



COLORADO
Department of Public
Health & Environment

August 6, 2024

Mike McAnulty
Atlantic Richfield Company
317 Anaconda Road
Butte, Montana 59701

**RE: Operations and Maintenance Plan Approval for the Columbia Tailings Site, Rico,
Colorado, RV#960119-1**

Dear Mr. McAnulty:

The Colorado Department of Public Health and Environment (the "Department") has reviewed the proposed Operations and Maintenance Plan submitted on behalf of Atlantic Richfield (the Applicant) concerning the property identified in the application as the Columbia Tailings Site, in Rico, Dolores County, Colorado (the site). This review was limited to the materials submitted by the Applicant, as well as those materials required by 25-16-304(2) C.R.S.

In accordance with the Voluntary Cleanup and Redevelopment Act 25-16-301 to 311, C.R.S., the Department hereby approves the Operations and Maintenance Plan submitted by the Applicant. The approval of the Operations and Maintenance Plan by the Department, and the Department's conclusions and opinions relating thereto, apply only to conditions on the property and state standards that exist at the time of submission of, and which were addressed in the Plan proposal. The submission of any materially misleading information by the Applicant in the context of this Plan shall render the Department's approval of the Plan void.

Within forty-five days after construction completion of the initial phase of the Operations and Maintenance Plan, and described in the Plan approved by the Department, the Applicant shall provide to the Department a certification from a qualified environmental professional that the Applicant has completed the initial construction phase of the Operations and Maintenance Plan.

The Applicant shall comply with all applicable federal, state, and local laws or regulations and shall obtain all necessary approvals or permits to conduct the activities presented in the Operations and Maintenance Plan. The Department makes no representation with respect to approvals or permits required by federal or local laws or regulations or state laws or regulations other than the Voluntary Cleanup and Redevelopment Act.



Mr. Mike McAnulty

August 6, 2024

Page 2

Further, the Department shall not be liable for any injuries or damages to persons or property resulting from acts or omissions of the Applicant or those acting for or on behalf of the Applicant, including its officers, employees, agents, successors, representatives, contractors, or consultants in carrying out the activities set forth in the Operations and Maintenance Plan. Nothing in the Department's approval of this Plan, or the Department's conclusions or opinions relating thereto, shall constitute an express or implied waiver of sovereign immunity otherwise applicable to the Department, its employees, agents, or representatives.

Nothing in this letter shall be construed to limit the Department's authority, and the Department reserves all rights and authorities to bring any action pursuant to applicable state laws or regulations.

If you have any questions, please contact me at (303) 916-2179.

Sincerely,



Mark Rudolph
Voluntary Cleanup Program

File: RV960119-1

Columbia Tailings VCUP

Rico, Colorado

Columbia Tailings VCUP
2024 OM&M Work Plan

Atlantic Richfield Company
317 Anaconda Road
Butte, Montana 59701

July 2024

Columbia Tailings VCUP

Rico, Colorado

Columbia Tailings VCUP

2024 OM&M Work Plan

Prepared By: ***Alloy Group***
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July 2024

TABLE OF CONTENTS

LIST OF ATTACHMENTS	ii
1.0 INTRODUCTION.....	1
1.1 Site History and Background.....	1
1.2 1996 Site Remediation Features	1
1.3 Current Status.....	1
2.0 2024 PROPOSED OM&M ACTIVITIES	3
2.1 Safety & Dust Mitigation Measures	3
2.2 Site Access and Security	3
2.3 Demolition and Site Prep.....	4
2.4 Stormwater Control Maintenance	4
2.5 Addressing Stained Material and Exposed Mine Waste Along the Eastern Portion of the Property	4
2.6 Cover Improvements.....	4
2.7 Stormwater Controls During OM&M Activities	5
2.8 Final Survey	6
2.9 Record Keeping	6
2.10 2024 OM&M Schedule.....	6
3.0 INSPECTION AND MAINTENANCE PROCEDURES	7
3.1 Inspection Procedures	7
3.1.1 Site Access and Security	7
3.1.2 Vegetation Inspection.....	8
3.1.3 Cover and Erosion Inspection.....	8
3.1.4 Stormwater Features Inspection.....	8
3.1.5 Land Use/Development Inspection.....	9
3.1.6 Streambank Stabilization Inspection.....	9
3.1.7 Seep Inspection	9
3.2 Remediation Features Maintenance.....	9
3.2.1 Site Access and Security Maintenance	10
3.2.2 Vegetation Maintenance.....	10
3.2.3 Weed Control	10
3.2.4 Re-seeding.....	10
3.2.5 Cover and Erosion Maintenance	10
3.2.6 Stormwater Features Maintenance.....	11
3.2.7 Land Use/Development Maintenance.....	11
3.2.8 Streambank Stabilization Maintenance.....	11
3.2.9 Seep Maintenance	11
3.3 Reporting.....	11
4.0 REFERENCES.....	12

LIST OF ATTACHMENTS

Attachment 1: Columbia Tailings OM&M Drawings

Attachment 2: Blank Inspection Form

1.0 INTRODUCTION

This VCUP Operations, Monitoring, and Maintenance (OM&M) Work Plan has been prepared by Atlantic Richfield Company (Atlantic Richfield) to address the presence of seepage and stained material observed at the Columbia Tailings Site (Site). The Site was previously remediated in 1996 under a Voluntary Clean-Up and Redevelopment Program (VCUP) application approved by the Colorado Department of Public Health and Environment (CDPHE) (Atlantic Richfield, et al, 1996).

1.1 Site History and Background

The Site is a 4.5-acre parcel located in the southern portion of the Town of Rico, Colorado in between the Dolores River and Highway 145 as seen in Figure 1 of Attachment 1. Consolidated and capped tailings are present above the seasonal high-water table and out of the 100-year floodplain of the Dolores River. The original Site VCUP applicants included Atlantic Richfield, Rico Properties, L.L.C. (now dissolved), and the Town of Rico. This Site was reclaimed by Atlantic Richfield pursuant to the original VCUP application (Atlantic Richfield, et al, 1996) and remediation plans approved through the VCUP. The VCUP Site remediation activities began on July 1, 1996 and were completed on November 13, 1996. The VCUP Construction Completion Report (CCR) (Anderson, 1997) provides details of the remediation activities completed at the Columbia Tailings Site during the 1996 construction operations. In September 1999, Atlantic Richfield submitted to CDPHE a No Further Action Determination (NFAD) petition letter, along with supporting documentation (“NFAD Petition”), on behalf of itself and the other 1990s VCUP Site applicants. In December 1999, CDPHE issued a NFAD letter for the Site (CDPHE, 1999). Atlantic Richfield currently owns most of the Site and the planned OM&M work will only be performed on Atlantic Richfield-owned property.

1.2 1996 Site Remediation Features

The list below is a summary of the 1996 remediation work completed at the Columbia Tailings Site.

- Consolidation of tailings and reconfiguration of tailings slopes to control erosion.
- Site regrading to control stormwater around the consolidated waste piles.
- Construction of gravel road and concrete pad to control erosion.
- Surface adjustments and compaction to shed rainfall and snowmelt from the waste to control erosion and limit infiltration.
- Placement of vegetated soil cover over the tailings.
- Construction of a riprap lined stormwater management ditch.
- 24-inch Reinforced Concrete Pipe (RCP) culvert installations.
- Construction of a retention basin.
- Placing riprap along the Dolores River for erosion and flood protection.

1.3 Current Status

Since the completion of the VCUP work, two issues that require maintenance have been observed. During recent inspections (2016 to present), discoloration of rocks and sediment build up in the drainage ditch on the east side of the parcel were observed. Additionally, the final soil cover in the northeast corner of the parcel has begun to erode. During 2023, interim measures were implemented at the Site in order to provide additional stormwater retention and settling time and to keep as much seepage and stormwater on-site as possible. This included the addition

of rock check dams to stormwater channels and sandbagging culvert inlets. This OM&M Work Plan addresses the maintenance items planned for implementation during 2024, including those identified during recent site inspections and additional measures to reduce infiltration into the Columbia Tailings pile. This OM&M Work Plan also describes the approach for future site inspections and the process to implement additional maintenance as needed.

2.0 2024 PROPOSED OM&M ACTIVITIES

This section presents the Columbia Tailings OM&M activities planned for 2024, including stormwater controls improvements, relocation and consolidation of stained material and mine waste, cover improvements, and other design improvement features. Attachment 1 provides the OM&M drawings. See below for a list of OM&M activities planned to take place at the Site:

- Demolition and Site Prep
 - Remove the pavilion.
 - Clear and grub overgrown areas of the parcel.
 - Remove debris from culvert inlets and outlets.
- Stormwater Control Maintenance
 - Remove sediment buildup/precipitated solids accumulation from channels, revetment structures, and basin.
 - Relocate the stormwater channel on the eastern side of the property.
 - Reshape detention basin at the south of the property.
- Addressing Stained Material and Exposed Mine Waste Along the Eastern Portion of the Property
 - Excavate and consolidate stained material and exposed mine waste located along the hillside on the eastern edge of the property.
 - Backfill excavations with clean fill and revegetate.
- Cover Improvements
 - Add additional cover material to the Columbia Tailings pile.
 - Revegetate.

2.1 Safety & Dust Mitigation Measures

In addition to compliance with general health, safety, security, and environment (HSSE) requirements, measures to ensure protection of the work, workers, and nearby community from airborne dust associated with the OM&M activities will be implemented, including appropriate dust suppression measures and occupational and general area air monitoring as needed. **The primary dust control measure will be application of water from a water truck. If control measures are not fully effective (visible dust leaving the Site), work will be stopped and additional dust control measures implemented prior to resuming work.** No utilities are located within the Site work area.

Dust control monitoring and mitigation will be most critical when moving and placing the mine waste along the east side of the existing pile. Wind speeds will be monitored during this task and if the wind speed exceeds 15 mph, work will be stopped and will resume when wind speeds are less than 15 mph. Any visible dust leaving the Site will result in an immediate stoppage of work and implementation of dust control measures. Work will not resume until there is no longer visible dust.

2.2 Site Access and Security

Site access will be from HWY 145 located to the east of the Site (see Attachment 1 – Figure 1). The Site is currently gated. Prior to OM&M activities, Atlantic Richfield will ensure that the Site is adequately fenced and secured to control public access, prevent unauthorized vehicular traffic, provide for site security both during and after hours, and prevent illegal dumping of wastes. It is not anticipated that any improvements are required to support traffic to and from the Site.

2.3 Demolition and Site Prep

The pavilion will be removed to allow for cover improvements. Any overgrown areas of the Site will be cleared and grubbed as needed to facilitate OM&M activities. Additionally, any debris will be removed from culvert inlets and outlets. Any construction debris generated during demolition and site prep will be loaded into trucks and transported to an Atlantic Richfield-approved landfill.

2.4 Stormwater Control Maintenance

Stormwater control maintenance will focus on improving run-on and run-off controls at the Site. Existing channels, revetment structures, and the detention basin that remains will have accumulated sediment removed to restore them to the original capacity. Sediments will be loaded into trucks and hauled to the Atlantic-Richfield operated Soil Lead Repository located at the Rico-Argentine Site. Any riprap or non-stained soils removed will be consolidated along the eastern edge of the waste pile. This material will be covered as described in Section 2.6.

The stormwater channel located along the eastern side of the Site will be abandoned in place. This channel will be reconstructed as shown in Attachment 1 after cover improvements are completed. The channel will be reconstructed as an approximately 12-foot-wide riprap lined channel. All stormwater controls are being sized to retain and convey water volumes from at least a 25-year 24-hour storm event. The stormwater controls will be routed to a detention basin as shown in Attachment 1. After sediment has been excavated from the detention basin at the south end of the Site, the detention basin will be reshaped to allow for additional capacity as shown in Attachment 1. The detention basin will overflow through an existing culvert to the Dolores River.

2.5 Addressing Stained Material and Exposed Mine Waste Along the Eastern Portion of the Property

During Site inspections, exposed mine waste and stained material was observed along the eastern portion of the property. This area is delineated in Attachment 1. Selective excavation of exposed mine waste and stained material from within this delineated area will occur prior to cover improvements. Excavation will occur to a depth of 12 inches and the extent of excavation will be based upon visual observation in the field. Excavated material will be consolidated along the eastern edge of the waste pile with any riprap or non-stained soils removed during stormwater control maintenance. This material will be compacted in 12-inch lifts during consolidation. If this material is stockpiled prior to consolidation and compaction, the stockpile will be covered with a temporary cover to prevent any migration of material by wind or stormwater. The consolidated material will be covered as described in Section 2.6.

Areas of excavation will be backfilled to previous grade with imported growth medium material capable of sustaining vegetation and revegetated as described in Section 2.6. It is anticipated that this material will be imported from Dolores or Cortez, CO.

2.6 Cover Improvements

The existing cover on the waste pile will be improved to reduce the potential for infiltration. Prior to placement of any cover material, the existing cover will be bladed smooth with a minimum slope of -1% to remove depressions that could trap surface water. The extent of this blading is shown in Attachment 1. Materials will be graded to create maximum 4:1 slopes and minimize ponding. A cover will be placed over the graded materials as shown in Attachment 1.

The cover material will consist of two 8-inch loose lifts (6-inch compacted lifts) of 6-inch minus pit run material with a 12-inch loose lift of growth media material capable of sustaining vegetation. Lead concentrations in the cover material will be less than 400 mg/kg. The growth media material will meet the following specifications:

1. Growth media shall be clean, naturally occurring and the material shall conform to the following grading requirements and have a Plasticity Index less than 10, or otherwise approved by Atlantic Richfield.

Particle Size	% Finer Than
6-inch	100
No. 200 sieve	0-25

2. Growth media shall meet the following criteria.

Parameter	Suitable	Marginal ¹	Unsuitable
pH (s.u.)	6.5-8.5	5.0-6.5 8.5-9.0	<5.0 >9.0
EC (Conductivity) mmhos/cm	0-8	8-12	>12
Saturation Percentage	25-80	<25	>80
Texture		C, LS, S	
¹ Soils to be evaluated by Atlantic Richfield on an individual basis for suitability			

The growth media material will be sampled for existing organic matter and soil fertility (available Nitrogen: Phosphorus: Potassium [N:P:K]). Organic matter and fertilizer (N:P:K) will be incorporated as needed to meet the following soil fertility targets. Soil fertility target levels are N:P:K concentrations in the upper four inches of growth media: 10-20 lbs/acre (N); 15 ppm (P); and 120 ppm (K). Organic matter content for the growth media shall be minimum 1% concentration in the upper four inches of growth media.

