



**SELWYN CHIHONG
MINING LTD.**

Howard's Pass Access Road Upgrade Project 2015 Land Use and Water Licence Application Package

June 2015

Volume 1: Applications

Part 2 of 4



**Howard's Pass Access Road (HPAR) Upgrade Project
Application Package
June 2015**

NOTE TO READER

This application package is divided into 3 Volumes:

- Volume 1 contains the formal application forms for the Mackenzie Valley Land and Water Board and Parks Canada and a number of attachments:
 - Attachment 1: Camp Layout Schematic Diagram
 - Attachment 2: Road Design Criteria
 - Attachment 3: Preliminary Road Design
 - Attachment 4: Land Use Permit Security Worksheet
- Volume 2 contains the 2015 Project Description Report
- Volume 3 contains Appendices to the Project Description Report:
 - Appendix I. Applicable Standard Operating Procedures
 - Appendix II. Waste Management Plan for the Howard's Pass Access Road
 - Appendix III. Spill Contingency Plan for the Northwest Territories
 - Appendix IV. Erosion and Sediment Control Plan
 - Appendix V. Avalanche Mitigation Strategy
 - Appendix VI. Geochemical Test Results for HPAR Borrow Site Samples
 - Appendix VII. Sample Quarry Operations Plan (2014)
 - Appendix VIII. Wildlife Mitigation and Monitoring Plan
 - Appendix IX. Community Engagement Plan
 - Appendix X. Community Engagement Report Appendices

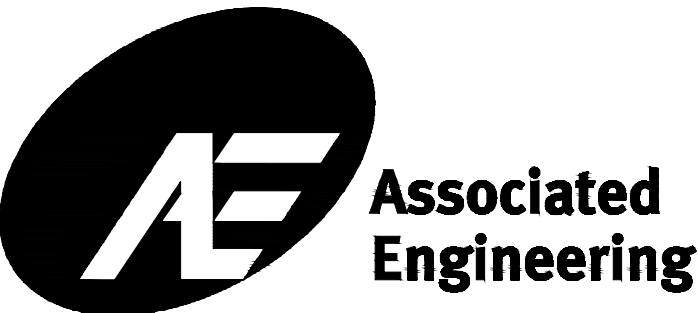
Selwyn Chihong Mining Ltd. has produced an integrated application package for the upgrading of the Howards Pass Access Road. You will note that there are references throughout the application package to the Attachments in Volume 1, the Project Description Report in Volume 2 and a variety of Management Plans in Volume 3. These are all linked throughout the application package with the Project Description Report providing the overall details that support this submission.

For additional information or for clarification, please contact Doug Reeve, Manager, Permitting and Regulatory Affairs at dreeve@chihongmining.com.

ATTACHMENT 3. Preliminary Road Design Sheets 1 to 11

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DATE: 2014-12-16, Jonathan Ford



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HOWARDS PASS ACCESS ROAD

PRELIMINARY ROAD DESIGN

AE PROJECT NUMBER: 20112946-01

ASSOCIATED ENGINEERING QUALITY MANAGEMENT	QM SIGNATURE	DATE	PCL SIGNATURE	DATE
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PRELIMINARY/
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B	2014DEC17	S. KING	J. FORD	ISSUED FOR REVIEW
A	2014NOV28	S. KING	J. FORD	ISSUED FOR REVIEW
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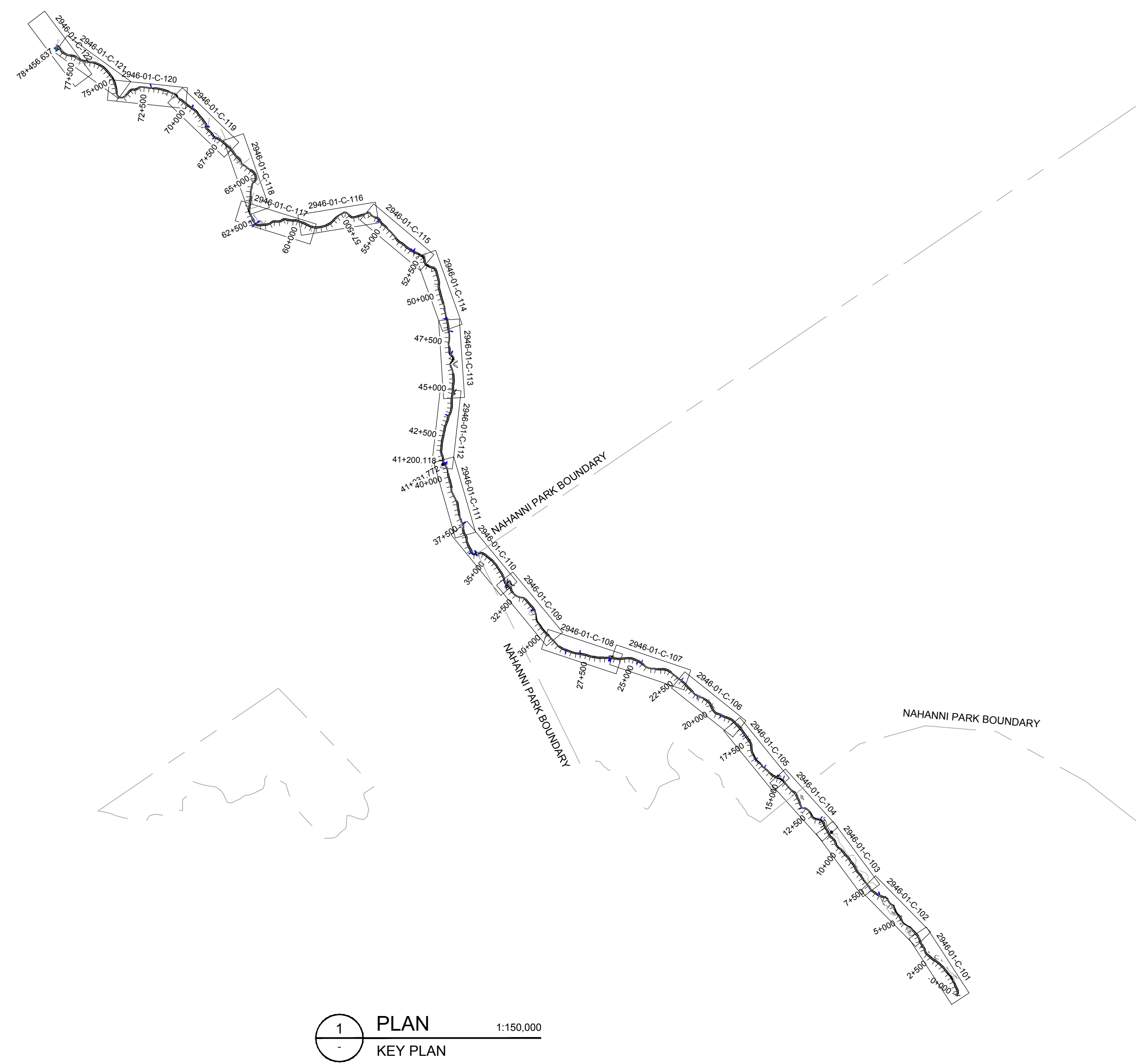
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1 PLAN
KEY PLAN
1:150,000

