BAFFINLAND IRON MINES CORPORATION

RAIL STREAM CROSSINGS, NUNAVUT - CROSSING CV-84-1

SUPER·COR® Structural Steel Plate

MSE Retaining Wall Systems

AIL® SUPER-COR® ARCH STRUCTURE c/w AIL TRACK STRIP WIRE WALL HEADWALLS

DRAWING INDEX

DRAWING No.	DRAWING TITLE	REV.	ISSUE DATE
2019-00284K-K00	COVER SHEET	1	31 MAR 21
AIL® SUPER-COR® ARCH STRUCTURE c/w AIL TRACK STRIP WIRE WALL HEADWALLS DRAWINGS			
2019-00284K-K01	PLAN VIEW	1	31 MAR 21
2019-00284K-K02	LONGITUDINAL PROFILE	1	31 MAR 21
2019-00284K-K03	STRUCTURE GEOMETRY, DETAILS & NOTES	1	31 MAR 21
2019-00284K-K04	STRUCTURE LAYOUT	1	31 MAR 21
2019-00284K-K05	STRUCTURE BILL OF MATERIALS, DETAILS & SECTIONS	1	31 MAR 21
2019-00284K-K06	STRUCTURAL BACKFILL ENVELOPE	1	31 MAR 21
2019-00284K-K07	PRECAST FOOTING DETAILS	1	31 MAR 21
2019-00284K-K08	MSE WALL ELEVATIONS	1	31 MAR 21
2019-00284K-K09	MSE WALL MATERIAL SCHEDULES	1	31 MAR 21
2019-00284K-K10	MSE WALL TYPICAL SECTIONS	1	31 MAR 21

PERMIT TO PRACTICE
ATLANTIC INDUSTRIES LTD.
Signature Derek Essery
Date March 31, 2021
PERMIT NUMBER: P 552
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

REGISTERED PROFESSIONAL ENGINEER
D.C.N. ESSERY
LICENSEE
NWT/NU
March 31, 2021

REV NO.	DATE	BY	DESCRIPTION
1	31 MAR 21	BH	ISSUED FOR CONSTRUCTION
0	12 FEB 21	BH	ISSUED FOR APPROVAL

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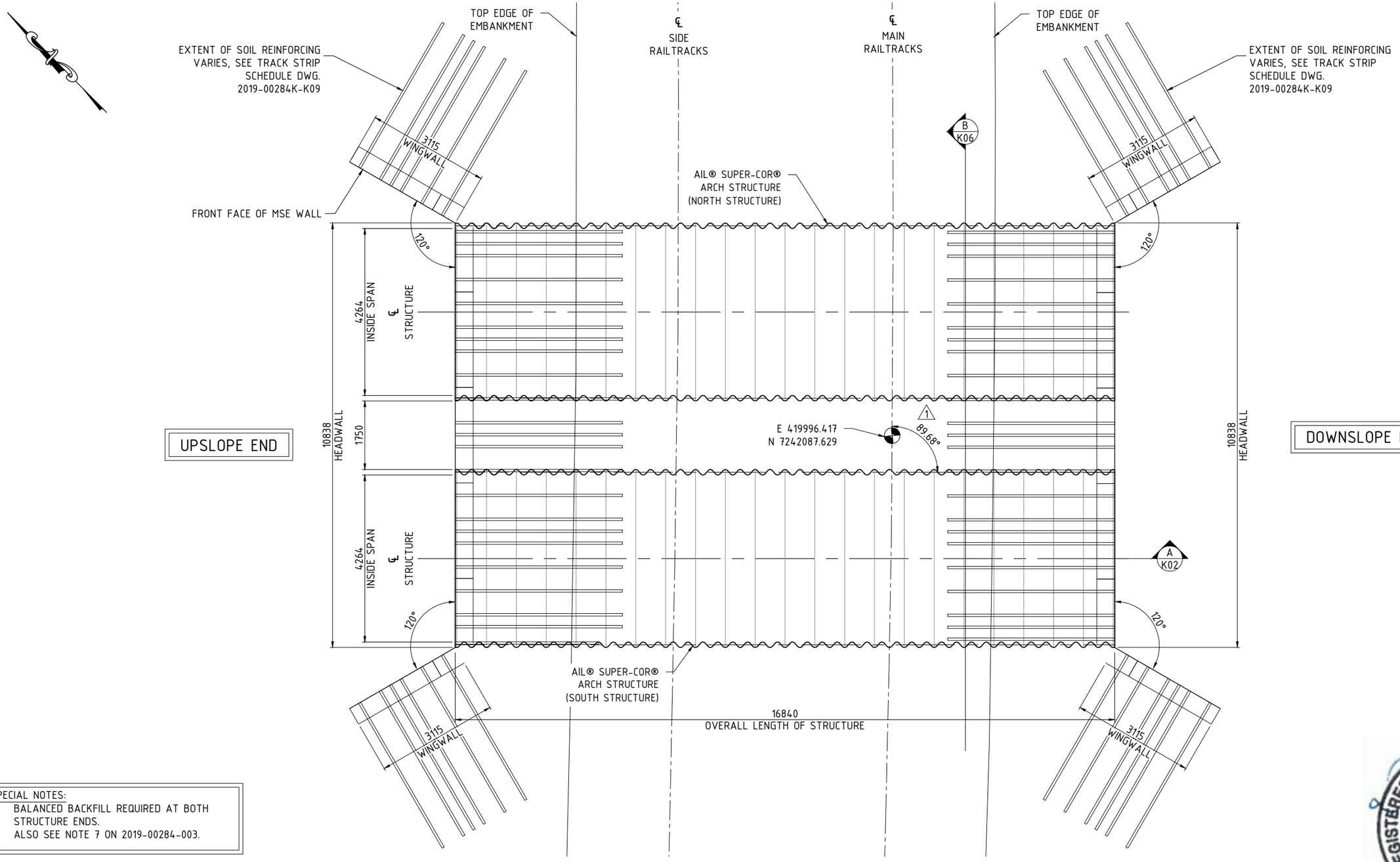
BAFFINLAND IRON MINES CORPORATION
RAIL STREAM CROSSINGS, NUNAVUT - CROSSING CV-84-1
COVER SHEET

DESIGNED	JZ	10 FEB 21
DES. CHK	MME	12 FEB 21
DRAWN BY	BH	09 FEB 21
DWG. CHK	LM	11 FEB 21

BRANCH P.O.	CUSTOMER REF.	TOTAL DWGS
-	CV-84-1	11

PROJECT NUMBER 2019-00284K | DWG NO. K00 | REV. 1



UPSLOPE END

DOWNSLOPE END

SPECIAL NOTES:
1. BALANCED BACKFILL REQUIRED AT BOTH STRUCTURE ENDS.
2. ALSO SEE NOTE 7 ON 2019-00284-003.

