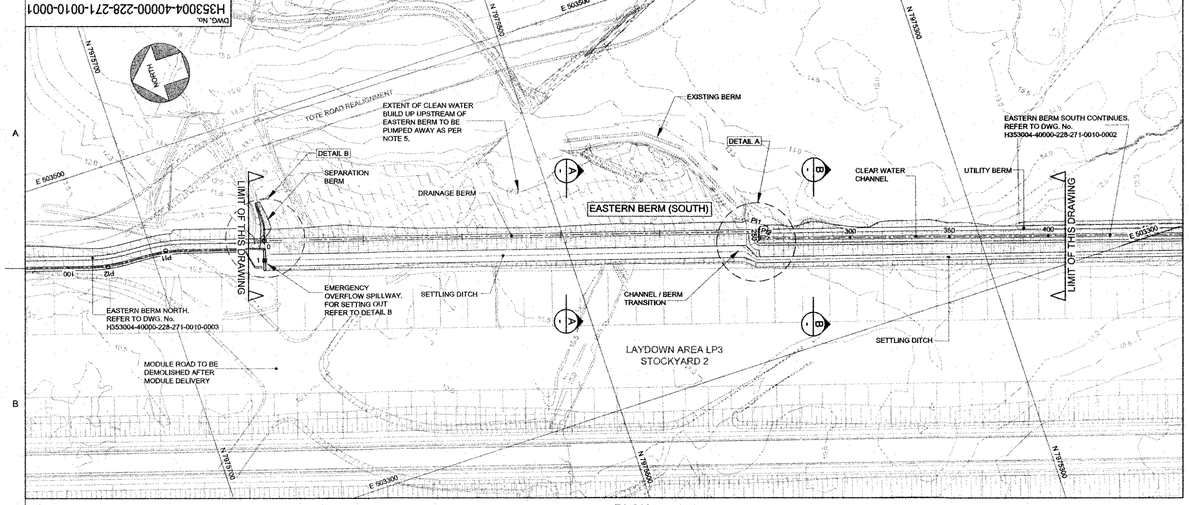
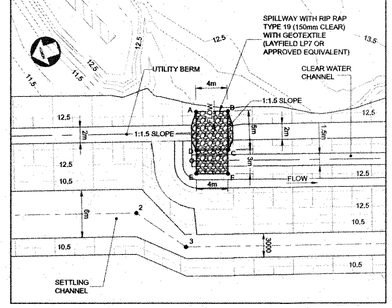


PLAN

SCALE 1:1000



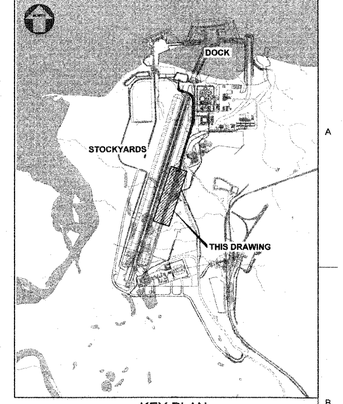
DETAIL A - CHANNEL / BERM TRANSITION

SCALE 1:250

SPILLWAY SETTING OUT POINTS			
POINT	E	N	LEVEL
A	503356.832	7975403.900	12.300
B	503355.660	7975400.145	12.300
C	503360.945	7975401.490	12.300
D	503362.179	7975405.452	12.300
E	503359.248	7975404.782	12.300
F	503359.148	7975402.677	12.300

LEGEND:

TWL - TOP WATER LEVEL
MSL - MEAN SEA LEVEL
EG - EXISTING GROUND
HWL - HIGH WATER LEVEL



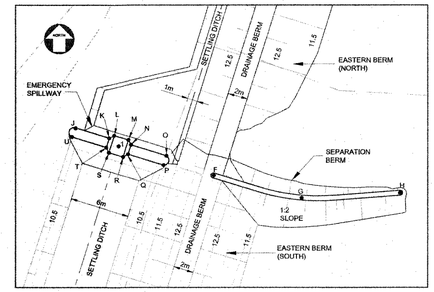
KEY PLAN

SETTING OUT SETTLING DITCH			
POINT	E	N	LEVEL
1	503429.034	7975447.033	9.900
2	503356.989	7975415.114	9.900
3	503350.937	7975410.503	9.900

NOTES:

1. LIDAR SURVEY PROVIDED BY PHOTOSAT (2016)
2. CO-ORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METERS.
3. EG CONTOURS AND ELEVATIONS ARE IN METERS. CONTOUR INTERVAL IS 0.5m.
4. ALL DIMENSIONS SHOWN ARE IN METERS, UNLESS NOTED OTHERWISE.
5. ALL PONDS TO BE PUMPED EMPTY TO AVOID DEGRADATION OF THE PERMAFROST AND UN-CONTROLLED DISCHARGE.

