Stantec Architecture Ltd.
4910 - 53 Street, PO Box 1777, Yellowknife NT X1A 2P4

September 12, 2014
File: 144901252 02-02

Attention: Phyllis Beaulieu – Manager of Licensing
Nunavut Water Board
PO Box 119
Gjoa Haven, NU
X0B 1J0

Dear Mrs. Beaulieu,

Reference: Hamlet of Cambridge Bay Water License 3BM-CAM0914 – Modification

On behalf of the Hamlet of Cambridge Bay, we are pleased to submit the attached Issued for Construction drawings depicting the proposed modifications.

Stantec is in the process of completing upgrades to the existing water treatment and storage facility for the Hamlet of Cambridge Bay. The attached documents detail the planned upgrades and impacts associated with the existing water licence. A summary of the modifications is as follows:

1. The buried water distribution line is to be expanded to allow additional serving;
2. The treated water storage tank is to be replaced; and
3. The water is to receive additional treatment through filtration and UV disinfection.

Similarly, a revised *Operation and Maintenance Plan* will be prepared for the system and submitted to the NWB upon commissioning of the facility.

We hope that the attached documents meet your requirements at this time. If you require any further information or have questions, please do not hesitate to contact me.

Regards,

STANTEC ARCHITECTURE LTD.

Arlen Foster, P. Eng.
Civil / Environmental Engineer
Phone: (867) 920-2882 Ext. 249
Fax: (867) 920-4319
arlen.foster@stantec.com

Attachment: Cambridge Bay Potable Water System Phase II - Issued For Construction Drawings

Stantec

GOVERNMENT OF NUNAVUT
DEPARTMENT OF COMMUNITY
AND GOVERNMENT SERVICES

GOVERNMENT OF NUNAVUT

CAMBRIDGE BAY
POTABLE WATER SYSTEM
PHASE II - ISSUED FOR CONSTRUCTION

MAY 2014

Stantec Project Number: 144901252

GN Project Number: 11-4002

ORIGINAL SHEET - ANSI D
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2014/05/09 9:06 AM By: Nirloumand, Mahya

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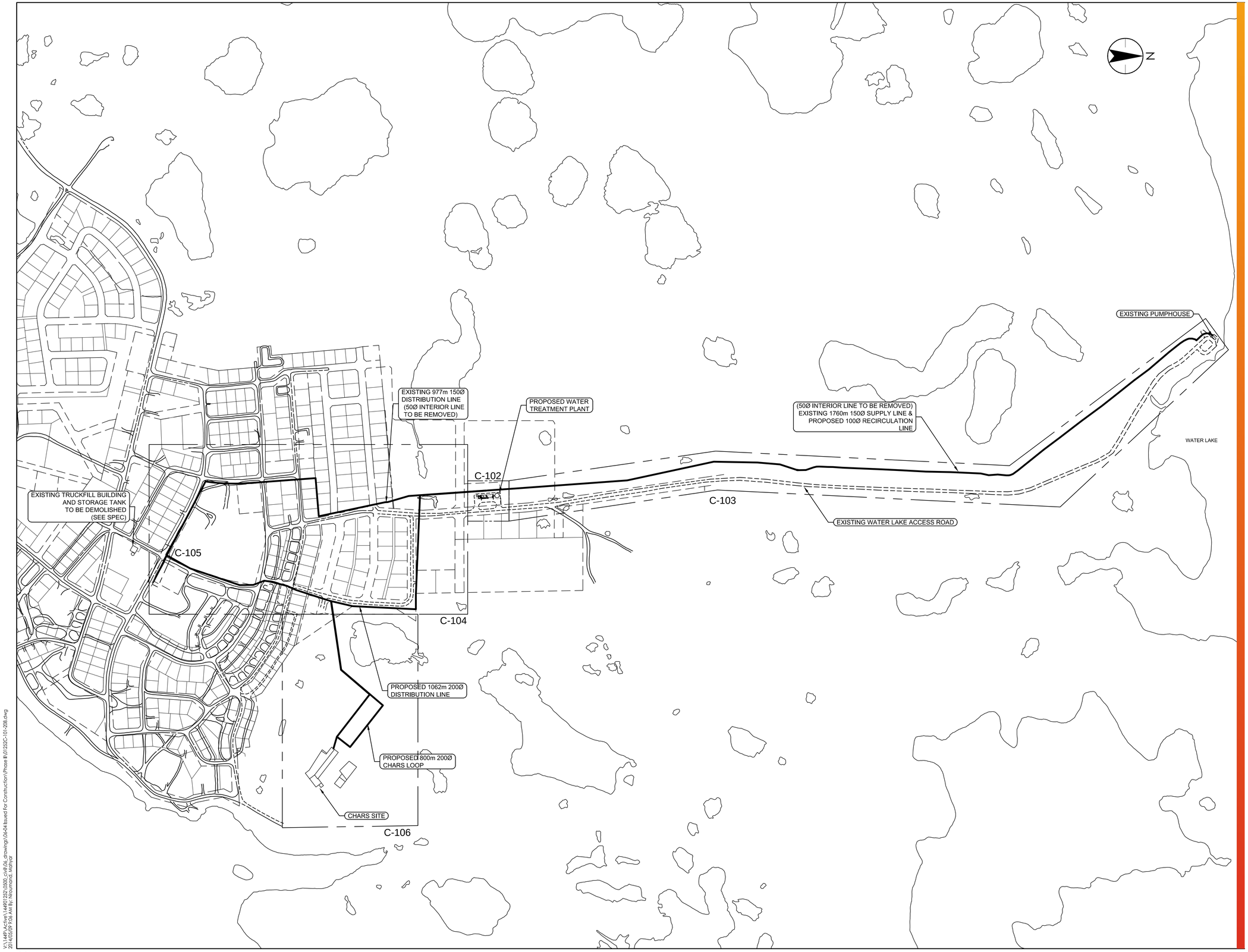

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Consultants

Legend

WATER

ROADS

LOT BOUNDARIES

POWER POLES

EXAV - EXISTING VAULT REQUIRED MODIFICATION

AV - NEW VAULT

Notes

Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C ISSUED FOR TENDER	AF	WO	14.02.14
B ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A ISSUED FOR 50% REVIEW	AF	WO	12.11.09

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REGISTERED PROFESSIONAL ENGINEER NWT/NU

144901252

Client/Project

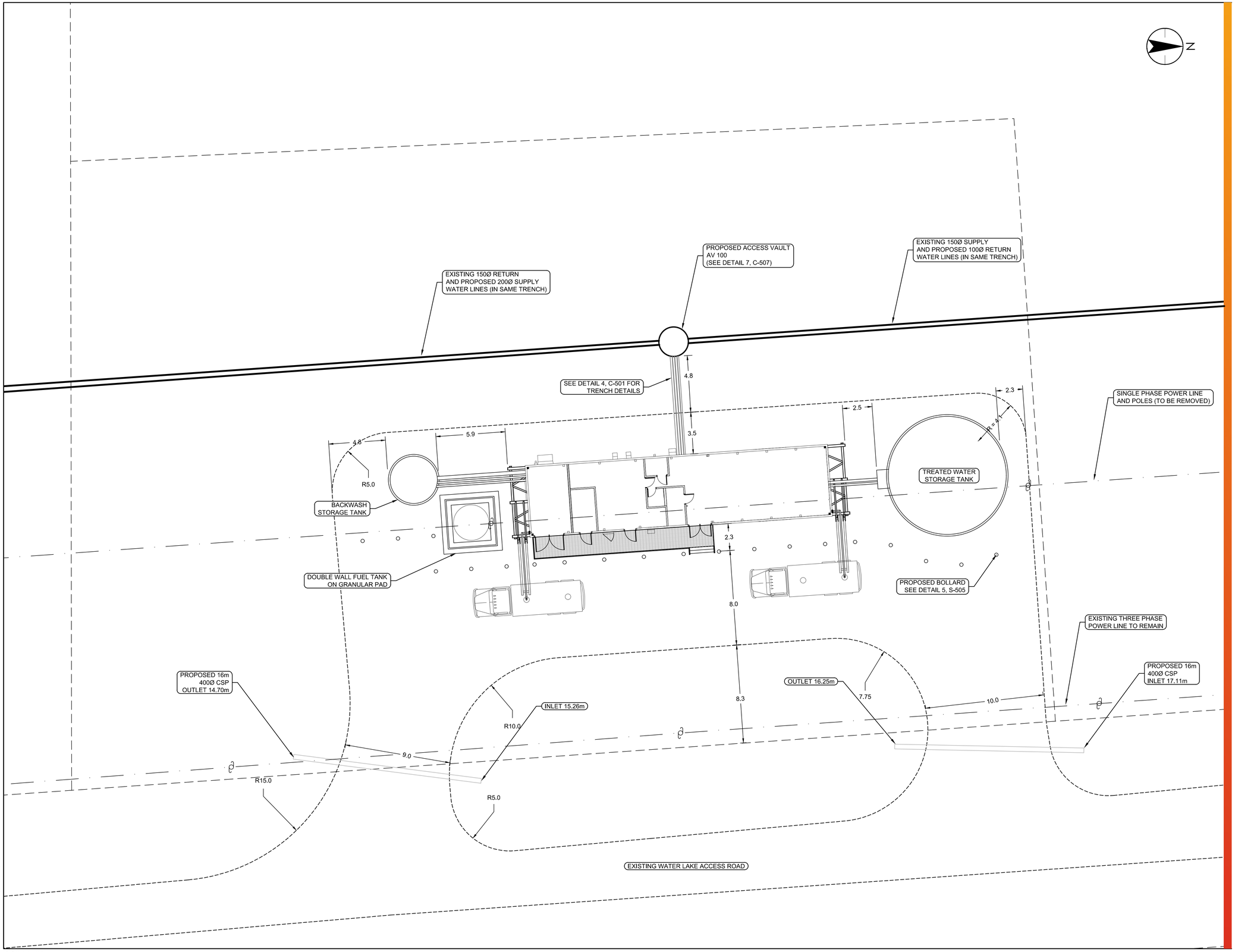
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title

PROJECT LOCATION PLAN

Project No.	Scale	
144901252	1:4000	
Drawing No.	Sheet	Revision
C-101	1 of 24	0



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Consultants

Legend

ROADS

LOT BOUNDARIES

POWER POLES

MAJOR TOPO LINE

MINOR TOPO LINE

EXAV
- EXISTING VAULT REQUIRED MODIFICATION

AV
- NEW VAULT

Notes

- CONTRACTOR TO COORDINATE ANY REMOVAL OF EXISTING SINGLE PHASE POWER LINE.
- REFER TO DETAILS AS APPLICABLE
- SEE ELECTRICAL SITE PLAN FOR UTILITY CONNECTIONS

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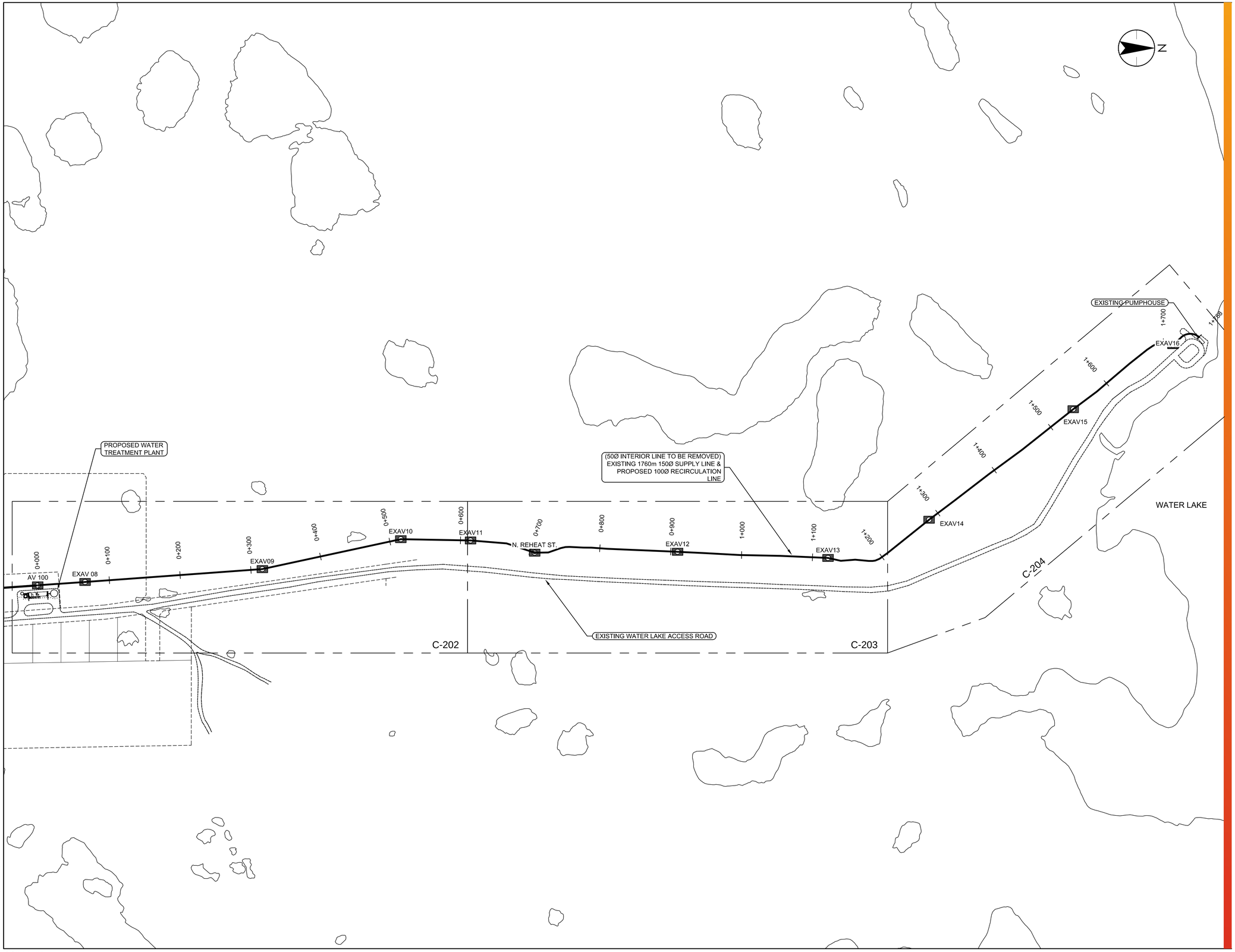
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title

WTP SITE LAYOUT

Project No.	Scale	
144901252	1:150	
Drawing No.	Sheet	Revision
C-102	2 of 24	0



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Legend

ROADS

LOT BOUNDARIES

POWER POLES

MAJOR TOPO LINE

MINOR TOPO LINE

EXAV - EXISTING VAULT REQUIRED MODIFICATION

AV - NEW VAULT

Notes

- TYPE E - VAULTS 13 & 15
- TYPE F - VAULTS 10 & 14
- TYPE G - VAULTS 08, 09, 11 & 12
- TYPE J - VAULTS 16
- TYPE Q - VAULTS 100
- FOR NORTH REHEAT STATION - SEE DETAIL 2, DRAWING C-508

Revision	By	Appd.	YY.MM.DD
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Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
RECIRCULATION LINE
ACCESS VAULT
LOCATIONS & TYPES

Project No.	Scale	
144901252	1:2500	
Drawing No.	Sheet	Revision
C-103	3 of 24	0

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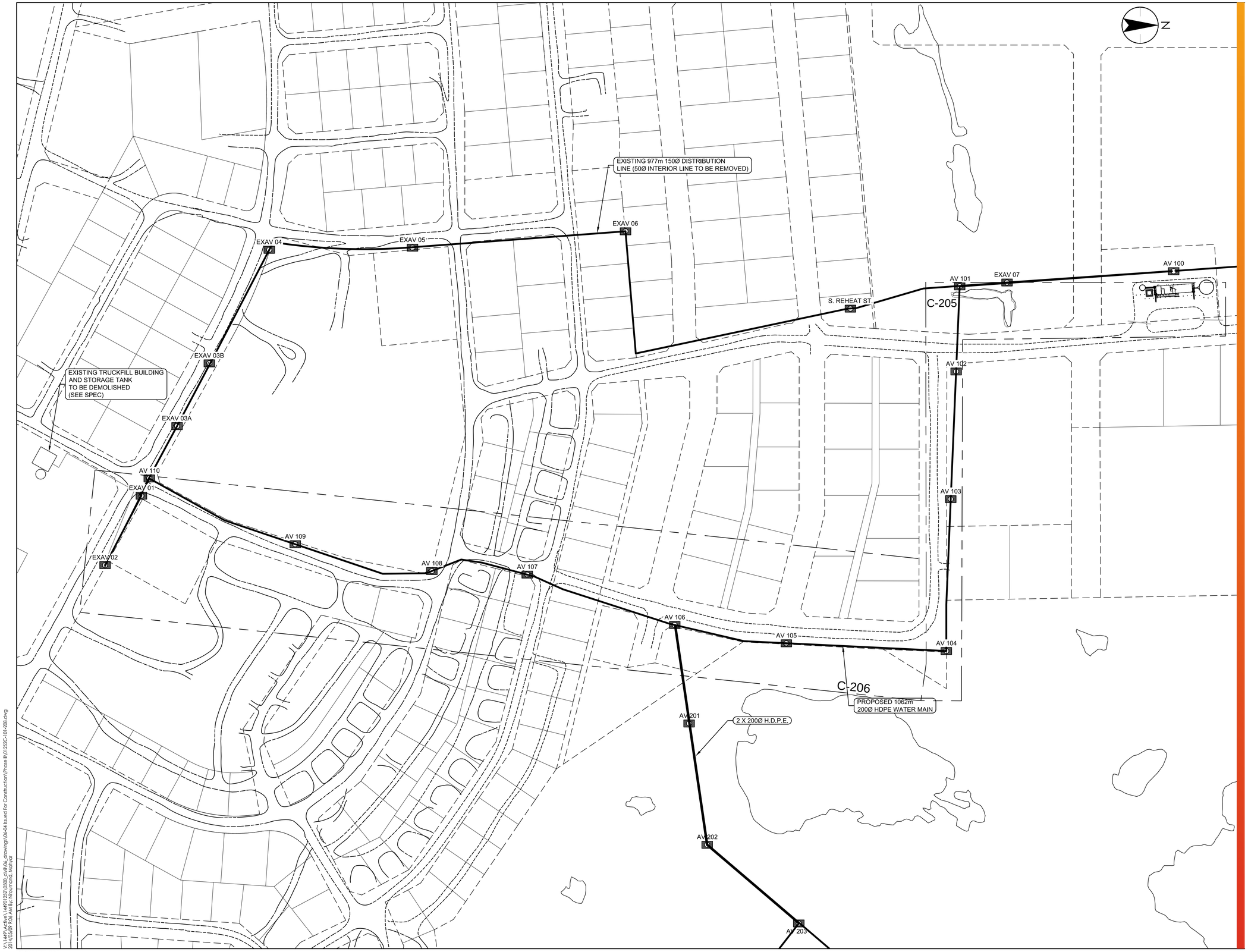

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Legend

ROADS

LOT BOUNDARIES

POWER POLES

MAJOR TOPO LINE

MINOR TOPO LINE

EXAV
- EXISTING VAULT REQUIRED MODIFICATION

AV
- NEW VAULT

Notes

- TYPE B - VAULT 02
- TYPE C - VAULT 05
- TYPE D - VAULT 06
- TYPE H - VAULTS 04 & 07
- TYPE K - VAULTS 102, 103, 105, 107, 108 & 109
- TYPE L - VAULT 104
- TYPE M - VAULT 106
- TYPE N - VAULT 110
- TYPE P - VAULT 101
- AV 01 TO BE REMOVED
- FOR 03a & 03b SERVICE CONNECTION SEE DETAIL 4 C-508
- FOR SOUTH REHEAT STATION - SEE DETAIL 3, DRAWING C-508
- TYPE Q - VAULT 100

Revision		By	Appd.	YY.MM.DD
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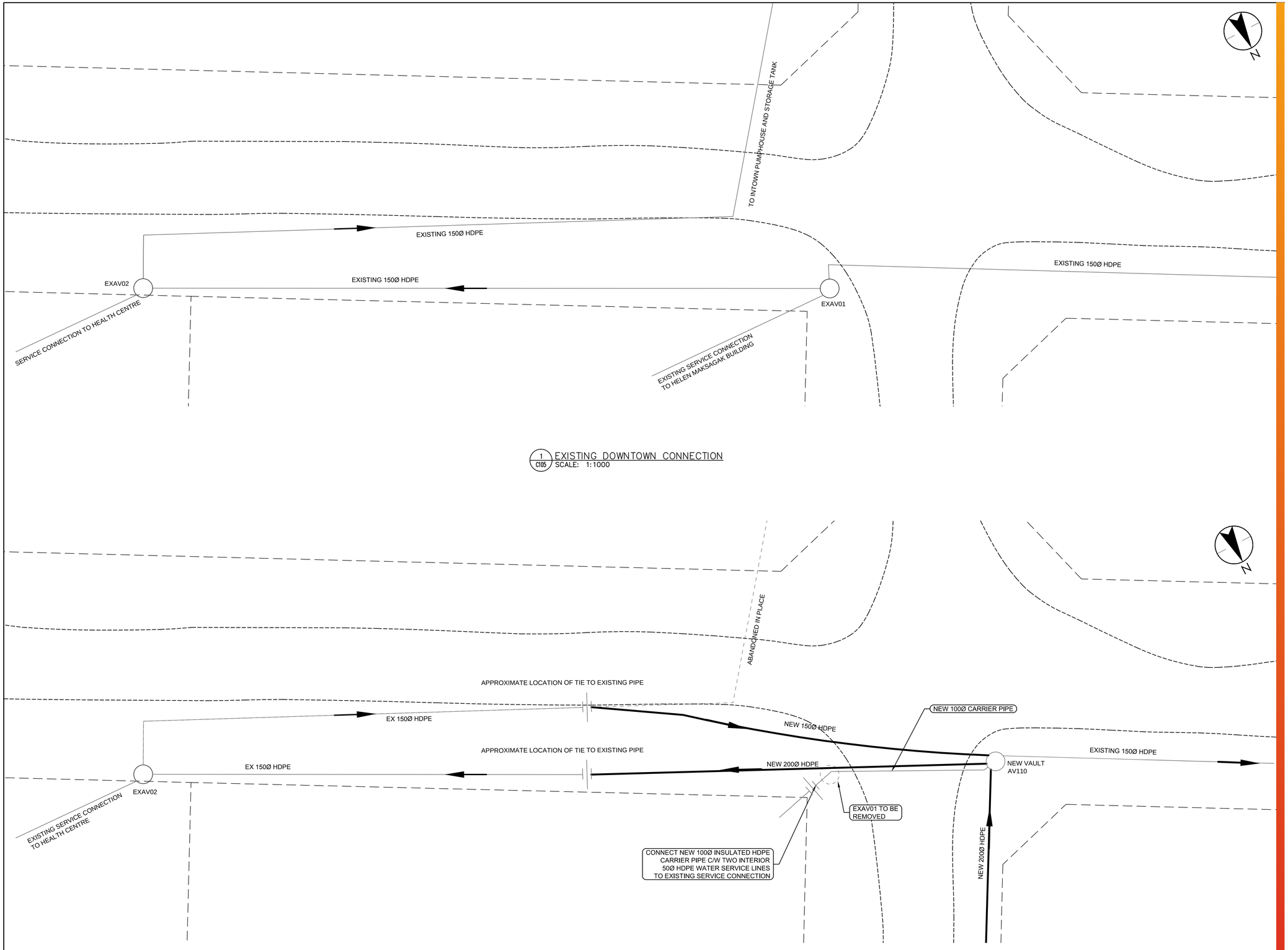
Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
DISTRIBUTION LOOP
ACCESS VAULT
LOCATIONS & TYPES

Project No.	Scale	
144901252	1:1250	
Drawing No.	Sheet	Revision
C-104	4 of 24	0



1 C105 EXISTING DOWNTOWN CONNECTION
SCALE: 1:1000

2 C105 PROPOSED DOWNTOWN CONNECTION
SCALE: 1:1000

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Legend

ROADS
LOT BOUNDARIES
POWER POLES
MAJOR TOPO LINE
MINOR TOPO LINE
EXAV - EXISTING VAULT REQUIRED MODIFICATION
AV - NEW VAULT
EXISTING PIPE
TO BE ABANDONED
NEW PIPE

Notes

- CONTRACTOR MAY REUSE EXISTING PIPE MATERIAL FOLLOWING APPROVAL FROM ENGINEER.
- ACTUAL NEW CONNECTION LOCATIONS TO BE CONFIRMED IN FIELD.

Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C ISSUED FOR TENDER	AF	WO	14.02.14
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22 MAY 2014
NWT/NU

144901252

Client/Project

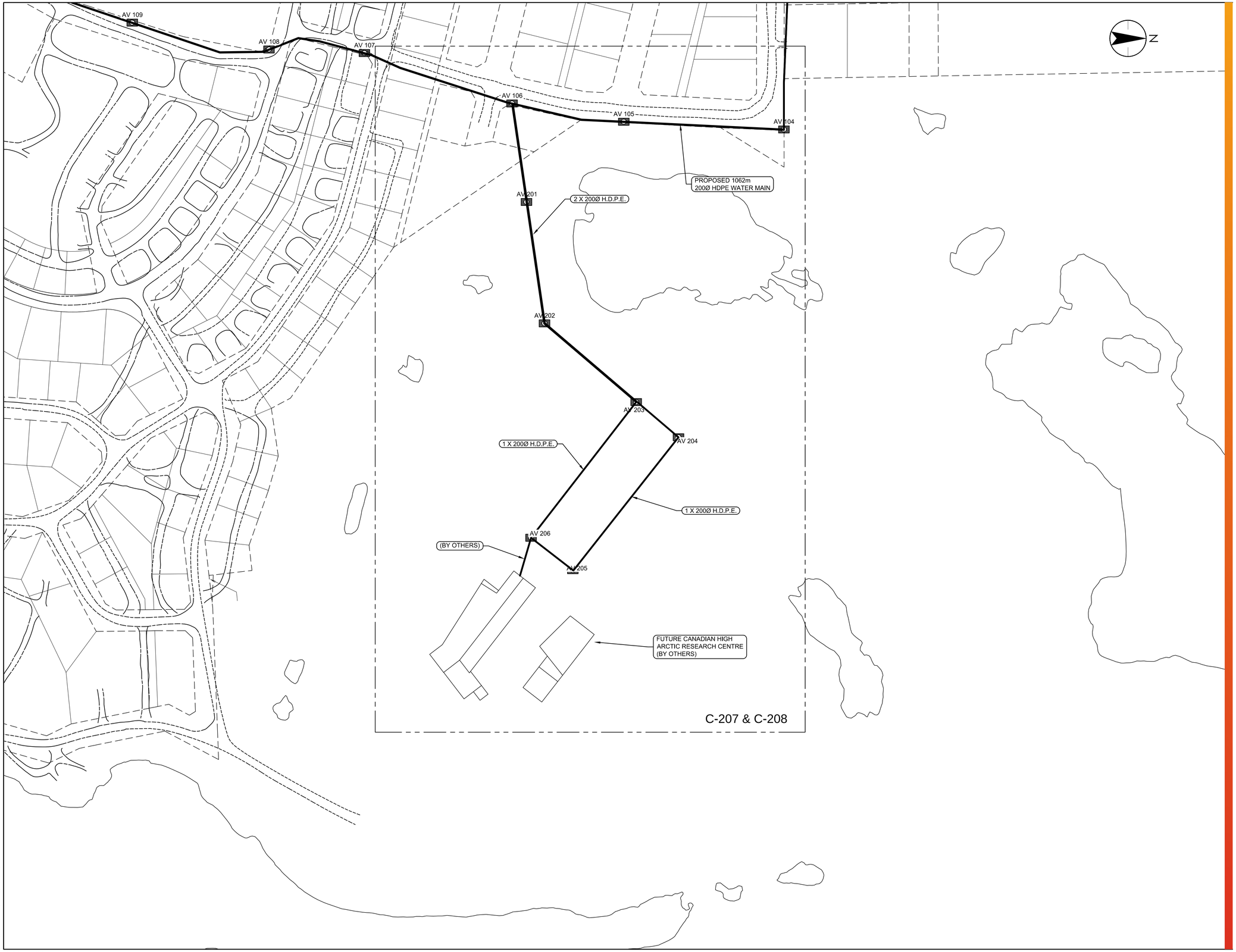
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title

EXISTING AND NEW WATER CONNECTION DOWNTOWN

Project No.	Scale	
144901252	1:1250	
Drawing No.	Sheet	Revision
C-105	5 of 24	0



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Legend

ROADS

LOT BOUNDARIES

POWER POLES

MAJOR TOPO LINE

MINOR TOPO LINE

EXAV
- EXISTING VAULT REQUIRED MODIFICATION

AV
- NEW VAULT

Notes
- TYPE T - VAULTS 201
- TYPE U - VAULT 202
- TYPE R - VAULT 203
- TYPE L - VAULTS 204, 205,
- TYPE S - VAULT 206

Revision		By	Appd.	YY.MM.DD
D	ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
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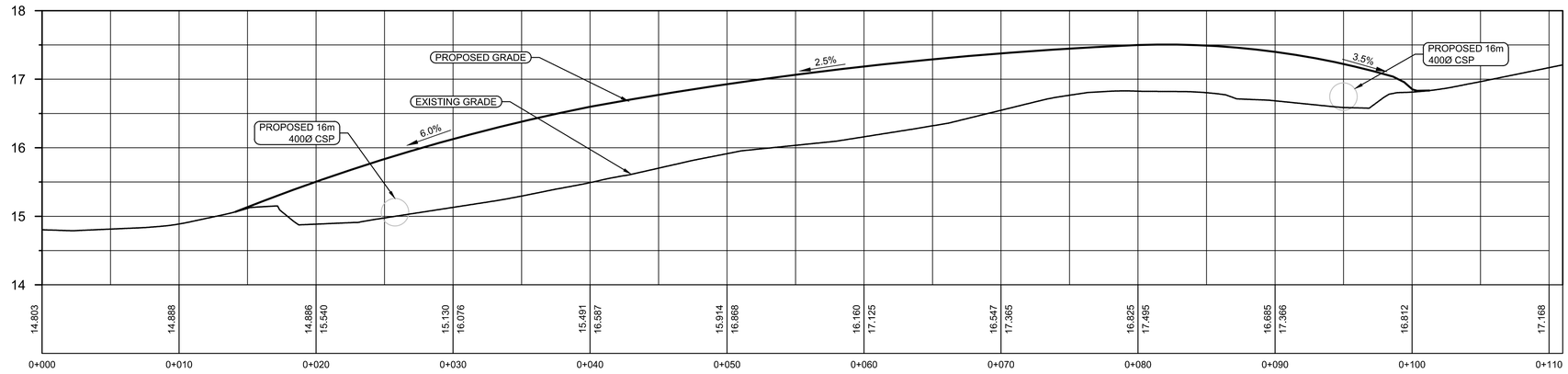
Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
CHARS LOOP
ACCESS VAULT
LOCATIONS & TYPES

Project No.	Scale	
144901252	1:1250	
Drawing No.	Sheet	Revision
C-106	6 of 24	0



1 / C201 WTP PAD & ACCESS ROAD PROFILE
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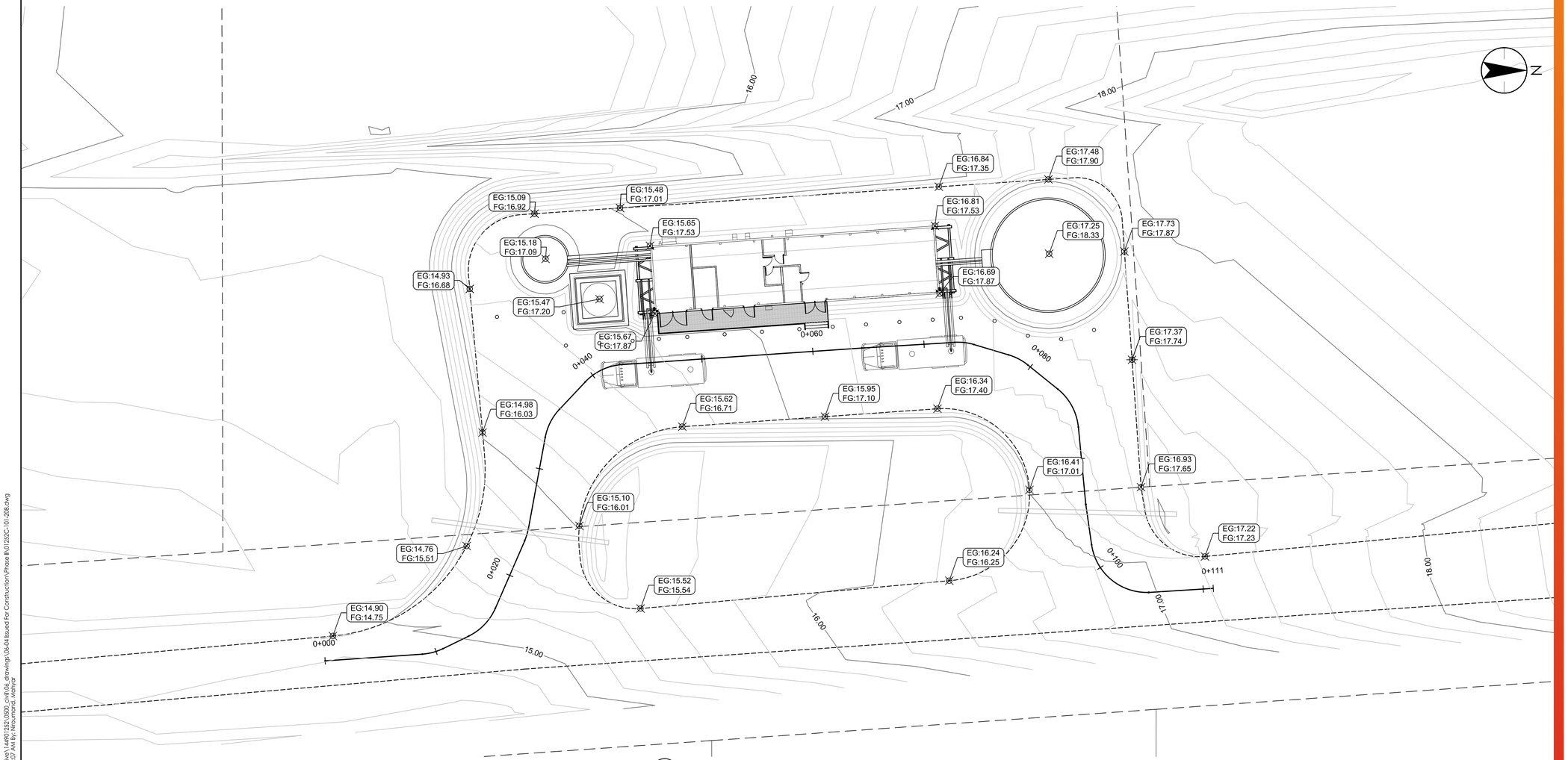

2 / C201 WTP PAD & ACCESS ROAD PLAN
SCALE: 1:150

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Legend

ROADS

LOT BOUNDARIES

POWER POLES

MAJOR TOPO LINE

MINOR TOPO LINE

EXAV - EXISTING VAULT REQUIRED MODIFICATION

AV - NEW VAULT

Notes
1. EXISTING GROUND BASED ON 2013 TOPOGRAPHIC SURVEY.

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NWT/NU

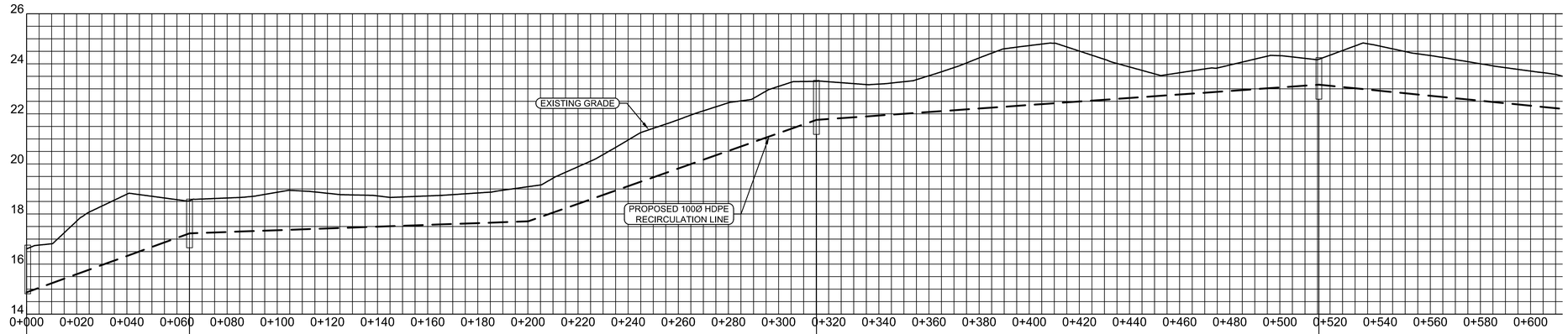
144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
WTP PAD & ACCESS ROAD
PLAN & PROFILE

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-201	7 of 24	0



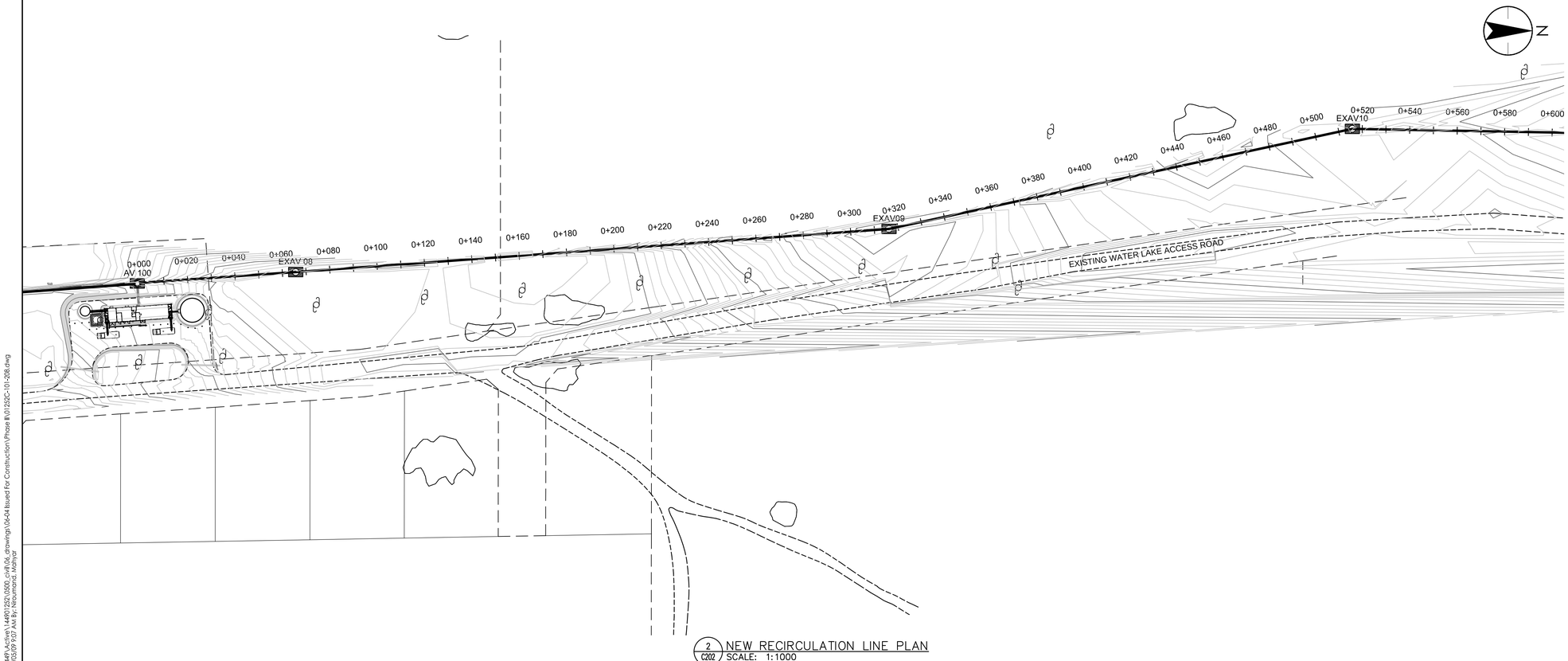
ACCESS VAULT DATA	
STATION	0+000
NORTHING	7668197.27
EASTING	497702.34
T.O.P. ELEV.	14.98
T.O.V ELEV.	16.79m
T.O.V.F ELEV.	14.60m
ACCESS VAULT	AV 100
VAULT TYPE	Q

ACCESS VAULT DATA	
STATION	0+065
NORTHING	7668025.63
EASTING	497747.49
T.O.P. ELEV.	17.74m
ACCESS VAULT	EXAV 08
VAULT TYPE	G

ACCESS VAULT DATA	
STATION	0+320
NORTHING	7668274.94
EASTING	497729.95
T.O.P. ELEV.	22.29m
ACCESS VAULT	EXAV 09
VAULT TYPE	G

ACCESS VAULT DATA	
STATION	0+515
NORTHING	7668470.64
EASTING	497690.52
T.O.P. ELEV.	23.64m
ACCESS VAULT	EXAV 10
VAULT TYPE	F

1 / C202 NEW RECIRCULATION LINE PROFILE
SCALE: H 1:1000 V 1:100



2 / C202 NEW RECIRCULATION LINE PLAN
SCALE: 1:1000

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2014/05/09 9:07 AM By: Nicumand, Mahyar

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Consultants

Legend

ROADS
LOT BOUNDARIES
POWER POLES
MAJOR TOPO LINE
MINOR TOPO LINE

EXAV
- EXISTING VAULT REQUIRED MODIFICATION

AV
- NEW VAULT

Notes

1. ELEVATION AND GRADE INFORMATION OF THE EXISTING PIPELINE AND ACCESS VAULTS BASED ON DILLON CONSULTING JUNE 2004 *AS-BUILT* DRAWINGS.
2. PROPOSED 100Ø RECIRCULATION LINE TO RUN ALONGSIDE EXISTING 150Ø SUPPLY LINE AS PER DETAIL 1, C-505.
3. T.O.P = TOP OF PIPE
   T.O.V = TOP OF VAULT
   T.O.V.F = TOP OF VAULT FLOOR

Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C ISSUED FOR TENDER	AF	WO	14.02.14
B ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A ISSUED FOR 50% REVIEW	AF	WO	12.11.09
Issued	By	Appd.	YY.MM.DD
File Name: 144901252	AF Dwn.	WO Chkd.	WO Dsgn.	13.12.19 YY.MM.DD

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PROFESSIONAL ENGINEER
NWT/NU

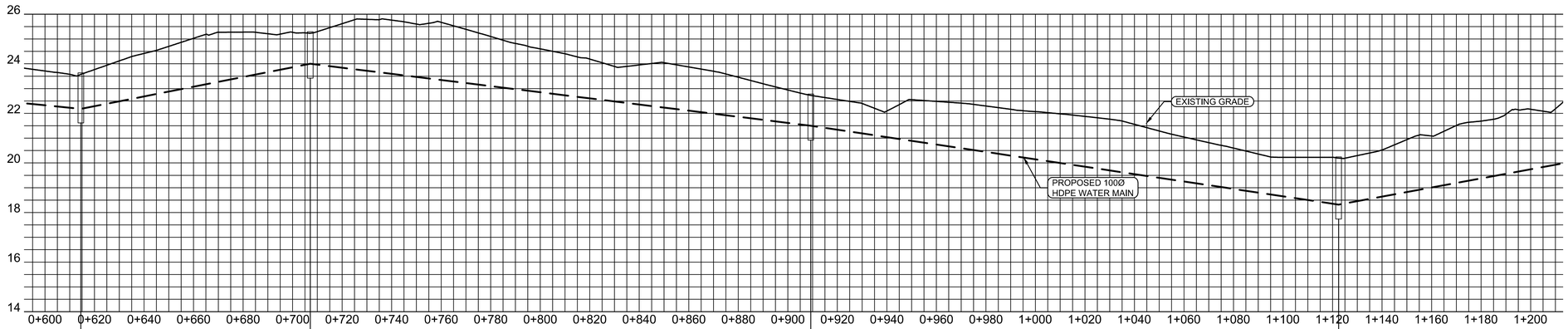
144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
NEW RECIRCULATION LINE
PLAN & PROFILE
0+000 TO 0+600

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-202	8 of 24	0



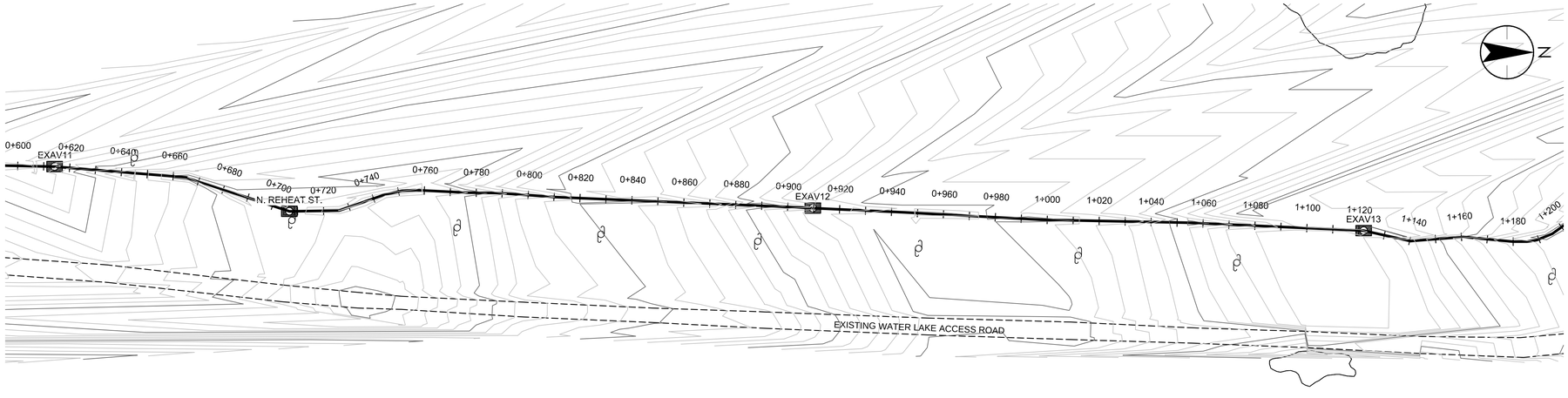
ACCESS VAULT DATA	
STATION	0+620
NORTHING	7668570.26
EASTING	497691.44
T.O.P. ELEV.	22.74m
ACCESS VAULT	EXAV 11
VAULT TYPE	G

NORTH REHEAT STATION	
STATION	0+620
NORTHING	7668897.76
EASTING	497656.32
T.O.P. ELEV.	24.54m
REHEAT STATION	NORTH
VAULT TYPE	DET.2 C-508

ACCESS VAULT DATA	
STATION	0+910
NORTHING	7668869.92
EASTING	497705.41
T.O.P. ELEV.	22.04m
ACCESS VAULT	EXAV 12
VAULT TYPE	G

ACCESS VAULT DATA	
STATION	1+122
NORTHING	7669081.72
EASTING	497714.98
T.O.P. ELEV.	18.94m
ACCESS VAULT	EXAV 13
VAULT TYPE	E

1 / C203 NEW RECIRCULATION LINE PROFILE
SCALE: H 1:1000 V 1:100



2 / C203 NEW RECIRCULATION LINE PLAN
SCALE: 1:1000

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Consultants

Legend

ROADS

LOT BOUNDARIES

POWER POLES

MAJOR TOPO LINE

MINOR TOPO LINE

EXAV
- EXISTING VAULT REQUIRED MODIFICATION

AV
- NEW VAULT

Notes

1. ELEVATION AND GRADE INFORMATION OF THE PIPELINE AND ACCESS VAULTS BASED ON DILLON CONSULTING JUNE 2004 *AS-BUILT* DRAWINGS.
2. T.O.P = TOP OF PIPE
   T.O.V = TOP OF VAULT
   T.O.V.F = TOP OF VAULT FLOOR

Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C ISSUED FOR TENDER	AF	WO	14.02.14
B ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A ISSUED FOR 50% REVIEW	AF	WO	12.11.09
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File Name: 144901252	AF Dwn.	WO Chkd.	WO Dsgn.	13.12.19 YY.MM.DD

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144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
NEW RECIRCULATION LINE
PLAN & PROFILE
0+600 TO 1+200

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-203	9 of 24	0

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2014/05/09 9:07 AM By: Nirloumand, Mahyar

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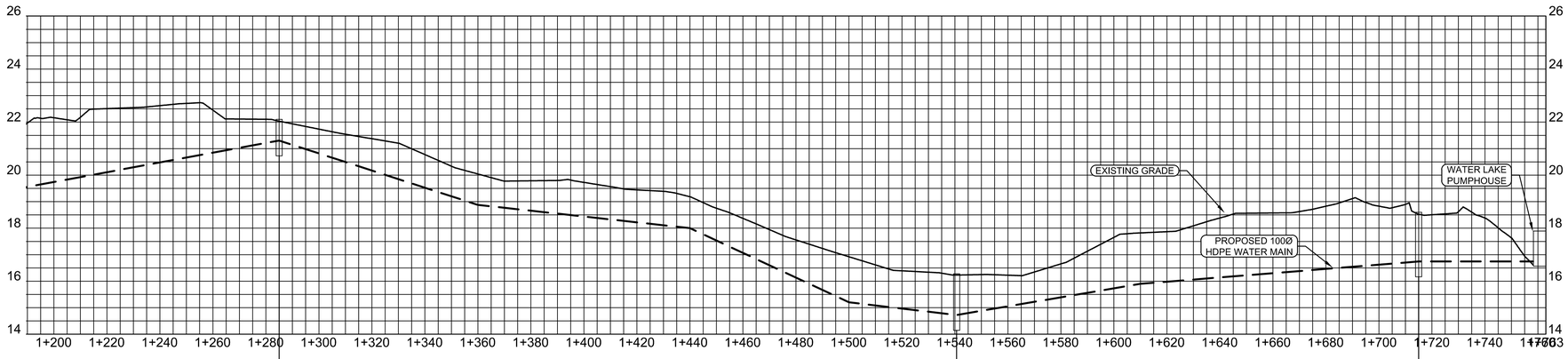
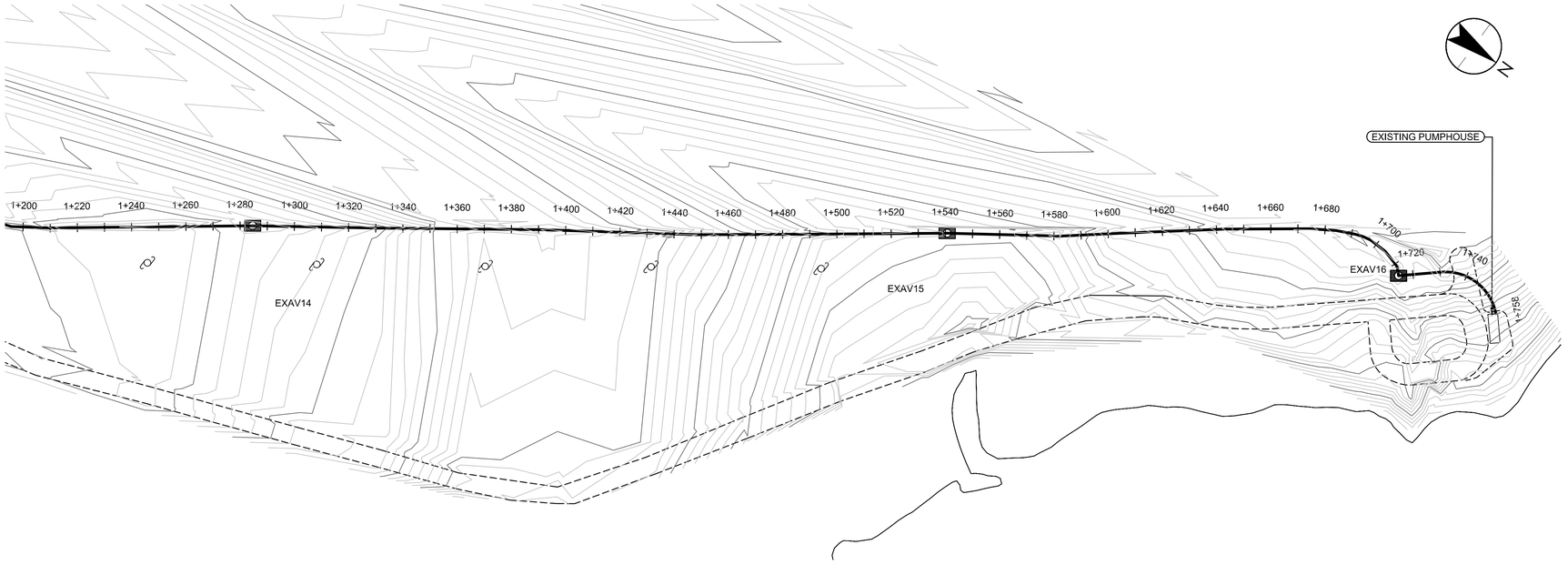


