

SITE INSPECTION FORM

SITE NUMBER AND NAME: GP032 South Curve (S-Curve) Realignment		HIGHWAY & KM: 40:34, 16.385	PREVIOUS INSPECTION DATE: June 13, 2022	INSPECTION DATE: June 2, 2025
LEGAL DESCRIPTION: SW 13-57-07-W6M	NAD 83 COORDINATES: UTM Northing Easting 11 5976757 374408		RISK ASSESSMENT: PF: 4 CF: 6 TOTAL: 24	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 1,190 (west) & 1,170 (east) (Reference No. 70000102, 2024)			CONTRACT MAINTENANCE AREA (CMA): 504	

SUMMARY OF SITE INSTRUMENTATION: There is no instrumentation at the GP032 site. LAST READING DATE: N/A	INSPECTED BY: Chris Gräpel (KCB) Courtney Mulhall (KCB) Babatunde Awokunle (TEC) Rocky Wang (TEC)
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PRIMARY SITE ISSUE: Several areas of (geotechnical) distress/concern along channel within former Hwy 40:34 alignment (south of current highway alignment), including a series of slope failures, rill and gully erosion, and areas of seepage (moist, no visible flow) and leakage (visible flow). Some of which was repaired in 2017/2018 and 2024.

APPROXIMATE DIMENSIONS: Highway embankment approximately 40 m to 50 m high with an approximate 3H:1V slope. Channel upstream of culvert/toe of highway embankment is approximately 180 m long.

DATE OF ANY REMEDIAL ACTION: 2017/2018 – Repairs completed, including lining channel at base of valley with riprap, constructing several riprap-lined finger and slope drains on west side of valley, and constructing a catch basin and buried smooth-walled-steel-pipe (SWSP) slope drain on east side of valley. 2024 – Repairs completed on east side of valley, including excavating and reconstructing three slides areas with granular fill and perforated drainpipe, constructing a clay berm around catch basin, constructing a riprap-lined trapezoidal channel for overflow water from catch basin, and repairing east cross ditch and lining it with riprap.

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress		X	None observed at time of 2025 inspection.		X
Slope Movement	X		Several slope failures on both west and east sides of valley. Three slope failures on east side repaired in 2024.	X	
Erosion	X		Rill and gully erosion on east side of valley.	X	
Seepage	X		Seepage and leakage on valley slopes.	X	
Culvert Distress		X	None observed at time of 2025 inspection.		X

COMMENTS Highway re-aligned in 2003/2004. Current highway embankment is approximately 40 m to 50 m high with a 3-m diameter, 350-m long bridge-sized culvert (BF76751) at its base. During construction of channel repairs, high groundwater was encountered in the valley slopes, and several finger drains and ditches were constructed along the channel/valley slopes.
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Highway embankment, cross ditches, and riprap-lined channel (Photo 1 through 4, 13, and 14):

- South slope of the highway embankment appeared to be in good condition (Photo 3). Slope is well vegetated with grass. No visual indications of slope movement or erosion. North slope of the highway embankment and culvert outlet not visited at the time of the 2025 inspection.
- Cross ditches along highway embankment abutments generally appeared to be in good condition, including the east ditch repaired in 2024 (Photos 13 and 14).
- Riprap-lined channel and 3.0-m diameter corrugated-steel-pipe (CSP) culvert inlet appeared to be in good condition (Photos 1, 2, and 4). Riprap at base of channel is grouted.

West valley slope (Photo 2):

- Three slope failures/slumps observed on slope above finger drains. Otherwise, finger drains appeared to be in good condition.
- TEC has previously noted west slope was so wet during construction equipment could not track area. Surface conditions improved after finger drains were constructed. At the time of the 2025 inspection, a wet spot was observed at WP026.

