM TO ASTM A709 GRADE 50W UNLESS OTHERWISE NOTED. ALL STRUCTURAL STEEL FOR GIRDER FLANGES IN TENSION AND ALL WEBS SHALL MEET THE SUPPLEMENTAL REQUIREMENTS FOR LONGITUDINAL CHARPY V-NOTCH TESTS SPECIFIED IN THE ASTM SPECIFICATIONS. ZONE 2 OF (NON-FRACTURE CRITICAL CRITERIA OR FRACTURE CRITICAL CRITERIA) SHALL APPLY.
- (5) **REINFORCING STEEL:** SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS.
- (6) **BOLTS:** SHALL BE HIGH TENSILE STRENGTH BOLTS GRADE A325, TYPE 3, UNLESS OTHERWISE NOTED. BOLT SIZE TO BE AS NOTED ON PLANS. SEE SECTION 602 OF THE STANDARD SPECIFICATIONS. EXISTING CONTACT SURFACES SHALL BE CLEANED OF ALL EXISTING PAINT AND/OR RUST TO BARE METAL PRIOR TO ATTACHMENT OF NEW MEMBERS.
- (7) **CONCRETE:** TO BE CLASS A F'C = 3000 PSI EXCEPT AS NOTED OTHERWISE.
- (8) **BRIDGE DECKS:** CLASS D CONCRETE FOR BRIDGE DECKS SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.
- (9) **CONCRETE CURING:** ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATIONS.
- (10) **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. FORMS SHALL BE ATTACHED BY MEANS OTHER THAN WELDING TO MAIN STRUCTURAL MEMBERS OR REINFORCING STEEL. TEMPORARY ERECTION DIAPHRAGMS MUST BE USED AT THE ENDS OF PRECAST CONCRETE GIRDERS WHERE END DIAPHRAGMS, SUPPORT DIAPHRAGMS, OR ABUTMENT ENDWALLS ARE TO BE POURED CONCURRENTLY WITH THE DECK AND SHALL BE PROVIDED ELSEWHERE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS TO PREVENT GIRDER ROTATION. SEE STANDARD DRAWING [STD-14-1, 2, OR 3] AND ARTICLE 604.05 OF THE STANDARD SPECIFICATIONS.
- (11) **SHOP DRAWINGS:** REFER TO SECTION 105.02 OF THE STANDARD SPECIFICATIONS.



- (12) **SPECIAL NOTE TO CONTRACTOR:** CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURES NECESSARY TO ENSURE THAT NO DEBRIS IS DROPPED INTO THE STREAM. ANY DEBRIS WHICH IS ALLOWED TO DROP ON THE BANKS BELOW THE BRIDGE SHALL NOT BE ALLOWED TO ENTER THE STREAM AND SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. COST OF REMOVAL AND DISPOSAL OF DEBRIS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.
- (13) **DEMOLITION:** THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. FOR BACKWALL REMOVAL, THE MAXIMUM HAMMER SIZE IS 90 POUND CLASS. SAWING OR CUTTING OF THE CONCRETE IS ACCEPTABLE AS LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCING STEEL IS MAINTAINED. ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER.
- (14) **SPECIAL NOTE TO CONTRACTOR:** THE CONTRACTOR SHALL NOT TAKE ANY HEAVY EQUIPMENT ACROSS THE EXISTING BRIDGE.
- (15) **SPECIAL NOTE TO CONTRACTOR:** THE CONTRACTOR IS RESPONSIBLE FOR STABILITY OF THE BRIDGE DURING CONSTRUCTION.
- (16) **WELDING:** SEE CURRENT EDITION OF THE AASHTO/AWS D1.5 BRIDGE WELDING CODE. CONTRACTOR IS TO SUBMIT WELDING PROCEDURE SPECIFICATIONS (BASED ON SUCCESSFUL TEST RESULTS AS RECORDED IN A PROCEDURE QUALIFICATION TEST RECORD, SEE AASHTO/AWS D1.5 SECTION 1.9 AND SECTION 5 (QUALIFICATION)) AND WELDER QUALIFICATIONS TO THE ENGINEER FOR REVIEW BEFORE WELDING WILL BE ALLOWED. WELDER QUALIFICATION SHALL INCLUDE PROOF OF CONTINUOUS WORK USING THE SPECIFIED WELDING PROCESS.

WELDING PROCEDURE SPECIFICATIONS ARE NOT REQUIRED FOR TEMPORARY WELDS (STAY-IN-PLACE METAL DECK FORMS ARE CONSIDERED TEMPORARY.)

THE WELDING PROCEDURE SPECIFICATIONS SHOULD BE ON SITE FOR WELDER AND INSPECTOR REVIEW.

WELDING IS TO BE DONE BY QUALIFIED WELDERS. SUPERVISION OF NON-QUALIFIED WELDERS IS NOT PERMITTED. TDOT HAS THE OPTION OF HAVING THE WELDER RECERTIFIED IF QUESTIONABLE WORK IS OBSERVED. THE COST OF THIS REQUALIFICATION IS TO BE PAID FOR BY THE CONTRACTOR.

WELDER QUALIFICATION POSITIONS FOR FILLET AND GROOVE WELDS: FLAT (F), HORIZONTAL (H), VERTICAL (V), OVERHEAD (OH). SEE FIG 5.4 OR FIG 5.5 IN AASHTO/AWS D1.5 FOR POSITION LIMITS.

QUALIFICATION TEST		TYPE OF WELD AND POSITION OF WELDING QUALIFIED PLATE	
WELD	POSITION	GROOVE	FILLET
GROOVE	1G	F	F,H
	2G	F,H	F,H
	3G	F,H,V	F,H,V
	4G	F,OH	F,H,OH
	3G AND 4G	ALL	ALL
FILLET	1F		F
	2F		F,H
	3F		F,H,V
	4F		F,H,OH
	3F AND 4F		ALL

FROM TABLE 5.8, WELDER QUALIFICATION – TYPE AND POSITION LIMITATIONS, AASHTO/AWS D1.5

BLUSHING (A WAXY SURFACE COATING ON THE EPOXY) IS CAUSED BY THE REACTION OF MOISTURE WITH THE HARDENING AGENT. BLUSHING CREATES A SURFACE THAT MAKES FUTURE LAYERS DIFFICULT TO ADHERE. LIFTS THAT SHOW SIGNS OF BLUSHING SHALL BE REMOVED AND REPLACED PRIOR TO APPLICATION OF THE NEXT. THE COST TO REMOVE AND REPLACE THESE AREAS SHALL BE AT THE CONTRACTOR'S EXPENSE.

TRAFFIC, OTHER THAN APPLICATION EQUIPMENT, SHALL NOT BE ALLOWED ON ANY PORTION OF THE DECK THAT HAS BEEN SHOTBLASTED OR WHERE PART OF THE APPLICATION HAS BEEN PLACED.

SEE MANUFACTURER'S RECOMMENDATIONS FOR REQUIRED AMBIENT AND SURFACE TEMPERATURES AND HUMIDITY LIMITS FOR APPLICATION.

THE MANUFACTURER SHALL HAVE A REPRESENTATIVE ON THE JOB SITE AT ALL TIMES DURING APPLICATION AND CURE TIME. THE REPRESENTATIVE, ALONG WITH CONSULTATION WITH ENGINEER, MAY SUSPEND ANY ITEM OF WORK THAT IS SUSPECT AND DOES NOT MEET THE REQUIREMENTS OF THE SPECIFICATIONS. WORK SHALL NOT RESUME UNTIL THE ENGINEER AND REPRESENTATIVE ARE SATISFIED THAT APPROPRIATE REMEDIAL ACTION HAS BEEN TAKEN BY THE CONTRACTOR.