ACCESS VAULT DATA	
STATION	1+285
NORTHING	7669196.69
EASTING	497681.20
T.O.P. ELEV.	21.84m
ACCESS VAULT	EXAV 14
VAULT TYPE	F

ACCESS VAULT DATA	
STATION	1+540
NORTHING	7669437.73
EASTING	497494.28
T.O.P. ELEV.	15.24m
ACCESS VAULT	EXAV 15
VAULT TYPE	E

ACCESS VAULT DATA	
STATION	1+715
NORTHING	7669797.4165
EASTING	497363.7190
T.O.P. ELEV.	17.28m
ACCESS VAULT	EXAV 16
VAULT TYPE	J

1 C204 NEW RECIRCULATION LINE PROFILE
SCALE: H 1:1000 V 1:100



2 C204 NEW RECIRCULATION LINE PLAN
SCALE: 1:1000

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Consultants

Legend

ROADS
LOT BOUNDARIES
POWER POLES
MAJOR TOPO LINE
MINOR TOPO LINE

EXAV - EXISTING VAULT REQUIRED MODIFICATION

AV - NEW VAULT

Notes

1. ELEVATION AND GRADE INFORMATION OF THE PIPELINE AND ACCESS VAULTS BASED ON DILLON CONSULTING JUNE 2004 *AS-BUILT* DRAWINGS.
2. T.O.P = TOP OF PIPE
   T.O.V = TOP OF VAULT
   T.O.V.F = TOP OF VAULT FLOOR

Revision

		By	Appd.	YY.MM.DD
D	ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C	ISSUED FOR TENDER	AF	WO	14.02.14
B	ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A	ISSUED FOR 50% REVIEW	AF	WO	12.11.09

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File Name: 144901252	AF Dwn.	WO Chkd.	WO Dsgn.	13.12.19 YY.MM.DD

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22 MAY 2014
NWT/NU

144901252

Client/Project

GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title

NEW RECIRCULATION LINE
PLAN & PROFILE
1+200 TO 1+758

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-204	10 of 24	0

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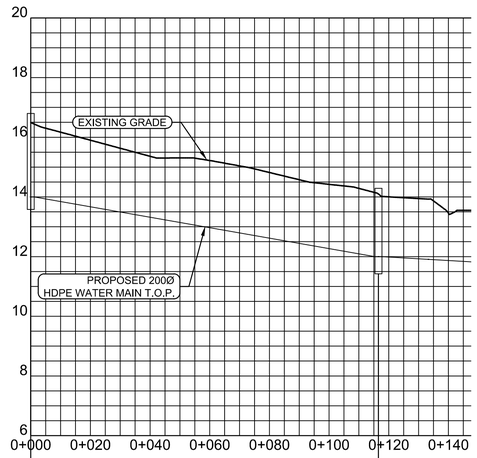
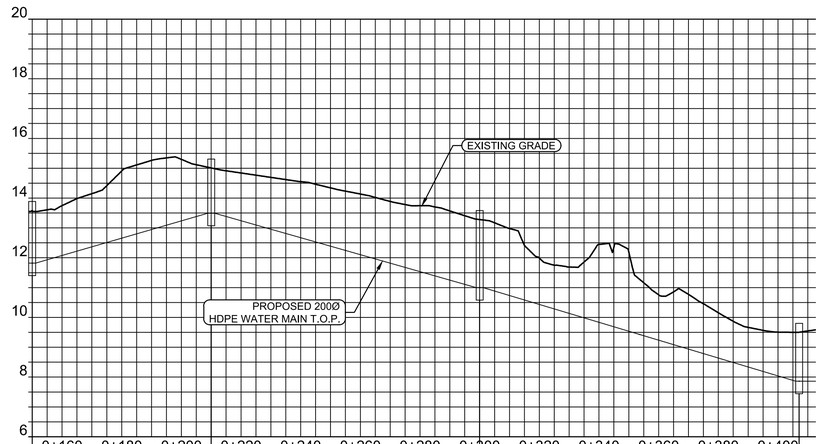


ACCESS VAULT DATA	
STATION	0+000
NORTHING	7668197.2733
EASTING	497702.3456
T.O.P. ELEV.	15.04m
T.O.V ELEV.	16.79m
T.O.V.F ELEV.	14.60m
ACCESS VAULT	AV 100
VAULT TYPE	Q

ACCESS VAULT DATA	
STATION	0+116
NORTHING	7667841.09
EASTING	497760.63
T.O.P. ELEV.	12.00m
ACCESS VAULT	EXAV 07
VAULT TYPE	H

1 C205 NEW DISTRIBUTION LOOP PROFILE
SCALE: H 1:1000 V 1:100



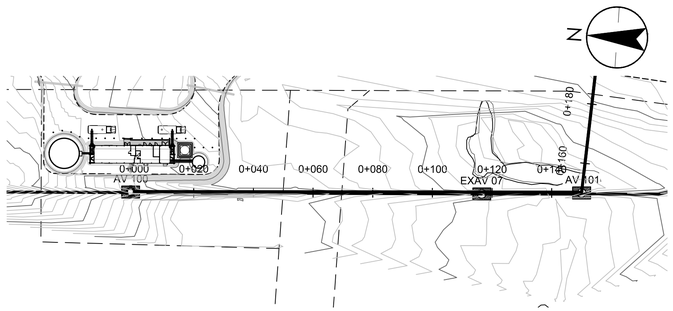
ACCESS VAULT DATA	
STATION	0+150
NORTHING	7668046.4921
EASTING	497713.0728
T.O.P. ELEV.	11.82m
T.O.V ELEV.	13.89m
T.O.V.F ELEV.	11.40m
ACCESS VAULT	AV 101
VAULT TYPE	P

ACCESS VAULT DATA	
STATION	0+210
NORTHING	7668043.9691
EASTING	497773.0198
T.O.P. ELEV.	13.49m
T.O.V ELEV.	15.31m
T.O.V.F ELEV	13.07m
ACCESS VAULT	AV 102
VAULT TYPE	K

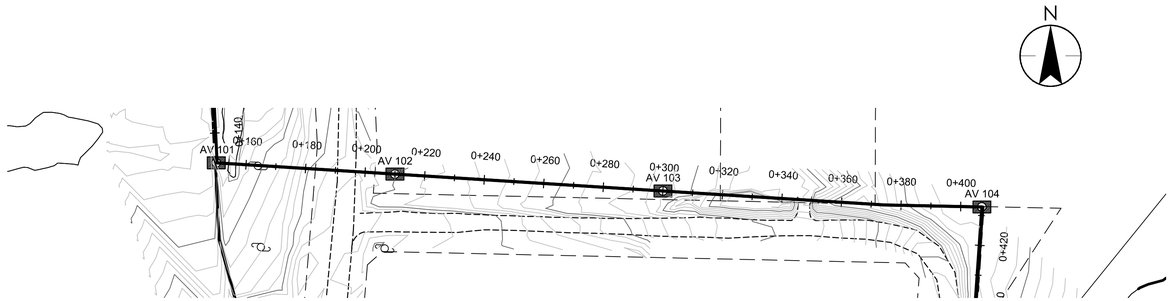
ACCESS VAULT DATA	
STATION	0+300
NORTHING	7668040.1831
EASTING	497862.9717
T.O.P. ELEV.	11.00m
T.O.V ELEV	13.58m
T.O.V.F ELEV	10.58m
ACCESS VAULT	AV 103
VAULT TYPE	K

ACCESS VAULT DATA	
STATION	0+407
NORTHING	7668037.0604
EASTING	497969.9852
T.O.P. ELEV.	7.86m
T.O.V ELEV	9.80m
T.O.V.F ELEV	7.44m
ACCESS VAULT	AV 104
VAULT TYPE	L

2 C205 NEW DISTRIBUTION LOOP PROFILE
SCALE: H 1:1000 V 1:100



3 C205 NEW DISTRIBUTION LOOP PLAN
SCALE: H 1:1000 V 1:100



4 C205 NEW DISTRIBUTION LOOP PLAN
SCALE: 1:1000

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Legend

ROADS
LOT BOUNDARIES
POWER POLES
MAJOR TOPO LINE
MINOR TOPO LINE

EXAV - EXISTING VAULT REQUIRED MODIFICATION

AV - NEW VAULT

Notes

1. ELEVATION AND GRADE INFORMATION OF THE PIPELINE AND ACCESS VAULTS BASED ON DILLON CONSULTING JUNE 2004 *AS-BUILT* DRAWINGS.
2. T.O.P = TOP OF PIPE
   T.O.V = TOP OF VAULT
   T.O.V.F = TOP OF VAULT FLOOR

Revision		By	Appd.	YY.MM.DD
D	ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C	ISSUED FOR TENDER	AF	WO	14.02.14
B	ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A	ISSUED FOR 50% REVIEW	AF	WO	12.11.09

Issued	By	Appd.	YY.MM.DD
File Name: 144901252	AF	WO	13.12.19
	Dwn.	Chkd.	Dsgn. YY.MM.DD

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22 MAY 2014
NWT/NU

144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
NEW DISTRIBUTION LOOP
PLAN & PROFILE
0+000 TO 0+420

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-205	11 of 24	0

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2014/05/09 9:08 AM By: Nkoumandi, Mathyn

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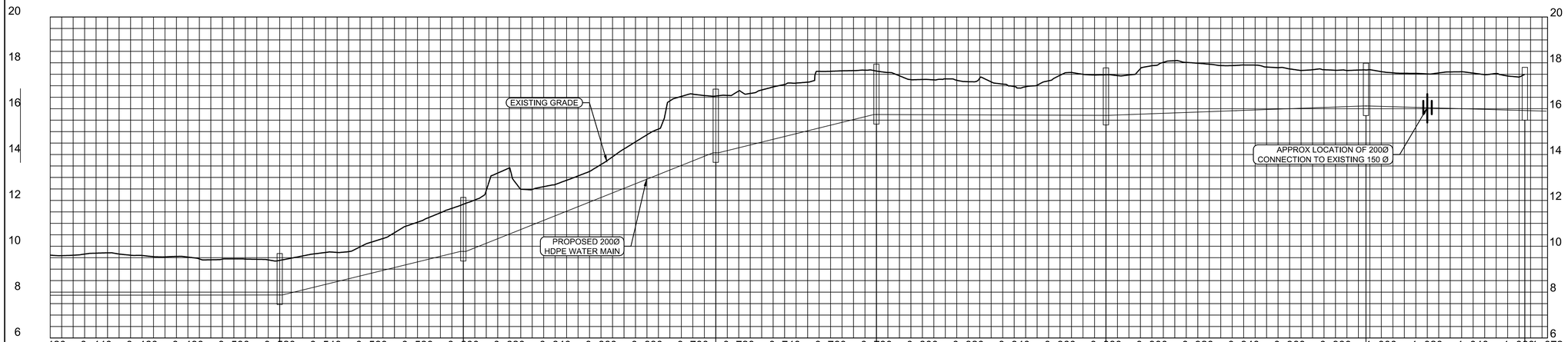


ACCESS VAULT DATA	
STATION	0+520
NORTHING	7667924.3045
EASTING	497964.5554
T.O.P. ELEV.	7.88m
T.O.V ELEV.	9.68m
T.O.V.F ELEV.	7.46m
ACCESS VAULT	AV 105
VAULT TYPE	K

ACCESS VAULT DATA	
STATION	0+600
NORTHING	7667845.6438
EASTING	497951.6692
T.O.P. ELEV.	9.75m
T.O.V ELEV.	12.13m
T.O.V.F ELEV.	9.33m
ACCESS VAULT	AV 106
VAULT TYPE	M

ACCESS VAULT DATA	
STATION	0+710
NORTHING	7667741.6724
EASTING	497916.1587
T.O.P. ELEV.	14.08m
T.O.V ELEV.	16.85m
T.O.V.F ELEV.	13.66m
ACCESS VAULT	AV 107
VAULT TYPE	K

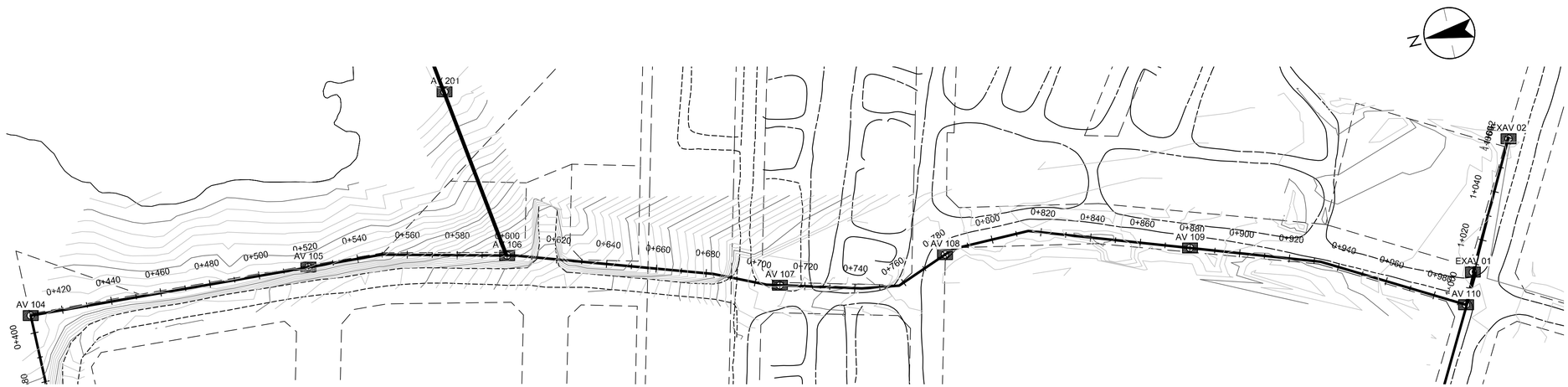
ACCESS VAULT DATA	
STATION	0+780
NORTHING	7667674.4661
EASTING	497913.6487
T.O.P. ELEV.	15.17m
T.O.V ELEV.	17.94m
T.O.V.F ELEV.	14.75m
ACCESS VAULT	AV 108
VAULT TYPE	K

ACCESS VAULT DATA	
STATION	0+880
NORTHING	7667578.1731
EASTING	497894.7388
T.O.P. ELEV.	15.71m
T.O.V ELEV.	17.78m
T.O.V.F ELEV.	15.29m
ACCESS VAULT	AV 109
VAULT TYPE	K

ACCESS VAULT DATA	
STATION	0+990
NORTHING	7667475.2971
EASTING	497848.3916
T.O.P. ELEV.	16.12m
T.O.V ELEV.	17.99m
T.O.V.F ELEV.	15.70m
ACCESS VAULT	AV 110
VAULT TYPE	N

ACCESS VAULT DATA	
STATION	1+062.5
NORTHING	7667232.15
EASTING	497899.47
T.O.P. ELEV.	15.92m
ACCESS VAULT	EXAV 2
VAULT TYPE	B

1 / C206 NEW DISTRIBUTION LOOP PROFILE
SCALE: H 1:1000 V 1:100



2 / C206 NEW DISTRIBUTION LOOP PLAN
SCALE: 1:1000

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Consultants

Legend

ROADS
LOT BOUNDARIES
POWER POLES
MAJOR TOPO LINE
MINOR TOPO LINE

EXAV
- EXISTING VAULT REQUIRED MODIFICATION

AV
- NEW VAULT

Notes

1. ELEVATION AND GRADE INFORMATION OF THE PIPELINE AND ACCESS VAULTS BASED ON DILLON CONSULTING JUNE 2004 *AS-BUILT* DRAWINGS.
2. EXAV 01 TO BE REMOVED. SEE DWG C-105.
3. T.O.P = TOP OF PIPE
   T.O.V = TOP OF VAULT
   T.O.V.F = TOP OF VAULT FLOOR

Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C ISSUED FOR TENDER	AF	WO	14.02.14
B ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A ISSUED FOR 50% REVIEW	AF	WO	12.11.09

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File Name: 144901252	AF Dwn.	WO Chkd.	WO Dsgn.	13.12.19

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144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
NEW DISTRIBUTION LOOP
PLAN & PROFILE
0+420 TO 1+060

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-206	12 of 24	0

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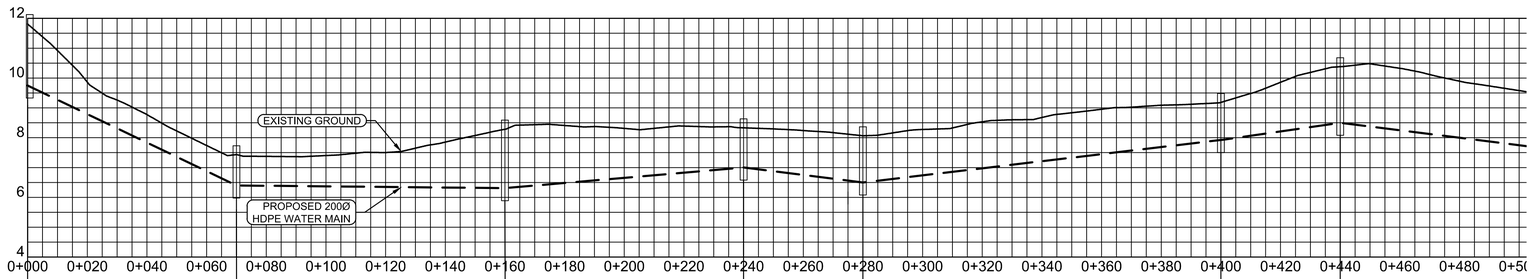


ACCESS VAULT DATA	
STATION	0+000
NORTHING	7667845.648
EASTING	497951.669
T.O.P. ELEV.	9.75m
T.O.V ELEV.	12.13m
T.O.V.F ELEV.	9.33m
ACCESS VAULT	AV 106
VAULT TYPE	M

ACCESS VAULT DATA	
STATION	0+070
NORTHING	7667855.855
EASTING	498021.060
T.O.P. ELEV.	6.40m
T.O.V ELEV.	7.73m
T.O.V.F ELEV.	5.98m
ACCESS VAULT	AV 201
VAULT TYPE	T

ACCESS VAULT DATA	
STATION	0+160
NORTHING	7667868.498
EASTING	498106.528
T.O.P. ELEV.	6.31m
T.O.V ELEV.	8.59m
T.O.V.F ELEV.	5.89m
ACCESS VAULT	AV 202
VAULT TYPE	U

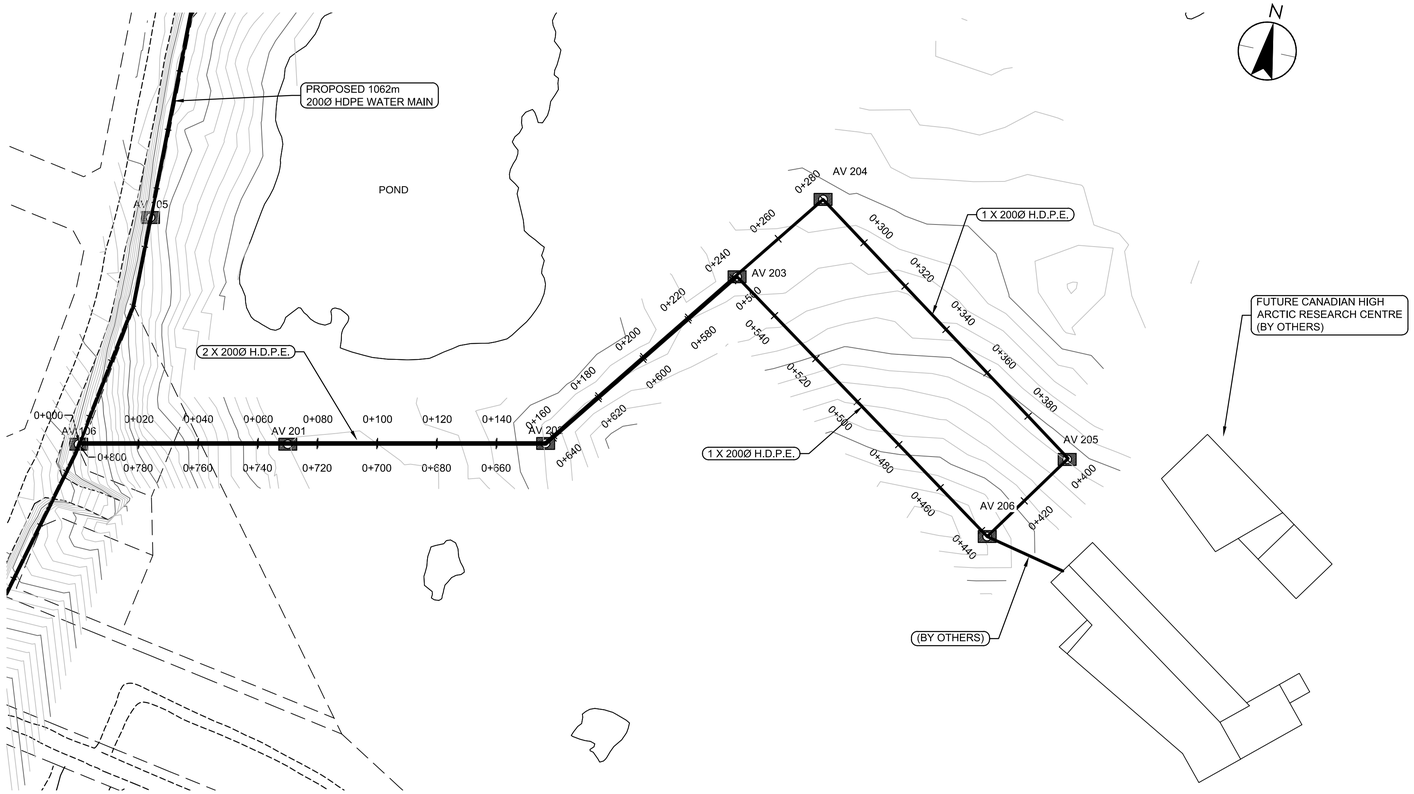
ACCESS VAULT DATA	
STATION	0+240
NORTHING	7667933.052
EASTING	498161.963
T.O.P. ELEV.	7.00m
T.O.V ELEV.	8.64m
T.O.V.F ELEV.	6.58m
ACCESS VAULT	AV 203
VAULT TYPE	R

ACCESS VAULT DATA	
STATION	0+280
NORTHING	7667962.853
EASTING	498186.739
T.O.P. ELEV.	6.50m
T.O.V ELEV.	8.36m
T.O.V.F ELEV.	5.77m
ACCESS VAULT	AV 204
VAULT TYPE	L

ACCESS VAULT DATA	
STATION	0+400
NORTHING	7667888.446
EASTING	498280.304
T.O.P. ELEV.	7.92m
T.O.V ELEV.	9.48m
T.O.V.F ELEV.	7.58m
ACCESS VAULT	AV 205
VAULT TYPE	L

ACCESS VAULT DATA	
STATION	0+440
NORTHING	7667859.009
EASTING	498257.520
T.O.P. ELEV.	8.50m
T.O.V ELEV.	10.68m
T.O.V.F ELEV.	8.08m
ACCESS VAULT	AV 206
VAULT TYPE	S

1 / C207 CHARS DISTRIBUTION LOOP PROFILE
SCALE: H 1:1000 V 1:100



2 / C207 CHARS DISTRIBUTION LOOP PLAN
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Legend

ROADS
LOT BOUNDARIES
POWER POLES
MAJOR TOPO LINE
MINOR TOPO LINE

EXAV
- EXISTING VAULT REQUIRED MODIFICATION

AV
- NEW VAULT

Notes

1. T.O.P = TOP OF PIPE
   T.O.V = TOP OF VAULT
   T.O.V.F = TOP OF VAULT FLOOR

Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C ISSUED FOR TENDER	AF	WO	14.02.14
B ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A ISSUED FOR 50% REVIEW	AF	WO	12.11.09
Issued	By	Appd.	YY.MM.DD
File Name: 144901252	AF Dwn.	WO Chkd.	WO Dsgn. 13.12.19 YY.MM.DD

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Signature
Date 22 May 2014
PERMIT NUMBER: P 800
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
NWT/NU

144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
CHARS DISTRIBUTION LOOP
PLAN & PROFILE
0+000 TO 0+500

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-207	13 of 24	0

V:\144P\Active\144901252\0500_civil\06_drawings\06-04 Issued For Construction\Phase II\01252C-101-208.dwg
2014/05/09 9:08 AM By: Nkoumandi, Mathyr

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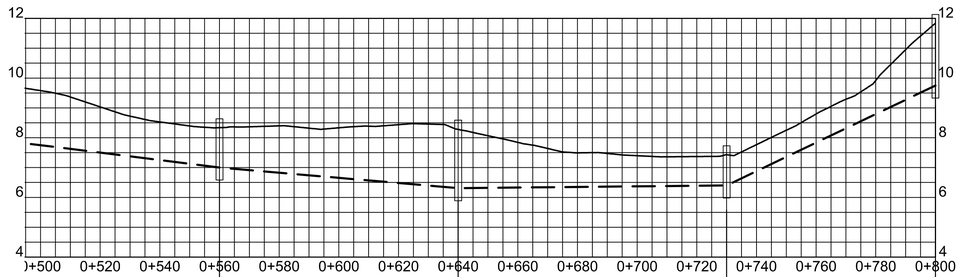


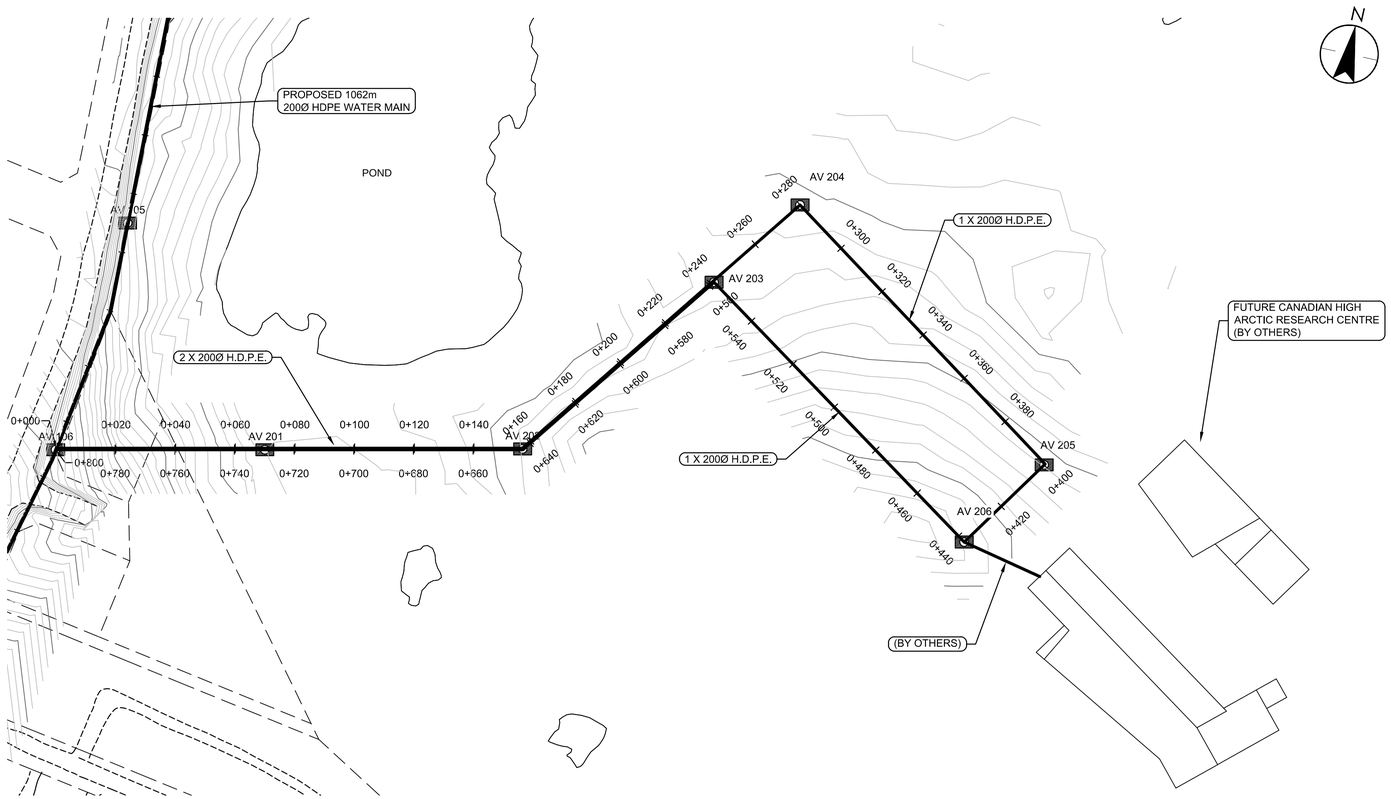
ACCESS VAULT DATA	
STATION	0+560
NORTHING	7667933.052
EASTING	498161.963
T.O.P. ELEV.	7.00m
T.O.V ELEV.	8.64m
T.O.V.F ELEV.	6.58m
ACCESS VAULT	AV 203
VAULT TYPE	R

ACCESS VAULT DATA	
STATION	0+640
NORTHING	7667868.498
EASTING	498106.528
T.O.P. ELEV.	6.31m
T.O.V ELEV.	8.59m
T.O.V.F ELEV.	5.89m
ACCESS VAULT	AV 202
VAULT TYPE	U

ACCESS VAULT DATA	
STATION	0+730
NORTHING	7667855.855
EASTING	498021.060
T.O.P. ELEV.	6.40m
T.O.V ELEV.	7.73m
T.O.V.F ELEV.	5.98m
ACCESS VAULT	AV 201
VAULT TYPE	T

ACCESS VAULT DATA	
STATION	0+800
NORTHING	7667845.648
EASTING	497951.669
T.O.P. ELEV.	9.75m
T.O.V ELEV.	12.13m
T.O.V.F ELEV.	9.33m
ACCESS VAULT	AV 106
VAULT TYPE	M

1 / C207 CHARS DISTRIBUTION LOOP PROFILE
SCALE: H 1:1000 V 1:100



2 / C207 CHARS DISTRIBUTION LOOP PLAN
SCALE: 1:1000

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Consultants

Legend

ROADS
LOT BOUNDARIES
POWER POLES
MAJOR TOPO LINE
MINOR TOPO LINE

EXAV - EXISTING VAULT REQUIRED MODIFICATION

AV - NEW VAULT

Notes

1. T.O.P = TOP OF PIPE
   T.O.V = TOP OF VAULT
   T.O.V.F = TOP OF VAULT FLOOR

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Issued	By	Appd.	YY.MM.DD

File Name: 144901252	Dwn.	Chkd.	Dsgn.	YY.MM.DD
	AF	WO	WO	13.12.19

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REGISTERED PROFESSIONAL ENGINEER NWT/NU

144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
CHARS DISTRIBUTION LOOP
PLAN & PROFILE
0+500 TO 0+800

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-208	14 of 24	0

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2014/05/09 9:08 AM By: Nioumand, Mahyar

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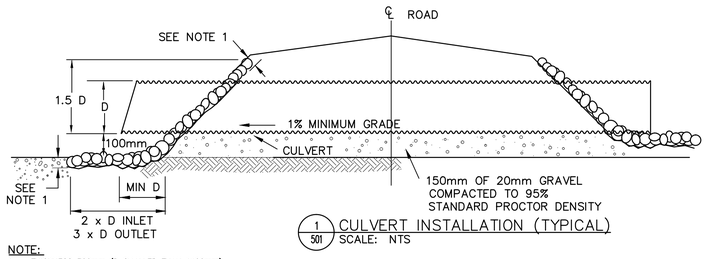
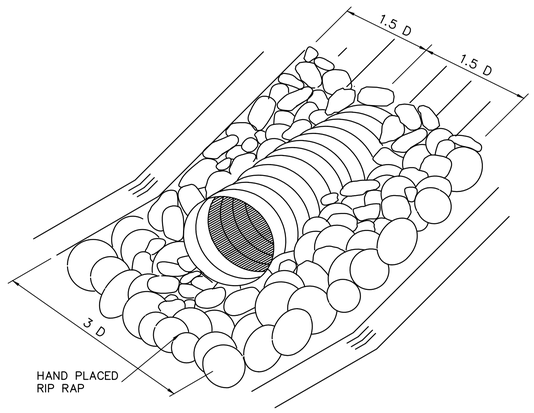
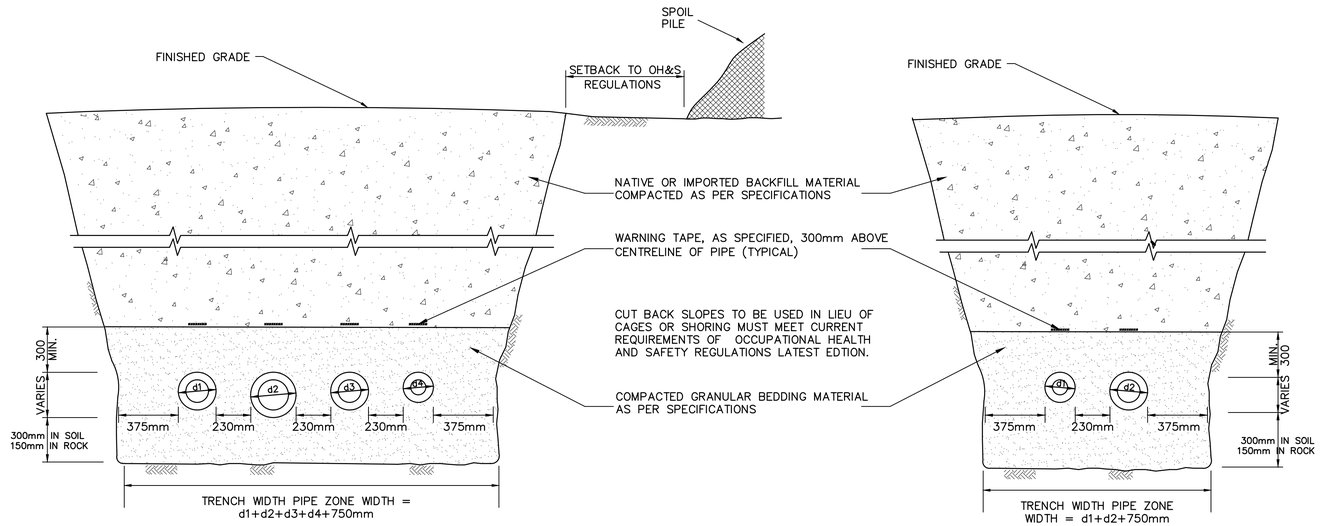


1/501 CULVERT INSTALLATION (TYPICAL)
SCALE: NTS

NOTE:
1. THICKNESS 300mm (D SMALLER THAN 1400mm) THICKNESS 600mm (D=1400-2000mm)
2. RIP RAP SHALL BE HAND PLACED ROCK COBBLE OR BAGGED CONCRETE AS SPECIFIED BY THE ENGINEER.
3. MINIMUM CULVERT DIA 300mm
4. 100mm DROP FROM BOTTOM OF CULVERT TO RIP RAP IS FOR OUTLET END ONLY.



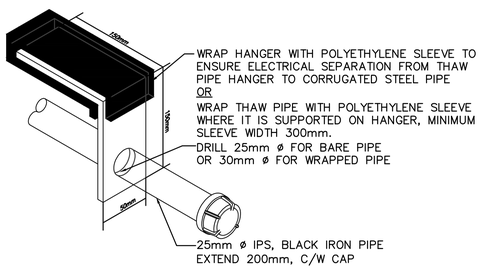
2/501 CULVERT INLET & OUTLET (TYPICAL)
SCALE: NTS



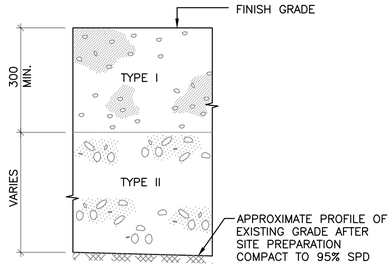
3/501 NEW MULTIPLE LINE TRENCH CROSS SECTION (TYPICAL)
SCALE: NTS

4/501 NEW RECIRCULATION LINE TRENCH CROSS SECTION (TYPICAL)
SCALE: NTS

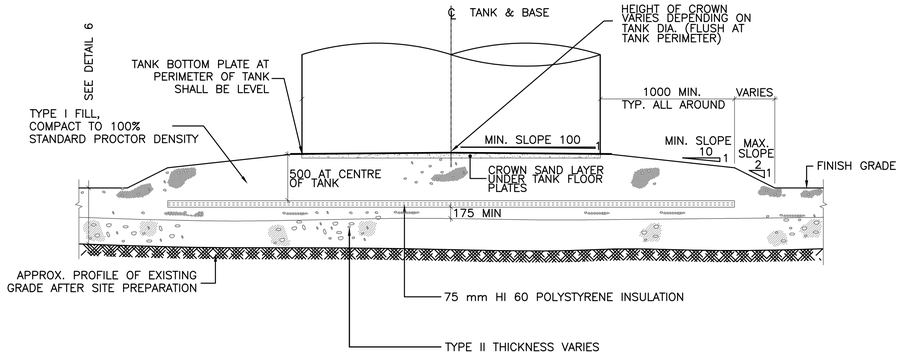
NOTE:
1. ALL DIMENSIONS ARE IN MILLIMETERS
2. CONTRACTOR SHALL CONTACT OCCUPATIONAL HEALTH AND SAFETY BOARD TO DETERMINE CURRENT CUT-BACK SLOPE REQUIREMENTS
3. d= PIPE OUTSIDE DIAMETER OVER INSULATION



5/501 CULVERT THAW PIPE DETAIL
SCALE: NTS



6/501 WTP PAD PROFILE (TYPICAL – EXCEPT AT TANK BASES)
SCALE: NTS



7/501 TANK BASE PROFILE (TYPICAL)
SCALE: NTS

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Legend

Notes

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D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
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Issued	By	Appd.	YY.MM.DD

File Name: 144901252	AF	WO	WO	13.12.19
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

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NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER NWT/NU 22 May 2014

144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
CIVIL DETAILS

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
C-501	15 of 24	0

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2014/05/09 9:08 AM By: Nicumanaj, Mahyar

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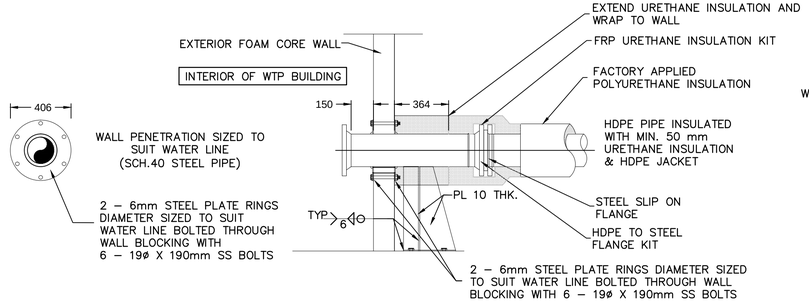
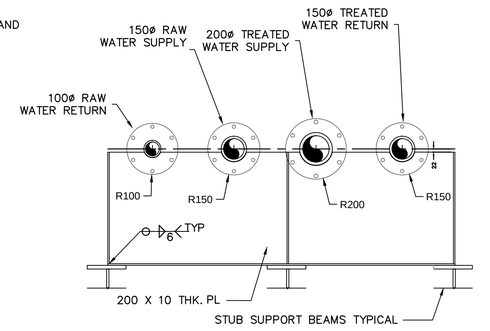
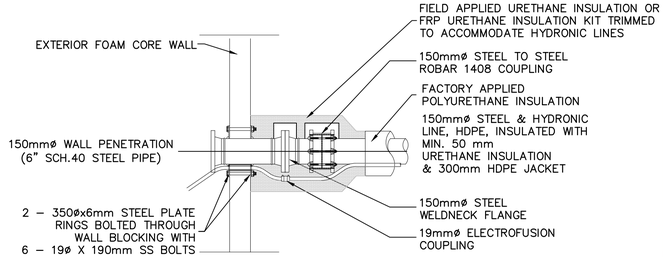


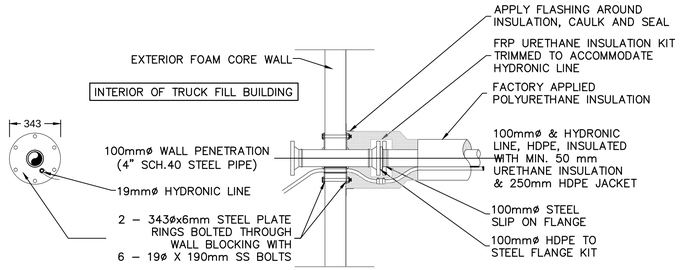
1/502 WATER MAIN WALL PENETRATIONS – SIDE VIEW
SCALE: NTS



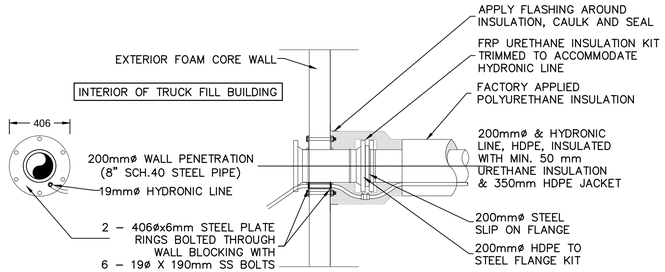
2/502 WATER MAIN WALL PENETRATION SUPPORT
SCALE: NTS



3/502 BACKWASH LINE TO TANK WALL PENETRATION
SCALE: NTS



4/502 TREATED CIRCULATION WATER TO TANK WALL PENETRATION
SCALE: NTS



5/502 TREATED WATER TO TANK WALL PENETRATION
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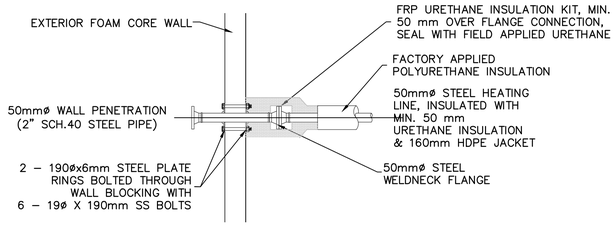
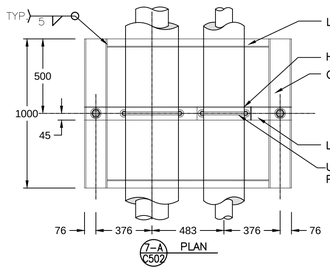
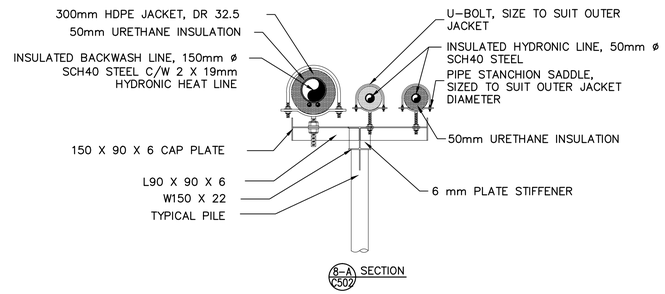
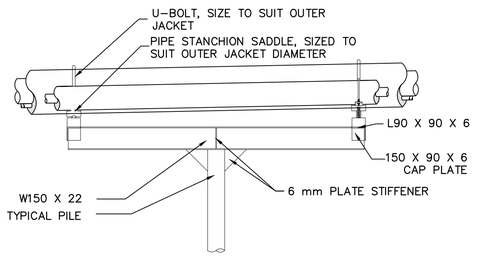
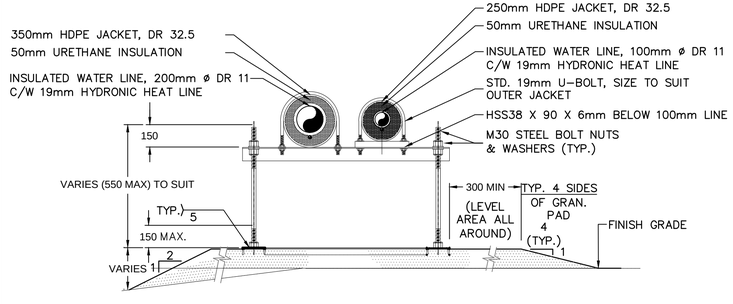


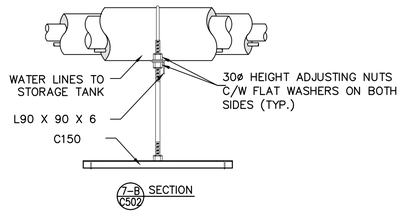
6/502 HEATING LINE TO BACKWASH TANK WALL PENETRATION
SCALE: NTS



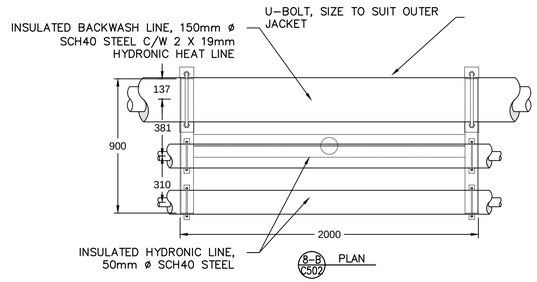








7/502 PIPE SUPPORT TO TREATED WATER STORAGE TANK & ACCESS VAULT
SCALE: NTS



8/502 PIPE SUPPORT TO BACKWASH STORAGE TANK
SCALE: NTS

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Notes

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Date 22 May 2014
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NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
22 APRIL 2014
NWT/NU

144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
BUILDING WALL PENETRATIONS AND PIPE SUPPORT DETAILS

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
C-502	16 of 24	0

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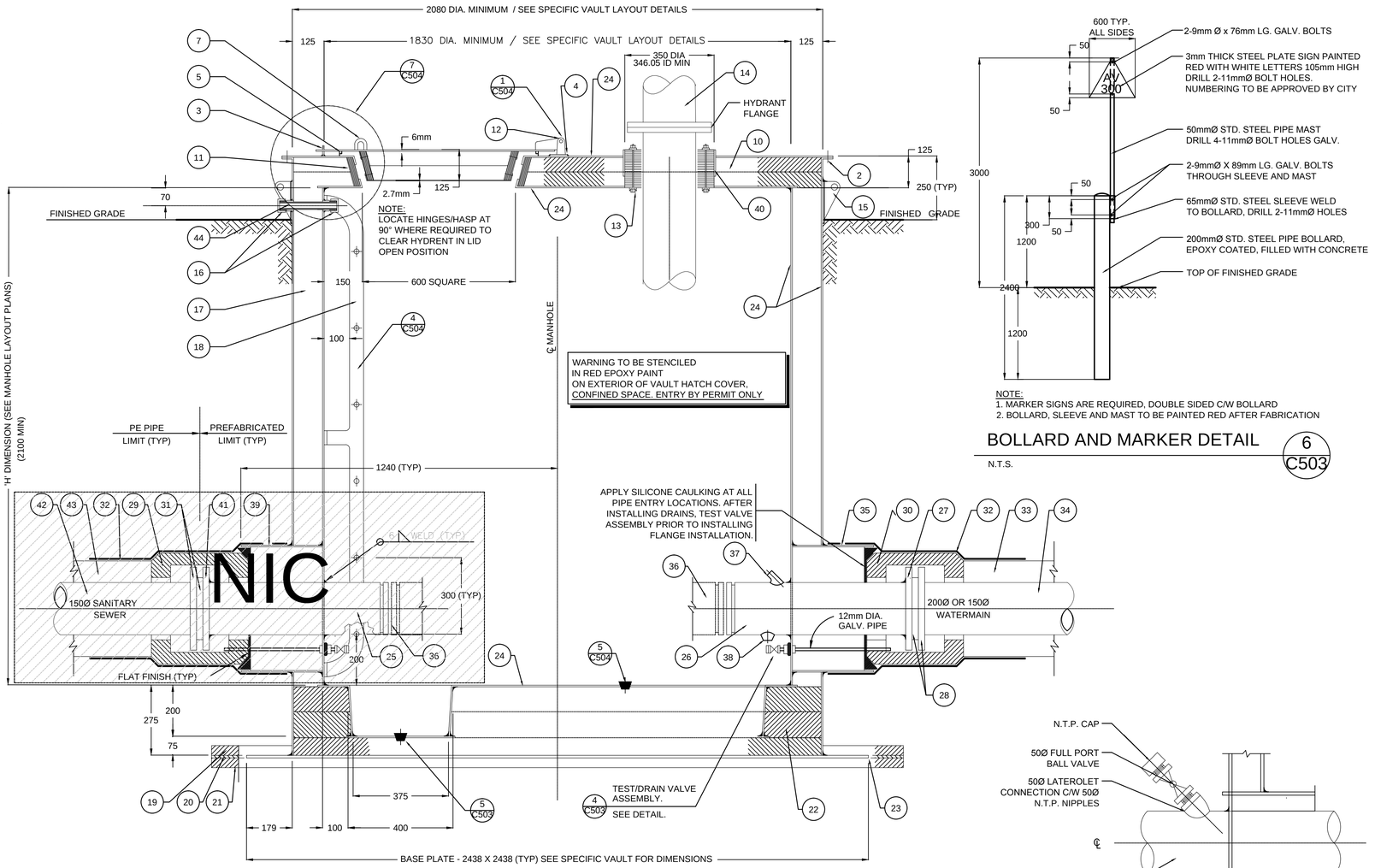
2014/05/09 9:08 AM By: Nirounand, Mahyar

ORIGINAL SHEET - ANSI D

KEY TO NUMBERED PARTS;

1. 20mm THK HD POLYETHYLENE SHEET, THERMAL BREAK
2. 12mmØ GALVANIZED STEEL BOLTS, NUTS, AND WASHERS 210mm EQUAL SPACING.
3. HASP ASSEMBLY (DETAIL 2-C5)
4. 50mm X 60mm X 12mm STEEL HINGE BASE PLATE WELDED TO ACCESS VAULT TOP
5. 19mm X 38mm 35 DUROMETER SOFT NATURAL RUBBER STRIP (REVERSIBLE) GASKET TO ACHIEVE AIRTIGHT & WATERPROOF SEAL ALL AROUND (DETAIL 3-C5)
6. 50mm X 10mm BAR, WELD CONTINUOUS AROUND TOP OF VAULT BARREL, DRILL TO MATCH TOP LID.
7. LIFTING EYE 12mmØ STEEL X 40mm INSIDE LOOP
8. 6mm GALVANIZED STEEL NUT. COUNTERSUNK SHEET METAL SCREWS @ 100mm CENTERS
9. 6mm X 19mm GALVANIZED STEEL COUNTERSUNK SHEET METAL SCREWS @ 100mm CENTERS
10. POLYURETHANE SHEET INSULATION, 240 kPa CUT TO SIZE
11. 20mm THICK HIGH DENSITY POLYETHYLENE
12. HINGES SPACED @ 400mm APART.
13. THUNDER-LINE CORP. LINK-SEAL MODEL LS-500-C (200X350) OR APPROVED EQUAL TO FIT ITEMS 14 & 40
14. 200mmØ CRANE McAVITY M-67 "IN-LINE" FIRE HYDRANT
15. LIFTING LUGS - TWO PER ACCESS VAULT. 150mm X 75mm X 12mm THICK WITH 38mmØ LIFTING EYE, C/W 200 X 200 X 12 STEEL REINFORCING PLATE CURVED TO RADIUS, CONTINUOUSLY WELDED.
16. 65mmØ THREADED STEEL HALF NIPPLE CONDUIT SLEEVE (FOR EXTENSION CORD OR SUMP PUMP DISCHARGE) IN APPROPRIATE LOCATION, C/W THREADED GALVANIZED STEEL CAPS
17. SPRAYED POLYURETHANE INSULATION 240kPa (TYPICAL).
18. LADDER, LENGTH AS REQUIRED. 450m WIDE MADE FROM 65mm X 12mm FLAT BAR VERTICALS & SUPPORTS WITH 20mmØ RUNGS. WELDED CONSTRUCTION THROUGHOUT ALL EDGES TO BE GROUND SMOOTH GALVANIZED AFTER FABRICATION. FASTEN WITH STEEL STUDS WELDED TO INNER WALL.
19. 38mm THICK STYROFOAM, 4 PIECES, OUTER EDGE TO MATCH ITEM 21 - DOW CHEMICAL HI 60, 410 kPa COMPRESSIVE STRENGTH.
20. FILLER PIECE 10mm THICK STYROFOAM DOW CHEMICAL HI 60
21. 38mm THICK STYROFOAM DOW CHEMICAL HI 60. SEE SPECIFIC VAULT DETAIL FOR DIMENSIONS
22. POLYURETHANE SHEET INSULATION CUT TO SIZE, 240kPa
23. 10mm THICK SQUARE STEEL BASE PLATE. SEE SPECIFIC VAULT DETAILS FOR DIMENSIONS.
24. 6mm THICK STEEL PLATE ACCESS VAULT CONSTRUCTION
25. 150mmØ SANITARY SEWER ENTRY, SCHEDULE 8 STEEL PIPE SPOOL PIECE.
26. WATERMAIN ENTRY. SCHEDULE 80 STEEL PIPE SPOOL PIECE.
27. WELDED STEEL SLIP-ON FLANGE.
28. DR 17 SERIES DR 17 STUB END, ASA 125# CAST IRON (DUCTILE) METAL BACKUP FLANGE, CADMIUM PLATED NUTS, BOLTS AND WASHERS AND STUB END GASKET
29. FLANGE INSULATION KIT, 470mm OD FOR 200mmØ PE PIPE, 407mm OD FOR 150mmØ PE PIPE, 290mm OD FOR 50mmØ. (MASTIC COATED INNER SURFACES) AND FRP COATING.
30. FLANGE INSULATION KIT, 290mm OD FOR 50mmØ PE PIPE, 407mm OD FOR 150mmØ PE PIPE, 470mm OD FOR 200mmØ PE PIPE, 535mm OD FOR 250mmØ PE (MASTIC COATED INNER SURFACES) AND FRP COATING.
31. 200mmØ/150mmØ (I.P. SIZE) DR 17 PE/50mmØ DR 17 PE STUB END, ASA 125# CAST IRON (DUCTILE) METAL BACKUP FLANGE, CADMIUM PLATED NUTS, BOLTS & WASHERS, AND STUB END GASKET
32. RAYCHEM THERMACLAD HEAT SHRINK TAPE, 2 LAYERS MIN. 50% OVERLAP EACH WRAP.
33. 50mm THICK POLYURETHANE INSULATION HALVES OR PE PIPE PRE-INSULATION TO SUIT PIPE SIZES
34. 200mmØ (IP SIZE) PE WATERMAIN OR 50mmØ (IP SIZE) PE WATERMAIN
35. STEEL RING SECTION WELDED TO ACCESS VAULT OUTER WALL 6mm THICK X 470mm OD FOR 200mmØ, 290mm OD FOR 50mmØ
36. HOT DIPPED GALVANIZED STEEL PIPING.
37. 50mmØ LATROLET
38. 25mmØ THREADOLET
39. STEEL RING SECTION WELDED TO ACCESS VAULT OUTER WALL 6mm THICK X 407mm OD FOR 150mmØ SEWER LINE, 470mm OD FOR 200Ø SEWER LINE.
40. HYDRANT COLLAR, 350mmØ SCHEDULE 10 (346mm ID) STEEL PIPE X 100m LONG WELDED TO ACCESS VAULT EXTERIOR TOP PLATE
41. 200mmØ/150mmØ WELDED STEEL SLIP-ON FLANGE
42. 200mmØ (IP SIZE) PE SEWER MAIN.
43. 50mm THICK POLYURETHANE INSULATION HALVES OR PE PIPE PRE-INSULATION TO SUIT PIPE SIZES
44. POLYETHYLENE LINER TUBE, PACK WITH STYROFOAM INSULATION.



