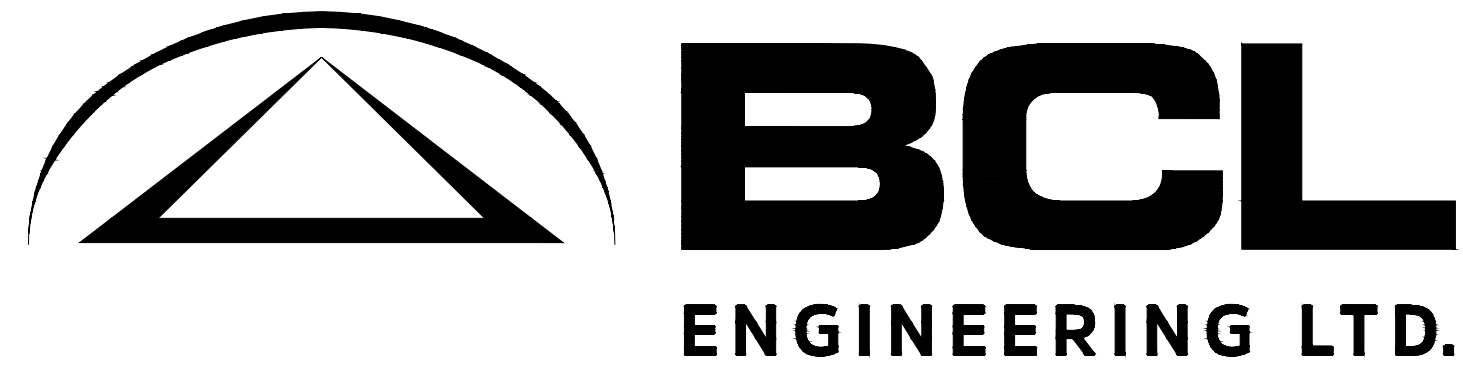


	Item	Unit	Unit Price / Breakdown	Quantity	Total Estimated Costs
<b>1.0</b>	<b>WASTE POND</b>				
<b>.01</b>	<b>Proposed Waste Pond</b>				
	<i>General Requirements incl. Mobilization and Site Setup</i>				\$ 100,000.00
	<b>Earthwork</b>				
	Clearing and Grubbing	ha	\$ 5,000.00	2.5	\$ 12,500.00
	Topsoil Stripping (incl. access road and FM routing)	Cu.M.	\$ 4.00	14,000	\$ 56,000.00
	Lagoon Subgrade Preparation	Sq.M.	\$ 3.00	16,000	\$ 48,000.00
	Common Excavation	Cu.M.	\$ 12.00	15,000	\$ 180,000.00
	Common Excavation to Waste	Cu.M.	\$ 10.00	1,500	\$ 15,000.00
	<b>HDPE Liner</b>				
	HDPE Liner	Sq.M.	\$ 12.00	15,000	\$ 180,000.00
	Sand Liner Cover	Cu.M.	\$ 20.00	4,500	\$ 90,000.00
	Weeping Tile Under Drains	Lin.M.	\$ 30.00	600	\$ 18,000.00
	<b>Erosion Protection</b>				
	Coconut Matting	Sq.M.	\$ 5.00	5,500	\$ 27,500.00
	Topsoil Replacement (incl. access road ditches)	Sq.M.	\$ 2.50	12,000	\$ 30,000.00
	Seeding (incl. access road ditches)	ha	\$ 3,500.00	1.5	\$ 5,250.00
	Rip Rap	Sq.M.	\$ 100.00	200	\$ 20,000.00
	<b>Structures</b>				
	Emergency Overflow Structure	Each	\$ 10,000.00	1	\$ 10,000.00
	Concrete Influent Pad	Each	\$ 10,000.00	1	\$ 10,000.00
	<b>Miscellaneous</b>				
	4-Strand Barbed Wire Fence & Gate	Lin.M.	\$ 30.00	700	\$ 21,000.00
	Warning Signage	Each	\$ 1,500.00	4	\$ 6,000.00
	Site Water Management	Lump Sum			\$ 75,000.00
	<b>SUBTOTAL 1.0 WASTE POND</b>				<b>\$ 904,250.00</b>
<b>2.0</b>	<b>CONCENTRATE FORCE MAIN</b>				
.01	75 mm HDPE Force Main	Lin.M.	\$ 140.00	190	\$ 26,600.00
.02	75 mm HDPE Bends	Each	\$ 500.00	3	\$ 1,500.00
.03	75 mm dia. Gate Valve	Each	\$ 2,500.00	2	\$ 5,000.00
	<b>SUBTOTAL 2.0 CONCENTRATE FORCE MAIN</b>				<b>\$ 33,100.00</b>
<b>3.0</b>	<b>ACCESS ROAD &amp; TRUCK TURNAROUND</b>				
.01	Fill Material (excavated from waste pond)	Cu.M.	\$ 20.00	1,000	\$ 20,000.00
.02	Subgrade Preparation	Sq.M.	\$ 2.50	1,700	\$ 4,250.00
.03	Geotextile	Sq.M.	\$ 8.00	1,700	\$ 13,600.00
.04	Base Course	Cu.M.	\$ 75.00	550	\$ 41,250.00
.05	Traffic Gravel	Cu.M.	\$ 100.00	145	\$ 14,500.00
.06	400 mm dia. CSP Culvert	Lin.M.	\$ 500.00	12	\$ 6,000.00
	<b>SUBTOTAL 3.0 ACCESS ROAD &amp; TRUCK TURNAROUND</b>				<b>\$ 99,600.00</b>
<b>4.0</b>	<b>CONCENTRATE PUMPING STATION</b>				
.01	Concentrate Pumping Station	Lump Sum			\$ 50,000.00
.02	Tie-in to Existing WTP Sump Line	Each	\$ 2,500.00	1	\$ 2,500.00
.03	Tie-in to Old WTP (Generator Building) Sump Drain Line	Each	\$ 2,500.00	1	\$ 2,500.00
	<b>SUBTOTAL 4.0 CONCENTRATE PUMPING STATION</b>				<b>\$ 55,000.00</b>
<b>5.0</b>	<b>MISCELLANEOUS</b>				
.01	Unstable Subgrade	Cu.M.	\$ 50.00	100	\$ 5,000.00
.02	Boulder Removal	Cu.M.	\$ 50.00	100	\$ 5,000.00
.03	Tools & Equipment	Prime Sum			\$ 5,000.00
.04	Material Testing	Prime Sum			\$ 15,000.00
.05	Site Security	Prime Sum			\$ 25,000.00
	<b>SUBTOTAL 5.0 MISCELLANEOUS</b>				<b>\$ 55,000.00</b>
<b>1.0</b>	<b>WASTE POND</b>				<b>\$ 904,250.00</b>
<b>2.0</b>	<b>CONCENTRATE FORCE MAIN</b>				<b>\$ 33,100.00</b>
<b>3.0</b>	<b>ACCESS ROAD &amp; TRUCK TURNAROUND</b>				<b>\$ 99,600.00</b>
<b>4.0</b>	<b>CONCENTRATE PUMPING STATION</b>				<b>\$ 55,000.00</b>
<b>5.0</b>	<b>MISCELLANEOUS</b>				<b>\$ 55,000.00</b>
	<b>TOTAL ESTIMATED CONSTRUCTION COSTS</b>				<b>\$ 1,146,950.00</b>



# THUNDERCHILD FIRST NATION

## TURTLE LAKE SITE 115C WTP PROCESS WASTE POND

ISC PROJECT No. AT507

### DRAWING INDEX

#### PROCESS WASTE POND

- 01 KEY PLAN
- 02 LOCATION PLAN
- 03 SITE PLAN
- 04 GRADING PLAN
- 05 DETAILS & SECTIONS

#### CONCENTRATE PUMPING STATION AND FORCE MAIN

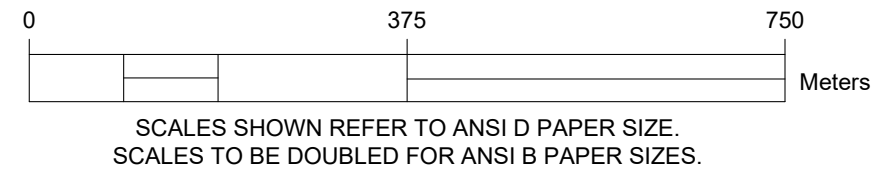
- 06 SITE PLAN
- 07 MECHANICAL SECTIONS
- 08 PLAN & PROFILE - CONCENTRATE FORCE MAIN
- 09 ELECTRICAL



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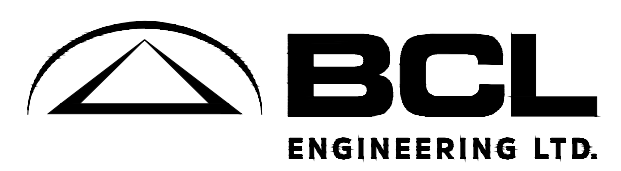
ASSOCIATION OF PROFESSIONAL ENGINEERS  
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**BCL ENGINEERING LTD.**  
NUMBER C0312  
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SCALES SHOWN REFER TO ANSI D PAPER SIZE.  
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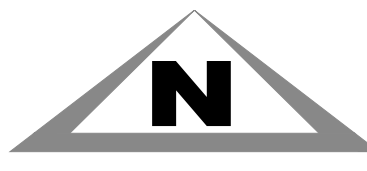
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A	ISSUED FOR 50% DESIGN REVIEW	2022/07/29	M.B.F.	



JOB No. 198.12  
DATE: 2022/07/29  
DRAWN: J.L.K.  
CHECKED: L.F.L.  
DESIGNED: M.B.F.