PLAN VIEW
SCALE 1:100

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BAFFINLAND IRON MINES CORPORATION
RAIL STREAM CROSSINGS, NUNAVUT - CROSSING CV-84-1
PLAN VIEW

DESIGNED	JZ	10 FEB 21
DES. CHK	MME	12 FEB 21
DRAWN BY	BH	09 FEB 21
DWG. CHK	LM	11 FEB 21

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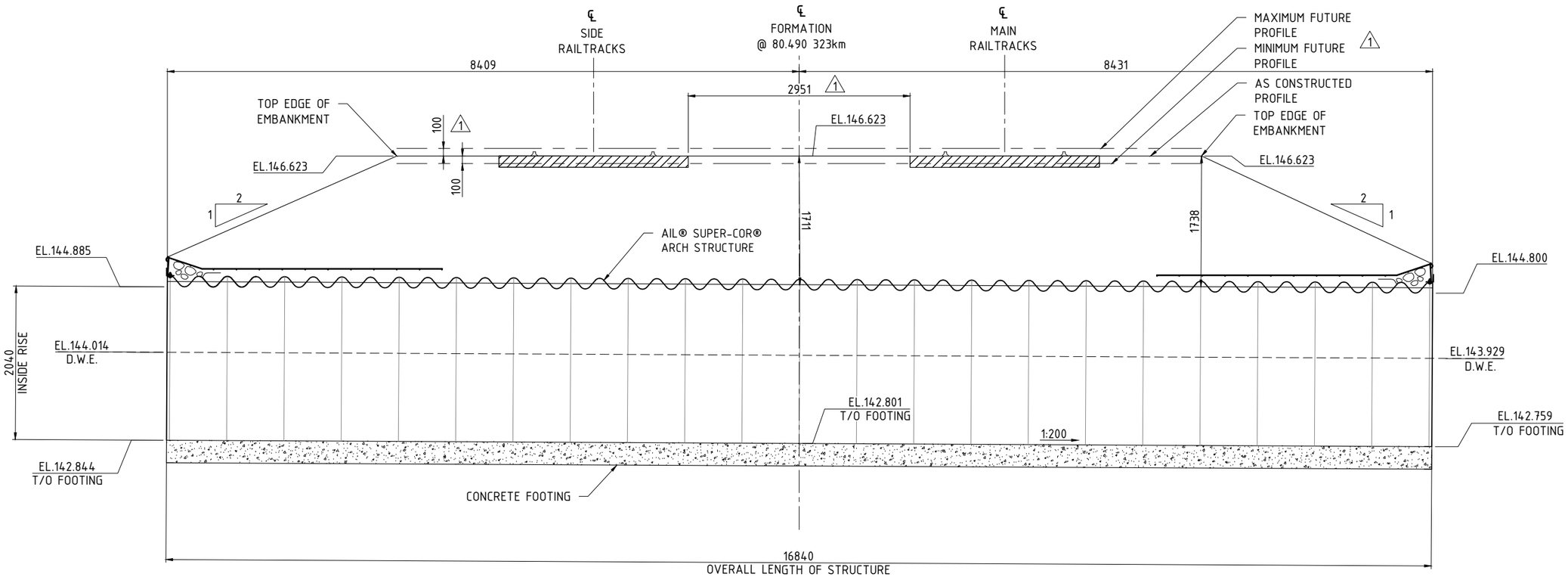
CUSTOMER REF. CV-84-1
PROJECT NUMBER 2019-00284K
DWG NO. K01
REV. 1

UPSLOPE END

DOWNSLOPE END



A / K01 SECTION - LONGITUDINAL PROFILE THRU ℄ OF STRUCTURE
SCALE: 1:60

REGISTERED PROFESSIONAL ENGINEER
M.B.E.D. EL-SHARNOUBY
LICENSEE
2021/03/31
NT/NU

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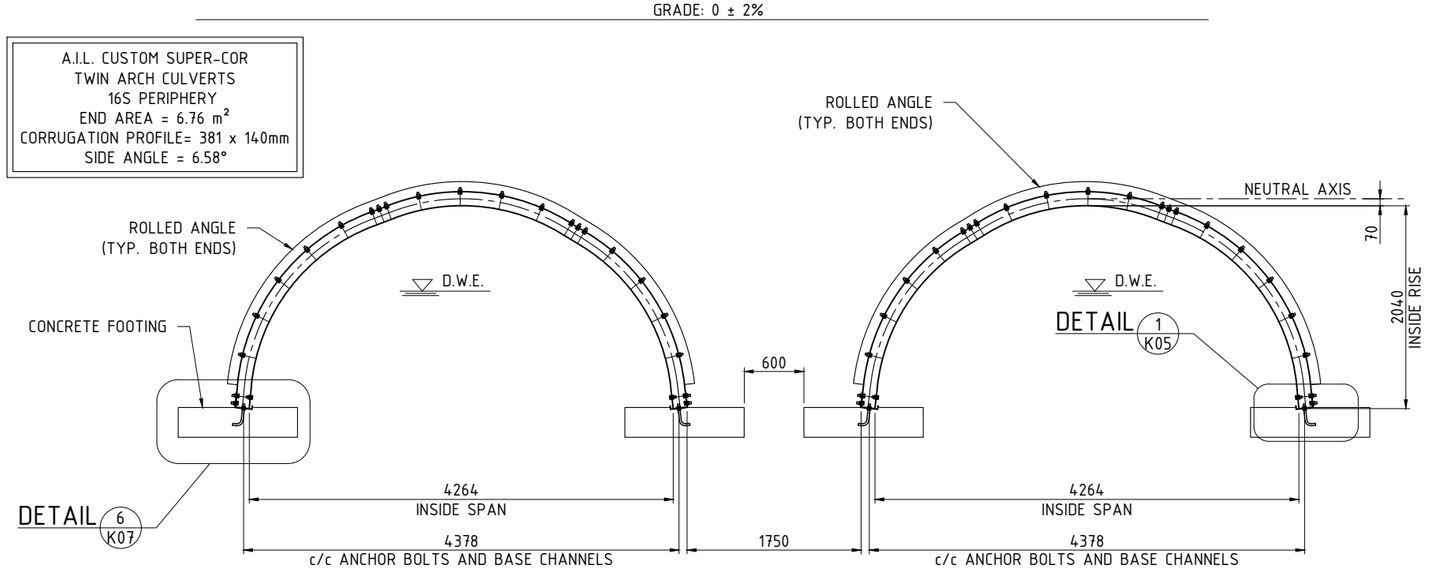
BAFFINLAND IRON MINES CORPORATION
RAIL STREAM CROSSINGS, NUNAVUT - CROSSING CV-84-1
LONGITUDINAL PROFILE

DESIGNED	JZ	10 FEB 21
DES. CHK	MME	12 FEB 21
DRAWN BY	BH	09 FEB 21
DWG. CHK	LM	11 FEB 21

BRANCH P.O.: -
CUSTOMER REF.: CV-84-1
PROJECT NUMBER: 2019-00284K
DWG NO.: K02
REV.: 1



STRUCTURE GEOMETRY
SCALE 1:60

SITE SPECIFIC MSE WALL DESIGN PARAMETERS:

1. FOR TYPICAL MSE WALL NOTES AND DETAILS REFER TO AIL DRAWINGS 2019-00284-002 & 005-009.
2. REFERENCE DRAWINGS BY HATCH, BAFFINLAND IRON MINES LP MARY RIVER PROJECT, RAIL SITE CULVERT CV-84-1 GENERAL LAYOUT, REV A, ISSUED FOR INTERNAL REVIEW, 2020/12/16.
3. THE DESIGN LIFE FOR THE MSE WALL IS 25 YEARS.
4. BELOW GROUND STEEL CORROSION RATES FOR NON-AGGRESIVE FILL ARE AS FOLLOWS:
   GALVANIZATION LOSS: 15 µm/YEAR FOR FIRST TWO YEARS
   4 µm/YEAR FOR SUBSEQUENT YEARS
   CARBON STEEL LOSS: 12 µm/YEAR AFTER ZINC DEPLETION.
   THE CORROSION RATES ARE BASED ON BACKFILL MATERIAL WHICH MEETS THE ELECTROCHEMICAL SPECIFICATIONS IN THE BACKFILL NOTES.
5. SOIL REINFORCING MINIMUM YIELD STRENGTH OF 450 MPa MANUFACTURED ACCORDING TO ASTM A1064, WITH 0.086mm ZINC GALVANIZING AS PER ASTM A123.
   SOIL REINFORCING LENGTHS ARE SHOWN ON THE SCHEDULE.
6. SOIL DESIGN PARAMETERS:
   SELECT BACKFILL: UNIT WEIGHT: 18 kN/m³
   INTERNAL FRICTION ANGLE: 38°
   COHESION: 0
   RETAINED BACKFILL: UNIT WEIGHT: 18 kN/m³
   INTERNAL FRICTION ANGLE: 38°
   COHESION: 0
   FOUNDATION SOIL: FRICTION FOR SLIDING: 38°
7. SEISMIC PARAMETERS:
   SITE CLASS = C
   PGA = 0.086
   SEISMIC PARAMETERS: PER AASHTO LRFD 2019, 11.5.4.2, NO SEISMIC ANALYSIS IS REQUIRED.
   THIS APPROACH IS VALID PROVIDED SEISMIC ACCELERATION 'AS' IS LESS THAN 0.4G, THERE IS NO POTENTIAL FOR LIQUEFACTION, AND THE WALL IS NOT SUPPORTING ANOTHER STRUCTURE WHICH IS DESIGNED FOR SEISMIC LOADING. IT IS THE RESPONSIBILITY OF THE PROJECT GEOTECHNICAL ENGINEER TO ADVISE IF THESE CONDITIONS ARE NOT MET.
8. UF LIVE LOAD SURCHARGE = E-90
   - 12kPa MAINTENANCE VEHICLE CONSIDER OUTSIDE OF RAIL LOADING (TO BE CONFIRMED).
9. DESIGN WATER LEVEL - WALL DESIGN CONSIDERED 1:200 YEAR STORM OF 1.17m ABOVE STREAM BED.
10. EMBEDMENT = 600mm MIN.
11. GLOBAL STABILITY REQUIREMENTS CONSIDERED IN DESIGN = 0.7H, CODE MINIMUM. GLOBAL AND COMPOUND STABILITY ANALYSIS BY OTHERS.
12. FOR STRUCTURE SPECIFIC DESIGN PARAMETERS REFER TO THE DRAWING SITE AS NOTED ON AIL DRAWING NO. 2019-00284-000.

⚠1 MSE WALL SETTLEMENT AND ALIGNMENT NOTES:

1. CALCULATION AND ANALYSIS OF TOTAL AND DIFFERENTIAL SETTLEMENT WERE NOT COMPLETED BY AIL. THE ANTICIPATED SETTLEMENTS ARE ASSUMED TO BE WITHIN THE FOLLOWING LIMITS (THESE LIMITS ARE APPLICABLE TO THE MSE WALL AND DO NOT ADDRESS SETTLEMENT LIMITS FOR STRUCTURES SUPPORTED BY THE WALL):
   a. MAXIMUM DIFFERENTIAL SETTLEMENT: 1% ON LENGTH
   b. MAXIMUM TOTAL SETTLEMENT: 50mm
2. THE FOLLOWING ALIGNMENT TOLERANCES MUST BE MET:
   c. VERTICAL ALIGNMENT TOLERANCE SHALL NOT EXCEED 50mm PER 3m OF WALL HEIGHT
   d. HORIZONTAL ALIGNMENT TOLERANCE SHALL NOT EXCEED 50mm PER 3m OF WALL LENGTH ADDITIONAL TOLERANCES SHALL BE AS PER THE CONTRACT DOCUMENTS

REGISTERED PROFESSIONAL ENGINEER
D.C.N. ESSERY
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NWT/NU
March 31, 2021

GENERAL STRUCTURE NOTES

REGISTERED PROFESSIONAL ENGINEER
M.B.E.D. EL-SHARNOUBY
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2021/03/31
NT/NU

ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS NOTED OTHERWISE.
ALL ELEVATIONS ARE IN METRES.
1S = 406.4 mm
ALL DIMENSIONS ARE TO THE INSIDE CREST OF STEEL UNLESS NOTED OTHERWISE.
REQUIRED TORQUE ON BOLTS : MINIMUM 203 N.m (150 ft.lbs)
AVERAGE 270 N.m (200 ft.lbs)
MAXIMUM 338 N.m (250 ft.lbs)

1. DESIGN STANDARDS, SPECIFICATIONS AND GUIDELINES
⚠1 1.1. AREMA MANUAL FOR RAILWAY ENGINEERING 2020.
1.2. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9TH EDITION 2020.
1.3. CANADIAN STANDARD ASSOCIATION (CSA).
1.4. ASTM STANDARDS.
1.5. ATLANTIC INDUSTRIES LIMITED INTERNAL METHODS
1.6. CSPI HANDBOOK OF STEEL DRAINAGE AND HIGHWAY CONSTRUCTION - PERFORMANCE GUIDELINE (TECH BULLETIN 13).
2. DESIGN PARAMETERS
2.1. LIVE LOAD: E-90, DLA = 0.50, LOAD FACTOR = 1.75.
2.2. DESIGN UNIT WEIGHT OF SOIL = 18 kN/m³.
⚠1 2.3. DESIGN HEIGHT OF COVER = 1711-1738mm FROM NEUTRAL AXIS OF BARREL CROWN. MAINTENANCE AND OPERATIONAL VARIANCES, ± 100mm FROM THE AS CONSTRUCTED PROFILE ON DWG 2019-00284K-K02
2.4. DESIGN SERVICE LIFE = 25 YEARS, CSPI PERFORMANCE GUIDELINE.
THE OWNER IS TO ADVISE ATLANTIC INDUSTRIES LIMITED IF ACTUAL DURABILITY EXPOSURES DIFFER FROM THE FOLLOWING:
2.4.1. OUTSIDE OF STRUCTURE
* SOIL EXPOSURE: AASHTO CORROSION MODEL (SEE TABLE 1-1 ON DWG 2019-00284-001)
2.4.2. INSIDE OF STRUCTURE
* ATMOSPHERE EXPOSURE: ISOCORRAG CLASSIFICATION C1 TO C2. NO LOSS CONSIDERED.
* SOIL EXPOSURE: AASHTO CORROSION MODEL (SEE TABLE 1-1 ON DWG 2019-00284-001).
* WATER EXPOSURE: UK NON-AGGRESSIVE, UP TO DESIGN WATER ELEVATION (D.W.E), SEE TABLE 1-4 ON DWG 2019-00284-001 FOR ENVIRONMENTAL CAPABILITIES)
2.4.3. BOLTS
AASHTO: REFER TO TABLE 1-1 ON DWG. 2019-00284-001.
2.5. DESIGN BASED ON ASSUMED CONDITIONS NOTED ON 2019-00284-003. OWNERS GEOTECHNICAL ENGINEER TO ADVISE IF ACTUAL CONDITIONS DIFFER FROM ASSUMED SO ATLANTIC INDUSTRIES LIMITED CAN EVALUATE THE IMPACT ON THE STRUCTURE. REFERENCE 2019-00284-003 FOR MORE DETAIL.
2.6. SEISMIC ACCELERATION RATIO = 0.086 (2% PROBABILITY OF EXCEEDANCE IN 50 YEARS).
2.7. FINITE ELEMENT ANALYSIS. SEE DRAWING 2019-00284-003 FOR SOIL PARAMETERS. ATLANTIC INDUSTRIES LIMITED SHALL BE NOTIFIED TO EVALUATE THE NEED TO REDESIGN IF ACTUAL CONDITIONS DIFFER THAN THOSE ASSUMED.
3. STEEL CULVERT
3.1. CORRUGATED STEEL/COMPONENTS TO CONFORM TO AASHTO M167M.
3.2. STRUCTURAL PLATE/CHANNEL/ANGLE COATING, AASHTO M167M: GALVANIZED Z915 (TOTAL ON BOTH SURFACES).
3.3. BOLTS - 19Ø CSA-G401-14, (ASTM A449, TYPE 1).
NUTS - 19Ø CSA-G401-14, (ASTM A563, GRADE C).
ANCHOR BOLTS - 19Ø CSA-G401-14, (ASTM F1554, GRADE 36).
3.4 FASTENER COATING:
ASTM A153/A153M AND ASTM F2329 OR CAN/CSA-G164, CLASS 5.
ANCHOR BOLTS - ASTM A153/A153M AND ASTM F2329 OR CAN/CSA-G164, CLASS 5.
4. FOOTINGS
4.1. FOOTINGS DESIGN BY ATLANTIC INDUSTRIES LIMITED.
4.2. ANCHOR BOLTS FOR CONCRETE FOOTINGS SUPPLIED BY ATLANTIC INDUSTRIES LIMITED.
4.3. FOOTING DESIGN BASED ON SOIL WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 400 kPa SLS, 400 kPa ULS AND FOUNDATION INTERFACE COEFFICIENT OF FRICTION FOR SLIDING RESISTANCE = 0.36. EFFECTIVE FRICTION ANGLE FOR LATERAL EARTH PRESSURE ON FOOTING = 38° (MIN.). GEOTECHNICAL ENGINEER TO EVALUATE THE LOAD INCLINATION IMPACT ON BEARING CAPACITY. DESIGN PARAMETERS TO BE CONFIRMED BY OWNER'S GEOTECHNICAL ENGINEER IN THE FIELD.
4.4. THE OWNER'S GEOTECHNICAL ENGINEER IS RESPONSIBLE FOR ENSURING THE AS-CONSTRUCTED FOUNDATION RESULTS IN MAXIMUM FOOTING SETTLEMENTS LESS THAN THE FOLLOWING:
4.4.1. LONGITUDINAL DIFFERENTIAL SETTLEMENT (ALONG THE LENGTH) = SMALLER OF 1% OF LENGTH OR 50mm.
4.4.2. TOTAL SETTLEMENT = 50mm.
4.4.3. MAXIMUM DIFFERENTIAL SETTLEMENT BETWEEN THE STRUCTURE AND THE ENGINEERING BACKFILL = 25 mm.
4.4.4. TRANSVERSE DIFFERENTIAL SETTLEMENT (ACROSS THE SPAN) = SMALLER OF 1% OF LENGTH OR 25 mm.
4.5. FOR CONCRETE FOOTINGS NOTES SEE DRAWING 2019-00284K-K07.
5. HYDRAULICS/SCOUR
5.1. REFERENCE 2019-00284-001.
6. EXCAVATING AND BACKFILLING
6.1. REFERENCE 2019-00284-001 AND 2019-00284-003 AND 2019-00284K-K06 .