ALL COSTS FOR AGGREGATE, EPOXY FOR MINIMUM OF TWO LIFTS, SURFACE PREPARATION, LABOR AND ANY OTHER MISCELLANEOUS MATERIALS REQUIRED TO PLACE THIN OVERLAY SHALL BE INCLUDED IN ITEM NO. 617-04.01, TYPE 1 THIN EPOXY OVERLAY (EPOXY URETHANE), SY

THICKNESS VERIFICATION: THE PROJECT ENGINEER SHALL BE NOTIFIED OF THE NUMBER OF GALLONS USED ON THE PROJECT WITH NOTARIZED QUANTITY STATEMENTS FROM THE CONTRACTOR AND THE MANUFACTURER. THE CONTRACTOR SHALL VERIFY TO TDOT THAT THE OVERLAY IS AN AVERAGE OF AT LEAST 3/8" INCH THICK AT THREE RANDOM LOCATIONS AGREED UPON BY THE PROJECT ENGINEER AND THE MATERIAL MANUFACTURER REPRESENTATIVE. IF 3/8" INCH AVERAGE IS NOT ACHIEVED, A RETEST SHAL BE PERFORMED IN ADJOINING AREAS. THIN AREAS SHALL BE RE-COATED AS DESCRIBED ABOVE BY THE CONTRACTOR AND RE-VERIFIED AT NO ADDITIONAL COST TO TDOT. THIS VERIFICATION SHALL CONSIST OF CORES MADE BY THE CONTRACTOR WITH A CORING BIT NOT LESS THAN 1-1/2" DIAMETER, THE TESTED AREAS SHALL BE REPAIRED BY THE CONTRACTOR BEFORE FINAL ACCEPTANCE BY THE PROJECT ENGINEER.



NOTE: BRIDGE APPROACHES AND SIDE SLOPES SHALL BE GRADED TO ENSURE RUNOFF DRAINS AWAY FROM BRIDGE.

THIN EPOXY OVERLAY NOTES

TYPE 1 THIN EPOXY OVERLAY SYSTEM – USE DECK PRETREATMENT/PRIMER PER MANUFACTURER'S RECOMMENDATION, AND 2 LIFTS OF AN EPOXY-URETHANE COPOLYMER AND AGGREGATE. TYPE 1 OVERLAY SHALL BE APPLIED MECHANICALLY USING METERED EQUIPMENT; HAND MIXING OF MATERIAL IS NOT PERMITTED. THIN OVERLAY SYSTEM SHALL BE FROM THE QUALIFIED PRODUCTS LIST 23.005 TYPE 1 THIN OVERLAY (EPOXY URETHANE). MINIMUM OVERLAY THICKNESS SHALL BE 3/8" INCH.

APPLICATION EQUIPMENT SHOULD :

- A) BE CAPABLE OF METERING, MIXING AND DISTRIBUTING THE POLYMER AND PRETREATMENT TO MANUFACTURER'S RECOMMENDATION.
- B) USE AN APPLICATION MACHINE THAT FEATURES POSITIVE DISPLACEMENT VOLUMETRIC METERING PUMPS CONTROLLED BY A HYDRAULIC POWER UNIT.
- C) STORE COMPONENTS IN TEMPERATURE CONTROLLED RESERVOIRS CAPABLE OF MAINTAINING 100 DEGREES FAHRENHEIT (PLUS OR MINUS 10 DEGREES) TO INSURE OPTIMAL MIXING.
- D) CHECK MIXING RATIO AT THE PUMP OUTLETS AS WELL AS CYCLE COUNTING CAPABILITIES TO MONITOR OUTPUT ON STANDARD FEATURES.
- E) USE MOTIONLESS IN-LINE MIXING SO AS TO NOT OVERLY SHEAR THE MATERIAL TO ENTRAP AIR IN THE MIX.
- F) MAXIMIZE MATERIAL WORKING TIME BY MIXING IT IMMEDIATELY BEFORE DISPENSING.

AGGREGATE SHALL BE ANGULAR, HAVING LESS THAN 0.2% MOISTURE AND FREE OF DIRT, CLAY, ASPHALT AND OTHER FOREIGN OR ORGANIC MATERIALS. AGGREGATE FOR ALL LAYERS SHALL BE BAUXITE OR FLINT ROCK PRODUCTS FLINT AND MEETS THE FOLLOWING GRADATION:

SIEVE SIZE	% PASSING
NO. 6	95-100
NO. 10	10-35
NO. 20	0-3

IMMEDIATELY BEFORE APPLICATION, ALL PREPARED SURFACES SHALL BE CLEANED WITH COMPRESSED AIR OR VACUUMED TO REMOVE DUST AND DEBRIS. THE CONTRACTOR IS TO PREVENT THE TRACKING OF TACK COAT AND CONSTRUCTION DEBRIS ACROSS THE BRIDGE DECK PRIOR TO APPLICATION OF THE THIN EPOXY OVERLAY. MILLING THE BRIDGE DECK WILL NOT BE AN OPTION FOR TACK COAT OR DEBRIS REMOVAL. REMOVAL SHALL BE AT THE CONTRACTOR'S EXPENSE.

ALL SURFACES THAT ARE TREATED SHALL BE DRY AT THE TIME OF APPLICATION. THE OVERLAY SHALL NOT BE APPLIED WHEN IT HAS RAINED 24 HOURS PRIOR TO, OR RAIN IS FORECAST WITHIN 8 HOURS AFTER, APPLICATION. THE MOISTURE CONTENT IN THE DECK SUBSTRATE SHALL BE TESTED. MOISTURE IS NOT TO EXCEED 4.5 PERCENT WHEN MEASURED BY ELECTRONIC METER. IF THE TEST SHOWS EXCESS MOISTURE, THE DECK SHALL CONTINUE TO DRY BEFORE APPLICATION PROCEEDS.

ESTIMATED BRIDGE QUANTITIES

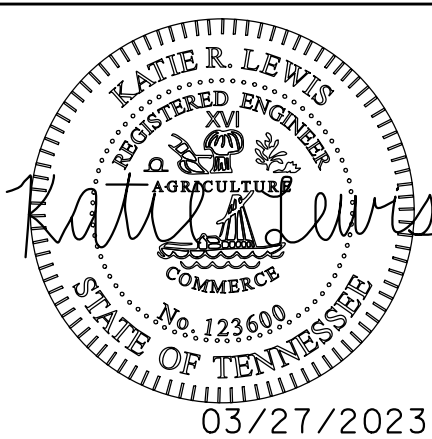
FOOTNOTES	ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	SUPERSTRUCTURE	ABUT. 1	ABUT. 2
(1)	202-04.01	REMOVAL OF STRUCTURES (DECK, BACKWALLS, & FLOOR SYSTEM)	LS	1	1	0	0
(2)	204-02.01	DRY EXCAVATION (BRIDGES)	C.Y.	64	0	32	32
	303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	125	0	62	63
	307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	57	57	0	0
	402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	1	1	0	0
	402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	2	2	0	0
	403-02.01	TRACKLESS TACK COAT	TON	1	1	0	0
	411-01.10	ACS MIX(PG64-22) GRADING D	TON	27	27	0	0
(3)	602-04.01	STEEL STRUCTURES (FLOOR SYSTEM)	LS	1	1	0	0
(4)	602-10.01	STRUCTURAL STEEL REPAIRS	LS	1	1	0	0
(5)	604-02.03	EPOXY COATED REINFORCING STEEL	LB.	13166	12240	463	463
(6)	604-03.01	CLASS A CONCRETE (BRIDGES)	C.Y.	2	0	1	1
(7)	604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	752	376	188	188
(8)	604-03.09	CLASS D CONCRETE (BRIDGE DECK)	C.Y.	68	64	2	2
	617-04.01	TYPE 1 THIN EPOXY OVERLAY (EPOXY-URETHANE)	S.Y.	309	309	0	0
(9)	908-21.01	BEARINGS (ELASTOMERIC)	EACH	18	0	9	9

FOOTNOTES

- (1) INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY FOR THE REMOVAL AND DISPOSAL OF TIMBER DECK, BOTH ABUTMENT BACKWALLS, STEEL STRINGERS, FLOORBEAMS, BEARINGS, AND CUTTING OF ANCHOR BOLTS AS INDICATED IN THE PLANS.
- (2) EXCAVATION BASED ON FINAL PROFILE AT ABUTMENTS.
- (3) LUMP SUM: THE TOTAL ESTIMATED WEIGHT OF 59,767 LBS OF STRUCTURAL STEEL INCLUDES NEW W14X34 STRINGERS, W24X117 FLOORBEAMS, C10X15.3 DIAPHRAGMS, L4X4X3/8 CROSS BRACES, SHEAR CONNECTORS, FILL PLATES, BOLTS, ETC. ALSO SEE THE STANDARD SPECIFICATIONS SECTIONS 602.49 AND 602.50.
- (4) INCLUDES ALL LABOR AND MATERIALS NECESSARY FOR SURFACE PREPARATION, STEEL END POST EXTENSIONS, STEEL RAILINGS, STEEL PLATES, BOLTS, AND TIMBER RUB RAILS.
- (5) INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY FOR THE INSTALLATION OF EPOXY COATED REINFORCING STEEL.
- (6) INCLUDES COST OF ALL LABOR AND MATERIALS REQUIRED FOR INSTALLATION OF ABUTMENT RISER BLOCKS.
- (7) INCLUDES ALL LABOR AND MATERIALS NECESSARY FOR THE INSTALLATION OF STEEL BAR REINFORCEMENT.
- (8) INCLUDES COST OF ALL LABOR AND MATERIALS REQUIRED FOR INSTALLATION OF STAY-IN-PLACE METAL DECK FORMS.
- (9) INCLUDES COST OF ALL LABOR AND MATERIALS ASSOCIATED WITH THE INSTALLATION OF THE BEARING ASSEMBLY SHOWN ON SHEET B7, INCLUDING STEEL PLATES, ELASTOMERIC BEARING PAD, AND RUBBER BONDING CEMENT.