After soil amendment incorporation, if necessary, the surface of the soil cover may be firmed using tracked heavy equipment such as a dozer, track hoe, or other implement to firm the final seedbed for seeding.

Following soil amendment, seeding of disturbed areas of the Site and the cover will be completed. A native upland weed-free seed mix will be used. Seeding will ideally occur in late fall (October—November) for germination and plant growth the following spring. Hydro-seeding may be utilized, which has been successful at the Rico-Argentine Site. Seeded areas will not be irrigated.

2.7 Stormwater Controls During OM&M Activities

During OM&M activities, appropriate temporary stormwater and dust control measures will be implemented. Materials shall be managed to prevent material migration offsite during OM&M activities. Exterior stormwater channels will be maintained to manage run-on and run-off during OM&M activities. Appropriate temporary stormwater controls (i.e., silt fence, wattles, etc.) will be used to prevent material migration at the Site. Temporary stormwater controls will be inspected and maintained in accordance with a stormwater management plan and associated

general construction stormwater permit which will be in place prior to the start of OM&M activities.

If imported 6-inch minus pit run material needs to be stockpiled on-site prior to placement, the stockpile location will avoid slopes, drainageways, and traffic routes, if possible. Perimeter sediment controls shall be placed and maintained around the stockpiles. Examples of suitable control measures include berms, silt fence, and straw waddle barriers.

2.8 Final Survey

At the completion of OM&M activities outlined in the sections above, a final survey to document the as-built conditions will be conducted. Surveys will be done to horizontal and vertical accuracies of +/- 0.10 feet, using the Colorado State Plane coordinate system of 1983 South Zone (in feet), which is a Lambert conformal conic projection of the North American datum of 1983, having standard parallels at north latitudes 37 degrees 14 minutes and 38 degrees 26 minutes along which parallels the scale shall be exact. The origin of coordinates is at the intersection of the meridian 105 degrees 30 minutes west of Greenwich and the parallel 36 degrees 40 minutes north latitude. This origin is given the coordinates: x - 914,401.8289 meters and y - 304,800.6096 meters. The vertical datum for the Site is the North American Vertical Datum of 1988 (NAVD88) based on a United States Geological Survey (USGS) benchmark established in the Town of Rico. Since the coordinate system is based on a rectangular planar system, north represents Grid North, not True North.

2.9 Record Keeping

An OM&M Completion Report will be developed upon completion of the OM&M activities. The OM&M Completion Report is anticipated to include:

- Consolidated material volumes,
- As-built drawings, and
- Variations from this OM&M Work Plan.

2.10 2024 OM&M Schedule

OM&M activities are anticipated to occur based on the following schedule. This schedule is preliminary and subject to change based on site conditions and contractor availability:

1. Submit OM&M Work Plan to CDPHE for approval – Mid-May 2024,
2. Receive CDPHE approval – Mid-June 2024,
3. Planning and procurement – June 2024,
4. Begin OM&M activities – July 2024,
5. Complete OM&M activities except for final revegetation – August 2024, and
6. Perform final revegetation and complete OM&M Completion Report – October 2024.

OM&M activities are anticipated to occur between the hours of 8 am and 5 pm Monday through Friday. No evening or weekend work is anticipated.

3.0 INSPECTION AND MAINTENANCE PROCEDURES

3.1 Inspection Procedures

The intent of the site inspection is to assess the current state of the VCUP work and determine if maintenance is warranted to return the Site to as-built conditions. Observations shall be recorded for any new developments or conditions at the Site, including erosion, flow path changes, sediment build up, precipitated solids accumulation, trespass or security concerns, new land development, vegetation condition, metals staining, etc.

Qualitative inspections will be performed on a periodic basis (no less often than annually and performed post-spring runoff or during early summer to allow for maintenance and/or repairs, if needed, to occur in the same year) and will focus on site remedial features and landowner stewardship activities, specifically including:

- Security and access,
- Vegetation condition (including noxious weeds),
- Cover soil and erosion,
- Stormwater control features,
- Land use changes/development,
- Streambank stabilization, and
- Seeps.

Each inspection will be conducted by walking in a grid pattern across the surface sweeping the area for key items. Field inspection forms will be used to document inspection observations, conditions encountered during the inspection process, recommended future maintenance and/or repairs if any, and maintenance performed during the inspection. Approximate locations of recommended maintenance shall be indicated on the site map included with the inspection forms. Blank inspection forms are provided as Attachment 2. In addition to inspection forms, a photographic record of the Site will be maintained.

Qualitative assessments will be made on the overall condition of individual component of the reclaimed area. Recommendations for property maintenance actions of the individual components of the reclaimed area will be assigned a number from 0 to 3 on the inspection forms as follows:

0. No action required. Site in good condition and no actions necessary in the near future.
1. Minor action required (e.g., weed spraying, fertilization, fence repair, etc.). Site is relatively stable and only minor actions required in the near future.
2. Some action required. Site requires some evaluation to make best management decisions for addressing identified issues. Site Maintenance activities may be necessary.
3. Significant action required. Site requires evaluation to protect the remedial features. Maintenance activities are necessary.

3.1.1 Site Access and Security

The Site is currently owned mostly by Atlantic Richfield, as well as a smaller portion owned by the Town of Rico, and there is minimal security to limit public access. Inspectors shall look for evidence of debris and disturbance (e.g. vehicle tracks/roads, foot, bike or ATV paths; livestock

grazing; digging; vandalism; etc.). Inspectors shall document any security or access issues or conditions denoting evidence of activities that could compromise remedial conditions at the Site.

3.1.2 Vegetation Inspection

In general, this inspection will assess the condition of the vegetative canopy cover condition, as applicable, and the presence of noxious weeds, if any. The vegetation shall be observed and described as follows:

- Excellent condition: characterized by dense uniform canopy.
- Good condition: similar to excellent, but with less density, and possibly small barren areas (5-10 feet in diameter, no less than 10 small barren areas).
- Fair condition: less uniform vegetation with large barren areas (greater than 10 feet in diameter or more than 10 small barren areas).
- Poor condition: characterized by sparse vegetation and large barren areas that exceed vegetated areas in size.

The presence and quantity of weeds, if any, as defined by the Colorado Noxious Weed List and Species Identification, will also be documented. It is anticipated that weed control will be performed at the Site on an annual basis.

3.1.3 Cover and Erosion Inspection

The Site is graded such that precipitation falling directly onto the covered surface or side slopes should flow away from the cover without causing erosion. The inspection shall assess if the cover is functioning properly, by looking for any signs of erosion or instability, or any areas of exposed waste material below the cover. The cover will be inspected for:

- Evidence of exposed waste,
- Evidence or signs of erosion, such as rills or gullies (rills are defined as eroded channels less than 6 inches deep, deeper eroded channels will be considered gullies),
- Erosion potential (an evaluation of the potential for surface erosion to occur, not an evaluation of erosion that has previously occurred),
- Depressions or evidence of ponding water,
- Evidence of mass instability (the potential for a significant portion of the slope's vertical profile to slip or move down gradient),
- Presence of water flow patterns other than those designed for the project,
- The effectiveness of drainage and erosion control structures in minimizing concentrated flow, erosion, and/or sedimentation, and
- Dust from cover.

3.1.4 Stormwater Features Inspection

Run-on water from rainfall and snowmelt in up gradient areas should flow around the covered materials via the riprap run-on ditch on the east side of the covered area. Surface waters are routed to the retention area in the southwest portion of the Site where the flow makes its way onto the riprap flood revetment along the Dolores River. The inspection team shall evaluate the following:

- Evidence of water flow patterns other than those designed for the project,

- The effectiveness of drainage and erosion control structures in minimizing concentrated flow, erosion, and/or sedimentation, and
- Evidence of rills and gullies.

The following stormwater-related features completed as part of the 1996 VCUP work at the Site shall also be inspected (refer to Figure 3-1 in the CCR)¹:

- Riprap run-on/runoff ditch, including a 24-inch RCP culvert under the access road,
- Retention basin, including a 24-inch RCP culvert under the former railroad grade,
- Riprap flood revetment along the northern base of the covered waste pile, and
- Riprap along the Dolores River for erosion protection.

3.1.5 Land Use/Development Inspection

Inspectors shall document evidence of any new land use and/or development (or general site changes since the previous inspection) within the Site. The inspection shall also look for any evidence that the site cover has been disturbed by excavation, drilling, grading, or development not authorized as part of OM&M activities.

3.1.6 Streambank Stabilization Inspection

The Dolores River flows along the length of the west side of the site. A qualitative Streambank Stabilization Inspection will be completed on a periodic basis and include approximately 830 linear feet of streambank on the east side of the Dolores River where riprap was placed in 1996. Additional inspection tasks and/or more frequent inspections may be conducted as determined by Atlantic Richfield to account for site-specific factors, weather conditions, river flooding, or unforeseen circumstances. In general, riprap will be inspected for integrity, erosion, and any movement of riprap along the streambank stabilization area shown on Figure 3-1 in the CCR.

3.1.7 Seep Inspection

The inspectors shall observe any evidence of seeps (active or inactive) emanating from the base of the covered waste pile.

3.2 Remediation Features Maintenance

Site maintenance may be scheduled as appropriate to address deficiencies found during the inspections as described in Section 3.1 and in discussion with Atlantic Richfield. No maintenance activities shall be initiated until a work plan is approved by Atlantic Richfield and/or the landowner.

The Inspection Report will identify VCUP-related features needing maintenance and/or repair, which could include the following:

- Water flow flanking the upstream end of the structures,
- Loss of rock/riprap along the channels or flood revetment structures,
- Excessive erosion of any unprotected portions of the channels or structures,
- Evidence of sediment buildup/ precipitated solids accumulation within channels, revetment structures, or the basin,

¹ Figure 3-1 in the CCR calls out the construction of a French drain to capture a seep at the south end of the site, but it was apparently installed below grade and is not visible for inspection .

- Evidence of staining within the revetment or water drainage features,
- Presence of debris blocking culvert inlets or outlets, and
- Evidence of missing cover, staining, or exposed tailings that may require soil cover addition.

3.2.1 Site Access and Security Maintenance

Maintenance at the site shall be conducted to assure continued effective performance of the structures which may include securing the Site to prohibit/minimize activities that could damage the cover.

3.2.2 Vegetation Maintenance

Areas requiring vegetation maintenance may be amended with organic material, fertilizer, and/or seeding, as needed, based on observations from the Vegetation Inspection and as directed by Atlantic Richfield. The soil in these areas may require testing to determine pH and necessary amendments (e.g., lime, organic, nutrient).

3.2.3 Weed Control

The presence of noxious weeds may require the application of appropriate herbicide. Areas containing noxious weeds will be controlled as needed based on observations from the most recent inspection and as directed by Atlantic Richfield. Noxious weeds will be spot sprayed using an herbicide. Herbicide will be applied during the appropriate time of year to achieve maximum inoculation. Weed control is anticipated to be performed at the Site on an annual basis.

3.2.4 Re-seeding

If bare areas are observed (areas greater than 10 feet in diameter), or if there is evidence of serious stress or serious infestation by undesirable plants or insects, re-seeding maintenance may be warranted. Re-seeding maintenance may include fertilization, re-seeding areas where vegetation has failed or is damaged, and/or control or removal of noxious weeds or undesirable insects.

Re-seeding will be completed in either early spring or late fall using drill seeding, hand broadcast seeding (and raking), or hydroseeding. Prior to re-seeding, the seed bed may be prepared to accept the seed by hand raking for small areas. Equipment that disturbs more than the upper 6 inches will not be used on the cover. A weed-free seed mix (or a similar seed mix suitable to the site conditions and approved by Atlantic Richfield) will be used.

Following the seeding operation, the seed bed may be mechanically rolled or dragged to compact and/or cover the seed as deemed necessary in the field. The final stage of the re-seeding operation may be mulching. This may include use of hydro-mulch or straw mulch to prevent wind erosion, as deemed necessary in the field.

3.2.5 Cover and Erosion Maintenance

Erosion rills or gullies will require maintenance that may include grading, soil addition, and/or addition of armoring, if deemed necessary. Potential maintenance items may include:

- Regrading to route surface water around the covered waste pile,
- Surface adjustments and/or compaction to shed rainfall and snowmelt,
- Soil addition and/or grading for rills, gullies, or areas of exposed mine waste, and/or

- Repairing damaged riprap or providing additional erosion protection if needed.

Significantly eroded areas will be repaired in a timely manner after they are observed to prevent progressive erosion and damage to cover system components. Furthermore, it is easier to repair erosion rills prior to their development into larger erosion gullies. Rills can be removed by tilling or hand raking the soil surface. Gullies should be cut out and backfilled with soil that is blended into the adjacent soil.

If warranted, based on inspection observations, additional cover soil will be applied as directed by Atlantic Richfield. The source of the cover soil will be approved by Atlantic Richfield. The final surface after soil addition and/or grading shall tie into the existing cover topography. All areas which receive cover soil maintenance will be re-seeded and fertilized in accordance with the methods discussed in Section 3.3.

3.2.6 Stormwater Features Maintenance

If stormwater is observed to be flowing outside the designed features, maintenance may include cleanout and/or repair of stormwater run-on/runoff ditches or culverts. Riprap revetments will be repaired, as necessary.

3.2.7 Land Use/Development Maintenance

Any new land development or site changes documented during the inspection shall be evaluated to identify problems associated with the previously implemented VCUP work. Inspection documentation will be provided immediately to Atlantic Richfield.

3.2.8 Streambank Stabilization Maintenance

Those areas of the Dolores River streambank requiring stabilization will be repaired as needed. Riprap used for stabilization shall match or exceed the existing flood revetment placed as part of the VCUP project. Any stabilization maintenance activities shall be initiated following the recession of high waters after spring runoff and shall be timed to minimize excessive erosion.

3.2.9 Seep Maintenance

Should the inspection observe the presence of seeps involving impacted water, potential maintenance could include repair of the cover to preclude percolating water or capture and utilize passive treatment of the seep water. Preventing or minimizing seepage of impacted water from the waste pile will be a primary objective of the maintenance.

3.3 Reporting

Personnel conducting the inspections shall submit inspection forms to Atlantic Richfield for review. Inspectors shall develop an inspection report which shall detail all inspection results and recommendations for maintenance at the Site. A scaled drawing will provide detailed locations of observed issues and proposed maintenance items. If relevant, the inspection report shall include an “as built” drawing of any significant maintenance items completed. The report shall include the completed inspection forms.

