CHAMP NAVIGATOR GYRO TOOL, USED FOR VERTICALITY SURVEYS

October 11, 2017

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
25.4 mm (1") PVC TREMIE PIPE USED TO BACKFILL INSTRUMENT INSTALLATIONS (GROUT PIPE).

April 25, 2017

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

BACKFILL AGGREGATE USED TO BACKFILL INSTRUMENTATION.

July 23, 2018
PEL-PLUG BENTONITE PELLETS USED AS BACKFILL FOR VIBRATING WIRE PIEZOMETERS.

March 11, 2018

COPPER WIRE USED TO GROUND VIBRATING WIRE PIEZOMETERS.

March 26, 2018

COLORADO SILICA SAND USED TO BACKFILL AROUND VIBRATING WIRE PIEZOMETER TIP (TYPICALLY 0.6 m SAND PACK).

March 14, 2018
NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

20161204_A21_INST_THERMISTOR INSTALLATION AT T01596_2.JPG

THERMISTOR STRING BEING LOWERED DOWN THE PVC PIPE.

December 4, 2016

20170505_A21_INST_Backfilling with CSM aggregate at T1606_Looking W.JPG

BACKFILLING OF BOREHOLE WITH CSM BACKFILL AGGREGATE.

May 05, 2017

INSTRUMENTATION – INSTALLATION

THERMISTOR STRINGS
NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

20161125_A21_INST_PIEZO V0711-0712-0713 INSTALL_FILLING PVC WITH BENTONITE PELLETS AS THE PIPES ARE LOWERED.JPG

PVC PIPE SEGMENTS FOR PIEZOMETER INSTALLATION BEING FILLED WITH BENTONITE PELLETS BEFORE THE SUBSEQUENT PIPE IS ATTACHED.

November 25, 2016

20161128_A21_INST_V0711-0712-0713_COLLAR AFTER INSTALL_DATA LOGGER ATTACHED.JPG

PIEZOMETER CABLES V0711/0711/0712 BUNDLED AT SURFACE AND CONNECTED TO A MULTI-PORT DATALOGGER.

November 28, 2016
PREPARING SLOPE INCLINOMETER CASING, TREMIE PIPE, THERMISTOR PVC AND CENTRALIZER (I1435-SB).

July 21, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

CONFIRMING GROOVE ORIENTATION AT SLOPE INCLINOMETER I1435-SB.

July 21, 2018
POURING CONCRETE DURING INSTALLATION OF SURVEY MARKER ON THE DIKE CREST.

June 1, 2018

GROUTED SURVEY MARKER.

June 1, 2018

COMPACtIÓN OF ZONE 1 MATERIAL WITH A PLATE TAMPER AT PERMANENT SURVEY MARKER DRILL PADS (DIKE CREST).

June 2, 2018
SPIDER EXTENSOMETER INSTALLATION.

October 24, 2017

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
CLOSE-UP OF TOE BERM GEOPHONE PIER

June 20, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
NOTES:
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MIXING OF GROUT FOR INCLINOMETER INSTALLATION TREMIE BACKFILL

October 17, 2017

GROUTING OF THERMISTOR INSTALLATION TO SURFACE.

May 06, 2017
NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

20171002_A21_INST_EC_Placement of multiconductor cable overlying geotextile_Station 0+975 m_Looking W.JPG

PLACEMENT OF MULTICONDUCTOR CABLE WITH SLACK OVERLYING GEOTEXTILE FABRIC.

October 02, 2017

20180603_A21_INST_Trenching piezometer cables at Station 0+920 m to ADAS3_Looking N.jpg

PLACEMENT OF ZONE 1 MATERIAL OVER THE DR22 ORANGE CONDUIT TO BACKFILL MULTICONDUCTOR CABLES. NOTE HDPE PIPE CROSSING INSTALLED TO PROTECT MULTICONDUCTOR CABLES CROSSING FROM THE UPSTREAM TO THE DOWNSTREAM SIDE OF THE DIKE. THE ENDS OF THE PROTECTIVE HDPE PIPES WERE SEALED WITH POLYURETHANE FOAM.