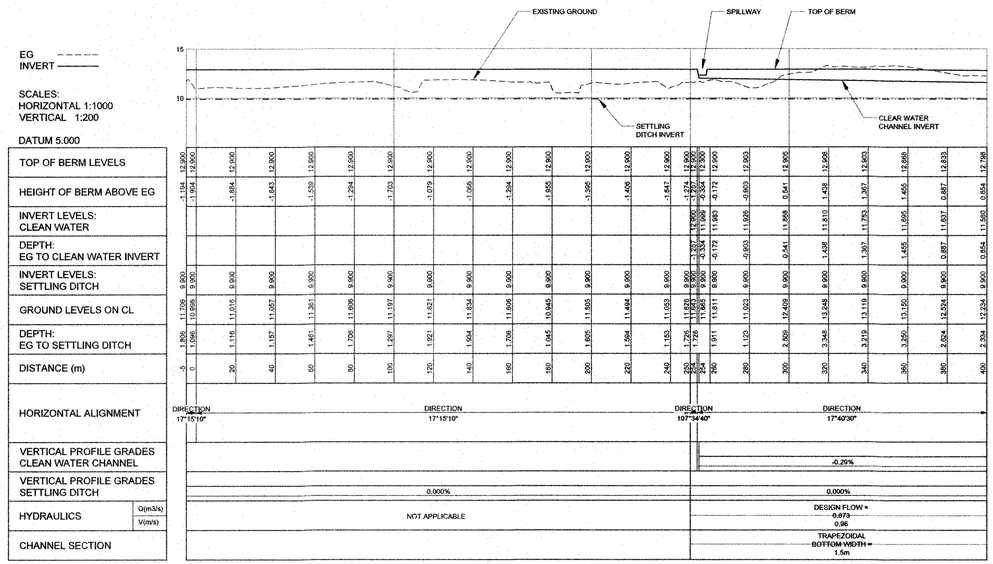
SETTING OUT CONTACT WATER EMERGENCY OVERFLOW SPILLWAY			
POINT	E	N	LEVEL
J	503424.598	7975448.934	11.020
K	503428.081	7975447.841	11.020
L	503428.585	7975448.115	10.800
M	503430.017	7975447.670	10.800
N	503430.281	7975447.189	11.020
O	503433.669	7975446.055	11.020
P	503433.565	7975445.102	11.020
Q	503429.984	7975446.214	11.020
R	503429.484	7975445.951	10.800
S	503428.055	7975446.389	10.797
T	503427.788	7975446.897	11.020
U	503424.302	7975447.979	11.020



DETAIL B - SEPARATION BERM AND EMERGENCY SPILLWAY

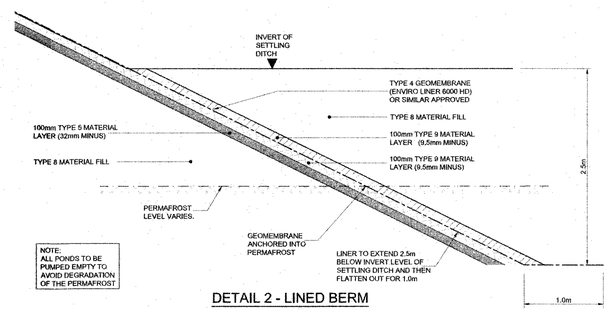
SCALE 1:250

SEPERATION BERM SETTING OUT POINTS			
POINT	E	N	LEVEL
F	503443.213	7975642.628	12.900
G	503451.181	7975641.804	12.900
H	503457.497	7975642.260	12.900



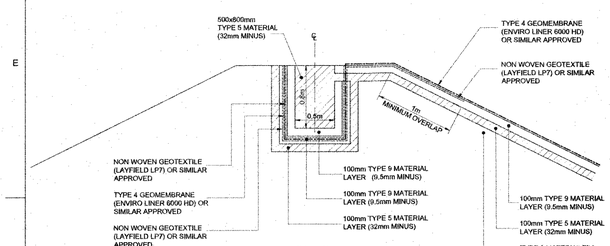
EASTERN BERM SOUTH CH.-5 TO CH.400

SETTING OUT DATA EASTERN BERM SOUTH				
NAME	CH	E	N	DETAILS
START	0.000	503440.067	7975448.842	L 0.000m
PI1	250.000	503364.436	7975405.316	L 250.000m
PI2	253.500	503361.082	7975406.379	L3.500m
BCC3	795.340	503196.566	7974890.143	R 25.750m DA 31° 42' 20" TL 7.014m
PI3	802.354	503194.437	7974883.461	
ECC3	809.009	503189.118	7974878.889	AL 13.669m
END	816.446	503183.478	7974874.041	L7.437m



