

SITE NUMBER AND NAME: NC086 – Poplar Creek Slide	HIGHWAY AND KM: 39:06, km 4.915	PREVIOUS INSPECTION: May 22, 2020	CURRENT INSPECTION: June 29, 2021
LEGAL DESCRIPTION: SW 11-49-06-W5	NAD83 COORDINATES: UTM11U 5897673N, 648158E		RISK ASSESSMENT: PF: 3 CF: 3 Total: 9
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 3,280 (2020)		CONTRACTOR MAINTENANCE AREA (CMA): 509	

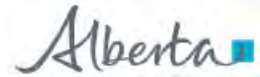
SUMMARY OF INSTRUMENTATION: One slope inclinometer functional	INSPECTED BY: Stantec: Leslie Cho AT: Bernard Ching, Rishi Adhikari, Wilf Cousineau
LAST READING DATE: July 6, 2021	
PRIMARY SITE ISSUE: Slope failure southeast of the intersection of Highway 39 and Township Road (TWP RD) 491A.	
APPROXIMATE DIMENSIONS: 25 m wide by 40 m long	
DATE OF ANY REMEDIAL ACTION: 2018 – Pile wall installed. Culvert under TWP RD 491A realigned. Centerline culvert at Highway 39 grouted and abandoned. Rock check dams installed in north ditch of Highway 39.	

ITEM	CONDITIONS EXIST		DESCRIPTION AND LOCATION	NOTICEABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress	X		Separation along joint of new and old pavement west of pile wall.		X
Slope Movement	X		Slope movement downslope of pile wall. Slide mass extending eastward parallel with highway. Leaning light post on south side of highway east of intersection.	X	
Erosion		X			
Seepage	X		Landslide mass is wet.		X
Bridge/Culvert Distress		X			

COMMENTS
<ul style="list-style-type: none"> The landslide is progressing downslope of the wall (Photos 1 and 2). A measurement from the top of pile wall to the top of ground was taken between the 9th and 10th guardrail post south of the stop sign. The height was measured to be 3.5 m. The landslide mass appears to be extending further east beyond the limits of the pile wall. The current east limit is approximately 20 m east of SI1. This is approximately in line with the east limit of the pile wall. The scarp is approximately 12 m south of the guardrail. SI1 showed negligible cumulative movement of less than 1 mm at a depth of about 14 m in the clay shale since initialization in 2018. The light standard south of Highway 39 and about 20 m from the intersection had a 3° lean towards the slide mass (Photo 3). The MCI informed Stantec that many light standards in this area have a similar lean. The culvert and ditch across TWP RD 491A were dry. The riprap at both ends of the culvert were cracked. The north ditch of Highway 39 was wet. The separation between the new and old pavement appeared unchanged (Photo 4). Longitudinal cracking of Highway 39 was observed and did not appear to have changed.



NORTH CENTRAL REGION GRMP
EDSON / STONY PLAIN
SITE INSPECTION FORM



RECOMMENDATIONS

- The site should be regularly monitored by the MCI. In particular, the landslide should be monitored for additional progression towards the light standard which would indicate the slide is beyond the extent of the pile wall. In addition, the depth of the landslide from the top of the pile wall should be checked to ensure that it does not exceed the design height of 6 m.
- Should the landslide progress beyond the east extent of the pile wall, the pile wall can be extended to protect the highway. The high-level cost of extending the pile wall by 20 m is \$300,000, excluding engineering. Conflicts with streetlight power and communications cable are expected if the pile wall is extended east.
- Pavement cracks should be sealed to reduce surface water infiltration into the slope.
- Site inspections should continue annually.
- Instrumentation readings should continue to be read annually in the spring.

PREPARED BY: Leslie Cho, M.Eng., P.Eng.

REVIEWED BY: Carrie Murray, M.Eng., P.Eng.

--	--

2021 Site Inspection Photos at NC086



Photo 1: Slope movement downslope of pile wall. Looking northeast.



Photo 2: Slope movement downslope of pile wall. Looking southwest.

