2024 ANNUAL REPORT FOR 3AM-GRA1631
GOVERNMENT OF NUNAVUT – DEPARTMENT OF TRANSPORTATION AND INFRASTRUCTURE NUNAVUT

YEAR BEING REPORTED: 2024

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water Licence No. **3AM-GRA1631** issued to the **Government of Nunavut – Department of Transportation and Infrastructure Nunavut.**

Table 1 provides a monthly and annual tabular summary of the measured and estimated quantities in cubic metres of water used from Lower Landing Lake and Nipissar Lake, and wastewater discharged, and sludge removed for landfilling.

The monthly and annual quantities of freshwater and estimated sewage waste discharged were obtained by daily logs taken by the facility operational staff.

Pumping of water from Lower Landing Lake to Nipissar Lake took place over 88 days from July 22, 2024 to October 18, 2024. A total of 439,479 cubic metres of water was pumped during this period, which amounts to a daily average of 4994.08 cubic metres – well below the licenced limit of 10,000 cubic meters per day.

The sewage volumes are assumed equal to the water withdrawal volumes as all consumed water is returned to the sewage disposal facility. The WWTP consists of a splitter tank which diverts flow of wastewater collected to either one of two screening channels where the screening system is used to remove large solids. Solids collected from the screening system are transported to the Rankin Inlet Landfill and effluent is discharged through a diffuser into Prairie Bay.

Table 2 provides the elevation measurements in metres for Nipissar Lake and Lower Landing Lake taken from the datum to the shoreline.

Lab results from sampling the water at GRA-1 and GRA-7, and the wastewater effluent at GRA-3, as part of the Monitoring Program, are provided as **Appendix A**.

Table 1: Summary of water use and waste discharged.

Month Reported	GRA-6: Water Obtained from Lower Landing Lake Pumped to Nipissar Lake (m^3)	GRA-1: Water Obtained from Nipissar Lake for Treatment (m^3)	GRA-3: Effluent Discharged from the Sewage Treatment Facility (m^3)	GRA-4: Solids Removed from the Sewage Treatment Facility (m^3)
January	0	51716	51716	1.136
February	0	48377	48377	1.136
March	0	52731	52731	1.136
April	0	64075	64075	1.136
May	0	38933	38933	1.136
June	0	47887	47887	1.136
July	41029	49958	49958	1.136
August	156231	51448	51448	1.136
September	152751	44569	44569	1.136
October	89468	49842	49842	1.136
November	0	45959	45959	1.136
December	0	51819	51819	1.136
ANNUAL TOTAL	439479	597314	597314	**13.632**

Table 2: Elevation measurements for Nipissar Lake and Lower Landing Lake in meters

Date	GRA-5: Nipissar Lake Elevation (m)	GRA-5: Lower Landing Lake Elevation (m)
July	2.66	1.29
August	2.65	1.40

Note: Water Elevation is a measurement taken from the datum to the shoreline. Therefore, a decrease in elevation measurement represents an increase in lake water level.

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I. A summary of modifications and/or major maintenance work carried out and/or planned on the Water Supply and Waste Disposal Facilities, including all associated structures and facilities:

2024 Summary

The work carried out in 2024 was replacement of water and sewer pipes and vaults in Areas 1&3 of Phase 2B of the Utilidor Replacement project. The pipes were replaced due to the age of the infrastructure that led to severe tuberculation of the water pipes. Also, the pipe sizes need to be upgraded due to the increase in population of the community. Service connections to the homes in these areas were shifted to the front of the homes. The older pipes in the backyards of the homes were left in place. Please see **Appendix B** for the drawings of the utilidor work for Areas 1&3.

2025 Summary

The work planned for 2025 Phase 2B of the Utilidor Replacement project is exactly the same as for 2024 but covers Area 2 instead. Please see **Appendix B** for the drawings of the planned work for Area 2.

No modifications or major maintenance work carried out on the water supply facilities and sewage disposal facilities in 2024 or are planned for 2025.

II. A summary of any studies requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned:

The design of the new water treatment plant and pumphouse is ongoing with expected completion of Fall 2025. The proposed modifications as part of the design will be submitted to the Board. Construction of the newly designed water supply facilities is expected to begin Spring 2025.

To comply with the Fisheries Act, as determined during the Modification application for the water supply facilities, a fish habitat assessment will be conducted during the open water season of 2025 on Nipissar Lake.

III. A list of unauthorized discharges and summary of follow-up action taken:

No spills to report in 2024. See **Appendix C.**

IV. A summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year:

There was no abandonment and restoration work completed during 2024. There is no abandonment and restoration work anticipated for 2025.

V. Any other details on water use or waste disposal requested by the Board by November 1st of the year being reported; and

No other details on water use or waste disposal requested by the Board by November 1st 2024.

VI. Updates or revisions to the approved Operation and Maintenance Plans:

No updates to the approved Plans were made in 2024. The Plans for the facilities have been implemented and are being carried out. Updated O&M Plans for the new water supply facilities will be provided in the 2026 Annual Report for the Board's review.

VII. FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:

A CIRNAC Inspection took place on September 18, 2024. The report is submitted as **Appendix D.** The 2023 Annual Report was submitted to the Board as actioned by the Inspector to meet all of the Inspector's concerns.

VIII. ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:

None.

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APPENDICES

Appendix A: Lab Results for GRA-3, GRA-1, and GRA-7
Appendix B: Drawings of Utilidor Upgrades
Appendix C: Hazardous Materials Spills Database for Rankin Inlet in 2024
Appendix D: CIRNAC Annual Inspection Report 2024

Appendix A: Lab Results for GRA-3, GRA-1, and GRA-7

CERTIFICATE OF ANALYSIS

Work Order	: **WP2426999**		
Client	: **Hamlet of Rankin Inlet**	Laboratory	: ALS Environmental - Winnipeg
Contact	: Steve Fitzpatrick	Account Manager	: Craig Riddell
Address	: PO Box 310 Rankin Inlet Nunavut Canada X0C 0G0	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: ----	Telephone	: +1 204 255 9720
Project	: ----	Date Samples Received	: 05-Dec-2024 12:01
PO	: ----	Date Analysis Commenced	: 05-Dec-2024
C-O-C number	: ----	Issue Date	: 12-Dec-2024 16:17
Sampler	: ----		
Site	: ----		
Quote number	: 2024 Analytical Testing		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Brennan Dugas	Analyst	Microbiology, Winnipeg, Manitoba
Gerry Vera	Analyst	Organics, Winnipeg, Manitoba
Gianna Wiebe		Organics, Winnipeg, Manitoba
Jeremy Gingras	Supervisor - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Kevin Baxter		Metals, Winnipeg, Manitoba
Kevin Baxter		Inorganics, Winnipeg, Manitoba
Lee McTavish		Inorganics, Winnipeg, Manitoba
Leila Conyard	Lab Assistant	Metals, Winnipeg, Manitoba
Michelle Michalchuk	Analyst	Organics, Winnipeg, Manitoba
Ping Yeung	Team Leader - Inorganics	Inorganics, Edmonton, Alberta
Ryan Velasco		Organics, Winnipeg, Manitoba

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre

<: less than.
>: greater than.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
MBHT	The APHA 30 hour holding time was exceeded for microbiological testing. Samples processed within 48 hours from time of sampling may be valid in some cases (refer to Health Canada guidance).