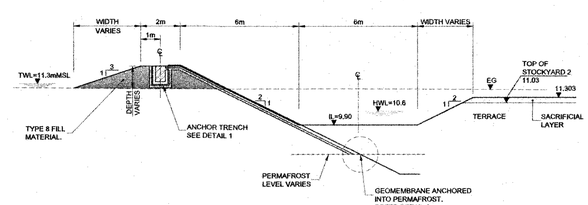
DETAIL 2 - LINED BERM

SCALE 1:25



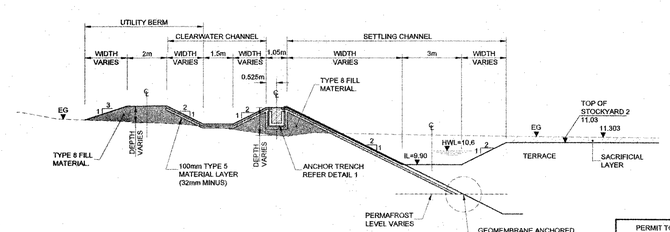
DETAIL 1
BERM LINER ANCHOR TRENCH

SCALE 1:25



SECTION A-A

SCALE 1:100



SECTION B-B

SCALE 1:100

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date (DD-MM-YY)
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/Nu)

H353004-40000-228-271-0010-0003	STOCKYARD No.2 - EASTERN BERM NORTH SHEET 3 OF 3
H353004-40000-228-271-0010-0002	STOCKYARD No.2 - EASTERN BERM SOUTH SHEET 2 OF 3
H353004-40000-228-271-0006-0001	STORMWATER DIVERSION P-5/W-2 - PLAN AND PROFILE
DRAWING No.	DRAWING TITLE

REFERENCE DRAWINGS

REGISTERED PROFESSIONAL ENGINEER — Rigel Lizyk R.A. Halim — LICENSEE — 2018-06-29 — NWT/NU

REG. PROFESSIONAL

FOR CONSTRUCTION

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No.	DESCRIPTION	BY	CHK'D	DATE
0	APPROVED FOR CONSTRUCTION	KVDM	FH	28/06/2018

REVISIONS

HATCH

ROLE	NAME	SIGNATURE	DATE
DRAFTSPERSON	K VAN DER MERWE	NR	28/06/2018
DESIGNER	H HERBST	NR	28/06/2018
CHECKER	F HUGO		2018-06-28
DESIGN COORD.	R GOOSEN		2018-06-28
RESP. ENG.	R HALIM		2018-06-29
LEAD DISC. ENG.	A GROBBELAAR		2018-06-29
AREA LEAD	V LAVRIC		2018-06-29
ENG. MANAGER	D STANGER		2018-06-29
AREA MANAGER	T ATIBA		2018-06-29