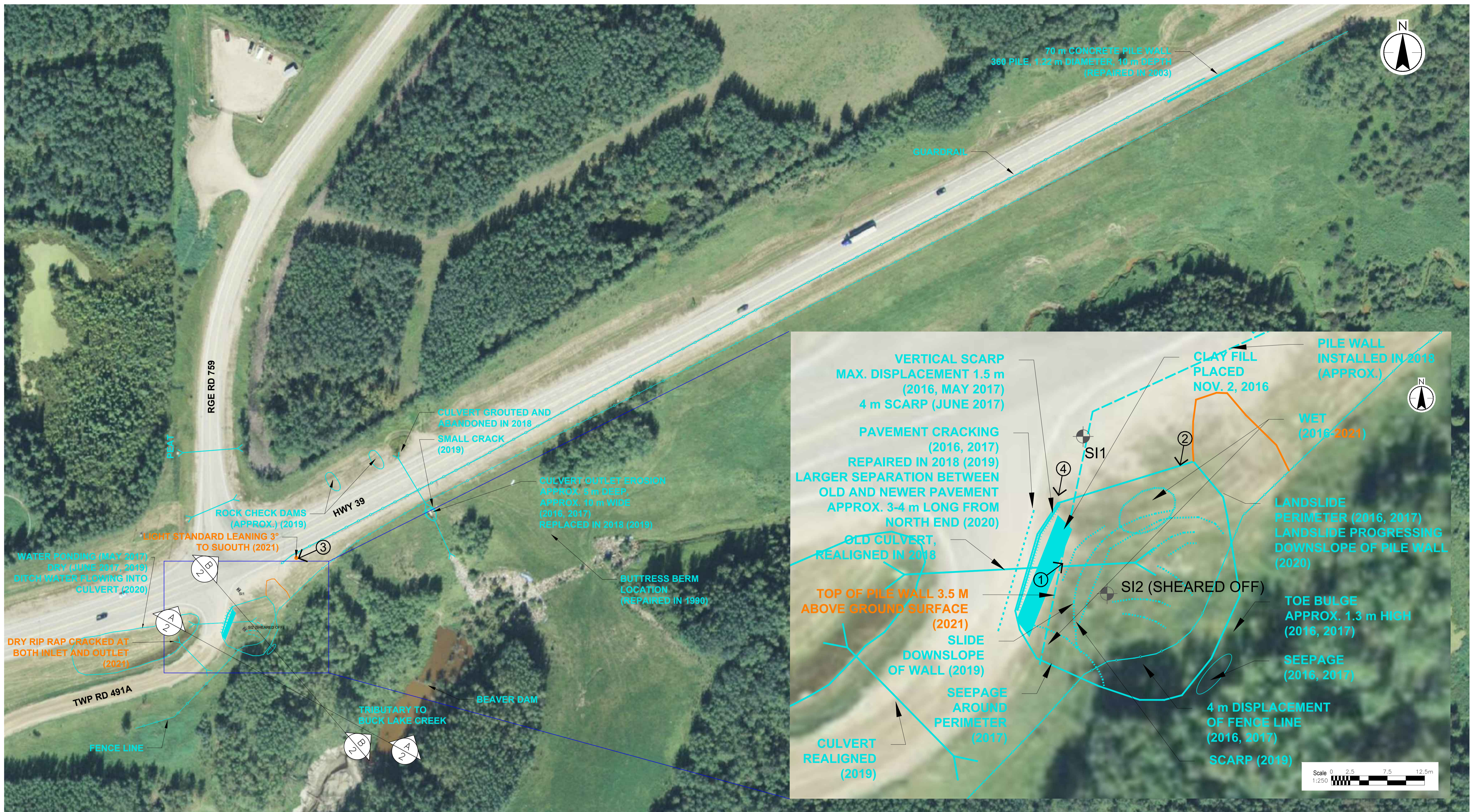
2021 Site Inspection Photos at NC086



Photo 3: Leaning light standard. Looking southwest.



Photo 4: Separation of new and old pavement west of pile wall. Looking south.