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Rankin Inlet WWTP - Effluent	----	----	----	----
					Client sampling date / time	04-Dec-2024 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WP2426999-001	----	----	----	----
						Result	----	----	----	----
Physical Tests										
Alkalinity, bicarbonate (as HCO3)	71-52-3	E290/WP	1.0	mg/L		225	----	----	----	----
Alkalinity, carbonate (as CO3)	3812-32-6	E290/WP	1.0	mg/L		<1.0	----	----	----	----
Alkalinity, hydroxide (as OH)	14280-30-9	E290/WP	1.0	mg/L		<1.0	----	----	----	----
Conductivity	----	E100/WP	2.0	µS/cm		717	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WP	0.50	mg/L		66.4	----	----	----	----
pH	----	E108/WP	0.10	pH units		7.47	----	----	----	----
Solids, total suspended [TSS]	----	E160/WP	3.0	mg/L		195	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WP	0.0050	mg/L		18.1	----	----	----	----
Chloride	16887-00-6	E235.Cl/WP	0.50	mg/L		71.9	----	----	----	----
Fluoride	16984-48-8	E235.F/WP	0.020	mg/L		0.283	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3/WP	0.020	mg/L		<0.020	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/WP	0.0050	mg/L		<0.0224	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2/WP	0.010	mg/L		<0.010	----	----	----	----
Phosphorus, total	7723-14-0	E372/WP	0.020	mg/L		6.43	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/WP	0.30	mg/L		35.6	----	----	----	----
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/WP	0.50	mg/L		142	----	----	----	----
Microbiological Tests										
Coliforms, Escherichia coli [E. coli]	----	E010-H/WP	10	MPN/100 mL		>24200 MBHT	----	----	----	----
Coliforms, thermotolerant [fecal]	----	E010.FC-H/WP	10	MPN/100 mL		>24200 MBHT	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: Rankin Inlet WWTP - Effluent	----	----	----	----
					Client sampling date / time: 04-Dec-2024 09:30	----	----	----	----
					WP2426999-001	----	----	----	----
					Result	----	----	----	----
Microbiological Tests									
Coliforms, total	----	E010-H/WP	10	MPN/100 mL	>24200 MBHT	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/WP	0.0030	mg/L	0.190	----	----	----	----
Antimony, total	7440-36-0	E420/WP	0.00010	mg/L	0.00020	----	----	----	----
Arsenic, total	7440-38-2	E420/WP	0.00010	mg/L	0.00088	----	----	----	----
Barium, total	7440-39-3	E420/WP	0.00010	mg/L	0.0275	----	----	----	----
Beryllium, total	7440-41-7	E420/WP	0.000020	mg/L	0.0000022	----	----	----	----
Bismuth, total	7440-69-9	E420/WP	0.000050	mg/L	0.00373	----	----	----	----
Boron, total	7440-42-8	E420/WP	0.010	mg/L	0.030	----	----	----	----
Cadmium, total	7440-43-9	E420/WP	0.0000050	mg/L	0.0000586	----	----	----	----
Calcium, total	7440-70-2	E420/WP	0.050	mg/L	18.9	----	----	----	----
Cesium, total	7440-46-2	E420/WP	0.000010	mg/L	0.000181	----	----	----	----
Chromium, total	7440-47-3	E420/WP	0.00050	mg/L	0.00722	----	----	----	----
Cobalt, total	7440-48-4	E420/WP	0.00010	mg/L	0.00054	----	----	----	----
Copper, total	7440-50-8	E420/WP	0.00050	mg/L	0.195	----	----	----	----
Iron, total	7439-89-6	E420/WP	0.010	mg/L	2.00	----	----	----	----
Lead, total	7439-92-1	E420/WP	0.000050	mg/L	0.00239	----	----	----	----
Lithium, total	7439-93-2	E420/WP	0.0010	mg/L	0.0013	----	----	----	----
Magnesium, total	7439-95-4	E420/WP	0.0050	mg/L	4.66	----	----	----	----
Manganese, total	7439-96-5	E420/WP	0.00010	mg/L	0.0391	----	----	----	----
Molybdenum, total	7439-98-7	E420/WP	0.000050	mg/L	0.00134	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Rankin Inlet WWTP - Effluent	----	----	----	----
					Client sampling date / time	04-Dec-2024 09:30	----	----	----	----
						WP2426999-001	----	----	----	----
						Result	----	----	----	----
Total Metals										
Nickel, total	7440-02-0	E420/WP	0.00050	mg/L		0.00699	----	----	----	----
Phosphorus, total	7723-14-0	E420/WP	0.050	mg/L		4.26	----	----	----	----
Potassium, total	7440-09-7	E420/WP	0.050	mg/L		7.85	----	----	----	----
Rubidium, total	7440-17-7	E420/WP	0.00020	mg/L		0.00849	----	----	----	----
Selenium, total	7782-49-2	E420/WP	0.000050	mg/L		0.000248	----	----	----	----
Silicon, total	7440-21-3	E420/WP	0.10	mg/L		0.30	----	----	----	----
Silver, total	7440-22-4	E420/WP	0.000010	mg/L		0.000158	----	----	----	----
Sodium, total	7440-23-5	E420/WP	0.050	mg/L		24.4	----	----	----	----
Strontium, total	7440-24-6	E420/WP	0.00020	mg/L		0.0926	----	----	----	----
Sulfur, total	7704-34-9	E420/WP	0.50	mg/L		8.33	----	----	----	----
Tellurium, total	13494-80-9	E420/WP	0.00020	mg/L		0.000020	----	----	----	----
Thallium, total	7440-28-0	E420/WP	0.000010	mg/L		0.0000084	----	----	----	----
Thorium, total	7440-29-1	E420/WP	0.00010	mg/L		Not Detected	----	----	----	----
Tin, total	7440-31-5	E420/WP	0.00010	mg/L		0.00121	----	----	----	----
Titanium, total	7440-32-6	E420/WP	0.00030	mg/L		0.0277	----	----	----	----
Tungsten, total	7440-33-7	E420/WP	0.00010	mg/L		0.000079	----	----	----	----
Uranium, total	7440-61-1	E420/WP	0.000010	mg/L		0.000252	----	----	----	----
Vanadium, total	7440-62-2	E420/WP	0.00050	mg/L		0.00066	----	----	----	----
Zinc, total	7440-66-6	E420/WP	0.0030	mg/L		0.199	----	----	----	----
Zirconium, total	7440-67-7	E420/WP	0.00020	mg/L		0.00052	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: Rankin Inlet WWTP - Effluent	----	----	----	----
					Client sampling date / time: 04-Dec-2024 09:30	----	----	----	----
					WP2426999-001	----	----	----	----
					Result	----	----	----	----
Dissolved Metals									
Mercury, dissolved	7439-97-6	E509/WP	0.0000050	mg/L	0.000124	----	----	----	----
Dissolved mercury filtration location	----	EP509/WP	-	-	Field	----	----	----	----
Aggregate Organics									
Biochemical oxygen demand [BOD]	----	E550/WP	2.0	mg/L	188	----	----	----	----
Carbonaceous biochemical oxygen demand [CBOD]	----	E555/WP	2.0	mg/L	152	----	----	----	----
Oil & grease (gravimetric)	----	E567/WP	5.0	mg/L	41.7	----	----	----	----
Phenols, total (4AAP)	----	E562/EO	0.0010	mg/L	0.0261	----	----	----	----
Volatile Organic Compounds									
Benzene	71-43-2	E611A/WP	0.00050	mg/L	<0.00050	----	----	----	----
Ethylbenzene	100-41-4	E611A/WP	0.00050	mg/L	<0.00050	----	----	----	----
Toluene	108-88-3	E611A/WP	0.00050	mg/L	0.0327	----	----	----	----
Xylene, m+p-	179601-23-1	E611A/WP	0.00040	mg/L	<0.00040	----	----	----	----
Xylene, o-	95-47-6	E611A/WP	0.00030	mg/L	<0.00030	----	----	----	----
Xylenes, total	1330-20-7	E611A/WP	0.00050	mg/L	<0.00050	----	----	----	----
BTEX, total	----	E611A/WP	0.0010	mg/L	0.0327	----	----	----	----
Hydrocarbons									
F1 (C6-C10)	----	E581.F1/WP	0.10	mg/L	0.11	----	----	----	----
F1-BTEX	----	EC580/WP	0.100	mg/L	<0.100	----	----	----	----
F2 (C10-C16)	----	E601/WP	0.10	mg/L	0.78	----	----	----	----
F3 (C16-C34)	----	E601/WP	0.25	mg/L	17.4	----	----	----	----
F4 (C34-C50)	----	E601/WP	0.25	mg/L	5.60	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Rankin Inlet WWTP - Effluent	----	----	----	----
					Client sampling date / time	04-Dec-2024 09:30	----	----	----	----
						WP2426999-001	----	----	----	----
						Result	----	----	----	----
Hydrocarbons										
TEH (C10-C50)	n/a	E601/WP	0.40	mg/L		23.8	----	----	----	----
TEH (C16-C50)	----	E601/WP	0.40	mg/L		23.0	----	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/WP	1.0	%		126	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WP	1.0	%		71.4	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/WP	1.0	%		90.8	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/WP	1.0	%		103	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/WT	0.010	µg/L		<0.010	----	----	----	----
Acenaphthylene	208-96-8	E641A/WT	0.010	µg/L		<0.010	----	----	----	----
Acridine	260-94-6	E641A/WT	0.010	µg/L		<0.040 DLM	----	----	----	----
Anthracene	120-12-7	E641A/WT	0.010	µg/L		<0.020 DLM	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/WT	0.010	µg/L		<0.010	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/WT	0.0050	µg/L		<0.0421 DLM	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/WT	0.010	µg/L		<0.010	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/WT	0.015	µg/L		<0.015	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/WT	0.010	µg/L		<0.042 DLM	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/WT	0.010	µg/L		<0.010	----	----	----	----
Chrysene	218-01-9	E641A/WT	0.010	µg/L		<0.010	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/WT	0.0050	µg/L		0.0595	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Rankin Inlet WWTP - Effluent	----	----	----	----
					Client sampling date / time	04-Dec-2024 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WP2426999-001	----	----	----	----
						Result	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Fluoranthene	206-44-0	E641A/WT	0.010	µg/L		<0.042 DLM	----	----	----	----
Fluorene	86-73-7	E641A/WT	0.010	µg/L		<0.080 DLM	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/WT	0.010	µg/L		0.425	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/WT	0.010	µg/L		0.033	----	----	----	----
Methylnaphthalene, 1+2-	----	E641A/WT	0.015	µg/L		0.071	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/WT	0.010	µg/L		0.038	----	----	----	----
Naphthalene	91-20-3	E641A/WT	0.050	µg/L		<0.050	----	----	----	----
Phenanthrene	85-01-8	E641A/WT	0.020	µg/L		<0.040 DLM	----	----	----	----
Pyrene	129-00-0	E641A/WT	0.010	µg/L		<0.042 DLM	----	----	----	----
Quinoline	91-22-5	E641A/WT	0.050	µg/L		0.106	----	----	----	----
B(a)P total potency equivalents [B(a)P TPE]	----	E641A/WT	0.010	µg/L		0.125	----	----	----	----
PAHs, high molecular weight (BC AWQ)	n/a	E641A/WT	0.030	µg/L		0.484	----	----	----	----
PAHs, low molecular weight (BC AWQ)	n/a	E641A/WT	0.060	µg/L		<0.105	----	----	----	----
PAHs, total (CCME sewer 18)	n/a	E641A/WT	0.070	µg/L		0.556	----	----	----	----
PAHs, total (EPA 16)	n/a	E641A/WT	0.065	µg/L		0.484	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/WT	0.1	%		111	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/WT	0.1	%		107	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/WT	0.1	%		107	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Chain of Custody (COC) / Analytical Request Form

ALS Environmental
www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 15 -

Page of

Report To	Contact and company name below will appear on the final report
Company:	Nunavut - CGS - Rankin Inlet W8133
Contact:	Steve Fitzpatrick
Phone:	867-645-8172
	Company address below will appear on the final report
Street:	Box 490
City/Province:	Rankin Inlet, NU
Postal Code:	X0C 0G0
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	Nunavut CGS W8133
Contact:	

Report Format / Distribution

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report ☑ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax kivalliqwatersamples@gov.nu.ca
Email 2 sfitzpatrick1@gov.nu.ca
Email 3 jstrickland@gov.nu.ca

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax smerkosak@gov.nu.ca
Email 2

Project Information

ALS Account # / Quote #: W8133
Job #:
PO / AFE:
LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#
Major/Minor Code: Routing Code:
Requisitioner:
Location:

ALS Lab Work Order # (lab use only): WP2426999
ALS Contact: Craig Riddell Sampler:

Select Service Level Below - Please confirm all E&P TATs with your AM - surcharges will apply

Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4] ☐ | 3 day [P3] ☐ | 2 day [P2] ☐
EMERGENCY: 1 Business day [E1] ☐ | Same Day, Weekend or Statutory holiday [E0] ☐

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm
For tests that can not be performed according to the service level selected, you will be contacted.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BTEX F1-F4-WP	PAH-PANH-WP	NUNAVDE-WW-GRP1-WP	F-IC-N-WP	TC-EC-QT97-WP								Number of Containers
					P		P	P		P	P						
	Rankin Inlet WWTP - Effluent	4/12/24	9:30	Waste													15

Environmental Division
Winnipeg
Work Order Reference
WP2426999

Telephone : +1 204 255 9720

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☑ YES ☐ NO
Are samples for human drinking water use? ☑ YES ☐ NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2015)

MB-CH-PWS-WP. THMs (treated water only) HAAs (treated water only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐
Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
		5.4			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Bill Ross	Date: 4/12/24	Time: 9:30	Received by: AH	Date: DEC 5	Time: 12:01	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

OCTOBER 2015 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

Sample Intake

Client:	Nunavut - CGS - Rankin				**COC receipt info complete**	☐
Express TAT?	(no)	same day	1 day	Yes: 2 day	3 days	4 day
Short hold time?	(no)	<24 hrs	1 day	Yes: 2 days	3 days	4 days
Matrix	(Water)	Soil/solid	Air	Biota	Food/micro	Other

Total number of bottles/fractions:			
Green/white	3x500	Orange/black	
Purple/white	2x500	Dark blue/white	4x40, 2x40
Red/white	1x500	Black/white	
Dark green/white		Brown/white	
Grey/white		Pink/white	
Yellow/black	2x250, 1x40	Beige/white	
Light blue/white		Other (specify)	

Comments:

5.4 ice pack

Sample Login

Receipt Window	✓/X	N/A	**Bottles**	✓/X	N/A
# of fractions, matrix and submatrix			All received bottles have IDs		
Client, office, contact, quote, project			Type, volume, and locations		
Receipt time/date, PO, project, site			Labels and internal COCs printed		
Temp, cooling method, sampler			**Client Contacts**	✓/X	N/A
Sample Info	✓/X	N/A	Report/invoice/EDD recipients		
Sample date/time			Report types/formats		
Sample ID/description			**Post-committing**	✓/X	N/A
Sales items			Runs built and field data entered		
Guidelines/thresholds			Billing information entered		
Additional sample/WO information			**Action Required?**	Yes	No
Due Dates	✓/X	N/A	Update default receipt data		
COC/GEL/client due dates match			Update default report data		
Express TAT surcharges			Add sales/billing items to quote		
Clock running for all samples			SIF initiated (elaborate in comments)		

Comments:

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **WP2415923**	Page	: 1 of 8
Client	: **Government of Nunavut**	Laboratory	: ALS Environmental - Winnipeg
Contact	: CGS - Rankin Inlet Megan Muckpah-Gavin	Account Manager	: Craig Riddell
Address	: P.O. Box 490 Rankin Inlet NU Canada X0C 0G0	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: ----	Telephone	: +1 204 255 9720
Project	: ----	Date Samples Received	: 25-Jun-2024 13:00
PO	: ----	Date Analysis Commenced	: 25-Jun-2024
C-O-C number	: ----	Issue Date	: 08-Jul-2024 16:27
Sampler	: ----		
Site	: ----		
Quote number	: 2024 Analytical Testing		
No. of samples received	: 2		
No. of samples analysed	: 2		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Ana Srzic		Organics, Winnipeg, Manitoba
Brennan Dugas	Analyst	Microbiology, Winnipeg, Manitoba
Gerry Vera	Analyst	Organics, Winnipeg, Manitoba
Jeremy Gingras	Supervisor - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Lee McTavish		Inorganics, Winnipeg, Manitoba
Michelle Michalchuk	Analyst	Organics, Winnipeg, Manitoba
Nik Perkio	Senior Analyst	Inorganics, Waterloo, Ontario
Oleksandr Busel		Inorganics, Winnipeg, Manitoba
Oleksandr Busel		Metals, Winnipeg, Manitoba
Ryan Velasco		Organics, Winnipeg, Manitoba

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Qualifiers

Qualifier	Description
MBHT	The APHA 30 hour holding time was exceeded for microbiological testing. Samples processed within 48 hours from time of sampling may be valid in some cases (refer to Health Canada guidance).