SHEET LIST TABLE				
SHEET	DRAWING NAME	REVISION	DRAWING TITLE	DRAWING DESCRIPTION
GENERAL				
1	2946-01-G-000	B	COVER SHEET	
CIVIL				
2	2946-01-C-100	B	SITE PLAN	LEGEND & GENERAL NOTES
3	2946-01-C-101	B	PLAN/PROFILE	STA 0+000 TO STA 3+700
4	2946-01-C-102	B	PLAN/PROFILE	STA 3+700 TO STA 7+400
5	2946-01-C-103	B	PLAN/PROFILE	STA 7+400 TO STA 11+100
6	2946-01-C-104	B	PLAN/PROFILE	STA 11+100 TO STA 14+800
7	2946-01-C-105	B	PLAN/PROFILE	STA 14+800 TO STA 18+500
8	2946-01-C-106	B	PLAN/PROFILE	STA 18+500 TO STA 22+200
9	2946-01-C-107	B	PLAN/PROFILE	STA 22+200 TO STA 25+900
10	2946-01-C-108	B	PLAN/PROFILE	STA 25+900 TO STA 29+600
11	2946-01-C-109	B	PLAN/PROFILE	STA 29+600 TO STA 33+300
12	2946-01-C-110	B	PLAN/PROFILE	STA 33+300 TO STA 37+000
13	2946-01-C-111	B	PLAN/PROFILE	STA 37+000.000 TO STA 40+717.262
14	2946-01-C-112	B	PLAN/PROFILE	STA 41+037.623 TO STA 44+730.000
15	2946-01-C-113	B	PLAN/PROFILE	STA 44+730 TO STA 48+430
16	2946-01-C-114	B	PLAN/PROFILE	STA 48+430 TO STA 52+130
17	2946-01-C-115	B	PLAN/PROFILE	STA 52+130 TO STA 55+830
18	2946-01-C-116	B	PLAN/PROFILE	STA 55+830 TO STA 59+530
19	2946-01-C-117	B	PLAN/PROFILE	STA 59+530 TO STA 63+230
20	2946-01-C-118	B	PLAN/PROFILE	STA 63+230 TO STA 66+930
21	2946-01-C-119	B	PLAN/PROFILE	STA 66+930 TO STA 70+630
22	2946-01-C-120	B	PLAN/PROFILE	STA 70+630 TO STA 74+330
23	2946-01-C-121	B	PLAN/PROFILE	STA 74+330 TO STA 78+030
24	2946-01-C-122	B	PLAN/PROFILE	STA 78+030.000 TO STA 78+456.637
25	2946-01-C-123	A	PLAN/PROFILE	SOUTH OPTION

LEGEND

EXISTING CONTOURS (EVERY 5m's)

PERMITTED BORROW AREAS

FUTURE BORROW AREAS

CAMP AND LAYDOWN AREA

LAYDOWN AREA

EXISTING CREEK

PARK BOUNDARY

CULVERT & BRIDGE CROSSINGS

60m ROAD R.O.W. - NON PARK (#105I/1-14)