June 3, 2018
TRENCHING OF DR22 PROTECTIVE CONDUIT FOR MULTICONDUCTOR CABLES ALONG THE DIKE DOWNSTREAM SLOPE.

July 1, 2018

TRENCHING OF DR22 PROTECTIVE CONDUIT FOR MULTICONDUCTOR CABLES FROM TOE BERM TO ADAS SHACK 3 ON THE DIKE DOWNSTREAM SLOPE.

June 29, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
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NOTES:
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2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

MULTICONDUCTOR CABLE AND VIBRATING WIRE PIEZOMETER INSTALLATION EXTENSION PRIOR TO EMBANKMENT RAISE TO ELEVATION 421 m.

GALVANIZED STEEL PROTECTIVE RISER PIPE PLACED AROUND SLOPE INCLINOMETER CASING. NOTE COMPACTED ZONE 1 MATERIAL PLACED BEFORE INSTALLING PRECAST CONCRETE RINGS AND MANHOLE.

April 15, 2018

SPIDER MAGNET EXTENSOMETERS AND RELIEF WELL EXTENDED TO FINAL ELEVATION BEFORE EMBANKMENT RAISE IN THE AREA.

April 14, 2018
NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

20170813_A21_INST_RST Thermistor Header Box (Large)_Detail.jpg

LARGE HEADER BOXES FOR THERMISTOR STRINGS.
August 13, 2017

20170810_A21_INST_RST Thermistor Boxes (Small Size)_Station 1+670 m.JPG

INSTALLED SMALL HEADER BOX FOR THERMISTOR STRING.
August 10, 2017

20170810_A21_INST_Geotech Drilling RST Thermistor Boxes_Station 1+670 m.JPG

DRILLING FOR THERMISTOR HEADER BOX.
August 10, 2017
NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
DDMI QC CONNECTING VIBRATING WIRE PIEZOMETER CABLES TO MULTICONDUCTOR CABLE VIA JUNCTION BOX. NOTE VIBRATING WIRE PIEZOMETER AND MULTICONDUCTOR CABLES INSIDE THE POLYETHYLENE PROTECTION BOX.

August 8, 2018

PLACEMENT OF POLYETHYLENE PROTECTION BOX AROUND HDPE PIPE FOR THERMISTOR INSTALLATION AT DIKE CREST.

June 4, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
NOTES:
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2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

EXTERIOR OF ADAS SHACK 4.
August 18, 2018

RST DATALOGGER INSIDE ADAS SHACK
September 03, 2017

INTERIOR OF RST DATA LOGGER INSIDE ADAS SHACK.
October 12, 2017
NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

RTK TRIMBLE GLOBAL POSITIONING SYSTEM ANTENNA MOUNTED AT SURVEY MARKER.

April 18, 2018

SURVEY SHACK WITH ROBOTIC TOTAL STATION.

August 29, 2018
THERMOSYPHONS
NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

REINFORCEMENT FOR CONCRETE PADS AT THE SOUTH ARM THERMOSYPHON RADIATOR BLOCK.

November 25, 2016

CONCRETE PADS CONSTRUCTED BY DDMI AT THE DIKE SOUTH ARM TO SUPPORT THE SOUTH ARM THERMOSYPHON RADIATOR BLOCK.

October 19, 2016
NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
SAA SURVEY OF THERMOSYPHON EVAPORATOR HOLE SA-EV2 USING 25.4 mm PVC PIPE AND CENTRALIZERS.

November 4, 2016

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

THERMOSYPHON DRILL HOLE BACKFILL WITH CSM BACKFILL AGGREGATE. THERMOSYPHON PIPE IS BEING SHAKEK TO PREVENT OR BREAK UP BRIDGING OF AGGREGATE.

December 1, 2016
THERMOSYPHON LATERAL PIPES LAID OUT ON THE GRADED SLOPE TO EXTEND FROM THE TOPS OF EACH EVAPORATOR PIPE TO THE RADIATOR BLOCK LOCATIONS. THE END LOCATIONS OF THE LATERAL PIPES AT THE RADIATOR BLOCK LOCATION ARE MARKED WITH SPRAY PAINT (OFFSET ROWS SPACED 0.5 m APART).