Analytical Results Evaluation

Matrix: **Wastewater**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID: GRA-1	GRA-7	----	----	----	----	----
				Sampling date/time: 24-Jun-2024 11:00	24-Jun-2024 10:40	----	----	----	----	----
				Sub-Matrix: Wastewater	Wastewater	----	----	----	----	----
				WP2415923-001	WP2415923-002	--------	--------	--------	--------	--------
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/WP	mg/L	36.5	24.9	----	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/WP	mg/L	<1.0	<1.0	----	----	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/WP	mg/L	<1.0	<1.0	----	----	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/WP	mg/L	<1.0	<1.0	----	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/WP	mg/L	36.5	24.9	----	----	----	----	----
Conductivity	----	E100/WP	µS/cm	205	151	----	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WP	mg/L	51.8	37.0	----	----	----	----	----
pH	----	E108/WP	pH units	7.63	7.48	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/WP	mg/L	<3.0	<3.0	----	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WP	mg/L	0.0387	<0.0050	----	----	----	----	----
Chloride	16887-00-6	E235.Cl/WP	mg/L	26.9	23.5	----	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3/WP	mg/L	<0.020	<0.020	----	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/WP	mg/L	<0.0224	<0.0224	----	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2/WP	mg/L	<0.010	<0.010	----	----	----	----	----
Phosphorus, total	7723-14-0	E372/WP	mg/L	<0.020	<0.020	----	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/WP	mg/L	13.3	6.18	----	----	----	----	----
Cyanides										
Cyanide, strong acid dissociable (Total)	----	E333/WT	mg/L	<0.0050	<0.0050	----	----	----	----	----
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/WP	mg/L	3.99	5.47	----	----	----	----	----
Microbiological Tests										
Coliforms, Escherichia coli [E. coli]	----	E010-H/WP	MPN/100 mL	<10 MBHT	<10 MBHT	----	----	----	----	----
Coliforms, thermotolerant [fecal]	----	E010.FC-H/WP	MPN/10 0mL	<10 MBHT	<10 MBHT	----	----	----	----	----
Coliforms, total	----	E010-H/WP	MPN/100 mL	10 MBHT	230 MBHT	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Wastewater**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	GRA-1	GRA-7	----	----	----	----	----
				Sampling date/time	24-Jun-2024 11:00	24-Jun-2024 10:40	----	----	----	----	----
				Sub-Matrix	Wastewater	Wastewater	----	----	----	----	----
					WP2415923-001	WP2415923-002	--------	--------	--------	--------	--------
Total Metals											
Aluminum, total	7429-90-5	E420/WP	mg/L		0.0250	0.0180	----	----	----	----	----
Antimony, total	7440-36-0	E420/WP	mg/L		<0.00010	<0.00010	----	----	----	----	----
Arsenic, total	7440-38-2	E420/WP	mg/L		0.00078	0.00066	----	----	----	----	----
Barium, total	7440-39-3	E420/WP	mg/L		0.0159	0.0169	----	----	----	----	----
Beryllium, total	7440-41-7	E420/WP	mg/L		Not Detected	Not Detected	----	----	----	----	----
Bismuth, total	7440-69-9	E420/WP	mg/L		<0.000050	Not Detected	----	----	----	----	----
Boron, total	7440-42-8	E420/WP	mg/L		0.026	0.013	----	----	----	----	----
Cadmium, total	7440-43-9	E420/WP	mg/L		<0.0000050	<0.0000050	----	----	----	----	----
Calcium, total	7440-70-2	E420/WP	mg/L		14.6	10.5	----	----	----	----	----
Cesium, total	7440-46-2	E420/WP	mg/L		0.000018	0.000015	----	----	----	----	----
Chromium, total	7440-47-3	E420/WP	mg/L		<0.00050	<0.00050	----	----	----	----	----
Cobalt, total	7440-48-4	E420/WP	mg/L		<0.00010	<0.00010	----	----	----	----	----
Copper, total	7440-50-8	E420/WP	mg/L		0.00075	0.00078	----	----	----	----	----
Iron, total	7439-89-6	E420/WP	mg/L		0.056	0.136	----	----	----	----	----
Lead, total	7439-92-1	E420/WP	mg/L		<0.000050	0.000078	----	----	----	----	----
Lithium, total	7439-93-2	E420/WP	mg/L		<0.0010	<0.0010	----	----	----	----	----
Magnesium, total	7439-95-4	E420/WP	mg/L		3.72	2.63	----	----	----	----	----
Manganese, total	7439-96-5	E420/WP	mg/L		0.0146	0.0133	----	----	----	----	----
Mercury, total	7439-97-6	E508/WP	mg/L		<0.0000050	<0.0000050	----	----	----	----	----
Molybdenum, total	7439-98-7	E420/WP	mg/L		0.000447	0.000269	----	----	----	----	----
Nickel, total	7440-02-0	E420/WP	mg/L		0.00074	0.00060	----	----	----	----	----
Phosphorus, total	7723-14-0	E420/WP	mg/L		<0.050	<0.050	----	----	----	----	----
Potassium, total	7440-09-7	E420/WP	mg/L		1.94	1.55	----	----	----	----	----
Rubidium, total	7440-17-7	E420/WP	mg/L		0.00170	0.00192	----	----	----	----	----
Selenium, total	7782-49-2	E420/WP	mg/L		0.000060	0.000058	----	----	----	----	----
Silicon, total	7440-21-3	E420/WP	mg/L		0.12	0.29	----	----	----	----	----
Silver, total	7440-22-4	E420/WP	mg/L		Not Detected	Not Detected	----	----	----	----	----
Sodium, total	7440-23-5	E420/WP	mg/L		15.5	12.4	----	----	----	----	----
Strontium, total	7440-24-6	E420/WP	mg/L		0.0769	0.0623	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Wastewater**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	GRA-1	GRA-7	----	----	----	----	----
				Sampling date/time	24-Jun-2024 11:00	24-Jun-2024 10:40	----	----	----	----	----
				Sub-Matrix	Wastewater	Wastewater	----	----	----	----	----
					WP2415923-001	WP2415923-002	--------	--------	--------	--------	--------
Total Metals											
Sulfur, total	7704-34-9	E420/WP	mg/L		4.93	2.41	----	----	----	----	----
Tellurium, total	13494-80-9	E420/WP	mg/L		<0.00020	Not Detected	----	----	----	----	----
Thallium, total	7440-28-0	E420/WP	mg/L		<0.000010	<0.000010	----	----	----	----	----
Thorium, total	7440-29-1	E420/WP	mg/L		Not Detected	Not Detected	----	----	----	----	----
Tin, total	7440-31-5	E420/WP	mg/L		Not Detected	Not Detected	----	----	----	----	----
Titanium, total	7440-32-6	E420/WP	mg/L		0.00150	0.00078	----	----	----	----	----
Tungsten, total	7440-33-7	E420/WP	mg/L		Not Detected	Not Detected	----	----	----	----	----
Uranium, total	7440-61-1	E420/WP	mg/L		0.000130	0.000048	----	----	----	----	----
Vanadium, total	7440-62-2	E420/WP	mg/L		<0.00050	<0.00050	----	----	----	----	----
Zinc, total	7440-66-6	E420/WP	mg/L		<0.0030	<0.0030	----	----	----	----	----
Zirconium, total	7440-67-7	E420/WP	mg/L		Not Detected	<0.00020	----	----	----	----	----
Aggregate Organics											
Biochemical oxygen demand [BOD]	----	E550/WP	mg/L		<2.0	<2.0	----	----	----	----	----
Carbonaceous biochemical oxygen demand [CBOD]	----	E555/WP	mg/L		<2.0	3.5	----	----	----	----	----
Oil & grease (gravimetric)	----	E567/WP	mg/L		8.4	<5.0	----	----	----	----	----
Phenols, total (4AAP)	----	E562/WT	mg/L		<0.0010	<0.0010	----	----	----	----	----
Volatile Organic Compounds											
Benzene	71-43-2	E611A/WP	mg/L		<0.00050	<0.00050	----	----	----	----	----
Ethylbenzene	100-41-4	E611A/WP	mg/L		<0.00050	<0.00050	----	----	----	----	----
Toluene	108-88-3	E611A/WP	mg/L		<0.00050	<0.00050	----	----	----	----	----
Xylene, m+p-	179601-23-1	E611A/WP	mg/L		<0.00040	<0.00040	----	----	----	----	----
Xylene, o-	95-47-6	E611A/WP	mg/L		<0.00030	<0.00030	----	----	----	----	----
Xylenes, total	1330-20-7	E611A/WP	mg/L		<0.00050	<0.00050	----	----	----	----	----
BTEX, total	----	E611A/WP	mg/L		<0.0010	<0.0010	----	----	----	----	----
Hydrocarbons											
F1 (C6-C10)	----	E581.F1/WP	mg/L		<0.10	<0.10	----	----	----	----	----
F1-BTEX	----	EC580/WP	mg/L		<0.100	<0.100	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Wastewater**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	GRA-1	GRA-7	----	----	----	----	----
				Sampling date/time	24-Jun-2024 11:00	24-Jun-2024 10:40	----	----	----	----	----
				Sub-Matrix	Wastewater	Wastewater	----	----	----	----	----
					WP2415923-001	WP2415923-002	--------	--------	--------	--------	--------
Hydrocarbons											
F2 (C10-C16)	----	E601/WP	mg/L		<0.10	<0.10	----	----	----	----	----
F3 (C16-C34)	----	E601/WP	mg/L		<0.25	<0.25	----	----	----	----	----
F4 (C34-C50)	----	E601/WP	mg/L		<0.25	<0.25	----	----	----	----	----
TEH (C10-C50)	n/a	E601/WP	mg/L		<0.40	<0.40	----	----	----	----	----
TEH (C16-C50)	----	E601/WP	mg/L		<0.40	<0.40	----	----	----	----	----
Hydrocarbons Surrogates											
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/WP	%		101	102	----	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WP	%		81.8	81.6	----	----	----	----	----
Volatile Organic Compounds Surrogates											
Bromofluorobenzene, 4-	460-00-4	E611A/WP	%		81.5	82.4	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/WP	%		96.6	94.1	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons											
Acenaphthene	83-32-9	E641A/WT	µg/L		<0.010	<0.010	----	----	----	----	----
Acenaphthylene	208-96-8	E641A/WT	µg/L		<0.010	<0.010	----	----	----	----	----
Acridine	260-94-6	E641A/WT	µg/L		<0.010	<0.010	----	----	----	----	----
Anthracene	120-12-7	E641A/WT	µg/L		<0.010	<0.010	----	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/WT	µg/L		<0.010	<0.010	----	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/WT	µg/L		<0.0050	<0.0050	----	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/WT	µg/L		<0.010	<0.010	----	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/WT	µg/L		<0.015	<0.015	----	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/WT	µg/L		<0.010	<0.010	----	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/WT	µg/L		<0.010	<0.010	----	----	----	----	----
Chrysene	218-01-9	E641A/WT	µg/L		<0.010	<0.010	----	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/WT	µg/L		<0.0050	<0.0050	----	----	----	----	----
Fluoranthene	206-44-0	E641A/WT	µg/L		<0.010	<0.010	----	----	----	----	----
Fluorene	86-73-7	E641A/WT	µg/L		<0.010	<0.010	----	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/WT	µg/L		<0.010	<0.010	----	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/WT	µg/L		<0.010	<0.010	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Wastewater**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID: GRA-1	GRA-7	----	----	----	----	----
Sampling date/time				24-Jun-2024 11:00	24-Jun-2024 10:40	----	----	----	----	----
Sub-Matrix				Wastewater	Wastewater	----	----	----	----	----
				WP2415923-001	WP2415923-002	--------	--------	--------	--------	--------
Polycyclic Aromatic Hydrocarbons										
Methylnaphthalene, 1+2-	----	E641A/WT	µg/L	<0.015	<0.015	----	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----
Naphthalene	91-20-3	E641A/WT	µg/L	<0.050	<0.050	----	----	----	----	----
Phenanthrene	85-01-8	E641A/WT	µg/L	<0.020	<0.020	----	----	----	----	----
Pyrene	129-00-0	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----
Quinoline	91-22-5	E641A/WT	µg/L	<0.050	<0.050	----	----	----	----	----
B(a)P total potency equivalents [B(a)P TPE]	----	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----
PAHs, high molecular weight (BC AWQ)	n/a	E641A/WT	µg/L	<0.030	<0.030	----	----	----	----	----
PAHs, low molecular weight (BC AWQ)	n/a	E641A/WT	µg/L	<0.060	<0.060	----	----	----	----	----
PAHs, total (CCME sewer 18)	n/a	E641A/WT	µg/L	<0.070	<0.070	----	----	----	----	----
PAHs, total (EPA 16)	n/a	E641A/WT	µg/L	<0.065	<0.065	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/WT	%	112	116	----	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/WT	%	93.9	97.1	----	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/WT	%	114	117	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Key:

