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Jason Ingram

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TENNESSEE DEPARTMENT OF TRANSPORTATION
7512 VOLKSWAGEN DRIVE
CHATTANOOGA, TN

JASON MARK INGRAM, P.E. NO. 00114814

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

SHEET NAME	SHEET NO.
SIGNATURE SHEETS.....	ROADWAY-SIGN5
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS.....	1A
ESTIMATED ROADWAY QUANTITIES	2
CULVERT SECTION(S)	7

YEAR	PROJECT NO.	SHEET NO.
2025	44S053-M3-005	ROADWAY-SIGN5
REV. 9/25/25 ADDED SHEET.		
STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION		
SIGNATURE SHEET		

ROADWAY INDEX

STANDARD ROADWAY DRAWINGS

SHEET NAME

SHEET NO.

DWG.

REV.

DESCRIPTION

DWG.

REV.

DESCRIPTION

SIGNATURE SHEETS.....	ROADWAY-SIGN1-5
TITLE SHEET	1
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS.....	1A
STANDARD STRUCTURE AND TRAFFIC DESIGN DRAWINGS.....	1A3
PROJECT COMMITMENTS.....	1B
ESTIMATED ROADWAY QUANTITIES.....	2
TYPICAL SECTIONS AND PAVEMENT SCHEDULE	2B, 2B1
GENERAL NOTES.....	2C
SPECIAL NOTES.....	2D
ENVIRONMENTAL NOTES.....	2E, 2E1
TABULATED QUANTITIES	2F
DETAIL SHEETS	2G, 2G1
RIGHT-OF-WAY NOTES, UTILITY NOTES, AND UTILITY OWNERS	3
PROPERTY MAP(S) AND RIGHT-OF-WAY ACQUISITION TABLE(S).....	3A, 3B
PRESENT LAYOUT(S).....	4
PROPOSED LAYOUT(S)	4B
PROPOSED PROFILE(S)	4C
HAUL ROAD PROFILE(S)	5
DRAINAGE MAP(S).....	6
CULVERT SECTION(S)	7
EROSION PREVENTION AND SEDIMENT CONTROL PLANS.....	8 - 13
ROADWAY CROSS SECTIONS	14 – 22
TRAFFIC CONTROL PLANS	T1 – T8
GEOTECHNICAL PLANS	G-1
STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PLANS	S-1
UTILITY PLANS	U1-1
NOTE: THE ALPHABETICAL LETTERS “I”, “O” & “Q” ARE NOT USED IN THE NUMBERING OF SHEETS.	