DRAWING APPROVAL STATUS: Client Review

Baffinland

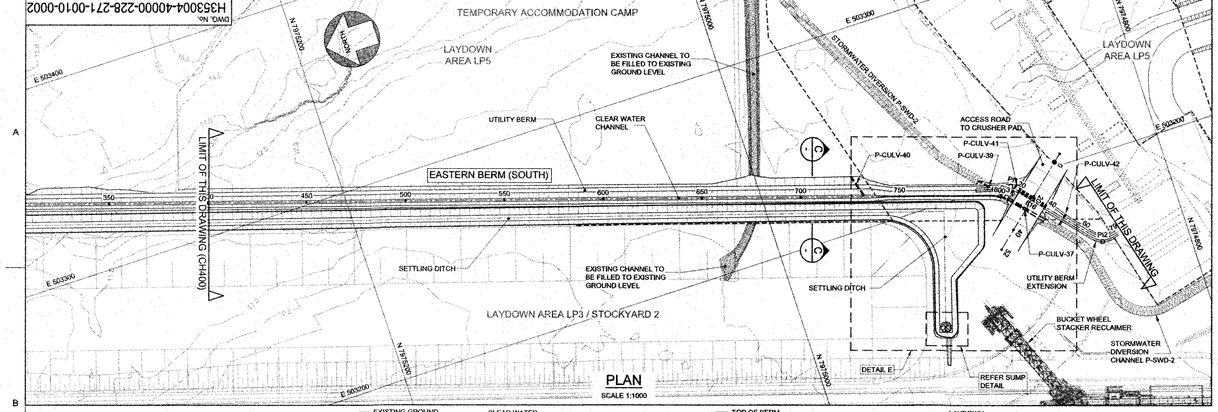
BAFFINLAND IRON MINES LP
MARY RIVER EXPANSION PROJECT

PORT SITE
STOCKYARD 2 - EASTERN BERM
PLAN AND PROFILE SHEET 1 OF 3

SCALE 1:1,000 OR AS NOTED | DWG. No. H353004-40000-228-271-0010-0001 | REV 0

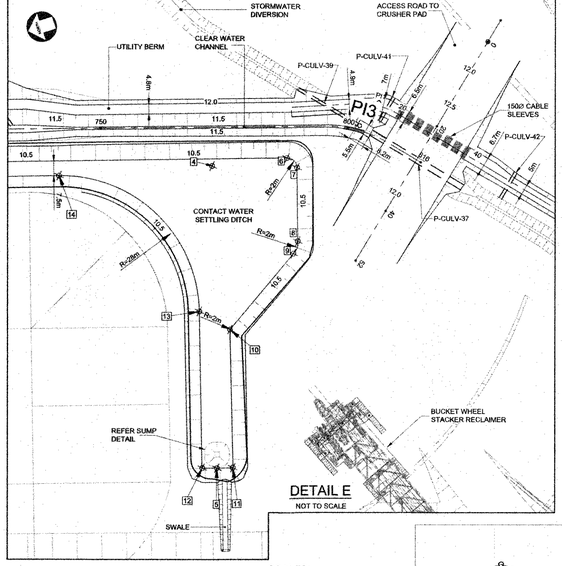
SHEET SIZE: E

SUSERNAMES STIMES SPILES



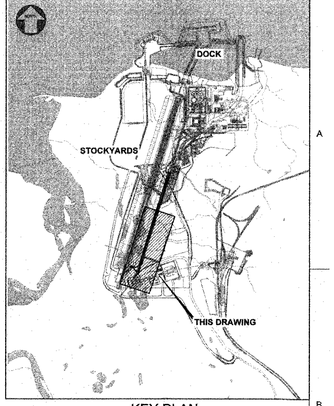
PLAN

SCALE 1:1000



DETAIL E

NOT TO SCALE



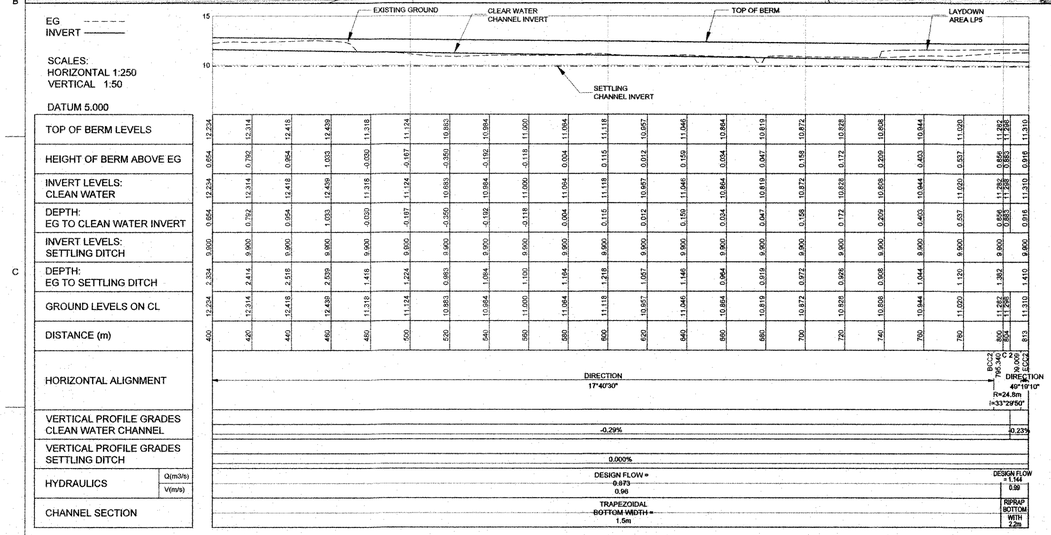
KEY PLAN

NOTES:

1. LIDAR SURVEY PROVIDED BY PHOTOSAT (2016)
2. CO-ORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METERS.
3. EG CONTOURS NAD ELEVATIONS ARE IN METERS. CONTOUR INTERVAL IS 0.5m.
4. ALL DIMENSIONS SHOWN ARE IN METERS, UNLESS NOTED OTHERWISE.
6. ALL PONDS TO BE PUMPED EMPTY TO AVOID DEGRADATION OF THE PERMAFROST AND UN-CONTROLLED DISCHARGE.

LEGEND:

- LAYDOWN AREA BOUNDARY
- EG — EXISTING GROUND
- CH — CHAINAGE
- CL — CENTRELINE



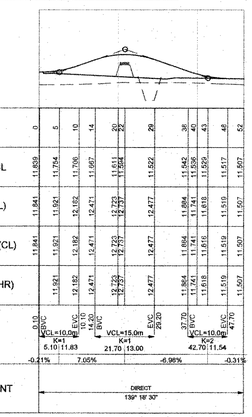
EASTERN BERM SOUTH CH.400 TO CH.810

SETTING OUT DATA EASTERN BERM SOUTH

NAME	CH	E	N	DETAILS
START	0.000	503440.067	7975648.842	L 0.000m
PI1	250.000	503364.436	7975405.316	L 250.000m
PI2	253.500	503361.082	7975406.379	L3.500m
BCC3	795.340	503196.566	7974890.143	R 25.750m DA 31°42'00" TL 7.014m AL 13.669m
PI3	802.354	503194.437	7974883.461	
ECC3	809.009	503189.118	7974878.869	
END	816.446	503183.478	7974874.041	L7.437m

SETTING OUT DATA ACCESS ROAD

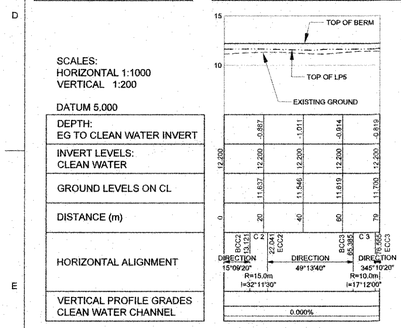
NAME	CH	E	N	DETAILS
START	0.000	503202.441	7974653.506	L 5.000m
END	51.750	503168.701	7974892.747	L 51.750m