NOTE
FEATURE LOCATIONS ARE APPROXIMATE

REFERENCE
2012 IMAGERY © 2016 VALTUS IMAGERY SERVICES

LEGEND

- CULVERT
- PREVIOUS OBSERVATION
- 2021 OBSERVATIONS
- INSTRUMENT LOCATION
- PHOTO NUMBER AND DIRECTION

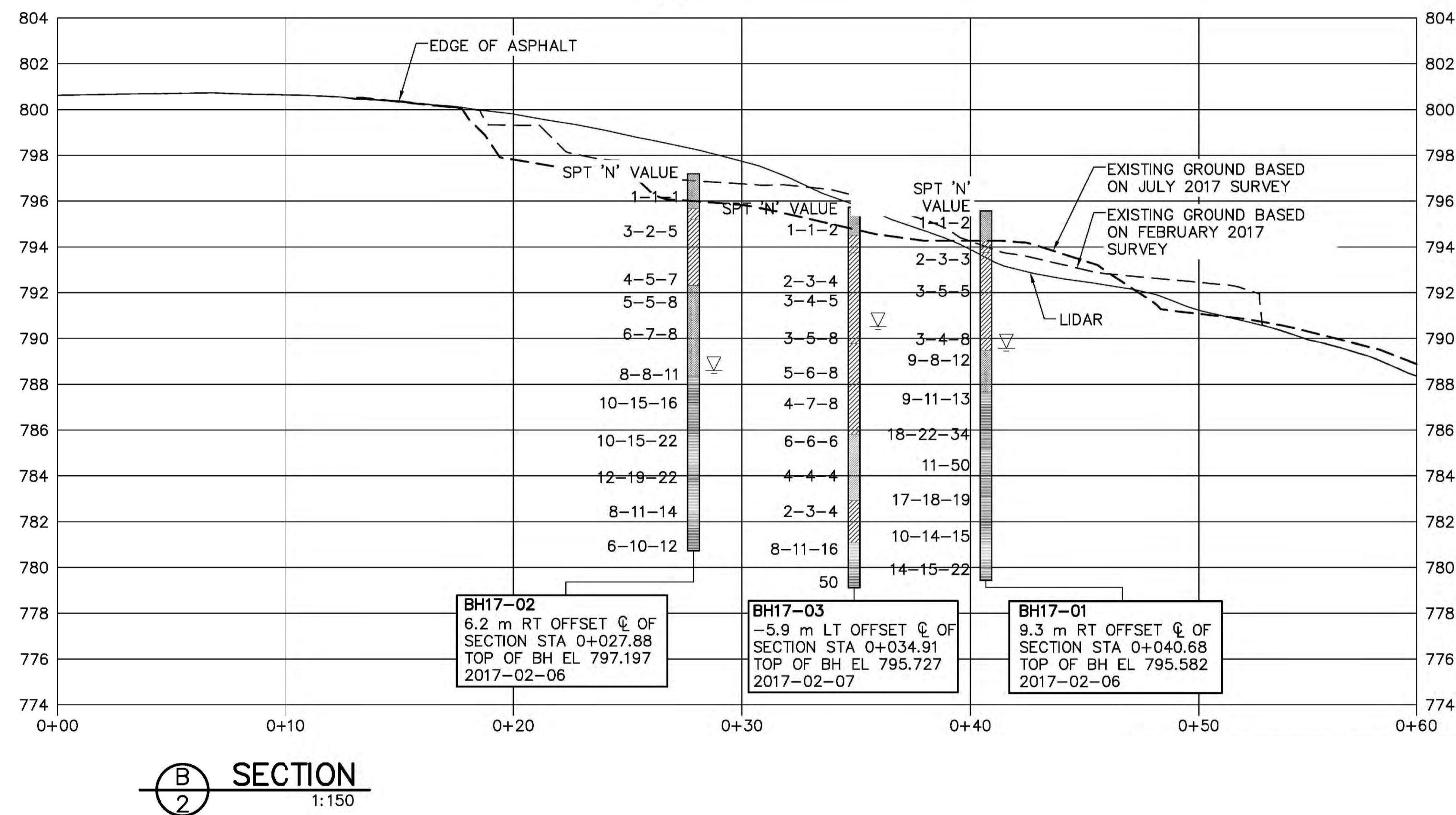
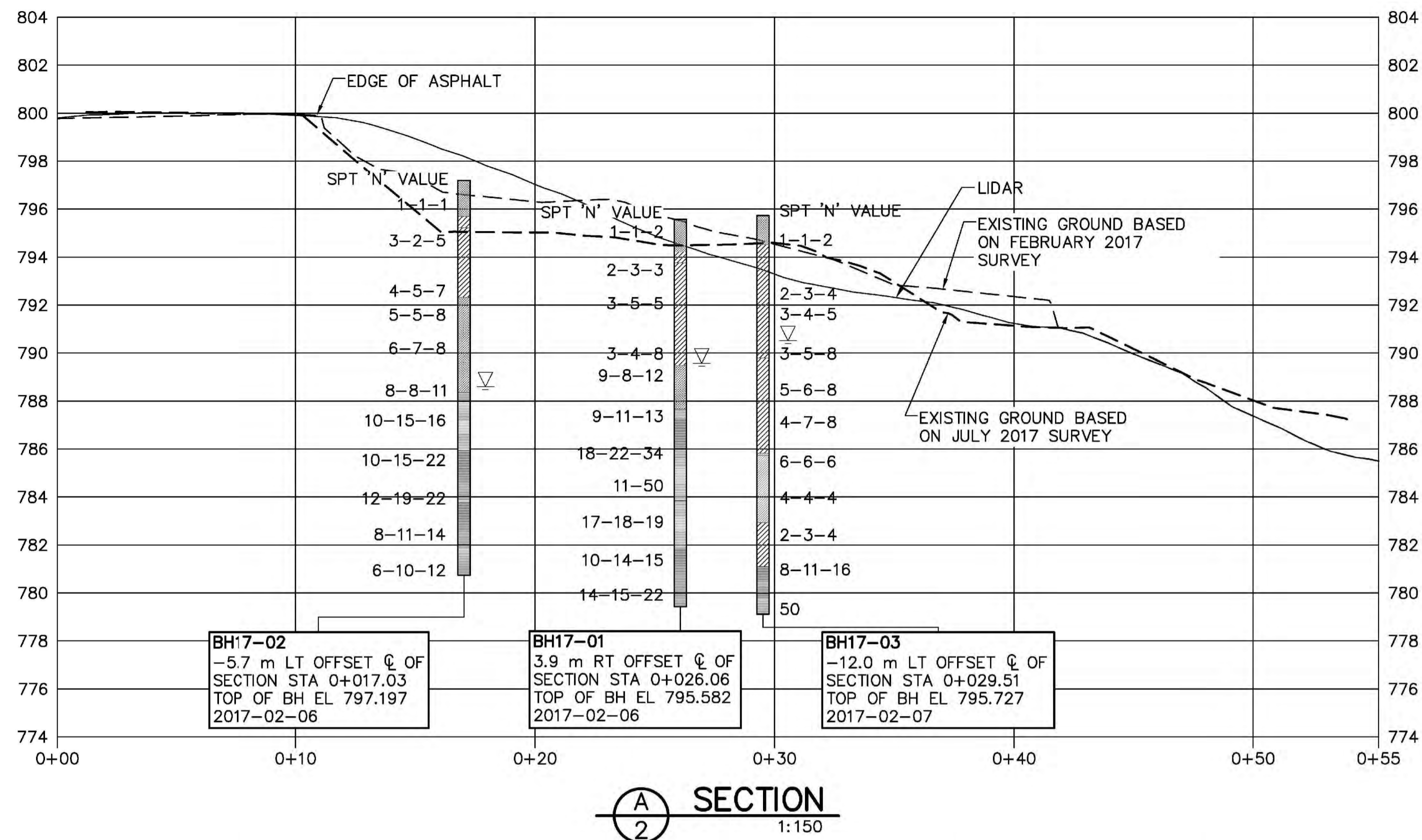


