



Government of Northwest Territories

Bridge Replacement Project

No. SC-INF01-6081-2023

JEAN MARIE RIVER BRIDGE

HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2

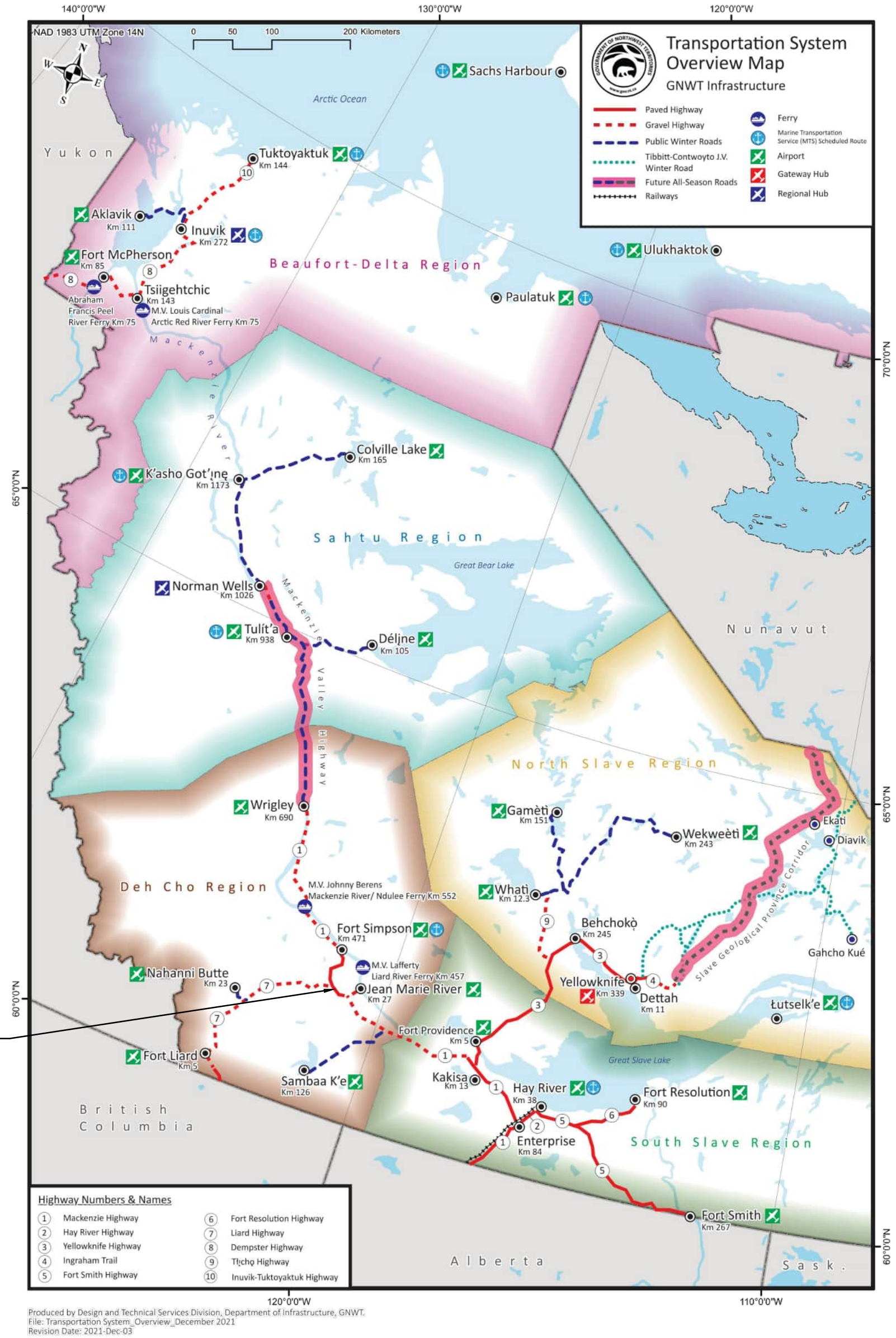
ISSUED FOR 100% REVIEW

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SD-200-02-12	TYPICAL SIGN INSTALLATION HEIGHT AND LATERAL LOCATIONS
SD-200-02-13	BREAKAWAY SIGN POST (TYPICAL INSTALLATION DETAILS)
SD-300-06-01	BENCHING FOR EMBANKMENT WIDENING
SD-400-01-51	STANDARD SLOPED END SECTIONS (C.S.P. ROUND CULVERTS)
SD-400-01-53	TYPICAL SLOPED END CULVERT MARKER INSTALLATION
SD-700-04-01	STEEL W-BEAM GUARDRAIL RAIL DETAIL
SD-700-04-02	STEEL W-BEAM GUARDRAIL BURIED TERMINALS INSTALLATION DETAIL
SD-700-04-04	STEEL W-BEAM GUARDRAIL POST CAP DETAILS
SD-700-04-05	STEEL W-BEAM GUARDRAIL PLACEMENT AT BRIDGE APPROACHES (TWO-LANE TRAFFIC)
ALBERTA TRANSPORTATION	
S-1411-87-REV6	STANDARD CONCRETE JOINTS
S-1642-20	TL-4 DOUBLE TUBE TYPE BRIDGERAIL – BRIDGERAIL DETAILS
S-1643-20	TL-4 DOUBLE TUBE TYPE BRIDGERAIL – APPROACH RAIL TRANSITION DETAILS WITH STRONG POST W-BEAM GUARDRAIL
S-1847-20	STANDARD IDENTIFICATION PLAQUES AND BENCHMARK TABLETS
S-1850-20	STANDARD STEEL PILE DETAILS
T-1761-20	TYPICAL EXPANSION BEARING DETAILS



JEAN MARIE RIVER BRIDGE
HIGHWAY No. 1
(MACKENZIE HIGHWAY) km 411.2
PROJECT LOCATION

SITE MAP
NTS

PRELIMINARY – NOT FOR CONSTRUCTION

			
Consultant Logo			
			
Rev	Date	Description	Init
C	2024-03-25	ISSUED FOR 100% REVIEW	YL
B	2023-10-06	ISSUED FOR 80% REVIEW	YL
A	2023-06-19	ISSUED FOR 50% REVIEW	YL
REVISIONS			
Government of Northwest Territories HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2 JEAN MARIE RIVER BRIDGE DRAWING LIST AND SITE MAP			
DESIGNED	YL	DATE	2024-03-25
CHECKED		DATE	
DRAWN	KK	DATE	2024-03-25
SCALE	AS SHOWN		
PROJECT No. CE857700		PREPARED UNDER THE DIRECTION OF YING YI LI, P.ENG. ENGINEER OF RECORD DATE 2024-03-25	
SHEET No. 2 OF 55		DRAWING No. SC-INF01-6081-G001	
		C	

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PLOTTED : Wednesday, March 20, 2024

GENERAL NOTES:

1.

ALL WORK SHALL CONFORM TO THE GNWT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (SSHC), CONTRACT, AND DRAWINGS.
2.

THE CONTRACTOR SHALL CONTACT ALL UTILITY OWNERS PRIOR TO COMMENCEMENT OF WORK.
3.

THE CONTRACTOR SHALL ENSURE ALL PERMITS AND APPROVALS REQUIRED FOR THE PROPOSED WORK HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.
4.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT CURRENT RELEVANT COPIES OF ALL DRAWINGS AND CONTRACT DOCUMENTS ARE FORWARDED TO SURVEYORS, TESTING AGENCIES, SUBCONTRACTORS, SUPERINTENDENTS, ESTIMATORS, PROJECT MANAGERS, SITE STAFF AND ANY OTHER RELEVANT PARTIES.
5.

THE CONTRACTOR SHALL CONSTRUCT ALL WORKS TO THE SATISFACTION OF THE ENGINEER AND ANY RELEVANT REGULATORY AUTHORITY. CONTRACTOR TO GIVE TIMELY NOTICE TO RELEVANT INSPECTOR TO ALLOW FOR INSPECTION ON WORKS AND UPDATE ENGINEER ON SAME.
6.

THE CONTRACTOR SHALL PERFORM AT HIS OWN COST ALL THE TESTING REQUIRED BY THE CONTRACT SPECIFICATIONS AND THE ENGINEER. TESTING SHALL BE DONE BY AN INDEPENDENT SPECIALTY TESTING FIRM. CONTRACTOR TO GIVE THE ENGINEER 72 HOURS NOTICE ON ALL TESTING. COPIES OF TESTS TO BE FORWARDED DIRECTLY TO THE ENGINEER.
7.

PROPERTY LINES SHOWN ON CONTRACT DRAWINGS ARE APPROXIMATE ONLY. THE 60m HIGHWAY RIGHT-OF-WAY LIMITS ARE BASED ON MACKENZIE VALLEY LAND AND WATER BOARD (MVLWB) LAND USE PERMIT, No MV2016E0006 DATED MAY 20, 2021.
8.

LOCATIONS OF EXISTING UTILITIES HAVE BEEN COMPILED FROM OWNER AND UTILITY SUPPLIED RECORD DRAWINGS AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING SERVICES AND NOTIFY ENGINEER OF ANY DISCREPANCIES, CONFLICTS OR OMISSIONS PRIOR TO BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF ANY DAMAGE TO EXISTING UTILITIES TO THE SATISFACTION OF THE ENGINEER AND/OR APPROPRIATE UTILITY OWNER.
9.

THE CONTRACTOR SHALL USE EXTREME CARE WHEN WORKING NEAR EXISTING SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THERE IS NO DISRUPTION TO SERVICE. IF DISRUPTION IS ANTICIPATED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPROPRIATE UTILITY OWNER A MINIMUM OF 72 HOURS PRIOR AND OBTAIN APPROVAL FOR THE DISRUPTION.
10.

CONTRACTOR SHALL RESTORE ALL AFFECTED SIGNS, UTILITIES, LANDSCAPING AND FEATURES OUTSIDE OF CONSTRUCTION AREAS THAT MAY BE DAMAGED DURING CONSTRUCTION TO ORIGINAL OR BETTER CONDITION AT THEIR COST.
11.

CONTRACTOR IS RESPONSIBLE FOR HAULING AND PROPER DISPOSAL OF ALL EXCESS MATERIAL UNSUITABLE FOR REUSE OFF SITE TO AN APPROVED DISPOSAL AREA, IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS AND THE CONTRACT DOCUMENTS.
12.

WHERE NO IMPROVEMENTS ARE PROPOSED UNDER THIS CONTRACT, THE EXISTING SECTION(S) OF ROADWAY SHALL BE KEPT CLEAN AND CLEAR FOR THE DURATION OF CONSTRUCTION AND LEFT IN THE SAME CONDITION AS PRIOR TO CONSTRUCTION.
13.

CONTRACTOR SHALL KEEP PROPER AS-BUILT INFORMATION DURING CONSTRUCTION. THE CONTRACTOR'S SURVEYOR SHALL RECORD AND CERTIFY ALL INFORMATION REQUIRED TO PROVIDE THE ENGINEER A COMPLETE SET OF AS-BUILT DRAWINGS.
14.

ALL TRAFFIC CONTROL SHALL CONFORM WITH THE CONTRACT DOCUMENTS AND THE TRANSPORTATION ASSOCIATION OF CANADA "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CANADA" LATEST EDITION. CONTRACTOR SHALL SUBMIT TRAFFIC MANAGEMENT PLAN AND LANE CLOSURE REQUESTS FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.
15.

VEHICULAR ACCESS TO EXISTING PROPERTIES SHALL BE MAINTAINED 24 HOURS PER DAY BY THE CONTRACTOR FOR THE DURATION OF THE CONTRACT.
16.

PEDESTRIANS SHALL BE PROTECTED AT ALL TIMES. ANY CLOSURES OF SHOULDERS, OR LANES TO BE COORDINATED WITH AND APPROVED BY THE ENGINEER. CONTRACTOR TO PROVIDE REQUIRED WRITTEN NOTICES TO RESIDENTS DIRECTLY AFFECTED BY CONSTRUCTION AND TO ALL EMERGENCY SERVICES.
17.

ALL DIMENSIONS AND ELEVATIONS IN METRES UNLESS OTHERWISE NOTED.
18.

REFER TO CONTRACT SPECIFICATIONS FOR OTHER REQUIREMENTS. IN CASE OF CONFLICTS BETWEEN THIS DRAWING AND CONTRACT SPECIFICATIONS, CONTRACT SPECIFICATIONS WILL PREVAIL.

ROADWORKS NOTES:

1.

THE CONTRACTOR SHALL GIVE THE ENGINEER 48 HOURS NOTICE PRIOR TO THE SUBGRADE PROOF ROLL, BASE AND SUBBASE COMPACTION, AND PAVING.
2.

CHANGES IN GRADE TO BE FORMED WITH SMOOTH CURVES.
3.

ROAD APPROACH CONSTRUCTION TO BE IN ACCORDANCE WITH THE LATEST GEOTECHNICAL REPORT.
4.

HYDROTECHNICAL REPORT WAS PREPARED BY MATRIX SOLUTIONS INC. ON JANUARY 12, 2024.
5.

GEOTECHNICAL REPORT WAS PREPARED BY MASKAWA ENGINEERING LTD. ON OCTOBER 30, 2023.

SURVEY NOTES:

1.

COORDINATES ARE UTM ZONE 10N NAD83(CSRS).
2.

ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM BENCHMARK #1 (ELEVATION = 206.55m)

BENCHMARK POINT TABLE			
DESCRIPTION	NORTHING	EASTING	ELEVATION
BM1	6813590.94	593981.66	206.55
BM2	6813676.41	593990.85	208.56
WSC 209	6813636.61	593979.31	205.21
WSC 210	6813600.75	593980.07	205.16

3.

LOT BOUNDARIES SHOWN HEREON ARE DERIVED FROM TIES TO EXISTING SURVEY EVIDENCE AND CANADA LAND SURVEY RECORDS. LOT BOUNDARIES ARE SUBJECT TO CHANGE UPON LEGAL SURVEY.

LEGEND

SYMBOLS – EXISTING		SYMBOLS – PROPOSED	
CATCH BASIN		CATCH BASIN	
POWER POLES		PROPOSED RETAINING WALL	
ROAD SIGN		ROAD SIGN	
EDGE OF TREE LINE		SURVEY CONTROL POINT	
HIGH WATER MARK		SPILLWAY	
EDGE OF WATER		RIPRAP	
MAJOR CONTOUR		ASPHALTIC SURFACE TREATMENT	
MINOR CONTOUR		GRAVEL ACCESS ROAD	
FIBRE OPTIC CABLE (BURIED)		UTILITY VAULT	
POWER LINE (OVERHEAD)			
FIBRE OPTIC MARKER POST			
LINETYPES – EXISTING		LINETYPES – PROPOSED	
CONTROL LINES			
EDGE OF PAVED SHOULDER			
EDGE OF GRAVEL SHOULDER			
CULVERT			
DRAINAGE DITCH			
CLEARING & GRUBBING			
GUARDRAIL			
TOE LINE			
HIGHWAY RIGHT OF WAY (R.O.W.)			
PRE-CAST CONCRETE BARRIER			

PRELIMINARY – NOT FOR CONSTRUCTION

Consultant Logo

Rev	Date	Description	Init
B	2024-03-25	ISSUED FOR 100% REVIEW	RL
A	2023-10-06	ISSUED FOR 80% REVIEW	RL

REVISIONS

Government of Northwest Territories

HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2

JEAN MARIE RIVER BRIDGE

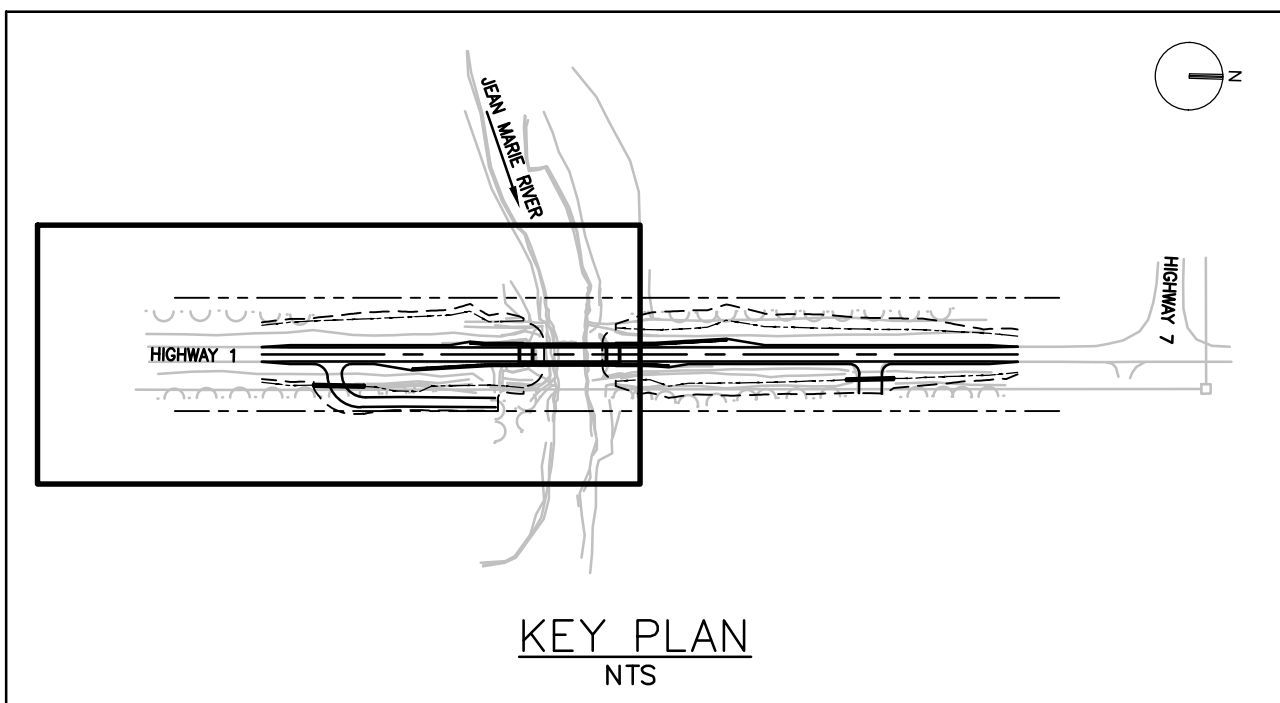
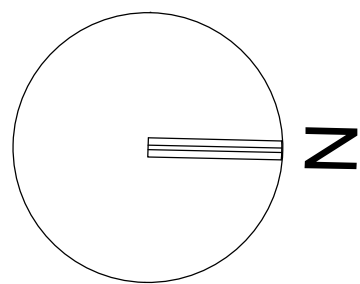
GENERAL NOTES AND LEGEND