ACCESS ROAD TO CRUSHER PAD: CH.0 TO CH.52

SETTING OUT SETTLING DITCH

POINT	E	N	LEVEL
4	503196.015	7974914.350	9.900
5	503137.441	7974932.575	9.900
6	503192.837	7974899.425	9.900
7	503190.324	7974898.118	9.900
8	503176.092	7974902.635	9.900
9	503174.000	7974904.266	9.900
10	503163.363	7974921.270	9.900
11	503136.520	7974929.476	9.900
12	503138.374	7974935.381	9.900
13	503168.823	7974926.001	9.900
14	503203.830	7974944.363	9.900



UTILITY BERM EXTENSION CH.-5 TO CH.79

SETTING OUT DATA EASTERN BERM - UTILITY BERM EXTENSION

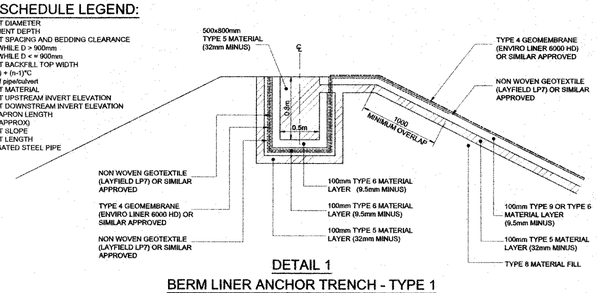
NAME	CH	E	N	DETAILS
START	0.099	503202.261	7974895.304	L 13.023m
BCC1 PI1 ECC1	13.121 22.041	503198.857 503197.655 503194.174	7974882.734 7974878.297 7974875.296	R 15.000m DA 34°04'20" TL 4.596m AL 8.920m
BCC2 PI2 ECC2	65.365 76.565	503161.350 503158.613 503158.214	7974846.969 7974842.904 7974836.857	R 10.000m DA 54°02'10" TL 6.255m AL 11.179m
END	78.764	503158.776	7974834.731	L 2.199m

CULVERT SCHEDULE LEGEND:

- D — CULVERT DIAMETER
- E — EMBEDMENT DEPTH
- C — CULVERT SPACING AND BEDDING CLEARANCE
  - C = 500 WHILE D > 900mm
  - C = 300 WHILE D < = 900mm
- W — CULVERT BACKFILL TOP WIDTH
  - W = (n*D) + (n-1)*C
  - n = no. of pipe/culvert
- TYPE — CULVERT MATERIAL
- U/S INV. — CULVERT UPSTREAM INVERT ELEVATION
- D/S INV. — CULVERT DOWNSTREAM INVERT ELEVATION
- L — RIPRAP APRON LENGTH
  - L = 4xD (APPROX)
- S — CULVERT GLOPE
- LENGTH — CULVERT LENGTH
- CSP — CORRUGATED STEEL PIPE

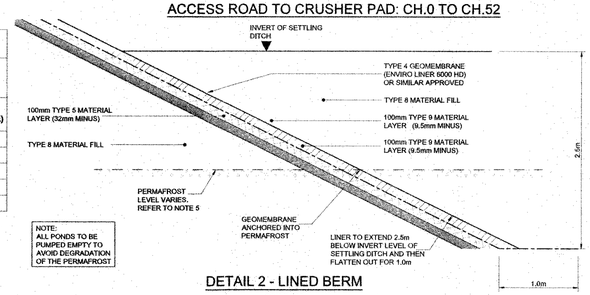
CULVERT SCHEDULE
(THIS SCHEDULE TO BE READ IN CONJUNCTION WITH DRG. No. H353004-00000-221-294-0001-0001-TYPICAL CULVERT DETAILS)

CULVERT ID	FISH BEARING	NUMBER OF PIPES	D (mm)	LENGTH (m)	E (mm)	W (mm)	TYPE	CULVERT AT UPSTREAM NORTHING	EASTING	U/S INV. ELEV (m)	RIP RAP REQ'D	CULVERT AT DOWNSTREAM NORTHING	EASTING	D/S INV. ELEV (m)	RIP RAP REQ'D	NOTE: FINAL U/S INVERT AND D/S INVERT LEVELS ARE TO BE CONFIRMED ON SITE C (mm)	L (m)	S (%)	SKEW (DEGREE)
P-CULV-37	N	1	1200	21.59	0	1200	CSP	7974881.680	503192.370	10.413	N	7974867.604	503175.996	10.363	Y	500	4.8	0.23	90
P-CULV-39	N	1	600	13.98	0	600	CSP	7974892.890	503205.380	10.453	N	7974883.775	503194.793	10.420	Y	300	2.4	0.23	34
P-CULV-40	N	1	600	11.55	0	600	CSP	7974953.714	503227.575	10.828	N	7974950.349	503216.531	10.652	N	300	2.4	1.53	34
P-CULV-41	N	1	600	5.61	0	600	CSP	7974875.093	503197.683	11.660	N	7974879.354	503194.029	11.623	N	300	2.4	0.66	90
P-CULV-42	N	1	600	6.12	0	600	CSP	7974856.444	503175.493	11.530	N	7974861.047	503171.469	11.515	N	300	2.4	0.25	90