COORDINATES ARE NAD 83(1983), ARE DATUM ADJUSTED BY THE FACTOR OF 1.000082257 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 2003.

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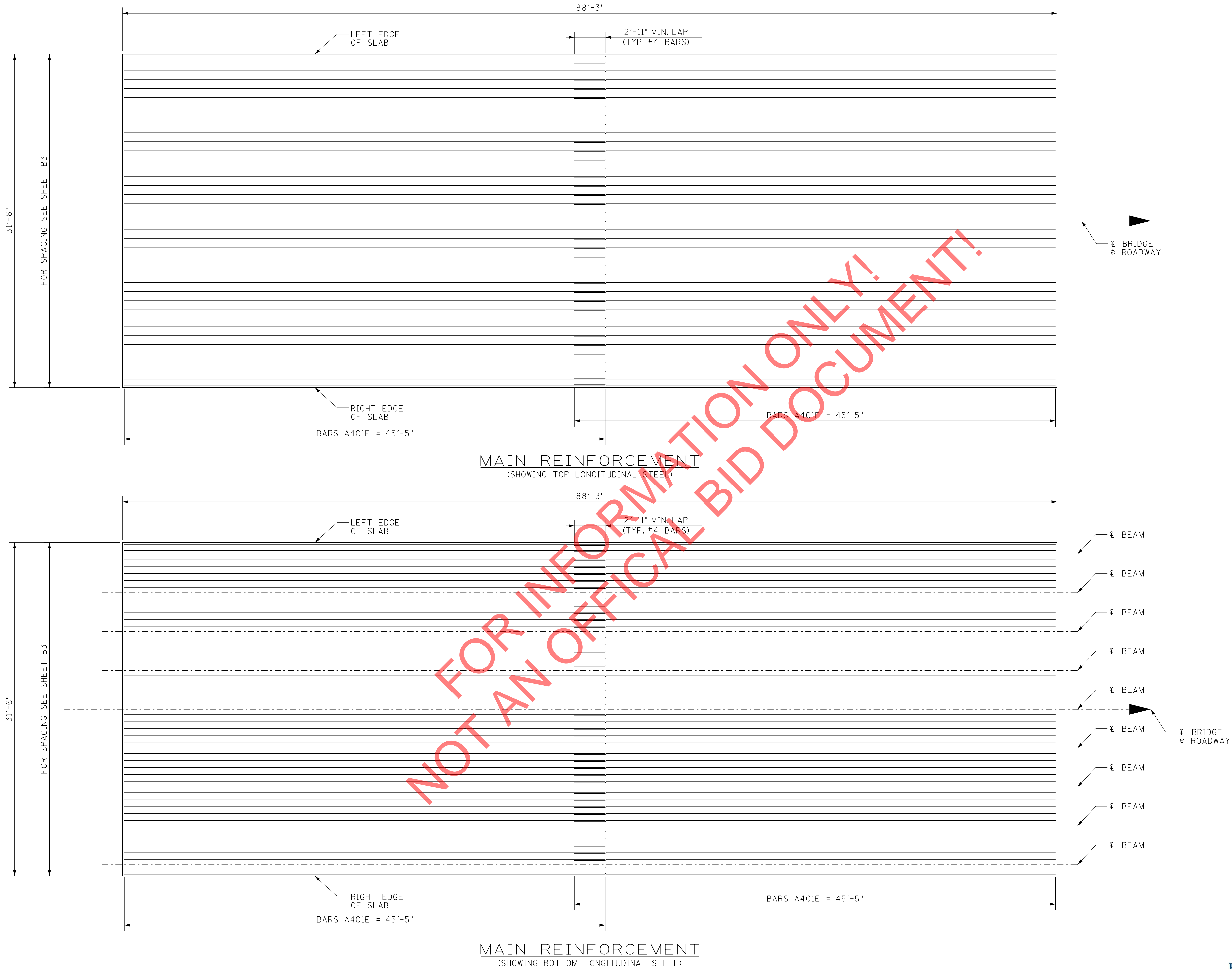


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GENERAL NOTES &
ESTIMATED
QUANTITIES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2023	COF 2020-004	B4

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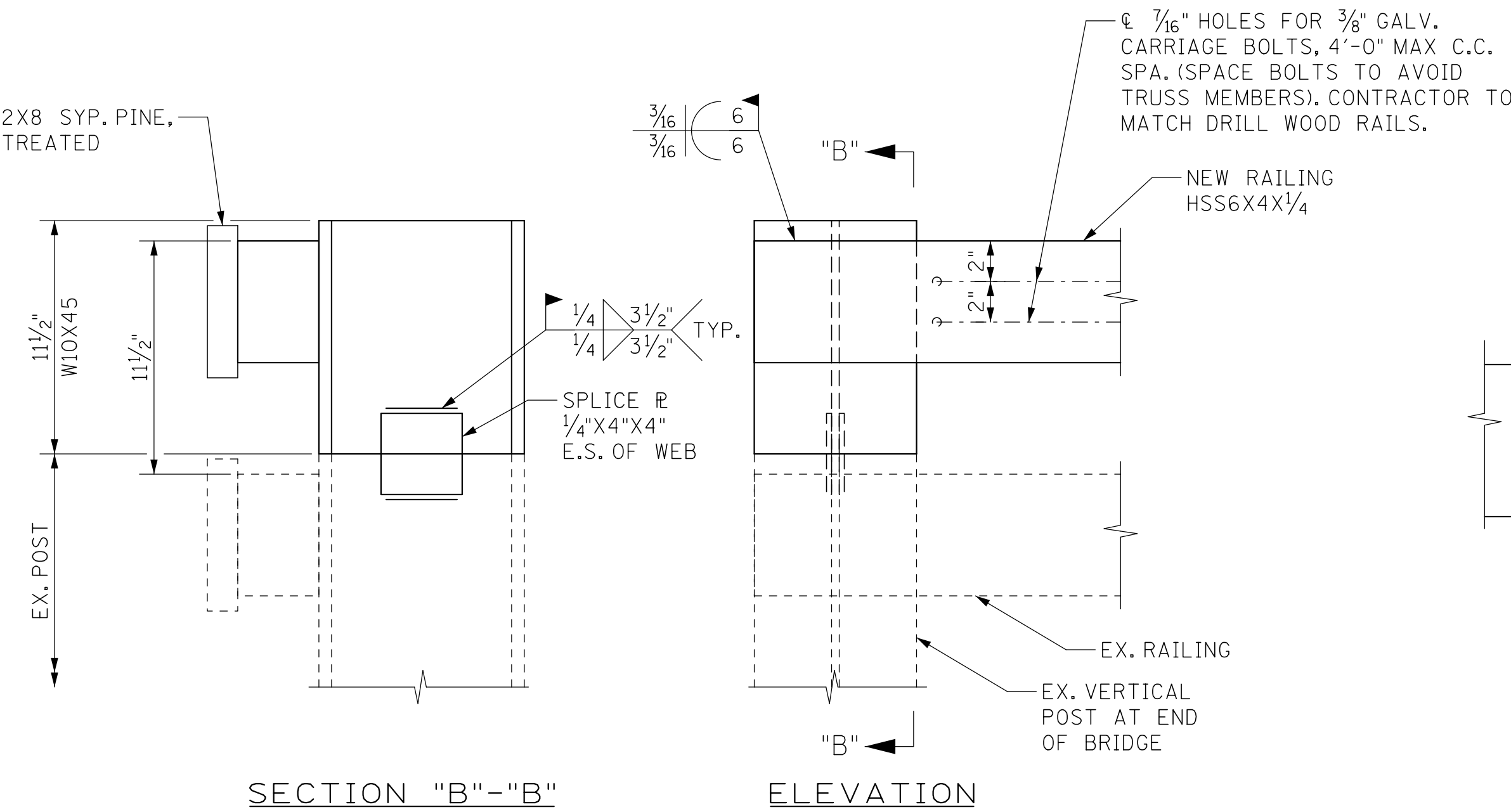
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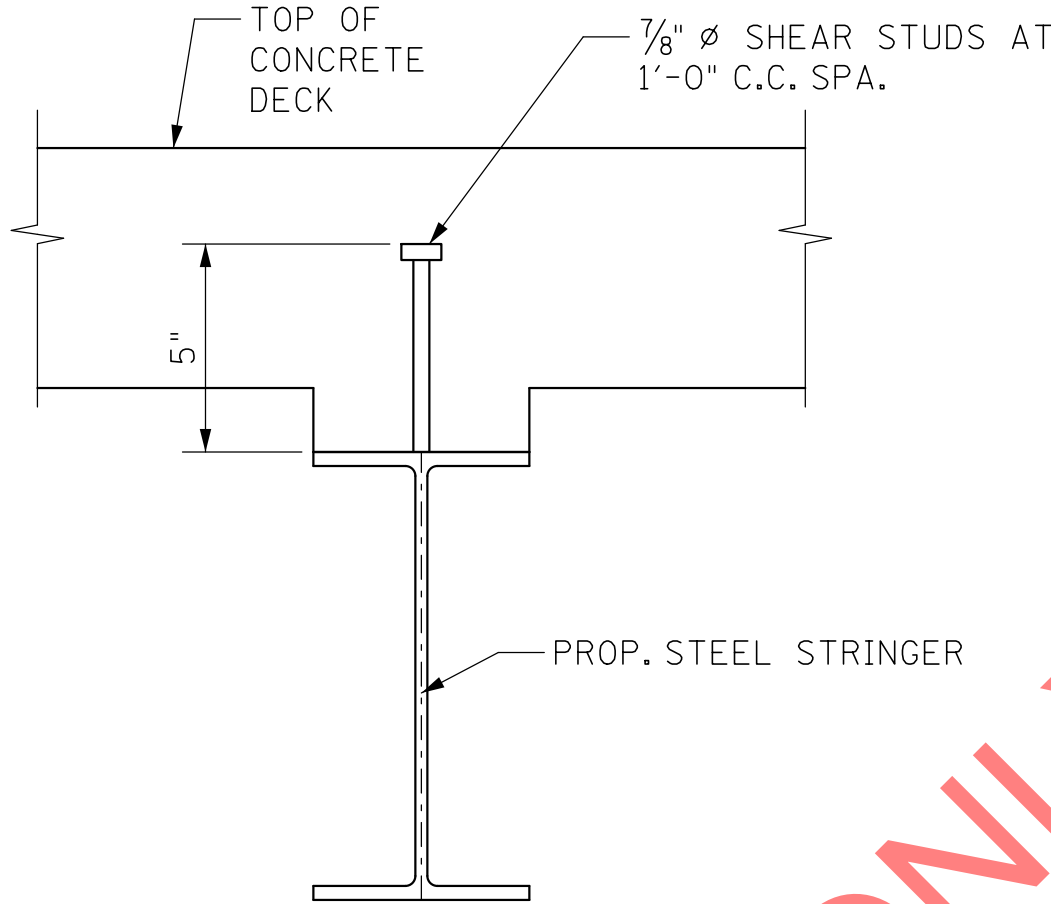
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SUPERSTRUCTURE
DETAILS