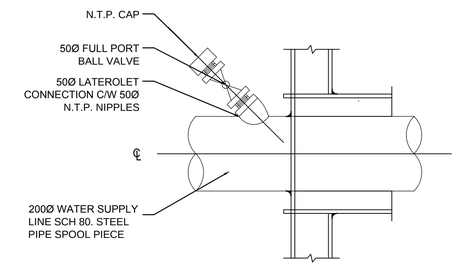
TYPICAL STEEL VAULT CONSTRUCTION 1 C503

N.T.S.

NOTE:
1. MARKER SIGNS ARE REQUIRED, DOUBLE SIDED C/W BOLLARD
2. BOLLARD, SLEEVE AND MAST TO BE PAINTED RED AFTER FABRICATION

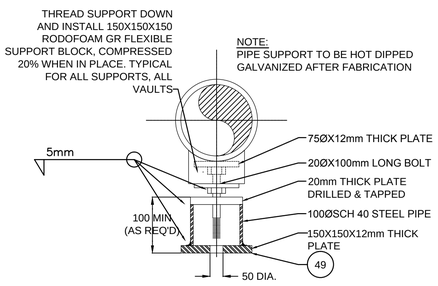
BOLLARD AND MARKER DETAIL 6 C503

N.T.S.



VENT VALVE DETAIL 2 C503

N.T.S.



PIPE SUPPORT DETAIL 5 C503

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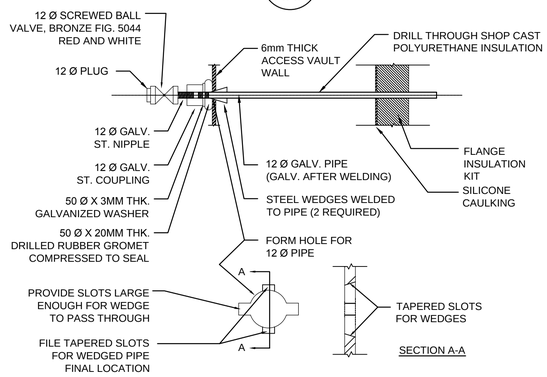

TEST / DRAIN VALVE ASSEMBLY 4 C503

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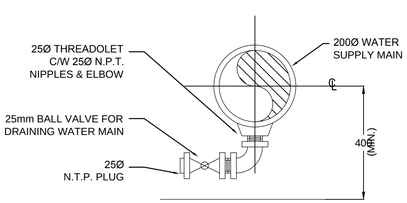

DRAIN VALVE DETAIL 3 C503

N.T.S.

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Consultants

Legend

Notes

1. SANITARY SERVICES FOR REFERENCE ONLY, NO SANITARY IN THIS CONTRACT

Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C ISSUED FOR TENDER	AF	WO	14.02.14
B ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A ISSUED FOR 50% REVIEW	AF	WO	12.11.09

Issued	By	Appd.	YY.MM.DD
File Name: 144901252	AF Dwn.	WO Chkd.	WO Dsgn.	13.12.19 YY.MM.DD

Permit-Seal

PERMIT TO PRACTICE
STANTEC ARCHITECTURE LTD.
Signature
Date 22 MAY 2014
PERMIT NUMBER: P 800
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER NWT/NU

144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
ACCESS VAULT
STANDARD DETAILS
SHEET ONE

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-503	17 of 24	0

V:\144P\Active\144901252\0500_civil\06_drawings\06-04 Issued For Construction \Phase II\01252C-503-504.dwg
2014/05/08 2:50 PM By: Nkoumand, Mahyar

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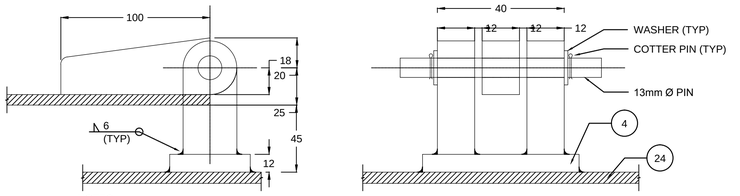

NOTES:
1. TWO HINGES ARE REQUIRED FOR EACH COVER.
2. HINGES TO BE SPACED AT 400mm APART

COVER HINGE DETAIL 1 C504

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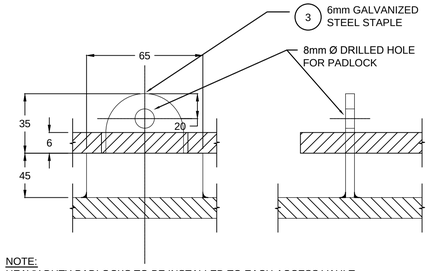
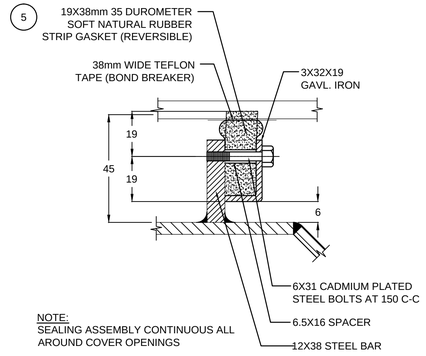


NOTE:
HEAVY DUTY PADLOCKS TO BE INSTALLED TO EACH ACCESS VAULT.
C/W DUST COVER. USE BEST LOCK COMPANY NO. 2B-7-72-C.
ALL KEYED TO THE CITY OF IQALUIT PUBLIC WORKS LOCK SYSTEM.

LOCK HASP DETAIL 2 C504

N.T.S.



NOTE:
SEALING ASSEMBLY CONTINUOUS ALL
AROUND COVER OPENINGS

COVER SEAL DETAIL 3 C504

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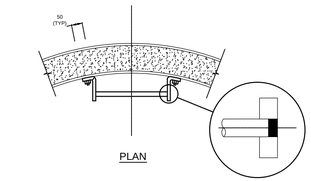

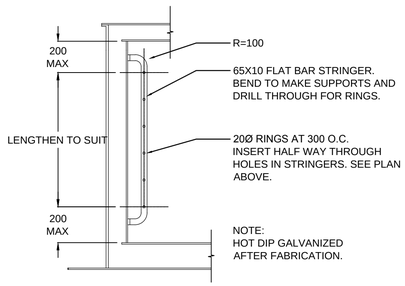

ACCESS VAULT LADDER DETAIL 4 C504

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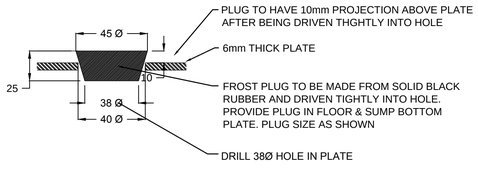
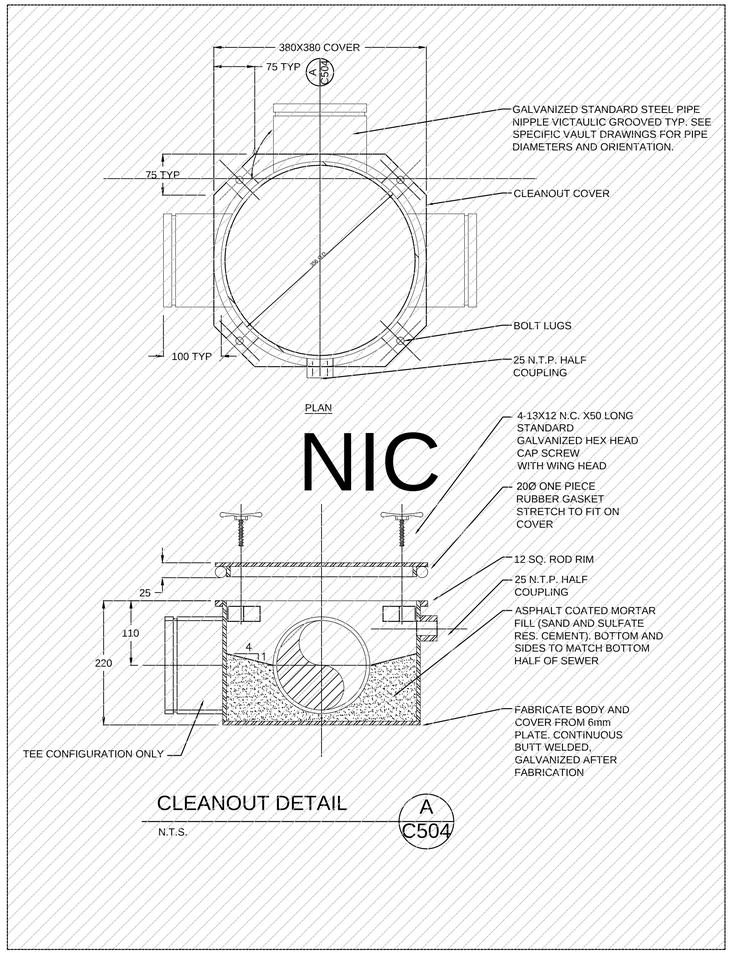


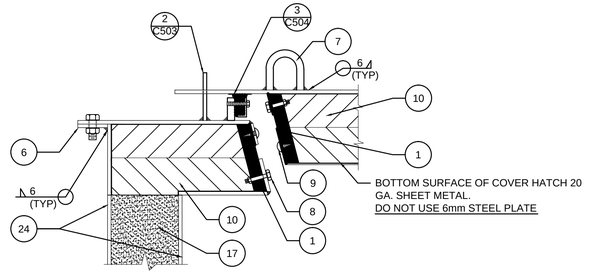
FROST PLUG DETAIL 5 C504

N.T.S.



CLEANOUT DETAIL A C504

N.T.S.



COVER CONSTRUCTION DETAIL 7 C504

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Consultants

Legend

Notes

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Issued	By	Appd.	YY.MM.DD
File Name: 144901252	AF Dwn.	WO Chkd.	WO Dsgn.	13.12.19 YY.MM.DD

Permit-Seal

PERMIT TO PRACTICE
STANTEC ARCHITECTURE LTD.
Signature
Date 22 May 2014
PERMIT NUMBER: P 800
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
NWT/NU

144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
ACCESS VAULT
STANDARD DETAILS
SHEET TWO

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-504	18 of 24	0

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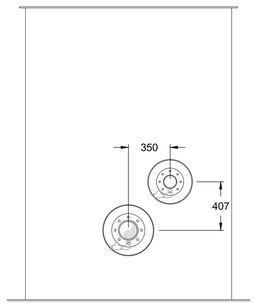
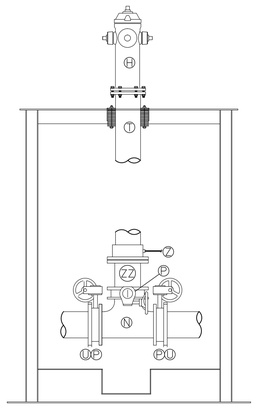
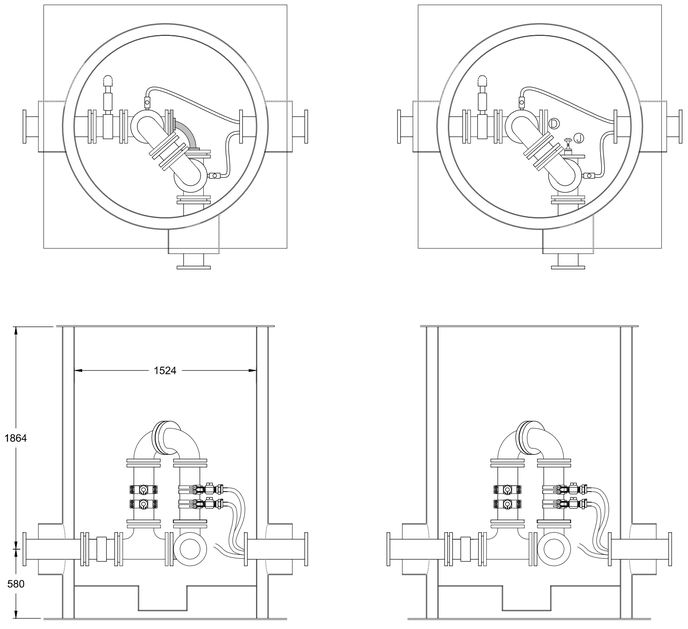


1 C-505 RECIRCULATION LINE VAULT PIPE OFFSETS (TYPICAL)
SCALE: 1:25



2 C-505 HYDRANT DETAIL (TYPICAL)
SCALE: NTS



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MODIFIED ACCESS VAULT TYPE B

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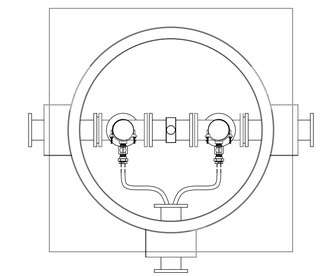

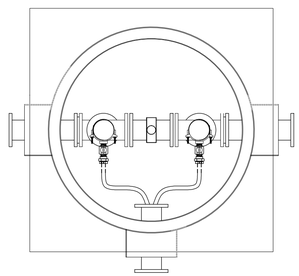

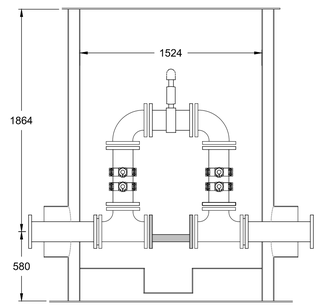

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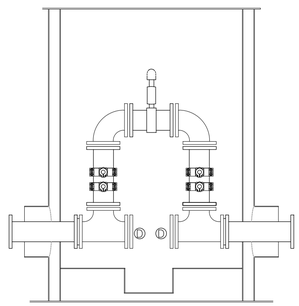

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4 C-505 ACCESS VAULT TYPE C (TYPICAL)
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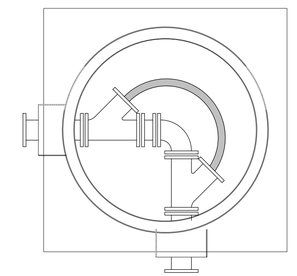

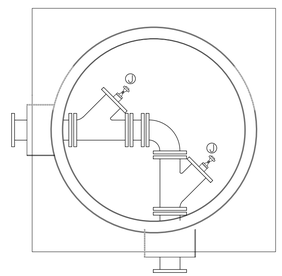

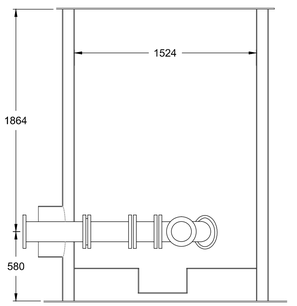

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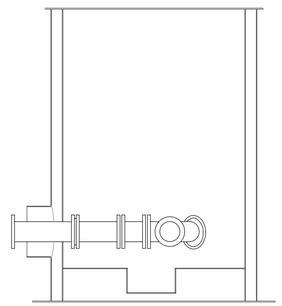

MODIFIED ACCESS VAULT TYPE D

5 C-505 ACCESS VAULT TYPE D (TYPICAL)
SCALE: 1:25

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Legend

Notes

1. GRAY SHADED ITEMS IN EXISTING VIEW TO BE REMOVED

Revision		By	Appd.	YY.MM.DD
D	ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C	ISSUED FOR TENDER	AF	WO	14.02.14
B	ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A	ISSUED FOR 50% REVIEW	AF	WO	12.11.09
Issued		By	Appd.	YY.MM.DD
File Name: 144901252		AF Dwn.	WO Chkd.	WO Dsgn.	13.12.19 YY.MM.DD

Permit-Seal

PERMIT TO PRACTICE
STANTEC ARCHITECTURE LTD.
Signature
Date 22 May 2014
PERMIT NUMBER: P 800
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
22 MAY 2014
NWT/NU

144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
VAULT DETAILS
SHEET ONE

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-505	19 of 24	0

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2014/05/07 7:57 AM By: Nicolmond, Marilyn

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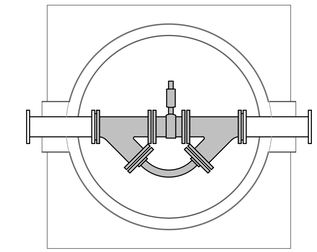

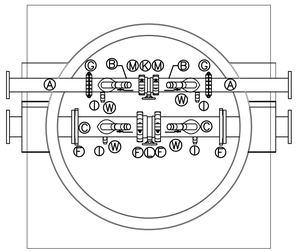

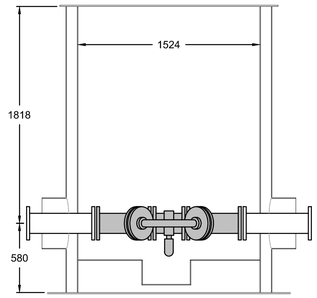

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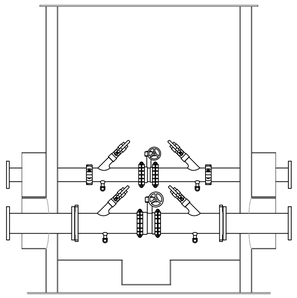
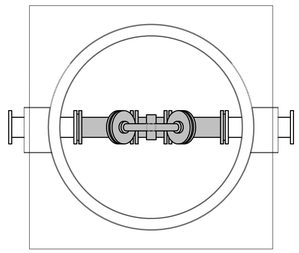
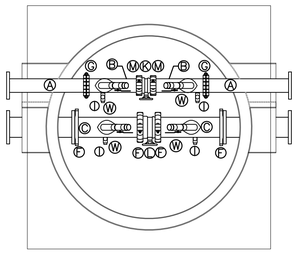
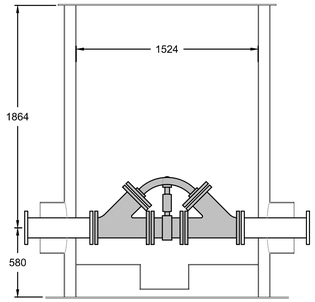


MODIFIED ACCESS VAULT TYPE E

1 C-506 ACCESS VAULT TYPE E (TYPICAL)
SCALE: 1:25







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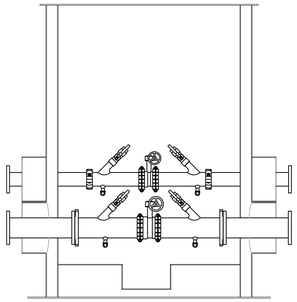

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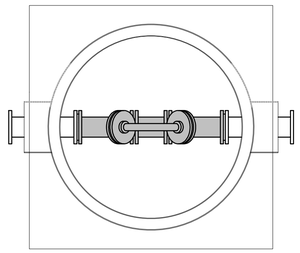

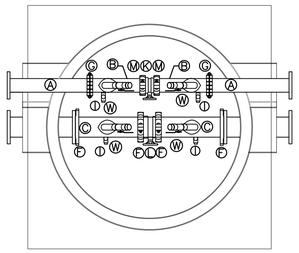

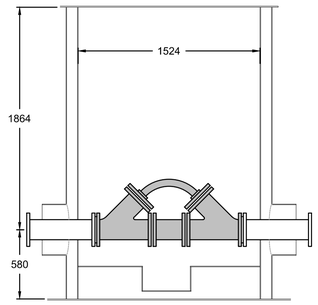

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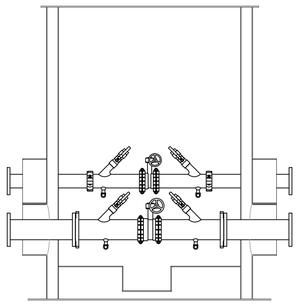
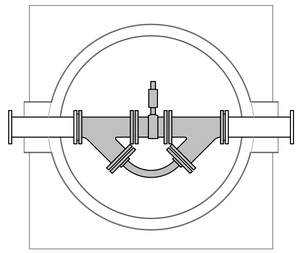
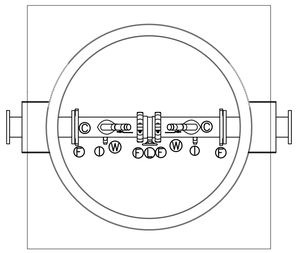
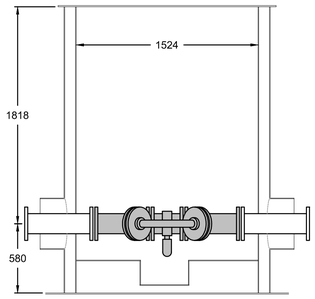


MODIFIED ACCESS VAULT TYPE G

3 C-506 ACCESS VAULT TYPE G (TYPICAL)
SCALE: 1:25







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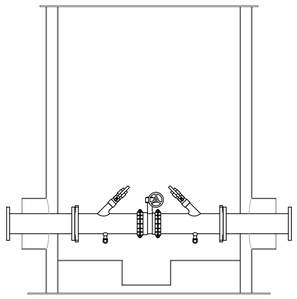

MODIFIED ACCESS VAULT TYPE H

4 C-506 ACCESS VAULT TYPE H (TYPICAL)
SCALE: 1:25

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Consultants

Legend

Notes

1. GRAY SHADED ITEMS IN EXISTING VIEW TO BE REMOVED.
2. FOR PARTS NUMBERS, REFER TO DRAWING C-509

Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C ISSUED FOR TENDER	AF	WO	14.02.14
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STANTEC ARCHITECTURE LTD.
Signature
Date 22 May 2014
PERMIT NUMBER: P 800
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER NWT/NU

144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
VAULT DETAILS
SHEET TWO

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-506	20 of 24	0

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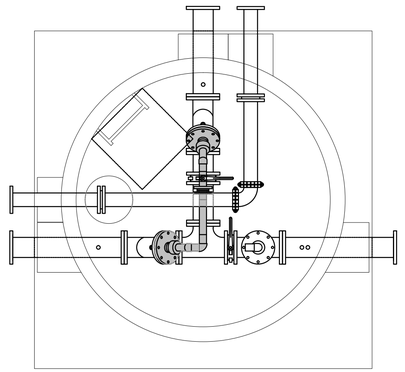
2014/05/09 9:09 AM By: Nirounand, Mahyar

ORIGINAL SHEET - ANSI D



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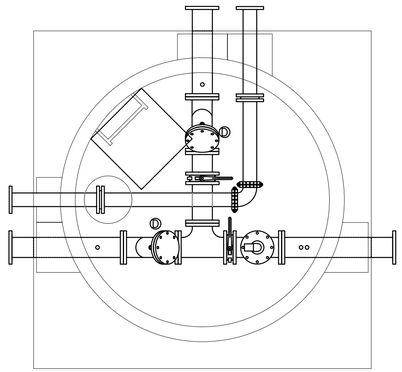
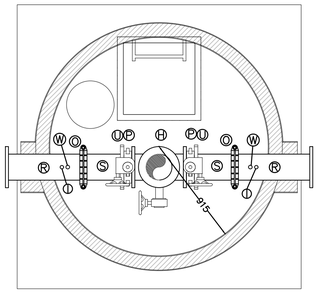
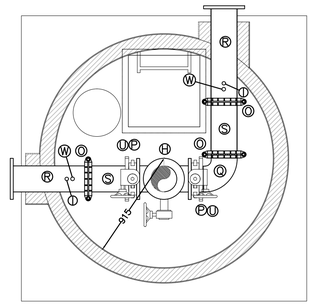


MODIFIED ACCESS VAULT TYPE J

1 C-507 ACCESS VAULT TYPE J MODIFICATIONS
SCALE: NTS



2 C-507 NEW ACCESS VAULT TYPE K (TYPICAL)
SCALE: NTS



3 C-507 NEW ACCESS VAULT VAULT TYPE L
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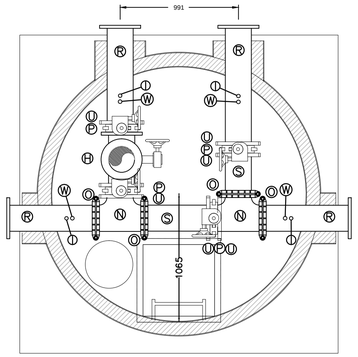
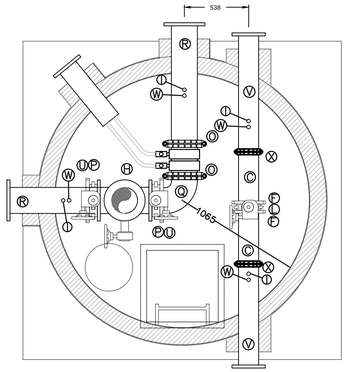


4 C-507 NEW CHARS VAULT TYPE M
SCALE: NTS



5 C-507 NEW INTERSECTION VAULT TYPE N
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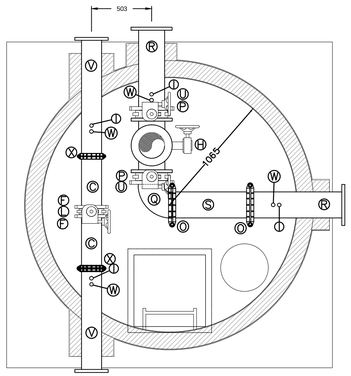
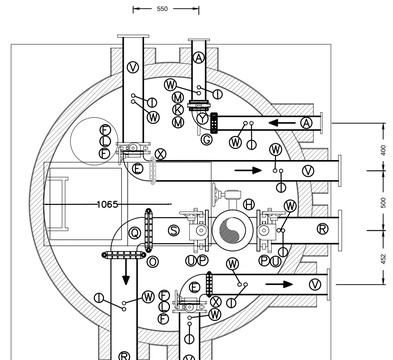
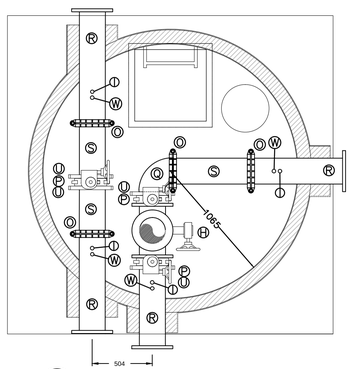


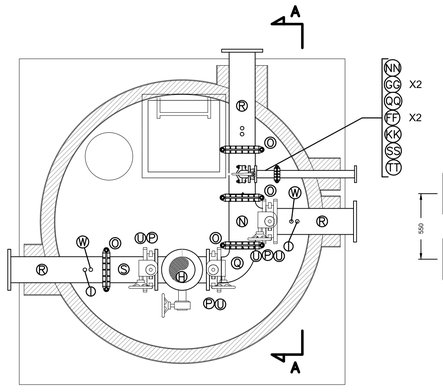
6 C-507 NEW ACCESS VAULT TYPE P
SCALE: NTS



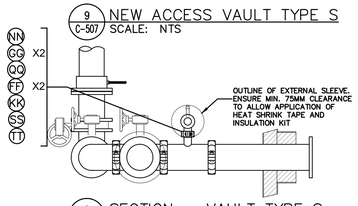
7 C-507 NEW ACCESS VAULT TYPE Q
SCALE: NTS



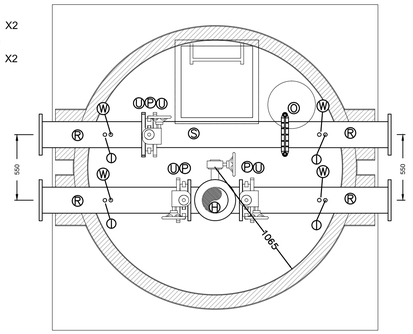
8 C-507 NEW ACCESS VAULT TYPE R
SCALE: NTS



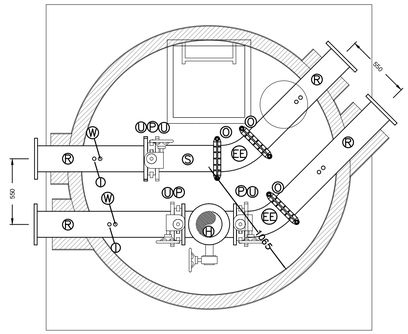
9 C-507 NEW ACCESS VAULT TYPE S
SCALE: NTS



A C-507 SECTION – VAULT TYPE S
SCALE: NTS



10 C-507 NEW ACCESS VAULT TYPE T
SCALE: NTS



11 C-507 NEW ACCESS VAULT TYPE U
SCALE: NTS

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Legend

Notes
1. GRAY SHADED ITEMS IN EXISTING VIEW TO BE REMOVED.
2. FOR PARTS NUMBERS, REFER TO DRAWING C-509

Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C ISSUED FOR TENDER	AF	WO	14.02.14
B ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A ISSUED FOR 50% REVIEW	AF	WO	12.11.09
Issued	By	Appd.	YY.MM.DD
File Name: 144901252	AF	WO	WO 13.12.19
	Dwn.	Chkd.	Dsgn. YY.MM.DD

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144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
VAULT AND HDPE
PIPE DETAILS
SHEET THREE

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-507	21 of 24	0

V:\144P\Active\144901252\0500_civil\06_drawings\06-04 Issued For Construction\Phase II\01252C-505-508.dwg
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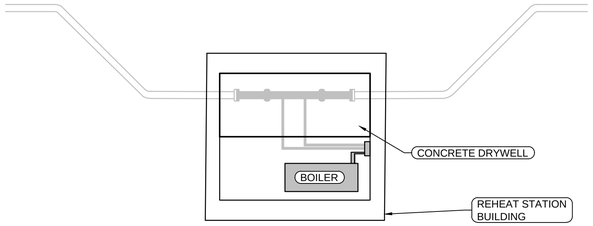
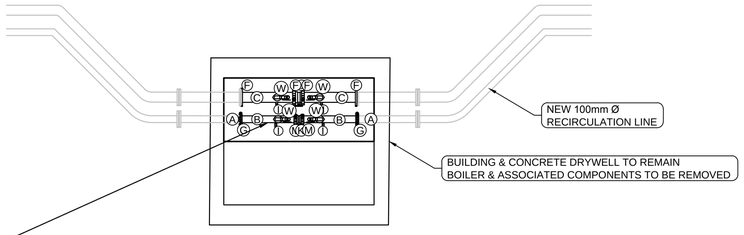
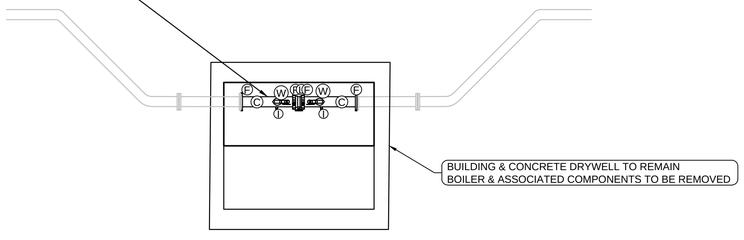


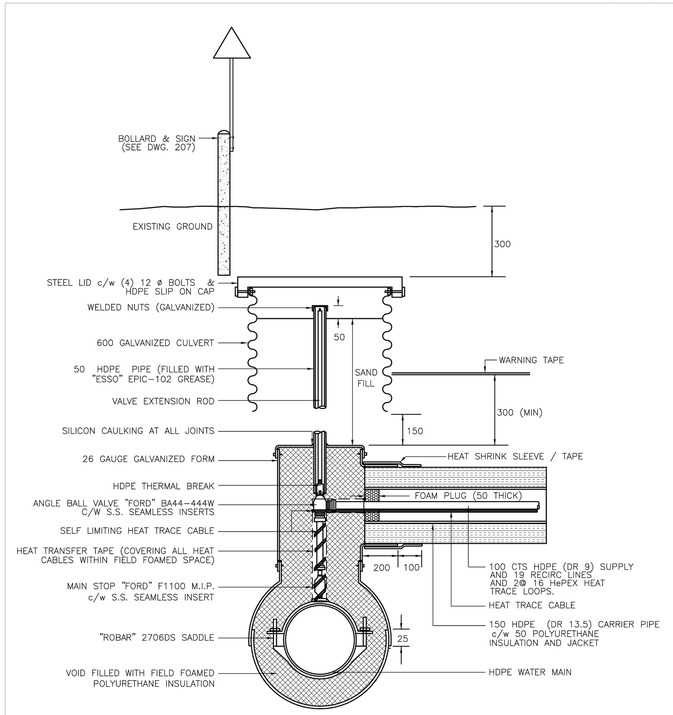
1 C508 EXISTING REHEAT STATIONS (NORTH & SOUTH)
SCALE: N.T.S.



2 C508 NORTH REHEAT STATION MODIFICATIONS
SCALE: N.T.S.



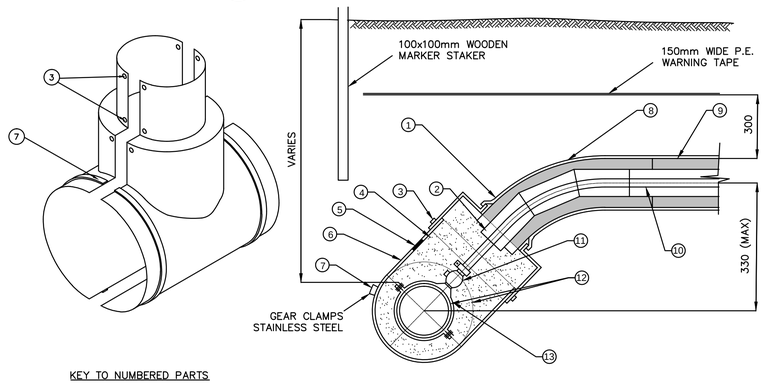
3 C508 SOUTH REHEAT STATION MODIFICATIONS
SCALE: N.T.S.



GENERAL NOTES:

1. ALL STEEL PIPE, FITTINGS AND STEEL PIPE SUPPORTS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
2. VICTAULIC FITTINGS SHALL BE HOT DIPPED GALVANIZED STYLE 77.
3. ALL SCREWED PIPE & FITTINGS SHALL BE GALVANIZED1034 KPA STD. MALLEABLE IRON.
4. WELDING & FABRICATION TO CSA W59-1977 & W47-1-1973.
5. HOT DIPPED GALVANIZING TO CSA G2164, MINIMUM 610 G/M.
6. VICTAULIC JOINTS SHALL BE FLEXIBLE GROOVED TO ALLOW UP TO 1 « DEFLECTION EACH (WHERE REQUIRED) TO PROVIDE PIPE ENTRY ANGLES SHOWN ON LAYOUT PLANS.
7. PROVIDE SPOOL PIECES AS REQUIRED

4 C-508 EXISTING SERVICE CONNECTION – TYPE Z (FOR REFERENCE ONLY)
SCALE: NTS



KEY TO NUMBERED PARTS

1. HEAT SHRINK SLEEVE, MIN. 100mm LAP ON BLACK JACKET
2. POLYURETHANE FOAM PLUG
3. GALV. SHEET METAL SCREWS
4. FIELD FORMED POLYURETHANE INSULATION FOAM (207 kPa COMPRESSIVE STRENGTH)
5. HOLES FOR FOAM INJECTION – TO BE MASTIC COATED AFTER FOAM INJECTION
6. INSULATION FORM, SIZED TO FIT WATER MAIN O.D. AND SERVICE LATERAL O.D., 25mm LAP REQUIRED ON EACH SIDE
7. STAINLESS STEEL GEAR CLAMPS
8. FACTORY FABRICATED DR17 HDPE 45 DEGREE BEND c/w 50mm FACTORY APPLIED POLYURETHANE INSULATION, FRP JACKET AND MASTIC COATED ENDS
9. DR17 HDPE PIPE c/w 50mm FACTORY APPLIED POLYURETHANE INSULATION, FRP JACKET AND MASTIC COATED ENDS
10. DR11 CTS HDPE (MIN DIA 25mm –MAX DIA 50mm) SUPPLY / RETURN WATER SERVICE PIPE, CONTINUOUS LENGTH FROM COIL STOCK
11. BRONZE BALL CORPORATION STOP, 25mm DIA. – MIPT INLET X CTS DR11 HDPE – JOINT OUTLET c/w STAINLESS STEEL INSERT STIFFENERS. 1 REQUIRED.
12. EXISTING WATER MAIN – (INSULATED DI PIPE)
13. ROBAR 2706 TAPPING SADDLE, DOUBLE STRAP.

5 C-508 NEW SERVICE CONNECTIONS – TYPICAL
SCALE: NTS

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Notes

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D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
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B ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A ISSUED FOR 50% REVIEW	AF	WO	12.11.09

Issued	By	Appd.	YY.MM.DD
File Name: 144901252	AF Dwn.	WO Chkd.	WO Dsgn.	13.12.19 YY.MM.DD

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REGISTERED PROFESSIONAL ENGINEER
NWT/NU

144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

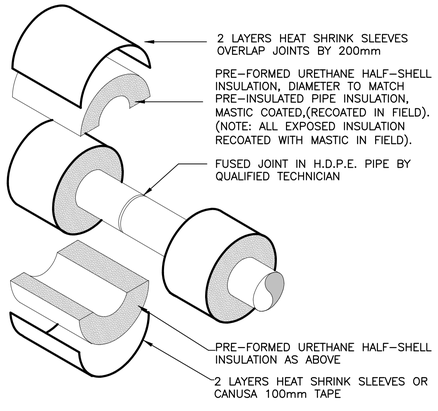
Title
REHEAT STATION MODIFICATIONS AND EXISTING SERVICE CONNECTION DETAILS

Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-508	22 of 23	0

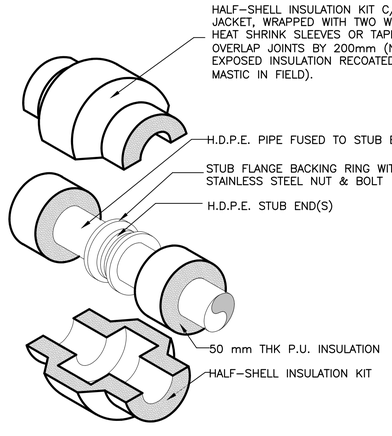
V:\144\Active\144901252\0500_civil\06_drawings\04-04 Issued For Construction\Phase II\0125DC-509.dwg
2014/05/09 9:09 AM By: Nirloumand, Mahyar

ORIGINAL SHEET - ANSI D

A	STEEL TRANSITION PIECE, 100mm ø, WELDED TO INNER SHELL, PROVIDE INSULATED COLLAR AS SHOWN ON DRAWING C-503, VICTAULIC INSIDE, FLANGED OUTSIDE VAULT WALL.
B	SPOOL PIECE, 100mm ø, VICTAULIC BOTH ENDS, FABRICATED TO SUIT.
C	SPOOL PIECE, 150mm ø, VICTAULIC BOTH ENDS, FABRICATED TO SUIT.
D	BLIND FLANGE, 150mm ø.
E	ELBOW, 90° VICTAULIC No. 10, 150mm ø.
F	FLANGE ADAPTOR, VICTAULIC TYPE 741, 150mm ø.
G	COUPLING, VICTAULIC STYLE 77, 100mm ø.
H	McAVITY M-67 HYDRANT, SEE SPECIFICATIONS
I	25mm ø THREADOLET (SEE DETAIL 3 – C503 WATERLINE DRAIN)
J	50mm FULL PORT BALL VALVE C/W N.T.P. CAP
K	BUTTERFLY VALVE, WAFER, 100mm, DeZURIK OR EQUAL
L	BUTTERFLY VALVE, WAFER, 150mm, DeZURIK OR EQUAL
M	FLANGE ADAPTOR, VICTAULIC TYPE 741, 100mm ø.
N	TEE, VICTAULIC ALL ENDS, 200 X 200 X 200
O	COUPLING, VICTAULIC STYLE 77, 200mm ø.
P	BUTTERFLY VALVE, WAFER, 200mm, DeZURIK OR EQUAL
Q	ELBOW, 90° VICTAULIC No. 10, 200mm ø.
R	STEEL TRANSITION PIECE, 200mm ø, WELDED TO INNER SHELL, PROVIDE INSULATED COLLAR AS SHOWN ON DRAWING C-503, VICTAULIC INSIDE, FLANGED OUTSIDE VAULT WALL.
S	SPOOL PIECE, 200mm ø, VICTAULIC BOTH ENDS, FABRICATED TO SUIT.
T	HYDRANT BARREL, LENGTH TO SUIT
U	FLANGE ADAPTOR, VICTAULIC TYPE 741, 200mm ø.
V	STEEL TRANSITION PIECE, 150mm ø, WELDED TO INNER SHELL, PROVIDE INSULATED COLLAR AS SHOWN ON DRAWING C-503, VICTAULIC INSIDE, FLANGED OUTSIDE VAULT WALL.
W	50mm ø LATEROLET (SEE DETAIL 2 – C503 WATERLINE VENT)
X	COUPLING, VICTAULIC STYLE 77, 150mm ø.
Y	ELBOW, 90° VICTAULIC No. 10, 100mm ø.
Z	HYDRANT DRAIN PIPED TO SUMP, 12 mm GARDEN HOSE
ZZ	HYDRANT SPOOL PIECE, 200mm ø, STD. FLANGE ONE END, FLANGE TO MATCH McAVITY HYDRANT ONE END, MIN. LENGTH 200mm
EE	ELBOW, 45° VICTAULIC No. 11, 200mm ø.
FF	FLANGE ADAPTOR, VICTAULIC TYPE 741, 50mm ø.
GG	COUPLING, VICTAULIC STYLE 77, 50mm ø.
KK	BUTTERFLY VALVE, WAFER, 50mm, DeZURIK OR EQUAL
NN	TEE, REDUCING, VICTAULIC ALL ENDS, 200 X 200 X 50
QQ	ELBOW, 90° VICTAULIC No. 10, 50mm ø.
RR	STEEL TRANSITION PIECE, 50mm ø, WELDED TO INNER SHELL, PROVIDE INSULATED COLLAR AS SHOWN ON DRAWING C-503, VICTAULIC INSIDE, FLANGED OUTSIDE VAULT WALL.
SS	SPOOL PIECE, 50mm ø, VICTAULIC BOTH ENDS, FABRICATED TO SUIT.
TT	STEEL TRANSITION PIECE, 50mm ø, WELDED TO INNER SHELL, PROVIDE INSULATED COLLAR AS SHOWN ON DRAWING C-503, VICTAULIC INSIDE, FLANGED OUTSIDE VAULT WALL



1 C-509 HDPE FUSED JOINT INSULATION DETAIL (TYPICAL)
SCALE: NTS



2 C-509 HDPE FLANGED JOINT INSULATION DETAIL (TYPICAL)
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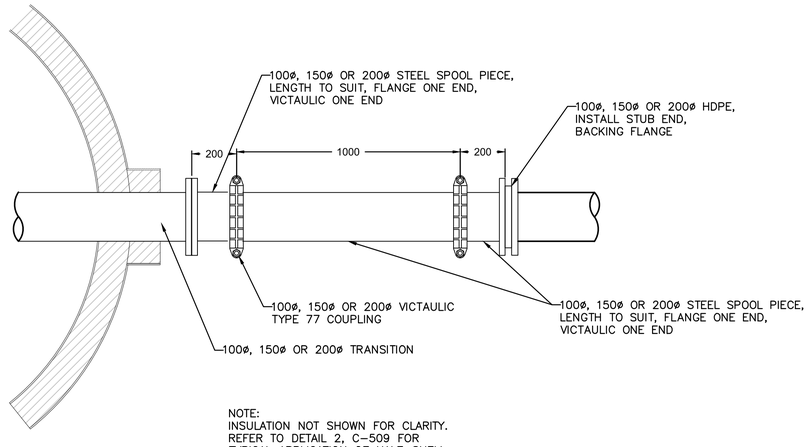

NOTE:
INSULATION NOT SHOWN FOR CLARITY.
REFER TO DETAIL 2, C-509 FOR TYPICAL APPLICATION OF HALF-SHELL INSULATION KIT

3 C-509 HDPE EXTERNAL CONNECTION (TYPICAL) HDPE
SCALE: NTS

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Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C ISSUED FOR TENDER	AF	WO	14.02.14
B ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A ISSUED FOR 50% REVIEW	AF	WO	12.11.09

Issued	By	Appd.	YY.MM.DD
File Name: 144901252	AF Dwn.	WO Chkd.	WO Dsgn.	13.12.19 YY.MM.DD

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Date 22 May 2014
PERMIT NUMBER: P 800
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
NWT/NU

144901252

Client/Project
GOVERNMENT OF NUNAVUT

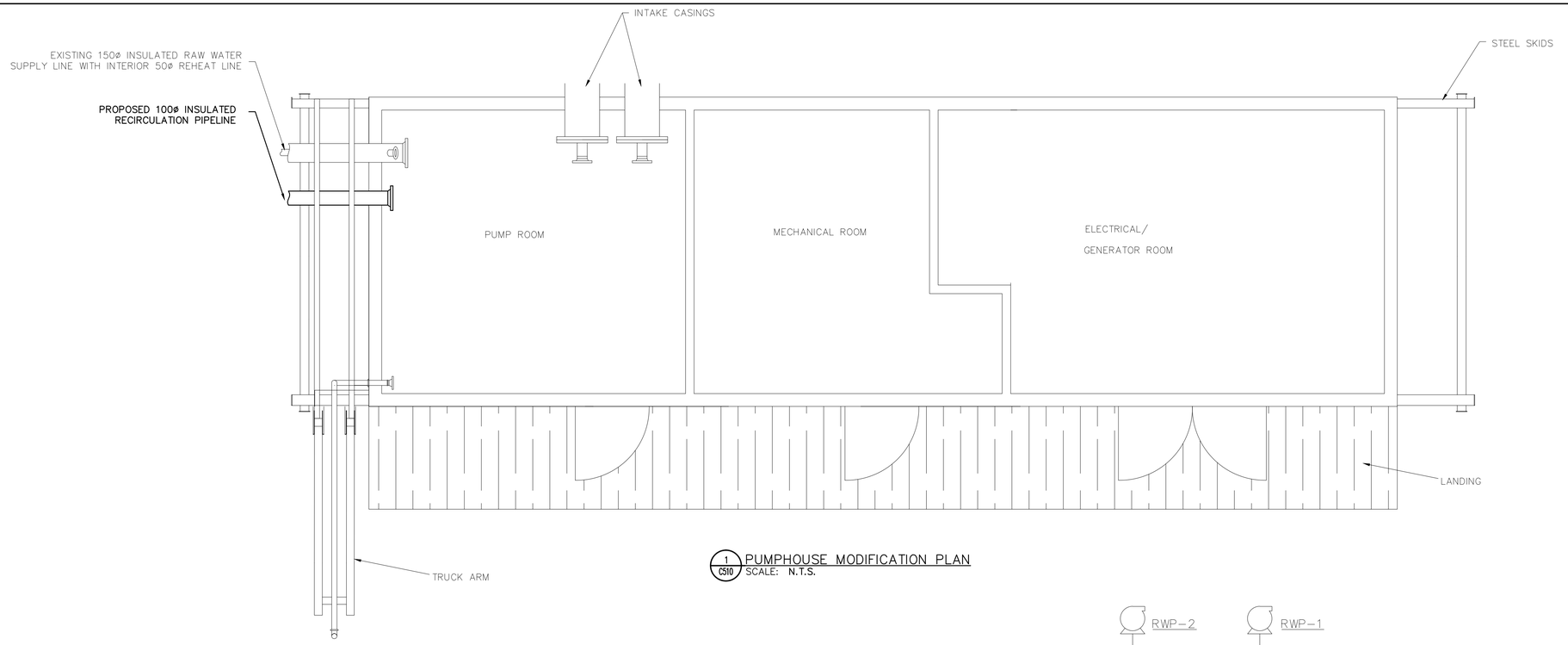
POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
ACCESS VAULT
KEY TO NUMBER PARTS
CONNECTION AND JOINT DETAILS

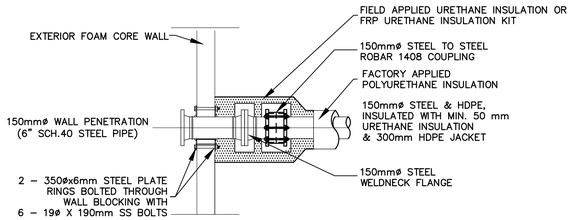
Project No.	Scale	
144901252	AS SHOWN	
Drawing No.	Sheet	Revision
C-509	23 of 24	0

V:\144901\Active\144901252\0500_civil\06_drawings\06-04 Issued For Construction\Phase II\01252C-505-508.dwg
2014/05/21 3:54 PM By: Nirajmandi, Mahyar

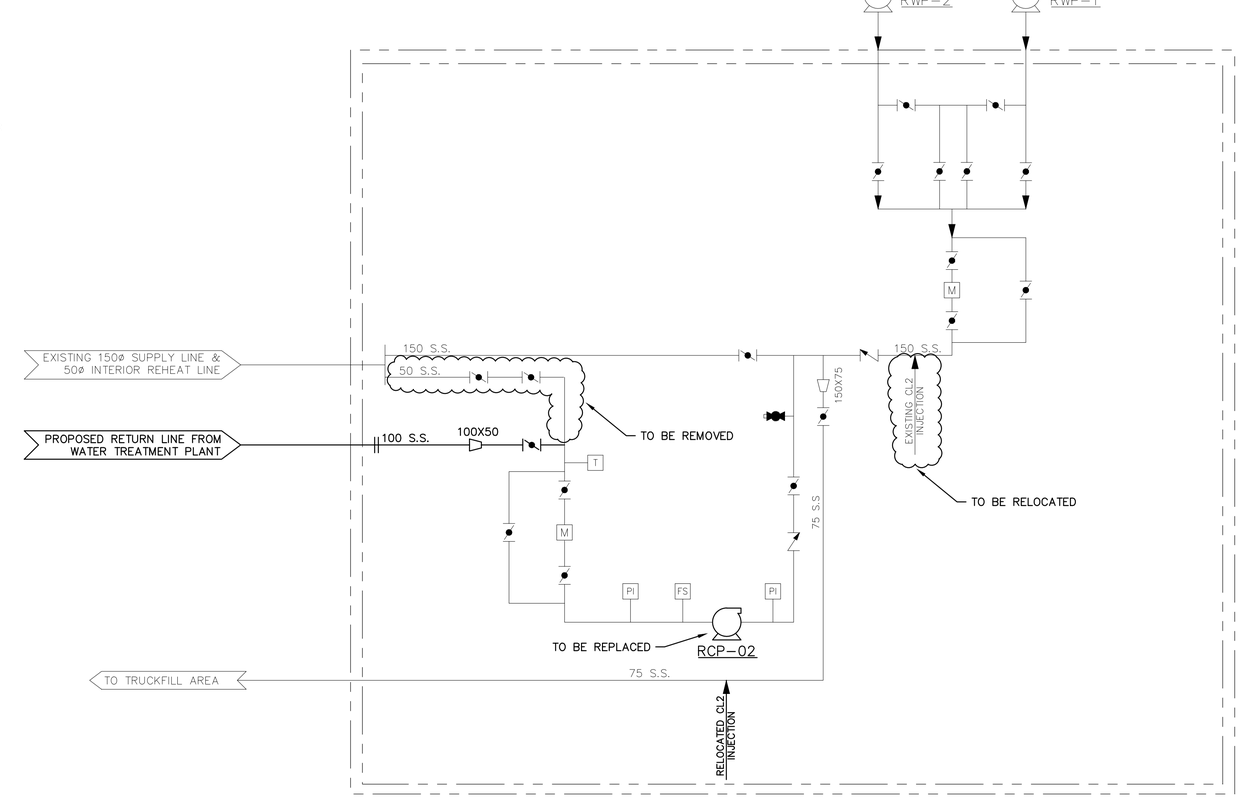
ORIGINAL SHEET - ANSI D



1 / C510 PUMPHOUSE MODIFICATION PLAN
SCALE: N.T.S.