DETAIL 1
BERM LINER ANCHOR TRENCH - TYPE 1

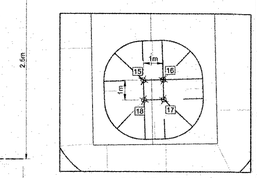
SCALE 1:25



NOTE:
ALL PONDS TO BE PUMPED EMPTY TO AVOID DEGRADATION OF THE PERMAFROST

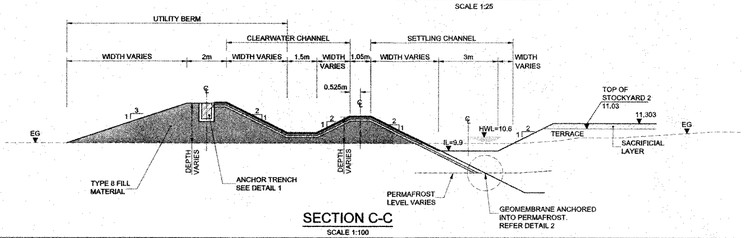
DETAIL 2 - LINED BERM

SCALE 1:25



SUMP DETAIL

SCALE 1:100



SECTION C-C

SCALE 1:100

SETTING OUT SUMP

POINT	E	N	LEVEL
15	503140.676	7974932.003	8.900
16	503140.392	7974931.045	6.900
17	503139.433	7974931.329	8.900
18	503139.718	7974932.288	8.900

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 2019-04-05
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

DRAWING No.	DRAWING TITLE
H353004-40000-223-271-0012-0001	STOCKPILE 2 - SOUTHERN ACCESS ROADS
H353004-40000-228-271-0010-0001	STOCKYARD No.2 - EASTERN BERM SOUTH SHEET 2 OF 3
H353004-40000-228-271-0006-0001	STORMWATER DIVERSION P-SWD-2 - PLAN AND PROFILE
H353004-00000-221-294-0001-0001	STANDARD DRAWING - TYPICAL CULVERT DETAILS

REFERENCE DRAWINGS

REG. PROFESSIONAL

No.	DESCRIPTION	BY	CHK'D	DATE
0	APPROVED FOR CONSTRUCTION	KVDM	FH	24/05/2018

REVISIONS

FOR CONSTRUCTION

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DRAFTSPERSON	K VAN DER MERWE	NR	24/05/2018
DESIGNER	H HERBST	NR	24/05/2018
CHECKER	F HUGO		2018-06-29
DESIGN COORD.	R GOOSEN		2018-06-29
REGP. ENG.	R HALIM		2018-06-29
LEAD DISC. ENG.	A GROBBELAAR		2018-06-29
AREA LEAD	V LAVRIC		2018-06-01
ENG. MANAGER	D STANGER		2018-06-29
AREA MANAGER	T ATIBA		12-06-24

DRAWING APPROVAL STATUS: Approved for Construction

HATCH

Baffinland

BAFFINLAND IRON MINES LP
MARY RIVER EXPANSION PROJECT

PORT SITE
STOCKYARD 2 - EASTERN BERM
PLAN AND PROFILE SHEET 2 OF 3

SCALE 1:1,000 OR AS NOTED | DWG. No. H353004-40000-228-271-0010-0002 | REV 0

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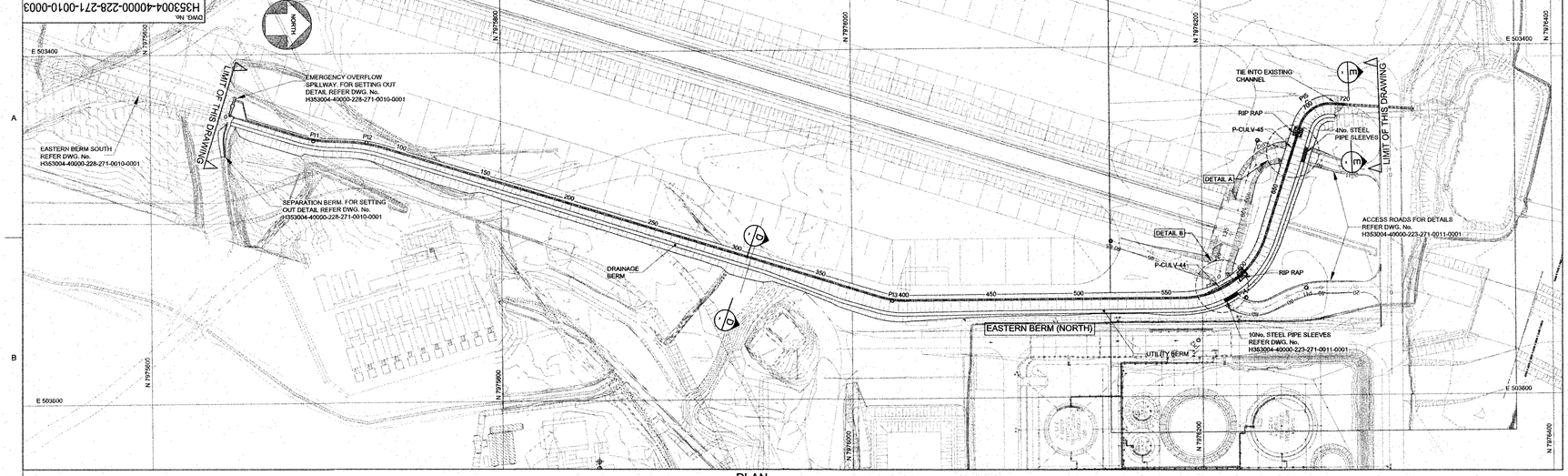

