

(In reply, please refer to)
Our File: 05-4755-3000



August 4, 2006

Nunavut Water Board
PO Box 119
Gjoa Haven, Nunavut
X0B 1J0

Attention: Phyllis Beaulieu
Manager of Licencing

4920
47th Street
Suite 303
Box 1409
Yellowknife
Northwest Territories
Canada
X1A 2P1
Telephone
(867) 920-4555
Fax
(867) 873-3328

Application of Water Licence for the Hamlet of Kugaaruk

Dear Ms. Beaulieu:

Drawings for the application of a water licence for the Hamlet of Kugaaruk were submitted previously on June 20, 2006. The 100% tender drawings have since been completed and are attached for your review. Stamped hard copies of the tender drawings and specifications were sent to the NWB on July 19, 2006.

Please note that the electronic versions of the "Issued for Tender" drawings that are attached do not carry a signed seal however they are the same as the hardcopied drawings sent previously and they represent the final engineered design for the proposed changes to the sewage lagoon.

Yours sincerely,

DILLON CONSULTING LIMITED

Janice Lee
Engineering MIT

for

Gary Strong, P.Eng
Project Manager

Encl.

cc: N. Sidhu, J. Murdock, R. Dwyer, G. Strong

**Dillon Consulting
Limited**



THE GOVERNMENT OF NUNAVUT COMMUNITY AND GOVERNMENT SERVICES

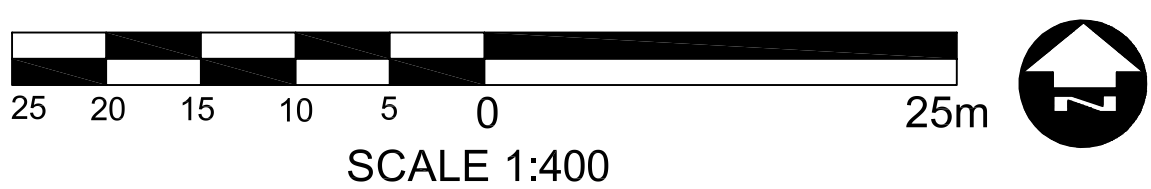
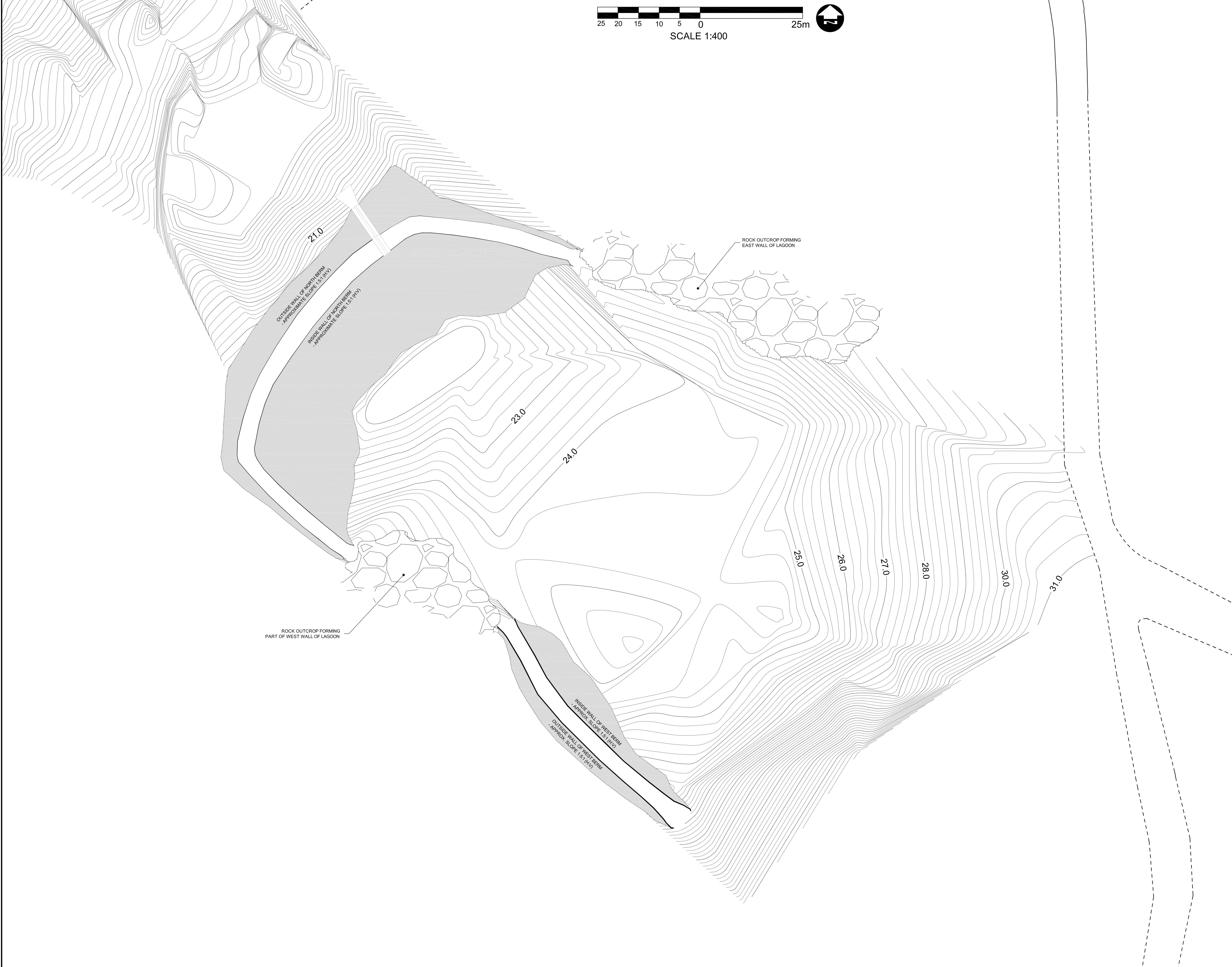
SEWAGE & SOLID WASTE SITES - TENDER DRAWINGS
LOCATION: KUGAARUK, NUNAVUT
PROJECT NO: 05-4755-3000
DATE: MAY 2006



LOCATION PLAN

LIST OF DRAWINGS	
Sheet Number	Sheet Title
000	Cover
100	Existing Lagoon Site
101	Design Lagoon Site Plan View
102	Lagoon Sections
200	Discharge and Overflow Flume Details
201	Berm Sections and Details
202	Manhole Details





SCALE 1:400

LEGEND

PLAN:

EXISTING:
MINOR CONTOUR (0.2m) ———
MAJOR CONTOUR (1.0m) ——— ##.#

DESIGN:
BERM WALLS ———

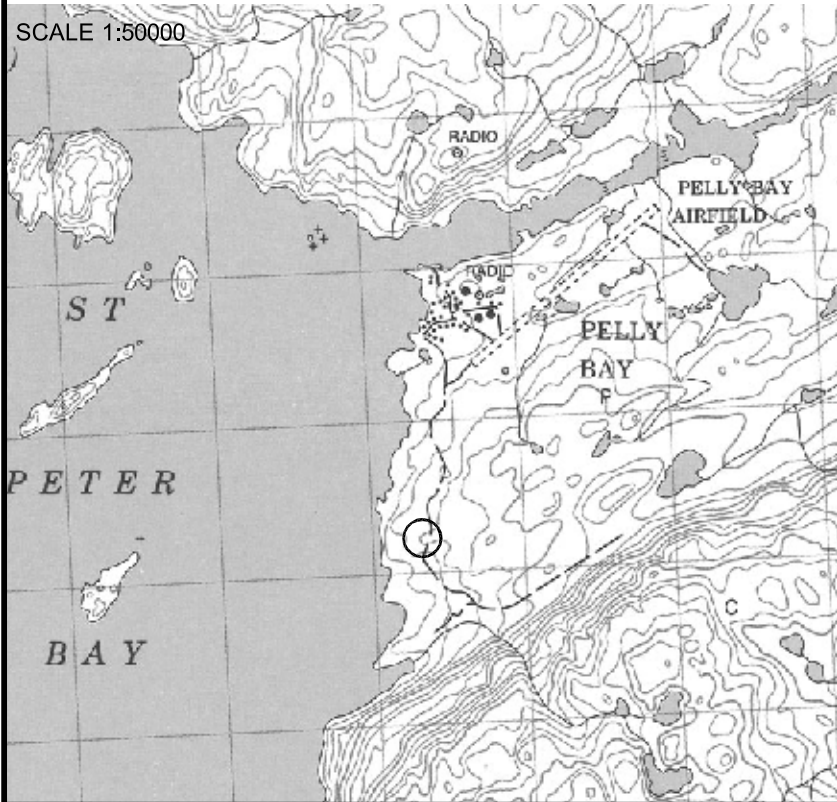
TOE OF SLOPE ———

NOTES

DIMENSIONS ARE IN MILLIMETERS UNLESS SPECIFIED OTHERWISE

"DESCRIPTION OF DETAIL" 1
100 101
DRAWING SHEET WHERE DETAIL IS SHOWN
DETAIL REFERENCED (THIS DRAWING SHEET)

SITE LOCATION



CHANGE	DATE	DESCRIPTION	CHECK
2	07/06/06	ISSUED FOR TENDER	GS
1	06/01/06	ISSUED FOR 95% REVIEW	GS

REVISIONS

DESIGN	DRAWN	CHECKED	DATE
GS	TPW	GS	MAY 2006



PROJECT
SEWAGE & SOLID WASTE FACILITY
KUGAARUK, NUNAVUT

TITLE
EXISTING LAGOON SITE



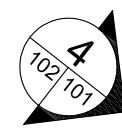
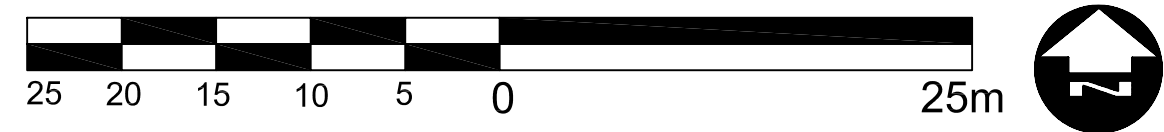
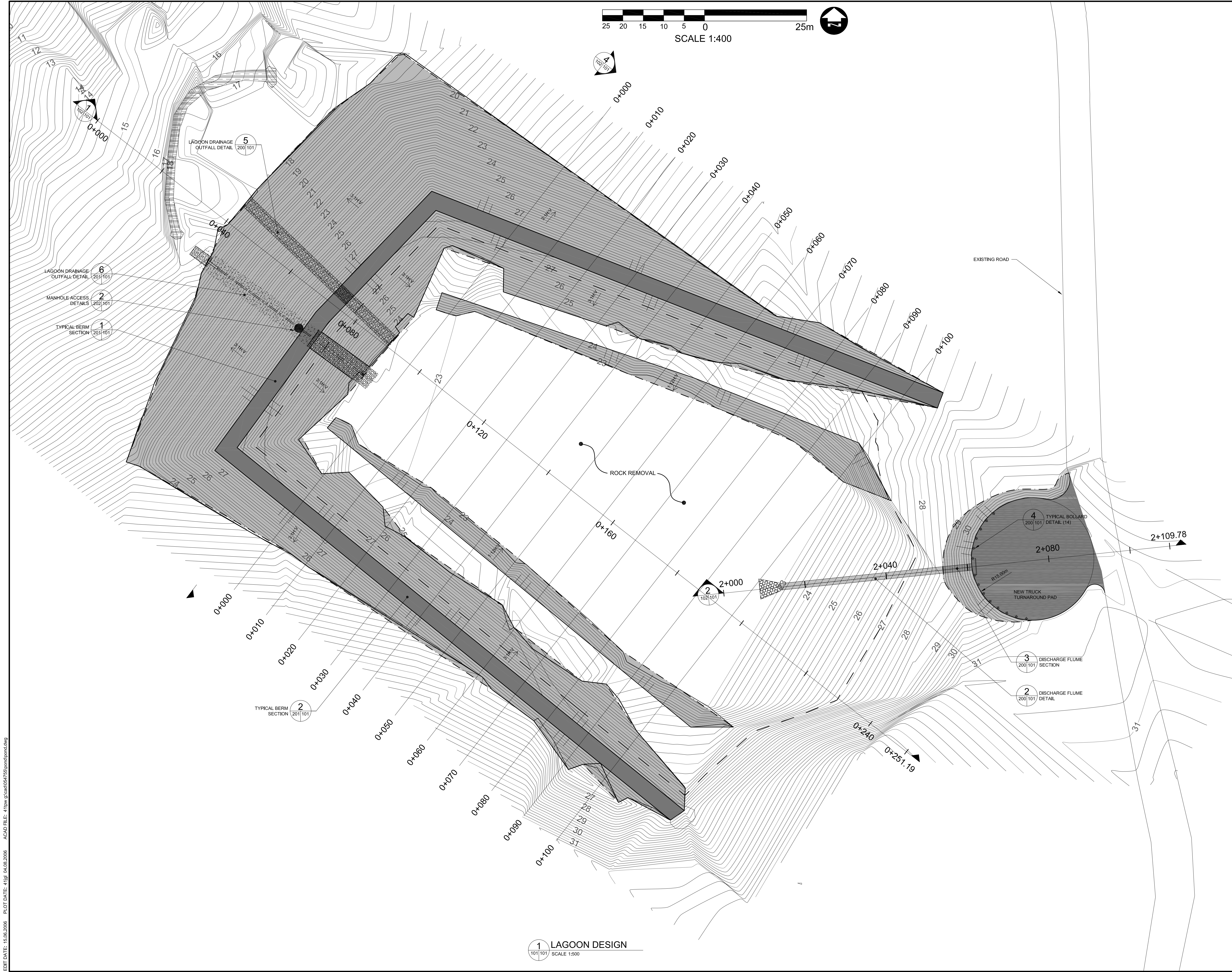
DILLON
CONSULTING

SCALE
AS SHOWN

DILLON PROJECT NUMBER
05-4755-3000

CLIENT PROJECT NUMBER
-

DRAWING NUMBER
100



0+000

0+010

0+020

0+030

0+040

0+050

0+060

0+070

0+080

0+090

0+100

EXISTING ROAD

ROCK REMOVAL

0+160

2+000

2+040

4 TYPICAL BOLLARD
(200/101) DETAIL (14)

2+080

NEW TRUCK
TURNAROUND PAD

2+109.78

3 DISCHARGE FLUME
(200/101) SECTION

2 DISCHARGE FLUME
(200/101) DETAIL

31

0+240

0+251.19

1 LAGOON DESIGN
(101/101) SCALE 1:500

LEGEND

PLAN:

DESIGN:
MINOR CONTOUR (0.2m) ---
MAJOR CONTOUR (1.0m) --- ##.#

BERM WALLS
BERM TOP
TOE OF SLOPE
LAGOON CONTAINMENT

NOTES

DIMENSIONS ARE IN MILLIMETERS UNLESS
SPECIFIED OTHERWISE

DRAWING SHEET
WHERE DETAIL IS SHOWN

1
100/101
DETAIL REFERENCED
(THIS DRAWING SHEET)