ROAD R.O.W. - PARK

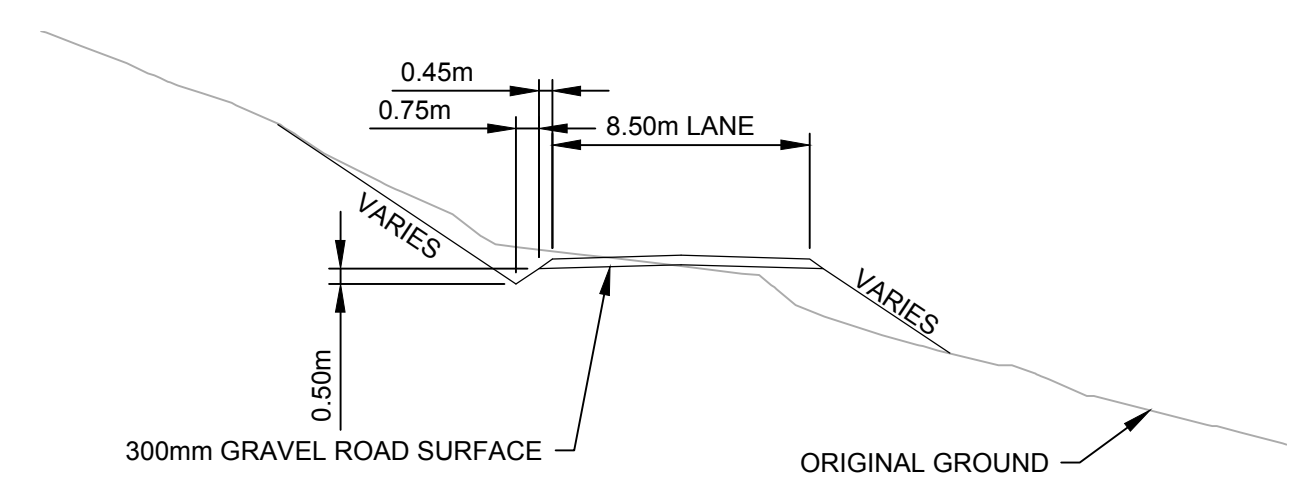
PROPOSED TOES

PROPOSED ROAD CENTRELINE

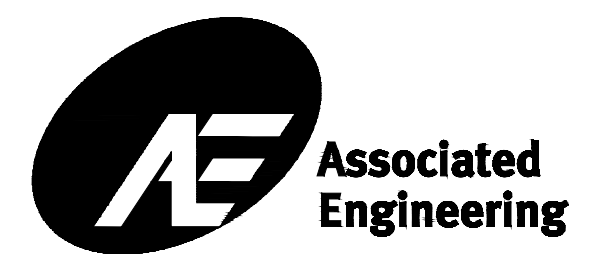
PROFILE EXISTING GROUND

PROFILE PROPOSED ROAD CENTRELINE

CROSSING H13



2 DETAIL
HPAR TYPICAL SECTION
1:250



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HOWARD PASS ACCESS ROAD
PRELIMINARY ROAD DESIGN
20112946-01

SCALE: AS SHOWN

CIVIL
SITE PLAN
LEGEND & GENERAL NOTES

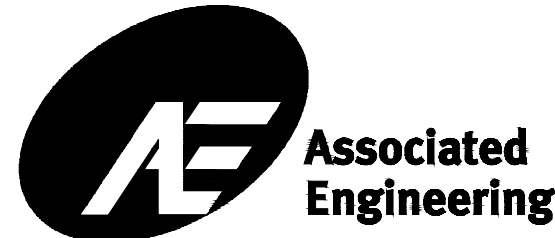
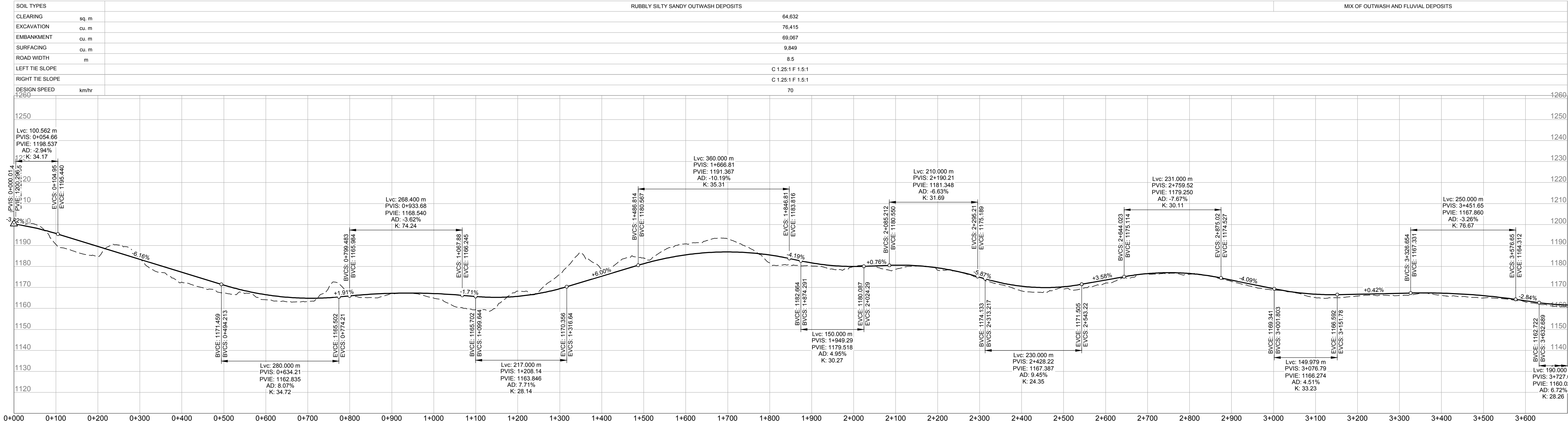
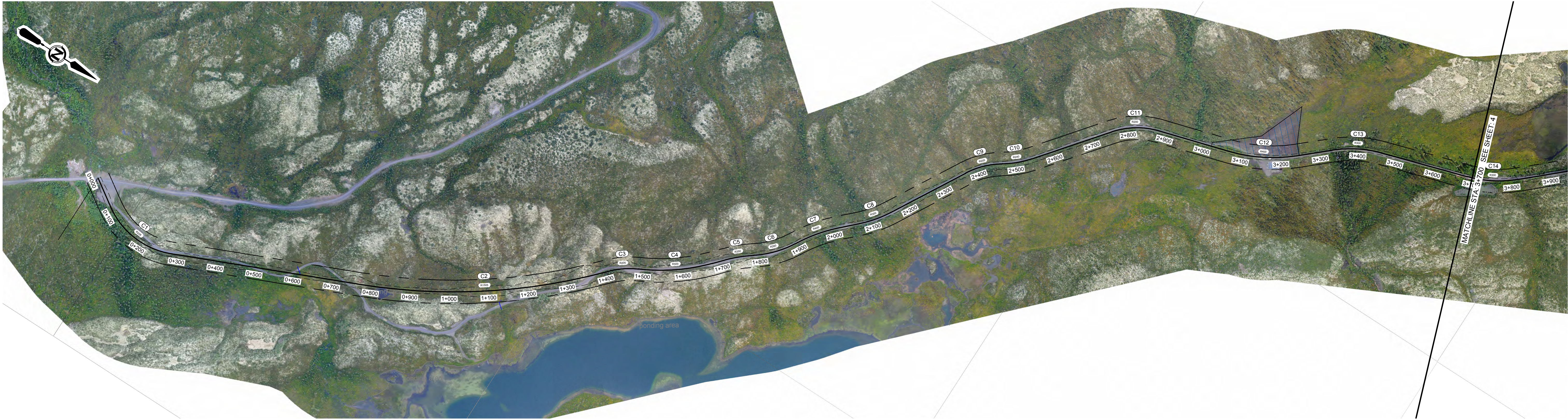
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DESCRIPTION			

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HOWARD PASS ACCESS ROAD
PRELIMINARY ROAD DESIGN
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CIVIL
PLAN/PROFILE
STA 0+000 TO STA 3+700

DRAWING	REVISION	SHEET
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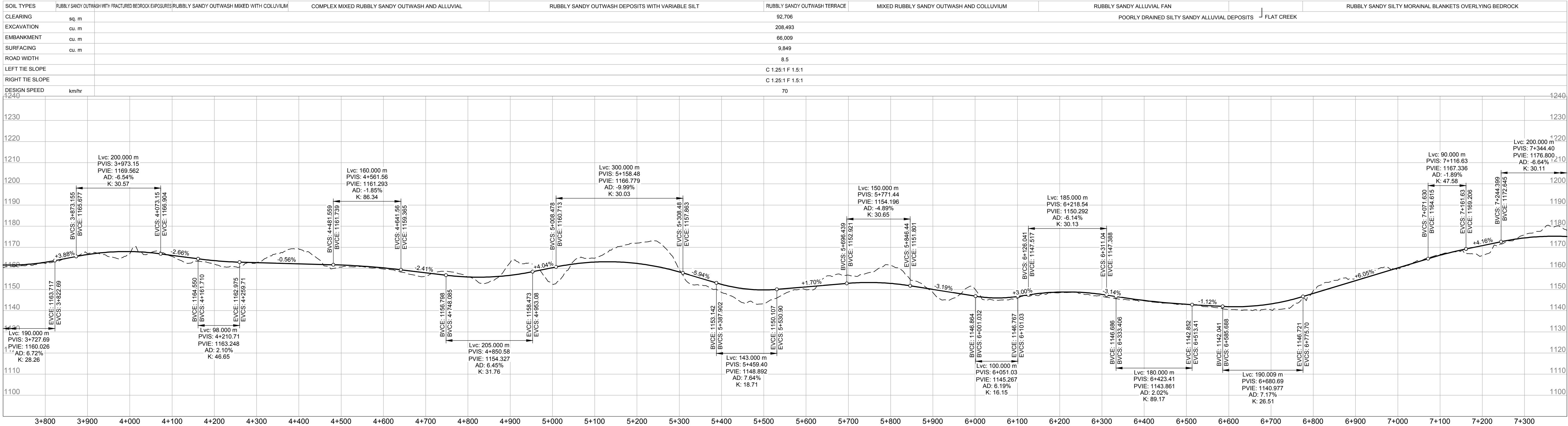
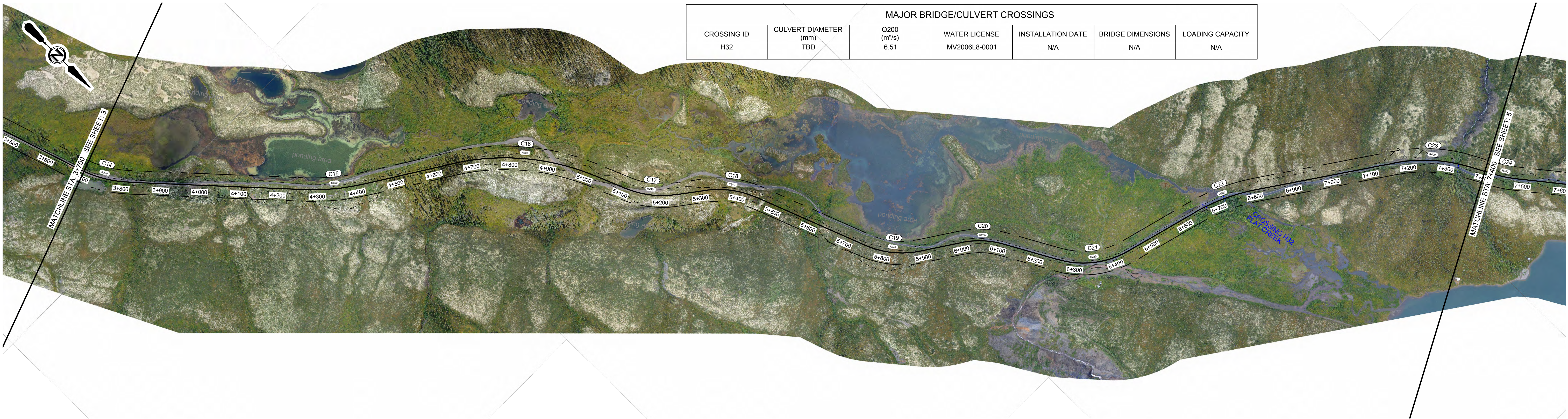
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MAJOR BRIDGE/CULVERT CROSSINGS						
CROSSING ID	CULVERT DIAMETER (mm)	Q200 (m³/s)	WATER LICENSE	INSTALLATION DATE	BRIDGE DIMENSIONS	LOADING CAPACITY
H32	TBD	6.51	MV2006L8-0001	N/A	N/A	N/A