2 / C510 PUMPHOUSE PIPE PENETRATION DETAIL
SCALE: N.T.S.



3 / C510 WATER LAKE PUMPHOUSE MODIFICATION SCHEMATIC
SCALE: N.T.S.

RCP-02
RAW WATER CIRCULATION PUMP

RATED CAPACITY : 3.8 L/sec
RATED HEAD : 65 kpa
S.G. : 1.0
HORSEPOWER : 0.75 HP
TYPE : ARMSTRONG 2X2X6
208V / 3 / 60 Hz

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File Name: 144901252	AF Dwn.	WO Chkd.	WO Dsgn.	13.12.19 YY.MM.DD

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NWT/NU

144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
EXISTING PUMPHOUSE MODIFICATIONS

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
C-510	24 of 24	0

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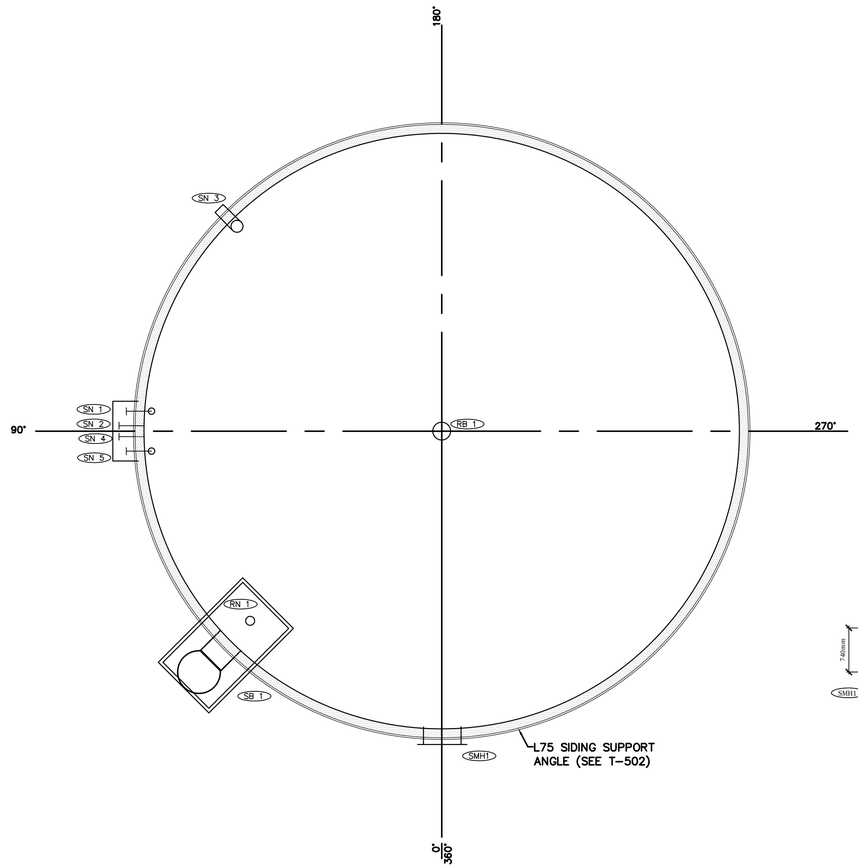
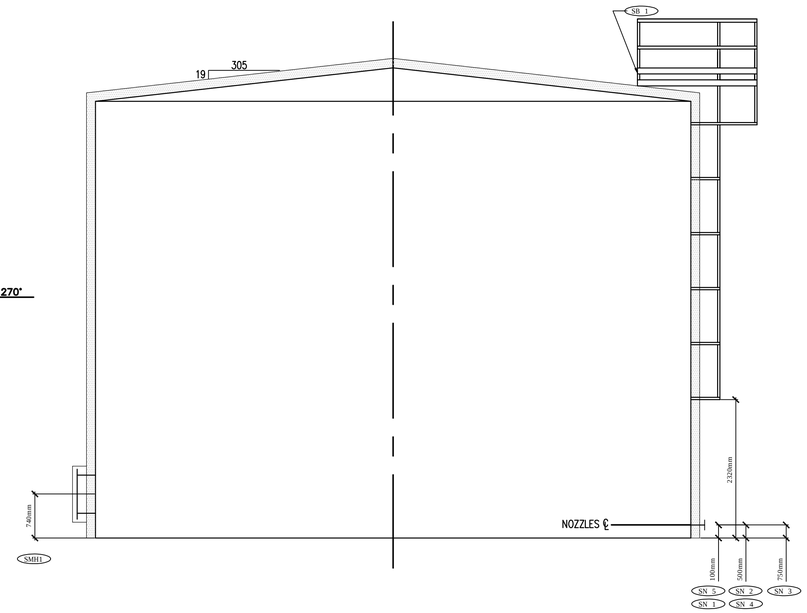
2014/05/09 9:09 AM By: Nirsumand, Mahyar

ORIGINAL SHEET - ANSI D



1 / T-501 TREATED WATER STORAGE TANK – 9.98m ø X 7.32m H – TOP VIEW
SCALE: NTS



2 / T-501 TREATED WATER STORAGE TANK 9.98m ø X 7.32m H – FRONT VIEW
SCALE: NTS

LIST OF REQUIRED APPURTENANCES FOR NEW TREATED WATER STORAGE VERTICAL TANK					
ITEM	SIZE	ELEV. ABOVE BASE RING (TO CL)	DESCRIPTION	COMMENTS	ANGULAR LOCATION – CW DECIMAL DEGREES
SN2	150 ø	500	TANK INLET FILL LINE	SEE DETAIL DRAWING	90.00
SN4	200 ø	500	TANK OUTLET LINE	SEE DETAIL DRAWING	90.00
SN5	50 ø	100	TANK DRAIN VALVE WITH KAMLOCK (SUPPLY 6.0m x 50mmø HOSE FOR TANK DRAINING)	SEE DETAIL DRAWING	90.00
SMH1	760 ø	740	COVER 960mm, NECK 760mm, FLANGE THICKNESS 11mm, COVER THICKNESS 14mm.		360.00
SN3	200 ø	750	OVERFLOW / VENT LINE	SEE DETAIL DRAWING	135.00
SB1			CENTER OF ACCESS LADDER	SEE DETAIL DRAWING	45.00
SN1	50 ø	100	PRESSURE TRANSDUCER PORT C/W ISOLATION GATE VALVE	SEE DETAIL DRAWING	90.00
LIST ROOF APPURTENANCES FOR NEW WATER STORAGE VERTICAL TANK					
ITEM	SIZE	HOR. LOCATION FROM EDGE OF SHELL (CL)	DESCRIPTION	COMMENTS	ANGULAR LOCATION – CW DECIMAL DEGREES
RB1	150 ø	MIDDLE OF TANK	CABLE SUPPORT POST		
RN1	150 ø	650	LEVEL GAUGE ACCESS PORT		45.00

3 / T-501 ORIENTATION PLAN – NEW TREATED WATER STORAGE TANK
SCALE: NTS

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Legend

Notes

Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C ISSUED FOR TENDER	AF	WO	14.02.14
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File Name: 144901252	AF Dwn.	WO Chkd.	WO Dsgn.	13.12.19 YY.MM.DD

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REGISTERED PROFESSIONAL ENGINEER NWT/NU

144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
TOP AND SIDE VIEW
OF 570 cu.m. WATER TANK

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
T-501	1 of 4	0

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2014/05/09 9:10 AM By: Nicoumard, Mathyr

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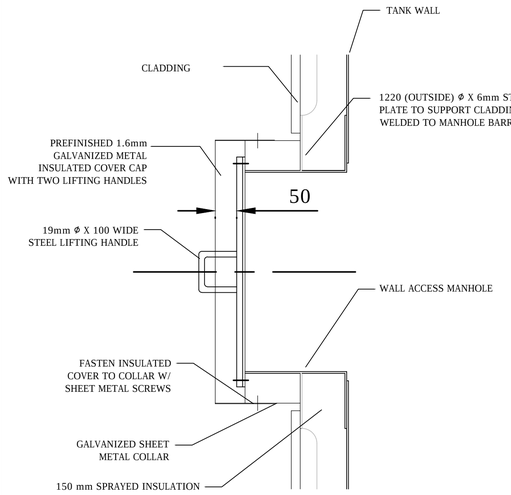
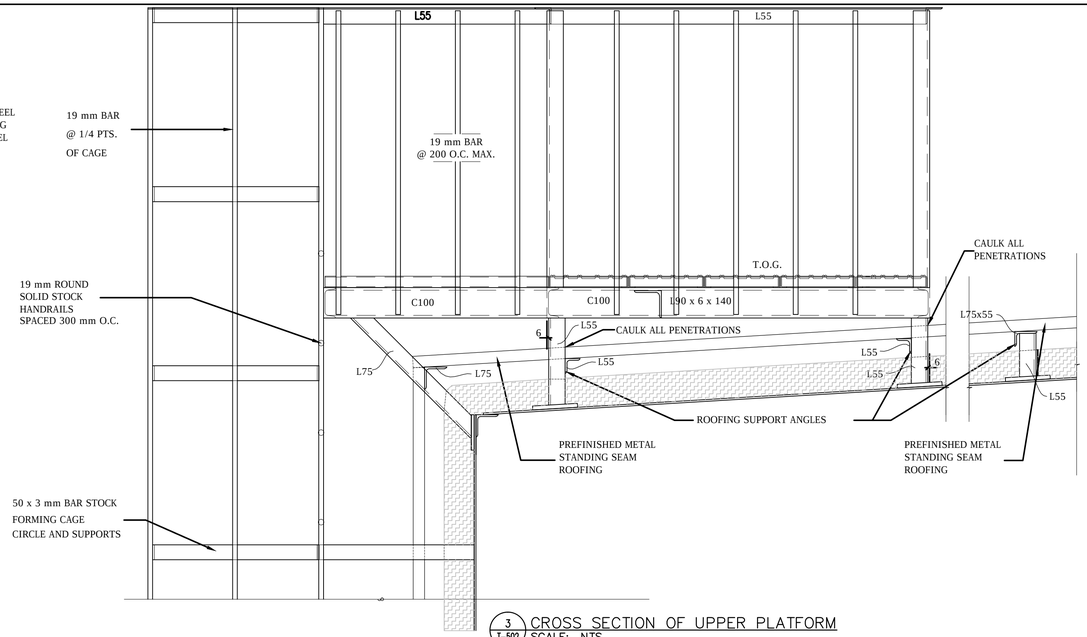
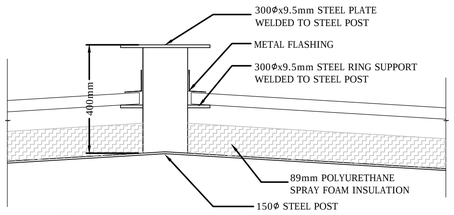


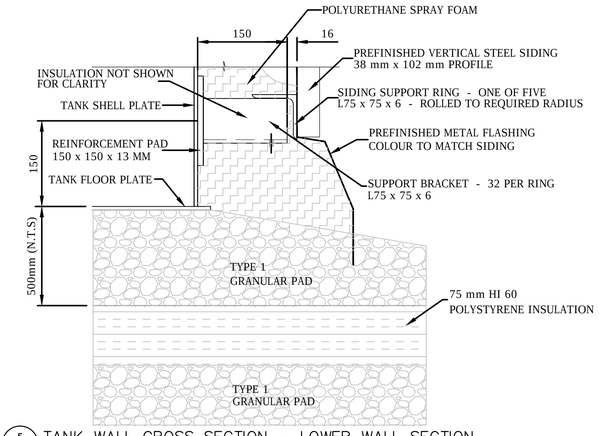
1 / T-502 ACCESS MANHOLE INSULATION
SCALE: NTS



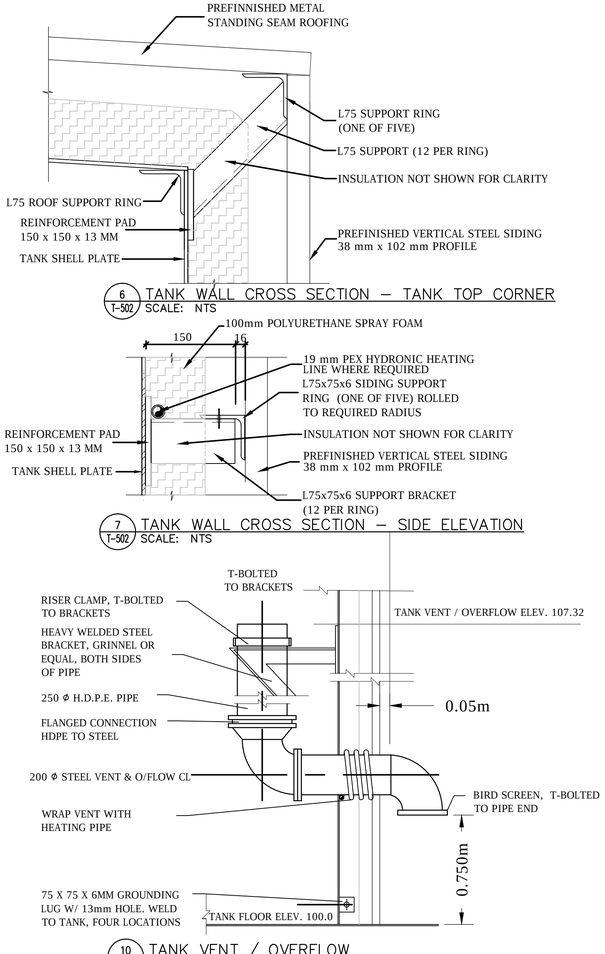
3 / T-502 CROSS SECTION OF UPPER PLATFORM
SCALE: NTS



2 / T-502 PAINTER POST DETAIL
SCALE: NTS



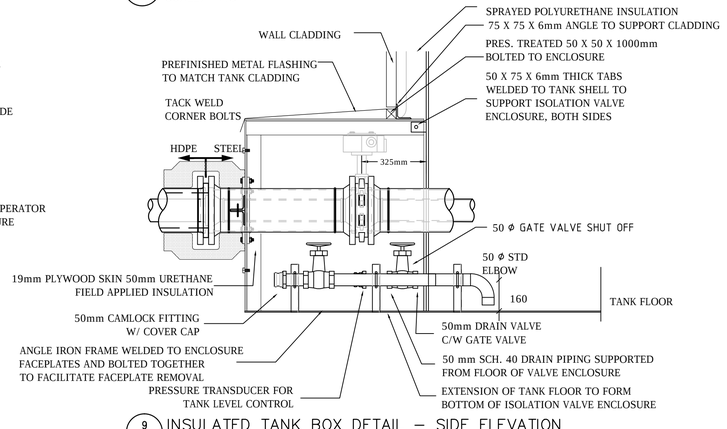
5 / T-502 TANK WALL CROSS SECTION – LOWER WALL SECTION
SCALE: NTS



6 / T-502 TANK WALL CROSS SECTION – TANK TOP CORNER
SCALE: NTS

7 / T-502 TANK WALL CROSS SECTION – SIDE ELEVATION
SCALE: NTS

8 / T-502 INSULATED TANK BOX DETAIL
SCALE: NTS



9 / T-502 INSULATED TANK BOX DETAIL – SIDE ELEVATION
SCALE: NTS

10 / T-502 TANK VENT / OVERFLOW
SCALE: NTS

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22 MAY 2014
NWT/NU

144901252

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
WATER TANK DETAILS I

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
T-502	2 of 4	0

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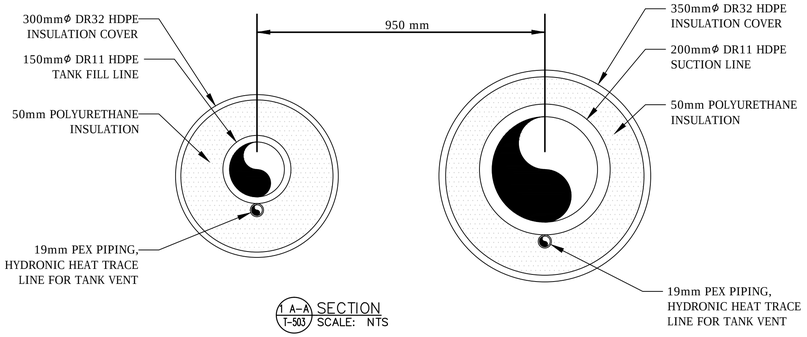
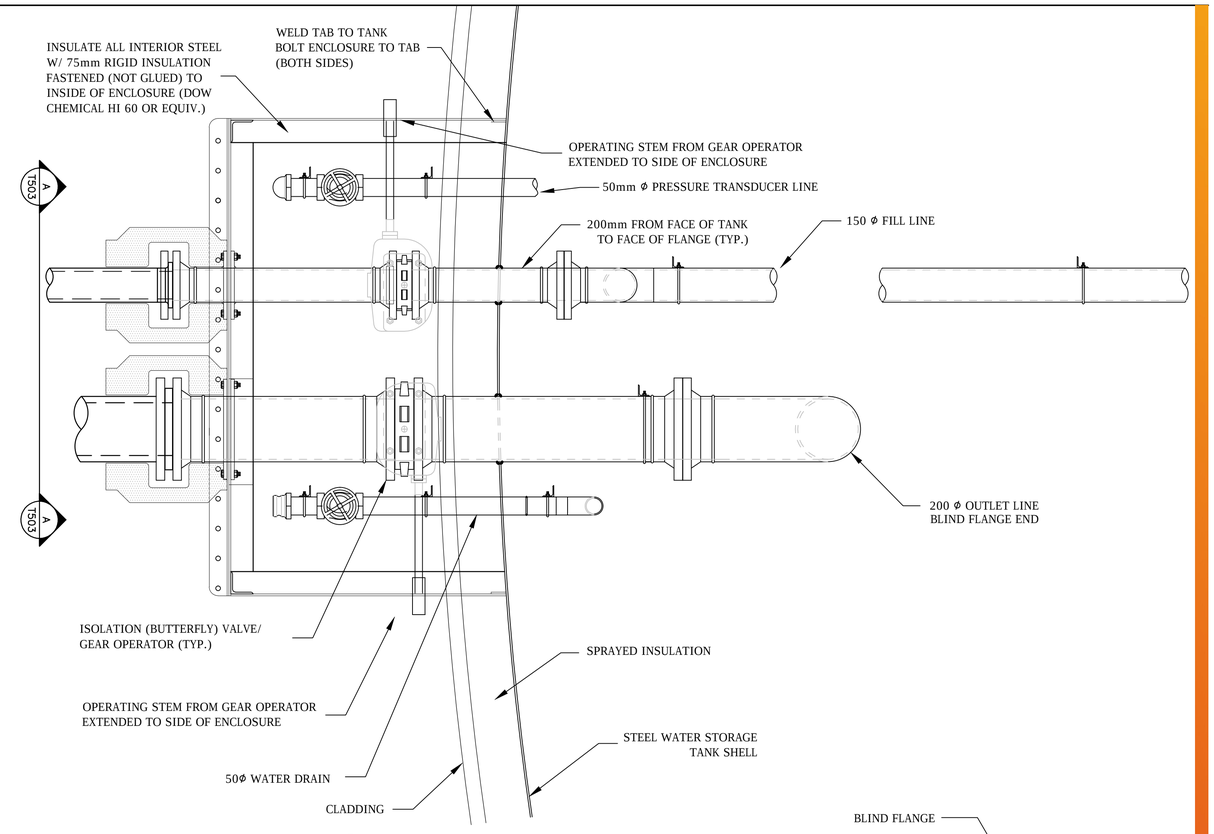
2014/05/09 9:10 AM By: Nirajmandi, Mahyar

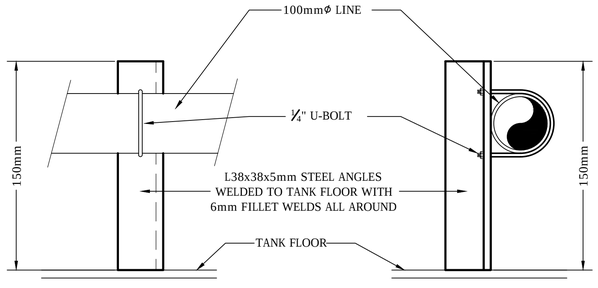
ORIGINAL SHEET - ANSI D



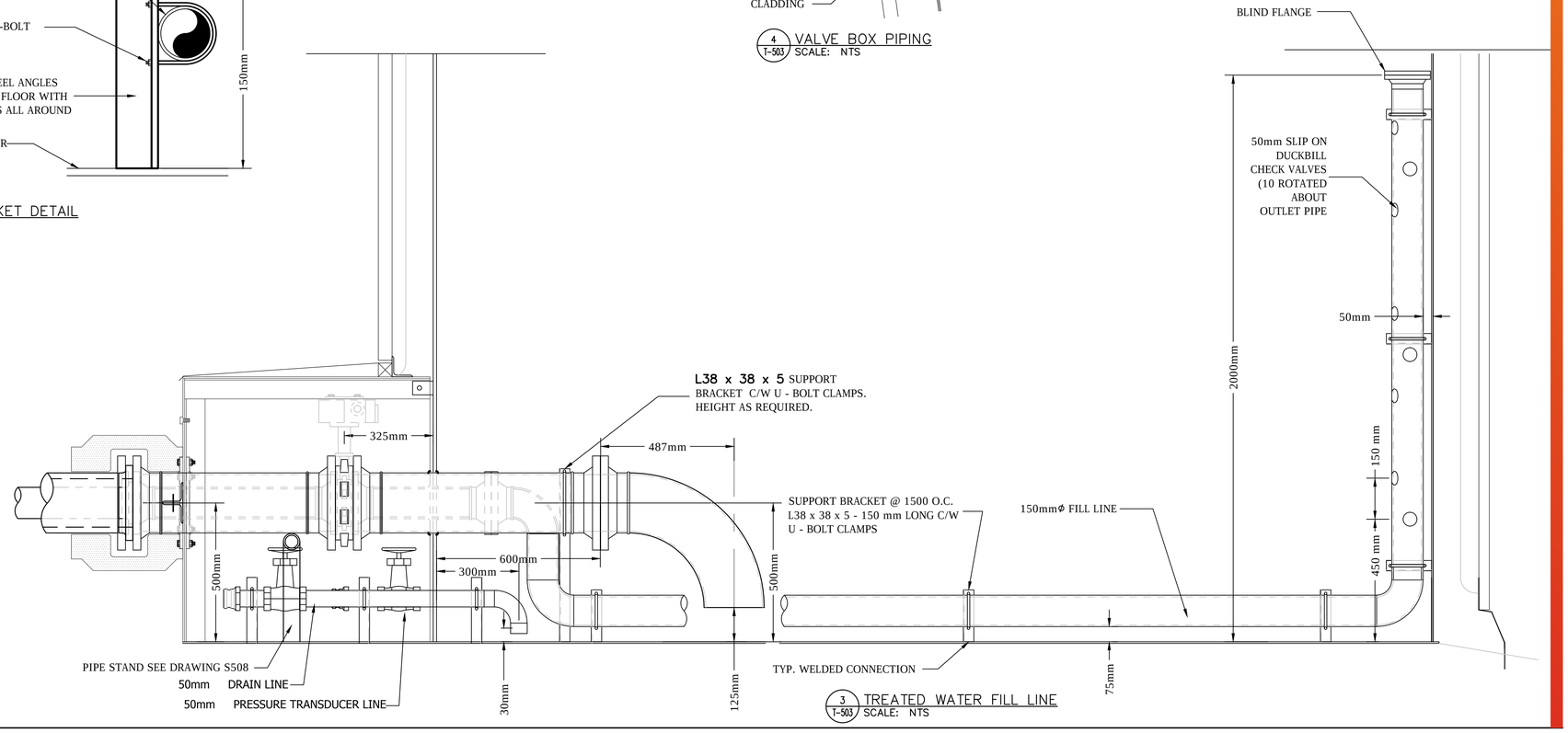
1 A–A T-503 SECTION
SCALE: NTS



4 T-503 VALVE BOX PIPING
SCALE: NTS



2 T-503 SUPPORT BRACKET DETAIL
SCALE: NTS



3 T-503 TREATED WATER FILL LINE
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Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
WATER TANK DETAILS II

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
T-503	3 of 4	0

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2014/05/09 9:10 AM By: Nroumard, Mahyar

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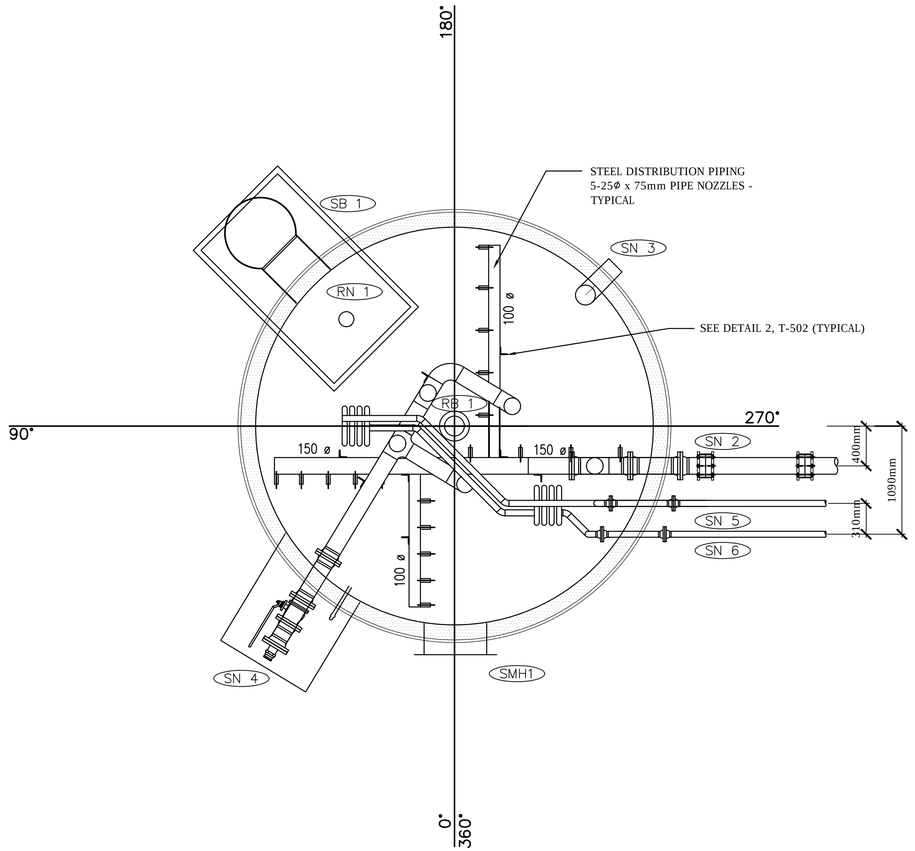
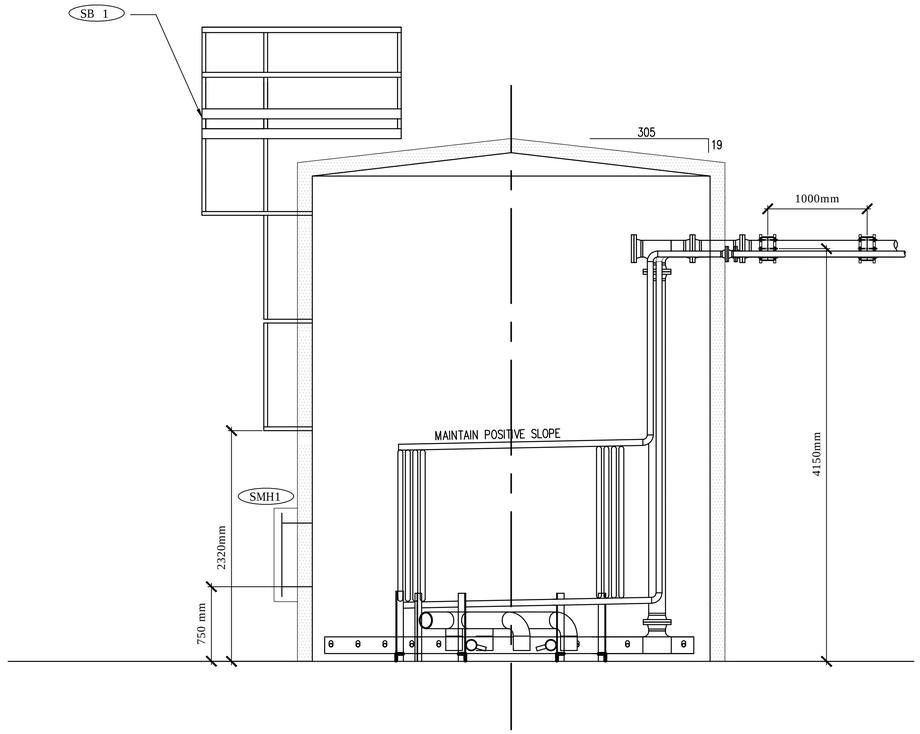


1 T-504 BACKWASH STORAGE TANK – 4.00m ø X 4.88m H – TOP VIEW
SCALE: NTS



2 T-504 BACKWASH STORAGE TANK – 4.00m ø X 4.88m H – FRONT VIEW
SCALE: NTS

LIST OF REQUIRED APPURTENANCES FOR NEW BACKWASH STORAGE VERTICAL TANK

ITEM	SIZE	ELEV. ABOVE BASE RING (TO CL)	DESCRIPTION	COMMENTS	ANGULAR LOCATION – CW DECIMAL DEGREES
SN2	150 ø	4150	TANK INLET	SEE DETAIL DRAWING	270.00 O/S 400mm
SN3	200 ø	750	OVERFLOW / VENT LINE	SEE DETAIL DRAWING	0.00
SN4	150 ø	900	TANK SUCTION LINE AND TEMP. SENSOR IN INSULATED BOX C/W LOCKABLE ACCESS DOOR	SEE DETAIL DRAWING AND SPECIFICATIONS	45.00
SN5	50 ø	4096	TANK HEATING LINE		270.00 O/S 780mm
SN6	50 ø	4096	TANK HEATING LINE		270.00 O/S 1090mm
SB1			CENTER OF ACCESS LADDER	SEE DETAIL DRAWING	135.00
SMH1	760 ø	740	COVER 960mm, NECK 760mm, FLANGE THICKNESS 11mm, COVER THICKNESS 14mm.		225.00

LIST ROOF APPURTENANCES FOR NEW BACKWASH STORAGE VERTICAL TANK

ITEM	SIZE	HOR. LOCATION FROM EDGE OF SHELL (CL)	DESCRIPTION	COMMENTS	ANGULAR LOCATION – CW DECIMAL DEGREES
RB1	150 ø	MIDDLE OF TANK	CABLE SUPPORT POST		
RN1	150 ø	650	LEVEL GAUGE ACCESS PORT		135.00

3 T-504 ORIENTATION PLAN – BACKWASH STORAGE TANK
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Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
TOP AND SIDE VIEW
OF 60 cu.m. BACKWASH TANK

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
T-504	4 of 4	0

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ORIGINAL SHEET - ANSI D

DESIGN NOTES

1. GENERAL

1.1. ALL CODES REFERENCED ARE TO BE THE LATEST VERSION AT THE DATE OF ISSUE.

1.2. DESIGN IS BASED ON THE NATIONAL BUILDING CODE OF CANADA 2010 (NBCC 2010) .

1.3. READ THESE DESIGN NOTES IN CONJUNCTION WITH THE CONTRACT SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS.

1.4. OBTAIN ENGINEER'S APPROVAL BEFORE CUTTING, BORING, OR SLEEVING LOAD–BEARING MEMBERS UNLESS NOTED OTHERWISE.

1.5. THE STRUCTURAL DRAWINGS ARE FOR THE COMPLETED PROJECT. STABILITY OF THE STRUCTURE DURING CONSTRUCTION REMAINS THE RESPONSIBILITY OF THE CONTRACTOR.

1.6. REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SMALL OPENINGS, SLEEVES, RECESSES, DEPRESSIONS, SUMPS, TRENCHES, CURBS, HOUSEKEEPING PADS, EQUIPMENT BASES, AND SLOPES NOT INDICATED ON THE STRUCTURAL DRAWINGS.

1.7. OPENINGS AND SLEEVES INDICATED ON THE STRUCTURAL DRAWINGS ARE FOR REFERENCE ONLY. COORDINATE ALL OPENING LOCATIONS AND DIMENSIONS WITH THE APPROPRIATE ENGINEER AND THE CONTRACTOR PRIOR TO CONSTRUCTION.

1.8. REVIEW ALL DRAWINGS AND CHECK DIMENSIONS PRIOR TO IMPLEMENTING THE WORK. REPORT ANY DISCREPANCIES TO THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING.

1.9. COORDINATE PLACEMENT AND LOCATION OF ITEMS BY SUBSEQUENT TRADES. RELEVANT TRADES SHALL REVIEW PRIOR TO ERECTION AND/OR INSTALLATION.

1.10. NOTIFY THE ENGINEER A MINIMUM OF 72 HOURS PRIOR TO ANY REQUIRED SITE REVIEWS.

2. DESIGN LOADS

2.1. UNLESS NOTED OTHERWISE, THE LOADS NOTED ON DRAWINGS ARE UNFACTORED.

2.2. CLIMATIC INFORMATION — REFER TO TABLE 2.1

2.3. SITE INFORMATION — REFER TO TABLE 2.2

2.4. DESIGN LOADS — REFER TO TABLE 2.3

2.5. LATERAL LOADS

2.5.1. LATERAL LOADS FROM WIND AND SEISMIC LOADS ARE RESISTED BY THE CHEVRON BRACING (V–BRACING).

2.6. CONSTRUCTION LOADS SHALL NOT EXCEED THE LOADS NOTED ON THE DRAWINGS.

2.7. WHERE PERMISSIBLE, LIVE LOADS HAVE BEEN REDUCED IN ACCORDANCE WITH NBCC 2010.

3. DELEGATED DESIGN

3.1. PORTIONS OF THE DETAILED DESIGN ARE DELEGATED TO THE CONTRACTOR. RETAIN A PROFESSIONAL ENGINEER REGISTERED IN THE TERRITORY OF NUNAVUT TO COMPLETE THE DESIGN.

3.2. SUBMIT SHOP DRAWINGS FOR COMPONENTS REQUIRING DELEGATED DESIGN UNDER THE SEAL AND SIGNATURE OF THE ENGINEER RESPONSIBLE FOR THE DESIGN.

3.3. THE FOLLOWING COMPONENTS REQUIRE DELEGATED DESIGN:

3.3.1. STRUCTURAL STEEL CONNECTIONS WHERE APPLICABLE

3.3.2. PRE–FABRICATED WALL PANELS

3.3.3. STEAL GIRTS / STUDS AND CONNECTIONS

3.3.4. THE ENGINEER RESPONSIBLE FOR THE DESIGN IS ALSO RESPONSIBLE FOR REVIEW OF FABRICATION AND INSTALLATION OF THE COMPONENTS. UPON COMPLETION OF THE WORK, CERTIFY IN WRITING TO THE ENGINEER THAT SUCH REVIEW HAS BEEN COMPLETED.

3.3.5. REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS.

4. FOUNDATION AND GEOTECHNICAL NOTES

4.1. FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY EBA, PROJECT #Y14103058, AND DATED FEBRUARY 2013. ENSURE THAT THE REQUIREMENTS OUTLINED IN THIS REPORT ARE READ AND COMPLIED WITH THROUGHOUT PROJECT CONSTRUCTION.

4.2. REMOVE ALL ORGANIC MATERIAL FROM THE BUILDING AREA.

4.3. GEOTECHNICAL TESTING AGENCY TO BE APPROVED BY AND RESPONSIBLE TO THE ENGINEER AND PAID FOR BY THE CONTRACTOR.

4.4. UNLESS OTHERWISE SHOWN ON PLAN, FOUNDATION ELEMENTS ARE TO BE CENTERED UNDER FOUNDATION BEAMS. A VARIANCE OF MORE THAN 25mm IN ANY DIRECTION IS NOT PERMITTED.

4.5. PILE MONITORING DURING INSTALLATION SHALL BE DONE BY A PROFESSIONAL GEOTECHNICAL ENGINEER REGISTERED IN THE TERRITORY OF NUNAVUT.

5. CAST–IN–PLACE REINFORCED CONCRETE

5.1. CONCRETE MATERIALS, QUALITY, MIXING, PLACING, FORMWORK AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CSA–A23.1.

5.2. SUPPLY CONTROLLED CONCRETE IN ACCORDANCE WITH CSA–A23.1 WITH PROPERTIES NOTED IN TABLE 5.1.

5.3. NOTIFY ENGINEER A MINIMUM OF 5 BUSINESS DAYS PRIOR TO CONCRETE POURS TO ALLOW FOR REVIEW OF REINFORCEMENT.

5.4. DO NOT USE ADMIXTURES CONTAINING CALCIUM CHLORIDE.

5.5. FIELD AND LABORATORY TESTING OF CONCRETE TO BE COMPLETED BY A THIRD PARTY TESTING AND INSPECTION AGENCY APPROVED BY AND RESPONSIBLE TO THE ENGINEER. TESTING AGENCY SHALL BE CERTIFIED TO CSA–A283 AND TESTING TO BE COMPLETED IN ACCORDANCE WITH CSA–A23.2. TESTING PAID FOR BY CONTRACTOR.

6. CONCRETE REINFORCEMENT

6.1. REINFORCEMENT STEEL TO CONFORM TO CSA–G30.18 GRADE 400.

6.2. DO NOT WELD REINFORCEMENT UNLESS APPROVED IN WRITING BY THE ENGINEER. REINFORCEMENT TO BE WELDED TO CONFORM TO CSA G30.18, GRADE 400W. WELDING ONLY PERMITTED BY AN ORGANIZATION CERTIFIED TO CSA W186.

6.3. NOTIFY THE ENGINEER PRIOR TO CONCRETE PLACEMENT TO ALLOW FOR REVIEW OF REINFORCING.

6.4. SUBMIT SHOP DRAWINGS AND DETAILS FOR ALL REINFORCEMENT FOR REVIEW PRIOR TO FABRICATION.

6.5. CLEAR CONCRETE COVER TO REINFORCEMENT – REFER TO TABLE 6.1.

6.6. STANDARD END HOOK LENGTHS FOR REINFORCING – REFER TO TABLE 6.2.

6.7. REINFORCEMENT SPLICES – REFER TO TABLE 6.3.

6.7.1. WHERE SPLICES ARE INDICATED ON THE DRAWINGS, SUCH DIMENSIONS SHALL APPLY.

6.7.2. WHERE THE DRAWINGS INDICATE TENSION OR COMPRESSION SPLICES, IT SHALL BE AS INDICATED IN REINFORCEMENT SPLICES TABLE.

6.7.3. WHERE NO SPLICE OR SPLICE TYPE IS INDICATED ON THESE DRAWINGS, IT SHALL BE A TENSION SPLICE EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION SPLICE.

6.8. EMBEDMENT OF DOWELS – REFER TO TABLE 6.3

6.8.1. WHERE EMBEDMENT IS DIMENSIONED ON THE DRAWINGS, SUCH DIMENSIONS SHALL APPLY.

6.8.2. WHERE THE DRAWINGS INDICATE TENSION OR COMPRESSION EMBEDMENT, IT SHALL BE AS NOTED IN THE REINFORCEMENT SPLICES TABLE.

6.8.3. WHERE NO EMBEDMENT OR EMBEDMENT TYPE IS INDICATED ON THESE DRAWINGS, IT SHALL BE A TENSION EMBEDMENT EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION EMBEDMENT.

6.9. DO NOT CUT REINFORCEMENT AT OPENINGS WHERE IT CAN BE SPREAD CONTINUOUS AROUND OPENING.

6.10. ALL REINFORCEMENT TO BE SUPPORTED AT 900mm MAXIMUM SPACING.

7. STRUCTURAL STEEL

7.1. DESIGN, FABRICATION, ERECTION, AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CAN/CSA–S16 AND THE CISC CODE OF STANDARD PRACTICE FOR STRUCTURAL STEEL.

7.2. STEEL TO BE FABRICATED AND ERECTED BY A SHOP CERTIFIED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA–W47.1, DIVISION 1 OR 2.1 ONLY.

7.3. SUBMIT SHOP DRAWINGS SHOWING ALL STRUCTURAL STEEL MEMBERS FOR REVIEW PRIOR TO FABRICATION. WELDING TO CONFORM TO CSA–W59.

7.4. ALL EXPOSED WELDS TO BE CONTINUOUS. GRIND ALL EXPOSED WELDS SMOOTH, INCLUDING PAINTED STEEL.

7.5. SUPPLY STEEL WITH PROPERTIES NOTED IN TABLE 7.1.

7.6. CONNECTIONS NOT DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE TERRITORY OF NUNAVUT AT THE STEEL FABRICATOR'S EXPENSE.

7.7. PROVIDED A MINIMUM OF 2 BOLTS IN BOLTED CONNECTIONS.

7.8. ALL BOLTED CONNECTIONS TO USE SNUG–TIGHTENED HIGH–STRENGTH BOLTS UNLESS OTHERWISE NOTED ON THE DRAWINGS.

7.9. DO NOT SPLICE MATERIAL WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. WHERE GRANTED, A COMPLETE NON–DESTRUCTIVE EXAMINATION WILL BE MANDATORY AND PAID FOR BY THE CONTRACTOR.

7.10. CLEAN, PREPARE AND PRIME ALL STRUCTURAL STEEL AND ANCHOR PLATES. DO NOT PRIME ANCHOR BOLTS OR SURFACES IN CONTACT WITH CONCRETE.

7.11. CLEAN ALL INTERIOR STRUCTURAL STEEL THAT IS TO BE FINISH PAINTED BY COMMERCIAL BLAST IN ACCORDANCE WITH SSPC SPECIFICATIONS SP6 TO ENSURE BASE STEEL IS THOROUGHLY CLEANED OF ALL RUST, DIRT, MILL SPATTER AND ALL OTHER EXTRANEOUS MATERIAL FOLLOWED BY SOLVENT CLEANING BEFORE APPLYING PRIMER. REFER TO ARCHITECTURAL ROOM FINISH SCHEDULE FOR EXTENT. CONFIRM COMPATIBILITY BETWEEN PAINT AND PRIMER.

7.12. TOUCH–UP FIELD WELDS, CONNECTIONS AND ABRASIONS TO MATCH THE SHOP PRIMER.

7.13. SHOP AND FIELD INSPECTION OF STEEL FABRICATION AND ERECTION TO BE COMPLETED BY A THIRD PARTY TESTING AND INSPECTION AGENCY APPROVED BY AND RESPONSIBLE TO THE ENGINEER. TESTING AGENCY SHALL BE CERTIFIED TO CSA–W178. TESTING PAID FOR BY CONTRACTOR.

7.14. ALL STEEL BRACING CONNECTION SHALL BE SLIP–CRITICAL OR WELDED CONNECTIONS.

TABLE 2.1
TO BE READ IN CONJUNCTION WITH DESIGN NOTES SECTION 2 – DESIGN LOADS

CLIMATIC INFORMATION	
SNOW LOAD 1/50, Ss	1.6 kPa
SNOW LOAD 1/50, Sr	0.1 kPa
ONE DAY RAIN 1/50	38 mm
HOURLY WIND PRESSURE (1/10)	0.42 kPa
HOURLY WIND PRESSURE (1/50)	0.54 kPa
SEISMIC RESPONSE, Sa(0.2)	0.095
SEISMIC RESPONSE, Sa(0.5)	0.057
SEISMIC RESPONSE, Sa(1.0)	0.026
SEISMIC RESPONSE, Sa(2.0)	0.008
SEISMIC RESPONSE, PGA	0.036

TABLE 2.2
TO BE READ IN CONJUNCTION WITH DESIGN NOTES SECTION 2 – DESIGN LOADS

SITE INFORMATION	
IMPORTANCE CATEGORY	POST–DISASTER
WIND EXPOSURE TYPE	OPEN TERRAIN
INTERNAL PRESSURE CATEGORY	2
FOUNDATION SITE CLASS	B

TABLE 2.3
TO BE READ IN CONJUNCTION WITH DESIGN NOTES SECTION 2 – DESIGN LOADS

DESIGN LOADS	
FLOOR	
LIVE LOAD	### kPa
SUPERIMPOSED DEAD LOAD	2.50 kPa
ROOFS	
SUPERIMPOSED DEAD LOAD	1.50 kPa
BASIC SNOW LOAD	1.40 kPa

TABLE 5.1
TO BE READ IN CONJUNCTION WITH DESIGN NOTES SECTION 5 – CAST–IN–PLACE CONCRETE

CONTROLLED CONCRETE

CONCRETE ELEMENT	CLASS OF EXPOSURE	MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS (MPa)	MINIMUM COMPRESSIVE STRENGTH AT 56 DAYS (MPa)	MAXIMUM AGGREGATE SIZE (mm)	AIR CONTENT CATEGORY Y	MAXIMUM W/C RATIO	CEMENT TYPE
EXTERIOR CONCRETE							
ALL EXT. CONCRETE	C-1	35	NA	20	1	0.40	GU

TABLE 6.1
TO BE READ IN CONJUNCTION WITH DESIGN NOTES SECTION 6 – CONCRETE REINFORCEMENT

CLEAR CONCRETE COVER TO REINFORCEMENT

EXPOSURE CONDITION	EXPOSURE CLASS: N	EXPOSURE CLASS: F-1, F-2, S-1, S-2, S-3	EXPOSURE CLASS: C-XL, C-1, C-2, C-3, A-1, A-2, A-3
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	-	75 mm	75 mm
SLABS, WALLS, (EXCEPT AS NOTED BELOW)	20 mm	40 mm	60 mm
RATIO OF COVER TO NOMINAL BAR DIAMETER	1	1.5	2
RATIO OF COVER TO NOMINAL MAXIMUM AGGREGATE SIZE	1	1.5	2

NOTE
THE LARGEST COVER REQUIRED FOR ANY ONE ELEMENT SHALL GOVERN.

TABLE 7.1
TO BE READ IN CONJUNCTION WITH DESIGN NOTES SECTION 10 – STRUCTURAL STEEL

STEEL GRADES

MEMBER TYPE	GRADE
ROLLED W–SHAPES	CAN/CSA G40.21 350W OR ASTM A992 GRADE 50
RECTANGULAR / SQUARE HSS	CAN/CSA G40.21 350W OR ASTM A992 GRADE 50
ROUND HSS	ASTM A500 GRADE 46 (GRADE C)
PLATE / ANGLES / CHANNELS	CAN/CSA G40.21 300W
BOLTS	ASTM A325 / A325M

TABLE 6.2
TO BE READ IN CONJUNCTION WITH DESIGN NOTES SECTION 6 – CONCRETE REINFORCEMENT

STANDARD END HOOKS

BAR SIZE	10M	15M	20M	25M	30M	35M	45M	55M
90° HOOK LENGTH	180	260	310	400	510	640	790	1020
180° HOOK LENGTH	140	180	210	280	390	550	670	860

TABLE 6.3
TO BE READ IN CONJUNCTION WITH DESIGN NOTES SECTION 6 – CONCRETE REINFORCEMENT

REINFORCEMENT SPLICES

BAR SIZE	COMPRESSION SPLICE (mm)	TENSION SPLICE (mm)			
		FULL TENSION SPLICE		FULL TENSION SPLICE TOP BARS*	
		REGULAR BARS	EPOXY COATED BARS	REGULAR BARS	EPOXY COATED BARS
10M	300	400	600	500	650
15M	450	550	850	750	950
20M	600	700	1000	900	1150
25M	750	1100	1650	1400	1850
30M	900	1300	1950	1700	2200
35M	1025	1550	2300	2000	2600

NOTE 1: THIS TABLE IS BASED ON NORMAL WEIGHT CONCRETE f'c = 35 MPa AND ON REINFORCING STEEL fy = 400 MPa.

NOTE 2: *TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 300mm OF CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.

NOTE 3: FOR STANDARD EMBEDMENT DEPTH INTO CONCRETE, DIVIDE BASIC TENSION LAP SPLICE NUMBERS BY 1.3.

