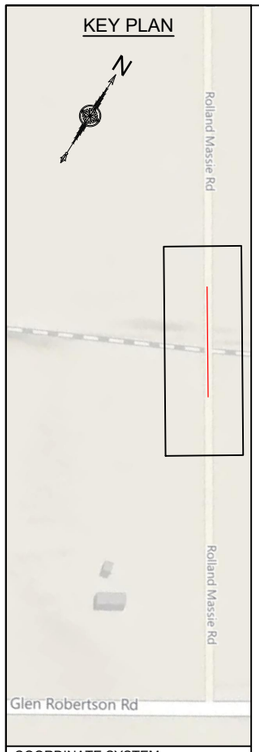
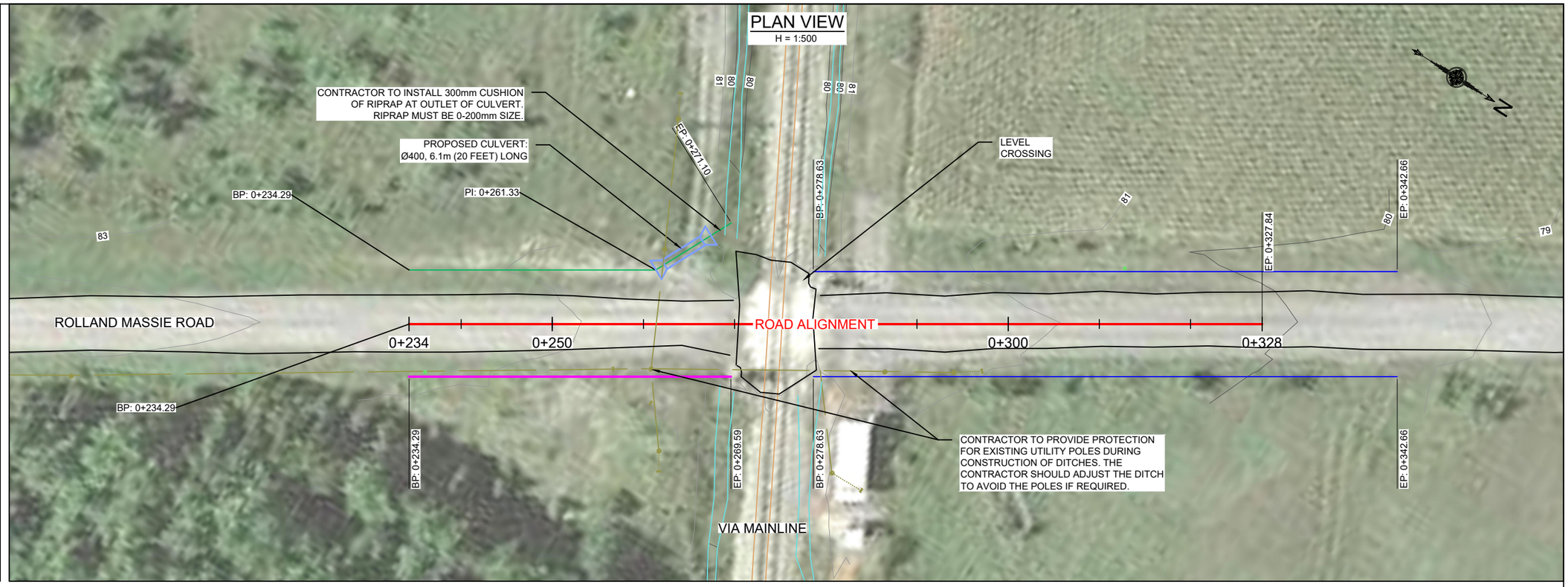
KEY PLAN