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HOWARD PASS ACCESS ROAD
PRELIMINARY ROAD DESIGN
20112946-01

SCALE: H=1:5,000, V=1:1,000

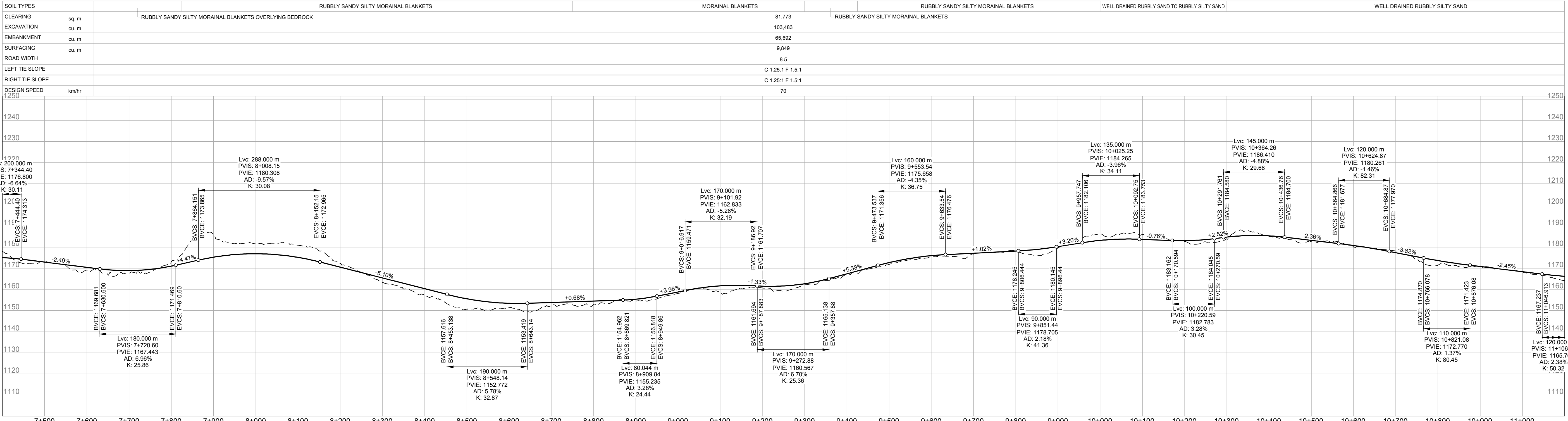


CIVIL
PLAN/PROFILE
STA 3+700 TO STA 7+400

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HOWARD PASS ACCESS ROAD
PRELIMINARY ROAD DESIGN
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SCALE: H=1:5,000, V=1:1,000

CIVIL
PLAN/PROFILE
STA 7+400 TO STA 11+100

DRAWING	REVISION	SHEET
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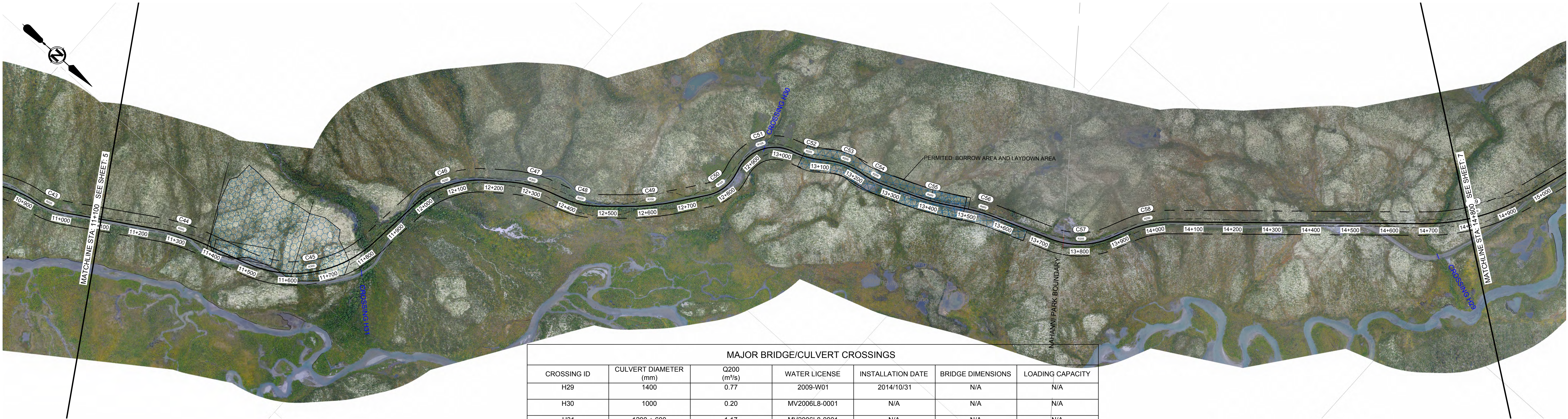
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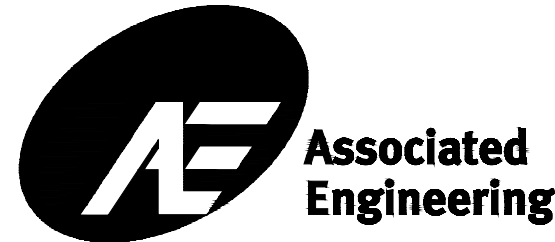
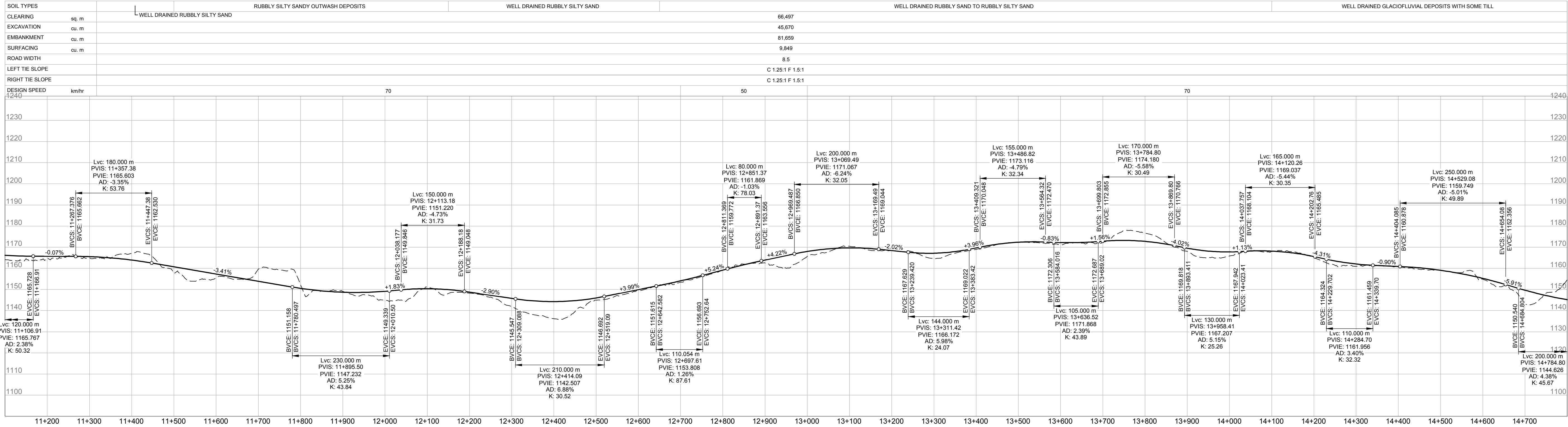
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MAJOR BRIDGE/CULVERT CROSSINGS						
CROSSING ID	CULVERT DIAMETER (mm)	Q200 (m³/s)	WATER LICENSE	INSTALLATION DATE	BRIDGE DIMENSIONS	LOADING CAPACITY
H29	1400	0.77	2009-W01	2014/10/31	N/A	N/A
H30	1000	0.20	MV2006L8-0001	N/A	N/A	N/A
H31	1200 + 600	1.17	MV2006L8-0001	N/A	N/A	N/A