CHANGE	DATE	DESCRIPTION	CHECK
2	07/06/06	ISSUED FOR TENDER	GS
1	06/01/06	ISSUED FOR 95% REVIEW	GS

REVISIONS

DESIGN	DRAWN	CHECKED	DATE
GS	TPW	GS	MAY 2006

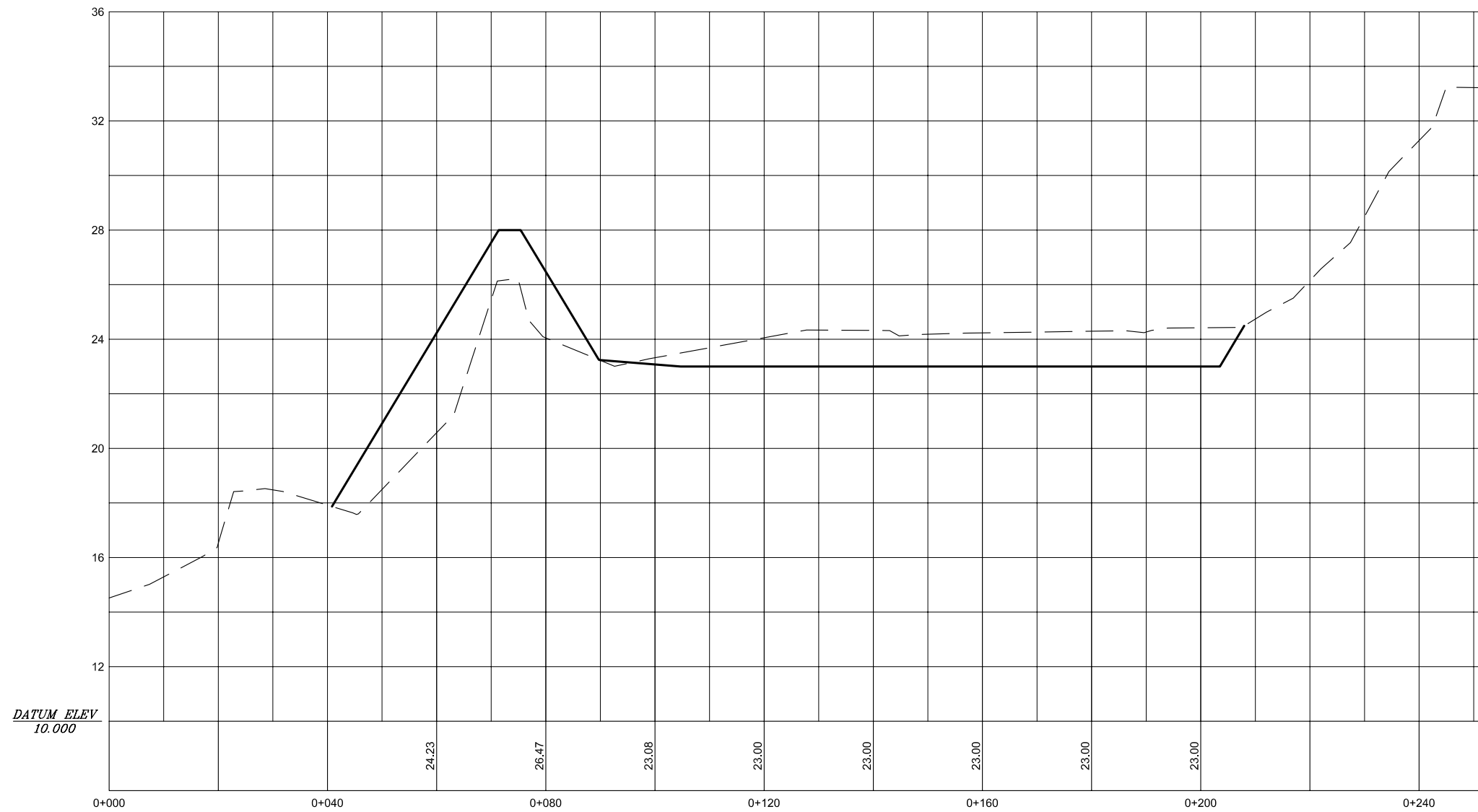


PROJECT
SEWAGE & SOLID WASTE FACILITY
KUGAARUK, NUNAVUT

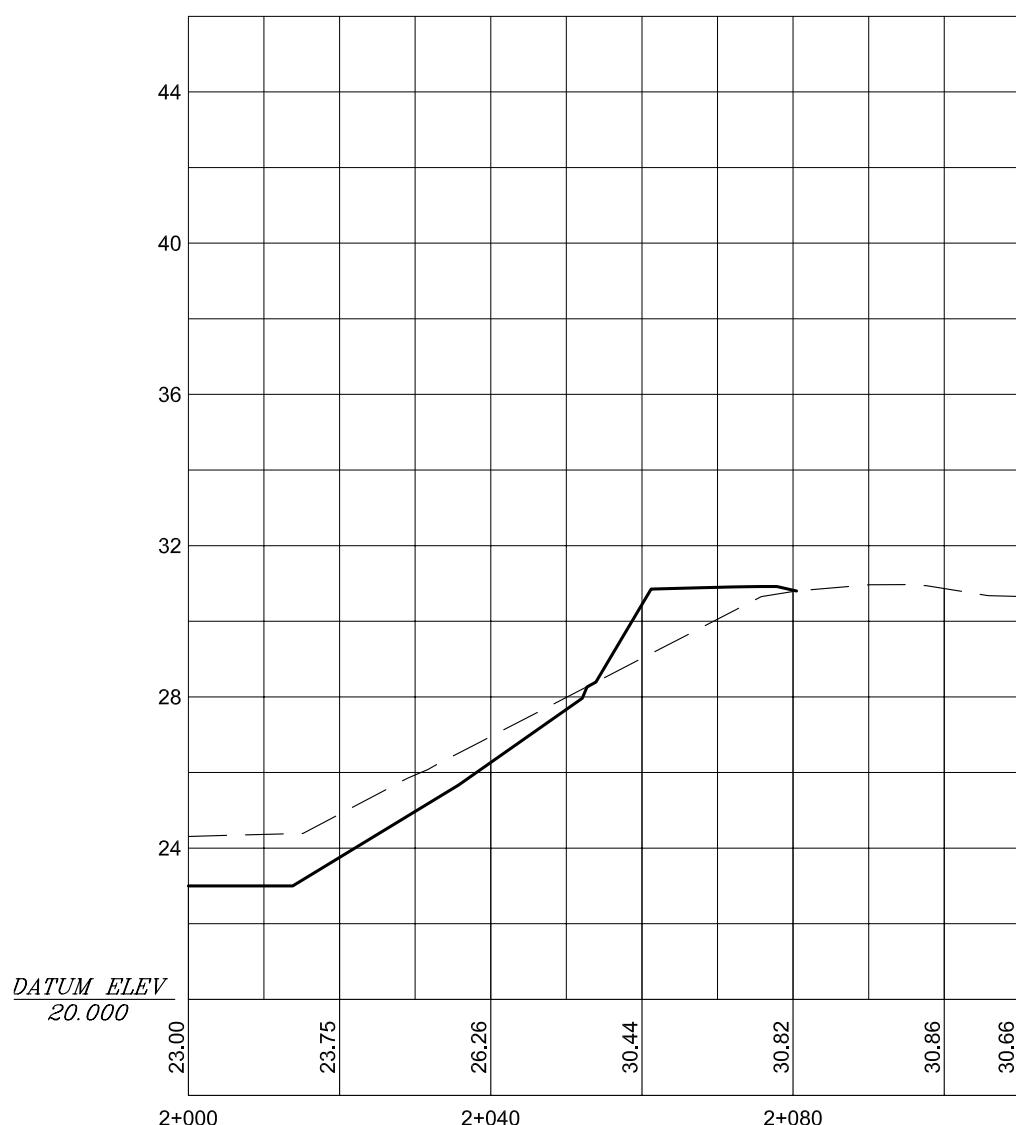
TITLE
DESIGN LAGOON SITE PLAN VIEW

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	DILLON PROJECT NUMBER	05-4755-3000
	CLIENT PROJECT NUMBER	-
	DRAWING NUMBER	101