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2023	COF 2020-004	B6



RAILING END POST EXTENSION DETAIL
RAILING ATTACHMENT AT END POST SHOWN. ATTACHMENT AT TRUSS VERTICALS IS SIMILAR.



STRINGER DETAIL
SEE DECK DETAILS SHEET FOR DETAILS OF DECK REINFORCEMENT

NOTES:

- U.N.O = UNLESS NOTED OTHERWISE
E.S. = EACH SIDE
E.E. = EACH END
- ALL STRUCTURAL STEEL SHALL BE ASTM A709W (AASHTO M270W) U.N.O.
- ALL BOLTS SHALL BE A325 U.N.O.
- ALL WELDS SHALL BE MADE WITH E70 ELECTRODES U.N.O.
- FILL PLATES (I.E. SHIM STACKS): SEE SUPERSTRUCTURE SHEET FOR REQUIRED THICKNESSES. MAY BE COMPRISED OF SINGLE PLATE OR MULTIPLE STACKED PLATES.

COORDINATES ARE NAD 83(1983), ARE DATUM ADJUSTED BY THE FACTOR OF 1.000082257 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 2003.

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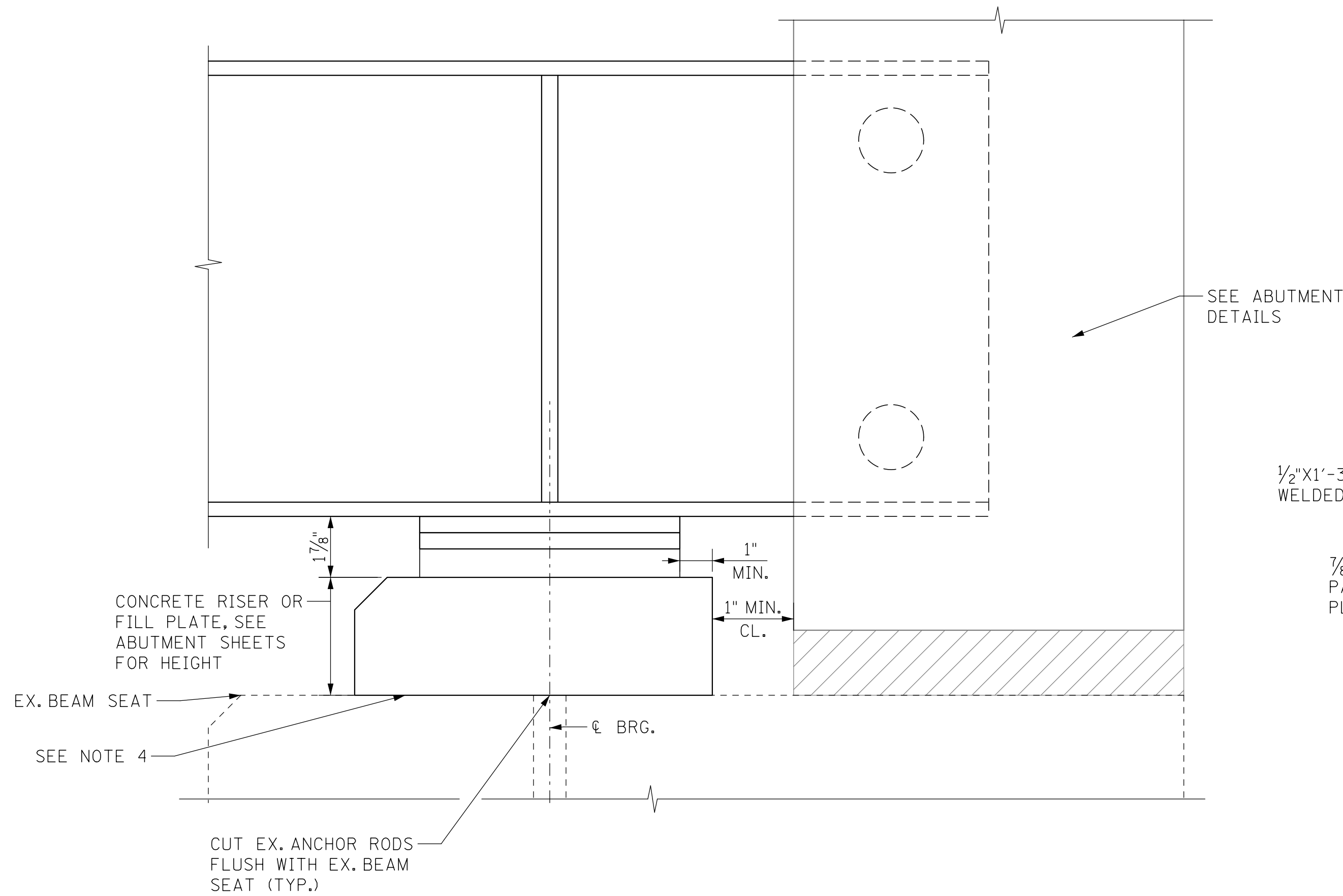


