



LEGEND

	STREAM BOUNDARY
	TOPOGRAPHY
	SURVEY BOUNDARY
	EXISTING TREES
	100 YEAR FLOODPLAIN

EXISTING SITE PLAN

SCALE: 1" = 70'

GENERAL NOTES:

- VERTICAL CONTROL. ELEVATIONS SHOWN FROM A SURVEY PROVIDED BY DGL CONSULTING ENGINEERING, LLC AND BASED ON OHIO NORTH STATE PLANE COORDINATES, NAD 83.
- HORIZONTAL CONTROL. HORIZONTAL CONTROL IS BASED ON US STATE PLANE COORDINATE SYSTEM, OHIO NORTH ZONE (2011) ADJUSTMENT.
- EXISTING UTILITIES AND STRUCTURES. THE UTILITY INFORMATION IS A COMBINATION OF FIELD MARKINGS AND EVIDENCE, AND HISTORICAL PLANS. THE LOCATION OF UTILITIES AND STRUCTURES INDICATED IS NOT NECESSARILY COMPLETE OR CORRECT. THE LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL UTILITIES, SERVICES, STRUCTURES, & APPURTENANCES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- UTILITY COMPANY NOTIFICATION. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST 2 WORKING DAYS PRIOR TO WORK IN THE VICINITY OF THEIR UNDERGROUND AND/OR OVERHEAD LINES. CONTACT OHIO UTILITIES PROTECTION SERVICE, 1-800-362-2764. NONMEMBER UTILITIES MUST BE CONTACTED.
- PERMITS. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS UNLESS OTHERWISE NOTED.
- PLAN MODIFICATION. ANY MODIFICATIONS TO THE WORK AS SHOWN ON THESE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE CITY.
- WORKING HOURS. THE CONTRACTOR SHALL COMPLY WITH WORK HOURS BEING THE PERIOD ONE-HALF HOUR BEFORE SUNRISE AND ONE-HALF HOUR AFTER SUNSET AS SUNRISE AND SUNSET ARE DETERMINED BY THE U.S. NATIONAL WEATHER SERVICE.
- PRE-CONSTRUCTION MEETING. A PRE-CONSTRUCTION CONFERENCE INVOLVING THE CITY, THE PRINCIPLE CONTRACTOR, AND ALL APPLICABLE SUBCONTRACTORS WILL BE HELD PRIOR TO THE START OF CONSTRUCTION.
- SITE VISIT. THE CONTRACTOR SHALL PERFORM FIELD RECONNAISSANCE TO BECOME ACQUAINTED WITH THE EXISTING SITE CONDITIONS AND THE POTENTIAL EFFECTS UPON THE WORK SCOPE. ANY PERFORMANCE OF ADDITIONAL SITE SUBSURFACE INVESTIGATIONS (TEST HOLES) SHALL BE COORDINATED IN ADVANCE WITH THE CITY. EXCAVATED MATERIAL SHALL BE REPLACED IN A CONTROLLED MANNER TO MINIMIZE IMPACT ON FIELD EARTHWORK OPERATIONS.
- SAFETY REQUIREMENTS. THE CONTRACTOR AND SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK.
- RIGHTS-OF-WAY. IN ADDITION TO DIRECT REQUIREMENTS OF THE CONTRACT SPECIFICATIONS, THE CONTRACTOR SHALL OBSERVE AND CONFORM TO THE SPECIFIC REQUIREMENTS OF ALL RIGHTS-OF-WAY INCLUDING EASEMENTS, COURT ENTRIES, RIGHTS-OF-ENTRY OR ACTION FILED IN COURT IS ACCORDANCE WITH THE CODE OF THE APPLICABLE GOVERNING AGENCY.
- ACCESS. INGRESS AND EGRESS SHALL BE MAINTAINED AT ALL TIMES TO PUBLIC AND PRIVATE PROPERTY. ACCESS TO ALL ADJOINING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.
- CONSTRUCTION LAYOUT. GENERAL FIELD LAYOUT CONTROL SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR'S REGISTERED SURVEYOR. PROVISIONS FOR ALL OTHER CONSTRUCTION STAKING REQUIRED TO ACCOMPLISH THE IMPROVEMENTS SHALL BE PERFORMED IN ACCORDANCE WITH CONTRACT DOCUMENTS.
- CLEARING AND GRUBBING. CLEARING AND GRUBBING WITHIN THE GENERAL SITE LIMITS SHALL BE PERFORMED AS A PART OF THIS PLAN. ANY ADDITIONAL CLEARING NECESSARY TO ACCOMPLISH THE SCOPE OF THE PROJECT SHALL BE CONSIDERED A PART OF THIS PLAN.
- SEEDING. CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY COVER SEEDING (ANNUAL RYE) AS NECESSARY IN ACCORDANCE WITH THE SPECIFICATIONS, THE CONSTRUCTION STORMWATER NPDES PERMIT, THE CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN AND/OR SEDIMENT AND EROSION CONTROL PLANS, AND WHEN/WHERE REQUESTED BY THE OWNER. THE NEED FOR TEMPORARY SEEDING WILL BE DETERMINED BY THE OWNER BASED ON WHEN THEY ARE PREPARED TO INSTALL THE PERMANENT SEEDING.
- EARTH WORK GENERAL. ALL FINAL GRADES SHALL BE FIELD CHECKED BY CONTRACTOR TO DETERMINE IF THE SITE HAS BEEN CONSTRUCTED TO THE GRADES INDICATED.
- RESTORATION AND CLEAN UP. INCONVENIENCE TO THE ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC SHALL BE KEPT TO AN ABSOLUTE MINIMUM. ALL WORK IS TO CONTINUE ON A UNIFORM BASIS AND AN ABSOLUTE SCHEDULE, PARTICULARLY THE RESTORATION AND CLEAN UP OF DISTURBED AREAS AFTER CONSTRUCTION.

CONTROL POINT	EASTING	NORTHING	ELEVATION	DESCRIPTION
1	1804323.967	231772.85	901.783	MISC CONTROL PT/FICS
2	1804901.3	232106.714	893.035	MISC CONTROL PT/FICS
101	1804465.285	231753.062	898.832	MISC CONTROL PT/FICS
102	1804642.448	231809.89	896.389	MISC CONTROL PT/FVAL

ALL EXCESS EXCAVATION SHALL BE PLACED/SPOILED ON-SITE WHERE SHOWN ON THE PLAN SHEETS.

THE CONTRACTOR SHALL INCLUDE PROVISIONS TO CLEAN THE EXISTING ENTRANCE ROAD(S).

ALL FENCES, SIGNS, DRAINAGE STRUCTURES, LANDSCAPING, ETC., REMOVED.

DISTURBED OR DAMAGED DURING WORK WITHIN PUBLIC EASEMENT AREAS AND/OR UNDER THE CONTRACT IMPROVEMENTS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED.

18. NON-RUBBER Tired VEHICLES. NON-RUBBER Tired VEHICLES SHALL NOT BE MOVED ON PUBLIC STREETS, EXISTING PRIVATE ROADWAYS OR PARKING LOTS. NO EXCEPTIONS SHALL BE GRANTED.

19. STORAGE OF EQUIPMENT AND MATERIALS. NO MATERIALS, INCLUDING PIPE, SHALL BE STORED WITHIN THE PUBLIC RIGHT-OF-WAY OR WITHIN ONE HUNDRED (100) FEET OF ANY INTERSECTING STREET OR DRIVEWAY. DURING NON-WORKING HOURS, STORAGE OF EQUIPMENT SHALL COMPLY WITH THESE SAME REQUIREMENTS. COMPLIANCE WITH THESE REQUIREMENTS ALONG WITH ADDITIONAL PROVISIONS OF THE CONTRACT SPECIFICATIONS SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS LEGAL RESPONSIBILITIES OR LIABILITIES FOR THE SAFETY OF THE PUBLIC.

20. NEIGHBORING DRAINAGE. THE DRAINAGE THAT CROSSES THE SITE FROM NEIGHBORING PROPERTIES MUST BE MAINTAINED THROUGHOUT CONSTRUCTION WITHOUT INTERRUPTION.

21. SWP3. CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWP3) PROVIDED AND TO REVISE AND/OR UPDATE AS NECESSARY FOR SITE CONDITIONS. CONTRACTOR SHALL SUBMIT A CO-PERMITTEE NOTICE OF INTENT FOR COVERAGE UNDER THE CONSTRUCTION STORM WATER PERMIT FOR THE PROJECT.

330 RUSH ALLEY
SUITE 700
COLUMBUS, OH 43215

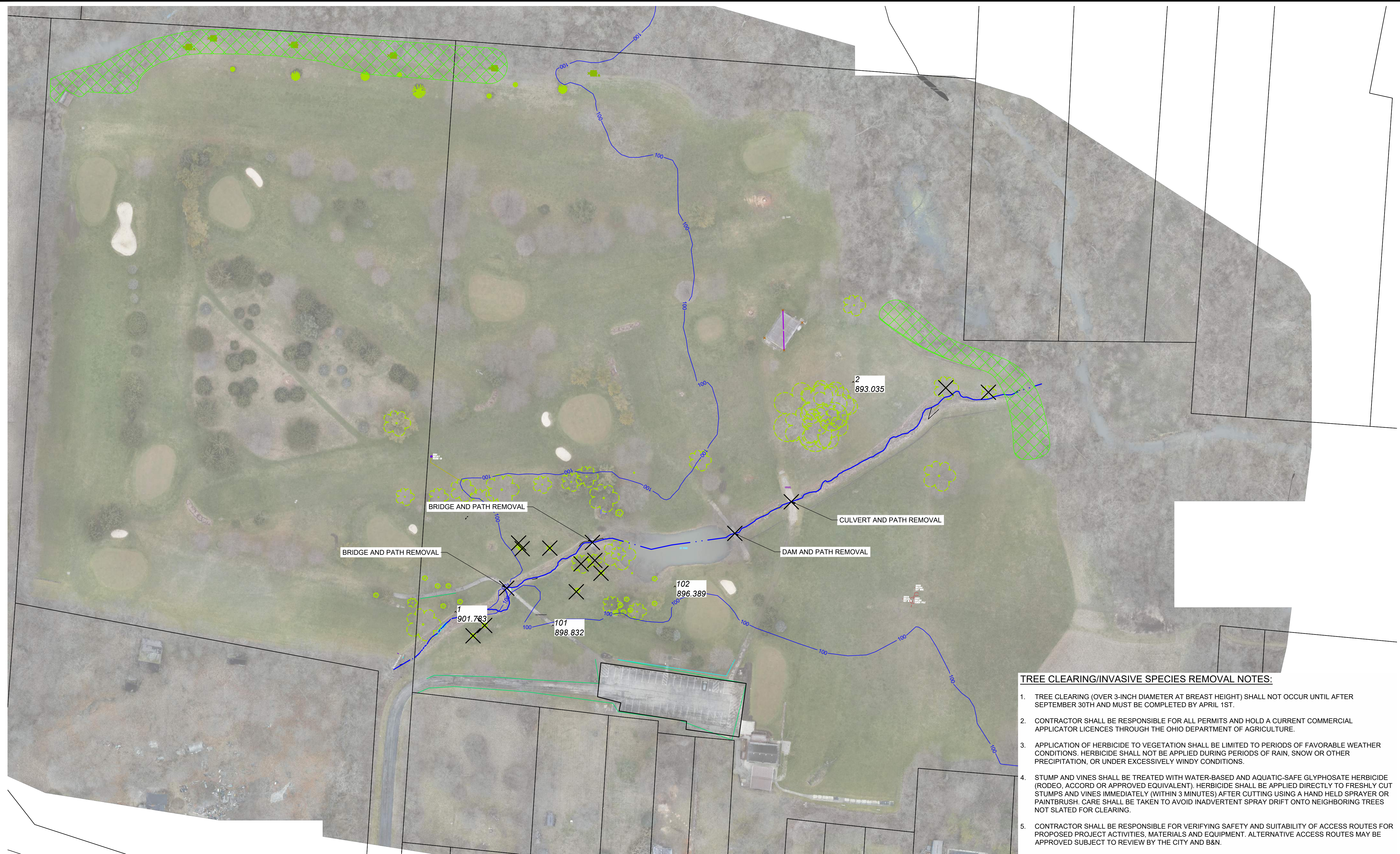


HIDDEN VALLEY GOLF COURSE
STREAM RESTORATION
CITY OF DELAWARE, OHIO
SEPTEMBER 2024

NO.	DESCRIPTION	DATE

JOB NO:	PR61357
DATE:	SEPT. 2024
DESIGNED BY:	MRK
DRAWN BY:	EDS
CHECKED BY:	JRC
APPROVED BY:	BWT
SCALE:	NOTED

EXISTING SITE PLAN



LEGEND

	STREAM CENTERLINE
	EXISTING TREES
	TREE REMOVAL
	INVASIVE HONEYSUCKLE REMOVAL
	100 YEAR FLOODPLAIN

CLEARING/DEMOLITION PLAN

SCALE: 1" = 70'



TREE CLEARING/INVASIVE SPECIES REMOVAL NOTES:

1. TREE CLEARING (OVER 3-INCH DIAMETER AT BREAST HEIGHT) SHALL NOT OCCUR UNTIL AFTER SEPTEMBER 30TH AND MUST BE COMPLETED BY APRIL 1ST.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND HOLD A CURRENT COMMERCIAL APPLICATOR LICENCES THROUGH THE OHIO DEPARTMENT OF AGRICULTURE.
3. APPLICATION OF HERBICIDE TO VEGETATION SHALL BE LIMITED TO PERIODS OF FAVORABLE WEATHER CONDITIONS. HERBICIDE SHALL NOT BE APPLIED DURING PERIODS OF RAIN, SNOW OR OTHER PRECIPITATION, OR UNDER EXCESSIVELY WINDY CONDITIONS.
4. STUMP AND VINES SHALL BE TREATED WITH WATER-BASED AND AQUATIC-SAFE GLYPHOSATE HERBICIDE (RODEO, ACCORD OR APPROVED EQUIVALENT). HERBICIDE SHALL BE APPLIED DIRECTLY TO FRESHLY CUT STUMPS AND VINES IMMEDIATELY (WITHIN 3 MINUTES) AFTER CUTTING USING A HAND HELD SPRAYER OR PAINTBRUSH. CARE SHALL BE TAKEN TO AVOID INADVERTENT SPRAY DRIFT ONTO NEIGHBORING TREES NOT SLATED FOR CLEARING.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING SAFETY AND SUITABILITY OF ACCESS ROUTES FOR PROPOSED PROJECT ACTIVITIES, MATERIALS AND EQUIPMENT. ALTERNATIVE ACCESS ROUTES MAY BE APPROVED SUBJECT TO REVIEW BY THE CITY AND B&N.

330 RUSH ALLEY
SUITE 700
COLUMBUS, OH 43215

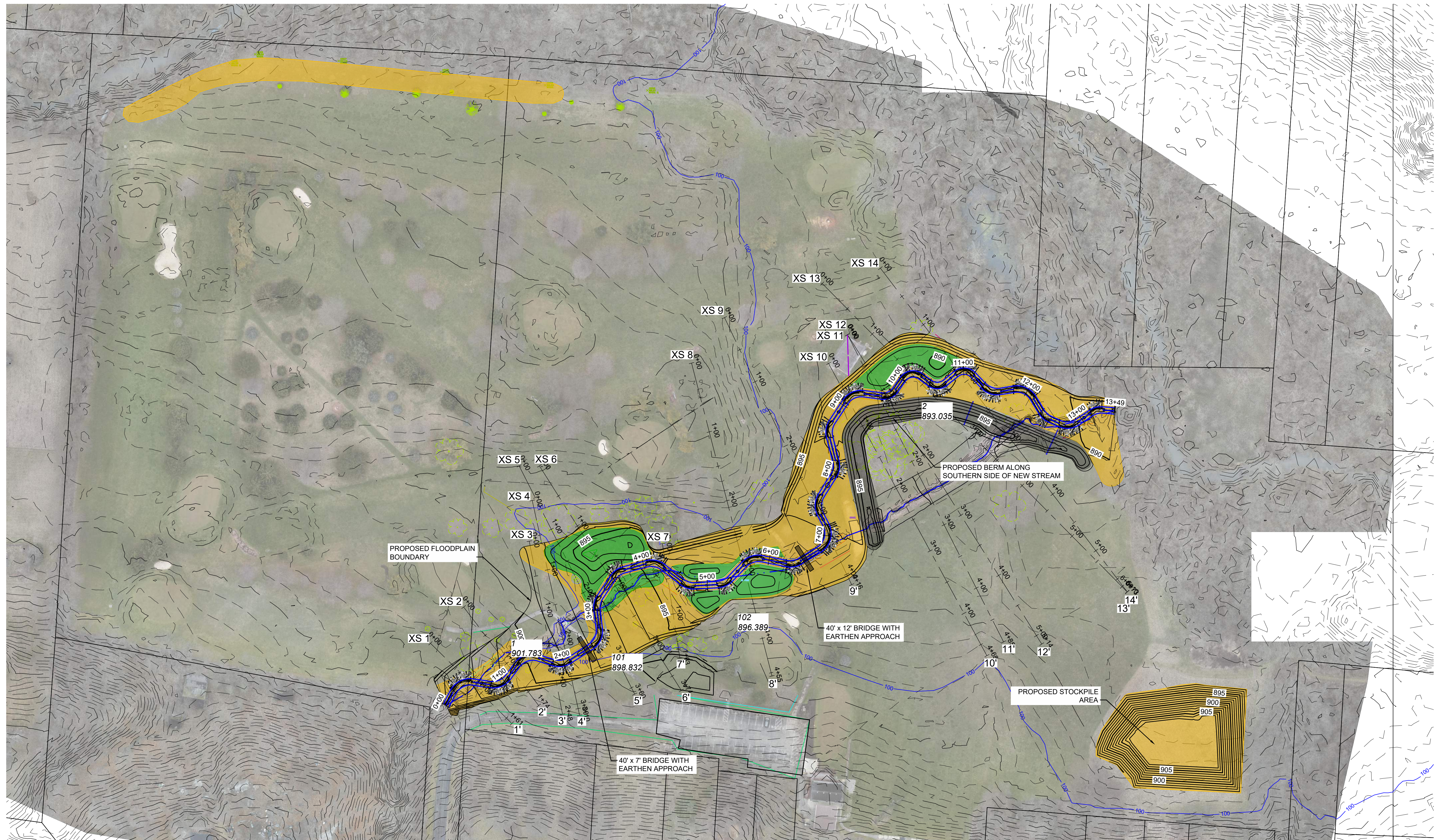


HIDDEN VALLEY GOLF COURSE
STREAM RESTORATION
CITY OF DELAWARE, OHIO
SEPTEMBER 2024

NO.	DESCRIPTION	DATE

JOB NO:	PR61357
DATE:	SEPT. 2024
DESIGNED BY:	MRK
DRAWN BY:	EDS
CHECKED BY:	JRC
APPROVED BY:	BWT
SCALE:	NOTED

CLEARING PLAN



LEGEND

	EXISTING STREAM		PROPOSED WETLAND (0.5 ACRES)
	TOPOGRAPHY		NATIVE RIPARIAN BUFFER (2.8 ACRES)
	100 YR FLOODPLAIN		COIR MATTING WITH SHORT SEDGE MEADOW SEED MIX (0.4 ACRES)
	CROSS SECTION START AND END		FILL AREA

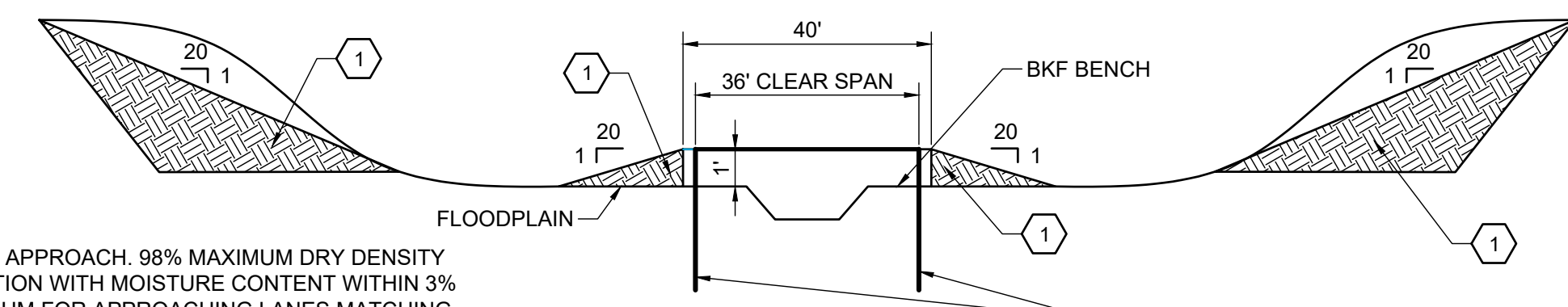
PROPOSED PLAN

SCALE: 1" = 70'



CODED NOTE:

① EARTHEN APPROACH. 98% MAXIMUM DRY DENSITY COMPACTION WITH MOISTURE CONTENT WITHIN 3% OF OPTIMUM FOR APPROACHING LANES MATCHING THE BRIDGE WIDTH ON EITHER SIDE



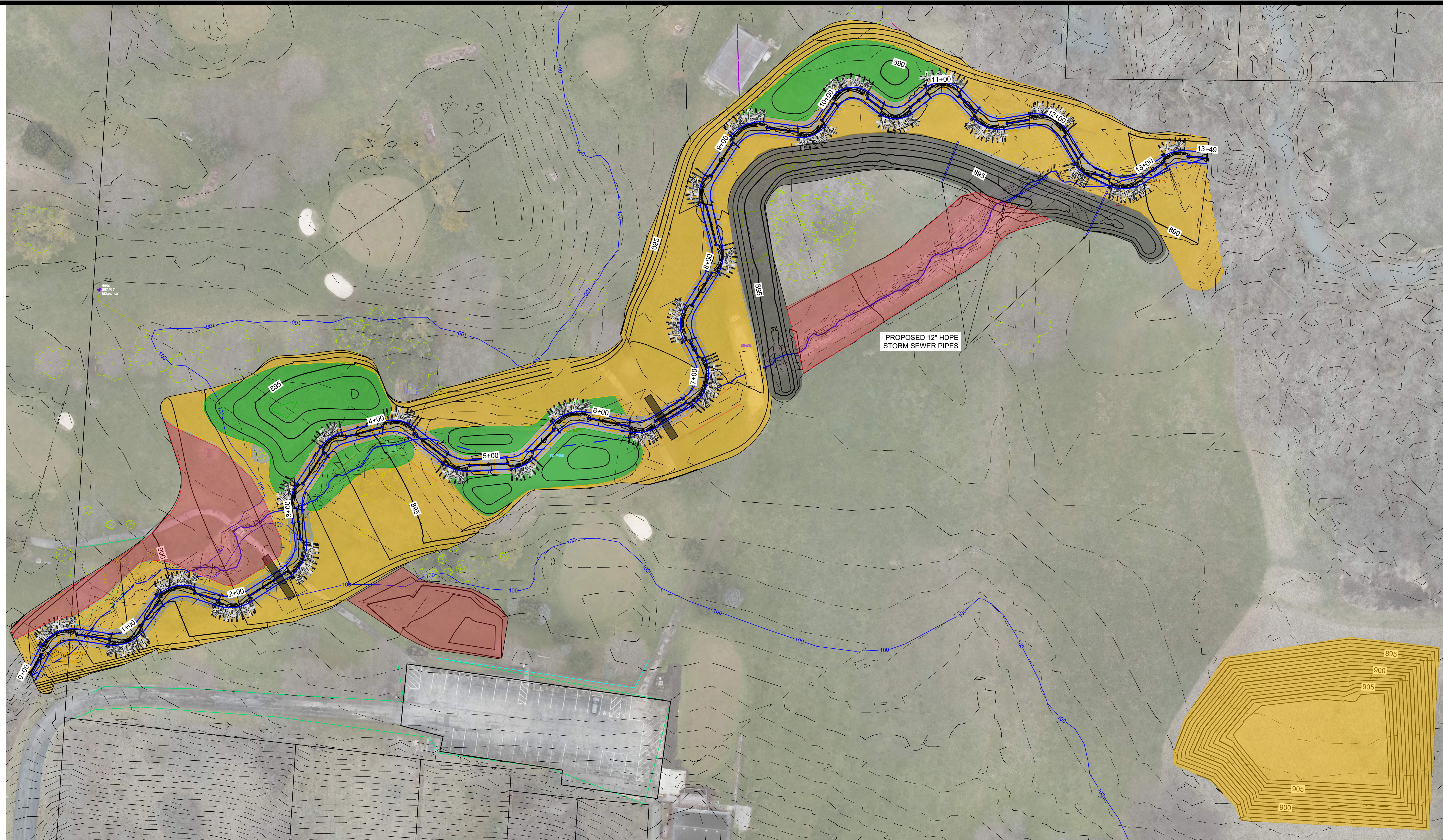
TYPICAL BRIDGE XS

SCALE: NONE

NO.	DESCRIPTION	DATE

JOB NO:	PR61357
DATE:	SEPT. 2024
DESIGNED BY:	MRK
DRAWN BY:	EDS
CHECKED BY:	JRC
APPROVED BY:	BWT
SCALE:	NOTED

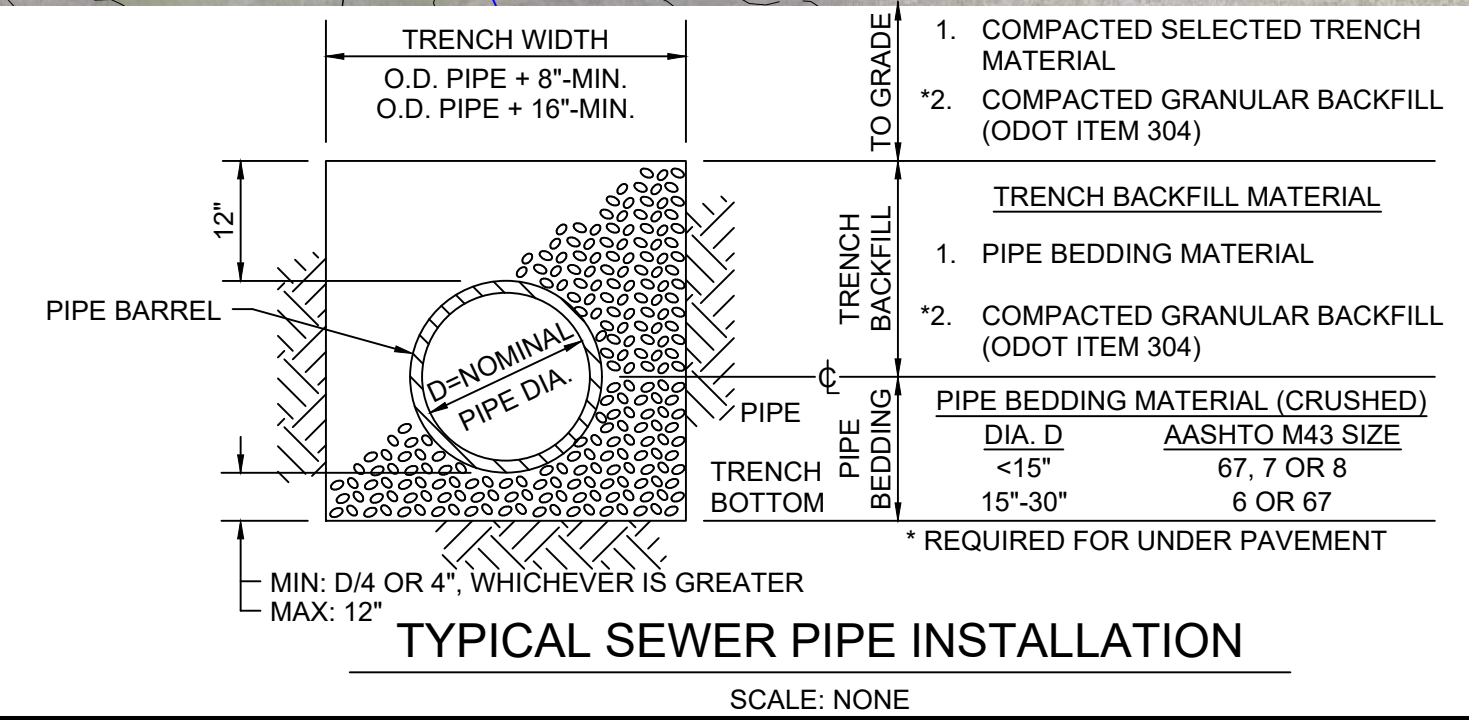
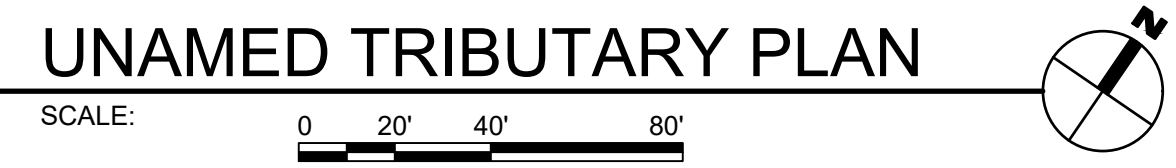
PROPOSED PLAN OVERVIEW