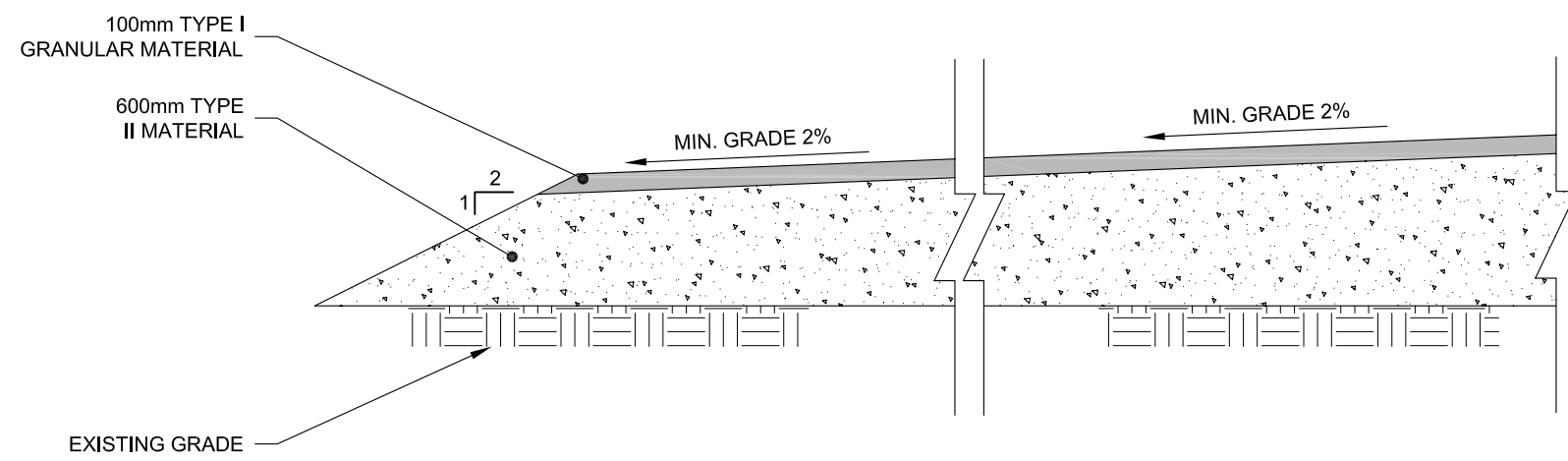
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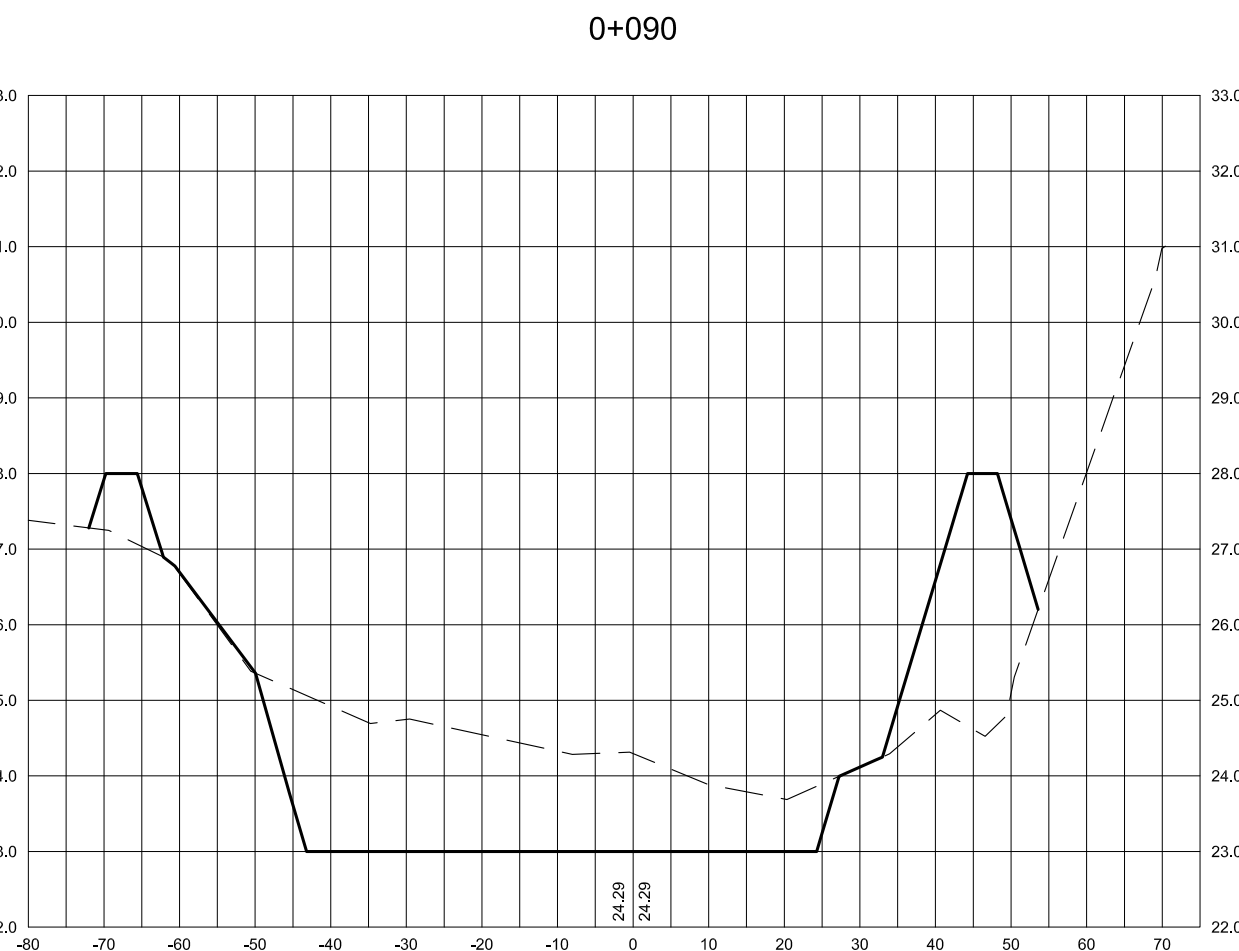
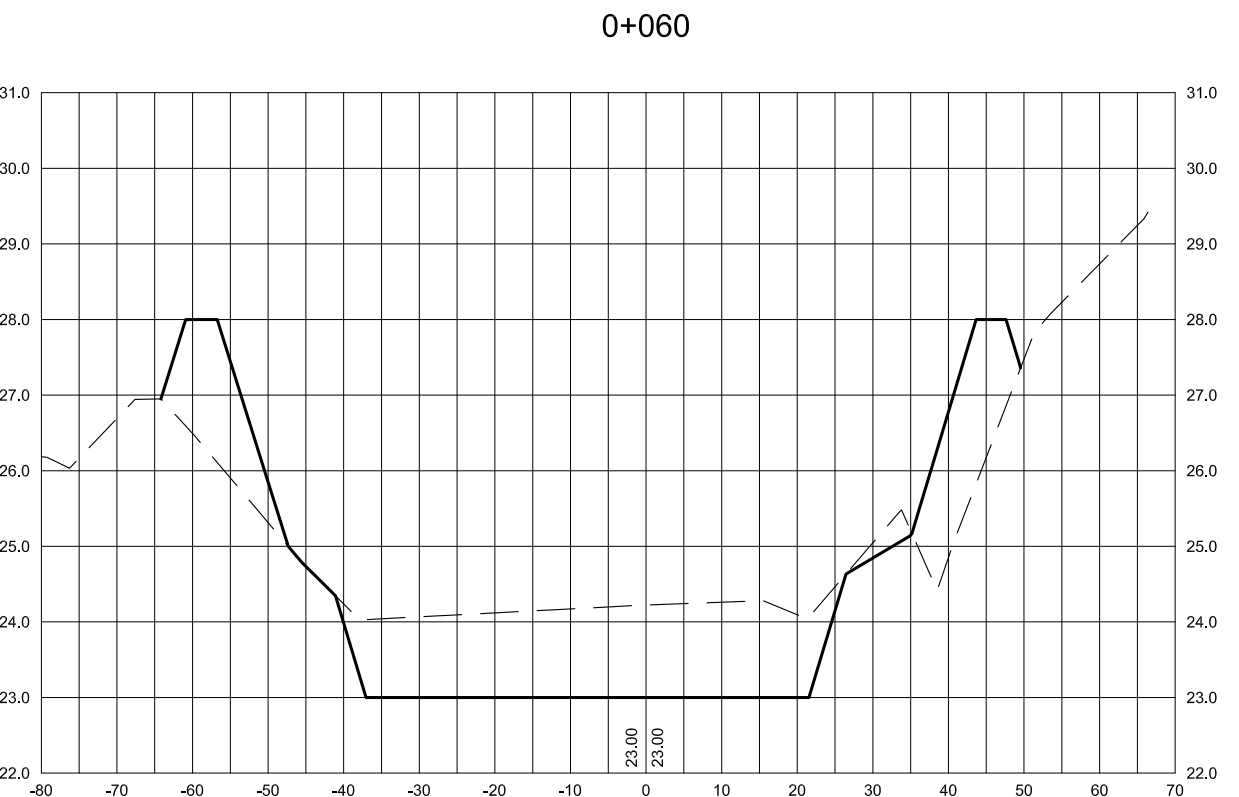
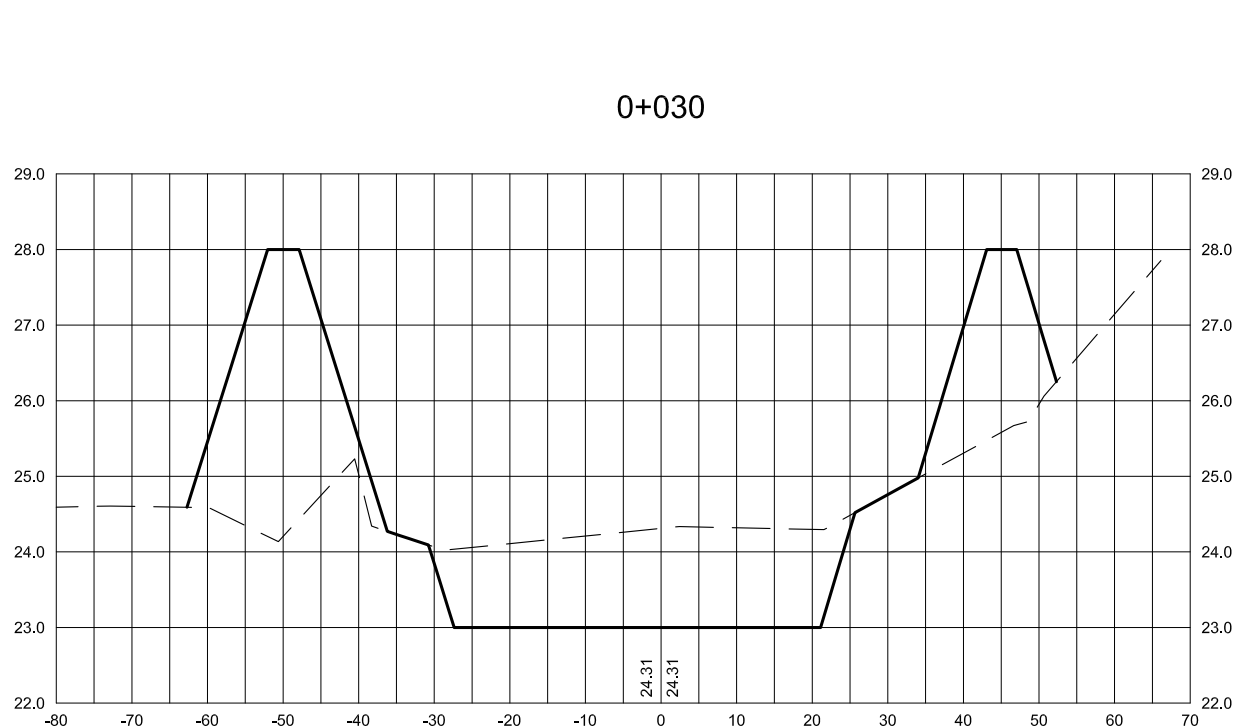
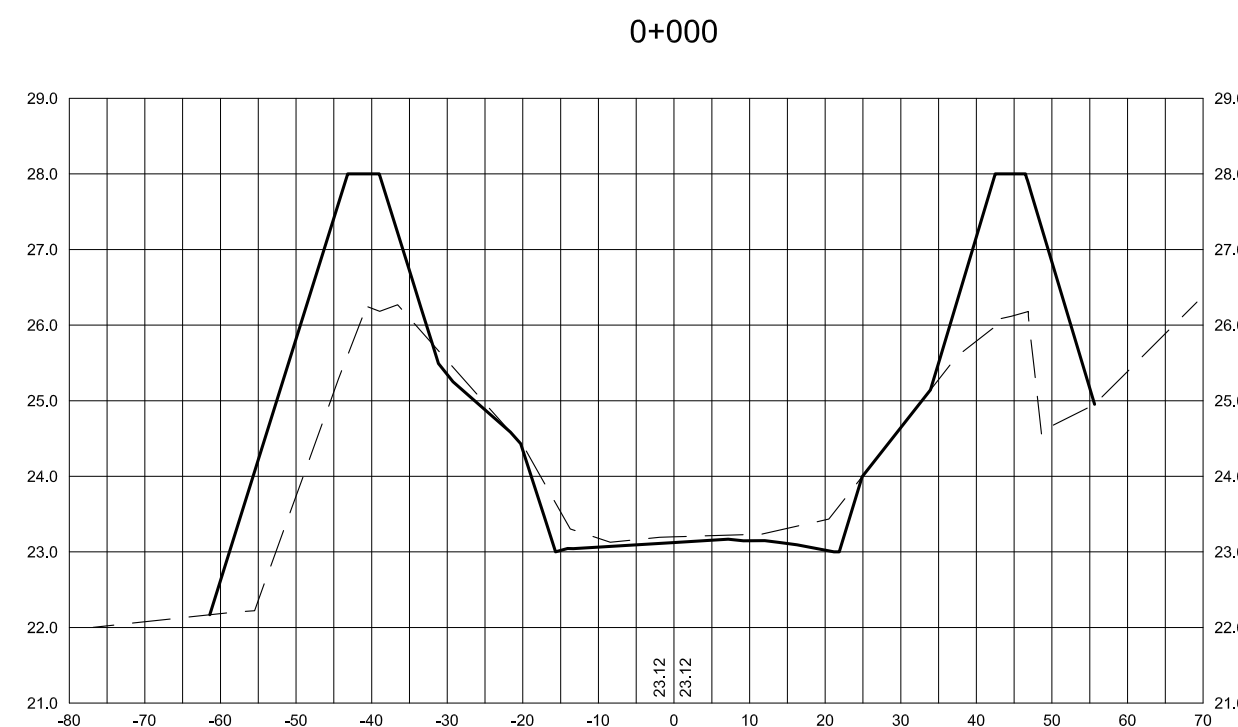