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STEEL DETAILS

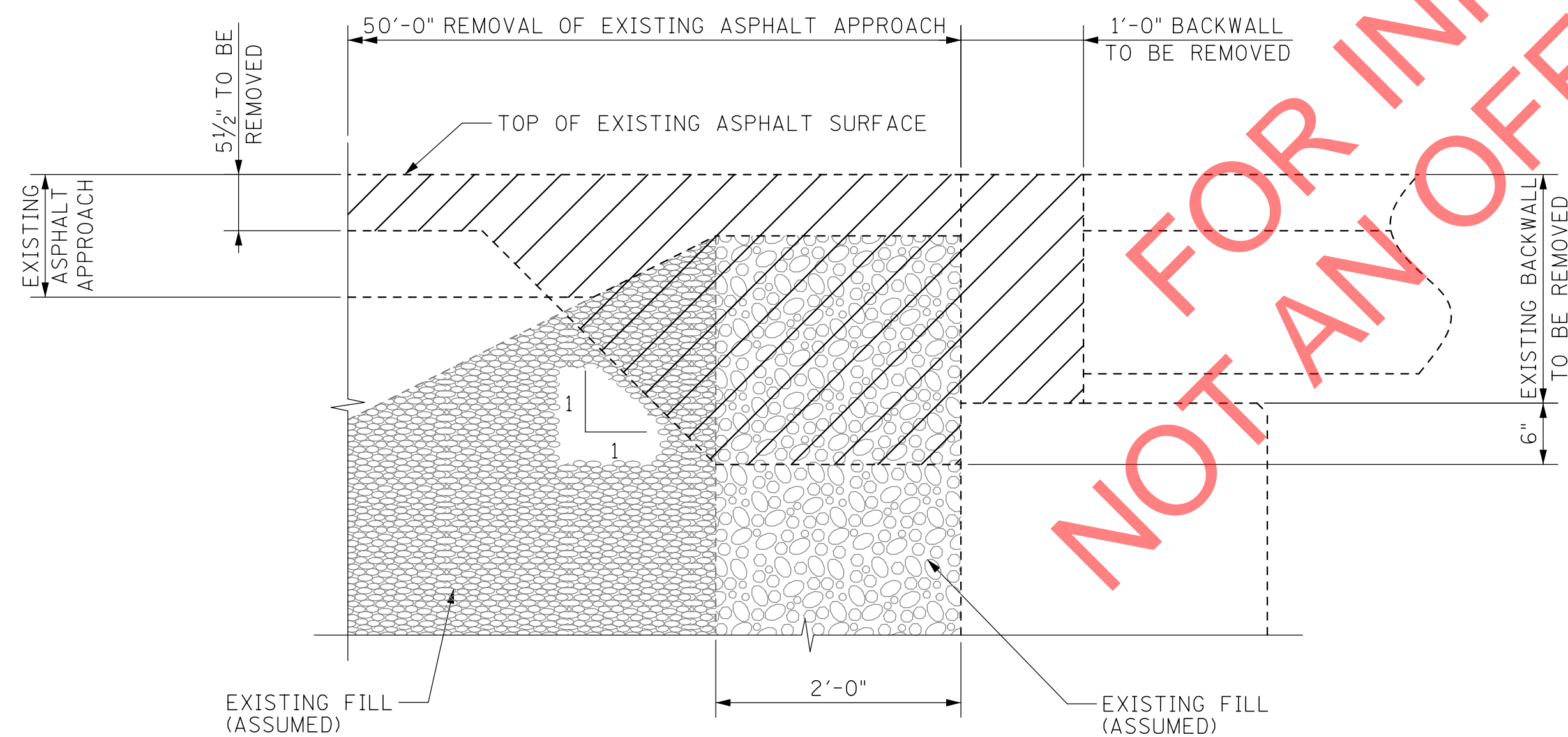


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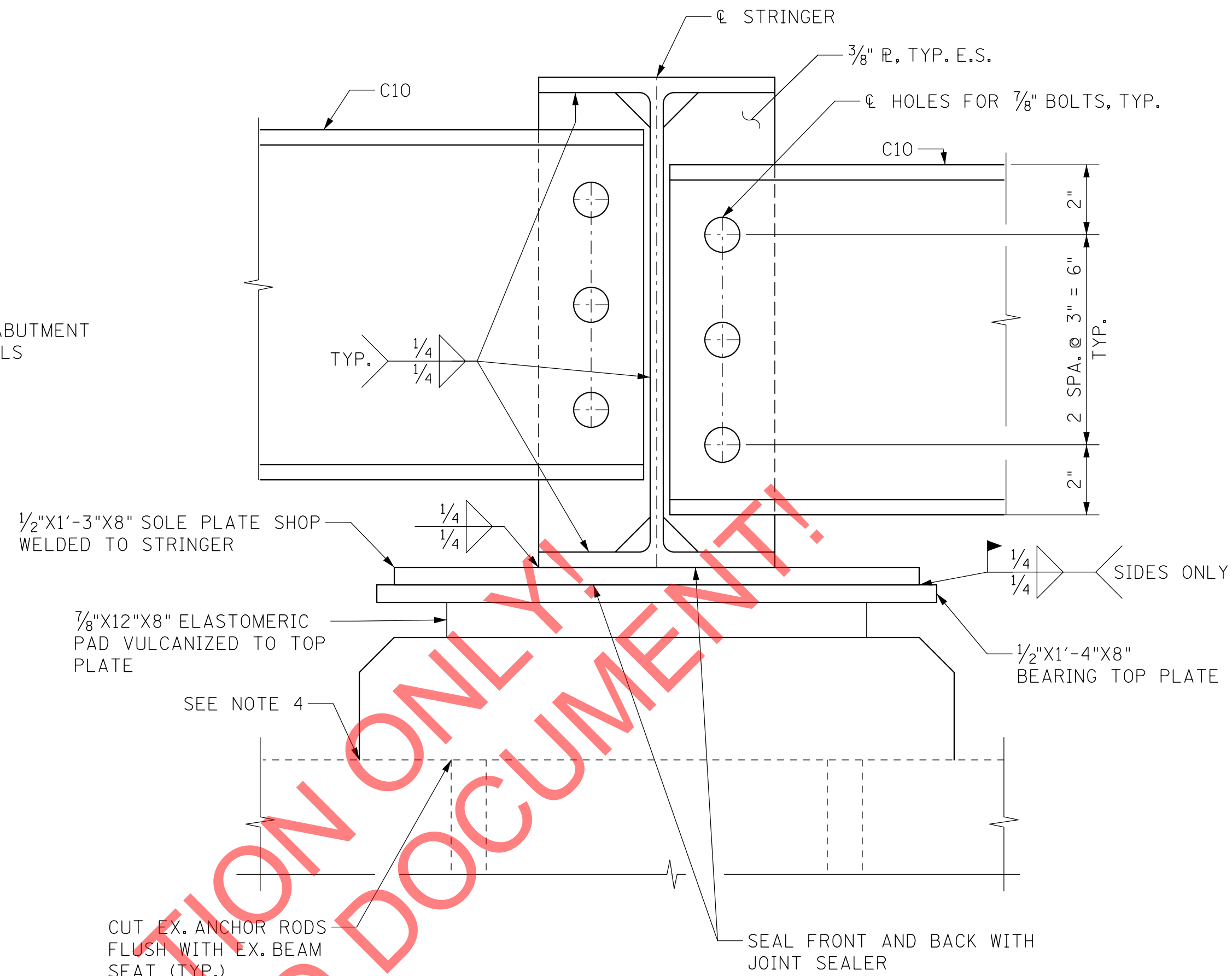


