

SPECIAL PROVISIONS

WATERWAY PERMITS CONDITIONS

C-R-S: KNO-229-14.80

PID: 111312

Date: 07/22/2022

1. Waterway Permits Time Restrictions:

A USACE Section 404 Nationwide Permit (NWP) #27 (Maintenance) is pending for KNO-229-14.80, PID: 111312. Temporary and permanent fill activities in aquatic resources are not authorized until the NWP #27 authorization letter from the USACE is acquired. A copy of the NWP and USACE authorization letter (USACE ID: 2011-00288-WAL) will be provided after they are issued and shall be kept at the work site at all times and made available to all contractors and subcontractors. The permit will expire: March 14, 2026.

For proposed work in aquatic resources (including streams, wetlands, jurisdictional ditches, captured streams, lakes, ponds), the Department will consider the Contractor’s submission of a reauthorization to the waterway permit expiration date based on project constraints. If more than one permit is authorized for the project, then all permits become invalid once the first permit expires. In order for the request to be considered, the Contractor must submit a justification to the Engineer at least 90 days prior to the waterway permit expiration date. The Engineer will submit the request for a time extension to the Ohio Department of Transportation, Office of Environmental Services, Waterway Permits Unit (ODOT-OES-WPU) for consideration and coordination with the U.S. Army Corps of Engineers (USACE), Ohio Environmental Protection Agency (OEPA), U.S. Coast Guard (USCG), U.S. Fish and Wildlife Service (USFWS), and Ohio Department of Natural Resources (ODNR) as appropriate.

2. Deviations From Permitted Construction Activities:

No deviation from the requirements for work in aquatic resources depicted in the plans, Special Provisions, and/or Working Drawings may be made unless a modification has been submitted to ODOT-OES-WPU and approved by the appropriate agencies (i.e., USACE, OEPA, USCG, ODNR, and USFWS).

NOTE: Plan sheets submitted with the Pre-Construction Notification to the USACE in accordance with NWP #27 and are included in these Special Provisions.

For emergency situations resulting in unanticipated impacts to aquatic resources, provide notification (verbal or written) to the Engineer as soon as possible following discovery of the situation. Written notification to the Engineer and notification to the ODOT-OES-WPU (614-466-2159) must be made within 24 hours.

For non-emergency situations, notify the Engineer in writing for submission to the ODOT-OES-WPU (614-466-2159) for consideration and coordination with the appropriate agencies. Notification must be made at least 90 days prior to planned, non-permitted activities. Consideration of the requested deviation is at the discretion of the Director and must be coordinated with the appropriate regulatory agencies.

3. In-Stream Work Restrictions:

Work in the following aquatic resources is further restricted as follows:

Stream Name /Description	Location	Work restriction dates* (No in-stream work permitted)
Kokosing River	STA 0+0.00 - STA 8+65.00	January 1, 2023 - July 31, 2023 After August 2023: November 1 - July 31

**Restriction dates do not apply if the stream has been dewatered prior to the start of the restriction period.*

In-stream work has been defined as the placement and/or removal of fill materials (temporary or permanent) below ordinary high water of a stream. Examples of “fill” include, but are not limited to: bridge piers, abutments, culverts, rock channel protection, scour protection, and temporary access fills.

Fills placed within a stream identified in the above table (outside of the work restriction dates) can continue to be worked from during the work restriction dates, but cannot be expanded, removed, or otherwise modified (below ordinary high water) until once again outside of the work restriction dates.

4. Materials:

Materials utilized in or adjacent to aquatic resources for temporary or permanent fill or bank protection shall consist of suitable material free from toxic contaminants in other than trace quantities. Broken Concrete and Asphalt products are specifically excluded for use as fill. Chromated Copper Arsenate (CCA), creosote, and other pressure treated lumber shall not be used in structures that are placed in aquatic resources.

5. Cultural Resources:

Per CMS 107.10, if archeological sites, historical sites, or human remains are discovered, cease all work in the immediate area and notify the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-Cultural Resource Section at 614-466-2159. In the event of human remains are identified by OES-Cultural Resources Section, the Engineer shall also contact the Knox County Sheriff's Office at 740-397-3333.

6. Aquatic Resource Demarcation:

The table attached includes detailed fill quantities pending authorization within the aquatic resources. Aquatic resources not proposed for impact by these Special Provisions shall be demarcated in the field as per SS 832 prior to site disturbance. The fence shall remain in place and be maintained throughout the construction process. Following the completion of the project, the fence and posts shall be removed.

7. Spill containment:

Provide and Maintain an Oil Spill Kit with a minimum capacity of 65 gallons. The Spill Kit shall contain:

- 6 - 3 in. X 8 ft. Oil only socks
- 4 - 18 in. X18 in. Oil only pillows
- 2 - 5 in. X 10ft. Booms
- 50 - 16in. X 20 in. Oil only pads
- 10- Disposable Bags
- 1 - 65 Gallon drum with lid
- 25 pounds of Granular Oil Absorbent

The Oil Spill Kit shall be located within 150 feet of any equipment working in a stream or wetland. The oil Spill Kit shall be maintained for the life of the contract. Any materials utilized during the project will be replaced within 48 hours. All costs associated with furnishing and maintaining the above referenced spill containment kit is incidental to work.

8. Blasting:

State law requires notification to the Ohio Department of Natural Resources should blasting be required within or near stream channels (See ORC 1533.58 & CMS 107.09). Notify the Engineer, in writing, a minimum of 30 days in advance of blasting, for submission to ODOT-OES-WPU (614-466-2159) for coordination with ODNR.

9. Project Inspection:

Inspection of Work may include inspection by representatives of other government agencies or railroad corporations that pay a portion of the cost of the Work or regulate the Work through State and Federal law. Comments from the representatives of these agencies shall be directed to the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-WPU at 614-466-2159.

10. Temporary Access Fills:**Definitions:****Hydraulic Opening**

The cross-sectional area allowing an unimpeded discharge equal to twice the highest monthly flow without producing a rise in the backwater above the Ordinary High Water Mark (OHWM).

Standard Temporary Discharge

Discharge equal to twice the *highest monthly flow* without producing a rise in the backwater above the OHWM. The U.S. Geologic Service publication "Techniques for estimating Selected Streamflow Characteristics of Rural Unregulated Streams in Ohio" provides equations that estimate monthly flow for Ohio Waterways. These flows are also available in a web application by USGS StreamStats, (<https://water.usgs.gov/osw/streamstats/ohio.html>). The highest monthly flow is the highest monthly mean discharge occurring in a 12-month period from January to December.

Average Monthly Flow

The average monthly flow represents the estimated "normal" flow.

Temporary Access Fills (TAFs)

Include, but are not limited to, dewatering fills, causeways, cofferdams, access pads, temporary bridges, etc. below the OHWM.

Requirements

21 calendar days prior to the initiation of any in-stream work, provide the Engineer with Working Drawings that include:

- Plan view drawing (50 scale or less) showing the location of all TAFs proposed for use on the project
- Scaled cross section and profile drawing showing the OHWM and the proposed hydraulic opening.
- Identify the minimum diameter size, placement location and thickness of non-erodible Dumped Rock Fill material on the plan and profile.
- Calculations analyzing the hydraulic impacts of the TAF on the waterway. Include in the calculations an analysis of the hydraulic opening sized adequately to pass the Standard Temporary Discharge without producing a rise in backwater above the OHWM. Include, in the analysis, calculated channel velocities adjacent to the TAF, culvert exit velocities, calculated headwater and tailwater elevations, and any additional appropriate calculations to assess potential impacts to the waterway during normal and anticipated high flow (twice the highest monthly flow) events.

- A description of all temporary material to be placed below the OHWM elevation.
- A description of the installation and staging of all temporary fill over the life of the contract.
- Identify the protection methods and/or structural Best Management Practices for minimizing impacts to the waterway.
- Volume of temporary fill below the OHWM elevation.
- A description of the diversion ditches, equipment, conduits or means for maintaining normal flows in the waterway.
- A description of the removal of all temporary fill and restoration of the channel and all areas impacted by the TAFs.
- A schedule outlining the timing of the placement and removal of all temporary fill.
- Have competent individuals prepare and check the Working Drawings and hydraulic calculations. Provide a cover sheet containing the preparer(s) and checker(s): First Name, Last Name and Initials. The preparer(s) and checker(s) shall not be the same individual. Have an Ohio Registered Engineer review, approve, sign, seal and date the Working Drawings and hydraulic calculations according to ORC 4733 and OAC 4733-35. Include the following statement on the Working Drawings:

“These Working Drawings were prepared in compliance with the terms of these Special Provisions and all contract documents.”

Do not begin in-stream work until the Engineer has accepted the Working Drawings and hydraulic calculations.

The design and construction of the Contractor’s TAF must minimize impacts to water bodies, stream banks, stream beds, and riparian zones to the maximum extent practicable.

Construct TAFs in such a manner that will maintain flows, minimize upstream flooding, and avoid overtopping the TAF on a regular basis. ***TAFs shall be designed and constructed so that the hydraulic opening provides capacity for a discharge equal to twice the highest monthly flow without producing a rise in the backwater above the (OHWM).***

If the Contractor proposes a TAF which does not meet all the requirements of these Special Provisions, the Contractor must submit a request in writing for a modified TAF to the Engineer. The request must include all Working Drawings and hydraulic calculations required by these Special Provisions. The Department makes no guarantee to grant the request. The Contractor’s proposed TAF request will be coordinated by OES with the USACE and the OEPA, as appropriate. The time frame allowed for the coordination of the contractor’s proposed TAF will be a minimum of 60 days.

Installation of any temporary fill without appropriate authorization is strictly prohibited. All direct coordination with the USACE and/or OEPA will be performed through OES.

TAFs Construction and Payment

Begin planning and installing causeways and access fills as early in construction as possible to avoid conflicts with these Special Provisions or other environmental commitments that have been included in the construction plans.

TAFs in Streams and Rivers may include, but are not limited to, causeways, cofferdams, access pads, sheet piling, temporary bridges, etc. The Contractor must make every attempt to minimize disturbance to waterbodies, stream banks, stream beds and riparian zones during the construction, maintenance, and removal of the TAF. Construct the TAFs as narrow as practical. Install in-stream conduits parallel to the stream banks. Make the TAFs in shallow areas rather than deep pools where possible. Minimize clearing, grubbing, and excavation of stream banks, and approach sections. Construct the TAFs as to not cause erosion or allow sediment deposits in the waterway.

Prior to the initiation of any in-stream work, establish a monument upstream of the proposed TAF to visually monitor the water elevation in the waterway where the fill is permitted. Maintain the monument throughout the project. Provide a visual mark on the monument that identifies the elevation 1 foot above the OHWM. Ensure that the monument can be read from the bank of the waterway. Have this elevation set and certified by an Ohio Registered Surveyor. All costs associated with furnishing and maintaining the above referenced monument is incidental to the work.

Should the surface water elevation exceed the elevation 1 foot above OHWM, the Department will compensate the Contractor for repair of any resulting damage to the TAF up to the elevation of 1 foot above the OHWM, except as noted. The Department will recognize this event as an excusable, non-compensable delay in accordance with Section 108.06 B. of the Construction & Materials Specifications.

Follow the requirements in Item 502 for Structures for Maintaining Traffic and in Item 503 for Cofferdams and Excavation Bracing and any modifications to these items as shown in the plans. The Department will not pay for repair and maintenance of TAFs associated with Items 502 and 503 as a result of surface water elevation exceeding 1 foot above the OHWM. Compensation for damages associated with waterway flows will be provided as described in Items 502 and 503.

Construct the TAFs, not including Items 502 and 503, to a water elevation at least 1 foot (0.3 m) above the OHWM. If more than one-third the width of the stream is filled, then use culvert pipes to allow the movement of aquatic life. Ensure that any ponding of water behind the TAF will not damage property, flood roadways, or threaten human health and safety.

The following minimum requirements apply to TAFs where culverts are used:

- A. Furnish culverts on the existing stream bottom.
- B. Avoid a drop in water elevation at the downstream end of the culvert that would result in an adverse impact to the waterway.
- C. Furnish a sufficient number of culverts in addition to stream openings to provide a discharge equal to twice the highest monthly flow without producing a rise in the backwater above the OHWM.
- D. Furnish culverts with a minimum diameter of 18 inches (0.5 m).

All TAFs must be constructed of suitable materials. Causeways and access fills must be encapsulated with clean, non-erodible, nontoxic Dumped Rock Fill, Type A, B, C, or D, meeting the requirements of C&MS 703.19.B. Utilize appropriately sized Dumped Rock Fill determined by the Contractor's engineer for encapsulating the sides of the TAF. Encapsulate all sides of the TAF with the non-erodible material. For causeways, contractors may use clean aggregate meeting C&MS 703.01 Size Number 1 and 2 for creating a working surface above the OHWM. Extend the non-erodible encapsulating material to at least the elevation of the top of the working surface. Extend clean aggregate up the slope from the original stream bank for 50 feet (10 m) to remove erodible material and prevent tracking from equipment onto the TAF.

When the work requiring TAF is complete, all portions of the TAF (including all rock and culverts) will be removed in its entirety. Do not dispose of TAF material in other aquatic resources or where erosion into another aquatic resource is possible. The stream bottom affected by the TAFs will be restored to its pre-construction elevations. The TAFs will not be paid as a separate item but will be included by the Contractor as part of the total project cost.

Unless specific TAF compensation is included in the plans, all environmental protection and control associated with the authorized activities, are incidental to the work within the boundaries of the aquatic resources.

11. Excavation Activities:

Excavated material will be placed at an upland site and disposed of in such a manner that sediment and runoff to streams and other aquatic resources is controlled and minimized. Additionally, no more than incidental fallback into aquatic resources is permitted during the excavation process. If any changes to the proposed work are deemed necessary, notify the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-WPU at 614-466-2159

12. Demolition Debris:

The intentional discharge of demolition debris from any structure (including but not limited to bridges, culverts, abutments, wing walls, piers) is not authorized for this project. If any demolition debris inadvertently falls into aquatic resources, it must be removed immediately. Notify the Engineer immediately in writing of any inadvertent fill discharged into aquatic resources. The Engineer will immediately contact ODOT-OES-WPU at 614-466-2159 if any unintentional discharge occurs.

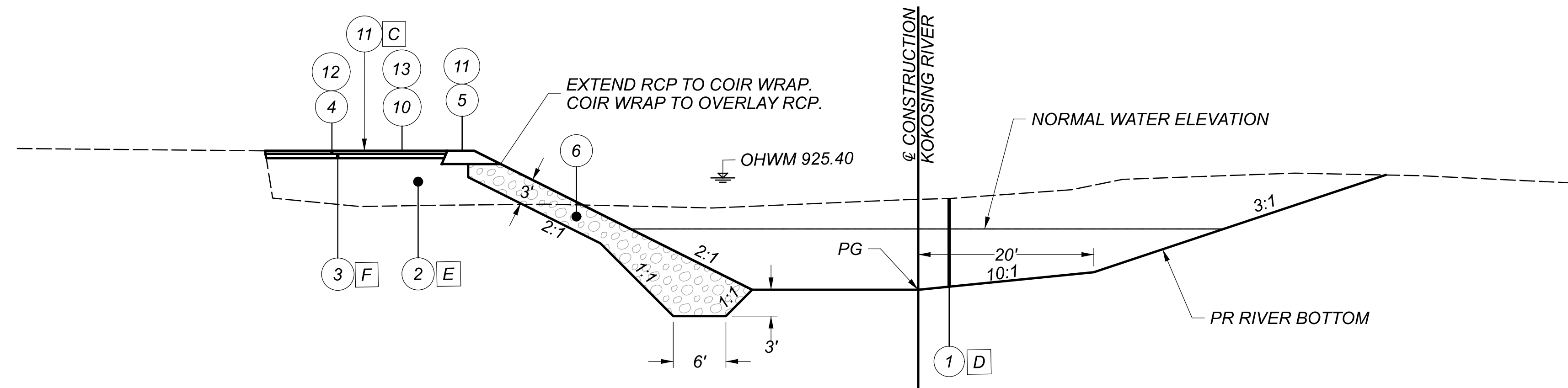
13. Construction Completion Certification:

Upon completion of the work, notify the Engineer. The USACE Construction Completion Certification must be completed and signed by the Engineer then provided via US mail or email to:

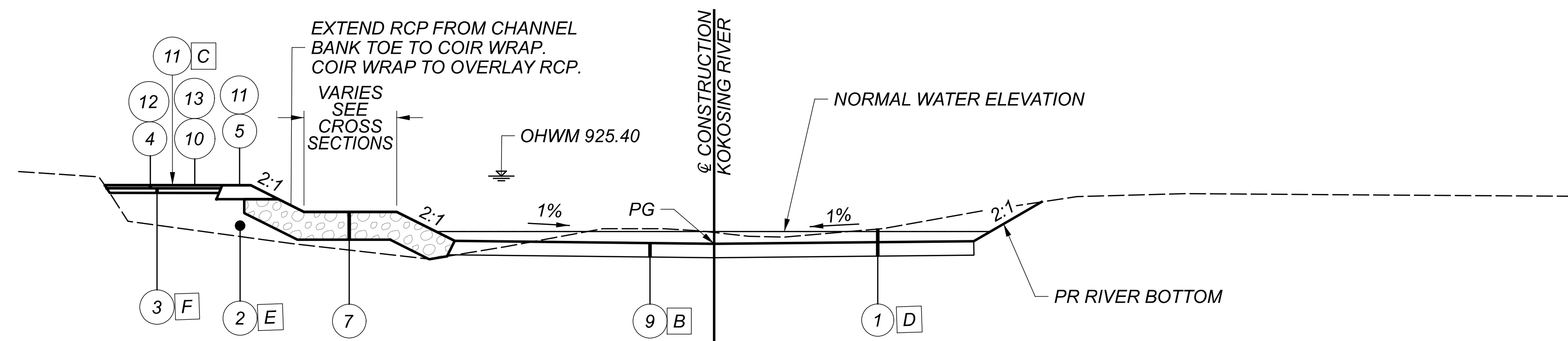
Waterway Permits Program Manager
ODOT - Office of Environmental Services
1980 West Broad Street, Mail Stop 4170
Columbus, Ohio 43223
Adrienne.Earley@dot.ohio.gov

A copy of the certification will be provided after the USACE authorization letter is issued.