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE	AS SHOWN		

		PREPARED UNDER THE DIRECTION OF	
		RAY LIU, P.ENG.	
		ENGINEER OF RECORD	
		DATE 2024-03-25	

PROJECT No.	SHEET No.	DRAWING No.	
CE857700	3 OF 55	SC-INF01-6081-C001	B

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PLOTTED : Wednesday, March 20, 2024



	PROPOSED ROAD STRUCTURE OVER EXISTING HIGHWAY	COMMENTS
TYPE 1	32mm NEW ASPHALTIC SURFACE TREATMENT (TWO LAYERS)	REMOVE EXISTING ASPHALTIC SURFACE TREATMENT
TYPE 2	32mm NEW ASPHALTIC SURFACE TREATMENT (TWO LAYERS) 0 TO 300mm GRANULAR BASE COURSE (20mm MINUS)	REMOVE EXISTING ASPHALTIC SURFACE TREATMENT
TYPE 3	32mm NEW ASPHALTIC SURFACE TREATMENT (TWO LAYERS) 300mm GRANULAR BASE COURSE (20mm MINUS) 0 TO 500mm GRANULAR SUBBASE COURSE (50mm MINUS)	REMOVE EXISTING ASPHALTIC SURFACE TREATMENT
TYPE 4	32mm NEW ASPHALTIC SURFACE TREATMENT (TWO LAYERS) 300mm GRANULAR BASE COURSE (20mm MINUS) 500mm GRANULAR SUBBASE COURSE (50mm MINUS)	EXISTING ASPHALTIC SURFACE TREATMENT TO REMAIN

NOTE:

THE PROPOSED ROAD STRUCTURES IN THE TABLE ARE FOR CONSTRUCTION OVER EXISTING HIGHWAY. FOR WIDENING OF EXISTING HIGHWAY ON WEST AND EAST SIDE, APPLY 32mm ASPHALTIC SURFACE TREATMENT (TWO LAYERS), 300mm BASE COURSE AND 500mm SUBBASE COURSE.

FIBRE OPTIC MARKER POST (WEST SIDE ONLY)			
Point #	Elevation	Northing	Easting
F04	206.37	6813351.68	593962.24
F07	202.52	6813603.31	593957.74
F08	202.50	6813595.67	593957.32
F010	209.99	6813671.19	593950.88
F011	208.42	6813656.39	593951.75
F012	209.58	6813660.99	593951.02
F013	210.04	6813684.52	593952.37
F014	209.63	6813883.65	593947.79
F024	202.53	6813592.58	593957.32
F025	202.74	6813601.54	593957.60
F026	203.08	6813579.69	593957.60
F027	203.25	6813569.16	593958.54

NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
2. DESIGN IS BASED ON SITE SURVEY BY STANTEC CONSULTING LTD IN 2019. SUPPLEMENTAL TOPOGRAPHICAL SURVEY WAS COMPLETED BY MASKAWA ENGINEERING LTD. IN JUNE 2023.
3. COORDINATES ARE UTM NAD 83 ZONE 10N. ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM BENCHMARK #1 (ELEVATION = 206.55m).
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5. HOLLOW ARROWS SHOW TRAFFIC DIRECTION ONLY AND ARE NOT TO BE PAINTED.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL THROUGH THE SITE 24 HOURS PER DAY DURING CONSTRUCTION.
7. CLEARING AND GRUBBING LIMITS TO BE OFFSET 2.0m FROM TOP OF CUT AND 5.0m FROM BOTTOM OF FILL UNLESS OTHERWISE SPECIFIED.

PRELIMINARY – NOT FOR CONSTRUCTION



Consultant Logo

Jacobs.

Rev	Date	Description	Init
C	2024-03-25	ISSUED FOR 100% REVIEW	RL
B	2023-10-06	ISSUED FOR 80% REVIEW	RL
A	2023-06-19	ISSUED FOR 50% REVIEW	RL

REVISIONS

Government of Northwest Territories

HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2

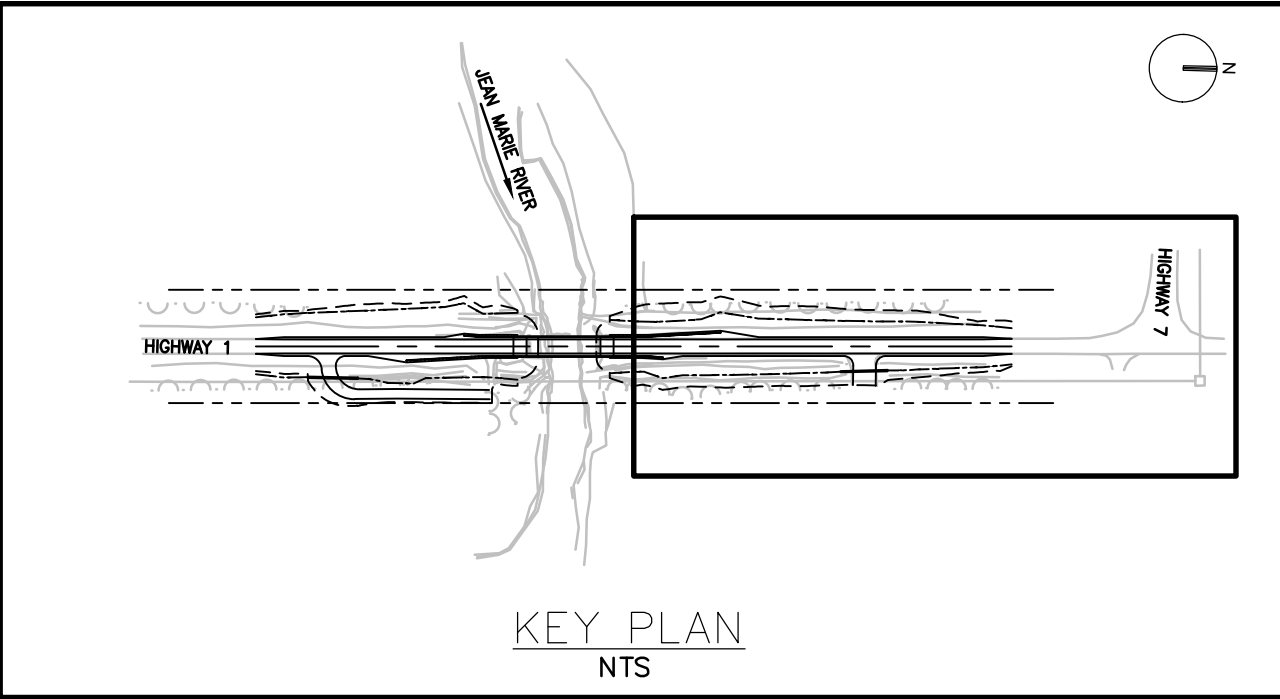
JEAN MARIE RIVER BRIDGE

PLAN AND PROFILE

SHEET 1 OF 2

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE	AS SHOWN		

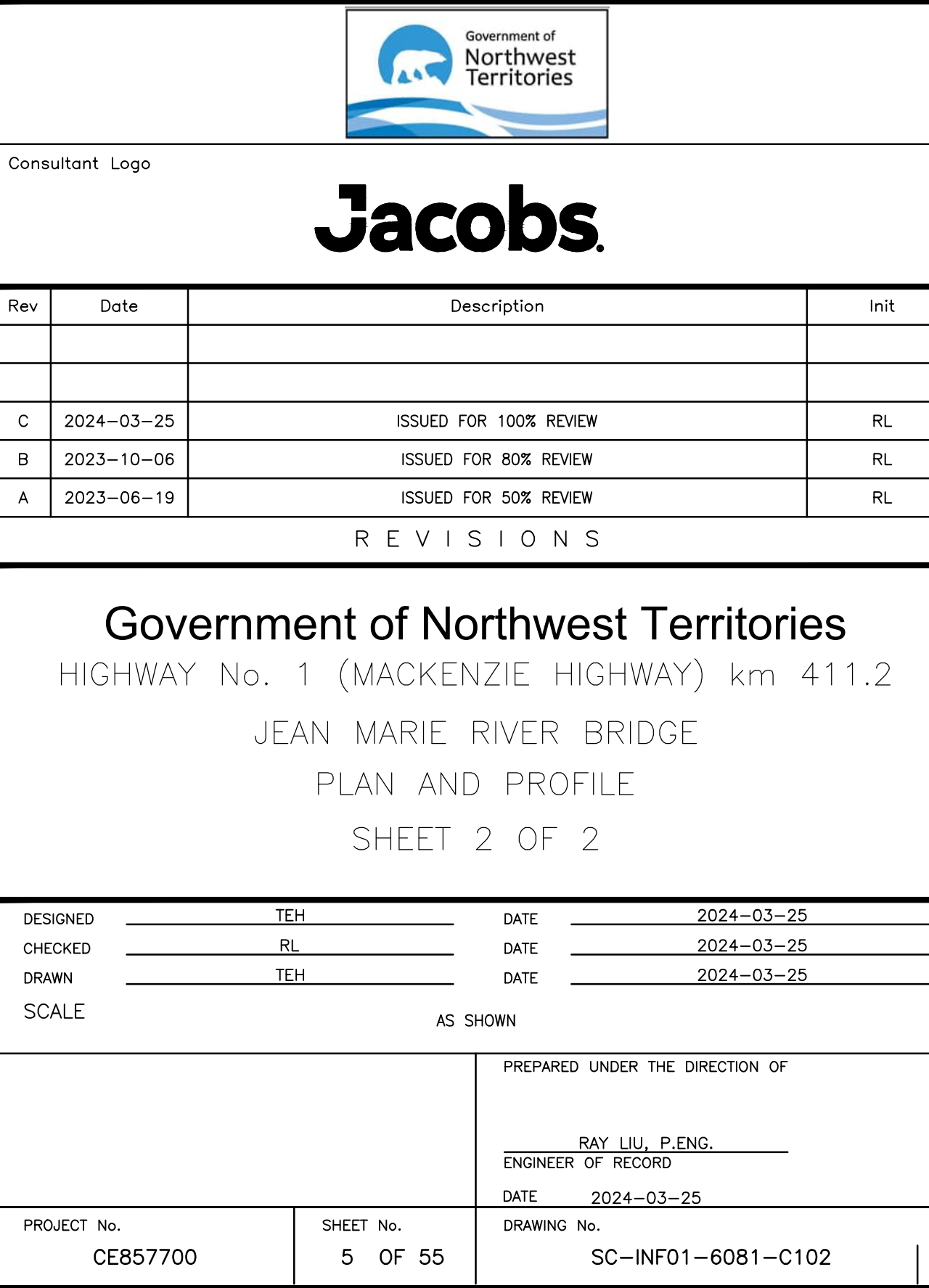
		PREPARED UNDER THE DIRECTION OF	
		<u>RAY LIU, P.ENG.</u> ENGINEER OF RECORD	
		DATE <u>2024-03-25</u>	
PROJECT No. CE857700	SHEET No. 4 OF 55	DRAWING No. SC-INF01-6081-C101	



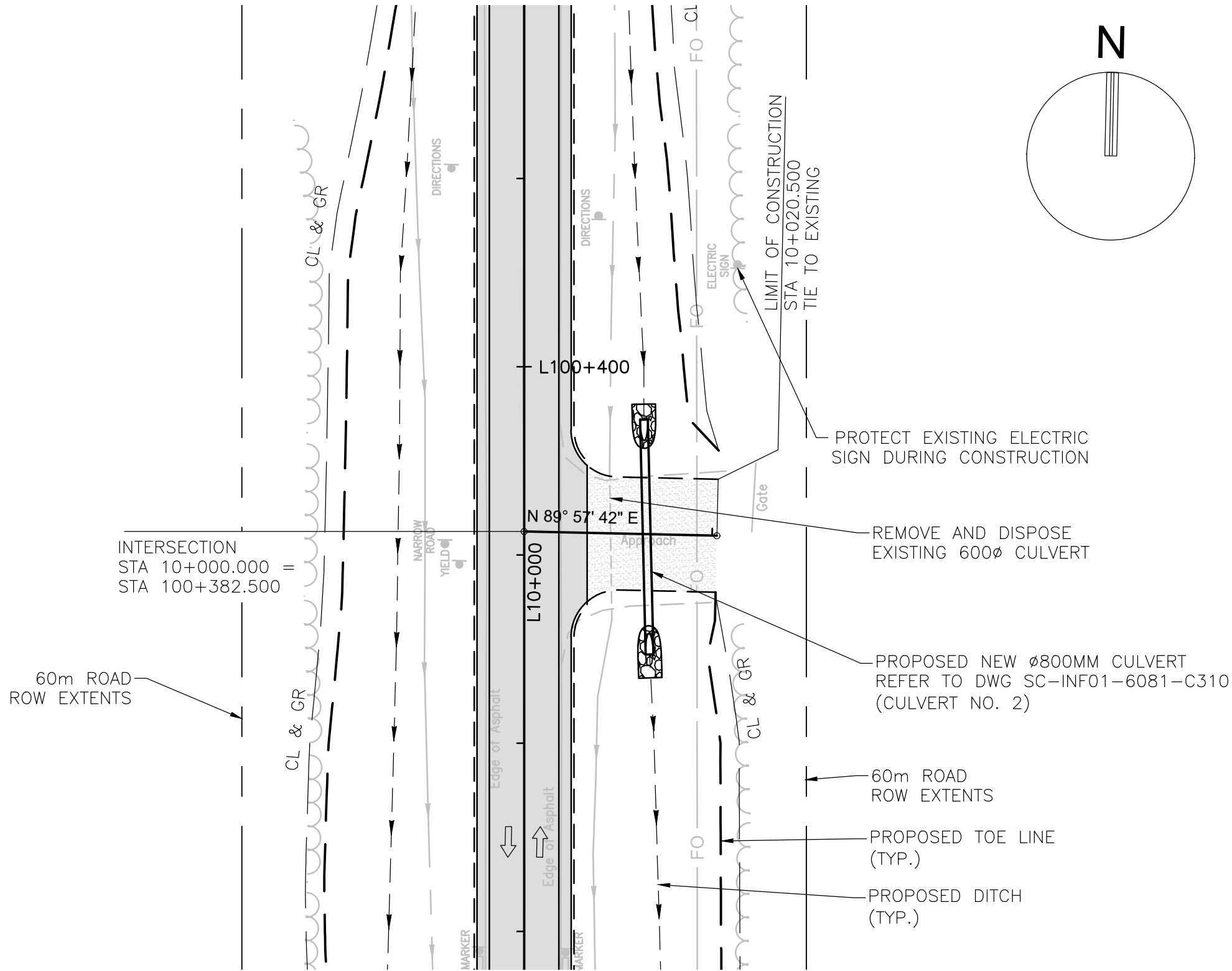
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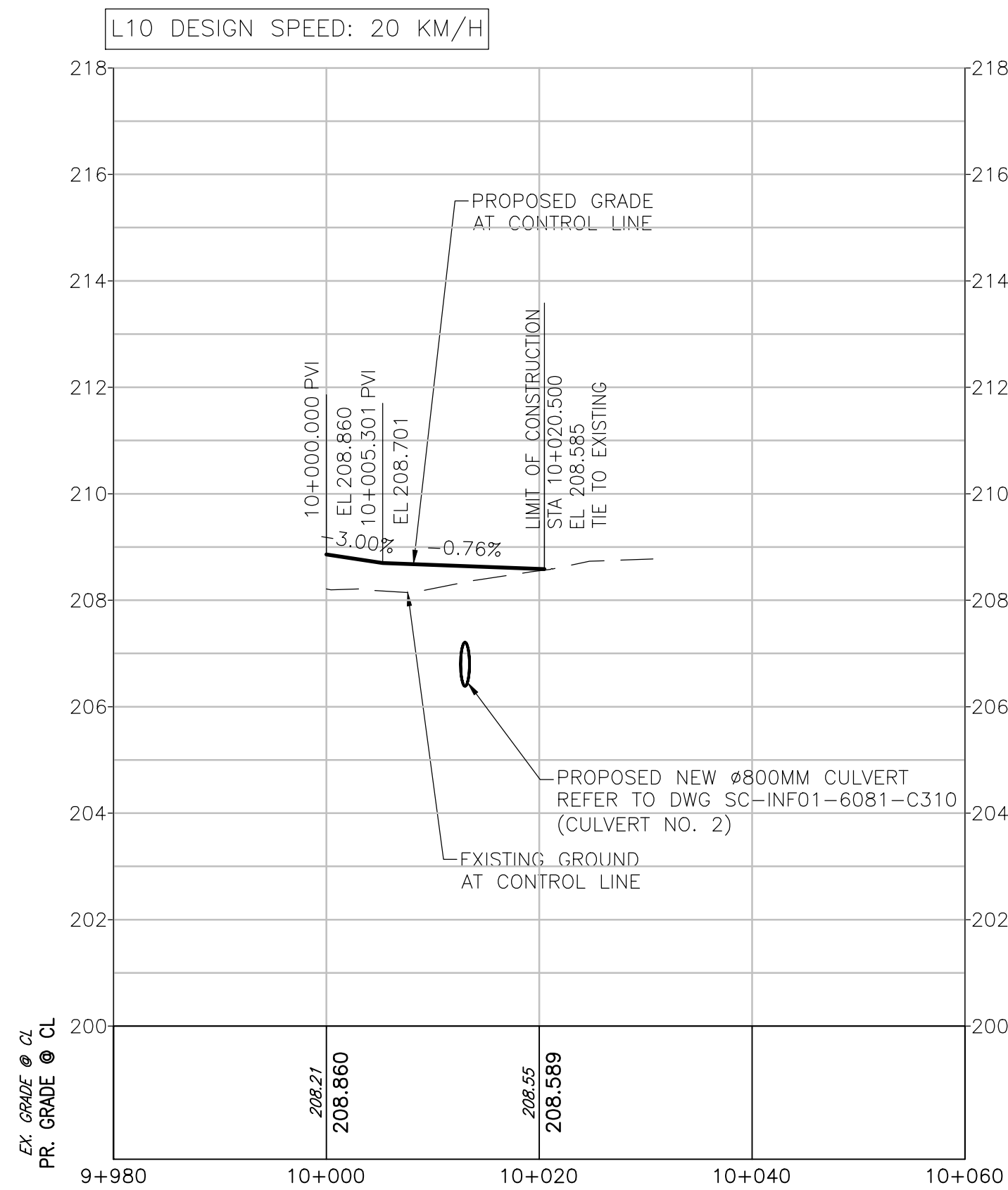
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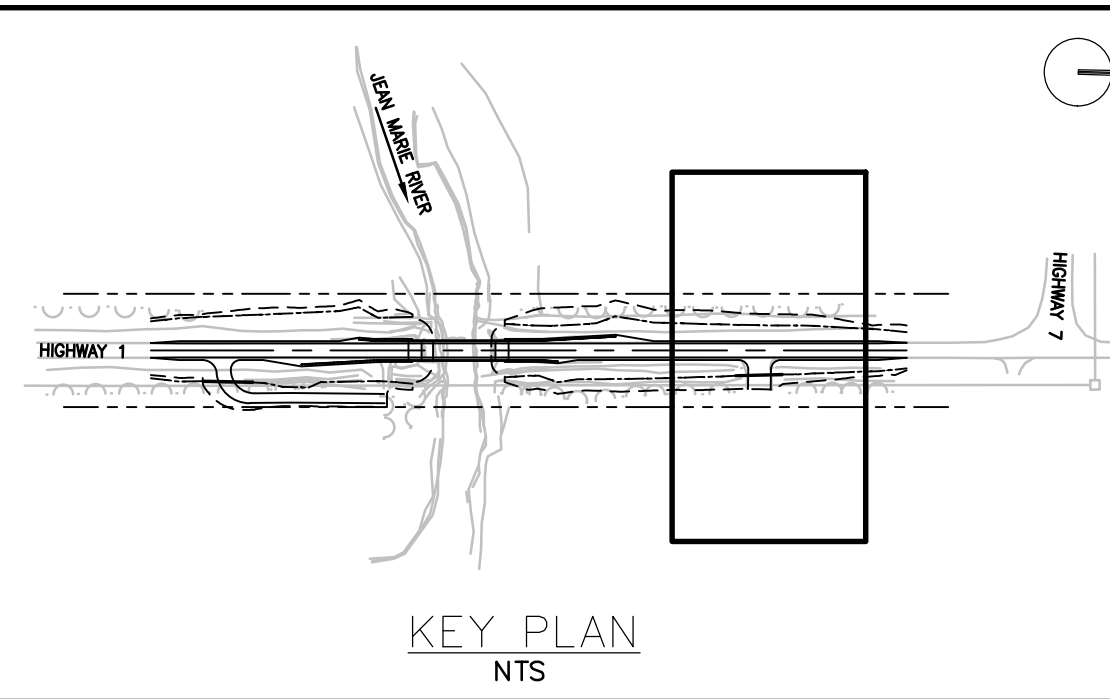
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PLOTTED : Friday, March 22, 2024