BEARING DETAILS - SECTION

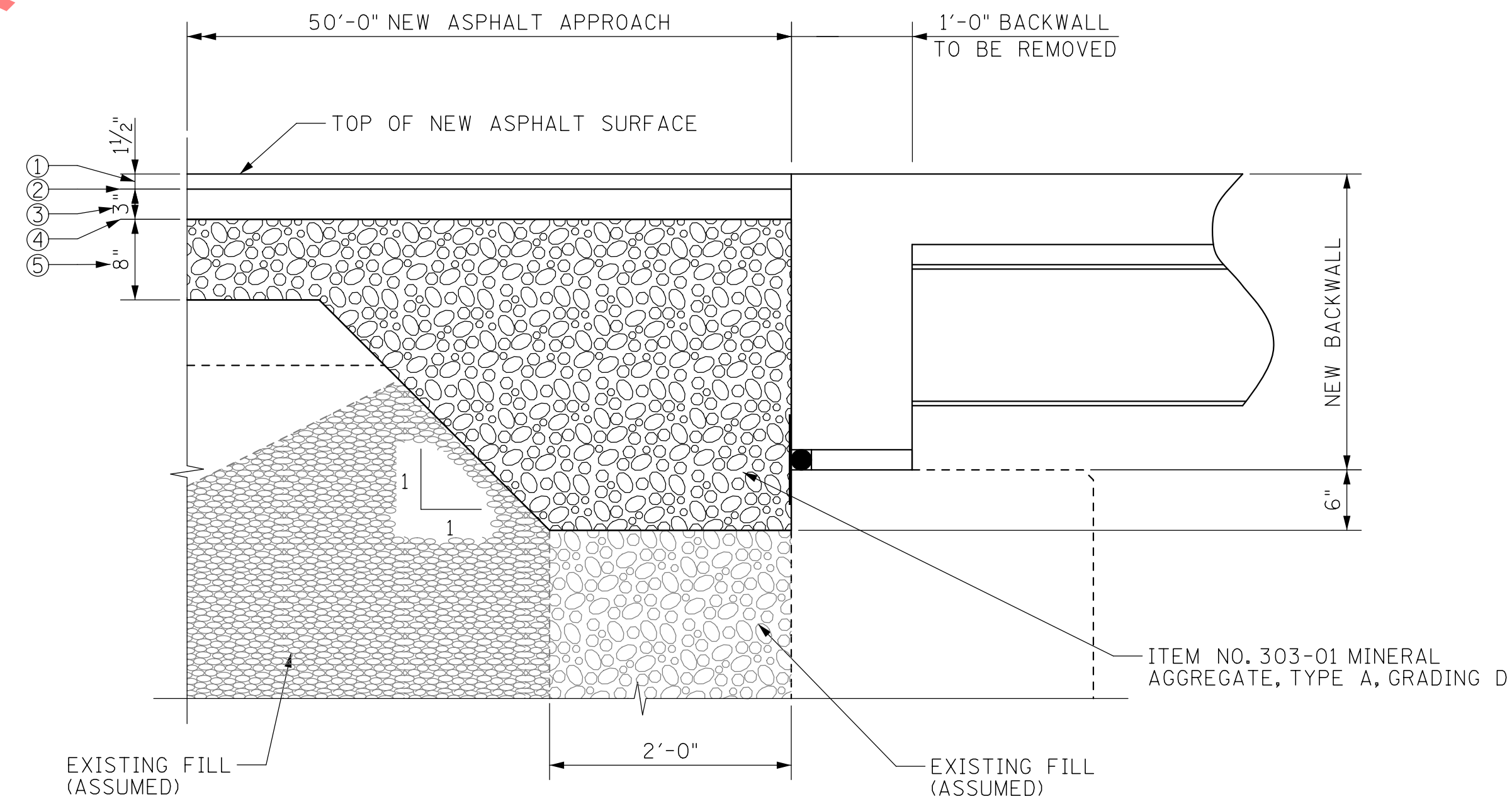
 DENOTES: SECTION TO BE REMOVED



ASPHALT APPROACH DEMOLITION DETAILS
(TYP. AT BOTH APPROACHES)



BEARING DETAILS - ELEVATION



ASPHALT APPROACH REPAIR DETAILS
(TYP. AT BOTH APPROACHES)

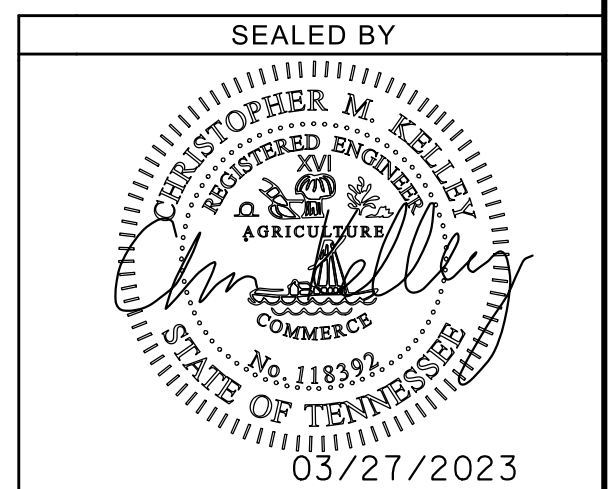
- 1 1/2" BITUMINOUS SURFACE COURSE - ITEM NO. 411-01.10 ACS MIX (PG64-22) GRADING D
- TACK COAT - ITEM NO. 403-02.01 TRACKLESS TACK COAT
- 3" BITUMINOUS AGGREGATE BASE - ITEM NO. 307-01.08 ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2
- PRIME COAT - ITEM NO. 402-01 BITUMINOUS MATERIAL FOR PRIME COAT (PC)
ITEM NO. 402-02 AGGREGATE FOR COVER MATERIAL (PC)
- 8" MINERAL AGGREGATE BASE - ITEM NO. 303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2023	COF 2020-004	B7

NOTES:

- U.N.O = UNLESS NOTED OTHERWISE
E.S. = EACH SIDE
E.E. = EACH END
- ALL STRUCTURAL STEEL SHALL BE ASTM A709W (AASHTO M270W) U.N.O.
- ALL WELDS SHALL BE MADE WITH E70 ELECTRODES U.N.O.
- PRIOR TO POURING NEW RISER BLOCKS, REMOVE DEBRIS AND CHIP AWAY ANY LOOSE CONCRETE FROM EXISTING BEAM SEAT TO EXPOSE SOUND CONCRETE. AT EXTERIOR STRINGERS WHERE NO RISER IS REQUIRED, PLACE THIN GROUT LAYER TO FILL ANY CREVICES IN EXISTING BEAM SEAT AND CREATE A SMOOTH, LEVEL BEARING SURFACE. COST SHALL BE INCLUDED WITH ABUTMENT CONCRETE.
- ELASTOMERIC PADS SHALL HAVE SHORE HARDNESS OF 60.