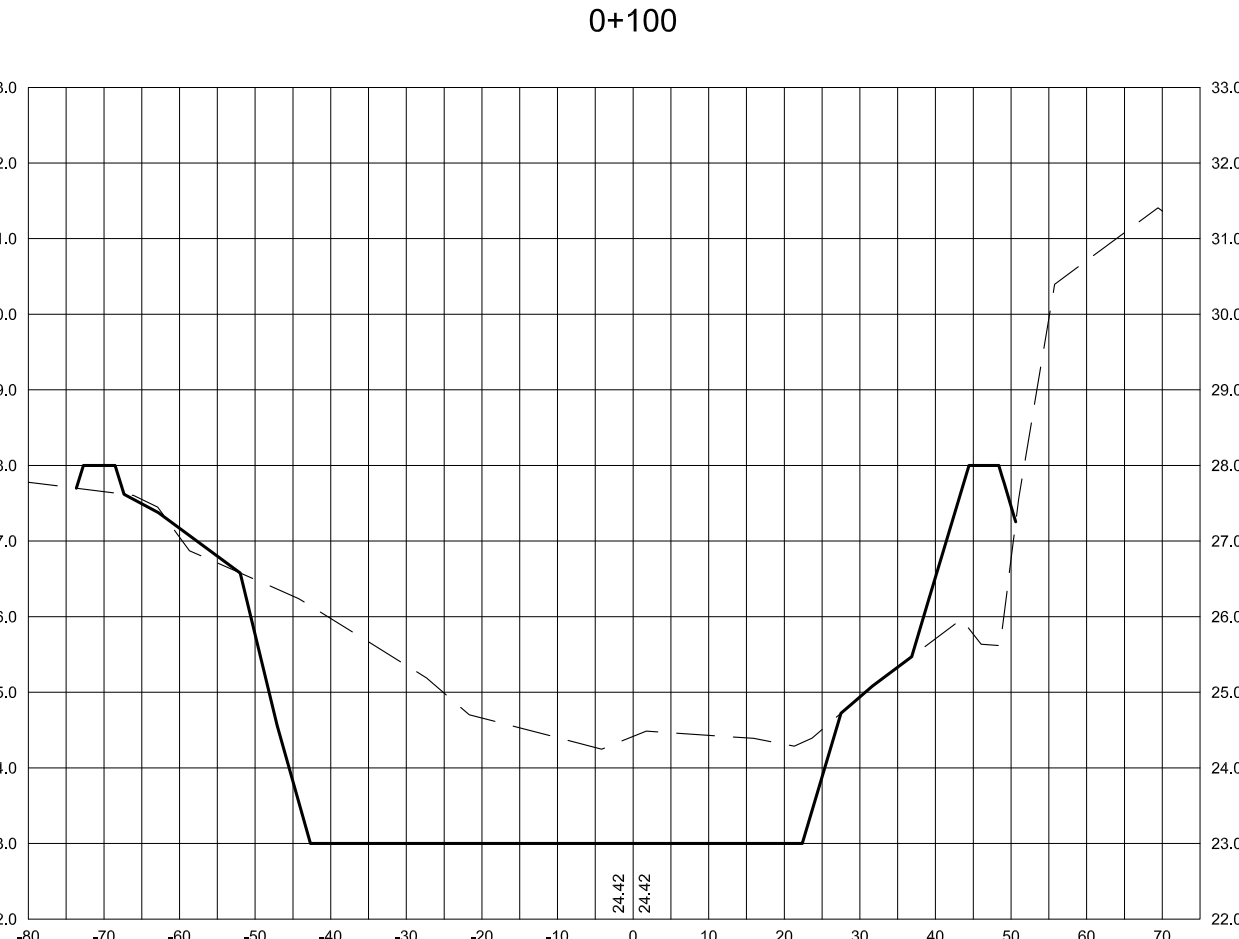
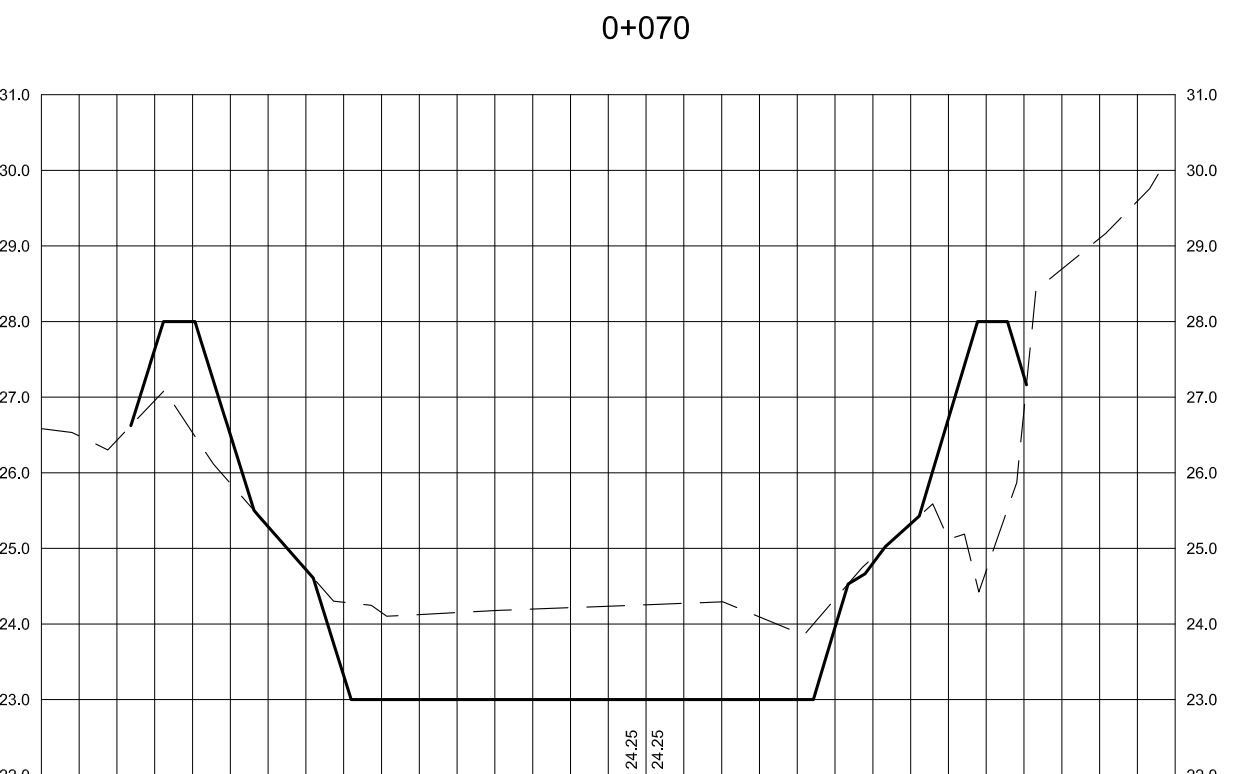
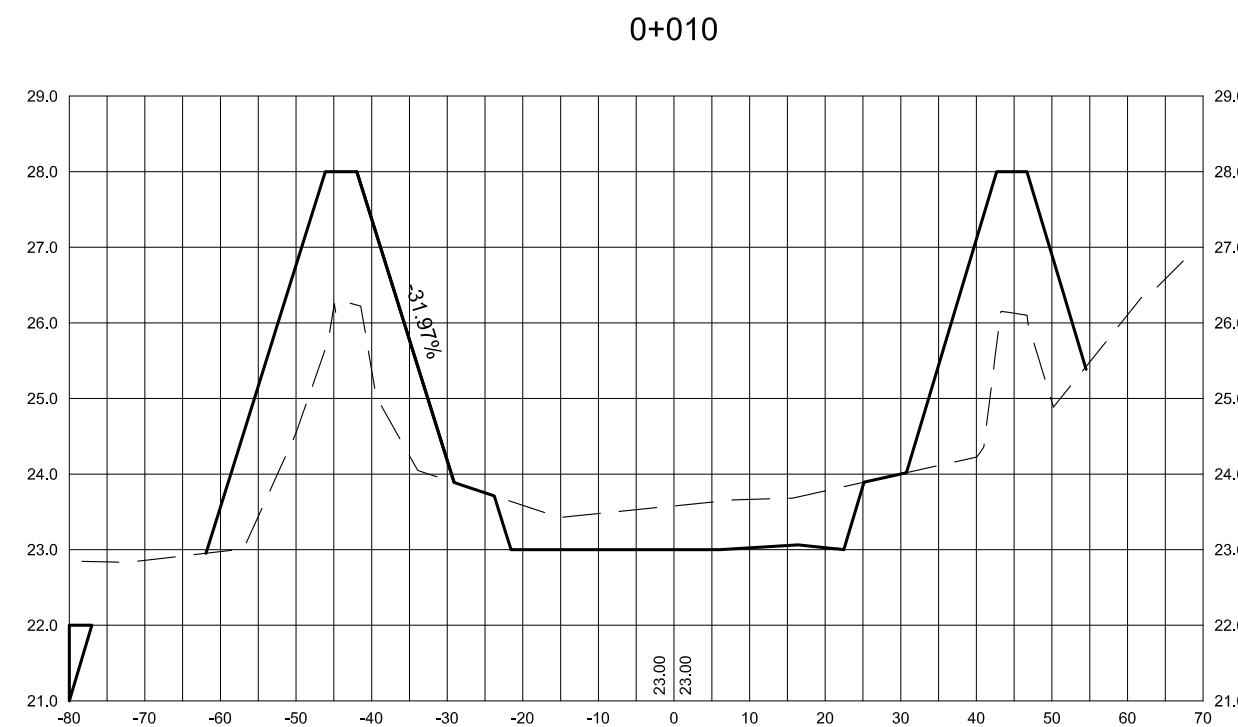
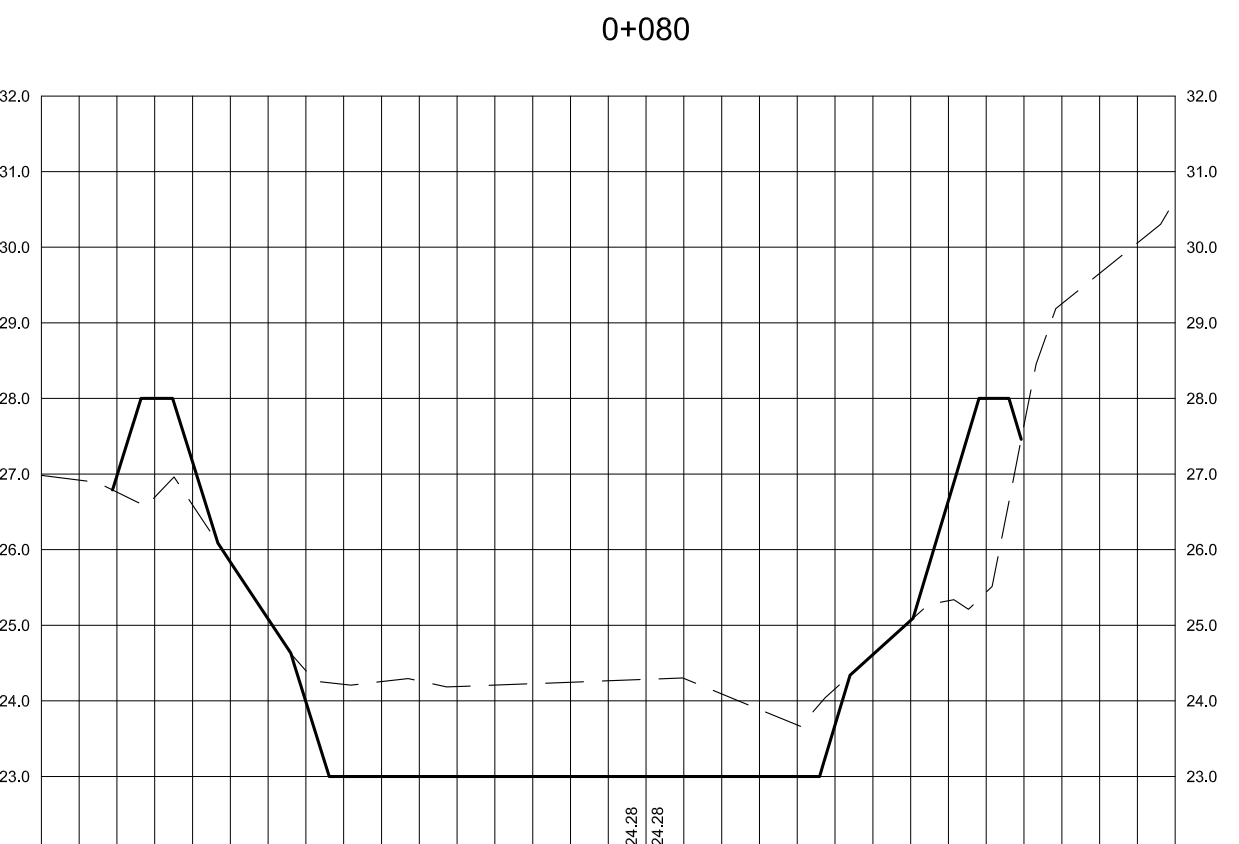
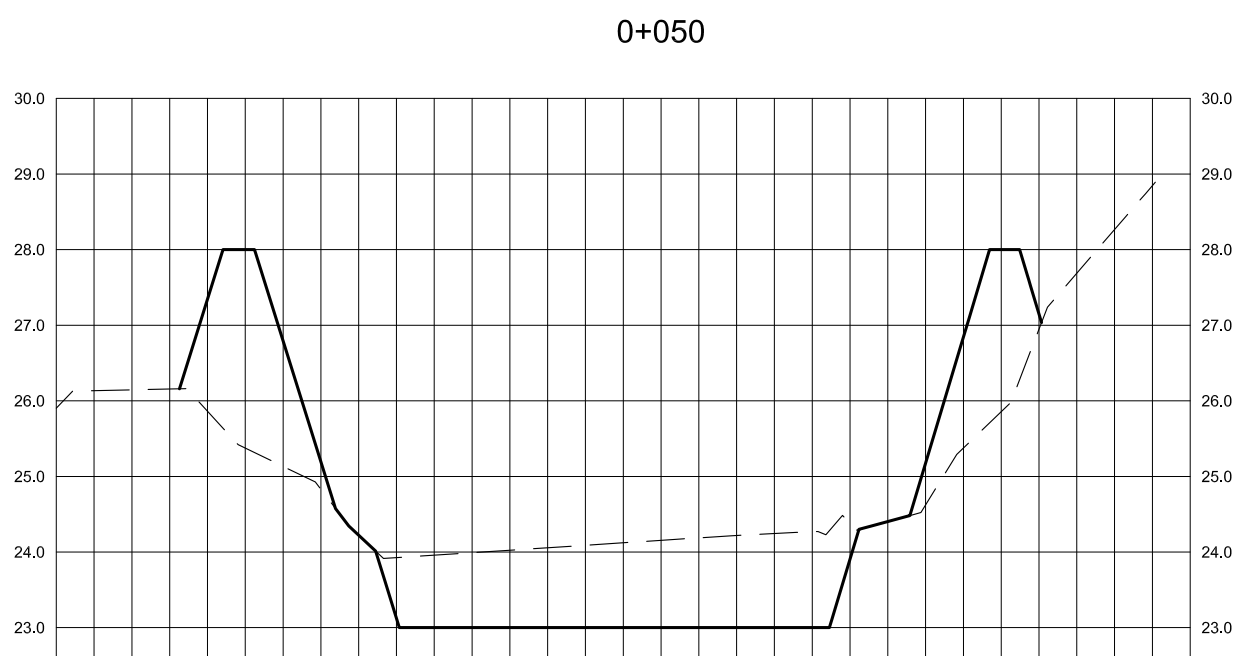
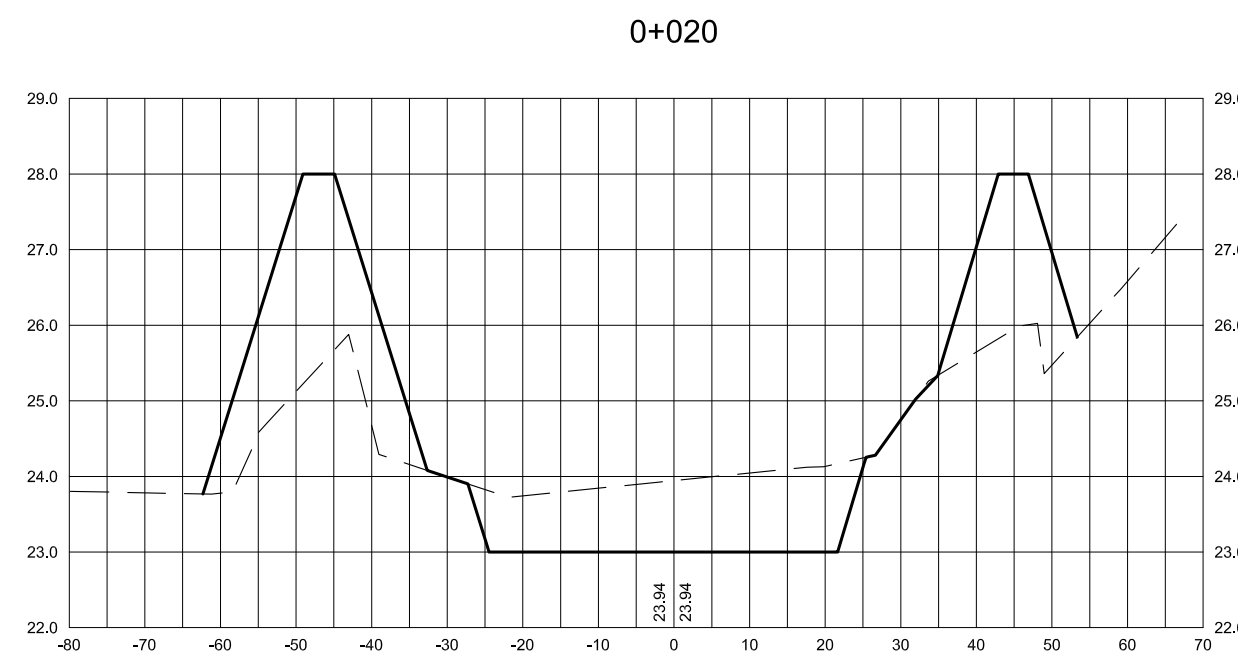
1 LAGOON SECTION
102/102 SCALE 1:1000hor 1:200ver