L10 PLAN
1:500



L10 PROFILE
HOR 1:500 VER 1:100



NOTES:

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PRELIMINARY – NOT FOR CONSTRUCTION



Consultant Logo



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C	2024-03-25	ISSUED FOR 100% REVIEW	RL
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REVISIONS

Government of Northwest Territories

HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2

JEAN MARIE RIVER BRIDGE

L10 PLAN AND PROFILE

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE	AS SHOWN		

PROJECT No. CE857700	SHEET No. 6 OF 55	PREPARED UNDER THE DIRECTION OF	
		RAY LIU, P.ENG. ENGINEER OF RECORD DATE 2024-03-25 DRAWING No. SC-INF01-6081-C110	



FIBRE OPTIC MARKER POST
(WEST SIDE ONLY)

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
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REVISIONS

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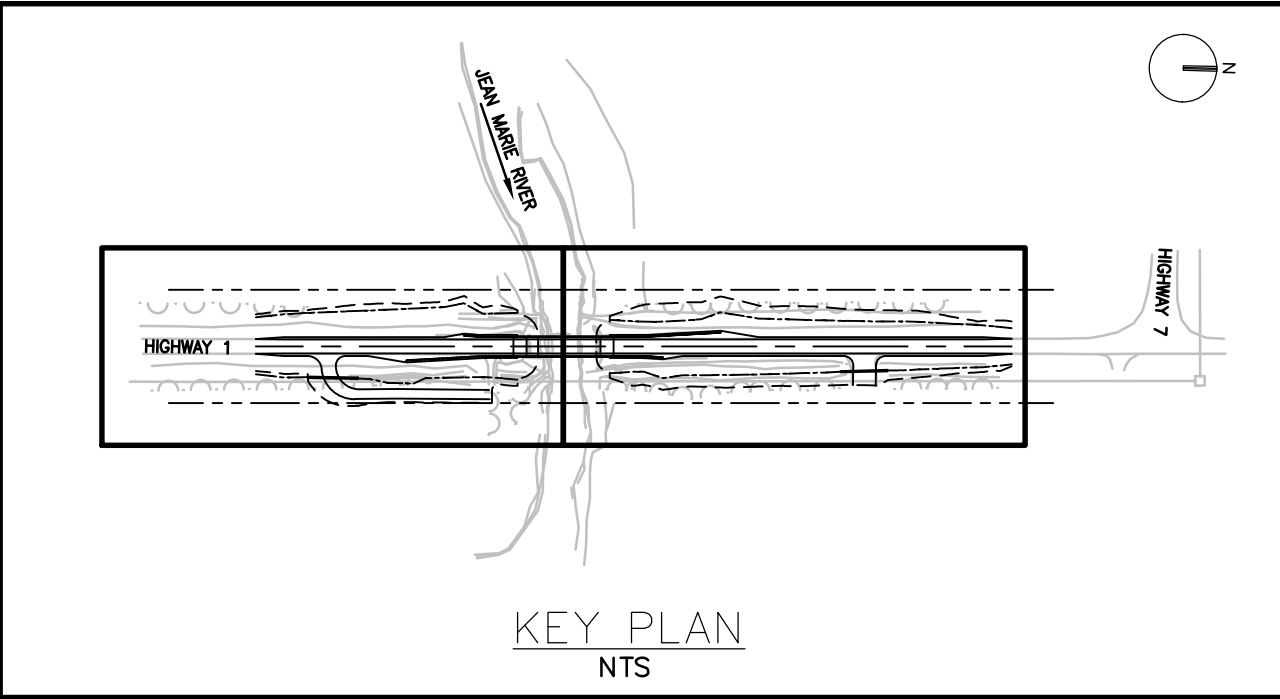
HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2

JEAN MARIE RIVER BRIDGE

L20 PLAN AND PROFILE

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25

		PREPARED UNDER THE DIRECTION OF <u>RAY LIU, P.ENG.</u> ENGINEER OF RECORD	
		DATE <u>2024-03-25</u>	
PROJECT No.	SHEET No.	DRAWING No.	
CE857700	7 OF 55	SC-INF01-6081-C111	
		C	



L20						
No.	L	START STA	NORTHING	EASTING	R	LINE/CHORD DIRECTION
L3	7.657	L20+000.000	6813494.541	593976.844		088° 43' 43.00"
C1	27.479	L20+007.657	6813494.711	593984.499	17.500	
L4	67.074	L20+035.136	6813512.584	594001.607		358° 45' 44.08"

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1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
2. DESIGN IS BASED ON SITE SURVEY BY STANTEC CONSULTING LTD IN 2019. SUPPLEMENTAL TOPOGRAPHICAL SURVEY WAS COMPLETED BY MASKAWA ENGINEERING LTD. IN JUNE 2023.
3. COORDINATES ARE UTM NAD 83 ZONE 10N. ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM BENCHMARK #1 (ELEVATION = 206.55m).
4. THE GUARDRAIL BURIED TERMINAL SHALL BE AS PER GNWT STD DWG SD-700-04-05 AT THE END OF GUARDRAIL FLARES. THE TOTAL TURNDOWN LENGTH SHALL BE 11.43M AS PER THE STD DWG.
5. REFER TO STRUCTURAL DRAWINGS FOR GUARDRAIL TRANSITION AND CONNECTION DETAILS WITH BRIDGE PARAPET.
6. SEE PLAN AND PROFILE DRAWINGS SC-INF01-6081-C101 AND C102 FOR CROSS FALL AND CROSS FALL TRANSITIONS.
7. CURVE RADIUS REFERS TO EDGE OF ASPHALTIC SURFACE TREATMENT (IF PRESENT) OR EDGE OF GRAVEL.



Jacobs.

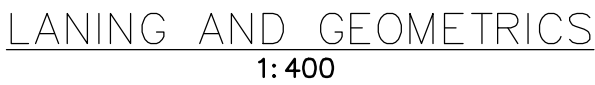
REVISIONS

HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE	AS SHOWN		

RAY LIU, P.ENG.
ENGINEER OF RECORD

PROJECT No.	SHEET No.	DRAWING No.
CE857700	8 OF 55	SC-INF01-6081-C201



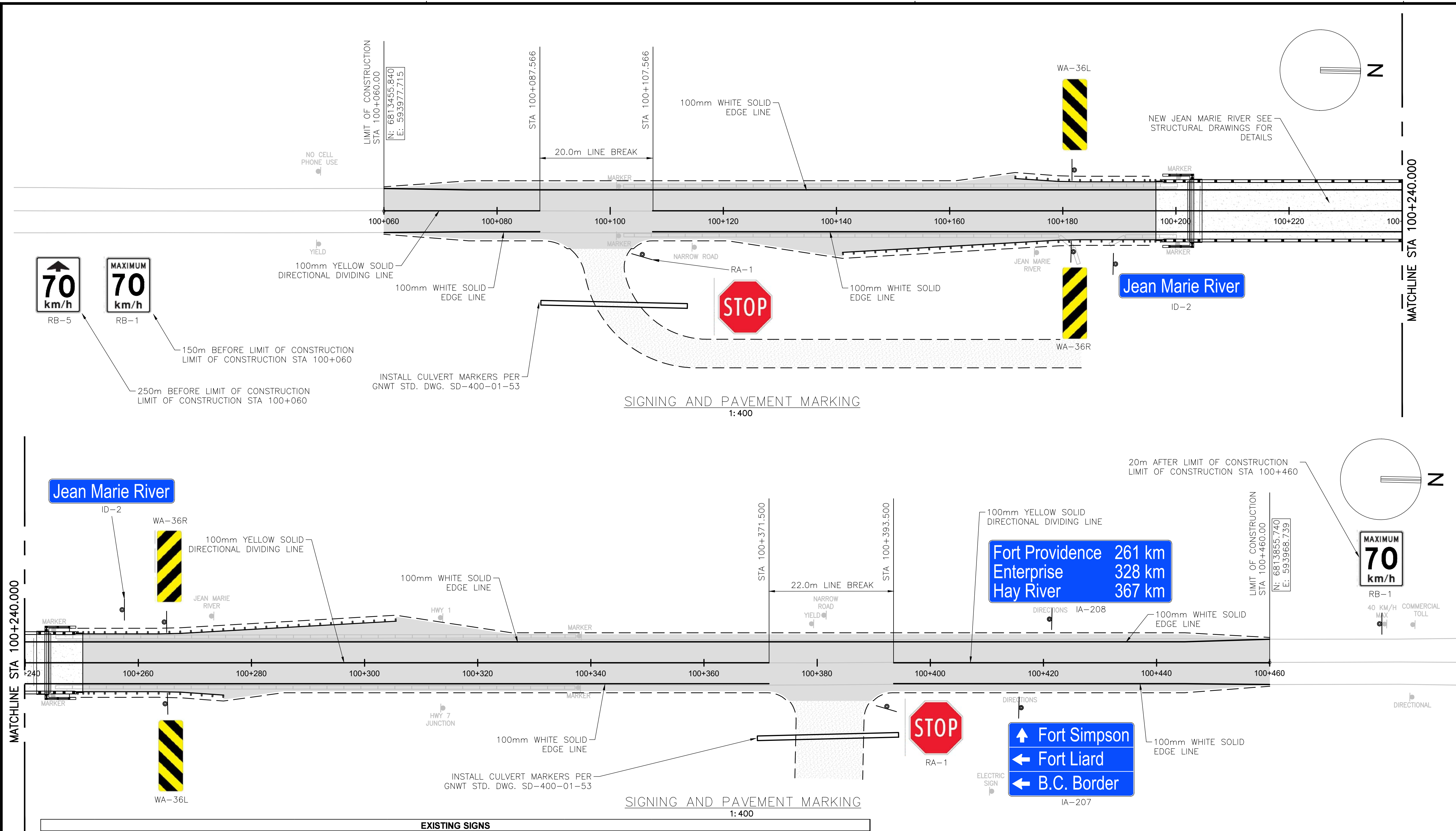
L10						
No.	L	START STA	NORTHING	EASTING	R	LINE/CHORD DIRECTION
L2	20.500	L10+000.000	6813778.260	593970.509		089° 57' 41.81"

MACKENZIE HIGHWAY (#1) DESIGN SPEED: 90 KM/H

L10 DESIGN SPEED: 20 KM/H

L20 DESIGN SPEED: 20 KM/H

FILE: C:\pw_work\jacobson-us-va-pw-02\jma92398\SC-INF01-6081-C211.DWG
PLOTED : Friday, March 22, 2024