4.0 REFERENCES

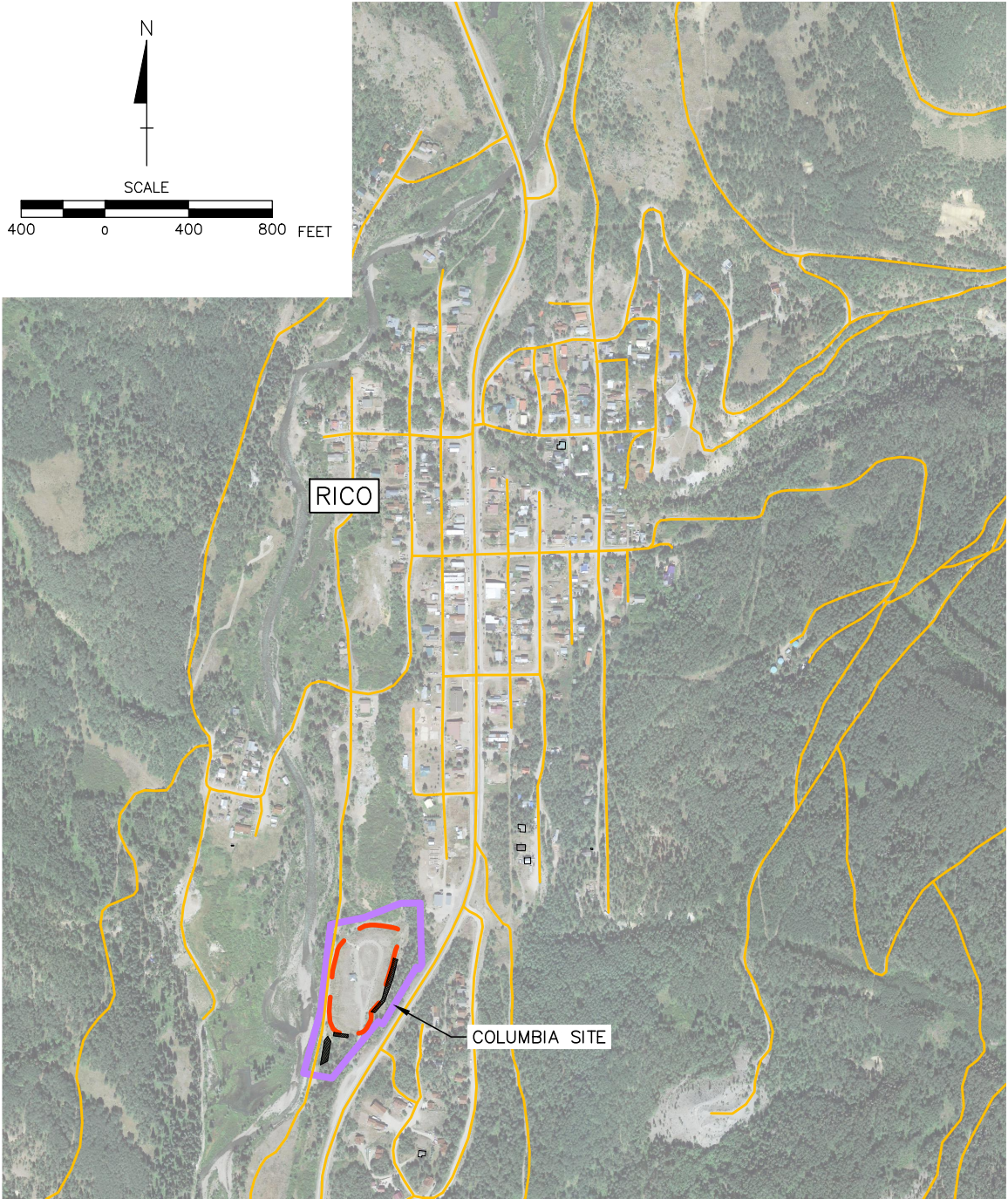
Anderson Engineering Company, Inc., 1997. RICO Mining Area Construction Completion Report. Prepared for the Atlantic Richfield Company.

Atlantic Richfield Company, Rico Properties, LLC, Town of Rico, 1996. Voluntary Cleanup and Redevelopment Act Application for Columbia and Old Pro Patria Mill Tailings and Silver Swan East Waste Rock Pile, Rico, Colorado. Prepared for Colorado Department of Public Health and Environment.

CDPHE, 1999. Re: No Action Determination Approval, Columbia Tails Site, W of the Town of Rico, Colorado. Sent on to Charles Stillwell (ARCO Environmental Remediation, LLC) from Mark Walker (CDPHE). Dated December 10, 1999.

ATTACHMENT 1: COLUMBIA TAILINGS OM&M DRAWINGS

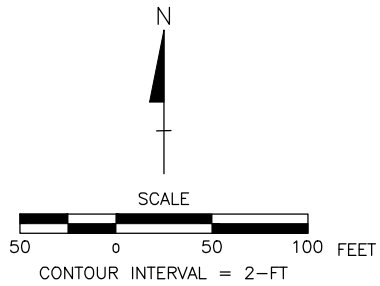
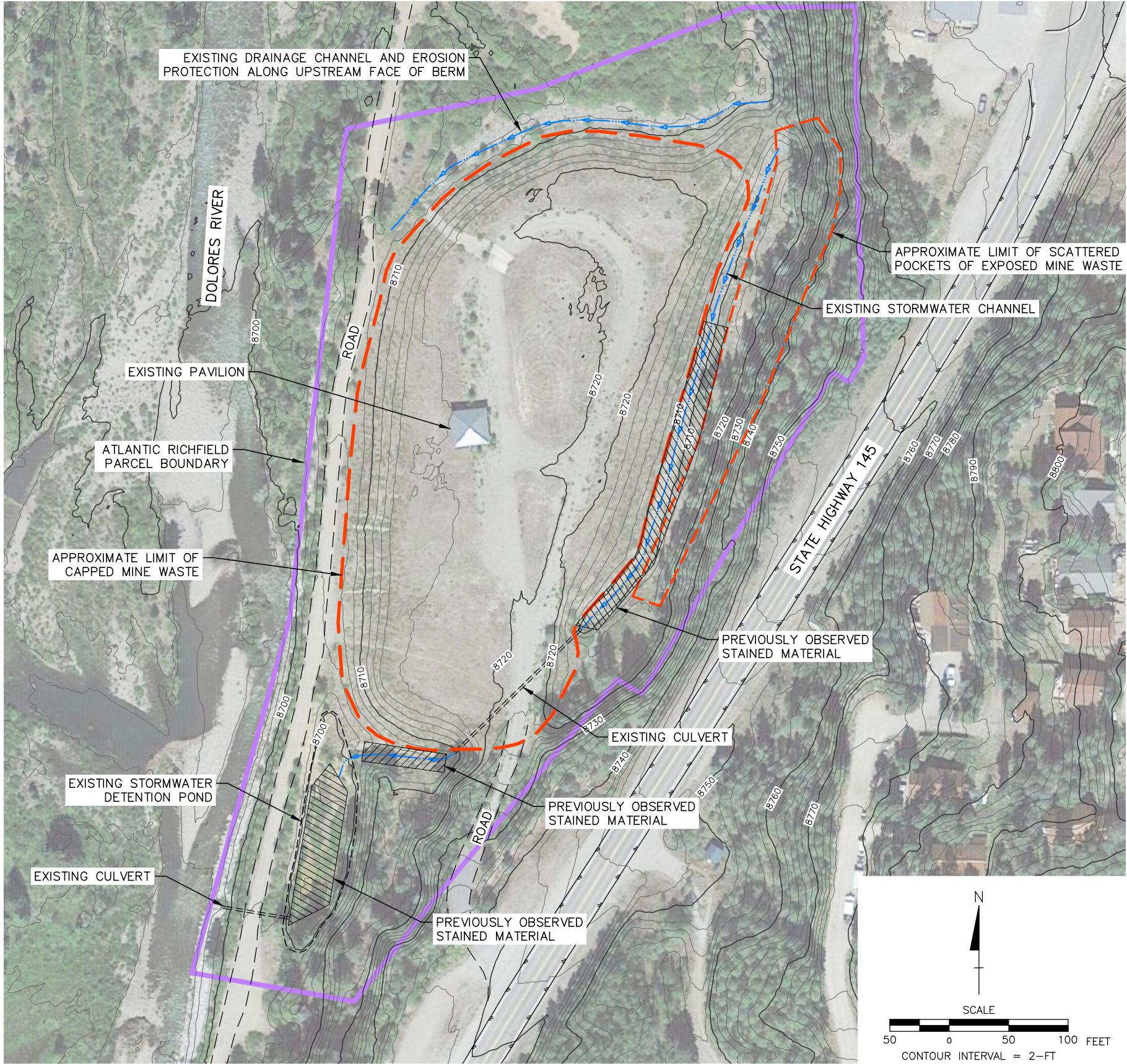
Jun 25, 2024 - 2:58pm
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VICINITY MAP

REFERENCES:

1. EXISTING GROUND CONTOURS DEVELOPED FROM LIDAR DATA WITH A NOMINAL POINT SPACING OF 0.7 METERS PRODUCED BY THE SOUTHWEST COLORADO LIDAR QL2 PROJECT. ONLINE LINKAGE: [HTTPS://COLORADOHAZARDMAPPING.COM/LIDARDOWNLOAD](https://coloradohazardmapping.com/lidardownload). DATES OF LIDAR ACQUISITION FLIGHTS OCCURRED IN THE FALL OF 2018 AND 2019.
2. AERIAL PHOTOGRAPH BACKGROUND IMAGES:
 - 2.1. GOOGLE SATELLITE IMAGES OBTAINED FROM CADEARTH. DATE OF IMAGE ACQUISITION CIRCA 2019.
 - 2.2. DRONE ORTHOMOSAIC, DATE OF IMAGE ACQUISITION JULY 18, 2023.
3. PROPERTY OWNERSHIP INFORMATION FROM THE DOLORES COUNTY ONLINE MAP VIEWER. ONLINE LINKAGE: [HTTP://162.221.202.11/MAPGUIDE/DOLORES/INDEX.PHP](http://162.221.202.11/MAPGUIDE/DOLORES/INDEX.PHP)
4. SITE COORDINATE SYSTEM: COLORADO STATE PLANE NAD83 2011, CENTRAL ZONE, U.S. FOOT. VERTICAL DATUM IS NAVD88 GEOID 12B, U.S. FOOT.



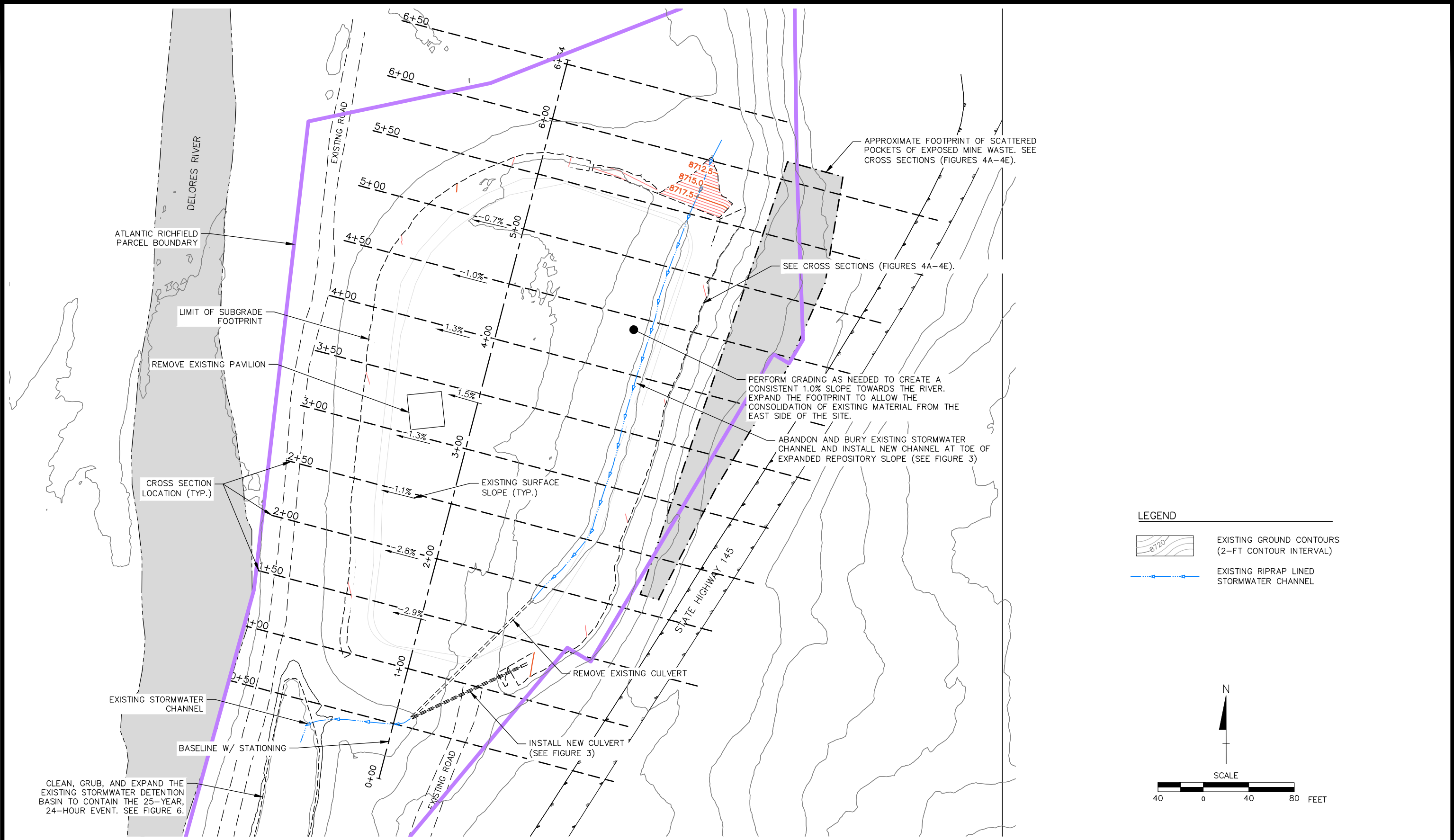
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C	10/13/23	EJJ			PROGRESS SET FOR REVIEW
D	05/10/24	MAR			PROGRESS SET FOR REVIEW
E	06/25/24	MAR			PROGRESS SET FOR REVIEW



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TITLE:	FIGURE
COLUMBIA TAILINGS VCUP OM&M EXISTING CONDITIONS	1
PROJECT:	
Dolores County, Colorado	