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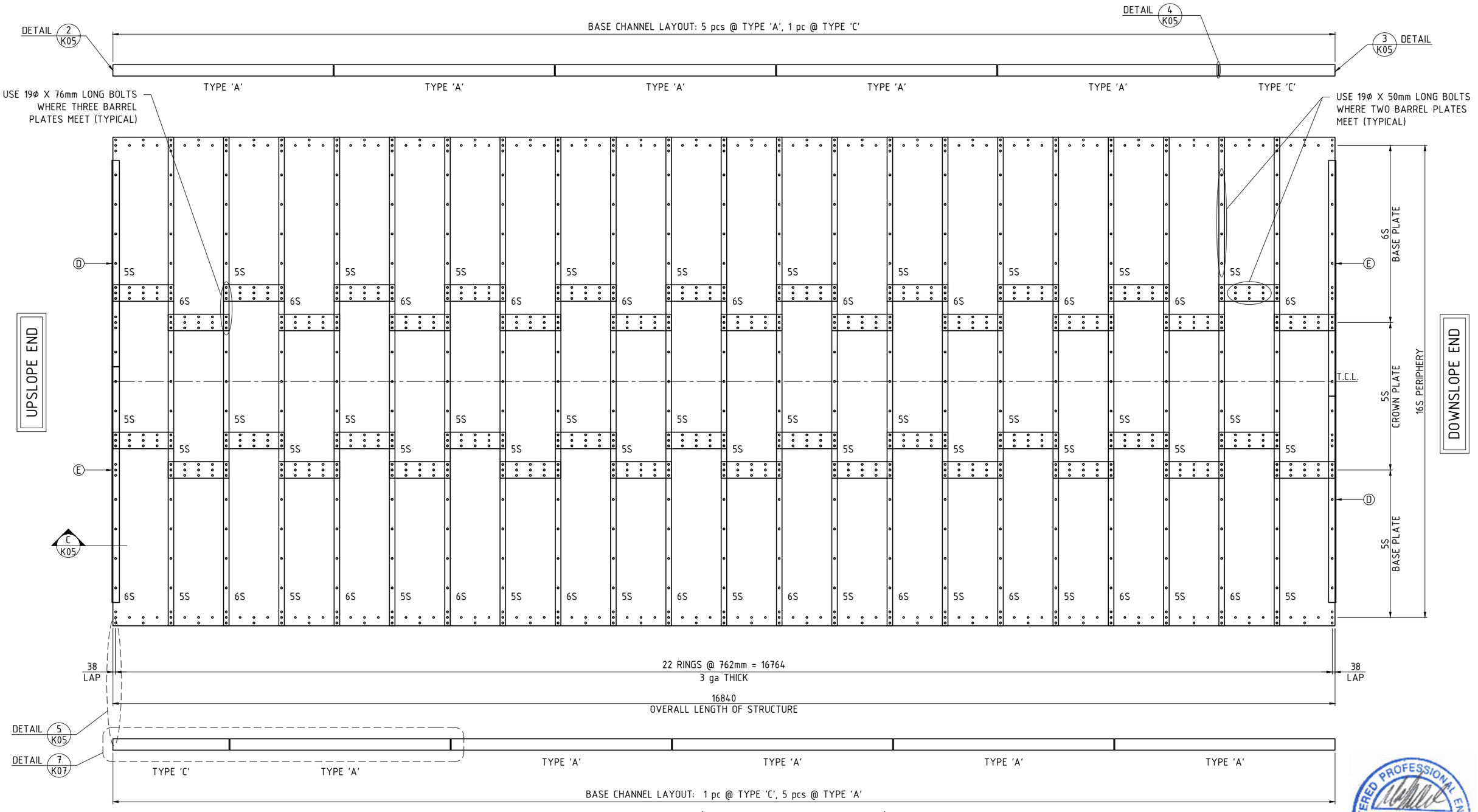
BAFFINLAND IRON MINES CORPORATION
RAIL STREAM CROSSINGS, NUNAVUT - CROSSING CV-84-1
STRUCTURE GEOMETRY, DETAILS & NOTES