East valley slope (Photo 1, and 4 through 12):

- Vegetation is slowly growing and coverage on the repaired slope was poor (Photos 3 through 5).
- Three slides repaired in 2024 generally appeared to be in good condition, except for some rill and gully erosion, including a gully down the middle of the south slide repair (Photo 12, WP025), and a seepage spot that appeared at the south edge of the north slide repair shortly after the repair was completed (Photo 7). The seepage spot appeared drier than it was in 2024 and does not appear to be expanding in size.
- Material eroded from the north slide repair has accumulated on the lower mid-slope bench and may impede flows on the bench (Photo 7). It also appears that flow from the upper mid-slope bench flows to the lower mid-slope bench and not into riprap-lined trapezoidal channel.
- The perforated drains pipes were dry to damp at the south slide repair (Photo 12), and damp at the middle and north slide repairs (Photos 8 and 10).
- Riprap-lined trapezoidal channel on the appeared to be in good condition with no flow or signs of riprap displacement (Photo 4).
- Water was flowing in the v-notch ditch along the access road at the crest of the east valley slope with no signs of erosion.

Riprap-lined catch basin and 1.2-m diameter SWSP slope drain inlet (Photos 15 and 16):

- Berm constructed around catch basin in 2024. At the time of the 2025 inspection, there were no visual indications that the catch basin had overflowed since the berm was constructed.
- Trash rack over smooth-walled-steel-pipe (SWSP) slope drain inlet.

Maintenance/Repair/Monitoring Recommendations:

- Hydro mulching of the areas repaired and used for construction access in 2024 should be considered to help establish vegetation and reduce erosion potential. Estimated cost: \$10,000 to \$15,000.
- This site should continue to be inspected by the Maintenance Contract Inspector (MCI) and inspected at least once during the next contract cycle as part of the GP South GRMP Section B inspections. If the repairs continue to perform well, TEC could consider removing the site from the list of active GRMP sites and excluding it from the GP South GRMP Section B inspections. If site conditions were to deteriorate, the site could always be returned to the list of active GRMP sites and inspected again as part of a Section B inspection or Section D call-out inspection.

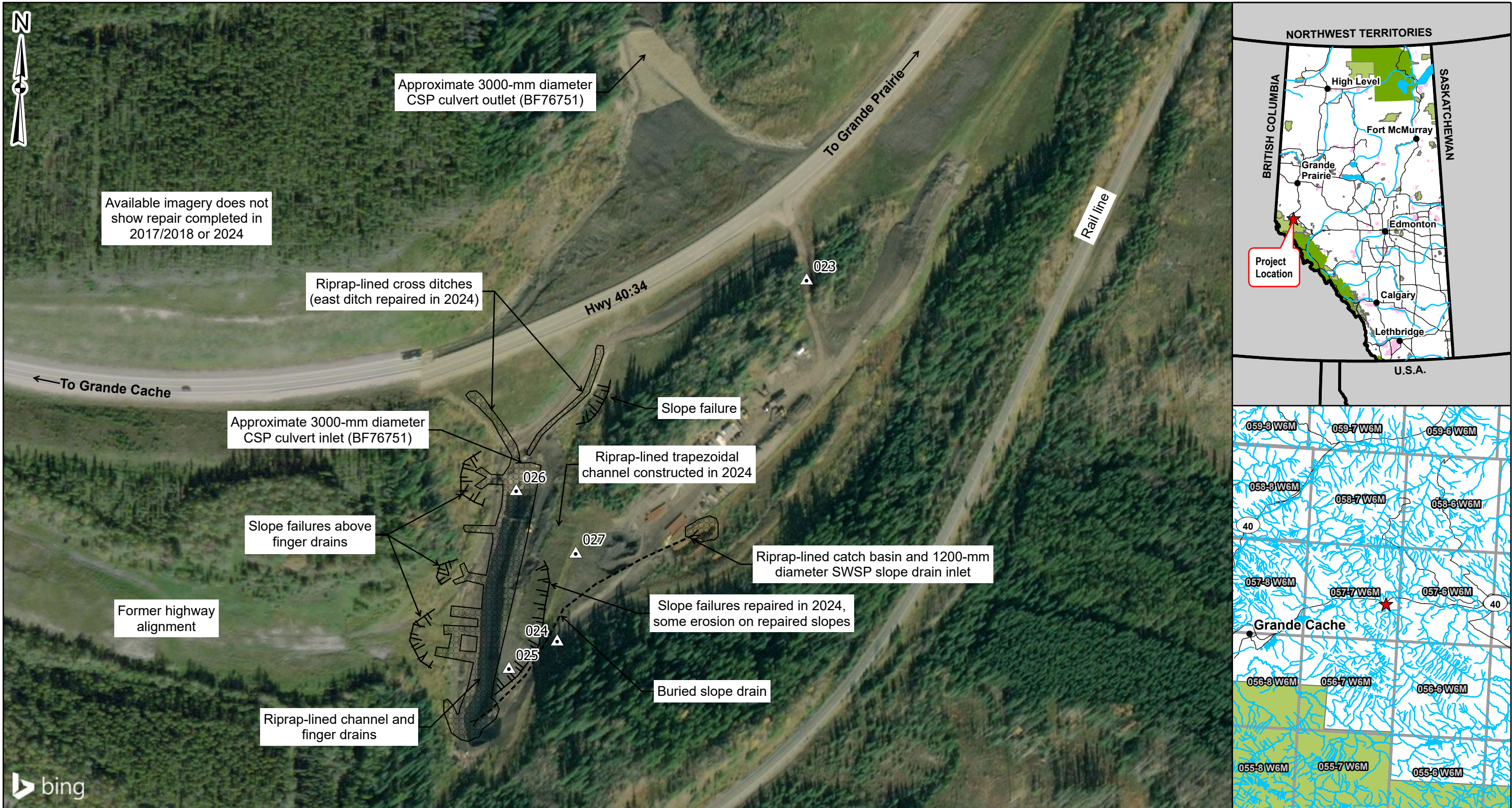
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Courtney Mulhall, M.Sc., P.Eng.
Geotechnical Engineer