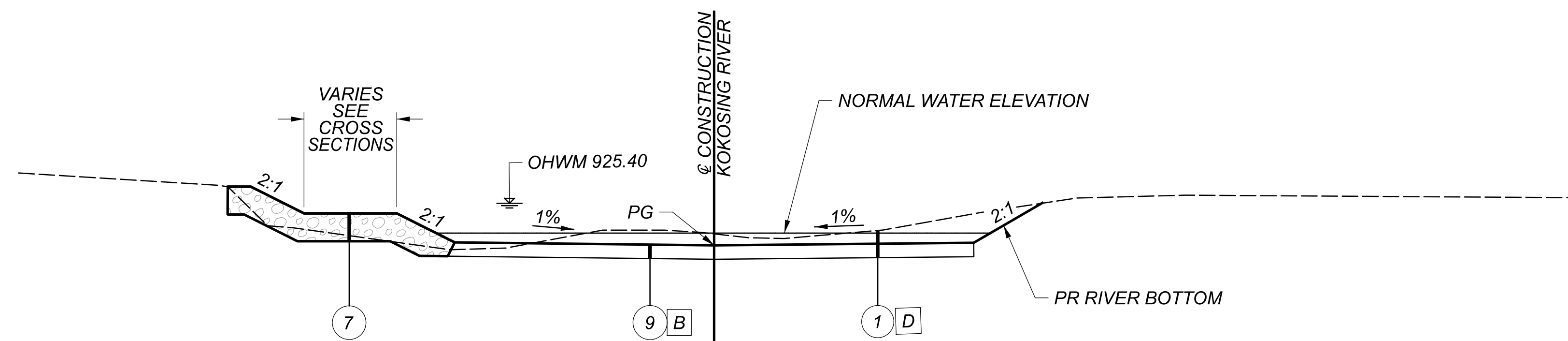
Version: July 2020



TYPICAL SECTION - RIVER POOL
 STA. 3+50 TO STA. 4+00 A
 STA. 4+00 TO STA. 5+75
 STA. 5+75 TO STA. 6+50 A



TYPICAL SECTION - RIVER RIFFLE (WITH EMBANKMENT)
 STA. 2+20 TO STA. 3+50
 STA. 3+50 TO STA. 4+00 A



TYPICAL SECTION - RIVER RIFFLE (WITHOUT EMBANKMENT)
 STA. 1+35 TO STA. 2+20
 STA. 5+75 TO STA. 6+50 A
 STA. 6+50 TO STA. 8+50

- 1 ITEM 203 EXCAVATION
- 2 ITEM 203 EMBANKMENT, AS PER PLAN
- 3 ITEM 203 6" EMBANKMENT, AS PER PLAN, SOIL PLUG
- 4 ITEM 653 4" TOPSOIL FURNISHED AND PLACED
- 5 ITEM 203 ROADWAY, MISC.: VEGETATION REINFORCED COIR MAT WRAP
- 6 ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER, AS PER PLAN
- 7 ITEM 601 3.00' ROCK CHANNEL PROTECTION, TYPE B WITH FILTER, AS PER PLAN
- 9 ITEM 601 1.50' ROCK CHANNEL PROTECTION, MISC.: RIFFLE BED MATERIAL
- 10 ITEM 659 SEEDING AND MULCHING CLASS 5B
- 11 ITEM 661 PLANTING, MISC.: LIVE STAKE
- 12 ITEM 670 SLOPE EROSION PROTECTION, AS PER PLAN
- 13 ITEM 661 DECIDUOUS TREE, 1" CALIPER

- A CONTRACTOR SHALL TRANSITION CHANNEL BED MATERIALS FROM POOLS TO RIFFLES WITHIN THE RUNS AND GLIDES AS SHOWN. BLEND RIFFLE MATERIALS AND POOL MATERIALS FROM ONE FEATURE TO THE NEXT, DECREASING IN SIZE FROM RIFFLES TO POOLS, AND INCREASING IN SIZE FROM POOLS TO RIFFLES OVER THE LENGTH OF THE RUN OR GLIDE AS SHOWN ABOVE. POOL BED MATERIAL CONSISTS OF EXISTING IN-SITU ALLUVIUM MATERIAL.
- B EXTEND BED MATERIAL FROM LEFT TOE OF SLOPE TO RIGHT TOE OF SLOPE AS SHOWN.
- C WITHIN DISTURBED AREAS PLANT LIVE STAKES IN A 5' x 5' GRID SPACING.
- D RIVER BED
- E RIVER BED MATERIAL
- F SOIL PLUG

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED NEAR THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

AEP DISTRIBUTION 850 TECH CENTER DRIVE GAHANNA, OHIO 43230 ATTN: PAUL PAXTON 614-883-6831	OHIO CUMBERLAND GAS CO. 20718 DANVILLE-AMITY ROAD MOUNT VERNON, OHIO 43050 OFFICE PHONE NUMBER 740-392-2941
CENTURYLINK TELEPHONE CO. 701 HARCOURT ROAD MOUNT VERNON, OHIO 43050 ATTN: CASPER SCHMIDT 740-397-3609	TIME WARNER CABLE 3760 INTERCHANGE DR. COLUMBUS, OHIO 43204 ATTN: RAY MAURER 614-481-5262

CLEARING AND GRUBBING

THE EXACT QUANTITY AND LOCATION OF TREES AND SHRUBS SHOWN ON THESE PLANS IS APPROXIMATE BASED ON THE BEST AVAILABLE AERIAL IMAGERY. SHRUBS AND BRUSH SHALL BE REMOVED FROM THE RIVER BANK WITHIN PROJECT LIMITS. SUFFICIENT REMOVAL SHALL OCCUR TO ALLOW PLACEMENT OF FILL AND PROPOSED REVETMENT; HOWEVER, EXISTING TREES SHALL BE PROTECTED WHERE POSSIBLE TO ALLOW ROOTMASS TO PROVIDE ADDITIONAL PROTECTION TO EXISTING AND PROPOSED RIVER BANKS.

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING, ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

WORKING LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS BETWEEN THE OUTSIDE EDGE OF TREATED SHOULERS AND 50 FEET RIGHT OF THE CENTERLINE OF RIGHT-OF-WAY:

ITEM 659 SEEDING AND MULCHING CLASS 2	2275 SY
ITEM 659 SOIL ANALYSIS TEST	1 EACH
ITEM 659 COMMERCIAL FERTILIZER	0.21 TON
ITEM 659 LIME	0.47 ACRE
ITEM 659 WATER	18 MGAL

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS WITHIN THE CONSTRUCTION LIMITS OF THE NORTHERN SIDE OF THE KOKOSING RIVER BETWEEN THE LIMITS SHOWN IN THE CROSS SECTIONS AND 50 FEET RIGHT OF THE CENTERLINE OF RIGHT-OF-WAY.

ITEM 659 SEEDING AND MULCHING CLASS 5B	3290 SY
ITEM 659 COMMERCIAL FERTILIZER	0.30 TON
ITEM 659 LIME	0.68 ACRE
ITEM 659 WATER	27 MGAL

SEEDING AND MULCHING (CONT'D)

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR TEMPORARY EASEMENT EXCEPT FOR AREAS ON THE SOUTH SIDE OF THE KOKOSING RIVER. IT IS NOT ANTICIPATED THAT ANY SEEDING AND MULCHING WILL BE NEEDED SOUTH OF THE KOKOSING RIVER.

QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

SCENIC RIVER

DEVELOP AND IMPLEMENT A SWPPP, PER SS 832, BEFORE EARTHWORK COMMENCES. PROPERLY INSTALL AND MAINTAIN SEDIMENT AND EROSION CONTROLS THROUGHOUT THE DURATION OF THE PROJECT. STRAW BALES ARE NOT PERMITTED AS A FORM OF SEDIMENT CONTROL. ENSURE TIMELY ADHERENCE TO THE GENERAL CONSTRUCTION PERMIT FOR ALL SEDIMENT AND EROSION CONTROLS, INCLUDING SEEDING AND MULCHING. ENSURE BMPs ARE INSTALLED TO PREVENT DRAINAGE WAYS, UNPROTECTED SLOPES, DITCHES, AND STREAMS FROM CONVEYING SEDIMENT LADEN WATERS DIRECTLY TO THE KOKOSING RIVER. PROPERLY INSTALLED (FRAMED AND ENTRENCHED) SEDIMENT FENCE SHOULD BE UTILIZED AROUND THE WORK SITE PERIMETER. ALL CONTROLS SHALL BE PROPERLY MAINTAINED UNTIL FINAL SITE STABILIZATION IS ACHIEVED. ALL SEDIMENT AND EROSION CONTROLS SHALL BE REMOVED UPON STABILIZATION OF THE PROJECT AREA WITH VEGETATION. ALL DENUDED AREAS SHALL BE PERMANENTLY SEEDED AND MULCHED (OR FIBER MAT) IMMEDIATELY UPON COMPLETION OF EARTH WORK OR TEMPORARILY SEEDED AND MULCHED (OR FIBER MAT) WITHIN SEVEN DAYS IF THE AREA IS TO REMAIN IDLE FOR MORE THAN THIRTY DAYS. IDLE EQUIPMENT, PETROCHEMICALS AND TOXIC/HAZARDOUS MATERIALS SHALL NOT BE STORED IN THE FLOODPLAIN OR NEAR ANY DRAINAGE WAYS, DITCHES OR STREAMS THAT COULD CONVEY SUCH MATERIALS TO THE KOKOSING STATE SCENIC RIVER. PETROCHEMICALS AND TOXIC/HAZARDOUS MATERIALS SHALL NOT BE DISCHARGED INTO KOKOSING SCENIC RIVER, ITS FLOODPLAIN OR ANY DRAINAGE WAYS, DITCHES OR STREAMS. REFUELING OF EQUIPMENT SHOULD NOT OCCUR IN THE FLOODPLAIN OR NEAR ANY DRAINAGE WAYS, DITCHES OR STREAMS. A SPILL CONTAINMENT AND CLEANUP PLAN SHALL BE DEVELOPED PRIOR TO THE START OF THE PROJECT.

DO NOT DISCHARGE TOXIC OR HAZARDOUS MATERIALS SUCH AS SEALANTS, PAINT, SOLVENTS, CLEANING AGENTS, EARTHEN MATERIALS, WASTE-WATER, FUELS OR DEBRIS OF ANY KIND TO A SCENIC RIVER, ITS TRIBUTARIES, OR DRAINAGE WAYS. IF REFUELING OF IMMOBILE EQUIPMENT IS NECESSARY WITHIN THE FLOODPLAIN OR NEAR ANY TRIBUTARY DRAINAGE WAYS, DITCHES, OR STREAM, PROVIDE SECONDARY CONTAINMENT WITH ENOUGH CAPACITY TO COMPLETELY CONTAIN AND COLLECT ALL POTENTIAL LIQUID WASTES IN THE EVENT OF A SPILL.

REPORT SPILLS EQUAL TO OR EXCEEDING THE REPORTABLE QUANTITIES PRESCRIBED IN OAC CHAPTER 3750-25, IN ACCORDANCE WITH ORC 3750.06, TO THE LOCAL FIRE DEPARTMENT (911), THE LOCAL EMERGENCY COORDINATOR, AND THE OHIO SPILL LINE (1-800-282-9378).

ALL DEBRIS, EXCESS FILL MATERIAL AND MATERIAL EXCAVATED FROM THE RIVER BOTTOM SHOULD BE DISPOSED OF AT AN APPROVED UPLAND SITE (ABOVE 100 YEAR FLOOD ELEVATIONS). DISPOSAL IN WETLANDS, FLOODPLAINS OR WITHIN 1000 FEET OF THE KOKOSING SCENIC RIVER SHALL BE PROHIBITED.

SCENIC RIVER (CONT'D)

ALL IN-STREAM WORK SHALL BE CONDUCTED DURING LOW FLOW PERIOD (AUGUST 1 THROUGH OCTOBER 31). ANY DISTURBED AREAS IN THE STREAM BOTTOM SHOULD BE RETURNED TO PRE-CONSTRUCTION CONTOURS UNLESS MODIFIED WITH THESE PLANS. FILL MATERIAL USED BELOW OHWM OF THE KOKOSING RIVER SHALL BE RELATIVELY FREE FROM FINE PARTICULATE MATTER AND FREE FROM TOXIC CONTAMINANTS OTHER THAN IN TRACE QUANTITIES AND SHALL BE KEPT TO THE MINIMUM

AMOUNT NECESSARY. BROKEN CONCRETE OR ASPHALT ARE SPECIFICALLY PROHIBITED FROM USE AS FILL BELOW THE OHWM OR ON ANY PORTION OF THE SCENIC RIVER STREAM BANKS. APPLICABLE IN-STREAM WORK RESTRICTION DATES WILL BE INCORPORATED INTO THE SPECIAL PROVISIONS.

ROCK CHANNEL PROTECTION SHALL BE PLACED FROM THE BENCH AREA ABOVE THE RIVER CHANNEL AS MUCH AS PRACTICAL. NO EQUIPMENT IS PERMITTED WITHIN THE KOKOSING RIVER CHANNEL EXCEPT FOR THE ITEMS "EXCAVATION", "ROCK CHANNEL PROTECTION, TYPE B WITH FILTER", "ROCK CHANNEL PROTECTION, MISC.: TYPE B WITH TYPE D", "ROCK CHANNEL PROTECTION, MISC.: RIFFLE BED MATERIAL, "ROCK CHANNEL PROTECTION, MISC.: J-HOOK STONE". IT IS ANTICIPATED THAT CONSTRUCTION OF THESE ITEMS WILL GENERALLY BE PERFORMED IN THE WET AND THAT COFFER DAMS, CRIBS, OR SHEETING WILL NOT BE UTILIZED HOWEVER, THE CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM THE PROJECT ENGINEER (CONSTRUCTION METHODS, DEWATERING, ETC.) FOR THESE ITEMS, AS NECESSARY TO CONSTRUCT THE PROJECT.

STREAMBANK VEGETATION SHALL BE LEFT UNDISTURBED TO THE MAXIMUM EXTENT POSSIBLE. HEATHER DOHERTY, CENTRAL REGION SCENIC RIVER MANAGER, SHALL BE INVITED TO A PRE-CONSTRUCTION MEETING WITH THE CONTRACTOR PRESENT. HEATHER SHALL BE NOTIFIED OF THE PROJECT START DATE AND COMPLETION DATE, AND BE ALLOWED TO CONDUCT A FINAL INSPECTION BEFORE THE PROJECT CLOSES TO MAKE RECOMMENDATIONS REGARDING FINAL SITE STABILIZATION. HEATHER'S CONTACT INFORMATION IS:

HEATHER DOHERTY
CENTRAL REGIONAL SCENIC RIVER MANAGER
ODNR, DIVISION OF NATURAL AREAS AND PRESERVES
2045 MORSE ROAD, H-3
COLUMBUS, OH 43229
740-258-0567

RECREATIONAL BOATING ACCESS TO THE KOKOSING RIVER SHALL BE MAINTAINED AT ALL TIMES. DURING CONSTRUCTION ACTIVITIES, A DETOUR/PORTAGE FOR BOATING HAS BEEN MADE AVAILABLE FOR BOATERS TO SAFELY TRAVERSE THE CONSTRUCTION AREA (SEE PORTAGE PLAN IN THE REFERENCE FILES FOR THIS PROJECT).

THE CONTRACTOR SHALL PLACE APPROPRIATE SIGNAGE/BUOYS/MARKERS 300 FEET UPSTREAM AND 300 FEET DOWNSTREAM OF THE PROJECT AREA TO ALERT USERS OF CONSTRUCTION ACTIVITIES, ACCESS RESTRICTIONS, AND TO DIRECT USERS TO THE PORTAGE AREA ON THE KOKOSING RIVER, AS NEEDED. THE CONTRACTOR SHALL ALSO PLACE SIGNAGE AT THE UPSTREAM ACCESS (CECIL BRIDGE, COUNTY ROAD 105) AND DOWNSTREAM ACCESS (BEND ROAD) TO ALERT PADDLERS/BOATERS OF ACCESS RESTRICTIONS AND DIRECT USERS TO SECONDARY ACCESS POINTS AND PORTAGE, IF NEEDED.

SCENIC RIVER (CONT'D)

THE PROJECT ENGINEER SHALL NOTIFY THE ODNR TRAILS ADMINISTRATOR 14 CALENDAR DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES TO ALLOW ODNR TO POST NOTICE OF IMPENDING PROJECT CONSTRUCTION ON THE APPROPRIATE ODNR WEBPAGES AND ASSOCIATED ONLINE BOATING MAPS. AS PART OF NOTIFICATION EFFORTS, THE PROJECT ENGINEER SHALL ALSO PROVIDE PLANS THAT INDICATE SIGNAGE LOCATION ALONG THE WATERWAY AND ANY ADDITIONAL PLANNED NOTIFICATION EFFORTS WITH ODNR THAT WILL TAKE PLACE DURING OR AFTER CONSTRUCTION. THE ODNR TRAILS ADMINISTRATOR WILL BE NOTIFIED WHEN THE PROJECT IS COMPLETE, AND ALL SIGNAGE HAS BEEN REMOVED.

IF ON-THE-WATER LAW ENFORCEMENT ASSISTANCE IS NEEDED DURING ANY PORTION OF THE DEMOLITION OR CONSTRUCTION PHASE, OR IF ANY QUESTIONS REGARDING NAVIGATION ARISE, THE ODOT PROJECT ENGINEER SHALL CONTACT THE ODNR DIVISION OF PARKS AND WATERCRAFT LAW ENFORCEMENT SUPERVISOR, DAWN ROBERTS VIA PHONE OR E-MAIL AT DAWN.ROBERTS@DNR.STATE.OH.US OR 614-813-2505.

THE CONTRACTOR SHALL CLOSELY COORDINATE THE CONSTRUCTION SCHEDULE WITH NATALIE PIRVU, THE ODNR TRAILS ADMINISTRATOR, HEATHER DOHERTY, CENTRAL OHIO ASSISTANT SCENIC RIVERS MANAGER, AND ODOT PRIOR TO THE START OF CONSTRUCTION ACTIVITIES AND PROVIDE REGULAR UPDATES THROUGHOUT CONSTRUCTION. THE ODNR TRAILS ADMINISTRATOR CONTACT IS NATALIE PIRVU, NATALIE.PIRVU@DNR.OHIO.GOV, 1-614-265-6466.

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET. THE CONTRACTOR SHALL REMOVE ONLY THE TREES NECESSARY TO CONSTRUCT THE PROJECT.