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POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
STRUCTURAL NOTES

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
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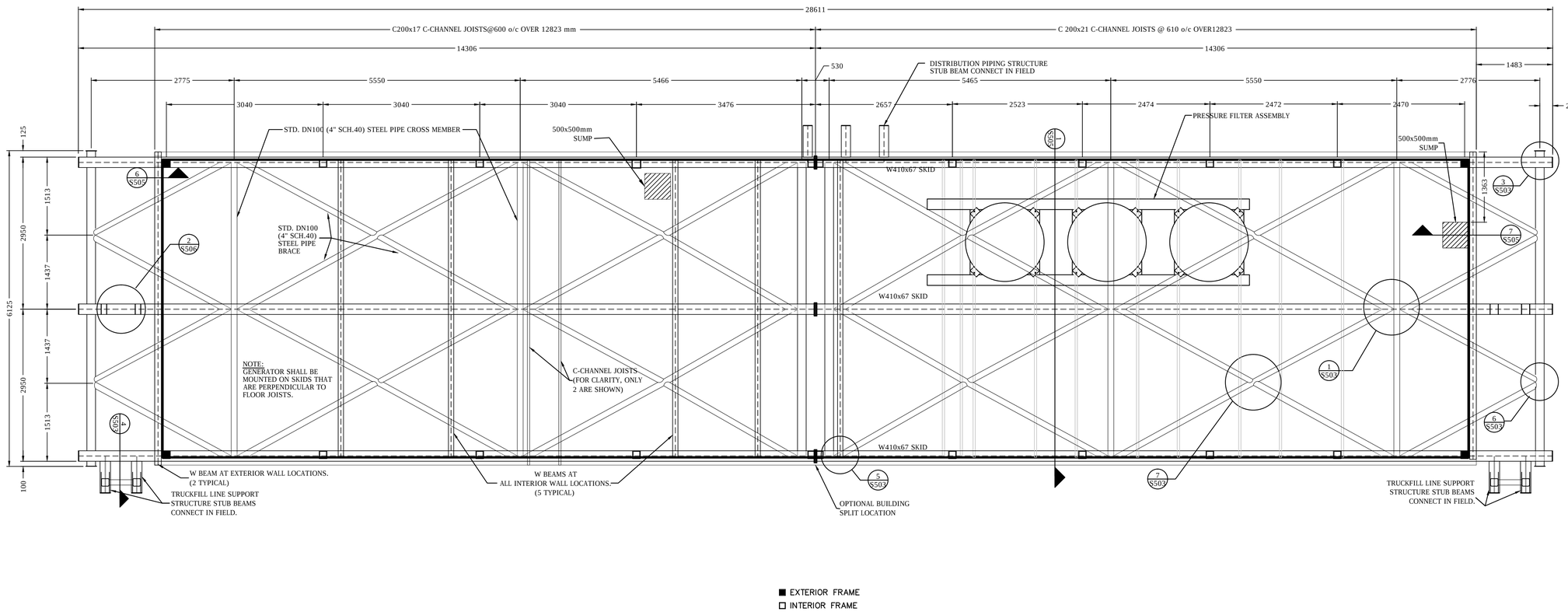

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SKID AND SUBFLOOR ASSEMBLY

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
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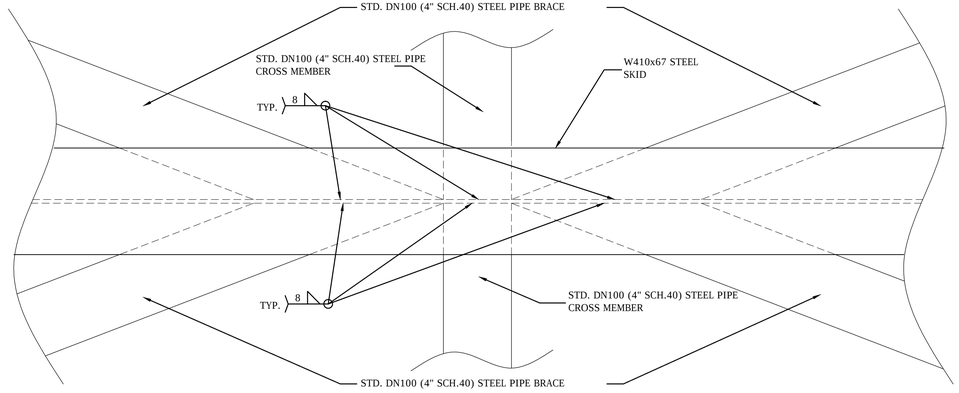

1 S503 SKID / PIPE CONNECTION DETAIL
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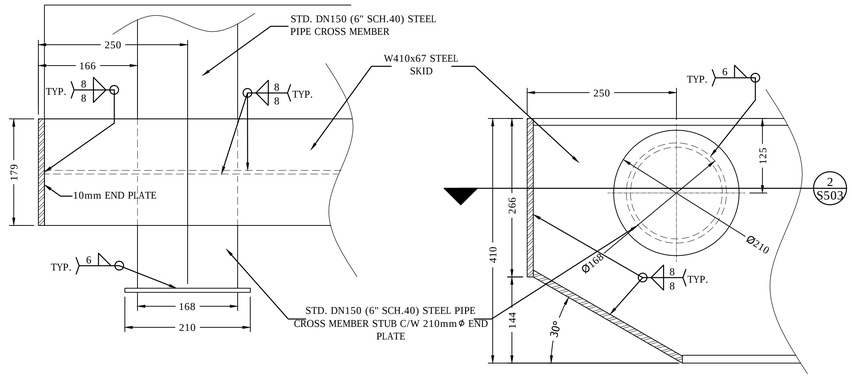

2 S503 SKID END SECTION
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3 S503 SKID END DETAIL
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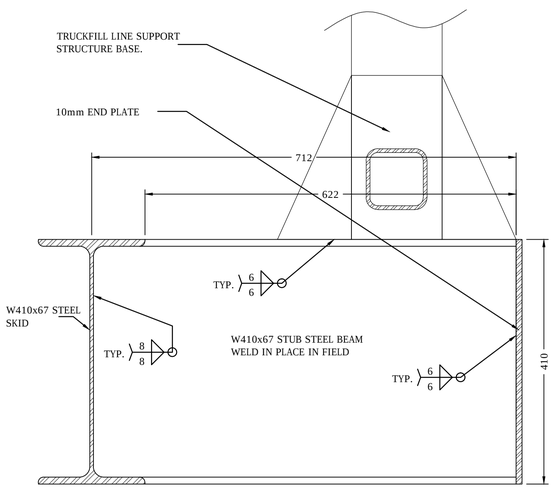

4 S503 STUB BEAM DETAIL
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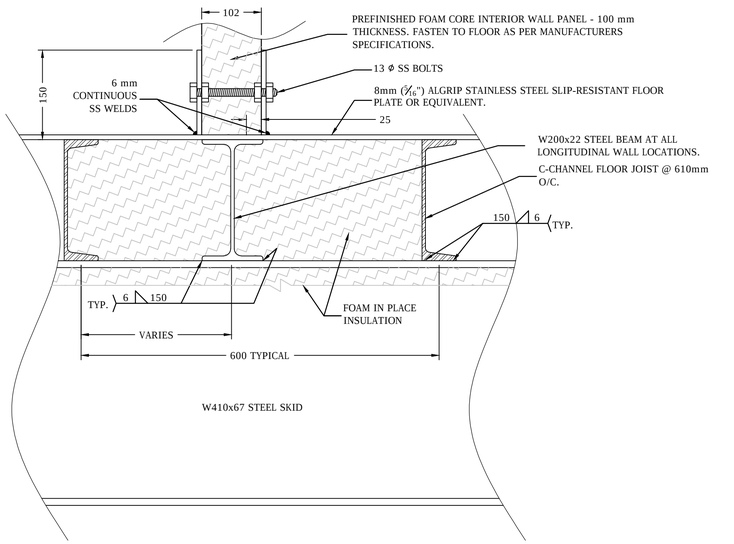

5 S503 INTERIOR WALL JOIST SECTION (TYPICAL)
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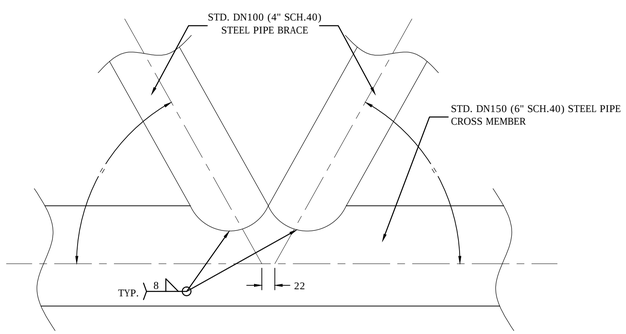

6 S503 END CROSS MEMBER / BRACE CONNECTION DETAIL
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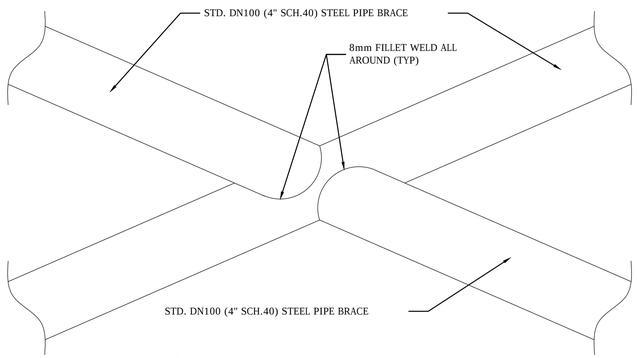

7 S503 BRACING CROSSOVER DETAIL
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Notes
1. FOAM IN PLACE INSULATION IN FLOOR CAVITY NOT SHOWN FOR CLARITY.
2. ALL VOIDS IN FLOOR SYSTEM TO BE FULLY INSULATED WITH FOAM-IN-PLACE INSULATION

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PHASE II
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Title
SKID AND SUBFLOOR DETAILS

Project No.	Scale	
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Drawing No.	Sheet	Revision
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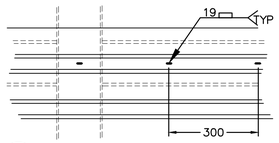

5 S504 PUDDLE WELD LONG DIRECTION
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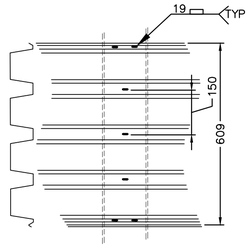

6 S504 PUDDLE WELD SHORT DIRECTION
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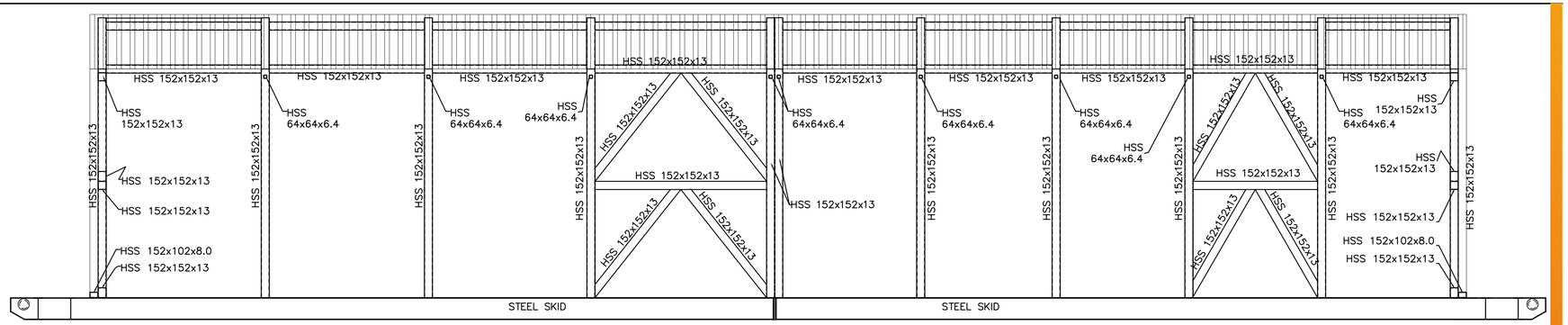

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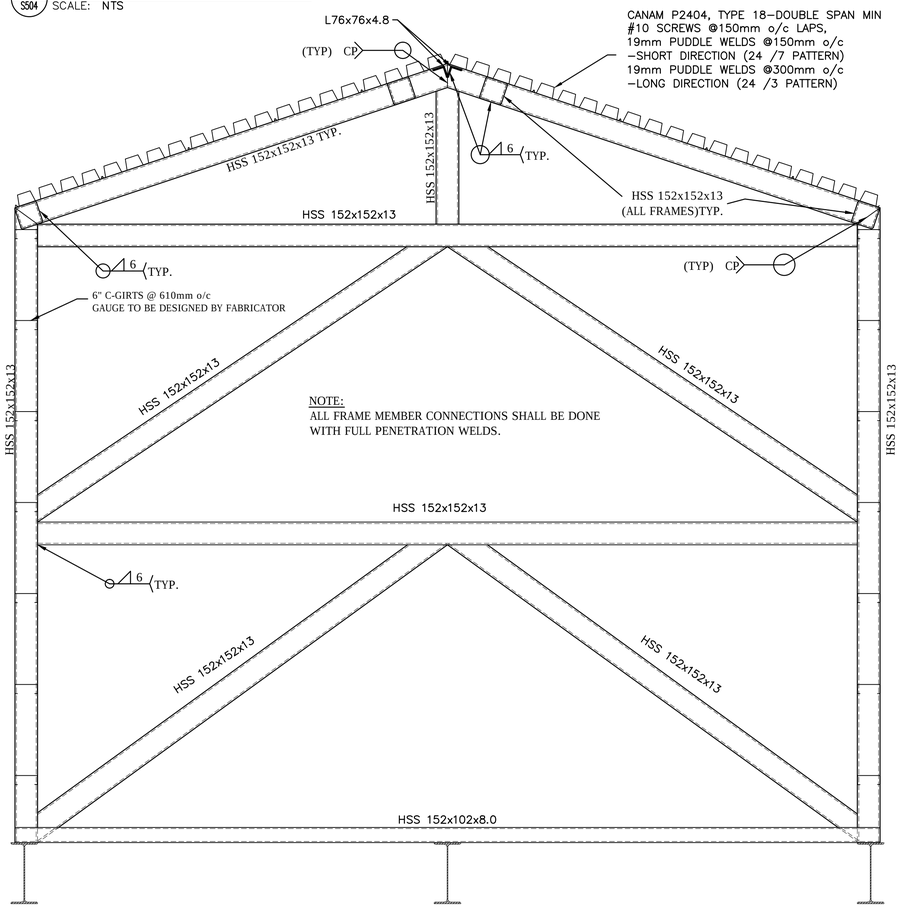

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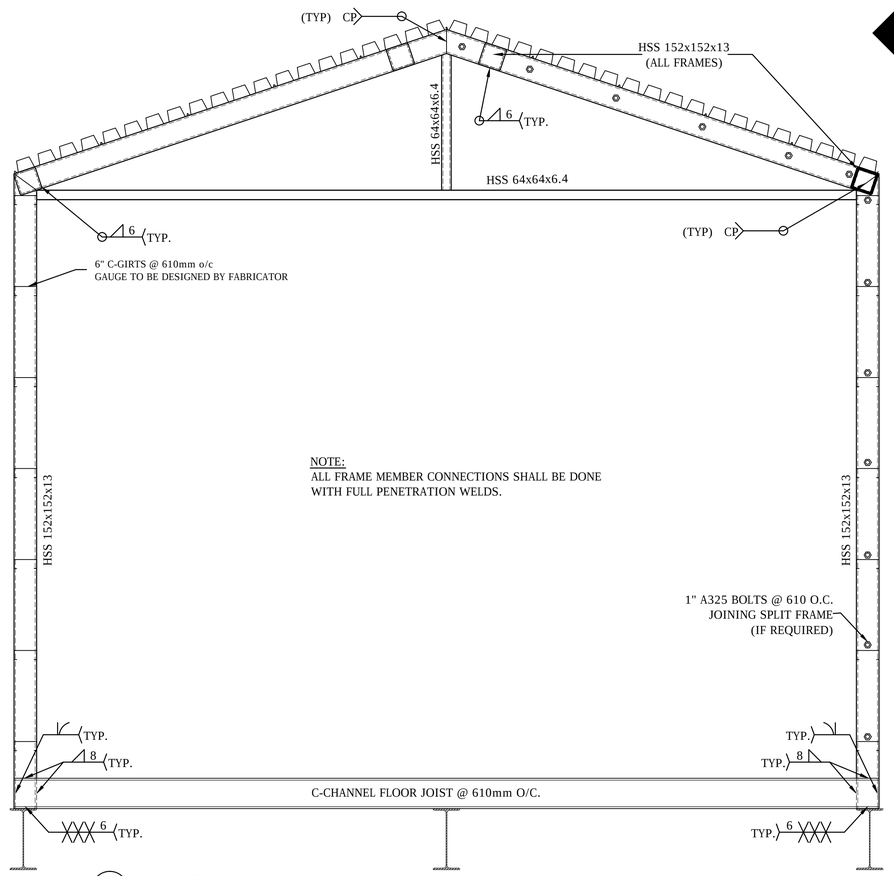

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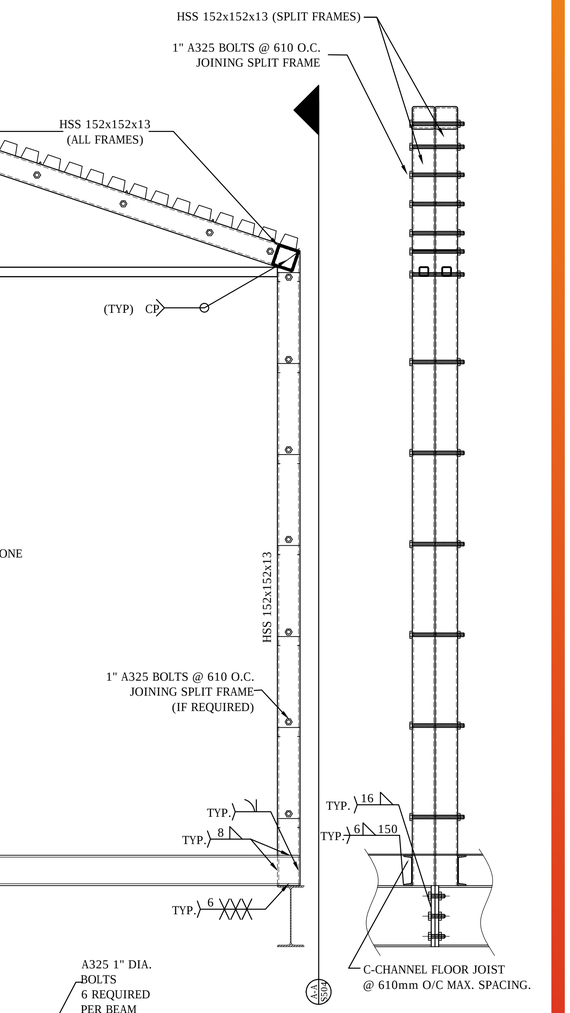

3 S504 A–A SPLIT FRAME X SECTION
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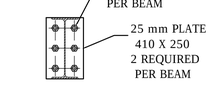

4 S504 SPLIT FRAME BEAM PLATES
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POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
SECTIONS

Project No.	Scale	
144901252	N.T.S.	
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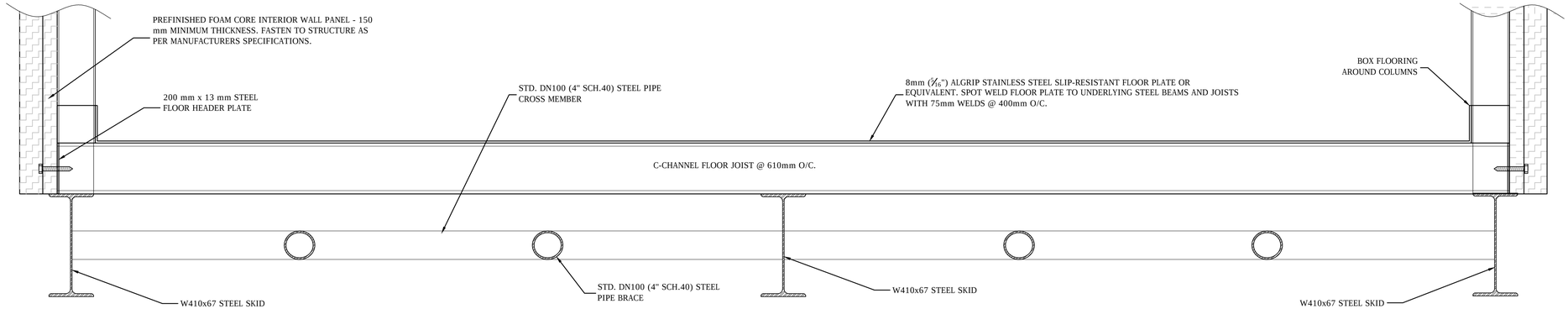

1 S505 FLOOR CROSS SECTION (TYPICAL)
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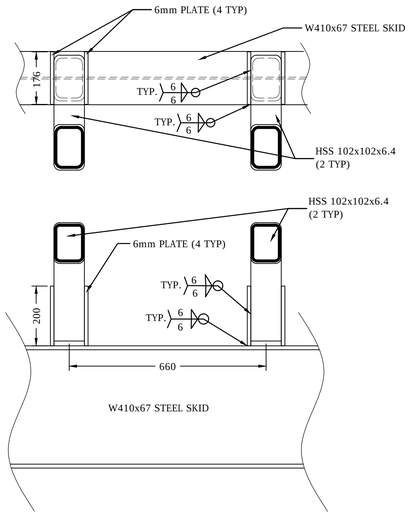

2 S505 SKID / TRUCKFILL ARM STRUT CONNECTION
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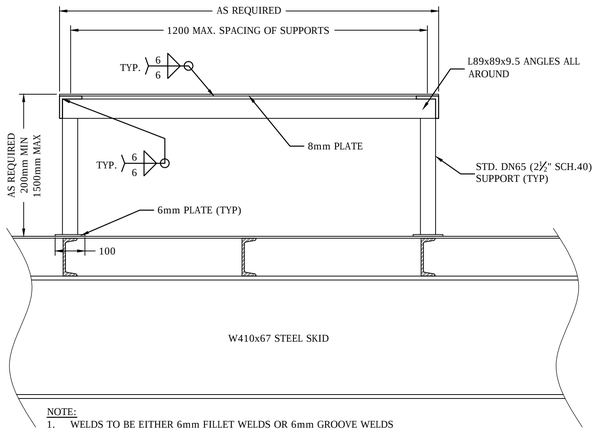
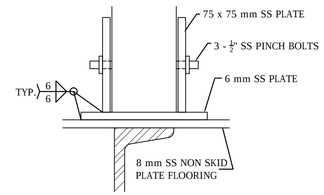


NOTE:
1. WELDS TO BE EITHER 6mm FILLET WELDS OR 6mm GROOVE WELDS
2. STAND TO BE SECURELY FASTENED TO FLOOR ONCE FINAL PLACEMENT HAS BEEN ESTABLISHED

3 S505 EQUIPMENT STAND (TYPICAL)
SCALE: NTS



4 S505 EQUIPMENT STAND BRACE DETAIL
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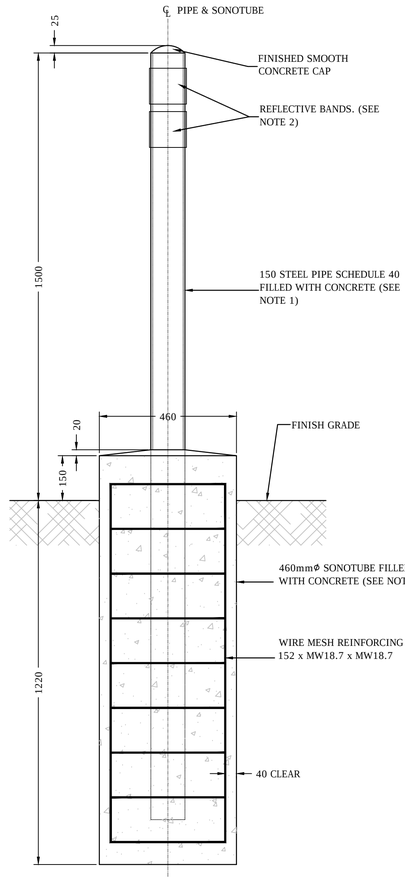
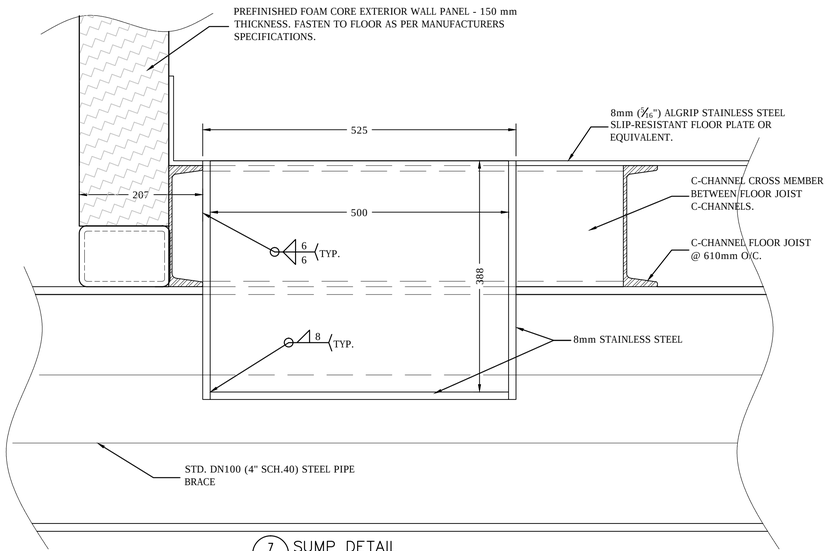


NOTE:
1. BOLLARD TO BE PAINTED YELLOW WITH REFLECTIVE BANDS.

5 S505 BOLLARD DETAIL (TYPICAL)
SCALE: NTS



6 S505 EXTERIOR END WALL SECTION (TYPICAL)
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7 S505 SUMP DETAIL
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1. FOAM IN PLACE INSULATION IN FLOOR CAVITY NOT SHOWN FOR CLARITY.

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GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
STRUCTURAL DETAILS

Project No.	Scale	
144901252	N.T.S.	
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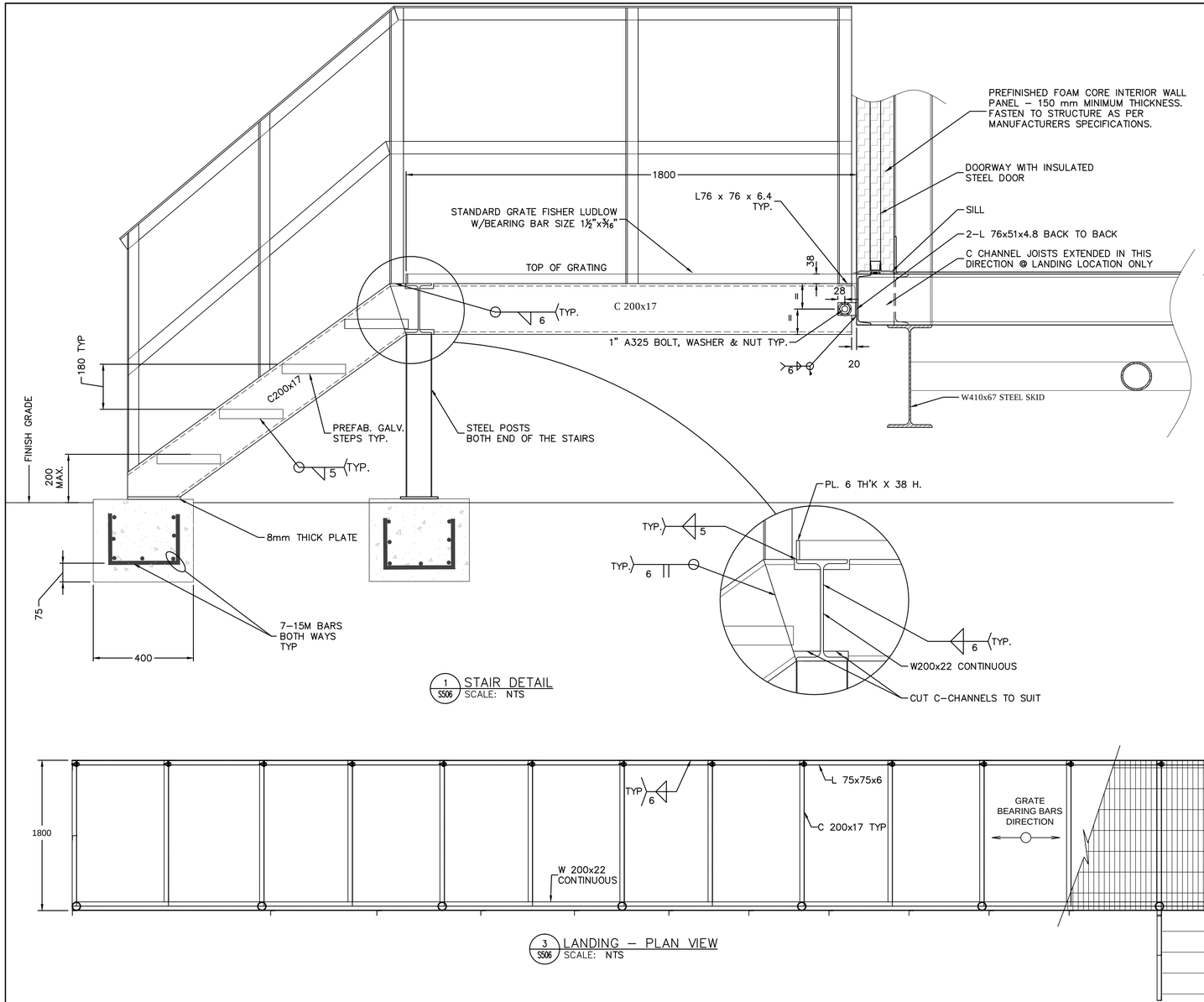
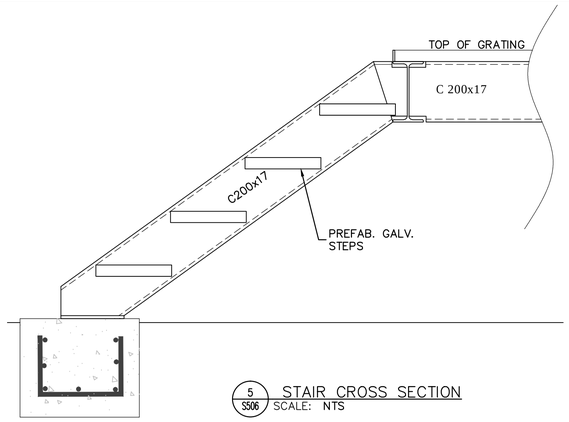
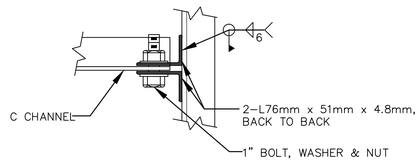


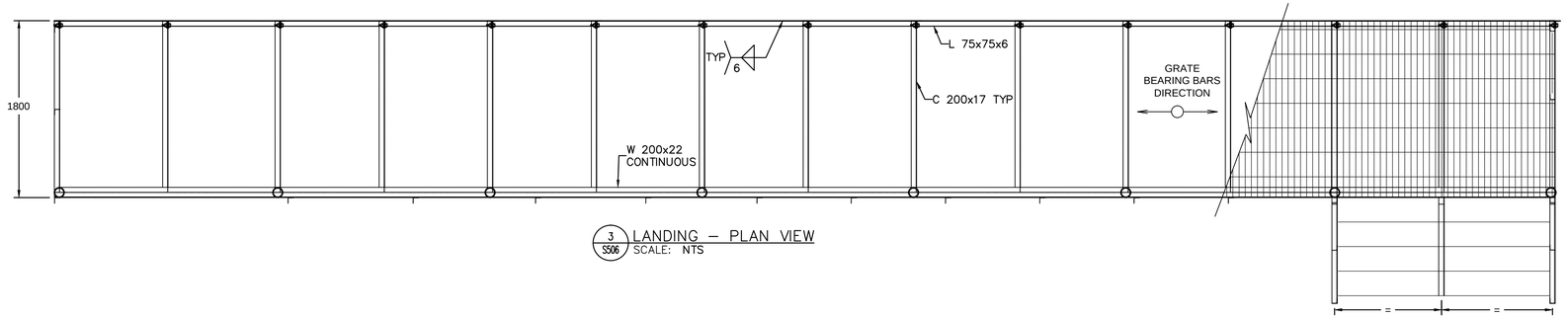
1 S506 STAIR DETAIL
SCALE: NTS



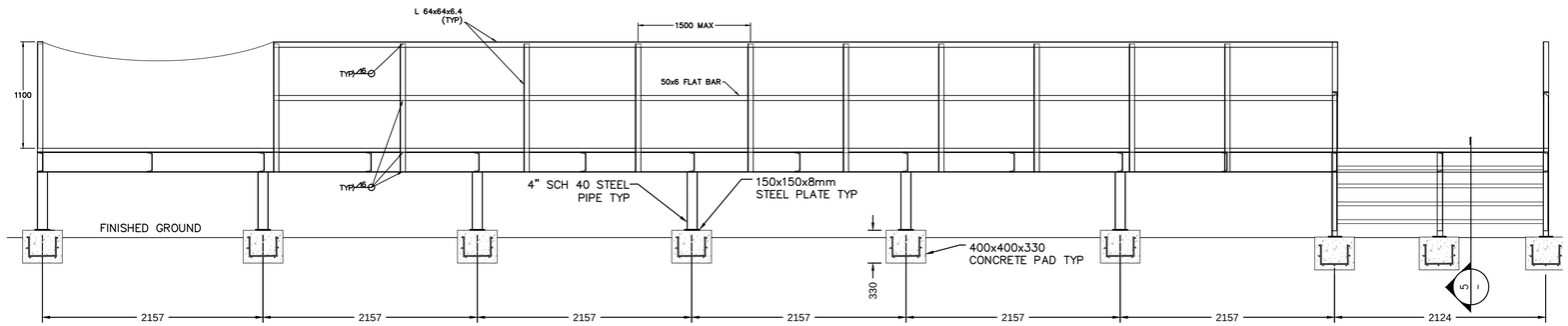
5 S506 STAIR CROSS SECTION
SCALE: NTS



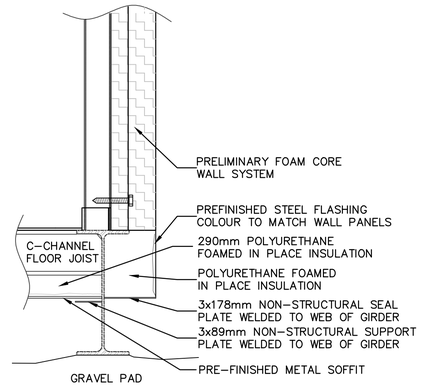
2 S506 STAIR PINNED CONNECTION DETAIL
SCALE: NTS



3 S506 LANDING – PLAN VIEW
SCALE: NTS



4 S506 LANDING – FRONT VIEW
SCALE: NTS



6 S506 TYPICAL FLOOR INSULATION FINISH DETAIL
SCALE: NTS

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Legend

Notes

1. FOAM IN PLACE INSULATION IN FLOOR CAVITY NOT SHOWN FOR CLARITY.

Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C ISSUED FOR TENDER	AF	WO	14.02.14
B ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A ISSUED FOR 50% REVIEW	AF	WO	12.11.09

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File Name: 144901252	AF Dwn.	WO Chkd.	WO Dsgn.	13.12.19 YY.MM.DD

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Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
STAIR DETAILS

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
S-506	6 of 8	0

V:\144901252\500_civil\06_drawings\06-04 Issued For Construction\Phase II\01252-501-508.dwg
2014/05/09 9:09 AM By: hiroumard, Mahyar

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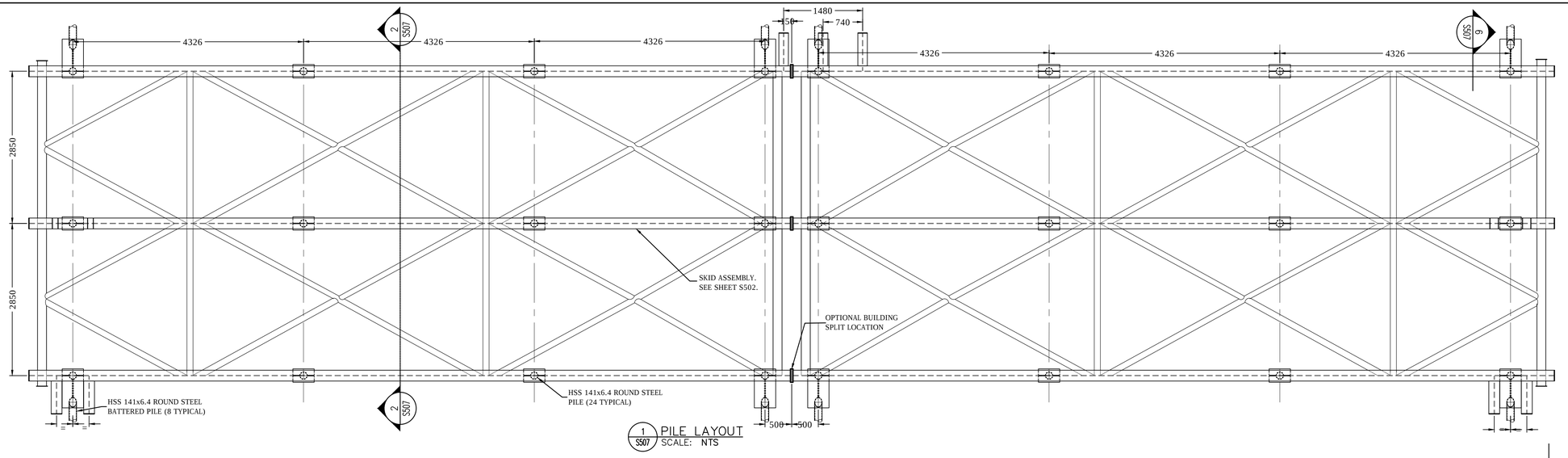

1 S507 PILE LAYOUT
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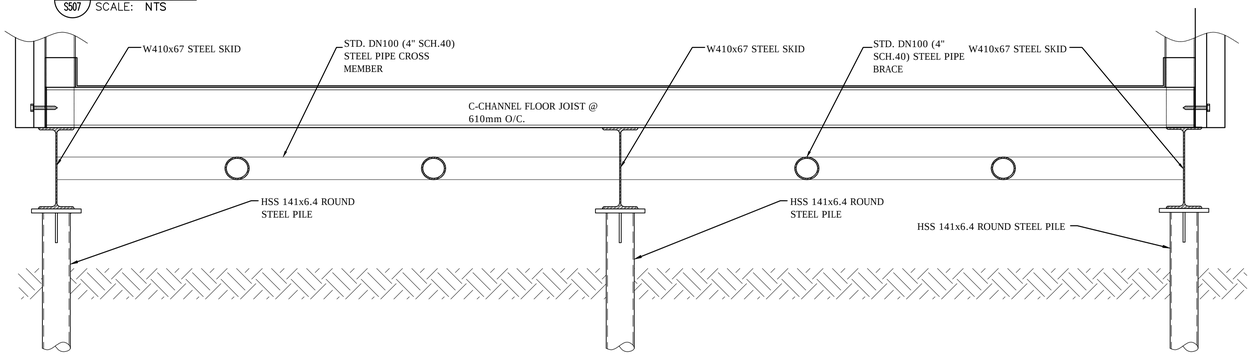

2 S507 BRACING SECTION (TYPICAL)
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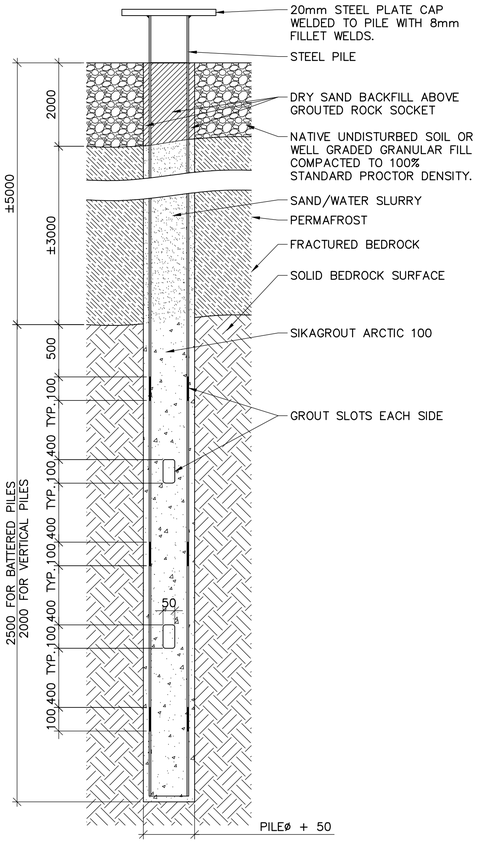
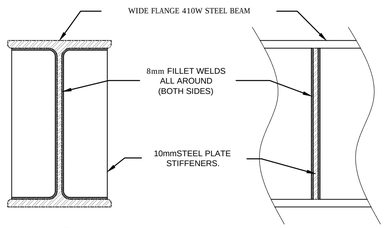
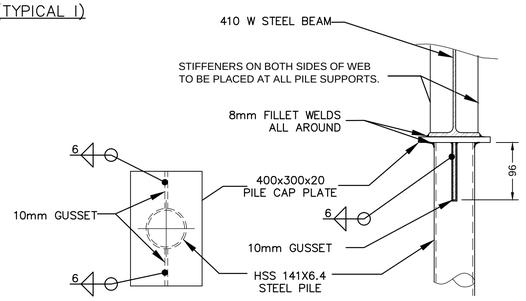


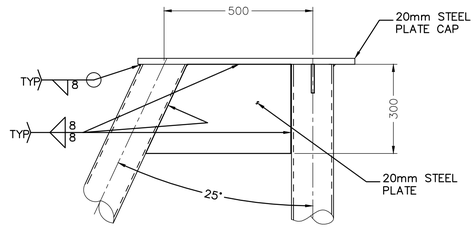
3 S507 HYBRID PILE DETAIL
SCALE: NTS



4 S507 STIFFNER DETAILS (TYPICAL I)
SCALE: NTS



5 S507 STIFFNER DETAILS (TYPICAL II)
SCALE: NTS



6 S507 BATTERED PILE CONNECTION (TYP)
SCALE: NTS

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Legend

Notes

1. ALL APPLICABLE EDGES ARE TO BE GAS CUT AND ARE NOT TO BE SHEARED.
2. ALL STEEL BEAMS ARE TO BE LATERALLY RESTRAINED BY FLOOR JOIST ABOVE.
3. ALL STEEL PILES TO BE HSS 141x6.4, GRADE 350W.
4. STIFFENERS TO BE PLACED AT ALL PILE SUPPORT.

Revision	By	Appd.	YY.MM.DD
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A ISSUED FOR 50% REVIEW	AF	WO	12.11.09

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Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
PILE LAYOUT
AND DETAILS

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
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2014/05/09 9:10 AM By: Nicomondi, Mathyn
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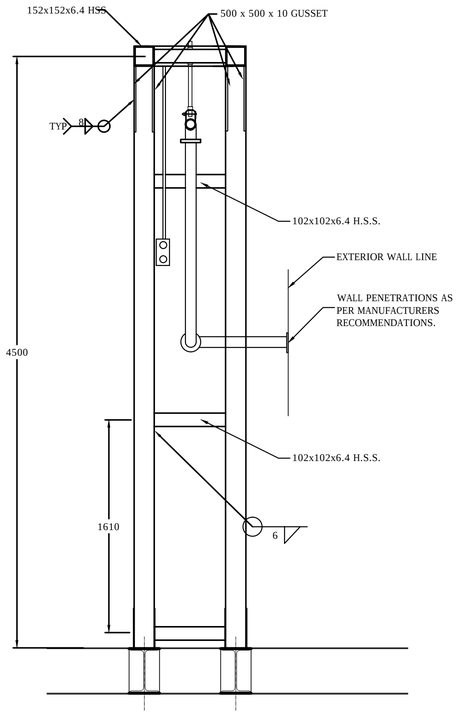
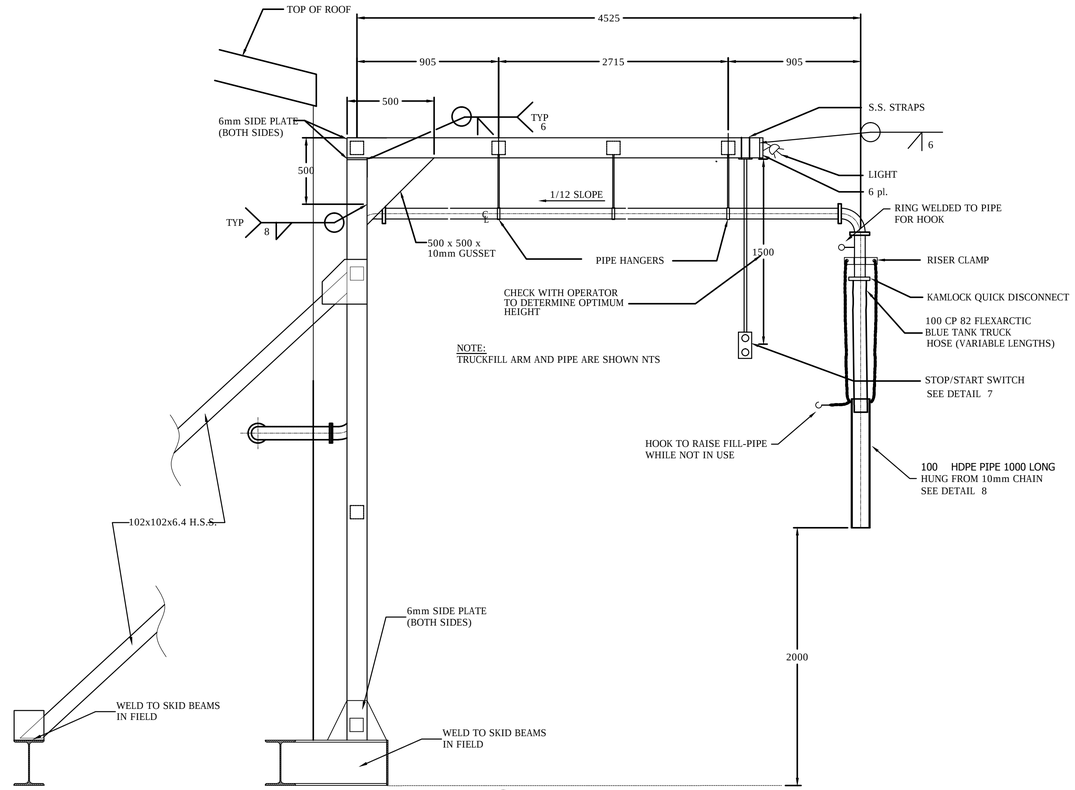
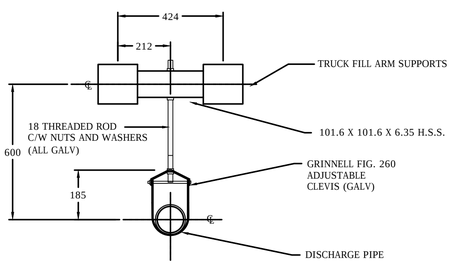


1 S508 TRUCK FILL LINE SUPPORT (OBLIQUE VIEW)
SCALE: NTS

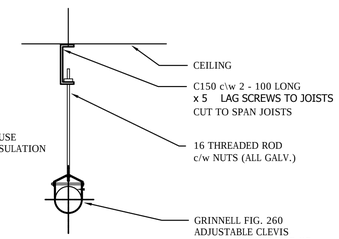


2 S508 TRUCK FILL LINE SUPPORT (SIDE VIEW)
SCALE: NTS

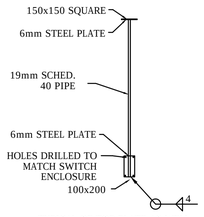


3 S508 EXTERIOR PIPE HANGER DETAIL
SCALE: NTS

NOTE:
FOR INSULATED PIPE USE GRINNELL FIG. 167 INSULATION PROTECTION SHIELD

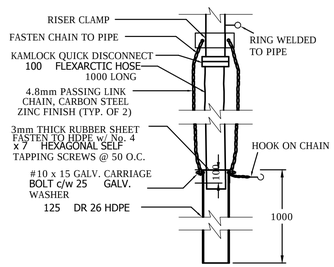


4 S508 INTERIOR PIPE HANGER DETAIL
SCALE: NTS

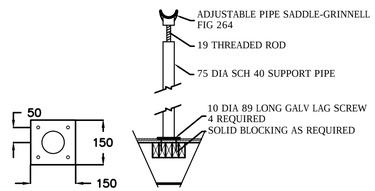


TYPICAL OF TOP PLATE AS WELL

5 S508 STOP / START MOUNTING DETAIL
SCALE: NTS



6 S508 TRUCKFILL HOSE DETAIL
SCALE: NTS



7 S508 SHORT PIPE STAND
SCALE: NTS

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Notes

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D	ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
C	ISSUED FOR TENDER	AF	WO	14.02.14
B	ISSUED FOR 80% REVIEW	AF	WO	13.12.20
A	ISSUED FOR 50% REVIEW	AF	WO	12.11.09

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Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
TRUCK FILL ARM DETAILS

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
S-508	8 of 8	0

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2014/05/09 9:10 AM By: Nirsumond, Mahyar
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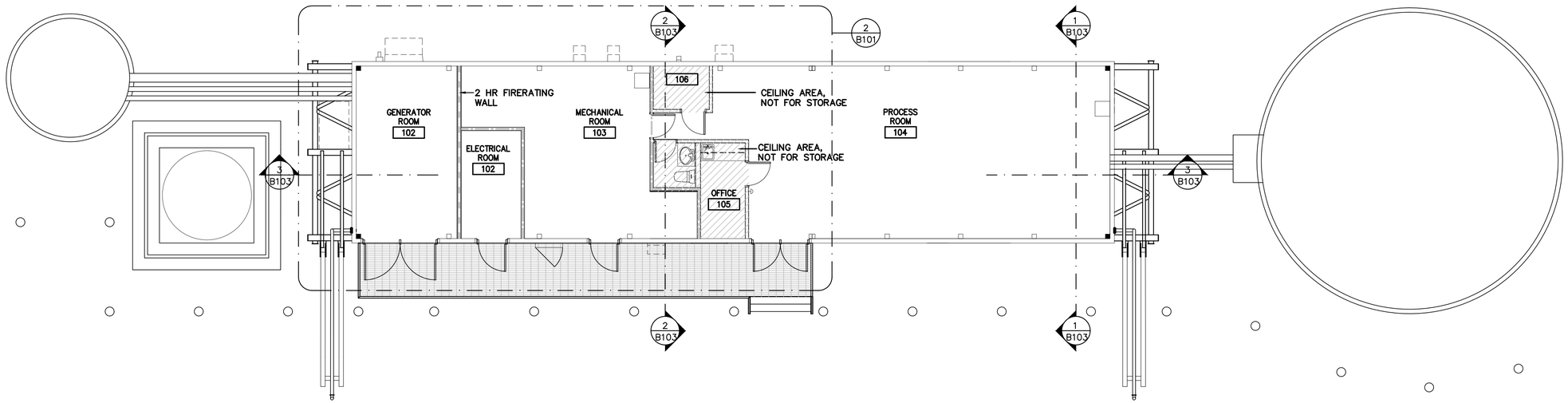
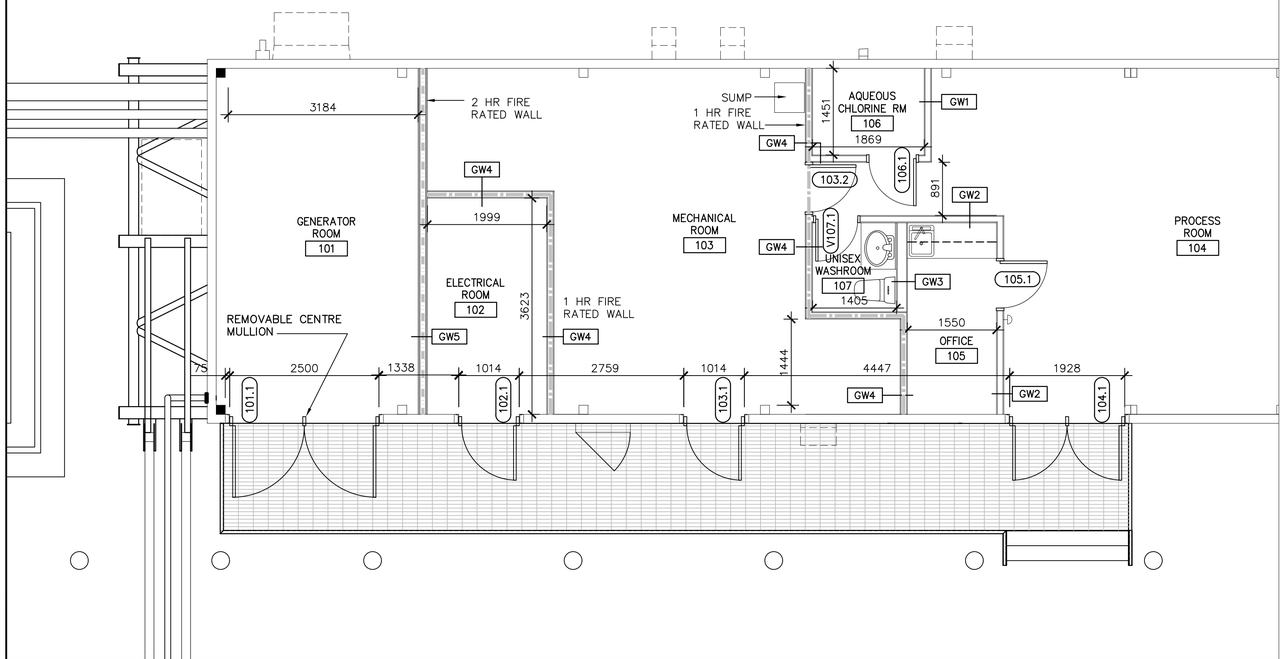
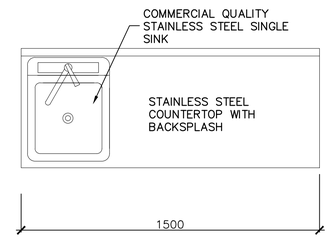