December 2, 2016

THERMOSYPHON LATERAL PIPES WELDED TO THE TOPS OF THE VERTICAL PIPES JUST ABOVE THE DRILL HOLE COLLARS. THE LATERAL PIPES ARE EXTENDING ON GRADED SLOPE TO THE RADIATOR BLOCK LOCATIONS (BACKGROUND).

December 3, 2016

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
TREMIE BACKFILLING THE THERMOSYPHON HOLES WITH GROUT. GROUT WAS TRANSPORTED TO THE SITE IN A TOTE AND PUMPED WITH A SMALL GROUT PLANT (BACKGROUND).

December 3, 2016

CONNECTED VERTICAL AND LATERAL THERMOSYPHON PIPES, AND VERTICAL RISER PIPES AT THE SOUTH ARM THERMOSYPHON GROUP. NOTE PVC PIPES IN EACH DRILL HOLE FOR TREMIE GROUT BACKFILL.

December 6, 2016

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
LATERAL PIPES PRIOR TO INSULATION AT SOUTH ARM THERMOSYPHON.
May 16, 2017

LATERAL PIPES AT NORTH ARM THERMOSYPHON WITH INSULATION AND BLUESKIN.
May 24, 2017

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
PLACING BACKFILL AROUND LATERAL AND RISER PIPES.
May 22, 2017

PLACING AND COMPACTING BACKFILL AROUND RISERS AND LATERALS PIPES.
May 22, 2017

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
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20170611_A21_THS_NORTH THERMOSYPHON UNIT_DETAIL.JPG

REFRIGERATOR UNIT INSTALLED AT NORTH ARM THERMOSYPHON UNIT.
June 11, 2017

20170611_A21_THS_NORTH THERMOSYPHON UNIT_DETAIL.JPG

RADIATORS INSTALLED AT THE NORTH ARM THERMOSYPHON UNIT.
June 11, 2017
RELIEF AND PUMP WELLS
NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

STAINLESS STEEL WIRE WOUND WELL SCREEN No. 100 MESH

April 25, 2017

STAINLESS STEEL WIRE WOUND WELL SCREEN No. 20 MESH

November 08, 2017
WELL RISER CASING 150 mm (6") DIAMETER WELDED TO Screens FOR INSTALLATION IN RELIEF WELLS.

April 29, 2017

WELL PROTECTIVE CASING 200 mm (8") DIAMETER FOR INSTALLATION AROUND RELIEF WELLS.

April 25, 2017

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
DRILLING PUMP WELL PW-03

November 07, 2017

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

BEDROCK DRILLING RETURNS OBSERVED DURING DRILLING AT PUMP WELL PW-01.

October 01, 2017
CENTRALIZERS TO BE INSTALLED AT 6 m SPACING ON RELIEF AND PUMP WELL RISER PIPES.

June 18, 2017

CENTRALIZER INSTALLED ON PUMP WELL PW-03 BELOW WELL SCREEN.

November 9, 2017

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
BACKFILLING ANNULUS OF PUMP WELL PW-03 WITH TREMIE PIPE.

November 9, 2017

COLORADO 10/20 SILICA SAND USED FOR BACKFILLING THE ANNULUS AROUND WELL SCREEN.

May 18, 2017

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
NOTES:
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2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

20180829_A21_Dike_DS_M0622 Looking Downstation.jpg

PUMP DISCHARGE PIPE AND FLOWMETER INSIDE HEATED SHACK AT PUMP WELL PW-01.

August 29, 2017

20180829_A21_Dike_DS_M0622 Looking Downstation.jpg

HEATED SHACK INSTALLED AT PUMP WELL PW-03.

August 29, 2017
DEWATERING
PHASE A DEWATERING DISCHARGE PIPES AND DIFFUSER AT STATION 1+565 m. DIRECT DISCHARGE TO LAC DE GRAS DURING DEWATERING.