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HOWARD PASS ACCESS ROAD
PRELIMINARY ROAD DESIGN
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SCALE: H=1:5,000, V=1:1,000



CIVIL
PLAN/PROFILE
STA 11+100 TO STA 14+800

DRAWING	REVISION	SHEET
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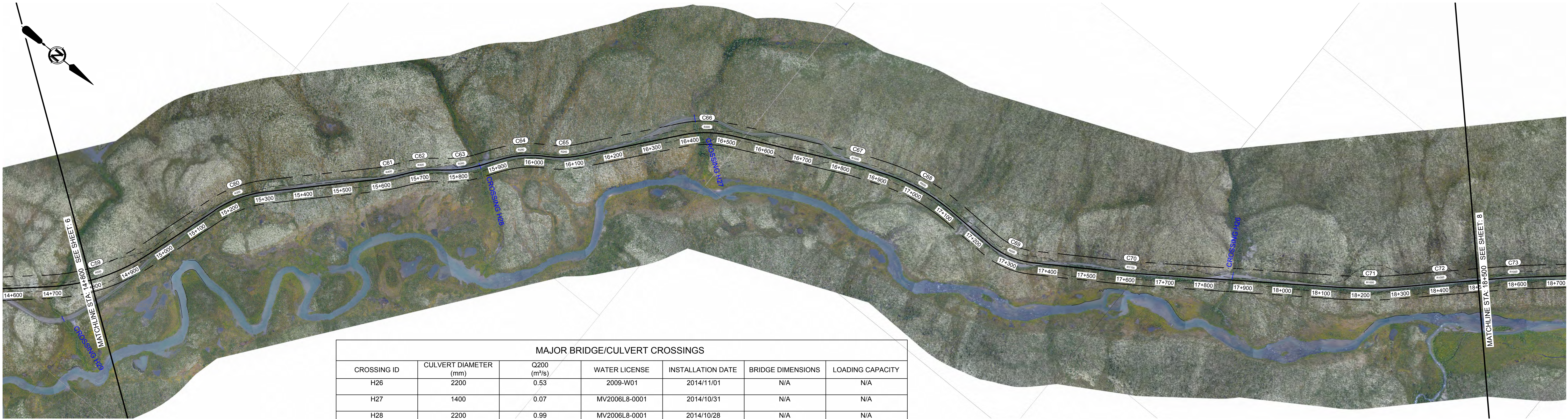
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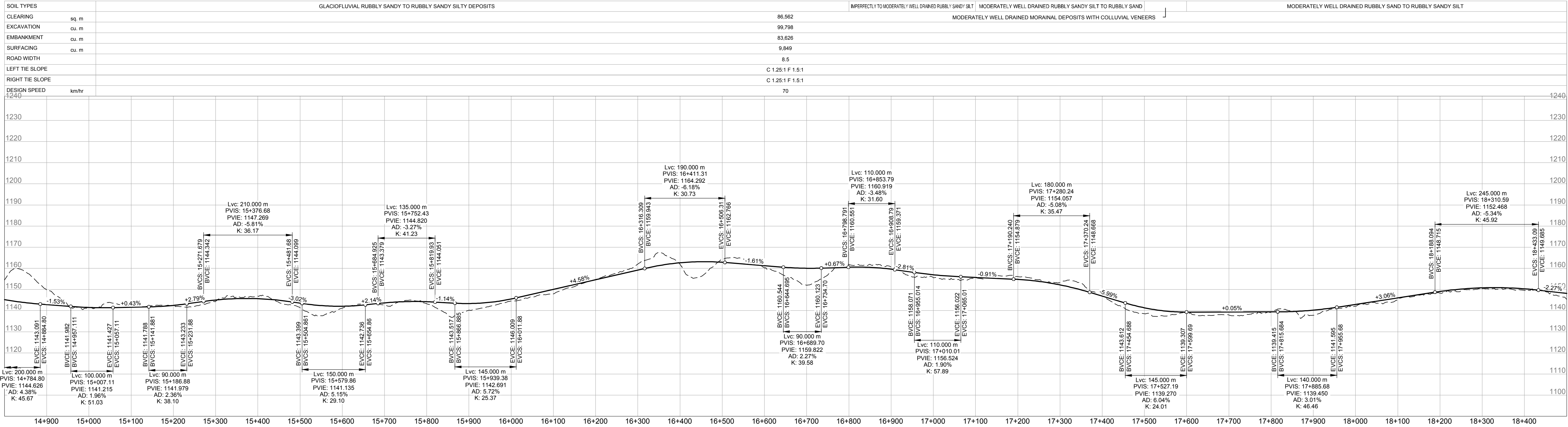
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MAJOR BRIDGE/CULVERT CROSSINGS						
CROSSING ID	CULVERT DIAMETER (mm)	Q200 (m³/s)	WATER LICENSE	INSTALLATION DATE	BRIDGE DIMENSIONS	LOADING CAPACITY
H26	2200	0.53	2009-W01	2014/11/01	N/A	N/A
H27	1400	0.07	MV2006L8-0001	2014/10/31	N/A	N/A
H28	2200	0.99	MV2006L8-0001	2014/10/28	N/A	N/A