FIELD CONDITIONS

DUE TO CONTINUED SLOPED EROSION SUBSEQUENT TO THE TIME OF FIELD SURVEY, DETAILS SHOWN ON THE PLAN ARE TO BE CONSIDERED APPROXIMATE AND FOR ESTIMATING PURPOSES ONLY.

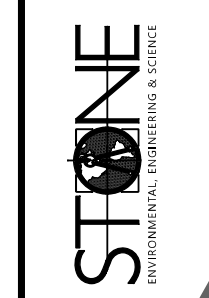
SPECIAL MISC.: FIELD SURVEY FOR CONSTRUCTION PLANS

THE CONTRACTOR SHALL FIELD REVIEW THE SITE WITH THE PROJECT ENGINEER FOR CHANGES. UPON PROJECT ENGINEER'S CONFIRMATION OF THE LIMITS, BEGIN THE WORK AFTER INSTALLATION OF STREAM ELEVATION GAUGES. INSTALL AT LEAST TWO STAKES REPRESENTED AS STREAM ELEVATION GAUGES AT LOCATIONS DIRECTED BY THE ENGINEER. THE GAUGES WILL HAVE INDICATORS SHOWING AN ORDINARY HIGH WATER MARK OF KOKOSING RIVER AT ELEVATION OF 925.4 FEET. THE STREAM GAUGES MUST BE MAINTAINED THROUGHOUT CONSTRUCTION.

PERFORM ADDITIONAL FIELD SURVEYS TO CONFIRM THE EARTHWORK AND EROSION CONTROL QUANTITIES.

THE CONTRACTOR SHALL SUBMIT PAY ITEM QUANTITY CALCULATIONS, OR; DIGITAL/PRINT CROSS SECTION SHEETS AND PLAN SHEET PRIOR TO FINALIZING THE PROJECT.

DESIGN AGENCY



DESIGNER

QEP

REVIEWER

JMB 05/16/22

PROJECT ID

111312

SHEET TOTAL

3 29

SPECIAL MISC.: FIELD SURVEY FOR CONSTRUCTION PLANS (CONT'D)

THE PLAN SHEET SHALL SHOW TOPOGRAPHIC FEATURES WITHIN CONSTRUCTION PROJECT WORK LIMITS SHOWING PROPOSED IMPROVEMENT. DUE TO THE CHANNEL SHAPING CAPACITY OF FLOWING WATER IN THE RIVER, SLIGHT SHIFTS AND ADJUSTMENTS IN THE CHANNEL BED ARE EXPECTED OVER TIME. IN ORDER TO VERIFY PROPER CONSTRUCTION, CONTRACTOR SHALL RECORD RIVER CENTERLINE ELEVATIONS WITHIN 24 HOURS OF ACHIVING FINAL GRADES AS WORK PROGRESSES. CONTRACTOR IS NOT RESPONSIBLE FOR MINOR CHANGES IN GRADE (+/- 0.5 FEET) FOLLOWING ACHIEVEMENT OF FINAL GRADE WITH THE EXCEPTION OF THE RIFFLE HEADER STRUCTURE AND J-HOOK STRUCTURE, WHICH SHALL HAVE A TOLERANCE OF +/- 0.1 FEET.

ESTABLISHED VEGETATION

DURING CONSTRUCTION EVERY ATTEMPT SHOULD BE MADE TO PRESERVE TREES, SHRUBS AND OTHER ESTABLISHED VEGETATION WITHIN THE CONSTRUCTION LIMITS AND PROPOSED RIGHT OF WAY.

ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER, AS PER PLAN

ON SITE EXCAVATED RIVER BED ALLUVIUM MATERIAL SHALL BE INCORPORATED INTO ROCK CHANNEL PROTECTION TYPE B STONE TO FILL VOID SPACE BETWEEN TYPE B STONE. THE INTENTION OF INCORPORATING ON SITE EXCAVATED RIVER BED ALLUVIUM MATERIAL IS TO PROVIDE A MORE NATURAL APPEARANCE OF THE FINISHED SURFACE OF THE ROCK CHANNEL PROTECTION.

ITEM 601 ROCK CHANNEL PROTECTION, MISC: RIFFLE BED MATERIAL

MATERIAL SHALL BE A BLEND OF RIVERBED MATERIAL EXCAVATED FROM EXISTING RIFFLES AND GRAVEL POINT BARS ON SITE, AND QUARRIED SAND STONE CONFORMING TO THE SIZING SPECIFICATIONS OF ODOT TYPE C, AND TYPE D ROCK CHANNEL PROTECTION. BLEND SHALL BE 30% RIVERBED MATERIAL, 50% TYPE D RCP, AND 20% TYPE C RCP. BLEND STONE PRIOR TO PLACING FOR RIFFLE CONSTRUCTION. LIMESTONE SHALL NOT BE USED FOR RIFFLE BED MATERIAL.

ITEM 601 ROCK CHANNEL PROTECTION, MISC.: TYPE B WITH TYPE D

ITEM USED IN RIFFLE HEADER STRUCTURE. BLEND IN JUST ENOUGH TYPE D ROCK CHANNEL PROTECTION INTO TYPE B ROCK CHANNEL PROTECTION TO FILL THE VOIDS IN THE TYPE B. BLEND TO CREATE A DENSE WELL GRADED MIX. THE TONS OF TYPE B RCP PER YARD IN THE BLENDED MATERIAL SHALL BE APPROXIMATELY EQUAL TO THE TONS OF TYPE B RCP PER YARD WITHOUT ADDING ANY MATERIAL TO IT. THIS MIXTURE WORKS OUT APPROXIMATELY 85% TYPE B TO 15% TYPE D FOR ESTIMATE PURPOSES.

ITEM 203 EMBANKMENT, AS PER PLAN

ON SITE EXCAVATED MATERIAL SHALL BE CONSIDERED SUITABLE MATERIAL FOR EMBANKMENT. EMBANKMENT MATERIAL SHALL BE PLACED IN MAXIMUM 8-INCH LOOSE LIFTS WITH EACH LIFT NOMINALLY COMPACTED UNIFORMLY USING A MINIMUM OF TWO ROLLER PASSES (4 CONTACTS) WITH TRACKED CONSTRUCTION EQUIPMENT HAVING A MINIMUM EFFECTIVE WEIGHT OF 10 TONS. NO COMPACTION DENSITY TESTING WILL BE REQUIRED.

THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY ENGINEER.

ITEM 203 EMBANKMENT, AS PER PLAN 298 CY

ITEM 203 EMBANKMENT, AS PER PLAN, SOIL PLUG

FURNISH A-6 OR A-7-6 NATURAL SOIL MEETING THE REQUIREMENTS OF 203.02.1.

SOIL PLUG PLACEMENT: ONCE THE ITEM 203 EMBANKMENT IS COMPLETED, PLACE THE NATURAL SOIL ABOVE IT IN 6-INCH (150MM) LOOSE LIFTS. THE DEPARTMENT WILL USE 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY FOR COMPACTION ACCEPTANCE.

ALL OTHER REQUIREMENTS OF CMS 203 SHALL APPLY.

THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY ENGINEER.

ITEM 203 EMBANKMENT, AS PER PLAN, SOIL PLUG 29 CY

ITEM 601 STONE SOURCING NOTE:

THE FOLLOWING SUPPLIERS ARE AWARE OF THE KNO-229-14.80 (PID:111312) REQUIRING THE USE OF LARGE NATURAL ROCK MEETING THE PLAN REQUIRMENTS OF:

ITEM 601 ROCK CHANNEL PROTECTION, MISC.: J-HOOK STONE

AT AN OPTION TO THE CONTRACTOR, THE CONTRACTOR MAY REACH OUT TO ANY/ALL SUPPLIERS PRIOR TO PREPARING THE BIDS. THE CONTRACTOR MAY PROVIDE ANY OTHER SOURCE MATERIAL THAT MEETS THE PLAN REQUIRMENTS. IF A SUPPLIER NOT LISTED BELOW IS UTILIZED, CONTRACTOR SHALL OBTAIN PHOTOGRAPHS OF SOURCE MATERIAL FOR APPROVAL BY ENGINEER PRIOR TO PROCURMENT.

ENSURE THAT INDIVIDUAL STONES HAVE ROUGHLY RIGHT ANGLES AND ARE GENERALLY RECTANGULAR PRISMS.

BRIAR HILL STONE COMPANY
 PO BOX 457 12470 STATE ROUTE 520
 GLENMONT, OHIO 44628
 ATTN: FRANK WALLER
 EMAIL: BRIAIRHILL@VALKYRIE.NET
 PHONE: 330-377-5100 (BRIAR HILL MAIN)
 PHONE: 740-259-2356 (BIDDING OFFICE-WALLER BROS)
 FAX: 330-337-5110

WOLHONDING VALLEY SAND AND GRAVEL
 27679 STATE ROUTE 206
 WALHOUNDING, OHIO 43843
 ATTN: EZRA HELMICK
 EMAIL: EZRAHELMICK@ICLOUD.COM
 EMAIL: WSVG@VOL.COM
 PHONE: 740-824-5241 (MAIN)
 PHONE: 740-502-2803 (CELL)

ITEM 601 STONE SOURCING NOTE (CONT'D)

CLEVELAND QUARRIES
 850 WEST RIVER RD.
 VERMILLION, OHIO
 ATTN: DAVE DUNN
 EMAIL: DAVED@CLEVELANDQUARRIES.COM
 PHONE: 440-963-4008 (OFFICE)
 PHONE: 517-214-7674 (CELL)

PLANTING PLAN

ITEM 661 PLANTING, MISC.: LIVE STAKE

LIVE STAKES SHALL BE PER THE LIVE STAKE PLANTING DETAIL SHOWN IN THE DRAINAGE, CHANNEL DETAILS AND THE SPECIES TABLE SHOWN BELOW. THE QUANTITIES OF EACH SPECIES SHALL BE PER THE PERCENTAGES SHOWN IN THE TABLE. DIFFERENT SPECIES SHALL BE INTERSPERSED WITH EACH OTHER AND NOT CLUMPED TOGETHER. LIVE STAKE PLANTING SHALL OCCUR BETWEEN NOVEMBER 30TH AND MARCH 31ST

COIR MAT WRAP LIVE STAKES			
SCIENTIFIC NAME	COMMON NAME	QUANTITY	PERCENTAGE OF COMPOSITION
SALIX INTERIOR	SANDBAR WILLOW	409	33%
SALIX NIGRA	BLACK WILLOW	409	33%
PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	409	33%
DISTURBED AREA LIVE STAKES			
SALIX INTERIOR	SANDBAR WILLOW	105	20%
SALIX NIGRA	BLACK WILLOW	105	20%
CORNUS AMOMUM	SILKY DOGWOOD	105	20%
CORNUS SERICEA	RED-OSIER DOGWOOD	105	20%
PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	105	20%

ITEM 661 PLANTING MISC.: LIVE STAKE 1752 EACH

THE FOLLOWING CONTINGENCY QUANTITY FOR COIR WRAP LIVE STAKES HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY ENGINEER.

ITEM 661 PLANTING MISC.: LIVE STAKE 245 EACH

THE FOLLOWING CONTINGENCY QUANTITY FOR DISTURBED AREA LIVE STAKES HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY ENGINEER.

ITEM 661 PLANTING MISC.: LIVE STAKE 105 EACH

ITEM 661 DECIDUOUS TREE, 1" CALIPER

TREES SHALL BE PLANTED A MINIMUM OF 10' FROM TOP OF BANK AND APPROXIMATELY 25' ON CENTER AS DIRECTED BY ENGINEER.

SYCAMORE (PLATANUS OCCIDENTALIS) 25 EACH
 SILVER MAPLE (ACER SACCHARINUM) 25 EACH

THE ABOVE QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY

ITEM 662 LANDSCAPE WATERING 8000 GALLONS

ITEM 670 SLOPE EROSION PROTECTION, AS PER PLAN

EROSION CONTROL MAT SHALL BE COIR MAT.

COIR MAT

COIR MAT SHALL BE ONE OF THE FOLLOWING:

NEDIA ENTERPRISES KOIRMAT 900
 NEDIA ENTERPRISES, INC.
 44675 CAPE COURT, SUITE 120
 ASHBURN, VA 20147
 TEL: 571-223-0200

EAST COAST EROSION – EC-9Y COIR MAT
 EAST COAST EROSION
 443 BRICKER RD
 BERNVILLE, PA 19506
 OFFICE: 610-486-3848

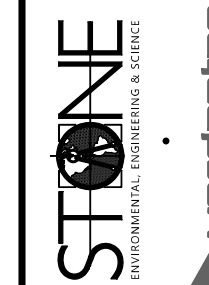
ROLANKA INTERNATIONAL, INC. – BIOD MAT 90
 ROLANKA INTERNATIONAL, INC.
 155 ANDREW DRIVE
 STOCKBRIDGE, GA 30281
 TEL: 770-506-8211

ITEM 690, SPECIAL - MISC.; ROADWAY PRESERVATION

PRESERVE THE EXISTING S.R. 229 EASTBOUND PAVEMENT AND GUARDRAIL. SUBMIT PROTECTION PLAN FOR THE PROJECT ENGINEER'S FILES. PROTECT THE PAVEMENT AND GUARDRAIL ALONG S.R. 229 WITH A METHOD APPROVED BY THE PROJECT ENGINEER.

REPAIR ANY DAMAGE TO THE ROADWAY AND GUARDRAIL DURING CONTRUCTION AT NO ADDITIONAL COSTS TO THE STATE. UNLESS ITEMIZED SEPERATELY, INCLUDE ALL LABOR, MATERIALS, AND TOOLS NECESSARY FOR PROTECTION OF EXISTING ROADWAY PAVEMENT.

ITEM 690 SPECIAL, ROADWAY PRESERVATION, LUMP



ITEM 614 – MAINTAINING TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

AS PER MT-97.10, ONE LANE OF TRAFFIC MAY BE CLOSED BY USE OF FLAGGERS AND EXISTING PAVEMENT DURING THE HOURS OF CONSTRUCTION ACTIVITIES. ALL OTHER TIMES, THE CONTRACTOR SHALL MAINTAIN NORMAL TRAFFIC. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR.

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF TWENTY-ONE (21) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO)
BY FAX: (614) 887-4510 OR
BY EMAIL: D05.PIO@dot.ohio.gov

DISTRICT PERMIT SECTION
BY FAX: (614) 887-4525 OR
BY EMAIL: Brian.Bosch@dot.ohio.gov

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION
BY FAX: (614) 728-4099 OR
BY EMAIL: Hauling.Permits@dot.ohio.gov

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

IF IN THE OPINION OF THE ENGINEER, THE CONTRACTOR FAILS TO COMPLY WITH THESE REQUIREMENTS AND THE PROVISIONS OF THE APPROVED MAINTENANCE OF TRAFFIC PLAN, THE ENGINEER SHALL SUSPEND WORK UNTIL ALL REQUIREMENTS ARE MET. ANY COST OR DELAYS INCURRED AS A RESULT OF THE FAILURE SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

POINT NUMBER	GRID COORDINATES US SURVEY FEET		SCALED COORDINATES US SURVEY FEET		ORTHOMETRIC HEIGHT (ELEVATION)	STATION	OFFSET
	NORTHING	EASTING	NORTHING	EASTING			
CP01	253133.700	2001523.700	253133.700	2001523.700	935.37	88+57.27	20.722
CP02	252960.800	2001862.350	252960.800	2001862.350	936.31	92+37.69	21.125
CP03	252793.160	2002241.680	252793.160	2002241.680	949.52	96+48.15	27.968

MAINTENANCE OF CANOE TRAFFIC

CANOE TRAFFIC SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION OF THE PROJECT EITHER THROUGH EXISTING RIVER CHANNEL OR THROUGH PORTAGE TRAIL APPROVED BY THE ENGINEER.

ADEQUATE SIGNING BOTH UPSTREAM AND DOWNSTREAM SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR. THE FOLLOWING TYPE SIGNS ARE CONSIDERED TO BE MINIMUM TREATMENT.

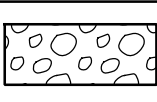
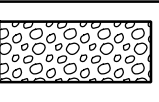


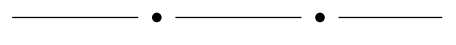
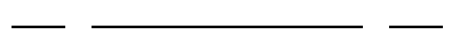
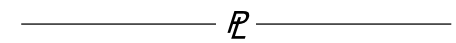
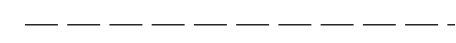
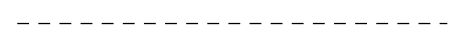

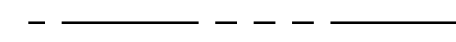
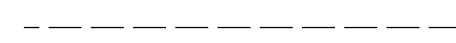
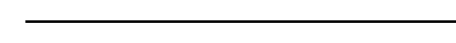
1. APPROXIMATELY ONE-QUARTER MILE UPSTREAM, ADVANCED WARNING TYPE SIGNS;
2. APPROXIMATELY 300 FEET UPSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST;
3. APPROXIMATELY ONE-QUARTER MILE DOWNSTREAM, ADVANCE WARNING TYPE SIGNS; AND
4. APPROXIMATELY 300 FEET DOWNSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST.

THE ABOVE SIGNING SHALL BE MOUNTED IN SUCH A WAY AS TO BE A MINIMUM OF 4 FEET ABOVE THE ORDINARY HIGH WATER LEVEL, UNOBSTRUCTED BY TREE BRANCHES, AND PROPERLY ANGLED FOR MAXIMUM VISIBILITY FROM THE MAIN CLEAR CHANNEL. THE METHOD OF SUPPORTING THE SIGNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. UPON COMPLETION OF THE PROJECT, THE SIGNS AND SUPPORT SYSTEMS SHALL BE COMPLETELY REMOVED FROM THE RIVER CHANNEL. THE CONTRACTOR SHALL NOTIFY LOCAL CANOE LIVERIES USING THIS PORTION OF THE RIVER AT LEAST 10 DAYS PRIOR TO ANY CHANGES AFFECTING CANOE TRAFFIC.

PORTAGE TRAILS IF USED SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR WITH THE LEAST POSSIBLE DISTURBANCE TO THE SURROUNDING AREA. THE TRAIL SHALL BE ADEQUATELY MARKED IN BOTH DIRECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE RIGHT-OR-WAY FOR THE PORTAGE TRAILS IF REQUIRED.