November 4, 2017
NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

20171115_A21_DEW_Station 1502_DS_looking downstation showing ice slab cracking on DS slope up to Station 0+900.JPG

DOWNSTREAM SLOPE OF A21 DURING DEWATERING LOOKING DOWNSTATION FROM STATION 0+900 m

November 15, 2017

20171116_A21_DEW_Station 0+900_DS_looking upstation_SE.jpg

DOWNSTREAM SLOPE OF A21 DURING DEWATERING LOOKING UPSTATION FROM STATION 0+900 m

November 16, 2017
NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
EMBANKMENT RAISE

March 23, 2018

REMOVAL OF ICE AND SNOW FROM THE CONSTRUCTION PLATFORM AT THE UPSTREAM SIDE OF THE EXISTING PROTECTIVE BERM OF ZONE 1 FILL OVER THE CUT-OFF WALL.

May 8, 2018

REMOVAL OF SNOW FROM THE CONSTRUCTION PLATFORM WITH A TRACK LOADER.

May 7, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
PLACEMENT OF ZONE 3 ON THE CONSTRUCTION PLATFORM WITH A DOZER FOR THE FIRST LIFT.

April 19, 2017

DOZER PLACING ZONE 3 FOR THE SECOND LIFT.

August 15, 2017

COMPACTION OF ZONE 3 USING A SMOOTH DRUM VIBRATORY COMPACTOR.

July 30, 2017
EXCAVATOR PLACING A SECOND LIFT OF ZONE 2 MATERIAL NEAR STATION 1+520 m.

March 29, 2018

COMPACTION OF THE FIRST LIFT OF ZONE 2 MATERIAL WITH A SMOOTH DRUM VIBRATORY COMPACTOR AHEAD OF THE PLACEMENT OF THE SECOND LIFT OF ZONE 2 MATERIAL NEAR STATION 1+515 m.

March 30, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
ARTICULATED HAUL TRUCK DELIVERING ZONE 1 ROAD SURFACING MATERIAL. NOTE THE SMOOTH DRUM VIBRATORY COMPACTOR COMPACTING THE PLACED ZONE 1 MATERIAL IN THE BACKGROUND.

May 31, 2018

PLACEMENT OF ZONE 1 ROAD SURFACING MATERIAL WITH BULLDOZER.

May 25, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
GRADING OF ZONE 1 PLACED AT THE DIKE CREST (ROAD SURFACING).

June 06, 2017

COMPACTION OF ROAD SURFACING MATERIAL WITH A SMOOTH DRUM VIBRATORY COMPACTOR AT THE DIKE CREST.

September 20, 2017

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
DDMI SURVEY COLLECTING SURVEY RECORDS OF PREPARED CONSTRUCTION PLATFORM. DDMI QC ALSO INSPECTED THE AREA BEFORE APPROVAL.

March 23, 2018

August 18, 2017

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
EXCAVATOR REMOVING SAFETY BERMS FROM THE DIKE CREST. THE SURPLUS OF MATERIAL WAS HAULED TO THE SOUTH ISLAND STOCKPILES. NOTE DDMI SURVEY PERSONNEL MARKING THE DESIGN DIKE DOWNSTREAM CREST WITH ORANGE SPRAY.

July 24, 2018

SAFETY BERMS REMOVED FROM THE DIKE CREST.

July 26, 2018
DIKE SLOPE REGRADING
NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

REMOVAL OF ICE AND SNOW BEFORE REGRADING WORK.
May 20, 2018

REGRADING OF THE DIKE UPSTREAM SLOPE DOWN-STATION OF STATION 0+200 m (DIKE NORTH ARM).
August 5, 2018
REGRADING OF THE DIKE UPSTREAM SLOPE ALONG THE 0+700 BUTTRESS AND PLACEMENT OF RIP RAP FOR EROSION PROTECTION AT APPROXIMATELY ELEVATION 416.5 m.

May 25, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
REGRADED DIKE UPSTREAM SLOPE UP-STATION OF STATION 0+660 m (0+700 BUTTRESS). NOTE THE INTERMEDIATE BENCH CREATED DURING SLOPE REGRADING AND THE LOCALIZED OVERBUILT AROUND BUTTRESS PIEZOMETER LOCATION.

June 7, 2018

REGRADED DIKE UPSTREAM SLOPE UP-STATION OF STATION 1+240 m.

August 29, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
EROSION PROTECTION AT THE DIKE UPSTREAM SLOPE DOWNSTATION OF STATION 0+301 m (DIKE NORTH ARM).