2 TURNAROUND PAD SECTION
102/102 SCALE 1:1000hor 1:200ver



3 TURNAROUND PAD DETAIL
102/102 SCALE ####



4 LAGOON CROSS SECTIONS
102/102 SCALE 1:1000hor 1:100ver

NOTE:
SEE DWG. 201 SECTION 1 AND SECTION 2 FOR BERM CONSTRUCTION DETAILS.
EXISTING GROUND: ---
PROPOSED: ---

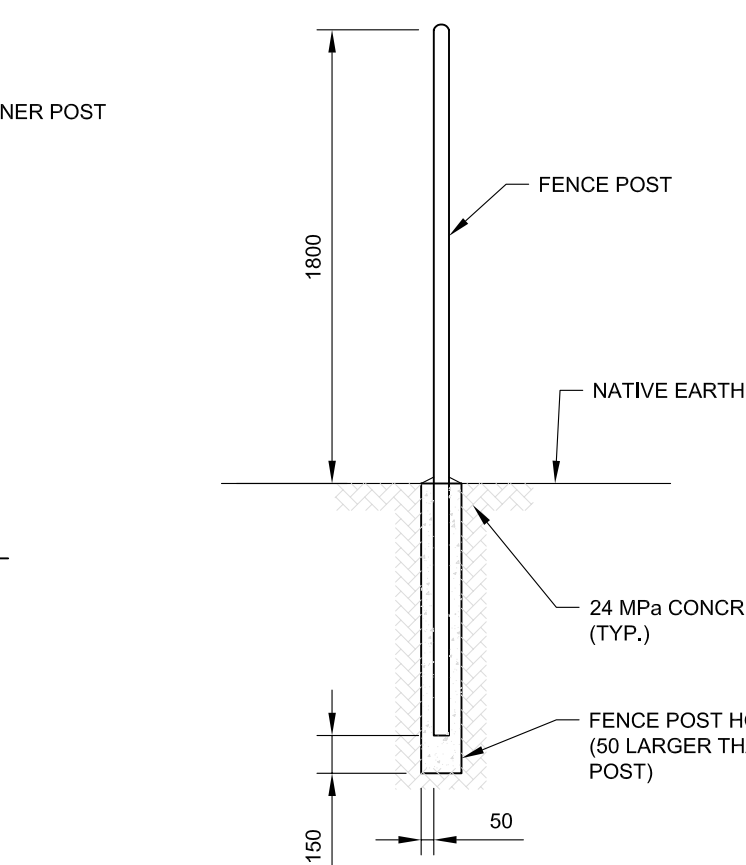
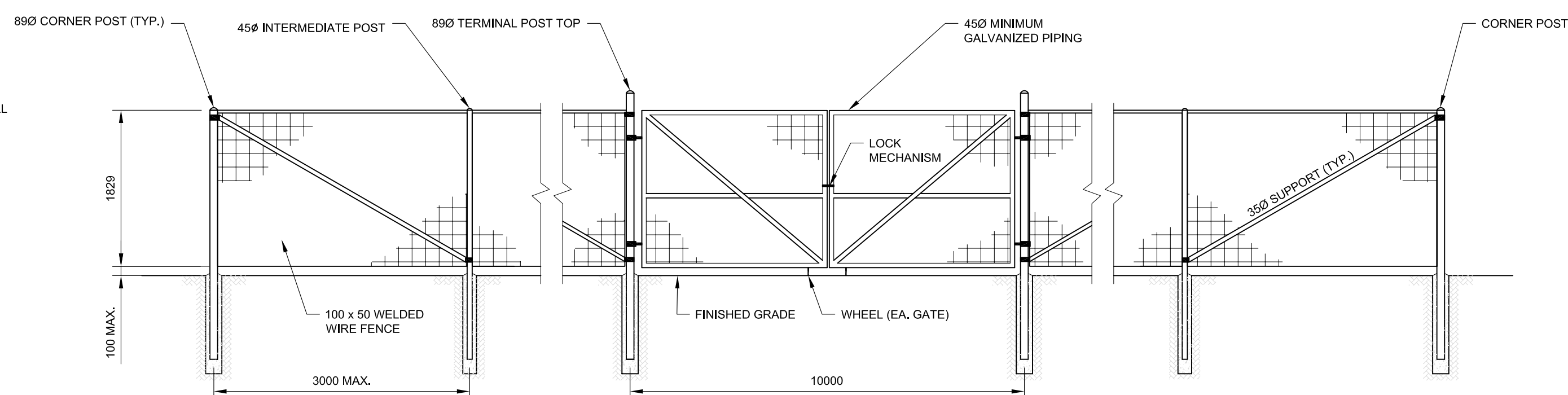
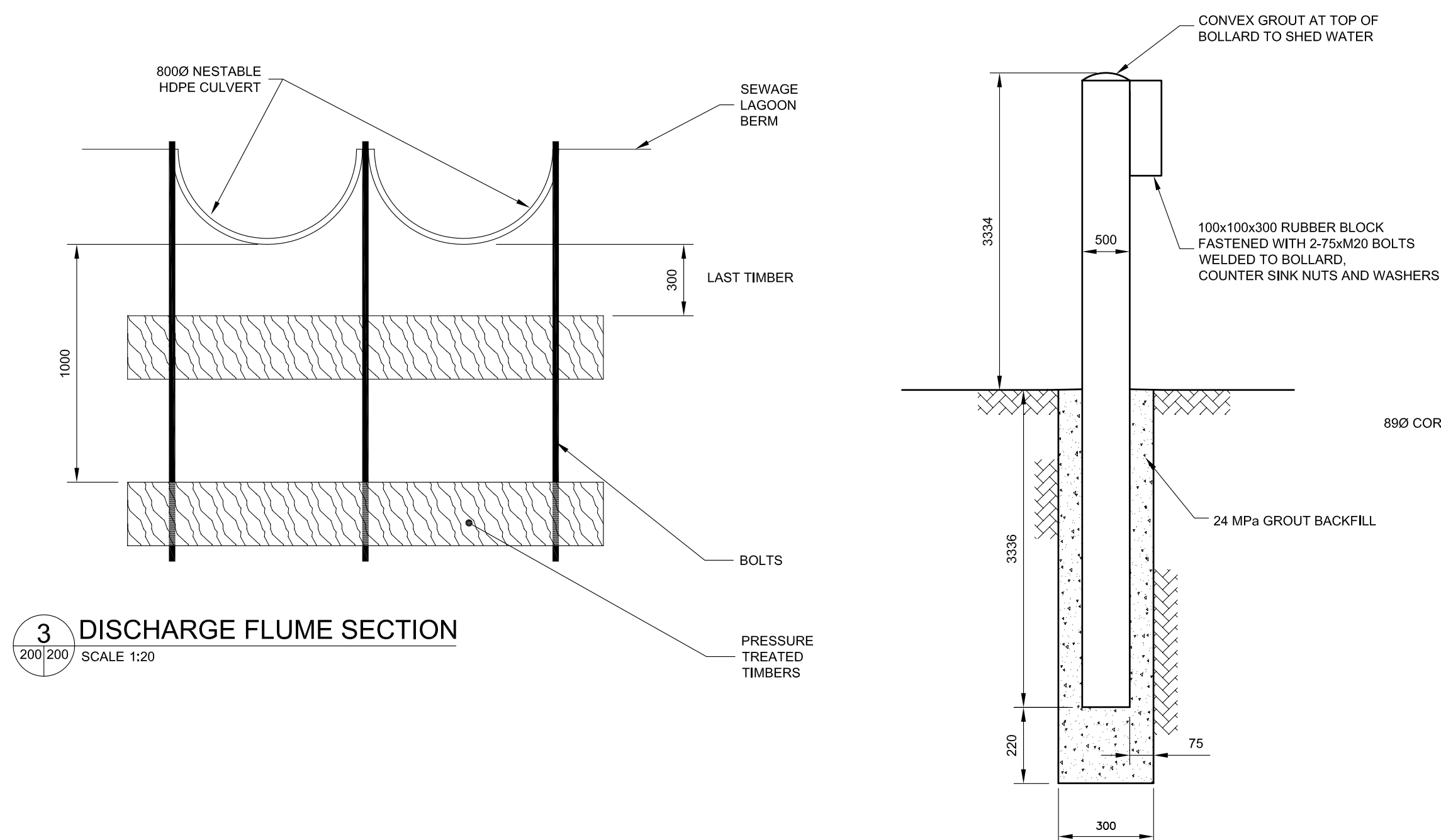
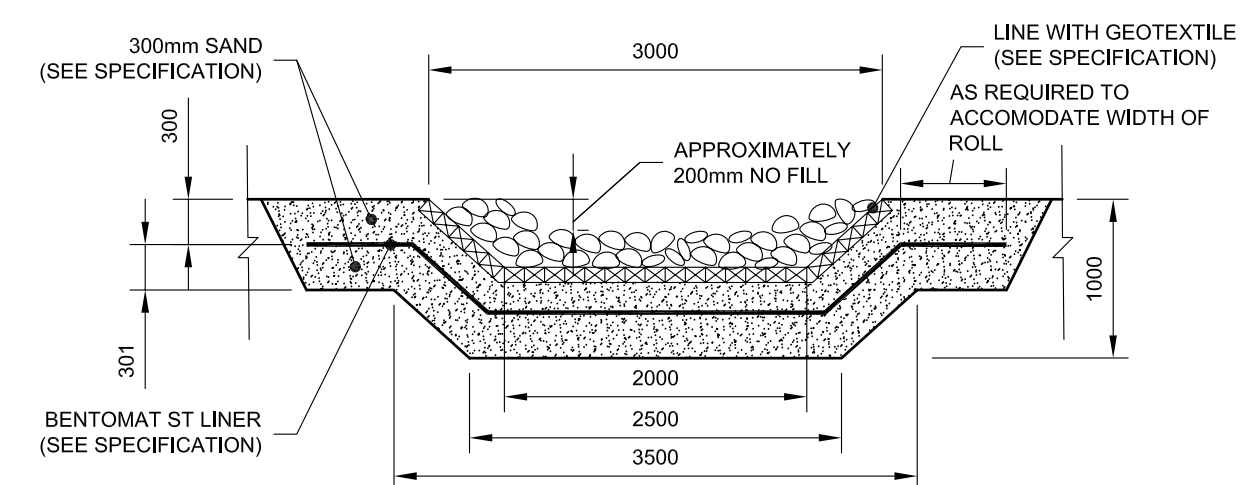
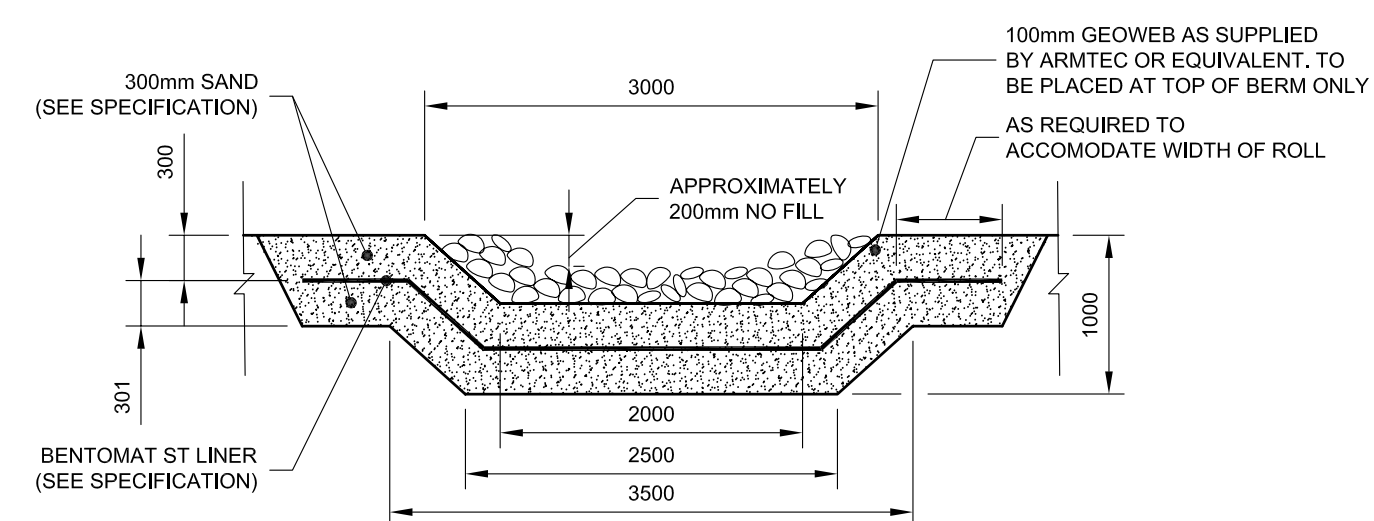
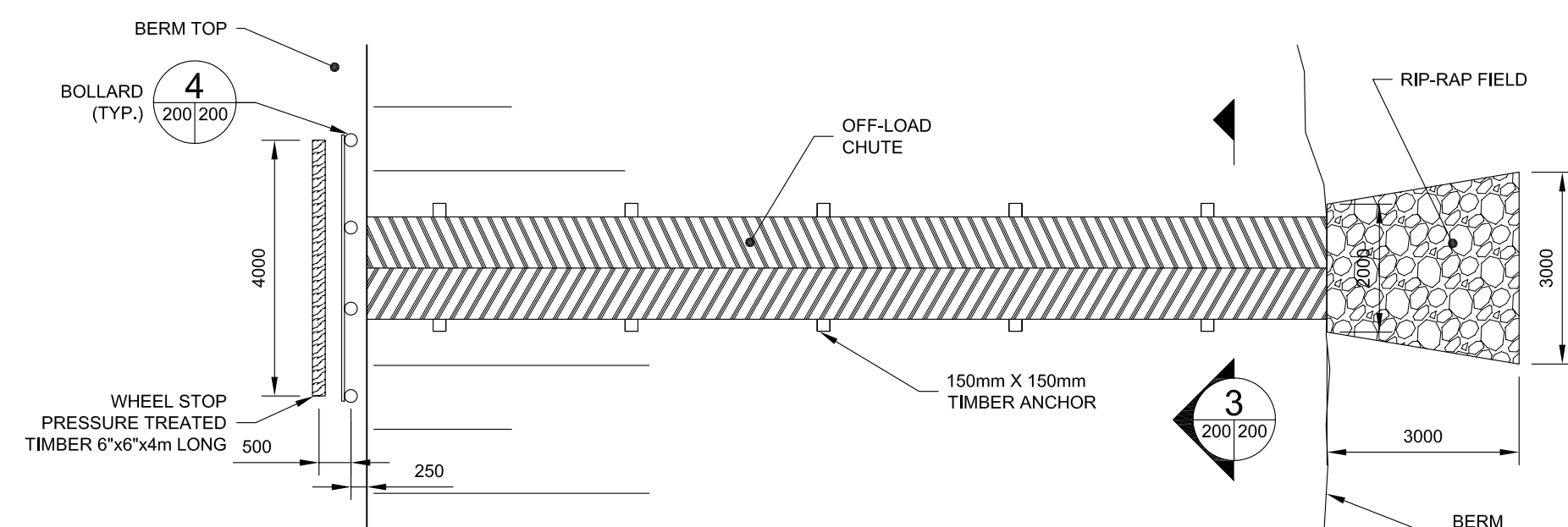
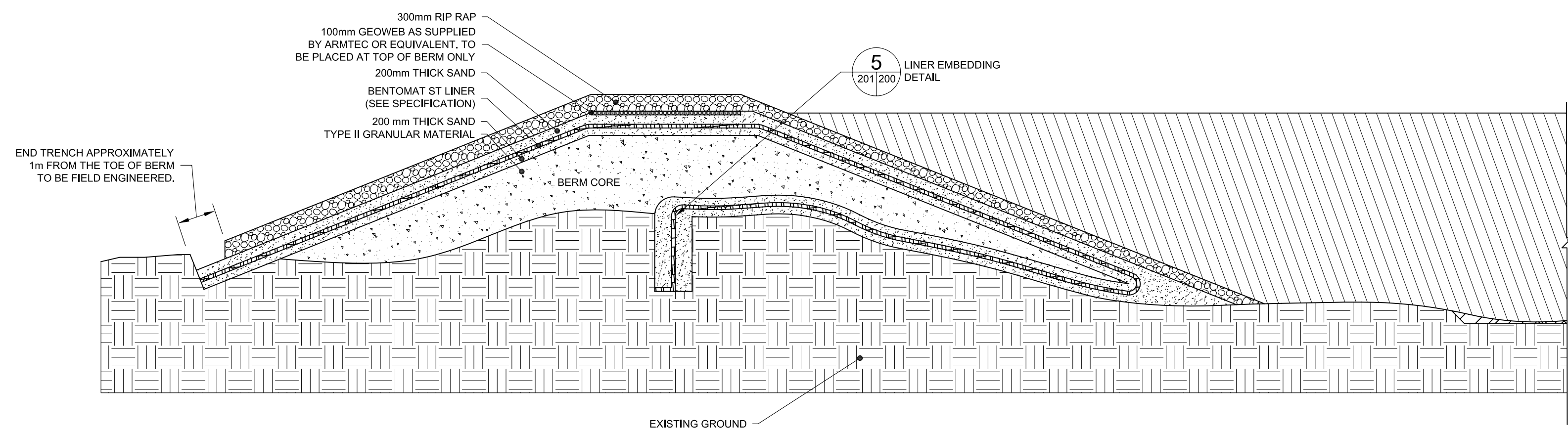
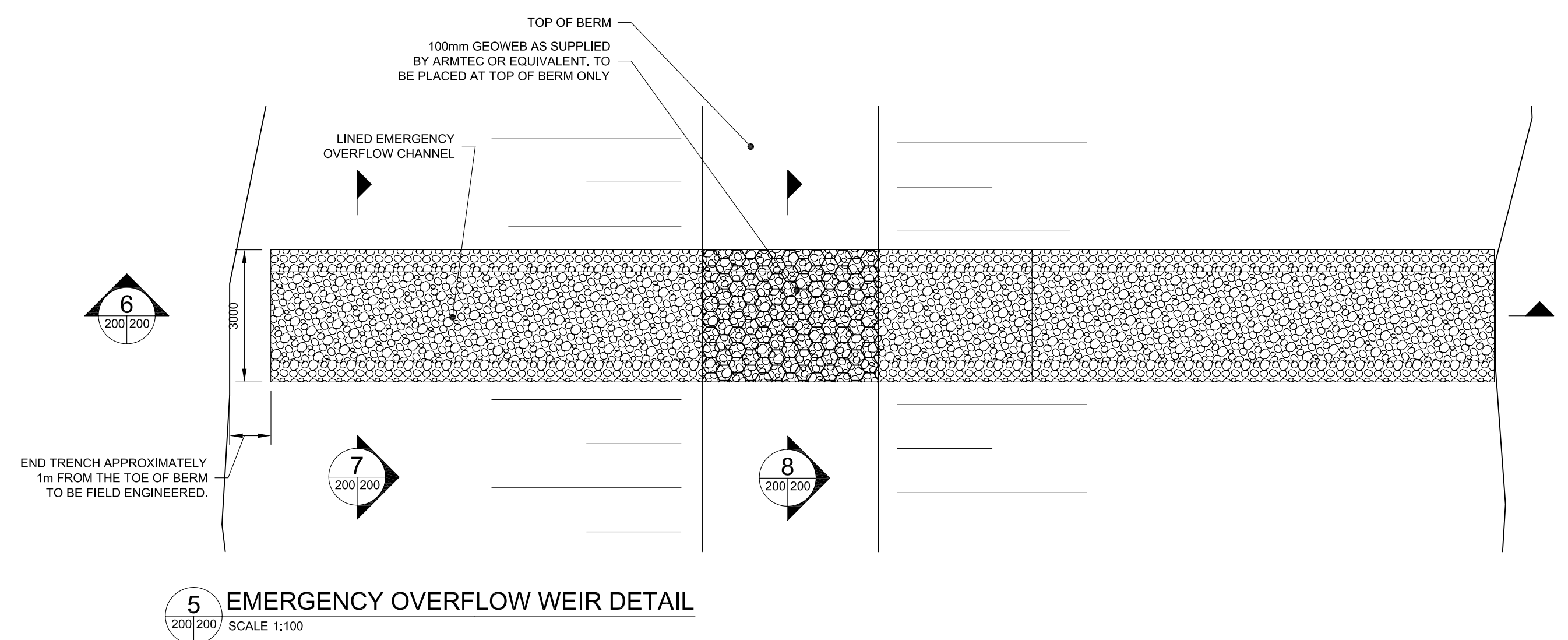
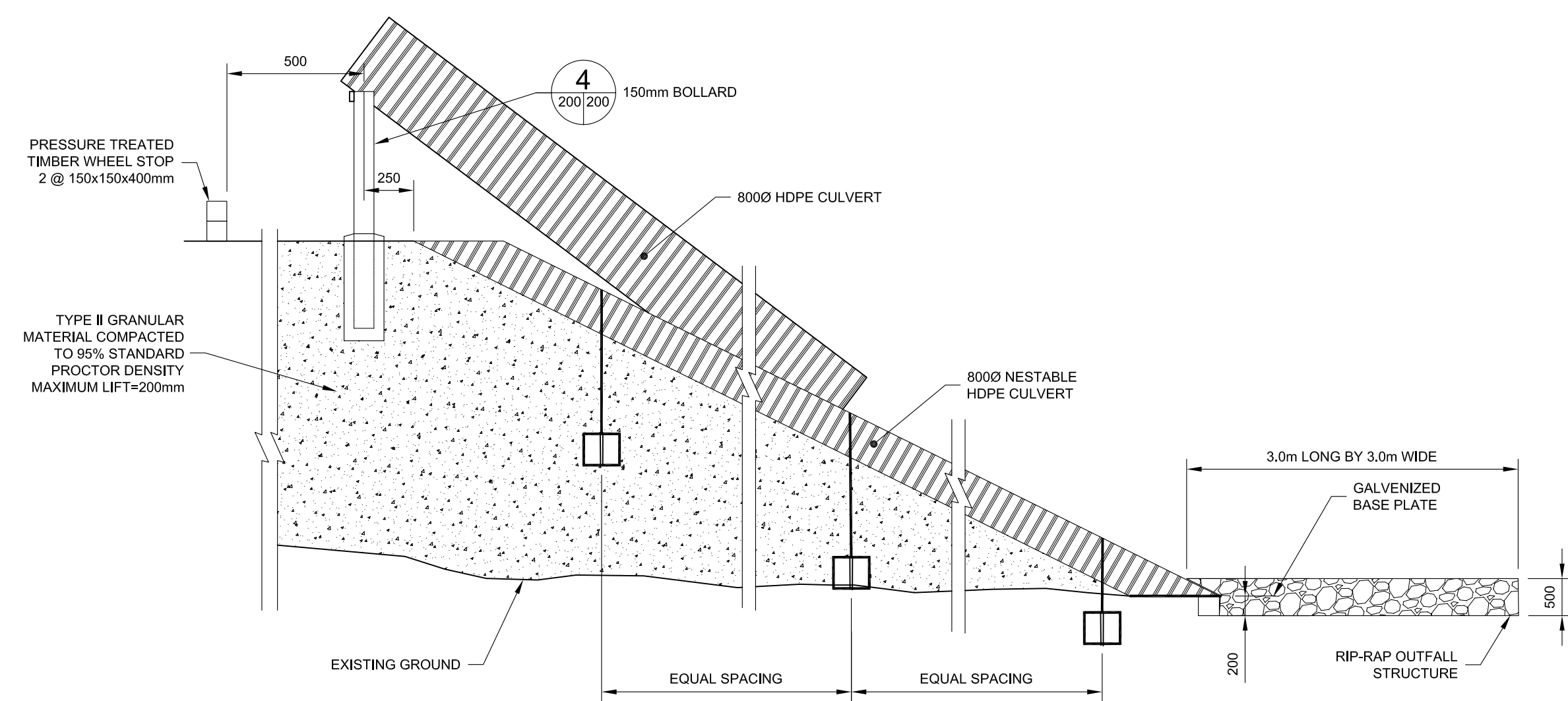
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1	06/01/06	ISSUED FOR 95% REVIEW	GS
CHANGE	DATE	DESCRIPTION	CHECK
REVISIONS			
DESIGN	DRAWN	CHECKED	DATE
GS	TPW	GS	MAY 2006