PROPOSED 12" HDPE STORM SEWER PIPES

- LEGEND**
- EXISTING STREAM
 - TOPOGRAPHY
 - 100 YR FLOODPLAIN
 - CROSS SECTION START AND END

- PROPOSED WETLAND (0.5 ACRES)
- NATIVE RIPARIAN BUFFER (2.8 ACRES)
- COIR MATTING WITH SHORT SEDGE MEADOW SEED MIX (0.4 ACRES)
- FILL AREA
- TURF TYPE TALL FESCUE SEED MIX (0.6 ACRES)



B&N
burgessnieple.com

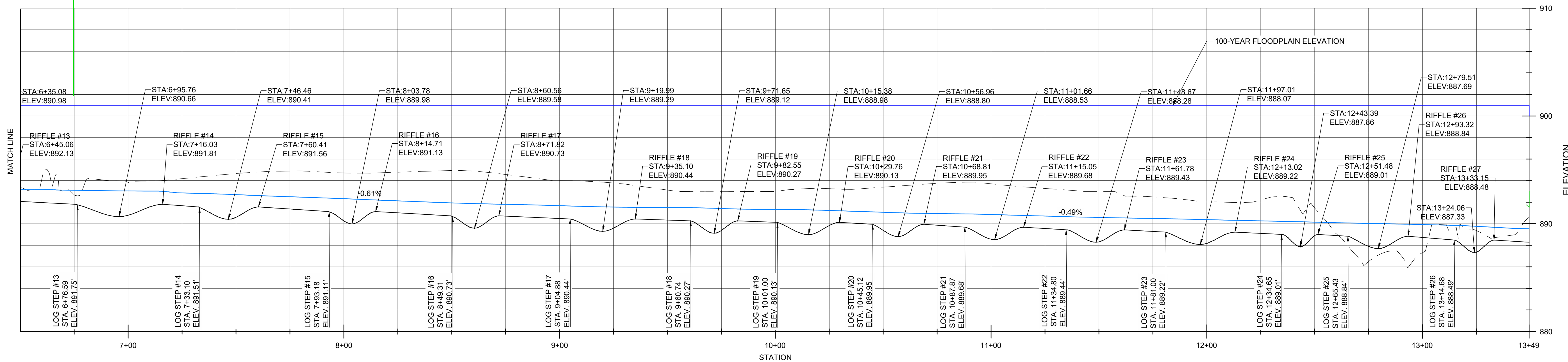
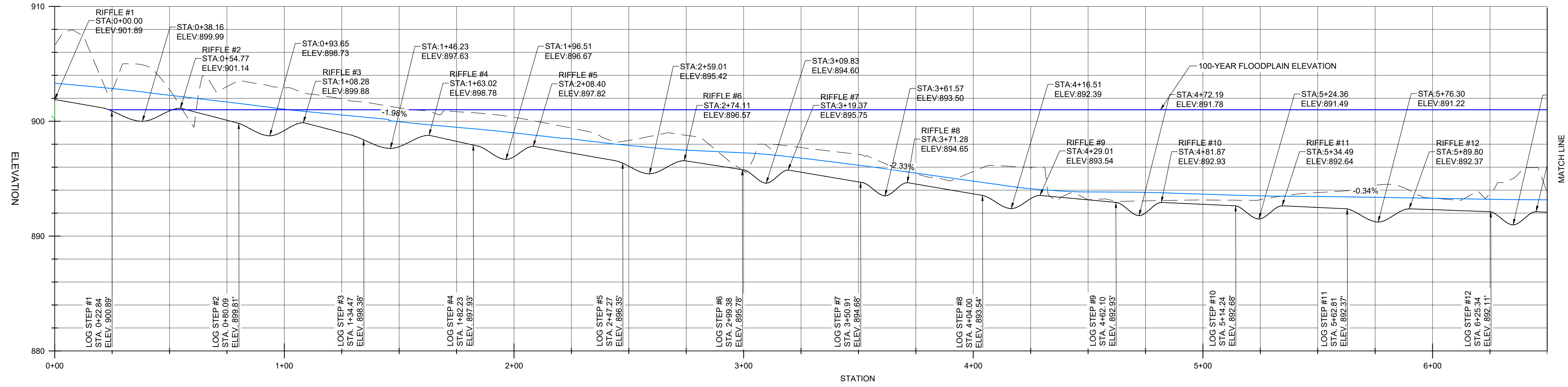
330 RUSH ALLEY
SUITE 700
COLUMBUS, OH 43215

HIDDEN VALLEY GOLF COURSE
STREAM RESTORATION
CITY OF DELAWARE, OHIO
SEPTEMBER 2024

NO.	DESCRIPTION	DATE

JOB NO:	PR61357
DATE:	SEPT. 2024
DESIGNED BY:	MRK
DRAWN BY:	EDS
CHECKED BY:	JRC
APPROVED BY:	BWT
SCALE:	NOTED

UNNAMED TRIBUTARY PLAN



LEGEND

- EXISTING GROUND
- PROPOSED BANKFUL ELEVATION
- PROPOSED STREAM BOTTOM ELEVATION
- 100-YEAR FLOODPLAIN

UNAMED TRIBUTARY PROFILE

SCALE:

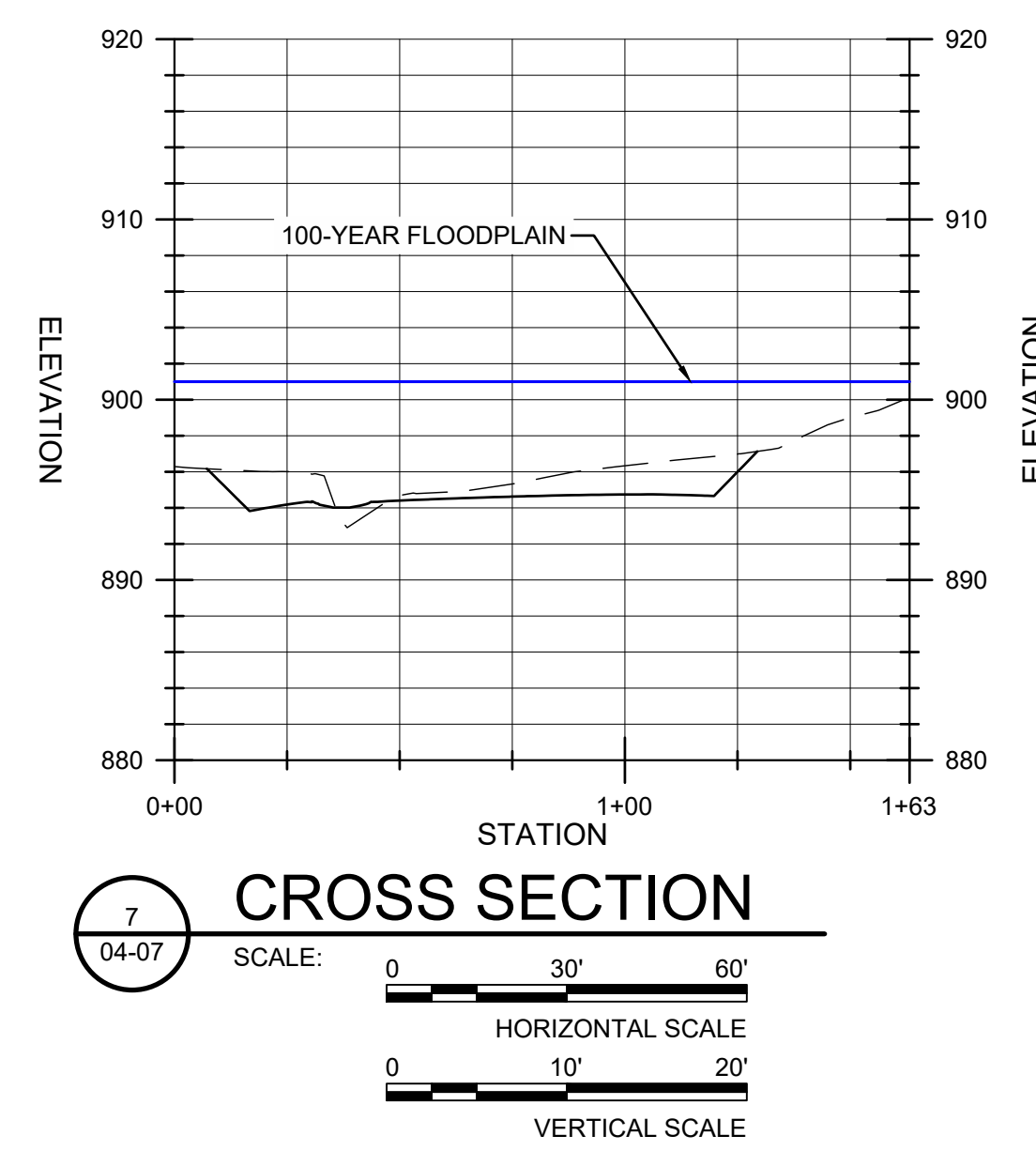
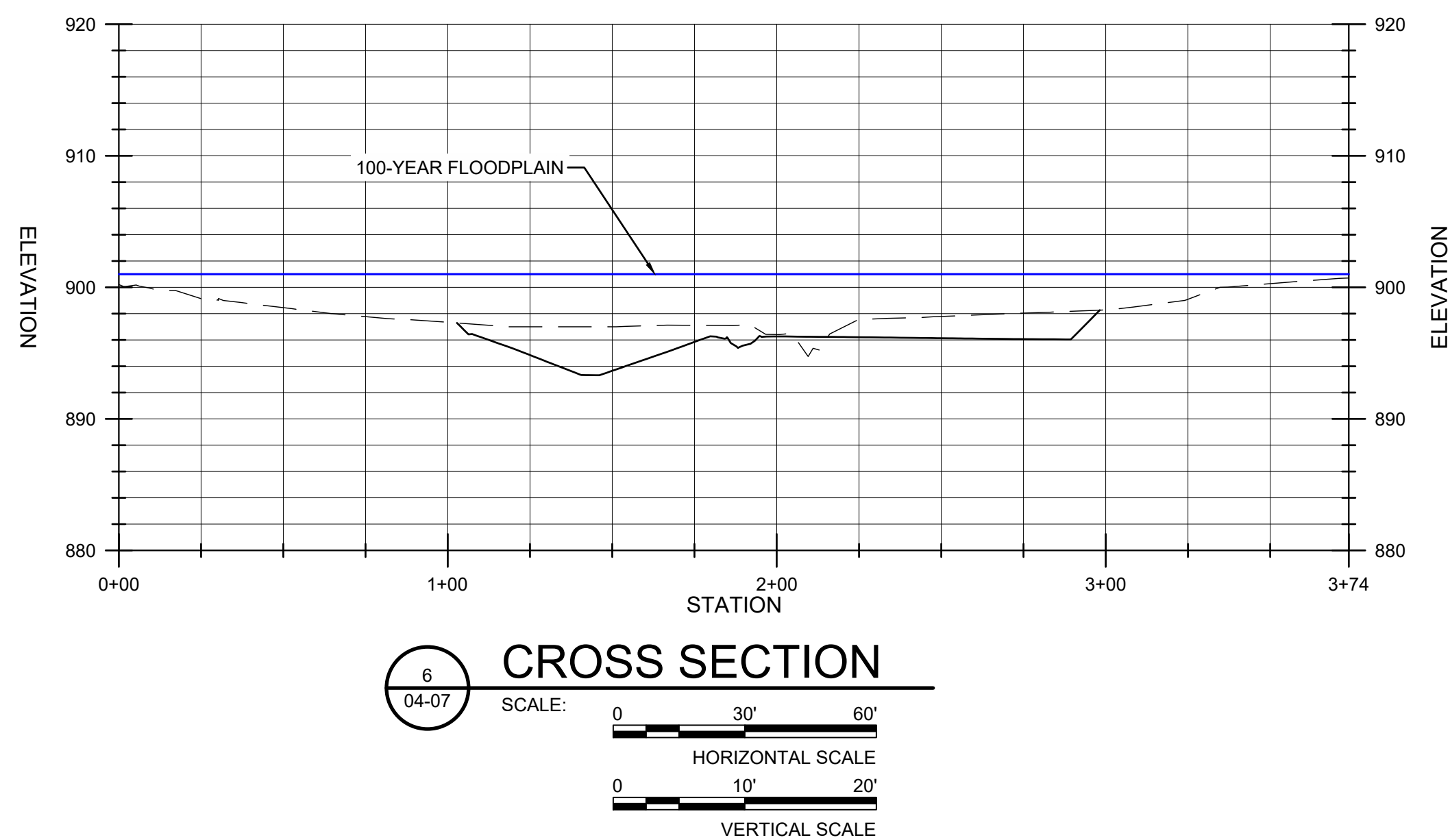
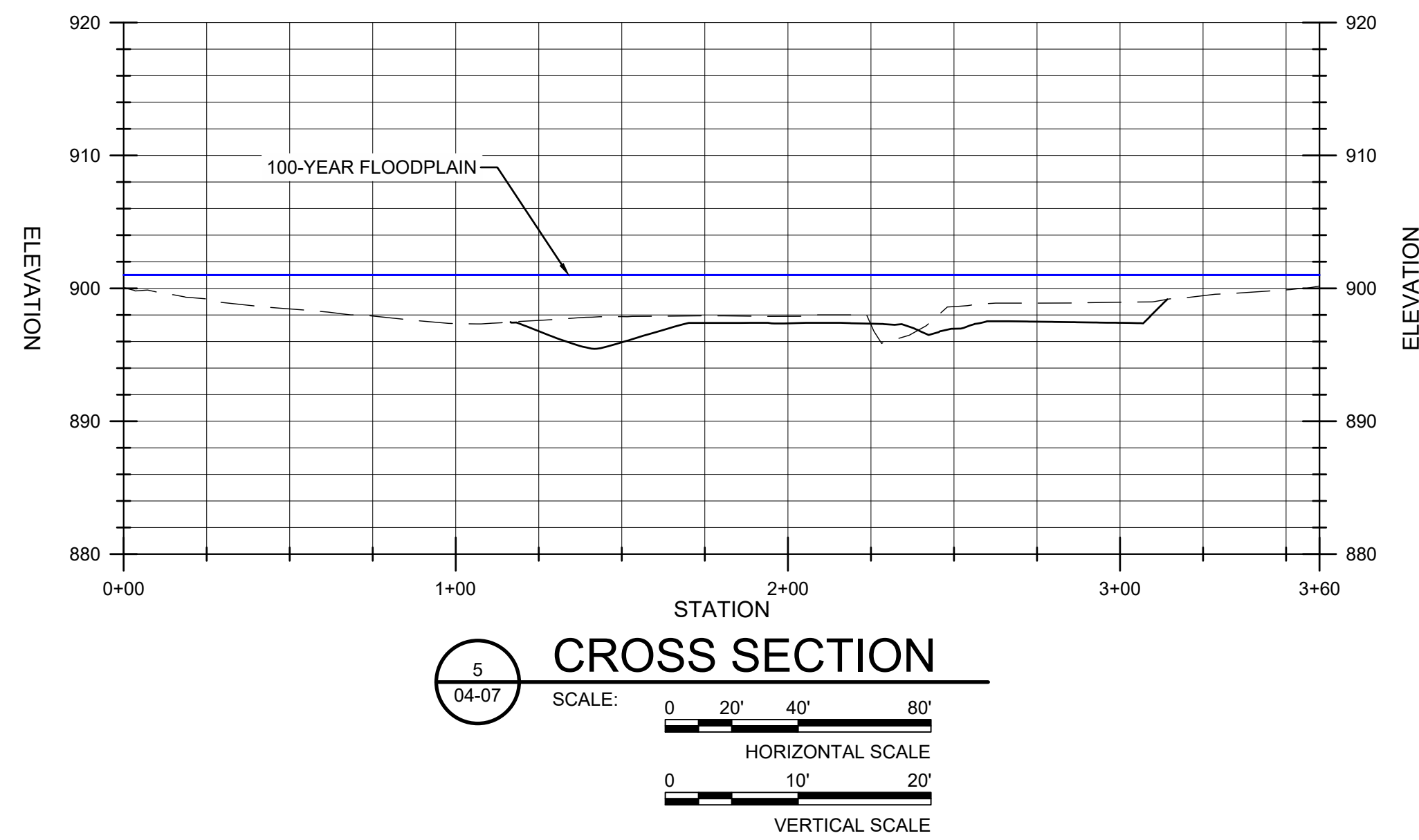
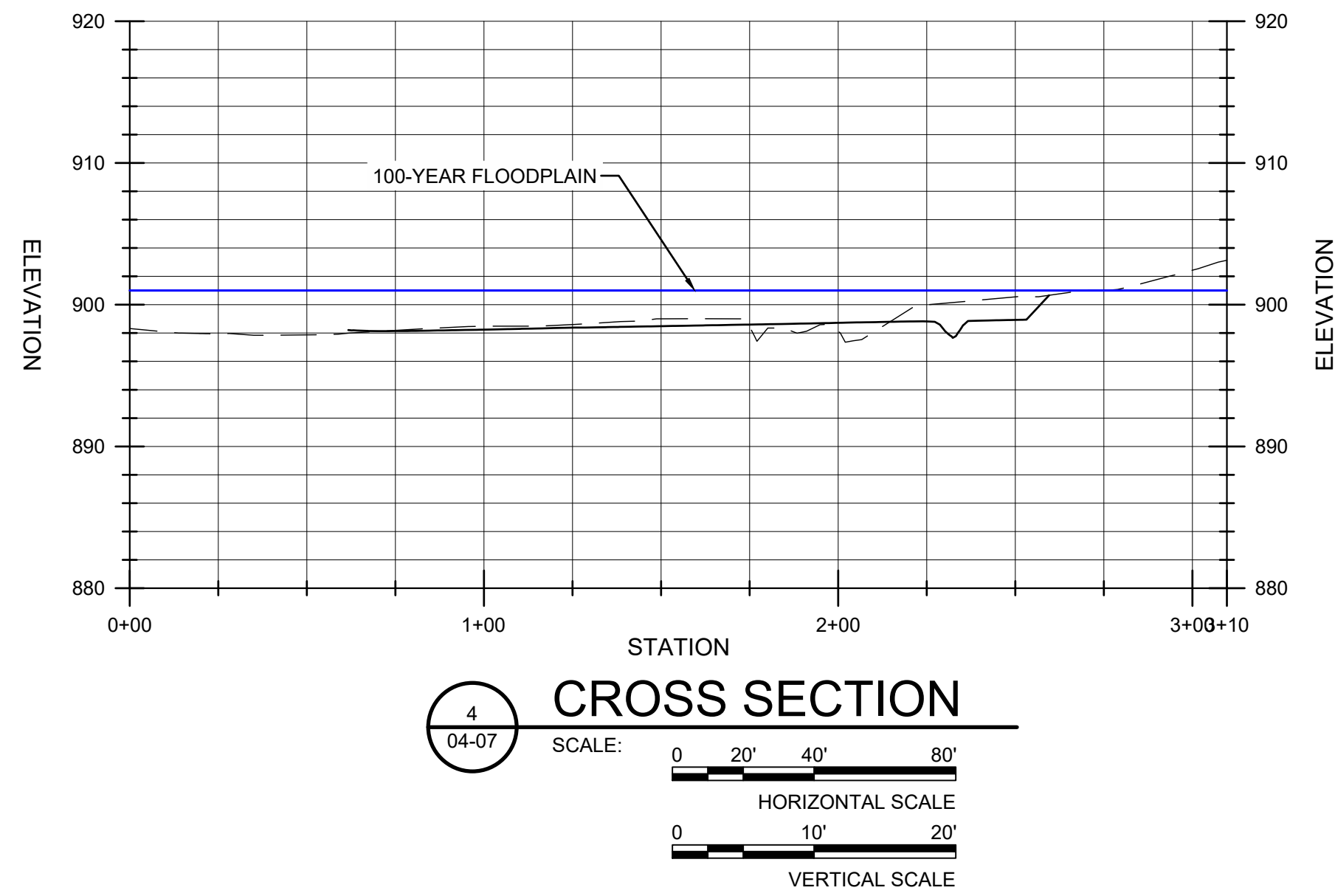
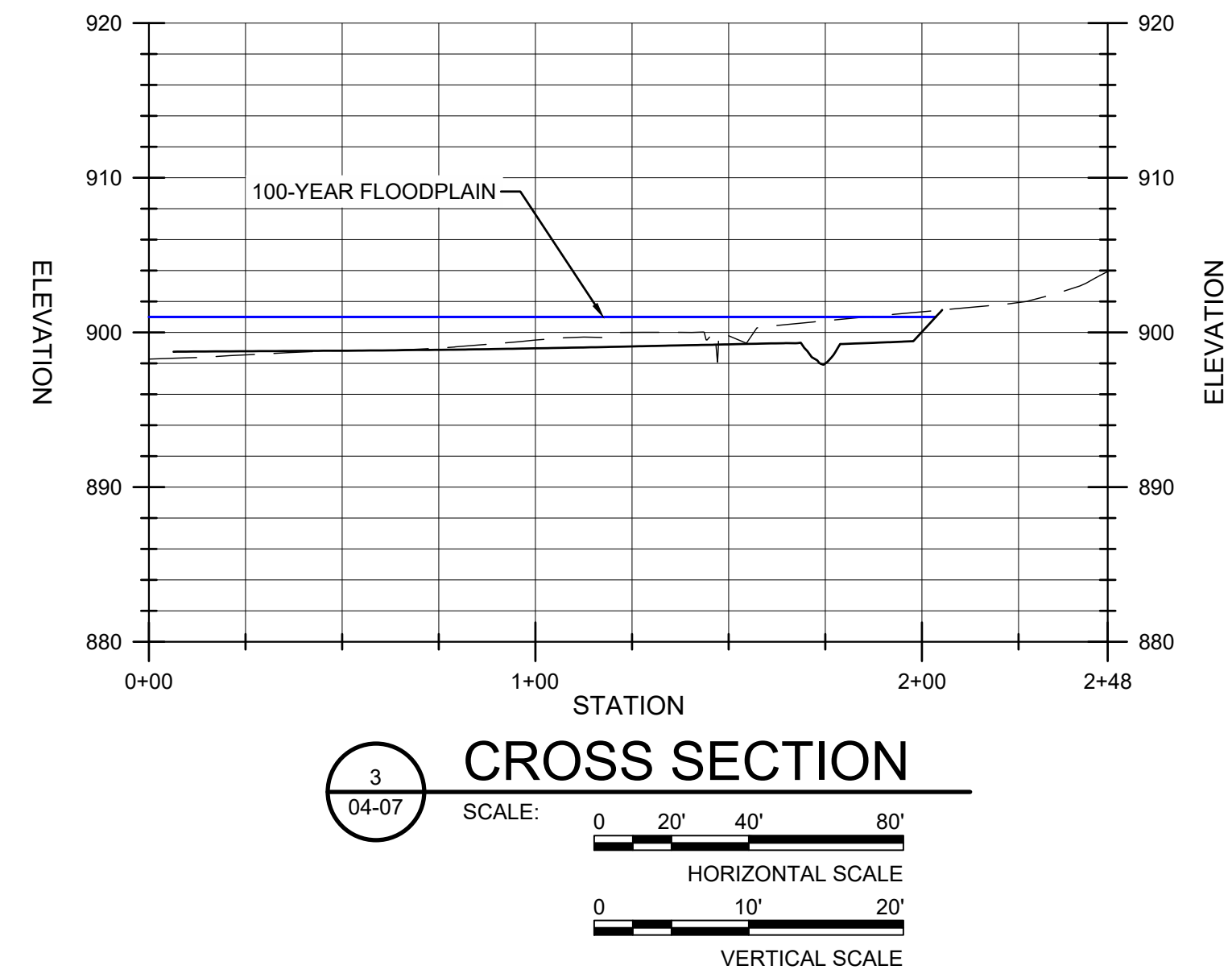
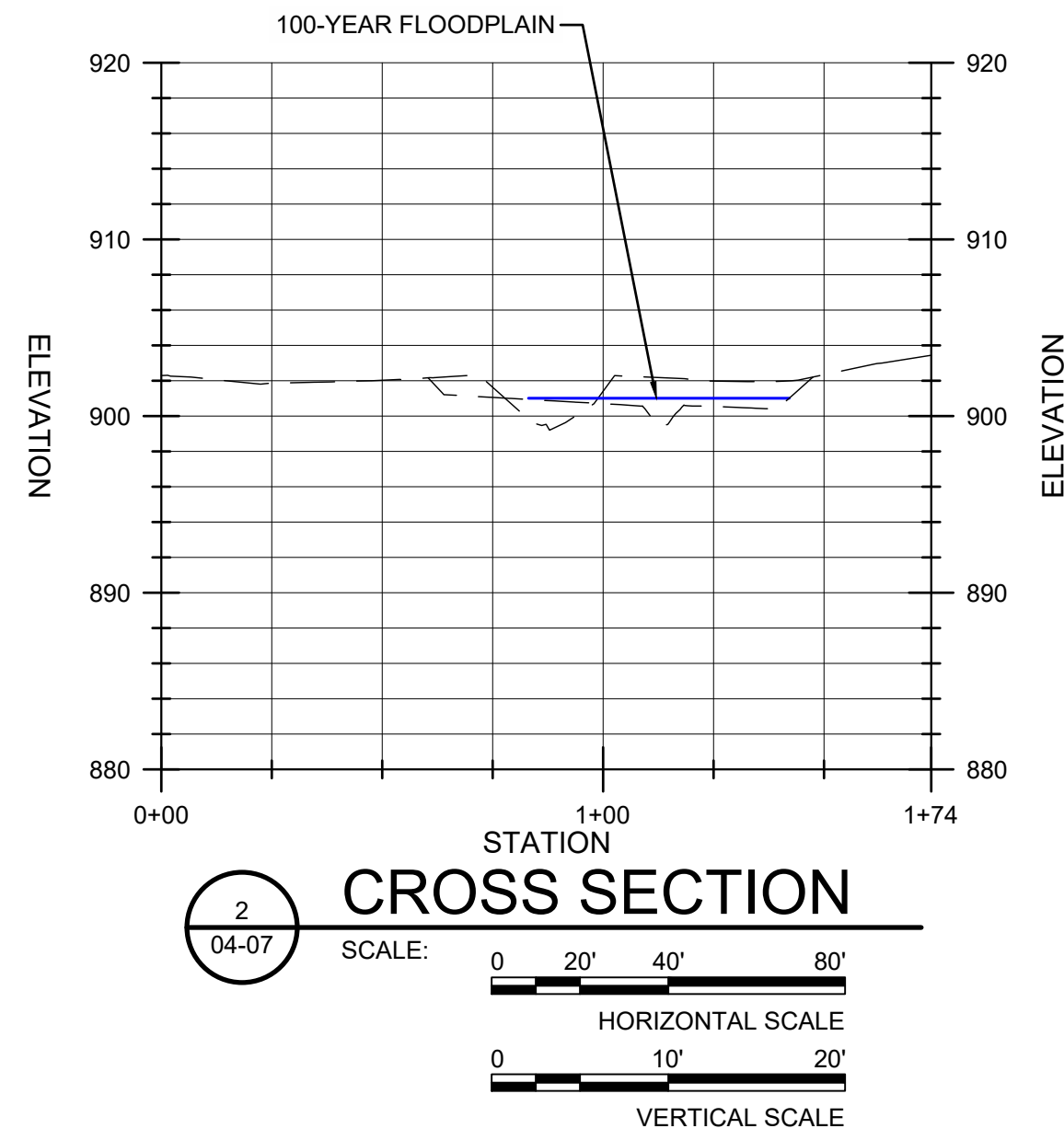
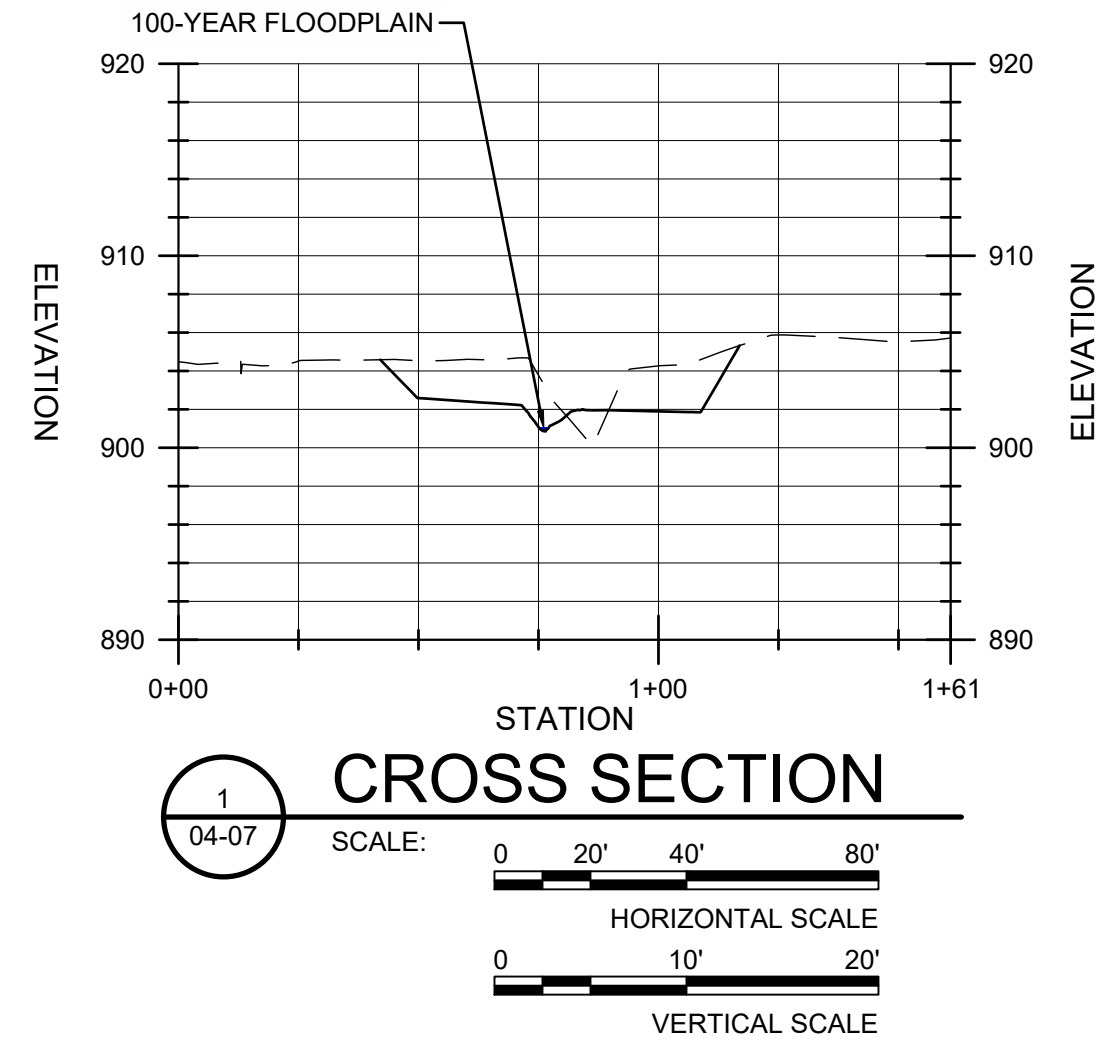
HORIZONTAL SCALE

