PROJECT PURPOSE NOTE

THE PROPOSED WORK WILL CONSIST OF REMOVAL OF THE CONCRETE ENCASED SEWER LINE WHICH IS FUNCTIONING AS A LOW-HEAD DAM FROM TRACE CREEK, RESTORATION OF THE STREAM BED AND BANKS AT THE LOCATION OF THE REMOVED SEWER LINE, RESTORATION/STABILIZATION OF APPROXIMATELY 623 LF OF STREAM CHANNEL DOWNSTREAM OF THE REMOVED SEWER LINE CROSSING, STABILIZATION OF STREAMBANKS APPROXIMATELY 177 LF UPSTREAM OF THE SEWER LINE CROSSING AND RESTORING FLOW TO 600 LF OF IMPOUNDED CHANNEL.

GENERAL NOTES

1. EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE GENERAL AND ILLUSTRATIVE IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING ON THIS PROJECT. IF CONDITIONS ENCOUNTERED DURING EXAMINATION ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN ON THE EXISTING CONDITIONS PLAN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
2. EXISTING TOPOGRAPHIC FEATURES AND GROUND SURFACE FROM TOPOGRAPHIC SURVEY COLLECTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. ON DECEMBER 13, 2024 WITH ADDITIONAL FIELD SURVEY COLLECTED ON JANUARY 28, 2025. BEARINGS ARE BASED ON THE TENNESSEE STATE PLANE COORDINATE SYSTEM NAD83 (2011)(EPOCH 2010.00). ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)(GEOID 18). CONTOURS ARE SHOWN AT 1 FOOT INTERVALS.
3. CONTRACTOR SHALL REFER TO ALL PLAN SHEETS WITHIN THIS PLAN SET FOR PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT
4. ANY MODIFICATIONS TO THE WORK AS SHOWN ON THESE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE ENGINEER.
5. SITE IS TO BE CONSTRUCTED IN A MANNER THAT REDUCES DISRUPTION TO NEIGHBORING OPERATIONS TO MAXIMUM EXTENT POSSIBLE. TEMPORARY MEASURES REQUIRED TO FACILITATE DAILY OPERATIONS DURING THE CONSTRUCTION PERIOD SHALL BE IMPLEMENTED BY THE CONTRACTOR; UNDER NO CIRCUMSTANCES SHOULD IMPLEMENTATION OF THESE MEASURES JEOPARDIZE THE SAFETY OF NEIGHBORING EMPLOYEES OR THE CONTRACTOR.
6. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL APPLICABLE PERMITS, AND PAY ALL REQUIRED FEES PRIOR TO BEGINNING WORK.
7. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
8. CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION (TDEC) AQUATIC RESOURCE ALTERATION PERMIT (ARAP), THE U.S. ARMY CORPS OF ENGINEERS (USACE) PERMIT, THE TDEC GENERAL NPDES PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES (CGP), THE EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) PLAN AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THIS PROJECT.

GENERAL EROSION CONTROL AND GRADING NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) PROVISIONS AS SET FORTH IN THE CONTRACT DOCUMENTS, THE TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION (TDEC) GENERAL NPDES PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES (CGP), THE EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) PLAN AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THIS PROJECT.
2. CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES AND TRAFFIC TO INSIDE LIMITS OF DISTURBANCE AT ALL TIMES.
3. TEMPORARY STABILIZATION SHALL BE PROVIDED TO ALL DISTURBED AREAS WITHIN 14 DAYS OF CEASING LAND DISTURBANCE ACTIVITIES.
4. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE 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).
5. APPROPRIATE EROSION PREVENTION AND SEDIMENT CONTROL MEASURES (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 THE EPSC PLAN AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THIS PROJECT.
6. EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES SHALL BE INSTALLED ON THE CONTOUR, ENTRENCHED AND STAKED, AND EXTEND THE WIDTH OF THE AREA TO BE CLEARED.

GENERAL DEMOLITION NOTES

1. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD.
2. ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
3. THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED.
4. EROSION AND SEDIMENTATION CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE PROPERLY INSTALLED AND SHALL FUNCTION PROPERLY PRIOR TO INITIALIZATION OF DEMOLITION ACTIVITIES.
5. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL AND OSHA REGULATIONS DURING ALL DEMOLITION ACTIVITIES.
6. CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS, AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
7. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, STRUCTURES, AND FEATURES TO REMAIN. ANY ITEMS TO REMAIN THAT HAVE BEEN DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
8. ALL UTILITY AND STRUCTURE REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED AND PROPERLY DOCUMENTED BY A CERTIFIED PROFESSIONAL, WHEN APPLICABLE, WITH THE APPROPRIATE UTILITY COMPANY, MUNICIPALITY AND/OR AGENCY.
9. THE CONTRACTOR SHALL USE SUITABLE METHODS TO CONTROL DUST AND DIRT CAUSED BY DEMOLITION ACTIVITY.
10. NO TREES SHALL BE REMOVED, NOR VEGETATION DISTURBED BEYOND THE LIMITS OF CONSTRUCTION WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.