Legend

- GPS Waypoint (June 02, 2025)
- Scarp
- Slope Drain
- Channel
- Riprap

0 150 Metres

NOTES:
1. HORIZONTAL DATUM: NAD83
2. GRID ZONE: UTM ZONE 11N
3. IMAGE SOURCE: 2025 MICROSOFT CORPORATION, 2025 MAXAR CNES, DISTRIBUTION AIRBUS DS
4. SATELLITE IMAGERY PRE-DATES REPAIR WORK SHOWN IN PHOTOS.

CLIENT

PROJECT	PEACE REGION (GRANDE PRAIRIE DISTRICT-SOUTH) GEOHAZARD RISK MANAGEMENT PROGRAM		
TITLE	Site Plan GP032 - South Curve Realignment Hwy 40:34, km 16.385		
SCALE	1:2,500	PROJECT No.	A05116A01
FIG No.	1		

Inspection Photographs

Photo 1 East valley slope repaired in 2024. Note repaired areas are poorly vegetated. Photos taken June 2, 2025, facing northeast, east, and southeast, respectively.



Photo 2 West slope previously repaired in 2017/2018. Note slope failures/slumps above finger drains (indicated with white lines) and inlet of 3-m diameter culvert at south toe of Hwy 40:34 embankment. Photos taken June 2, 2025, facing southwest, west, and northwest, respectively.

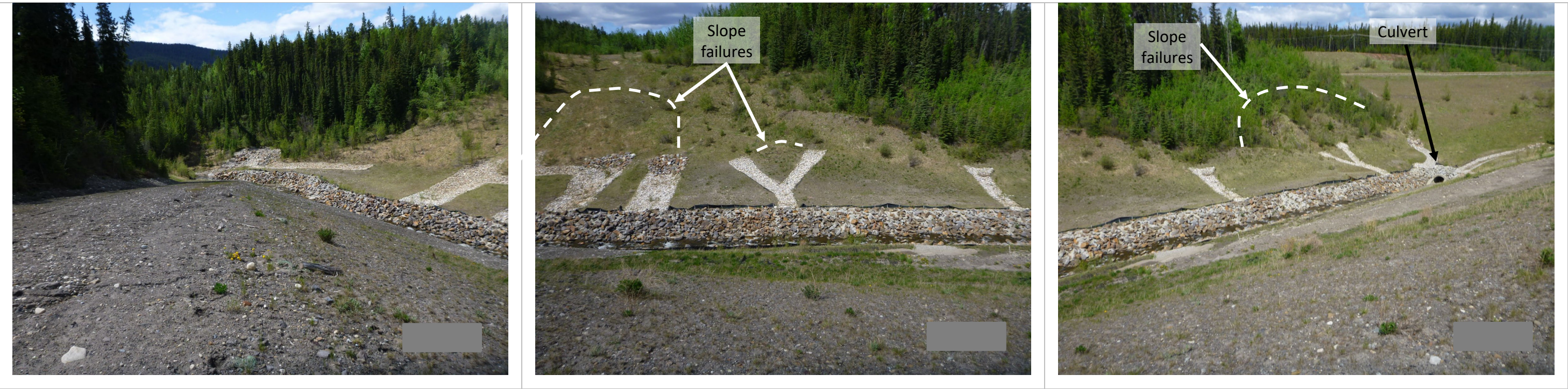


Photo 3 South slope of Hwy 40:34 embankment. Photo taken June 2, 2025, facing northwest.