**THUNDERCHILD FIRST NATION**  
**TURTLE LAKE SITE 115C  
WTP PROCESS WASTE POND  
KEY PLAN**

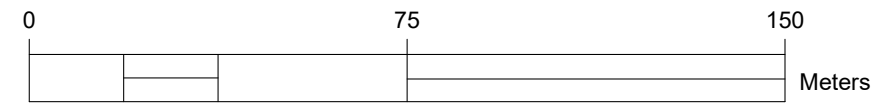
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REV. No. **A**  
PROJECT No. **AT507**  
SHEET: **01** OF --



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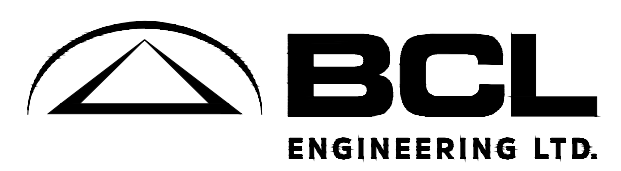
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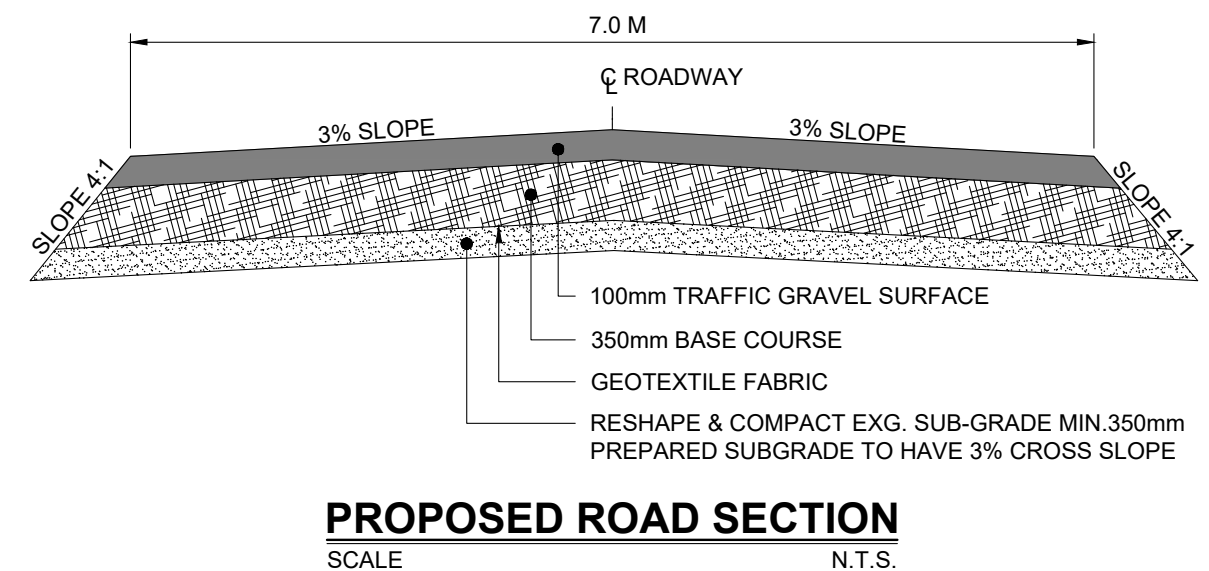
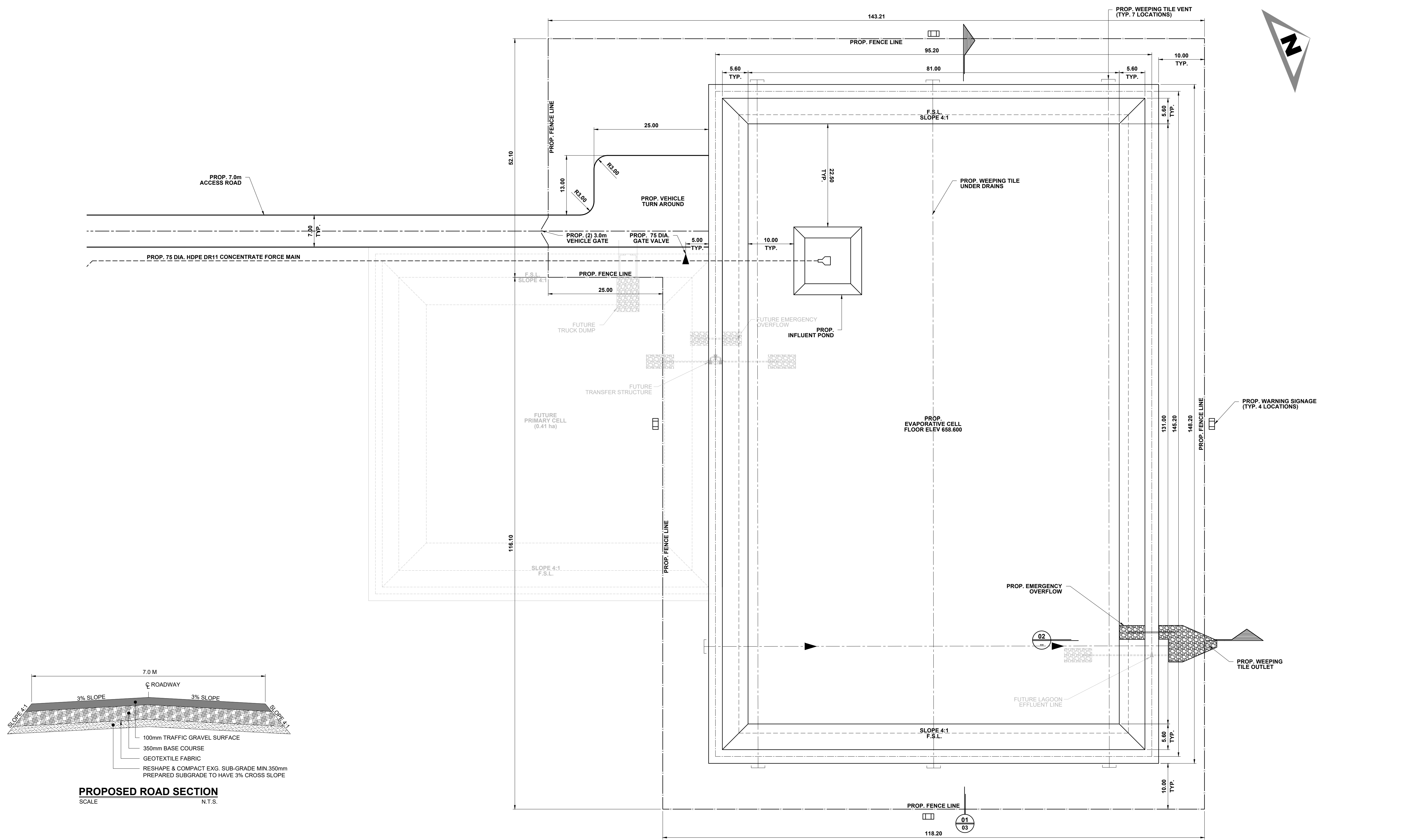
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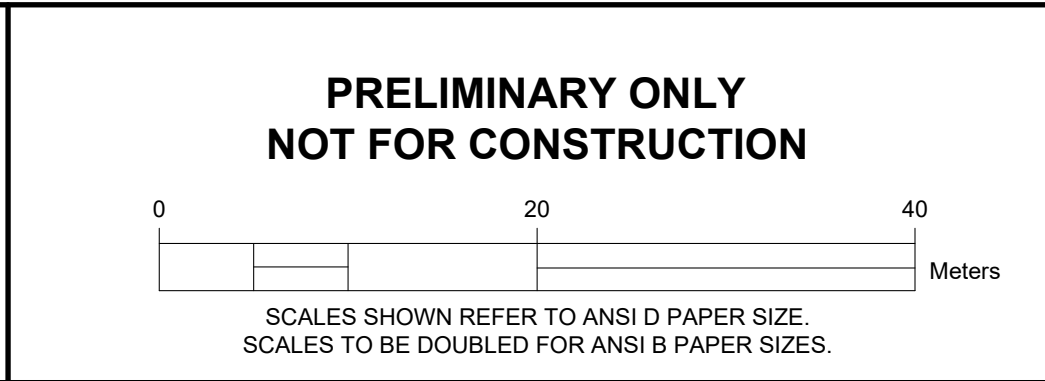


JOB No. 198.12		<b>THUNDERCHILD FIRST NATION</b>	
DATE: 2022/07/29	TURTLE LAKE SITE 115C WTP PROCESS WASTE POND LOCATION PLAN		
DRAWN: J.L.K.			
CHECKED: L.F.L.			
DESIGNED: M.B.F.	SCALE: 1:1500	REV. No. <b>A</b>	PROJECT No. <b>AT507</b>
			SHEET: <b>02</b> OF --