Know what's **below.**
Call before you dig.

NOTE TO CONTRACTOR:

1. THE CONTRACTOR SHALL REFER TO ALL PLANS WITHIN THIS PLAN SET. IT IS NOT THE ENGINEER'S/LANDSCAPE ARCHITECT'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

GENERAL LAYOUT NOTES

1. THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
2. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES, TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN, AND RELOCATE EXISTING UTILITIES AS INDICATED, OR AS NECESSARY FOR CONSTRUCTION.
3. THIS SITE LAYOUT IS SPECIFIC TO THE APPROVALS NECESSARY FOR THE CONSTRUCTION IN ACCORDANCE WITH APPLICABLE PERMITS. NO CHANGES TO THE SITE LAYOUT ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. CHANGES MADE TO THE SITE LAYOUT WITHOUT APPROVAL IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
4. CONTRACTOR SHALL MAINTAIN ONE SET OF AS-BUILT/RECORD DRAWINGS ON THE JOB SITE DURING CONSTRUCTION FOR DISTRIBUTION TO THE OWNER AND/OR OWNER'S REPRESENTATIVE UPON COMPLETION.

GENERAL GRADING NOTES

1. EARTHWORK SHALL INCLUDE CLEARING AND GRUBBING, STRIPPING AND STOCKPILING TOPSOIL, MASS GRADING, EXCAVATION, FILLING, UNDER CUT AND REPLACEMENT, IF REQUIRED, AND COMPACTION.
2. ALL EXCESS SOIL MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
3. GRADING OPERATIONS TO BE CONDUCTED IN A MANNER THAT MINIMIZES TRACKING OF SOILS OFF-SITE AND/OR ONTO ADJACENT PAVEMENT.
4. CONTRACTOR SHALL ADJUST THE PROPOSED ELEVATION AT THE TOP OF EXCAVATION SLOPES AS NEEDED TO TIE INTO EXISTING GROUND.
5. ALL AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE EROSION PREVENTION AND SEDIMENT CONTROL PLAN UNLESS NOTED OTHERWISE.
6. ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF DISTURBANCE DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

GENERAL UTILITY NOTES

1. THE UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM VISIBLE FIELD EVIDENCE AND UNDERGROUND UTILITY MARKINGS PROVIDED BY CALLING TN811 (TICKET NO. 243375555, 243375582 & 243375617). THIS SURVEYOR MAKES NO GUARANTEE THAT THEY COMPRISE ALL THE UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THIS SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THEREFORE, RELIANCE UPON SIZE, TYPE, AND LOCATION SHALL BE DONE SO WITH THIS CIRCUMSTANCE CONSIDERED. IT IS RECOMMENDED THAT THE TENNESSEE ONE-CALL SYSTEM BE NOTIFIED BEFORE ANY EXCAVATION IS CONDUCTED. DIAL 811
2. CONTRACTOR SHOULD VERIFY EXACT PLAN LOCATION, SURFACE ELEVATION, AND INVERT ELEVATION LOCATION OF ALL EXISTING UTILITIES.
3. SHOULD THE CONTRACTOR UNEXPECTEDLY ENCOUNTER UNDERGROUND UTILITIES AT ANY TIME DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE APPLICABLE UTILITY COMPANY AND ENGINEER AS SOON AS POSSIBLE.