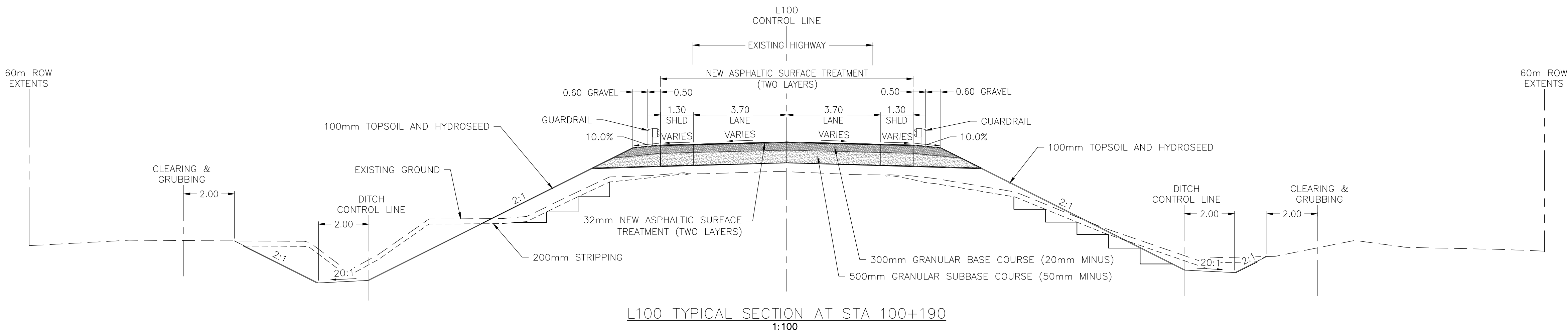
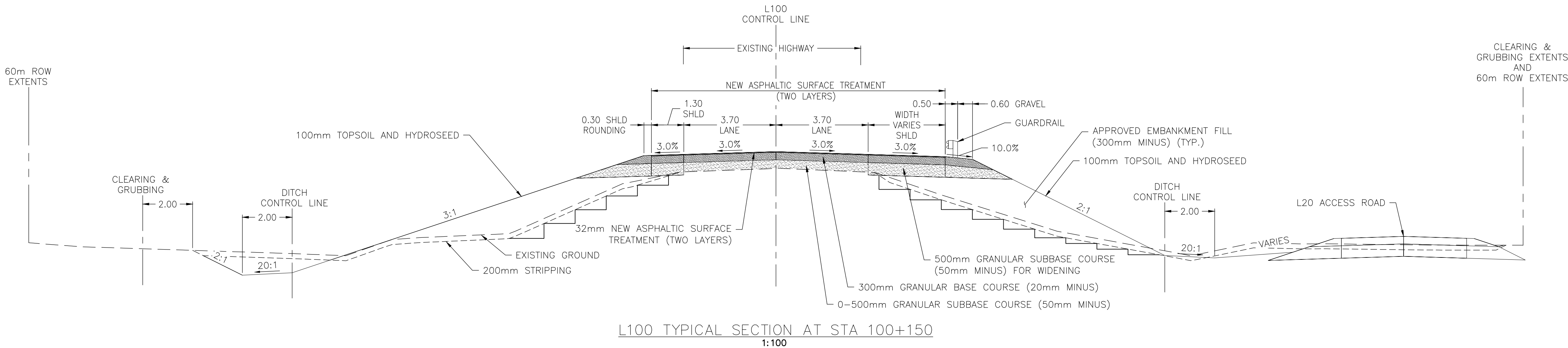
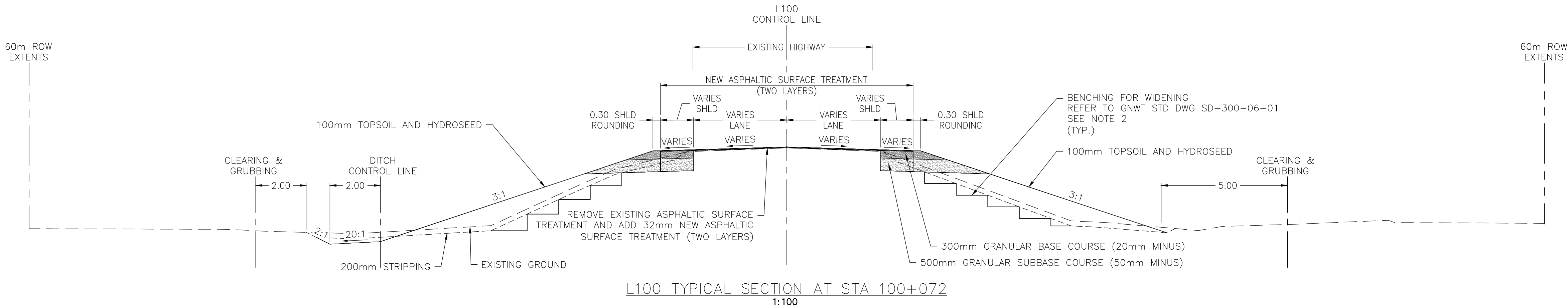
NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
2. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE AS PER TAC MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CANADA, LATEST EDITION.
3. PLACEMENT OF NEW SIGNS AS PER GNWT STANDARD DRAWING SD-200-02-12.
4. ALL NEW SIGN POSTS SHOULD BE BREAKAWAY EXCEPT WHEN SIGN POST IS BEHIND PROTECTION SUCH AS CONCRETE BARRIER OR GUARDRAIL. BREAKAWAY SIGN POSTS SHALL BE AS PER GNWT STD. DWG. SD-200-02-13.
5. SURVEY BY STANTEC CONSULTING LTD IN 2019 DOES NOT INCLUDE EXISTING SIGNS. EXISTING SIGN INFORMATION ON THIS DRAWING IS BASED ON SITE REVIEWS AND ADDITIONAL TOPOGRAPHICAL SURVEY FOR THIS PROJECT. CONTRACTOR TO VERIFY EXISTING SIGNS ON SITE PRIOR TO CONSTRUCTION.

PRELIMINARY – NOT FOR CONSTRUCTION

			
Consultant Logo			
			
Rev	Date	Description	Init
B	2024-03-25	ISSUED FOR 100% REVIEW	RL
A	2023-10-06	ISSUED FOR 80% REVIEW	RL
REVISIONS			
Government of Northwest Territories			
HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2			
JEAN MARIE RIVER BRIDGE			
SIGNING AND PAVEMENT MARKING			
DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE		AS SHOWN	
PROJECT No.		PREPARED UNDER THE DIRECTION OF	
CE857700		RAY LIU, P.ENG.	
SHEET No.		ENGINEER OF RECORD	
9 OF 55		DATE	
		2024-03-25	
DRAWING No.		SC-INF01-6081-C211	
		B	

FILE: C:\p_w_work\kdl\jacobs-us-va-pw-02\lma92398\SC-INF01-6081-C301.DWG
PLOTTED : Wednesday, March 20, 2024



- NOTES:
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
 2. IF EXISTING SLOPE 2H:1V, USE BENCH WIDTH OF 0.6M. IF EXISTING SLOPE FLATTER THAN 2H:1V, USE BENCH WIDTH OF 1.25M PER GNWT STD. DWG SD-300-06-01.
 3. CONTRACTOR NOT TO STRIP PAST THE TOP OF THE BACKSLOPE AND LEAVE THE EXISTING GROUND COVER IN PLACE TO REDUCE EROSION ON THE BACKSLOPE.
 4. NORMAL CROSS SLOPE FOR ASPHALTIC TREATMENT SURFACE AND GRAVEL IS 3%.
 5. SEE PLAN AND PROFILE DRAWINGS SC-INF01-6081-C101 AND C102 FOR CROSS FALL AND CROSS FALL TRANSITIONS.
 6. SEE LANING AND GEOMETRICS DRAWING SC-INF01-6081-C201 FOR DETAILED LANE AND SHOULDER DIMENSIONS.
 7. CLEARING AND GRUBBING LIMITS TO BE OFFSET 2.0m FROM TOP OF CUT AND 5.0m FROM BOTTOM OF FILL UNLESS OTHERWISE SPECIFIED.
 8. GUARDRAIL SHALL BE AS PER GNWT STANDARD DRAWINGS SD-700-04-01, 02, 04 AND 05.
 9. SEE PLAN AND PROFILE DRAWINGS SC-INF01-6081-C101 AND C-102 FOR PAVEMENT CONSTRUCTION.

PRELIMINARY – NOT FOR CONSTRUCTION



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Jacobs

Rev	Date	Description	Init
C	2024-03-25	ISSUED FOR 100% REVIEW	RL
B	2023-10-06	ISSUED FOR 80% REVIEW	RL
A	2023-06-19	ISSUED FOR 50% REVIEW	RL

REVISIONS

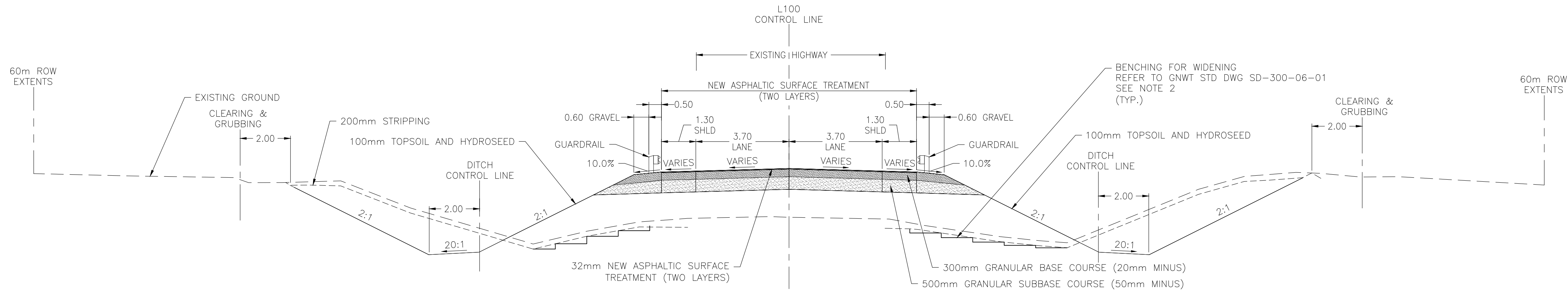
Government of Northwest Territories
HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2
JEAN MARIE RIVER BRIDGE
TYPICAL SECTIONS
SHEET 1 OF 2

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
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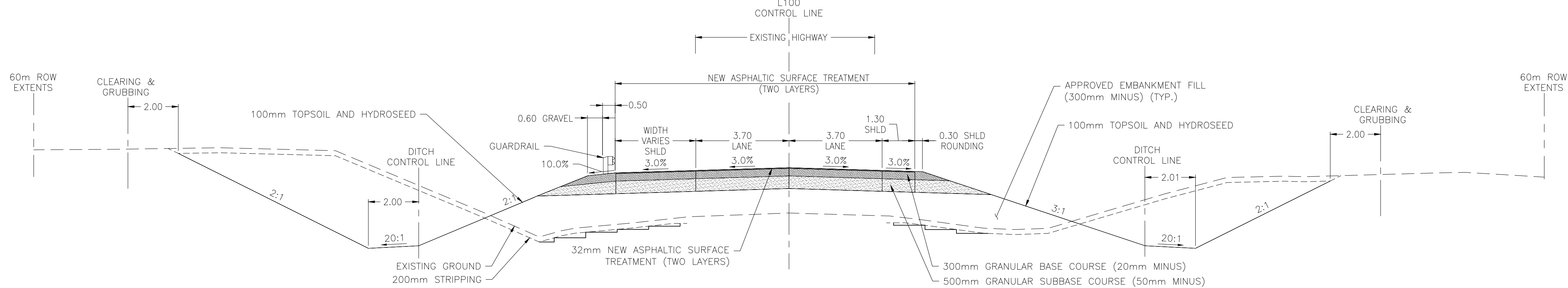
PROJECT No. CE857700		SHEET No. 10 OF 55		PREPARED UNDER THE DIRECTION OF RAY LIU, P.ENG. ENGINEER OF RECORD DATE 2024-03-25 DRAWING No. SC-INF01-6081-C301	
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C

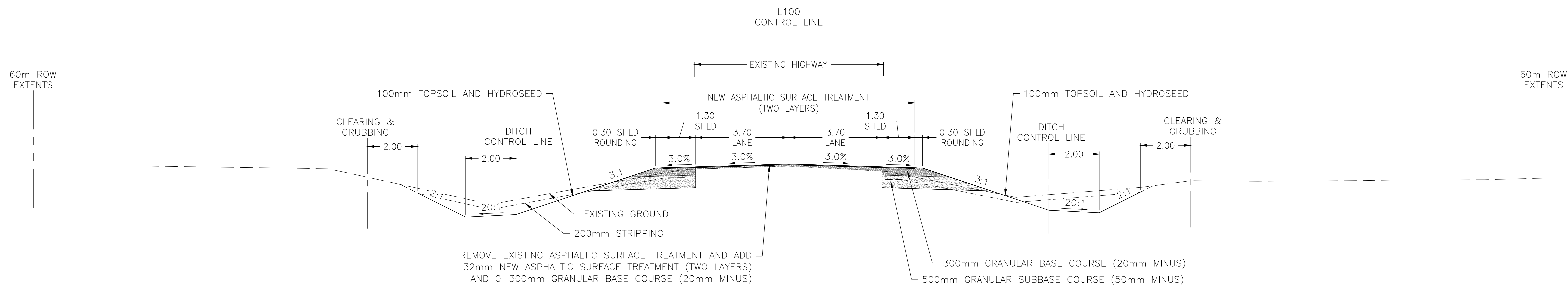
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PLOTTED : Wednesday, March 20, 2024



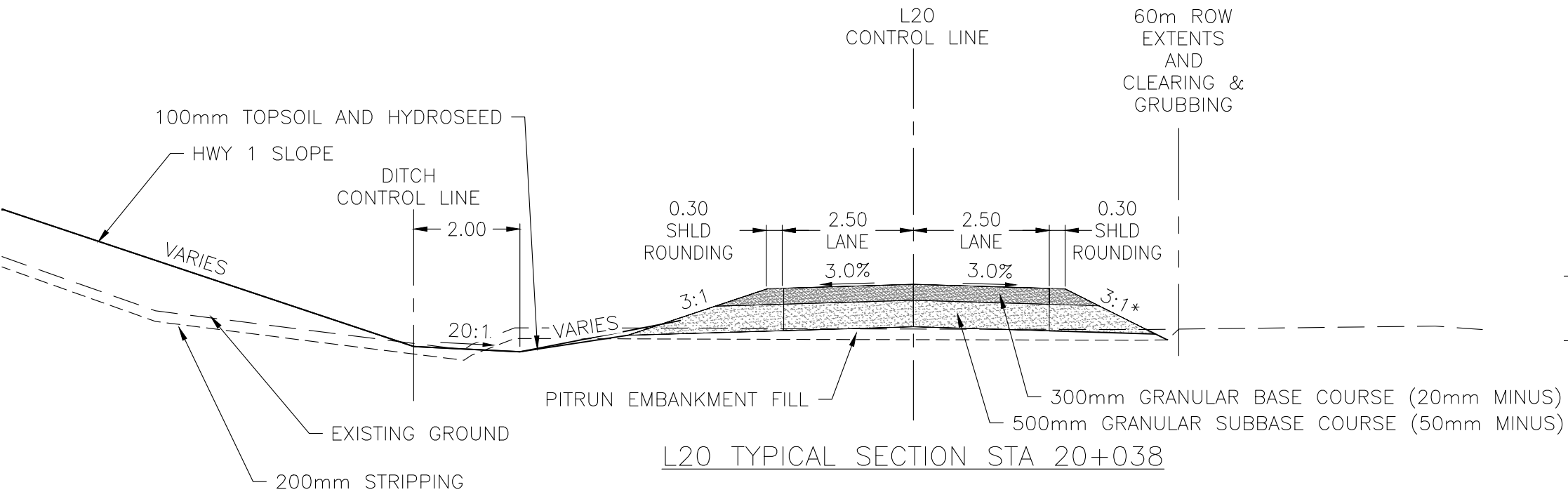
L100 TYPICAL SECTION AT STA 100+260



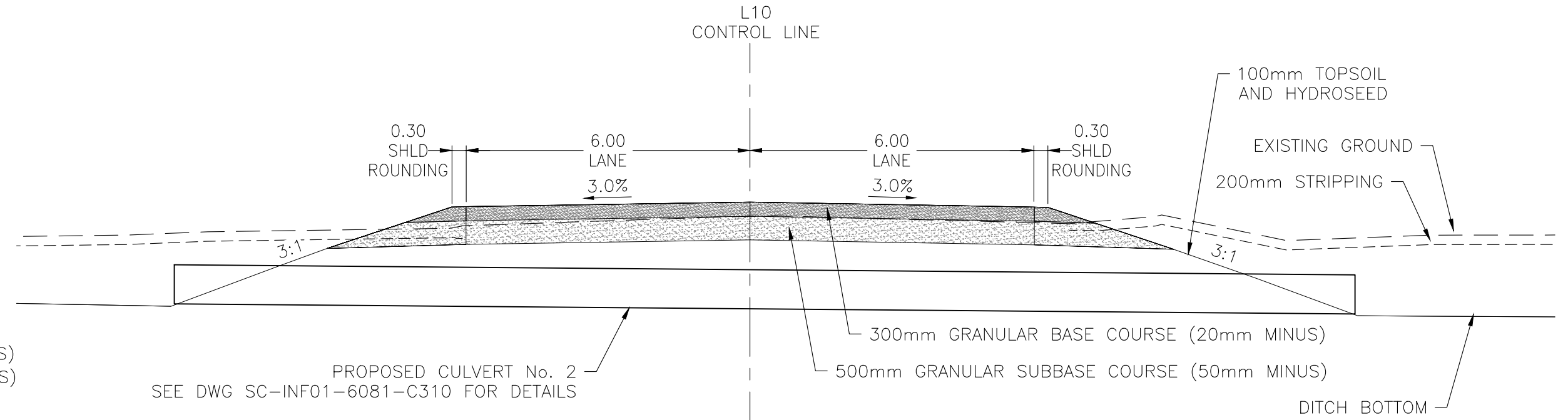
L100 TYPICAL SECTION AT STA 100+300



L100 TYPICAL SECTION AT STA 100+432



L20 TYPICAL SECTION STA 20+038



L10 TYPICAL SECTION STA 10+013

NOTES:

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3. CONTRACTOR NOT TO STRIP PAST THE TOP OF THE BACKSLOPE AND LEAVE THE EXISTING GROUND COVER IN PLACE TO REDUCE EROSION ON THE BACKSLOPE.
4. NORMAL CROSS SLOPE FOR ASPHALTIC TREATMENT SURFACE AND GRAVEL IS 3%.
5. SEE PLAN AND PROFILE DRAWINGS SC-INF01-6081-C101 AND C102 FOR CROSS FALL AND CROSS FALL TRANSITIONS.
6. SEE LANING AND GEOMETRICS DRAWING SC-INF01-6081-C201 FOR DETAILED LANE AND SHOULDER DIMENSIONS.
7. CLEARING AND GRUBBING LIMITS TO BE OFFSET 2.0m FROM TOP OF CUT AND 5.0m FROM BOTTOM OF FILL UNLESS OTHERWISE SPECIFIED.
8. GUARDRAIL SHALL BE AS PER GNWT STANDARD DRAWINGS SD-700-04-01, 02, 04 AND 05.
9. SEE PLAN AND PROFILE DRAWINGS SC-INF01-6081-C101 AND C-102 FOR PAVEMENT CONSTRUCTION.