CERTIFICATE OF ANALYSIS

Work Order	: **WP2415923**	Page	: 1 of 7
Client	: **Government of Nunavut**	Laboratory	: ALS Environmental - Winnipeg
Contact	: CGS - Rankin Inlet Megan Muckpah-Gavin	Account Manager	: Craig Riddell
Address	: P.O. Box 490 Rankin Inlet NU Canada X0C 0G0	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: ----	Telephone	: +1 204 255 9720
Project	: ----	Date Samples Received	: 25-Jun-2024 13:00
PO	: ----	Date Analysis Commenced	: 25-Jun-2024
C-O-C number	: ----	Issue Date	: 08-Jul-2024 16:33
Sampler	: ----		
Site	: ----		
Quote number	: 2024 Analytical Testing		
No. of samples received	: 2		
No. of samples analysed	: 2		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Ana Srzic		Organics, Winnipeg, Manitoba
Brennan Dugas	Analyst	Microbiology, Winnipeg, Manitoba
Gerry Vera	Analyst	Organics, Winnipeg, Manitoba
Jeremy Gingras	Supervisor - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Lee McTavish		Inorganics, Winnipeg, Manitoba
Michelle Michalchuk	Analyst	Organics, Winnipeg, Manitoba
Nik Perkio	Senior Analyst	Inorganics, Waterloo, Ontario
Oleksandr Busel		Inorganics, Winnipeg, Manitoba
Oleksandr Busel		Metals, Winnipeg, Manitoba
Ryan Velasco		Organics, Winnipeg, Manitoba

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
MBHT	*The APHA 30 hour holding time was exceeded for microbiological testing. Samples processed within 48 hours from time of sampling may be valid in some cases (refer to Health Canada guidance).*

Analytical Results

Sub-Matrix: Wastewater (Matrix: Water)				Client sample ID	GRA-1	GRA-7	----	----	----
				Client sampling date / time	24-Jun-2024 11:00	24-Jun-2024 10:40	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WP2415923-001	WP2415923-002	--------	--------	--------
					Result	Result	----	----	----
Physical Tests									
Alkalinity, bicarbonate (as CaCO3)	----	E290/WP	1.0	mg/L	36.5	24.9	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/WP	1.0	mg/L	<1.0	<1.0	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/WP	1.0	mg/L	<1.0	<1.0	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/WP	1.0	mg/L	<1.0	<1.0	----	----	----
Alkalinity, total (as CaCO3)	----	E290/WP	1.0	mg/L	36.5	24.9	----	----	----
Conductivity	----	E100/WP	2.0	µS/cm	205	151	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WP	0.50	mg/L	51.8	37.0	----	----	----
pH	----	E108/WP	0.10	pH units	7.63	7.48	----	----	----
Solids, total suspended [TSS]	----	E160/WP	3.0	mg/L	<3.0	<3.0	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/WP	0.0050	mg/L	0.0387	<0.0050	----	----	----
Chloride	16887-00-6	E235.Cl/WP	0.50	mg/L	26.9	23.5	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3/WP	0.020	mg/L	<0.020	<0.020	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/WP	0.0050	mg/L	<0.0224	<0.0224	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2/WP	0.010	mg/L	<0.010	<0.010	----	----	----
Phosphorus, total	7723-14-0	E372/WP	0.020	mg/L	<0.020	<0.020	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/WP	0.30	mg/L	13.3	6.18	----	----	----
Cyanides									
Cyanide, strong acid dissociable (Total)	----	E333/WT	0.0050	mg/L	<0.0050	<0.0050	----	----	----
Organic / Inorganic Carbon									
Carbon, total organic [TOC]	----	E355-L/WP	0.50	mg/L	3.99	5.47	----	----	----
Microbiological Tests									
Coliforms, Escherichia coli [E. coli]	----	E010-H/WP	10	MPN/100mL	<10 MBHT	<10 MBHT	----	----	----
Coliforms, thermotolerant [fecal]	----	E010.FC-H/WP	10	MPN/100mL	<10 MBHT	<10 MBHT	----	----	----
Coliforms, total	----	E010-H/WP	10	MPN/100mL	10 MBHT	230 MBHT	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/WP	0.0030	mg/L	0.0250	0.0180	----	----	----
Antimony, total	7440-36-0	E420/WP	0.00010	mg/L	<0.00010	<0.00010	----	----	----

Analytical Results

Sub-Matrix: **Wastewater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	GRA-1	GRA-7	----	----	----
					Client sampling date / time	24-Jun-2024 11:00	24-Jun-2024 10:40	----	----	----
						WP2415923-001	WP2415923-002	--------	--------	--------
						Result	Result	----	----	----
Total Metals										
Arsenic, total	7440-38-2	E420/WP	0.00010	mg/L		0.00078	0.00066	----	----	----
Barium, total	7440-39-3	E420/WP	0.00010	mg/L		0.0159	0.0169	----	----	----
Beryllium, total	7440-41-7	E420/WP	0.000020	mg/L		Not Detected	Not Detected	----	----	----
Bismuth, total	7440-69-9	E420/WP	0.000050	mg/L		<0.000050	Not Detected	----	----	----
Boron, total	7440-42-8	E420/WP	0.010	mg/L		0.026	0.013	----	----	----
Cadmium, total	7440-43-9	E420/WP	0.0000050	mg/L		<0.0000050	<0.0000050	----	----	----
Calcium, total	7440-70-2	E420/WP	0.050	mg/L		14.6	10.5	----	----	----
Cesium, total	7440-46-2	E420/WP	0.000010	mg/L		0.000018	0.000015	----	----	----
Chromium, total	7440-47-3	E420/WP	0.00050	mg/L		<0.00050	<0.00050	----	----	----
Cobalt, total	7440-48-4	E420/WP	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Copper, total	7440-50-8	E420/WP	0.00050	mg/L		0.00075	0.00078	----	----	----
Iron, total	7439-89-6	E420/WP	0.010	mg/L		0.056	0.136	----	----	----
Lead, total	7439-92-1	E420/WP	0.000050	mg/L		<0.000050	0.000078	----	----	----
Lithium, total	7439-93-2	E420/WP	0.0010	mg/L		<0.0010	<0.0010	----	----	----
Magnesium, total	7439-95-4	E420/WP	0.0050	mg/L		3.72	2.63	----	----	----
Manganese, total	7439-96-5	E420/WP	0.00010	mg/L		0.0146	0.0133	----	----	----
Mercury, total	7439-97-6	E508/WP	0.0000050	mg/L		<0.0000050	<0.0000050	----	----	----
Molybdenum, total	7439-98-7	E420/WP	0.000050	mg/L		0.000447	0.000269	----	----	----
Nickel, total	7440-02-0	E420/WP	0.00050	mg/L		0.00074	0.00060	----	----	----
Phosphorus, total	7723-14-0	E420/WP	0.050	mg/L		<0.050	<0.050	----	----	----
Potassium, total	7440-09-7	E420/WP	0.050	mg/L		1.94	1.55	----	----	----
Rubidium, total	7440-17-7	E420/WP	0.00020	mg/L		0.00170	0.00192	----	----	----
Selenium, total	7782-49-2	E420/WP	0.000050	mg/L		0.000060	0.000058	----	----	----
Silicon, total	7440-21-3	E420/WP	0.10	mg/L		0.12	0.29	----	----	----
Silver, total	7440-22-4	E420/WP	0.000010	mg/L		Not Detected	Not Detected	----	----	----
Sodium, total	7440-23-5	E420/WP	0.050	mg/L		15.5	12.4	----	----	----
Strontium, total	7440-24-6	E420/WP	0.00020	mg/L		0.0769	0.0623	----	----	----
Sulfur, total	7704-34-9	E420/WP	0.50	mg/L		4.93	2.41	----	----	----
Tellurium, total	13494-80-9	E420/WP	0.00020	mg/L		<0.00020	Not Detected	----	----	----
Thallium, total	7440-28-0	E420/WP	0.000010	mg/L		<0.000010	<0.000010	----	----	----

Analytical Results

Sub-Matrix: Wastewater (Matrix: Water)					Client sample ID	GRA-1	GRA-7	----	----	----
					Client sampling date / time	24-Jun-2024 11:00	24-Jun-2024 10:40	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WP2415923-001	WP2415923-002	--------	--------	--------
						Result	Result	----	----	----
Total Metals										
Thorium, total	7440-29-1	E420/WP	0.00010	mg/L		Not Detected	Not Detected	----	----	----
Tin, total	7440-31-5	E420/WP	0.00010	mg/L		Not Detected	Not Detected	----	----	----
Titanium, total	7440-32-6	E420/WP	0.00030	mg/L		0.00150	0.00078	----	----	----
Tungsten, total	7440-33-7	E420/WP	0.00010	mg/L		Not Detected	Not Detected	----	----	----
Uranium, total	7440-61-1	E420/WP	0.000010	mg/L		0.000130	0.000048	----	----	----
Vanadium, total	7440-62-2	E420/WP	0.00050	mg/L		<0.00050	<0.00050	----	----	----
Zinc, total	7440-66-6	E420/WP	0.0030	mg/L		<0.0030	<0.0030	----	----	----
Zirconium, total	7440-67-7	E420/WP	0.00020	mg/L		Not Detected	<0.00020	----	----	----
Aggregate Organics										
Biochemical oxygen demand [BOD]	----	E550/WP	2.0	mg/L		<2.0	<2.0	----	----	----
Carbonaceous biochemical oxygen demand [CBOD]	----	E555/WP	2.0	mg/L		<2.0	3.5	----	----	----
Oil & grease (gravimetric)	----	E567/WP	5.0	mg/L		8.4	<5.0	----	----	----
Phenols, total (4AAP)	----	E562/WT	0.0010	mg/L		<0.0010	<0.0010	----	----	----
Volatile Organic Compounds										
Benzene	71-43-2	E611A/WP	0.00050	mg/L		<0.00050	<0.00050	----	----	----
Ethylbenzene	100-41-4	E611A/WP	0.00050	mg/L		<0.00050	<0.00050	----	----	----
Toluene	108-88-3	E611A/WP	0.00050	mg/L		<0.00050	<0.00050	----	----	----
Xylene, m+p-	179601-23-1	E611A/WP	0.00040	mg/L		<0.00040	<0.00040	----	----	----
Xylene, o-	95-47-6	E611A/WP	0.00030	mg/L		<0.00030	<0.00030	----	----	----
Xylenes, total	1330-20-7	E611A/WP	0.00050	mg/L		<0.00050	<0.00050	----	----	----
BTEX, total	----	E611A/WP	0.0010	mg/L		<0.0010	<0.0010	----	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/WP	0.10	mg/L		<0.10	<0.10	----	----	----
F1-BTEX	----	EC580/WP	0.100	mg/L		<0.100	<0.100	----	----	----
F2 (C10-C16)	----	E601/WP	0.10	mg/L		<0.10	<0.10	----	----	----
F3 (C16-C34)	----	E601/WP	0.25	mg/L		<0.25	<0.25	----	----	----
F4 (C34-C50)	----	E601/WP	0.25	mg/L		<0.25	<0.25	----	----	----
TEH (C10-C50)	n/a	E601/WP	0.40	mg/L		<0.40	<0.40	----	----	----
TEH (C16-C50)	----	E601/WP	0.40	mg/L		<0.40	<0.40	----	----	----

Analytical Results

Sub-Matrix: **Wastewater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: GRA-1	GRA-7	----	----	----
Client sampling date / time					24-Jun-2024 11:00	24-Jun-2024 10:40	----	----	----
					WP2415923-001	WP2415923-002	--------	--------	--------
					Result	Result	----	----	----
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/WP	1.0	%	101	102	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WP	1.0	%	81.8	81.6	----	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/WP	1.0	%	81.5	82.4	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/WP	1.0	%	96.6	94.1	----	----	----
Polycyclic Aromatic Hydrocarbons									
Acenaphthene	83-32-9	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Acenaphthylene	208-96-8	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Acridine	260-94-6	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Anthracene	120-12-7	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Benz(a)anthracene	56-55-3	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Benzo(a)pyrene	50-32-8	E641A/WT	0.0050	µg/L	<0.0050	<0.0050	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/WT	0.015	µg/L	<0.015	<0.015	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Chrysene	218-01-9	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/WT	0.0050	µg/L	<0.0050	<0.0050	----	----	----
Fluoranthene	206-44-0	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Fluorene	86-73-7	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Methylnaphthalene, 1+2-	----	E641A/WT	0.015	µg/L	<0.015	<0.015	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Naphthalene	91-20-3	E641A/WT	0.050	µg/L	<0.050	<0.050	----	----	----
Phenanthrene	85-01-8	E641A/WT	0.020	µg/L	<0.020	<0.020	----	----	----
Pyrene	129-00-0	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
Quinoline	91-22-5	E641A/WT	0.050	µg/L	<0.050	<0.050	----	----	----
B(a)P total potency equivalents [B(a)P TPE]	----	E641A/WT	0.010	µg/L	<0.010	<0.010	----	----	----
PAHs, high molecular weight (BC AWQ)	n/a	E641A/WT	0.030	µg/L	<0.030	<0.030	----	----	----