GENERAL ENVIRONMENTAL AND ECOLOGY NOTES

1. THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS PRIOR TO ANY CONSTRUCTION AND MAINTENANCE ACTIVITIES TO ENSURE THAT JURISDICTIONAL ENVIRONMENTAL FEATURES (E.G., STREAMS, WETLANDS, SPRINGS, ETC.) ARE NOT IMPACTED BEYOND PERMITTED LOCATIONS.
2. THE CONTRACTOR SHALL NOT DISPOSE OF ANY EXCESS MATERIAL IN A REGULATORY FLOODWAY OR FLOODPLAIN, UNLESS SPECIFIED IN THE PLAN SHEETS, AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA). ALL EXCESS 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 FEDERAL, STATE OR LOCAL AGENCIES.
3. SOIL MATERIALS MUST BE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S.
4. APPROPRIATE EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES SHALL BE INSTALLED TO PREVENT SEDIMENT MIGRATION INTO STREAMS, WETLANDS OR OTHER NATURAL RESOURCES IN ACCORDANCE WITH THE EPSC PLAN AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THIS PROJECT.
5. STREAM BEDS SHALL NOT BE USED AS TRANSPORTATION ROUTES FOR CONSTRUCTION EQUIPMENT UNLESS ALLOWED FOR IN THE APPLICABLE PERMITS. 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 WORK IS COMPLETED AND THE AFFECTED AREAS RETURNED TO PREEXISTING ELEVATIONS.

GENERAL TREE AND SHRUB NOTES

1. NO SUBSTITUTIONS OF TREE OR SHRUB SPECIES OR SIZES SHALL BE ALLOWED WITHOUT WRITTEN APPROVAL FROM THE OWNER'S REPRESENTATIVE AND/OR ENGINEER.
2. TREES AND SHRUBS SHALL BE OF THE VARIETY REQUESTED AND FIRST QUALITY.
3. ANY TREES OR SHRUBS FOUND TO BE INCORRECT SPECIES, OR IMPROPERLY PLANTED, AT ANY TIME PRIOR TO TERMINATION OF THE CONTRACT SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
4. STAKES AND WIRES SHALL BE REMOVED IMMEDIATELY PRIOR TO CONTRACT TERMINATION, UNLESS OTHERWISE DIRECTED BY THE OWNER'S REPRESENTATIVE AND/OR ENGINEER.

GENERAL STREAM CONSTRUCTION NOTES

1. AS-BUILT/RECORD DRAWINGS – DURING CONSTRUCTION, THE CONTRACTOR MAINTAIN A SET OF PRINTS SHOWING ANY CHANGES OR CORRECTIONS IN RED. THESE PRINTS SHALL BE SUBMITTED TO THE ENGINEER AT THE COMPLETION OF THE WORK.
2. STREAM MITIGATION DEFINITIONS:

A. BANKFULL ELEVATION – BANKFULL ELEVATION IS THE POINT OF INCIPIENT FLOODING IN AN ALLUVIAL CHANNEL.

B. FLOODPLAIN SILL – A FLOODPLAIN SILL IS THE BURIED EXTENSION OF THE STRUCTURE AND IS PERPENDICULAR TO THE FLOW DIRECTION OF THE BANKFULL CHANNEL ACROSS THE BANKFULL BENCH OR FLOODPLAIN.

C. FOOTER BOULDERS – FOOTER BOULDERS ARE PLACED TO PROVIDE A FOUNDATION FOR THE SURFACE BOULDERS IN EACH HYDRAULIC STRUCTURE. THE LOWEST COURSE OF FOOTER BOULDERS ARE BURIED IN THE CHANNEL TO A DEPTH BELOW THE CALCULATED OR MEASURED SCOUR DEPTH. FOOTER BOULDERS SHALL BE DURABLE LIMESTONE WITH DIMENSIONS SHOWN IN THE DETAILS. TYPICALLY, FOOTER BOULDERS ARE BURIED IN THE CHANNEL BOTTOM AND NOT SEEN WHEN THE STRUCTURE IS COMPLETED. ALL SURFACE BOULDERS FOR ALL STRUCTURES REQUIRE FOOTER BOULDERS UNLESS BEDROCK IS ENCOUNTERED AT THE PROPOSED ELEVATION OF FOOTER BOULDERS.

D. SURFACE BOULDERS – SURFACE BOULDERS ARE THE TOP-MOST COURSE OF BOULDERS USED IN EACH CROSS VANE OR OTHER ROCK STRUCTURE. ALL SURFACE BOULDERS CAN BE SEEN PROTRUDING FROM THE WATER SURFACE DURING EXTREMELY LOW FLOWS. SURFACE BOULDERS SHALL BE DURABLE LIMESTONE WITH DIMENSIONS SHOWN IN THE DETAILS.

E. THALWEG – THE THALWEG IS THE LOWEST POINT OF THE BANKFULL CHANNEL DESCRIBED BY THE STREAM PROFILE. THIS ELEVATION IS THE REFERENCE FOR ALL ELEVATIONS ON OR ALONG THE CHANNEL AND HYDRAULIC STRUCTURES DESCRIBED IN THIS SECTION AND IN THE PROJECT DRAWINGS.