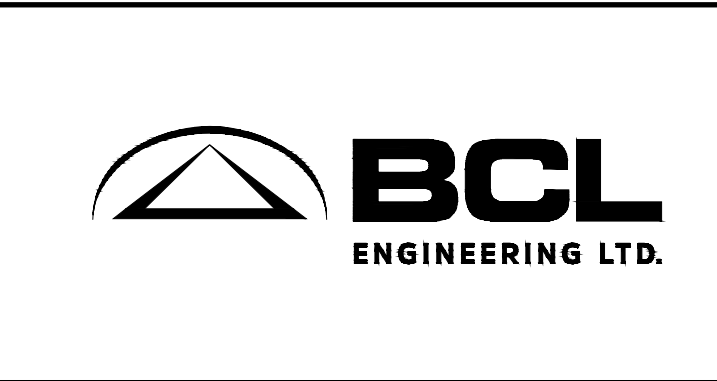
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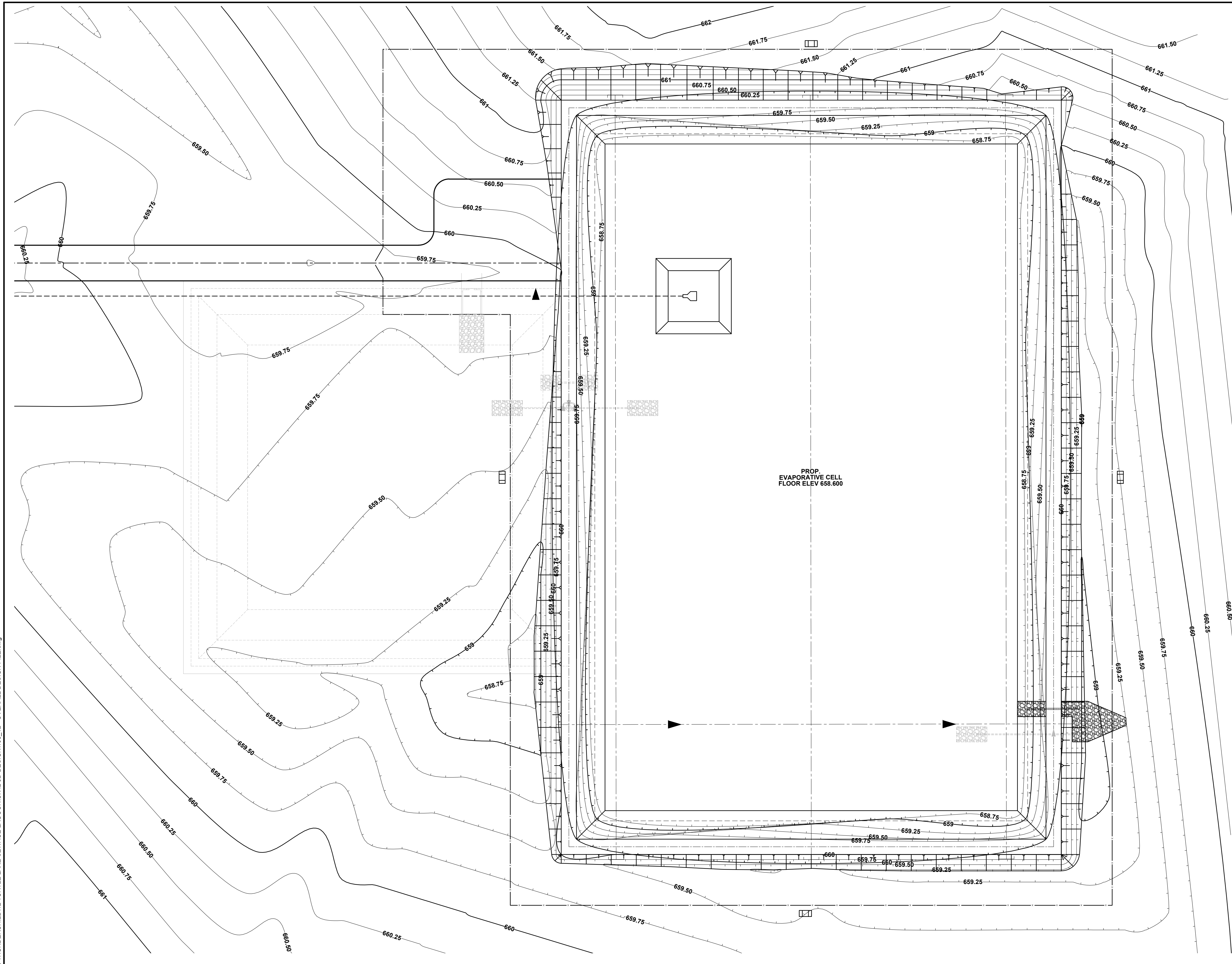


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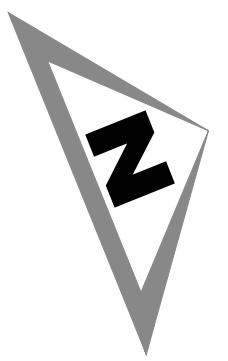


JOB No. 198.12  
DATE: 2022/07/29  
DRAWN: J.L.K.  
CHECKED: L.F.L.  
DESIGNED: M.B.F.

**THUNDERCHILD FIRST NATION**  
**TURTLE LAKE SITE 115C  
WTP PROCESS WASTE POND  
SITE PLAN**  
SCALE: 1:400  
REV. No. **A**  
PROJECT No. **AT507**  
SHEET: **03** OF --



PROP.  
EVAPORATIVE CELL  
FLOOR ELEV 658.600



CELL DESCRIPTION	TOP OF BERM	F.S.L.	FLOOR ELEV.	STORAGE VOL.
PROPOSED EVAPORATION CELL	660.000	659.100	658.600	5,520m <sup>3</sup>

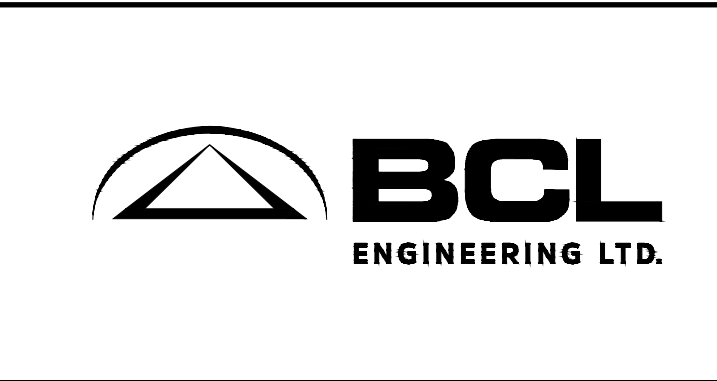
NOTE:  
1. TOP OF BERM WIDTHS TO BE 3.0m WITH MAXIMUM 4:1 SIDE SLOPES.