PRELIMINARY – NOT FOR CONSTRUCTION



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Jacobs

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REVISIONS

Government of Northwest Territories

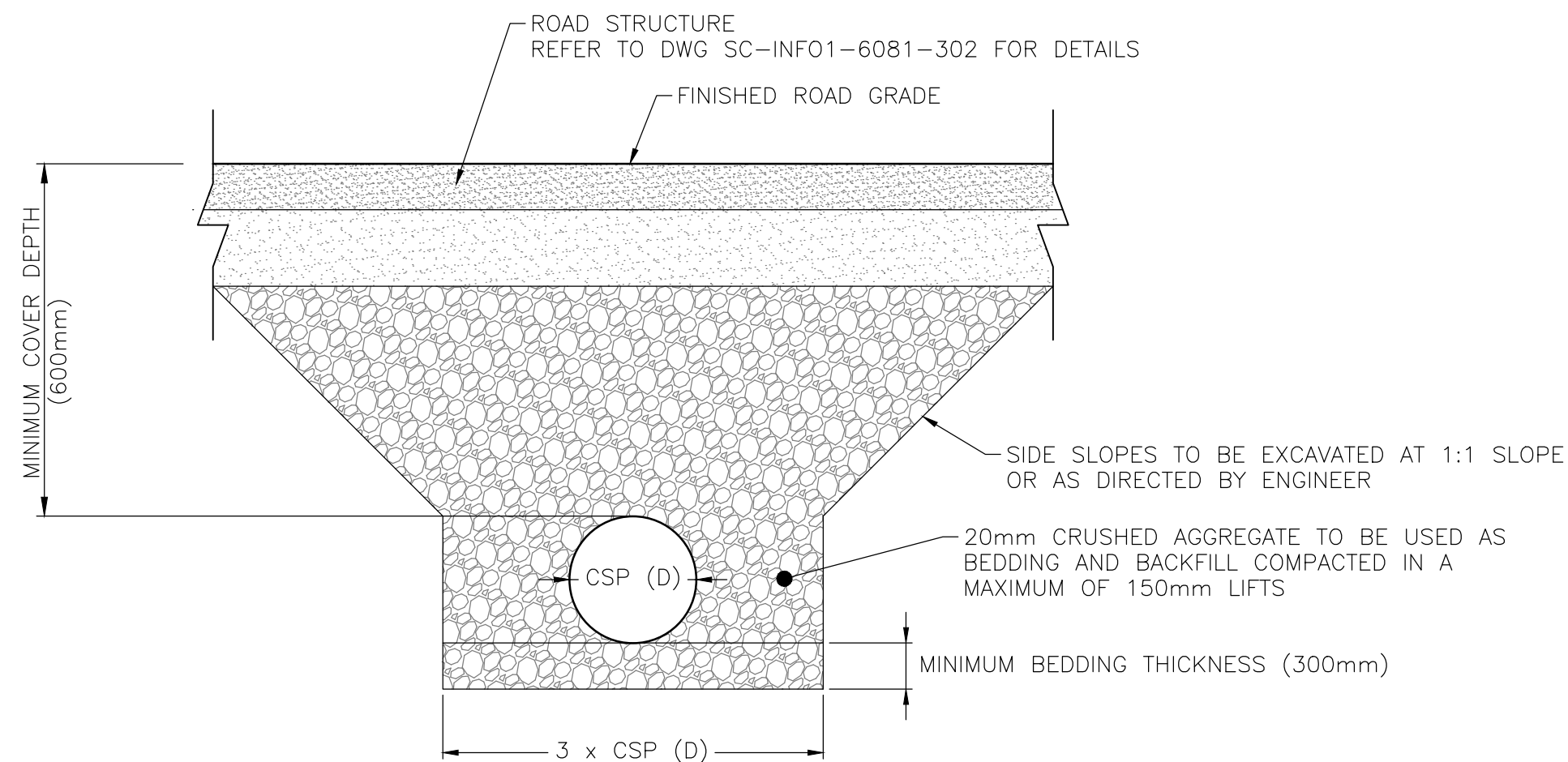
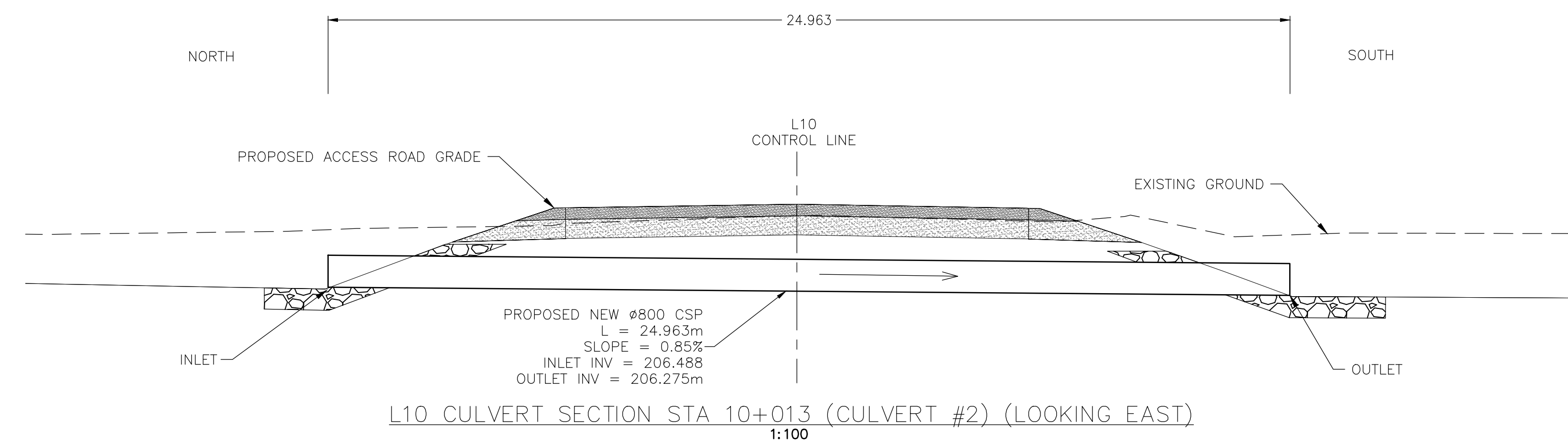
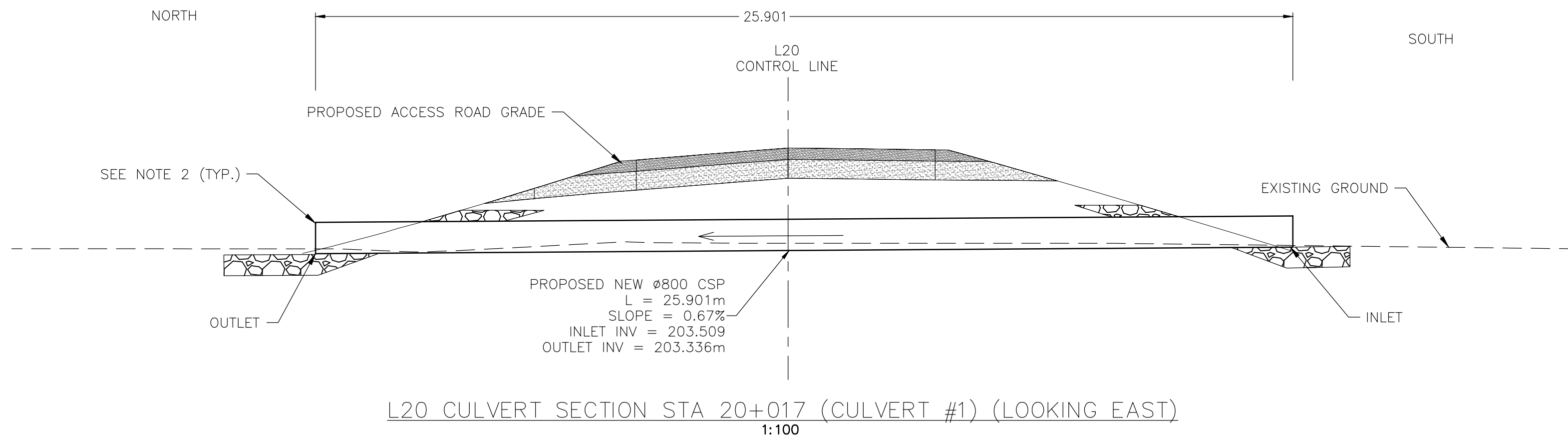
HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2

JEAN MARIE RIVER BRIDGE

TYPICAL SECTIONS

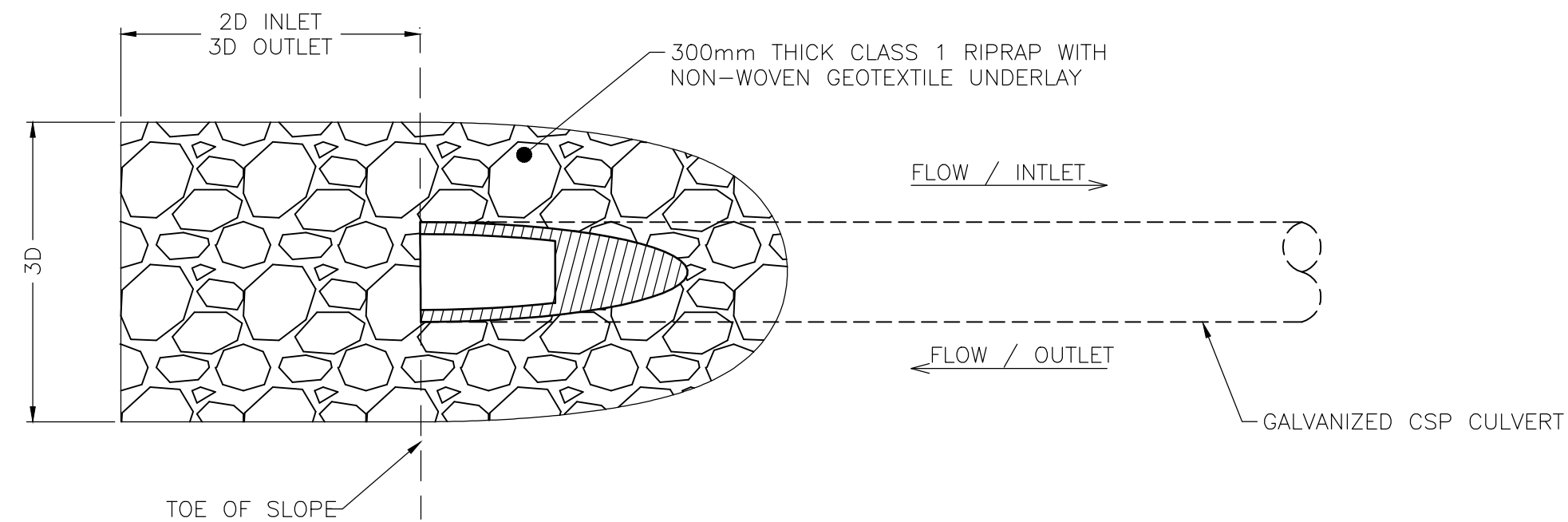
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DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE	1:100	0 2 4 m	
PROJECT No.		SHEET No.	
CE857700		11 OF 55	
PREPARED UNDER THE DIRECTION OF		RAY LIU, P.ENG.	
		ENGINEER OF RECORD	
		DATE	
		2024-03-25	
		DRAWING No.	
		SC-INF01-6081-C302	



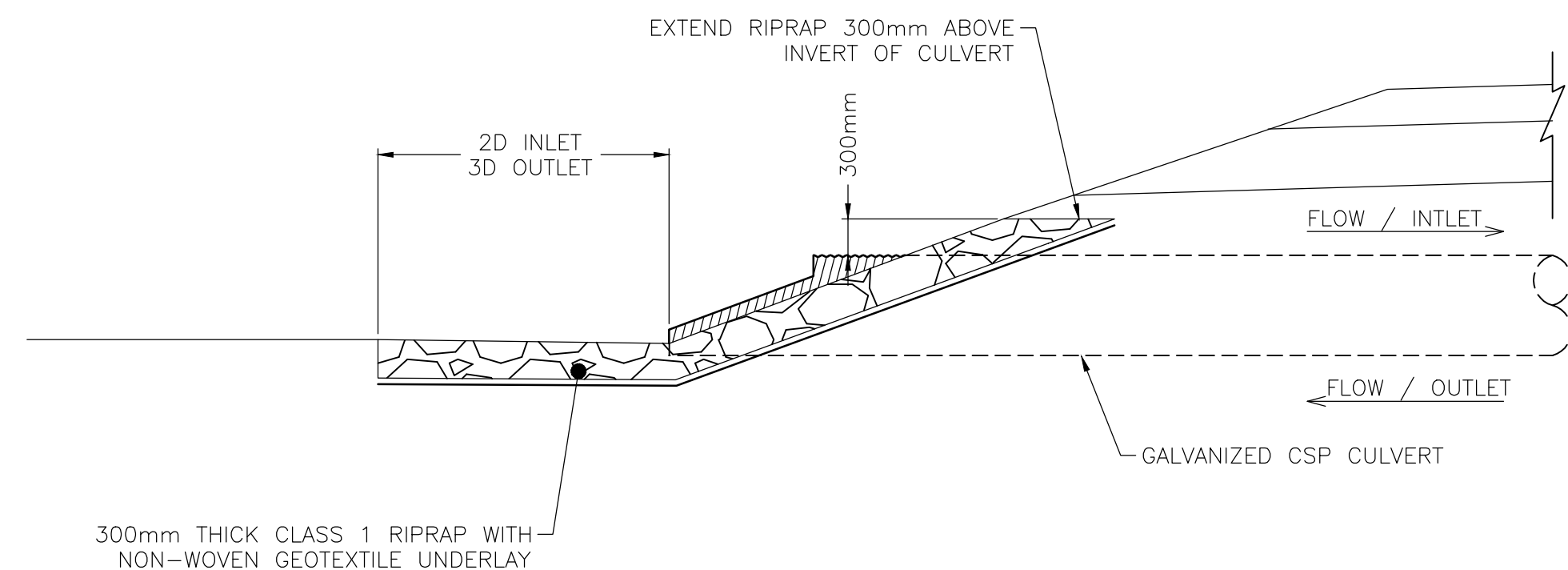
CULVERT INSTALLATION DETAIL

1:40



TYPICAL INLET / OUTLET RIPRAP PROTECTION - PLAN

1:50



TYPICAL INLET / OUTLET RIPRAP PROTECTION - SECTION

1:50

PRELIMINARY - NOT FOR CONSTRUCTION



Consultant Logo

Jacobs

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REVISIONS

Government of Northwest Territories
HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2
JEAN MARIE RIVER BRIDGE
CULVERT SECTIONS AND DETAILS

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE			

PREPARED UNDER THE DIRECTION OF

RAY LIU, P.ENG.
ENGINEER OF RECORD

DATE 2024-03-25

PROJECT No. CE857700	SHEET No. 12 OF 55	DRAWING No. SC-INF01-6081-C310	C
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NOTES:

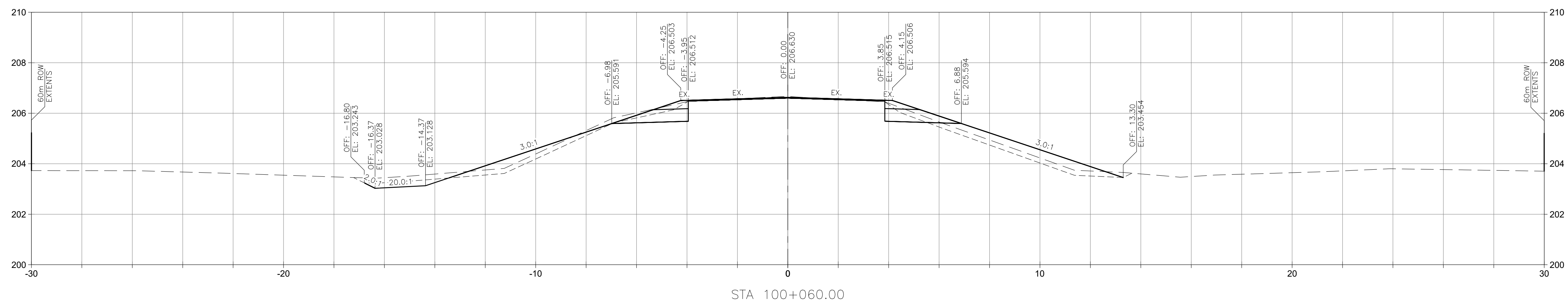
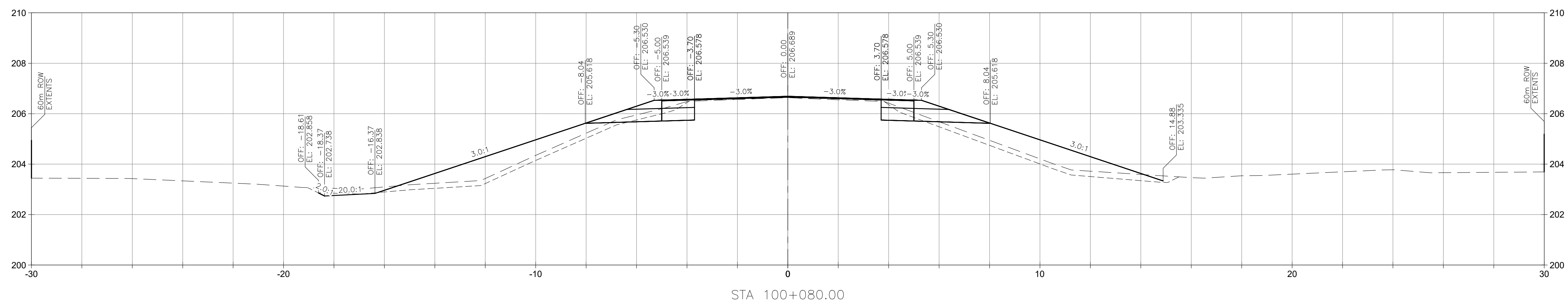
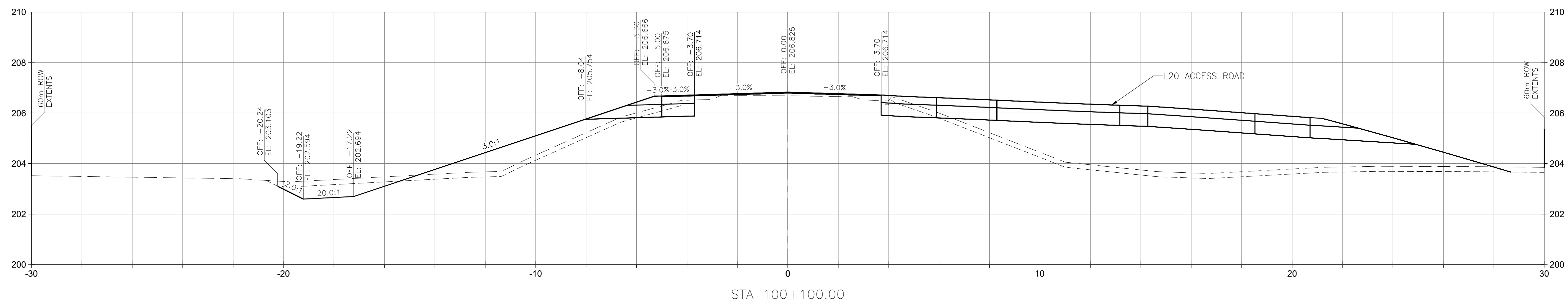
- ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
- SLOPED CULVERT SECTIONS PER GNWT STD DWG SD-400-01-51.
- SLOPED END CULVERT MARKER INSTALLATION PER GNWT STD DWG SD-400-01-53.