PLAN

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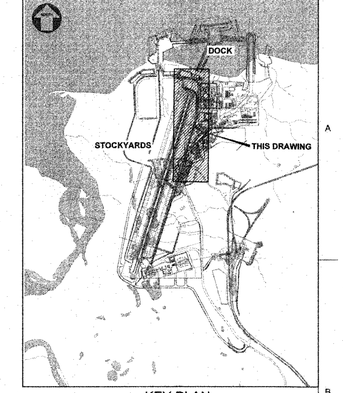
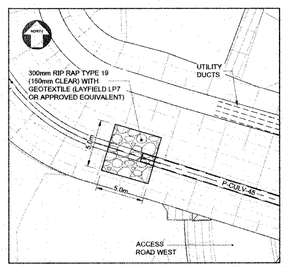
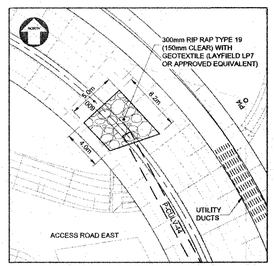


KEY PLAN



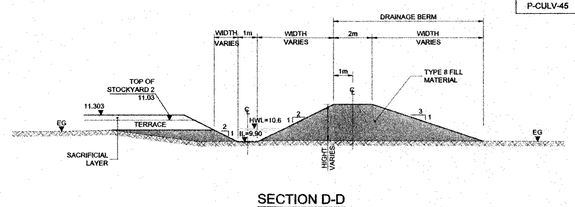
DETAIL A

SCALE 1:200



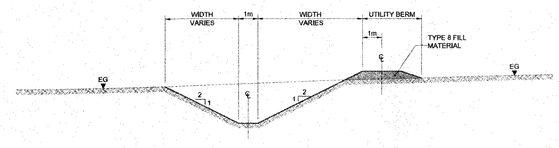
DETAIL B

SCALE 1:200



SECTION D-D

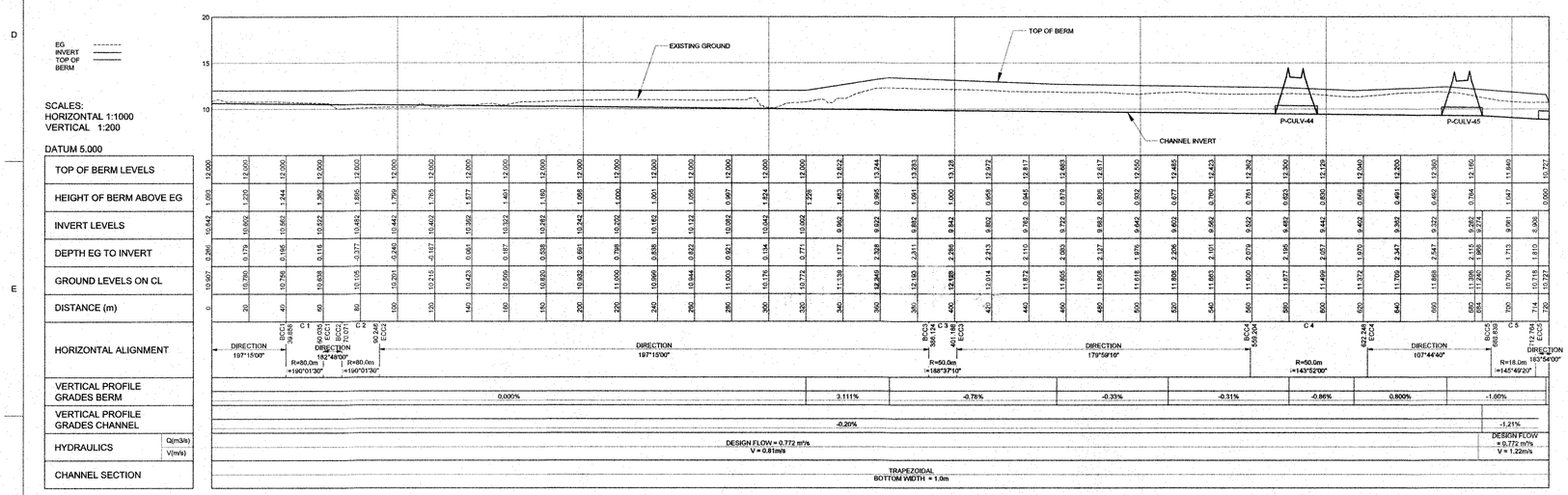
SCALE 1:100



SECTION E-E

SCALE 1:100

CULVERT SCHEDULE (THIS SCHEDULE TO BE READ IN CONJUNCTION WITH DRG. No. H353004-00000-221-294-0001-0001-TYPICAL CULVERT DETAILS)																NOTE: FINAL U/S INVERT AND D/S INVERT LEVELS ARE TO BE CONFIRMED ON SITE			
								CULVERT AT UPSTREAM				CULVERT AT DOWNSTREAM							
CULVERT ID	FISH BEARING	NUMBER OF PIPES	D (mm)	LENGTH (m)	E (mm)	W (mm)	TYPE	NORTHING	EASTING	U/S INV. ELEV (m)	RIP RAP REQ'D	NORTHING	EASTING	D/S INV. ELEV (m)	RIP RAP REQ'D	C (mm)	L (m)	S (%)	SKEW (DEGREE)
P-CULV-44	N	1	900	22.54	0	900	CSP	7976201.604	503542.015	9.497	N	7976221.463	503531.367	9.452	Y	500	3.6	0.20	10
P-CULV-45	N	1	900	21.96	0	900	CSP	7976248.219	503471.058	9.317	N	7976254.910	503450.146	9.274	Y	500	3.6	0.20	18



EASTERN BERM NORTH CH.0 TO CH.729

NOTES:

1. LIDAR SURVEY PROVIDED BY PHOTSAT (2016)
2. CO-ORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METERS.
3. CONTOURS ARE IN METERS. CONTOUR INTERVAL IS 0.5m.
4. ALL DIMENSIONS SHOWN ARE IN METERS, UNLESS NOTED OTHERWISE.

LEGEND:

EG EXISTING GROUND
IL INVERT LEVEL
HWL HIGH WATER LEVEL

CULVERT SCHEDULE LEGEND:

D CULVERT DIAMETER
E EMBEDMENT DEPTH
C CULVERT SPACING AND BEDDING CLEARANCE
C = 500 WHILE D < 900mm
C = 300 WHILE D < = 900mm
W CULVERT BACKFILL TOP WIDTH