F. VANE ANGLE – THE VANE ANGLE IS THE SMALLEST ANGLE MEASURED BETWEEN A VANE AND A LINE TANGENT TO THE BANKFULL ELEVATION AT THE POINT WHERE THE VANE INTERSECTS THE BANK. THE VANE ANGLE SHALL BE BETWEEN TWENTY PERCENT (20%) AND THIRTY PERCENT (30%), OR AS SPECIFIED IN THE STREAM MITIGATION DATA TABLE.

G. VANE LENGTH – THE VANE LENGTH IS THE DISTANCE BETWEEN THE UPSTREAM LIMIT OF THE VANE ARM AT THE CHANNEL BED TO THE DOWNSTREAM INSERTION POINT OF THE VANE ARM INTO THE STREAM BANK.

H. VANE SLOPE – THE VANE SLOPE IS THE SLOPE OF THE VANE ARM FROM THE UPSTREAM LIMIT AT THE CHANNEL BED TO THE DOWNSTREAM INSERTION POINT OF THE VANE ARM INTO THE STREAM BANK. THE VANE SLOPE SHALL BE BETWEEN TWO PERCENT (2%) AND FIVE (5%) FOR BOULDERS OR FOUR PERCENT (4%) FOR LOGS AND THE VANE ARMS SHALL TIE INTO THE BANKS AT HALF TO THREE QUARTERS OF THE BANKFULL ELEVATION. SLOPE AND ELEVATION INFORMATION INDICATED IN THE STREAM MITIGATION TABLE OR AS DIRECTED BY THE ENGINEER SHALL BE FOLLOWED IF PRESENT.

I. SUBSTRATE RESTORATION – SUBSTRATE RESTORATION IS DESIGNED TO REPLACE AND RESTORE COARSE SUBSTRATE (GRAVEL, COBBLE, AND BOULDER) TO THE STREAM CHANNEL IN CASES WHERE COARSE SUBSTRATES OR BEDROCK ARE ABSENT FOLLOWING CHANNEL EXCAVATION. THE PURPOSE OF SUBSTRATE RESTORATION IS TO PROVIDE NATURAL SUBSTRATE AND EROSION AND SCOUR PROTECTION IN THE CHANNEL.

J. BASE FLOW – FOR THE PURPOSE OF THESE STREAM DESIGN SPECIFICATIONS, A FLOW EQUAL TO ONE CUBIC FOOT PER SECOND PER SQUARE MILE OF DRAINAGE AREA.

3. CHANNEL CONSTRUCTION

A. THE CONTRACTOR SHALL STAKE OUT THE PROPOSED STREAM CENTERLINE AND STRUCTURE LOCATIONS FOR APPROVAL BY THE ENGINEER BEFORE INITIATING EXCAVATION. DEPENDING ON THE SITE CONDITIONS, SOME SHIFTING OF THE STREAM CHANNEL AND VANE STRUCTURES MAY BE NECESSARY. ANY COST ASSOCIATED WITH CHANGING CHANNEL ALIGNMENT AND STRUCTURE LOCATIONS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.

B. INSTALL INSTREAM STREAM STRUCTURES AS SHOWN IN THE PLANS IN ACCORDANCE TO THE DETAILS.

C. INSTALL LIVE STAKES, TREES AND SHRUBS ACCORDING TO PLANTING PLAN.

D. THE INSTREAM STRUCTURES SHALL BE INSTALLED DURING A LOW-WATER PERIOD. LIVE STAKE, BIOENGINEERING MEASURES, SEEDING, AND COIR EROSION CONTROL BLANKETS SHALL BE INSTALLED IMMEDIATELY FOLLOWING CHANNEL EXCAVATION. TREES SHALL BE INSTALLED IN THE FIRST PLANTING SEASON FOLLOWING CHANNEL EXCAVATION. STABILIZED MEANS THAT ALL SPECIFIED STRUCTURES, COIR EROSION CONTROL BLANKET OR FLEXIBLE CHANNEL LINER IS IN PLACE, AND SEEDING IS IN PLACE AND ESTABLISHED.

E. REQUESTS BY ANY AGENCY THAT WOULD REQUIRE THE MODIFICATION OF CHANNELS, DITCHES, ELEVATIONS, RIP-RAP OR ANY OTHER STREAM RESTORATION ITEMS ASSOCIATED WITH THE PROJECT SHALL BE REFERRED TO THE ENGINEER.