CULVERT INSTALLATION NOTES:

- CSP (D) = CORRUGATED STEEL PIPE DIAMETER.
- AN ENGINEER MUST INSPECT THE EXCAVATION PRIOR TO BACKFILL.
- A NON-WOVEN GEOTEXTILE SHALL BE USED AT THE BASE OF THE EXCAVATION.
- CSP BEDDING TO BE AT 100% OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D698 STANDARD PROCTOR VALUE PRIOR TO INSTALLATION.
- FILL MUST BE BROUGHT UP SIMULTANEOUSLY ON EITHER SIDE OF THE CSP IN MAXIMUM LIFTS OF 150mm COMPACTED TO 100% OF THE STANDARD PROCTOR VALUE.
- 300mm THICK ROCK APRON TO BE PLACED ON NON-WOVEN GEOTEXTILE FILTER FABRIC ON EITHER END OF CSP FOR EROSION CONTROL.
- ROCK APRON TO FOLLOW ROCK RIPRAP CLASS 1.
- GEOTEXTILE TO BE KEYED INTO NATIVE SOIL 300mm.

ROCK RIPRAP CLASS 1:

NOMINAL MASS: 40KG
NOMINAL DIAMETER: 300mm
NONE GREATER THAN: 130KG / 450mm
20% TO 50%: 70KG / 350mm
50% TO 80%: 40KG / 300mm
100% GREATER THAN: 10KG / 200mm



NOTES:

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PRELIMINARY — NOT FOR CONSTRUCTION



Consultant Logo

Jacobs.

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A	2023-06-19	ISSUED FOR 50% REVIEW	RL

REVISIONS

Government of Northwest Territories

HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2

JEAN MARIE RIVER BRIDGE

L100 CROSS SECTIONS

SHEET 1 OF 7

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE			

PREPARED UNDER THE DIRECTION OF

RAY LIU, P.ENG.
ENGINEER OF RECORD

DATE 2024-03-25

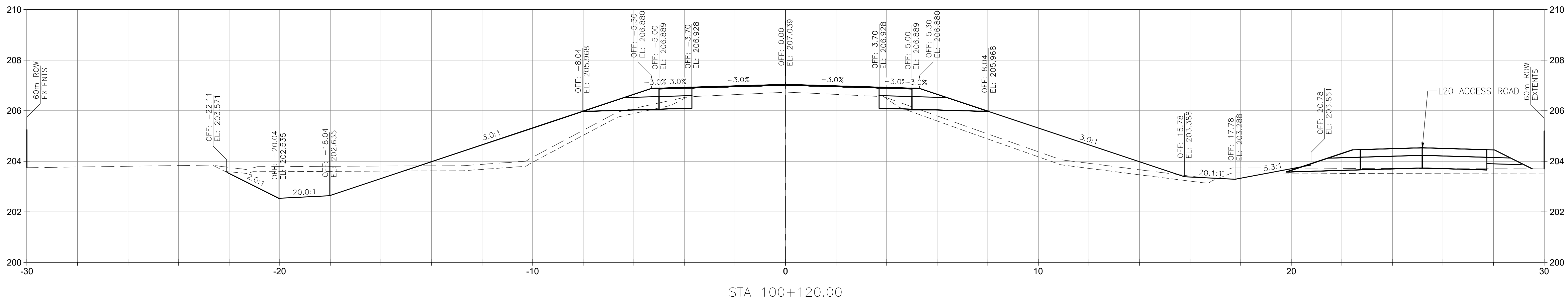
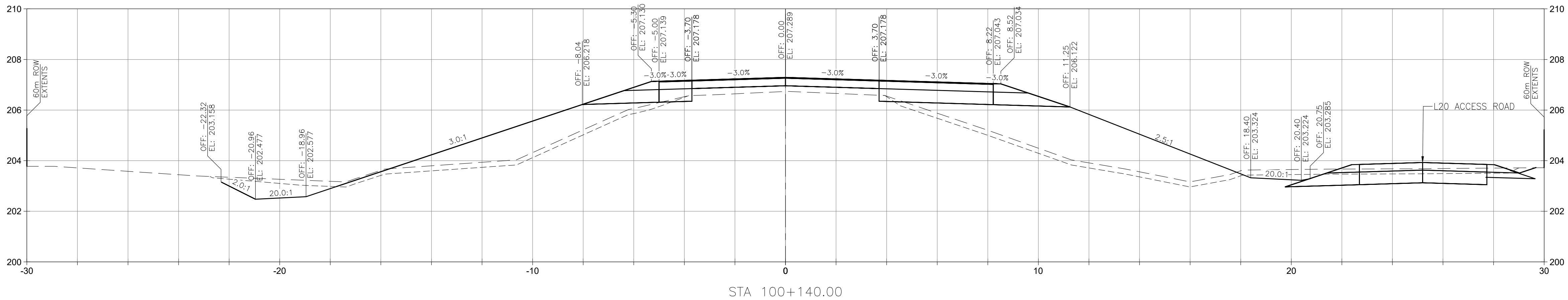
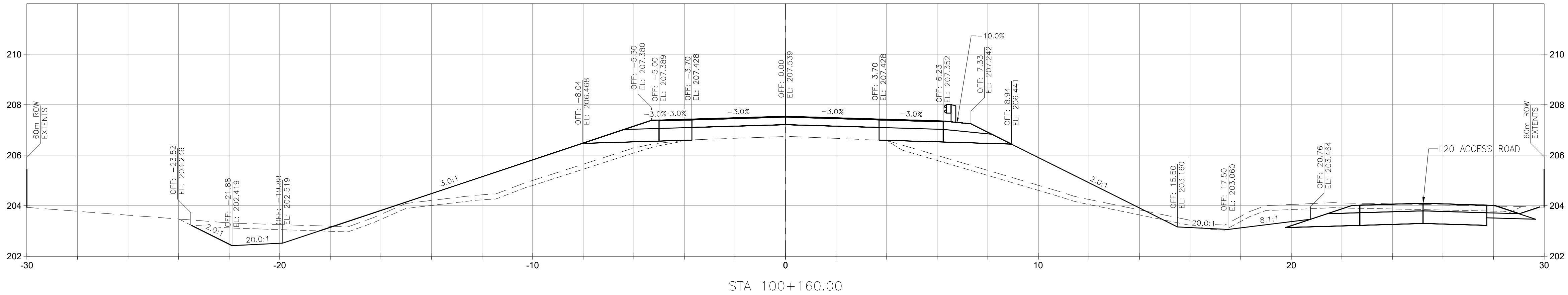
PROJECT No. CE857700

SHEET No.
13 OF 5

DRAWING No. SC-INFO1-6081-C601

C

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PLOTTED : Wednesday, March 20, 2024



NOTES:

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PRELIMINARY – NOT FOR CONSTRUCTION





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A	2023-06-19	ISSUED FOR 50% REVIEW	RL

REVISIONS

Government of Northwest Territories

HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2

JEAN MARIE RIVER BRIDGE

L100 CROSS SECTIONS

SHEET 2 OF 7

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE	1:100		

PREPARED UNDER THE DIRECTION OF

RAY LIU, P.ENG.

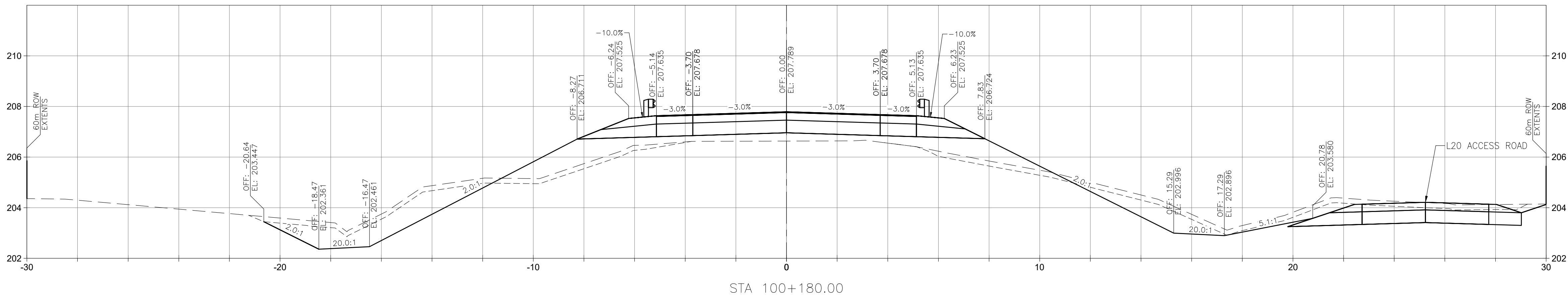
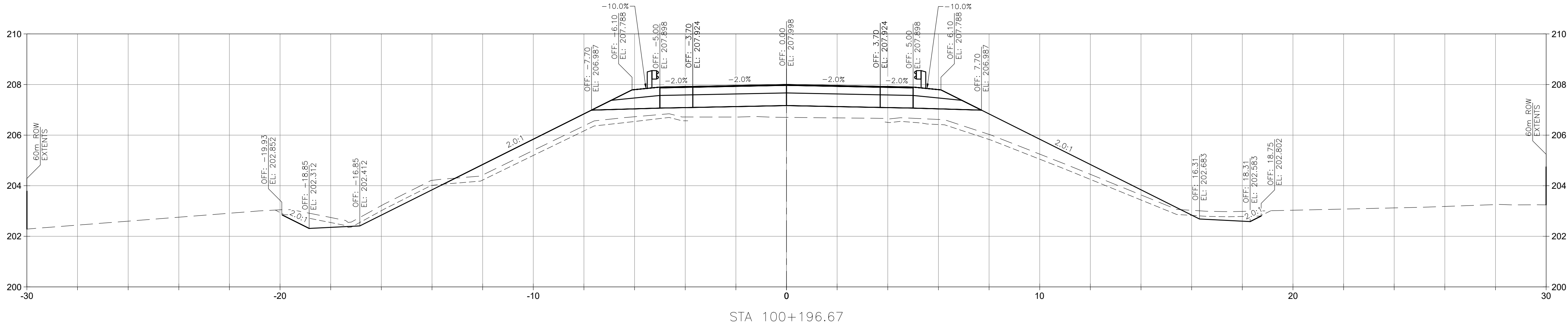
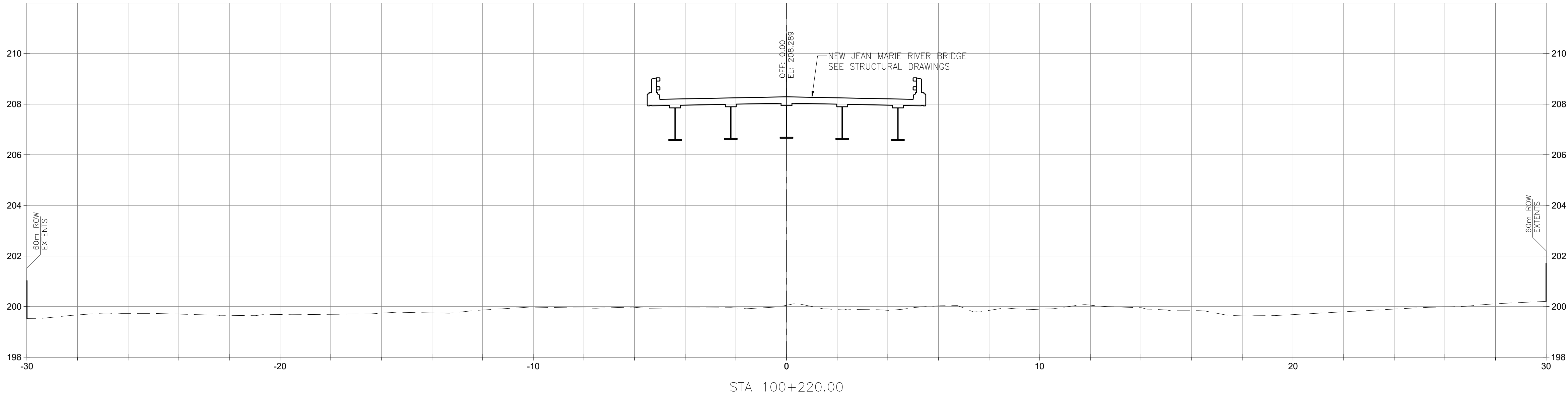
ENGINEER OF RECORD

DATE 2024-03-25

PROJECT No.	SHEET No.	DRAWING No.
CE857700	14 OF 55	SC-INF01-6081-C602

C

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PLOTTED : Wednesday, March 20, 2024



NOTES:

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PRELIMINARY – NOT FOR CONSTRUCTION



Consultant Logo

Jacobs

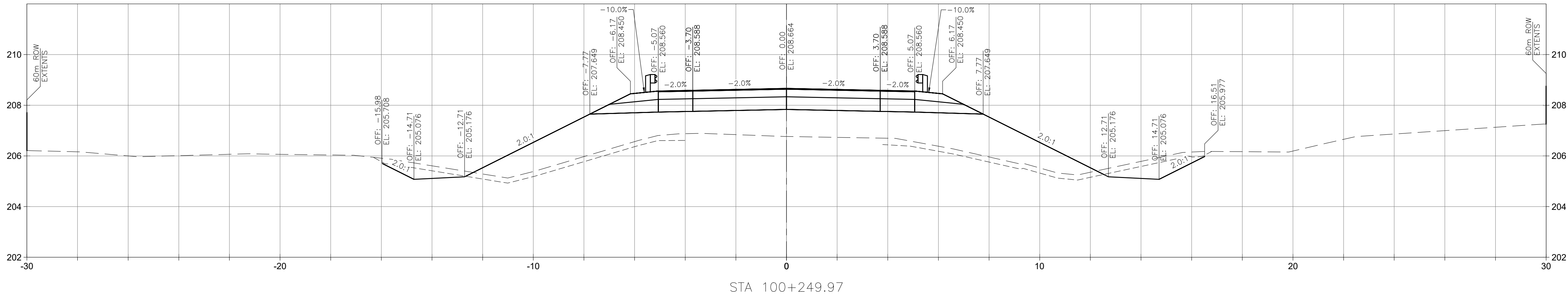
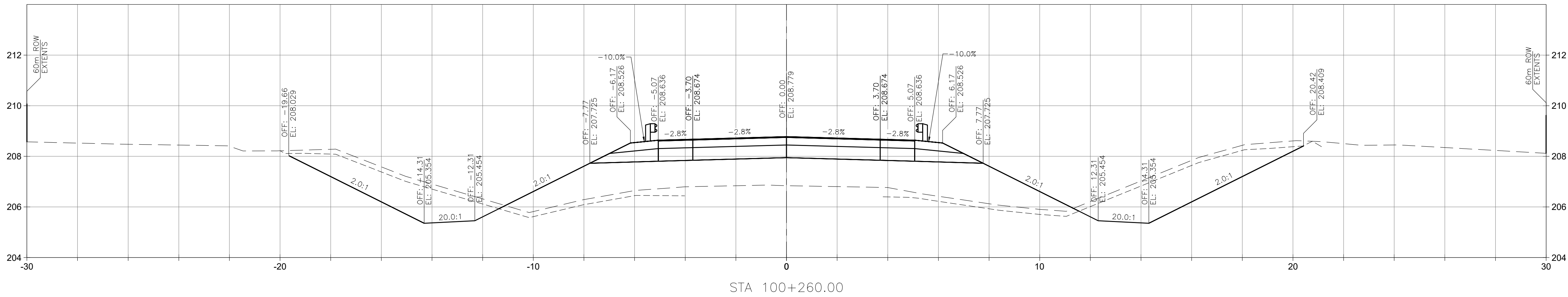
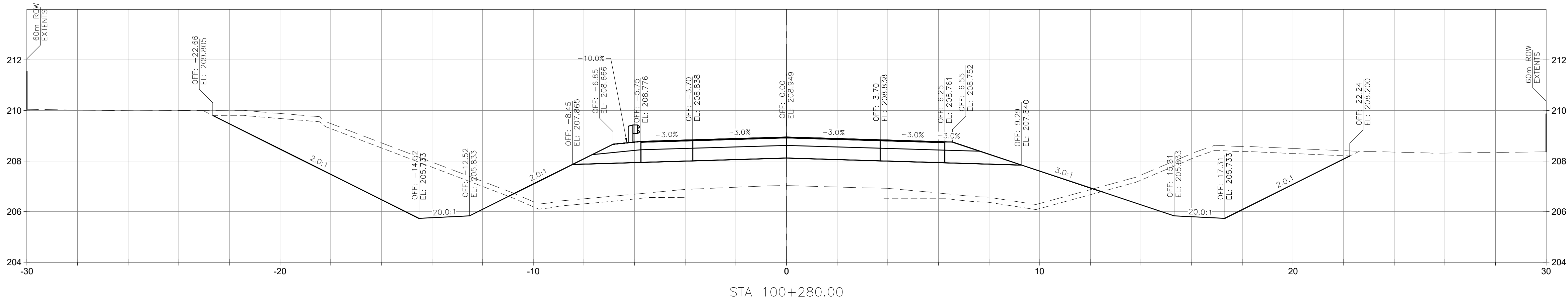
Rev	Date	Description	Init
C	2024-03-25	ISSUED FOR 100% REVIEW	RL
B	2023-10-06	ISSUED FOR 80% REVIEW	RL
A	2023-06-19	ISSUED FOR 50% REVIEW	RL