August 29, 2018
Partial Slope Regrading Completed Above Water in 2017

DIKE DOWNSTREAM SLOPE OVERBUILT BEFORE SLOPE REGRADING AND TOE BERM CONSTRUCTION.

June 14, 2018

DIKE DOWNSTREAM SLOPE OVERBUILT BEFORE SLOPE REGRADING AND TOE BERM CONSTRUCTION.

June 20, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
REGRANDING OF THE DIKE DOWNSTREAM SLOPE ALONG THE DIKE NORTH ARM WITH AN EXCAVATOR. EXCESS ZONE 2 MATERIAL FROM THE SLOPE WAS HAULED TO A LOCAL STOCKPILE WITH ARTICULATED HAUL TRUCKS. THE EXCESS ZONE 2 MATERIAL WAS USED FOR TOE BERM CONSTRUCTION AT A LATER STAGE.

June 10, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
EXCAVATORS REGRADING THE DIKE DOWNSTREAM SLOPE. INTERMEDIATE BECNHES WERE CREATED AT HIGH DIKE SECTIONS WITH THE SURPLUS ZONE 2 MATERIAL TO ALLOW EXCAVATOR REACH FROM DIKE CREST TO DIKE TOE. THE ZONE 2 SURPLUS MATERIAL WAS CASTED DOWNSLOPE AND ONTO THE TOE BERM FOOTPRINT. THE ZONE 2 SURPLUS MATERIAL WAS REMOVED AT A LATER STAGE TO ALLOW TOE BERM CONSTRUCTION.
INTERMEDIATE STOCKPILE OF ZONE 2 MATERIAL AT THE INFIELD AREA. THE STOCKPILE WAS CREATED WITH THE EXCESS ZONE 2 MATERIAL REMOVED FROM THE DIKE DOWNSTREAM SLOPE DURING SLOPE REGRADING. THIS ZONE 2 MATERIAL WAS PARLY USED AT A LATER STAGE FOR TOE BERM CONSTRUCTION.

June 11, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
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DIKE DOWNSTREAM SLOPE
REGRADING WORK COMPLETED DOWN-STATION OF STATION 1+300 m. NOTE THE COMPLETED DPS PIPELINE RUNNING ALONG THE TOE BERM UP TO DPS-08.

August 29, 2018
INSTALLATION OF DPS-07 AND DPS-08
DRONE PHOTO SHOWING THE LOCATION OF DPS-07 (ALREADY INSTALLED) AND INFIELD ACCESS ROADS CONSTRUCTED TO PROVIDE ACCESS TO DPS-08 POOL AND TO THE PIEZOMETER DRILL PADS AT STATIONS 1+250 AND 1+330 m. THE LOCATION OF THE DISCHARGE PIPELINE FROM THE DPS-08 POOL TO THE MAIN POOL ("DEEP BLUE" BATHYMETRIC LOW) SHOWN ON THIS FIGURE IS APPROXIMATE.

February 22, 2018
1.2 m DIAMETER PERFORATED CULVERT, WRAPPED IN GEOGRID

Nov 23, 2017

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
CONSTRUCTION OF DPS-07 TEMPORARY CONSTRUCTION PLATFORM.

Nov 17, 2017

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
EXCAVATION FOR THE INSTALLATION OF DPS-07 CULVERT.

Nov 23, 2017

INSTALLATION OF DPS-07 CULVERT. A LAYER OF ZONE 1B FILTER BLANKET AND A LAYER OF ZONE 2 MATERIAL WERE PLACED AT THE EXCAVATION FLOOR BEFORE INSTALLING THE DPS-07 CULVERT.

Nov 24, 2017
BACKFILLING OF EXCAVATION AFTER THE INSTALLATION OF DPS-07 CULVERT. NOTE THE ‘CLEAN’ ZONE 2 PLACED AROUND THE CULVERT.

Nov 25, 2017

January 3, 2018

REMOVAL OF LAKE ICE AND LAKEBED SEDIMENT TO TILL WITH AN EXCAVATOR DURING CONSTRUCTION OF THE TEMPORARY CONSTRUCTION PLATFORM TO APPROXIMATELY ELEVATION 399 m.