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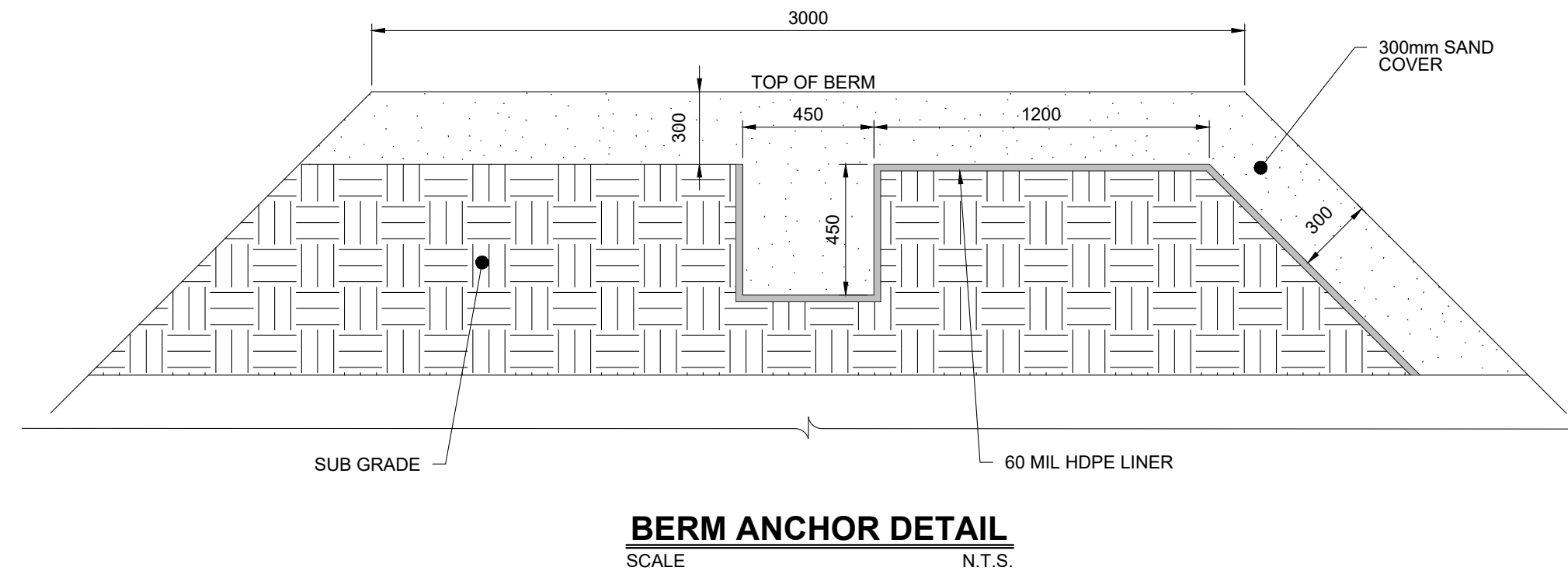
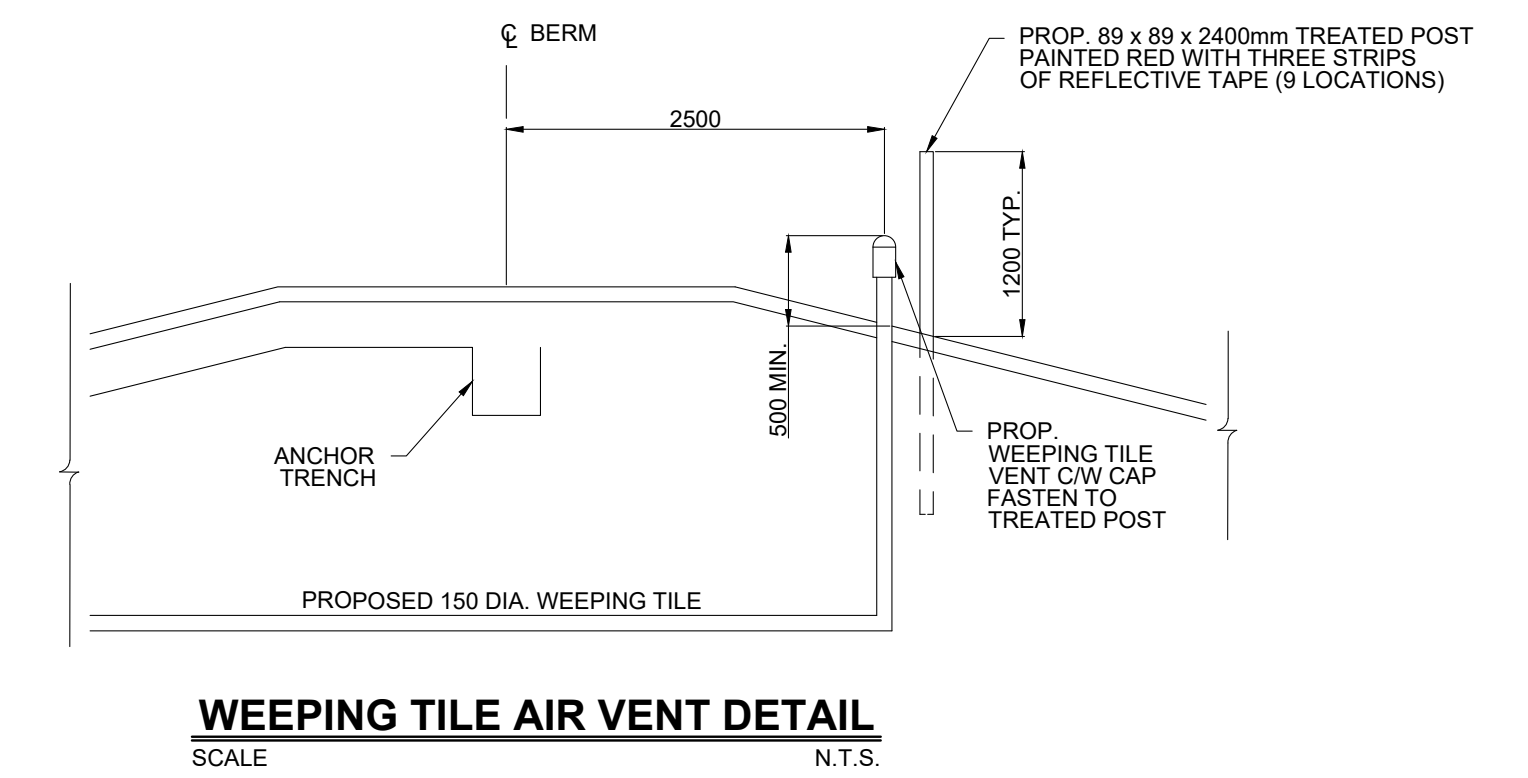
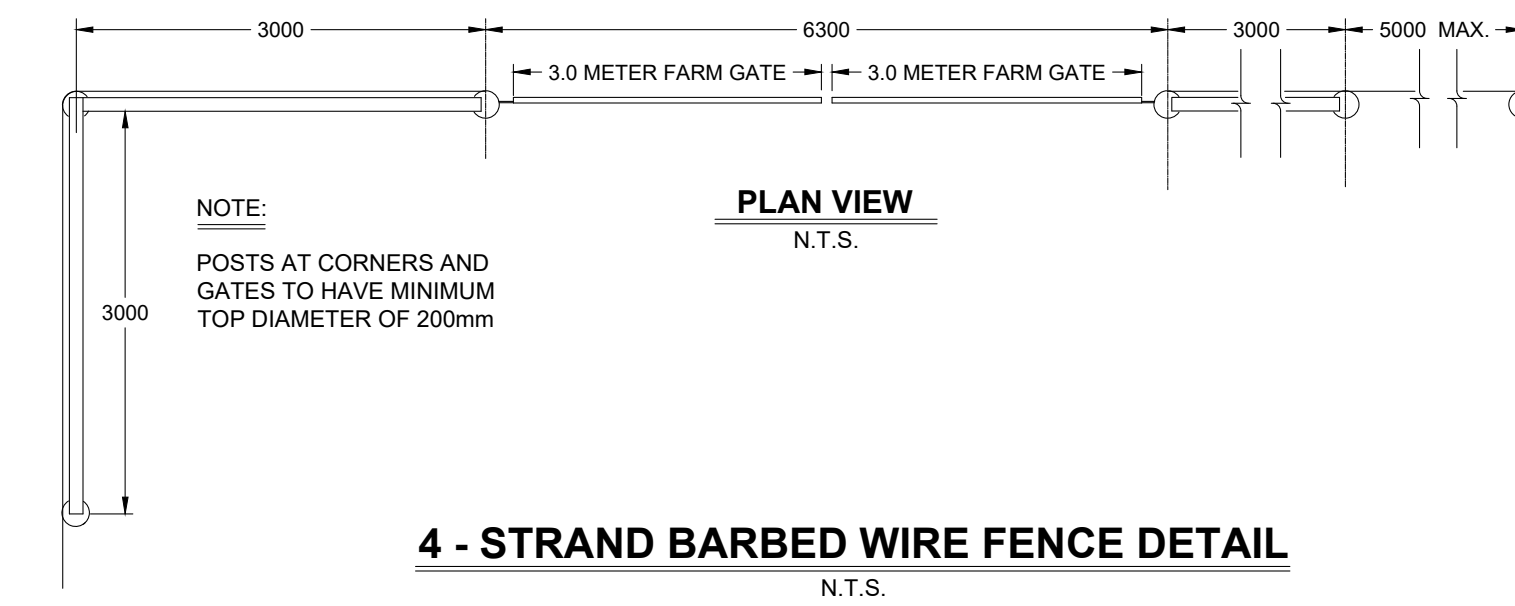
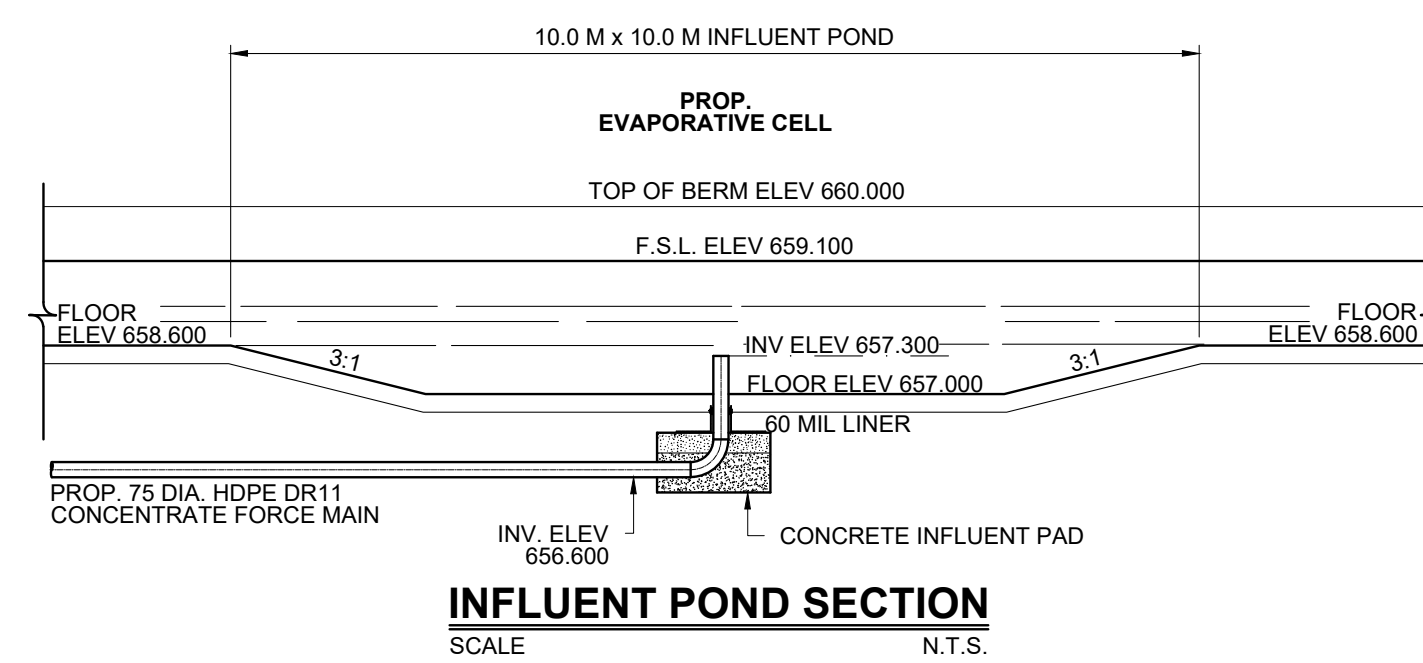