IN THE EVENT PIPES ARE USED TO DIVERT OR CARRY RIVER WATER, BOTH THE INLET AND OUTLET ENDS SHALL BE ADEQUATELY PROTECTED BY GRATES OR FENCE SO THAT PEOPLE OR CANOES ARE NOT DRAWN THROUGH OR HELD BY THEM.

PAYMENT FOR THIS ITEM SHALL BE MADE INCIDENTAL TO ITEM 614 MAINTAINING TRAFFIC AT THE CONTRACT PRICE PER LUMP SUM BID AND SHALL INCLUDE THE COST OF ORDERING, DELIVERING, INSTALLING, MAINTAINING AND REMOVING SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

LEGEND	
HATCH TYPES	
ROCK CHANNEL PROTECTION 	RIFFLE BED MATERIAL 
LINE TYPES	
PROPOSED STANDARD HIGHWAY EASMENT	 SH
EXISTING STANDARD HIGHWAY EASMENT	 Ex SH
CONSTRUCTION LIMITS	
CENTERLINE	
PROPERTY LINE	
EDGE OF PAVEMENT	
EDGE OF SHOULDER	
EDGE OF WATER	
NORMAL WATER ELEVATION	
EXISTING CONTOUR	
PROPOSED CONTOUR	
ABBREVIATIONS	
BMTZ - BED MATERIAL TRANSITION ZONE	ELEV - ELEVATION
EX - EXISTING	L - LEFT
OHWM - ORDINARY HIGH WATER MARK	PR - PROPOSED
R - RIGHT	RBM - RIFFLE BED MATERIAL
RCP - ROCK CHANNEL PROTECTION	RW - RIGHT-OF-WAY
STA - STATION	NW - NORMAL WATER
EW - EDGE OF WATER	





DESIGNER	KJS
REVIEWER	JMB
PROJECT ID	04-07-22
	111312
SHEET	TOTAL
5	29

SHEET NUM.								PART.	ITEM	ITEM EXT	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	3	4	5	18	19			01/STR/OT						
ROADWAY														
	LS							LS	201	11000	LS		CLEARING AND GRUBBING	3
				8207				8207	203	10000	8207	CY	EXCAVATION	
		298		1512				1810	203	20001	1810	CY	EMBANKMENT, AS PER PLAN	4
		29		146				175	203	20001	175	CY	EMBANKMENT, AS PER PLAN, SOIL PLUG	4
				380				380	203	98300	380	FT	ROADWAY, MISC.: VEGETATION REINFORCED COIR MAT WRAP	20
				99				99	653	10000	99	CY	TOPSOIL FURNISHED AND PLACED	
	LS							LS	SPECIAL	69098400	LS		MISC.: ROADWAY PRESERVATION	4
EROSION CONTROL														
				3617				3617	601	32101	3617	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER, AS PER PLAN	
					90			90	601	35000	90	CY	ROCK CHANNEL PROTECTION, MISC.: TYPE B WITH TYPE D	4
				1480	53			1533	601	35000	1533	CY	ROCK CHANNEL PROTECTION, MISC.: RIFFLE BED MATERIAL	4
					297			297	601	35000	297	CY	ROCK CHANNEL PROTECTION, MISC.: J-HOOK STONE	19
														3
	1							1	659	00100	1	EACH	SOIL ANALYSIS TEST	
	2275							2275	659	00510	2275	SY	SEEDING AND MULCHING, CLASS 2	
	3290			1279				4569	659	00580	4569	SY	SEEDING AND MULCHING, CLASS 5B	
	0.51							0.51	659	20000	0.51	TONS	COMMERCIAL FERTILIZER	
	1.15							1.15	659	31000	1.15	ACRES	LIME	
	45							45	659	35000	45	MGAL	WATER	
		2102						2102	661	99900	2102	EACH	PLANTING, MISC.: LIVE STAKE	20
		25						25	661	40040	25	EACH	DECIDUOUS TREE, 1" CALIPER, SILVER MAPLE (ACER SACCHARINUM)	4
		25						25	661	40040	25	EACH	DECIDUOUS TREE, 1" CALIPER, SYCAMORE (PLATANUS OCCIDENTALIS)	4
		8000						8000	662	31000	8000	GAL	LANDSCAPE WATERING	
				831				831	670	00501	831	SY	SLOPE EROSION PROTECTION, AS PER PLAN	4
								LS	832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
								LS	832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
								LS	832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
								26895	832	30000	26895	EACH	EROSION CONTROL	
INCIDENTALS														
								LS	614	11000	LS		MAINTAINING TRAFFIC	
								LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
								LS	624	10000	LS		MOBILIZATION	3, 4
								LS	SPECIAL	69021000	LS		MISC.: FIELD SURVEY FOR CONSTRUCTION PLANS	

GENERAL SUMMARY

DESIGN AGENCY

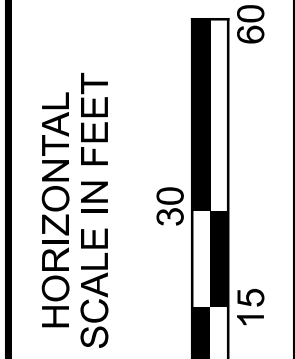
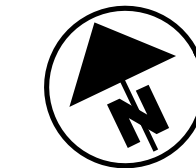
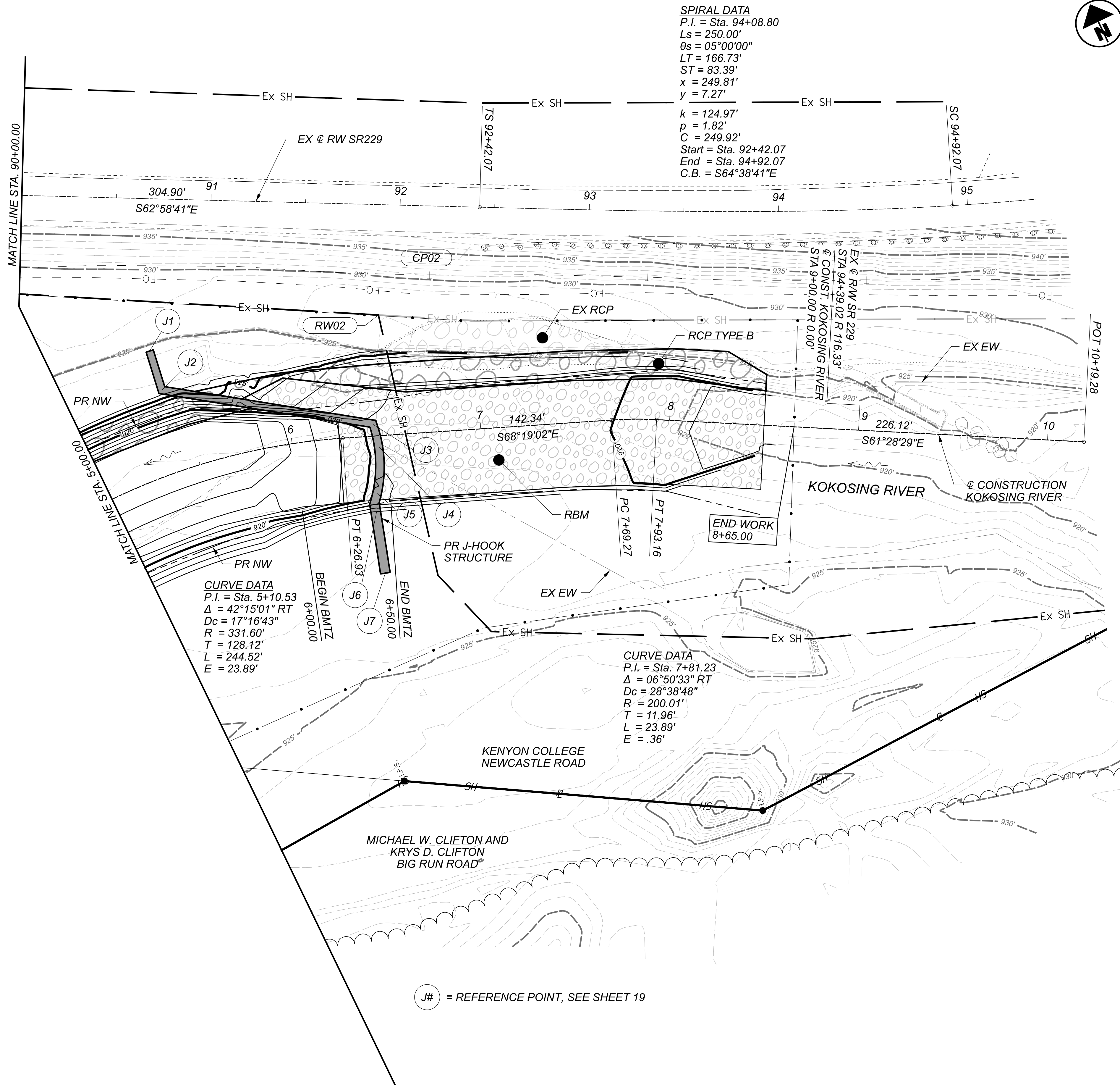



DESIGNER
KJS

REVIEWER
JMB 05/16/22

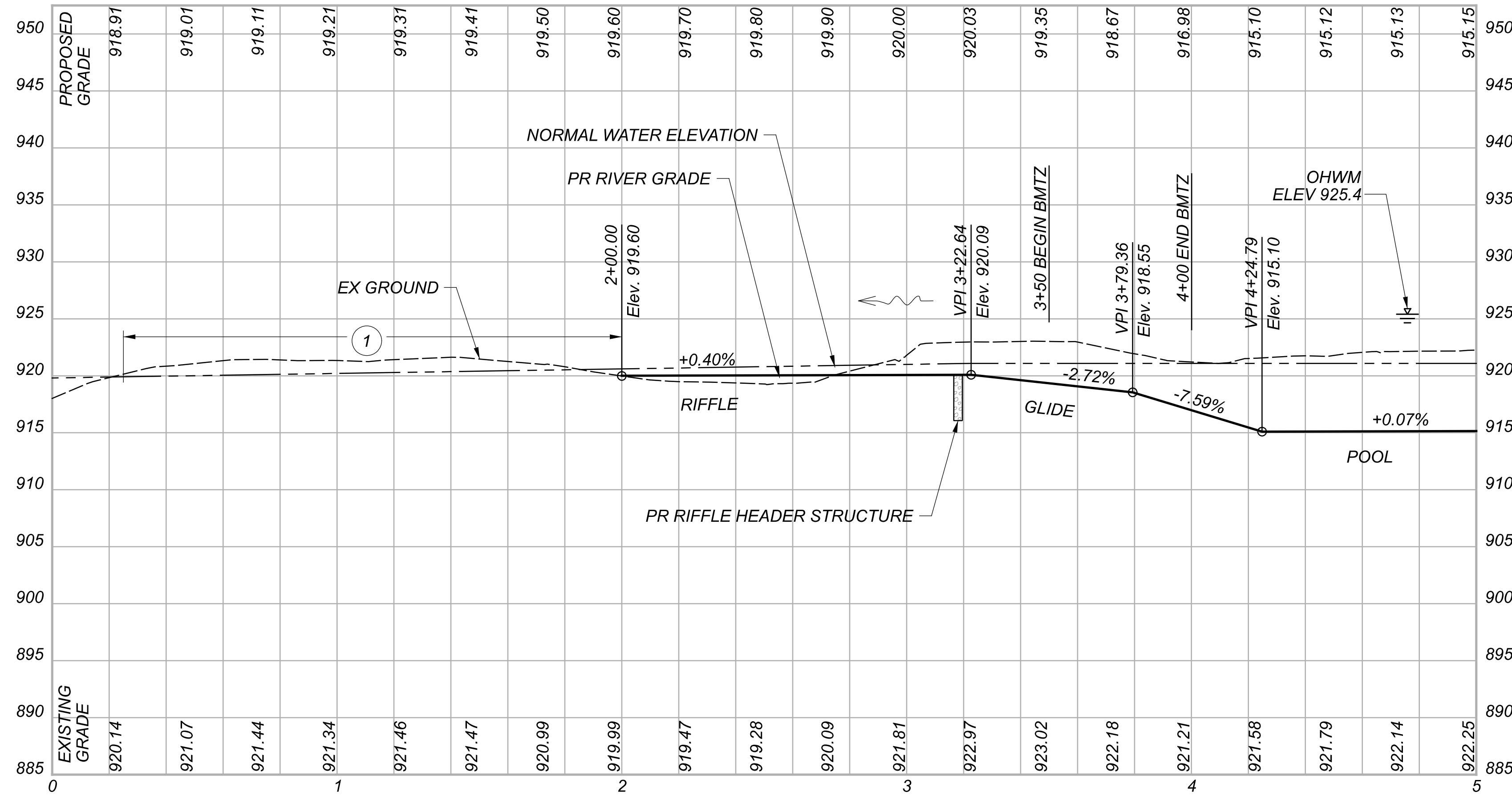
PROJECT ID
111312

SHEET TOTAL
6 | 29

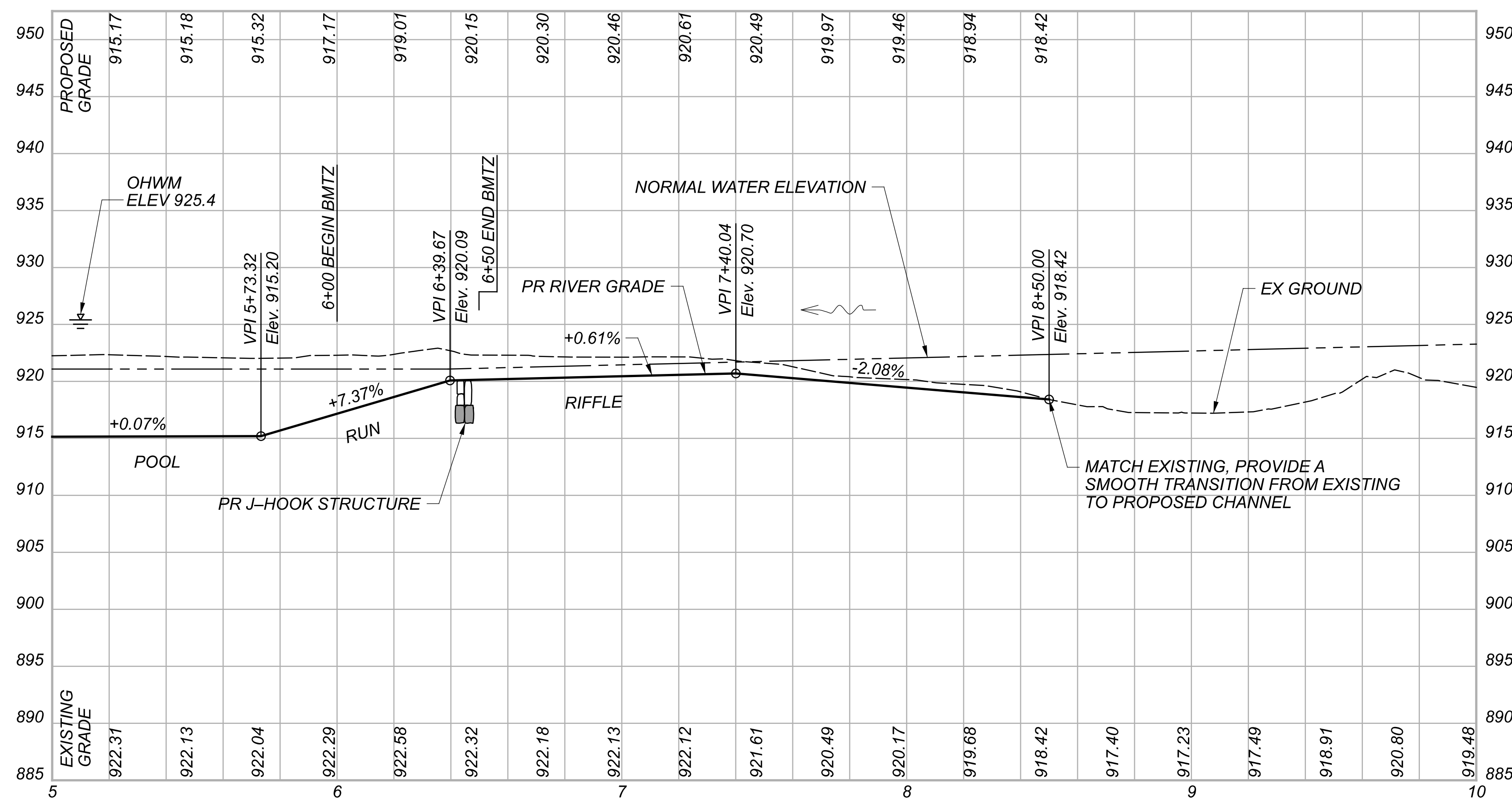


PLAN SHEET - KOKOSING RIVER
 STA. 5+00.00 TO STA. 10+19.28

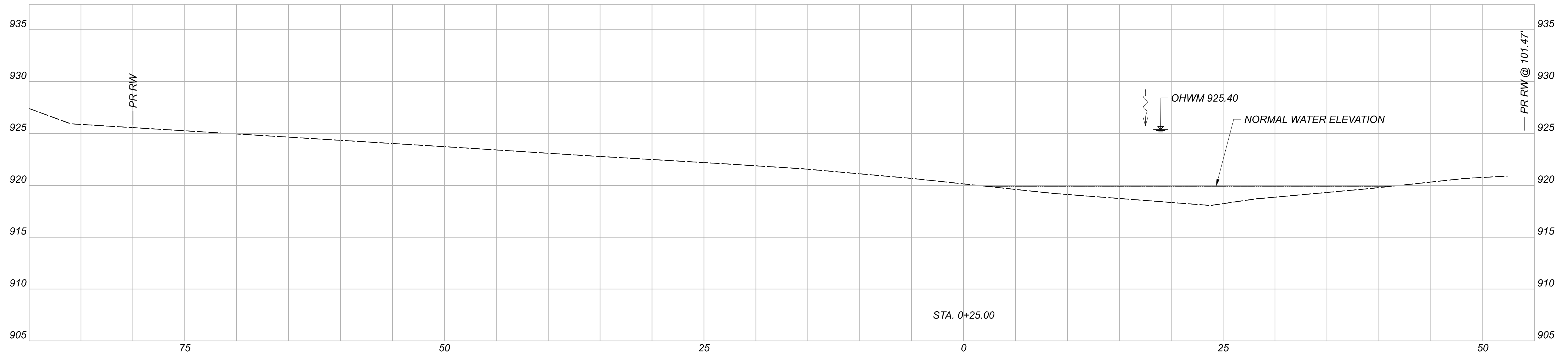
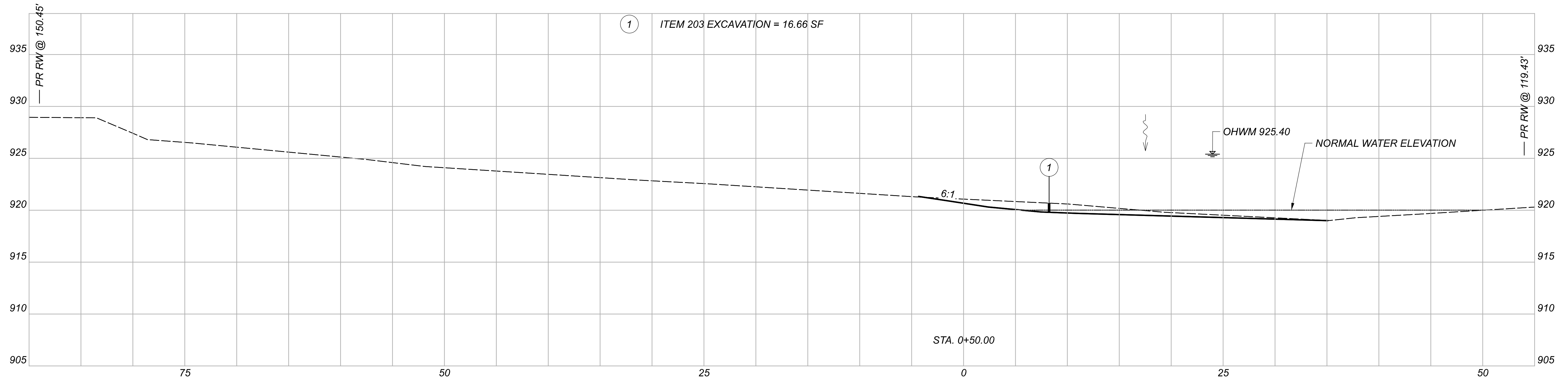
DESIGN AGENCY	
STONE	verdantals
DESIGNER	
TDF	REVIEWER
JMB	04/07/22
PROJECT ID	
111312	
SHEET	TOTAL
8	29