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HOWARD PASS ACCESS ROAD
PRELIMINARY ROAD DESIGN
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SCALE: H=1:5,000, V=1:1,000



CIVIL
PLAN/PROFILE
STA 14+800 TO STA 18+500

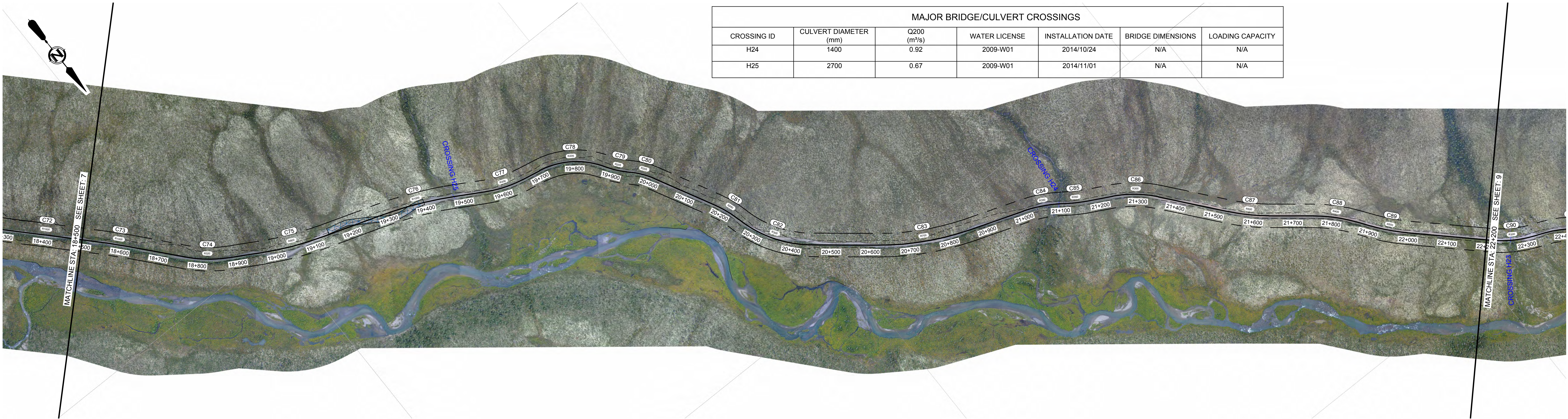
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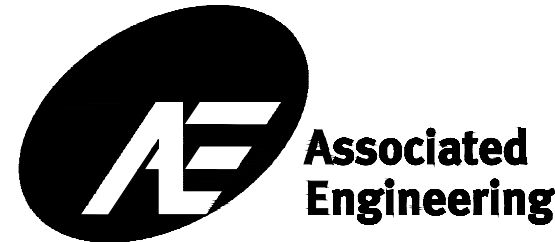
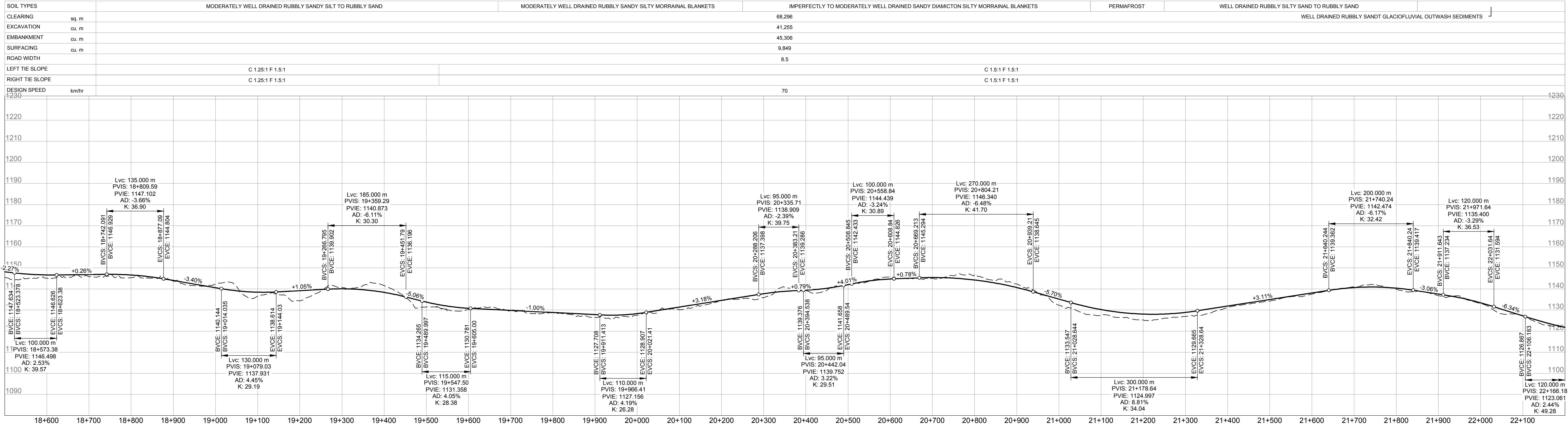
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CROSSING ID	CULVERT DIAMETER (mm)	Q200 (m³/s)	WATER LICENSE	INSTALLATION DATE	BRIDGE DIMENSIONS	LOADING CAPACITY
H24	1400	0.92	2009-W01	2014/10/24	N/A	N/A
H25	2700	0.67	2009-W01	2014/11/01	N/A	N/A



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CIVIL
PLAN/PROFILE
STA 18+500 TO STA 22+200