10-100.00 STANDARD ROADWAY TITLE SHEET, ABBREVIATIONS, AND LEGENDS		
RD-TP-1	10-01-24	STANDARD ROADWAY DRAWINGS TITLE SHEET
RD-A-1	02-20-20	STANDARD ABBREVIATIONS A THROUGH L
RD-A-2		STANDARD ABBREVIATIONS M THROUGH Z
RD-L-1	02-20-20	STANDARD LEGEND
RD-L-1A		STANDARD LEGEND
RD-L-2	02-20-20	STANDARD LEGEND FOR UTILITY INSTALLATIONS
RD-L-5	07-30-24	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-6	02-20-20	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-7	02-20-20	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-8	02-20-20	STANDARD LEGEND FOR NATURAL STREAM DESIGN
10-101.00 STANDARDS ROADWAY DRAWINGS		
RD11-SE-1		TRANSITION AND CROSS SLOPE DETAILS
RD11-SE-2		SUPERELEVATION TRANSITION DETAILS FOR UNDIVIDED ROADWAYS
RD11-SE-2A		SUPERELEVATION TRANSITION SECTIONS FOR UNDIVIDED ROADWAYS
RD11-TS-3		DESIGN STANDARD FOR ARTERIAL HIGHWAYS (2-LANE)
RD11-LR-2		MINIMUM RUNOFF LENGTHS (LR) FOR RURAL HIGHWAYS
RD11-S-11		DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT
RD11-S-11A		ROADSIDE DITCH DETAILS FOR DESIGN AND CONSTRUCTION
10-104.00 SAFETY DESIGN AND GUARDRAILS		
D-NSD-30	05-01-20	SUBSTRATE RESTORATION
D-NSD-37	05-01-20	SPECIAL NOTES FOR NATURAL STREAM DESIGN
10-106.00 SAFETY DESIGN AND GUARDRAILS		
S-CZ-1	06-28-19	CLEAR ZONE CRITERIA
S-PL-1	03-01-23	SAFETY PLAN FOR BARRIER LENGTH OF NEED
S-PL-1B	03-01-23	SAFETY PLAN FOR BARRIER LENGTH OF NEED ON CURVED ROADWAYS
S-PL-6	07-30-24	SAFETY PLAN SAFETY HARDWARE PLACEMENT ON OUTSIDE EDGE
S-GR31-1	03-13-25	GUARDRAIL DETAILS
S-GR31-1A	06-28-19	GUARDRAIL AND BLOCK-OUT DETAILS
S-GR31-1B		GUARDRAIL FASTENING HARDWARE
S-GR31-1C	07-07-23	GUARDRAIL GENERAL NOTES AND POST DETAILS
S-GRS-4	05-04-22	SPECIAL CASE GUARDRAIL HEIGHT TRANSITION DETAIL
S-GRS-8		SAFETY PLAN AT SIDEROADS OR DRIVEWAYS FOR LOW SPEED ROADWAYS
S-GRT-2	06-28-19	TYPE 38 GUARDRAIL END TERMINAL
S-GRT-2P	10-16-20	EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINAL
S-GRA-3	01-09-24	TYPE 13 GUARDRAIL ANCHOR
S-GRA-4	03-01-23	IN-LINE GUARDRAIL ANCHOR TO PRIVATE DRIVE

10-107.00 EROSION PREVENTION AND SEDIMENT CONTROL		
EC-STR-2	08-01-12	SEDIMENT FILTER BAG
EC-STR-3C	03-01-23	SILT FENCE WITH WIRE BACKING
EC-STR-8	06-10-14	FILTER SOCK
EC-STR-37	06-10-14	SEDIMENT TUBE
EC-STR-6A	05-06-16	ENHANCED ROCK CHECK DAM
EC-STR-25	08-01-12	TEMPORARY CULVERT CROSSING, CONSTRUCTION EXIT, CONSTRUCTION FORD
EC-STR-30		INSTREAM DIVERSION (WITHOUT TRAFFIC)

REV. 8/11/25
ADDED ROADWAY-SIGN2 TO INDEX.

REV. 9/02/25
ADDED ROADWAY-SIGN3 TO INDEX.

REV. 9/5/25
ADDED ROADWAY-SIGN4 TO INDEX.

REV. 9/25/25
ADDED ROADWAY-SIGN5 TO INDEX.