COORDINATE SYSTEM
CSRS.UTM-18N

PLAN VIEW
H = 1:500

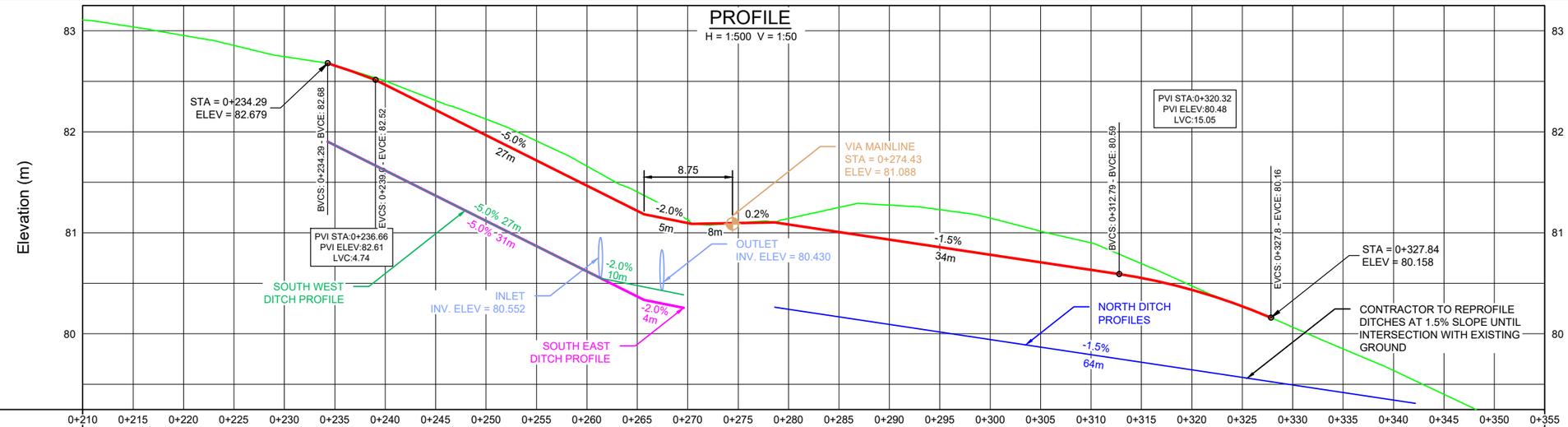


LEGEND

- ROAD CENTRE - PLAN / TOP OF ROAD - PROFILE
- SW DITCH CENTRE - PLAN / BOTTOM OF DITCH - PROFILE
- SE DITCH CENTRE - PLAN / BOTTOM OF DITCH - PROFILE
- NORTH DITCH CENTRE - PLAN / BOTTOM OF DITCH - PROFILE
- EXISTING RAILWAY LINE
- EXISTING GROUND (PROFILE)
- ROAD
- MAJOR CONTOUR
- MINOR CONTOUR
- EXISTING RAILWAY DITCHES
- CULVERT

ABBREV.	DESCRIPTION
BP	ALIGNMENT BEGINNING POINT
PI	POINT OF HORIZONTAL INFLECTION
PC	POINT OF TRANSITION TANGENT / CURVE
PT	POINT OF TRANSITION CURVE / TANGENT
BVCS	BEGINNING OF VERTICAL CURVE STATION
BVCE	BEGINNING OF VERTICAL CURVE ELEVATION
EVCS	END OF VERTICAL CURVE STATION
EVCE	END OF VERTICAL CURVE ELEVATION
PVI STA	POINT OF VERTICAL INFLECTION STATION
PVI ELEV	POINT OF VERTICAL INFLECTION ELEVATION
LVC	LENGTH OF VERTICAL CURVE
EP	ALIGNMENT END POINT

PROFILE
H = 1:500 V = 1:50



CHAINAGE	0+210	0+215	0+220	0+225	0+230	0+235	0+240	0+245	0+250	0+255	0+260	0+265	0+270	0+275	0+280	0+285	0+290	0+295	0+300	0+305	0+310	0+315	0+320	0+325	0+330	0+335	0+340	0+345	0+350	0+355
TOP OF ROAD DESIGN LEVELS						82.66	82.47	82.22	81.97	81.72	81.47	81.22	81.10	81.10	81.08	81.01	80.93	80.86	80.78	80.71	80.63	80.55	80.43	80.27						
BOTTOM OF DITCH DESIGN LEVELS						81.87	81.62	81.37	81.12	80.87	80.62	80.48																		
BOTTOM OF DITCH DESIGN LEVELS						81.87	81.62	81.37	81.12	80.87	80.62	80.37																		
BOTTOM OF DITCH DESIGN LEVELS															80.24	80.17	80.09	80.02	79.94	79.87	79.79	79.72	79.64	79.57	79.49	79.42	79.34			
EXISTING SURFACE LEVELS	83.11	83.04	82.95	82.85	82.74	82.66	82.51	82.31	82.13	81.91	81.66	81.40	81.13	81.10	81.14	81.25	81.27	81.23	81.15	81.01	80.90	80.69	80.47	80.27	80.06	79.85	79.64	79.40	79.16	78.89