~~4. CONTRACTOR QUALIFICATIONS~~

~~A. CONTRACTOR SHALL SUBMIT DOCUMENTATION OF THE FOLLOWING MINIMUM QUALIFICATIONS AND EXPERIENCE PRIOR TO STREAM CONSTRUCTION: (A) A MINIMUM OF TWO WEEKS OF NATURAL CHANNEL DESIGN COURSES COVERING PRINCIPLES OF FLUVIAL GEOMORPHOLOGY, (B) SUCCESSFUL COMPLETION OF AT LEAST 2000 LINEAR FEET OF STREAM RESTORATION CONSTRUCTION IN THE LAST FIVE YEARS CONSISTING OF EXCAVATION OF A NEW STREAM CHANNEL AND/OR FLOODPLAIN OR STABILIZATION OF AN EXISTING CHANNEL USING IN STREAM NATURAL CHANNEL STABILIZATION STRUCTURES SUCH AS CROSS VANES, J HOOKS, LOG AND/OR ROCK VANES, ROOT WADS, BOULDER SILLS AND BIO-ENGINEERING TECHNIQUES, (C) EXPERIENCE WORKING WITH PLANT MATERIALS AND TRANSPLANTED VEGETATION SUCH AS NATIVE SEED MIX, BARE ROOT SEEDLINGS, LIVE STAKES, CONTAINER TREES AND BALLED AND BURLAP TREES, AND (D) TENNESSEE EROSION PREVENTION AND SEDIMENT CONTROL TRAINING, LEVEL 1.~~

~~B. CONTRACTOR SHALL AT ALL TIMES HAVE AN OPERATOR ON SITE WITH AT LEAST 5 YEARS OF EXPERIENCE CONSTRUCTING STREAMS AND IN STREAM STRUCTURES BASED ON NATURAL CHANNEL DESIGN PRINCIPLES.~~

~~5. CONSTRUCTION SUPERVISION NOTES~~

~~A. CONSTRUCTION OVERSIGHT WILL BE PERFORMED BY THE OWNER'S REPRESENTATIVE WHO IS EXPERIENCED IN NATURAL CHANNEL DESIGN IN ORDER TO ENSURE THAT THE CONTRACTOR BUILDS THE PROJECT IN ACCORDANCE WITH THE PLANS.~~

SPECIAL NOTES

1. TOE PROTECTION STRUCTURES SHALL BE KEYED INTO STREAM BANK SUCH THAT THE STRUCTURES DO NOT CONSTRICT THE WIDTH OF THE CHANNEL, UNLESS OTHERWISE INDICATED.
2. ABSOLUTELY NO METAL IS TO BE USED FOR ANCHORING MATERIALS ON THIS PROJECT.
3. WOODEN STAKES USED TO ANCHOR THE COIR FABRIC SHALL NOT EXTEND MORE THAN 1/2" ABOVE GRADE.
4. THERE IS TO BE NO MOWING, CLEARING, BUILDING, OR ANY OTHER TYPES OF VEGETATION OR SOIL DISTURBANCE IN THE STREAM BUFFER AREA EXCEPT AS SHOWN ON THESE PLANS OR AS PERMITTED BY THE OWNER'S REPRESENTATIVE AND/OR ENGINEER.
5. THE DESIGN INTENT IS TO REMOVE AS FEW TREES AS POSSIBLE. TREES TO BE REMOVED AS DIRECTED BY THE ENGINEER. COST OF REMOVAL OF TREES IS TO BE INCLUDED IN OTHER ITEMS.
6. CONCRETE FROM THE REMOVAL OF THE DAM MAY BE USED TO FILL THE EXISTING SCOUR HOLE LOCATED IMMEDIATELY DOWNSTREAM OF THE DAM ONLY IF IT IS FREE FROM METAL.

LEGEND:

Symbol	Description
	PROPERTY LINE
	EASEMENT
465	INDEX CONTOUR
486	INTERMEDIATE CONTOUR
	CHAIN LINK FENCE
	APPROXIMATE EDGE OF WATER
	EXISTING TOP OF BANK
SAN	SANITARY SEWER LINE
ST	STORM SEWER LINE
G	GAS LINE
W	WATER LINE
OH-W	OVERHEAD WIRE
	APPROXIMATE TREE DRIPLINE/WOODLINE
●	IRON ROD FOUND
▲	RAILROAD SPIKE FOUND
■	CONCRETE MONUMENT FOUND
	BENCHMARK
× 477.2	SPOT ELEVATION
	MAILBOX
S	SANITARY MANHOLE
WV	WATER VALVE
	FIRE HYDRANT
WMK	WATERLINE MARKER
	SPIGOT
W	WATER METER
	UTILITY POLE
→	GUY WIRE
	LIGHT STANDARD
FO	FIBER OPTIC PEDESTAL
FMK	FIBER OPTIC MARKER
LSA	LANDSCAPE AREA
	PROPOSED RIPRAP
	PROPOSED LONGITUDINAL STONE TOE
	PROPOSED TEMPORARY WALKING PATH
	PROPOSED TEMPORARY CONSTRUCTION EASEMENT/ LIMITS OF DISTURBANCE
OCF	PROPOSED CONSTRUCTION FENCE
×	PROPOSED TREE PROTECTION
	PROPOSED BOULDER VANE