February 25, 2018
EXCAVATION FOR THE INSTALLATION OF DPS-08 CULVERT. THE EXCAVATOR WAS POSITIONED AT THE TEMPORARY CONSTRUCTION PLATFORM.

March 3, 2018

PLACEMENT AND BUCKET TAMPPING OF ZONE 1B FILTER BLANKET MATERIAL AT EXCAVATION FLOOR. THE PLACEMENT OF ZONE 1B MATERIAL WAS FOLLOWED BY THE PLACEMENT OF A LAYER OF ZONE 2 MATERIAL.

March 3, 2018

INSTALLATION OF DPS-08 CULVERT. NOTE TELEHANDLER HOLDING THE CULVERT IN PLACE WHILE THE EXCAVATOR PLACED ZONE 2 ‘CLEAN’ MATERIAL TO AROUND THE CULVERT.

March 3, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
ZONE 1B, ZONE 2 AND ZONE 2 ‘CLEAN’ MATERIALS PLACED AROUND THE DPS-08 CULVERT TO BACKFILL EXCAVATION.

March 3, 2018

DDMI SURVEY COLLECTING SURVEY RECORDS OF THE PANEL EXCAVATED AT THE DOWN-STATION SIDE OF THE DPS-08 CULVERT. NOTE THE ZONE 1B AND ZONE 2 FILL EXPOSED TO PROVIDE CONTINUITY WITH THE BACKFILL MATERIAL PLACED AROUND THE CULVERT.

March 4, 2018

ZONE 2 MATERIAL PLACED OVER ZONE 1B FILL AND ADDITIONAL ZONE 2 ‘CLEAN’ MATERIAL PLACED AROUND THE DPS-08 CULVERT BEFORE RAISING OF THE DPS-08 AREA TO THE FINAL TOE BERM ELEVATION.

March 12, 2018
A HEATHED SHACK WAS INSTALLED OVER THE DPS-08 CULVERT ONCE THE DPS-08 PLATFORM WAS RAISE TO FINAL ELEVATION.

March 19, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.

20180319_A21_TOE_DPS8_DRONE PHOTO BY DDMI_Placing shack at DPS-08_Looking E_01.jpg
39 hp PUMPS AT DPS-08 SHACK PRIOR TO INSTALLATION.

May 28, 2018

39 hp PUMPS INSTALLED AT THE BOTTOM OF THE DPS-08 CULVERT. NOTE THE PERFORATIONS ALONG THE DPS-08 CULVERT.

July 18, 2018
DPS-07 PUMPING SYSTEM CONNECTED TO THE PERMANENT DISCHARGE PIPELINE (SEEPAGE COLLECTION PIPELINE). NOTE THE RED CONDUIT INSTALLED ALONG THE DPS PIPELINE (PERMANENT POWER SUPPLY).

August 29, 2018

DPS-08 PUMPING SYSTEM CONNECTED TO THE PERMANENT DISCHARGE PIPELINE (SEEPAGE COLLECTION PIPELINE). NOTE THE RED CONDUIT INSTALLED ALONG THE DPS PIPELINE (PERMANENT POWER SUPPLY).

August 29, 2018
TOE BERM CONSTRUCTION
PRE-CONSTRUCTION CONDITIONS ALONG THE NORTH TOE BERM AREA.

May 24, 2018

SNOW AND ICE OBSERVED WITHIN THE NORTH TOE BERM FOOTPRINT NEAR TOE BERM STATION NT0+350 m.

June 8, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
DOZER GRADING EXISTING OVERBUILT DIKE FILL WITHIN THE TOE BERM FOOTPRINT DURING TOE BERM CONSTRUCTION (SEE CRR 2018 SECTION 5.3.4 FOR DETAILS). ICE, SNOW AND CONTAMINATED MATERIAL WITHIN THE TOE BERM FOOTPRINT WAS PREVIOUSLY REMOVED WITH EXCAVATORS AND HAULED TO APPROVED DUMP PILES WITH ARTICULATED HAUL TRUCKS.

EXCAVATOR GRADING EXISTING OVERBUILT DIKE FILL NEAR TOE BERM STATION NT0+300 m DURING TOE BERM CONSTRUCTION.