REV.	DATE	DESCRIPTION	PREPARED BY	VERIFIED BY
C	22-09-2022	ISSUED FOR CONSTRUCTION	NICOLAS YEDYNAK (Eng.) OIQ #5091337	DAVID CHOU (P.Eng.) PEO #100517690
B	12-08-2022	DRAFT FOR COMMENTS	NICOLAS YEDYNAK (Eng.) OIQ #5091337	DAVID CHOU (P.Eng.) PEO #100517690
A	29-07-2022	DRAFT FOR COMMENTS	NICOLAS YEDYNAK (Eng.) OIQ #5091337	DAVID CHOU (P.Eng.) PEO #100517690

REVISION

NORTH GLENGARRY NORD
Ontario's Celtic Heartland / Le centre celtique de l'Ontario

SYSTRA CANADA

PREPARED BY: NICOLAS YEDYNAK (Eng.) OIQ #5091337	DATE: 14-07-2022	PROJECT: DETAILED ENGINEERING FOR ROLLAND MASSIE ROAD MODIFICATIONS	
DRAWN BY: HANA SULAIMAN	DATE: 18-07-2022		
VERIFIED BY: DAVID CHOU (P.Eng.) PEO #100517690	DATE: 29-07-2022	ROAD ALIGNMENT PLAN AND PROFILE KP 0+234 TO KP 0+328	
APPROVED BY: MARIA-PIA LONGO (P.Eng.) PEO #100544824	DATE: 29-07-2022	FORMAT: A3	DWG N°: 22012-IADP-0001 REV.: C

HORIZONTAL GEOMETRY _ ROAD ALIGNMENT

No.	Entity Type	Length (m)	Start Station	End Station	Start Easting	Start Northing	End Easting	End Northing	Radius (m)
1	Line	93.553	0+234.29	0+327.84	535336.836	5021138.858	535286.516	5021217.724	

VERTICAL GEOMETRY _ ROAD ALIGNMENT

No.	Entity Type	Curve Type	Length (m)	Start Station	Start Elevation	End Station	End Elevation	Curve Radius	Grade In	Grade Out	A (Grade Change)	PVI Station	PVI Elevation
1	Symmetric Parabola	Crest	4.743	0+234.29	82.679	0+239.03	82.515	550.031	-3.01 %	-3.88 %	-0.86 %	0+236.66	82.607
2	Tangent		26.641	0+239.03	82.515	0+265.68	81.183		-5.00 %	-5.00 %			
3	Tangent		4.744	0+265.68	81.183	0+270.42	81.088		-2.00 %	-2.00 %			
4	Tangent		8.210	0+270.42	81.088	0+278.63	81.103		0.18 %	0.18 %			
5	Tangent		34.162	0+278.63	81.103	0+312.79	80.590		-1.50 %	-1.50 %			
6	Symmetric Parabola	Crest	15.052	0+312.79	80.590	0+327.84	80.158	550.031	-1.50 %	-4.24 %	-2.74 %	0+320.32	80.477

HORIZONTAL GEOMETRY _ SOUTH WEST DITCH ALIGNMENT

No.	Entity Type	Length (m)	Start Station	End Station	Start Easting	Start Northing	End Easting	End Northing	Radius (m)
1	Line	27.041	0+234.29	0+261.33	535331.845	5021135.674	535317.300	5021158.470	
2	Line	9.767	0+261.33	0+271.10	535317.300	5021158.470	535308.490	5021162.686	

VERTICAL GEOMETRY _ SOUTH WEST DITCH ALIGNMENT

No.	Entity Type	Length (m)	Start Station	Start Elevation	End Station	End Elevation	Grade In	Grade Out
1	Tangent	27.042	0+234.29	81.904	0+261.33	80.552	-5.00 %	-5.00 %
2	Tangent	9.767	0+261.33	80.552	0+271.10	80.356	-2.00 %	-2.00 %

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REVISION

NORTH GLENGARRY NORD
Ontario's Celtic Heartland / Le centre celtique de l'Ontario