VERTICAL SCALE

REVISIONS	
NO.	DATE

JOB NO:	PR61357
DATE:	SEPT. 2024
DESIGNED BY:	MRK
DRAWN BY:	EDS
CHECKED BY:	JRC
APPROVED BY:	BWT
SCALE:	NONE

UNT PROFILE



LEGEND

———— PROPOSED SURFACE

- - - - - EXISTING SURFACE

———— 100-YEAR FLOODPLAIN

330 RUSH ALLEY
SUITE 700
COLUMBUS, OH 43215



HIDDEN VALLEY GOLF COURSE
STREAM RESTORATION
CITY OF DELAWARE, OHIO
SEPTEMBER 2024

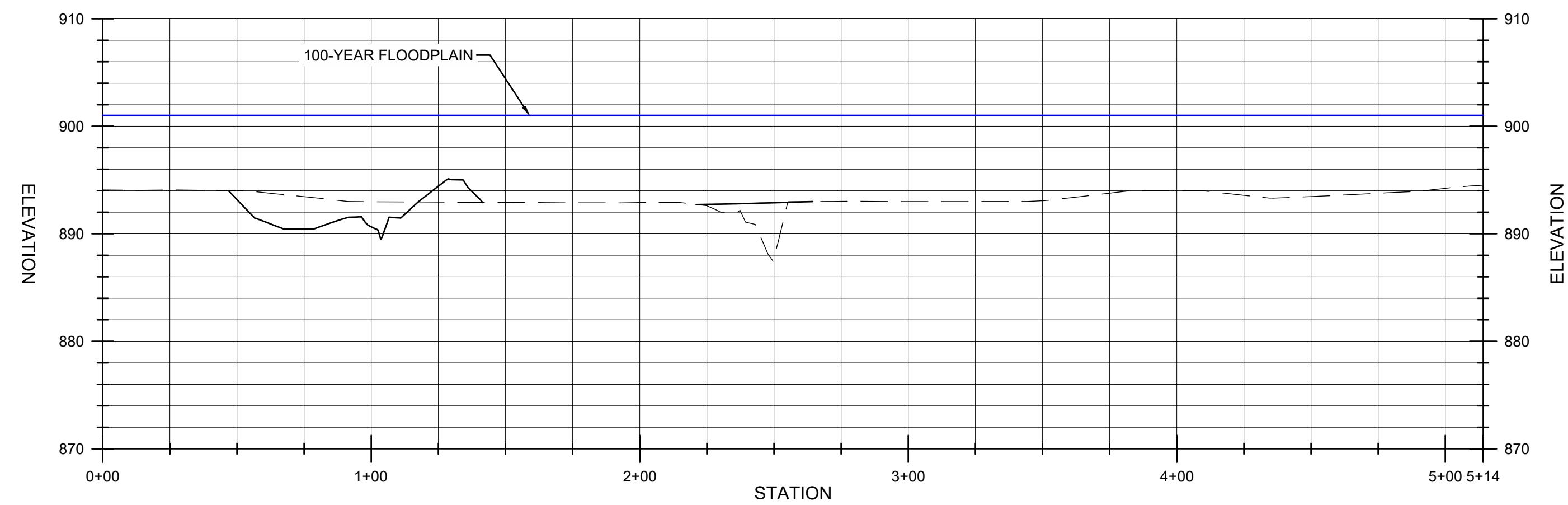
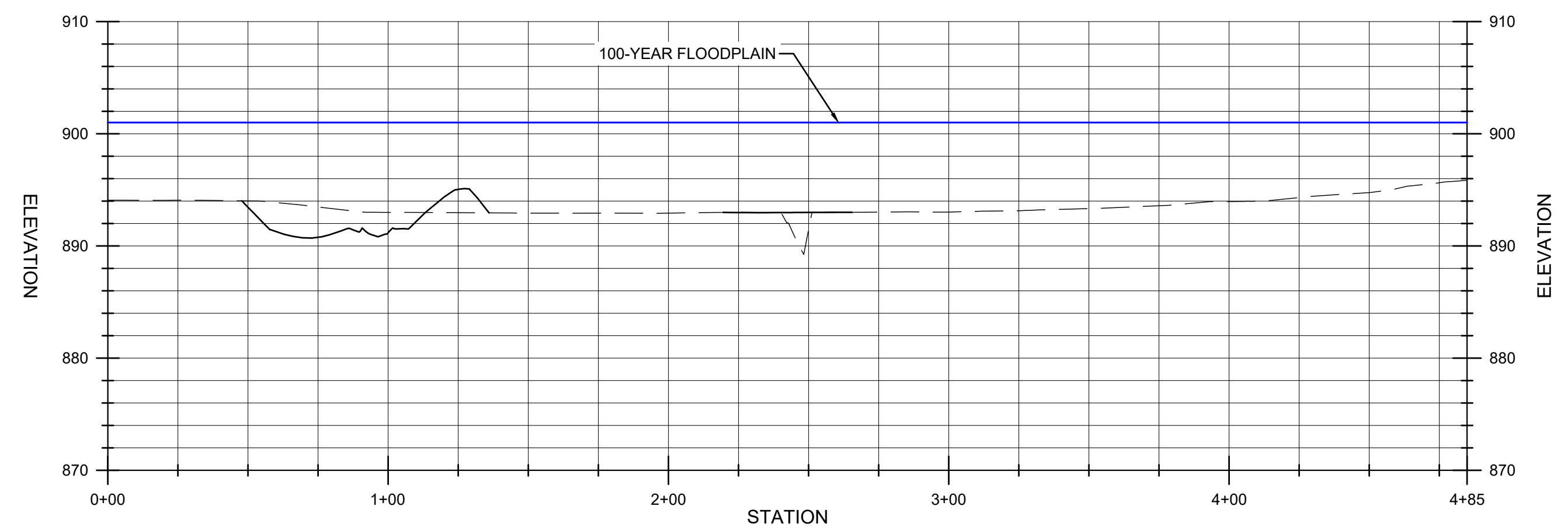
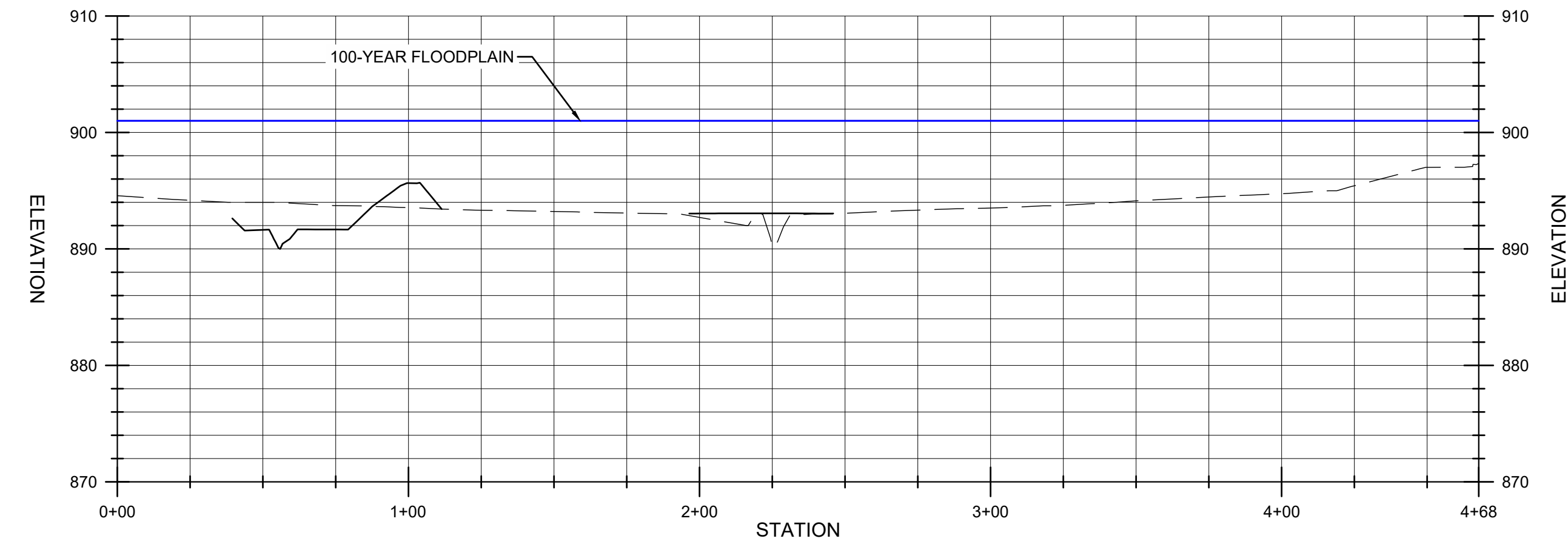
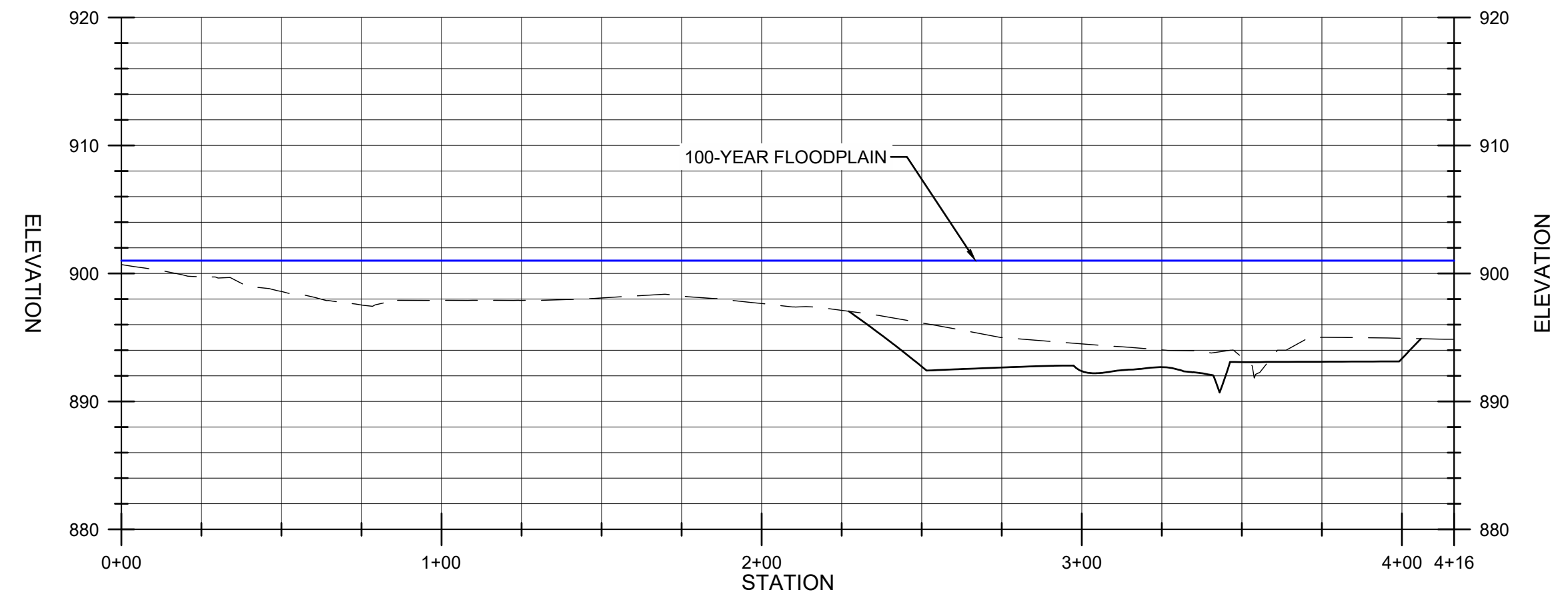
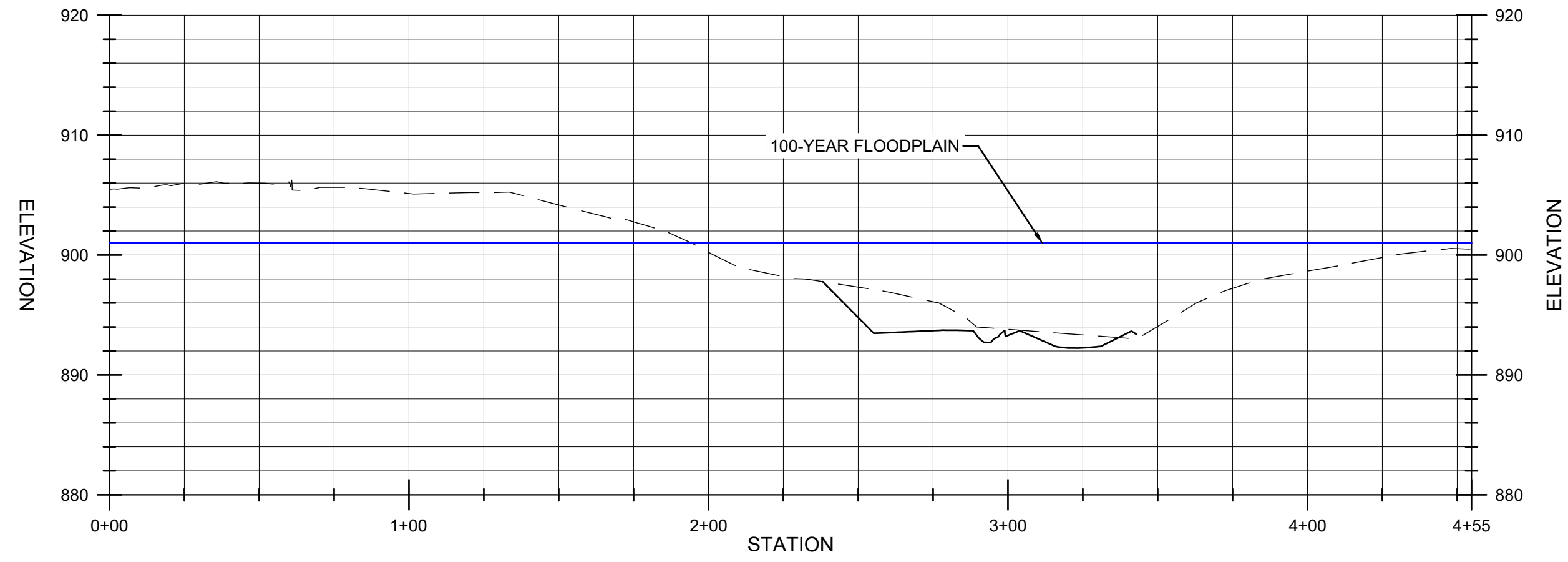
NO.	DESCRIPTION	DATE