*HAND SIGNATURE ON FILE

JEFFREY BRYANT SHAVER
REGISTERED ENGINEER
XVI
AGRICULTURE COMMERCE
No. 00110803
STATE OF TENNESSEE
04/14/2026

SUBMITTAL RECORD

NO	DATE	DESCRIPTION
1	04/14/2026	REVISED NOTES.

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Civil & Environmental Consultants, Inc.

TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION
TRACE CREEK LOW HEAD DAM REMOVAL
WAVERLY, HUMPHREYS CO., TN

NOTES AND LEGEND

DATE:	OCTOBER 2025	DRAWN BY:	KLU/ALW
DWG SCALE:	AS SHOWN	CHECKED BY:	LAH
PROJECT NO:	343-976		
APPROVED BY:	*JBS		

DRAWING NO.:
EC001

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ESTIMATED QUANTITIES

FOOTNOTES	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
	001	MOBILIZATION AND DEMOBILIZATION	L.S.	1
	002	REMOVAL OF STRUCTURE (CONCRETE DAM)	L.S.	1
4	003	CUT AND CAP ABANDONED SANITARY SEWER	EACH	2
6	004	CONSTRUCTION HAUL ROAD	L.F.	735
	005	BOULDER VANE	EACH	6
3	006	LONGITUDINAL STONE TOE PROTECTION	L.F.	838
9	007	STREAM CONSTRUCTION ENTRANCE	EACH	2
8	008	TEMPORARY COFFERDAM	L.S.	1
2	009	MINERAL AGGREGATE (SIZE 57)	TON	11
	010	MACHINED RIPRAP (CLASS C)	TON	726
12	011	GRAVEL PATH RESTORATION	L.F.	595
	012	TEMPORARY CONSTRUCTION ENTRANCE/EXIT	EACH	2
11	013	SILT FENCE WITH WIRE BACKING	L.F.	200
10	014	FILTER SOCK	L.F.	1,200
7	015	GEOTEXTILE TYPE (III) (EROSION CONTROL) PER S.Y.	S.Y.	50
	016	PERMANENT SEEDING MIX W/MULCH	AC	3
	017	TEMPORARY SEEDING MIX W/MULCH	AC	3
	018	700 GRAM COIR FIBER EROSION BLANKET	S.Y.	1244
	019	SEDIMENT FILTER BAG (15' X 15')	EACH	2
	020	RESTORE ASPHALT	S.Y.	350
5	021	BRUSH LAYERING	L.F.	1,800
	022	LIVE STAKE CUTTINGS: SALIX NIGRA (18-24 INCH LENGTH)	EACH	314
	023	LIVE STAKE CUTTINGS: CORNUS AMOMUM (18-24 INCH LENGTH)	EACH	314
	024	LIVE STAKE CUTTINGS: SAMBUCUS CANADENSIS (18-24 INCH LENGTH)	EACH	314
13	025	LIVE STAKE CUTTINGS: ALNUS SERRULATA (18-24 INCH LENGTH)	EACH	314
	026	ACER RUBRUM (RED MAPLE 2-5 FT C.G.)	EACH	41
	027	LIRIODENDRON TULIPIFERA (TULIP POPLAR 2-5 FT C.G.)	EACH	41
	028	PLATANUS OCCIDENTALIS (SYCAMORE 2-5 FT C.G.)	EACH	41
	029	QUERCUS ALBA (WHITE OAK 2-5 FT C.G.)	EACH	41
	030	QUERCUS PALUSTRIS (PIN OAK 2-5 FT C.G.)	EACH	42
	031	TREE PROTECTION FENCING	L.F.	942
	032	ORANGE CONSTRUCTION FENCE	L.F.	305