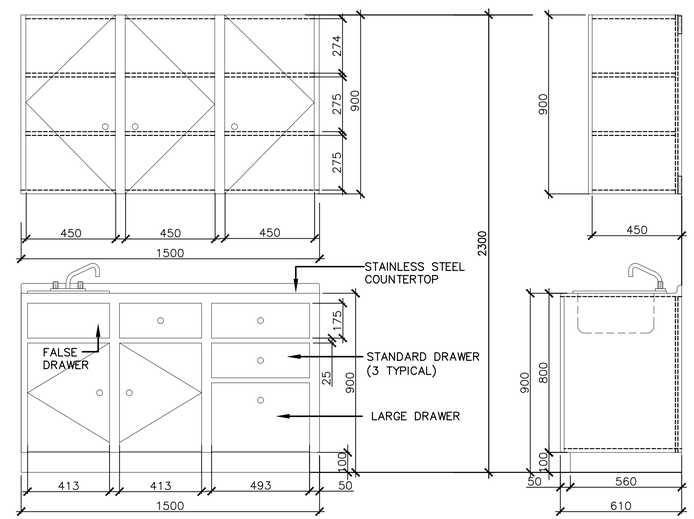
1 B101 FLOOR PLAN
SCALE: 1:80



2 B101 PARTIAL FLOOR PLAN
SCALE: 1:50



TOP VIEW



STANDARD DOOR (2 TYPICAL)

FRONT VIEW SIDE VIEW

3 B103 CABINETRY ELEVATIONS AND DETAILS
SCALE: 1:15

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FIRE SEPARATIONS :

1 HR FIRE SEPARATION
2 HR FIRE SEPARATION

100.1 DOOR NUMBER TAG

EW1 WALL ASSEMBLY TAG

Notes

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POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
FLOOR PLAN & ASSEMBLIES

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
B-101	1 of 3	0

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2014/05/09 9:10 AM By: Nirounand, Mahyar

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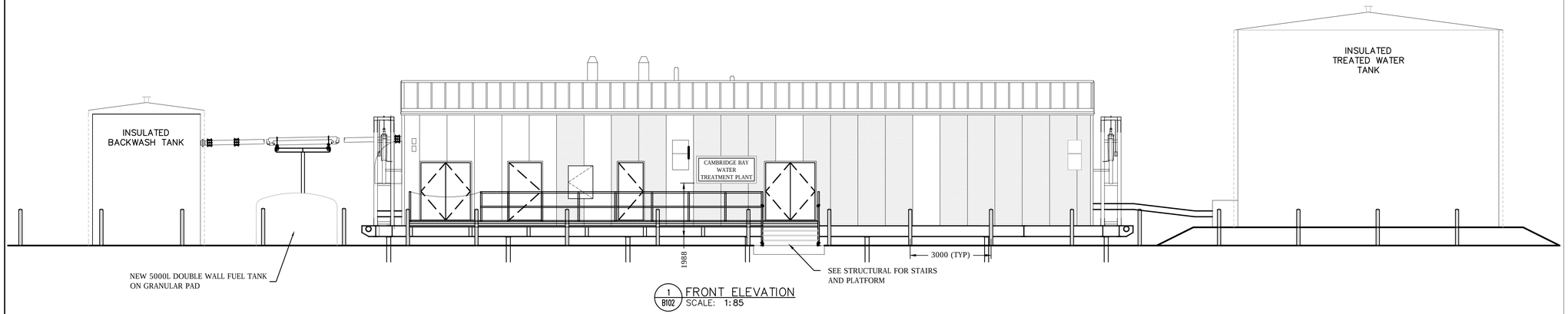

1 B102 FRONT ELEVATION
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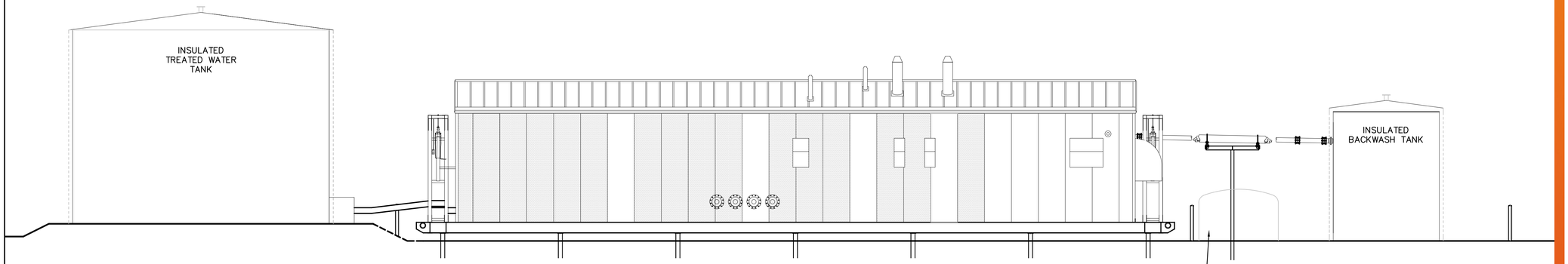

2 B102 REAR ELEVATION
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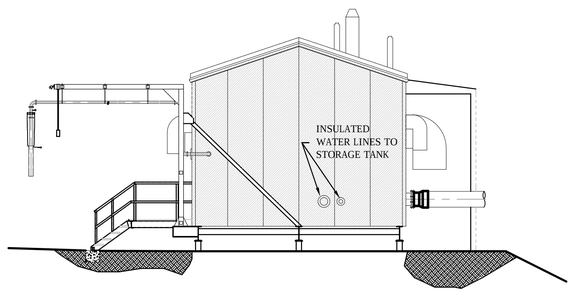

3 B102 SIDE ELEVATION
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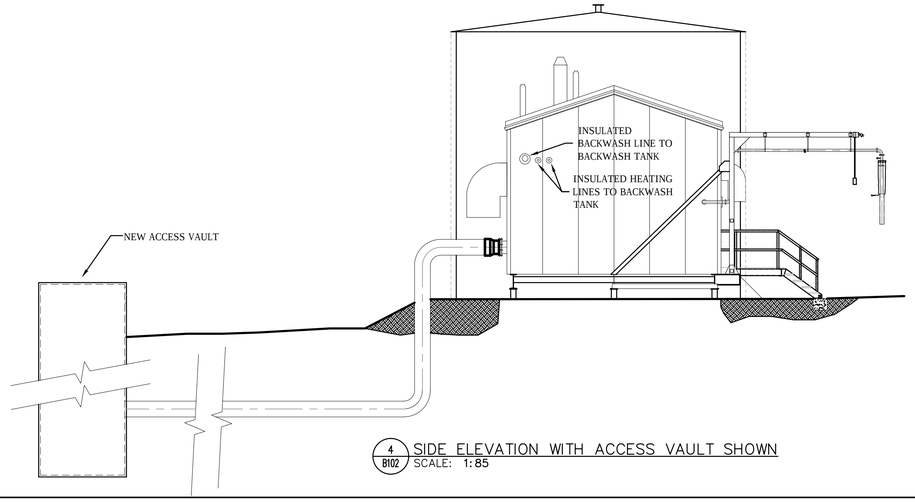

4 B102 SIDE ELEVATION WITH ACCESS VAULT SHOWN
SCALE: 1:85

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CLADDING COLOR LEGEND:

IMPERIAL WHITE

SANDSTONE

ROOF PANELS COLOR LEGEND:

SANDSTONE

Notes

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D ISSUED FOR CONSTRUCTION	MN	WO	14.05.26
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			13.12.19
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GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title

BUILDING ELEVATIONS

Project No.	Scale	
144901252	AS NOTED	
Drawing No.	Sheet	Revision
B-102	2 of 3	0

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2014/05/09 9:10 AM By: Nkoumandi, Mathyar

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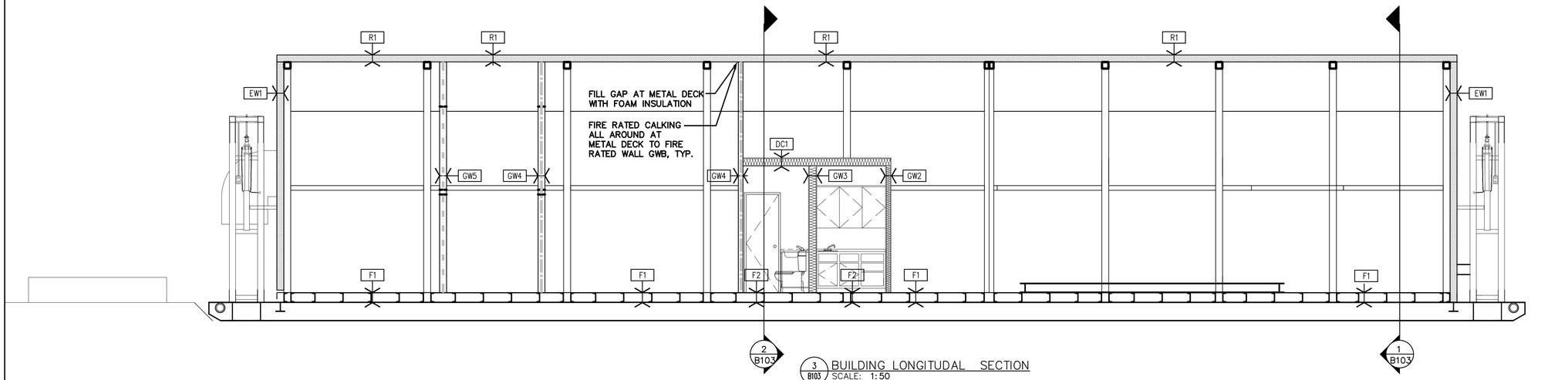
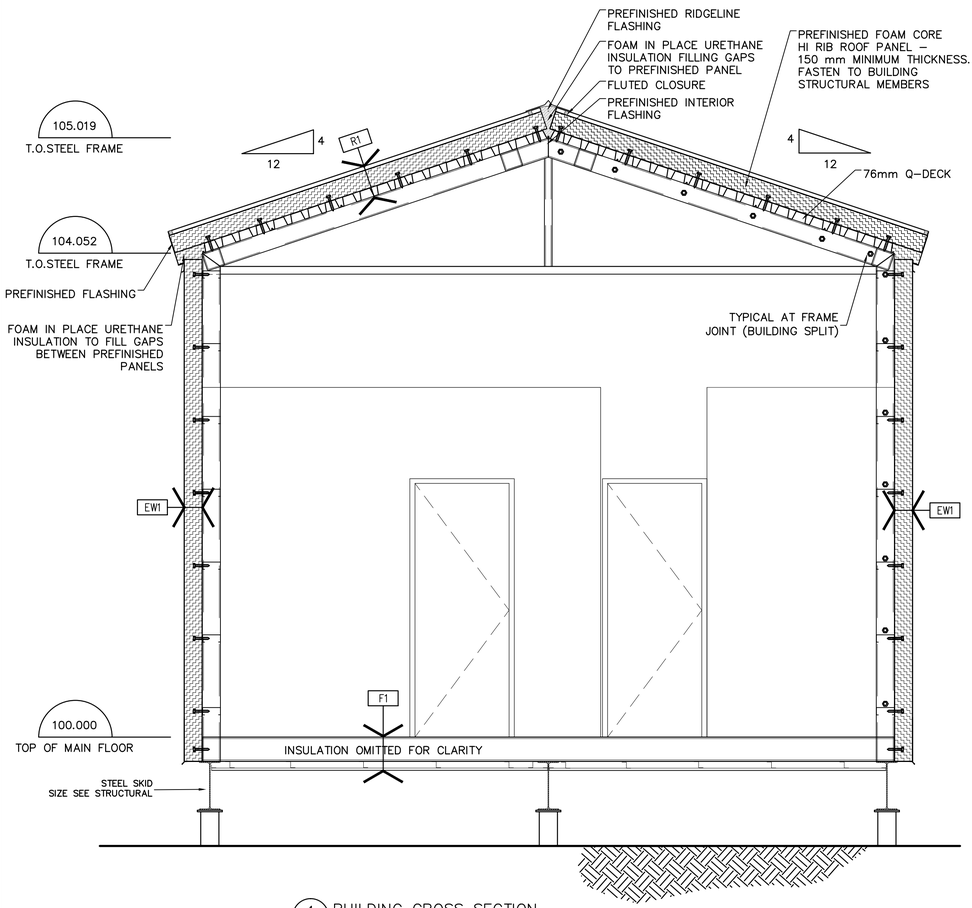
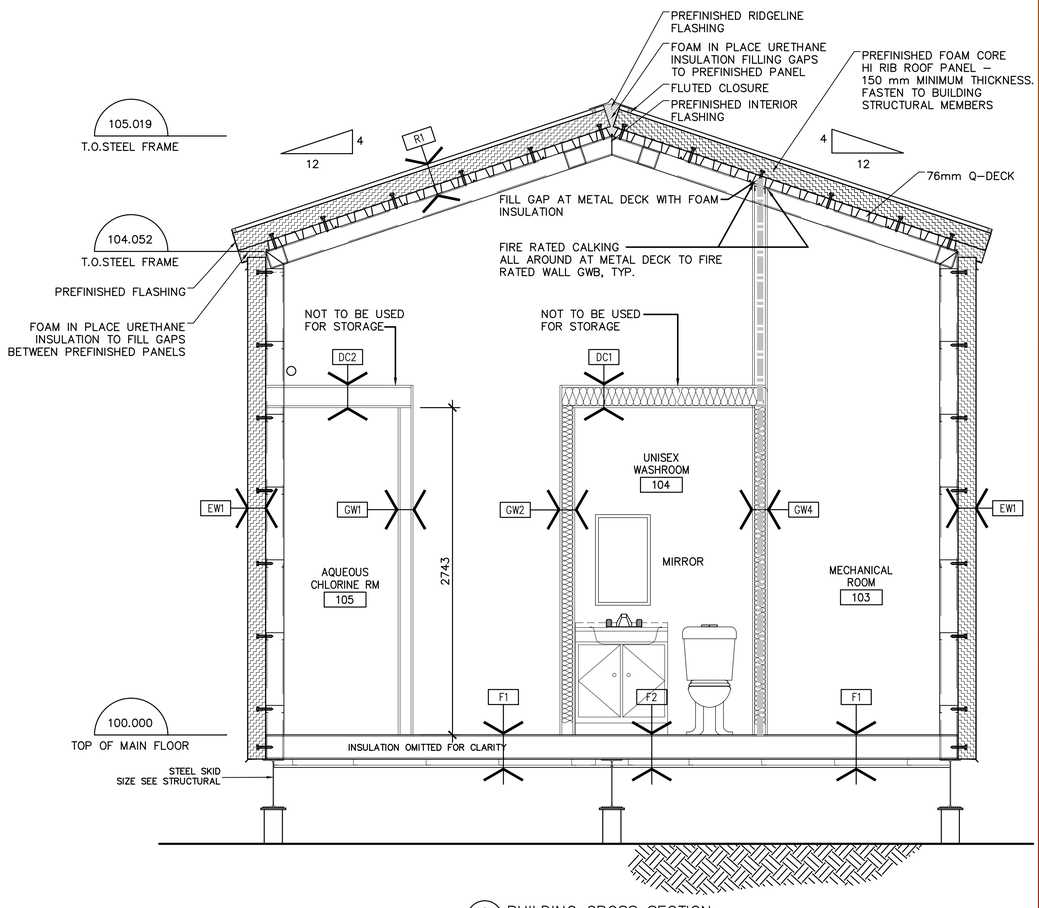


3 B103 BUILDING LONGITUDAL SECTION
SCALE: 1:50



1 B103 BUILDING CROSS SECTION
SCALE: 1:25



2 B103 BUILDING CROSS SECTION
SCALE: 1:25

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GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title

BUILDING SECTION AND MISC. DETAILS

Project No.	Scale	
144901252	AS NOTES	
Drawing No.	Sheet	Revision
B-103	3 of 3	0

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2014/05/09 9:10 AM By: Nicumanzi, Mahyar

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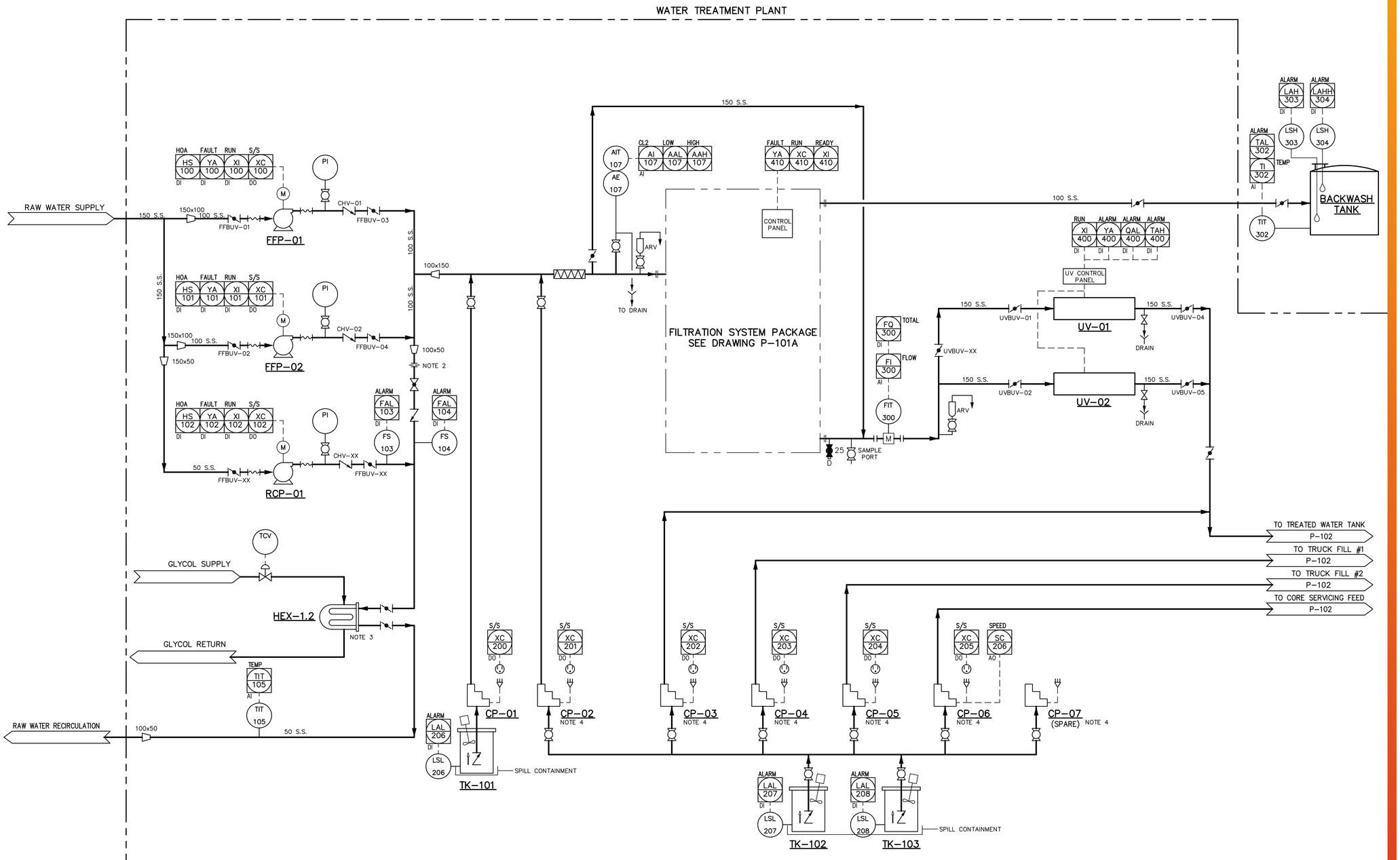

WATER TREATMENT PLANT

FFP-01 / 02
FILTER FEED PUMPS

RATED CAPACITY : 20 L/sec
RATED HEAD : 345 kPa
S.G. : 1.0
HORSE POWER : 20 HP
TYPE : PATTERSON 3x2.5 M-C
208V / 3 / 60Hz

RCP-01
RAW WATER CIRCULATION PUMP

RATED CAPACITY : 3.8 L/sec
RATED HEAD : 65 kPa
S.G. : 1.0
HORSE POWER : 0.75 HP
TYPE : ARMSTRONG 2x2x6
208V / 3 / 60Hz

CP-01
COAGULANT PUMP

RATED CAPACITY : 1 L/hr
HORSE POWER : FRACTIONAL
TYPE : BLUE WHITE
112V / 1 / 60Hz

CP-02 / 03 / 04 / 05 / 06 / 07
CHLORINE PUMPS

RATED CAPACITY : VARIOUS - SEE SPECIFICATIONS
HORSE POWER : FRACTIONAL
TYPE : PROMINENT
112V / 1 / 60Hz

UV-01 / 02
UV DISINFECTION

RATED CAPACITY : 20 L/sec
DIAMETER : 150mm
UV TRANSMITTANCE : 85%
TYPE : TROJAN UV SWIFT SC D-03
208V / 3 / 60Hz

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Legend

Notes

1. ALL PIPING OUTSIDE OF SKIDS 75 DIA. AND LARGER TO BE SCH.40 304 STAINLESS STEEL.
2. FLOW LIMITING ORIFICE TO BE SIZED TO ALLOW A MAXIMUM FLOW OF 3.8 L/s WHEN FILTER FEED PUMPS ARE OPERATING.
3. HEAT EXCHANGER (HE), REFER TO MECHANICAL DRAWINGS FOR PIPING AND CONTROL DETAILS.
4. CHLORINE INJECTION PUMP GENERAL ARRANGEMENT SHOWN. REFER TO SPECIFICATIONS FOR DETAILED PIPING, VALVING AND ACCESSORIE'S REQUIREMENTS.

Revision	By	Appd.	YY.MM.DD
C ISSUED FOR CONSTRUCTION	DC	SK	14.05.26
B ISSUED FOR TENDER	CV	SK	14.02.21
A ISSUED FOR 50% REVIEW	BWB	BN	12.11.06

Issued	By	Appd.	YY.MM.DD
File Name: P-01_P-02.DWG	BWB Dwn.	BN Chkd.	BN Dsgn.	12.11.06 YY.MM.DD

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Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
PIPING AND INSTRUMENTATION DIAGRAM - SHEET 1

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
P-101	of	0

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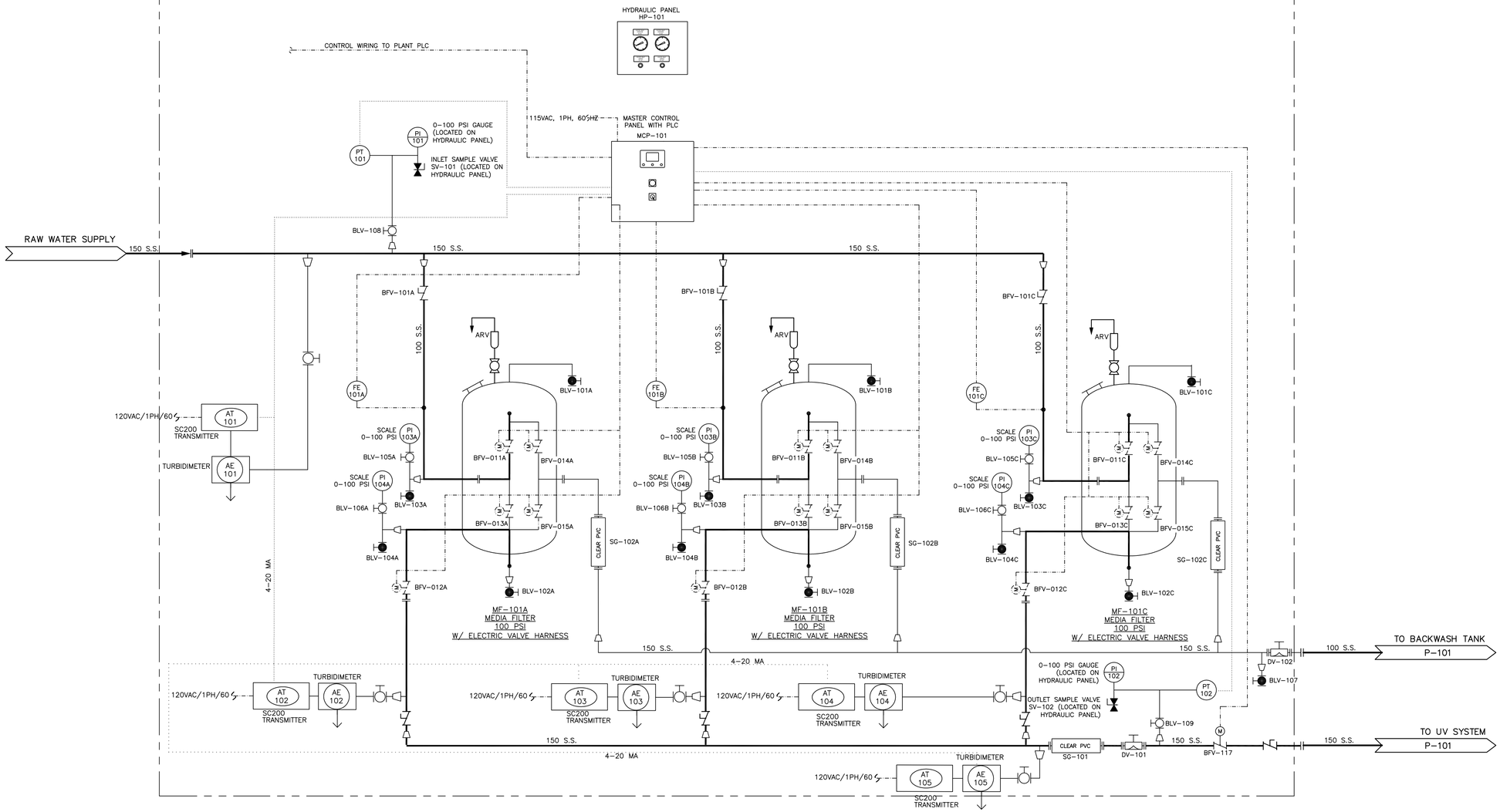
2014/05/26 11:28 AM By: Buchsdruecker, Bernie

ORIGINAL SHEET - ANSI D

FILTER SYSTEM



LEGENDS

- MAIN PROCESS LINE (NORMAL FLOW)
- SECONDARY PROCESS LINE
- HYDRAULIC TUBING
- DISCRETE CONTROL SIGNAL
- PIPING BY OTHERS
- PNEUMATIC TUBING
- POWER SUPPLY
- ANALOG CONTROL SIGNAL

- LIT 101 — LEVEL TRANSMITTER
- FE 103 — IN-LINE FLOWMETER
- PI 103A — PRESSURE GAUGE
- FIT 101A — FLOW TOTALIZER (PANEL MOUNTED)
- FE 101A — FLOW SENSOR
- PT 101 — PRESSURE SENSOR
- SG — SIGHT GLASS

- M — ACTUATED BALL VALVE
- MANUAL BALL VALVE (NORMALLY CLOSED)
- MANUAL BALL VALVE (NORMALLY OPEN)
- NEEDLE OR TOGGLE VALVE (NORMALLY CLOSED)
- CHECK VALVE
- STATIC MIXER
- INJECTION ASSEMBLY
- AIR RELIEF VALVE

- MANUAL DIAPHRAGM VALVE
- MANUAL BUTTERFLY VALVE
- M — ACTUATED BUTTERFLY VALVE
- PIPE REDUCER
- UNION FITTING

CONTROL LOGIC NOTES:

1. WELL PUMP SHALL BE RUNNING DURING BACKWASH
2. BV-117 SHALL BE CLOSED DURING BACKWASH
3. ONLY ONE VESSEL SHALL BACKWASH AT A TIME, OTHER VESSELS OFF-LINE DURING BACKWASH

DESCRIPTION:

1. SYSTEM MODEL: APU140Z-5460CS-3-AVH
2. SKID-MOUNTED SYSTEM
3. MEDIA: AD140Z FILTRATION MEDIA
4. CONTROL VALVES: 4" LUG-STYLE BUTTERFLY VALVES
5. SYSTEM CONTROL: ALLEN BRADLEY PLC
6. VESSELS: THREE (3) 54" DIAMETER X 60" SIDESHELL
7. SYSTEM PRESSURE: 100 PSI MAX

OPERATING CONDITIONS:

1. FLOW CONFIGURATION: PARALLEL
2. SERVICE FLOW RATE: 317 GPM (OVER 3 VESSELS)
3. BACKWASH FLOW RATE: 254 GPM PER VESSEL
4. BACKWASH SOURCE: VESSELS IN SERVICE
5. OPERATING PRESSURE: <100 PSI
6. IF PRESSURE EXCEEDS 100 PSI, A PRESSURE REGULATOR IS REQUIRED, TO BE PROVIDED BY CUSTOMER

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Legend

Notes

1. ALL PVC PIPING SCHEDULE 80.
2. ALL STEEL PIPING TO BE SCH.40 304 STAINLESS STEEL.

Revision	By	Appd.	YY.MM.DD
C ISSUED FOR CONSTRUCTION	DC	SK	14.05.26
B ISSUED FOR TENDER	CV	SK	14.02.21
A ISSUED FOR 50% REVIEW	BWB	BN	12.11.06
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NWT/NU

144901252

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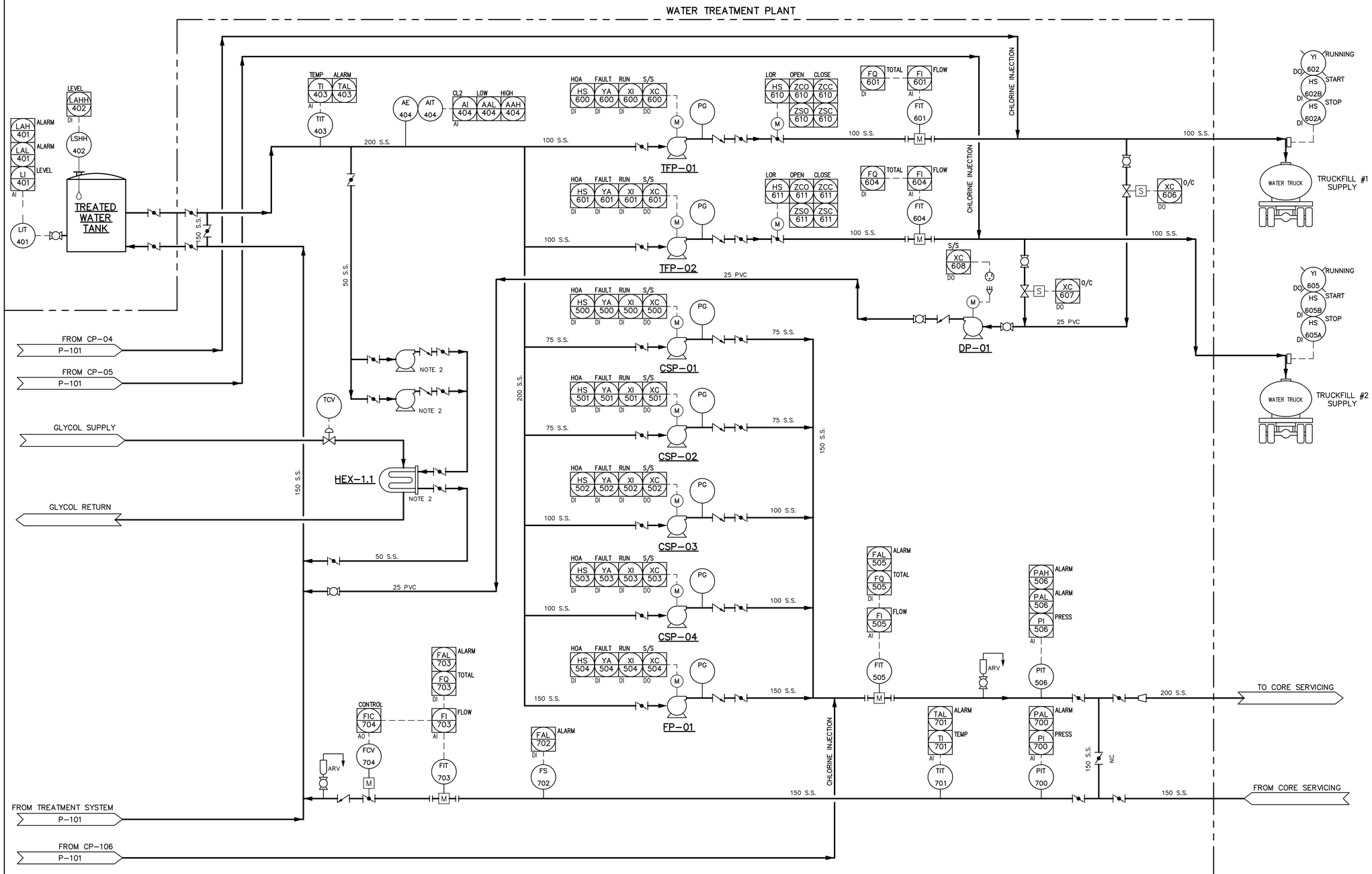
Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
PIPING AND INSTRUMENTATION DIAGRAM - SHEET 2

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
P-101A	of	0



TFP-01 / 02
TRUCK FILL PUMPS

RATED CAPACITY : 20 L/sec
HORSE POWER : 7.5 HP
TYPE : ARMSTRONG 3x3x5
208V / 3 / 60Hz

CSP-01 / 02
CORE SERVICING PUMPS

RATED CAPACITY : 7.5 L/sec
HORSE POWER : 7.5 HP
TYPE : ARMSTRONG 1.5x1.5x6
3600 RPM
208V / 3 / 60Hz

CSP-03 / 04
CORE SERVICING PUMPS

RATED CAPACITY : 19 L/sec
HORSE POWER : 20 HP
TYPE : ARMSTRONG 2x2x8
3600 RPM
208V / 3 / 60Hz

FP-01
FIRE PUMP

RATED CAPACITY : 50 L/sec
HORSE POWER : 50 HP
TYPE : ARMSTRONG 5x5x8
3600 RPM
208V / 3 / 60Hz

DP-01
DRAIN PUMP

RATED CAPACITY : 55 L/min
RATED HEAD : 90 kPa
S.G. : 1.0
HORSE POWER : 1/5 HP
TYPE : CENTRIFUGAL
120V / 1 / 60Hz

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Notes

1. ALL PIPING OUTSIDE OF SKIDS 75 DIA. AND LARGER TO BE SCH.40 304 STAINLESS STEEL.
2. HEAT EXCHANGER (HE), REFER TO MECHANICAL DRAWINGS FOR PIPING AND CONTROL DETAILS.

Revision	By	Appd.	YY.MM.DD
C ISSUED FOR CONSTRUCTION	DC	SK	14.05.26
B ISSUED FOR TENDER	CV	SK	14.02.21
A ISSUED FOR 50% REVIEW	BWB	BN	12.11.06
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22 MAY 2014
NWT/NU

1449/252

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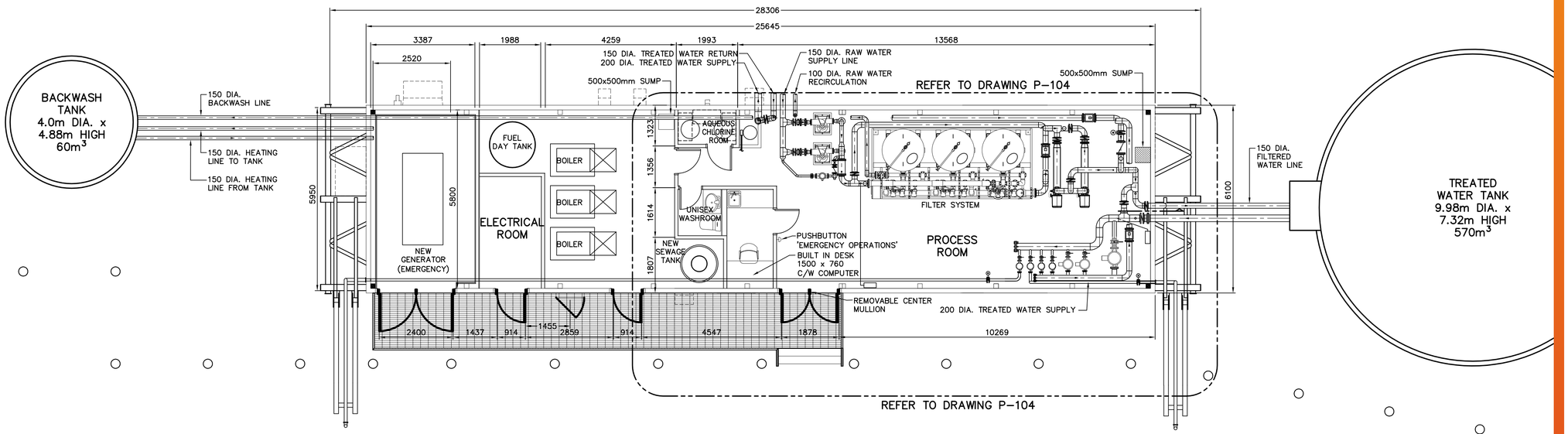
Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
PIPING AND INSTRUMENTATION DIAGRAM - SHEET 3

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
P-102	of	0



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C ISSUED FOR CONSTRUCTION	CV	SK	14.05.26
B ISSUED FOR TENDER	CV	SK	14.02.21
A ISSUED FOR 50% REVIEW	BWB	BN	12.11.06

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File Name: P-03.DWG	BWB Dwn.	BN Chkd.	BN Dsgn.	12.11.06 YY.MM.DD

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Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
OVERALL PROCESS LAYOUT

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
P-103	of	0

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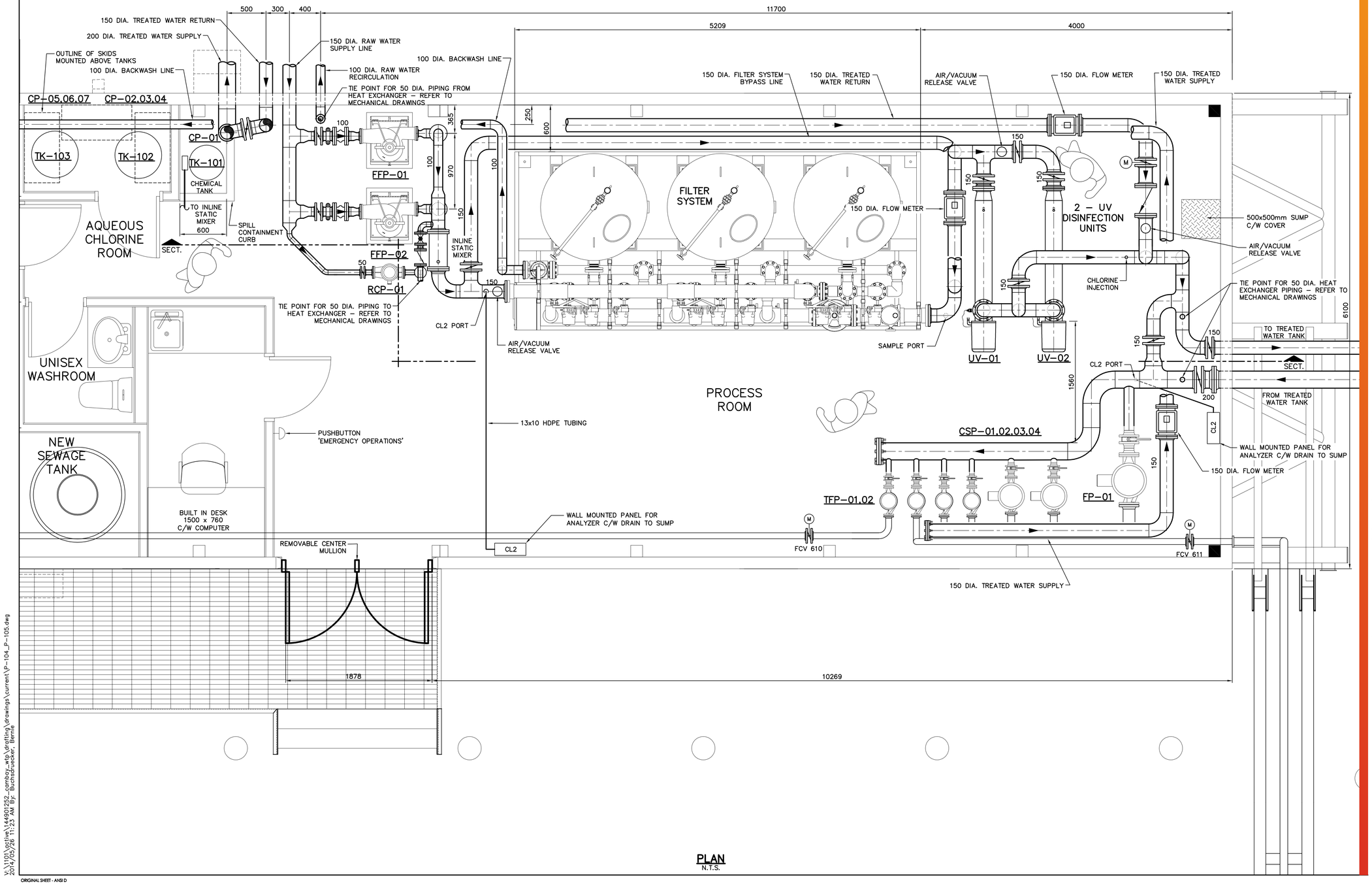

PLAN
N.T.S.

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Notes

1. ALL PIPING OUTSIDE OF SKIDS 75 DIA. AND LARGER TO BE SCH.40 304 STAINLESS STEEL.

Revision	By	Appd.	YY.MM.DD
C ISSUED FOR CONSTRUCTION	CV	SK	14.05.26
B ISSUED FOR TENDER	CV	SK	14.02.21
A ISSUED FOR 50% REVIEW	SWB	BN	12.11.06
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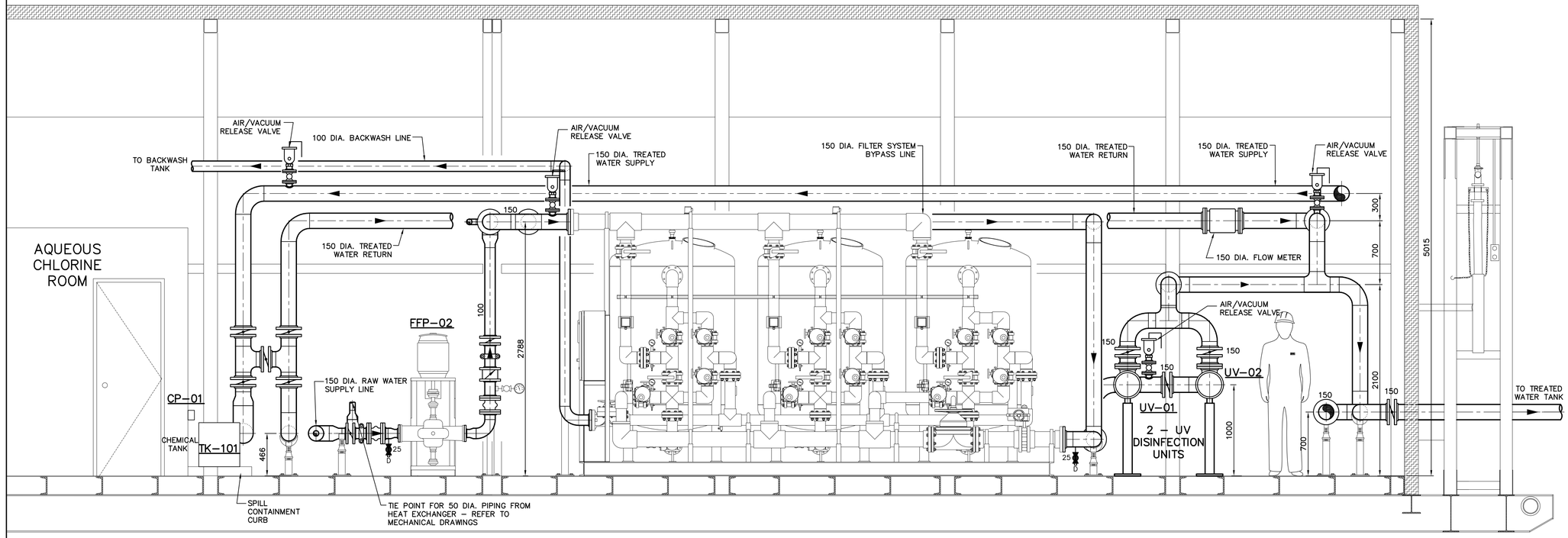
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

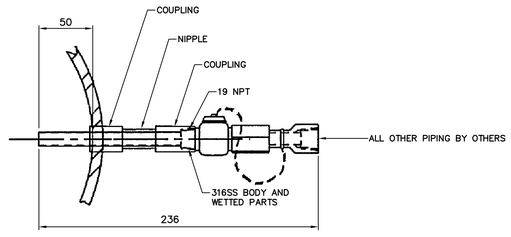
Title

PROCESS ROOM LAYOUT

Project No.	Scale	
144901252	N.T.S.	
Drawing No.	Sheet	Revision
P-104	of	0



SECTION
N.T.S.



NOTES:
- TYPICAL FOR ALL CHEMICAL INJECTION POINTS
- ALL MATERIALS TO BE 316SS

CORPORATION STOP DETAIL
N.T.S.

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Notes
1. ALL PIPING OUTSIDE OF SKIDS 75 DIA. AND LARGER TO BE SCH.40 304 STAINLESS STEEL.

Revision	By	Appd.	YY.MM.DD
C ISSUED FOR CONSTRUCTION	CV	SK	14.05.26
B ISSUED FOR TENDER	CV	SK	14.02.21
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Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
PROCESS ROOM SECTION AND DETAILS

Project No.	Scale	
1449012 52	N.T.S.	
Drawing No.	Sheet	Revision
P-105	of	0

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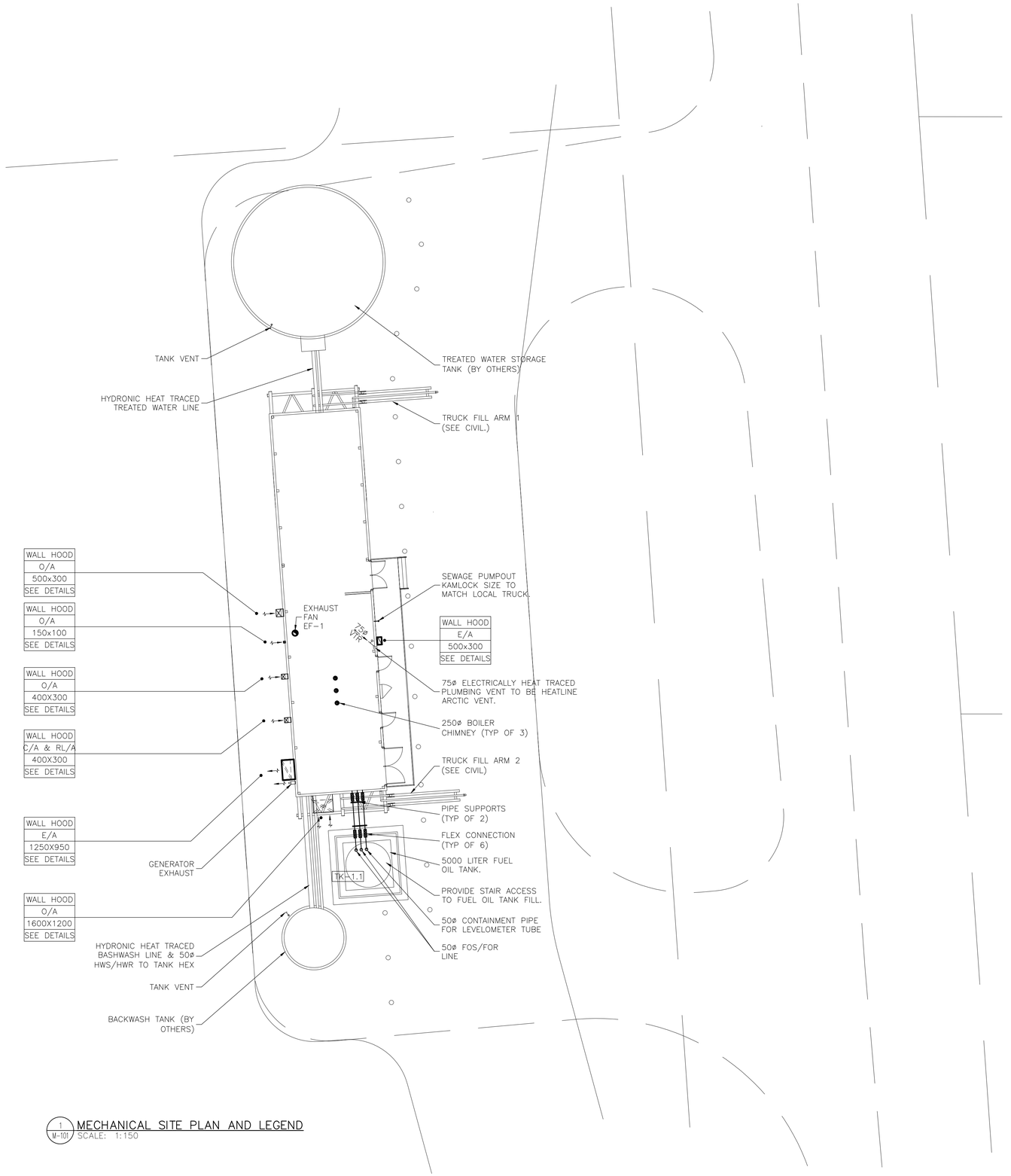

1 / M-101 MECHANICAL SITE PLAN AND LEGEND
SCALE: 1:150

GENERAL LEGEND

- XXX / SYSTEM / SIZE — XXØ — XXXX: PLAN CONTINUATION; DWG # WHERE CON'T
- TP–XX / XX / SIZE: SERVICE; SYSTEM CONNECTION POINT
- CONTINUED
- CONT'D X | X: VERTICAL CONTINUATION; DETAIL # WHERE CON'T; DWG # WHERE CON'T
- LINE SIZE / XXØ / XXX / SYSTEM: PIPING TAG
- KEYNOTE

PLUMBING LEGEND

- DCW
- DHW
- DHWR
- VENT
- DRAINAGE
- BURIED DRAINAGE
- RUNNING TRAP
- P–TRAP C/W CLEAN OUT
- CLEAN OUT
- CLEAN OUT THROUGH FLOOR
- PUMP
- FIXTURE / TYPE / QUANTITY: PLUMBING FIXTURE

FUEL OIL LEGEND

- FUEL OIL SUPPLY
- FUEL OIL RETURN
- OIL SAFETY VALVE
- VACUUM GAUGE
- FUSIBLE LINK VALVE
- FUEL OIL FILTER
- FUEL OIL DE–AERATOR

VENTILATION LEGEND

- OUTSIDE AIR DUCT (UP&DOWN)
- SUPPLY DUCT (UP&DOWN)
- RETURN DUCT (UP&DOWN)
- EXHAUST DUCT (UP&DOWN)
- ROUND DUCT (UP&DOWN)
- FLEXIBLE DUCT CONNECTION
- BD: BALANCING DAMPER
- CD: CONTROL DAMPER
- SUPPLY OUTLET
- RETURN OR EXHAUST INLET (WALL TYPE)
- RETURN OR EXHAUST INLET (CEILING TYPE)
- TYPE / RATING — DAMPER TYPE: FIRE DAMPER
- THICKNESS: ACOUSTIC LINING
- THICKNESS: THERMAL INSULATION
- AD: ACCESS DOOR
- TYPE / SIZE / CAPACITY (L/S): AIR OUTLET OR INLET
- SERVICE TYPE / DETAIL LOCATION — TYPE OF HOOD / HOOD SIZE: HOOD, LOUVER OR GOOSENECK

GENERAL PIPING LEGEND

- CHECK VALVE
- GATE VALVE
- BALL VALVE
- GLOBE VALVE
- STRAINER
- BUTTERFLY VALVE
- THREE WAY VALVE
- CV: CONTROL VALVE
- DRAIN VALVE
- PIPING DOWN
- PIPING UP
- UNION
- FLANGE
- FLEXIBLE CONNECTION
- PI: PRESSURE GAUGE
- TI: THERMOMETER

HEATING LEGEND

- TYPE / X / XXXX LENGTH / XXX: HEATING TERMINAL UNITS
- KW OUTPUT
- TYPE / X / XXXX KW / XXX: UNIT HEATERS
- AIR FLOW
- CONTROL VALVE / CV | X / XX: CONTROL VALVE; OPERATOR; LOCATION
- T=THERMOSTAT DEVICE CONTROLLED / T | X / XX: THERMOSTAT; LOCATION
- T=THERMOSTAT DEVICE CONTROLLED / TG | X / XX: THERMOSTAT W/GUARD; LOCATION
- HWS
- HWR
- RADIATOR/ CONVECTOR
- UNIT HEATER
- MANUAL AIR VENT
- AAV: AUTOMATIC AIR VENT
- PUMP SUCTION GUIDE
- FILTER
- SIGHT GLASS
- U: T & P TAPPING
- FLOW BALANCE STATION
- CV: THREE WAY CONTROL VALVE
- GLOBE RADIATOR VALVE
- PIPE ANCHOR
- PIPE GUIDE
- COMBINATION FLOW/CHECK VALVE

FIRE PROTECTION LEGEND

- DCE–# : DRY CHEMICAL FIRE EXTINGUISHER

CONTROLS LEGEND

- CS: CURRENT SENSOR
- TS: THERMOSTAT/TEMPERATURE SENSOR
- CV: CONTROL VALVE
- 120/24V TRANSFORMER
- DI | -- : DIGITAL CONTROL INPUT
- DO | -- : DIGITAL CONTROL OUTPUT
- AI | -- : ANALOG CONTROL INPUT
- AO | -- : ANALOG CONTROL OUTPUT

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Legend

Notes

Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	BM	BM	14.05.26
C ISSUED FOR TENDER	BM	BM	14.02.21
B ISSUED FOR 80% REVIEW	BM	BM	13.12.19
A ISSUED FOR 50% REVIEW	BM	MP	12.11.09

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File Name: 144901252	BM Dwn.	BM Chkd.	BM Dsgn.	13.12.19 YY.MM.DD

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NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
May. 26, 2014
B. R. MORRIS
N.W.T.