DESIGNED	JZ	10 FEB 21
DES. CHK	MME	12 FEB 21
DRAWN BY	BH	09 FEB 21
DWG. CHK	LM	11 FEB 21

BRANCH P.O. -
CUSTOMER REF. CV-84-1
PROJECT NUMBER 2019-00284K
DWG NO. K03
REV. 1



STRUCTURE LAYOUT (TYPICAL EACH STRUCTURE) - OUTSIDE FLAT VIEW

NORTH STRUCTURE MARKED BLUE

SCALE: 1:50

REGISTERED PROFESSIONAL ENGINEER
M.B.E.D. EL-SHARNOUBY
LICENSEE
2021/03/31
NT/NU

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RAIL STREAM CROSSINGS, NUNAVUT - CROSSING CV-84-1
STRUCTURE LAYOUT

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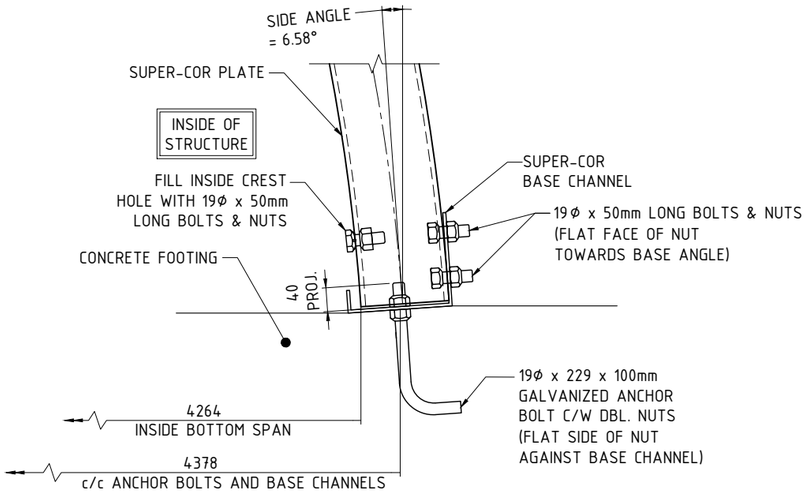
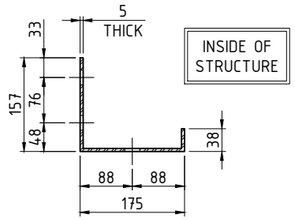
DWG. CHK	LM	11 FEB 21

BRANCH P.O. -
CUSTOMER REF. CV-84-1
PROJECT NUMBER 2019-00284K
DWG NO. K04
REV. 1



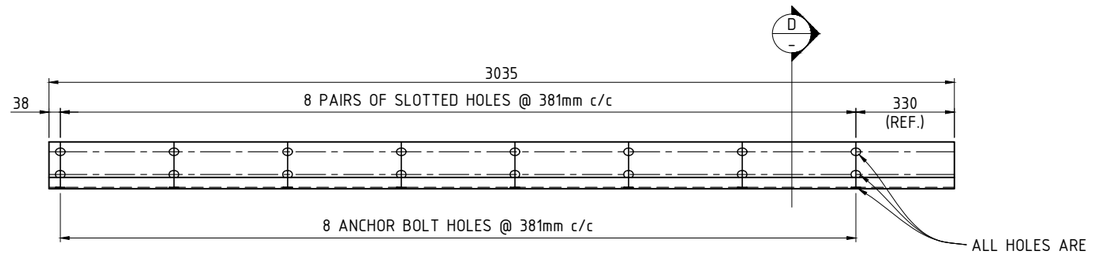
1 / K03 DETAIL - BASE CONNECTION
SCALE 1:10



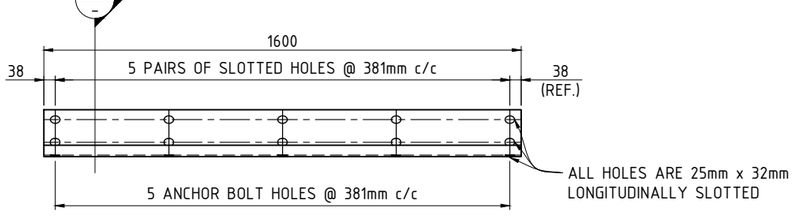
D / - SECTION
SCALE 1:10

BILL OF MATERIALS (BOTH STRUCTURES)						
QTY	PART ID	ITEM DESCRIPTION	NET LENGTH (mm)	GROSS WIDTH (mm)	DESIGN THICKNESS (mm)	COLOUR CODE
44	SCF605SHS	5S BASE PLATE	762	2260	6.23 (3 ga)	22 pcs @ BLUE (NORTH STRUCTURE)
44	SCF606SHS	6S BASE PLATE	762	2666.4	6.23 (3 ga)	22 pcs @ BLUE (NORTH STRUCTURE)
44	SCF605SHS	5S CROWN PLATE	762	2260	6.23 (3 ga)	22 pcs @ BLUE (NORTH STRUCTURE)
2000	UP.75X2	HEAVY HEX CULVERT BOLT	50		19 ø	1000 pcs (NORTH STRUCTURE)
550	UP.75X3	HEAVY HEX CULVERT BOLT	76		19 ø	275 pcs (NORTH STRUCTURE)
180	UP.75X9X4	GALV. ANCHOR BOLT	229 x 100		19 ø	90 pcs (NORTH STRUCTURE)
2910	UP.75NUT	HEAVY HEX NUT			19 ø	1455 pcs (NORTH STRUCTURE)
20	UPBASECHANTYPEA	TYPE 'A' CHANNEL	3035			10 pcs @ BLUE (NORTH STRUCTURE)
4	UPBASECHANCUSTOM -SC	TYPE 'C' CHANNEL	1600			2 pcs @ BLUE (NORTH STRUCTURE)
4	UPROLLEDANGLE6.4X102X102HDG	102X102X6.4 GALV. CROWN ROLLED ANGLE	2939		6.4	D (2 pcs @ BLUE NORTH STRUCTURE)
4	UPROLLEDANGLE6.4X102X102HDG	102X102X6.4 GALV. CROWN ROLLED ANGLE	3359.8		6.4	E (2 pcs @ BLUE NORTH STRUCTURE)
4	UPPRYBAR42	PRY BAR				
2	UPDRIFTPIN	DRIFT PIN				

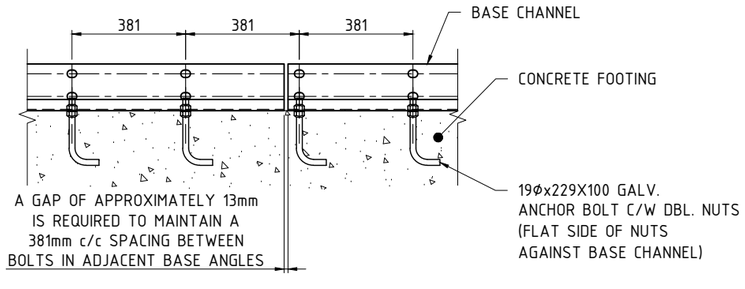
PLATE/ANGLE AND BASE CHANNEL FINISH = GALVANIZED Z915



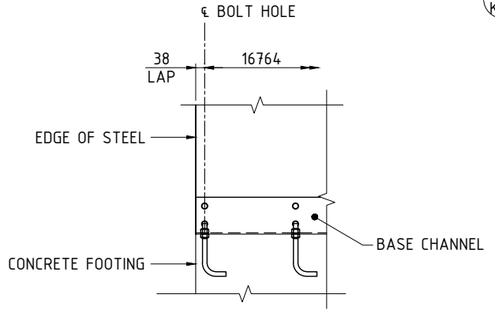
2 / K04 DETAIL - TYPE 'A' CHANNEL (VIEWED FROM INSIDE STRUCTURE)
10 pcs REQUIRED SCALE 1:20



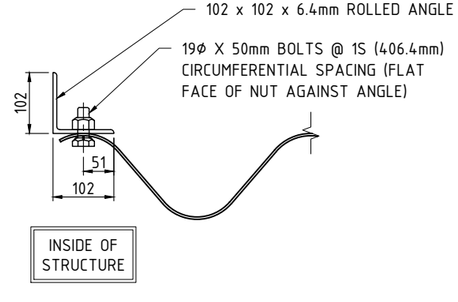
3 / K04 DETAIL - TYPE 'C' CHANNEL (VIEWED FROM INSIDE STRUCTURE)
2 pcs REQUIRED SCALE 1:20



4 / K04 DETAIL - BASE CHANNEL SPACING
SCALE 1:20



5 / K04 DETAIL - BASE CHANNEL & FOOTING END
(TYP. BOTH ENDS) N.T.S.