Jun 25, 2024 - 1:55pm MichaelRosales - (FIG-2 SG) C:\Users\MichaelRosales\Alloy\20-Anaconda - Documents\Projects\Rico Townsites Soils - Beneficial Reuse\Construction\Design Change\70817-22-DC-ColumbiaRepositoryGrading.dwg



LEGEND

EXISTING GROUND CONTOURS
(2-FT CONTOUR INTERVAL)

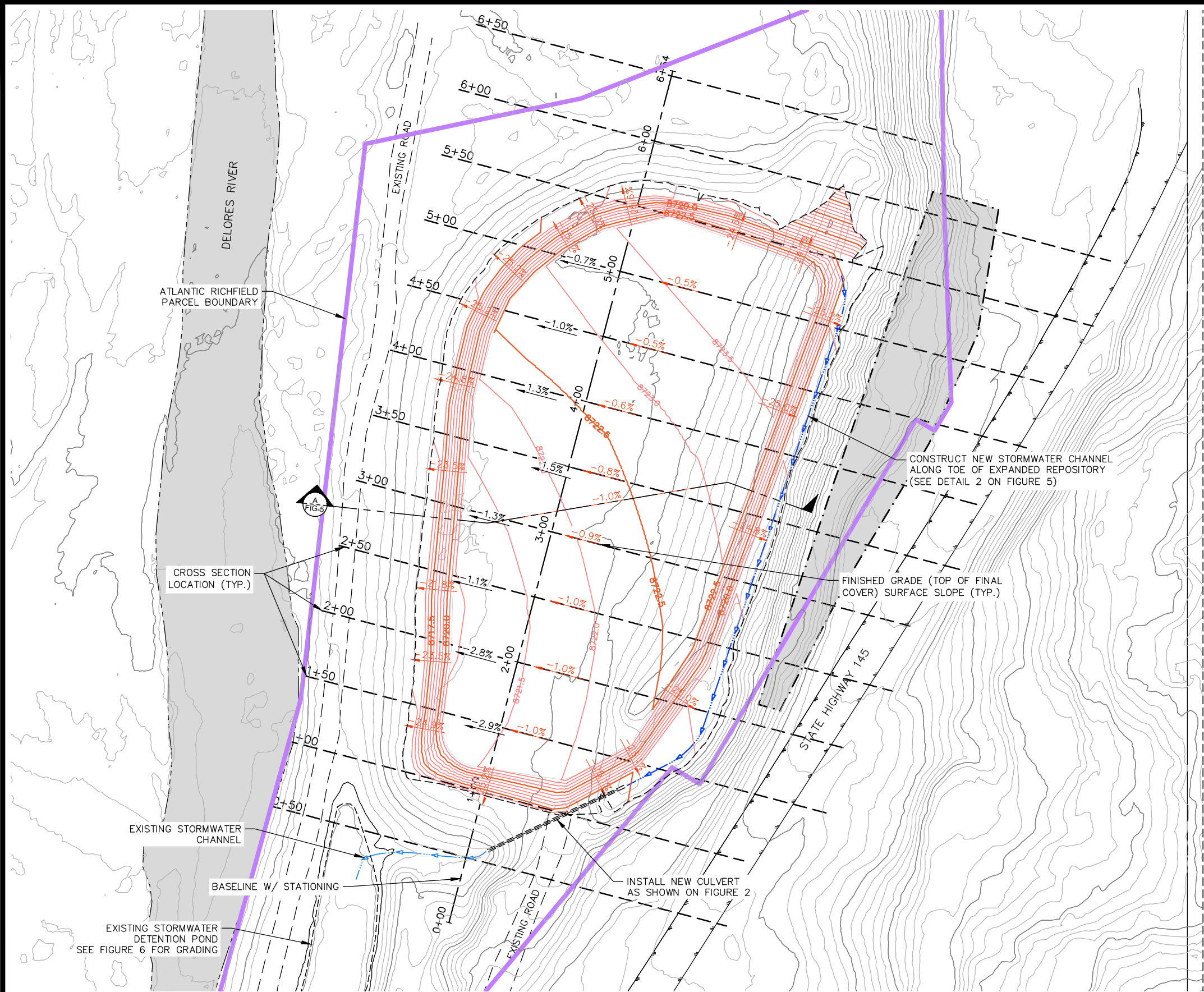
EXISTING RIPRAP LINED
STORMWATER CHANNEL

N

SCALE
40 0 40 80 FEET

NO:	DATE	CADD	CHECK	APP'D	ISSUE / REVISION DESCRIPTION	 <div>7310 North 16th Street, Suite 310 Phoenix, AZ 85020 Tel: (602) 331-3859</div>	Atlantic Richfield Company	TITLE:	COLUMBIA TAILINGS VCUP OM&M DEMOLITION AND SUBGRADE GRADING PLAN	FIGURE	
B	09/14/23	EJJ			PROGRESS SET FOR REVIEW			PROJECT:		Dolores County, Colorado	2
C	10/13/23	EJJ			PROGRESS SET FOR REVIEW						
D	05/10/24	MAR			PROGRESS SET FOR REVIEW						
E	06/25/24	MAR			PROGRESS SET FOR REVIEW						

Jun 25, 2024 - 1:56pm
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MichaelRosales - (FIG-3 FG)

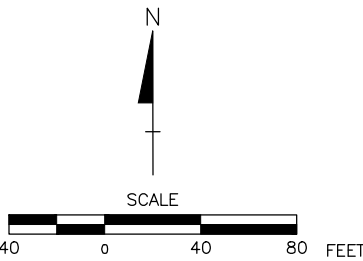


QUANTITY SUMMARY		
ITEM	QUANTITY	UNIT
2-FT THICK FINAL SOIL COVER	6,990	CU. YD.

* LINER QUANTITY DOES NOT INCLUDE ANCHOR TRENCH.

LEGEND

- EXISTING GROUND CONTOURS (2-FT CONTOUR INTERVAL)
- FINISHED GRADE CONTOURS (0.5-FT CONTOUR INTERVAL)
- EXISTING RIPRAP LINED STORMWATER CHANNEL
- NEW RIPRAP LINED STORMWATER CHANNEL



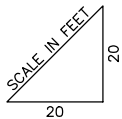
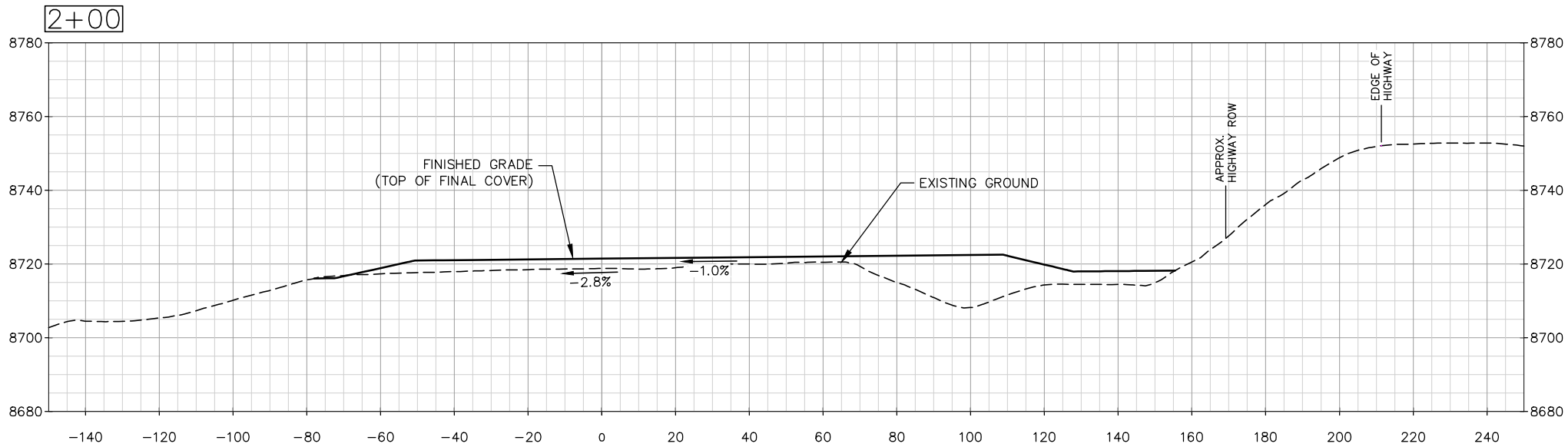
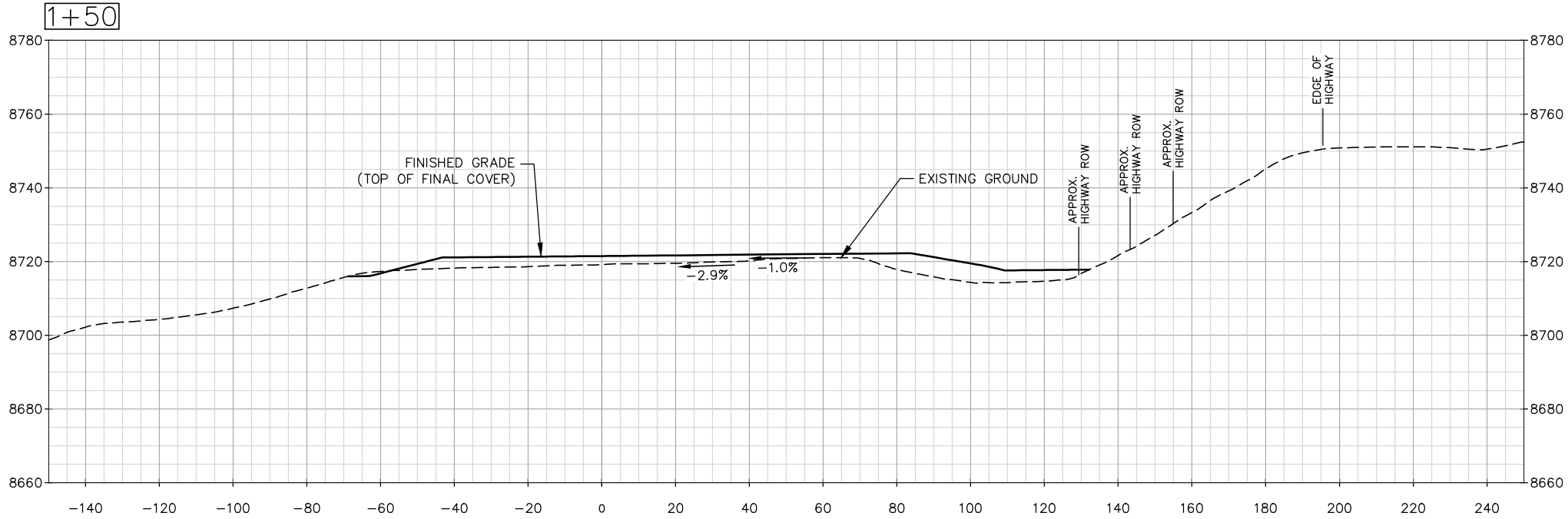
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D	05/10/24	MAR			PROGRESS SET FOR REVIEW
E	06/25/24	MAR			PROGRESS SET FOR REVIEW



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TITLE:	COLUMBIA TAILINGS VCUP OM&M	FIGURE
PROJECT:	FINISHED GRADE (TOP OF CAP) GRADING PLAN	3
	Dolores County, Colorado	

Jun 25, 2024 - 1:56pm
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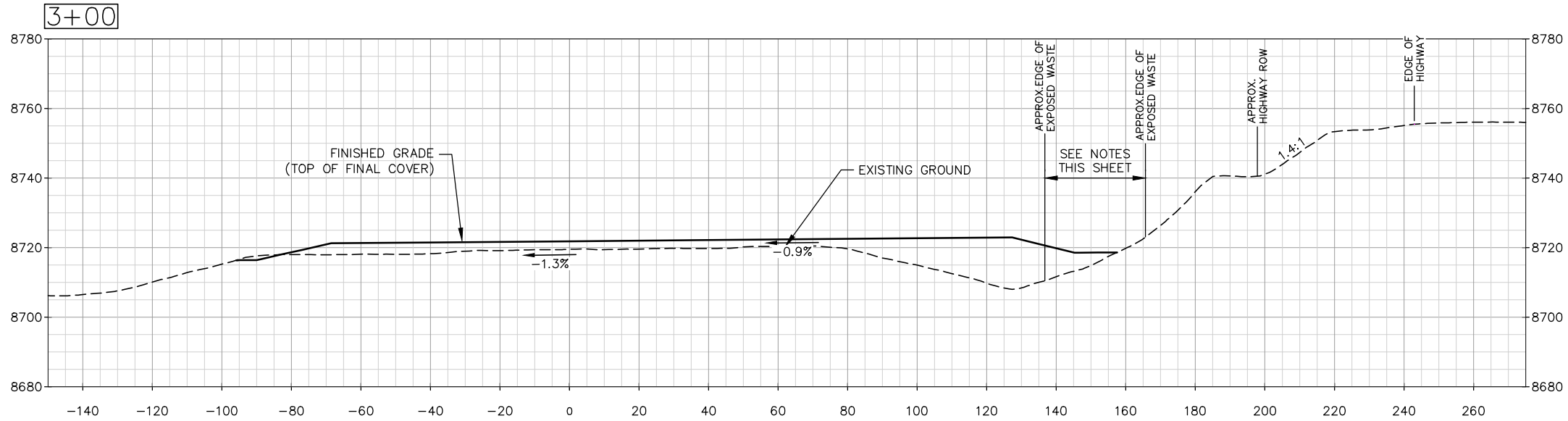
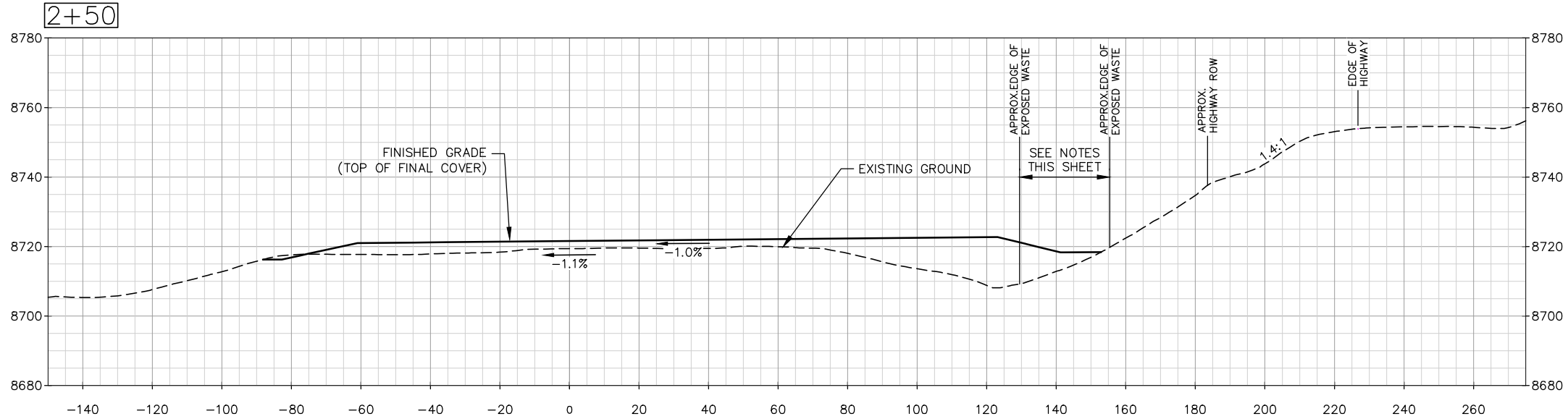


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D	05/10/24	MAR			PROGRESS SET FOR REVIEW
E	06/25/24	MAR			PROGRESS SET FOR REVIEW



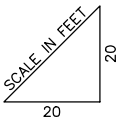
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TITLE:	FIGURE
COLUMBIA TAILINGS VCUP OM&M CROSS SECTIONS	4A
PROJECT:	
Dolores County, Colorado	



MINE WASTE REMOVAL NOTES:

1. REMOVE EXPOSED MINE WASTE TO A DEPTH OF 1-FT AND BACKFILL WITH CLEAN COVER MATERIAL.
2. CONSOLIDATE REMOVED MINE WASTE MATERIAL ALONG THE EASTERN BOUNDARY OF THE COLUMBIA TAILINGS PILE.
3. AVOID DISTURBING EXISTING TREES TO THE MAXIMUM EXTENT POSSIBLE ON THE SLOPE ABOVE THE COLUMBIA TAILINGS PILE.
4. REVEGETATE ALL BACKFILLED AND DISTURBED AREAS ON THE SLOPE ABOVE THE COLUMBIA TAILINGS PILE.