SYSTRA CANADA

PREPARED BY: NICOLAS YEDYNAK (Eng.) OIQ #5091337 — DATE: 14-07-2022
DRAWN BY: HANA SULAIMAN — DATE: 18-07-2022
VERIFIED BY: DAVID CHOU (P.Eng.) PEO #100517690 — DATE: 29-07-2022
APPROVED BY: MARIA-PIA LONGO (P.Eng.) PEO #100544824 — DATE: 29-07-2022

PROJECT:
DETAILED ENGINEERING FOR
ROLLAND MASSIE ROAD MODIFICATIONS

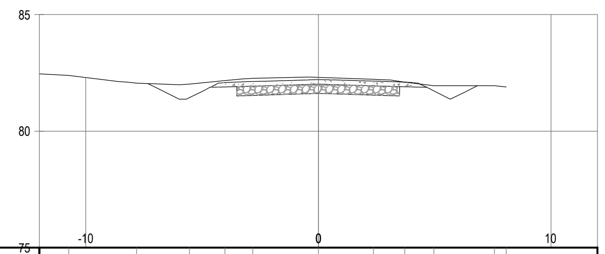
GEOMETRY TABLES
HORIZONTAL AND VERTICAL

FORMAT: A3 | DWG N°: 22012-IADI-0001 | REV.: C

LEGEND

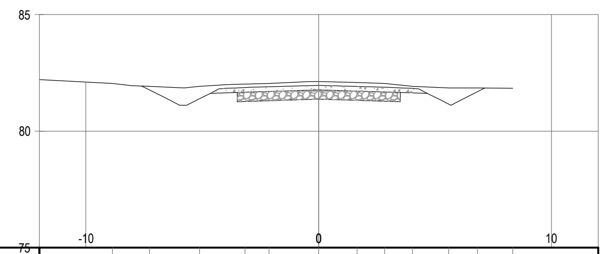
- EXISTING GROUND
- GRANULAR S
- GRANULAR B

0+245



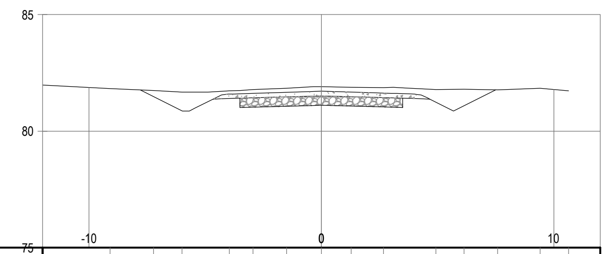
Existing Ground Elevation	82.388, 82.055, 82.026, 82.177, 82.261, 82.310, 82.223, 82.107, 81.953, 81.947, 81.899
Top of Granular S Elevation	82.055, 81.368, 81.368, 82.057, 82.087, 82.117, 82.127, 82.217, 82.127, 82.097, 82.087, 82.057, 81.877, 81.368, 81.970
Bottom of Granular S Elevation	81.877, 81.895, 81.912, 81.964, 82.017, 81.964, 81.912, 81.895, 81.877
Bottom of Granular B Elevation	81.512, 81.617, 81.512
Offset Interval	0.91, 2.25, 2.25
Distance from CL	-7.35, -6.89, -5.98, -5.68, -4.66, -4.30, -4.00, -3.00, -2.25, 0.00, 0.75, 3.00, 3.75, 4.23, 4.66, 5.42, 6.27, 6.88

0+250



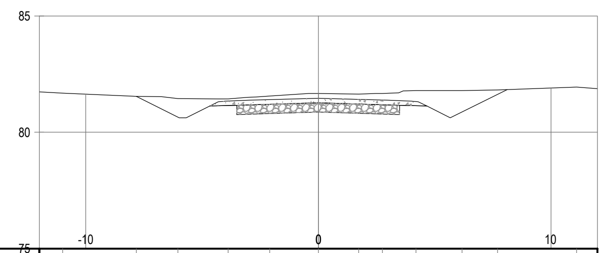
Existing Ground Elevation	82.049, 81.923, 81.918, 82.023, 82.052, 82.126, 82.095, 82.052, 81.926, 81.857, 81.854, 81.835
Top of Granular S Elevation	81.884, 81.118, 81.118, 81.627, 81.807, 81.837, 81.877, 81.967, 81.877, 81.837, 81.807, 81.627, 81.118, 81.926
Bottom of Granular S Elevation	81.627, 81.662, 81.767, 81.662, 81.627
Bottom of Granular B Elevation	81.262, 81.367, 81.262
Offset Interval	0.93, 1.50, 1.50, 1.50, 1.50, 1.22
Distance from CL	-7.51, -6.58, -5.98, -5.68, -5.17, -4.66, -4.30, -4.00, -3.50, -3.00, -1.50, 0.00, 1.50, 3.00, 3.50, 4.00, 4.30, 4.66, 5.17, 5.68, 6.07, 7.29