W = (n*D) + (n-1)*C
n = no. of pipe/culvert
TYPE CULVERT MATERIAL
U/S INV. CULVERT UPSTREAM INVERT ELEVATION
D/S INV. CULVERT DOWNSTREAM INVERT ELEVATION
L RIPRAP APRON LENGTH
L = 4xD (APPROX)
S CULVERT SLOPE
LENGTH CULVERT LENGTH
CSP CORRUGATED STEEL PIPE

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 2018-06-26
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

H353004-40000-223-271-0011-0001	STOCKYARD No.2 - NORTHERN ACCESS ROADS PLAN AND PROFILE
H353004-40000-228-271-0010-0002	STOCKYARD No.2 - EASTERN BERM PLAN AND PROFILE SHEET 2 OF 3
H353004-40000-228-271-0006-0001	STORMWATER DIVERSION P-SW-2 - PLAN AND PROFILE
H353004-00000-221-294-0001-0001	STANDARD DRAWING - TYPICAL CULVERT DETAILS
DRAWING No.	DRAWING TITLE
REFERENCE DRAWINGS	

REG. PROFESSIONAL: NORTHWEST TERRITORIES PROFESSIONAL ENGINEER 1297 R. A. HAUM LICENSE 2018-06-26 NWT/NU

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No.	DESCRIPTION	BY	CHKD	DATE
0	APPROVED FOR CONSTRUCTION	KVDM	FH	24/05/2018

REVISIONS

HATCH

ROLE	NAME	SIGNATURE	DATE
DRAFTSPERSON	K VAN DER MERWE	NR	24/05/2018
DESIGNER	E BALEGAMIRE	NR	24/05/2018
CHECKER	F HUGO		2018-06-26
DESIGN COORD.	R GOOSEN		2018-06-26
RESP. ENG.	R HAUM		2018-06-26
LEAD DISC. ENG.	A GROBBELAAR		2018-06-26
AREA LEAD	V LAVRIC		2018-06-26
ENG. MANAGER	D STANSER		2018-06-26
AREA MANAGER	T. ATIBA		2018-06-26

DRAWING APPROVAL STATUS: Approved for Construction

Baffinland

BAFFINLAND IRON MINES LP
MARY RIVER EXPANSION PROJECT

PORT SITE - STOCKYARD 2
EASTERN BERM NORTH
PLAN AND PROFILE SHEET 3 OF 3

SCALE 1:1,000 OR AS NOTED | DWG. No. H353004-40000-228-271-0010-0003 | REV 0

SHEET SIZE: E

$USERNAME$ $DATE$ $TIME$ $FILES$