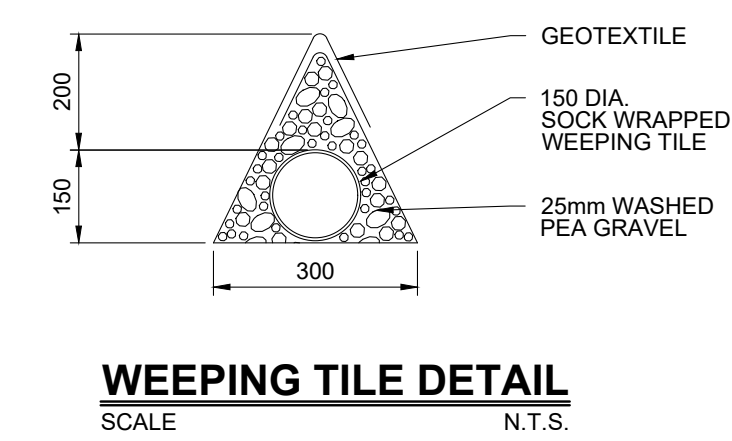
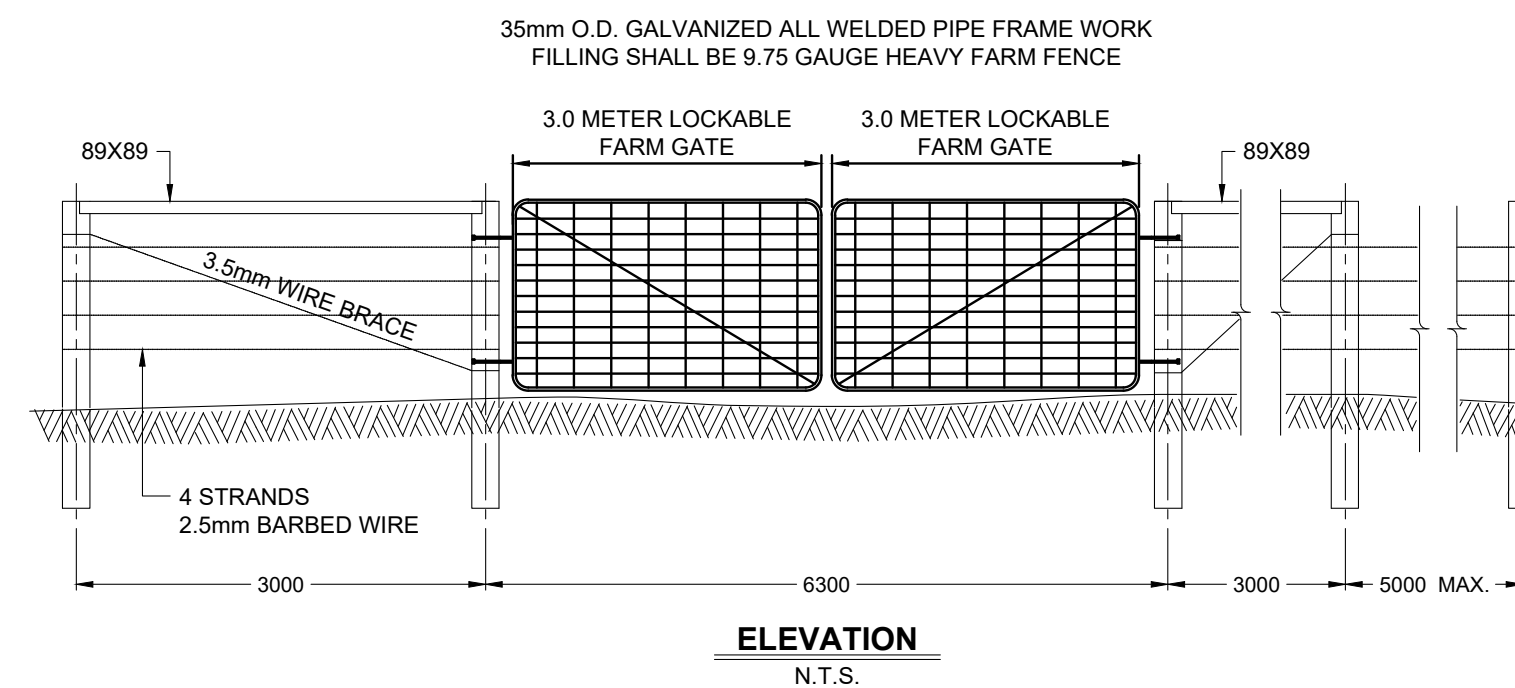
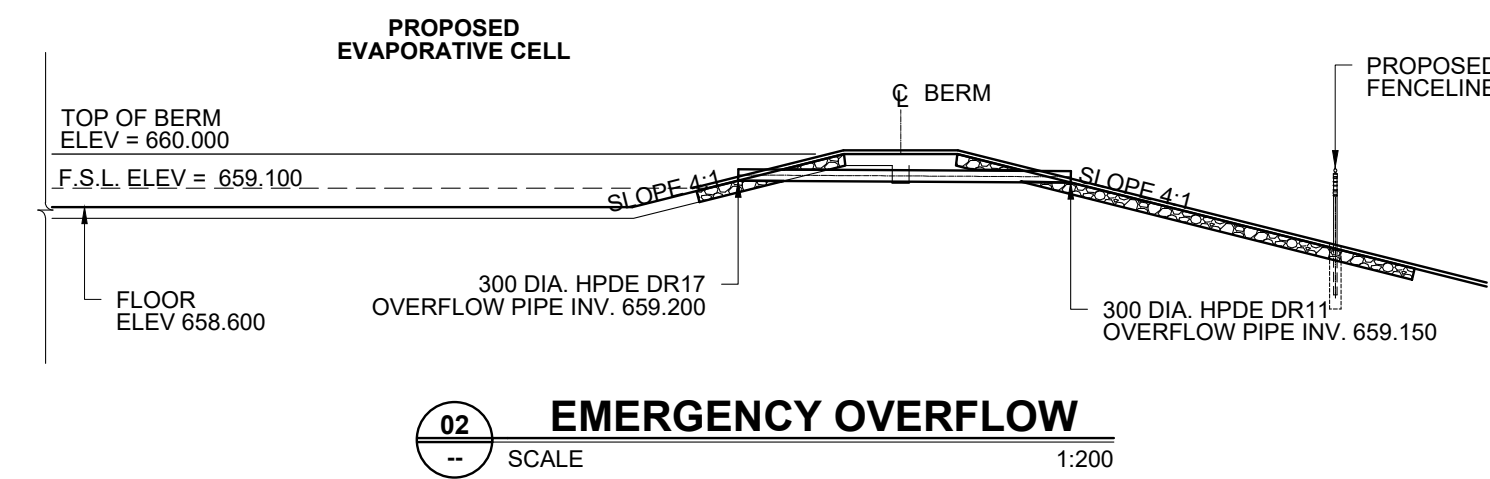
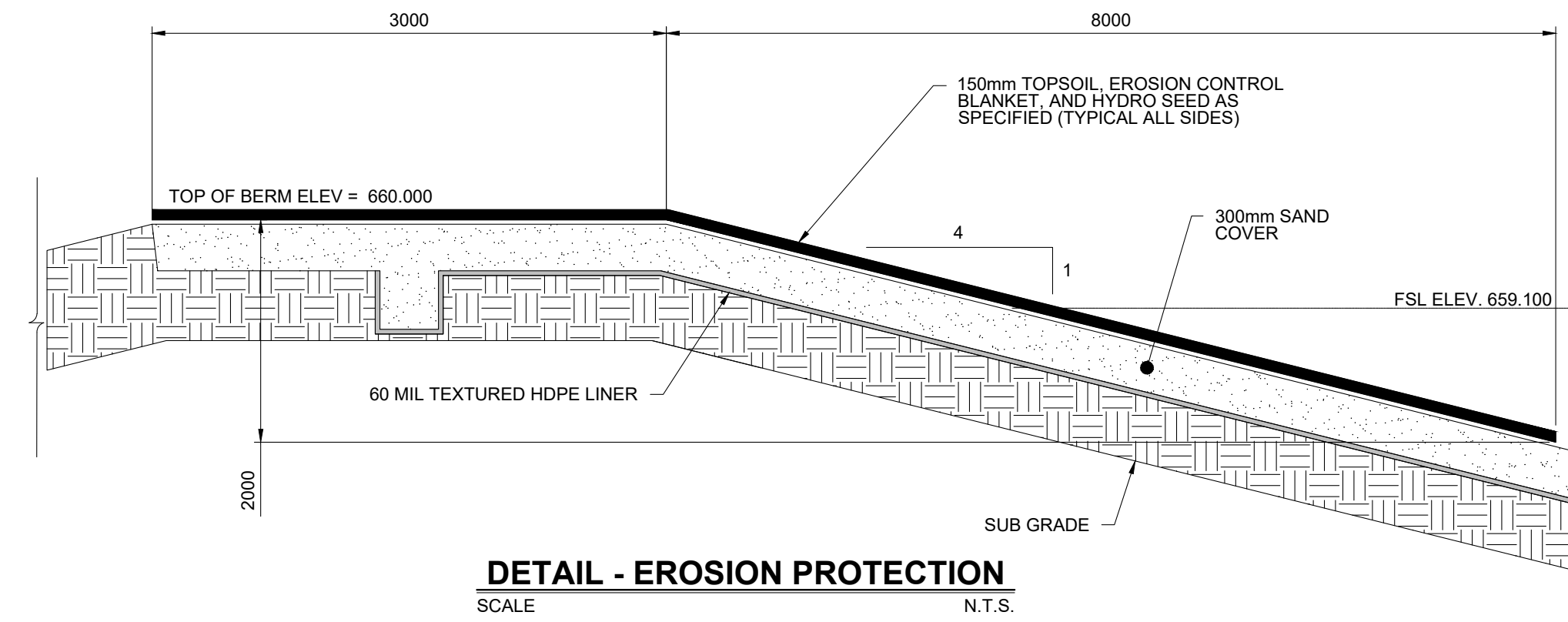
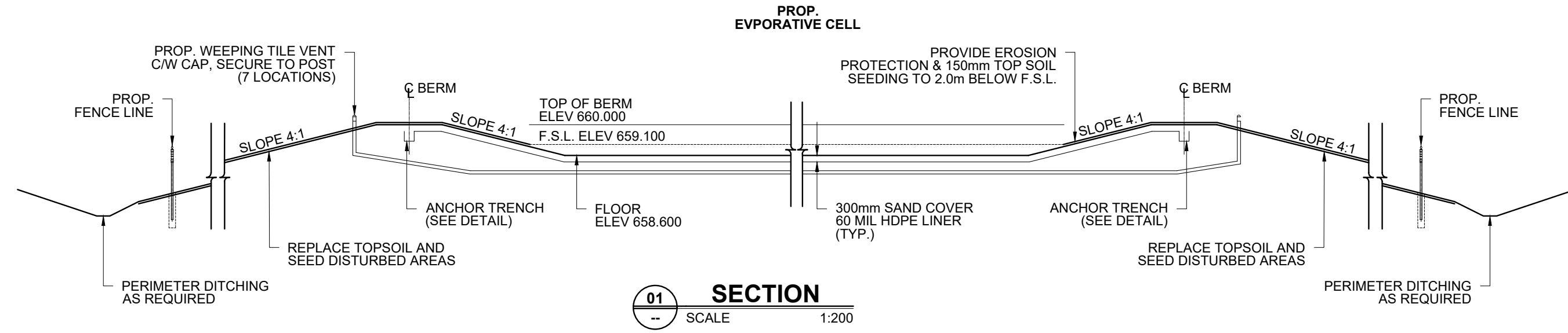