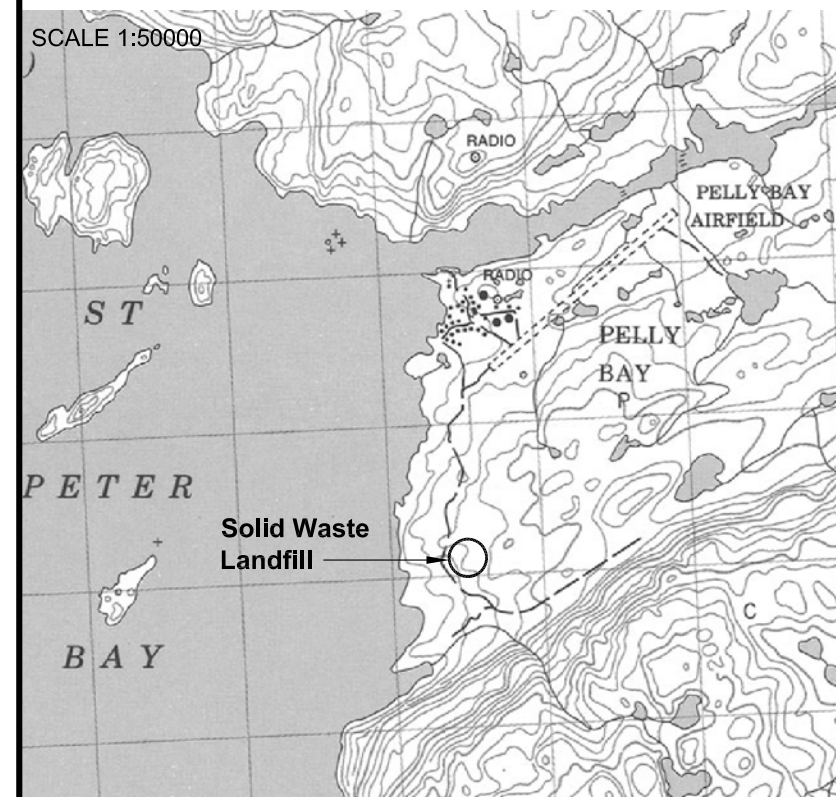
PROJECT
SEWAGE & SOLID WASTE FACILITY
KUGAARUK, NUNAVUT

TITLE
LAGOON SECTIONS

	SCALE	AS SHOWN
	DILLON PROJECT NUMBER	05-4755-3000
	CLIENT PROJECT NUMBER	-
	DRAWING NUMBER	102



LANDFILL SITE LOCATION



2	07/06/06	ISSUED FOR TENDER	GS
1	06/01/06	ISSUED FOR 95% REVIEW	GS
CHANGE	DATE	DESCRIPTION	CHECK

REVISIONS			
DESIGN	DRAWN	CHECKED	DATE
GS	41JGL	GS	MAY 2006

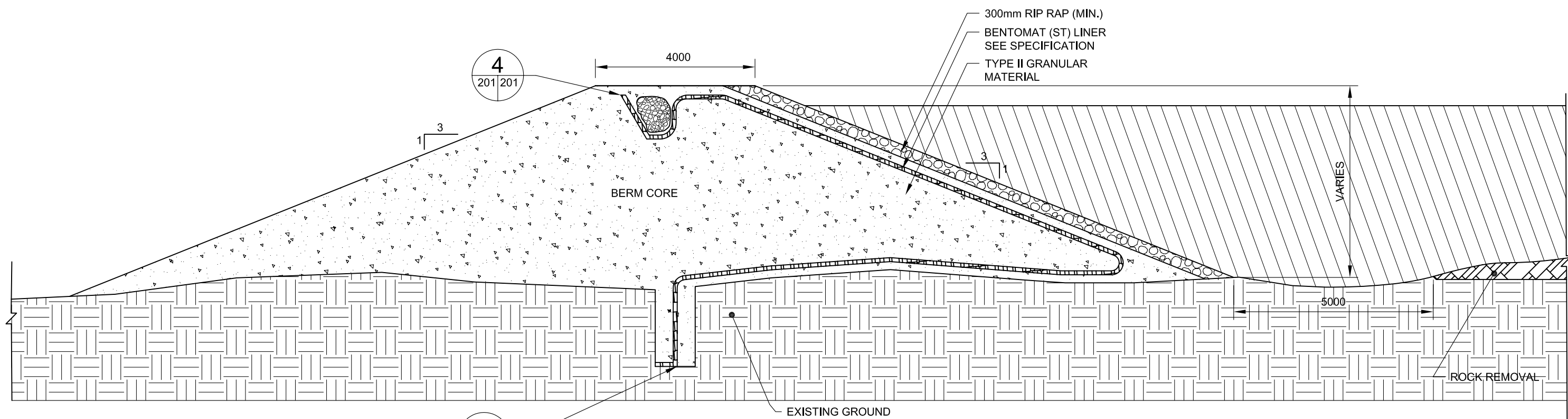


PROJECT
SEWAGE & SOLID WASTE FACILITY
KUGAARUK, NUNAVUT

TITLE
DISCHARGE AND OVERFLOW FLUME
AND LANDFILL FENCE DETAILS

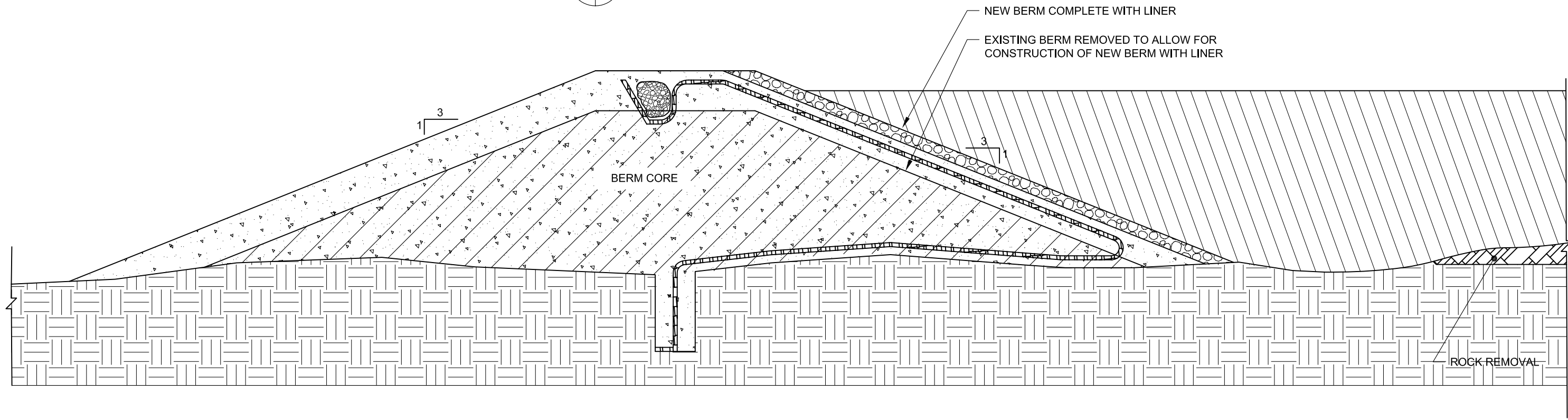


SCALE	AS SHOWN
DILLON PROJECT NUMBER	05-4755-3000
CLIENT PROJECT NUMBER	
DRAWING NUMBER	200



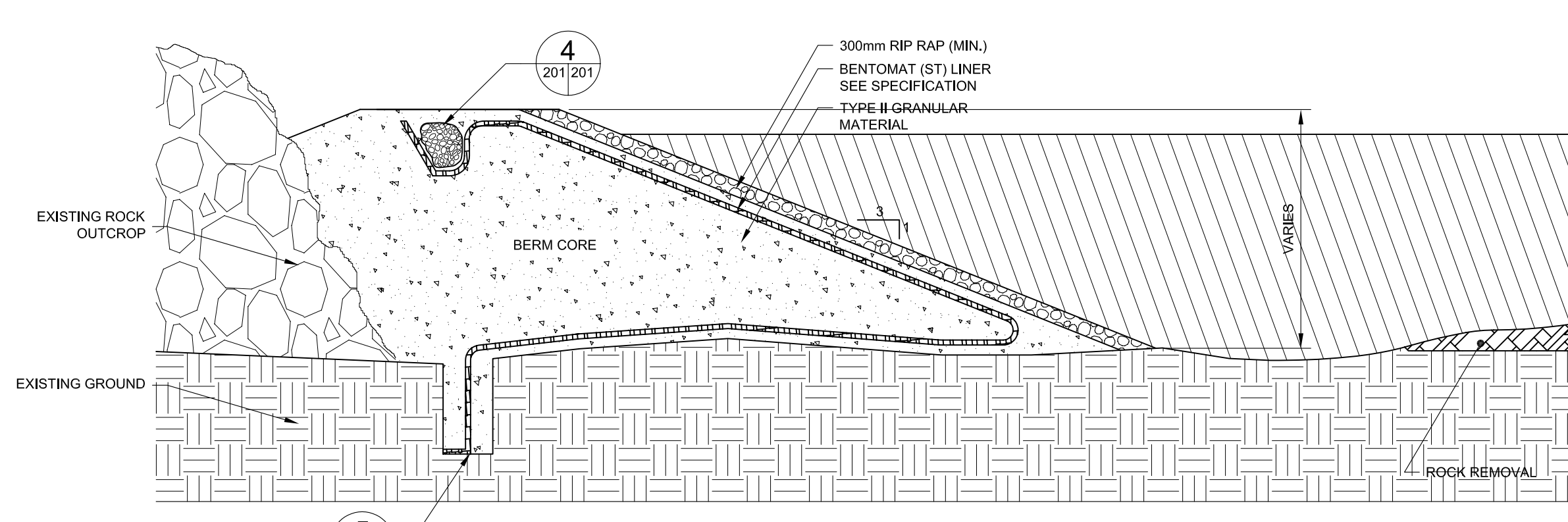
1 TYPICAL BERM SECTION

201/201 SCALE 1:100



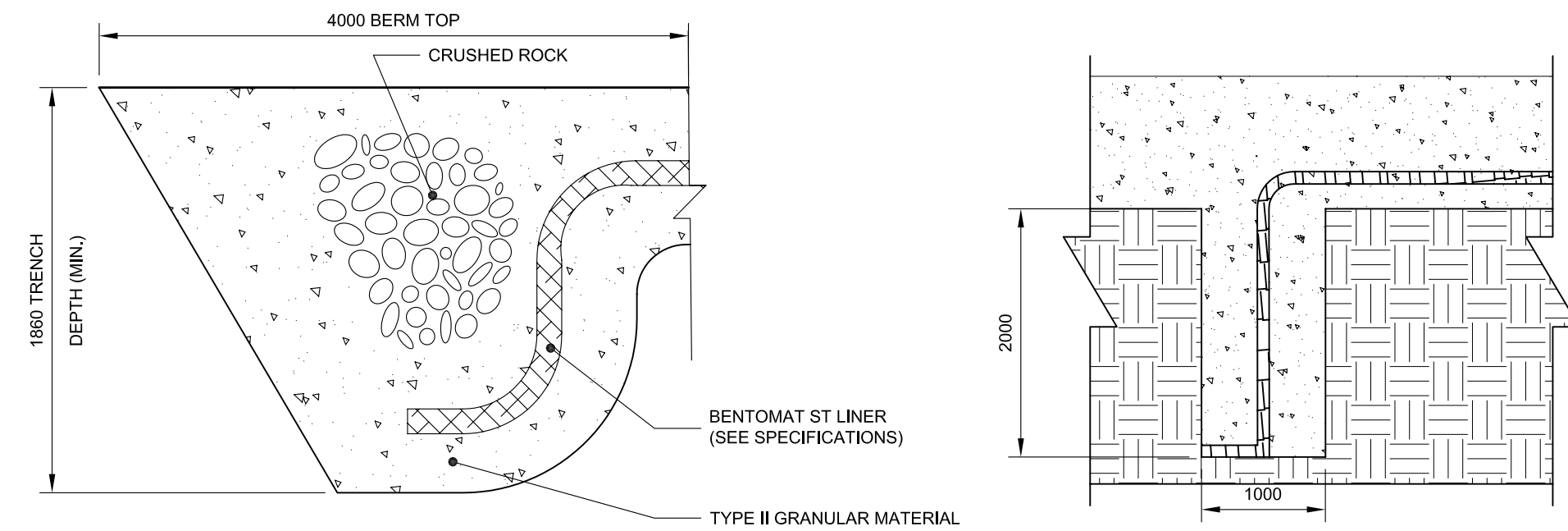
3 TYPICAL BERM SECTION AT EXISTING BERM

201/201 SCALE 1:100



2 TYPICAL BERM SECTION AT ROCK OUTCROP

201/201 SCALE 1:100

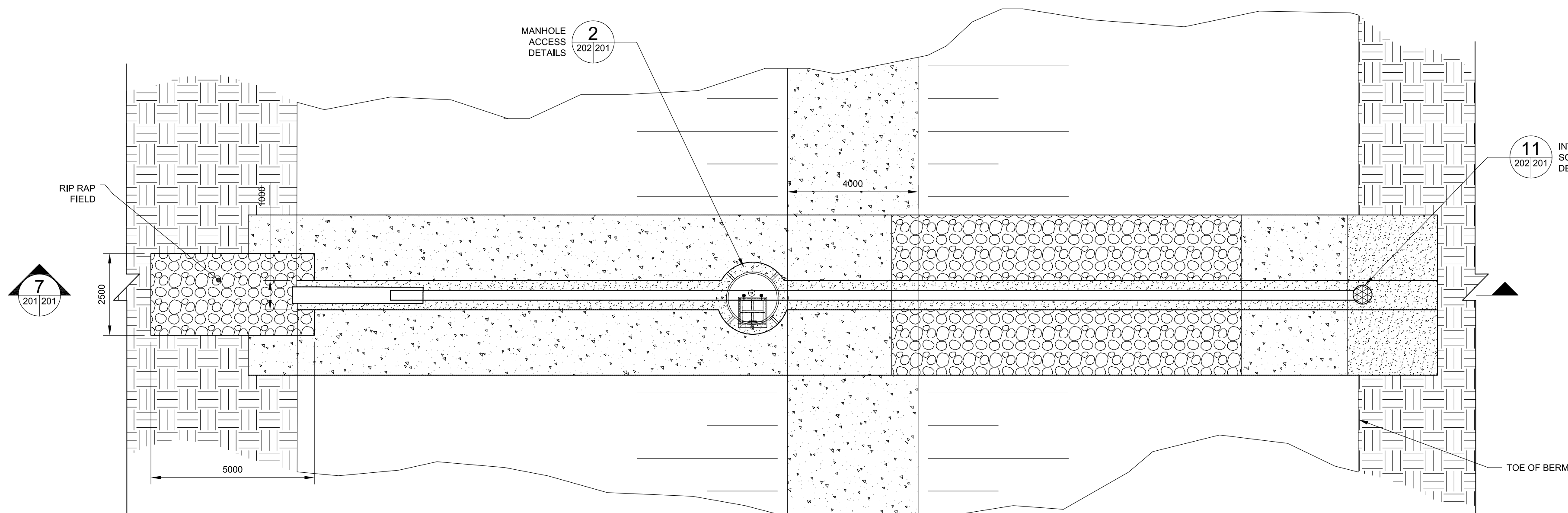


4 ANCHOR TRENCH DETAIL

201/201 SCALE N.T.S.

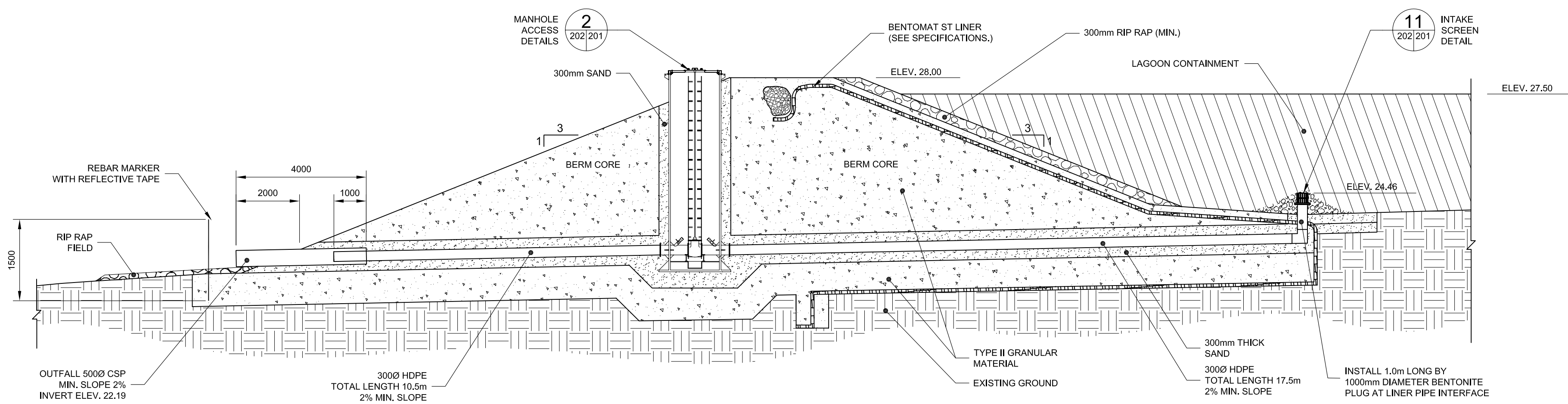
5 LINER EMBEDDING DETAIL

201/201 SCALE N.T.S.



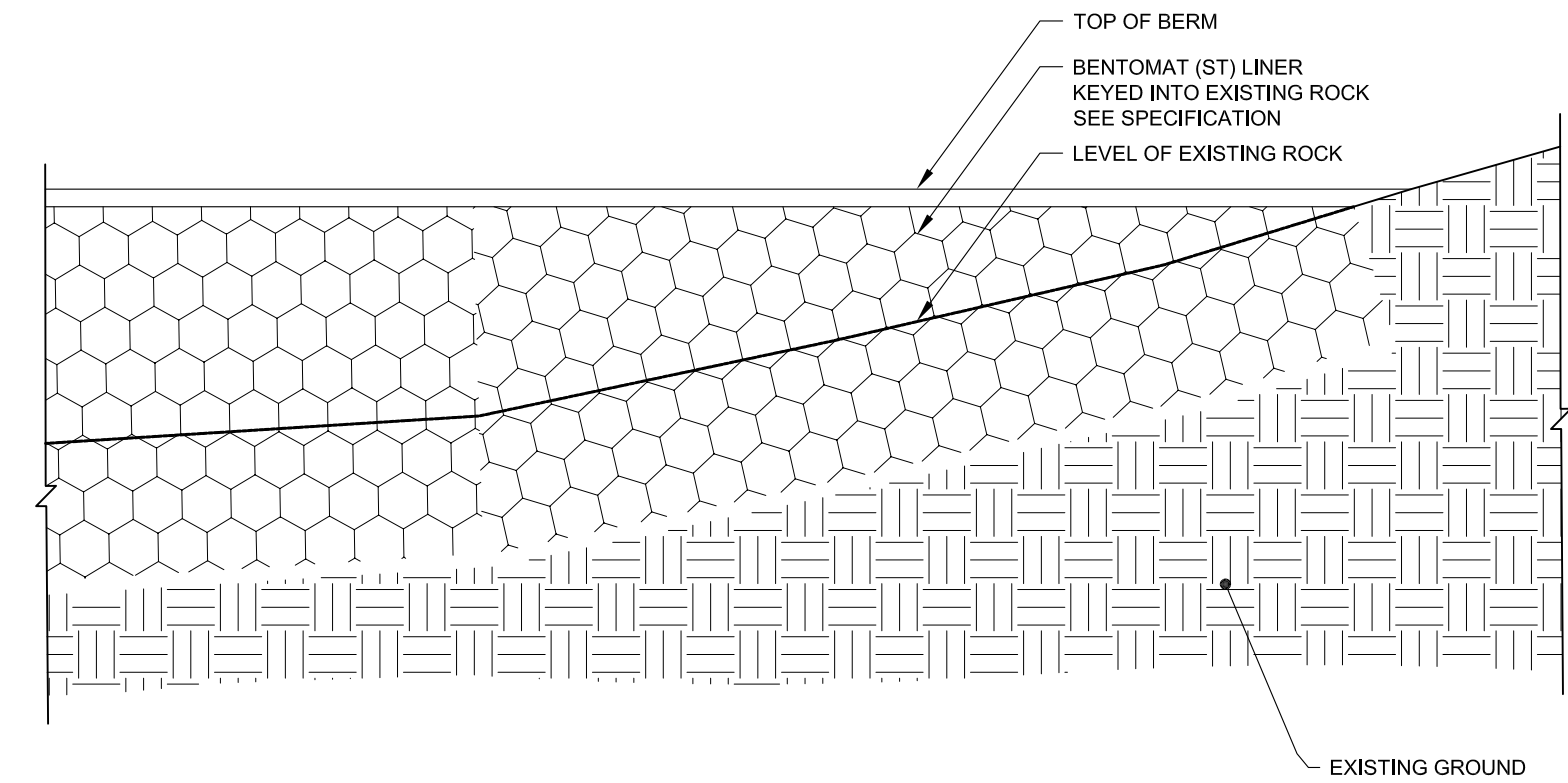
6 LAGOON DRAINAGE OUTFALL PLAN

201/201 SCALE 1:100



8 LAGOON DRAINAGE OUTFALL SECTION

201/201 SCALE 1:100



7 LINER EMBEDDING SECTION

201/201 SCALE 1:100

CHANGE	DATE	DESCRIPTION	CHECK
2	07/06/06	ISSUED FOR TENDER	GS
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REVISIONS