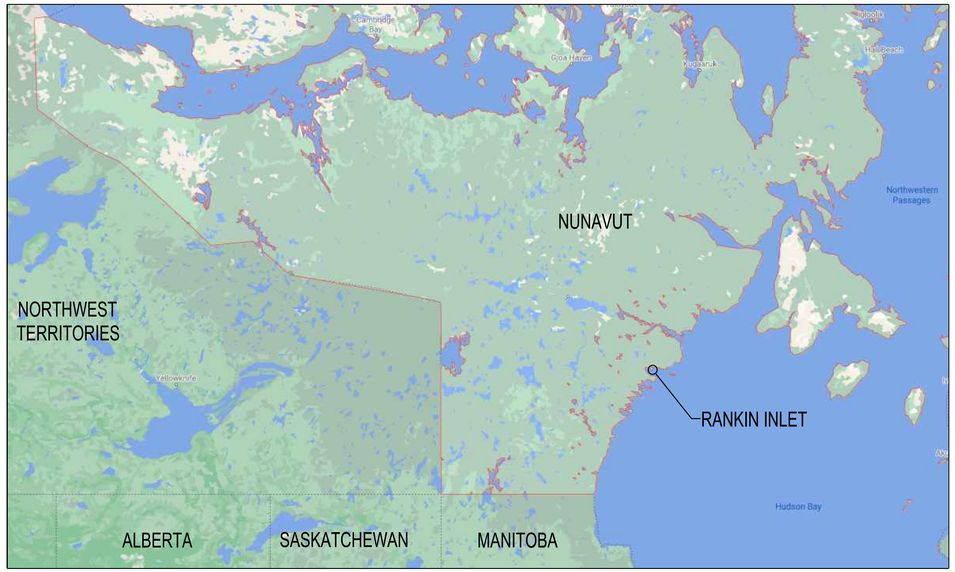
Analytical Results

Sub-Matrix: Wastewater (Matrix: Water)					Client sample ID	GRA-1	GRA-7	----	----	----
					Client sampling date / time	24-Jun-2024 11:00	24-Jun-2024 10:40	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WP2415923-001	WP2415923-002	--------	--------	--------
						Result	Result	----	----	----
Polycyclic Aromatic Hydrocarbons										
PAHs, low molecular weight (BC AWQ)	n/a	E641A/WT	0.060	µg/L		<0.060	<0.060	----	----	----
PAHs, total (CCME sewer 18)	n/a	E641A/WT	0.070	µg/L		<0.070	<0.070	----	----	----
PAHs, total (EPA 16)	n/a	E641A/WT	0.065	µg/L		<0.065	<0.065	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/WT	0.1	%		112	116	----	----	----
Naphthalene-d8	1146-65-2	E641A/WT	0.1	%		93.9	97.1	----	----	----
Phenanthrene-d10	1517-22-2	E641A/WT	0.1	%		114	117	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Appendix B: Drawings of Utilidor Upgrades



KEY PLAN

Canada

Nunavut

RANKIN INLET UTILIDOR REPLACEMENT PHASE 2, PACKAGE B

Government of Nunavut

RANKIN INLET, NUNAVUT, CANADA

CLIENT PROJECT NO. 16320-00370

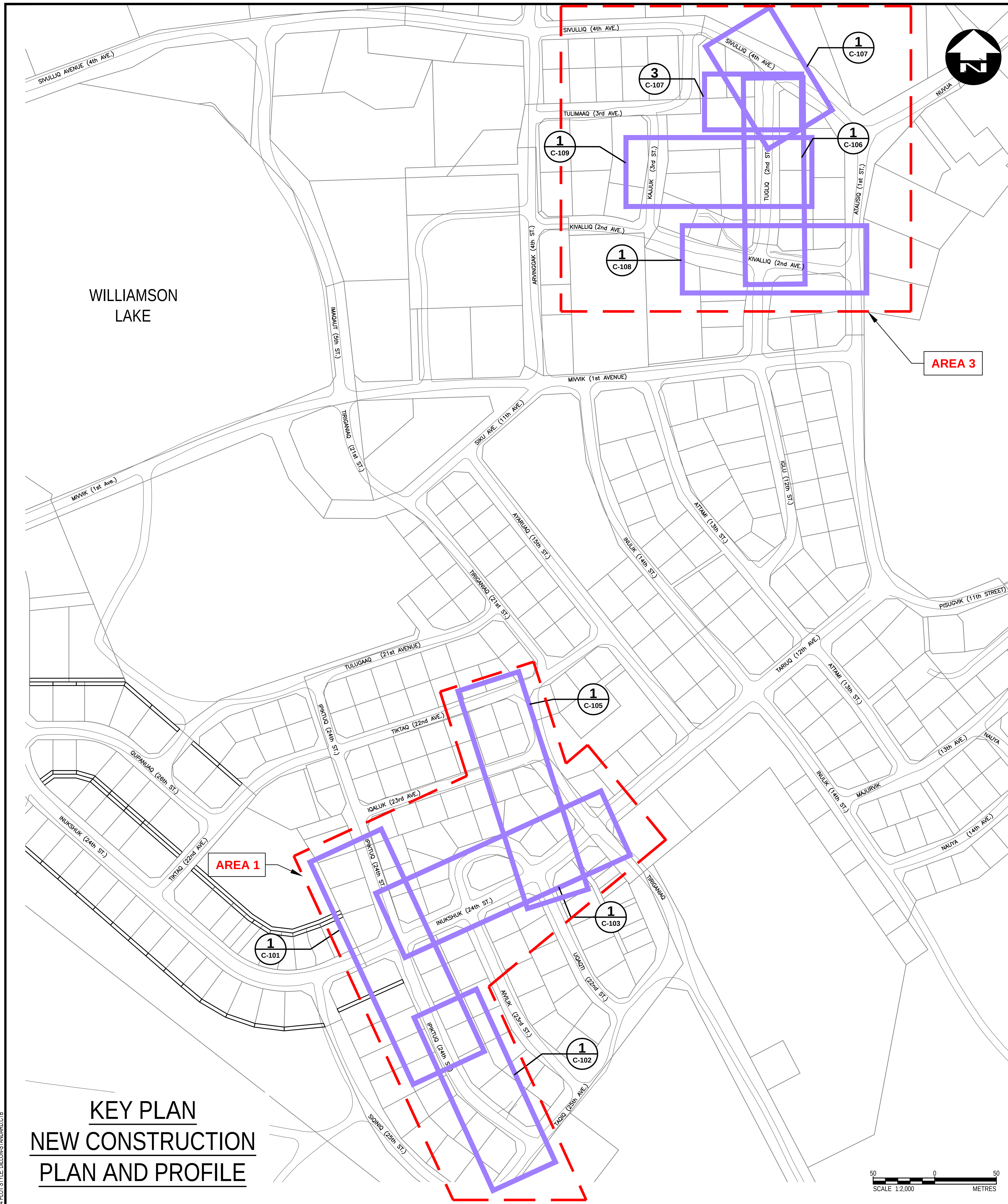
DRAWING INDEX	
SHEET NO.	DRAWING TITLE
GENERAL	
C-001	DRAWING KEY PLAN
C-002	LEGENDS AND GENERAL NOTES
C-003	EXISTING SITE PLAN AND CONDITIONS
C-004	REMOVALS SITE PLAN
C-005	REMOVED FROM CONTRACT (REV 9 - 06/10/24)
WATER SYSTEM SCHEMATICS	
C-006	IPIKTUQ STREET TO INUKSHUK AVENUE
C-007	TUGLIQ STREET
NEW CONSTRUCTION PLAN & PROFILE	
C-101	IPIQTUK STREET STA. 1+000 TO 1+190
C-102	IPIQTUK STREET STA. 1+140 TO 1+263
C-103	INUKSHUK AVENUE STA. 2+000 TO 2+190
C-105	TIRIGANIAQ ALLEY STA. 3+000 TO 3+106
C-106	TUGLIQ STREET STA. 5+000 TO 5+160
C-107	TUGLIQ STREET AND TULIMAAQ ALLEY
C-108	KIVALLIQ AVENUE STA. 5+500 TO 5+604
C-109	KAJJUK TO TUGLIQ STREET STA. 5+700 5+793
SANITARY SEWER - ACCESS VAULTS	
C-201	S24-01, S24-05 AND S24-07
C-202	S24-11, S24-13, S24-15 AND S24-17
C-203	S24-19, S24-29, AND S24-33
C-204	S24-35 AND S24-37
WATERMAIN AND SANITARY SEWER - ACCESS VAULTS	
C-205	AV24-03 AND AV24-31
WATER MAIN - ACCESS VAULTS	
C-206	W24-02 W24-04, W24-06 AND W24-08
C-207	W24-10, W24-12, W24-14 AND W24-16
C-208	W24-18, W24-32, AND W24-34
ALIGNMENT PLAN	
C-401	IPIKTUQ STREET SANITARY AND WATER
C-402	INUKSHUK - TARIUQ AVENUE SANITARY AND WATER
C-403	TIRIGANIAQ ALLEY SANITARY AND WATER

TYPICAL DETAILS	
C-501	WATER AND SANITARY VAULT PENETRATION DETAILS
C-502	ACCESS VAULT DETAILS (1 OF 4)
C-503	ACCESS VAULT DETAILS (2 OF 4)
C-504	ACCESS VAULT DETAILS (3 OF 4)
C-505	ACCESS VAULT DETAILS (4 OF 4)
C-506	WATER SERVICE DETAILS
C-507	SANITARY SERVICE DETAILS
C-508	TEMPORARY WATER SUPPLY PIPING DETAILS