STANTEC CONSULTING
400-10220 103 AVENUE NW
EDMONTON, ALBERTA, CANADA
T5J 05A

ALBERTA TRANSPORTATION
GEOHAZARD MONITORING PROGRAM
NC86 HWY 39 AND TWP RD 491A - NEAR DRAYTON VALLEY
SITE PLAN

DRAWN MK	CHECK CM	APPROVE LC
DATE 03 SEPT. 2021	SCALE AS SHOWN	PROJECT # 123315222

FIGURE -1



LEGEND:

- | | | | |
|--|-------------------------|--|--------------------------------|
| | FILL-SOFT, CLAY (CI-CH) | | EXTREMELY WEAK, CLAYSHALE (BR) |
| | CLAY (CH) | | FIRM, GREY, SANDY CLAY (CL) |
| | VERY STIFF, CLAY (CI) | | WATER LEVEL |



STANTEC CONSULTING
400-10220 103 AVENUE NW
EDMONTON, ALBERTA, CANADA
T5J 05A

Stantec

ALBERTA TRANSPORTATION
GEOHAZARD MONITORING PROGRAM
NC86 HWY 39 AND TWP RD 491A - NEAR DRAYTON VALLEY
CROSS SECTION A & B

DRAWN MK	CHECK CM	APPROVE LC
DATE 03 SEPT. 2021	SCALE AS SHOWN	PROJECT # 123315222

FIGURE -2