0+255



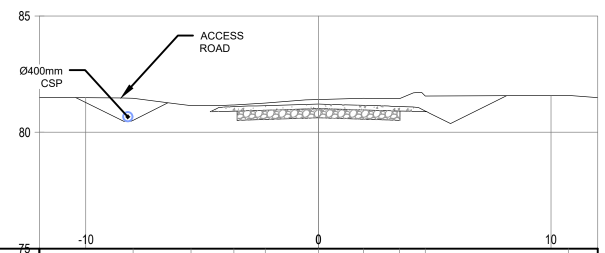
Existing Ground Elevation	81.822, 81.739, 81.681, 81.731, 81.780, 81.845, 81.909, 81.885, 81.871, 81.791, 81.793, 81.775, 81.843, 81.737
Top of Granular S Elevation	81.714, 80.868, 80.868, 81.377, 81.557, 81.587, 81.627, 81.717, 81.627, 81.587, 81.557, 81.422, 80.868, 81.881
Bottom of Granular S Elevation	81.377, 81.395, 81.412, 81.464, 81.517, 81.464, 81.412, 81.395, 81.377
Bottom of Granular B Elevation	81.012, 81.117, 81.012
Offset Interval	1.39, 2.25, 2.25, 1.83
Distance from CL	-7.67, -6.28, -5.90, -5.42, -4.66, -4.23, -3.75, -3.00, -0.75, 0.00, 2.25, 3.00, 4.00, 4.30, 4.66, 5.68, 7.70

0+260



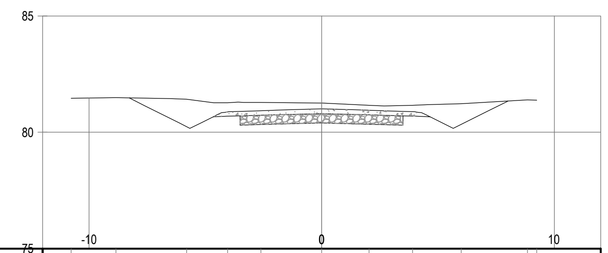
Existing Ground Elevation	81.684, 81.543, 81.445, 81.439, 81.562, 81.661, 81.646, 81.669, 81.792, 81.787, 81.822, 81.948
Top of Granular S Elevation	81.543, 80.618, 80.618, 81.127, 81.307, 81.337, 81.377, 81.467, 81.377, 81.337, 81.307, 81.127, 80.618, 81.837
Bottom of Granular S Elevation	81.127, 81.162, 81.267, 81.162, 81.127
Bottom of Granular B Elevation	80.762, 80.867, 80.762
Offset Interval	1.85, 1.02, 1.00, 3.00, 3.00, 1.00, 1.02, 2.44
Distance from CL	-7.83, -5.98, -5.88, -4.66, -4.30, -4.00, -3.00, 0.00, 3.00, 4.00, 4.30, 4.66, 5.68, 8.11

0+265



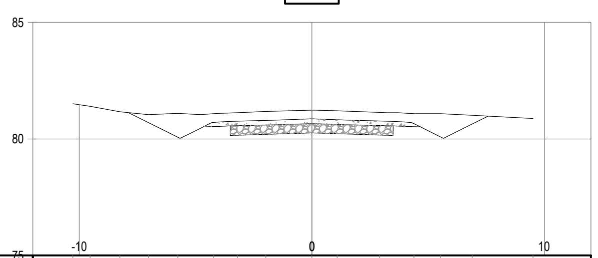
Existing Ground Elevation	81.466, 81.142, 81.177, 81.252, 81.404, 81.459, 81.449, 81.559, 81.585
Top of Granular S Elevation	81.495, 80.465, 80.465, 81.265, 80.877, 81.061, 81.127, 81.217, 81.127, 81.087, 81.057, 80.899, 80.368, 81.268, 81.413
Bottom of Granular S Elevation	80.877, 80.881, 80.912, 81.004, 81.017, 80.924, 80.912, 80.877
Bottom of Granular B Elevation	80.512, 80.617, 80.512
Offset Interval	1.92, 0.90, 2.64, 2.64, 0.90, 1.80
Distance from CL	-8.12, -5.94, -5.56, -4.66, -4.26, -3.88, -3.00, -2.64, 0.00, 0.36, 3.00, 4.00, 4.30, 4.62, 5.68, 7.48, 7.77