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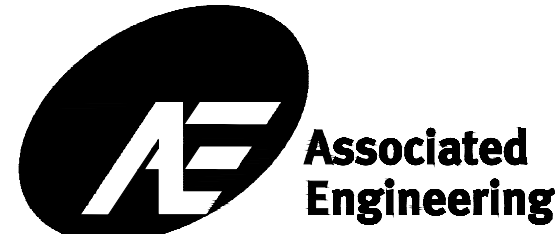
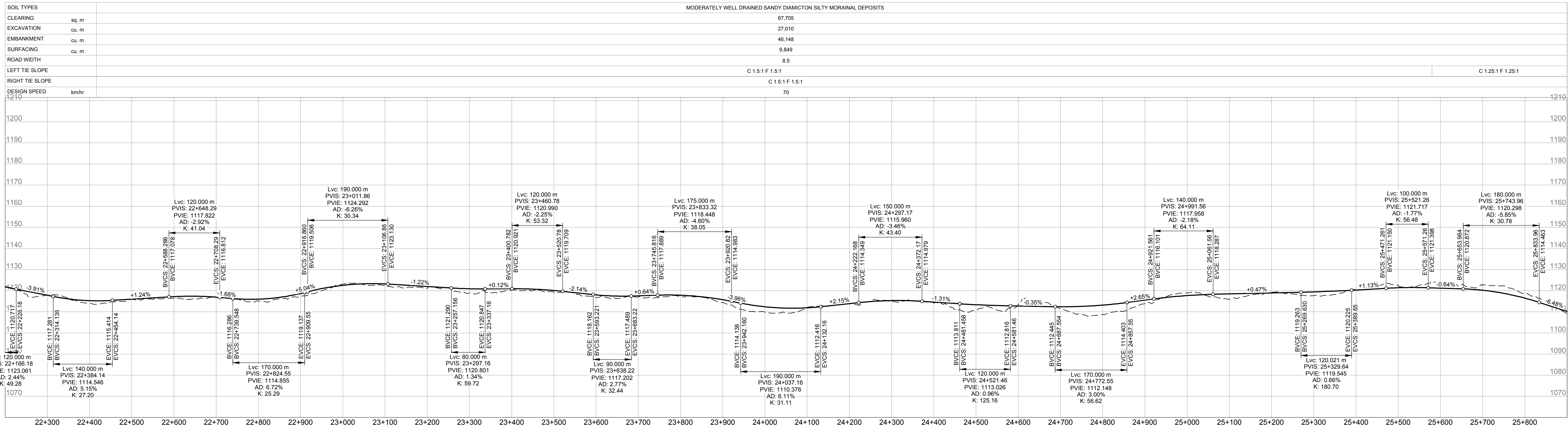
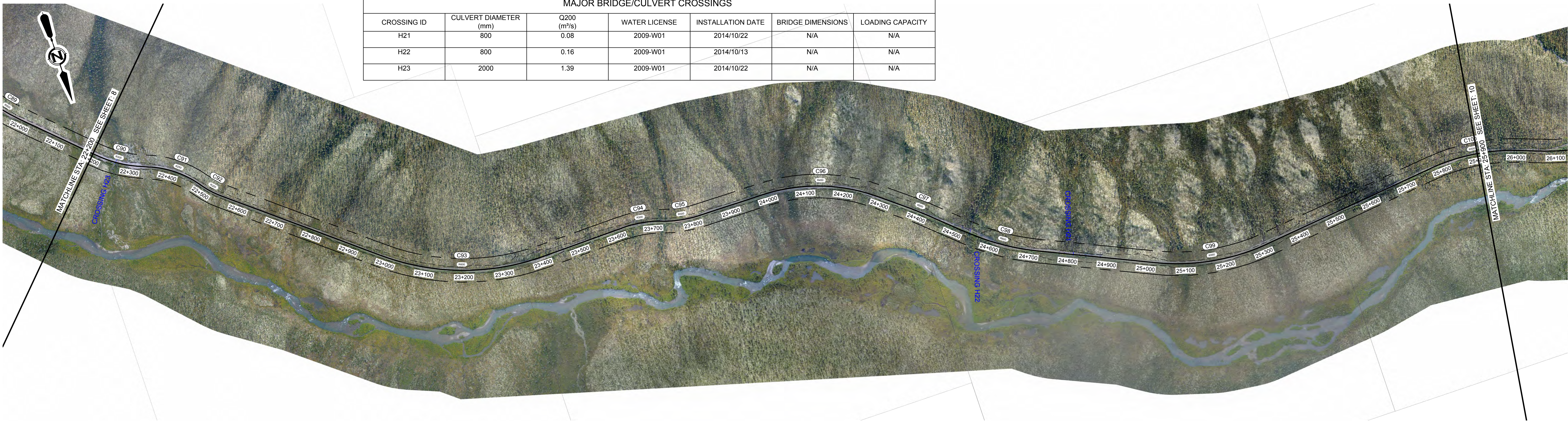
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MAJOR BRIDGE/CULVERT CROSSINGS

CROSSING ID	CULVERT DIAMETER (mm)	Q200 (m³/s)	WATER LICENSE	INSTALLATION DATE	BRIDGE DIMENSIONS	LOADING CAPACITY
H21	800	0.08	2009-W01	2014/10/22	N/A	N/A
H22	800	0.16	2009-W01	2014/10/13	N/A	N/A
H23	2000	1.39	2009-W01	2014/10/22	N/A	N/A



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HOWARD PASS ACCESS ROAD
PRELIMINARY ROAD DESIGN
20112946-01

SCALE: H=1:5,000, V=1:1,000



CIVIL
PLAN/PROFILE
STA 22+200 TO STA 25+900

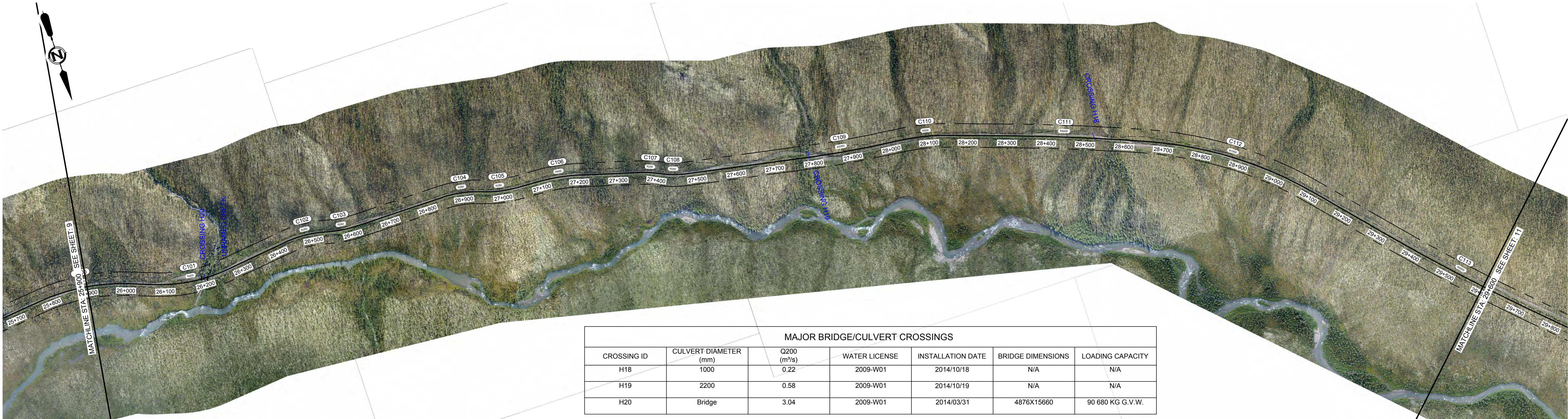
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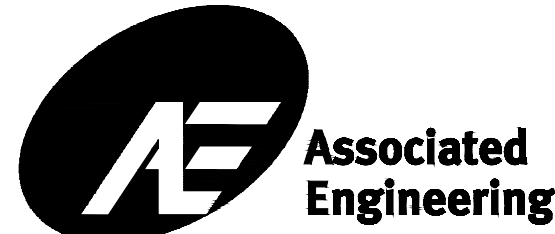
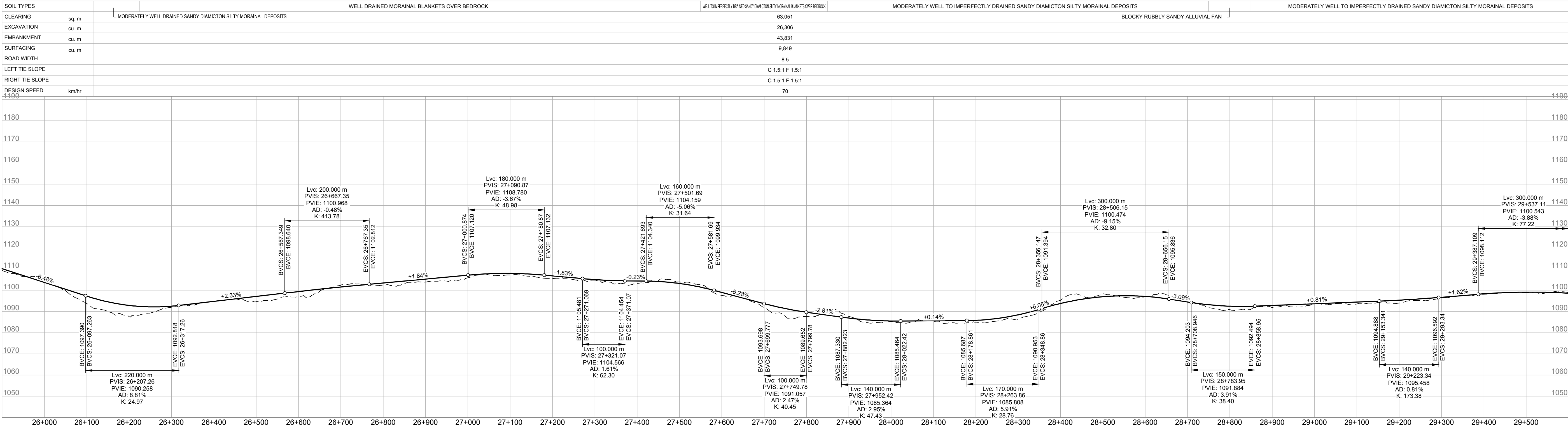
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CROSSING ID	CULVERT DIAMETER (mm)	Q200 (m³/s)	WATER LICENSE	INSTALLATION DATE	BRIDGE DIMENSIONS	LOADING CAPACITY
H18	1000	0.22	2009-W01	2014/10/18	N/A	N/A
H19	2200	0.58	2009-W01	2014/10/19	N/A	N/A
H20	Bridge	3.04	2009-W01	2014/03/31	4876X15660	90 680 KG G.V.W.