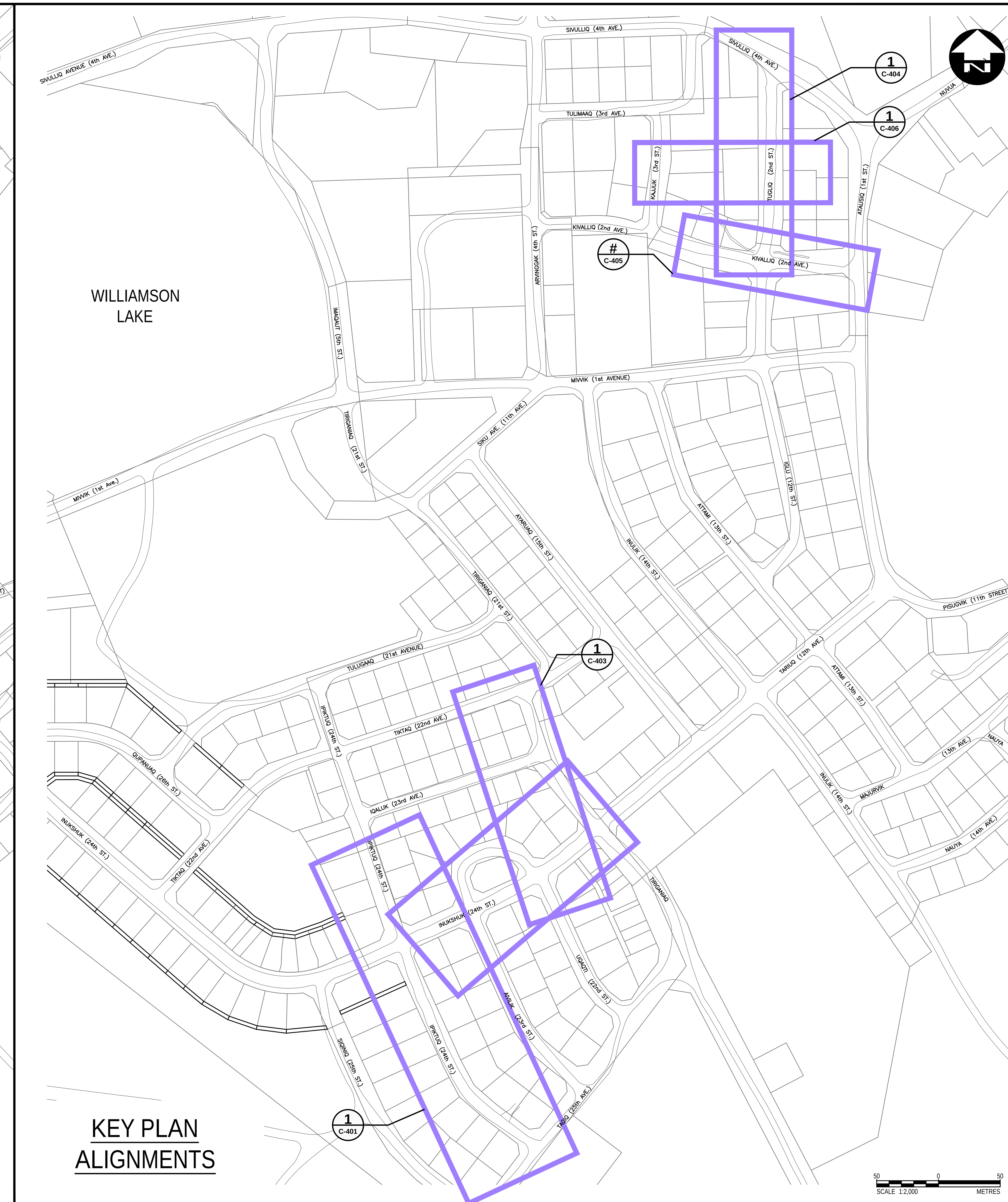
RE–ISSUED FOR CONSTRUCTION

DILLON CONSULTING

GOVERNMENT OF NUNAVUT
RANKIN INLET UTILIDOR REPLACEMENT
PHASE 2, PACKAGE B
MAY 2024
Dillon Project No. 22-5181



KEY PLAN NEW CONSTRUCTION PLAN AND PROFILE



KEY PLAN ALIGNMENTS

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1	ISSUED FOR 75% REVIEW	05/01/23	KJ

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Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

PROJECT NO. 22-5181

GENERAL
DRAWING KEY PLAN

SHEET NO. C-001

DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8209

GENERAL NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO PROCEEDING WITH THE WORK.
2. SURVEY
   - COMPLETED BY SUB-ARCTIC GEOMATICS
   - ELEVATIONS SHOWN ON DRAWINGS ARE BASED ON GEODETIC DATA. FOR THE PURPOSE OF THIS CONTRACT 0.00 GEODETIC IS ASSUMED EQUAL TO MEAN SEA LEVEL.

BENCH MARK: MON. CCM2
N 6964936.736, E 546463.640, EL. 27.008

3. ALL SURVEY MONUMENTS DISTURBED BY CONSTRUCTION SHALL BE REINSTATED.
4. CONTRACTOR SHALL PROVIDE ALL TEMPORARY SIGNAGE FOR PEDESTRIAN AND TRAFFIC REROUTING AS REQUIRED.
5. ACCESS TO EXISTING PROPERTIES AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES.
6. LOCATION OF EXISTING SERVICES, UNDERGROUND INFRASTRUCTURE, STRUCTURES, AND BUILDINGS ARE APPROXIMATE ONLY AND ARE TO BE CONFIRMED IN THE FIELD BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION. NOTIFY ENGINEER OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS.
7. CONTRACTOR TO CONTACT UTILITY COMPANIES REGARDING ANY UNDERGROUND AND OVERHEAD UTILITIES IN THE AREA OF WORKS. CONTRACTOR SHALL USE CAUTION TO LOCATE EXISTING UNDERGROUND POWER AND TELECOMMUNICATIONS LINES. LINES SHALL BE KEPT IN SERVICE WHERE TRENCHING CROSSES UNDERGROUND LINES. CONTRACTOR SHALL SUBMIT SUPPORT AND BRACING DETAILS TO ENGINEER FOR APPROVAL PRIOR TO UNDERMINING POWER AND TELECOMMUNICATION LINES.
8. ALL DEMOLISHED CONCRETE, PIPE, CONTAMINATED SOILS, AND OTHER UNSUITABLE MATERIALS MUST BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR AT A DISPOSAL SITE APPROVED BY THE GOVERNMENT OF NUNAVUT.
9. ROCK REMOVAL, IF REQUIRED, SHALL BE CARRIED OUT BY MECHANICAL MEANS ONLY. THE USE OF EXPLOSIVES IS NOT PERMITTED ON SITE.
10. ALL EXISTING AREAS AND INFRASTRUCTURE DISTURBED BY CONTRACTOR'S OPERATIONS WHICH ARE NOT DESIGNATED TO BE RELOCATED OR RECONSTRUCTED SHALL BE REINSTATED TO PRE-CONSTRUCTION CONDITION OR BETTER. THERE SHALL BE NO ADDITIONAL PAYMENT FOR REINSTATEMENT OF SUCH.
11. WATER MAIN SHALL BE INSTALLED WITH A CONSISTENT GRADE AND SHALL NOT HAVE A HIGH POINT OR LOW POINT UNLESS SHOWN.
12. THE CONTRACTOR SHALL SUBMIT A COMPREHENSIVE CONSTRUCTION AND COMMISSIONING PLAN. AT A MINIMUM, THE PLAN SHALL INCLUDE:
    - CONSTRUCTION PHASING PLANS
    - COMMISSIONING PHASING PLANS
    - TRAFFIC ACCOMMODATION PLAN
    - TEMPORARY SERVICING PLAN
    - DISINFECTION METHOD
    - SCHEMATIC APPROACH FOR FILLING AND FLUSHING
    - SUPPORTING CALCULATIONS
13. THE CONTRACTOR SHALL SEAL ALL ABANDONED EXISTING WATER AND SEWER PIPES WITH A WATER TIGHT PLUG. EXACT LOCATIONS TO BE SURVEYED AND PROVIDED TO OWNER PRIOR TO BACKFILLING.
14. THE CONTRACTOR SHALL DISPOSE OF ALL EXISTING EXCAVATED MATERIALS.
15. PUMPED BYPASS OF SANITARY FLOW REQUIRED AROUND AREA OF CONSTRUCTION.
16. CONTRACTOR SHALL PROVIDE TO ENGINEER AS-BUILT SURVEY INFORMATION AT TOP OF WATER MAIN AND SANITARY SEWER AND WATER AND SEWER SERVICES EVERY 10 METRES AND AT EVERY FITTING AND CONNECTION PRIOR FOR ACCEPTANCE PRIOR TO BACKFILLING THE TRENCH. IF THE ALIGNMENT IS FOUND TO BE UNACCEPTABLE AND THE TRENCH IS BACKFILLED, THE CONTRACTOR SHALL EXCAVATE THE TRENCH AND FIX THE WORK AT THEIR OWN EXPENSE.
17. THE CONTRACTOR TO PROVIDE TEMPORARY UTILITIES TO MAINTAIN FLOW TO HYDRANTS AND EXISTING DWELLINGS AFFECTED BY THE WORK. CONTRACTOR TO SUBMIT A PLAN TO ENGINEER FOR APPROVAL PRIOR TO PROCEEDING WITH THE WORK.
18. SERVICE SIZES, ELEVATIONS AND LOCATIONS APPROXIMATE BASED ON BACKGROUND DOCUMENTS, TO BE CONFIRMED ON-SITE. CONTRACTOR TO VERIFY EXISTING PIPE ELEVATIONS AT TIE-INS AND CROSSINGS PRIOR TO COMMENCING WORK. CONTRACTOR RESPONSIBLE FOR REPLACING SERVICE CONNECTION INTO BUILDING. CONTRACTOR RESPONSIBLE FOR CONNECTION UP TO EXISTING WATER METER. CONTRACTOR TO INSTALL REDUCED PRESSURE BACKFLOW PREVENTER INSIDE BUILDINGS. ALL SERVICES ARE HDPE DR 11 PIPE c/w 75mm POLYURETHANE INSULATION AND FRP JACKET. CONTRACTOR TO SLOPE WATER MAIN SUCH THAT THERE IS 300mm MIN. SPACING BETWEEN TOP OF SANITARY FRP JACKET AND BOTTOM OF WATER MAIN FRP JACKET TO FACILITATE SANITARY SERVICE CONNECTION. MIN. SANITARY SERVICE SLOPE IS 1.00%.
19. REINSTATE SOIL TO PROVIDE POSITIVE DRAINAGE AT 3H:1V SLOPE, 300mm-500mm BELOW RIM AT ACCESS VAULT EDGE. (TYP. FOR ALL ACCESS VAULTS).
20. REMOVE AND DISPOSE OF ALL PIPES AND VAULTS AS REQUIRED FOR NEW MAINS AND VAULTS.
21. CULVERTS SHALL INCLUDE RIP-RAP.
22. DO NOT EXCEED PIPE MANUFACTURER'S MIN. RADIUS FOR PIPE CURVATURE.

LEGEND:

	EXISTING	PROPOSED
PROPERTY LINE		
EDGE OF ROADWAY		
CULVERT		
ROAD SIGN		
FENCE		
BOLLARD		
DITCH		
DRIVEWAY		
MINOR COUNTOUR		
MAJOR CONTOUR		
EXISTING CONTOUR ELEVATION	10.0	
ELECTRICAL CABINET	E	
UTILITY POLE		
SANITARY SEWER AND VAULT (GRAVITY)	EX. 200Ømm SAN	200Ømm SAN
SANITARY SEWER (FORCEMAIN)		
WATERMAIN AND VAULT	EX 200Ømm WM	200Ømm WM
PARTITION WALL VAULT (SHARED WATER / SAN)		
END CAP / STUB FOR FUTURE		
TIE TO EXISTING MAIN		
OBJECT TO BE ABANDONED	xxxxxx	
PREVIOUSLY ABANDONED	xxxxxx	
CURB STOP		

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Nunavut

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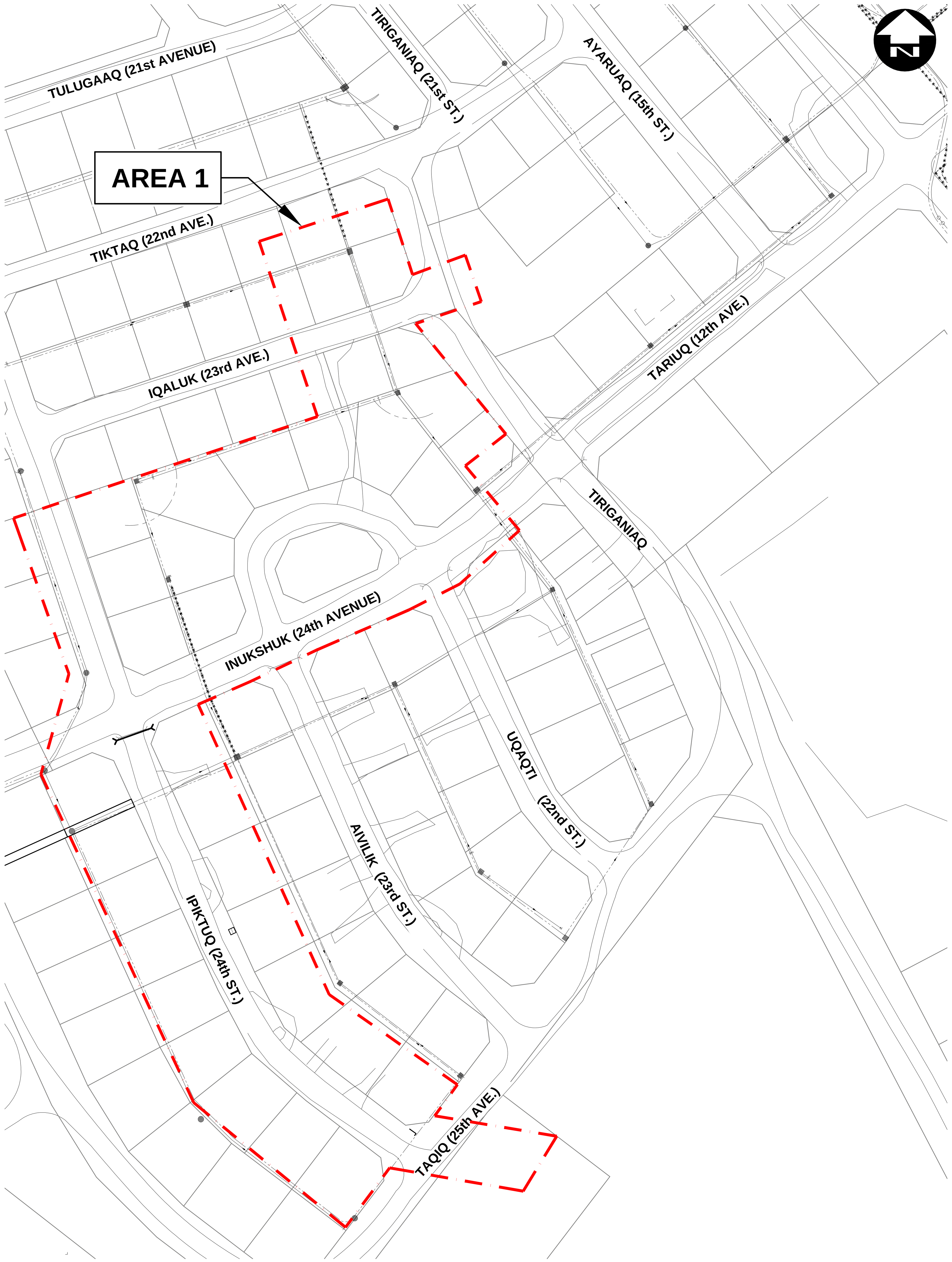
Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