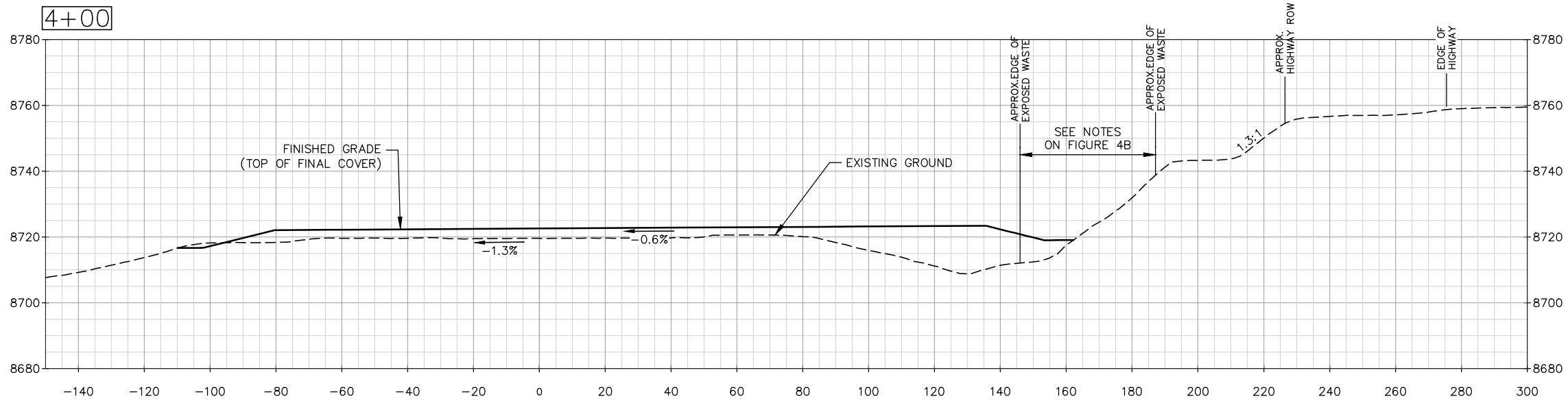
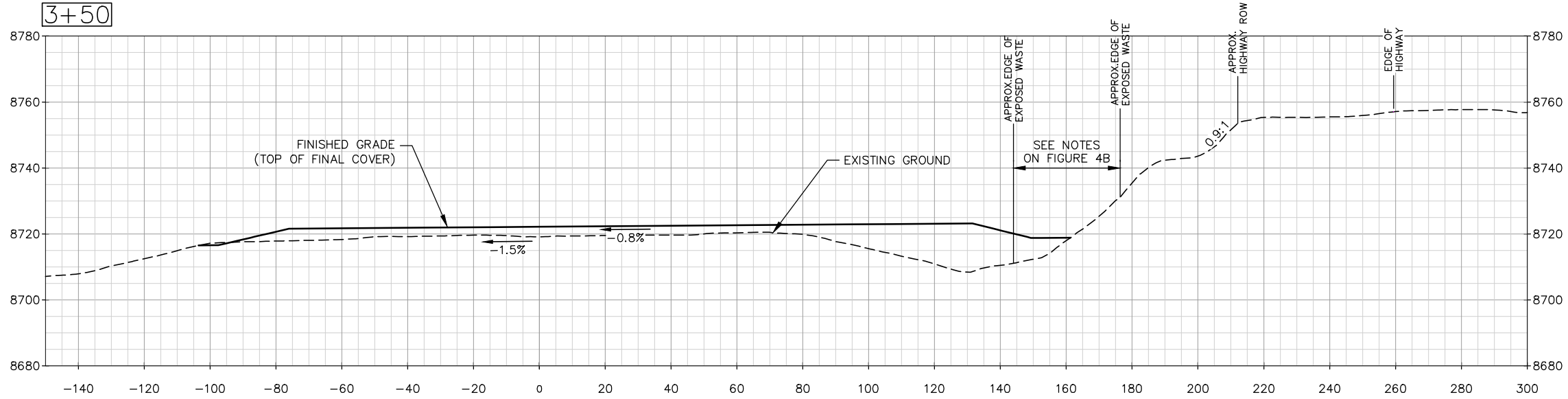
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D	05/10/24	MAR			PROGRESS SET FOR REVIEW
E	06/25/24	MAR			PROGRESS SET FOR REVIEW



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TITLE:	FIGURE
COLUMBIA TAILINGS VCUP OM&M CROSS SECTIONS	4B
PROJECT:	
Dolores County, Colorado	

Jun 25, 2024 - 1:56pm MichaelRosales - (FIG-4C) C:\Users\MichaelRosales\Alloy\20-Anaconda - Documents\Projects\Rico\10_CAD\Projects\Rico Townsites Soils - Beneficial Reuse\Construction\Design Change\70817.22-DC-ColumbiaRepositoryGrading.dwg



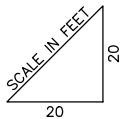
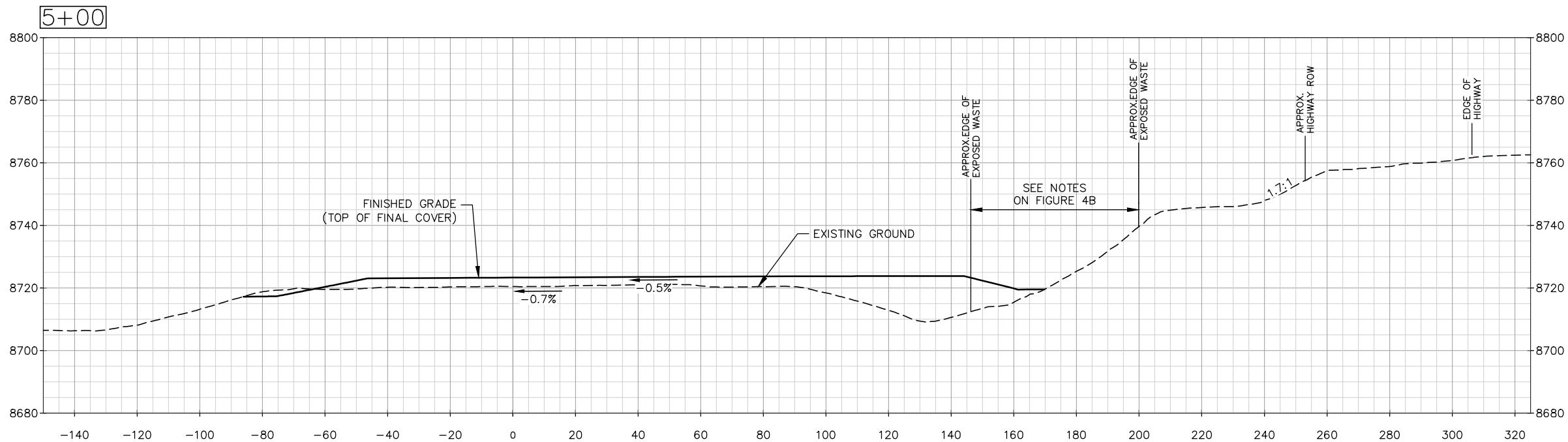
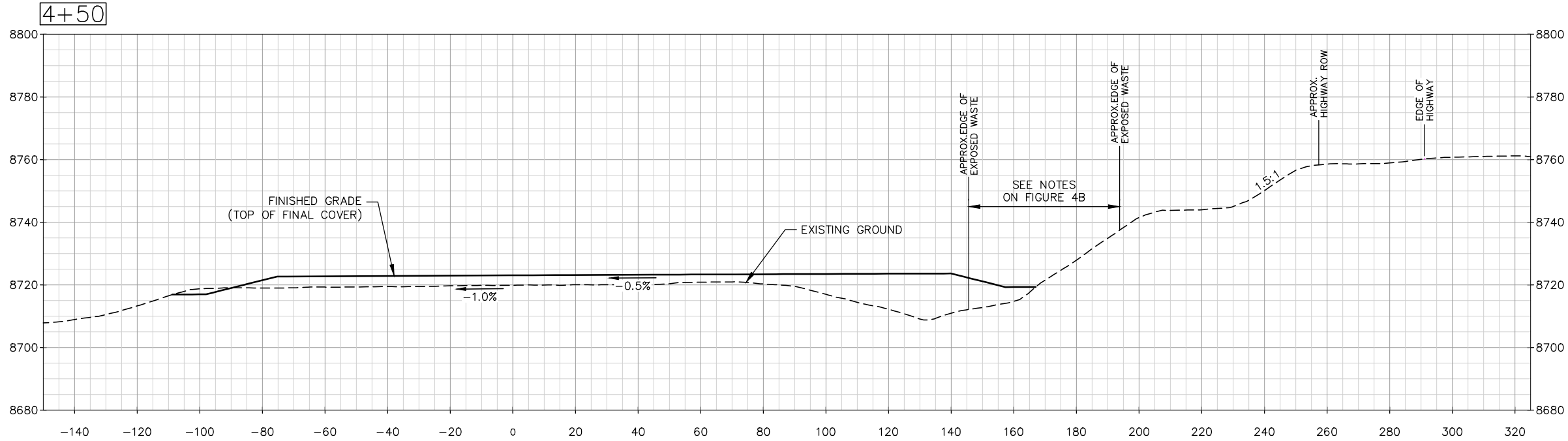
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D	05/10/24	MAR			PROGRESS SET FOR REVIEW
E	06/25/24	MAR			PROGRESS SET FOR REVIEW



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TITLE:	COLUMBIA TAILINGS VCUP OM&M CROSS SECTIONS	FIGURE
PROJECT:	Dolores County, Colorado	4C

Jun 25, 2024 - 1:56pm MichaelRosales - (FIG-4D) C:\Users\MichaelRosales\Alloy\20-Anaconda - Documents\Projects\Rico Townsites Soils - Beneficial Reuse\Construction\Design Change\70817-22-DC-ColumbiaRepositoryGrading.dwg



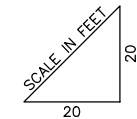
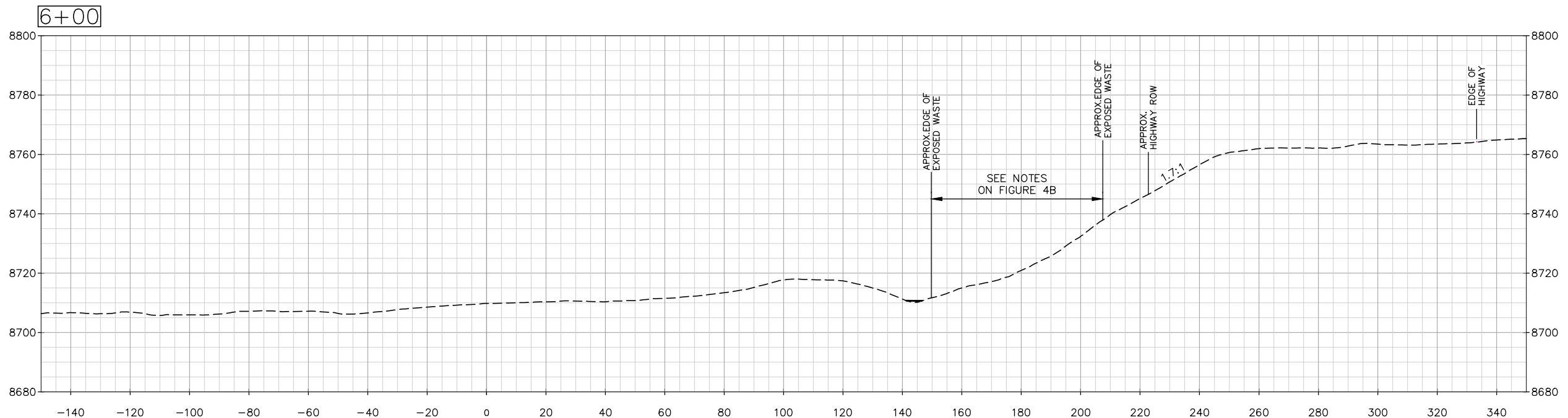
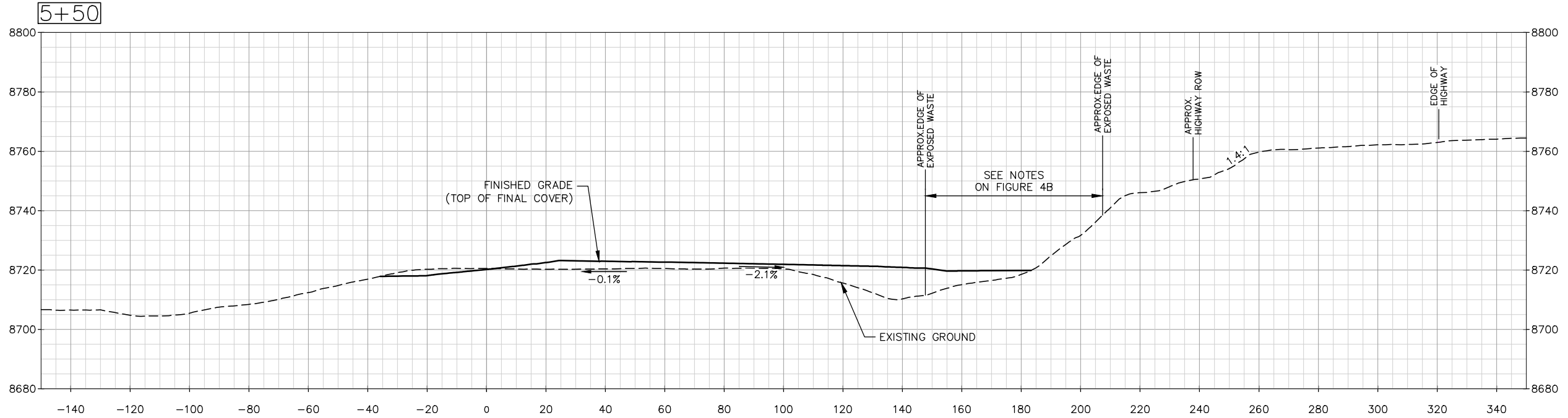
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D	05/10/24	MAR			PROGRESS SET FOR REVIEW
E	06/25/24	MAR			PROGRESS SET FOR REVIEW