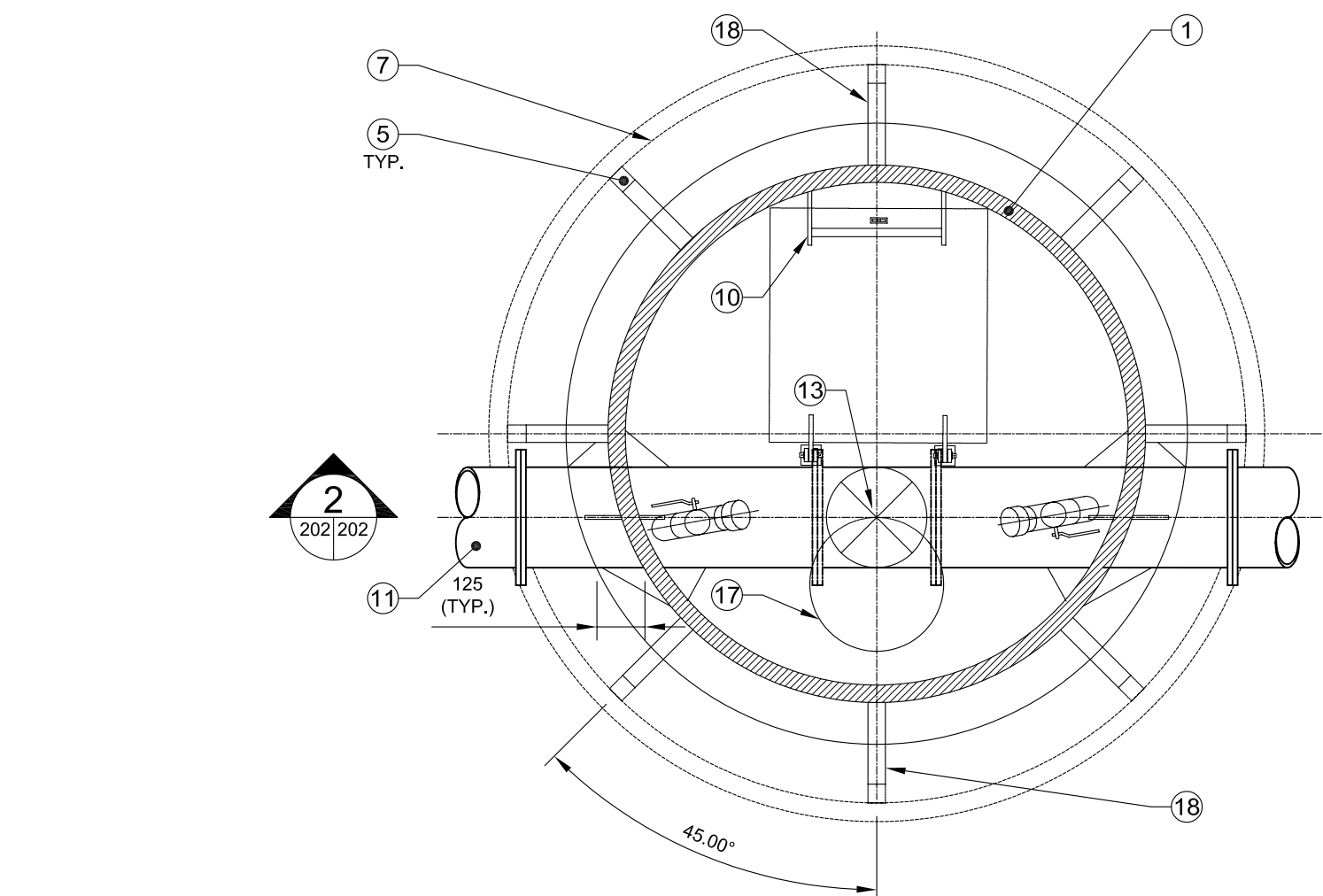
DESIGN	DRAWN	CHECKED	DATE
GS	41JGL	GS	MAY 2006



PROJECT
SEWAGE & SOLID WASTE FACILITY
KUGAARUK, NUNAVUT
SEWAGE & SOLID WASTE FACILITY
TITLE
BERM SECTIONS AND DETAILS

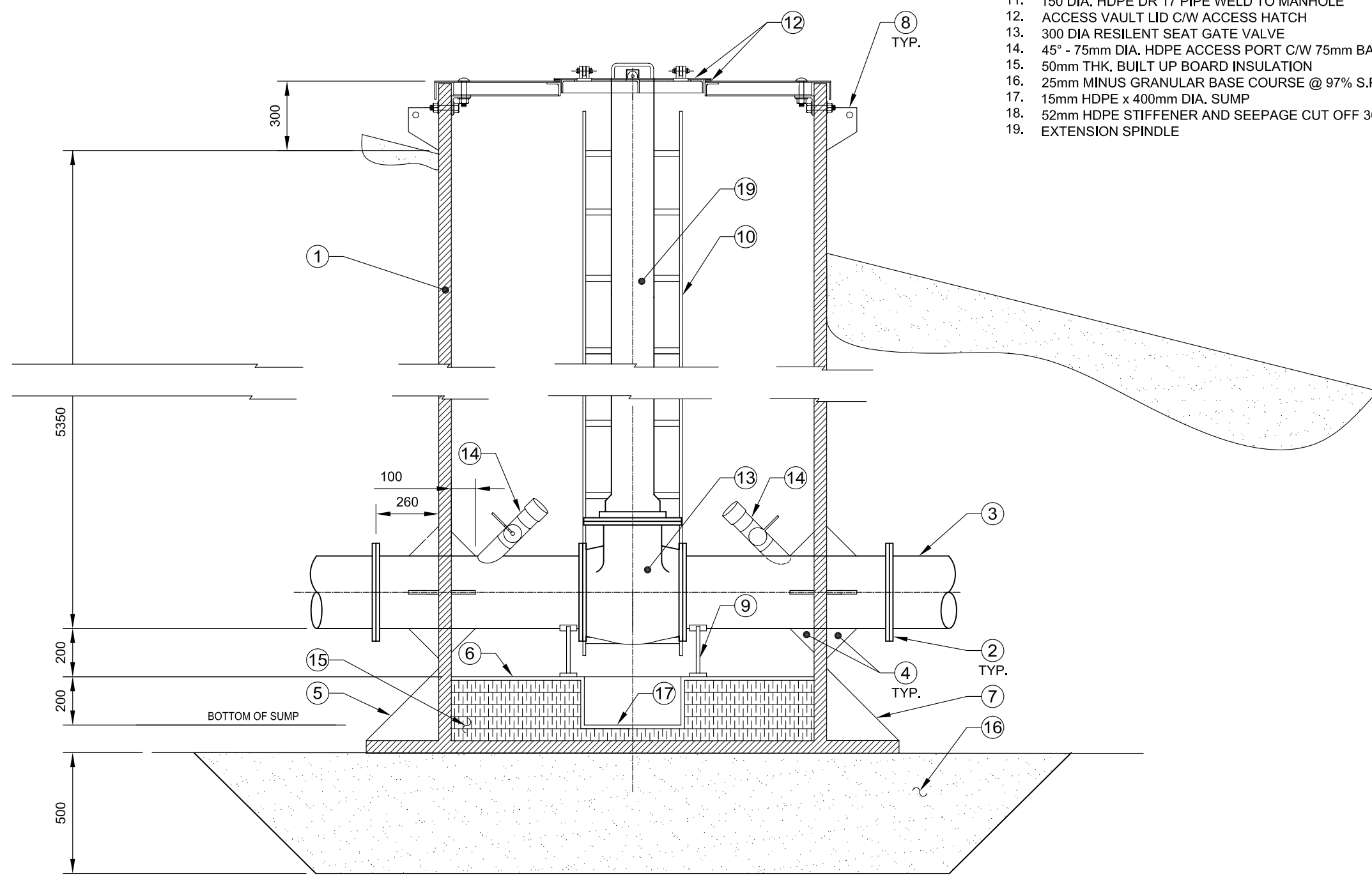
SCALE	AS SHOWN
DILLON PROJECT NUMBER	05-4755-3000
CLIENT PROJECT NUMBER	-
DRAWING NUMBER	201