C / K04 SECTION - ROLLED ANGLE CONNECTION (TYP. BOTH ENDS)
SCALE 1:10

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STRUCTURE BILL OF MATERIALS, DETAILS & SECTIONS

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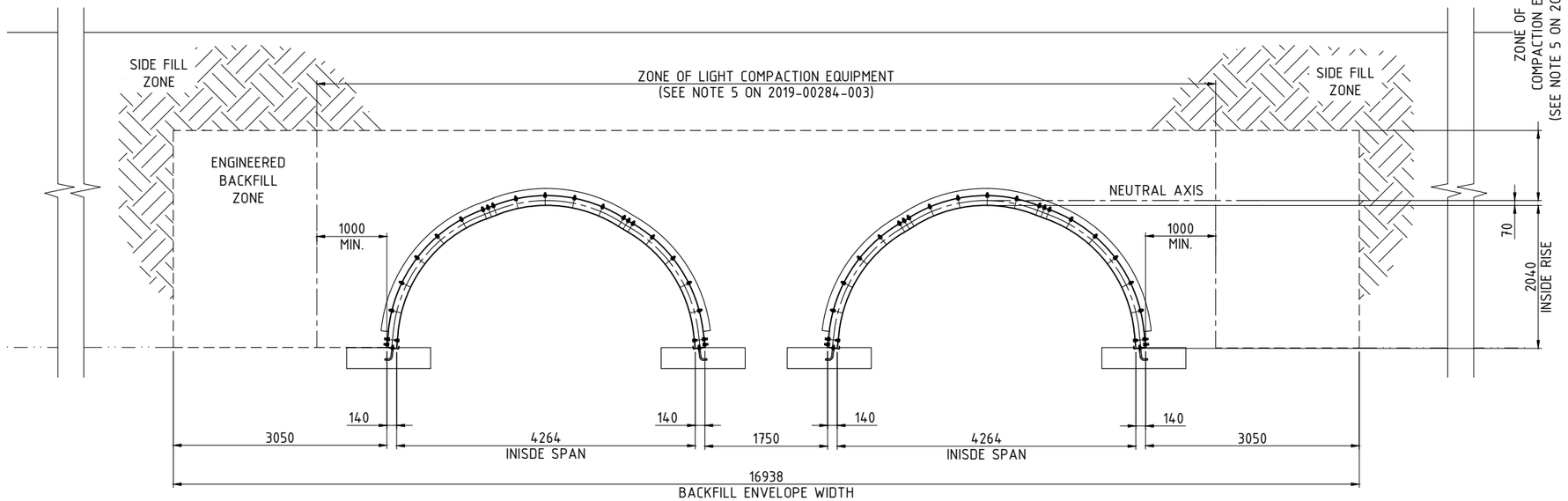
PROJECT NUMBER 2019-00284K
DWG NO. K05
REV. 1

REFER TO STRUCTURE BACKFILL PROCEDURE'S ON DRAWING 2019-00284-003 (REV 2, 21 MAR 21) IN ADDITION TO THIS DRAWING



B K01 BACKFILL ENVELOPE
SCALE: 1:75

REGISTERED PROFESSIONAL ENGINEER
M.B.E.D. EL-SHARNOUBY
LICENSEE
2021/03/31
NT/NU

Wednesday, March 31, 2021 4:21:51 PM BRIAN HEANEY

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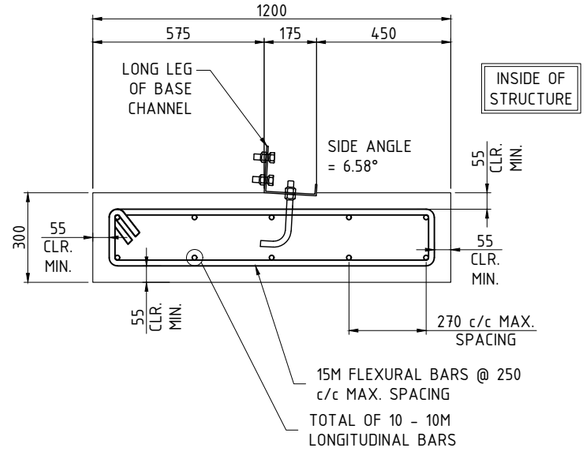
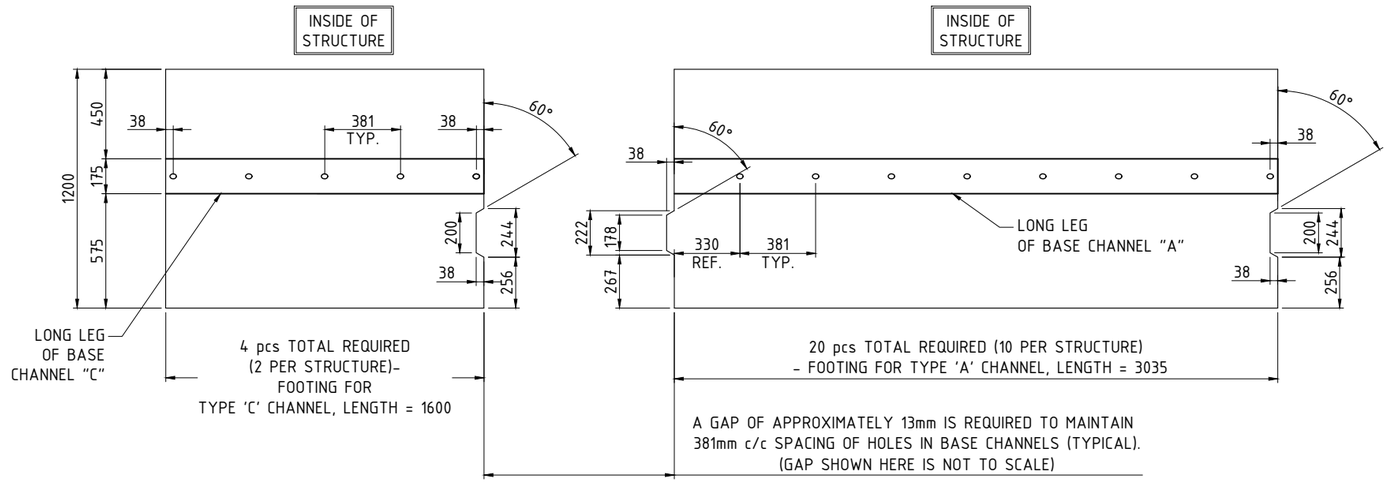
DWG NO. K06
REV. 1

PRECAST CONCRETE FOOTINGS:

1.1. CONCRETE MATERIALS, METHODS OF CONSTRUCTION AND TEST METHODS FOR PRECAST CONCRETE TO CONFORM TO AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS 2017.
1.2. CONCRETE DESIGN AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9TH EDITION 2020.
1.3. TYPE HS OR HSb CEMENT.
1.4. ALL CONCRETE SHALL BE STANDARD WEIGHT WITH 5% TO 8% MINIMUM AIR ENTRAINMENT.
1.5. WATER CEMENT RATIO = 0.4 TO 0.45.
1.6. MINIMUM 28 DAY COMPRESSIVE STRENGTH OF CONCRETE = 35 MPa.
1.7. MAXIMUM AGGREGATE SIZE 19 mm.
1.8. ALL REINFORCING STEEL SHALL CONFORM TO CSA C30.18M, GRADE 400 (GRADE 400W IF CAGES TO BE TACK WELDED.
1.9. ALL REINFORCING STEEL SHALL BE GALVANIZED AS PER ASTM A767/A767M-19.
1.10. ALL REINFORCING STEEL SHALL HAVE 55mm MIN. CLEAR COVER UNLESS NOTED OTHERWISE.
1.11. PRE-CAST FOOTING FABRICATION DETAILS TO BE PROVIDED BY PRE-CAST SUPPLIER.
1.12. CONNECTION AND LIFTING DETAILS DESIGN AND SUPPLIED BY OTHERS.
1.12. EXPOSURE SEVERE TO MODERATE EXPOSURE (AASHTO LRFD TABLE 5.10.1-1), EARTH OR FRESH WATER (ACI 318).
1.13. IF THERE ARE ANY DISCREPANCIES BETWEEN THESE AIL DRAWINGS AND REFERENCE DOCUMENTS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. AIL SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.