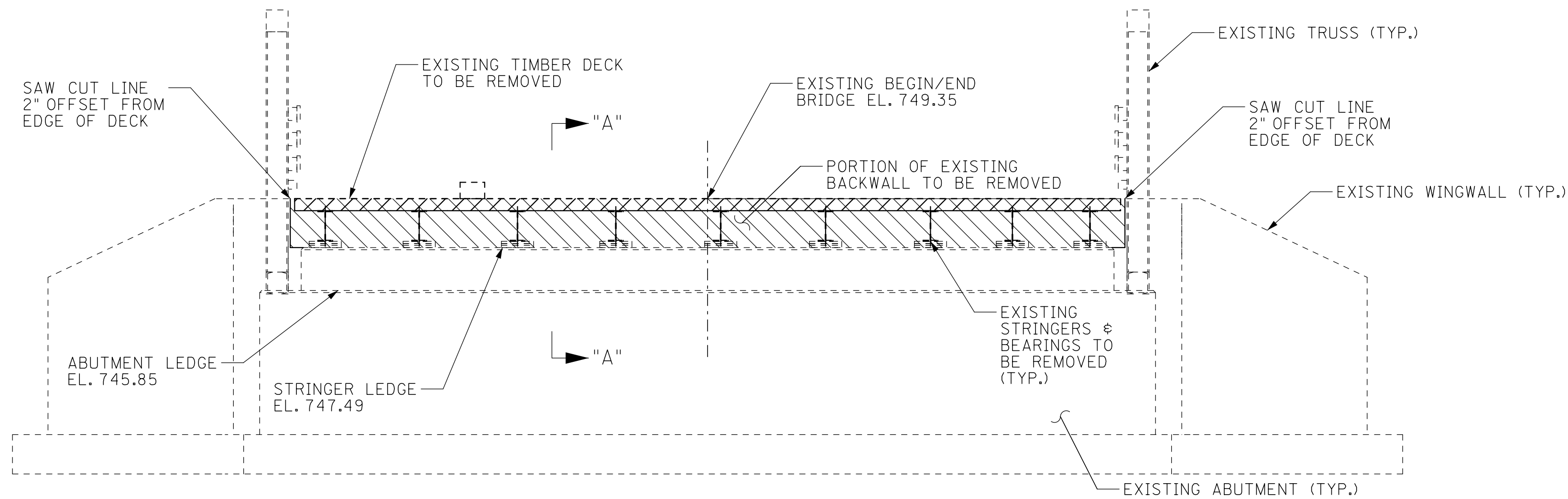
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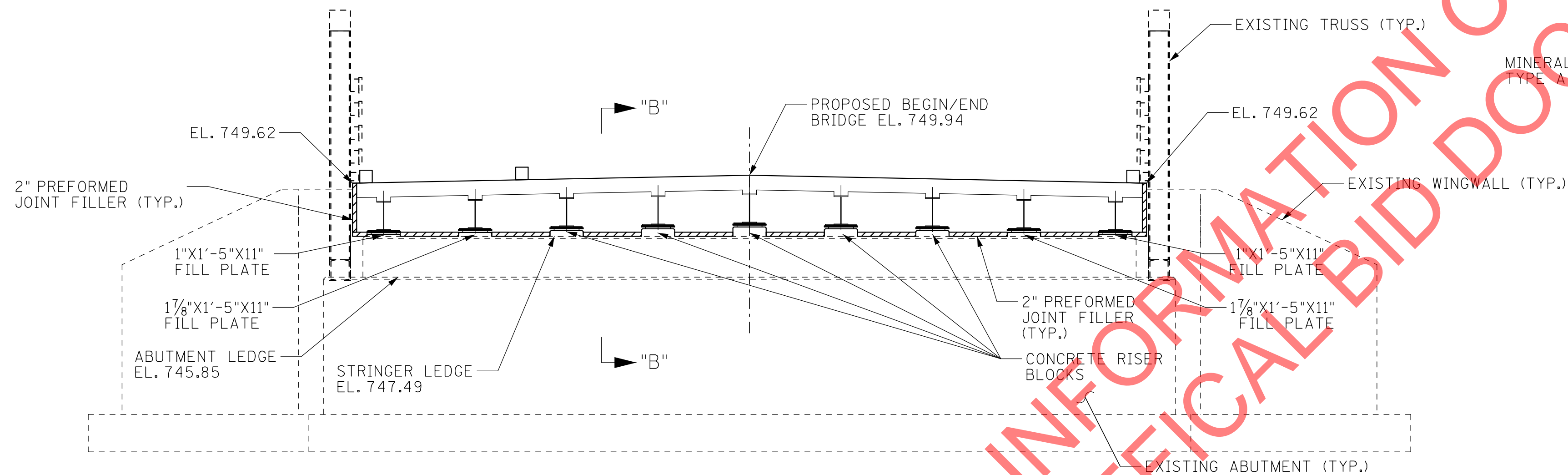
**CITY OF FRANKLIN
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DETAILS

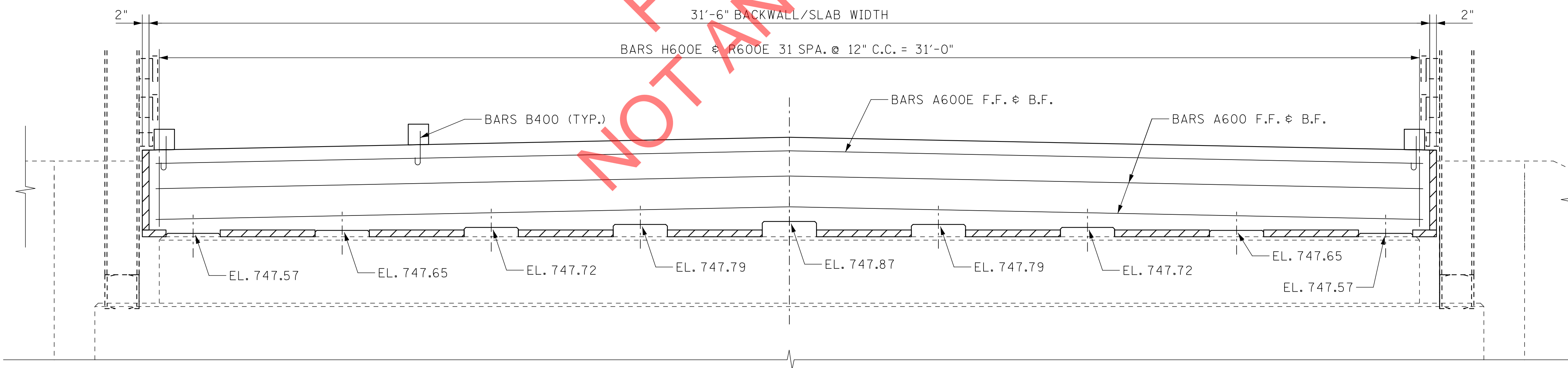
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BACKWALL DEMOLITION
(LOOKING FORWARD ON SURVEY. ABUT. 2 SHOWN, ABUT. 1 SIMILAR)

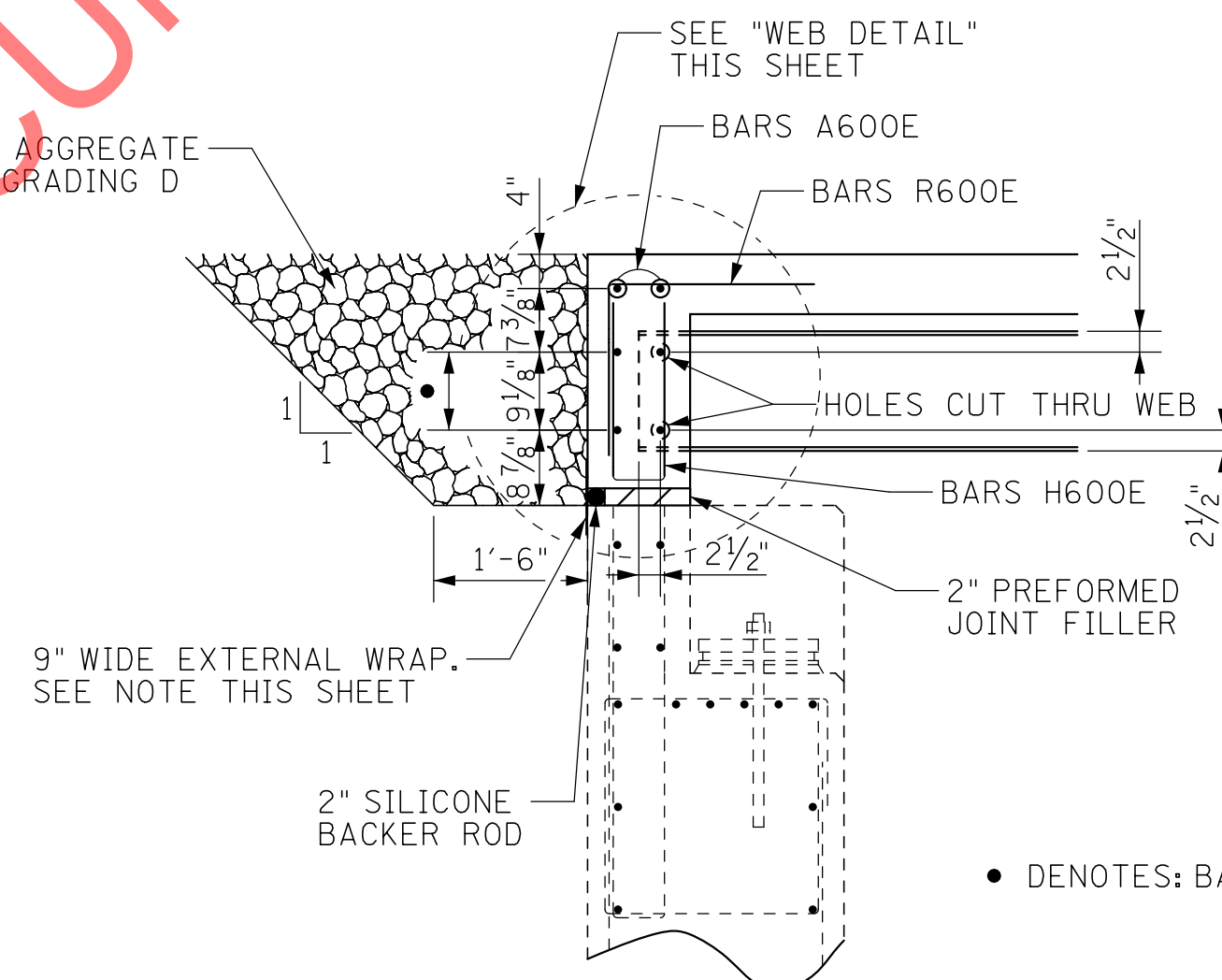


NEW BACKWALL CONSTRUCTION
(LOOKING FORWARD ON SURVEY. ABUT. 2 SHOWN, ABUT. 1 SIMILAR)