REVISIONS

Government of Northwest Territories
HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2
JEAN MARIE RIVER BRIDGE
L100 CROSS SECTIONS
SHEET 3 OF 7

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE	1:100		
		PREPARED UNDER THE DIRECTION OF	
		RAY LIU, P.ENG.	
		ENGINEER OF RECORD	
		DATE	
		2024-03-25	
PROJECT No.	CE857700	SHEET No.	15 OF 55
		DRAWING No.	SC-INF01-6081-C603
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PLOTTED : Wednesday, March 20, 2024



NOTES:

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PRELIMINARY – NOT FOR CONSTRUCTION



Consultant Logo

Jacobs.

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A	2023-06-19	ISSUED FOR 50% REVIEW	RL

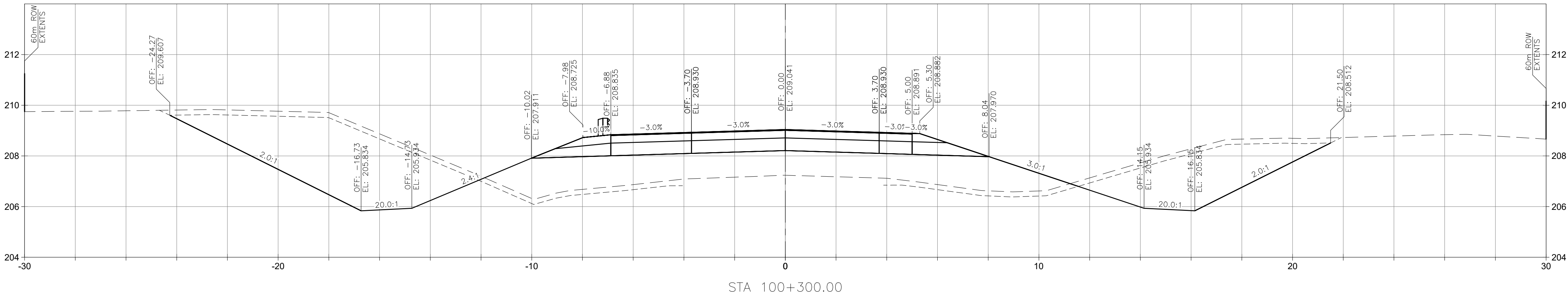
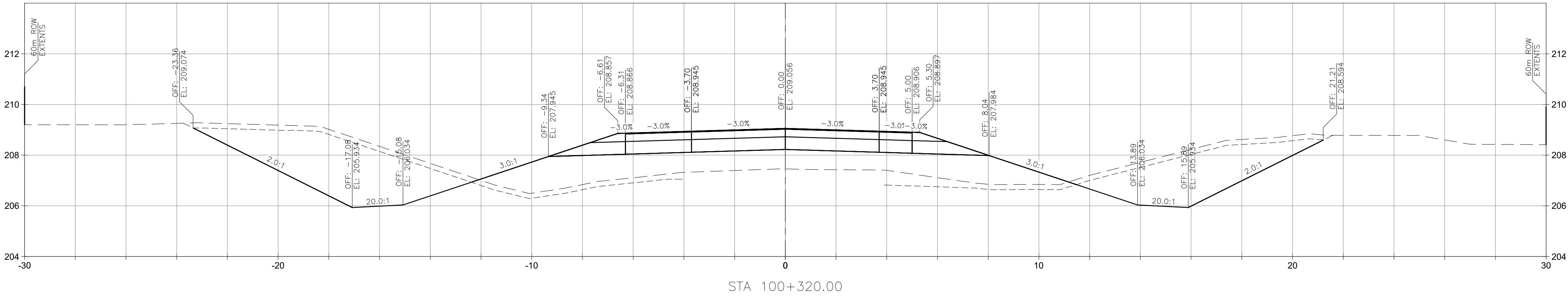
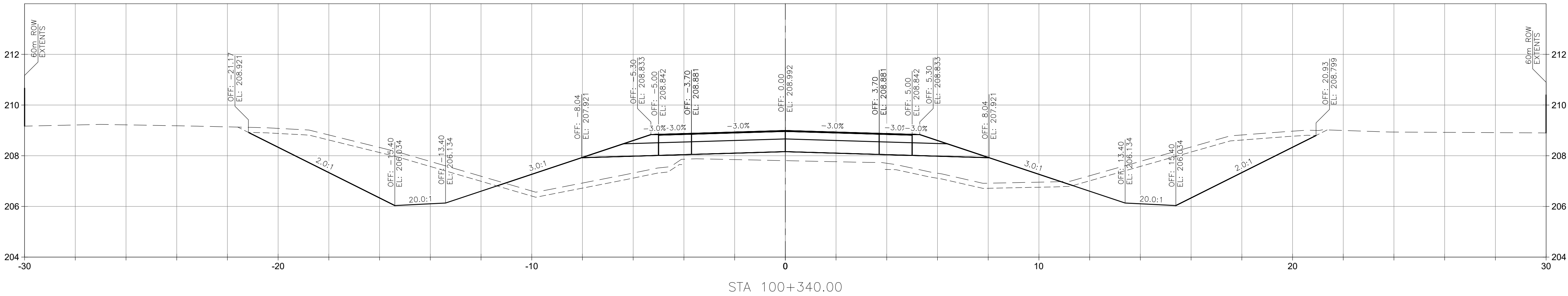
REVISIONS

Government of Northwest Territories
HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2
JEAN MARIE RIVER BRIDGE
L100 CROSS SECTIONS
SHEET 4 OF 7

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE	1:100 0 2 4 m		
PROJECT No. CE857700		PREPARED UNDER THE DIRECTION OF RAY LIU, P.ENG. ENGINEER OF RECORD DATE 2024-03-25	
		SHEET No. 16 OF 55 DRAWING No. SC-INF01-6081-C604	

C

FILE: C:\pwworkdir\jacobs-us-va-pw-02\mas92398\SC-INF01-6081-C601.DWG
PLOTTED : Wednesday, March 20, 2024



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Consultant Logo

Jacobs

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REVISIONS

Government of Northwest Territories
HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2
JEAN MARIE RIVER BRIDGE
L100 CROSS SECTIONS
SHEET 5 OF 7

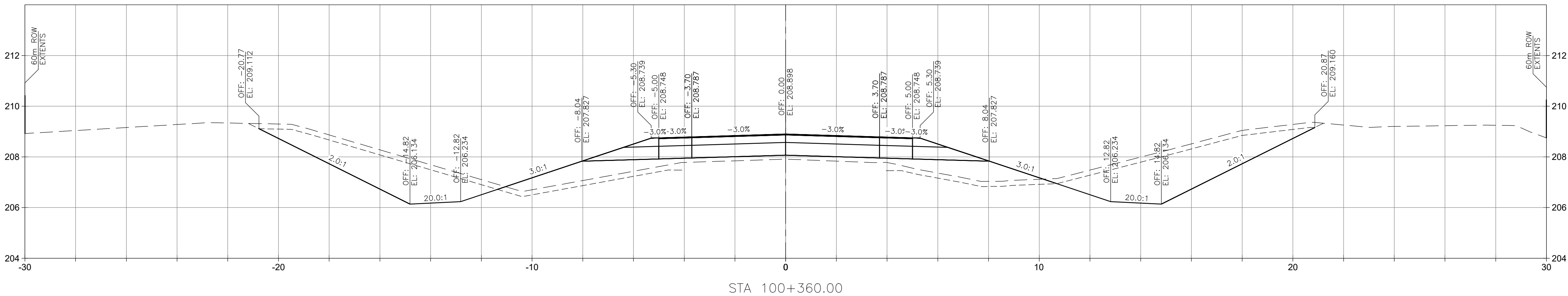
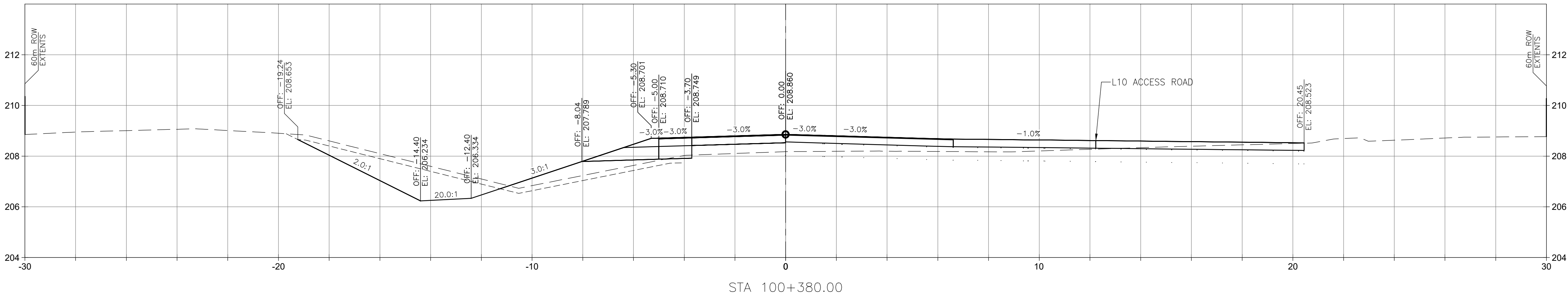
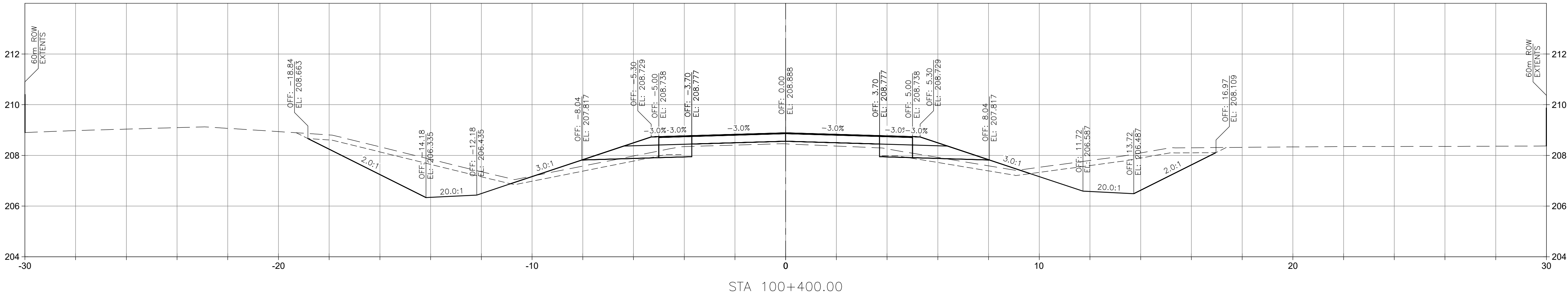
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CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25

SCALE 1:100 0 2 4 m

PROJECT No. CE857700		PREPARED UNDER THE DIRECTION OF	
		RAY LIU, P.ENG. ENGINEER OF RECORD DATE 2024-03-25	
SHEET No. 17 OF 55		DRAWING No. SC-INF01-6081-C605	

C

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PLOTTED : Wednesday, March 20, 2024



NOTES:

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Rev	Date	Description	Init
C	2024-03-25	ISSUED FOR 100% REVIEW	RL
B	2023-10-06	ISSUED FOR 80% REVIEW	RL
A	2023-06-19	ISSUED FOR 50% REVIEW	RL

REVISIONS

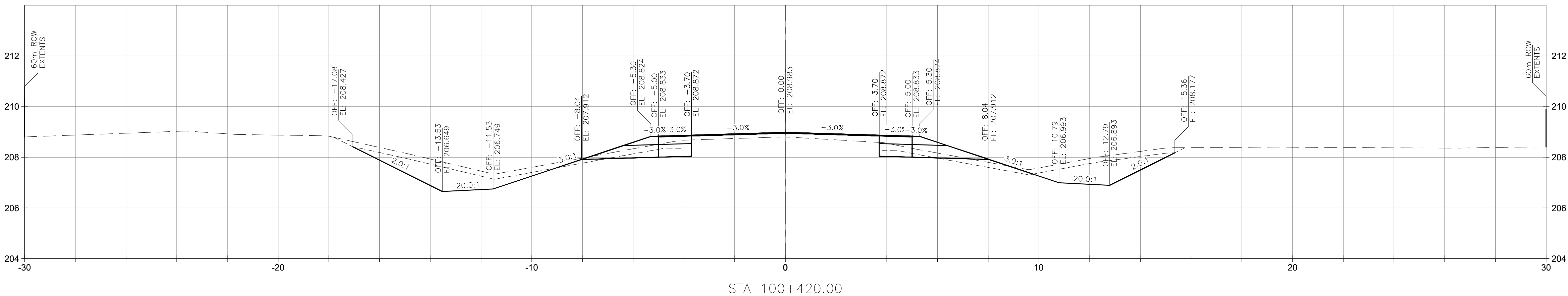
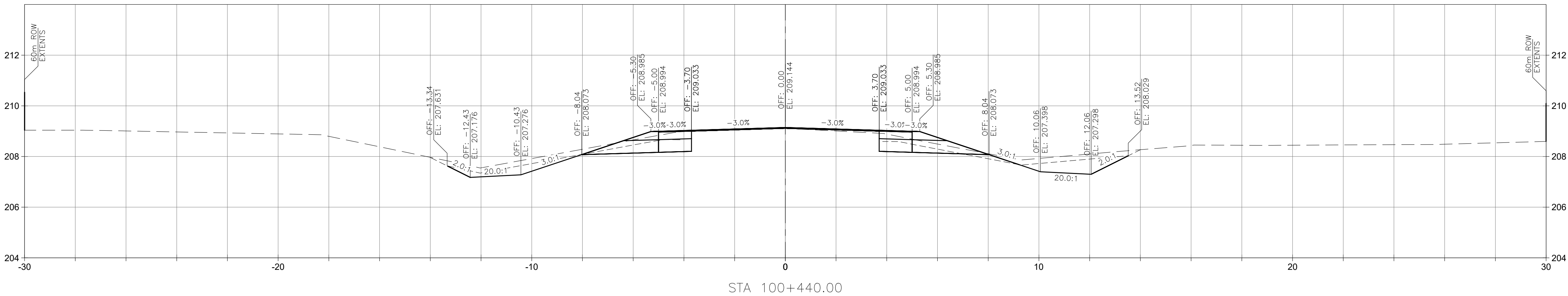
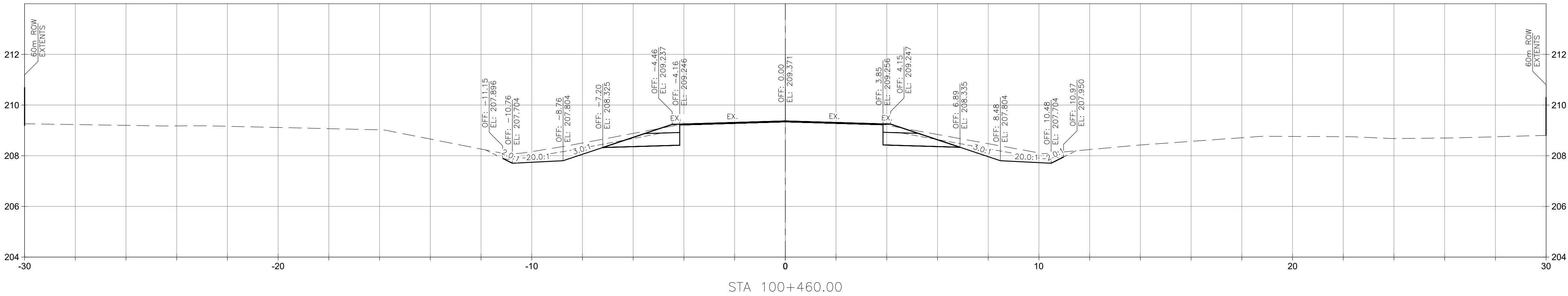
Government of Northwest Territories
HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2
JEAN MARIE RIVER BRIDGE
L100 CROSS SECTIONS
SHEET 6 OF 7

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25

SCALE 1:100 0 2 4 m

PROJECT No. CE857700		SHEET No. 18 OF 55		PREPARED UNDER THE DIRECTION OF RAY LIU, P.ENG. ENGINEER OF RECORD DATE 2024-03-25 DRAWING No. SC-INF01-6081-C606	
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PLOTTED : Wednesday, March 20, 2024



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A	2023-06-19	ISSUED FOR 50% REVIEW	RL

REVISIONS

Government of Northwest Territories

HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2

JEAN MARIE RIVER BRIDGE

L100 CROSS SECTIONS

SHEET 7 OF 7

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE	1:100		

PREPARED UNDER THE DIRECTION OF

RAY LIU, P.ENG.