GENERAL
LEGEND AND GENERAL NOTES

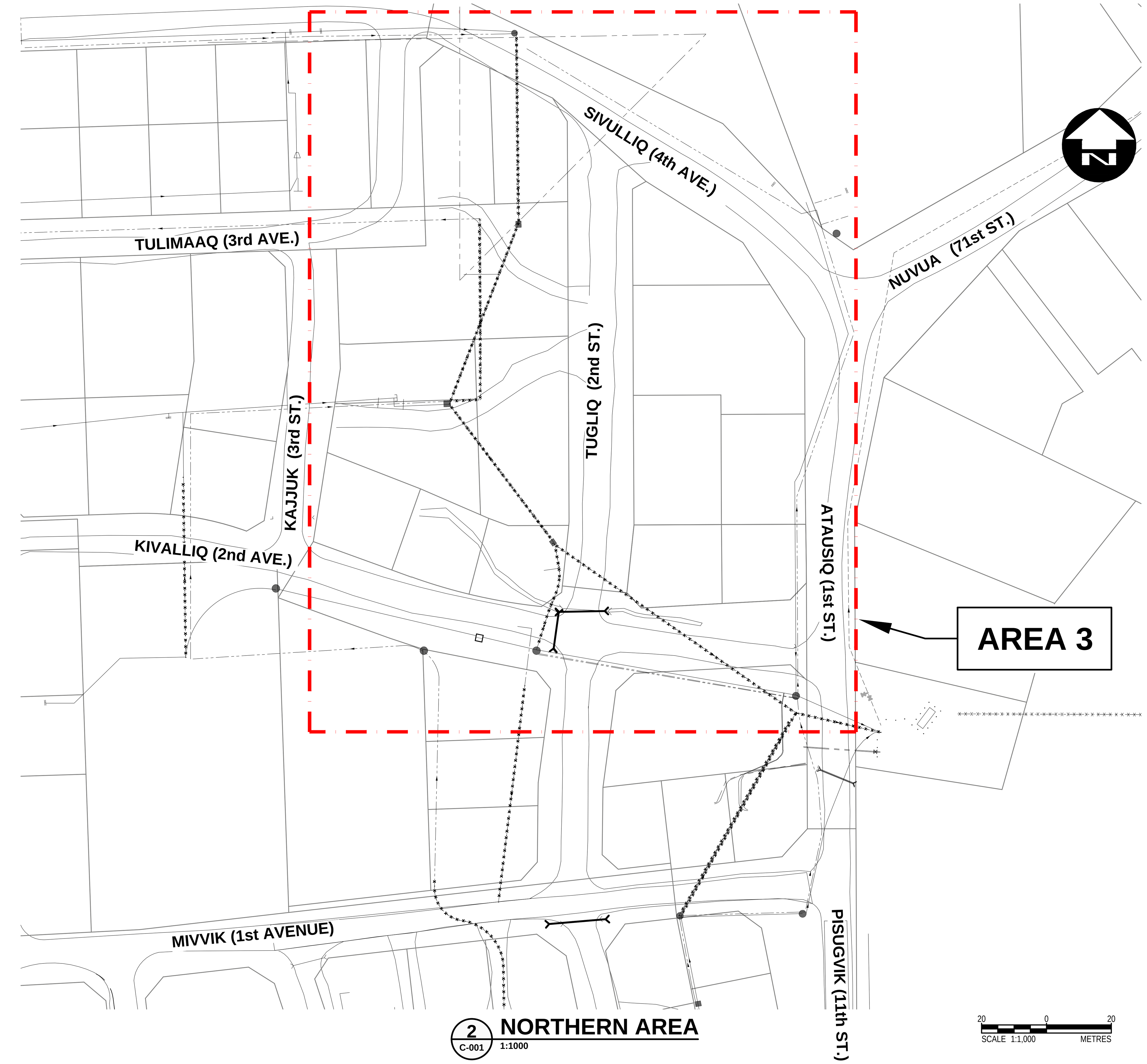
PROJECT NO. 22-5181

SHEET NO. C-002



1 C-001 **SOUTHERN AREA**
1:1000

SCALE 1:1,000 METRES



2 C-001 **NORTHERN AREA**
1:1000

SCALE 1:1,000 METRES

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Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

PROJECT NO. 22-5181

UTILIDOR REPLACEMENT
GENERAL
EXISTING SITE PLAN AND CONDITIONS

SHEET NO. C-003

1 C-001 **SOUTHERN AREA** 1:1000

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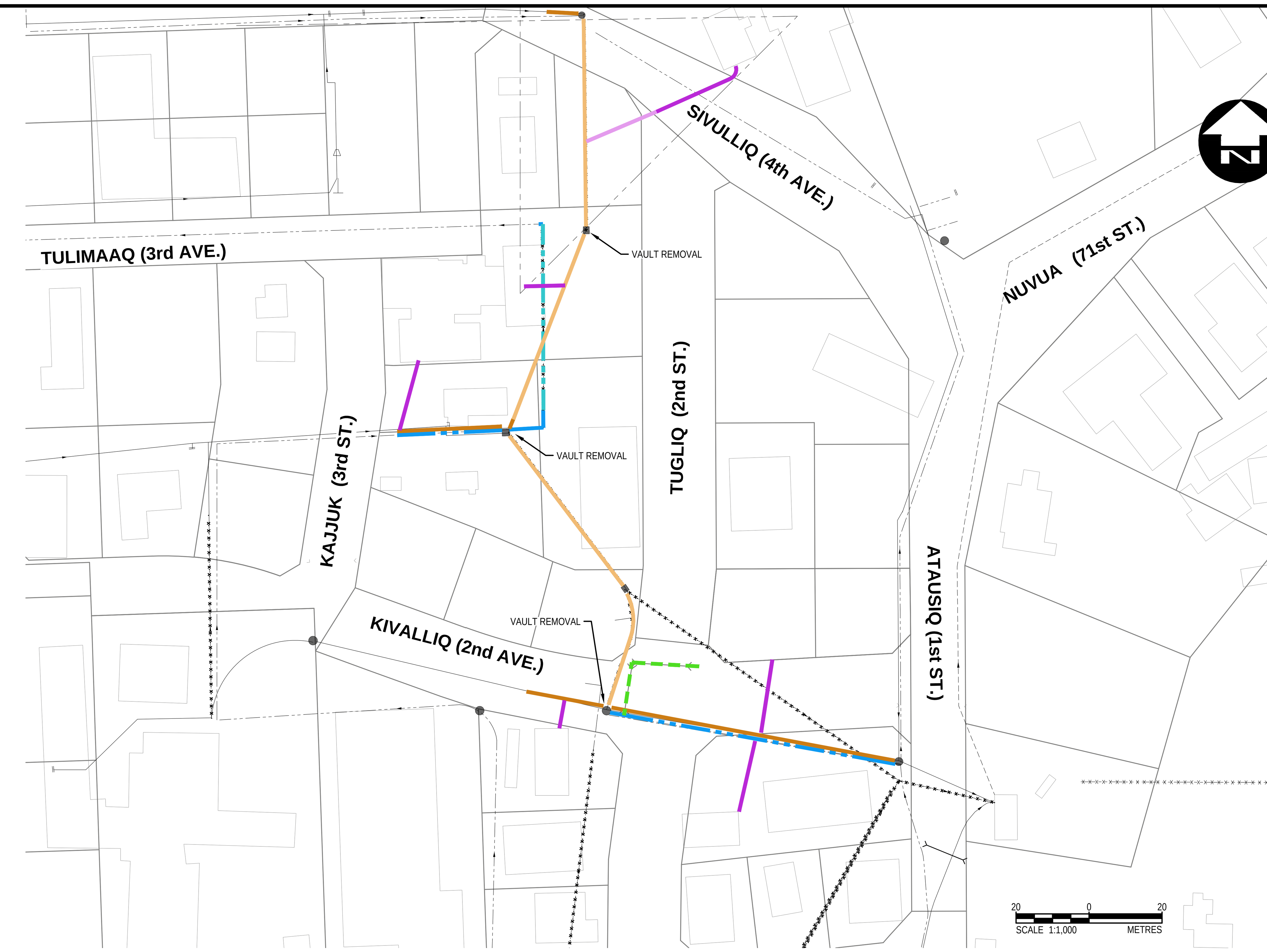

LEGEND

- WATER MAIN TO BE ABANDONED
- WATER MAIN TO BE REMOVED AND/OR REPLACED
- SEWER MAIN TO BE ABANDONED
- SEWER MAIN TO BE REMOVED AND/OR REPLACED
- LATERAL SERVICE TO BE ABANDONED (5)
- LATERAL SERVICE TO BE REMOVED AND/OR REPLACED
- CULVERT TO BE REMOVED AND/OR REPLACED
- PREVIOUSLY ABANDONED

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Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT
GENERAL
REMOVALS SITE PLAN

PROJECT NO. 22-5181

SHEET NO. C-004

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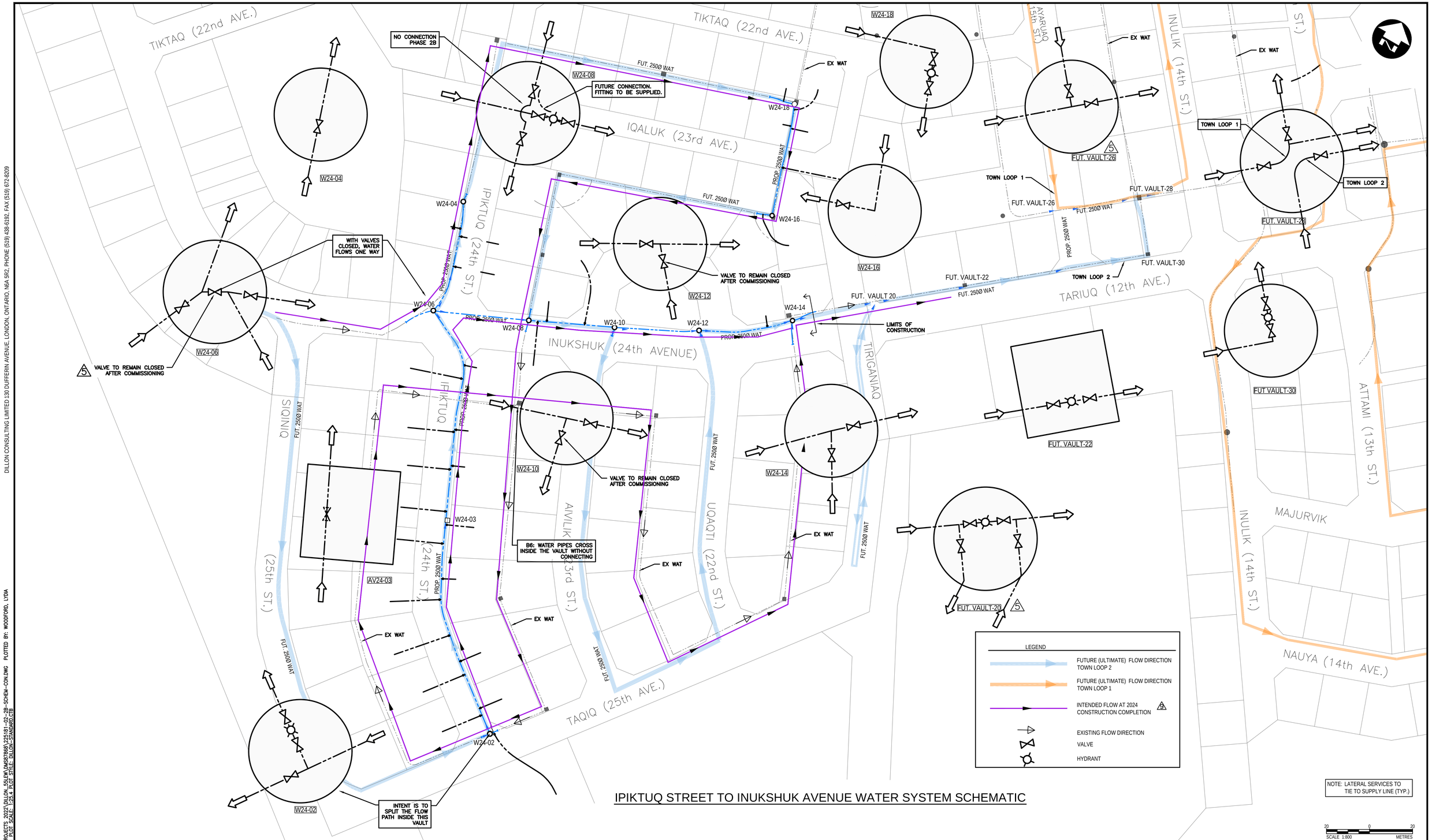