144901252
Cambridge Bay Water Treatment Plant – Phase 2

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
MECHANICAL SITE PLAN & LEGEND

Project No.	Scale	
144901252	AS NOTED	
Drawing No.	Sheet	Revision
M-101	1 of 9	0

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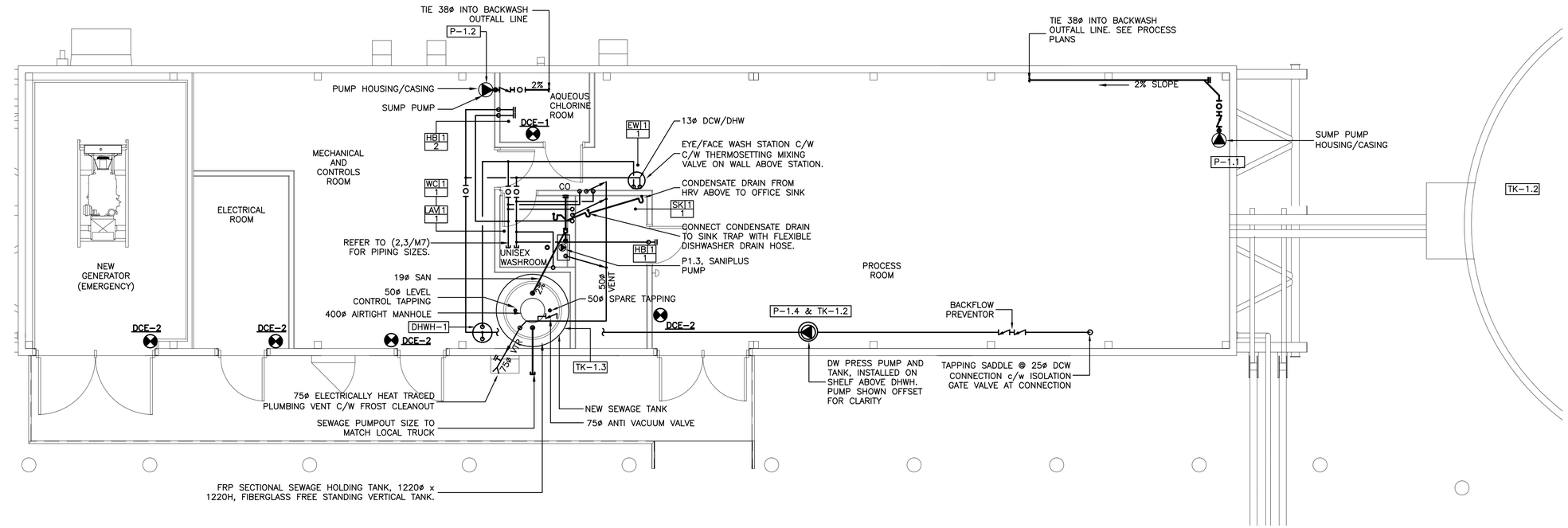
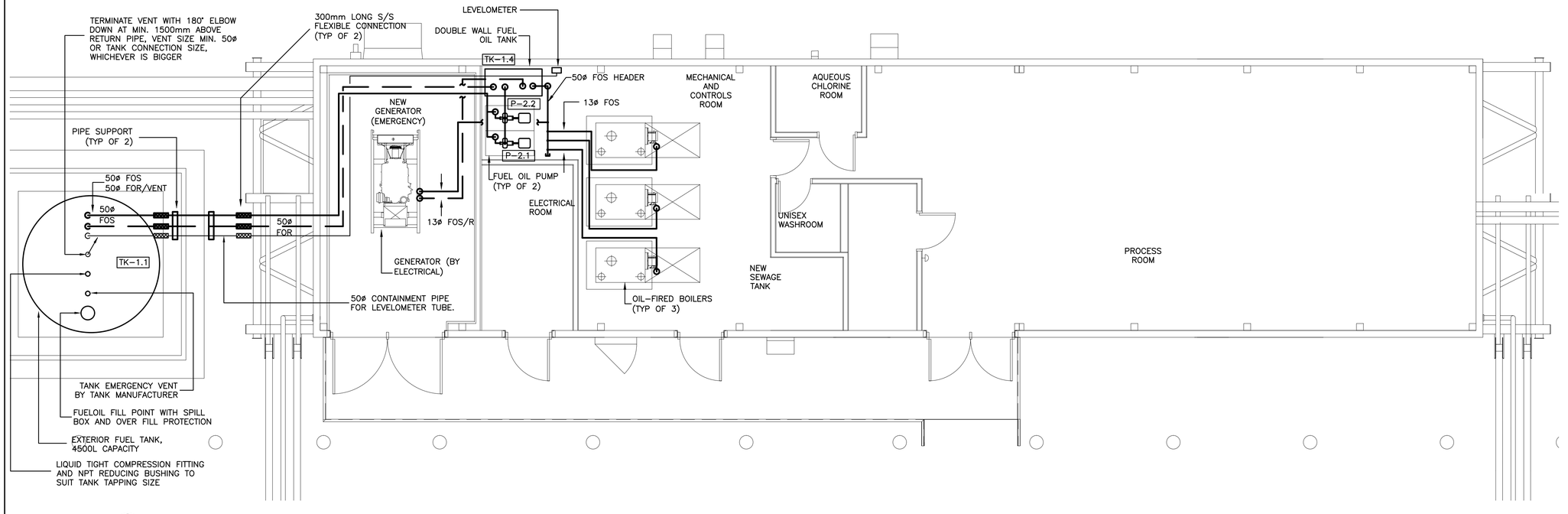


1 M-201 **PLUMBING AND FIRE PROTECTION LAYOUT**
SCALE: 1:50



2 M-201 **FUEL OIL PLAN**
SCALE: 1:50

V:\144\Active\144901252\0300_mech\27\phase_2\m201.dwg
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Notes

Revision	By	Appd.	YY.MM.DD
D ISSUED FOR CONSTRUCTION	BM	BM	14.05.26
C ISSUED FOR TENDER	BM	BM	14.02.21
B ISSUED FOR 80% REVIEW	BM	BM	13.12.19
A ISSUED FOR 50% REVIEW	BM	MP	12.11.09

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File Name: 144901252	BM Dwn.	BM Chkd.	BM Dsgn.	13.12.19 YY.MM.DD

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REGISTERED PROFESSIONAL ENGINEER
May. 26, 2014
B. R. MORRIS
N.W.T.

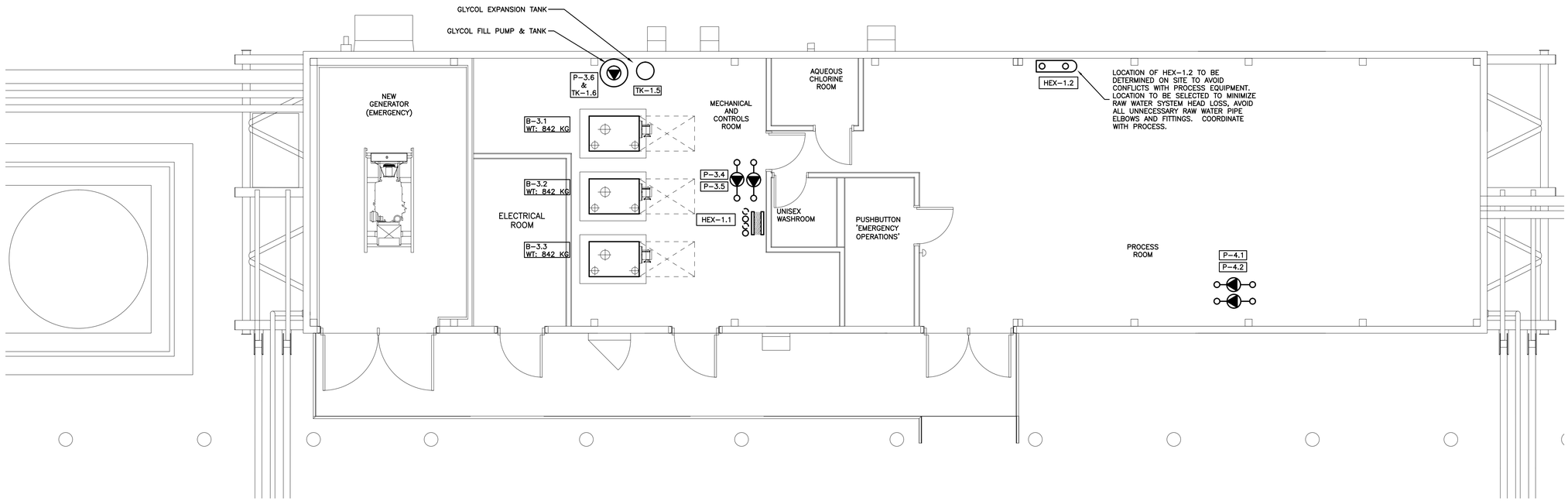
144901252
Cambridge Bay Water Treatment Plant – Phase 2

Client/Project
GOVERNMENT OF NUNAVUT

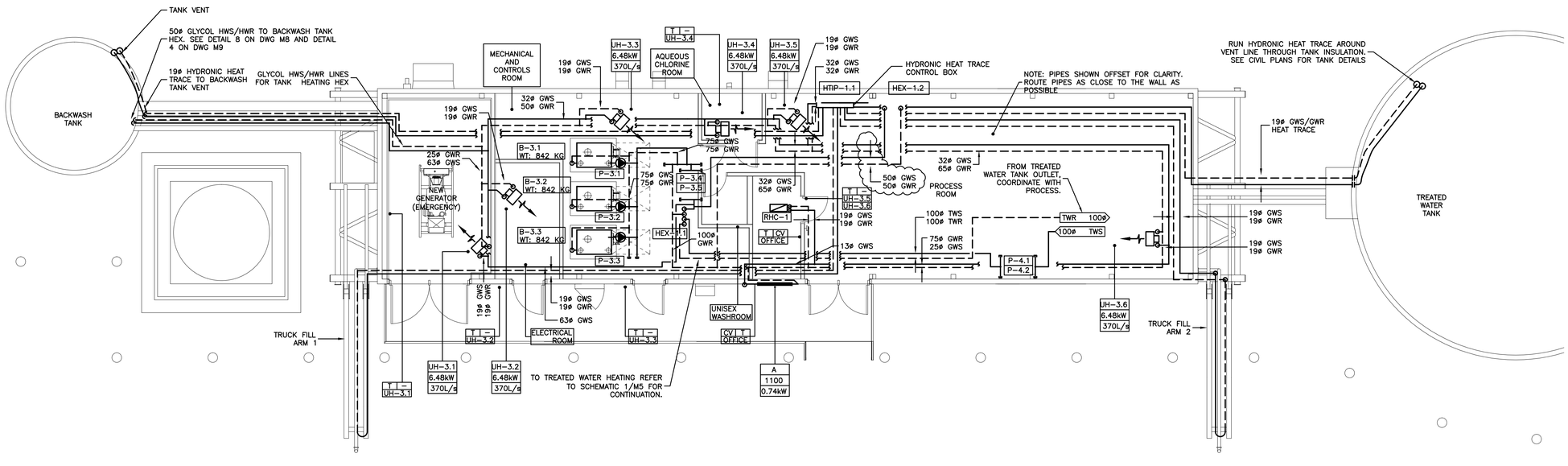
POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
MECHANICAL
FUEL OIL, PLUMBING &
FIRE PROTECTION LAYOUT

Project No.	Scale	
144901252	AS NOTED	
Drawing No.	Sheet	Revision
M-201	2 of 9	0



1 / M-202 **PROCESS CONNECTIONS & HEATING LAYOUT – LOW LEVEL**
SCALE: 1:50



2 / M-202 **PROCESS CONNECTIONS & HEATING LAYOUT – HIGH LEVEL**
SCALE: 1:75

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2014/05/26 10:06 AM By: Morris, Brandon

ORIGINAL SHEET - ANSI D

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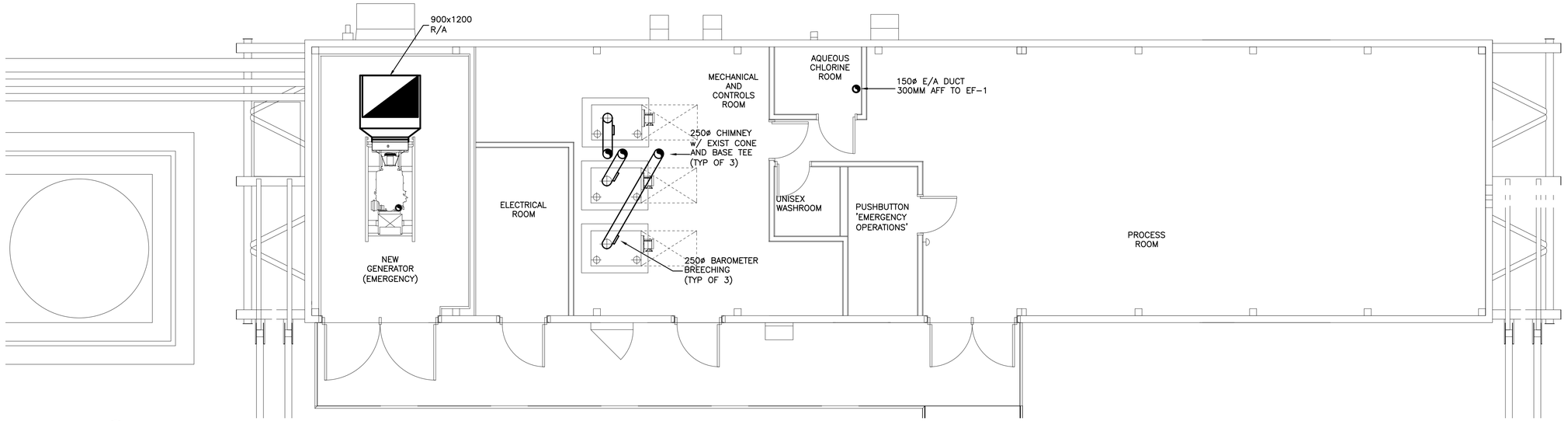
Cambridge Bay Water Treatment Plant – Phase 2

Client/Project
GOVERNMENT OF NUNAVUT

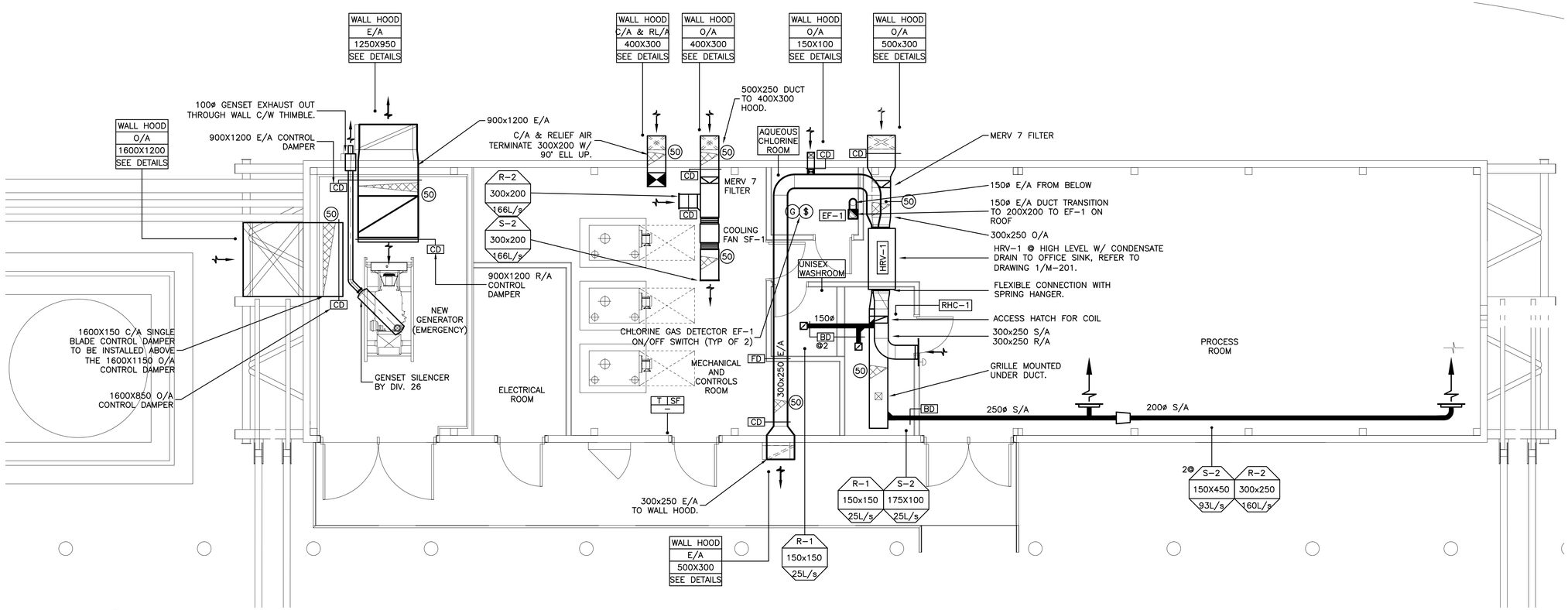
POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
MECHANICAL
HEATING LAYOUT &
PROCESS CONNECTIONS

Project No.	Scale	
144901252	AS NOTED	
Drawing No.	Sheet	Revision
M-202	3 of 9	0



1 M-203 **VENTILATION LAYOUT – LOW LEVEL**
SCALE: 1:50



2 M-203 **VENTILATION LAYOUT – HIGH LEVEL**
SCALE: 1:50

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N.W.T.

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Cambridge Bay Water Treatment Plant – Phase 2

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
MECHANICAL
VENILATION LAYOUT

Project No.	Scale	
144901252	AS NOTED	
Drawing No.	Sheet	Revision
M-203	4 of 9	0

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2014/05/29, 10:06 AM By: Morris, Brandon

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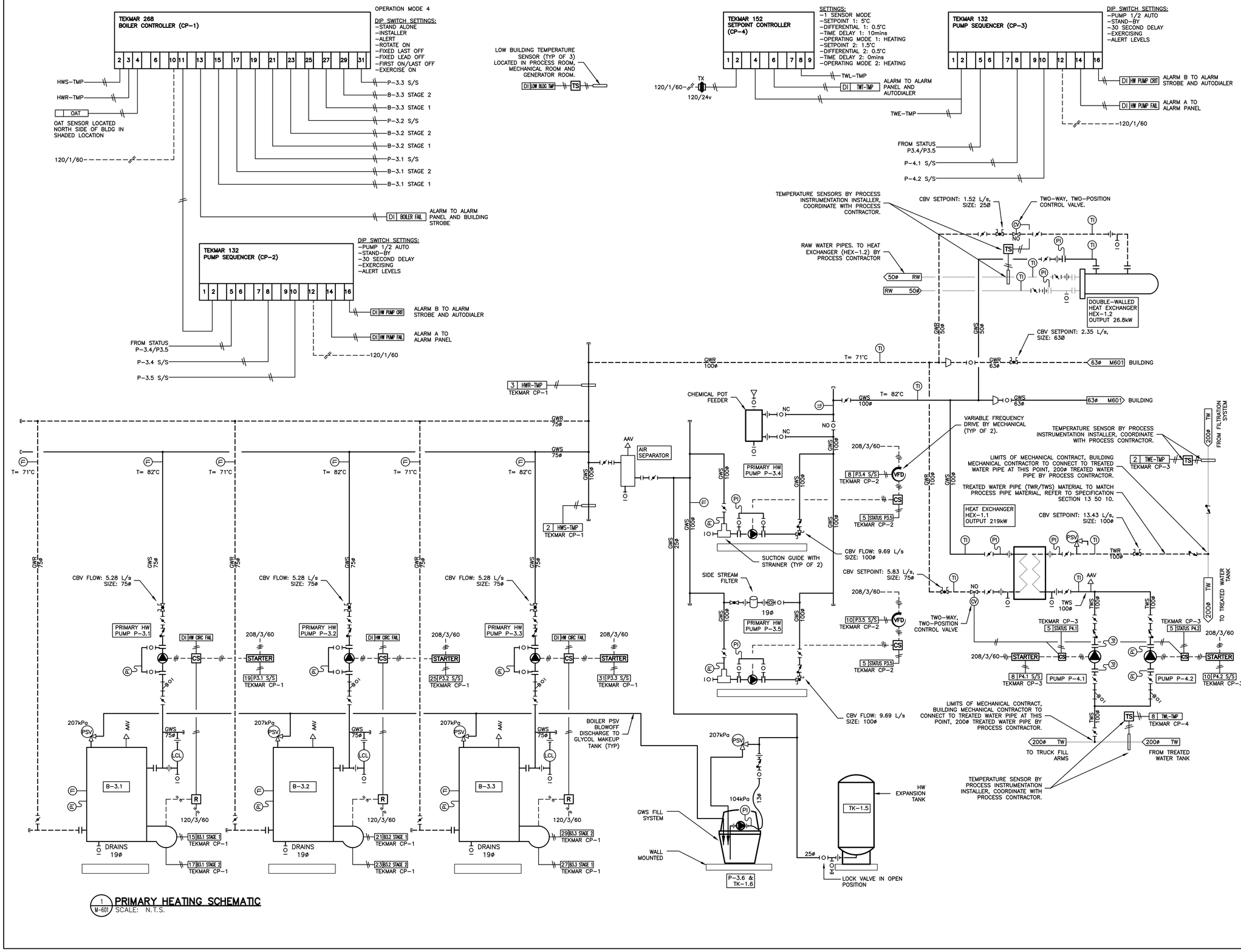

1 M-601 **PRIMARY HEATING SCHEMATIC**
SCALE: N.T.S.

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2014/05/26 10:06 AM By: Martis, Brandon

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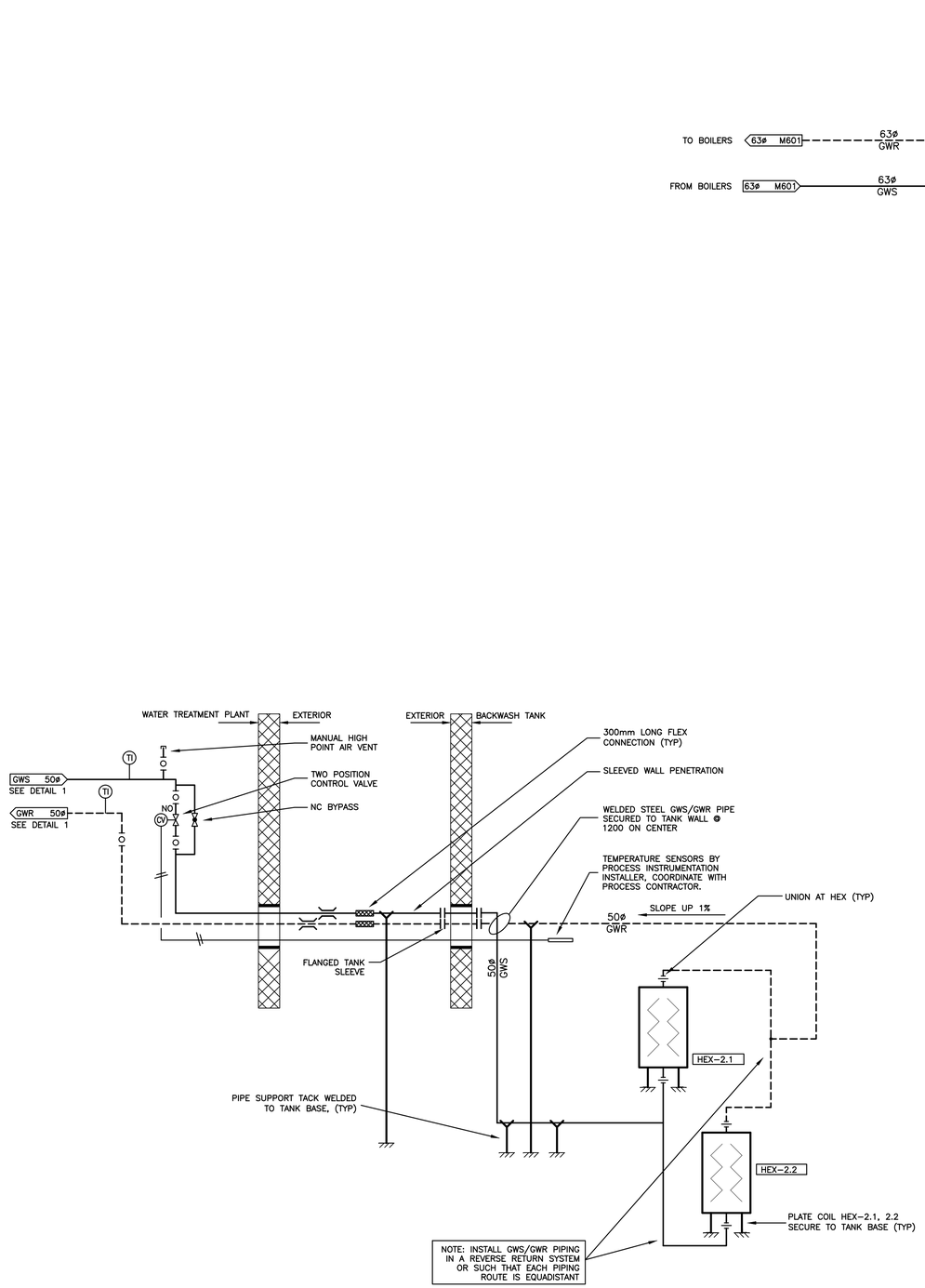
Cambridge Bay Water Treatment Plant – Phase 2

Client/Project
GOVERNMENT OF NUNAVUT

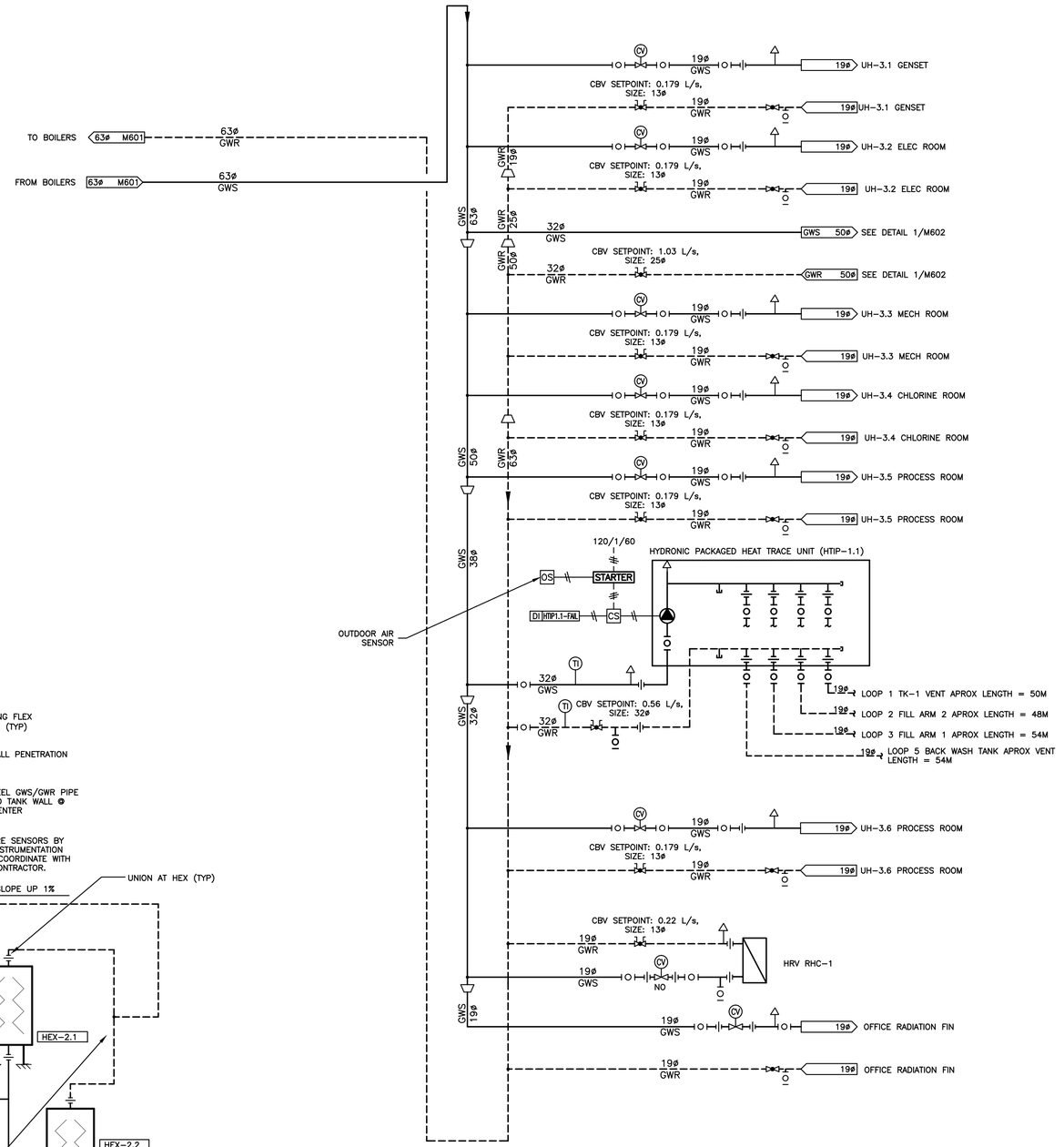
POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
MECHANICAL
FUEL OIL, PLUMBING & FIRE PROTECTION LAYOUT

Project No.	Scale	
144901252	AS NOTED	
Drawing No.	Sheet	Revision
M-601	5 of 9	0



1 M-602 **SECONDARY HEATING SCHEMATIC (BACKWASH TANK)**
SCALE: N.T.S.



2 M-602 **SECONDARY HEATING SCHEMATIC (BLDG)**
SCALE: N.T.S.

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PHASE II
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Title
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FUEL OIL, PLUMBING &
FIRE PROTECTION LAYOUT

Project No.	Scale	
144901252	AS NOTED	
Drawing No.	Sheet	Revision
M-602	6 of 9	0

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2014/05/26 10:06 AM By: Watts, Brandon

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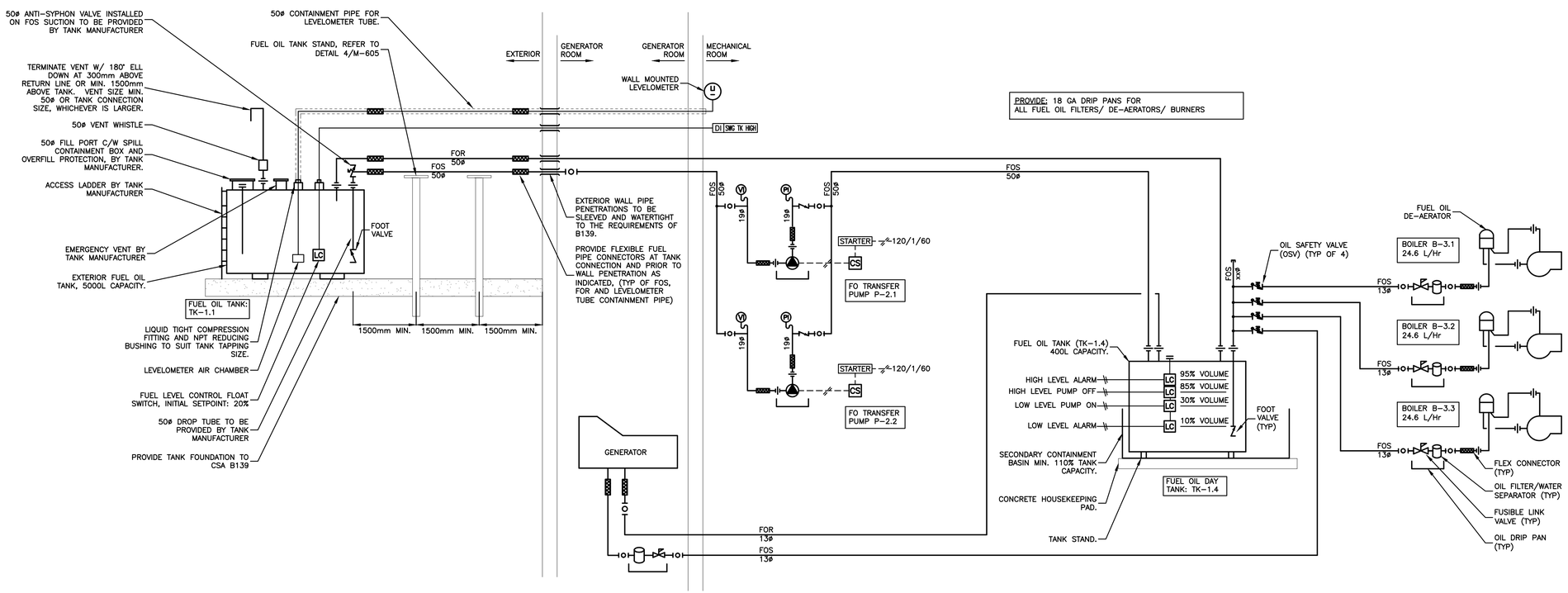

1 M-603 **FUEL OIL SCHEMATIC**
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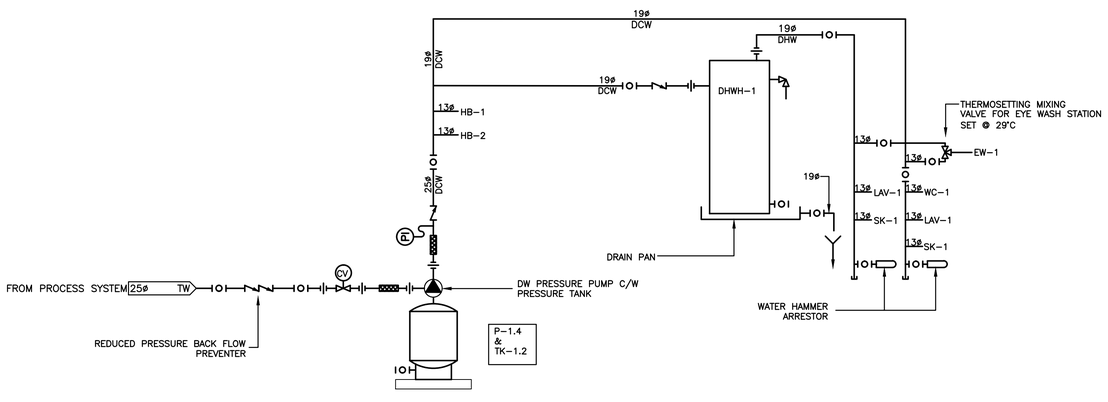

2 M-603 **DW SYSTEM SCHEMATIC**
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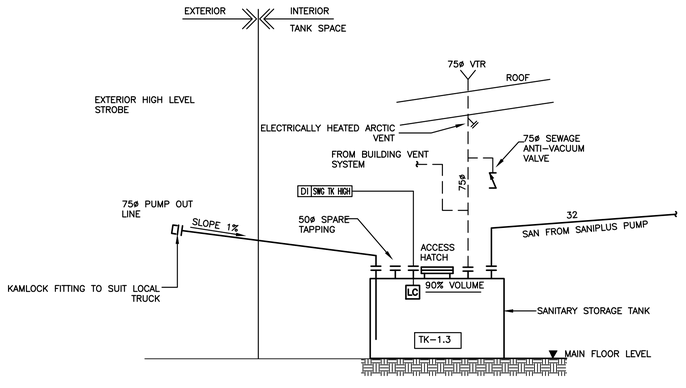

3 M-603 **SANTIARY SCHEMATIC**
SCALE: N.T.S.

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A ISSUED FOR 50% REVIEW	BM	MP	12.11.09

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Cambridge Bay Water Treatment Plant – Phase 2

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
MECHANICAL
FUEL OIL &
PLUMBING SCHEMATICS

Project No.	Scale	
144901252	AS NOTED	
Drawing No.	Sheet	Revision
M-603	7 of 9	0

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2014/05/26 10:07 AM By: Morris, Brandon

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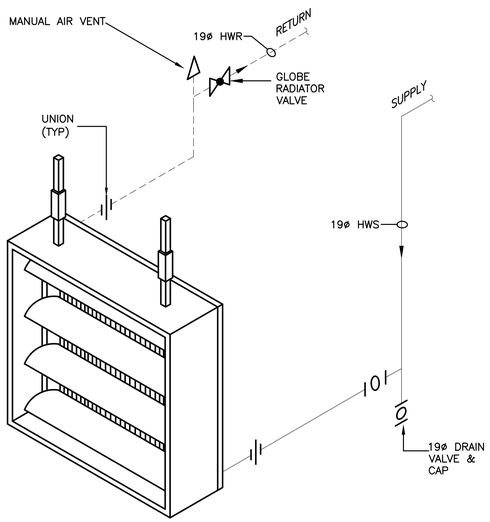

1 / M-604 **UNIT HEATER DETAIL**
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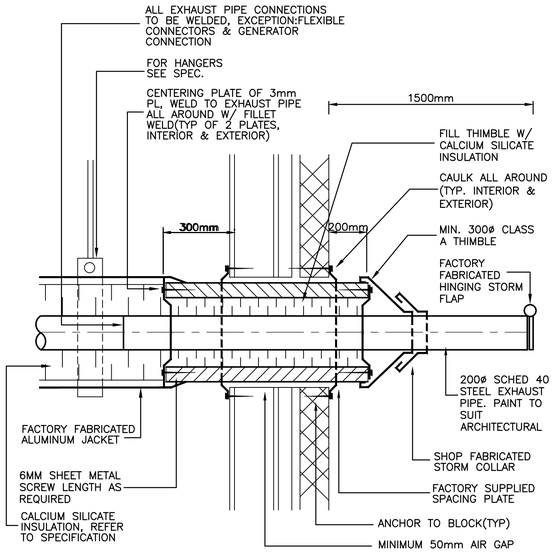
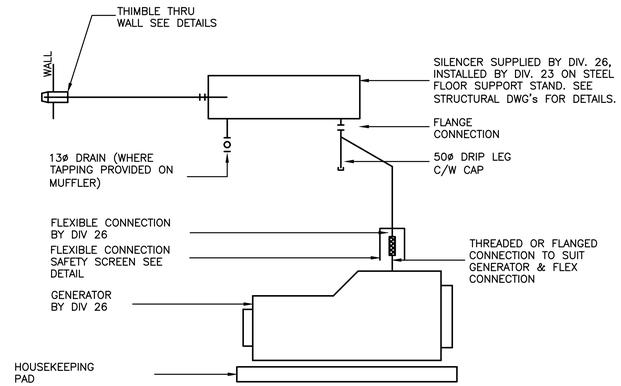
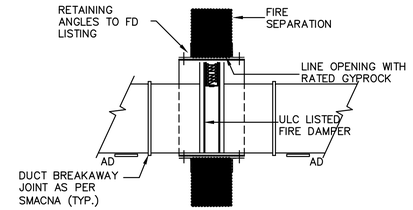


2 / M-604 **GENERATOR EXHAUST THIMBLE THROUGH WALL**
SCALE: N.T.S.



3 / M-604 **GENERATOR EXHAUST THROUGH WALL SCHEMATIC**
SCALE: N.T.S.

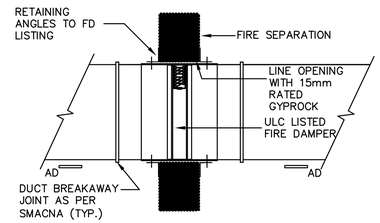


TYPE 2 THROUGH WALL

4 / M-604 **GENERATOR FLEXIBLE CONNECTION SAFETY SCREEN**
SCALE: N.T.S.

5 / M-604 **REHEAT COIL DETAILS**
SCALE: N.T.S.

6 / M-604 **WALL HOOD DETAIL**
SCALE: N.T.S.



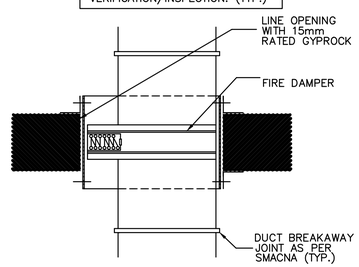
TYPE 1 THROUGH WALL

7 / M-604 **PIPE HEAT TRACE DETAIL**
SCALE: N.T.S.

8 / M-604 **FLOOR MOUTNED PIPE COVER DETAIL**
SCALE: N.T.S.

9 / M-604 **HW BRANCH CONNECTION DETAIL**
SCALE: N.T.S.

PROVIDE DUCT MOUNTED ACCESS DOOR ADJACENT TO EACH FIRE DAMPER TO PERMIT VERIFICATION/INSPECTION. (TYP.)



TYPE 2 THROUGH FLOOR

10 / M-604 **FIRE DAMPER INSTALLATION**
SCALE: N.T.S.

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Cambridge Bay Water Treatment Plant – Phase 2

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
MECHANICAL DETAILS SHEET 1

Project No.	Scale	
144901252	AS NOTED	
Drawing No.	Sheet	Revision
M-604	8 of 9	0

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2014/05/26 10:07 AM By: Watts, Brandon

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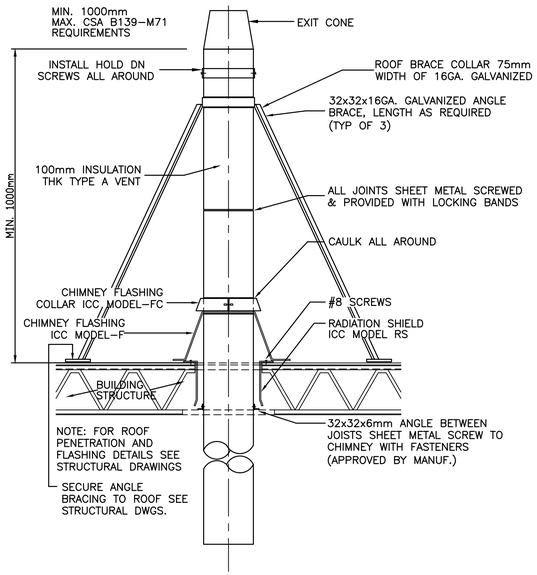
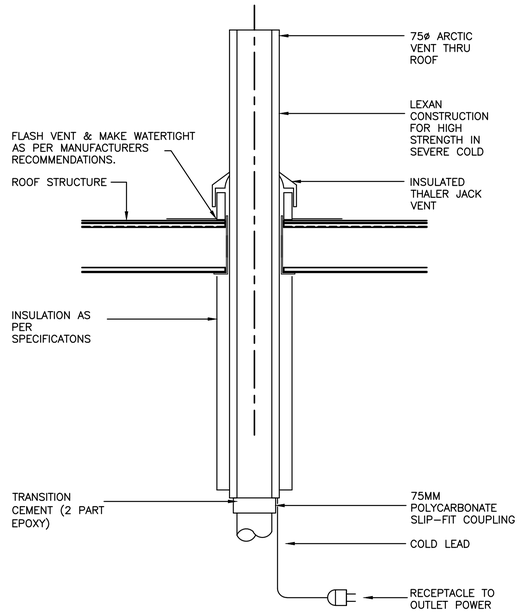
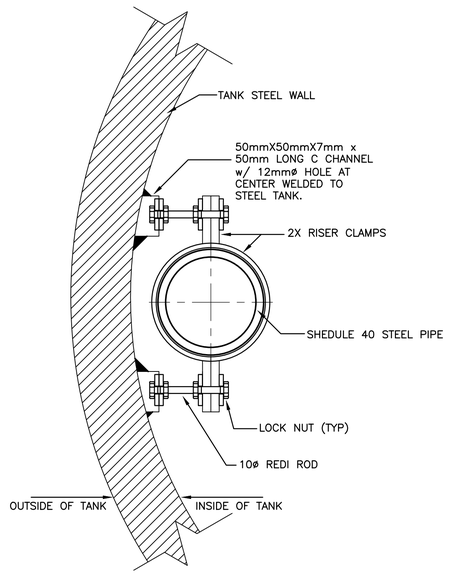


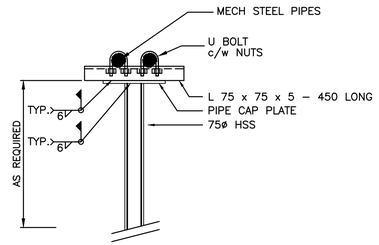
1 M-605 **BOILER CHIMNEY DETAIL (TOP)**
SCALE: N.T.S.



2 M-605 **VENT THROUGH ROOF W/ ARCTIC VENT**
SCALE: N.T.S.



3 M-605 **PIPE SUPPORT AT STEEL TANK WALL**
SCALE: N.T.S.



4 M-605 **FUEL OIL PIPE SUPPORT DETAIL**
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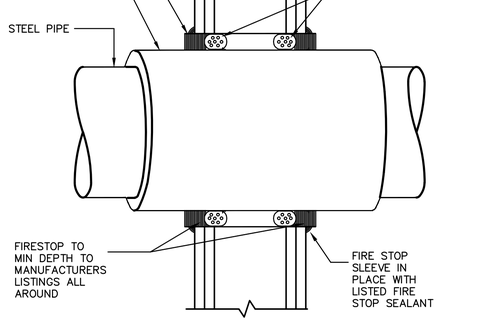
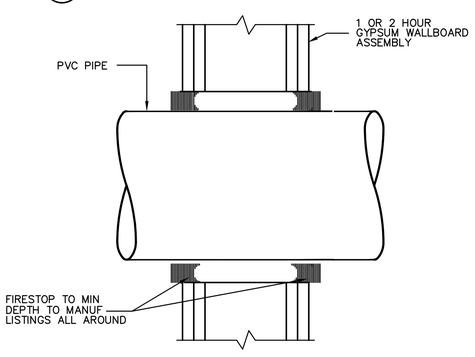
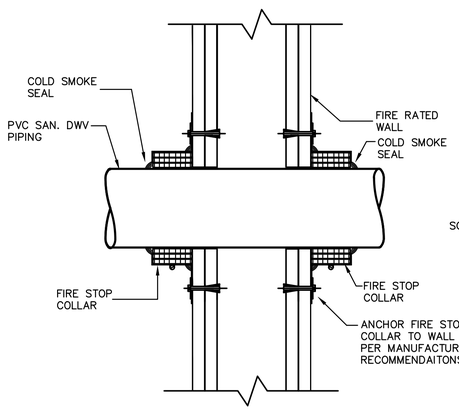


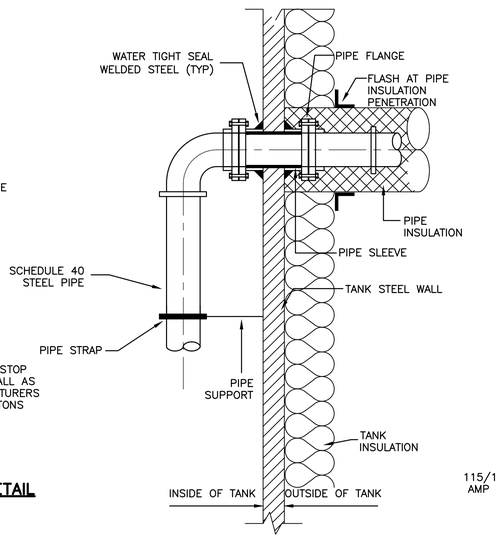
9 M-605 **METALLIC INSULATED PIPE FIRE STOP DETAIL**
SCALE: N.T.S.



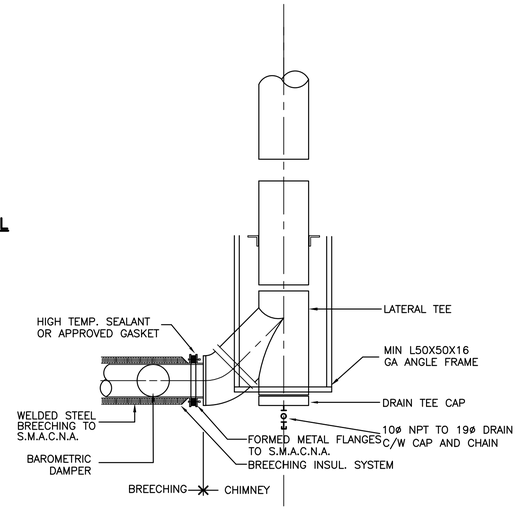
10 M-605 **PVC 50ø AND SMALLER PIPE FIRE STOP DETAIL**
SCALE: N.T.S.