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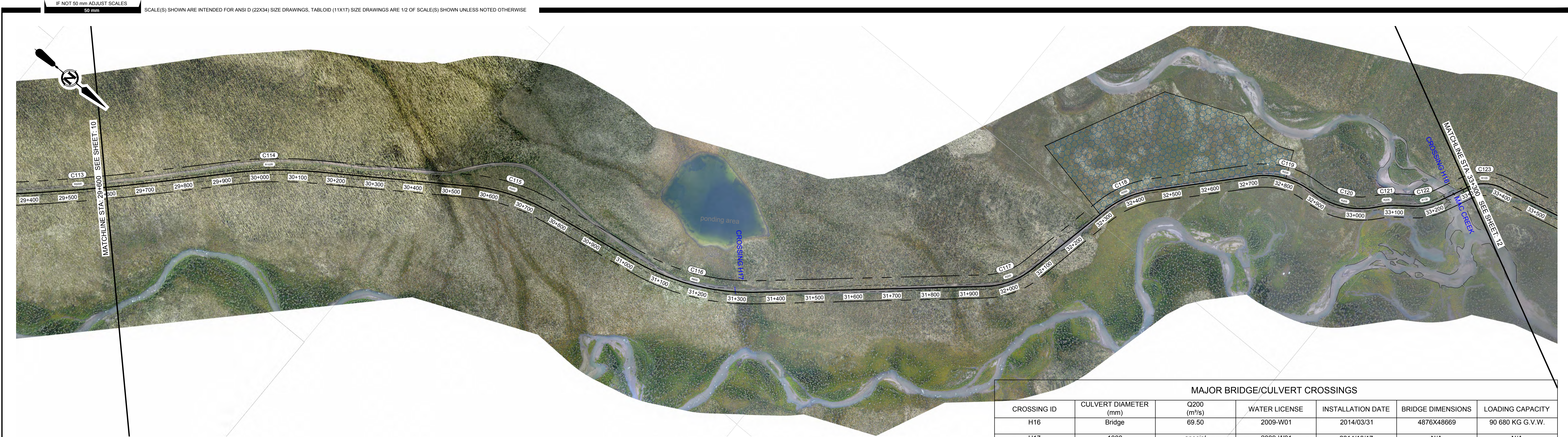


CIVIL
PLAN/PROFILE
STA 25+000 TO STA 29+000

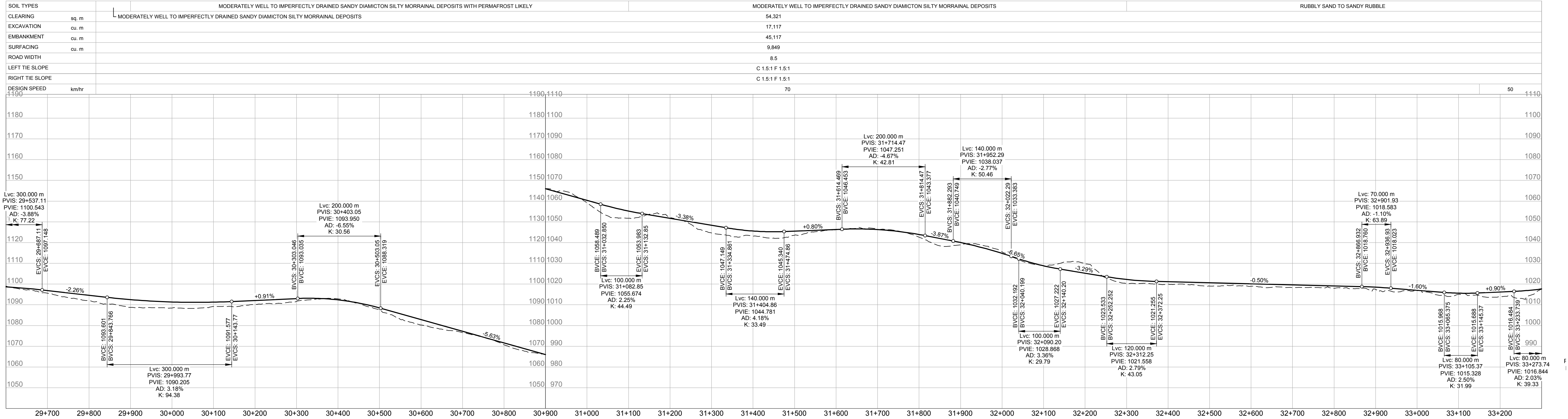
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H16	Bridge	69.50	2009-W01	2014/03/31	4876X48669	90 680 KG G.V.W.
H17	1000	special	2009-W01	2014/10/17	N/A	N/A



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PRELIMINARY ROAD DESIGN
20112946-01

SCALE: H=1:5,000, V=1:1,000

CIVIL
PLAN/PROFILE
STA 29+600 TO STA 33+000

DRAWING	REVISION	SHEET
2946-01-c-109	B	11 / 25