JOB NO: PR61357
DATE: SEPT. 2024
DESIGNED BY: MRK
DRAWN BY: EDS
CHECKED BY: JRC
APPROVED BY: BWT
SCALE: NOTED

UNT TYPICAL CROSS SECTIONS I

07

SHEET: 07 OF 20



LEGEND

— PROPOSED SURFACE

- - - EXISTING SURFACE

— 100-YEAR FLOODPLAIN

330 RUSH ALLEY
SUITE 700
COLUMBUS, OH 43215



HIDDEN VALLEY GOLF COURSE
STREAM RESTORATION
CITY OF DELAWARE, OHIO
SEPTEMBER 2024

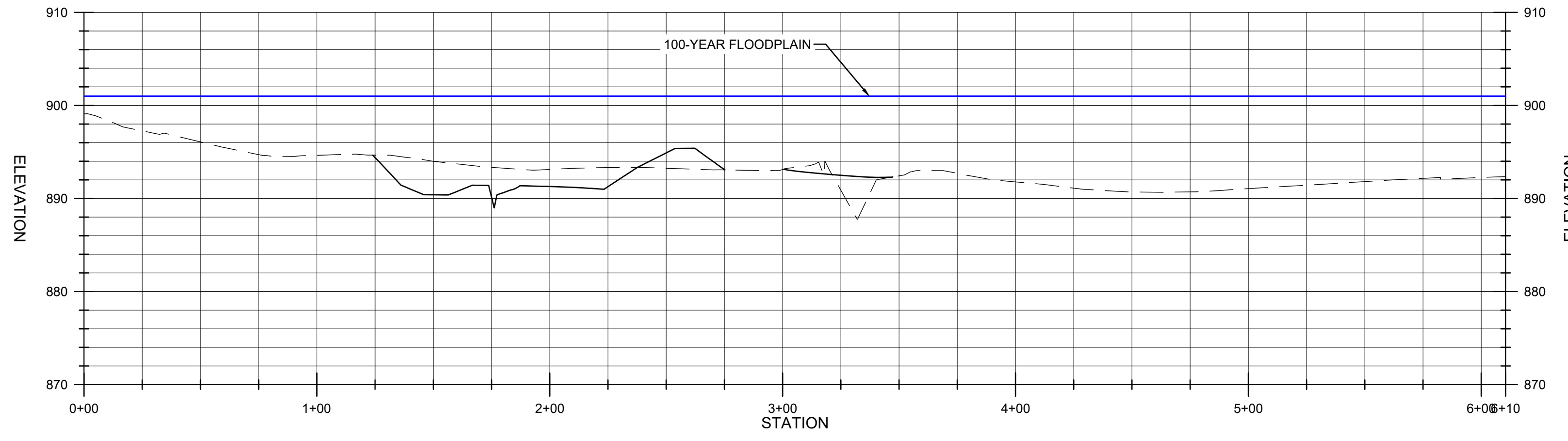
NO.	DESCRIPTION	DATE

JOB NO: PR61357
DATE: SEPT. 2024
DESIGNED BY: MRK
DRAWN BY: EDS
CHECKED BY: JRC
APPROVED BY: BWT
SCALE: NONE

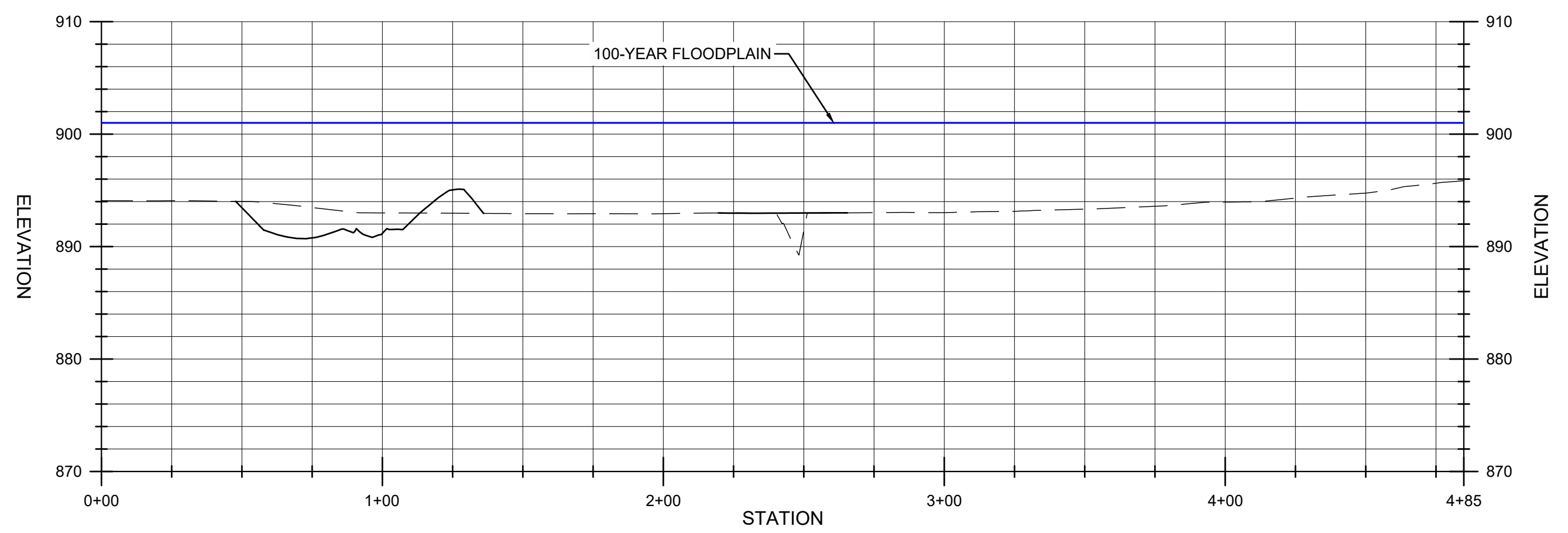
UNT TYPICAL CROSS SECTIONS II

08

SHEET: 08 OF 20



13
04-09
CROSS SECTION
SCALE: 0 20' 40' 80'
HORIZONTAL SCALE
0 10' 20'
VERTICAL SCALE



14
04-09
CROSS SECTION
SCALE: 0 20' 40' 80'
HORIZONTAL SCALE
0 10' 20'
VERTICAL SCALE

LEGEND
 — PROPOSED SURFACE
 - - - EXISTING SURFACE
 — 100-YEAR FLOODPLAIN

330 RUSH ALLEY
 SUITE 700
 COLUMBUS, OH 43215

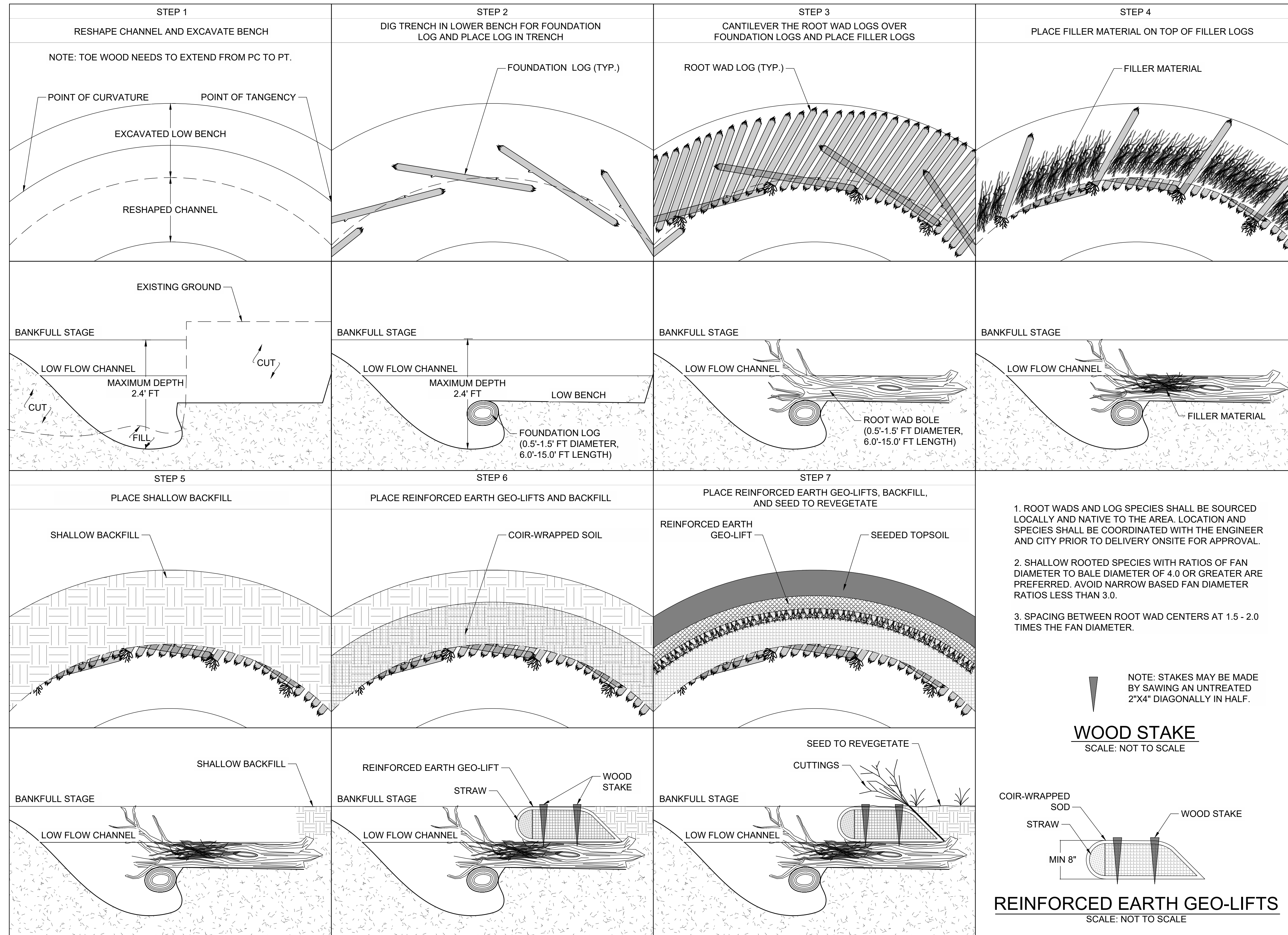


HIDDEN VALLEY GOLF COURSE
 STREAM RESTORATION
 CITY OF DELAWARE, OHIO
 SEPTEMBER 2024

NO.	DESCRIPTION	DATE

JOB NO: PR61357
 DATE: SEPT. 2024
 DESIGNED BY: MRK
 DRAWN BY: EDS
 CHECKED BY: JRC
 APPROVED BY: BWT
 SCALE: NONE

UNT TYPICAL CROSS SECTIONS III



TYPICAL TOE WOOD DETAIL
SCALE: NOT TO SCALE

NO.	DESCRIPTION	DATE

JOB NO:	PR61357
DATE:	SEPT. 2024
DESIGNED BY:	MRK
DRAWN BY:	EDS
CHECKED BY:	JRC
APPROVED BY:	BWT
SCALE:	NONE

TYPICAL TOEWOOD DETAILS

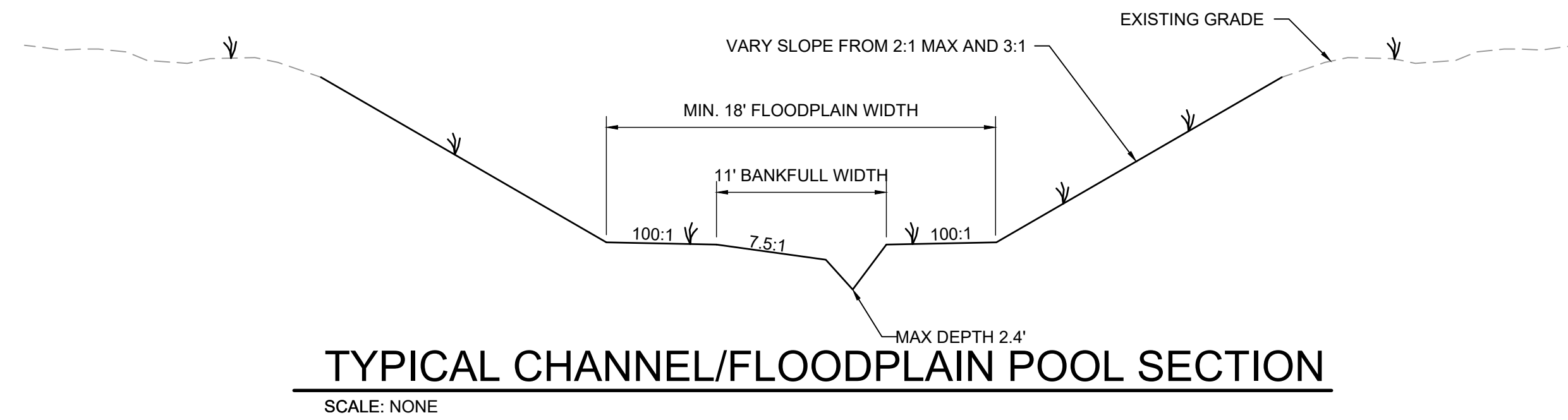
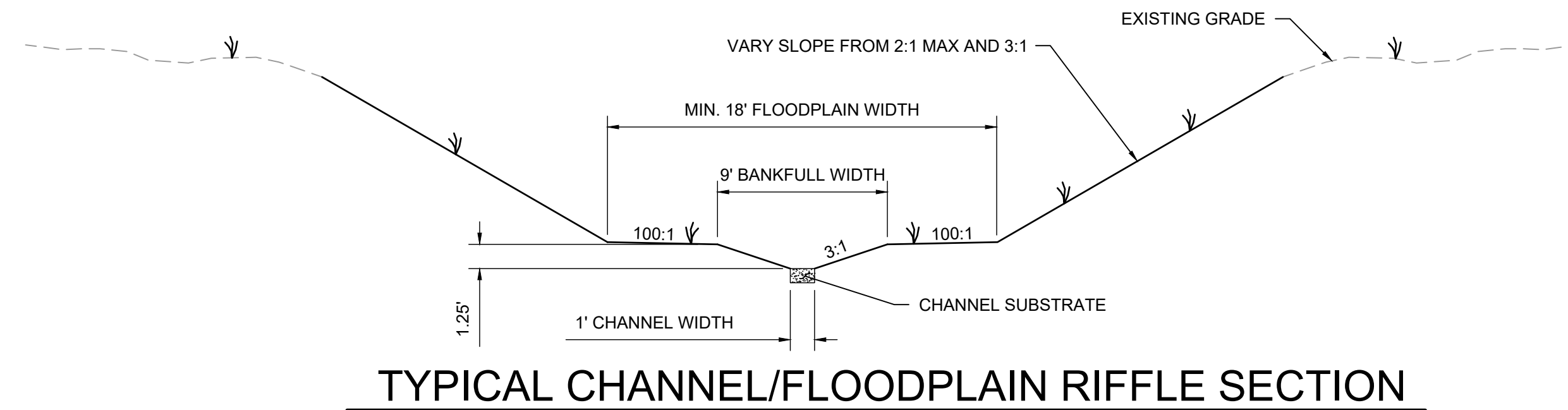
LOG STEP NOTES:

1. CONSTRUCTING LOG STEPS/CASCADES SHOULD BE CONSTRUCTED FOR SLOPES GREATER THAN 4%.
2. STEPS SHALL BE CONSTRUCTED WITH 1 ROW OF BACKER LOG AND 1 ROW OF MAIN LOGS AND TWO BOULDER PINCH ROCKS.
3. THE MAIN LOG SHALL BE APPROXIMATELY 2X BANKFULL WIDTH AND THE BACKER LOG SHALL BE SLIGHTLY SMALLER THAN THE MAIN LOG.
4. THE CENTER AND TOP OF THE MAIN LOG SHALL BE PLACED AT THE IDENTIFIED STATIONING AND ELEVATION ALONG THE STREAM CHANNEL.
5. BACKER LOG SHALL BE PLACED BEHIND THE MAIN LOG AND SLIGHTLY BELOW.
6. BOULDER PINCH SIZE MAY VARY BUT SHALL BE PLACED ADJACENT TO THE BOTTOM OF THE CHANNEL IMMEDIATELY DOWNSTREAM OF THE MAIN LOG IN THE BANKFULL BENCH.
7. THE NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED ALONG THE ENTIRE LENGTH OF THE STRUCTURE, EXTENDING HALFWAY DOWN THE UPSTREAM SIDE OF THE MAIN LOG COVERING THE BACKER LOG AND TRENCHED VERTICALLY 8" (MINIMUM) BELOW THE BOTTOM OF THE BACKER LOG.
8. THE NON-WOVEN GEOTEXTILE FABRIC SHALL BE SECURED TO THE MAIN LOG BY FOLDING 6-12 INCHES OF FABRIC OVER ITSELF THEN SECURED WITH ROOFING NAILS EVERY 6 INCHES ALONG THE ENTIRE LENGTH OF THE LOG. NO PLASTIC CAPS SHALL BE USED.
9. STEPS SHALL BE CONSTRUCTED SO THAT FLOW IS CENTERED WITHIN THE CHANNEL BOTTOM
10. STEPS SHALL SLOPE 2-4% WITH THE HIGHEST PORTION OF THE STEP ON THE DOWNSTREAM LEADING EDGE
11. SEE PROFILE VIEW FOR LOG STEP LOCATIONS AND ELEVATIONS
12. ALL MATERIALS ARE TO BE APPROVED BY ENGINEER OR ENGINEER'S ONSITE CONSTRUCTION OVERSIGHT

CONSTRUCTED RIFFLE NOTES:

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

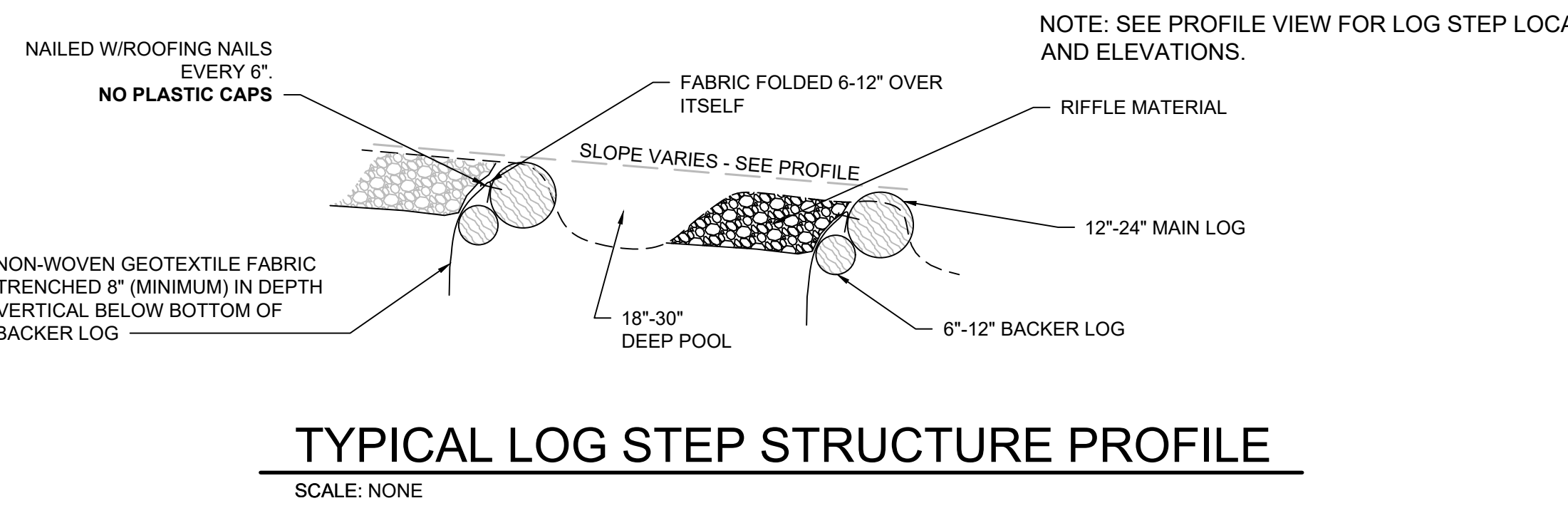
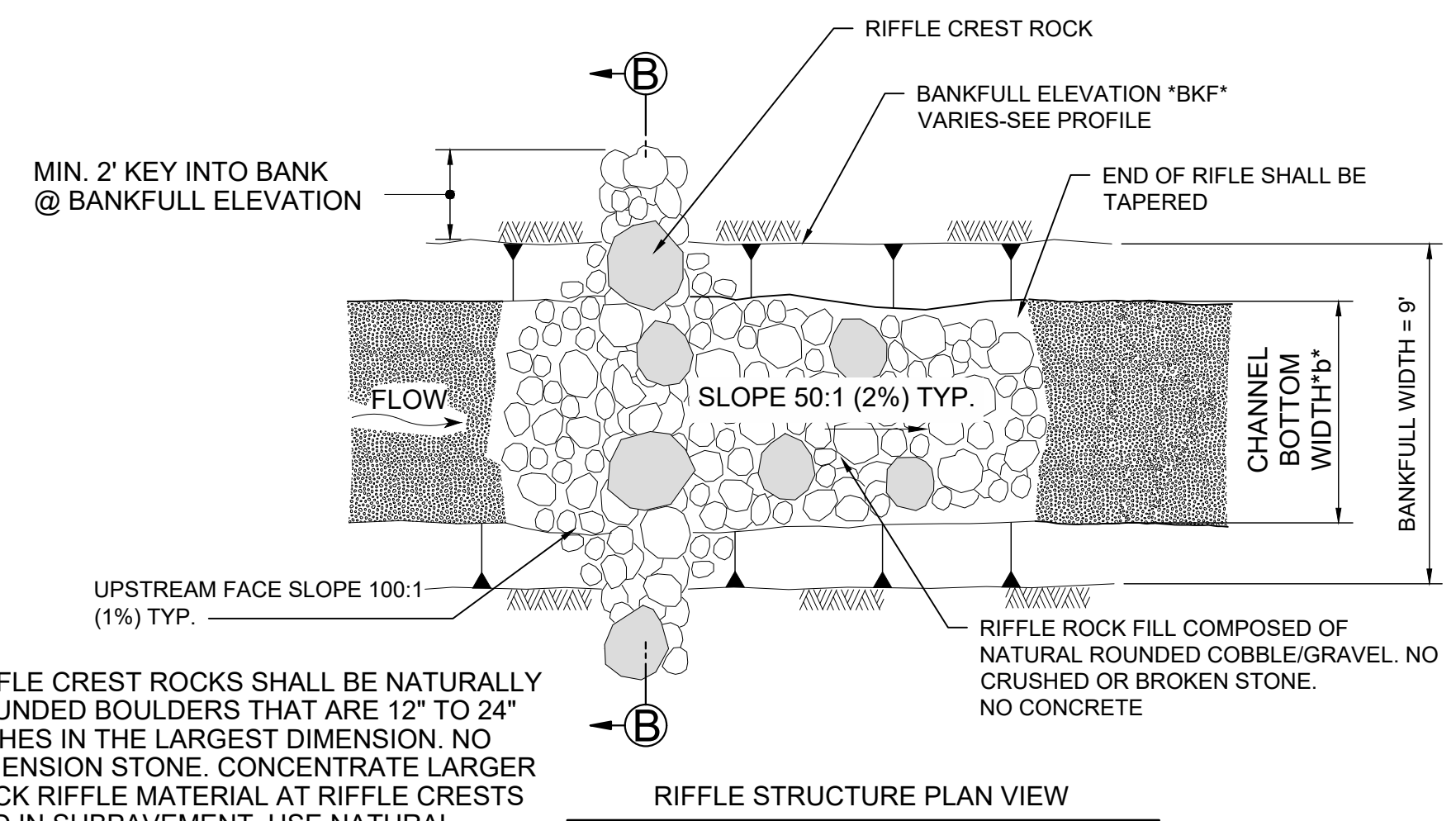
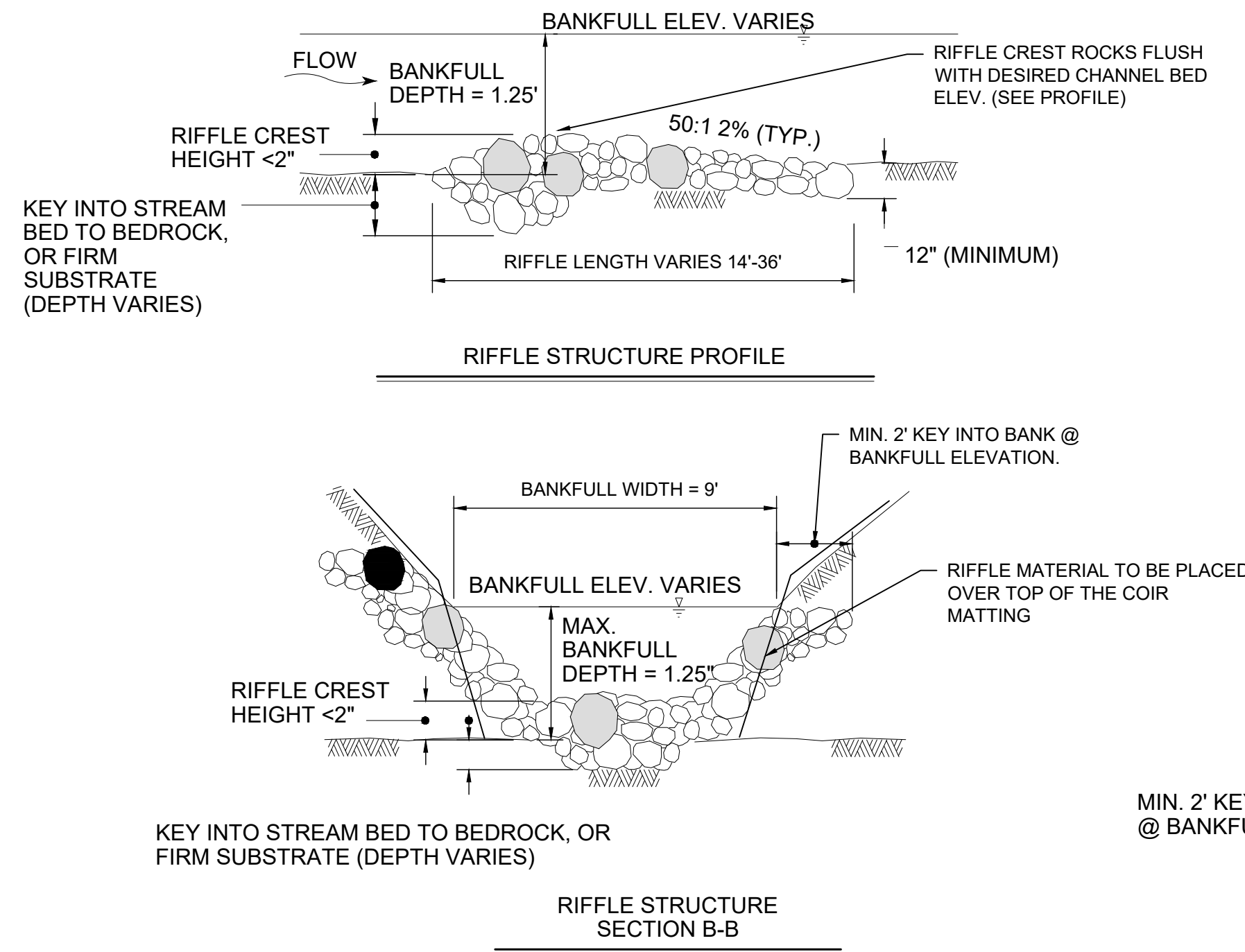
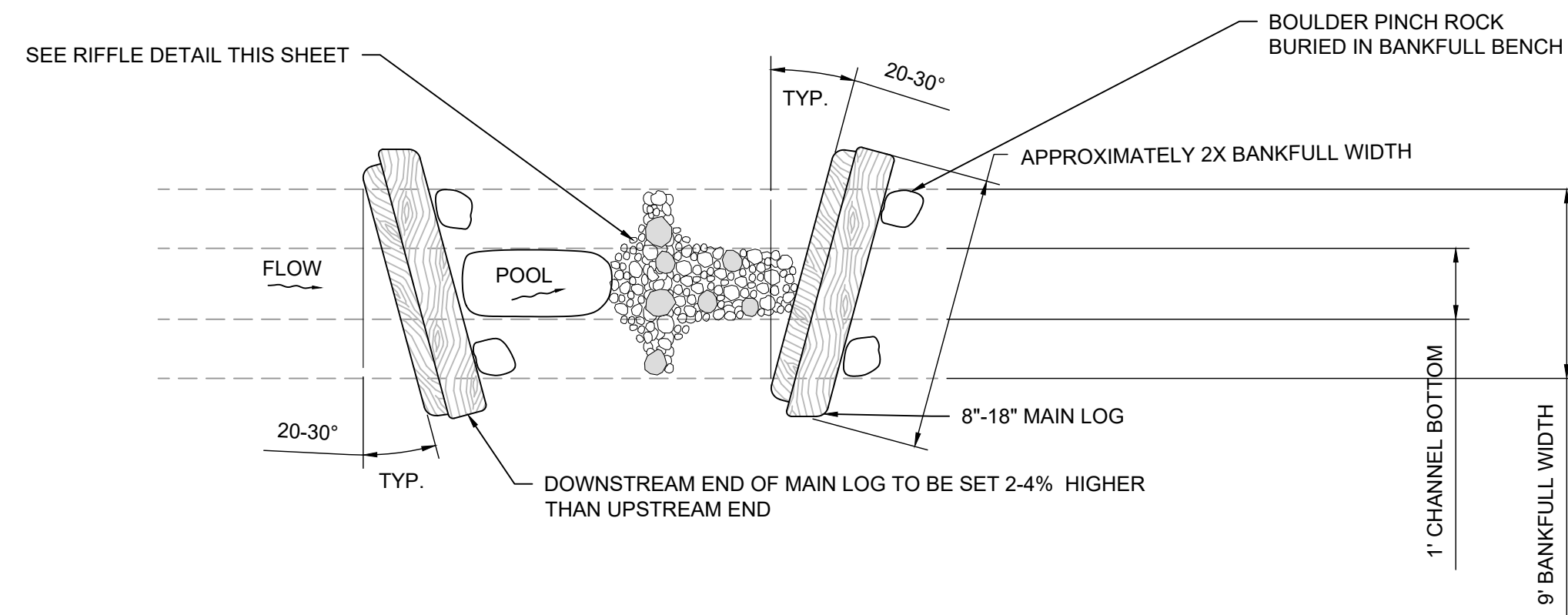
1. SUBSTRATES COMPRISED OF GRAVEL (0.08-2.5 INCHES), COBBLE (2.5-10.1 INCHES), AND/OR BOULDER (10.1-80 INCHES), ALSO REFERRED TO IN THIS SPECIFICATION AS COARSE SUBSTRATE OR ALLUVIUM, THAT ARE REMOVED FROM THE STREAM DURING CHANNEL EXCAVATION WILL BE TEMPORARILY STOCKPILED IN A NON-WETLAND/AQUATIC SITE FOR REUSE IN THE RESTORED CHANNEL.
2. SUBSTRATE WILL BE NATURAL IN COLOR (WHITE, BROWN, YELLOW, OR TAN).
3. SUBSTRATE SHALL BE FREE OF IMPURITIES AND CONTAMINANTS.
4. SUBSTRATE SHALL BE NATURAL AND FREE OF SLAG.
5. SIZING IS BASED ON THE B-AXIS OF THE ROCK.
6. FOR GRADING OF POOLS, REUSE EXISTING SITE MATERIAL. OVER 50% OF POOL MATERIAL SHOULD BE HARVESTED GRAVEL SUBSTRATE FROM THE EXISTING STREAM. COMPOSITION OF FINES, INCLUDING SOIL, SILT, AND SAND SHOULD BE LIMITED.
7. RIFFLE MATERIAL SHOULD BE INSTALLED ALONG THE BANKS OVERTOP OF THE COIR MATTING.