PROPOSED ALIGNMENT DATA

Start Station	End Station	Entity Type	Radius	Length	Start Easting	Start Northing	End Easting	End Northing	PI Station	PI Point Easting	PI Point Northing
10+00.00	10+33.32	Line		33.3217	1430444.6486	642067.0568	1430411.4429	642064.2785			
10+33.32	10+35.49	Curve	25.00	2.1701	1430411.4429	642064.2785	1430409.2910	642064.0040	1034.41	1430410.3610	642064.1880
10+35.49	10+45.68	Line		10.184	1430409.2910	642064.0040	1430399.2543	642062.2783			
10+45.68	10+48.84	Curve	25.00	3.1621	1430399.2543	642062.2783	1430396.1124	642061.9407	1047.26	1430397.6940	642062.0100
10+48.84	10+64.76	Line		15.9266	1430396.1124	642061.9407	1430380.2011	642061.2434			
10+64.76	10+70.65	Curve	25.00	5.8845	1430380.2011	642061.2434	1430374.4065	642060.2995	1067.72	1430377.2480	642061.1140
10+70.65	10+86.96	Line		16.3126	1430374.4065	642060.2995	1430358.7255	642055.8043			
10+86.96	11+09.21	Curve	100.00	22.2512	1430358.7255	642055.8043	1430336.8325	642052.0931	1098.13	1430347.9863	642052.7258
11+09.21	11+16.37	Line		7.1528	1430336.8325	642052.0931	1430329.6912	642051.6880			
11+16.37	11+19.50	Curve	25.00	3.1393	1430329.6912	642051.6880	1430326.5763	642051.3142	1117.94	1430328.1220	642051.5990
11+19.50	11+32.88	Line		13.3797	1430326.5763	642051.3142	1430313.4182	642048.8894			
11+32.88	11+46.03	Curve	25.00	13.1457	1430313.4182	642048.8894	1430300.4657	642049.9367	1139.61	1430306.8010	642047.6700
11+46.03	11+53.85	Line		7.8179	1430300.4657	642049.9367	1430293.1048	642052.5703			
11+53.85	11+65.24	Curve	25.00	11.3919	1430293.1048	642052.5703	1430281.8868	642053.8747	1159.65	1430287.6470	642054.5230
11+65.24	11+80.20	Line		14.9562	1430281.8868	642053.8747	1430267.0244	642052.2018			
11+80.20	12+03.22	Curve	25.00	23.0209	1430267.0244	642052.2018	1430246.1426	642059.7849	1192.60	1430254.7030	642050.8150
12+03.22	12+09.29	Line		6.075	1430246.1426	642059.7849	1430241.9484	642064.1797			
12+09.29	12+23.10	Curve	25.00	13.8049	1430241.9484	642064.1797	1430230.2065	642071.1014	1216.38	1430237.0580	642069.3040
12+23.10	12+48.70	Line		25.6064	1430230.2065	642071.1014	1430205.4382	642077.5990			
12+48.70	12+76.55	Curve	25.00	27.8472	1430205.4382	642077.5990	1430187.2820	642096.8053	1264.27	1430190.3802	642081.5493
12+76.55	12+99.25	Line		22.6949	1430187.2820	642096.8053	1430182.7654	642119.0462			
12+99.25	13+29.67	Curve	25.00	30.4272	1430182.7654	642119.0462	1430162.0843	642138.7774	1316.66	1430179.2987	642136.1166
13+29.67	15+01.22	Line		171.5472	1430162.0843	642138.7774	1429992.5504	642164.9820			
15+01.22	16+08.74	Curve	300.00	107.5207	1429992.5504	642164.9820	1429885.6399	642162.2182	1555.56	1429938.8448	642173.2832
16+08.74	16+60.31	Line		51.5662	1429885.6399	642162.2182	1429835.1539	642151.7186			
16+60.31	17+77.15	Curve	72.00	116.8455	1429835.1539	642151.7186	1429780.1807	642062.9185	1736.16	1429760.8936	642136.2746
17+77.15	18+03.94	Line		26.7922	1429780.1807	642062.9185	1429786.9935	642037.0070			
18+03.94	18+41.71	Curve	25.00	37.7619	1429786.9935	642037.0070	1429770.6183	642006.8989	1827.48	1429792.9782	642014.2449
18+41.71	21+29.60	Line		287.8929	1429770.6183	642006.8989	1429497.1079	641917.0412			
21+29.60	21+58.80	Curve	50.00	29.2055	1429497.1079	641917.0412	1429468.3251	641916.3108	2144.63	1429482.8263	641912.3492
21+58.80	21+89.05	Line		30.2417	1429468.3251	641916.3108	1429439.1525	641924.2805			
21+89.05	22+19.54	Curve	50.00	30.4976	1429439.1525	641924.2805	1429409.1474	641923.1310	2204.79	1429423.9690	641928.4285
22+19.54	22+29.09	Line		9.5447	1429409.1474	641923.1310	1429400.1596	641919.9186			