1 PROPOSED @ CONSTRUCTION DOES NOT FOLLOW RIVER THALWEG, SEE CROSS SECTIONS.



PROFILE SHEET - KOKOSING RIVER
 STA. 0+00 TO STA. 10+00



CROSS SECTIONS
 STA. 0+25 TO 0+50

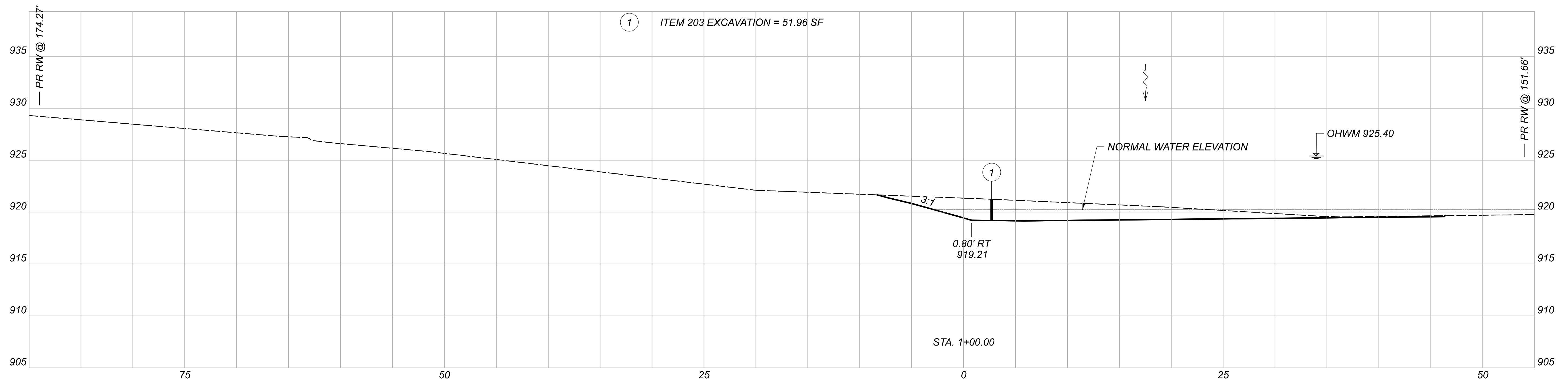
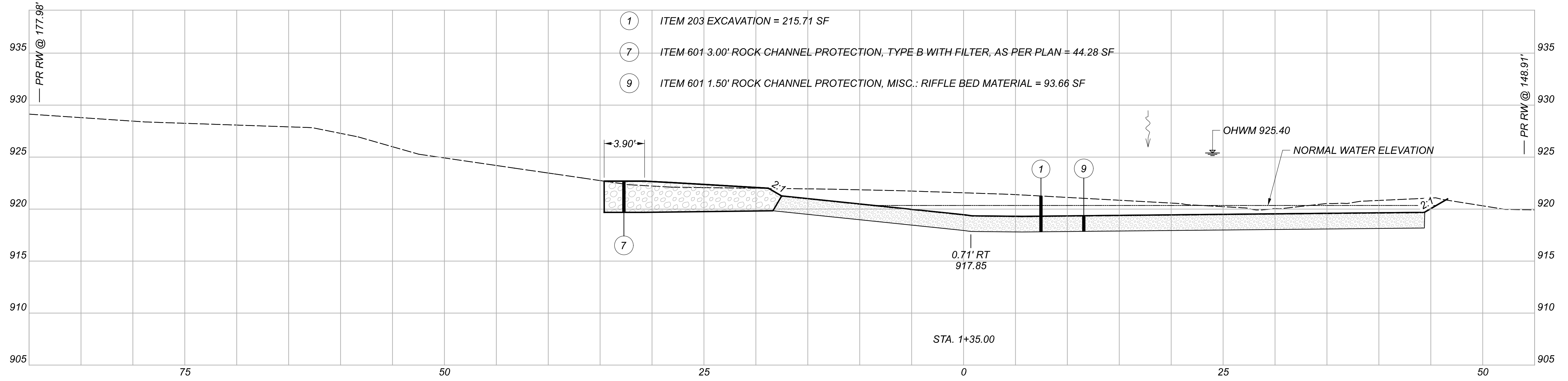


DESIGNER
 QEP

REVIEWER
 JMB 04/07/22

Sheet Totals 0+25 to 0+50	
1	
8 CY	

PROJECT ID 111312	
SHEET 10	TOTAL 29



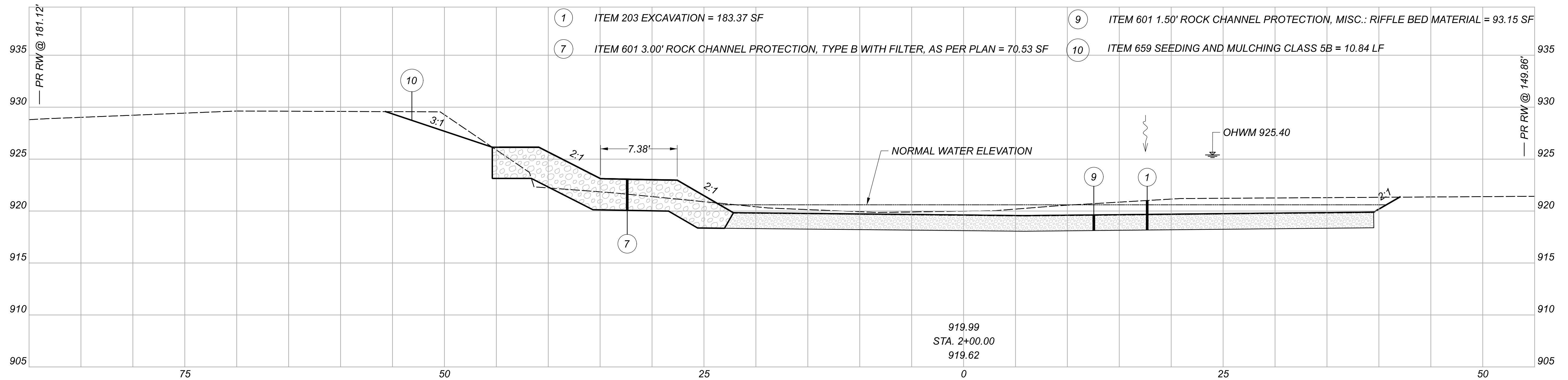
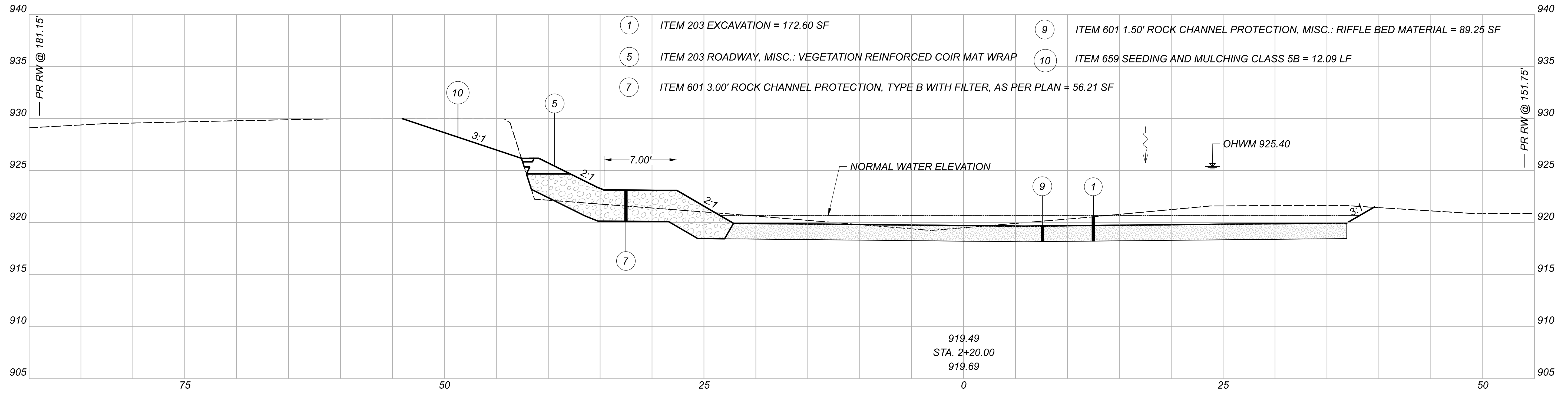
CROSS SECTIONS
 STA. 1+00 TO 1+35



DESIGNER
 QEP
 REVIEWER
 JMB 04/07/22

Sheet Totals 0+50 to 1+35		
①	⑦	⑨
237 CY	29 CY	61 CY

PROJECT ID	111312
SHEET	11
TOTAL	29



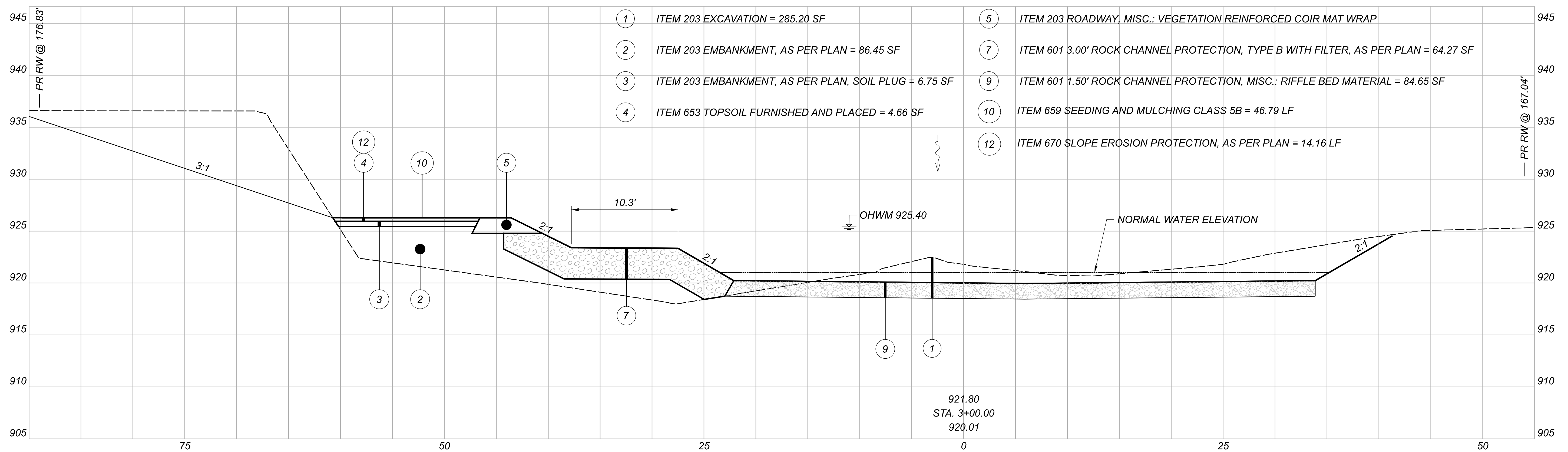
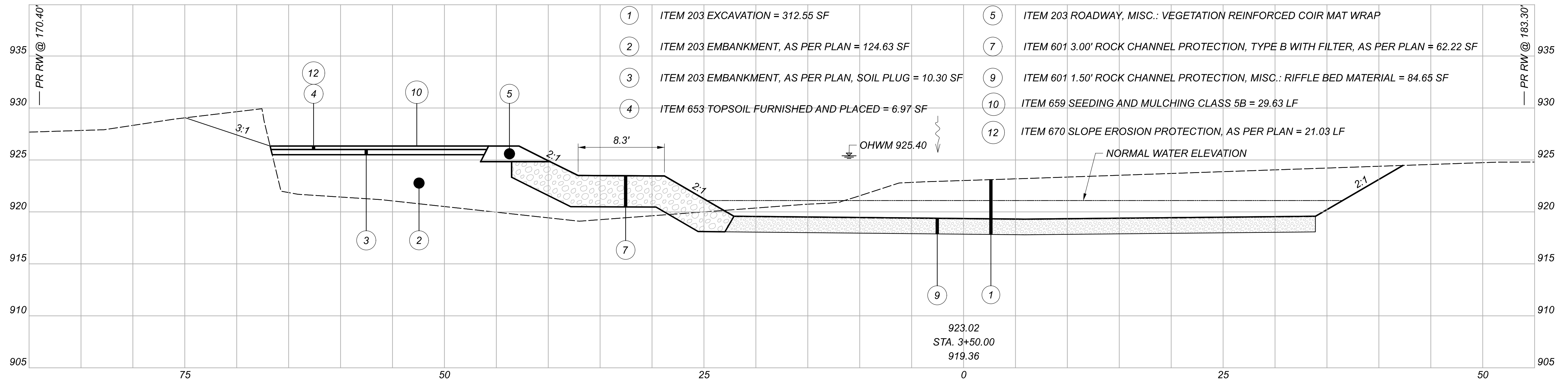
CROSS SECTIONS
 STA. 2+00 TO 2+20



DESIGNER: QEP
 REVIEWER: JMB 04/07/22

PROJECT ID: 111312
 SHEET TOTAL: 12 / 29

Sheet Totals 1+35 to 2+20			
①	⑦	⑨	⑩
612 CY	185 CY	292 CY	65 SY

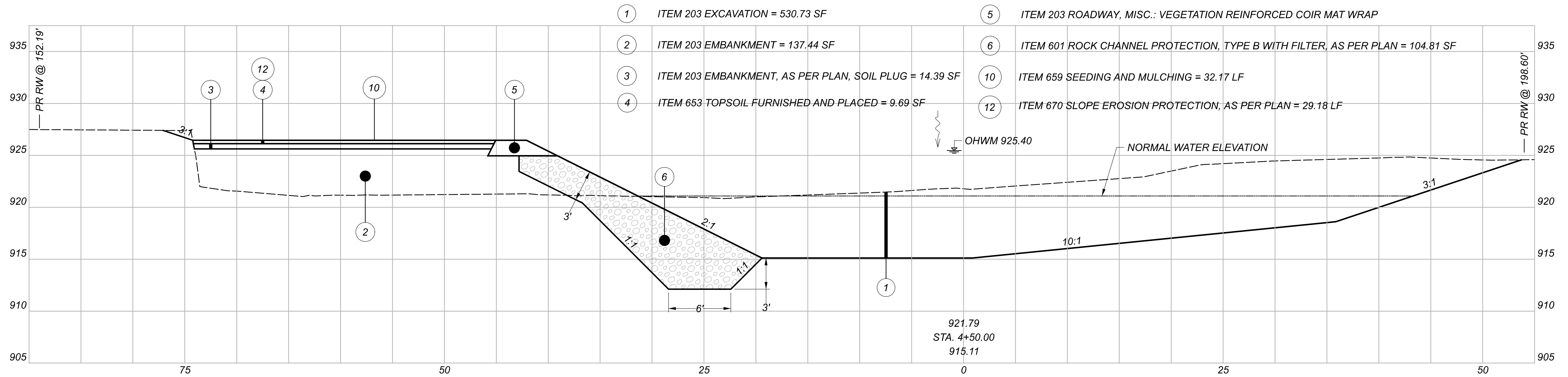


CROSS SECTIONS
STA. 3+00 TO 3+50



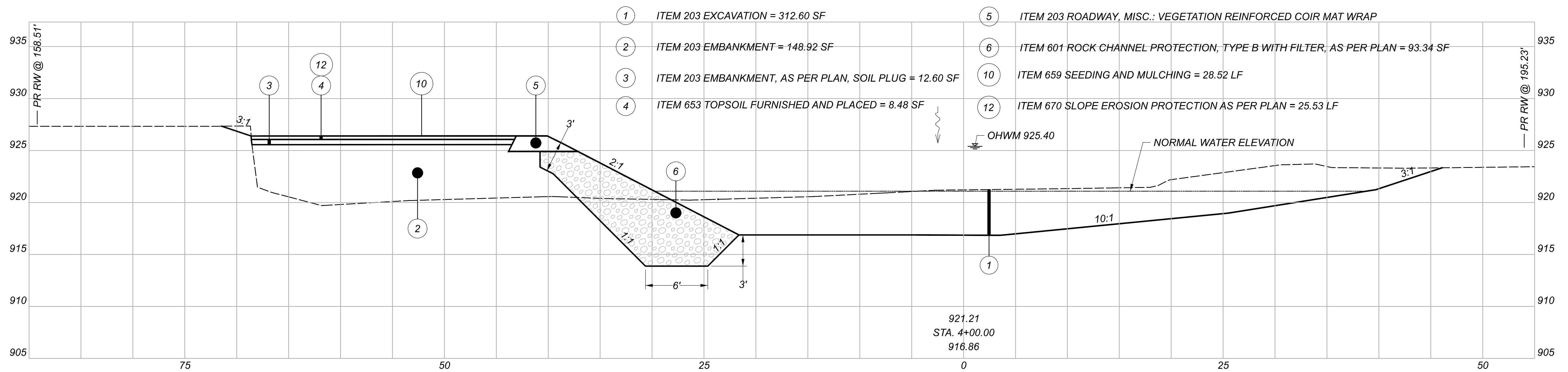
DESIGN AGENCY
 QEP
 REVIEWER
 JMB 04/07/22