Photo 4 Riprap-lined trapezoidal channel constructed in 2024 on east valley slope. Photo taken June 2, 2025, facing northwest and northeast, respectively.



Photo 5 **Upper mid-slope bench across east valley slope. Photo taken June 2, 2025, facing southwest from trapezoidal channel.**



Photo 6 **Lower mid-slope bench across east valley slope. Photo taken June 2, 2025, facing southwest from trapezoidal channel.**



Photo 7 North slide area on east valley slope repaired in 2024. Note erosion on repaired slope, sediment build up on lower mid-slope bench (circled in black), and seepage spot next to repaired slide area (circled in white). Photo taken June 2, 2025, facing northeast.



Photo 8 Drainpipe outlets in middle slide area. Photos taken June 2, 2025.



Photo 9 Middle slide area on east valley slope repaired in 2024. Photo taken June 2, 2025, facing northeast.



Photo 10 Drainpipe outlets in middle slide area. Photos taken June 2, 2025.



Photo 11 South slide area on east valley slope repaired in 2024. Photo taken June 2, 2025, facing southwest.



Photo 12 South slide area on east valley slope repaired in 2024. Note erosion down center and drainpipe outlets (circled in black). Photo taken June 2, 2025, facing east.

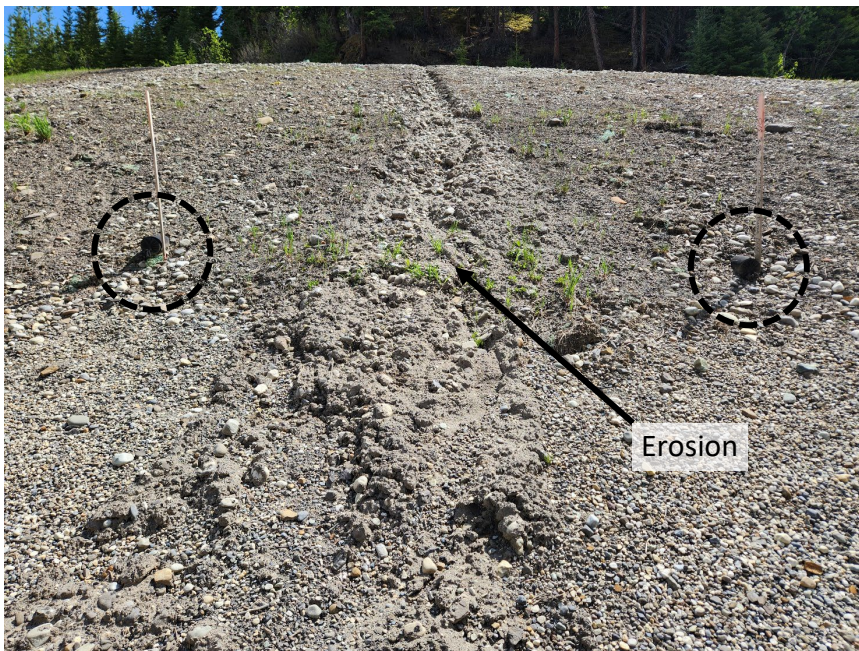


Photo 13 Riprap-lined cross ditch along east abutment of highway embankment, at north end of site. Note new riprap placed in 2024. Photo taken June 2, 2025, facing south.



Photo 14 Riprap-lined cross ditch along east abutment of highway embankment, at north end of site. Note portion of ditch is not lined with riprap. Photo taken June 2, 2025, facing northeast.



Photo 15 Riprap-lined catch basin and buried slope drain inlet. Catch basin perimeter berm height increased in 2024. Photo taken June 2, 2025, facing southwest.



Photo 16 Buried slope drain outlet at toe of east valley slope, near south end of site. Photo taken June 2, 2025.