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TITLE:	COLUMBIA TAILINGS VCUP OM&M CROSS SECTIONS	FIGURE
PROJECT:	Dolores County, Colorado	4D

Jun 25, 2024 - 1:56pm MichaelRosales - (FIG-4E) C:\Users\MichaelRosales\Alloy\20-Anaconda - Documents\Projects\Rico Townsites Soils - Beneficial Reuse\Construction\Design Change\70817.22-DC-ColumbiaRepositoryGrading.dwg

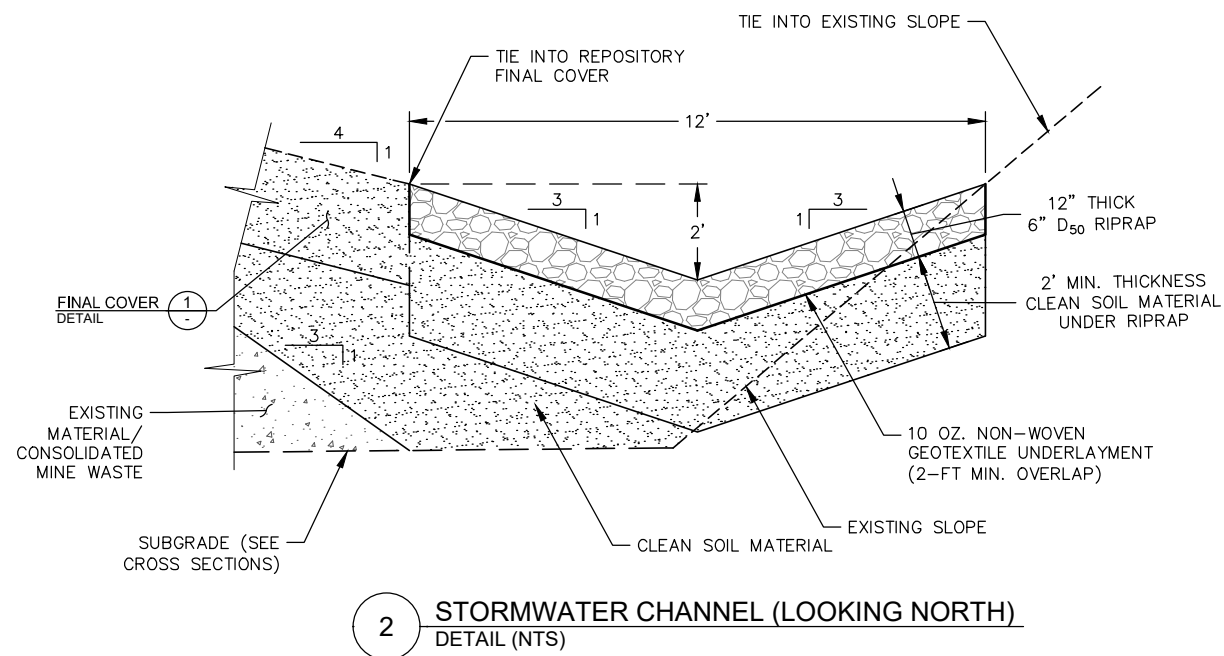
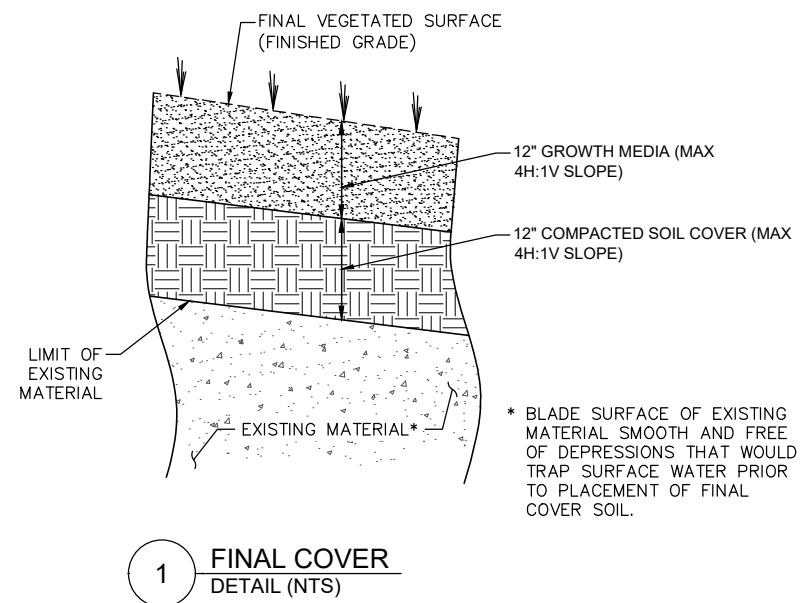
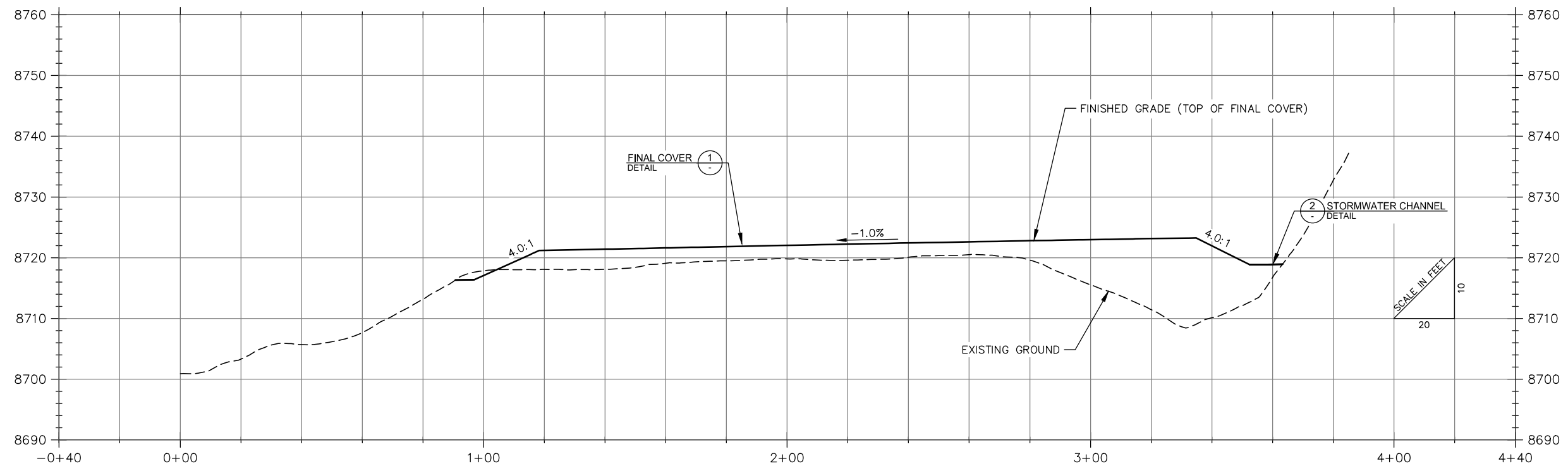


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D	05/10/24	MAR			PROGRESS SET FOR REVIEW
E	06/25/24	MAR			PROGRESS SET FOR REVIEW



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TITLE:	COLUMBIA TAILINGS VCUP OM&M CROSS SECTIONS	FIGURE
PROJECT:	Dolores County, Colorado	4E



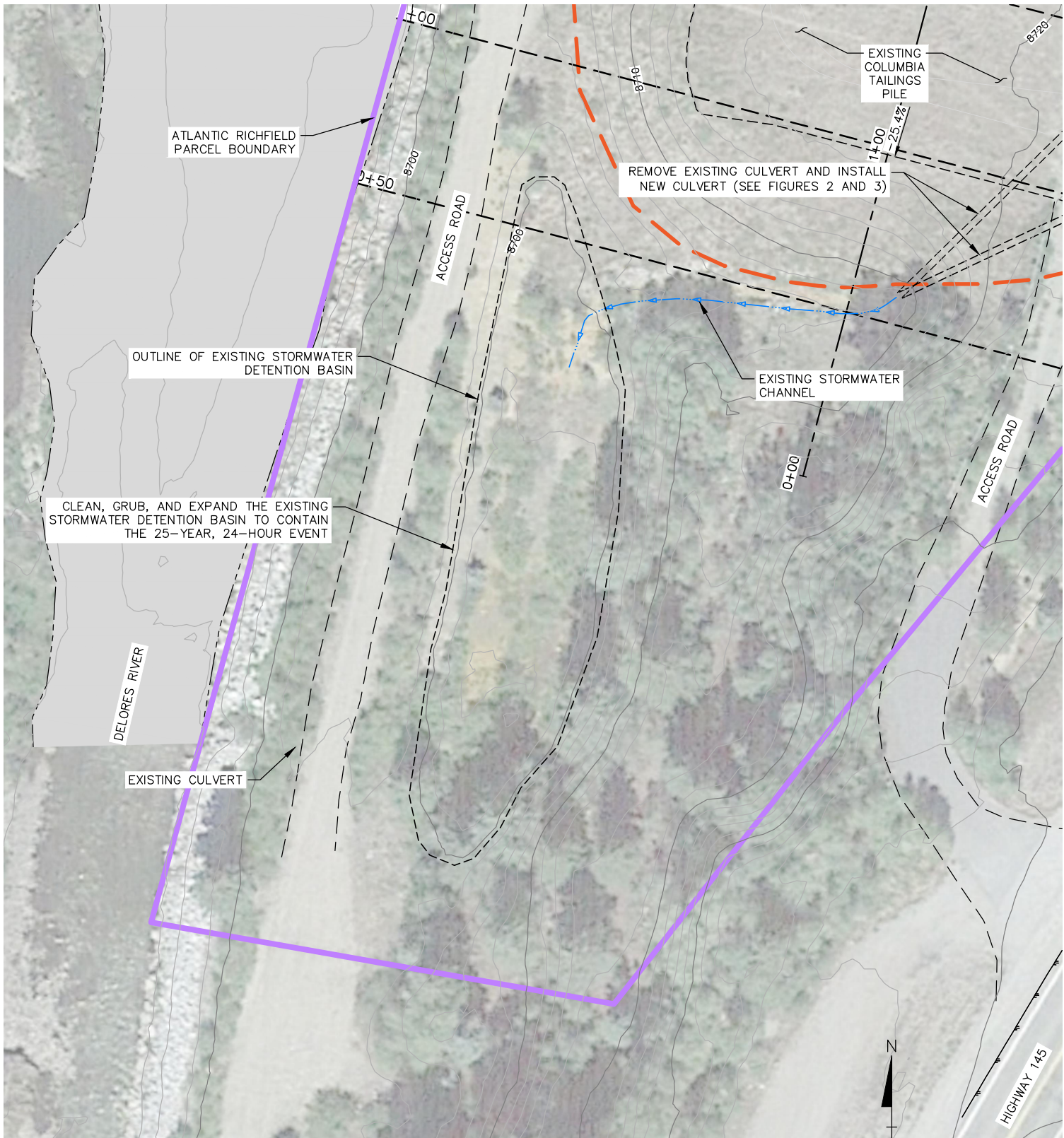
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<u>E</u>	06/25/24	MAR			PROGRESS SET FOR REVIEW