Sheet Totals 2+20 to 3+50											
1	2	3	4	5	7	9	10	12			
1232 CY	324 CY	26 CY	18 CY	130 LF	296 CY	414 CY	212 SY	98 SY			
PROJECT ID									111312		
SHEET									TOTAL		
13									29		



- ① ITEM 203 EXCAVATION = 530.73 SF
- ② ITEM 203 EMBANKMENT = 137.44 SF
- ③ ITEM 203 EMBANKMENT, AS PER PLAN, SOIL PLUG = 14.39 SF
- ④ ITEM 653 TOPSOIL FURNISHED AND PLACED = 9.69 SF
- ⑤ ITEM 203 ROADWAY, MISC.: VEGETATION REINFORCED COIR MAT WRAP
- ⑥ ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER, AS PER PLAN = 104.81 SF
- ⑩ ITEM 659 SEEDING AND MULCHING = 32.17 LF
- ⑫ ITEM 670 SLOPE EROSION PROTECTION, AS PER PLAN = 29.18 LF

921.79
 STA. 4+50.00
 915.11



- ① ITEM 203 EXCAVATION = 312.60 SF
- ② ITEM 203 EMBANKMENT = 148.92 SF
- ③ ITEM 203 EMBANKMENT, AS PER PLAN, SOIL PLUG = 12.60 SF
- ④ ITEM 653 TOPSOIL FURNISHED AND PLACED = 8.48 SF
- ⑤ ITEM 203 ROADWAY, MISC.: VEGETATION REINFORCED COIR MAT WRAP
- ⑥ ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER, AS PER PLAN = 93.34 SF
- ⑩ ITEM 659 SEEDING AND MULCHING = 28.52 LF
- ⑫ ITEM 670 SLOPE EROSION PROTECTION AS PER PLAN = 25.53 LF

921.21
 STA. 4+00.00
 916.86

CROSS SECTIONS
 STA. 4+00 TO 4+50

DESIGN AGENCY
STONE
 ENVIRONMENTAL, INFRASTRUCTURE & DISTRICT
verdant
 VERDANT CONSULTING

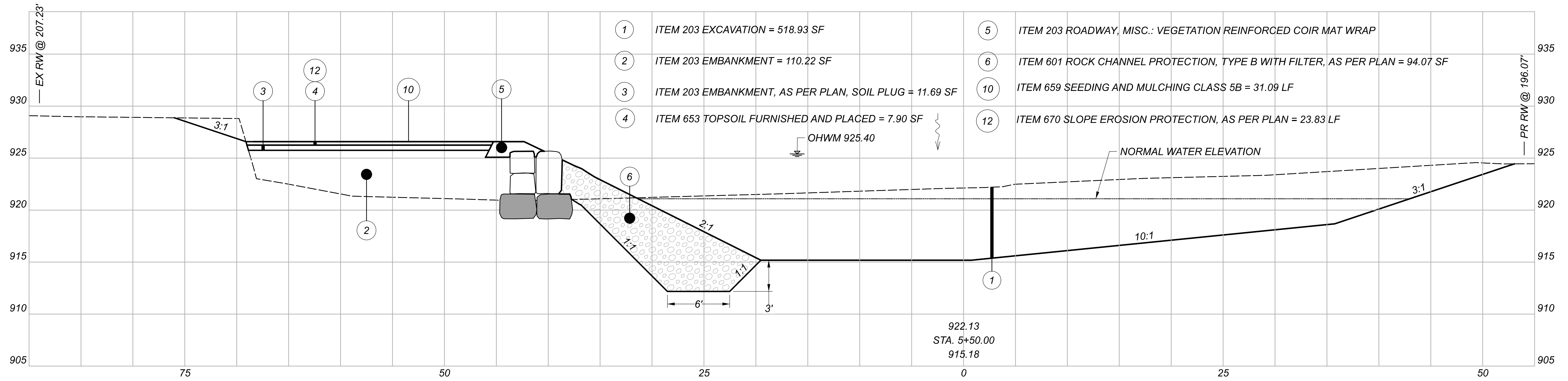
DESIGNER
 QEP

REVIEWER
 JMB 04/07/22

PROJECT ID
 111312

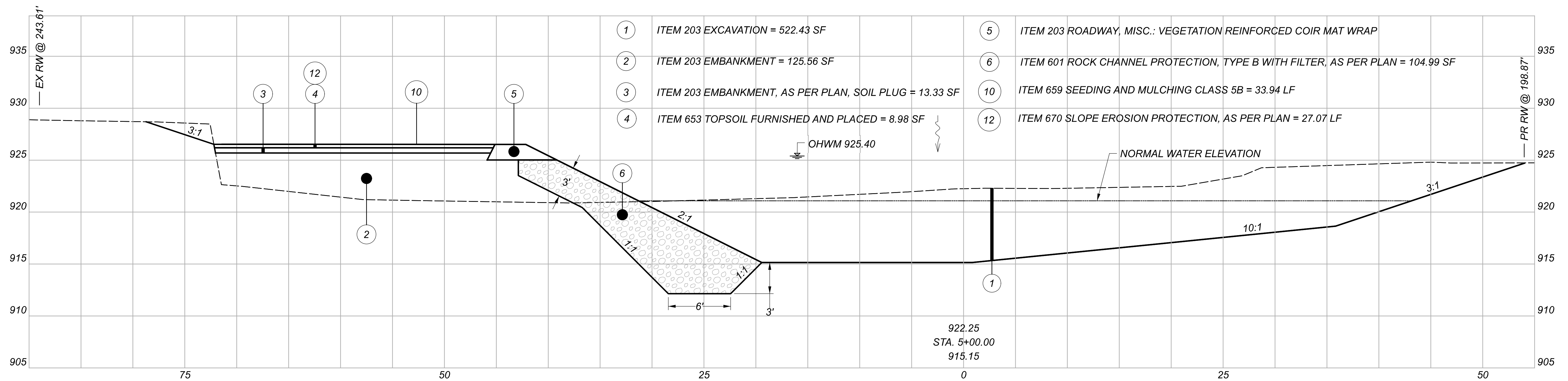
SHEET TOTAL
 14 29

Sheet Totals 3+50 to 4+50											
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑫	
1360 CY	518 CY	46 CY	31 CY	100 LF	810 CY	58 CY	78 CY	330 SY	281 SY		



- ① ITEM 203 EXCAVATION = 518.93 SF
- ② ITEM 203 EMBANKMENT = 110.22 SF
- ③ ITEM 203 EMBANKMENT, AS PER PLAN, SOIL PLUG = 11.69 SF
- ④ ITEM 653 TOPSOIL FURNISHED AND PLACED = 7.90 SF
- ⑤ ITEM 203 ROADWAY, MISC.: VEGETATION REINFORCED COIR MAT WRAP
- ⑥ ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER, AS PER PLAN = 94.07 SF
- ⑩ ITEM 659 SEEDING AND MULCHING CLASS 5B = 31.09 LF
- ⑫ ITEM 670 SLOPE EROSION PROTECTION, AS PER PLAN = 23.83 LF

922.13
 STA. 5+50.00
 915.18



- ① ITEM 203 EXCAVATION = 522.43 SF
- ② ITEM 203 EMBANKMENT = 125.56 SF
- ③ ITEM 203 EMBANKMENT, AS PER PLAN, SOIL PLUG = 13.33 SF
- ④ ITEM 653 TOPSOIL FURNISHED AND PLACED = 8.98 SF
- ⑤ ITEM 203 ROADWAY, MISC.: VEGETATION REINFORCED COIR MAT WRAP
- ⑥ ITEM 601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER, AS PER PLAN = 104.99 SF
- ⑩ ITEM 659 SEEDING AND MULCHING CLASS 5B = 33.94 LF
- ⑫ ITEM 670 SLOPE EROSION PROTECTION, AS PER PLAN = 27.07 LF

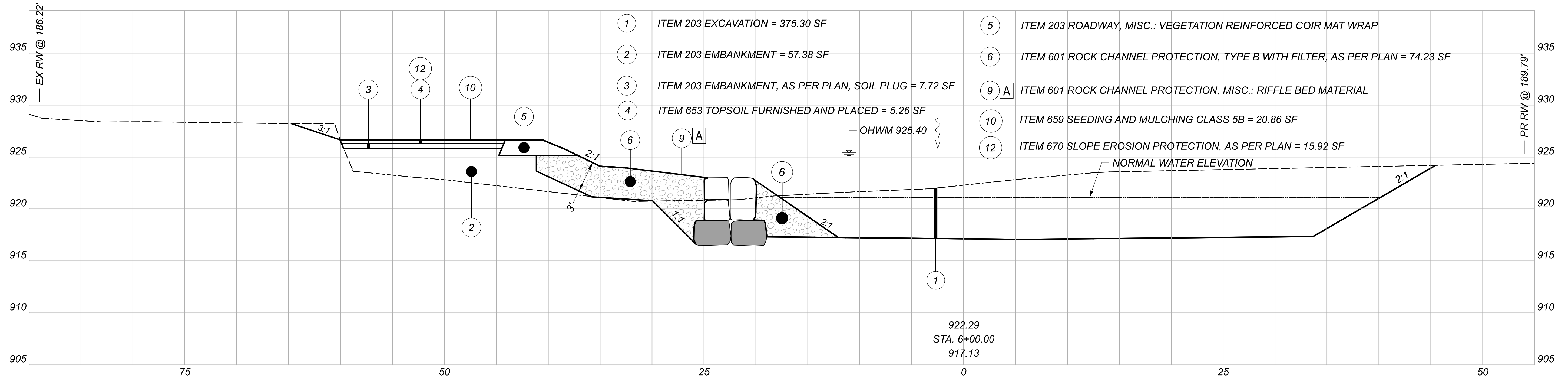
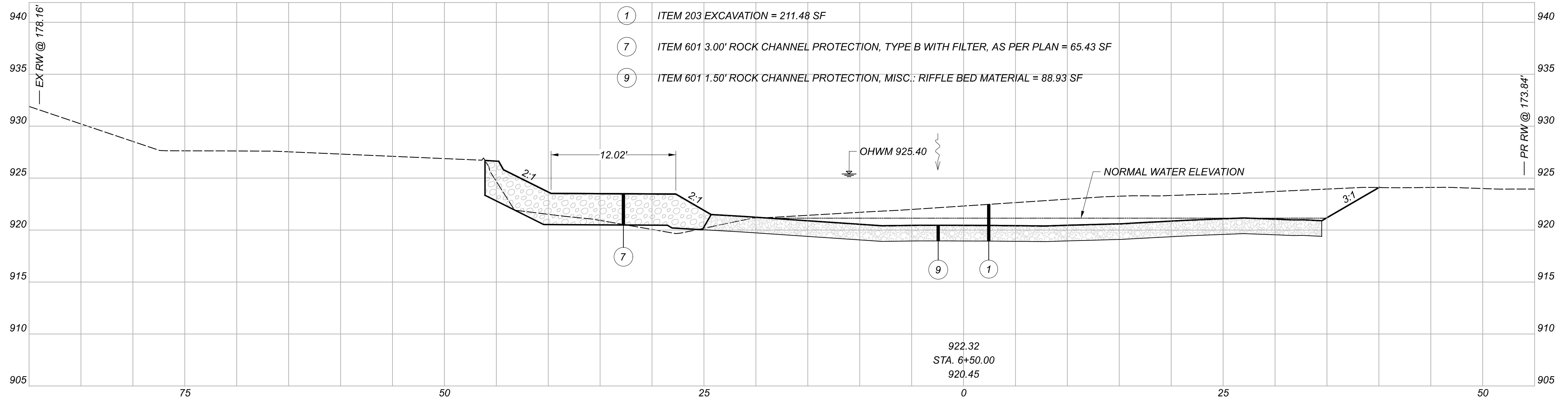
922.25
 STA. 5+00.00
 915.15

CROSS SECTIONS
 STA. 5+00 TO 5+50



DESIGNER
 QEP
 REVIEWER
 JMB 04/07/22

Sheet Totals 4+50 to 5+50							
①	②	③	④	⑤	⑥	⑩	⑫
1939 CY	462 CY	49 CY	33 CY	100 LF	1136 CY	364 SY	298 SY
PROJECT ID							111312
SHEET							TOTAL
15							29



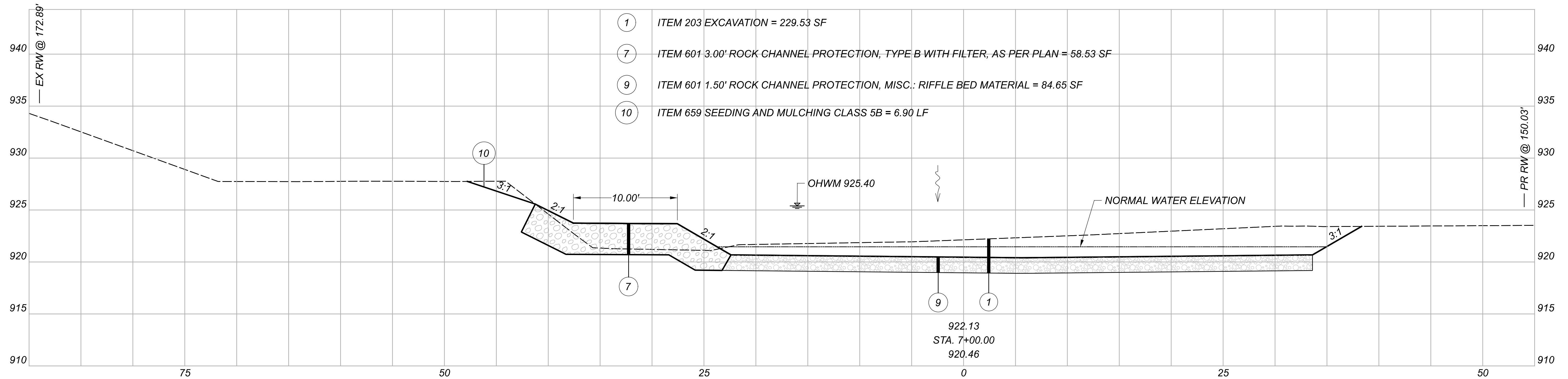
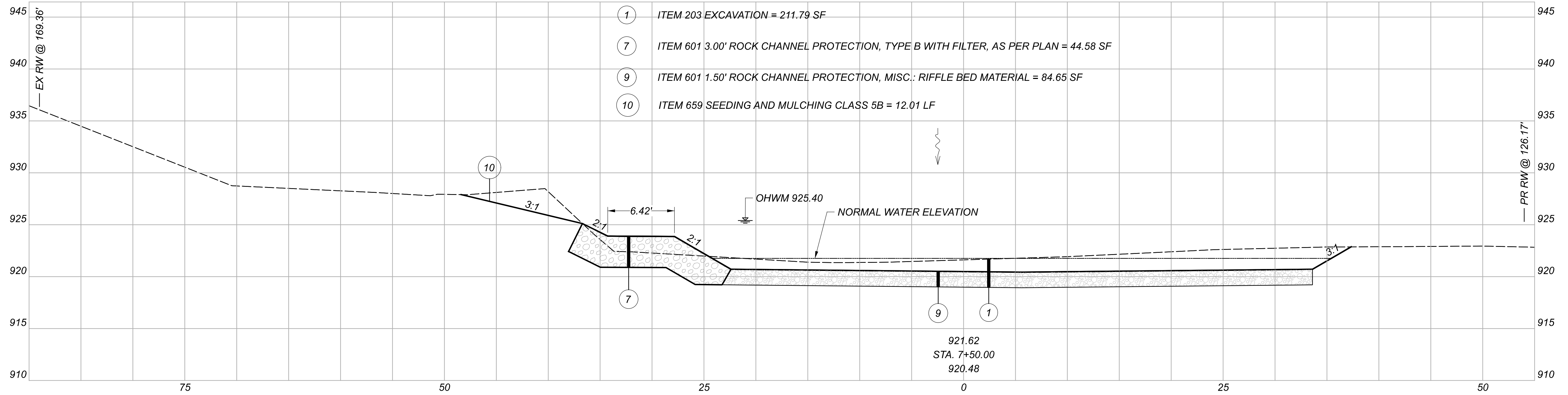
A INCORPORATE INTO RCP TYPE B, FILLING VOIDS IN TOP SURFACE BEHIND J-HOOK ARM. QUANTITY FOR THIS WORK PROVIDED IN J-HOOK STRUCTURE DETAIL, SHEET 19.

CROSS SECTIONS
 STA. 6+00 TO 6+50



DESIGNER: QEP
 REVIEWER: JMB 04/07/22

Sheet Totals 5+50 to 6+50												
1	2	3	4	5	6	7	9	10	12			
1371 CY	208 CY	25 CY	17 CY	50 LF	674 CY	61 CY	82 CY	202 SY	155 SY	16	TOTAL 29	



CROSS SECTIONS
 STA. 7+00 TO 7+50

DESIGN AGENCY
STONE
 ENVIRONMENTAL ENGINEERING & SCIENCE
verdant
 PEOPLE FOCUSED. FUTURE.