SEALED BY



08-26-2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ROADWAY INDEX
AND
STANDARD
ROADWAY
DRAWINGS

ESTIMATED ROADWAY QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY 44S053-M3-005
	105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS1
	201-01	CLEARING AND GRUBBING	LS1
(1)	202-01.13	REMOVAL OF PIPE (180" CMP, STA. 19+60)	L.F.172
(1)	202-01.14	REMOVAL OF PIPE (180" CMP, STA. 19+80)	L.F.157
(2)(3)	203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.17353
(4)	203-02.01	BORROW EXCAVATION (GRADED SOLID ROCK)	TON1088
(4)	203-05	UNDERCUTTING	C.Y.617
(5)	203-06	WATER	M.G.48
(2)	203-07	FURNISHING & SPREADING TOPSOIL	C.Y.195
	203-08	CHANNEL EXCAVATION (UNCLASSIFIED)	C.Y.567
(6)	203-20.01	CHANNEL SUBSTRATE	C.Y.287
(7)(8)	203-50	CONSTRUCTION OF HAUL ROAD	LS1
(2)	204-08	FOUNDATION FILL MATERIAL	C.Y.83
(9)	209-03.21	FILTER SOCK (12 INCH)	L.F.250
(9)	209-03.31	STREAM MITIGATION-COCONUT FIBER ROLLS	L.F.200
(9)	209-05	SEDIMENT REMOVAL	C.Y.61
(9)(10)	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.1198
(9)	209-08.08	ENHANCED ROCK CHECK DAM	EACH16
(9)(11)	209-09.03	SEDIMENT FILTER BAG (15' X 15')	EACH2
(9)(12)	209-65.04	TEMPORARY IN STREAM DIVERSION	L.F.291
(2)	303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON1612
(2)	303-01.01	GRANULAR BACKFILL (ROADWAY)	TON3911
(9)(13)	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON22
(4)	303-10.07	MINERAL AGGREGATE (SIZE 4)	TON72
(2)	307-01.01	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING A	TON268
(2)	307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON169
(2)(14)	402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON4
(2)(15)	402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON13
(2)	403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON1.3
(2)	411-01.10	ACS MIX(PG64-22) GRADING D	TON176
	411-01.21	LONGITUDINAL JOINT SEALANT	L.M.0.74
	411-12.01	SCORING SHOULDERS (CONTINUOUS) (16IN WIDTH)	L.M.0.19
(2)	415-01.01	COLD PLANING BITUMINOUS PAVEMENT	TON54
(2)(16)(17)	607-50.30	PRECAST CONCRETE BOX BRIDGE (DUAL 18' X 17')	L.F.96
(2)	705-02.10	GUARDRAIL TRANSITION 27IN TO 31IN	EACH1
	705-04.09	EARTH PAD FOR TYPE 38 GR END TREATMENT	EACH1
(18)	705-04.22	GUARDRAIL DELINEATION ENHANCEMENT (BI-DIRECTIONAL)	EACH100
(2)	705-06.01	W BEAM GR (TYPE 2) MASH TL3	L.F.313
(2)	705-06.02	W BEAM GR (TYPE 2) MASH TL-3 (LONG POST)	L.F.325
(2)	705-06.10	GR TERMINAL TRAILING END (TYPE 13) MASH TL3	EACH2
(2)	705-06.11	GR TERMINAL (IN-INLINE) MASH TL3	EACH2
(2)	705-06.20	TANGENT ENERGY ABSORBING TERM MASH TL-3	EACH1
(2)	706-01	GUARDRAIL REMOVED	L.F.691
(2)	706-06.03	RADIUS RAIL	L.F.47
(8)	707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.300
(9)(19)	709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON39
(2)	709-05.09	MACHINED RIP-RAP (CLASS C)	TON1183
	712-01	TRAFFIC CONTROL	LS1
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH25
	712-05.01	WARNING LIGHTS (TYPE A)	EACH18
	712-06	SIGNS (CONSTRUCTION)	S.F.829
	712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.96
	713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH2
	713-16.50	REMOVE AND REPLACE SIGN (CORP OF ENG SIGN)	EACH1
	716-01.21	SNOWPLOWABLE RAISED PAVEMENT MARKERS (BI-DIR) (1 COLOR)	EACH8
(20)	716-12.02	ENHANCED FLATLINE THERMO PVMT MRKNG (6IN LINE)	L.M.0.38
	717-01	MOBILIZATION	LS1
(9)(21)	740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.262
(4)	740-10.04	GEOTEXTILE (TYPE IV)(STABILIZATION)	S.Y.1233
(9)	740-11.03	TEMPORARY SEDIMENT TUBE 18IN	L.F.560
(9)	801-01	SEEDING (WITH MULCH)	UNIT10

ESTIMATED ROADWAY QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY 44S053-M3-005
(8)	801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT22
(8)(21)	801-01.38	NATVE SEED MX FINAL STABILIZATN OF SLOPES	UNIT10.3
(8)(22)	801-03	WATER (SEEDING & SODDING)	M.G.107
(8)(23)	803-01	SODDING (NEW SOD)	S.Y.292
(8)(24)	805-12.02	EROSION CONTROL BLANKET (TYPE II)	S.Y.877