0+285



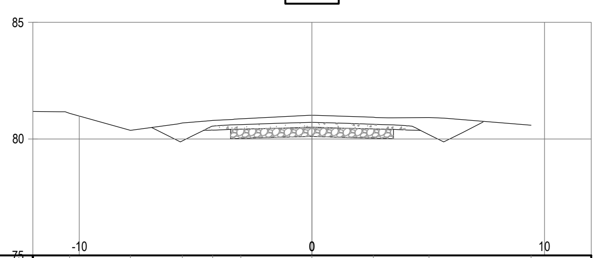
Existing Ground Elevation	81.460, 81.483, 81.423, 81.267, 81.279, 81.251, 81.154, 81.165, 81.232, 81.391, 81.374
Top of Granular S Elevation	81.474, 80.167, 80.667, 80.847, 80.877, 80.917, 81.007, 80.917, 80.877, 80.847, 80.667, 80.167, 81.344
Bottom of Granular S Elevation	80.667, 80.685, 80.702, 80.807, 80.702, 80.685, 80.667
Bottom of Granular B Elevation	80.302, 80.407, 80.302
Offset Interval	1.47, 1.50, 1.50, 1.50, 1.50, 1.03
Distance from CL	-7.59, -6.12, -5.66, -5.16, -4.66, -4.30, -4.00, -3.50, -3.00, -1.50, 0.00, 1.50, 3.00, 3.50, 4.00, 4.30, 4.66, 5.16, 5.66, 6.09, 7.12

0+295



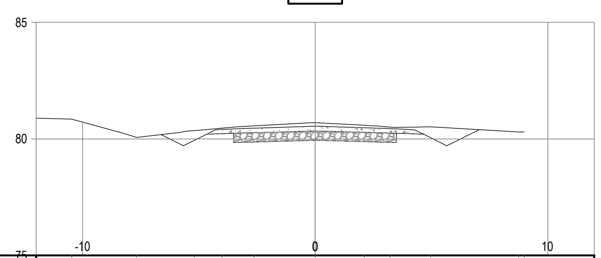
Existing Ground Elevation	81.505, 81.402, 81.163, 81.035, 81.089, 81.086, 81.127, 81.179, 81.229, 81.199, 81.137, 81.087, 81.075, 81.014, 80.871
Top of Granular S Elevation	81.112, 80.017, 80.517, 80.697, 80.727, 80.767, 80.857, 80.767, 80.747, 80.727, 80.697, 80.517, 80.267, 80.017, 80.972
Bottom of Granular S Elevation	80.517, 80.535, 80.552, 80.657, 80.552, 80.535, 80.517
Bottom of Granular B Elevation	80.152, 80.257, 80.152
Offset Interval	1.47, 1.50, 1.50, 1.50, 1.50, 1.03
Distance from CL	-7.85, -6.38, -5.66, -5.16, -4.66, -4.30, -4.00, -3.50, -3.00, -1.50, 0.00, 1.50, 3.00, 3.50, 4.00, 4.30, 4.66, 5.16, 5.66, 6.54, 7.57

0+305



Existing Ground Elevation	81.101, 80.361, 80.677, 80.795, 80.862, 81.014, 80.927, 80.911, 80.592
Top of Granular S Elevation	80.487, 79.867, 80.367, 80.547, 80.577, 80.617, 80.707, 80.617, 80.577, 80.547, 80.367, 79.867, 80.718
Bottom of Granular S Elevation	80.367, 80.385, 80.402, 80.507, 80.402, 80.385, 80.367
Bottom of Granular B Elevation	80.002, 80.107, 80.002
Offset Interval	1.50, 1.50, 1.50, 1.50
Distance from CL	-6.90, -6.18, -5.66, -5.16, -4.66, -4.30, -4.00, -3.50, -3.00, -1.50, 0.00, 1.50, 3.00, 3.50, 4.00, 4.30, 4.66, 5.16, 5.66, 6.48, 7.36