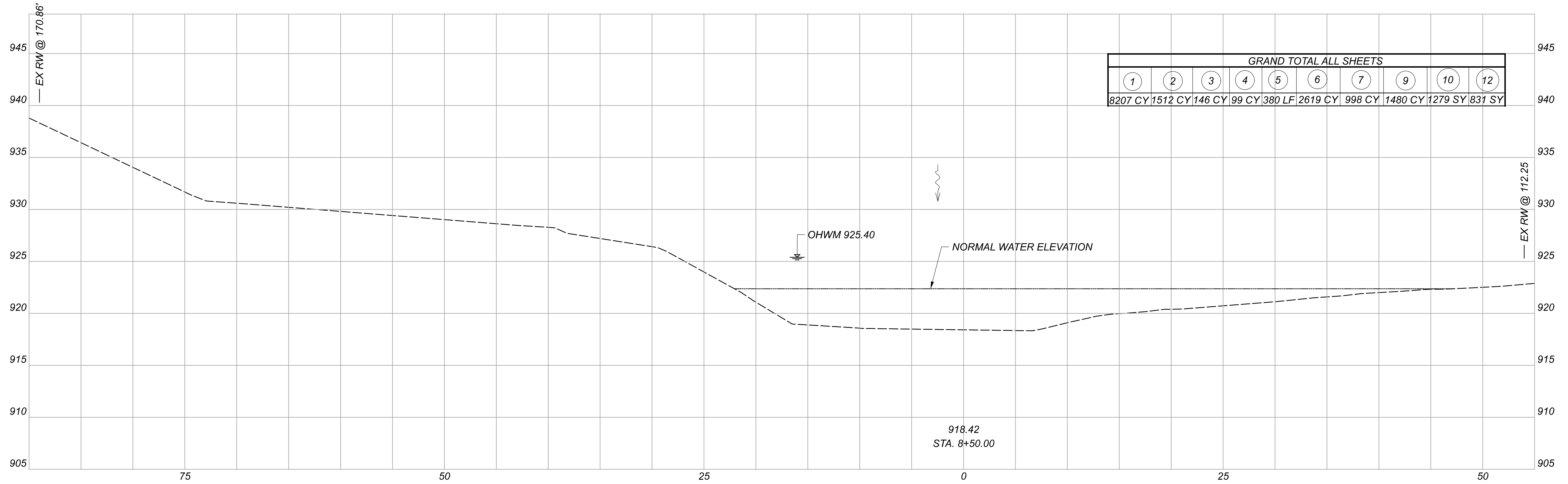
DESIGNER
 QEP

REVIEWER
 JMB 04/07/22

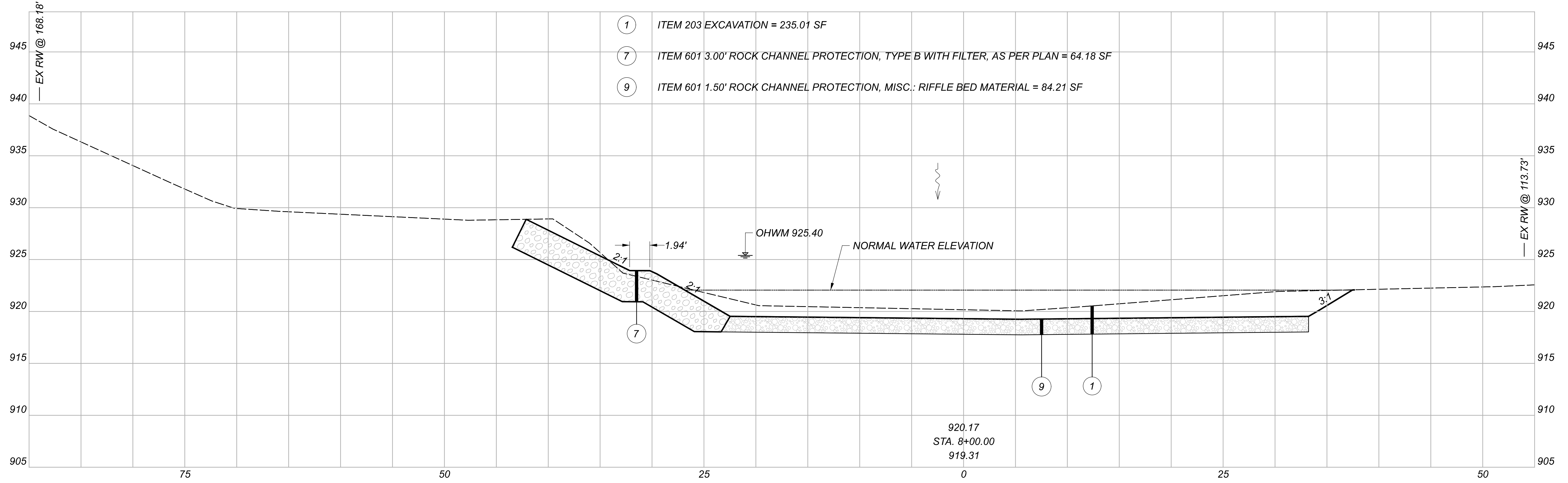
PROJECT ID
 111312

SHEET TOTAL
 17 29

Sheet Totals 6+50 to 7+50			
1	7	9	10
817 CY	210 CY	317 CY	72 SY



GRAND TOTAL ALL SHEETS											
1	2	3	4	5	6	7	9	10	12		
8207 CY	1512 CY	146 CY	99 CY	380 LF	2619 CY	998 CY	1480 CY	1279 SY	831 SY		



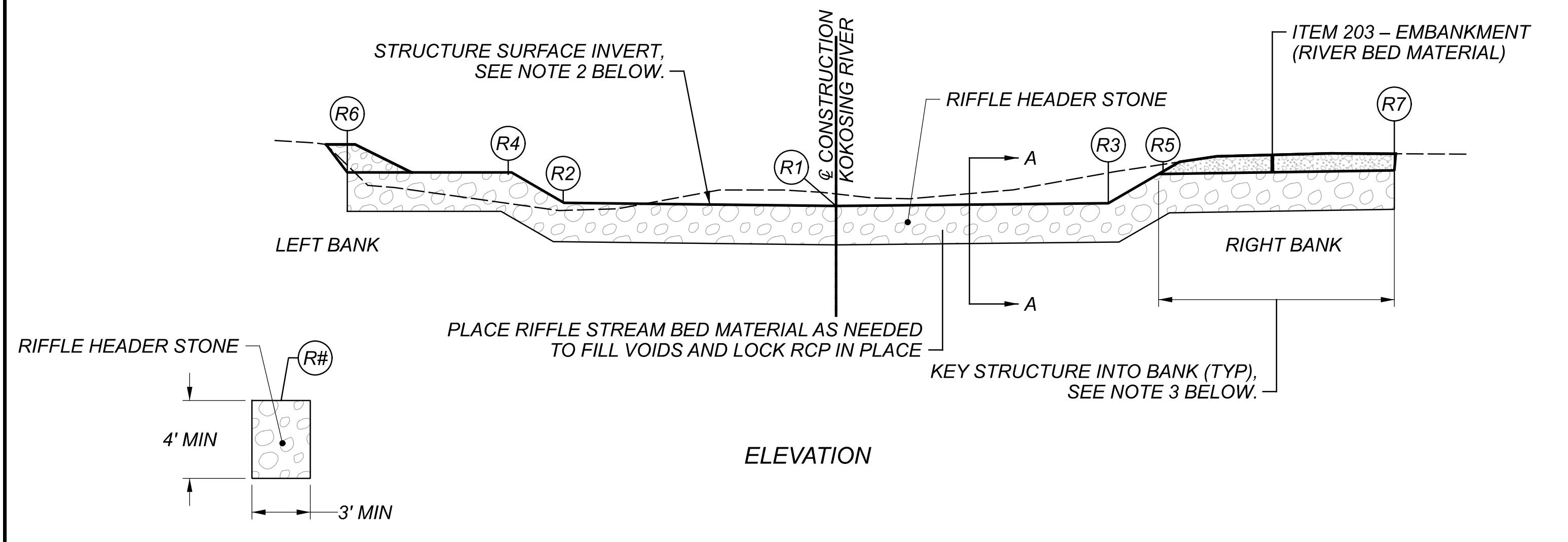
- ① ITEM 203 EXCAVATION = 235.01 SF
- ⑦ ITEM 601 3.00' ROCK CHANNEL PROTECTION, TYPE B WITH FILTER, AS PER PLAN = 64.18 SF
- ⑨ ITEM 601 1.50' ROCK CHANNEL PROTECTION, MISC.: RIFFLE BED MATERIAL = 84.21 SF

Sheet Totals 7+50 to 8+50			
1	7	9	10
631 CY	160 CY	234 CY	33 SY

CROSS SECTIONS
STA. 8+00 TO 8+50



DESIGN AGENCY	QEP
DESIGNER	QEP
REVIEWER	JMB 04/07/22
PROJECT ID	111312
SHEET	TOTAL
18	29



NOTES:

1. RIFFLE HEADER STRUCTURE SHALL BE PLACED AT THE BEGINNING OF THE RIFFLE.
2. REFERENCE POINTS ARE TO THE TOP CENTER OF THE STRUCTURE.
3. THE INVERT SHOWN ON THE PROPOSED STREAM PROFILE REPRESENTS THE SURFACE INVERT OF THE STONES IN THE CENTER OF THE RIFFLE HEADER STRUCTURE, REFERENCE POINT R1. THE REMAINDER OF THE STONES PLACED SHALL FOLLOW THE GENERAL SHAPE OF THE CHANNEL AS SHOWN ABOVE, WITH THE SIDES OF THE CHANNEL SLOPING UP TO THE TOE OF THE CHANNEL BANK SLOPE, REFERENCE POINTS R2 AND R3, THEN CONTINUING UP TO THE KEY STONES SET AT THE LOW FLOW CHANNEL ELEVATION, REFERENCE POINTS R4 AND R5.
4. RIFFLE KEY SHOULD EXTEND INTO THE BANKS BEYOND THE BANKFULL WIDTH TO THE DISTANCE SHOWN ON THESE PLANS. THE SURFACE INVERT OF THE RIFFLE KEY STONES, REFERENCE POINTS R4, R5, R6, AND R7 SHALL MATCH THE LOW FLOW CHANNEL ELEVATION.
5. RIFFLE HEADER STONE SHALL BE ITEM 601 RCP, MISC.: TYPE B WITH TYPE D
6. THE SURFACE OF THE STRUCTURE SHALL BE FINISHED TO A REGULAR AND COMPACT SURFACE IN ACCORDANCE WITH THE LINES, GRADES AND ELEVATIONS SHOWN ON THESE PLANS. THE INVERT ELEVATIONS SHALL BE WITHIN 0.10 FOOT OF THE GRADES AND ELEVATIONS INDICATED, OR AS DIRECTED BY THE ENGINEER.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE AND SHOWN IN THE PLANS.

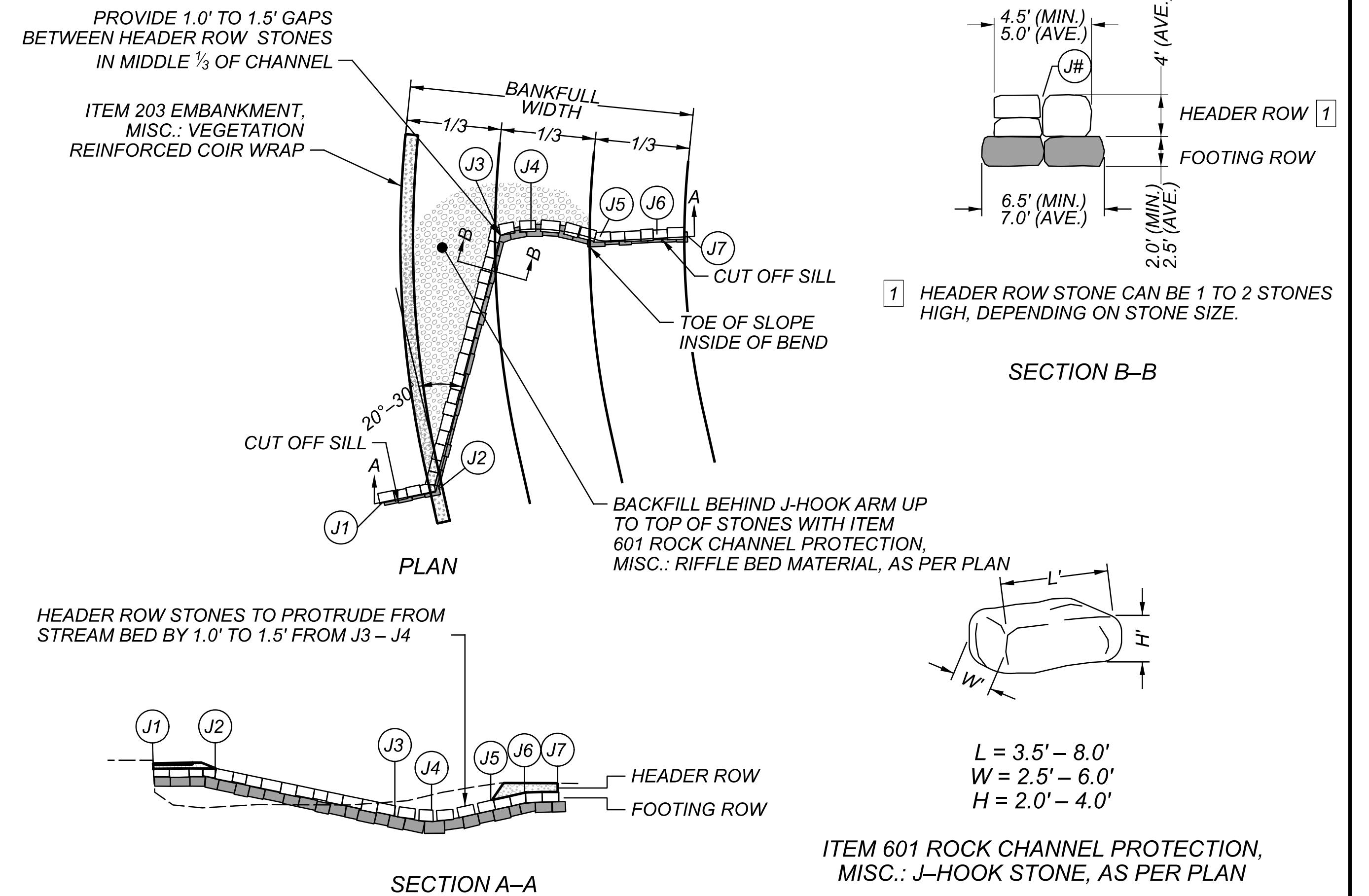
ITEM 601 RCP, MISC.: TYPE B WITH TYPE D 90 CY

RIFFLE HEADER STRUCTURE DETAIL

REFERENCE POINT = REF PT = X#

REFERENCE POINT TABLE			
REF PT	STA	OFFSET	ELEV
R1	3+17.98	0.00	920.0
R2	3+17.98	22.12 LT	920.3
R3	3+17.98	33.89 RT	920.3
R4	3+17.98	27.60 LT	923.4
R5	3+17.98	39.68 RT	923.4
R6	3+17.98	60.41 LT	923.5
R7	3+17.98	114.40 RT	923.5
J1	5+43.57	65.30 LT	926.0
J2	5+43.57	43.65 LT	926.0
J3	6+43.53	6.19 LT	920.7
J4	6+45.59	5.92 RT	920.5
J5	6+41.25	32.00 RT	920.7
J6	6+43.48	45.00 RT	923.5
J7	6+44.54	72.69 RT	923.5

REFERENCE POINTS TABLE



J-HOOK STRUCTURE NOTES:

1. J-HOOK STRUCTURES SHALL BE PLACED AT THE STATION, ELEVATION AND CONFIGURATION SHOWN ON THESE PLANS. IN SOME CASES, DUE TO THE IRREGULARITY OF CONSTRUCTION MATERIALS, STONES MAY NOT BE ABLE TO FIT INTO THE EXACT POSITION SPECIFIED ON THE PLANS. HOWEVER, AT A MINIMUM, THE INVERT ELEVATIONS, BANKFULL WIDTH AND MEDIAN STONE SIZE SHALL MEET THE SPECIFICATIONS OF THESE PLANS.
2. THE TOP SURFACE OF THE HEADER ROW STONES SHALL BE SET AT THE INVERT ELEVATIONS AS SHOWN ON THE PLAN AND PROFILE, AND SPECIFIED IN THE REFERENCE TABLE. REFERENCE POINTS ARE TO THE TOP CENTER OF THE STRUCTURE.
3. BACKFILL MATERIAL AROUND AND BEHIND THE ROCK STRUCTURE USED TO SHAPE THE CHANNEL BED SHALL BE COMPRISED OF CHANNEL MATERIAL SPECIFIED IN THESE PLANS.
4. THE SURFACE OF THE STRUCTURE SHALL BE FINISHED TO A REGULAR AND COMPACT SURFACE IN ACCORDANCE WITH THE LINES, GRADES AND ELEVATIONS SHOWN ON THESE PLANS. THE INVERT ELEVATIONS SHALL BE WITHIN 0.10 FOOT OF THE GRADES AND ELEVATIONS INDICATED, OR AS DIRECTED BY THE ENGINEER.
5. ALL MATERIALS ARE TO BE APPROVED BY THE ENGINEER OR THE ENGINEER'S ON-SITE CONSTRUCTION REPRESENTATIVE PRIOR TO PLACEMENT.
6. PAYMENT FOR ALL MATERIALS, SERVICES, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK FOR THE J-HOOK STRUCTURE SHALL BE INCLUDED IN THE FOLLOWING ITEMS FOR PAYMENT: ITEM 601 ROCK CHANNEL PROTECTION, MISC.: J-HOOK STONE, AS PER PLAN.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE AND SHOWN IN THE PLANS.