LOG STEP EXAMPLE 1
SCALE: NONE



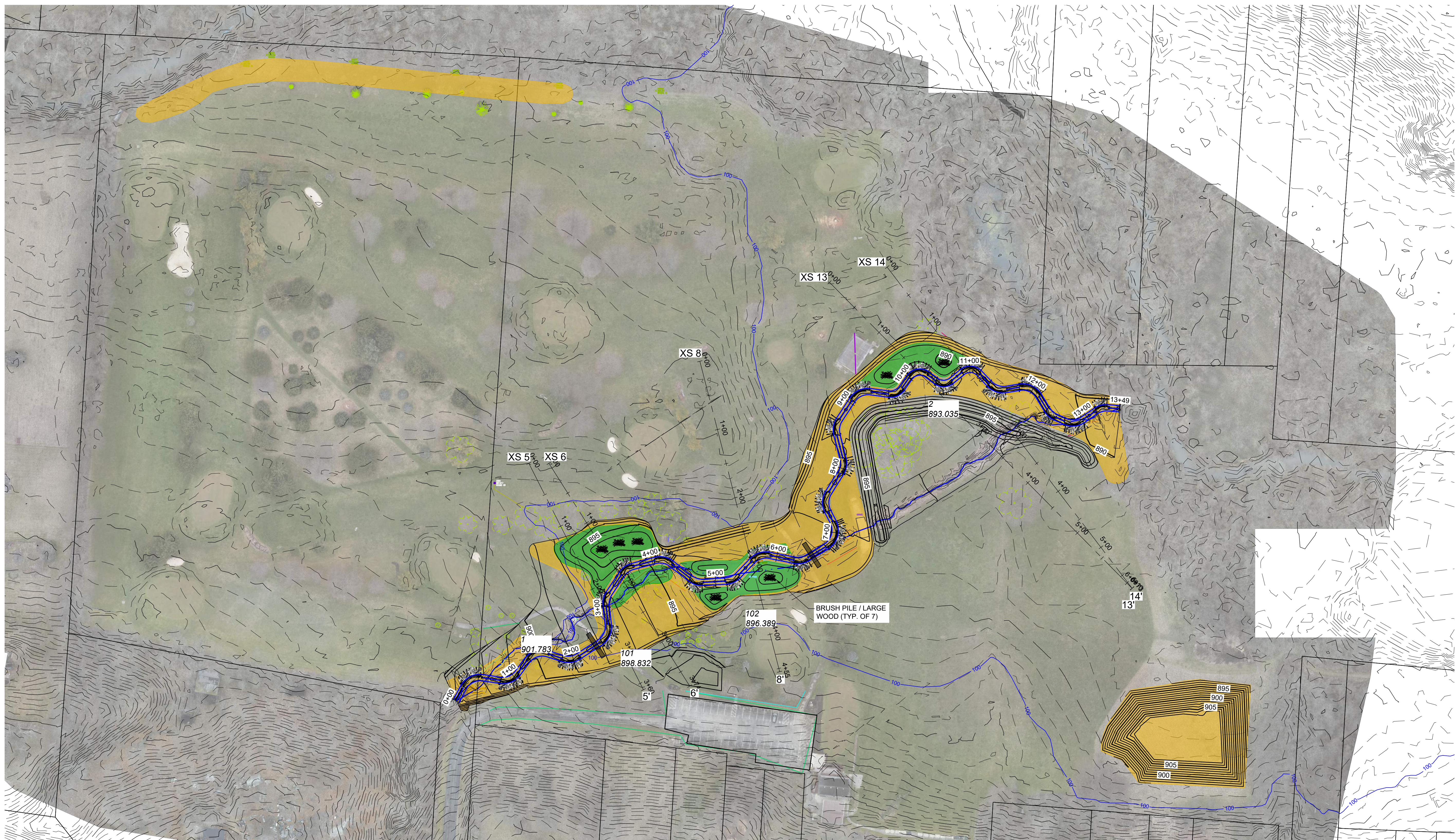
LOG STEP EXAMPLE 2
SCALE: NONE


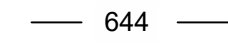

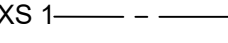


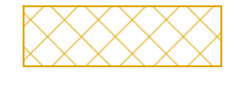


NO.	DESCRIPTION	DATE

JOB NO: PR61357
DATE: SEPT. 2024
DESIGNED BY: MRK
DRAWN BY: EDS
CHECKED BY: JRC
APPROVED BY: BWT
SCALE: NONE

UNT DETAILS



- LEGEND**
-  EXISTING STREAM
 -  644 TOPOGRAPHY
 -  100 YR FLOODPLAIN
 -  XS 1 - - - 1' CROSS SECTION START AND END
 -  PROPOSED WETLAND (0.5 ACRES)
 -  NATIVE RIPARIAN BUFFER (2.8 ACRES)
 -  COIR MATTING WITH SHORT SEDGE MEADOW SEED MIX (0.4 ACRES)

WETLAND PLAN

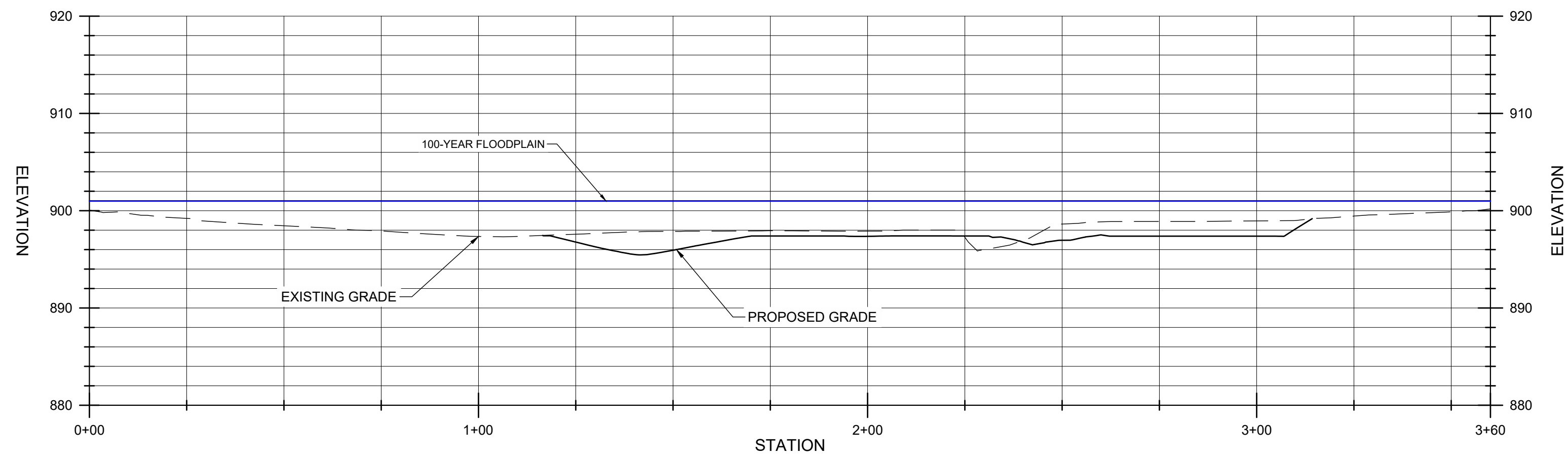
SCALE: 1" = 70'



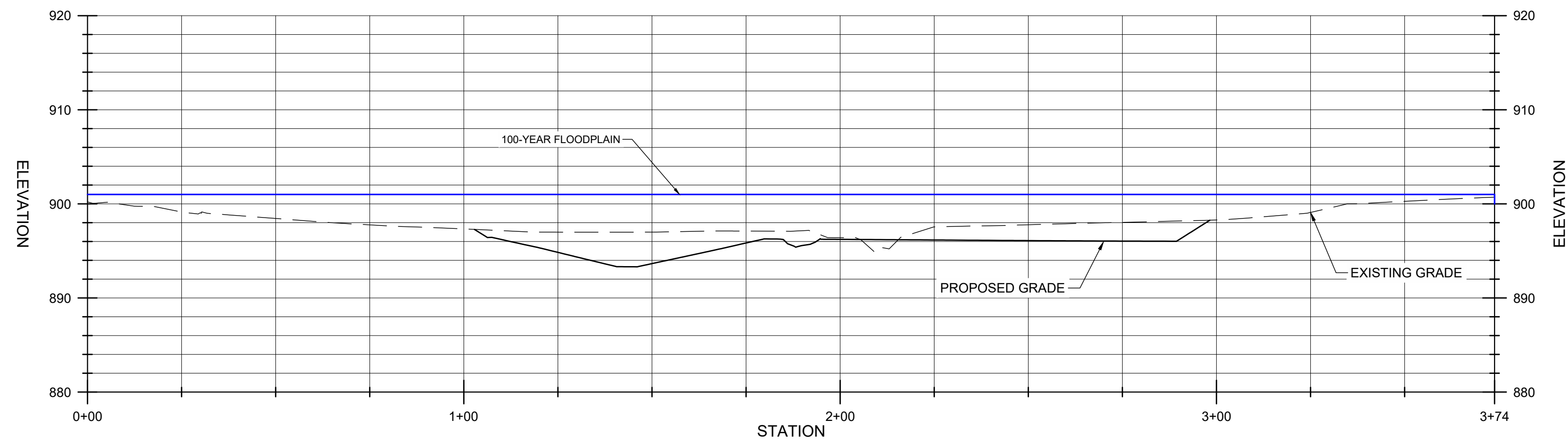
NO.	DESCRIPTION	DATE

JOB NO: PR61357
 DATE: SEPT. 2024
 DESIGNED BY: MRK
 DRAWN BY: EDS
 CHECKED BY: JRC
 APPROVED BY: BWT
 SCALE: NOTED

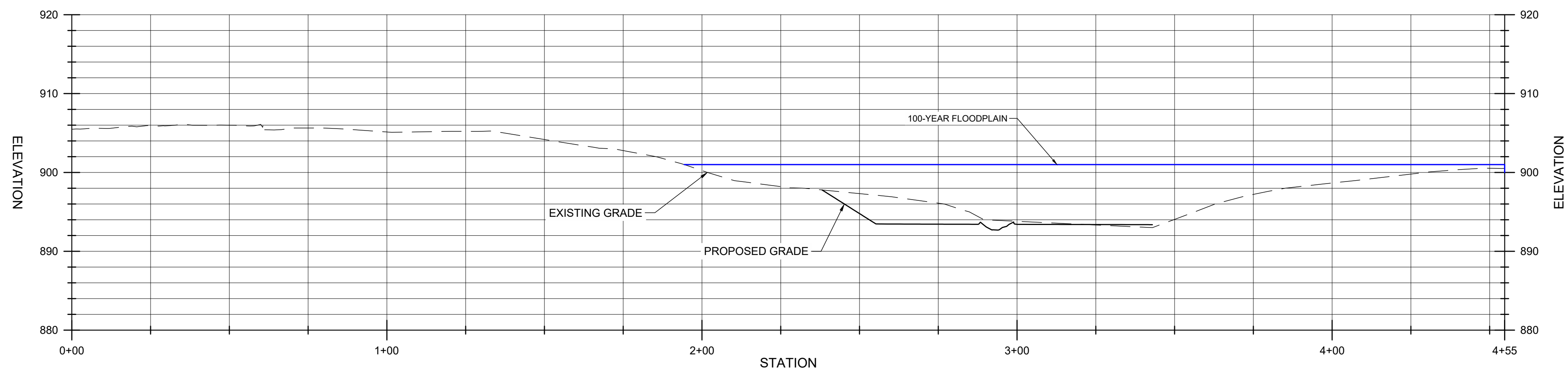
WETLAND PLAN



WETLAND TRANSECT 5
 SCALE: 0 25' 50'
 HORIZONTAL SCALE
 0 10' 20'
 VERTICAL SCALE



WETLAND TRANSECT 6
 SCALE: 0 25' 50'
 HORIZONTAL SCALE
 0 10' 20'
 VERTICAL SCALE



WETLAND TRANSECT 8
 SCALE: 0 25' 50'
 HORIZONTAL SCALE
 0 10' 20'
 VERTICAL SCALE

LEGEND
 — PROPOSED SURFACE
 - - - EXISTING SURFACE
 — 100-YEAR FLOODPLAIN

330 RUSH ALLEY
 SUITE 700
 COLUMBUS, OH 43215



HIDDEN VALLEY GOLF COURSE
 STREAM RESTORATION
 CITY OF DELAWARE, OHIO
 SEPTEMBER 2024

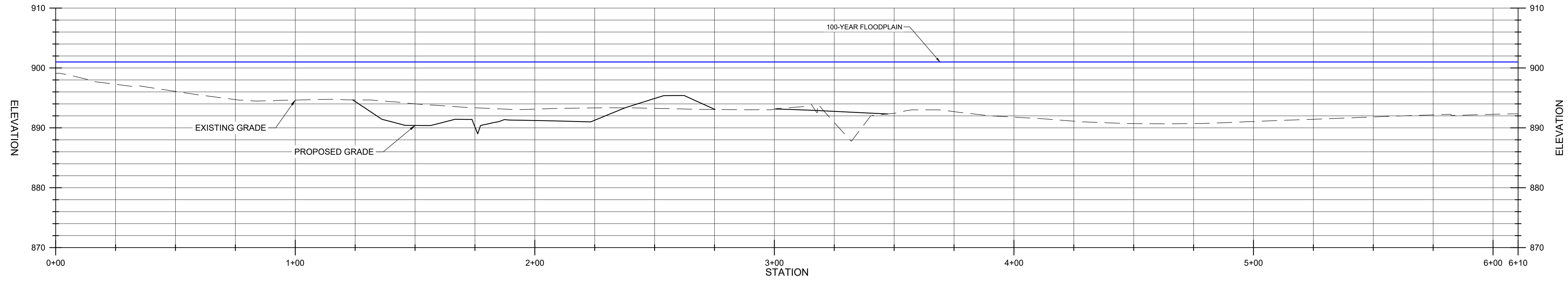
NO.	DESCRIPTION	DATE

JOB NO: PR61357
 DATE: SEPT. 2024
 DESIGNED BY: MRK
 DRAWN BY: EDS
 CHECKED BY: JRC
 APPROVED BY: BWT
 SCALE: NOTED

WETLAND TYPICAL
 CROSS SECTIONS

13

SHEET: 13 OF 20



13
12-14

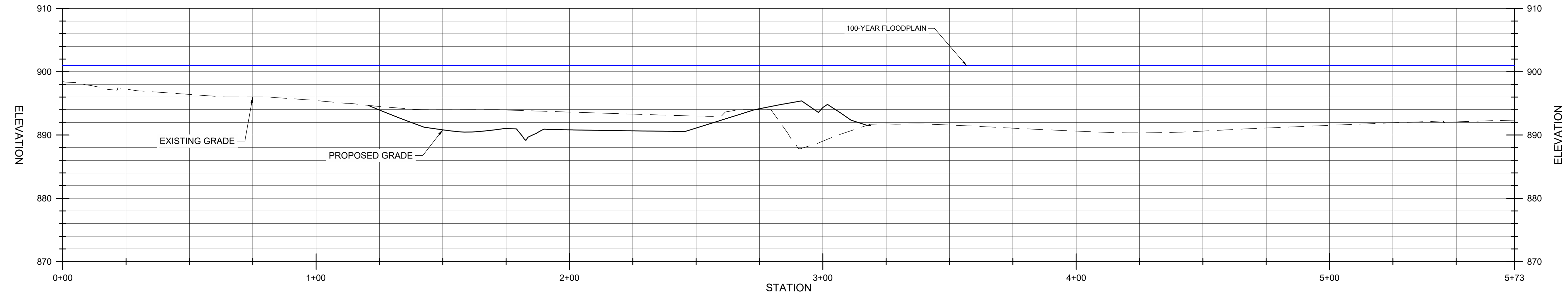
WETLAND TRANSECT 13

SCALE: 0 25' 50'

HORIZONTAL SCALE

0 10' 20'

VERTICAL SCALE



14
12-14

WETLAND TRANSECT 14

SCALE: 0 25' 50'

HORIZONTAL SCALE

0 10' 20'

VERTICAL SCALE

LEGEND

— PROPOSED SURFACE

- - - EXISTING SURFACE

— 100-YEAR FLOODPLAIN

330 RUSH ALLEY
SUITE 700
COLUMBUS, OH 43215



HIDDEN VALLEY GOLF COURSE
STREAM RESTORATION
CITY OF DELAWARE, OHIO
SEPTEMBER 2024

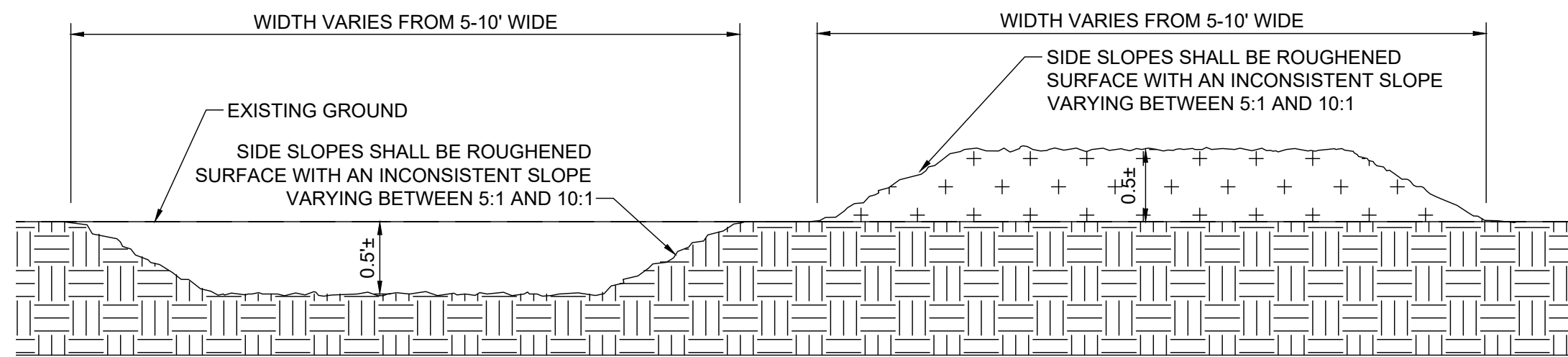
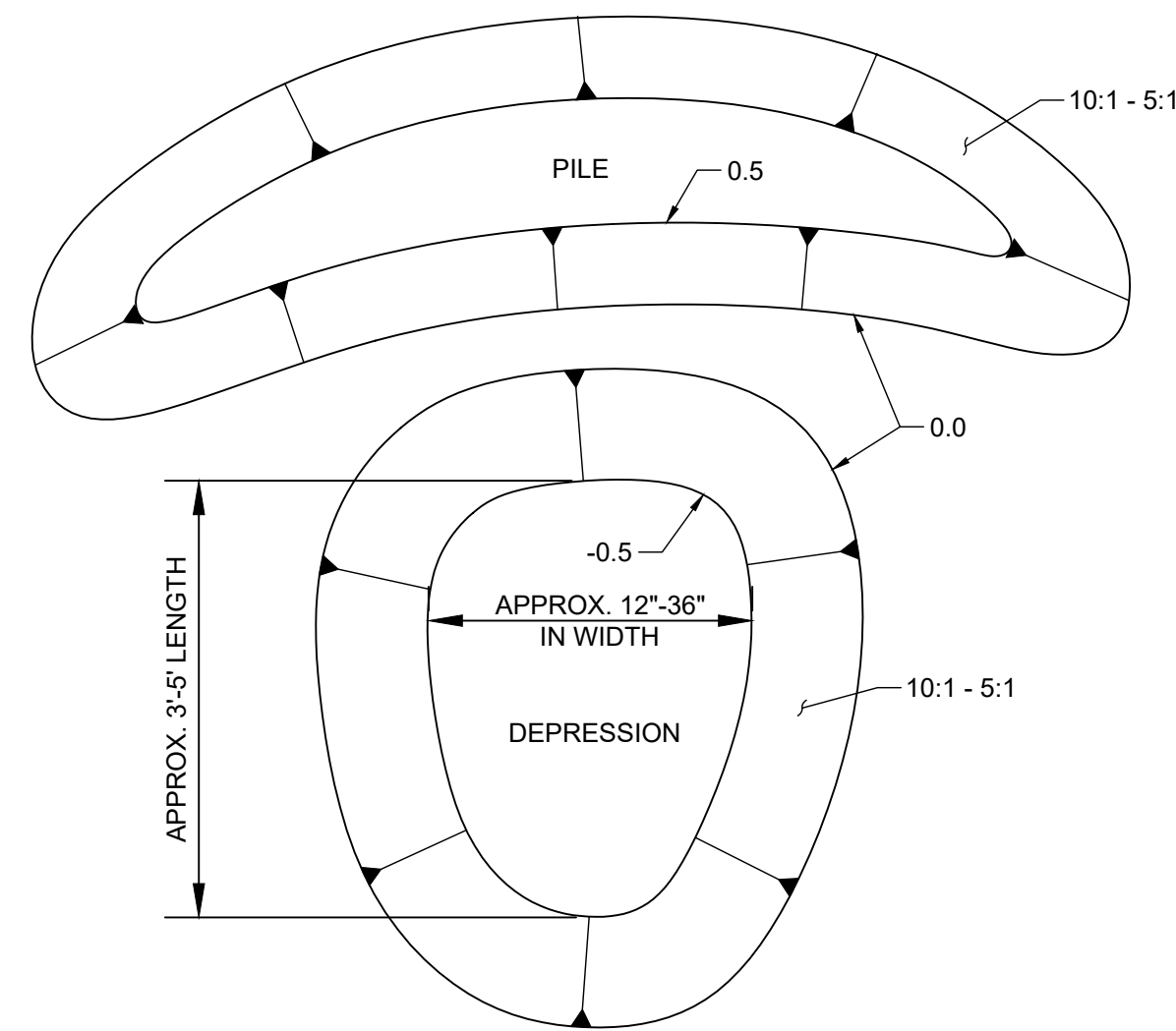
NO.	DESCRIPTION	DATE

JOB NO: PR61357
DATE: SEPT. 2024
DESIGNED BY: MRK
DRAWN BY: EDS
CHECKED BY: JRC
APPROVED BY: BWT
SCALE: NOTED

WETLAND TYPICAL
CROSS SECTIONS

14

SHEET: 14 OF 20

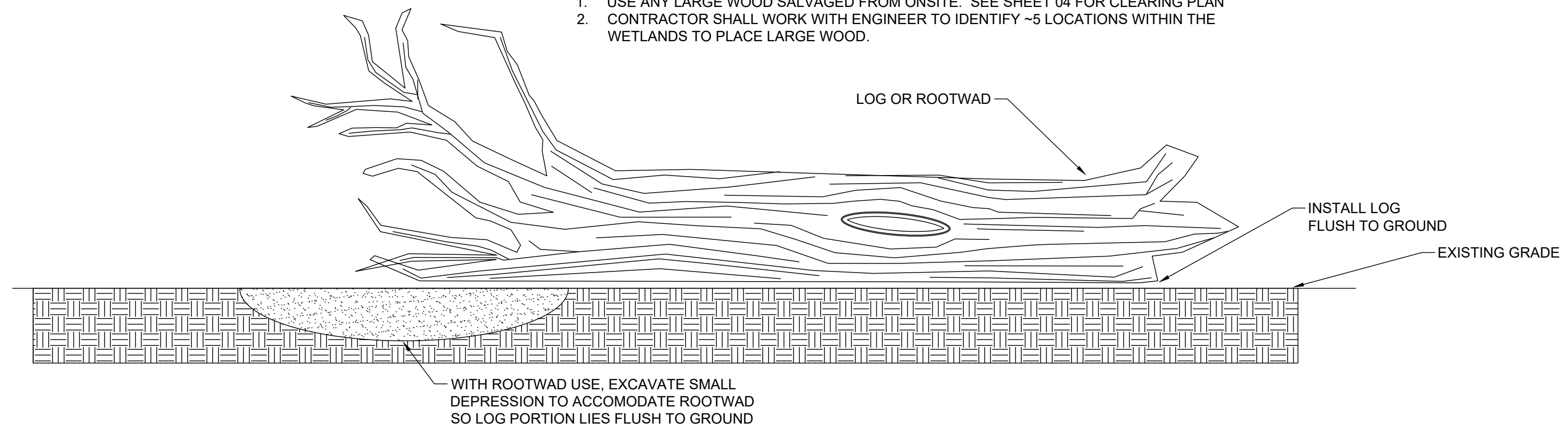


HUMMOCK DETAIL

SCALE: NONE

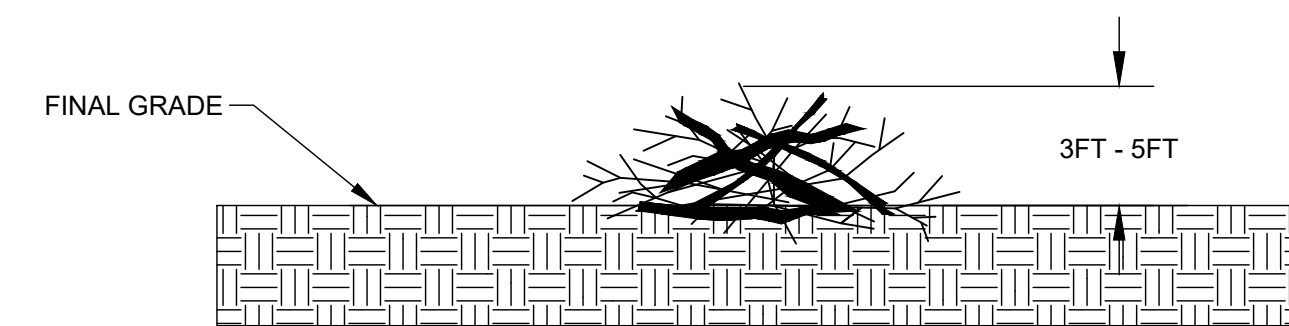
1. MICRO POOLS SHALL BE ADDED TO WETLANDS TO CREATE NICHE HABITAT WITHIN WETLAND BOTTOMS.
2. ONCE WETLAND GRADING IS COMPLETE, WITHIN THE OUTLINED AREAS ON THE PLAN SHEET, THE CONTRACTOR WILL UTILIZE A 12"-36" BUCKET TO CREATE 12"-18" DEEP BY 3'-5' LONG DEPRESSIONS.
3. EXCAVATED MATERIAL WILL BE PLACE UNCOMPACTED BESIDE THE DEPRESSION.
4. DENSITY WILL BE APPROXIMATELY 1 DEPRESSION PER 15'X15' AREA.
5. CONTRACTOR WILL MAKE THESE DEPRESSIONS LOOK RANDOMIZED AND AS NATURAL AS POSSIBLE.