FOOTNOTES	
(1)	QUANTITY INCLUDES REMOVAL OF OUTLET CONCRETE APRON.
(2)	SEE SHEET 2F FOR TABULATED QUANTITY.
(3)	SEE GRADING SPECIAL NOTES ON SHEET 2D. QUANTITY INCLUDES REMOVAL OF EXISTING SNOWPLOWABLE MARKERS. EXCAVATED MATERIAL TO BE STOCKPILED ON-SITE WITHIN ROW AND UTILIZED FOR BACKFILL AROUND PROPOSED STRUCTURE AND RECONSTRUCTION OF ROADWAY TO PROPOSED GRADE. ADDITIONAL PAYMENT FOR EMBANKMENT WILL NOT BE MADE, THE COST OF THE EMBANKMENT SHALL BE INCLUDED IN 203-01.
(4)	QUANTITY FOR UNDERCUTTING OF PROPOSED BOX CULVERT AND WINGWALL FOOTPRINTS FOR FOUNDATION STABILIZATION. SEE DETAIL C ON SHEET 7 FOR TYPICAL STABILIZATION SECTION.
(5)	INCLUDES 11 M.G. FOR 303-01 & 37 M.G. FOR EMBANKMENT MATERIAL.
(6)	QUANTITY FOR BACKFILL MATERIAL PROPOSED FOR EMBEDDED CULVERT AND EMBEDDED INLET AND OUTLET RIPRAP.
(7)	THIS QUANTITY INCLUDES GEOTEXTILE (TYPE IV), MACHINED RIP-RAP (CLASS A-1, CLASS B, OR CLASS C), MINERAL AGGREGATE (SIZE 57), AND TEMPORARY DRAINAGE PIPE (IF APPLICABLE). WHEN CONSTRUCTING THE HAUL ROAD. QUANTITY INCLUDES ALL COSTS OF ADJUSTMENT, ADDITIONAL QUANTITIES, AND REMOVAL OF THE HAUL ROAD.
(8)	LUMP SUM QUANTITY IS FOR HAUL ROAD 1 & HAUL ROAD 2.
(9)	SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT. ALL QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER.
(10)	INCLUDES 194 LF FOR SEDIMENT FILTER BAGS.
(11)	PAYMENT SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR CONSTRUCTION, MAINTENANCE, AND REMOVAL OF SEDIMENT FILTER BAGS.
(12)	INCLUDES 74 LF FOR E.P.S.C. STAGE 2A AND 217 LF FOR E.P.S.C. STAGE 2B.
(13)	QUANTITY FOR SEDIMENT FILTER BAG INSTALLATION.
(14)	QUANTITY CALCULATED USING 0.35 GAL/SY.
(15)	ITEM TO BE USED AS DIRECTED BY THE ENGINEER.
(16)	PRECAST WINGWALLS AND WINGWALL FOOTERS ARE INCLUDED IN THE COST OF THIS ITEM. QUANTITY LENGTH DOES NOT INCLUDE THE LENGTH FOR THE WINGWALLS.
(17)	THE DESIGN, FABRICATION, AND CONSTRUCTION OF THE PRECAST CONCRETE BOX BRIDGE SHALL CONFORM TO TDOT STANDARD SPECIFICATIONS, INCLUDING APPLICABLE STANDARD DRAWINGS. END SECTIONS SHALL BE PRECAST. CAST-IN-PLACE END SECTIONS REQUIREMENT ON STD-17-29 HAS BEEN WAIVED.
(18)	"HINGED-TYPE" BI-DIRECTIONAL DELINEATORS FROM TDOT'S CURRENT QPL. MOUNTED TO ALL GUARDRAIL POSTS EXCEPT END TERMINAL SECTIONS. ATTACHED TO GUARDRAIL POST AS PER MANUFACTURER'S INSTRUCTION. USE MANUFACTURER'S RECOMMENDED ADHESIVE.
(19)	QUANTITY FOR TEMPORARY CONSTRUCTION ENTRANCE INSTALLATION.
(20)	CONTRACTOR SHALL USE THE EXTRUDED OR RIBBON METHOD FOR APPLICATION.
(21)	QUANTITY INCLUDES 67 SY FOR TEMPORARY CONSTRUCTION ENTRANCES, AND 195 SY FOR SEDIMENT FILTER BAGS.
(22)	PERMANENT STABILIZATION WITH NATIVE OR NATURALIZED PERENNIAL VEGETATION IS REQUIRED IN ALL AREAS AUTHORIZED FOR TEMPORARY AND PERMANENT IMPACTS TO STREAMS AND RIPARIAN AREAS, INCLUDING ADJACENT BUFFER ZONES WITHIN 60 FT OF THE EDGE OF WATER. THE APPROPRIATE SEED MIXTURE FOR THE REGION AND SITE CONDITIONS SHALL BE SELECTED FROM TABLE 7.9-1 (PREFERRED SEED MIXES USING NATIVES OR NATURALIZED PLANTS AND PLANTING DATES) FOUND IN CHAPTER 7.9 (PERMANENT VEGETATION) OF THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK 4TH EDITION.
(23)	INCLUDES 2 THOUSAND GALLONS FOR EROSION PREVENTION AND SEDIMENT CONTROL AND 105 THOUSAND GALLONS FOR SEEDING & SODDING.
(24)	SODDING FOR SLOPES SHALLOW THAN 2:1 ONLY.
(25)	THE USE OF DEGRADABLE, PHOTODEGRADABLE, UV-DEGRADABLE, OXO-DEGRADABLE, OR OXO-BIODEGRADABLE PLASTIC NETTING (INCLUDING POLYPROPYLENE, NYLON, POLYETHYLENE, AND POLYESTER) EROSION CONTROL NETTING OR BLANKET IS PROHIBITED IN THE STREAM CHANNEL, STREAM BANKS, WETLANDS, OR ANY DISTURBED RIPARIAN AREAS WITHIN 30 FEET OF TOP OF BANK.