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No.	REVISION	DATE	BY	STAMP
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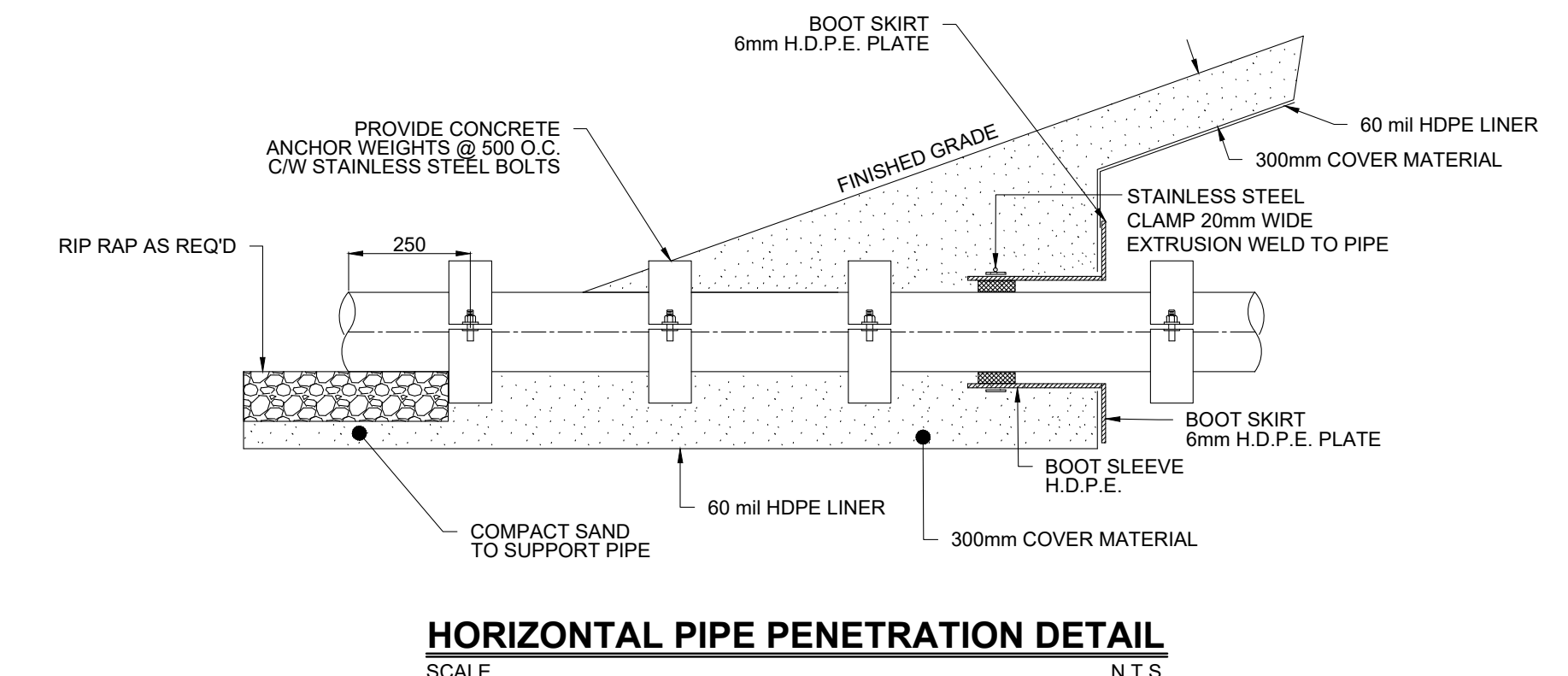
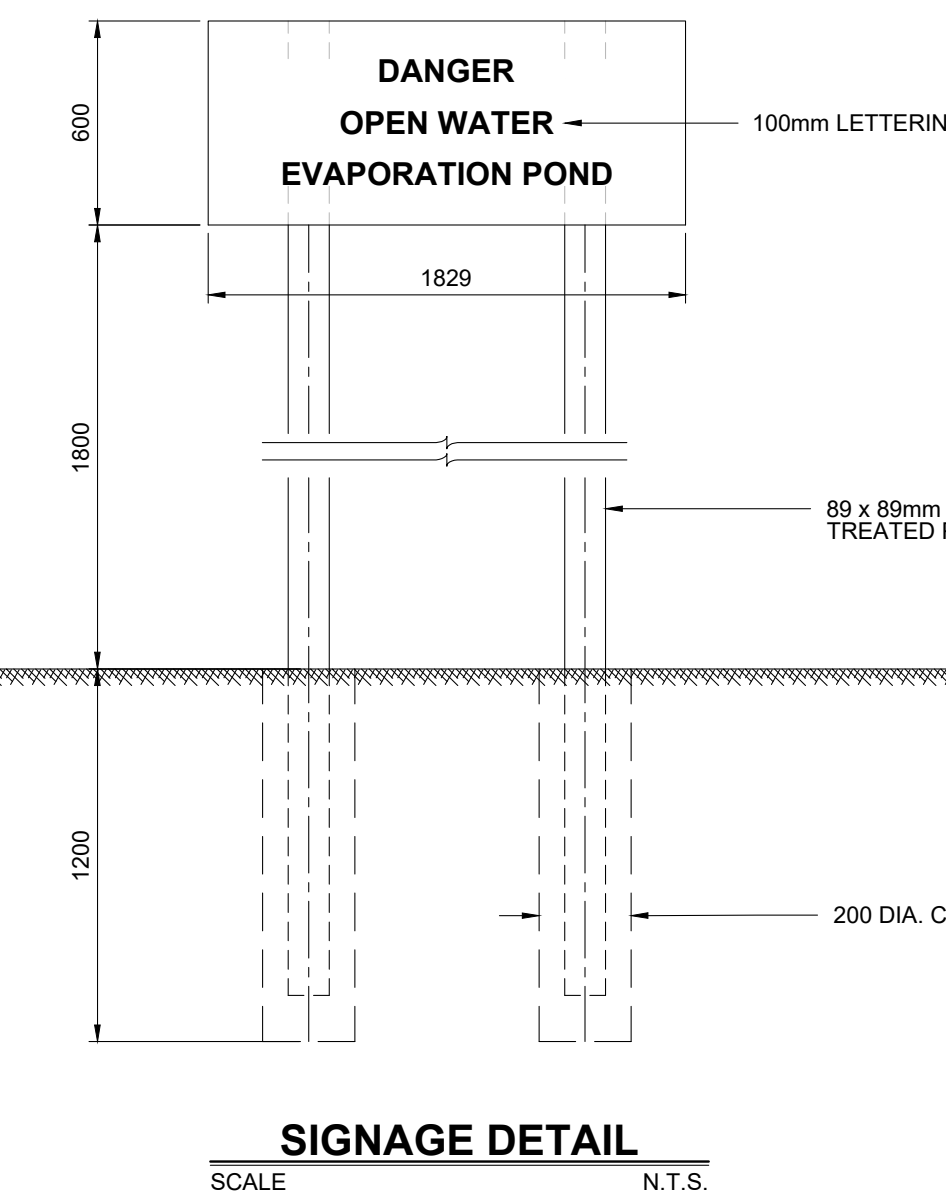