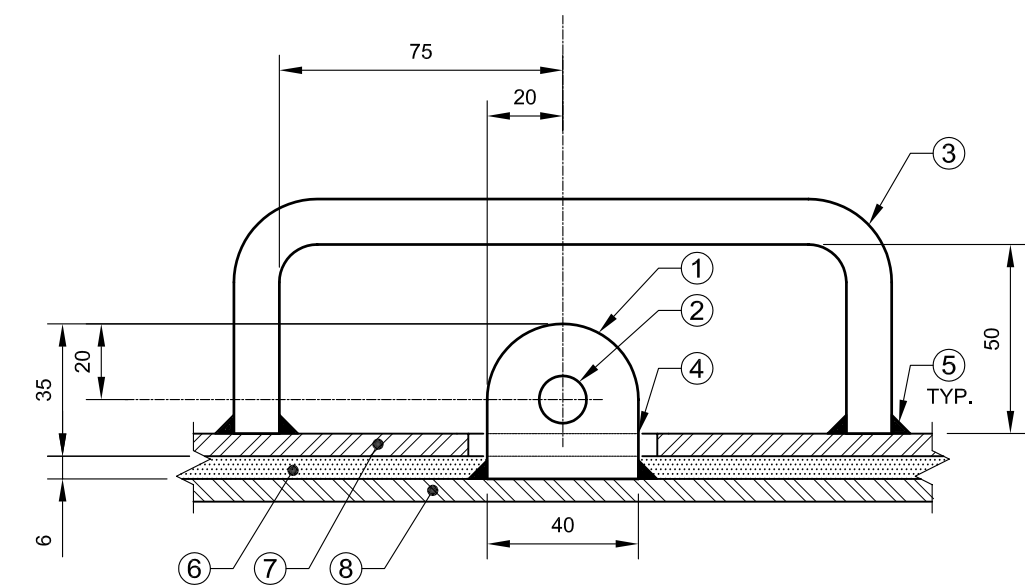
1 WATER SUPPLY LINE MANHOLE PLAN

202/202 SCALE 1:20



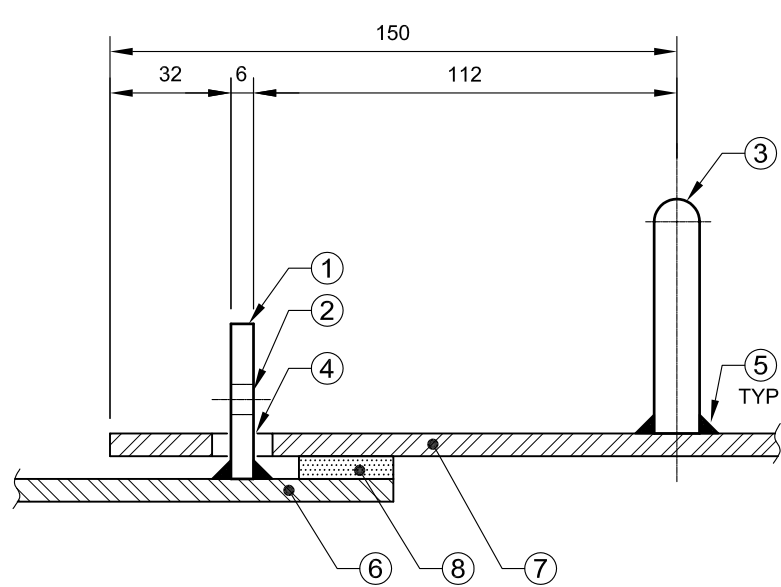
2 WATER SUPPLY LINE MANHOLE SECTION

202/202 SCALE 1:20



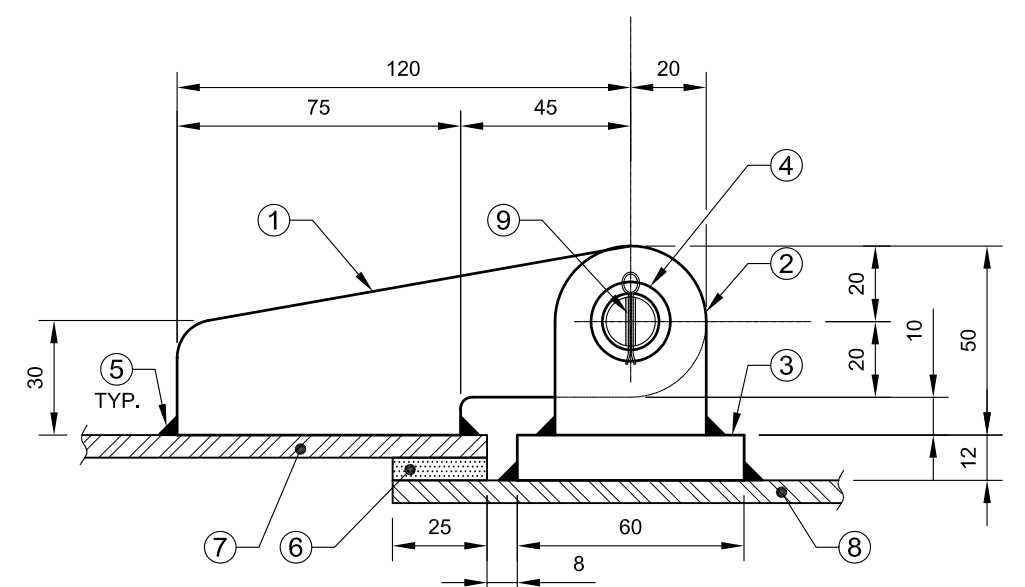
3 HASP AND LIFTING HANDLE DETAIL

202/202 SCALE 1:2



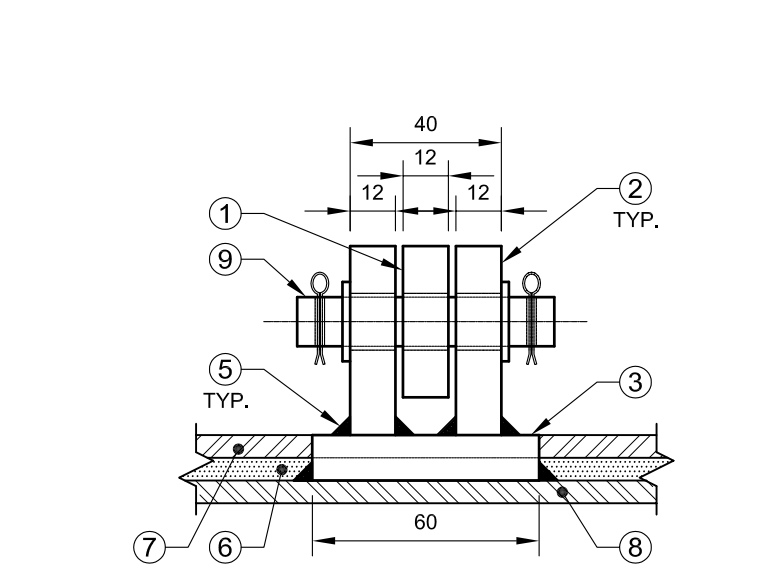
4 HASP AND LIFTING HANDLE SECTION

202/202 SCALE 1:2



5 MANHOLE ACCESS HATCH HINGE DETAIL

202/202 SCALE 1:2

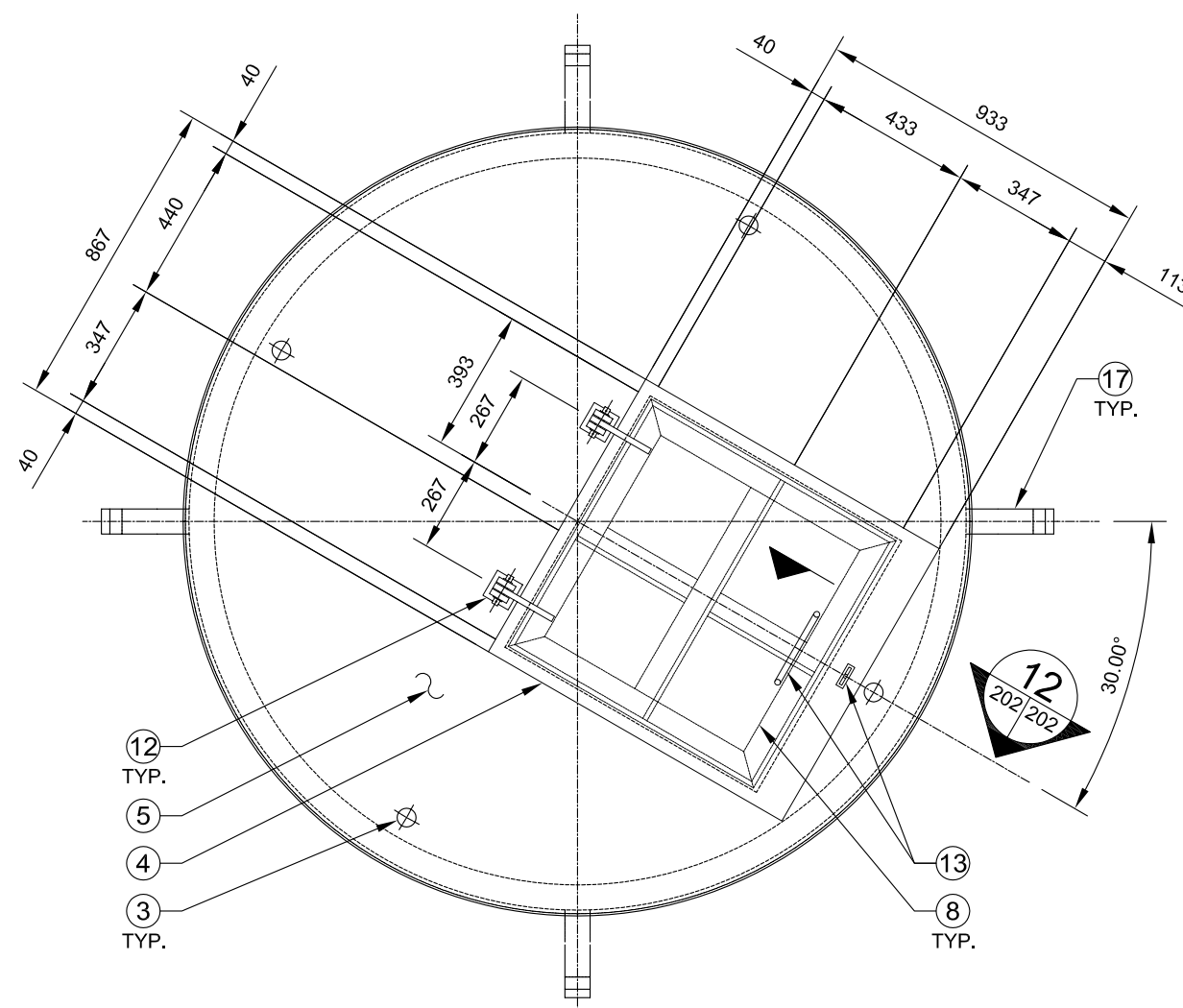


6 MANHOLE ACCESS HATCH HINGE SECTION

202/202 SCALE 1:2

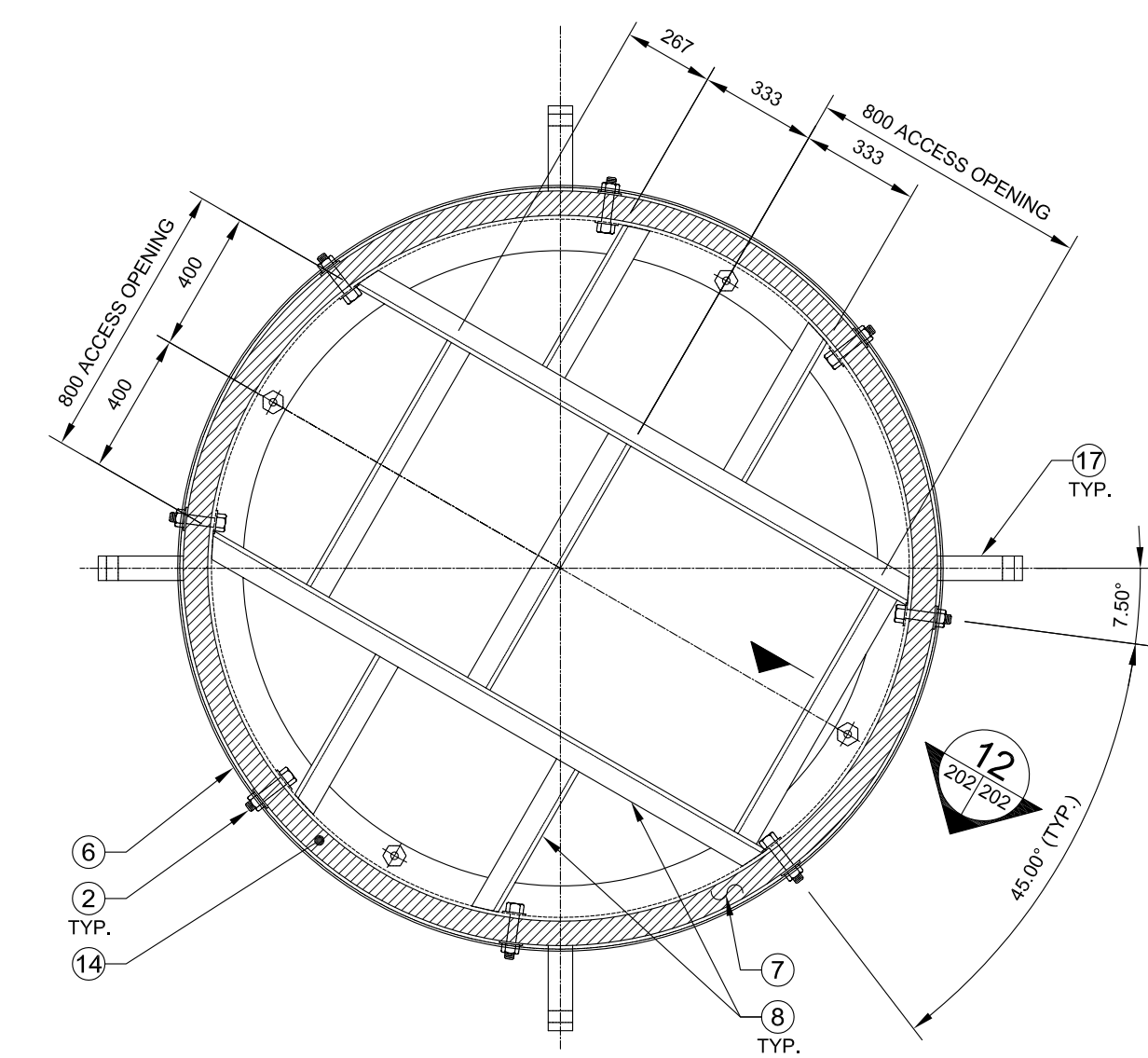
KEYNOTES:

- 1600mm DIA. HDPE PIPE DR 32.5
- FLANGE TO FLANGE CONNECTION
- 300 DIA. HDPE DR 17 PIPE FLANGED TO MANHOLE
- 15mm HDPE STIFFENER (TYP. OF 4)
- 52mm HDPE STIFFENER (TYP. OF 6)
- 15mm HDPE FLOOR (SLOPE FLOOR TO SUMP), WELD TO MANHOLE
- 52mm HDPE BASE, WELD TO MANHOLE
- 52mm HDPE LIFTING HOOK (TYP. OF 4)
- HUNT PIPE SUPPORT
- BUILT UP HDPE LADDER 400mm WIDE C/W RUNGS @ 300 O.C. FIX TO HDPE MANHOLE
- 150 DIA. HDPE DR 17 PIPE WELD TO MANHOLE
- ACCESS VAULT LID C/W ACCESS HATCH
- 300 DIA RESILIENT SEAT GATE VALVE
- 45° - 75mm DIA. HDPE ACCESS PORT C/W 75mm BALL VALVE AND CAP. INSTALL @ 10° SKEW FROM C
- 50mm THK. BUILT UP BOARD INSULATION
- 25mm MINUS GRANULAR BASE COURSE @ 97% S.P.D.
- 15mm HDPE x 400mm DIA. SUMP
- 52mm HDPE STIFFENER AND SEEPAGE CUT OFF 300mm X 1000mm HIGH (TYP. OF 6)
- EXTENSION SPINDLE



7 MANHOLE ACCESS HATCH FRAMING DETAIL

202/202 SCALE 1:20



8 MANHOLE LID FRAMING DETAIL

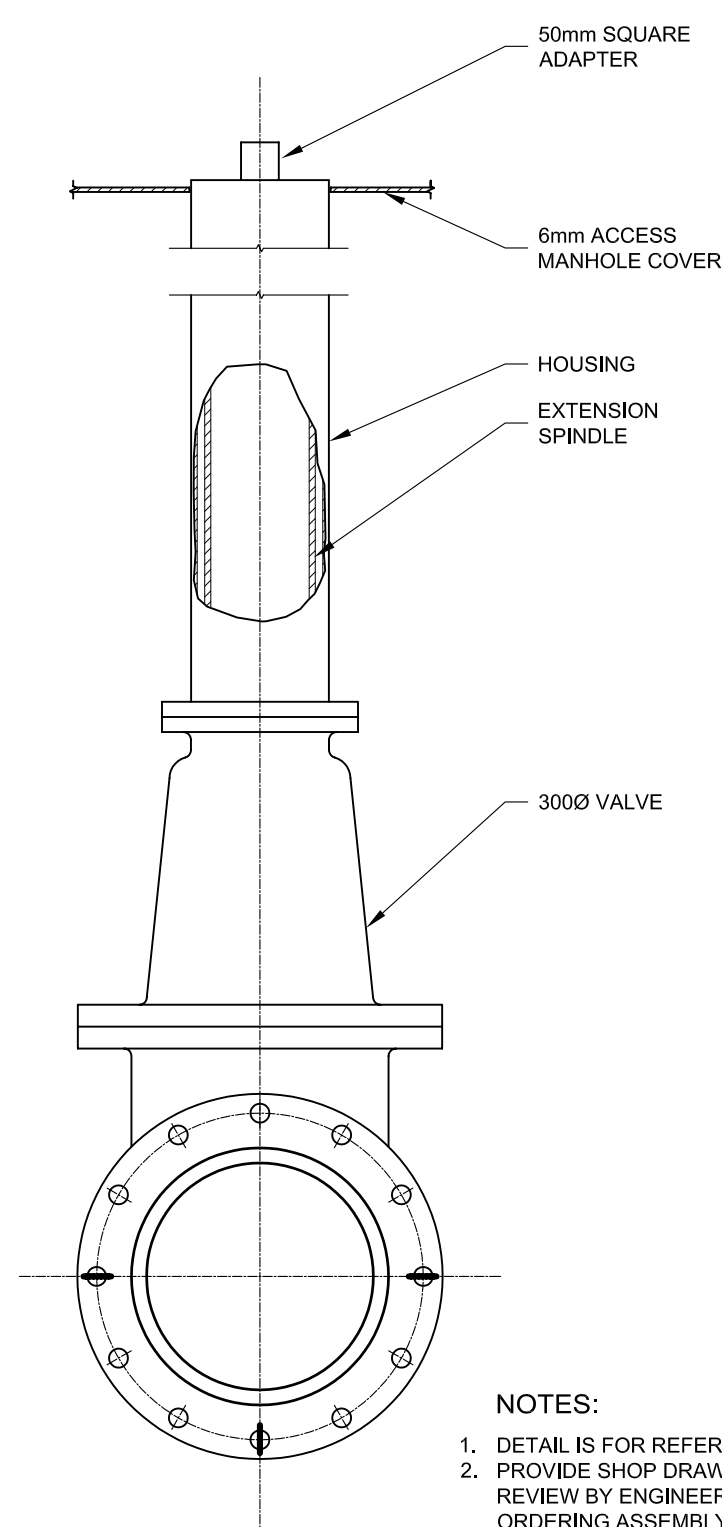
202/202 SCALE 1:20

NOTES:

- FOR ACCESS MANHOLE LID FRAMING PLANS 6mm THK. GALV. STEEL PLATE LID NOT SHOWN FOR CLARITY.
- ALL WELDS AND ABRASIONS TO BE REPAIRED WITH TWO COATES OF GALVCON.

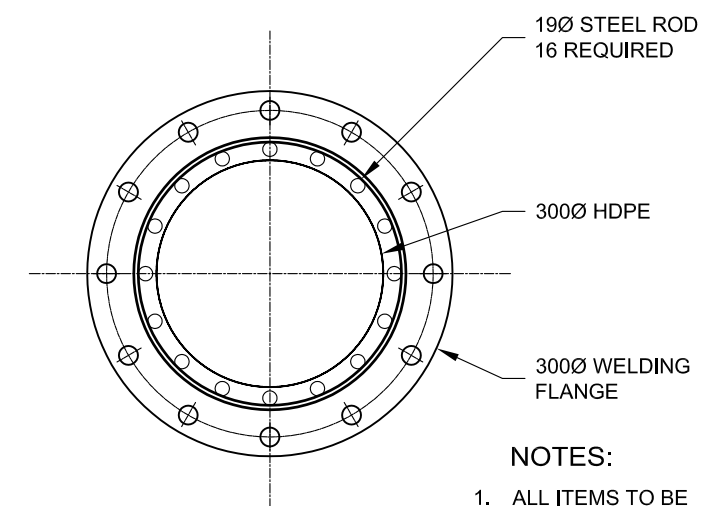
KEYNOTES:

- 1220mm DIA. HDPE DR 32.5 MANHOLE WALL
- 19mm DIA. GALV. NUT, BOLT & WASHER (8 REQ'D) SEE ACCESS MANHOLE LID FRAMING PLAN FOR ARRANGEMENT
- 19mm DIA. GALV. NUT, CARRIAGE BOLT & WASHER (4 REQ'D) SEE ACCESS HATCH FRAMING PLAN FOR ARRANGEMENT
- 6mm THK. GALV. STEEL PLATE ACCESS HATCH COVER
- 6mm THK. GALV. STEEL PLATE MANHOLE LID
- 6mm THK. x 75mm DEEP GALV. STEEL BAND, WELD TO LID
- 75x75x8 GALV. ROLLED ANGLE CONTINUOUS ALL AROUND AND BOLTED TO HDPE MANHOLE
- 55x55x8 GALV. ANGLE SEE LID FRAMING DETAIL 8
- 55x55x8 GALV. ANGLE SEE ACCESS HATCH FRAMING DETAIL 3
- 12.5mm DIA. RUBBER GASKET IN ROUTERED SLOT CONTINUOUS ALL AROUND WEATHER TIGHT
- 25mm WIDE x 6mm THK. RUBBER GASKET, MASTIC TO UNDERSIDE OF HATCH COVER (TYP. 4 SIDES)
- ACCESS HATCH COVER WING (TYP. OF 2 PER) SEE DETAIL 8 THIS DWG.
- ACCESS HATCH COVER HASP & LIFTING HANDLE SEE DETAIL 6 THIS DWG.
- 1600mm DIA. HDPE DR 32.5 MANHOLE WALL
- HDPE MANHOLE WALL
- HDPE LIFTING HOOK SEE FRAMING DETAIL FOR ARRANGEMENT
- 52mm HDPE LIFTING HOOK C/W 25mm DIA. HOLE (4 REQ'D)



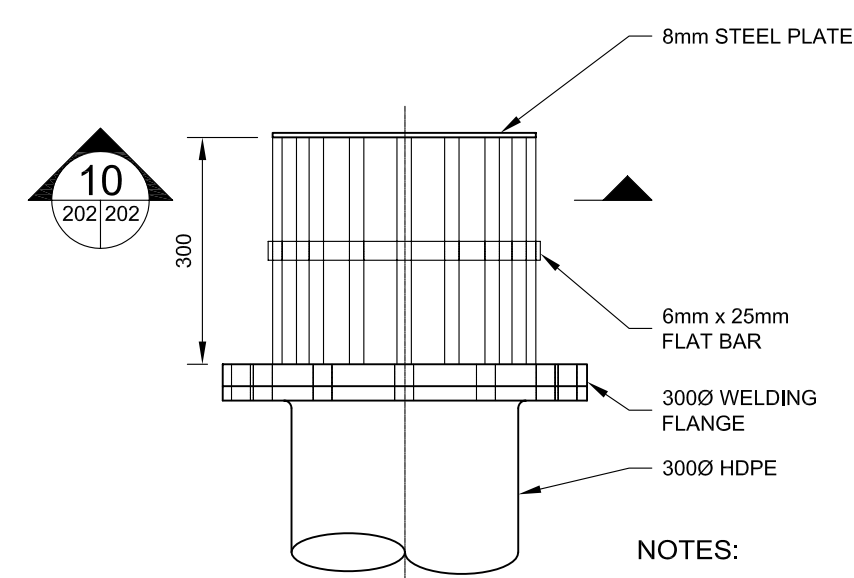
9 EXTENSION SPINDLE DETAIL

202/202 SCALE 1:10



10 INTAKE SCREEN SECTION

202/202 SCALE 1:10



11 INTAKE SCREEN DETAIL

202/202 SCALE 1:10

2	07/06/06	ISSUED FOR TENDER	GS
1	06/01/06	ISSUED FOR 95% REVIEW	GS
CHANGE	DATE	DESCRIPTION	CHECK

REVISIONS

DESIGN	DRAWN	CHECKED	DATE
GS	41JGL	GS	MAY 2006



PROJECT
SEWAGE & SOLID WASTE FACILITY
KUGAARUK, NUNAVUT

TITLE
MANHOLE DETAILS

	SCALE	AS SHOWN
	DILLON PROJECT NUMBER	05-4755-3000
	CLIENT PROJECT NUMBER	-
	DRAWING NUMBER	202