ITEM 601 ROCK CHANNEL PROTECTION, MISC.: J-HOOK 297 CY

ITEM 601 ROCK CHANNEL PROTECTION, MISC.: RIFFLE BED MATERIAL 53 CY

GENERAL J-HOOK STRUCTURE CONSTRUCTION SEQUENCE:

1. ROUGH GRADE THE CHANNEL AND BENCHES TO THE SPECIFIED GRADE AND DIMENSIONS AS SHOWN IN THE PLANS.
2. EXCAVATE MATERIAL FROM THE APPROXIMATE LOCATION OF THE PROPOSED STRUCTURE SUCH THAT THERE IS SUFFICIENT SPACE FOR THE PLACEMENT OF THE FOOTING AND HEADER STONES.
3. PLACE FOOTING AND HEADER STONES AT REFERENCE POINT J3 IN THE CHANNEL AT THE INVERT ELEVATIONS AND VERIFY THE CORRECT ELEVATIONS IN ACCORDANCE WITH THE PLANS.
4. UPON ESTABLISHING THE CORRECT HEADER INVERT ELEVATION, PLACE THE REMAINING FOOTING AND HEADER STONES OF THE STRUCTURE UP TO REFERENCE POINTS J2 AND J4, VERIFYING THE INVERT ELEVATIONS.
5. PLACE REMAINING STONES AND VERIFY THE INVERT ELEVATIONS.
6. WHEN PLACING FOOTING STONES, PLACE STONES TO MINIMIZE GAPS SUCH THAT THEY LOCK TOGETHER TIGHTLY, PREVENTING MOVEMENT. HEADER STONES WITHIN THE CENTER 1/3 OF THE CHANNEL SHALL HAVE SMALL GAPS BETWEEN THEM TO ALLOW FOR LOWFLOW WATER PASSAGE, WHILE HEADER STONES WITHIN THE OUTER 2/3 OF THE CHANNEL SHALL BE PLACED IN A SIMILAR MANNER AS THE FOOTING STONES, MINIMIZING GAPS AND LOCKING TIGHTLY TOGETHER.
7. FILL THE VOIDS BETWEEN THE STONES ON THE UPSTREAM SIDE OF THE STRUCTURE AS NECESSARY TO GET THEM TO LOCK TIGHTLY INTO PLACE.
8. BACKFILL BEHIND THE STRUCTURE WITH THE HARVESTED STREAM ALLUVIUM AS AVAILABLE OR THE SPECIFIED CHANNEL BED MATERIAL ON THESE PLANS. COMPACT THE MATERIAL AROUND THE STRUCTURE TO LOCK THE MATERIAL IN. DO NOT PLACE BACKFILL MATERIAL HIGHER THAN THE HEADER STONES OF THE STRUCTURE.
9. EXCAVATE AND SHAPE SCOUR POOL AND PLACE CHANNEL MATERIAL AS NECESSARY TO ACHIEVE FINAL GRADE AS SHOWN ON THESE PLANS.
10. RESHAPE STREAM CHANNEL AND BANKS TO FINAL GRADES AS SHOWN ON THESE PLANS, ENSURING SMOOTH TRANSITION BETWEEN BED FEATURES.
11. TO ENSURE PROPER PLACEMENT, THE CONTRACTOR SHALL HAVE AN EXCAVATOR WITH A THUMB, OR OTHER EQUIPMENT CAPABLE OF PLACING ROCKS AT PRECISE LOCATIONS.

J-HOOK STRUCTURE DETAIL

DESIGN AGENCY



DESIGNER

QEP

REVIEWER

JMB 04/07/22

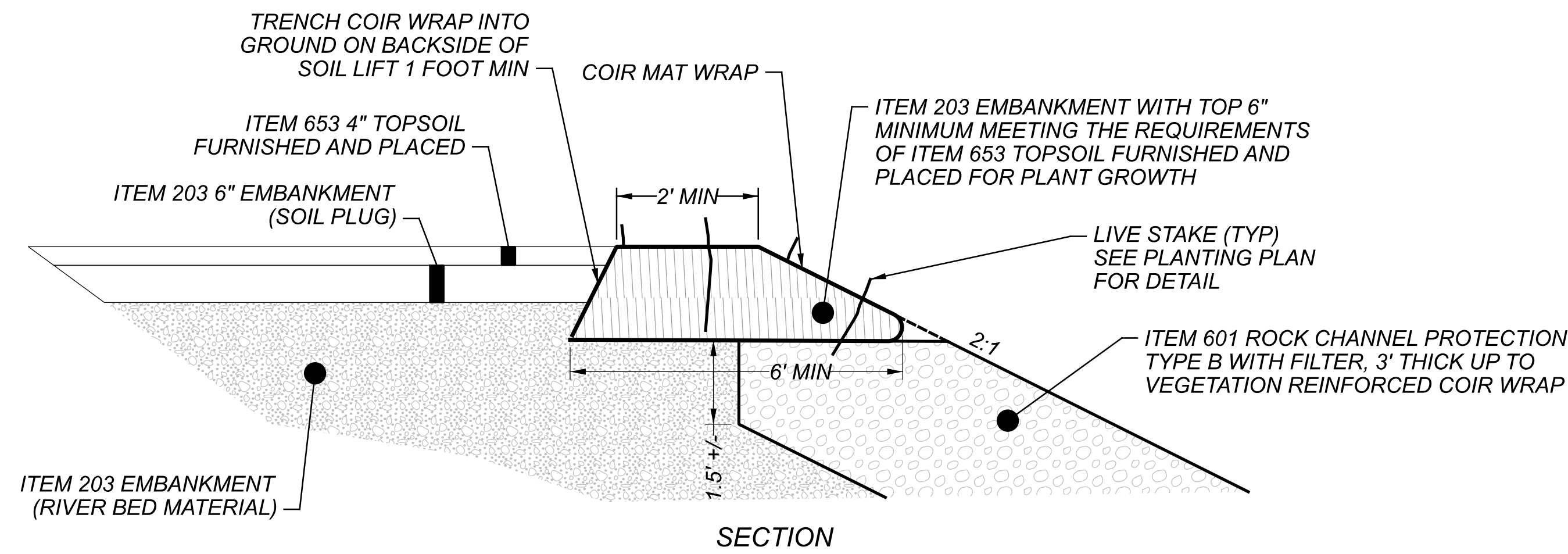
PROJECT ID

111312

SHEET

TOTAL

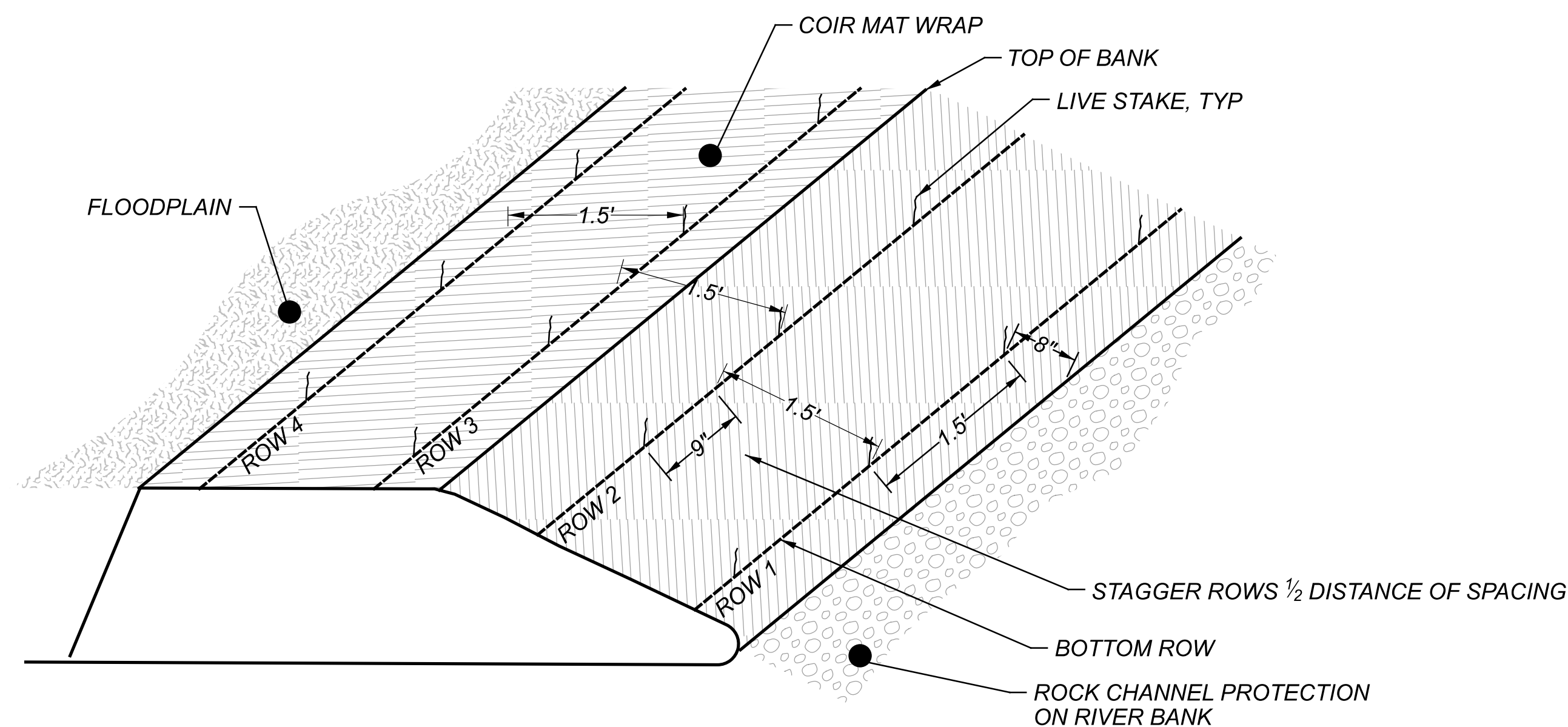
19 | 29



ITEM 203 ROADWAY, MISC.: VEGETATION REINFORCED COIR MAT WRAP

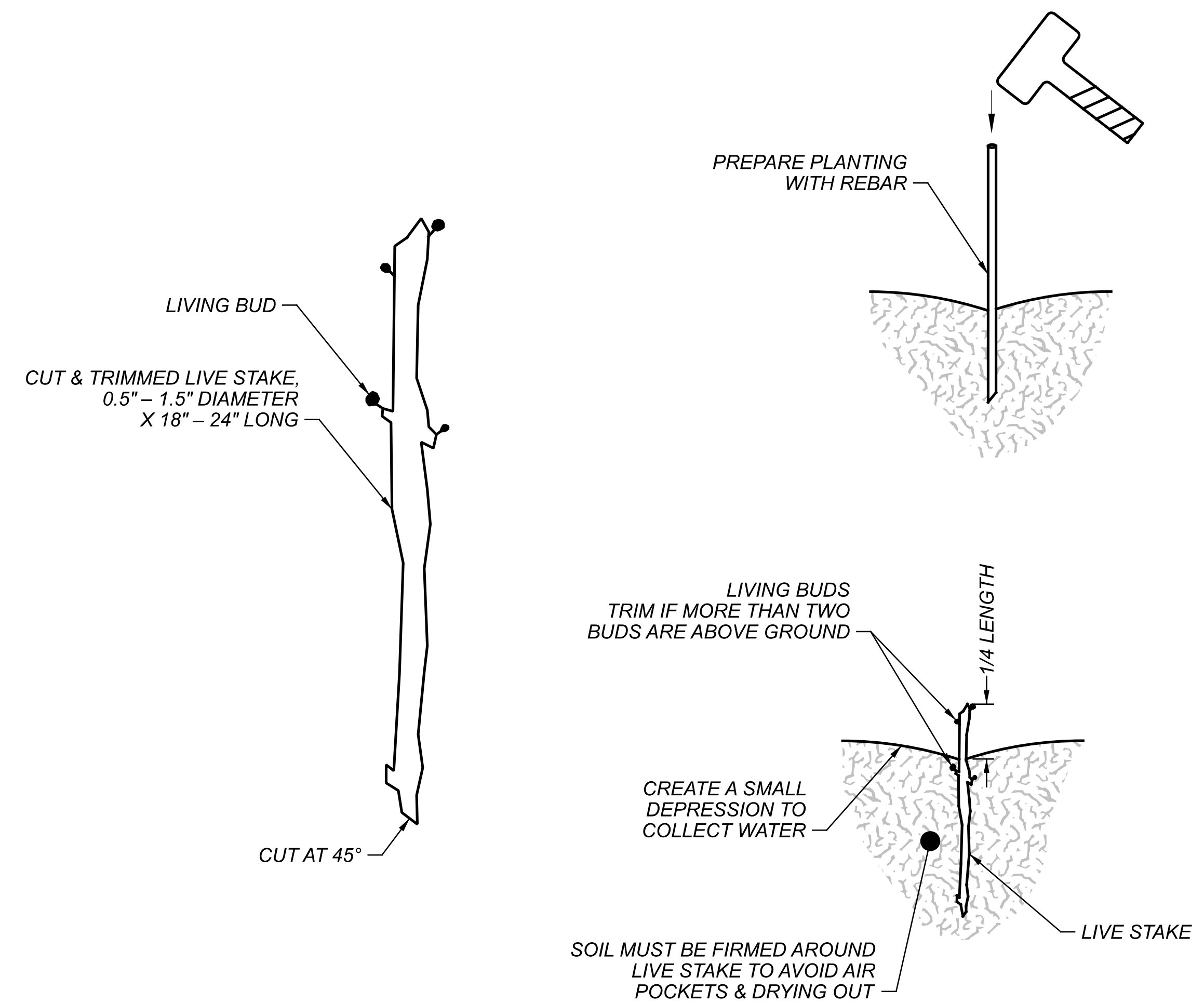
NOTES:

1. PREPAIR A 6 FOOT MINIMUM WIDTH SUBGRADE SURFACE BENCH TO LAY COIR MAT. SUBGRADE SURFACE SHOULD BE RELATIVELY FLAT AND FREE OF LARGE VOID SPACES (NO GREATER THAN 4"). VOID SPACES BETWEEN ROCKS IN ROCK CHANNEL PROTECTION TYPE B SHALL BE FILLED IN WITH FILTER STONE AS NEEDED TO PROVIDE SUBGRADE SURFACE.
2. LAY COIR MAT ALONG THE TOP OF THE PREPARED SUBGRADE SURFACE BENCH BY ROLLING THE MAT LENGTH-WISE ALONG THE BENCH (PARALLEL WITH THE TOP OF BANK) AND ALLOW THE REMAINING WIDTH OF THE COIR MAT TO DRAPE DOWN THE FACE OF THE SLOPE. COIR MAT WIDTH SHALL BE A MINIMUM OF 12.5 FEET TO ALLOW SUFFICIENT REMAINING MATERIAL WIDTH TO BE ABLE TO FOLDER OVER BACK SLOPE.
3. PLACE 1' TO 1.5' OF ITEM 203 EMBANKMENT A-6 OR A-7 NATURAL SOIL MEETING THE REQUIRMENTS OF 203.02 I WITH TOP 6" MINIMUM MEETING THE REQUIRMENTS OF ITEM 653 TOPSOIL FURNISHED AND PLACED FOR PLANT GROWTH IN LOOSE LIFTS TO ACHIEVE PLAN GRADES, LIFTS NOT TO EXCEED 8-INCHES. COMPACT EMBANKMENT USING TRACKED EQUIPMENT, CAREFUL TO NOT DAMAGE THE COIR MAT. DENSITY COMPACTION TESTING WILL NOT BE REQUIRED.
4. FOLD THE REMAINING COIR MATERIAL UP OVER THE FILL, PULLING BACK TIGHTLY OVER THE FACE OF THE SOIL LIFT AND EXTENDING A MINIMUM OF 2 FEET BEYOND THE TOP OF SLOPE ON TO THE FLOODPLAIN TO FORM THE SOIL WRAP. SECURE IN PLACE WITH STAKES AND/OR STAPLES AS RECOMMENDED BY THE MANUFACTURER AND TRENCH OUTSIDE EDGE INTO GROUND MIN. 1-FOOT, AS SHOWN ABOVE.
5. IF MULTIPLE COIR MAT ROLLS ARE USED, COIR MATS SHALL OVERLAP A MINIMUM OF 2 FEET WITH THE UPSTREAM MAT ON TOP OF THE DOWNSTREAM MAT.
6. COIR MAT UTILIZED FOR COIR MAT WRAP SOIL LIFTS SHALL HAVE A MINIMUM ROLL WIDTH OF 12.5 FEET.
7. PAYMENT FOR ALL MATERIALS, SERVICES, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK FOR THE COIR WRAP INCLUDING THE EMBANKMENT AND TOPSOIL ENCASED WITHIN IT SHALL BE INCLUDED IN THE FOLLOWING ITEM FOR PAYMENT: ITEM 203 ROADWAY, MISC.: VEGETATION REINFORCED COIR WRAP, AS PER PLAN



VEGETATION REINFORCED COIR MAT WRAP LIVE STAKE SPACING DETAIL

NOTE: LIVE STAKE ROWS PLANTED ON FACE OF THE COIR WRAP IN FOUR HORIZONTAL ROWS, RUNNING PARALLEL TO THE RIVER, SPACED 1.5 FEET APART PERPENDICULAR TO THE RIVER, WITH THE BOTTOM ROW STARTING 8 INCHES UP FROM THE BOTTOM OF THE COIR WRAP LIFT. LIVE STAKES WITHIN EACH ROW SHALL BE PLACED 1.5 FEET O.C. AND ROWS SHOULD BE STAGGERED HORIZONTALLY 1/2 THE DISTANCE OF THE SPACING.



LIVE STAKE PLANTING DETAIL

NOTES:

1. LIVE STAKES PLANTED WITHIN DISTURBED AREA SHALL BE PLANTED 5 FEET ON CENTER
2. LIVE STAKES PLANTED ON VEGETATION REINFORCED COIR MAT WRAP SHALL BE SPACED PER VEGETATION REINFORCED COIR MAT WRAP DETAIL ON THIS SHEET

TABLE B. DISCHARGE AND FILL QUANTITIES

Stream	Station (Plan Set)	Description of Impacts <i>The "#"</i> correlates with the Site Plan in Appendix C	Length (LF)	Width (LF)	Depth (LF)	Permanent Fill Below OHWM						Total Permanent Fill			Total Temporary Fill			Total Impact Length
						Proposed RCP			Proposed Earthen, Granular, or Embankment Fill									
						Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)
Kokosing	2+40 - 7+00	#4: Earthen Fill for Bankfull Bench	450	0-34	4-8				450	0.25	1,490	450	0.25	1,490				450
Kokosing	1+30 - 8+50	#3&8: Vegetated RCP & Rock Toe	758	15-25	7-14	758	0.29	3,615				758	0.29	3,615				758
Kokosing	1+30 - 8+50	#6: Riffle Complex	520	50-65	2	520	0.62	1,623				520	0.62	1,623				520
Kokosing	3+20 and 5+40 - 6+50	#1: Rock J-Hook & Header Structures	120	150-175	6	120	0.06	297				120	0.06	297				120
Kokosing	0+25 - 8+65	Temporary Access Fill	758	50	8										758	0.50	158	758*
SUM:						758	0.97	5,535	450	0.25	1,490	758	1.22	7,025	758	0.50	158	758

* The lengths of proposed permanent and temporary fills overlap.

LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e.. concrete block matting); NA = Not Applicable