JOB No. 198.12	<b>THUNDERCHILD FIRST NATION</b>			
DATE 2022/07/29	<b>TURTLE LAKE SITE 115C WTP PROCESS WASTE POND GRADING PLAN</b>			
DRAWN: J.L.K.				
CHECKED: L.F.L.				
DESIGNED: M.B.F.	SCALE: 1:400	REV. No. <b>A</b>	PROJECT No. <b>AT507</b>	SHEET: <b>04</b> OF --

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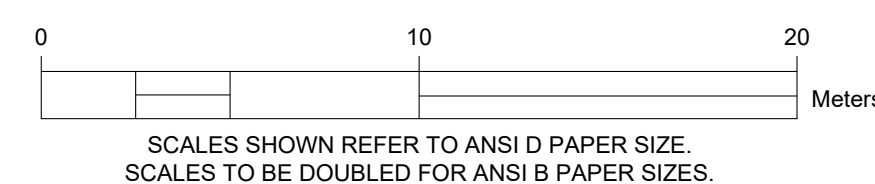
**4 - STRAND BARBED WIRE FENCE DETAIL**  
N.T.S.



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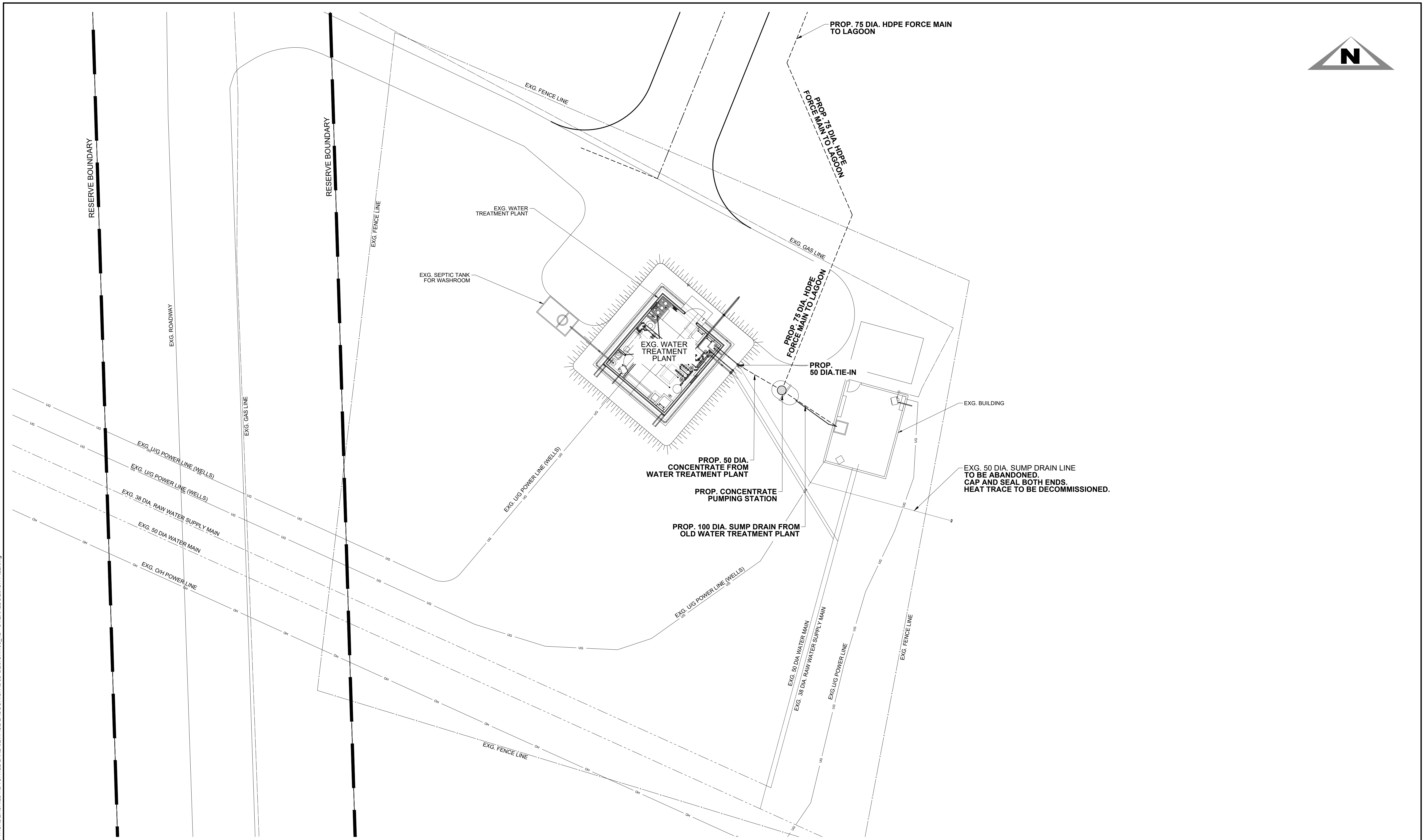
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JOB No. 198.12	<b>THUNDERCHILD FIRST NATION</b>			
DATE: 2022/07/29	<b>TURTLE LAKE SITE 115C WTP PROCESS WASTE POND DETAILS &amp; SECTIONS</b>			
DRAWN: J.L.K.	SCALE: AS SHOWN	REV. No. A	PROJECT No. AT507	SHEET: 05 OF --
CHECKED: L.F.L.				
DESIGNED: M.B.F.				



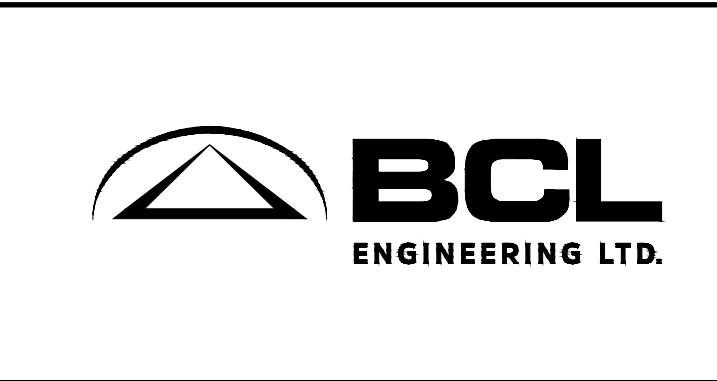
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SCALES TO BE DOUBLED FOR ANSI B PAPER SIZES.

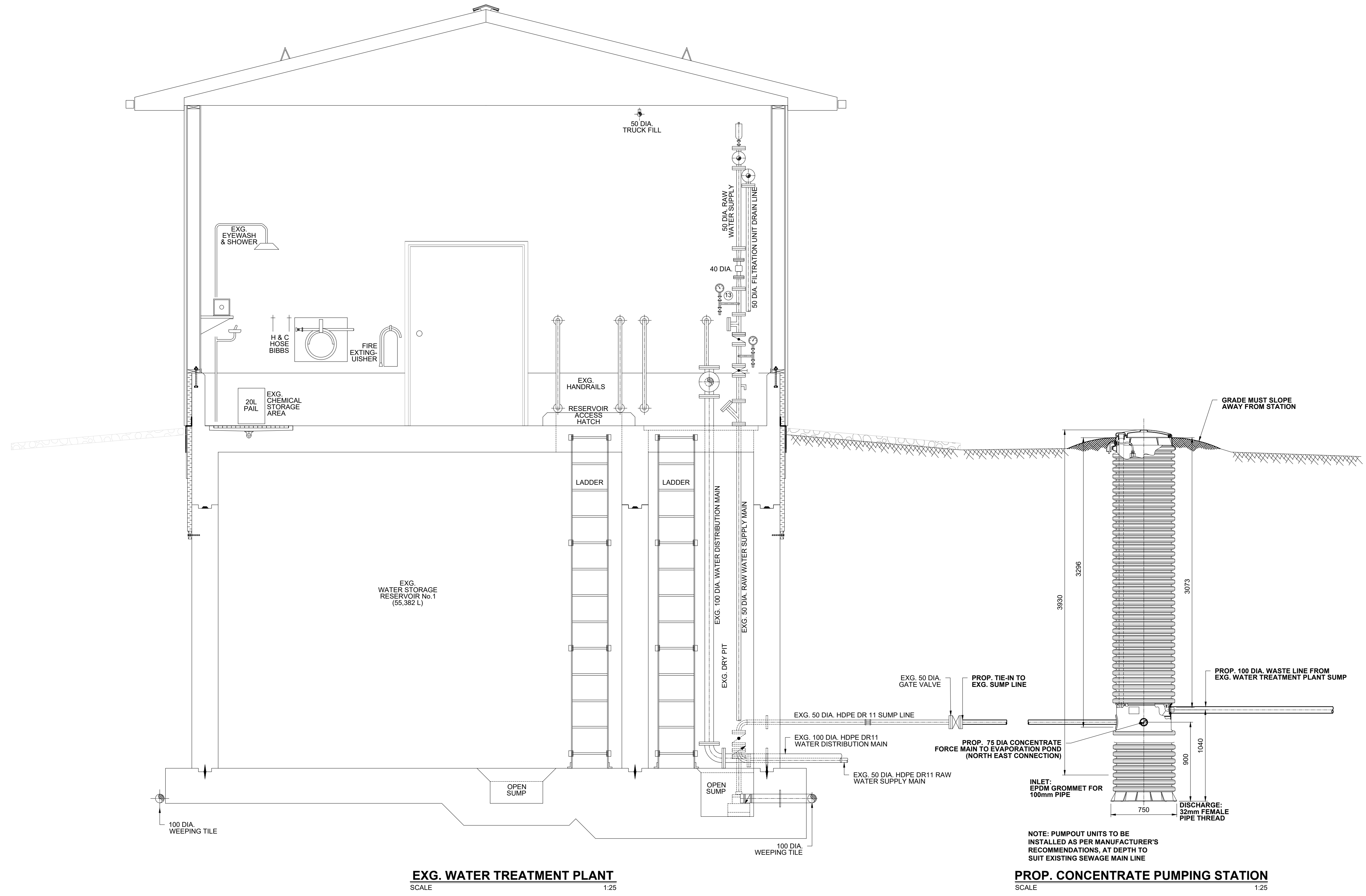
No.	REVISION	DATE	BY	STAMP
A	ISSUED FOR 50% DESIGN REVIEW	2022/07/29	M.B.F.	