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2025	44S053-M3-005	2

REV. 8/11/25
UPDATED FOOTNOTE 3.
REV. 9/02/25
UPDATED FOOTNOTE 16.
REV. 9/5/25
REMOVED ITEM NO. 604-02.01. UPDATED FOOTNOTE 15 & 16 FOR PRECAST BOX CULVERT END SECTIONS AND WING WALLS. ADDED FOOTNOTE 2 & 15 TO ITEM NO. 607-50.30. UPDATED ITEM NO. 607-50.30 QUANTITY.

REV. 9/25/25
ADDED ITEM NUMBER 203-02.01, 203-05, 303-10.07, & 740-10.04 FOR GEOTECHNICAL RECOMMENDATION FOR BOX CULVERT FOUNDATION. ADDED FOOTNOTE FOR NEW ITEM NUMBERS AND RENUMBERED FOOTNOTES ACCORDINGLY. UPDATED FOOTNOTE 3 TO INCLUDE EMBANKMENT.

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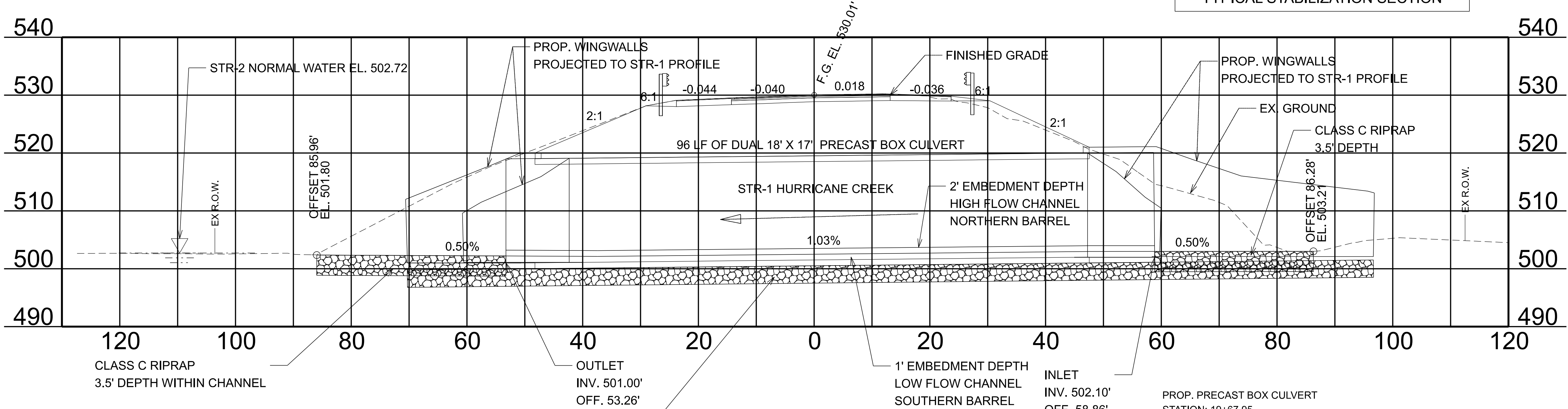
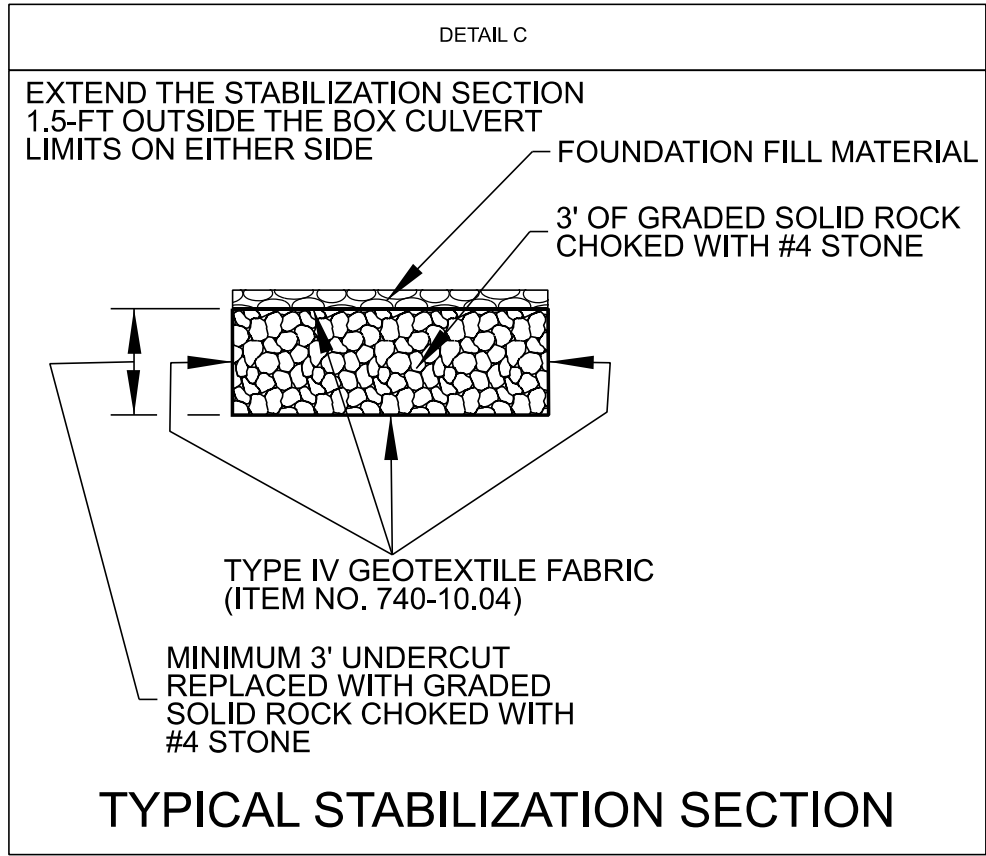
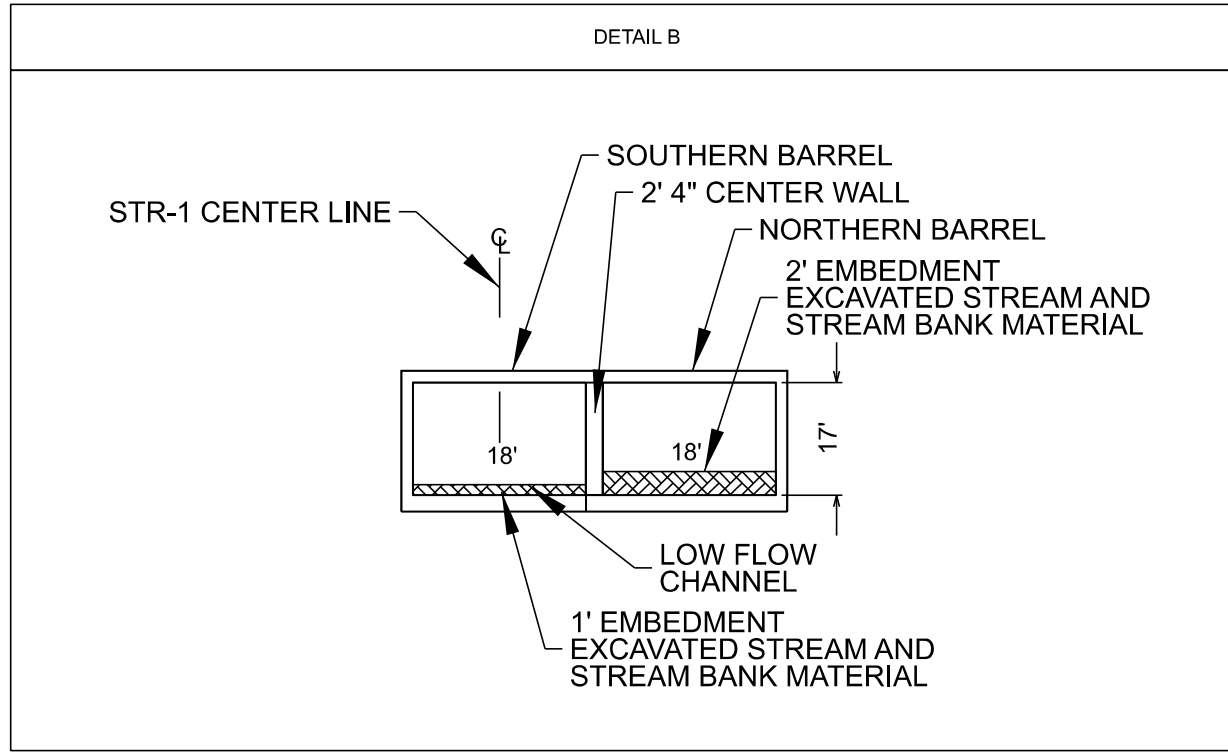
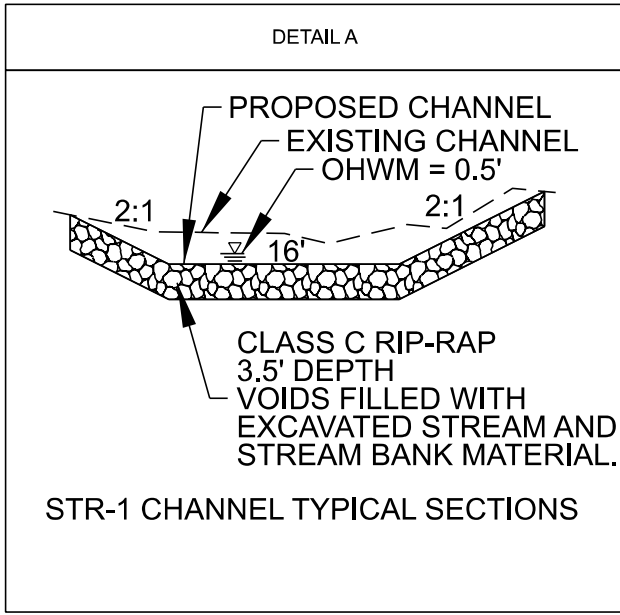
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED
ROADWAY
QUANTITIES