6 K03 DETAIL - PRE-CAST CONCRETE FOOTING (SECTION VIEW)
SCALE 1:20



7 K04 DETAIL - PRE-CAST CONCRETE FOOTING (PLAN VIEW)
SCALE 1:30

REV NO.	DATE	BY	DESCRIPTION
1	31 MAR 21	BH	ISSUED FOR CONSTRUCTION
0	12 FEB 21	BH	ISSUED FOR APPROVAL

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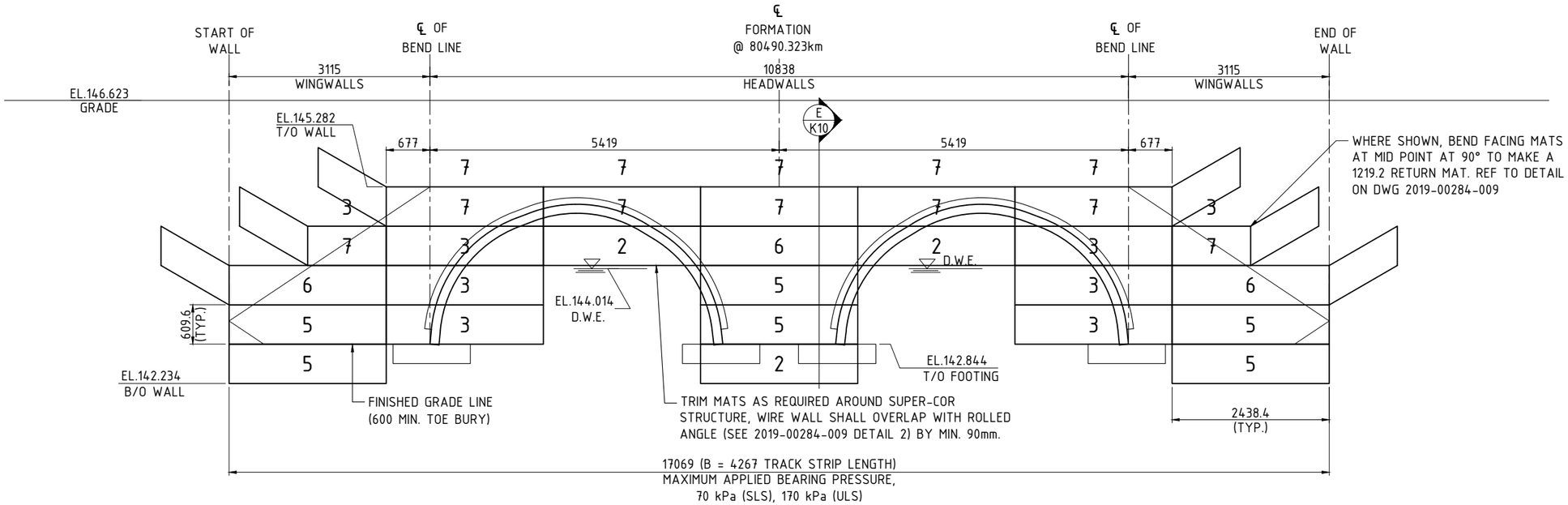
BAFFINLAND IRON MINES CORPORATION
RAIL STREAM CROSSINGS, NUNAVUT - CROSSING CV-84-1
PRECAST FOOTING DETAILS

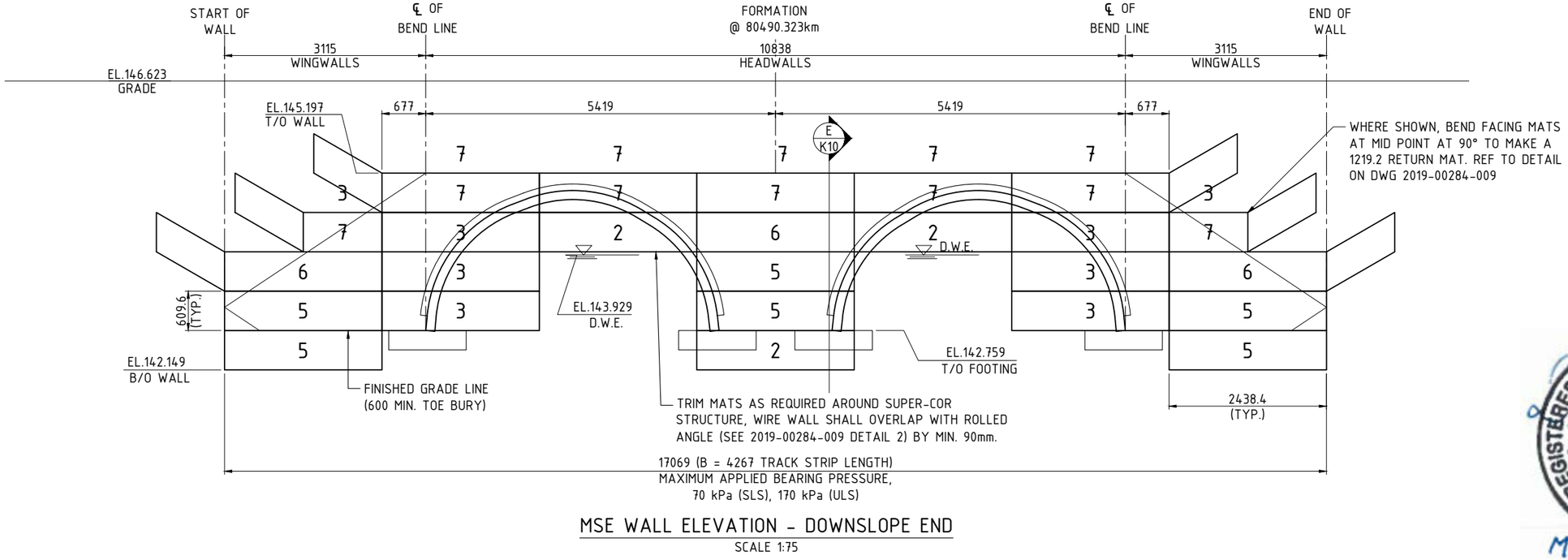
DESIGNED	JZ	10 FEB 21
DES. CHK	MME	12 FEB 21
DRAWN BY	BH	09 FEB 21
DWG. CHK	LM	11 FEB 21

BRANCH P.O. -
CUSTOMER REF. CV-84-1
PROJECT NUMBER 2019-00284K
DWG NO. K07
REV. 1



MSE WALL ELEVATION - UPSLOPE END

SCALE 1:75



MSE WALL ELEVATION - DOWNSLOPE END

SCALE 1:75

REGISTERED PROFESSIONAL ENGINEER
D.C.N. ESSERY
LICENSEE
NWT/NU
March 31, 2021

REV NO.	DATE	BY	DESCRIPTION
1	31 MAR 21	BH	ISSUED FOR CONSTRUCTION
0	12 FEB 21	BH	ISSUED FOR APPROVAL

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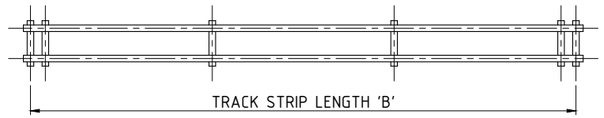
MSE Retaining Wall Systems