JOB No.	198.12	<b>THUNDERCHILD FIRST NATION</b>	
DATE:	2022/07/29	<b>TURTLE LAKE SITE 115C WTP PROCESS WASTE POND CONCENTRATE PUMPING STATION SITE PLAN</b>	
DRAWN:	J.L.K.	SCALE:	1:150
CHECKED:	L.F.L.	REV. No.	<b>A</b>
DESIGNED:	M.B.F.	PROJECT No.	<b>AT507</b>
SHEET:		<b>06 OF --</b>	

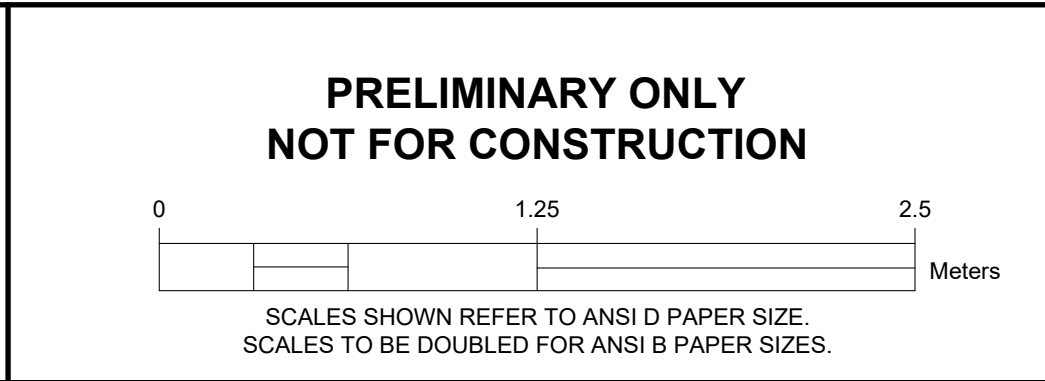


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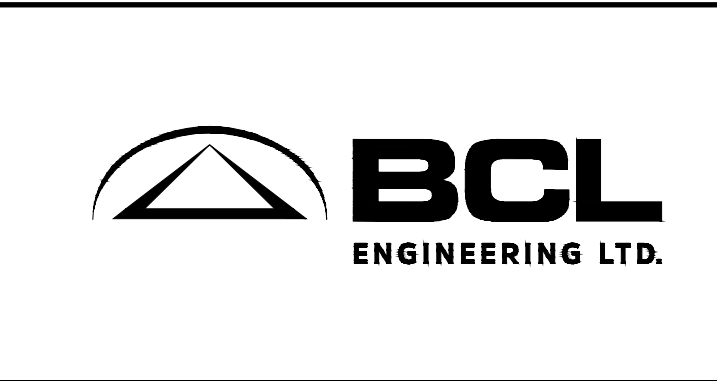


NOTE: PUMPOUT UNITS TO BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS, AT DEPTH TO SUIT EXISTING SEWAGE MAIN LINE

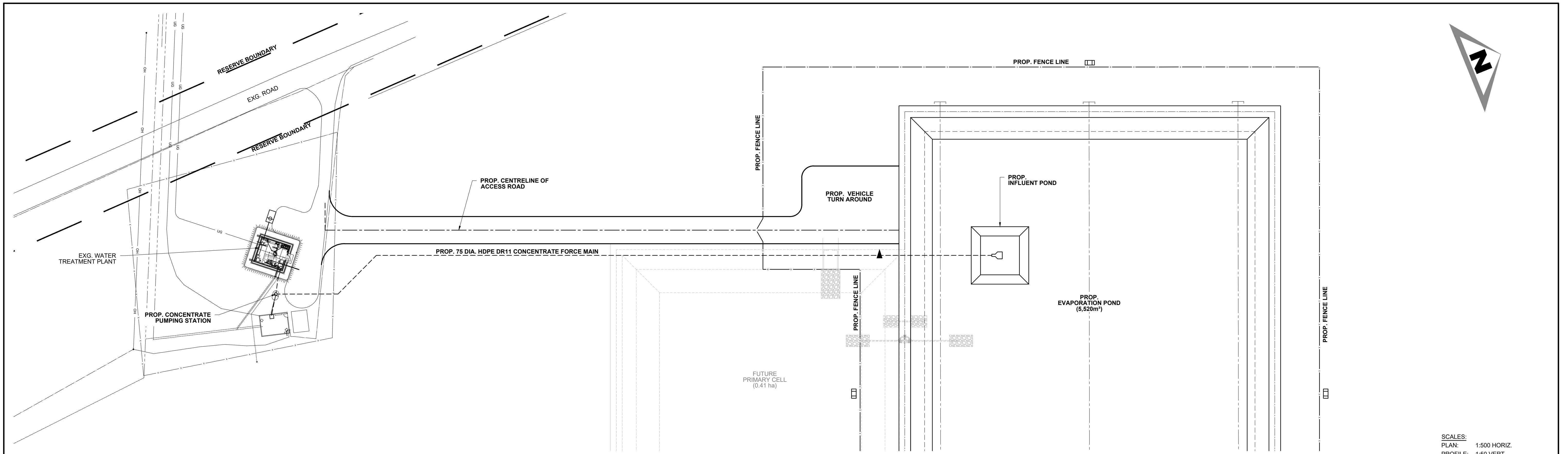
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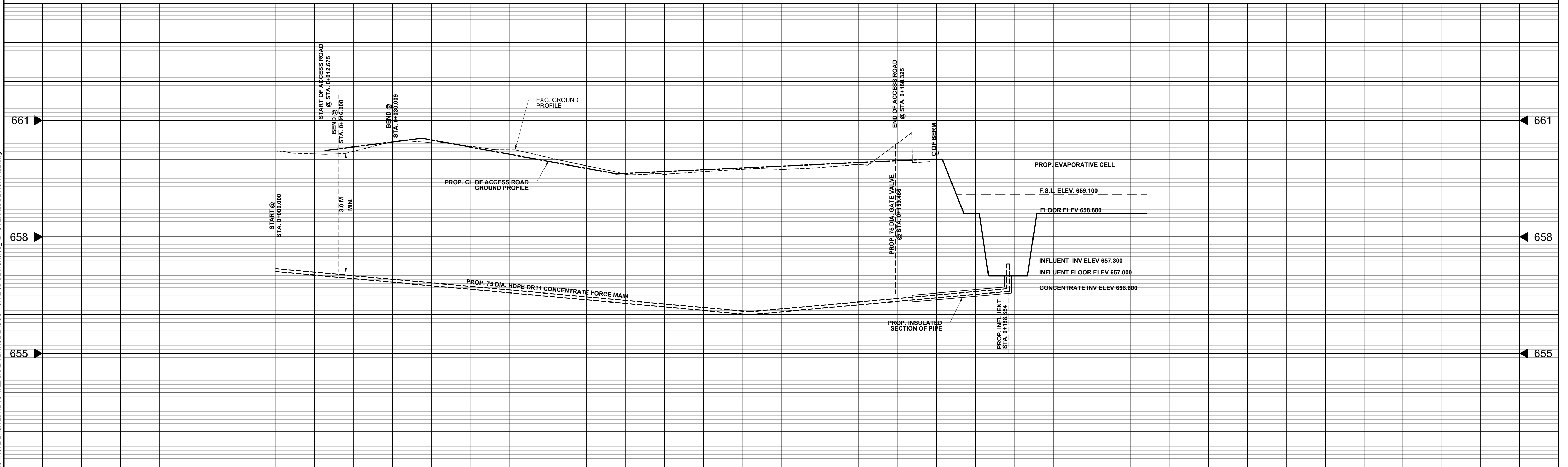
No.	REVISION	DATE	BY	STAMP
A	ISSUED FOR 50% DESIGN REVIEW	2022/07/29	M.B.F.	



JOB No.	198.12	<b>THUNDERCHILD FIRST NATION</b>	
DATE:	2022/07/29	<b>TURTLE LAKE SITE 115C WTP PROCESS WASTE POND EXISTING WATER TREATMENT PLANT MECHANICAL SECTIONS</b>	
DRAWN:	J.L.K.	SCALE:	1:25
CHECKED:	L.F.L.	REV. No.	<b>A</b>
DESIGNED:	M.B.F.	PROJECT No.	<b>AT507</b>
		SHEET:	<b>07</b> OF --

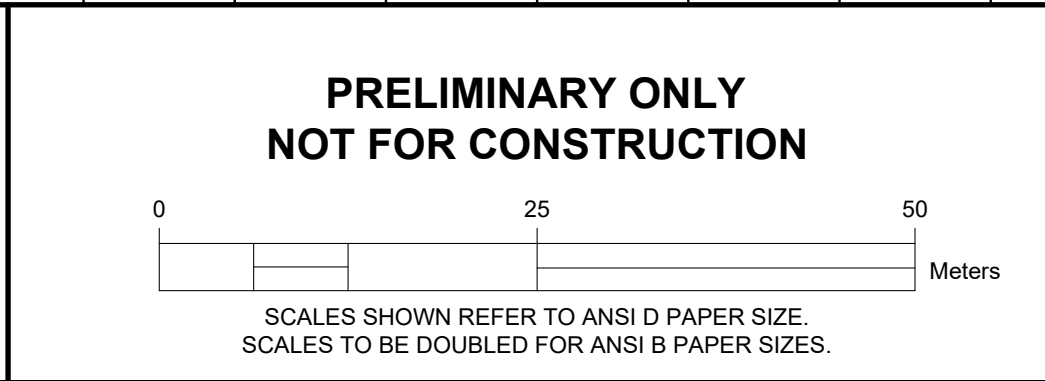


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 PROFILE: 1:50 VERT.

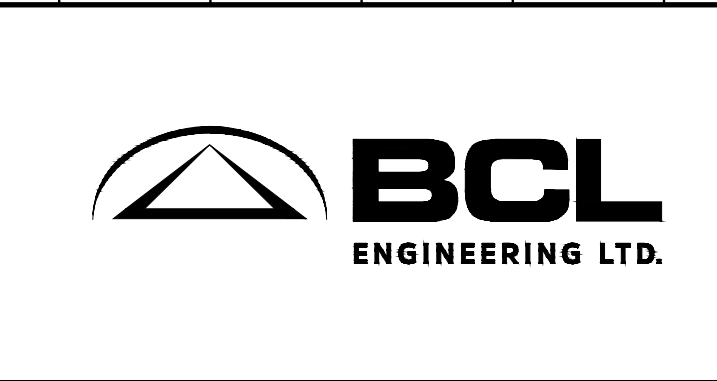


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No.	REVISION	DATE	BY	STAMP
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JOB No. 198.12  
 DATE: 2022/07/29  
 DRAWN: J.L.K.  
 CHECKED: L.F.L.  
 DESIGNED: M.B.F.

**THUNDERCHILD FIRST NATION**  
**TURTLE LAKE SITE 115C**  
**WTP PROCESS WASTE POND**  
**CONCENTRATE FORCE MAIN**  
**PLAN & PROFILE**

SCALE: 1:500 REV. No. **A** PROJECT No. **AT507** SHEET: **08** OF --