- NOTES:
1. USE ANY LARGE WOOD SALVAGED FROM ONSITE. SEE SHEET 04 FOR CLEARING PLAN
 2. CONTRACTOR SHALL WORK WITH ENGINEER TO IDENTIFY ~5 LOCATIONS WITHIN THE WETLANDS TO PLACE LARGE WOOD.



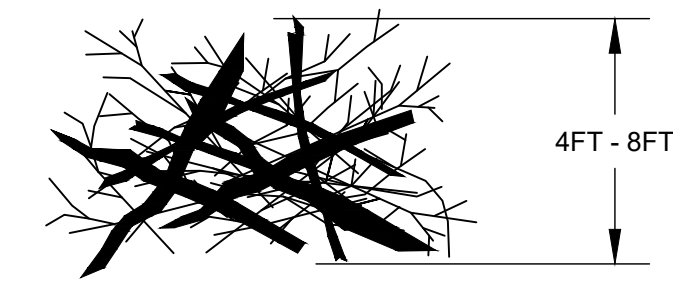
LARGE WOOD

SCALE: NONE



CROSS SECTION VIEW

SCALE: 1" = 1'



PLAN VIEW

SCALE: 1" = 1'

BRUSH PILE

SCALE: NONE

NO.	DESCRIPTION	DATE

JOB NO: PR61357

DATE: SEPT. 2024

DESIGNED BY: MRK

DRAWN BY: EDS

CHECKED BY: JRC

APPROVED BY: BWT

SCALE: NONE

WETLAND DETAILS



GENERAL PLANTING NOTES:

1. ALL WORK AND MATERIALS SHALL COMPLY WITH CURRENT AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1 AND APPLICABLE CITY CONSTRUCTION AND MATERIAL SPECIFICATIONS.
2. CONTRACTOR SHALL PROVIDE WELL-GROWN, HEALTHY SPECIMENS OF ALL PLANTS, TYPICAL OF THEIR SPECIES, AND FREE OF DISEASE, PESTS, PHYSICAL DAMAGE OR OTHER CONDITIONS THAT MAY INHIBIT PLANT SURVIVAL OR VIGOROUS GROWTH.
3. CONTRACTOR SHALL PROVIDE PLANTS CONFORMING TO MATERIAL TYPES, SIZE, CLASSES, AND MEASUREMENTS SPECIFIED. CONTRACTOR MAY PROVIDE LARGER PLANT MATERIAL THAN SPECIFIED AT NO ADDITIONAL COST TO THE CITY. ALL PLANTS SHALL BE PROVIDED WITH ATTACHED, DURABLE LABELS IDENTIFYING EACH AS TO SPECIES.
4. PLANT SUBSTITUTIONS WILL GENERALLY NOT BE ACCEPTED, BUT MAY BE IF PRIOR APPROVED BY THE ENGINEER.
5. PLANT MATERIALS SHALL BE INSPECTED ON SITE BY ENGINEER PRIOR TO PLANTING.
6. SMALL GROUPINGS OF THE SAME SPECIES ARE ACCEPTABLE, BUT CONTRACTOR SHALL GENERALLY DISTRIBUTE PLANT SPECIES EVENLY ACROSS THE SITE FOR A NATURAL APPEARANCE.
7. PLANT MATERIAL SHALL BE PLANTED WITHIN DAYS OF DELIVERY OR PROPERLY STORED ON SITE SO AS TO PREVENT DRYING OUT, FREEZING, OR OTHER DAMAGE.
8. SPRING PLANTINGS SHALL BE INSTALLED BETWEEN MARCH 1 TO MAY 31. FALL PLANTING SHALL BE INSTALLED BETWEEN SEPTEMBER 1 AND NOVEMBER 30.
9. CONTRACTOR SHALL MAINTAIN ALL PLANTS IN GOOD CONDITION DURING THE WARRANTY PERIOD. CONTRACTOR SHALL REPLACE ANY DEAD, DYING, DISEASED, OR DAMAGED PLANTS WITH HEALTHY SPECIMENS OF THE SAME SPECIES, OR APPROVED SUBSTITUTE, DURING THE WARRANTY PERIOD AT NO COST TO THE CITY.
10. CONTRACTOR SHALL REMOVE PROTECTIVE TREE WRAPS AND STAKING AT THE END OF THE WARRANTY PERIOD, UNLESS OTHERWISE DIRECTED BY THE CITY OR PROJECT ENGINEER.
11. CONTRACTOR WILL RESTORE ANY DISTURBED OR DAMAGED AREAS OUTSIDE OF THE PERMANENT SEED ZONES WITH TURF TYPE TALL FESCUE SEED AND APPROPRIATE COVER CROP AT THE APPLICATION RATE OUTLINED BELOW.

PERMANENT SEEDING NOTES:

1. SEEDING IN AREAS GRADED OR OTHERWISE MARKED ON THE PLAN SHEETS SHALL OCCUR IN ACCORDANCE WITH ODNR RAINWATER AND LAND DEVELOPMENT MANUAL CHAPTER 7.10.
2. SOW SEED WITH A SPREADER AT A UNIFORM RATE OUTLINED BY EACH SEED TYPE ON THE ATTACHED TABLE.
3. DO NOT BROADCAST OR DROP SEED WHEN WIND VELOCITIES EXCEEDS 5 MPH. EVENLY DISTRIBUTE SEED BY SOWING EQUAL QUANTITIES IN TWO DIRECTIONS AT RIGHT ANGLES TO EACH OTHER.
4. DO NOT USE WET SEED OR SEED THAT IS MOLDY OR OTHERWISE DAMAGED IN TRANSIT OR STORAGE.
5. SOW SEED PRIOR TO INSTALLATION OF EROSION CONTROL FABRIC WHERE APPLICABLE.
6. RAKE SEED LIGHTLY INTO THE TOP ¼ TO ½ INCH OF TOPSOIL, ROLL LIGHTLY, AND WATER WITH A FINE SPRAY.
7. PROTECT SEEDED AREAS AGAINST EROSION BY SPREADING STRAW MULCH IMMEDIATELY FOLLOWING COMPLETION OF SEEDING OPERATIONS IF OTHER EROSION CONTROL MEASURES ARE NOT OTHERWISE SPECIFIED. SPREAD UNIFORMLY AT A RATE OF 2 TONS PER ACRE (90 LB. PER 1,000 S.F.) TO FORM A CONTINUOUS BLANKET OVER SEEDED AREAS. SPREAD BY HAND, BLOWER, OR OTHER SUITABLE EQUIPMENT.

SEED MIX NOTES:

1. EQUIVALENT SEED MIXES FROM ALTERNATIVE SUPPLIERS (ERNST, ORP, OR OTHER) WILL BE ACCEPTABLE, BUT MUST BE SUBMITTED TO ENGINEER FOR APPROVAL.
2. ACCESS BERM MIXES. FOLLOW ODNR RECOMMENDED APPLICATION RATES FOR SELECTED MIX. SEED MIX SHALL INCLUDE IN ADDITION TO THE ODNR COOL SEASON GRASS MIX A COVER CROP. GRAIN OATS AT 30 LBS/AC (WHEN SEEDING JAN 1 TO JUL 31); AND GRAIN RYE AT 30 LBS/AC. (WHEN SEEDING AUG. 1 TO DEC. 31)
3. SEEDING METHOD. SHALLOW WETLAND AREAS SHALL BE SEED BY DRILL SEEDING (PRIOR TO OR AFTER HUMMOCKING) WITH NO STRAW MULCH REQUIRED WITHIN THE WETLAND. ACCESS BERMS AND UPLAND AREAS MAY BE SEED BY DRILL, BROADCAST, OR HYDROSEEDING (WITH MULCH REQUIRED AS SPECIFIED FOR ALL THREE METHODS).
4. TURF TYPE TALL FESCUE SEED MIX SHALL NOT CONTAIN KENTUCKY BLUEGRASS.

LEGEND

- EXISTING STREAM
- 644 TOPOGRAPHY
- 100 YR FLOODPLAIN
- PROPOSED WETLAND- SHORT SEDGE MEADOW MIX (0.5 ACRES)
- NATIVE RIPARIAN BUFFER- PDQ SEED MIX (2.8 ACRES)
- BERM- ECO FRIENDLY MIX (0.4 ACRES)
- COIR MATTING WITH PDQ SEED MIX (0.4 ACRES)
- TURF TYPE TALL FESCUE SEED MIX (0.6 ACRES)

PROPOSED PLANTING PLAN

SCALE: 1" = 70'



PERMANENT SEED MIXES		
DESCRIPTION	APPLICATION RATE	QUANTITY (AC)
WETLAND		
SHORT SEDGE MEADOW SEED MIX (PRAIRIE MOON NURSERY)	7.04 LB/AC	0.5
RIPARIAN BUFFER/COIR MATTING		
PRETTY DARN QUICK (PDQ) SEED MIX (PRAIRIE MOON NURSERY)	11.14 LB/AC	3.2
BERM/CHANNEL FILL		
ECO-FRIENDLY GOLF COURSE SEED MIX (NATIVE WILDFLOWERS & SEEDS)	14 LB/AC	0.4
TURF TYPE TALL FESCUE		
TALL FESCUE SEED MIX	14 LB/AC	0.6

330 RUSH ALLEY
SUITE 700
COLUMBUS, OH 43215



HIDDEN VALLEY GOLF COURSE
STREAM RESTORATION
CITY OF DELAWARE, OHIO
SEPTEMBER 2024

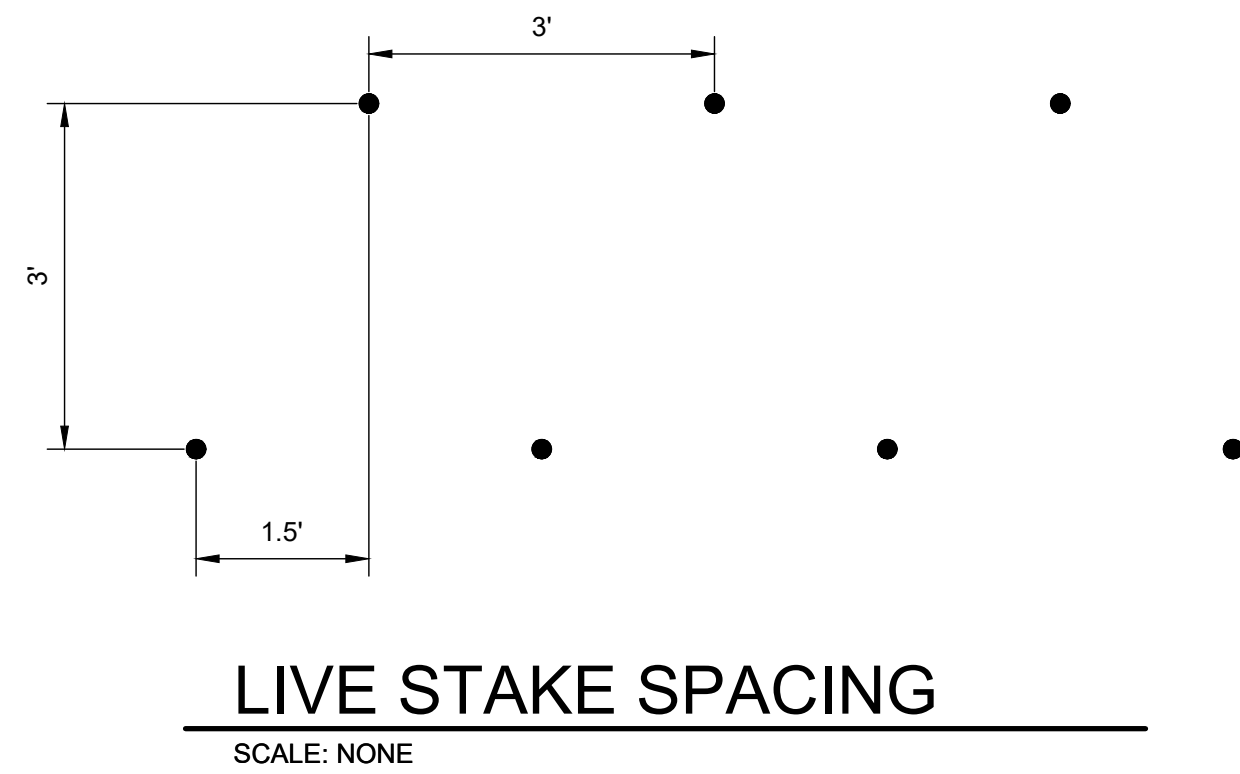
NO.	DESCRIPTION	DATE

JOB NO: PR61357
DATE: SEPT. 2024
DESIGNED BY: MRK
DRAWN BY: EDS
CHECKED BY: JRC
APPROVED BY: BWT
SCALE: NOTED

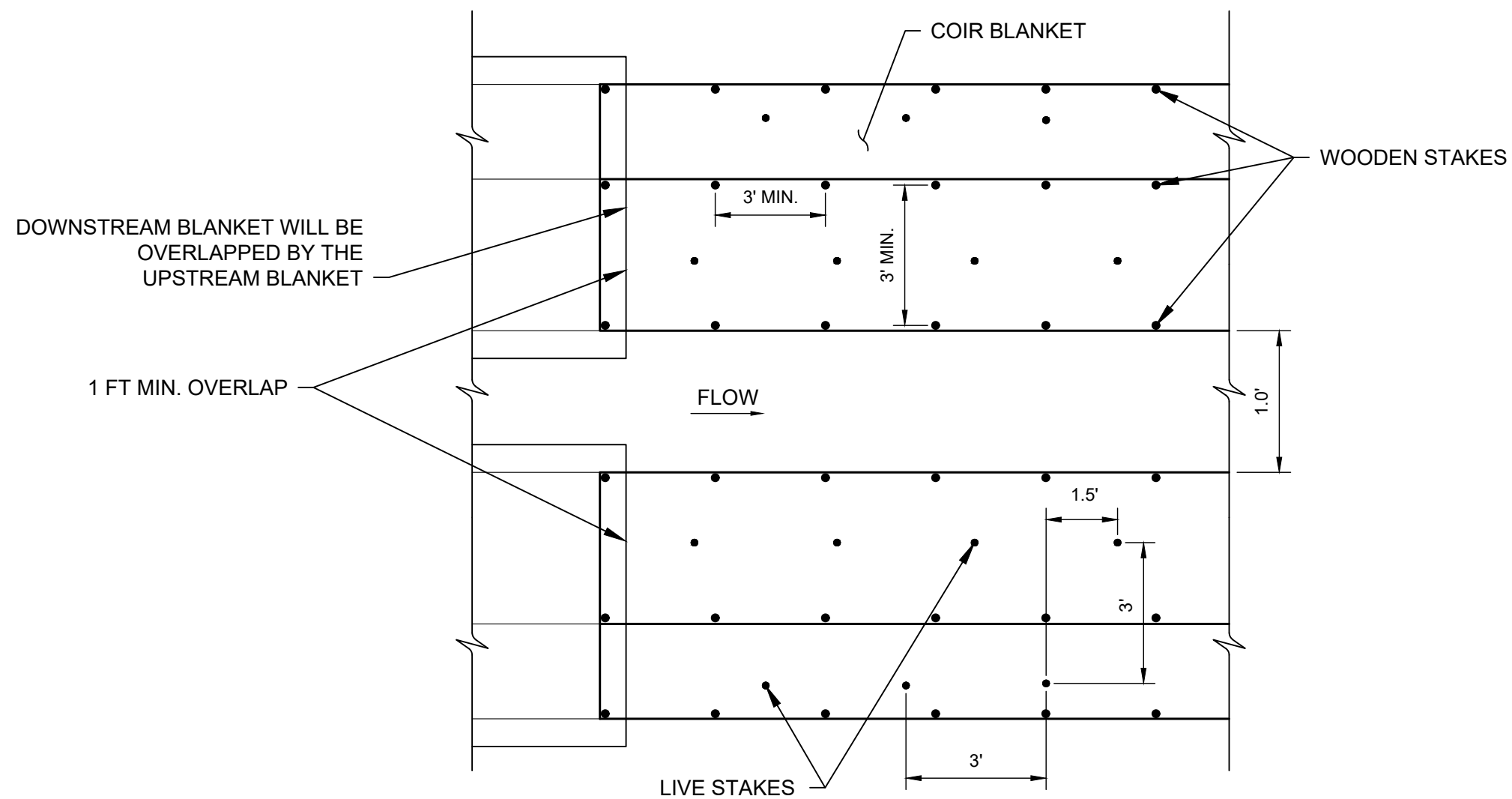
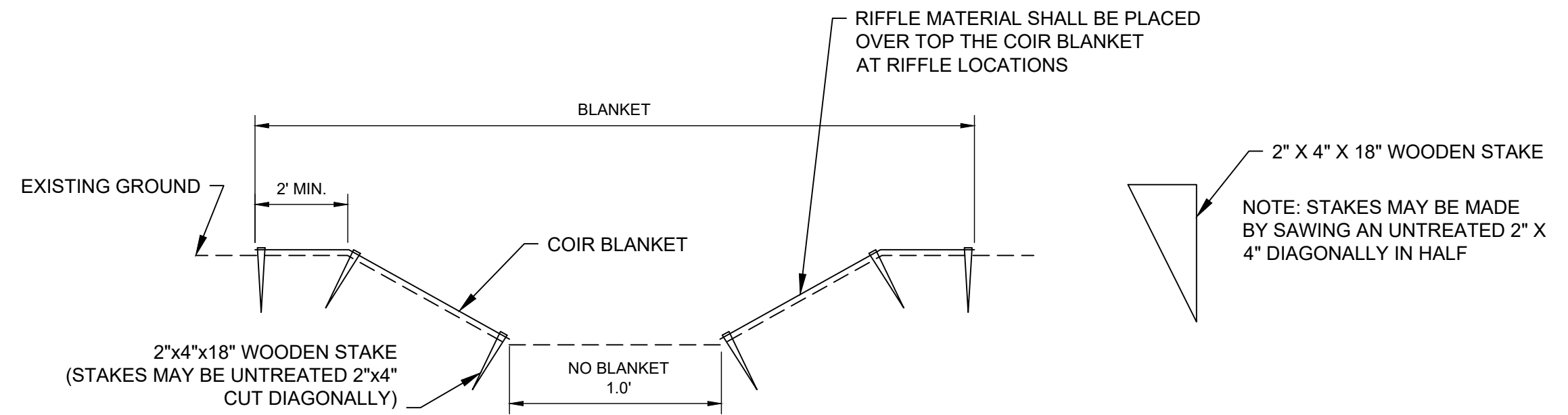
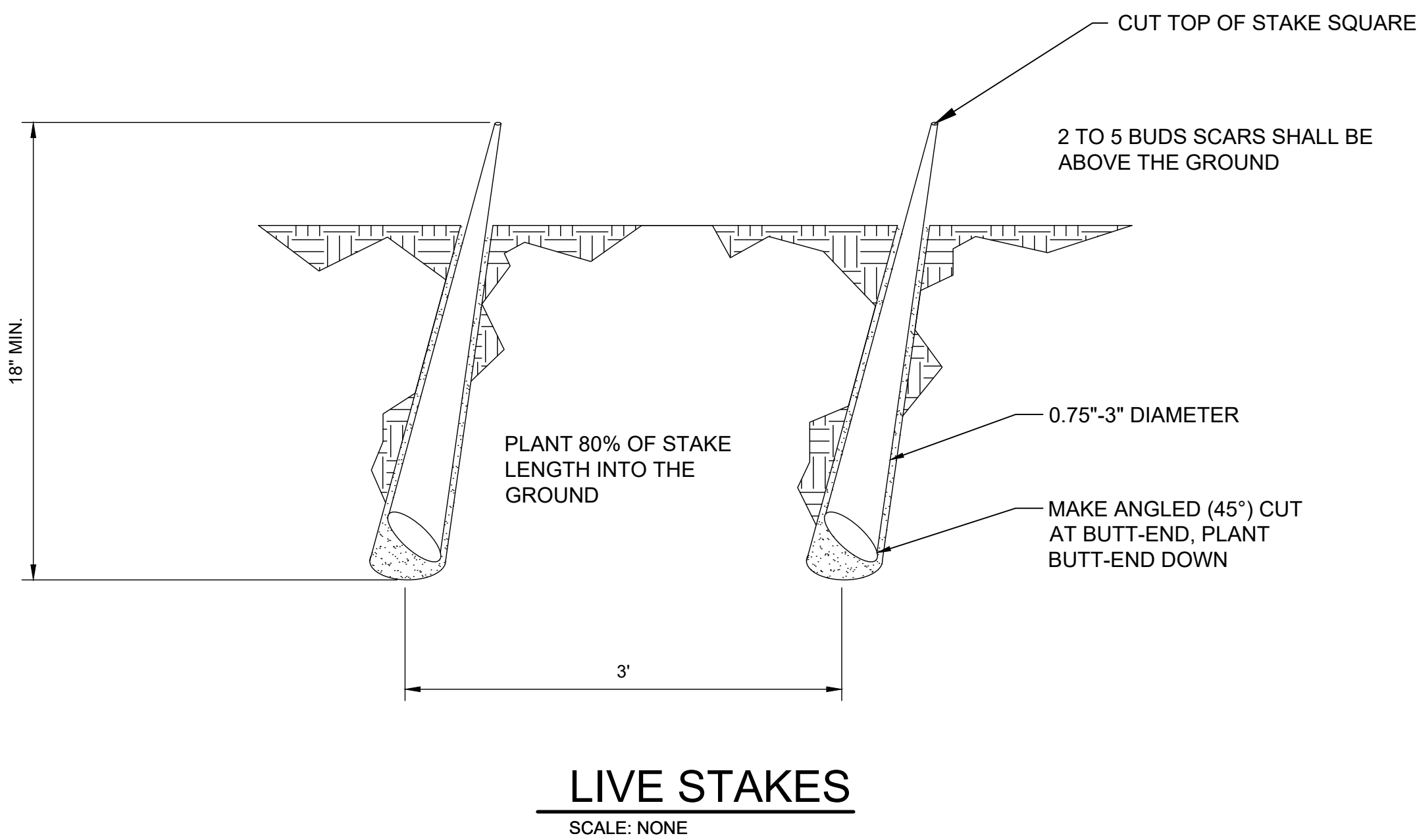
PLANTING PLANS

COIR MATTING LIVE STAKES			
SCIENTIFIC NAME	COMMON NAME	SIZE	QUANTITY
<i>SALIX NIGRA</i>	BLACK WILLOW	LIVESTAKE	675
<i>SALIX EXIGUA</i>	SANDBAR WILLOW	LIVESTAKE	675
<i>CORNUS AMOMUM</i>	SILKY DOGWOOD	LIVESTAKE	675
<i>VIBURNUM DENTATUM</i>	ARROWWOOD	LIVESTAKE	675

*TREE SPECIES TO BE INSPECTED AND APPROVED BY ENGINEER



- LIVE STAKE NOTES:**
- LIVE STAKES SHALL CONSIST OF A COMBINATION OF SPECIES SHOWN IN TABLE ON THIS SHEET.
 - LIVE STAKES SHOULD BE LONG ENOUGH TO REACH BELOW THE GROUNDWATER TABLE. GENERALLY, A LENGTH OF 2 FEET TO 3 FEET WITH A MINIMUM LENGTH OF 24 INCHES.
 - STAKES SHOULD BE CUT SO A TERMINAL BUD SCAR IS WITHIN 1 INCH TO 4 INCHES OF THE TOP. AT LEAST TWO BUDS AND/OR BUD SCARS SHOULD BE ABOVE THE GROUND AFTER PLANTING.
 - STAKES MUST BE PLANTED WITH BUTT-ENDS INTO THE GROUND. LEAF BUD SCARS OR EMERGING BUDS SHOULD ALWAYS POINT UP.
 - USE AN IRON STAKE OR BAR TO MAKE A PILOT HOLE IN FIRM SOIL OR BETWEEN RIPRAP. DRIVE LIVE STAKES INTO THE SOIL WITH A RUBBER Mallet OR DEAD-BLOW HAMMER.
 - STAKES MUST NOT BE ALLOWED TO DRY OUT. STAKES SHOULD BE SOAKED IN WATER AS SOON AS RECEIVED UP UNTIL INSTALLATION, AS SOAKING SIGNIFICANTLY INCREASES THE SURVIVAL RATE.
 - PLANT STAKES 3 FEET APART AND ALTERNATE SPECIES. OFFSET ROWS BY 3 FEET, AND STAGGER WITH THE BOTTOM ROW 1.5 FEET.
 - SET THE STAKE AS DEEP AS POSSIBLE INTO THE SOIL, PREFERABLY WITH 80 PERCENT OF ITS LENGTH BURIED BUT NO LESS THAN ONE-HALF OF THE TOTAL LENGTH BURIED.
 - TAMP THE SOIL AROUND THE CUTTING.