0+315



Existing Ground Elevation	80.849, 80.070, 80.352, 80.458, 80.563, 80.694, 80.584, 80.503, 80.522, 80.298, 80.292
Top of Granular S Elevation	80.179, 79.703, 80.203, 80.383, 80.413, 80.453, 80.543, 80.453, 80.413, 80.383, 80.203, 79.703, 80.380
Bottom of Granular S Elevation	80.203, 80.238, 80.343, 80.238, 80.213, 80.203
Bottom of Granular B Elevation	79.838, 79.943, 79.838
Offset Interval	2.08, 2.08, 0.99
Distance from CL	-6.61, -5.66, -4.97, -4.66, -4.30, -4.00, -3.31, -3.00, -2.08, 0.00, 0.92, 3.00, 3.69, 4.00, 4.30, 4.66, 5.35, 5.66, 6.02, 7.01

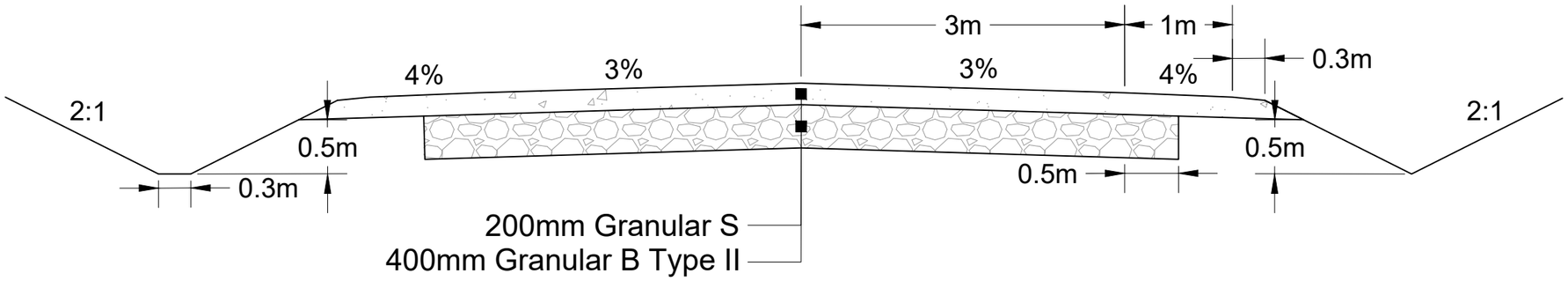
REV.	DATE	DESCRIPTION	PREPARED BY	VERIFIED BY
C	22-09-2022	ISSUED FOR CONSTRUCTION	NICOLAS YEDYNAK (Eng.) OIQ #5091337	DAVID CHOU (P.Eng.) PEO #100517690
B	12-08-2022	DRAFT FOR COMMENTS	NICOLAS YEDYNAK (Eng.) OIQ #5091337	DAVID CHOU (P.Eng.) PEO #100517690
A	29-07-2022	DRAFT FOR COMMENTS	NICOLAS YEDYNAK (Eng.) OIQ #5091337	DAVID CHOU (P.Eng.) PEO #100517690

REVISION

North Glengarry Nord — Ontario's Celtic Heartland / Le centre celtique de l'Ontario