BAFFINLAND IRON MINES CORPORATION
RAIL STREAM CROSSINGS, NUNAVUT - CROSSING CV-84-1
MSE WALL ELEVATIONS

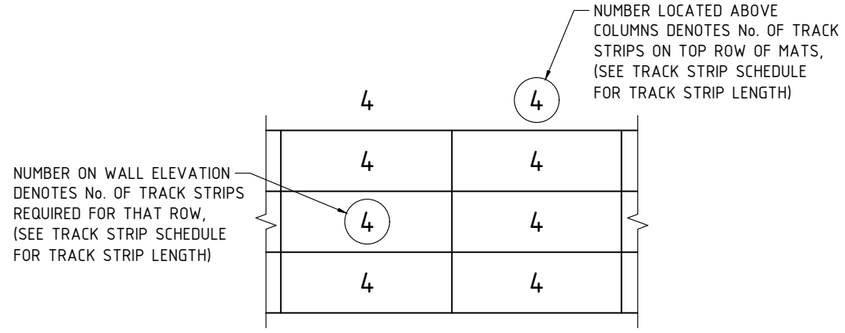
DESIGNED	TE	09 FEB 21	BRANCH P.O. -
DES. CHK	DE	12 FEB 21	CUSTOMER REF. CV-84-1
DRAWN BY	BH	09 FEB 21	PROJECT NUMBER 2019-00284K
DWG. CHK	MS	11 FEB 21	DWG NO. K08
			REV. 1

TRACK STRIP SOIL REINFORCING SCHEDULE

MAT #	PART ID	TRACK LENGTH 'B'	QTY	COMMENTS
GS 11	WLFTS11W14GALV1FT	14'-0" (4267)	324	SEE DRAWING WLFTS11WXXGALV1FT REV. 0 FOR DETAILS
TOTAL			324	
SM (EXTRA)	WLFTS11W14GALV1FT	14'-0" (4267)	6	SEE DRAWING WLFTS11WXXGALV1FT REV. 0 FOR DETAILS



TRACK STRIP SCHEDULE KEY



TRACK STRIP SCHEDULE ANNOTATION

MISCELLANEOUS SCHEDULE

#	PART ID	ITEM DESCRIPTION	QTY	EXTRA QTY	TOTAL QTY	COMMENTS
1	WLPTSF2.438X0.61WWFORMGAL	WELDED WIRE FORM (GALVANIZED)	54	3	57	SEE DRAWING WLPTSF2.438X0.61WWFORM REV. 0 FOR DETAILS
2	WLPNWGEO6W712N	FILTER FABRIC	122 (LINEAR METERS)	6 (LINEAR METERS)	128 (LINEAR METERS)	1830 MIN (72") (SEE DRAWING WLPNWGEO6W712N REV. 0 FOR DETAILS)
3	WLPPLIERS	PLIERS	2	0	2	
4	WLPHOGRINGS	HOG RINGS	218	152	370	SEE DRAWING WLPHOGRINGS REV. 0 FOR DETAILS
5	WLPFS4.5X24.45STRUT	TRACK STRIP WIRE WALL STRUT	170	3	173	SEE DRAWING WLPFS4.5X24.45STRUT REV. 0 FOR DETAILS

REGISTERED PROFESSIONAL ENGINEER
D.C.N. ESSERY
LICENSEE
NWT/NU
March 31, 2021

REV NO.	DATE	BY	DESCRIPTION
1	31 MAR 21	BH	ISSUED FOR CONSTRUCTION
0	12 FEB 21	BH	ISSUED FOR APPROVAL

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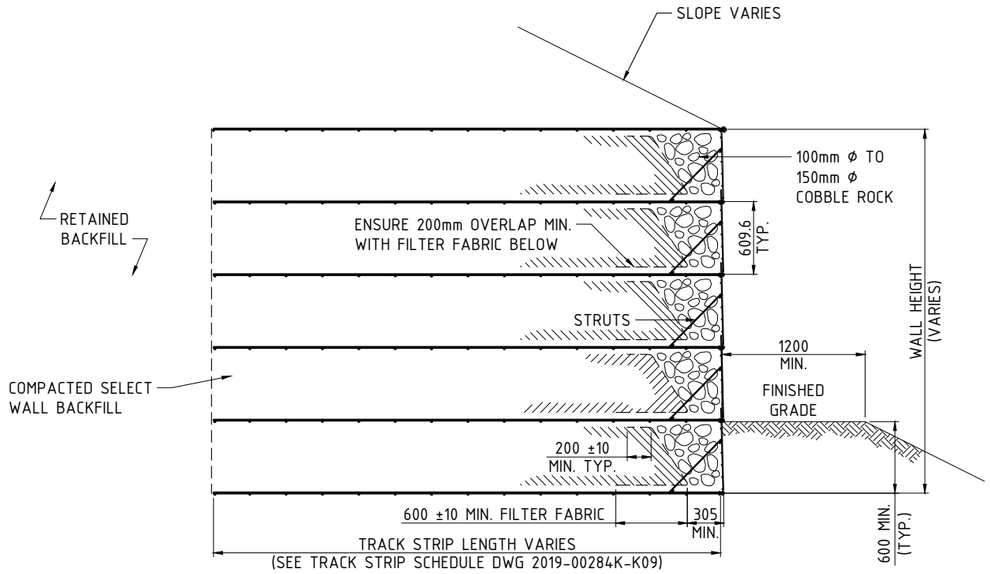
MSE Retaining Wall Systems

BAFFINLAND IRON MINES CORPORATION
RAIL STREAM CROSSINGS, NUNAVUT - CROSSING CV-84-1
MSE WALL MATERIAL SCHEDULES

DESIGNED	TE	09 FEB 21
DES. CHK	DE	12 FEB 21
DRAWN BY	BH	09 FEB 21
DWG. CHK	MS	11 FEB 21

BRANCH P.O. -
CUSTOMER REF. CV-84-1
PROJECT NUMBER 2019-00284K
DWG NO. K09
REV. 1



E / K08 SECTION - TRACK STRIP WIRE WALL (HEADWALL)
SCALE 1:50

NOTE:
INTERNAL AND EXTERNAL DRAINAGE DESIGN AND SUPPLY BY OTHERS. PROVIDE DRAINAGE THAT SATISFIES THE REQUIREMENTS OF 2019-00284-002, DESIGN NOTE 2.

IF FROST SUSCEPTIBLE OR FROZEN SOILS ARE PRESENT, THE SOIL WITHIN THE DEPTH AND LATERAL EXTENT OF FROST PENETRATION BELOW THE WALL SHALL BE REMOVED AND REPLACED WITH NON FROST SUSCEPTIBLE CLEAN GRANULAR SOIL.

REGISTERED PROFESSIONAL ENGINEER
D.C.N. ESSERY
LICENSEE
NWT/NU
March 31, 2021

REV NO.	DATE	BY	DESCRIPTION
1	31 MAR 21	BH	ISSUED FOR CONSTRUCTION
0	12 FEB 21	BH	ISSUED FOR APPROVAL

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MSE Retaining Wall Systems

BAFFINLAND IRON MINES CORPORATION
RAIL STREAM CROSSINGS, NUNAVUT - CROSSING CV-84-1
MSE WALL TYPICAL SECTIONS

DESIGNED	TE	09 FEB 21
DES. CHK	DE	12 FEB 21
DRAWN BY	BH	09 FEB 21
DWG. CHK	MS	11 FEB 21

BRANCH P.O. -
CUSTOMER REF. CV-84-1
PROJECT NUMBER 2019-00284K
DWG NO. K10
REV. 1