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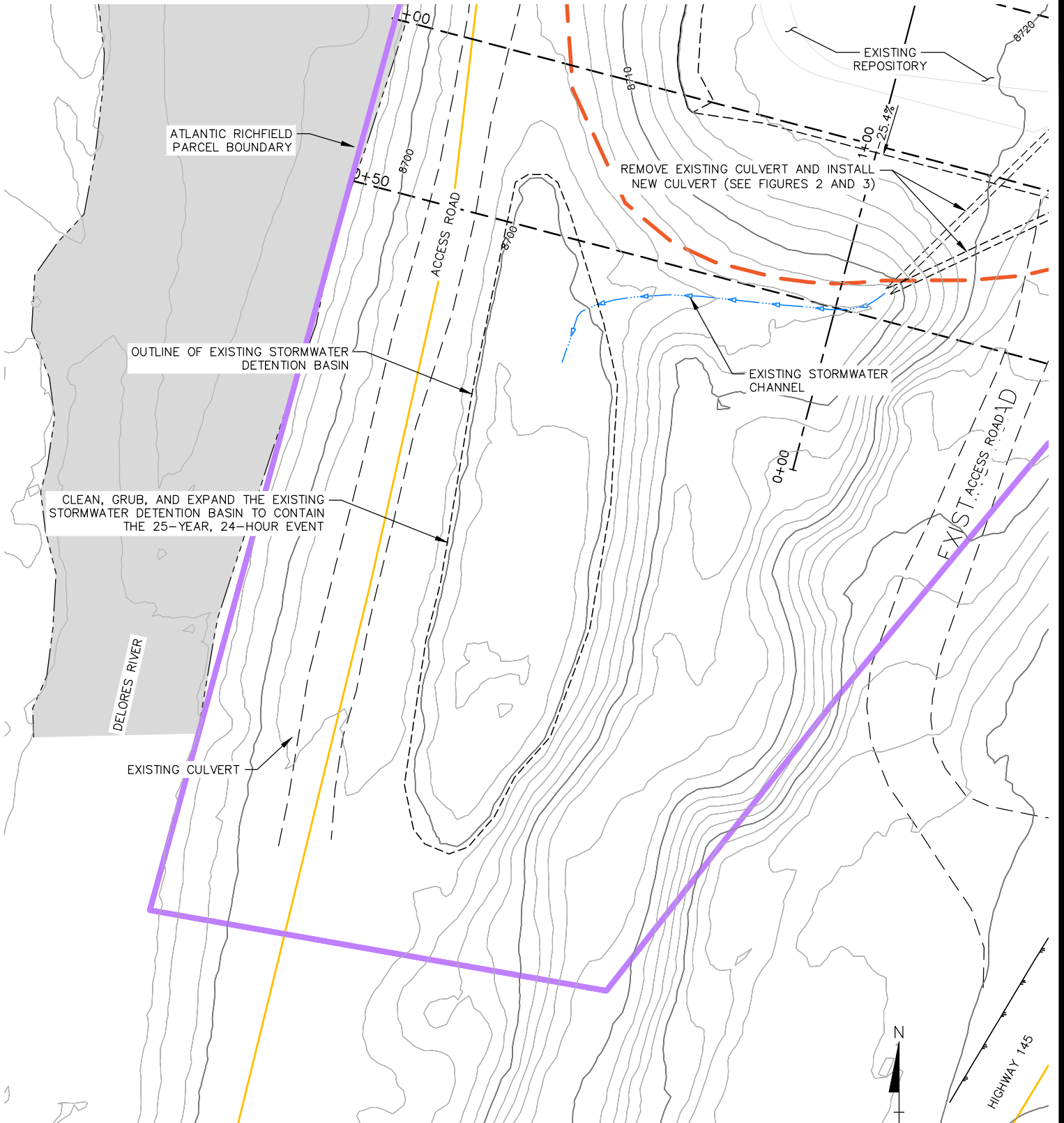
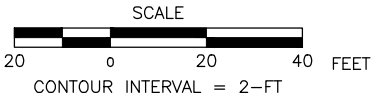
TITLE:	COLUMBIA TAILINGS VCUP OM&M TYPICAL SECTIONS AND DETAILS	FIGURE
PROJECT:	Dolores County, Colorado	5

May 10, 2024 - 7:41am MichaelRosales -(FIG-6) C:\Users\MichaelRosales\Alloy\20-Anaconda - Projects\Rico Townsites Soils - Beneficial Reuse\ColumbiaRepositoryGrading_r.dwg -(FIG-6)

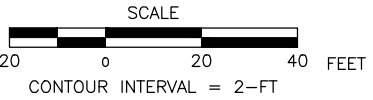


SITE PLAN W/ AERIAL PHOTO BACKGROUND IMAGE

REFERENCE NOTE: AERIAL PHOTOGRAPH BACKGROUND IMAGE IS A DRONE ORTHOMOSAIC, DATE OF IMAGE ACQUISITION JULY 18, 2023.



SITE PLAN



NO.	DATE	CADD	CHECK	APP'D	ISSUE / REVISION DESCRIPTION
A	08/08/23	EJJ			DRAFT FOR REVIEW
B	09/14/23	EJJ			PROGRESS SET FOR REVIEW
C	10/13/23	EJJ			PROGRESS SET FOR REVIEW
D	5/10/24	MAR			PROGRESS SET FOR REVIEW



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TITLE:	COLUMBIA TAILINGS VCUP OM&M TYPICAL SECTIONS AND DETAILS	FIGURE
PROJECT:	Dolores County, Colorado	6

ATTACHMENT 2: BLANK INSPECTION FORM

<p align="center"> ATTACHMENT 2 COLUMBIA TAILINGS SITE OPERATIONS, MONITORING, AND MAINTENANCE WORK PLAN QUALITATIVE INSPECTIONS </p>
--

YEAR: _____
INSPECTION _____
DATE: _____
INSPECTOR(S): _____

RECLAIMED AREA INSPECTION SUMMARY

Inspection Form	Completion Date	Maintenance Recommendations (Yes/No)	Additional Comments
Site Security and Access Inspection:	_____	_____	_____
Vegetation Inspection:	_____	_____	_____
Noxious Weeds Inspection:	_____	_____	_____
Cover and Erosion Inspection:	_____	_____	_____
Stormwater Features Inspection:	_____	_____	_____
Land Use/Development Inspection:	_____	_____	_____
Streambank Stabilization Inspection:	_____	_____	_____
Seep Inspection:	_____	_____	_____

SITE SECURITY AND ACCESS INSPECTION (OM&M WORK PLAN SECTION 3.1.1)

1 Fences

- ☐ Not applicable
- ☐ Fencing present
- ☐ Fencing material missing

Condition of Fences (if applicable)

- ☐ Good
- ☐ Need repair and/or replacement

2 Locks

- ☐ Not applicable
- ☐ Locks present and "daisy chained"
- ☐ Locks missing

Condition of Locks (if applicable)

- ☐ Good
- ☐ Need repair and/or replacement

3 Type of Disturbance Present (check all that apply)

- ☐ No significant disturbance observed
- ☐ Vehicle tracks on capped surface
- ☐ Apparent vandalism at site
- ☐ Other _____

- ☐ Foot/bike paths
- ☐ Evidence of livestock grazing
- ☐ Digging/Excavation

4 Actions Required to Repair Disturbance (check all that apply)

- ☐ No actions required
- ☐ Add soil amendments
- ☐ Other _____

- ☐ Apply additional cover soil
- ☐ Replant disturbed surface

5 Actions Required to Prevent Re-Disturbance

- ☐ No actions required
- ☐ Other _____

- ☐ Post Signs
- ☐ Fencing

6 Debris/Garbage on Site

- ☐ No material present
- ☐ Small amount of easily removed material
- ☐ Significant amount of material to be removed
- ☐ Material requiring immediate removal (detailed below in comments)

7 Identify approximate location of problem areas on Inspection Site Map Provided

8 Comments

9 Recommendations

- ☐ 0 No action required
- ☐ 1 Minor action; site stable
- ☐ 2 Small areas on site require some action
- ☐ 3 Significant action required

Inspector Signature

Date

VEGETATION INSPECTION (OM&M WORK PLAN SECTION 3.1.2)

1 Estimated Vegetative Canopy Cover*

☐ >60% ☐ 40-60% ☐ 20-40% ☐ 10-20% ☐ 0-10%

2 Uniformity of Vegetated Cover*

☐ Very uniform ☐ Cover varies but no significant barren areas ☐ Barren Areas Present:
☐ Small (5' - 10') ☐ Large (>10')
☐ Infrequent ☐ Frequent
☐ % Barren ☐ Dominant
☐ % Barren

3 Plant Litter Accumulation*

☐ Heavy ☐ Moderate ☐ Light ☐ Negligible

4 General Vegetation*

☐ Excellent - dense uniform canopy cover and no noxious weeds
☐ Good - similar to excellent, but with less density, possibly small barren areas, and few noxious weeds
☐ Fair - less uniform vegetation, large barren areas, and weeds comprising a fair portion of the plant community
☐ Poor - sparse vegetation and large barren areas that exceed vegetated areas in size

5 Identify approximate location of problem areas on Inspection Site Map Provided

6 Comments

7 Recommendations

☐ 0 No action required
☐ 1 Minor action; site stable
☐ 2 Small areas on site require some action
☐ 3 Significant action required

* Make note if cover consists of rock mulch material, where vegetation may not be as critical for protection

Inspector Signature

Date

NOXIOUS WEEDS INSPECTION (OM&M WORK PLAN SECTION 3.1.2)

1 Noxious Weed Species Present:

☐ None ☐ Infrequent ☐ Frequent ☐ Dominant

2 Species Identified (refer to attached Colorado noxious weed ID pages)

3 Identify approximate location of problem areas on Inspection Site Map Provided

4 Comments

5 Recommendations

- ☐ 0 No action required
- ☐ 1 Minor action; site stable
- ☐ 2 Small areas on site require some action
- ☐ 3 Significant action required

Inspector Signature

Date

Colorado Noxious Weeds (including Watch List), effective May 2023

List A Species (26)

<i>Common</i>	<i>Scientific</i>
African rue	(<i>Peganum harmala</i>)
Bohemian knotweed	(<i>Fallopia x bohemicum</i>)
Camelthorn	(<i>Alhagi maurorum</i>)
Common crupina	(<i>Crupina vulgaris</i>)
Cypress spurge	(<i>Euphorbia cyparissias</i>)
Dyer's woad	(<i>Isatis tinctoria</i>)
Elongated mustard	(<i>Brassica elongata</i>)
Flowering rush	(<i>Butomus umbellatus</i>)
Giant knotweed	(<i>Fallopia sachalinensis</i>)
Giant reed	(<i>Arundo donax</i>)
Giant salvinia	(<i>Salvinia molesta</i>)
Hairy willow-herb	(<i>Epilobium hirsutum</i>)
Hydrilla	(<i>Hydrilla verticillata</i>)
Japanese knotweed	(<i>Fallopia japonica</i>)
Meadow knapweed	(<i>Centaurea x moncktonii</i>)
Mediterranean sage	(<i>Salvia aethiopsis</i>)
Medusahead	(<i>Taeniatherum caput-medusae</i>)
Myrtle spurge	(<i>Euphorbia myrsinites</i>)
Orange hawkweed	(<i>Hieracium aurantiacum</i>)
Parrotfeather	(<i>Myriophyllum aquaticum</i>)
Purple loosestrife	(<i>Lythrum salicaria</i>)
Rush skeletonweed	(<i>Chondrilla juncea</i>)
Squarrose knapweed	(<i>Centaurea virgata</i>)
Tansy ragwort	(<i>Senecio jacobaea</i>)
Yellow starthistle	(<i>Centaurea solstitialis</i>)
Yellow flag iris	(<i>Iris pseudacorus</i>)

List B Species (38)

<i>Common</i>	<i>Scientific</i>
Absinth wormwood	(<i>Artemisia absinthium</i>)
Black henbane	(<i>Hyoscyamus niger</i>)
Bouncingbet	(<i>Saponaria officinalis</i>)
Bull thistle	(<i>Cirsium vulgare</i>)
Canada thistle	(<i>Cirsium arvense</i>)
Chinese clematis	(<i>Clematis orientalis</i>)
Common tansy	(<i>Tanacetum vulgare</i>)
Common teasel	(<i>Dipsacus fullonum</i>)
Cutleaf teasel	(<i>Dipsacus laciniatus</i>)
Dalmatian toadflax, broad-leaved	(<i>Linaria dalmatica</i>)
Dalmatian toadflax, narrow-leaved	(<i>Linaria genistifolia</i>)
Dame's rocket	(<i>Hesperis matronalis</i>)
Diffuse knapweed	(<i>Centaurea diffusa</i>)
Eurasian watermilfoil	(<i>Myriophyllum spicatum</i>)
Hoary cress	(<i>Lepidium draba</i>)
Houndstongue	(<i>Cynoglossum officinale</i>)

Colorado Noxious Weeds (including Watch List), effective May 2023

List B Species (38) continued

<i>Common</i>	<i>Scientific</i>
Jointed goatgrass	(<i>Aegilops cylindrica</i>)
Leafy spurge	(<i>Euphorbia esula</i>)
Mayweed chamomile	(<i>Anthemis cotula</i>)
Moth mullein	(<i>Verbascum blattaria</i>)
Musk thistle	(<i>Carduus nutans</i>)
Oxeye daisy	(<i>Leucanthemum vulgare</i>)
Perennial pepperweed	(<i>Lepidium latifolium</i>)
Plumeless thistle	(<i>Carduus acanthoides</i>)
Russian knapweed	(<i>Rhaponticum repens</i>)
Russian-olive	(<i>Elaeagnus angustifolia</i>)
Salt cedar	(<i>Tamarix. ramosissima</i>)
Salt cedar	(<i>T. chinensis</i>)
Scentless chamomile	(<i>Tripleurospermum inodorum</i>)
Scotch thistle	(<i>Onopordum acanthium</i>)
Scotch thistle	(<i>O. tauricum</i>)
Spotted knapweed	(<i>Centaurea stoebe</i> L. ssp. <i>micranthos</i>)
Spotted x diffuse knapweed hybrid	(<i>Centaurea x psammogena</i>)
Sulfur cinquefoil	(<i>Potentilla recta</i>)
Wild caraway	(<i>Carum carvi</i>)
Yellow nutsedge	(<i>Cyperus esculentus</i>)
Yellow toadflax	(<i>Linaria vulgaris</i>)
Yellow x Dalmatian toadflax hybrid	(<i>Linaria vulgaris</i> x <i>L. dalmatica</i>)

List C Species (18)

<i>Common</i>	<i>Scientific</i>
Bulbous bluegrass	(<i>Poa bulbosa</i>)
Chicory	(<i>Cichorium intybus</i>)
Common burdock	(<i>Arctium minus</i>)
Common mullein	(<i>Verbascum thapsus</i>)
Common St. Johnswort	(<i>Hypericum perforatum</i>)
Downy brome, cheatgrass	(<i>Bromus tectorum</i>)
Field bindweed	(<i>Convolvulus arvensis</i>)
Halogeton	(<i>Halogeton glomeratus</i>)
Johnsongrass	(<i>Sorghum halepense</i>)
Perennial sowthistle	(<i>Sonchus arvensis</i>)
Poison hemlock	(<i>Conium maculatum</i>)
Puncturevine	(<i>Tribulus terrestris</i>)
Quackgrass	(<i>Elymus repens</i>)
Redstem filaree	(<i>Erodium cicutarium</i>)
Siberian elm	(<i>Ulmus pumila</i>)
Tree of Heaven	(<i>Ailanthus altissima</i>)
Velvetleaf	(<i>Abutilon theophrasti</i>)
Wild proso millet	(<i>Panicum miliaceum</i>)

Colorado Noxious Weeds (including Watch List), effective May 2023

Watch List Species (19)

<i>Common</i>	<i>Scientific</i>
Baby's breath	(<i>Gypsophila paniculata</i>)
Caucasian bluestem	(<i>Bothriochloa bladhii</i>)
Common bugloss	(<i>Anchusa officinalis</i>)
Common reed	(<i>Phragmites australis</i>)
Garden loosestrife	(<i>Lysimachia vulgaris</i>)
Garlic mustard	(<i>Alliaria petiolata</i>)
Himalayan blackberry	(<i>Rubus armeniacus</i>)
Hoary alyssum	(<i>Berteroa incana</i> L.)
Meadow hawkweed	(<i>Hieracium caespitosum</i>)
Onionweed	(<i>Asphodelus fistulosus</i>)
Perennial Sweet Pea	(<i>Lathyrus latifolius</i>)
Scotch broom	(<i>Cytisus scoparius</i>)
Swainsonpea	(<i>Sphaerophysa salsula</i>)
Syrian beancaper	(<i>Zygophyllum fabago</i>)
Tall Oatgrass	(<i>Arrhenatherum elatius</i>)
Ventenata grass	(<i>Ventenata dubia</i>)
White bryony	(<i>Bryonia alba</i>)
Yellow bluestem	(<i>Bothriochloa ischaemum</i>)
Yellow mignonette	(<i>Reseda lutea</i>)

Noxious Weed Species ID

Colorado Department of Agriculture

List A Species in Colorado that are designated by the Commissioner for eradication.