COIR BLANKET NOTES:

- COIR FIBER EROSION CONTROL BLANKETS PROVIDE TEMPORARY BANK STABILIZATION FOLLOWING BANK GRADING, UNTIL PERMANENT VEGETATION CAN BE ESTABLISHED.
- COIR FIBER EROSION CONTROL BLANKETS SHALL BE 700 GRAMS PER SQUARE METER.
- BEFORE INSTALLING COIR BLANKETS, RAKE OR TILL THE UPPER THREE TO FOUR INCHES OF SOIL ON THE STREAM BANKS, SEED WITH TEMPORARY AND PERMANENT SEED MIXES, RAKE SOIL LEVEL, AND LIGHTLY MULCH WITH CLEAN STRAW.
- COIR BLANKETS SHALL BE INSTALLED ON THE OUTSIDE OF BANKS OF MEANDERS AND ON BOTH BANKS ALONG RIFFLES AND STRAIGHT SECTIONS, FROM THE INNER BERM OF THE CHANNEL TO TWO FEET (MIN) BEYOND BANKFULL. BLANKET MAY BE ELIMINATED FROM THE INNER BERM AT THE DISCRETION OF THE ENGINEER.
- PLACE COIR BLANKETS PARALLEL TO THE CHANNEL. WHERE MULTIPLE PANELS OF BLANKETS ARE USED, PANELS SHALL BE OVERLAPPED A MINIMUM OF 1 FOOT, IN A DOWNSTREAM AND DOWNSLOPE DIRECTION.
- PULL BLANKETS TIGHT BUT MAINTAIN CONTACT WITH THE SOIL. USE 2-INCH X 4-INCH X 18-INCH UNTREATED WOODEN STAKES ON THREE-FOOT CENTERS TO SECURE COIR BLANKETS.
- ALL MATERIAL ARE TO BE APPROVED BY ENGINEER OR ENGINEERS ON-SITE CONSTRUCTION OBSERVER.
- PAYMENT FOR THE COIR FIBER EROSION CONTROL BLANKETS SYSTEM SHALL INCLUDE ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY FOR CONSTRUCTION.
- 700 GRAM COIR FIBER EROSION BLANKETS.
- SEED AND MULCH SHALL BE PAID FOR ACCORDING TO THEIR RESPECTIVE ITEM NUMBERS.

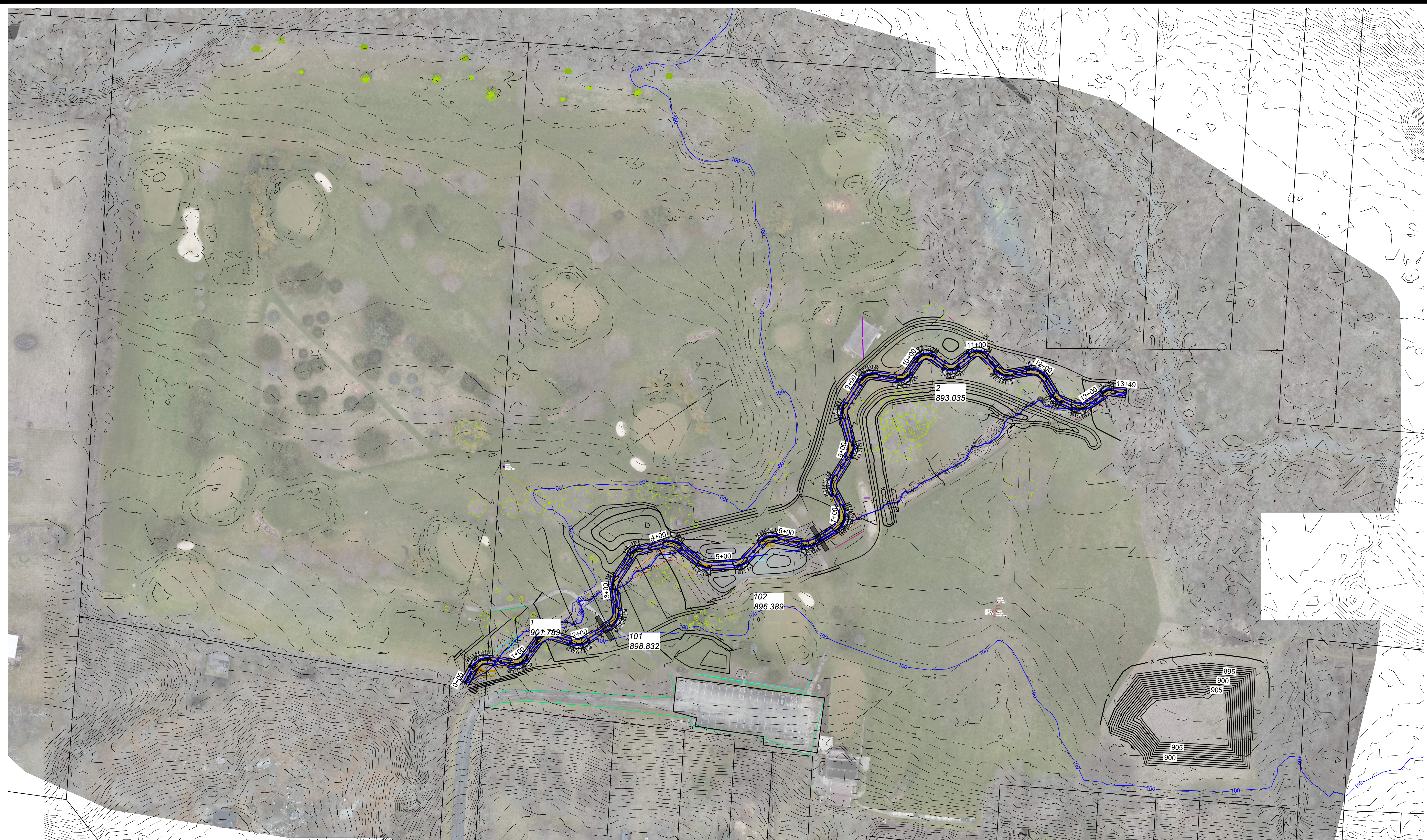
COIR BLANKET DETAIL

SCALE: NONE

NO.	DESCRIPTION	DATE

JOB NO:	PR61357
DATE:	SEPT. 2024
DESIGNED BY:	MRK
DRAWN BY:	EDS
CHECKED BY:	JRC
APPROVED BY:	BWT
SCALE:	NONE

PLANTING DETAILS I



- LEGEND**
- EXISTING STREAM
 - 644 TOPOGRAPHY
 - 100 YR FLOODPLAIN
 - SILT FENCE/FILTER SOCK (ALONG STREAM)
 - COIR MATTING WITH SHORT SEDGE MEADOW SEED MIX (0.4 ACRES)

PROPOSED SEDIMENT AND EROSION CONTROL PLAN

SCALE: 1" = 70'



B&N
 burgessniple.com

HIDDEN VALLEY GOLF COURSE
 STREAM RESTORATION
 CITY OF DELAWARE, OHIO
 SEPTEMBER 2024

NO.	DESCRIPTION	DATE

JOB NO: PR61357
 DATE: SEPT. 2024
 DESIGNED BY: MRK
 DRAWN BY: EDS
 CHECKED BY: JRC
 APPROVED BY: BWT
 SCALE: NOTED

SEDIMENT AND EROSION CONTROL PLAN

1.0 INTRODUCTION

THIS STORM WATER POLLUTION PREVENTION PLAN (SWP3) HAS BEEN PREPARED TO COMPLY WITH OHIO EPA CONSTRUCTION GENERAL STORM WATER PERMIT OHCO00006. A COPY OF THE NOTICE OF TERMINATION (NOT) MUST BE SUBMITTED TO THE OHIO EPA WITHIN 45 DAYS OF COMPLETING ALL LAND DISTURBANCE ACTIVITIES. THE PURPOSE OF THE SWP3 IS TO IDENTIFY THE POTENTIAL SOURCES OF STORM WATER POLLUTION FROM THE PROJECT AND ESTABLISH MEASURES AND PROCEDURES FOR PREVENTING STORM WATER POLLUTION.

ACTIVITIES DURING THE PROJECT WILL INCLUDE CLEARING, GRADING, EXCAVATING, GRUBBING, AND / OR FILLING ACTIVITIES WHICH WILL RESULT IN THE DISTURBANCE OF MORE THAN ONE ACRE OF LAND AREA. ALL REQUIRED PREVENTATIVE MEASURES TO PROVIDE EROSION AND SEDIMENT CONTROL AND STORM WATER MANAGEMENT WILL BE UTILIZED THROUGHOUT THE PROJECT.

THE SWP3 ADDENDUM CONTAINS THE CERTIFICATION STATEMENT FOR THE SWP3 AND THE ACKNOWLEDGMENT FORM FOR RECORDING THE SIGNATURES OF ALL CONTRACTORS AND SUBCONTRACTORS, ACKNOWLEDGING THAT THEY HAVE REVIEWED AND UNDERSTAND THE CONDITIONS AND RESPONSIBILITIES OF THE SWP3.

THE IMPLEMENTATION OF SOIL AND EROSION CONTROL SHALL CONFORM TO THE REQUIREMENT OF OHIO EPA PERMIT # OHCO00006.

2.0 PLAN REVISION AND AMENDMENT

2.1 PLAN REVISION

THE SWP3 WILL BE AMENDED BY THE CONTRACTOR WITHIN 10 DAYS AFTER NOTIFICATION FROM THE OHIO EPA THAT THE SWP3 DOES NOT MEET ONE OR MORE OF THE MINIMUM REQUIREMENTS OF THE GENERAL PERMIT. IF REQUESTED, THE REVISED SWP3 OR A WRITTEN CERTIFICATION THAT THE REQUESTED CHANGES HAVE BEEN MADE WILL BE SUBMITTED TO THE OHIO EPA.

2.2 PLAN AMENDMENT

THE CONTRACTOR SHALL MODIFY/COMPLETE THIS SWPPP TO REFLECT THE PLANNED MEASURES AND LOCATIONS OF PRACTICES. THE SWP3 WILL BE AMENDED BY THE CONTRACTOR WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION OR MAINTENANCE, WHICH HAS A SIGNIFICANT EFFECT ON THE POTENTIAL FOR THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OF THE STATE OR IF THE SWP3 PROVES TO BE INEFFECTIVE IN ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY. A PLAN AMENDMENT LOG IS PROVIDED IN SECTION G OF THE SWP3 ADDENDUM.

3.0 SITE DESCRIPTION

3.1 SITE DESCRIPTION/CONSTRUCTION ACTIVITY

AN APPROXIMATELY 40-ACRE ACTIVE GOLF COURSE IS LOCATED AT 580 W WILLIAM ST. IN THE CITY OF DELAWARE, DELAWARE COUNTY, OHIO. THE PROJECT AIMS TO RESTORE THE UNNAMED TRIBUTARY. THE PROJECT AIMS TO RESTORE APPROXIMATELY 0.5 ACRES OF WETLAND HABITAT AT THE CURRENT FAILING LOW HEAD IMPOUNDMENT AND CREATE APPROXIMATELY 3.7 ACRES OF A NATIVE RIPARIAN BUFFER. THE LOWHEAD IMPOUNDMENT WILL BE REMOVED, AND THE CURRENT POND WILL BE REGRADED TO RESTORE A STREAM AND WETLAND COMPLEX THROUGH THE AREA. IN ADDITION, APPROXIMATELY 1,300 LINEAR FEET OF STREAM WILL BE RESTORED USING NATURAL CHANNEL DESIGN TECHNIQUES TO STABILIZE BANKS INCLUDING J-HOOK STRUCTURES, CONSTRUCTED RIFFLES AND TOW WOOD ALONG THE TRIBUTARY. APPROXIMATELY 2 ACRES OF NATIVE GRASS/SHRUB RIPARIAN BUFFER WILL BE ESTABLISHED ALONG THE UNNAMED TRIBUTARY AND DELAWARE RUN TO FILTER NUTRIENT RUNOFF.

3.2 SOIL DATA

THE PRINCIPLE SOIL TYPES MAPPED IN THE PROJECT AREA ARE MILLGROVE SILTY CLAY LOAM AND SCIOTO SILT LOAM.

3.3 PRIOR LAND USES

THE AREAS THAT WILL BE DISTURBED ARE CURRENTLY USED AS AN ACTIVE GOLF COURSE WITH SPORADIC TREES AND AN UNAMED TRIBUTARY.

3.4 IMPLEMENTATION SCHEDULE

EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO SOIL DISTURBING ACTIVITIES. THE CONTRACTOR WILL MONITOR REGIONAL WEATHER FORECASTS AND DIRECT INSTALLATION OF COVERINGS OR OTHER STABILIZATION METHODS WHEN A 24-HOUR RAINFALL EVENT IS EXPECTED TO EXCEED 1/2 INCH.

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, CONSTRUCTION ENTRANCE(S) AND SILT FENCE WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. SEDIMENT CONTROL DEVICES SHALL BE IMPLEMENTED FOR ALL AREAS REMAINING DISTURBED LONGER THAN 14 DAYS AND/OR WITHIN 7 DAYS OF ANY GRUBBING ACTIVITIES. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 14 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 2 DAYS OF THE LAST DISTURBANCE IF THE AREA IS WITHIN 50 FEET OF A STREAM, AND WITHIN 7 DAYS OF THE LAST DISTURBANCE IF THE AREA IS MORE THAN 50 FEET AWAY FROM A STREAM. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH.

4.0 CONTROL MEASURES

- 1. THE DESIGN OF EROSION CONTROL SYSTEMS SHALL FOLLOW THE REQUIREMENTS OF OHIO EPA. THE CONTRACTOR SHALL BE CONSIDERED THE DEVELOPER OF THE STORMWATER DISCHARGE.
2. THE CONTRACTOR SHALL PROVIDE SEDIMENT CONTROL AT ALL POINTS WHERE WATER LEAVES THE PROJECT, INCLUDING WATERWAYS, OVERLAND SHEET FLOW, AND STORM SEWERS, WHETHER SPECIFICALLY SHOWN ON THE PLANS OR NOT. ADDITIONAL EROSION AND SEDIMENT CONTROLS MAY BE REQUIRED.
3. ACCEPTED METHODS OF PROVIDING EROSION/SEDIMENT CONTROL INCLUDE BUT ARE NOT LIMITED TO: SEDIMENT FILTERS, SILT FILTER FENCE, FILTER SOCKS, SEDIMENT BASIN, ROCK CHECK DAMS, AND TEMPORARY GROUND COVER. THE USE OF STRAW BALES IS PROHIBITED.
4. THE CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE OF THE WORK AREA AT ALL TIMES CONSISTENT WITH EROSION CONTROL PRACTICES.
5. DISTURBED AREAS THAT WILL REMAIN UNWORKED FOR 14 DAYS OR MORE SHALL BE SEEDED WITHIN 7 CALENDAR DAYS OF THE LAST DISTURBANCE. OTHER SEDIMENT CONTROLS THAT ARE INSTALLED SHALL BE MAINTAINED UNTIL VEGETATIVE GROWTH HAS BEEN ESTABLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY SEDIMENT DEVICES AT THE CONCLUSION OF CONSTRUCTION BUT NOT BEFORE GROWTH OF PERMANENT GROUND COVER.
6. STABILIZATION PRACTICES:

TEMPORARY STABILIZATION - TOP SOIL STOCK PILES AND DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR AT LEAST 14 DAYS WILL BE STABILIZED WITH TEMPORARY SEED AND MULCH NO LATER THAN 7 DAYS FROM THE LAST CONSTRUCTION ACTIVITY IN THAT AREA. THE TEMPORARY SEED SHALL BE APPLIED AS PER THE TEMPORARY SEEDING SPECIFICATIONS. AREAS OF THE SITE WHICH ARE TO BE PAVED WILL BE TEMPORARILY STABILIZED BY APPLYING GEOTEXTILE AND STONE.

PERMANENT STABILIZATION - DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASES SHALL BE STABILIZED WITH PERMANENT SEED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OR WITHIN 2 DAYS FOR AREAS WITHIN 50 FEET OF A STREAM.

Table with columns for Stabilization Type (Permanent Seeding, Dormant Seeding, Temporary Seeding, Sodding, Mulching) and months (J, F, M, A, M, J, J, A, S, O, N, D). Includes notes on irrigation needs.

- 7. ALL DENUDED AREAS, INCLUDING STOCKPILED TOPSOIL AND EXCAVATED MATERIAL, ARE TO BE RESTORED THROUGH THE USE OF TEMPORARY SEEDING, OR COVERED WITH ANCHORED STRAW MULCH.
8. FINAL GRADING WILL BE CONSISTENT WITH PRECONSTRUCTION TOPOGRAPHY TO MAINTAIN DRAINAGE AND AESTHETICS.
9. REMOVE ONLY THE TREES, SHRUBS, AND GRASSES THAT MUST BE REMOVED TO PERMIT ACTUAL CONSTRUCTION. PROTECT THE REMAINING TO PRESERVE THEIR AESTHETIC AND EROSION CONTROL VALUE.
10. BACKFILL TRENCHES IMMEDIATELY AFTER USE. SEED AND MULCH TRENCH AREA WITHIN 7 DAYS AFTER AREA OR SECTION HAS BEEN OPENED.
11. SETTLING FACILITIES, SEDIMENT FILTERS, PERIMETER CONTROLS, AND OTHER PRACTICES INTENDED TO TRAP SEDIMENT SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING OR CONSTRUCTION AND WITHIN 7 DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL THE UPSLOPE DEVELOPMENT AREA IS RESTABILIZED.
12. STORM SEWER INLET PROTECTION - THERE ARE NO STORM SEWERS IN THE AREA.
13. WORKING IN OR CROSSING STREAMS - STREAMS INCLUDING BED AND BANKS SHALL BE RESTABILIZED IMMEDIATELY AFTER IN-CHANNEL WORK IS COMPLETED, INTERRUPTED, OR STOPPED. TO THE EXTENT PRACTICABLE, CONSTRUCTION VEHICLES SHALL BE KEPT OUT OF STREAMS. WHERE IN-CHANNEL WORK IS NECESSARY, PRECAUTIONS SHALL BE TAKEN TO STABILIZE THE WORK AREA DURING CONSTRUCTION TO MINIMIZE EROSION. WHERE A STREAM MUST BE CROSSED BY CONSTRUCTION VEHICLES REGULARLY DURING CONSTRUCTION, A TEMPORARY CULVERT SHALL BE PROVIDED.
14. CONSTRUCTION ACCESS ROUTES - MEASURES SHALL BE TAKEN TO PREVENT SOIL TRANSPORT ONTO SURFACES WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, OR ONTO PUBLIC ROADS. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT OFF-SITE TRACKING OF SEDIMENTS BY VEHICLES AND EQUIPMENT IS ELIMINATED. SEE STABILIZED CONSTRUCTION ENTRANCE DETAIL. ALL PAVED STREETS ADJACENT TO THE SITE WILL BE SWEEPED DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.
15. SLOUGHING AND DUMPING - NO SOIL, ROCK, DEBRIS, OR ANY OTHER MATERIAL SHALL BE DUMPED OR PLACED INTO A WATER RESOURCE OR INTO SUCH PROXIMITY THAT IT MAY READILY SLOUGH, SLIP, OR ERODE INTO A WATER RESOURCE UNLESS SUCH DUMPING OR PLACING IS AUTHORIZED BY THE OWNER. UNSTABLE SOILS PRONE TO SLIPPING OR LANDSLIDING SHALL NOT BE GRADED, EXCAVATED, FILLED, OR HAVE LOADS IMPOSED UPON THEM UNLESS THE WORK IS DONE IN ACCORDANCE WITH A QUALIFIED PROFESSIONAL ENGINEER'S RECOMMENDATIONS TO CORRECT, ELIMINATE, OR ADEQUATELY ADDRESS THE PROBLEMS.
16. MAINTENANCE AND INSPECTION - ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE DESIGNED AND CONSTRUCTED TO MINIMIZE MAINTENANCE REQUIREMENTS. THEY SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND INSPECTION OF ALL EROSION/SEDIMENT CONTROL DEVICES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR, ONCE EVERY 7 CALENDAR DAYS AND/OR WITHIN 24 HOURS AFTER A RAIN EVENT OF GREATER THAN 0.5 INCHES IN A 24-HOUR PERIOD. THESE INSPECTIONS SHALL IDENTIFY AREAS CONTRIBUTING TO STORMWATER DISCHARGES ASSOCIATED WITH THE PROJECT, EVALUATE THE ADEQUACY, IMPLEMENTATION, AND MAINTENANCE OF EXISTING AND PROPOSED EROSION/SEDIMENTATION MEASURES, AND DETERMINE WHETHER ADDITIONAL MEASURES ARE REQUIRED. ACCEPTABLE INSPECTION REPORTS SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER WITHIN 48 HOURS OF INSPECTION COMPLETION. THE REPORT SHALL CONTAIN THE RESULTS OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE TEMPORARY EROSION AND SEDIMENT CONTROL PLAN, A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE PLAN, AND IDENTIFYING ANY INCIDENTS OF NONCOMPLIANCE. KEEP RECORDS FOR 3 YEARS AFTER COMPLETION OF PROJECT.
IF AN INSPECTION REVEALS THAT A CONTROL PRACTICE IS IN NEED OF REPAIR OR MAINTENANCE IT SHALL BE REPAIRED OR MAINTAINED WITHIN 3 DAYS OF THE INSPECTION.
IF AN INSPECTION REVEALS THAT A CONTROL PRACTICE FAILS TO PERFORM ITS INTENDED FUNCTION AND THAT ANOTHER, MORE APPROPRIATE CONTROL PRACTICE IS REQUIRED, THE NEW CONTROL PRACTICE SHALL BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION.
IF AN INSPECTION REVEALS THAT A CONTROL PRACTICE HAS NOT BEEN IMPLEMENTED IN ACCORDANCE WITH THE SCHEDULE CONTAINED IN PART III.D OF THE PERMIT, THE CONTROL PRACTICE SHALL BE IMPLEMENTED WITHIN 10 DAYS FROM THE DATE OF THE INSPECTION. IF THE INSPECTION REVEALS THAT THE PLANNED CONTROL PRACTICE IS NOT NEEDED, THE RECORD SHALL CONTAIN A STATEMENT OF EXPLANATION AS TO WHY THE CONTROL PRACTICE IS NOT NEEDED.
THE INSPECTION FREQUENCY MAY BE REDUCED TO ONCE PER MONTH FOR DORMANT SITES IF THE ENTIRE SITE IS TEMPORARILY STABILIZED OR RUNOFF IS UNLIKELY DUE TO WEATHER CONDITIONS FOR EXTENDED PERIODS OF TIME (E.G., SITE IS COVERED WITH SNOW, ICE, OR THE GROUND IS FROZEN).
17. OUTFLOWS FROM DEWATERING OPERATIONS - ALL WATER PRODUCED FROM CLEANING AND DEWATERING OPERATIONS, WHETHER SPECIFICALLY FROM TRENCH DEWATERING OPERATIONS OR FROM MORE EXTENSIVE DEWATERING OPERATIONS, SHALL BE DISCHARGED IN SUCH A MANNER AS TO ELIMINATE EROSION FROM SUCH DISCHARGE.
18. DEWATERING ACTIVITIES - THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS, RESULTING FROM DEWATERING ACTIVITIES. SEDIMENT-LADEN WATER MUST PASS THROUGH A SETTLING POND, FILTER BAG, OR OTHER COMPARABLE PRACTICE, PRIOR TO DISCHARGE.
19. PROCESS WASTEWATER - ALL PROCESS WASTEWATER (EQUIPMENT WASHING, LEACHATE FROM ON-SITE WASTE DISPOSAL, ETC.) SHALL BE COLLECTED AND DISPOSED OF AT A PUBLICLY OWNED TREATMENT WORKS.
20. ADDITIONAL CONTROLS - THE CONTRACTOR SHALL ENSURE THAT NO SEDIMENTS ARE TRACKED OFF-SITE BY CONSTRUCTION EQUIPMENT, VEHICLES, AND WORKERS. THE CONTRACTOR SHALL ALSO ENSURE THAT NO SOLID OR LIQUID WASTE IS DISCHARGED INTO ANY STORMWATER FLOW.
21. WASTE DISPOSAL - ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER RENTED FROM A LICENSED SOLID WASTE MANAGEMENT COMPANY. THE DUMPSTER WILL MEET ALL LOCAL, AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED A MINIMUM OF TWICE PER WEEK OR MORE OFTEN IF NECESSARY, AND THE TRASH WILL BE HAULED OFF-SITE. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ON-SITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED IN THE CONTRACTOR'S FIELD OFFICE. THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED. ALL CONSTRUCTION AND DEMOLITION DEBRIS (C&DD) WASTE WILL BE DISPOSED OF IN AN OHIO EPA APPROVED C&DD LANDFILL AS REQUIRED BY ORC 3714.
22. HAZARDOUS WASTE - ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES. THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS

WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

- 23. SANITARY WASTE - ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF THREE TIMES PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR, AS REQUIRED BY LOCAL REGULATION.
24. TEMPORARY EROSION AND SEDIMENT CONTROL PLAN AVAILABILITY AND UPDATES - THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO ENSURE THE IMMEDIATE AVAILABILITY OF THE TEMPORARY EROSION AND SEDIMENT CONTROL PLAN ON-SITE. THE CONTRACTOR SHALL ALSO BE SOLELY RESPONSIBLE TO PERFORM ALL UPDATES AND ADJUSTMENTS TO THE TEMPORARY EROSION AND SEDIMENT CONTROL PLAN.
25. SWP3 AVAILABILITY AND UPDATES - SEE INTRODUCTION SECTION, THIS SHEET.
26. PERMANENT VEGETATION - SHALL NOT BE CONSIDERED ESTABLISHED UNTIL GROUND COVER IS ACHIEVED WHICH, IN THE OPINION OF THE APPROVING AGENCY, PROVIDES ADEQUATE COVER AND IS MATURE ENOUGH TO CONTROL SOIL EROSION SATISFACTORILY & TO SURVIVE ADVERSE WEATHER CONDITIONS.

Table with columns: AREA REQUIRING PERMANENT STABILIZATION, TIME FRAME. Rows include: ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE, ANY AREAS WITHIN 50' OF A SURFACE WATER AND AT FINAL GRADE, ANY OTHER AREAS AT FINAL GRADE.