FOOTNOTES:

1. ALL QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER.
2. INCLUDES 11 TONS FOR 1 SEDIMENT FILTER BAG.
3. INCLUDES ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO CONSTRUCT LONGITUDINAL STONE TOE AS SHOWN IN DETAIL 1, SHEET EC800. L.F. BRUSH LAYERING SHALL BE PAID AS A SEPARATE ITEM. SHALL BE MEASURED AS TOTAL L.F. OF LONGITUDINAL STONE TOE. INCLUDES 3,100 TONS OF MACHINED RIPRAP CLASS "C" FOR LONGITUDINAL STONE TOE AND TIE–BACKS.
4. INCLUDES ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO CUT AND CAP THE ABANDONED SEWER LINE.
5. INCLUDES ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY FOR BRUSH LAYERING AS SHOWN IN DETAIL 1, SHEET EC800. PAYMENT SHALL BE PER LINEAR FOOT FOR EACH ROW OF BRUSH LAYERING CONSTRUCTED. DENSITY OF LIVE BRUSH LAYERING SHALL BE ONE BUNDLE PER 3 LINEAR FEET. ONE BUNDLE IS A MINIMUM OF 25 BRANCHES. THE FOLLOWING 4 SPECIES ARE TO BE USED: SALIX NIGRA, CORNUS AMOMUM, SAMBUCUS CANADENSIS, ALNUS SERRULATA.
6. INCLUDES ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO CONSTRUCT AND MAINTAIN THROUGH THE DURATION OF THE PROJECT. HAUL ROAD TO EXTEND FROM HOLLY LN TO THE PROJECT WORK AREA. INCLUDES ONE LAYER OF GEOTEXTILE TYPE III, 2 INCH STONE, MIN. 6 INCH THICK, AND MIN. 12 FT IN WIDTH.
7. INCLUDES 50 SY FOR 1 SEDIMENT FILTER BAG.
8. INCLUDES 250 LINEAR FEET PER SETUP TO BE REPOSITIONED INTO MULTIPLE SETUPS AS NEEDED TO ALLOW WORK IN THE DRY.
9. INCLUDES ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO CONSTRUCT STREAM CONSTRUCTION ENTRANCE AS SHOWN IN DETAIL 3, SHEET EC906. LOCATION OF STREAM CONSTRUCTION ENTRANCES SHALL BE DETERMINED IN THE FIELD.
10. TO BE USED AS DIRECTED ALONG THE TOP OF STREAM BANK.
11. INCLUDES 200 LF FOR 1 SEDIMENT FILTER BAG.
12. INCLUDES RESTORING AND STABILIZING EXISTING PATH WITHIN LIMITS OF DISTURBANCE TO EXISTING GRADE AND PLACING A 4 IN LAYER OF #57 STONE ON IT.
13. MAY BE SUBSTITUTED WITH LIVE STAKE CUTTINGS: PLATANUS OCCIDENTALIS (18IN–24IN).

NOTE TO CONTRACTOR:

1. THE CONTRACTOR SHALL REFER TO ALL PLANS WITHIN THIS PLAN SET. IT IS NOT THE ENGINEER'S/LANDSCAPE ARCHITECT'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

811 Know what's below. Call before you dig.

*HAND SIGNATURE ON FILE

JEFFREY BRYANT SHAVER
REGISTERED ENGINEER
No. 00110803
STATE OF TENNESSEE
04/14/2026

SUBMITTAL RECORD

NO	DATE	DESCRIPTION
1	04/14/2026	REVISED QUANTITIES AND FOOTNOTES.

Civil & Environmental Consultants, Inc.
117 Seaboard Lane
Suite E-100
Franklin, TN 37067
Ph: 615.333.7797
www.cecinc.com

TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION
TRACE CREEK LOW HEAD DAM REMOVAL
WAVERLY, HUMPHREYS CO., TN

ESTIMATED QUANTITIES AND PROPOSED ALIGNMENT DATA

DATE:	OCTOBER 2025	DRAWN BY:	KLU/ALW
DWG SCALE:	AS SHOWN	CHECKED BY:	LAH
PROJECT NO:	343-976		
APPROVED BY:	*JBS		

DRAWING NO.: **EC002**