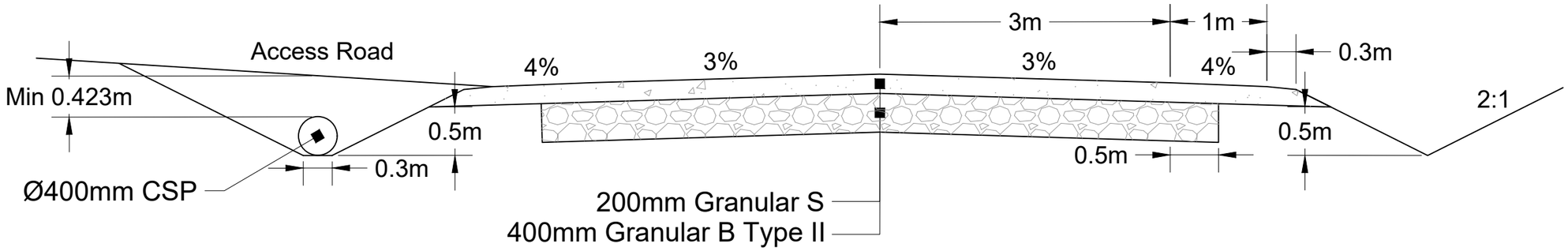
SYSTRA CANADA

PREPARED BY: NICOLAS YEDYNAK (Eng.) OIQ #5091337	DATE: 14-07-2022	PROJECT: DETAILED ENGINEERING FOR ROLLAND MASSIE ROAD MODIFICATIONS
DRAWN BY: HANA SULAIMAN	DATE: 18-07-2022	
VERIFIED BY: DAVID CHOU (P.Eng.) PEO #100517690	DATE: 29-07-2022	ROAD ALIGNMENT CROSS SECTIONS KP 0+245 TO KP 0+265, KP 0+285 TO KP 0+315
APPROVED BY: MARIA-PIA LONGO (P.Eng.) PEO #100544824	DATE: 29-07-2022	FORMAT: A3 — DWG Nº: 22012-IADC-0001 — REV.: C



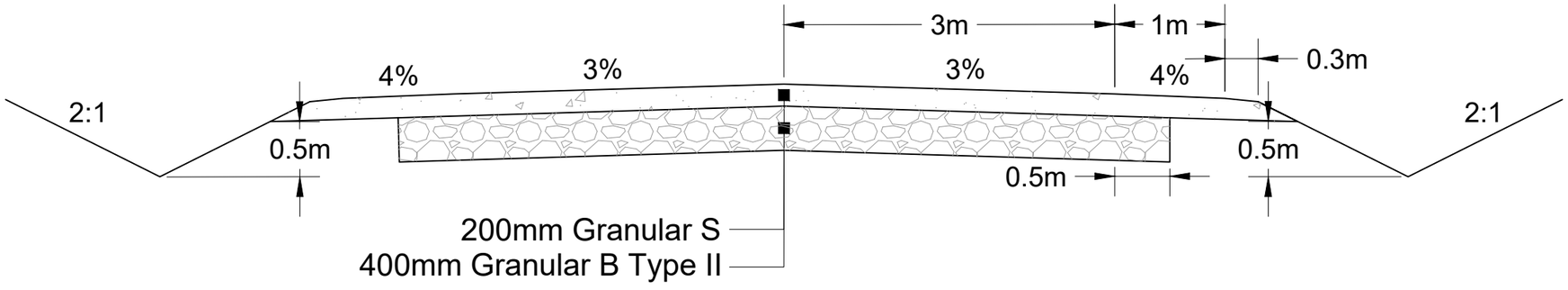
TYPICAL CROSS SECTION - KP 0+234.29 - KP 0+261.33

SCALE 1:50



TYPICAL CROSS SECTION - KP 0+261.33 - KP 0+269.58

SCALE 1:50



TYPICAL CROSS SECTION - KP 0+278.63 - KP 0+327.84

SCALE 1:50

LEGEND

GRANULAR S

GRANULAR B

REV.	DATE	DESCRIPTION	PREPARED BY	VERIFIED BY
C	22-09-2022	ISSUED FOR CONSTRUCTION	NICOLAS YEDYNAK (Eng.) OIQ #5091337	DAVID CHOU (P.Eng.) PEO #100517690
B	12-08-2022	DRAFT FOR COMMENTS	NICOLAS YEDYNAK (Eng.) OIQ #5091337	DAVID CHOU (P.Eng.) PEO #100517690
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REVISION

NORTH GLENGARRY NORD — Ontario's Celtic Heartland / Le centre celtique de l'Ontario

SYSTRA CANADA

PREPARED BY: NICOLAS YEDYNAK (Eng.) OIQ #5091337	DATE: 14-07-2022	PROJECT: DETAILED ENGINEERING FOR ROLLAND MASSIE ROAD MODIFICATIONS
DRAWN BY: HANA SULAIMAN	DATE: 18-07-2022	
VERIFIED BY: DAVID CHOU (P.Eng.) PEO #100517690	DATE: 29-07-2022	ROAD ALIGNMENT TYPICAL CROSS SECTIONS
APPROVED BY: MARIA-PIA LONGO (P.Eng.) PEO #100544824	DATE: 29-07-2022	FORMAT: A3 / DWG N°: 22012-IEDC-0001 / REV.: C