PERMANENT STABILIZATION SHALL BE INITIATED AS FOLLOWS:

- 27. CONCRETE WASHOUT - IF CONCRETE IS NEEDED AT THE SITE, A DESIGNATED TEMPORARY ABOVE-GRADE CONCRETE WASHOUT AREA SHALL BE CONSTRUCTED. SIGNS SHALL BE POSTED MARKING THE LOCATION OF THE WASHOUT AREA TO ENSURE THAT CONCRETE EQUIPMENT OPERATORS USE THE PROPER FACILITY. CONCRETE POURS WILL NOT BE CONDUCTED DURING OR BEFORE AN ANTICIPATED STORM EVENT. CONCRETE MIXER TRUCKS AND CHUTES WILL BE WASHED IN THE DESIGNATED AREA OR CONCRETE WASTES WILL BE PROPERLY DISPOSED OF OFF-SITE. WHEN THE TEMPORARY WASHOUT AREA IS NO LONGER NEEDED FOR THE CONSTRUCTION PROJECT, THE HARDENED CONCRETE AND MATERIALS USED TO CONSTRUCT THE AREA WILL BE REMOVED AND DISPOSED OF OFF-SITE.
28. RECORD KEEPING - THE FOLLOWING IS A LIST OF RECORDS THAT WILL NEED TO BE KEPT AT THE PROJECT SITE AND MADE AVAILABLE FOR INSPECTORS TO REVIEW:
a. DATES OF GRADING, CONSTRUCTION ACTIVITY, AND STABILIZATION
b. INSPECTION REPORTS (KEEP RECORDS FOR 3 YEARS AFTER COMPLETION OF PROJECT)
30. SPILL PREVENTION:
A. MATERIAL MANAGEMENT PRACTICES: THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORMWATER RUNOFF.
B. GOOD HOUSEKEEPING: THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.
a. AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
b. ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
c. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
d. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
e. WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
f. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
g. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.
C. HAZARDOUS PRODUCTS: THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.
a. PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
b. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
c. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURERS' OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

- 31. PRODUCT SPECIFIC PRACTICES:
THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:
A. PETROLEUM PRODUCTS - ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURERS' RECOMMENDATIONS.
B. FUEL STORAGE TANKS - SHALL BE LOCATED AWAY FROM SURFACE WATERS AND STORM SEWER SYSTEM INLETS. FUEL TANKS SHALL BE STORED IN A DIKED AREA CAPABLE OF HOLDING 150% OF THE TANK CAPACITY.
C. FERTILIZERS - FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
D. PAINTS - ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

5.0 PROHIBITED CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL NOT USE CONSTRUCTION PROCEDURES, ACTIVITIES, OR OPERATIONS THAT MAY UNNECESSARILY IMPACT THE NATURAL ENVIRONMENTAL OR THE PUBLIC HEALTH AND SAFETY. PROHIBITED CONSTRUCTION PROCEDURES, ACTIVITIES, OR OPERATIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

- 1. DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOOD PLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.
2. INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM

CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR OUTSIDE THE PROPERTY LIMITS.

- 3. PUMPING OF SEDIMENT LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, ANY WETLANDS, OR STORM DRAINS.
4. DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, SOAPS, BITUMINOUS MATERIALS, RAW SEWAGE, CONCRETE WASHWATER, AND/OR ANY OTHER HARMFUL WASTE, INTO OR ALONGSIDE OF RIVERS, STREAMS, IMPOUNDMENTS, OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.
5. PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOWLINE OF A STREAM.
6. DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA.
7. DISPOSAL OF TREES, BRUSH, AND OTHER DEBRIS IN ANY STREAM CORRIDORS, WETLANDS, OR SURFACE WATERS.
8. OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT.
9. STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY (PUBLIC OR PRIVATE) NOT PREVIOUSLY SPECIFIED BY THE OWNER FOR SAID PURPOSES.

6.0 POST CONSTRUCTION STORM WATER CONTROL

POST-CONSTRUCTION STORM WATER TREATMENT (QUALITY) FOR THE PROJECT WILL BE PROVIDED BY THE CREATION OF A NATURAL FUNCTIONING FLOODPLAIN WETLAND COMPLEX. THE PROJECT IS DESIGNED TO FILTER SEDIMENT AND NUTRIENTS THROUGH NATIVE VEGETATION WITHIN AND SURROUNDING THE WETLANDS.

LONG-TERM MAINTENANCE OF THE POST-CONSTRUCTION CONTROLS WILL BE THE RESPONSIBILITY OF HIDDEN VALLEY GOLF COURSE (CITY OF DELAWARE).

SPILL AND SPILL REPORTING:

SMALL SPILLS (LESS THAN 25 GALLONS) SHALL BE IMMEDIATELY CLEANED UP USING ABSORBENT OR BY CONTAINERIZING THE SPILL AND IMPACTED SOIL. DISPOSE OF THE WASTE AT A SANITARY LANDFILL.

SPILLS OF 25 GALLONS OR MORE OF PETROLEUM MUST BE REPORTED TO THE FOLLOWING AGENCIES WITHIN 30 MINUTES OF DISCOVERY OF THE RELEASE OR SPILL:

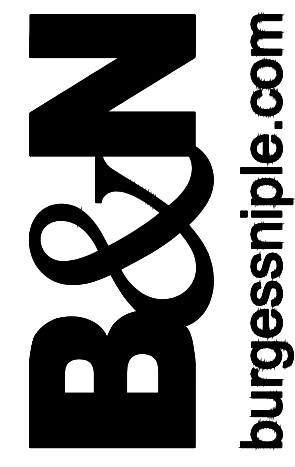
- 1. OHIO EPA AT 1-800-282-9378
2. LOCAL FIRE DEPARTMENT (911)
3. NATIONAL RESPONSE CENTER 800-424-8802
4. LOCAL EMERGENCY PLANNING COORDINATOR FOR UNION COUNTY

DUST CONTROL/SUPPRESSANTS:

DUST CONTROL IS REQUIRED TO PREVENT NUISANCE CONDITIONS. DUST CONTROLS MUST BE USED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND NOT BE APPLIED IN A MANNER, WHICH WOULD RESULT IN A DISCHARGE TO WATERS OF THE STATE. ISOLATION DISTANCES FROM BRIDGES, CATCH BASINS, AND OTHER DRAINAGEWAYS MUST BE OBSERVED. APPLICATION (EXCLUDING WATER) MAY NOT OCCUR WHEN PRECIPITATION IS IMMINENT AS NOTED IN THE SHORT TERM FORECAST. USED OIL MAY NOT BE APPLIED FOR DUST CONTROL.

Table with columns: DESCRIPTION, Hidden Valley Golf Course Stream Restoration- Ohio EPA 319 Grant. Rows include: TOTAL AREA OF PROJECT (5 ACRES), PROJECT EARTH DISTURBED AREA (4 ACRES), RUNOFF COEFFICIENT (PRE-CONSTRUCTION 0.07, POST-CONSTRUCTION 0.07), IMPERVIOUS AREA (PRE-CONSTRUCTION 0.38 ACRES, POST-CONSTRUCTION 0.38 ACRES), USGS 7.5 MINUTE QUAD (LATITUDE 39.9638528, LONGITUDE -83.0046208), IMMEDIATE RECEIVING WATERS (Delaware Run), SUBSEQUENT RECEIVING WATERS (Olentangy River), ESTIMATED CONSTRUCTION START DATE (14-Oct-24), ESTIMATED CONSTRUCTION COMPLETION DATE (30-Jun-25), PERSON RESPONSIBLE FOR SWPPP (Lisa Roberts, City of Delaware), CONTACT INFORMATION (lroberts@delawareohio.net, 740-203-1905), CONSTRUCTION SITE OPERATOR (TBD).

330 RUSH ALLEY
SUITE 700
COLUMBUS, OH 43215

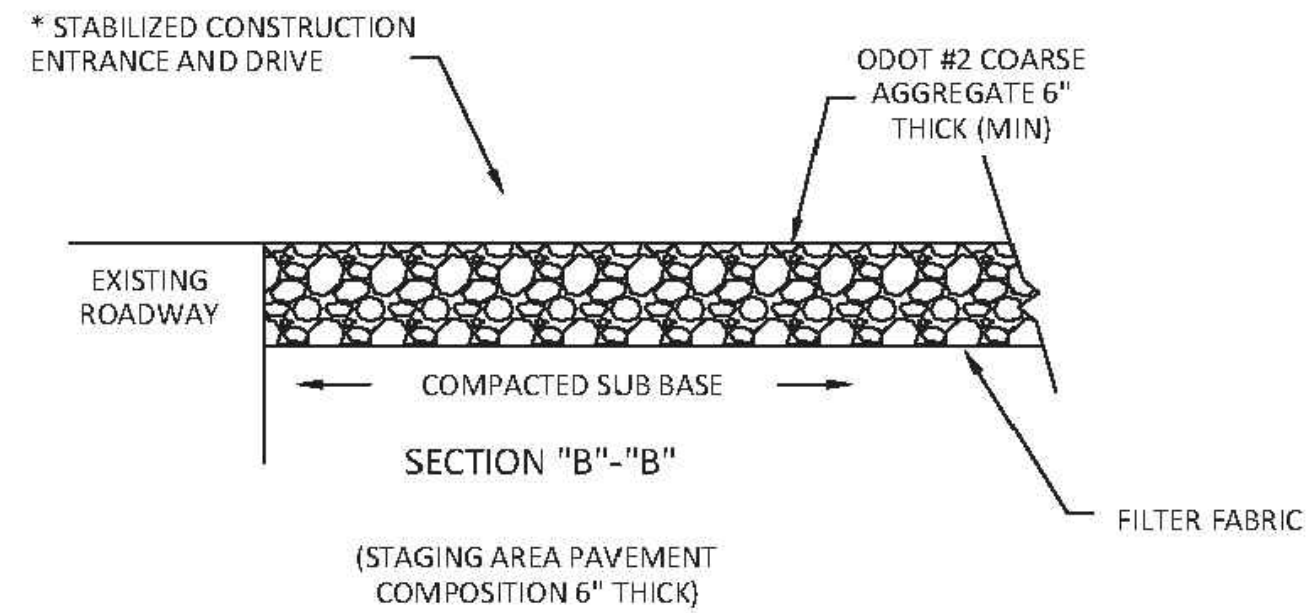
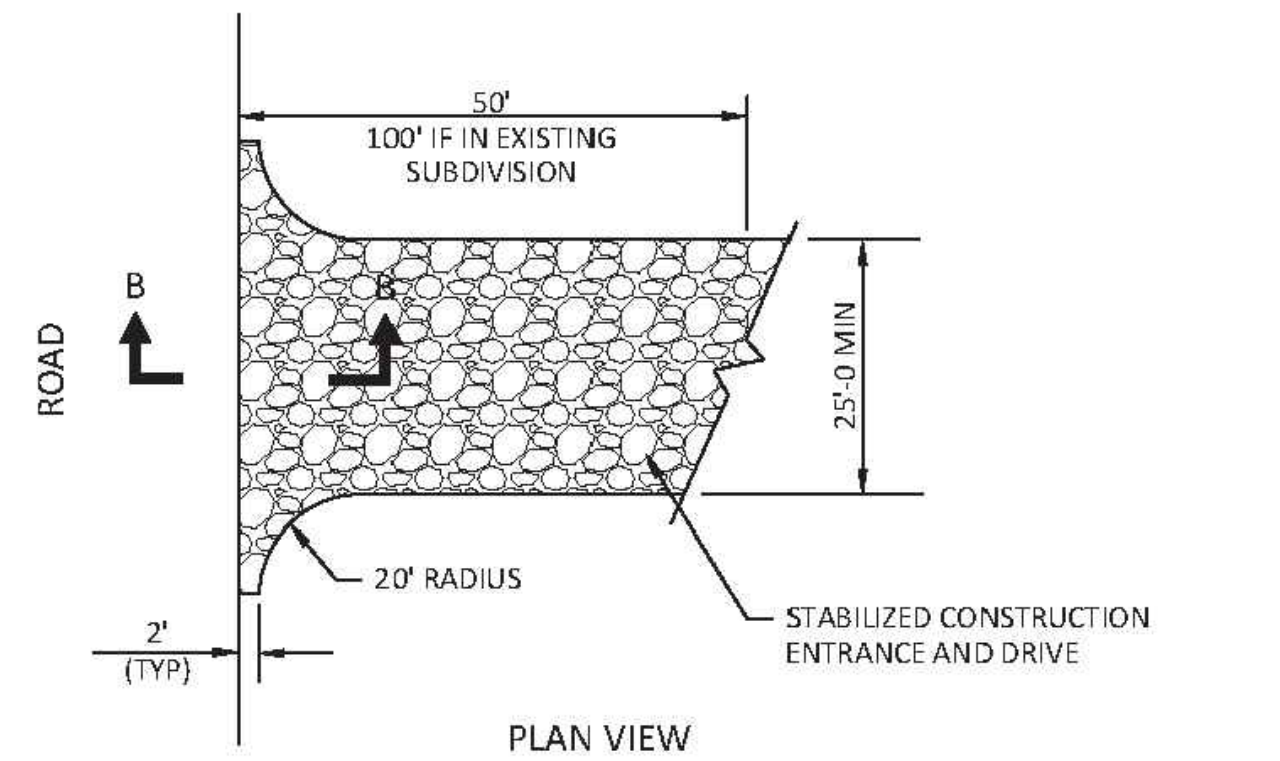


HIDDEN VALLEY GOLF COURSE
STREAM RESTORATION
CITY OF DELAWARE, OHIO
SEPTEMBER 2024

Table with columns: NO., DESCRIPTION, REVISIONS, DATE.

JOB NO: PR61357
DATE: SEPT. 2024
DESIGNED BY: MRK
DRAWN BY: EDS
CHECKED BY: JRC
APPROVED BY: BWT
SCALE: NONE

SEDIMENT AND EROSION CONTROL NOTES



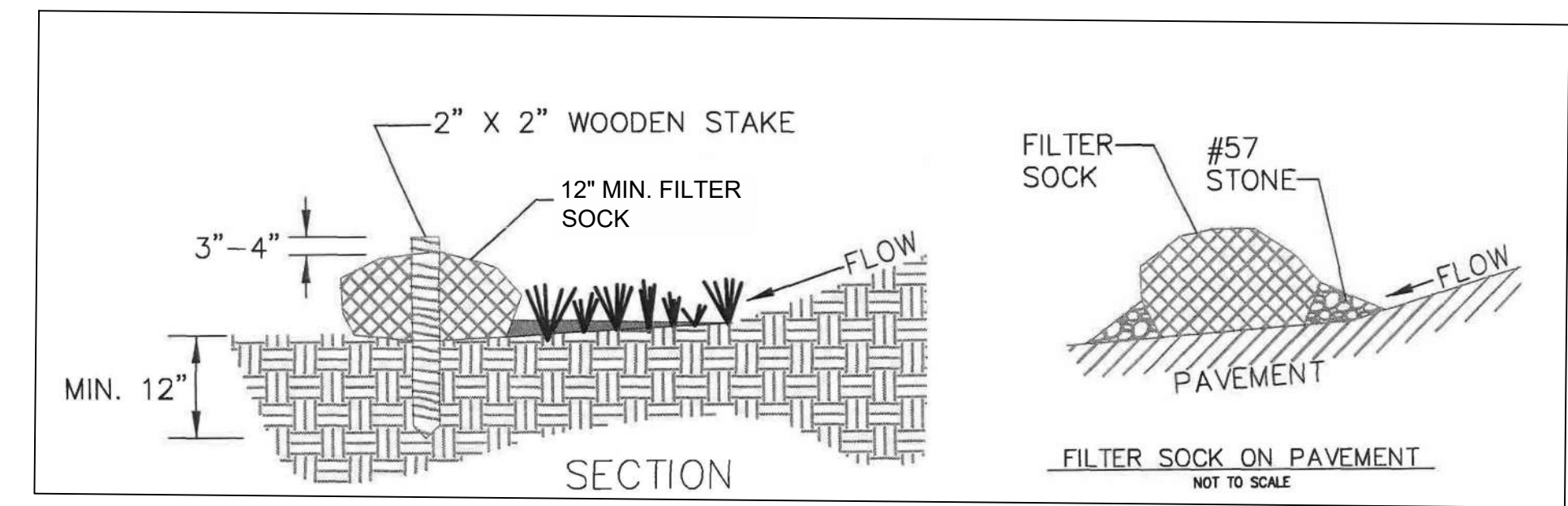
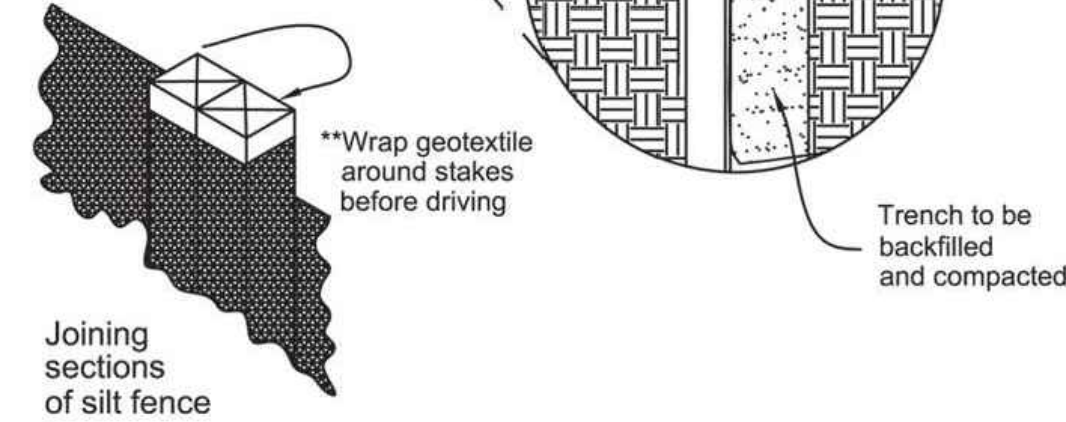
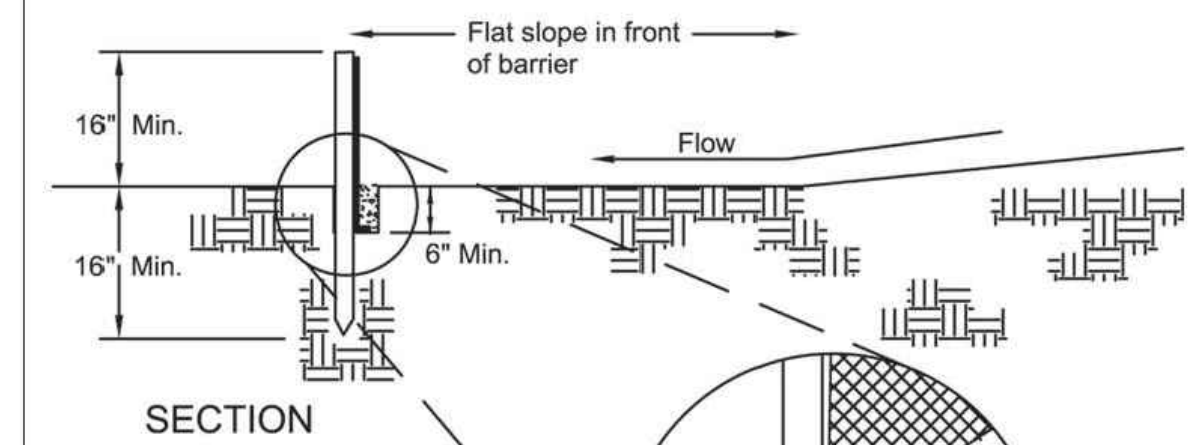
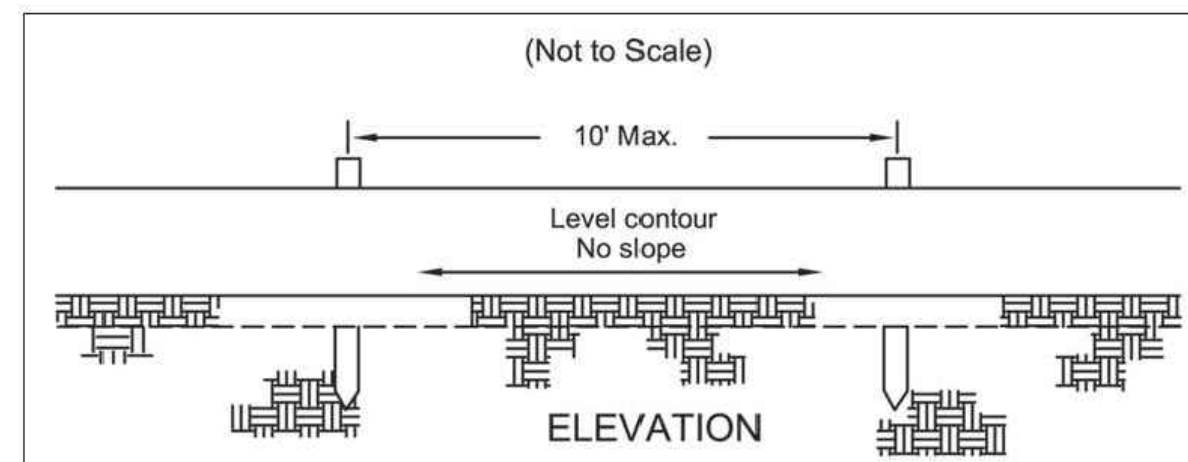
STABILIZED CONSTRUCTION ENTRANCE DETAIL

THE EARTHWORK CONTRACTOR SHALL INSTALL AND MAINTAIN THE CONSTRUCTION ENTRANCE AND STAGING AREA. THE EARTHWORK CONTRACTOR SHALL PERIODICALLY ADD CLEAN STONE AND MAINTAIN THE GRAVEL EDGES FOR THE DURATION OF THE PROJECT. WHEN THE CONSTRUCTION ENTRANCE AND DRIVE ARE NO LONGER NEEDED, THE EARTHWORK CONTRACTOR SHALL REMOVE THE GRAVEL AND RESTORE THE GROUND TO ITS ORIGINAL CONDITION.

A 304 STONE CAP MAY NOT BE USED IN THE FIRST 50' OFF OF THE ROADWAY BUT CAN BE USED PAST THIS POINT

* WHEN A CONSTRUCTION ENTRANCE IS INSTALLED ADJACENT TO A PUBLIC ROAD WITH A POSTED SPEED LIMIT OVER 35 MPH, THE FIRST 50'-0" OF THE ENTRANCE SHALL BE PAVED WITH 3" OF ITEM 301 ASPHALT CONCRETE.

Specifications for Silt Fence



- MATERIALS - COMPOST USED FOR FILTER SOCKS SHALL BE WEED, PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR 011-IER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL-COMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF A PARTICLE RANGING FROM 3/8" TO 2".
- FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST PASSING THE ABOVE SPECIFICATIONS FOR COMPOST PRODUCTS.
- FILTER SOCKS WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA. ON SLOPES APPROACHING 2: 1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MID-SLOPE.
- FILTER SOCKS INTENDED TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE, SHALL BE SEEDING AT THE TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.
- FILTER SOCKS ARE NOT TO BE USED IN CONCENTRATED FLOW SITUATIONS OR IN RUNOFF CHANNELS.
- ROUTINELY INSPECT FILTER SOCKS AFTER EACH SIGNIFICANT RAIN, MAINTAINING FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.
- REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER SOCKS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OFF THE PRACTICE.
- WHERE THE FILTER SOCK DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.
- REMOVAL - FILTER SOCKS WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED IN SUCH A WAY AS TO FACILITATE AND NOT OBSTRUCT SEEDINGS.

INSTALLATION:

MAINTENANCE:

FILTER SOCK DETAIL
NOT TO SCALE

- SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
- ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS THAT MAY CARRY SMALL CONCENTRATED FLOWS ID THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
- ENDS OF THE SILT FENCES SHALL ILE BROUGHT UPSLOPE SLIGHTLY SO THAT WATER PONDED BY THE SILT FENCE WILL BE PREVENTED FROM FLOWING AROUND THE ENDS.
- SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
- WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FEET (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
- THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- THE SILT FENCE SHALL BE PLACED IN AN EXCAVATED OR SLICED TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE MADE WITH A TRENCHER, CABLE LAYING MACHINE, SLICING MACHINE, OR OTHER SUITABLE DEVICE THAT WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
- THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE. A MINIMUM OF 8 INCHES OF GEOTEXTILE MUST BE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6-INCH DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED ON BOTH SIDES OF THE FABRIC. TRENCH TO BE BACKFILLED AND COMPACTED.
- SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-IN. OVERLAP PRIOR ID DRIVING INTO THE GROUND, (SEE DETAILS).
- MAINTENANCE-SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER THE FABRIC OR AROUND THE FENCE ENDS, OR IN ANY OTHER WAY ALLOWS A CONCENTRATED FLOW DISCHARGE, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.

SEDIMENT DEPOSITS SHALL BE ROUTINELY REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE-HALF OF THE HEIGHT OF THE SILT FENCE.

SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING A PROLONGED RAINFALL. THE LOCATION OF EXISTING SILT FENCE SHALL BE REVIEWED DALLY TO ENSURE ITS PROPER LOCATION AND EFFECTIVENESS. IF DAMAGED, THE SILT LANCE SHALL BE REPAIRED IMMEDIATELY.

CRITERIA FOR SILT FENCE MATERIALS

- FENCE POST - THE LENGTH SHALL BE A MINIMUM OF 32 INCHES. WOOD POSTS WILL BE 2-BY-2-IN. NOMINAL DIMENSIONED HARDWOOD OF SOUND QUALITY. THEY SHALL BE FREE OF KNOLS, SPLITS AND OTHER VISIBLE IMPERFECTIONS, THAT WILL WEAKEN THE POSTS. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT. POSTS SHALL BE DRIVEN A MINIMUM 16 INCHES INTO THE GROUND, WHERE POSSIBLE. HNOT POSSIBLE, THE POSTS SHALL BE ADEQUATELY SECURED TO PREVENT OVERTURNING OF THE FENCE DUE TO SEDIMENT/WARER LOADING.
- SILT FENCE FABRIC - SEE CHART BELOW.

FABRIC PROPERTIES	VALUES	TEST METHOD
MINIMUM TENSILE STRENGTH	120 LBS. (535 N)	ASTM 04632
MAXIMUM ELONGATION AT 60 LBS	50%	ASTM 04632
MINIMUM PUNCTURE STRENGTH	50 LBS (220 N)	ASTM 04633
MINIMUM TEAR STRENGTH	40 LBS (180 N)	ASTM 04533
APPARENT OPENING SIZE	< 0.84 MM	ASTM D4751
MINIMUM PERMITTIVITY	1X10-2 SEC.-1	ASTM D4491
UV EXPOSURE STRENGTH RETENTION	70%	ASTM G4355

SILT FENCE DETAIL

NO.	DESCRIPTION	DATE

JOB NO:	PR61357
DATE:	SEPT. 2024
DESIGNED BY:	MRK
DRAWN BY:	EDS
CHECKED BY:	JRC
APPROVED BY:	BWT
SCALE:	NONE

SEDIMENT AND EROSION CONTROL DETAILS