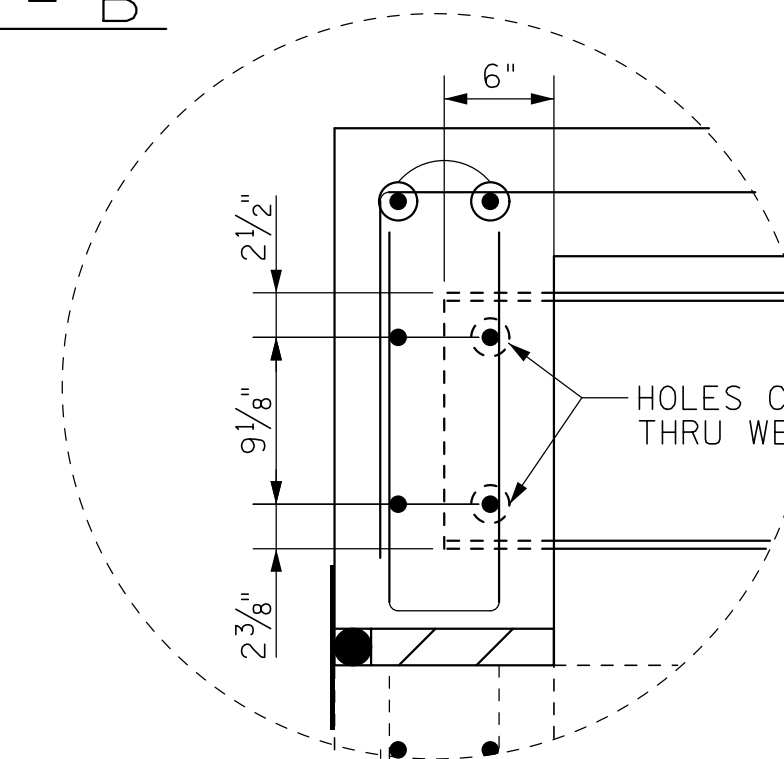
BACKWALL REINFORCEMENT
(LOOKING FORWARD ON SURVEY. ABUT. 2 SHOWN, ABUT. 1 SIMILAR)

SECTION "A"- "A"



• DENOTES: BARS A600 F.F. & B.F.

SECTION "B"- "B"



WEB DETAIL

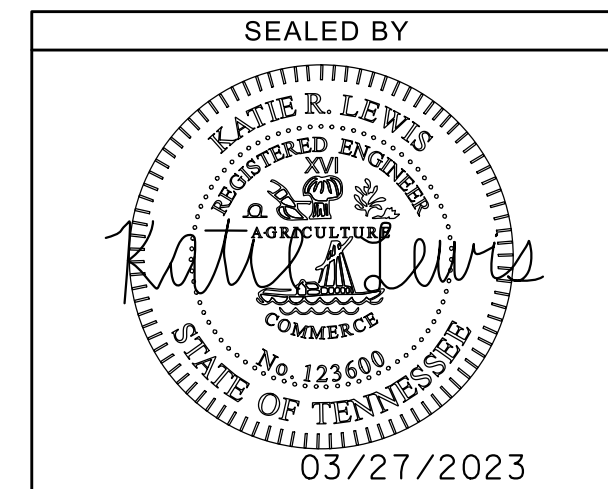
NOTES:

1. THE BUTT JOINT MADE BY THE BACKWALL AND THE TOP OF THE STRINGER LEDGE SHALL BE WATERPROOFED WITH A 3 INCH DIAMETER BACKER ROD AND A MINIMUM OF 9 INCH WIDE JOINT WRAP. THE SURFACE SHALL BE FREE OF DIRT BEFORE APPLYING THE JOINT MATERIAL. A PRIMER COMPATIBLE WITH THE JOINT WRAP TO BE USED SHALL BE APPLIED FOR A MINIMUM WIDTH OF 9 INCHES ON EACH SIDE OF THE JOINT. THE EXTERNAL WRAP SHALL BE APPROVED BY THE ENGINEER AND BE EITHER EZ-WRAP RUBBER BY PRESS-SEAL GASKET CORPORATION, SEAL WRAP BY MAR MAC MANUFACTURING CO. INC. OR APPROVED EQUIVALENT. THE JOINT SHALL BE COVERED CONTINUOUSLY FOR THE TOTAL LENGTH OF THE JOINT. ANY LAPS THAT RESULT IN THE JOINT WRAP SHALL BE A MINIMUM OF 6 INCHES LONG. DURING THE BACKFILLING OPERATION, CARE SHALL BE TAKEN TO KEEP THE JOINT WRAP IN ITS PROPER LOCATION OVER THE JOINT. THE WRAP IS TO BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. COST OF WRAP, BACKER ROD, FIBERBOARD AND OTHER MATERIALS NECESSARY FOR INSTALLATION OF WRAP TO BE INCLUDED IN THE COST OF ITEM 604-03.09 CLASS 'D' CONCRETE (BRIDGE DECK).

**ESTIMATED QUANTITIES
(PER ABUTMENT)**

ITEM NO. 604-02.03 EPOXY COATED REINFORCING STEEL (LB.)	ITEM NO. 604-03.09 CLASS D CONCRETE (BRIDGE DECK) (C.Y.)	ITEM NO. 604-03.02 STEEL BAR REINFORCEMENT (BRIDGES) (LB.)
463	2	188
ITEM NO. 604-03.01 CLASS A CONCRETE (C.Y.)		
1		

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**CITY OF FRANKLIN
ENGINEERING DEPARTMENT**

ABUTMENT DETAILS

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2023	COF 2020-004	B9


ABUTMENT 1								
BAR	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				TOTAL LENGTH
				A	B	C	D	
A600	BACKWALL	6	4	31'-2"				31'-2"

ABUTMENT 2								
BAR	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				TOTAL LENGTH
				A	B	C	D	
A600	BACKWALL	6	4	31'-2"				31'-2"

SUPERSTRUCTURE								
BAR	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				TOTAL LENGTH
				A	B	C	D	
A400	CURB	4	6	45'-5"				45'-5"
B400	CURB	4	267	0'-10"				1'-1"

ABUTMENT 1 - EPOXY COATED								
BAR	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				TOTAL LENGTH
				A	B	C	D	
A600E	BACKWALL	6	2	31'-2"				31'-2"
H600E	BACKWALL	6	32	6"	1'-9"			4'-0"
R600E	BACKWALL	6	32	2'-0"	1'-8"			3'-8"

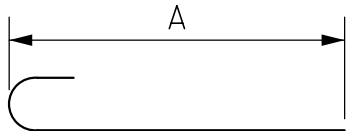
ABUTMENT 2 - EPOXY COATED								
BAR	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				TOTAL LENGTH
				A	B	C	D	
A600E	BACKWALL	6	2	31'-2"				31'-2"
H600E	BACKWALL	6	32	6"	1'-9"			4'-0"
R600E	BACKWALL	6	32	2'-0"	1'-8"			3'-8"



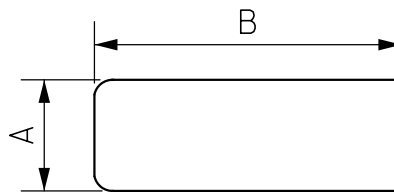
SUPERSTRUCTURE - EPOXY COATED								
BAR	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS				TOTAL LENGTH
				A	B	C	D	
A400E	SLAB	4	346	31'-2"				31'-2"
A401E	SLAB	4	166	45'-5"				45'-5"



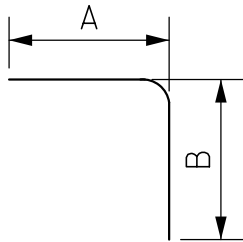
BARS A



BARS B



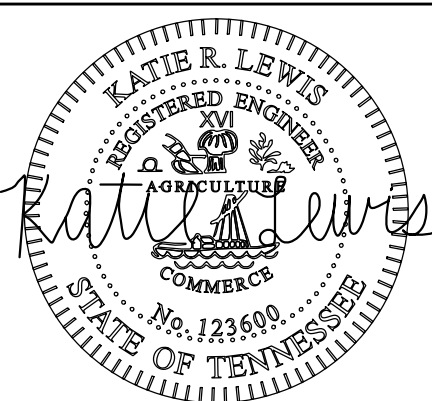
BARS H



BARS R

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BILL OF STEEL