List B Species are species for which the Commissioner, in consultation with the state noxious weed advisory committee, local governments, and other interested parties, develops and implements state noxious weed management plans designed to stop the continued spread of these species.








List C Species are species for which the Commissioner, in consultation with the state noxious weed advisory committee, local governments, and other interested parties, will develop and implement state noxious weed management plans designed to support the efforts of local governing bodies to facilitate more effective integrated weed management on private and public lands. The goal of such plans will not be to stop the continued spread of these species but to provide additional education, research, and biological control resources to jurisdictions that choose to require management of List C species.

Watch List Species that have been determined to pose a potential threat to the agricultural productivity and environmental values of the lands of the state. The Watch List is intended to serve advisory and educational purposes only. Its purpose is to encourage the identification and reporting of these species to the Commissioner in order to facilitate the collection of information to assist the Commissioner in determining which species should be designated as noxious weeds.

List A Species

Not Known in CO | Fewer Than 10 Known Populations | More Than 10 Populations

Not Known In Colorado

 <u>Camelthorn</u> <i>Alhagi pseudalhagi</i>	 <u>Common crupina</u> <i>Crupina vulgaris</i>	 <u>Giant salvinia</u> <i>Salvinia molesta</i>	 <u>Hydrilla</u> <i>Hydrilla verticillata</i>
 <u>Medusahead</u> <i>Taeniatherum caput-medusae</i>	 <u>Parrotfeather</u> <i>Myriophyllum aquaticum</i>	 <u>Squarrose knapweed</u> <i>Centaurea virgata</i>	

Fewer Than 10 Known Populations



[African rue](#)
Peganum harmala



[Dyer's woad](#)
Isatis tinctoria



[Elongated mustard](#)
Brassica elongata



[Flowering rush](#)
Butomus umbellatus



[Meadow knapweed](#)
Centaurea x moncktonii



[Rush skeletonweed](#)
Chondrilla juncea



[Tansy ragwort](#)
Senecio jacobaea



[Yellow starthistle](#)
Centaurea solstitialis

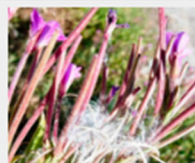
More Than 10 Populations in Colorado



[Cypress spurge](#)
Euphorbia cyparissias



[Giant reed](#)
Arundo donax



[Hairy willow-herb](#)
Epilobium hirsutum



[Knotweeds](#)
Japanese, Giant, and
Bohemian



[Mediterranean sage](#)
Salvia aethiopis



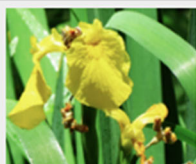
[Myrtle spurge](#)
Euphorbia myrsinites



[Orange hawkweed](#)
Hieracium aurantiacum



[Purple loosestrife](#)
Lythrum salicaria



[Yellow flag iris](#)
Iris pseudacorus

List B Species



Absinth wormwood
Artemisia absinthium



Black henbane
Hyoscyamus niger



Bouncingbet
Saponaria officinalis



Bull thistle
Cirsium vulgare



Canada thistle
Cirsium arvense



Chinese clematis
Clematis orientalis



Common tansy
Tanacetum vulgare



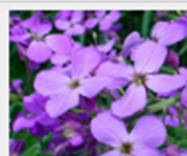
Common teasel
Dipsacus fullonum



Cutleaf teasel
Dipsacus laciniatus



Dalmatian toadflax
Linaria dalmatica &
genistifolia



Dame's rocket
Hesperis matronalis



Diffuse knapweed
Centaurea diffusa



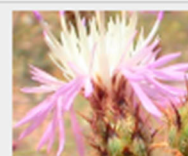
Eurasian watermilfoil
Myriophyllum spicatum



Hoary cress
Lepidium draba



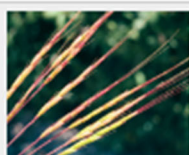
Houndstongue
Cynoglossum officinale



Hybrid knapweed
Centaurea x psammogena
= *C. stoebe* x *C. diffusa*



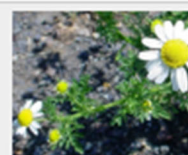
Hybrid toadflax
Linaria vulgaris x *L.*
dalmatica



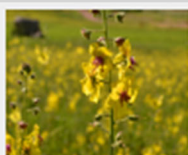
Jointed goatgrass
Aegilops cylindrica



Leafy spurge
Euphorbia esula



Mayweed chamomile
Anthemis cotula



Moth mullein
Verbascum blattaria



Musk thistle
Carduus nutans



Oxeye daisy
Leucanthemum vulgare



Perennial pepperweed
Lepidium latifolium

List B Species (continued)



Plumeless thistle
Carduus acanthoides



Russian knapweed
Rhaponticum repens



Russian olive
Elaeagnus angustifolia



Salt cedar
Tamarix chinensis, *T. parviflora*, and *T.*



Scentless chamomile
Tripleurospermum inodorum



Scotch thistle
Onopordum acanthium



Spotted knapweed
Centaurea stoebe ssp. *micranthos*



Sulfur cinquefoil
Potentilla recta



Wild caraway
Carum carvi



Yellow nutsedge
Cyperus esculentus



Yellow toadflax
Linaria vulgaris

List C Species



Bulbous bluegrass
Poa bulbosa



Chicory
Cichorium intybus



Common burdock
Arctium minus



Common mullein
Verbascum thapsus



Common St. Johnswort
Hypericum perforatum



Downy brome
Bromus tectorum



Field bindweed
Convolvulus arvensis



Halogeton
Halogeton glomeratus



Johnsongrass
Sorghum halepense



Perennial sowthistle
Sonchus arvensis



Poison hemlock
Conium maculatum



Puncturevine
Tribulus terrestris



Quackgrass
Elymus repens



Redstem filaree
Erodium cicutarium



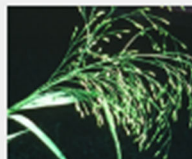
Siberian elm
Ulmus pumila



Tree of Heaven
Ailanthus altissima



Velvetleaf
Abutilon theophrasti



Wild-proso millet
Panicum miliaceum

Watch List Species



Baby's breath
Gypsophila paniculata



Caucasian bluestem
Bothriochloa bladhii



Common bugloss
Anchusa officinalis



Common reed
Phragmites australis



Garlic mustard
Alliaria petiolata



Garden loosestrife
Lysimachia vulgaris



Himalayan blackberry
Rubus armeniacus



Hoary alyssum
Berteroa incana



Meadow hawkweed
Hieracium caespitosum



Onionweed
Asphodelus fistulosus



Perennial Sweet Pea
Lathyrus latifolius



Scotch broom
Cytisus scoparius



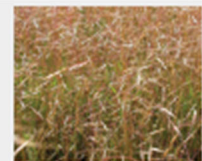
Swainsonpea
Sphaerophysa salsula



Syrian beancaper
Zygophyllum fabago



Tall Oatgrass
Arrhenatherum elatius



Ventenata grass
Ventenata dubia



White bryony
Bryonia alba



Yellow bluestem
Bothriochloa ischaemum



Yellow mignonette
Reseda lutea

COVER SOIL AND EROSION INSPECTION (OM&M WORK PLAN SECTION 3.1.3)

1 Evidence of Exposed Waste

☐ None ☐ Small ☐ Significant

2 Bare Areas Visible

☐ None ☐ Areas <10' ☐ Areas >10'

3 Evidence of Soil Movement

☐ None ☐ Deposition areas infrequent and/or shallow (<3") ☐ Deposition areas common and/or >3" deep

4 Presence of Rills

☐ None ☐ Infrequent and less than 2" in depth ☐ At intervals >10' and 2" to 6" in depth ☐ At intervals <10' and 2" to 6" in depth

5 Presence of Gullies

☐ None ☐ Gullies present
☐ Estimated average size of gullies: Width _____ Depth _____
☐ Frequent, at intervals <10' ☐ Infrequent, at intervals >10'
☐ Active Erosion ☐ Inactive Erosion

6 Check Site for Signs of Potential Mass Instability (check all that apply)

☐ No signs of mass instability ☐ Significant tension cracks present
☐ Saturated area present ☐ Obvious signs of surface displacement
☐ Uplifted areas present at toe of slope ☐ Significant depressions/subsidence present
☐ Other observations (detailed below)

7 Erosion Potential

☐ Not applicable ☐ Stable ☐ Moderate ☐ Severe

8 Identify approximate location of problem areas on Inspection Site Map Provided

9 Comments

10 Recommendations

☐ 0 No action required
☐ 1 Minor action; site stable
☐ 2 Small areas on site require some action
☐ 3 Significant action required

Inspector Signature

Date

STORMWATER FEATURES INSPECTION (OM&M WORK PLAN SECTION 3.1.4)

1 East Riprap Run-on/Runoff Ditch

- ☐ Fully Operational
- ☐ Water flow impeded*
- ☐ Staining
- ☐ Solids Accumulation

Debris/Garbage

- ☐ No material present
- ☐ Small amount of easily removed material
- ☐ Significant amount of material to be removed
- ☐ Material requiring immediate removal
(detailed below)

2 South Riprap Run-on/Runoff Ditch

- ☐ Fully Operational
- ☐ Water flow impeded*
- ☐ Staining
- ☐ Solids Accumulation

Debris/Garbage

- ☐ No material present
- ☐ Small amount of easily removed material
- ☐ Significant amount of material to be removed
- ☐ Material requiring immediate removal
(detailed below)

3 Southeast 24" RCP Culvert

- ☐ Fully Operational
- ☐ Water flow impeded*
- ☐ Staining
- ☐ Solids Accumulation

Debris/Garbage

- ☐ No material present
- ☐ Small amount of easily removed material
- ☐ Significant amount of material to be removed
- ☐ Material requiring immediate removal
(detailed below)

4 Southwest 24" RCP Culvert

- ☐ Fully Operational
- ☐ Water flow impeded*
- ☐ Staining
- ☐ Solids Accumulation

Debris/Garbage

- ☐ No material present
- ☐ Small amount of easily removed material
- ☐ Significant amount of material to be removed
- ☐ Material requiring immediate removal
(detailed below)

5 Southern Retention Basin

- ☐ Fully Operational
- ☐ Water flow impeded*
- ☐ Staining
- ☐ Solids Accumulation

Debris/Garbage

- ☐ No material present
- ☐ Small amount of easily removed material
- ☐ Significant amount of material to be removed
- ☐ Material requiring immediate removal
(detailed below)

6 North End Riprap Flood Revetment

- ☐ Fully Operational
- ☐ Missing riprap material
- ☐ Staining

7 Concrete Pan (drainage)

- ☐ Fully Operational
- ☐ Damaged, missing, or undercut concrete

8 Upper Cap Surface

- ☐ Fully Operational; sheds water off upper surface
- ☐ Evidence of ponding occurring

9 Identify approximate location of problem areas on Inspection Site Map Provided

10 Comments *(note cause of impeded flow in ditches and culverts)

11 Recommendations

- ☐ 0 No action required
- ☐ 1 Minor action; site stable
- ☐ 2 Small areas on site require some action
- ☐ 3 Significant action required

Inspector Signature

Date

LAND USE CHANGES AND DEVELOPMENT INSPECTION (OM&M WORK PLAN SECTION 3.1.5)

1 New Land Use

- ☐ Is there evidence of any new land use and/or development since previous inspection?
☐ Is there evidence of any general site changes since previous inspection?

2 Institutional Controls

- ☐ Is there evidence that the Waste Left in Place cover has been disturbed by excavation, drilling, or grading?

3 Identify approximate location of problem areas on Inspection Site Map Provided

4 Comments (describe new land use, development, or changes)

5 Recommendations

- ☐ 0 No action required
☐ 1 Minor action; site stable
☐ 2 Small areas on site require some action
☐ 3 Significant action required

Inspector Signature

Date

STREAMBANK STABILIZATION INSPECTION (OM&M WORK PLAN SECTION 3.1.6)

1 Is there evidence of riprap movement? ☐ Yes ☐ No
If yes describe below.

2 Is there evidence of failure? ☐ Yes ☐ No
If yes describe below.

3 Is there evidence of erosion? ☐ Yes ☐ No
If yes describe below.

4 Description of visual observations (conditions of riprap, other physical damage, etc.).

5 Based on Inspection, describe maintenance or repairs that may be required.

7 Identify approximate location of problem areas on Inspection Site Map Provided

8 Comments

9 Recommendations

- ☐ 0 No action required
- ☐ 1 Minor action; site stable
- ☐ 2 Small areas on site require some action
- ☐ 3 Significant action required

Inspector Signature

Date

SEEP INSPECTION (OM&M WORK PLAN SECTION 3.1.7)

1 Active Seeps

- ☐ Is there an active seep emanating from base of cap?
- ☐ Estimated flow in gpm _____
- ☐ Estimated aerial dimensions _____
- ☐ Does flow reach surface body of water?*
- ☐ Iron staining
- ☐ Solids deposition

2 Inactive Seeps

- ☐ Is there evidence of an inactive seep emanating from base of cap?
- ☐ Iron staining
- ☐ Solids deposition

3 Comments *(descriptions and explanations)

4 Recommendations

- ☐ 0 No action required
- ☐ 1 Minor action; site stable
- ☐ 2 Small areas on site require some action
- ☐ 3 Significant action required

Inspector Signature

Date