ENGINEER OF RECORD

DATE 2024-03-25

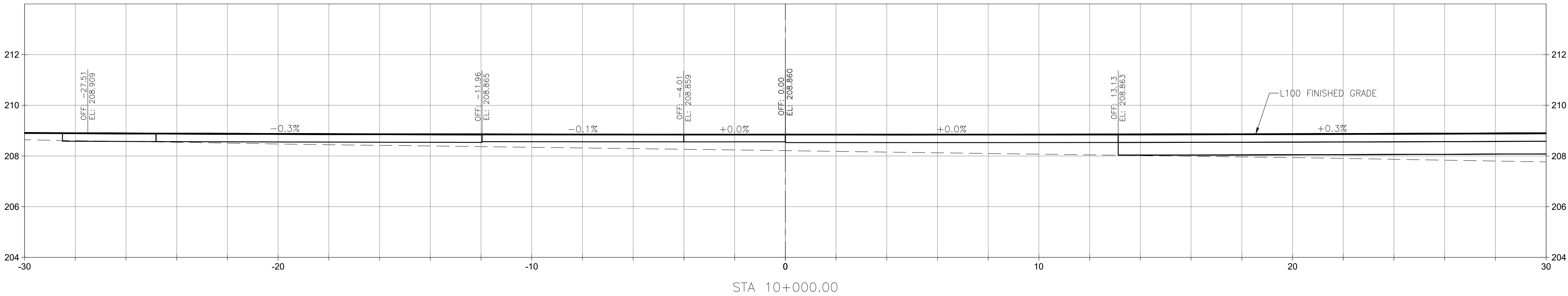
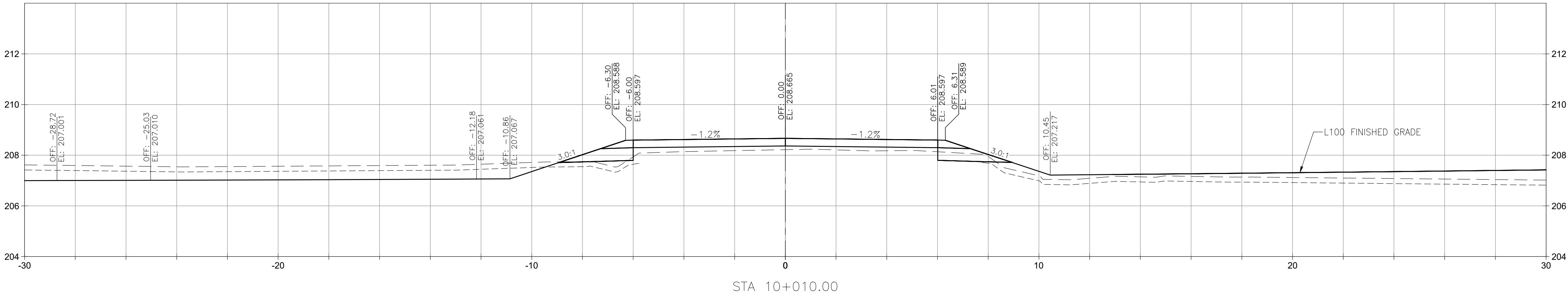
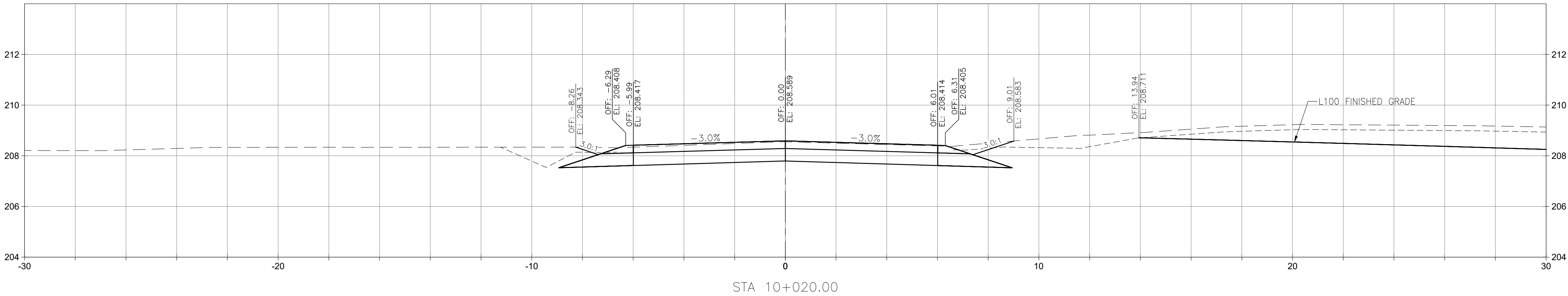
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SHEET No.
19 OF 55

DRAWING No.
SC-INF01-6081-C607

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Rev	Date	Description	Init
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B	2023-10-06	ISSUED FOR 80% REVIEW	RL
A	2023-06-19	ISSUED FOR 50% REVIEW	RL

REVISIONS

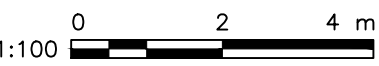
Government of Northwest Territories

HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2

JEAN MARIE RIVER BRIDGE

L10 CROSS SECTIONS

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE	1:100		



PREPARED UNDER THE DIRECTION OF

RAY LIU, P.ENG.

ENGINEER OF RECORD

DATE 2024-03-25

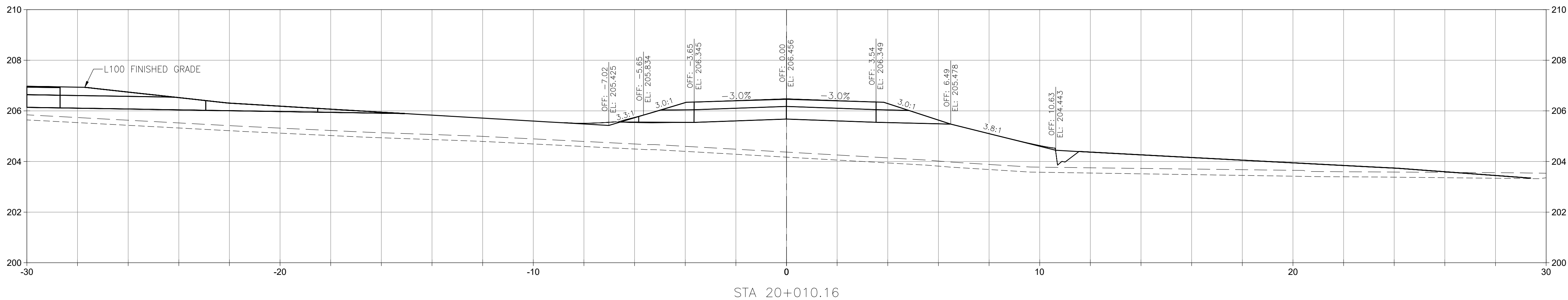
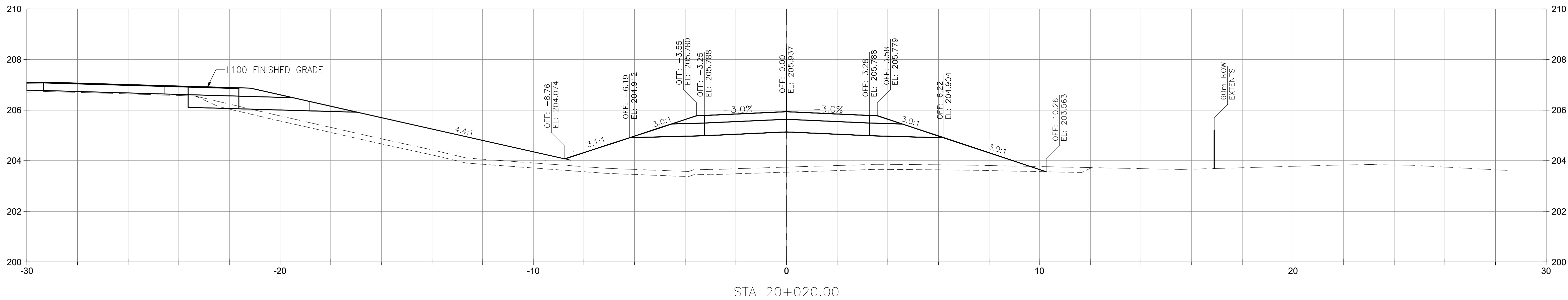
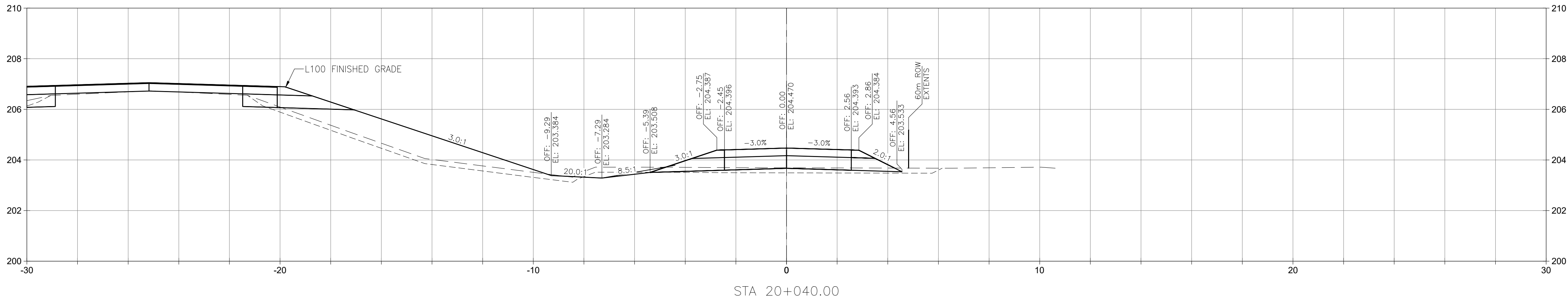
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SHEET No.
20 OF 55

DRAWING No.
SC-INF01-6081-C610

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PLOTTED : Wednesday, March 20, 2024



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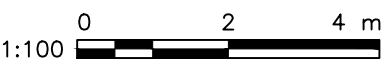
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Rev	Date	Description	Init
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REVISIONS

Government of Northwest Territories
HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2
JEAN MARIE RIVER BRIDGE
L20 CROSS SECTIONS
SHEET 1 OF 2

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE	1:100		



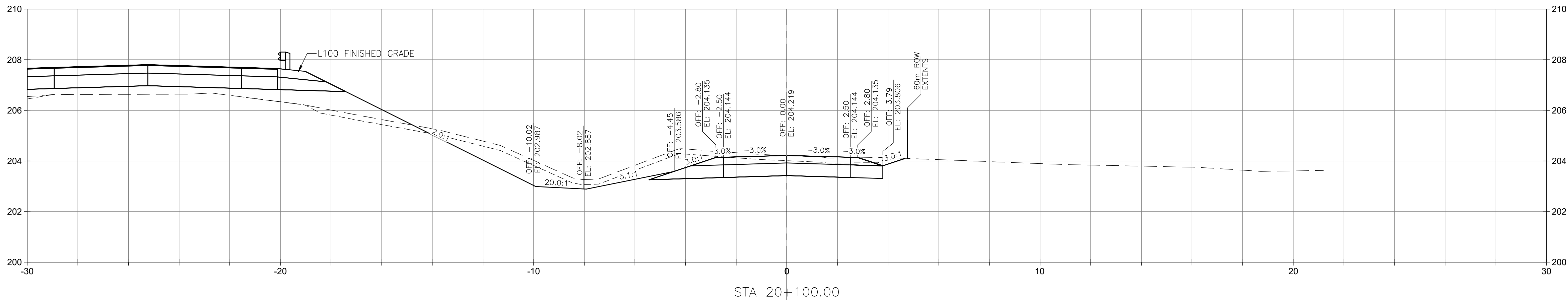
PREPARED UNDER THE DIRECTION OF

RAY LIU, P.ENG.
ENGINEER OF RECORD

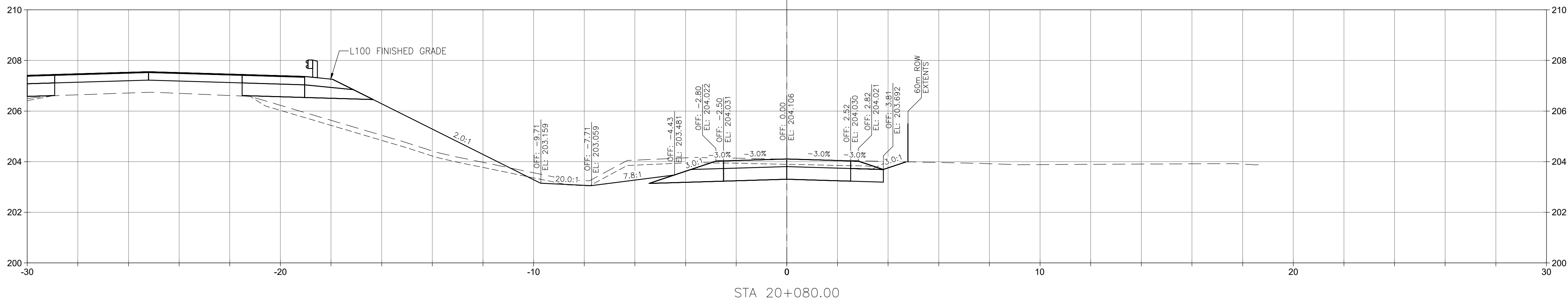
DATE 2024-03-25

PROJECT No. CE857700	SHEET No. 21 OF 55	DRAWING No. SC-INF01-6081-C620	C
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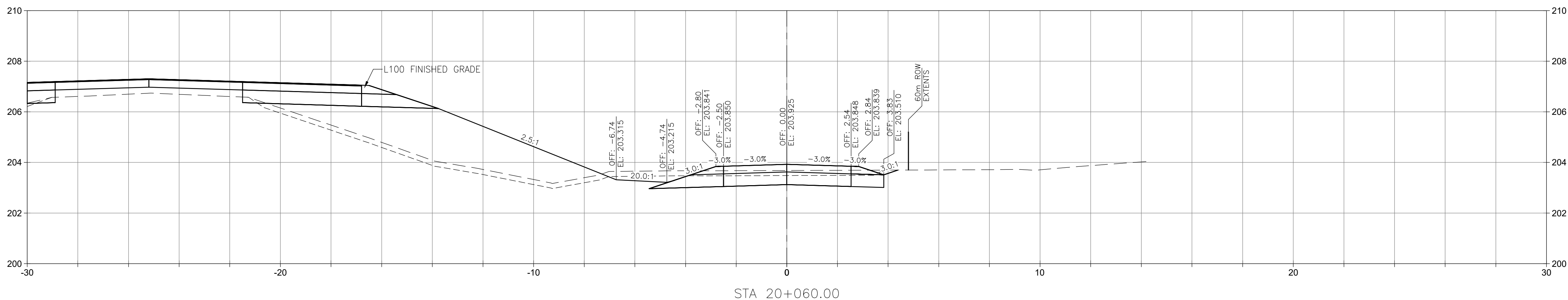
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PLOTTED : Wednesday, March 20, 2024



STA 20+100.00



STA 20+080.00



STA 20+060.00

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REVISIONS

Government of Northwest Territories

HIGHWAY No. 1 (MACKENZIE HIGHWAY) km 411.2

JEAN MARIE RIVER BRIDGE

L20 CROSS SECTIONS

SHEET 2 OF 2

DESIGNED	TEH	DATE	2024-03-25
CHECKED	RL	DATE	2024-03-25
DRAWN	TEH	DATE	2024-03-25
SCALE	1:100 0 2 4 m		

PREPARED UNDER THE DIRECTION OF

RAY LIU, P.ENG.

ENGINEER OF RECORD

DATE 2024-03-25

PROJECT No.	SHEET No.	DRAWING No.	
CE857700	22 OF 55	SC-INF01-6081-C621	C