June 8, 2018

June 7, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
ORANGE STAKES INSTALLED BY DDMI SURVEY TO MARK THE LOCATION OF THE TOE BERM DOWNSTREAM CREST LIMIT.

June 7, 2018

SUMP INSTALLED AT THE TOE BERM TOE TO COLLECT SURFACE RUN-OFF AND SEEPAGE WATER NEAR STATION 0+120 m (DOWNSTREAM OF PUMP WELL PW-01).

June 7, 2018
COMPLETED NORTH TOE BERM UP-STATION OF STATION 0+070 m. NOTE THE DPS PIPELINE INSTALLED AT THE TOE BERM CREST AND THE DISCHARGE PIPELINE FROM PUMP WELL PW-01 ON THE DIKE DOWNSTREAM SLOPE.

August 29, 2018

COMPLETED NORTH TOE BERM UP-STATION OF STATION 0+170 m. NOTE THE DPS PIPELINE INSTALLED AT THE TOE BERM CREST AND THE DISCHARGE PIPELINE FROM PUMP WELL PW-02 ON THE DIKE DOWNSTREAM SLOPE.

August 29, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
EXCAVATOR REMOVING SEDIMENTS TO EXPOSE THE EXISTING DIKE ZONE 1C FILTER BLANKET MATERIAL. NOTE ORANGE SURVEY STAKES MARKING THE DESIGN TOE BERM TOE ON ORIGINAL GROUND.

July 3, 2018

DETAIL OF SEDIMENTS OBSERVED ON TOP OF THE EXISTING ZONE 1C FILTER BLANKET MATERIAL (LEFT) AND DETAIL OF THE EXISTING ZONE 1C FILTER BLANKET MATERIAL SURFACE AFTER THE REMOVAL OF SEDIMENTS (RIGHT).

July 03, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
REMOVAL OF EXISTING ZONE 1C DIKE FILTER BLANKET AND REMNANT LAKEBED SEDIMENT.

June 28, 2018

FOUNDATION PREPARATION AT SOUTH TOE BERM STATION ST0+680 m. THE SPOIL MATERIAL WAS LOADED ONTO ARTICULATED HAUL TRUCKS.

July 13, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
DDMI SURVEY MARKING THE DESIGN TOE BERM TOE FOR REFERENCE PURPOSES DURING FOUNDATION PREPARATION.

July 20, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
FINE GRAINED TILL FOUNDATION OBSERVED AT TOE BERM STATION ST0+680 m.

July 13, 2018

DETAIL OF ROUNDED TO SUBROUNDED COBBLES OBSERVED AT TOE BERM STATION ST0+680 m.

July 13, 2018

BEDROCK OBSERVED UNDERLYING TILL AT TOE BERM FOUNDATION STATION ST0+435 m.

June 21, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
DDMI QC OBSERVING PLACEMENT OF ZONE 1B ON APPROVED FOUNDATION. NOTE THAT THE NEW ZONE1B CONNECTS WITH THE EXISTING DIKE ZONE 1C FILTER BLANKET.

July 19, 2018

EXCAVATOR POSITIONED ON TOP OF THE INITIAL LAYER OF ZONE 2 FILL PLACING ZONE 1B FILTER BLANKET ON APPROVED FOUNDATION.

June 29, 2018
EXCAVATOR (ORANGE) PLACING A LAYER OF ZONE 2 ON TOP AND AT THE DOWNSTREAM TOE OF THE PLACED ZONE 1B. NOTE THE EXCAVATOR (YELLOW) POSITIONED ON TOP OF THE PLACED ZONE 1B PREPARING FOUNDATION AT THE NEXT TOE BERM PANEL.

June 21, 2018

DDMI FIELD SUPERVISOR AND QC OBSERVING THE TOE BERM CONSTRUCTION AREA. NOTE THE EXCAVATOR PLACING ZONE 3 MATERIAL ON TOP OF THE INITIAL LAYER OF ZONE 2 FILL TO RAISE THE TOE BERM TO FINAL CREST ELEVATION.