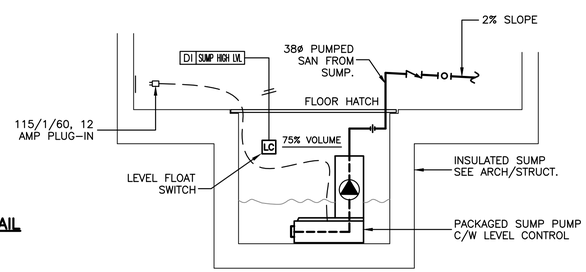
8 M-605 **PVC 63ø AND LARGER PIPE FIRE STOP DETAIL**
SCALE: N.T.S.



6 M-605 **PIPE THROUGH STEEL TANK DETAIL**
SCALE: N.T.S.



7 M-605 **BOILER CHIMNEY DETAIL (BOTTOM)**
SCALE: N.T.S.



5 M-605 **SUMP PUMP DETAIL**
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Notes

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D ISSUED FOR CONSTRUCTION	BM	BM	14.05.26
C ISSUED FOR TENDER	BM	BM	14.02.21
B ISSUED FOR 80% REVIEW	BM	BM	13.12.19
A ISSUED FOR 50% REVIEW	BM	MP	12.11.09

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Date 26 MAY 2014
PERMIT NUMBER: P 800
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
May. 26, 2014
B. R. MORRIS
N.W.T.

144901252
Cambridge Bay Water Treatment Plant – Phase 2

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
MECHANICAL
DETAILS
SHEET 2

Project No.	Scale	
144901252	AS NOTED	
Drawing No.	Sheet	Revision
M-605	9 of 9	0

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ELECTRICAL LEGEND

LIGHTING

	CEILING MOUNT H.I.D.
	EMERGENCY LIGHTING BATTERY PACK C/W HEADS
	PHOTO–ELECTRIC CELL
	DOUBLE REMOTE HEAD
	SURFACE FLUORESCENT
	WALL MOUNT EXIT
	WALL MOUNT H.I.D.

SWITCHES

	RELAY WITH H–O–A	'3' INDICATES 3–WAY
$	SINGLE POLE SWITCH	'4' INDICATES 4–WAY
$	DOUBLE GANG SWITCH	'mp' MOTOR PROTECTION SWITCH
	DISCONNECT SWITCH	'p' INDICATES PILOT LIGHT
		'k' INDICATES KEY OPERATED
		'2' INDICATES 2–POLE

RECEPTACLES

	DUPLEX RECEPTACLE	WP – INDICATES WEATHERPROOF
		a – ABOVE COUNTER
		GFR – GROUND FAULT RECPET.

COMMUNICATIONS

	CAT 6 STRUCTURED WIRING OUTLET WITH TWO RJ45 JACKS AND TWO CABLES IN 21 MM CONDUIT.

MISCELLANEOUS

	JUNCTION BOX
M	MOTOR
	SURFACE MOUNT ELECTRICAL PANEL
	UNDERGROUND CONDUCTOR OR CONDUIT

ABBREVIATION

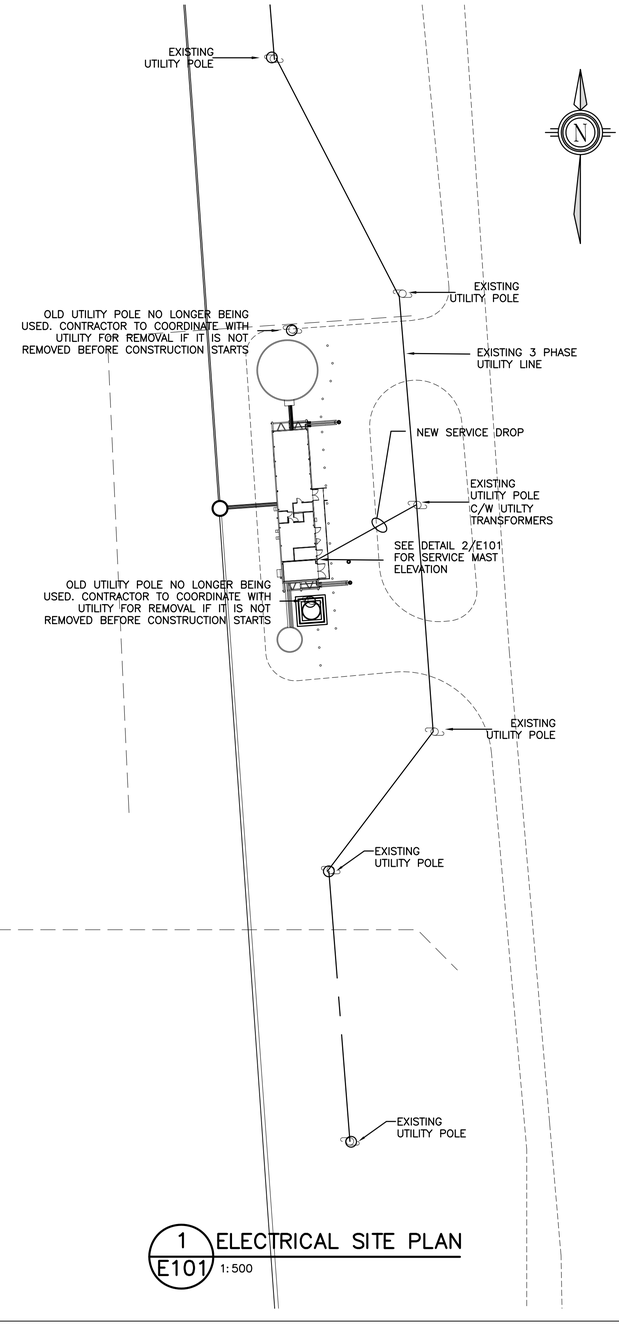
AFF	ABOVE FINISH FLOOR
CEC	CANADIAN ELECTRICAL CODE
QEC	QULLIQ ENERGY CORPORATION
AFG	ABOVE FINISH GRADE
CON	CONDUCTOR
CU	COPPER
GRS	GALVANIZED RIGID STEEL
C	CONDUIT
GND	GROUND
GBPG	GOOD BUILDING PRACTICE GUIDELINES (NUNAVUT)

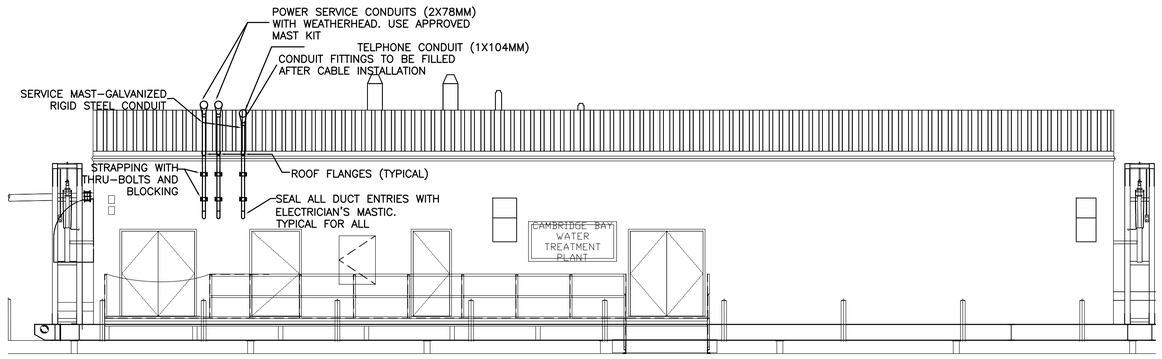
DRAWING LIST

E1	ELECTRICAL SITE PLAN AND DETAILS
E2	ELECTRICAL FLOOR PLANS
E3	SINGLE LINE DIAGRAM, PANEL SCHEDULE AND DETAILS
E4	LUMINAIRE SCHEDULES AND DETAILS
E5	MOTOR SCHEDULE

KEYNOTES:

1. REFER TO SINGLE LINE DIAGRAM FOR CABLE AND CONDUIT SIZE AND TYPE.
2. BUILDING TO BE BUILT IN SECTIONS FOR SHIPPING AND ASSEMBLED ON SITE. REFER TO ARCHITECTURAL DOCUMENTS FOR SHIPPING SPLIT LOCATIONS. PROVIDE JUNCTION BOXES AT EACH LOCATION WHERE CONDUIT AND WIRING ENTER/EXIT A SHIPPING SECTION. ONCE ON SITE, CONNECT AND MAKE OPERATIONAL ALL ELECTRICAL SYSTEMS.
3. BUILDING STRUCTURES BUILT OUTSIDE THE TERRITORY SHALL BE IN COMPLIANCE OF NUNAVUT TERRITORY ELECTRICAL SAFETY BULLETIN # 28.1.00, DATED; NOVEMBER 18, 2010.
4. STANDARD METERING CONFIGURATIONS WILL BE INSTALLED AND CONFIGURED IN ACCORDANCE WITH NUNAVUT SUPPLY AUTHORITY QULIQ ENERGY CORPORATION (QEC) METERING STANDARDS.
5. CURRENT TRANSFORMERS (CT'S) METERS, ASSOCIATED WIRING EQUIPMENT WILL BE SUPPLIED BY THE CORPORATION.
6. CSA APPROVED METER SOCKETS AND CT CABINETS WILL BE SUPPLIED AND INSTALLED AS REQUIRED BY QEC, METERING EQUIPMENT IN ACCORDANCE WITH RULE 6–402, 6–404 AND 6–406 OF THE CEC.





GENERAL NOTES DETAIL 2/E101:

1. LOCATE AND SUPPORT MASTS PER CEC & QEC REQUIREMENTS.
2. ADJUST FINAL MOUNTING HEIGHT OF MASTS TO ENSURE COMPLIANCE WITH CEC RULES 6–112 & 6–116.

2 / E101 SERVICE MAST ELEVATION 1: 75

1 / E101 ELECTRICAL SITE PLAN 1: 500

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144901252.

REGISTERED PROFESSIONAL ENGINEER
N. J. BOURASSA
N.W.T.
May 26/2014

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
ELECTRICAL SITE PLAN AND DETAILS

Project No.	Scale	
144901252	AS NOTED	
Drawing No.	Sheet	Revision
E101	1 of 5	0

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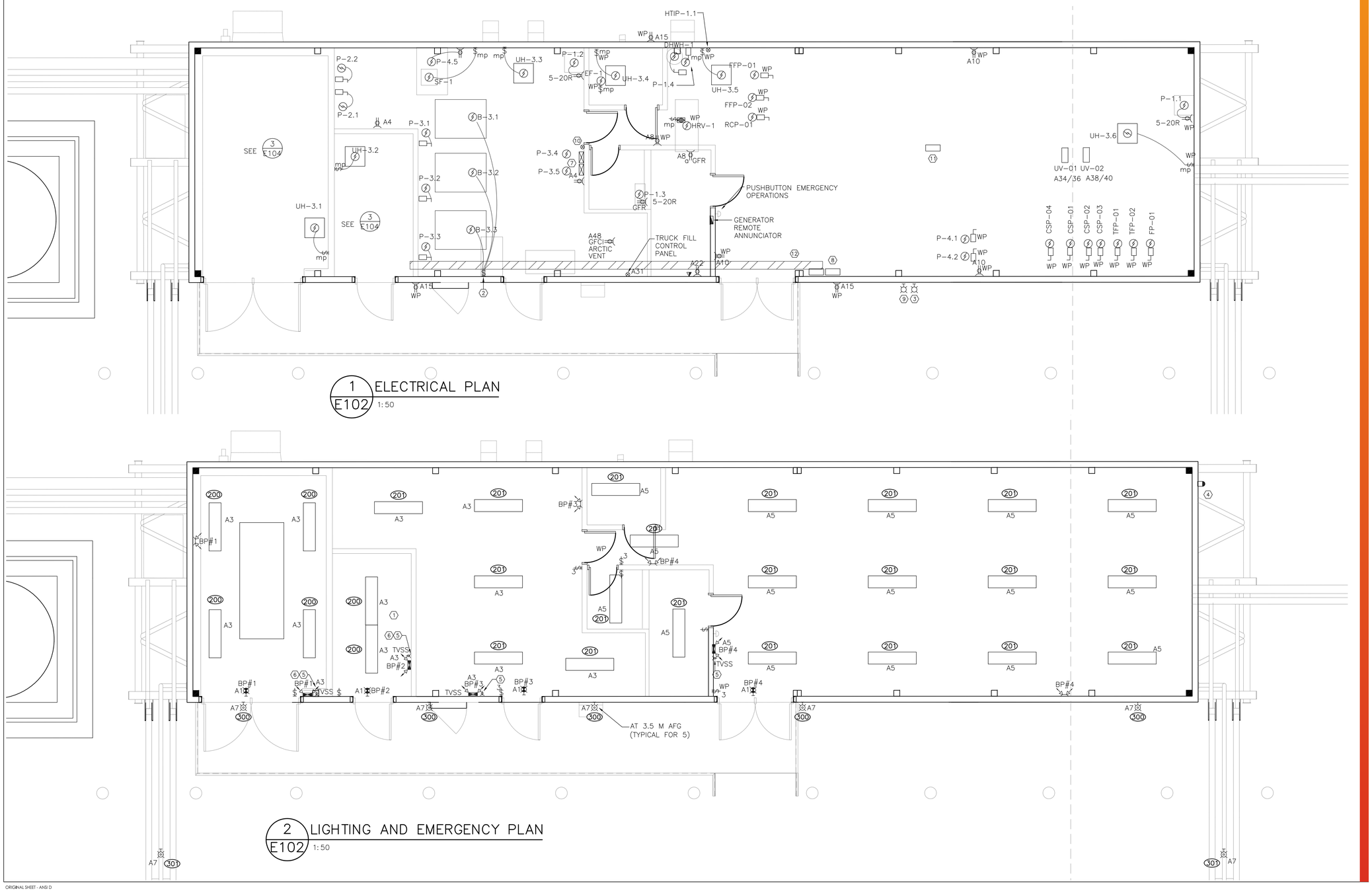
KEYNOTES:

1. MCC SHOWN ON 1-E103
2. EMERGENCY BOILER DISCONNECT SWITCHES AT 1600MM A.F.F. PROVIDE SIZE 2 NAME PLATES, RED BACKGROUND WITH WHITE LETTERS READING "BOILER 1 EMERGENCY DISCONNECT", "BOILER 2 EMERGENCY DISCONNECT" AND "BOILER 3 EMERGENCY DISCONNECT".
3. AMBER STROBE FOR MECHANICAL ALARM TO BE RIGIDLY MOUNTED TO RIGID CONDUIT AND INSTALL ABOVE BUILDING AND TO BE VISIBLE FROM MAIN ROAD. SEE SECTION 283200
4. EXTERIOR LIGHTING PHOTOCELL INSTALL HIGHER ABOVE BUILDING, AWAY FROM OBSTRUCTION AND ARTIFICIAL LIGHT SOURCES, LOOKING NORTH.
5. EMERGENCY BATTERY PACK ON TVSS RECEPTACLE.
6. EMERGENCY BATTERY OPERATING TIME 120MIN (2HOURS).
7. VSD SUPPLIED BY DIV 23 INSTALLED BY DIV 26. IN MCC PROVIDE BREAKER ONLY FOR MOTORS P3.4 AND P3.5
8. PLC BY PROCESS CONTROLS PROVIDE 4 CIRCUITS TO PLC A35/A37/A39/A40. A39 TO HAVE 1P20AMP BREAKER
9. ALARM LIGHT SUPPLIED AND INSTALLED BY PROCESS CONTROLS
10. JUNCTION BOX FOR POWER TO MECHANICAL CONTROL PANELS. PROVIDE POWER FROM CCT A23. PANELS TO BE SUPPLIED AND WIRED BY DIV 23, CONTAINS CONTROL PANELS CP-1, CP-2, CP-3 AND CP-4.
11. PROCESS CONTROL PANEL.. PROVIDE OJNE 20 AMP CIRCUIT (A24) TO PANEL. PROCESS PACKAKAGE TO BE PRE-WIRED REFER TO PROCESS CONTROL DRAWINGS FOR FIELD WIRING.
12. 200MM WIDE VENTED CABLE TRAY. SUPPORT FROM CEILING. BOND CABLE TRAY TO GROUND



1 E102 ELECTRICAL PLAN
1:50

2 E102 LIGHTING AND EMERGENCY PLAN
1:50

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REGISTERED PROFESSIONAL ENGINEER
N. A. BOURASSA
N.W.T.
May 26/2014

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
ELECTRICAL PLANS

Project No.	Scale	
144901252	AS NOTED	
Drawing No.	Sheet	Revision
E102	2 of 5	0

PANEL: A

VOLTS: 120/208 LOCATION: ELECTRICAL ROOM BUSS: 100
PHASE: 3 FEEDER: SEE SINGLE LINE MTG: SURFACE
WIRE: 4

CIRC.	BRKR	WATTS A	WATTS B	WATTS C	DESCRIPTION	DESCRIPTION	WATTS A	WATTS B	WATTS C	BRKR	CIRC
1	1P15	100			EXIT SIGNS	TELE. BACKBOARD RECEPT	125			1P15	2
3	1P15		800		LIGHTS & EMERGENCY LIGHTS	RECEPTACLES ELECT & MECH RM		375		1P15	4
5	1P15			1100	LIGHTS & EMERGENCY LIGHTS	RECEPTACLES GEN ROOM			500	1P15	6
7	1P15	510			EXTERIOR LIGHTS	RECEPTS MECH & PROC RM	375			1P15	8
9	1P15		200		B-3.1	RECEPTS PROC RM		500		1P15	10
11	1P15			200	B-3.2	EF-1			150	1P15	12
13	1P15	200			B-3.3	SF-1	50			1P15	14
15	1P15		250		EXTERIOR RECEPTACLES	P-1.1		700		1P15	16
17	1P15			200	HRV	P-1.2			700	1P15	18
19	1P15	1500			GENERATOR BLOCK HEATER	P-1.3	850			1P15	20
21	1P15		250		GENERATOR BATTERY CHARGER	RECEPT OFFICE		100		1P15	22
23	1P15			100	MECHANICAL CONTROLS	PROCESS CONTROL PANEL (PLC)				1P15	24
25	1P15				SPACE	UH-3.5/3.6	350			1P15	26
27	1P15				SPACE	P-4.5		400		1P15	28
29	1P15				SPACE	UH-3.1/3.2			350	1P15	30
31	1P15	100			TRUCK FILL CNTL PNL	UH 3.3/3.4	350			1P15	32
33	1P15		150		HTIP	UV-01		520		2P15	34
35	1P15			250	PLC				520		36
37	1P15	500			PLC	UV-02	520			2P15	38
39	1P20		1000		PLC			520			40
41	1P15			500	PLC	DHWH			500	3P15	42
43	3P25	750			P-3.4		500				44
45			750					500			46
47				750		ARTIC VENT			75	1P15	48
49	3P25	750			P-3.5	p-1.4	400			1P15	50
51			750			SPACE					52
53				750		SPACE					54
55					SPACE	SPACE					56
57					SPACE	SPACE					58
59					SPACE	SPACE					60
61					SPACE	SPACE					62
63					SPACE	SPACE					64
65					SPACE	SPACE					66
67					SPACE	SPACE					68
69					SPACE	SPACE					70
71					SPACE	SPACE					72
73					SPACE	SPACE					74
75					SPACE	SPACE					76
77					SPACE	SPACE					78
79					SPACE	SPACE					80
81					SPACE	SPACE					82
83					SPACE	SPACE					84
TOTAL		4410	4150	3850			3520	3615	2795		TOTAL

PHASE A TOTAL =	7930
PHASE B TOTAL =	7765
PHASE C TOTAL =	6645
PANEL TOTAL =	22340 @ 120/208 VOLTS 3 PHASE 62.0 AMPS
REMARKS	

DEMAND CALCULATIONS AS PER C22.1-09

SERVICE FEEDER CALCULATION

INDUSTRIAL

AREA — 157 sqM

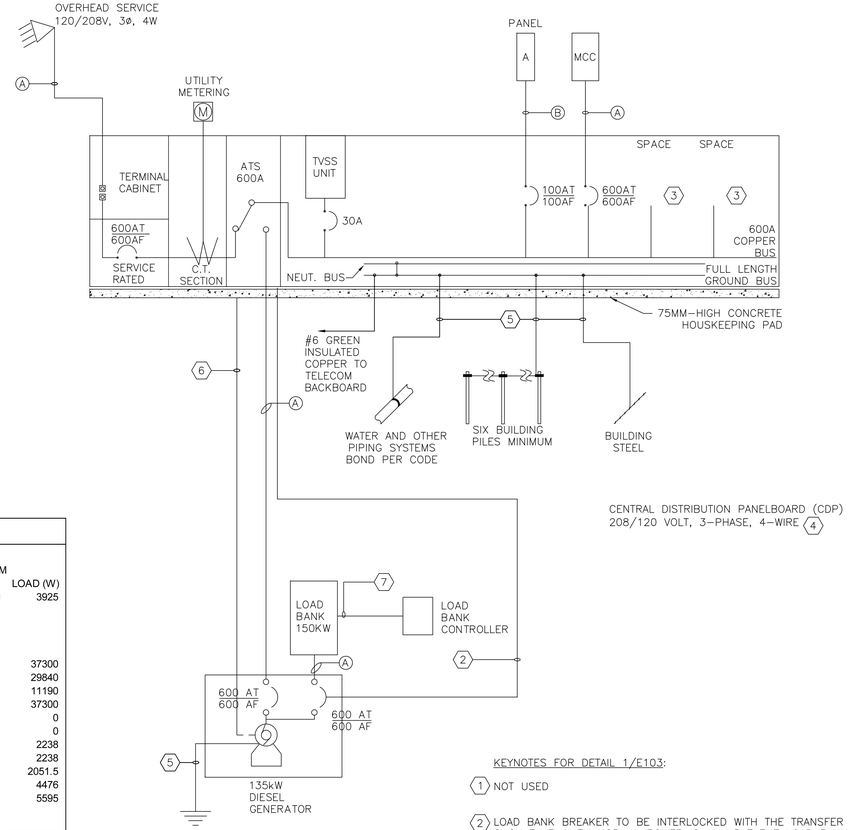
	AREA	W/sqM	PERCENT		LOAD (W)
BASIC AREA CALC	157	25	100	=	3925

SPECIAL LOADS

	NUMBER	HP	WATTS	
FP-01	1	50	37300	37300
FFP	2	20	14920	29840
TFP	2	7.5	5595	11190
FP	1	50	37300	37300
CSP-1/2	0	7.5	5595	0
CSP 3/4	0	20	14920	0
CP-1	3	1	746	2238
PROCESS CONTROLS	1	3	2238	2238
MECH MISC	1	2.75	2051.5	2051.5
CIRC PUMPS	2	3	2238	4476
HEATING PUM HEATING	5	1.5	1119	5595
SUB TOTAL				= 132228.5
15% SPARE PER GBPG-4.4.3				19834
TOTAL				152063

AT 208V, 3 PHASE	I = 422 A
USE 80% MAIN BREAKER	I = 528 A
MAIN DISCONNECT SIZE	600 A
EXPECTED DEMAND	85 kVA

NOTE: CSP PUMPS OPERATE IN A STAGED MANNER.
WORST CASE SENARIO IS WITH CSP-1/2 AND CSP-3/4 OFF
AND FP-01 RUNNING



KEYNOTES FOR DETAIL 1/E103:

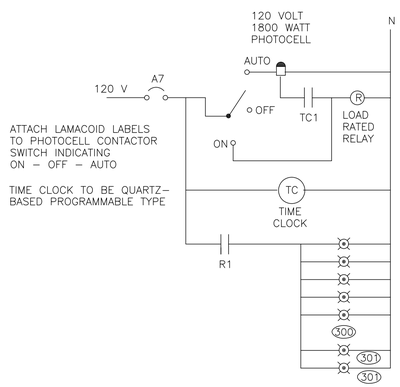
1. NOT USED
2. LOAD BANK BREAKER TO BE INTERLOCKED WITH THE TRANSFER SWITCH SUCH THAT WHEN NORMAL POWER IS AVAIABLE THE LOAD BANK BREAK IS CLOSED AND WHEN THE TRANSFER SWITCH IS ON GENERATOR POWER THE LOAD BANK BREAKER OPENS.
3. SPACES
4. FAULT CURRENT RATINGS TO MEET OR EXCEED THE RESULTS OF THE STUDY SPECIFIED IN SECTION 26 05 73. OR AS A MINIMUM 22 KAIC. UTILITY FAULT CURRENT AVAIABLE 21 KIAC
5. #1/0 AWG, BARE COPPER GROUND WIRE.
6. GENERATOR START/STOP CONTROL WIRING & RACEWAY.
7. LOAD BANK CONTROL WIRING & RACEWAY. 35MM RIGID PVC WITH 19 #14 AWG. SIZE AND NUMBER OF WIRES IS BASED ON A POWER SYSTEMS PLUS LOAD BANK AND CONTROL. CONTRACT TO CONFIRM WITH MANUFACTURER ON THE SIZE OF COUNDIT AND NUMBER ON CONDUCTORS REQUIRED.

CABLE SCHEDULE	
A	3 RUNS OF 4 CON 350MCMAWG CU RW90–XLPE PLUS 1 #3 AWG CU GND IN 78MM C
B	4 CON #3 AWG CU RW90–XLPE PLUS 1 #8 AWG CU GND IN 35MM C

1 E103 SINGLE LINE DIAGRAM

NOTES:
1. MOTOR FP–01 HAS AN ELECTRONIC SOFT START. TO BE MOUNTED IN MCC. SEE SPECIFICATION SECTION 26 29 10.2.7
2. ENSURE ACTUAL VOLTAGE DROP ON THE FEEDERS SUPPLYING PANEL DOES NOT EXCEED THE REQUIREMENTS C.E.C. RULE 8–102.
3. MINIMIZE THE LENGTH OF SECONDARY CABLING RUNS.

3 E103 MCC ELEVATION N.T.S.



2 E103 PHOTOCELL CONTROL SCHEMATIC

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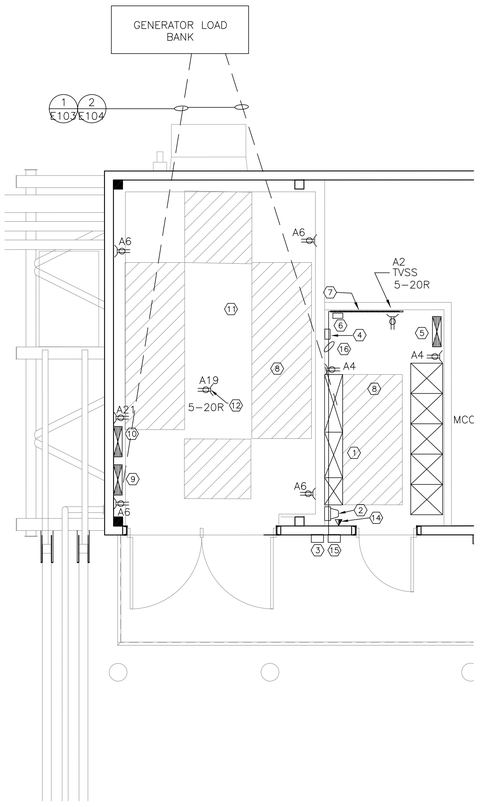
1449012520
N.W.T.
May 26/2014

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
SINGLELINE DIAGRAM AND DETAILS

Project No.	Scale	
1449012520	NTS	
Drawing No.	Sheet	Revision
E103	3 of 5	0



1 E104 GENERATOR AND ELECTRICAL ROOM PLAN

SCALE : 1:50

KEY NOTES TO 1/E4 DETAIL:

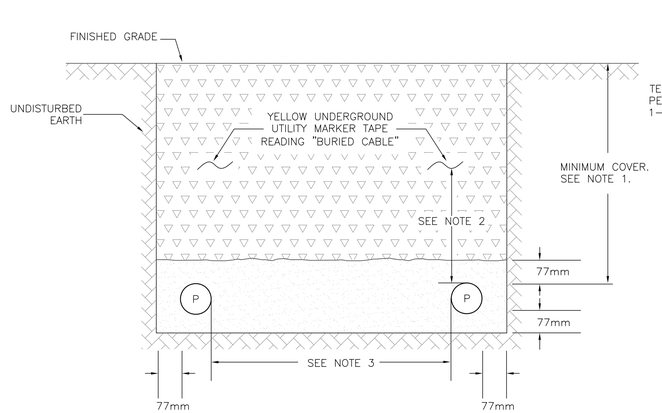
1. CDP
2. UTILITY METER
3. UTILITY COMPANY LOCKBOX INSTALL AT 1700MM AFF. PROVIDE ONE KEY.
4. EXTRIOR LIGHTING CONTROL BOX.
5. PANEL A
6. VOICE AUTODIALLER
7. TELEPHONE BACKBOARD 2438MM HIGH X 1219MM WIDE AND 19MM THICK G1S PLYWOOD FINISHED WITH FIRE RETARDANT PAINT.
8. ENSURE 1M CLEARANCE AT ALL TIME IN FRONT OF ELECTRICAL EQUIPMENT.
9. LOAD BANK CONTROLLER.
10. BATTERY CHARGER.
11. GENERATOR
12. GENERATOR BLOCK HEATER RECEPTACLE, COORDINATE THE LOCATION PRIOR TO ROUGH IN.
13. NOT USED.
14. PROVIDE ONE CAT6 CABLE AND JACK.
15. OVERHEAD SERVICE MAST LOCATIONS.
16. TELEPHONE CONDUIT FEEDER FROM MAST TO TELEPHONE BACKBOARD. SEE DETAIL 2/E101 FOR SIZE.

LUMINAIRE SCHEDULE

TYPE: 200	DESCRIPTION:	SURFACE OR PENDENT MOUNTED FLUORESCENT STRIPLIGHT
	HOUSING:	1219 MM LONG DIE FORMED STEEL CHANNEL
	FINISH:	BAKED WHITE ENAMEL
	BALLAST:	ELECTRONIC PROGRAM RAPID START, 120V, 10% THD
	LAMP:	TWO F32T8
	ACCESSORIES:	WIRE GUARD
	MOUNTING:	CHAIN HANGERS AND ACCESSORIES
	MANUFACTURERS:	METALUX STW-232-120V-ER81 OR APPROVED EQUAL
TYPE: 201	DESCRIPTION:	SURFACE OR PENDENT MOUNTED VAPORTIGHT INDUSTRIAL FLUORESCENT LUMINAIRE
	HOUSING:	1265 MM LONG FIBERGLASS HOUSING IS REINFORCED POLYESTER AND SELF-EXTINGUISHING PLASTIC WITH WATERTIGHT HUBS FOR CONDUIT ENTRY
	LENS:	HIGH IMPACT CLEAR LOW BRIGHTNESS PATTERN POLYCARBONATE
	BALLAST:	ELECTRONIC PROGRAM RAPID START, 120V, 10% THD
	LAMP:	TWO F32T8
	MOUNTING:	CHAIN HANGING SET AND ACCESSORIES
	LISTING:	UL/CUL LISTED FOR WET LOCATIONS
	MANUFACTURER:	METALUX VT2-232-LEX-120-ER8--WL OR APPROVED EQUAL
TYPE: 300	DESCRIPTION:	EXTERIOR WALL MOUNTED HID
	HOUSING:	DIE CAST ALUMINUM
	LENS:	PATTERNED TAMPERED GLASS
	FINISH:	DARK BRONZE POLYESTER POWER COAT
	BALLAST:	-30 DEGREE, HIGH POWER FACTOR, 120V
	LAMP:	ONE 70 WATT HPS
	LISTING:	UL WET LOCATION LISTED, CSA CERTIFIED
	ACCESSORIES:	MOUNTING ACCESSORIES AS REQUIRED - SEE DRAWINGS
	MANUFACTURER:	LUMARK WALLY CUTOFF OR APPROVED EQUAL
TYPE: 301	DESCRIPTION:	EXTERIOR TRUCK FILL ARM MOUNTED HID
	HOUSING:	DIE CAST ALUMINUM
	FINISH:	DARK BRONZE POLYESTER POWDER PAINT
	GASKET:	FULL CIRCUMFERENCE SILICON GASKET
	BALLAST:	-40 DEGREE, HIGH POWER FACTOR, 120V
	LAMP:	ONE 50 WATT HPS
	LISTING:	UL WET LOCATION LISTED
	ACCESSORIES:	MOUNTING ACCESSORIES AS REQUIRED - SEE DRAWINGS
	MANUFACTURER:	LUMARK FALCON HP-SF-50HP-H-120V-TR-SF/WG OR APPROVED EQUAL

NOTES:

1. THIS LUMINAIRE SCHEDULE IS NOT COMPLETE WITHOUT A COPY OF THE PROJECT DOCUMENTS CONTAINING THE ELECTRICAL SPECIFICATIONS.
2. VERIFY LUMINAIRE VOLTAGE WITH BRANCH CIRCUIT SUPPLYING POWER TO LUMINAIRE PRIOR TO ORDERING.
3. VERIFY AND COORDINATE ALL CEILING TYPES WITH LUMINAIRE LOCATIONS.
4. PROVIDE LUMINAIRES COMPLETE WITH LAMP AND ALL ACCESSORIES FOR MOUNTING AS SHOWN ON DRAWINGS. FOR EXACT CEILING AND WALL TYPES REFER TO ARCHITECTURAL DRAWINGS.
5. ALL FLUORESCENT LAMPS TO COMPLY WITH LOCAL AND NATIONAL TOXICITY RULES AND REGULATIONS, WHERE AVAILABLE.
6. SPECIFIED MANUFACTURERS ARE APPROVED TO SUBMIT BID WHERE SPECIFIED. INCLUSION DOES NOT RELIEVE MANUFACTURER FROM PROVIDING PRODUCT AS DESCRIBED.
7. EQUALS SHALL MEET THE DESCRIPTIONS LISTED AND IDENTIFIED BY THE CATALOG NUMBER INDICATED FOR ALL ELEMENTS AND PROPERTIES. THE MERE FACT THAT THE SERIES IS LISTED HEREIN DOES NOT AUTOMATICALLY QUALIFY ANY LUMINAIRE OF SUCH FAMILY AS EQUAL.



P POWER CONDUIT OR CABLE

SAND - SHALL PASS THROUGH 7mm SIEVE FRAME.

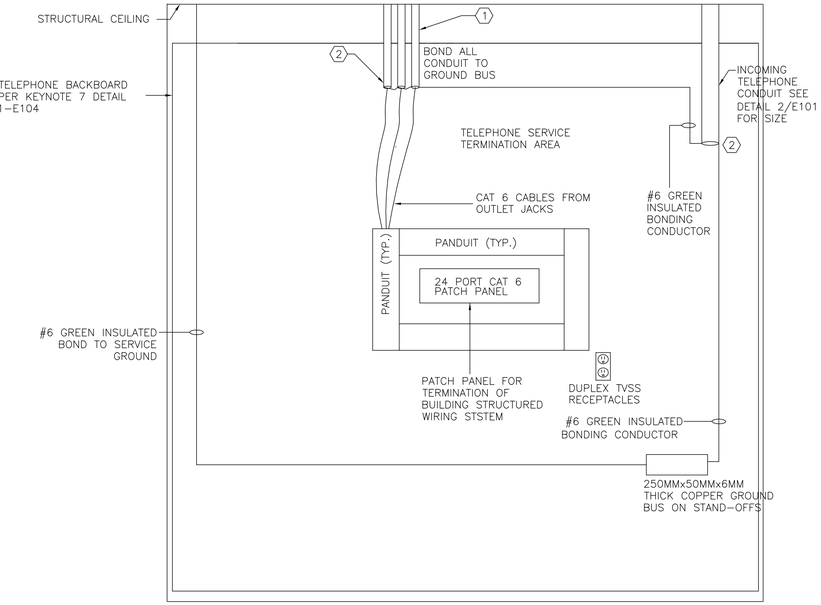
BACK FILL, MINIMUM 95% COMPACTED - SHALL PASS THROUGH 19MM SIEVE FRAME.

NOTES:

1. MINIMUM COVER TO BE IN ACCORDANCE WITH CEC RULES 12-012 AND 60-600. REDUCED MINIMUM COVER PER CEC IS ACCEPTABLE, WHERE MECHANICAL PROTECTION IS PROVIDED ACCORDINGLY.
2. MARKER TAPE TO BE APPROXIMATELY HALF WAY BETWEEN FINISHED GRADE AND CONDUIT OR CABLE.
3. SEPARATION BETWEEN POWER AND COMMUNICATION CABLES TO BE 300 MM MINIMUM FOR NON-METALLIC SHEATHED COMMUNICATION CABLES OR NON-METALLIC CONDUIT, 100 MM MINIMUM FOR METALLIC SHEATHED CABLE OR METALLIC CONDUIT.

2 E104 UNDERGROUND CONDUCTOR INSTALLATION

SCALE : N.T.S.



KEYNOTES TO THIS DETAIL:

1. CONDUITS FROM STRUCTURED OUTLET BOXES WITH PULL CORD.
2. PROVIDE PLASTIC BUSHING AT THE END OF CONDUITS.
3. ALL STRUCTURED WIRING MUST CONFORM TO THE GOVERNMENT OF NUNAVUT COMMUNITY AND GOVERNMENT SERVICES (CGS-IPS) STRUCTURED CABLING GUIDELINES VERSION 1.5 JUNE 2012.

3 E104 TELEPHONE BACKBOARD DETAIL

SCALE : N.T.S.

Stantec

4910 - 53 Street PO Box 1777
Yellowknife, NT, Canada
Tel. 867.920.2882
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Notes

Revision		By	Appd.	YY.MM.DD
D	ISSUED FOR CONSTRUCTION	njb	WO	14.05.26
C	ISSUED FOR TENDER	njb	WO	14.02.21
B	ISSUED FOR 80% REVIEW	njb	WO	13.12.20
A	ISSUED FOR 50% REVIEW	njb	WO	12.11.09

Issued By Appd. YY.MM.DD

File Name: 144901252 | njb Dwn. | JN Chkd. | njb Dsgn. | 13.12.19 YY.MM.DD

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PERMIT TO PRACTICE
STANTEC ARCHITECTURE LTD.
Signature
Date 26 MAY 2014
PERMIT NUMBER: P 800
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
N. A. BOURASSA
N.W.T.
May 26/2014

Client/Project

GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title

LUMINAIRE SCHEDULE AND DETAILS

Project No.	Scale	
144901252	AS NOTED	
Drawing No.	Sheet	Revision
E104	4 of 5	0

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ORIGINAL SHEET - ANSI D

Stantec

Mechanical Equipment List (Electrical Discipline)

(List of Electrically Connected Mechanical Equipment)

ABBREVIATIONS:
M = Mechanical (Divisions 21/22/23/25)
E = Electrical (Division 26)
FLA = Full load current (in amperes)
MCA = Minimum circuit ampacity
MOP = Maximum overcurrent protection (applicable to circuit breakers only unless otherwise noted)
BAS = Building Automation System
ESS = Electronic Soft Start
MAG = Magnetic Starter
MAG2 = Magnetic Starter (2 speed)
MAN = Manual Motor Starter
MRR = Motor Rated Relay
VSD = Variable Speed Drive
PCS1 = Packaged Control System (Integral to Load)
PCS2 = Packaged Control System (Separate from Load[s])
MCC = Motor Control Centre
MDC = Motor Distribution Centre ('four-plex' or similar small grouped motor control)
CDP = Central Distribution Panel
LOOSE = Individually-mounted Motor Starter/Relay

CONTROLS:
BAS = Building Autom.Sys. (DDC)
CP = System Control Panel (e.g irrigation controller)
ES = End Switch
ET = Electronic Thermostat
FA = Fire Alarm
FS = Flow Switch
GS = Gas Sensor
H = Humidity Sensor
I = Interlock
LVS = Level Switch
PS = Pressure Switch
TC = Time Clock
T = Thermostat or space sensor if BAS controlled
TS = Tamper Switch
VS = Variable Speed Switch
WS = Wall Switch

ACCESSORIES:
HO = On-off switch
HOA = Hand-off-auto switch
SFOA = Slow-fast-off-auto switch
PLR = Run pilot light
PLO = Off pilot light
TRB = Trip reset pushbutton
MTR = c/w integral energy metering
STD = Standard: HOA, PLR, PLO, PLT, and TRB

POWER SOURCES:
N = Normal (non-emergency) Source
FP = Fire Pump Source
LS = Life Safety Source
NLS = Non-Life-Safety Source

							INDIVIDUAL MOTOR		PACKAGE UNIT		PACKAGE/ HEATER/ OTHER	# OF CONN-ECTIONS	STARTER					DISCONNECT			CONTROLS				ACCESSORIES					FIRE ALARM								SELECTION OF O/C PROTECTION, CONDUCTORS, AND RACEWAYS			
UNIT I.D.	UNIT DESCRIPTION	LOCATION	TYPE OF EQUIPMENT	VOLTS	PH	Hz	FLA	HP	MCA	MOP	kW		GROUPING	TYPE	SUPPLIED BY	INSTALLED BY	WIRED BY	SUPPLIED BY	INSTALLED BY	WIRED BY	TYPE(S)	SUPPLIED BY	INSTALLED BY	WIRED BY	TYPE(S)	SUPPLIED BY	INSTALLED BY	WIRED BY	INTERFACE REQUIRED	AUTO ON	AUTO OFF	HOA SWITCH IN CACF (OR NEAR ANNUNCIATOR)	DUCT SMOKE	PWR SOURCE	POWER SOURCE (MCC/MDC/CDP/ PANEL)	BREAKER RATING	# OF WIRES	WIRE SIZE (COPPER)	CONDUIT SIZE
P-1.1	Sump Pump	Process Room	Individual Motor	115	1	60	5.8	0.33				1	LOOSE	MRR	E	E	E	E	E	E	LVS	M	M	M										A16	15	2	#12+BOND	16mm
P-1.2	Sump Pump	Process Room	Individual Motor	115	1	60	5.8	0.33				1	LOOSE	MRR	E	E	E	E	E	E	LVS	M	M	M										A18	15	2	#12+BOND	16mm
P-1.3	Saniplus Pump	Washroom	Individual Motor	115	1	60	7.2	0.4				1	LOOSE	MRR	E	E	E	E	E	E	LVS	M	M	M										A20	15	2	#12+BOND	16mm
P-1.4	DW Pressure Pump	Mechanical Room	Individual Motor	115	1	60	5.8	0.3				1	MCC	MRR	E	E	E	E	E	E	PS	M	M	M	HOA	E	E	E						MCC	15	2	#12+BOND	16mm
P-2.1	FO Transfer Pump	Mechanical Room	Individual Motor	208	3	60	2.3	0.5				1	MCC	MRR	E	E	E	E	E	E	LVS	M	M	M	HOA	E	E	E						MCC	15	3	#12+BOND	16mm
P-2.2	FO Transfer Pump	Mechanical Room	Individual Motor	208	3	60	2.3	0.5				1	MCC	MRR	E	E	E	E	E	E	LVS	M	M	M	HOA	E	E	E						MCC	15	3	#12+BOND	16mm
B-3.1	HW Boiler	Mechanical Room	Package Unit (Single Connection)	115	1	60	4.4				0.3725	1						E	E	E	CP	M	M	M										A9	15	2	#12+BOND	16mm
B-3.2	HW Boiler	Mechanical Room	Package Unit (Single Connection)	115	1	60	4.4				0.3725	1						E	E	E	CP	M	M	M										A11	15	2	#12+BOND	16mm
B-3.3	HW Boiler	Mechanical Room	Package Unit (Single Connection)	115	1	60	4.4				0.3725	1						E	E	E	CP	M	M	M										A13	15	2	#12+BOND	16mm
P-3.1	Primary HW Circ Pump	Mechanical Room	Individual Motor	208	3	60	6	1.5				1	MCC	MRR	E	E	E	E	E	E	CP	M	M	M	HOA	E	E	E						MCC	15	3	#12+BOND	16mm
P-3.2	Primary HW Circ Pump	Mechanical Room	Individual Motor	208	3	60	6	1.5				1	MCC	MRR	E	E	E	E	E	E	CP	M	M	M	HOA	E	E	E						MCC	15	3	#12+BOND	16mm
P-3.3	Primary HW Circ Pump	Mechanical Room	Individual Motor	208	3	60	6	1.5				1	MCC	MRR	E	E	E	E	E	E	CP	M	M	M	HOA	E	E	E						MCC	15	3	#12+BOND	16mm
P-3.4	Secondary HW Circ Pump	Mechanical Room	Individual Motor	208	3	60	11	3				1	LOOSE	VSD	M	M	E	E	E	E	CP	M	M	M	HOA	E	E	E						A43/45/47	25	3	#12+BOND	16mm
P-3.5	Secondary HW Circ Pump	Mechanical Room	Individual Motor	208	3	60	11	3				1	LOOSE	VSD	M	M	E	E	E	E	CP	M	M	M	HOA	E	E	E						A49/51/53	25	3	#12+BOND	16mm
P-4.1	Treated Water Tank Heat Pumps	Process Room	Individual Motor	208	3	60	6	1.5				1	MCC	MRR	M	M	E	E	E	E	CP	M	M	M	HOA	E	E	E						MCC	15	3	#12+BOND	16mm
P-4.2	Treated Water Tank Heat Pumps	Process Room	Individual Motor	208	3	60	6	1.5				1	MCC	MRR	M	M	E	E	E	E	CP	M	M	M	HOA	E	E	E						MCC	15	3	#12+BOND	16mm
P-4.5	Glycol Makeup Pump	Mechanical Room	Cord-connected Equipment	115	1	60	4.4				fractional	1																						A28		2		
HTIP-1.1	Heat Trace Injection Panel	Process Room	Package Unit (Single Connection)	115	1	60					0.125	1						E	E	E	ET	M	M	M										A33	15	2	#12+BOND	16mm
UH-3.1	Unit Heater	Generator Rm	Individual Motor	115	1	60	4.4	0.053				1	LOOSE	MRR	E	E	E	E	E	E	T	M	M	M										A32	15	2	#12+BOND	16mm
UH-3.2	Unit Heater	Electrical Room	Individual Motor	115	1	60	4.4	0.053				1	LOOSE	MRR	E	E	E	E	E	E	T	M	M	M										A32	15	2	#12+BOND	16mm
UH-3.3	Unit Heater	Mechanical Room	Individual Motor	115	1	60	4.4	0.053				1	LOOSE	MRR	E	E	E	E	E	E	T	M	M	M										A34	15	2	#12+BOND	16mm
UH-3.4	Unit Heater	Chlorine Room	Individual Motor	115	1	60	4.4	0.053				1	LOOSE	MRR	E	E	E	E	E	E	T	M	M	M										A34	15	2	#12+BOND	16mm
UH-3.5	Unit Heater	Process Room	Individual Motor	115	1	60	4.4	0.053				1	LOOSE	MRR	E	E	E	E	E	E	T	M	M	M										A26	15	2	#12+BOND	16mm
UH-3.6	Unit Heater	Process Room	Individual Motor	115	1	60	4.4	0.053				1	LOOSE	MRR	E	E	E	E	E	E	T	M	M	M										A26	15	2	#12+BOND	16mm
HRV-1	Heat Recovery Ventilator	Process Room	Package Unit (Single Connection)	115	1	60	4.4		9.5	12	0.186	1	LOOSE	MRR	E	E	E	E	E	E	CP	M	M	M										A17	15	2	#12+BOND	16mm
SF-1	Mech Room Cooling Fan	Mechanical Room	Individual Motor	115	1	60	4.4	0.066				1						E	E	E	T	M	M	M										A12	15	2	#12+BOND	16mm
EF-1	Exhaust Fan	Chlorine Room	Individual Motor	115	1	60	4.4	0.01				1						E	E	E	WS	E	E	E										A15	15	2	#12+BOND	16mm
DHWH-1	Domestic Hot Water Heater	Process Room	Electric Heater	208	3	60	2.3				1.5	1																						A23	15	3	#12+BOND	16mm
CP-1	Tekmar 268 Boiler Controller	Mechanical Room	Cord-connected Equipment	115	1	60	4.4				fractional	1																						A23		2		
CP-2	Tekmar 132 Pump Sequencer	Mechanical Room	Cord-connected Equipment	115	1	60	4.4				fractional	1																						A23		2		
CP-3	Tekmar 132 Pump Sequencer	Mechanical Room	Cord-connected Equipment	115	1	60	4.4				fractional	1																						A23		2		
CP-4	Tekmar 152 Setpoint Controller	Mechanical Room	Cord-connected Equipment	115	1	60	4.4				fractional	1																						A23		2		
FFP-01	Filter Feed Pump	Process Room	Individual Motor	208	3	60	62	20				1	MCC	MRR	E	E	E	E	E	E	CP	P	P	P	HOA	PC	PC	PC						MCC	150	3	#6+BOND	27mm
FFP-02	Filter Feed Pump	Process Room	Individual Motor	208	3	60	62	20				1	MCC	MRR	E	E	E	E	E	E	CP	P	P	P	HOA	PC	PC	PC						MCC	150	3	#6+BOND	27mm
TFP-01	Truck Fill Pump	Process Room	Individual Motor	208	3	60	25.3	7.5				1	MCC	MRR	E	E	E	E	E	E	CP	P	P	P	HOA	E	E	E						MCC	60	3	#10+BOND	21mm
TFP-02	Truck Fill Pump	Process Room	Individual Motor	208	3	60	25.3	7.5				1	MCC	MRR	E	E	E	E	E	E	CP	P	P	P	HOA	E	E	E						MCC	60	3	#10+BOND	21mm
FP-01	Fire Pump	Process Room	Individual Motor	208	3	60	150	50				1	MCC	VSD	M	M	E	E	E	E	CP	P	P	P	HOA	E	E	E						MCC	350	3	#'2/0+BOND	53mm
CSP-01	Community Supply Pump	Process Room	Individual Motor	208	3	60	25.3	7.5				1	MCC	MRR	E	E	E	E	E	E	CP	P	P	P	HOA	E	E	E						MCC	60	3	#10+BOND	21mm
CSP-02	Community Supply Pump	Process Room	Individual Motor	208	3	60	25.3	7.5				1	MCC	MRR	E	E	E	E	E	E	CP	P	P	P	HOA	E	E	E						MCC	60	3	#10+BOND	21mm
CSP-03	Community Supply Pump	Process Room	Individual Motor	208	3	60	62	20				1	MCC	MRR	E	E	E	E	E	E	CP	P	P	P	HOA	E	E	E						MCC	150	3	#6+BOND	27mm
CSP-04	Community Supply Pump	Process Room	Individual Motor	208	3	60	62	20				1	MCC	MRR	E	E	E	E	E	E	CP	P	P	P	HOA	E	E	E						MCC	150	3	#6+BOND	27mm
RCP-1	Recirc Pump	Process Room	Individual Motor	208	3	60	3.2	0.75				1	MCC	MRR	E	E	E	E	E	E	CP	P	P	P	HOA	E	E	E						MCC	15	3	#12+BOND	16mm

NOTES:

A. MOTOR SCHEDULE IS FOR ESTIMATING PURPOSES ONLY. CONFIRM ALL MOTOR FULL LOAD CURRENTS WITH NAMEPLATES AND SIZE MOTOR DISCONNECTS, BREAKERS, FEEDERS AND OVERLOADS ACCORDINGLY.

B. CONFIRM MECHANICAL EQUIPMENT LOCATIONS WITH DIVISION 23.

C. COORDINATE THE LOCATIONS OF ALL LINE VOLTAGE PILOT DEVICES WITH DIVISION 23 AND PROVIDE CONDUIT AND WIRING AS NECESSARY

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Date 26 MAY 2014
PERMIT NUMBER: P 800
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
N. G. BOURASSA
N.W.T.
May 26/2014

Client/Project
GOVERNMENT OF NUNAVUT

POTABLE WATER SYSTEM
PHASE II
Cambridge Bay, Nunavut

Title
MOTOR SCHEDULE

Project No.	Scale	
144901252	NTS	
Drawing No.	Sheet	Revision
E105	5 of 5	0