9/25/2025 3:57:31 PM C:\PROGRAMDATA\BENTLEY\OPENROADS DESIGNER CE 10.12\CONFIGURATION\WORKSPACES\TDOT_STANDARD\WORKSPACES\TDOT_STANDARD\WORKSETS\136243.00_JACKSON_SR53\DGN\ISHT-CULVERT.XS.DGN

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2025	44S053-M3-005	7

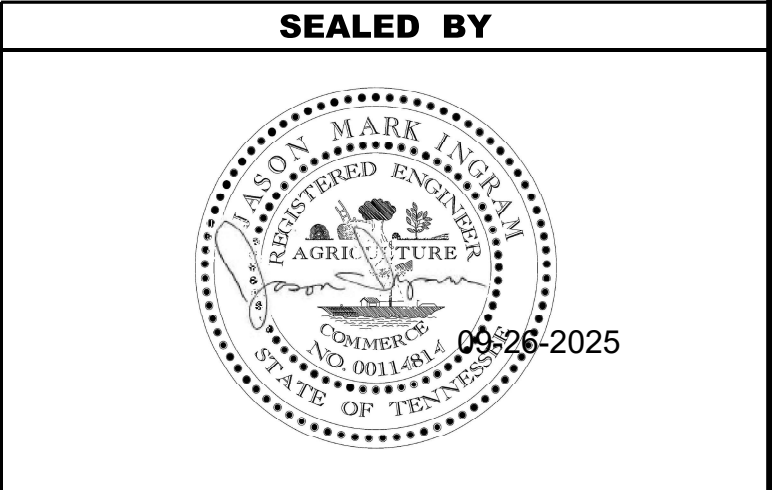
REV. 9/5/25
UPDATED LENGTH LABEL ONLY ON PRECAST BOX
CULVERT.
REV. 9/25/25
ADDED UNDERCUTTING AND G.S.R. REPLACEMENT
UNDER THE CULVERT AND WINGWALL FOOTINGS.
ADDED DETAIL C.



UNDERCUT A MINIMUM OF 3' UNDER PROPOSED CULVERT AND
WINGWALL FOOTINGS. REPLACE WITH 3' GRADED SOLID ROCK
(ITEM NO. 203-02.01) CHOKED WITH #4 STONE (ITEM NO. 303-10.07).
SEE DETAIL C ON THIS SHEET.

CROSS SECTION FOLLOWS LOW FLOW CHANNEL
& STR-1 CENTERLINE

PROP. PRECAST BOX CULVERT
STATION: 19+67.95
STRUCTURE: DUAL 18' X 17' PRECAST BOX CULVERT
SKEW RT 74°22'14" DEG
DRAINAGE AREA 2.28 SQ. MILE
DESIGN DISCHARGE (Q100) 1940 CFS
DESIGN DISCHARGE (Q500) 2490 CFS AT EL. 511.43
OVERTOPPING 529.93 ELEV.
ALLOWABLE HEADWATER 528.06 ELEV.
Q100 BACKWATER 1.36' & EL. 510.07
VELOCITY (Q100) 12.43 FT/S
INLET 502.10 FT.
OUTLET 501.00 FT.
STANDARD DRAWING NOS.: STD-17-29, STD-17-12



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CULVERT
SECTION

SCALE: 1" = 10' HORIZ.
1" = 5' VERT.