June 21, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
PLACEMENT AND COMPACTION OF ZONE 1 MATERIAL AT THE TOE BERM CREST TO CREATE A REGULAR SURFACE BEFORE THE INSTALLATION OF THE SEEPAGE COLLECTION PIPELINE. THE ZONE 1 CAPPING MATERIAL WAS HAULED FROM THE SOUTH ISLAND STOCKPILES TO THE TOE BERM CONSTRUCTION AREAS WITH ARTICULATED HAUL TRUCKS OR FRONT-END LOADERS.

July 17, 2018

DDMI QC AND DDMI SURVEY MARKING AREAS NOT CONSTRUCTED TO THE DESIGN TOE BERM CREST ELEVATION DURING THE WALK DOWN OF THE SOUTH TOE BERM. ZONE 1 MATERIAL WAS USED TO RAISE THE AREAS MARKED BY DDMI SURVEY TO THE FINAL TOE BERM CREST ELEVATION.

July 12, 2018
20180829_A21_Dike_DS_M0762_Looking Downstream_8.jpg

COMPLETED TOE BERM DOWN-STATION OF STATION 0+760 m. NOTE THE DPS PIPELINE INSTALLED AT THE TOE BERM CREST AND THE DISCHARGE PIPELINES FROM DPS-07 AND PUMP WELL PW-03.

August 29, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
COMPLETED TOE BERM UP-STATION OF STATION 0+690 m. NOTE THE DPS PIPELINE INSTALLED AT THE TOE BERM CREST.

August 29, 2018

COMPLETED TOE BERM UP-STATION OF STATION 0+890 m. NOTE THE DPS PIPELINE INSTALLED AT THE TOE BERM CREST UP TO DPS-08.

August 29, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
COMPLETED TOE BERM UP-STATION OF STATION 1+260 m.

August 29, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
A5 AREA STABILIZATION BERM
OVERVIEW OF THE DIKE DOWNSTREAM SLOPE AND A5 AREA MARINE FILL BUTTRESS BEFORE CONSTRUCTION OF THE A5 AREA STABILIZATION BERM.

June 25, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
EXCAVATOR REMOVING LAKEBED SEDIMENT DURING THE CONSTRUCTION OF THE ACCESS ROAD TO THE A5 AREA.

July 1, 2018

EXCAVATOR REMOVING LAKEBED SEDIMENT DURING THE CONSTRUCTION OF THE ACCESS ROAD TO THE A5 AREA.

June 30, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
REMOVAL OF LAKEBED SEDIMENTS AT THE A5 AREA MARINE FILL BUTTRESS TOE WITH AN EXCAVATOR POSITIONED ON THE ADVANCING FACE OF THE A5 AREA STABILIZATION BERM. THE SPOIL MATERIAL WAS CASTED AT DOWNSTREAM SIDE OF THE A5 AREA STABILIZATION BERM FOOTPRINT. NOTE THE ROUNDED TO SUBROUNDED PARTICLES ON THE FOUNDATION PREPARATION SURFACE.

July 3, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
REMOVAL OF LAKEBED SEDIMENTS AT THE TOE OF THE A5 AREA MARINE FILL BUTTRESS WITH AN EXCAVATOR. NOTE THE LOADED ARTICULATED HAUL TRUCKS PARKED AT THE A5 AREA STABILIZATION BERM AND ACCESS ROAD.

July 7, 2018
DUMP PILE OF ZONE 3 MATERIAL DELIVERED AT THE ADVANCING FRONT OF THE A5 AREA STABILIZATION BERM BY ARTICULATED HAUL TRUCKS.

July 5, 2018

PLACING ZONE 3 MATERIAL ONTO PREPARED FOUNDATION WITH AN EXCAVATOR.

July 6, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.
DDMI SURVEY AND DDMI QC FIELD PERSONNEL OBSERVING THE CONSTRUCTED A5 AREA STABILIZATION BERM.

July 8, 2018

A5 TOPOGRAPHIC LOW AND THE CONSTRUCTED A5 AREA STABILIZATION BERM LOOKING FROM THE A5 AREA MARINE FILL BUTTRESS.

July 12, 2018

NOTES:
1. THIS FIGURE IS NOT TO SCALE (NTS).
2. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING FIGURES AND THE FINAL CONSTRUCTION RECORDS REPORT.