IPIKTUQ STREET TO INUKSHUK AVENUE WATER SYSTEM SCHEMATIC

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Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

PROJECT NO. 22-5181

UTILIDOR REPLACEMENT
WATER SYSTEM SCHEMATICS
IPIKTUQ STREET TO INUKSHUK AVENUE

SHEET NO. C-006

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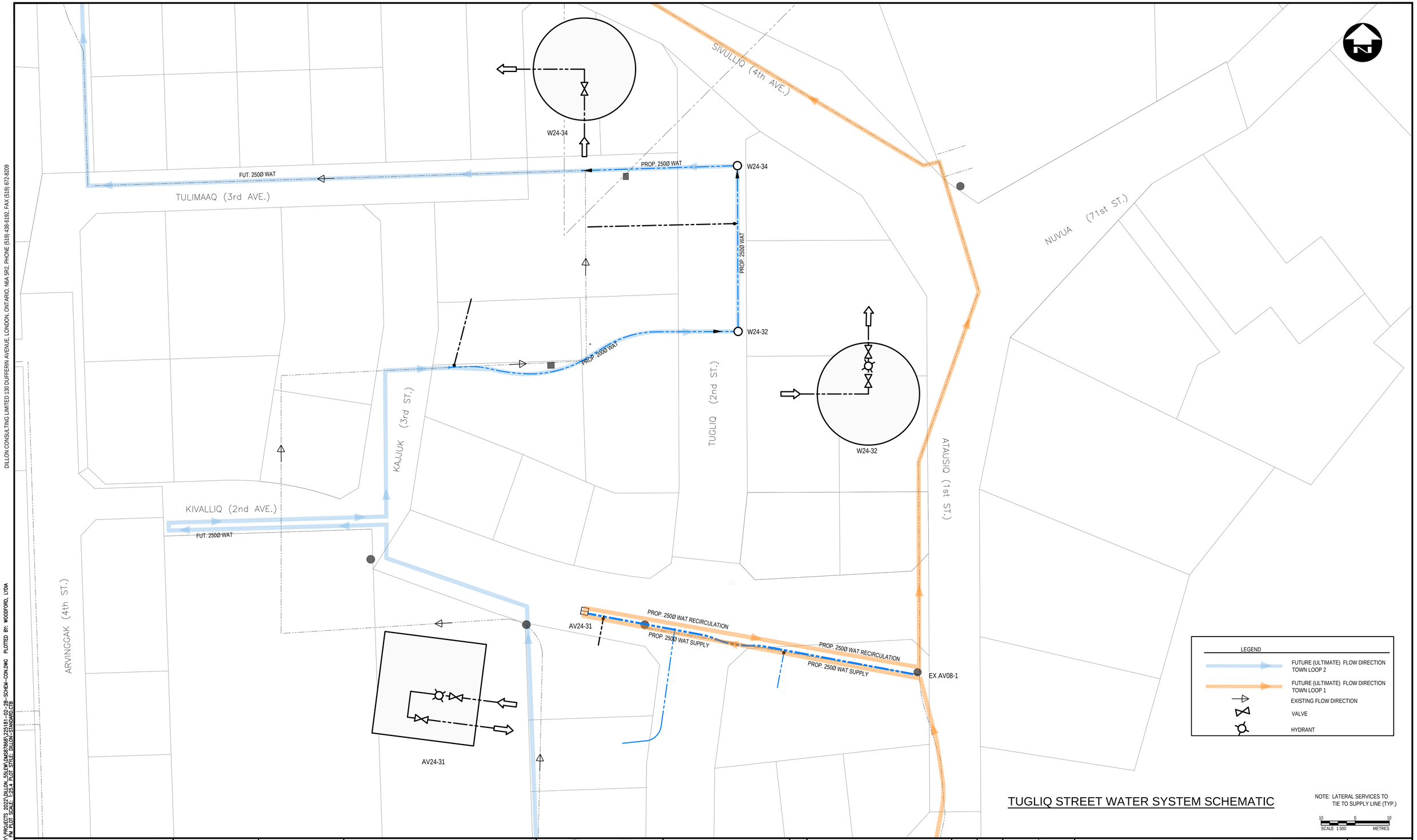

TUGLIQ STREET WATER SYSTEM SCHEMATIC

NOTE: LATERAL SERVICES TO TIE TO SUPPLY LINE (TYP.)

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Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT
WATER SYSTEM SCHEMATICS
TUGLIQ STREET

PROJECT NO. 22-5181

SHEET NO. C-007

1 C-001 IPIQIK STREET STA. 1+000 TO 1+180 - PLAN
1:250

	1+000		1+020	1+040	1+060		1+080	1+100			1+120	1+140	1+160	1+180	1+190
WATER MAIN INVERTS		VAULT INV. 23.72	23.38	23.07	22.75	VAULT INV. 22.21	22.37	21.77	21.17	21.22	21.24	21.63	22.22	22.83	23.22
SANITARY SEWER INVERTS		VAULT INV. 23.37 S 23.42 NW	23.05	22.49	21.92	VAULT INV. 21.20 S 21.15 NE 21.20 SE 21.20 N 21.20 SW	21.49	21.61			21.73	21.85	21.96	22.13	22.57

2 C-101 IPIQIK STREET STA. 1+000 TO 1+180 - PROFILE
1:250H 1:50H

SCALE 1:250 METRES — SCALE 1:50 METRES

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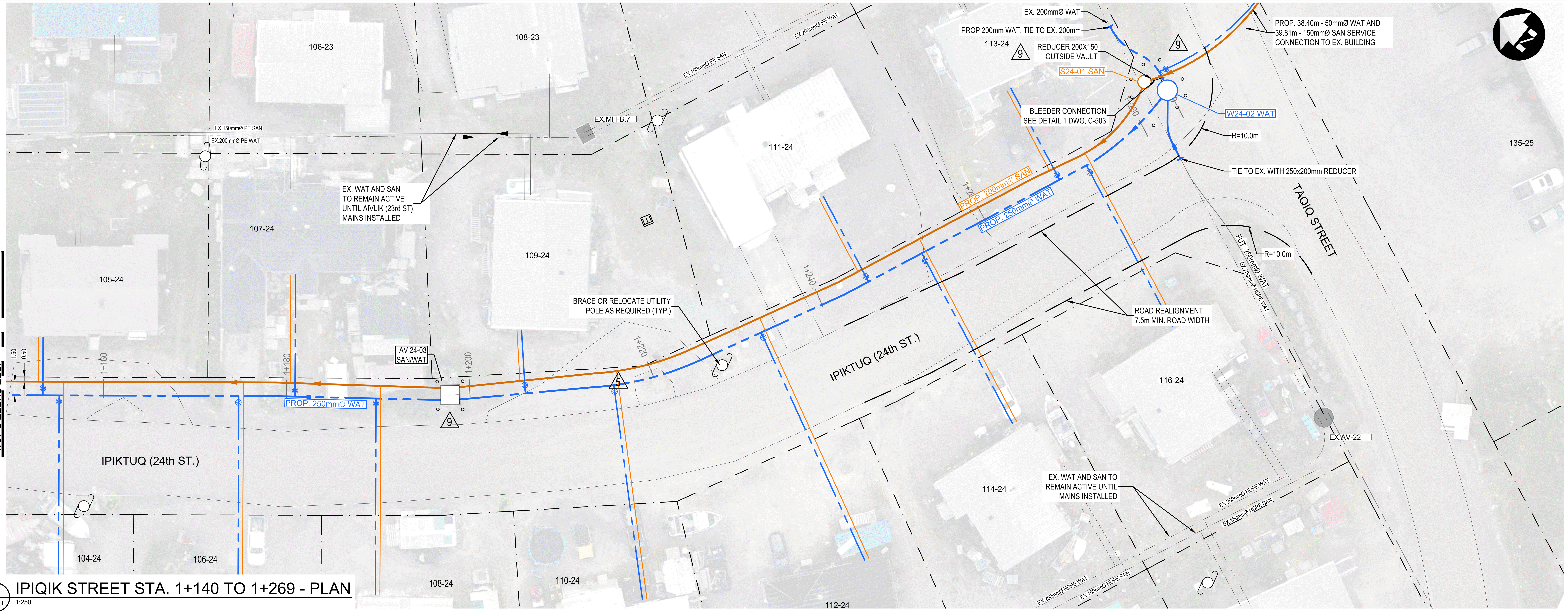
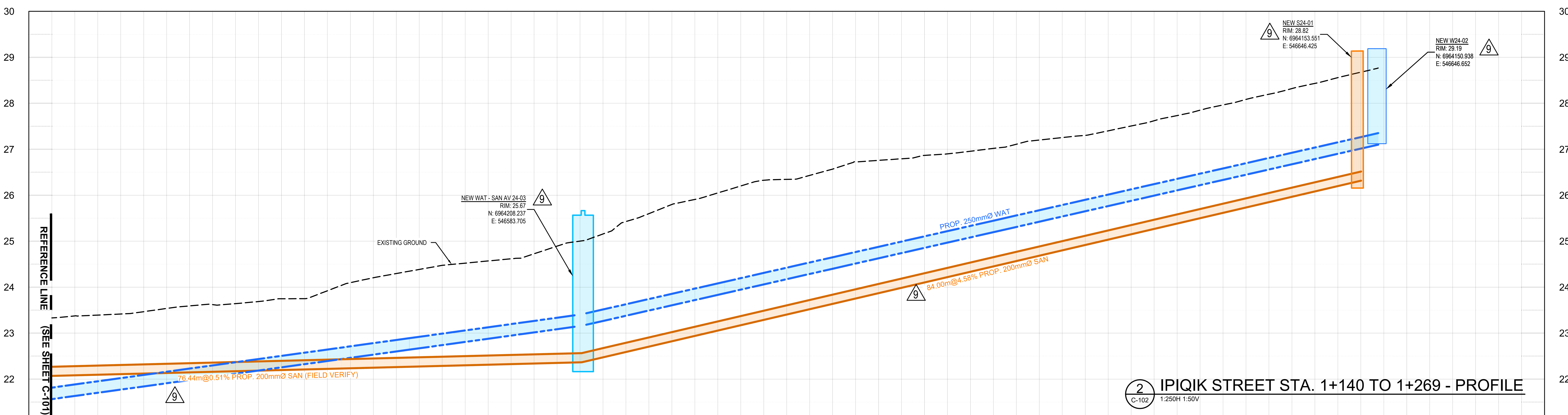
Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT NEW CONSTRUCTION PLAN & PROFILE IPIQTUK STREET STA. 1+000 TO 1+190

PROJECT NO. 22-5181
SHEET NO. C-101



1 C-001 IPIQIK STREET STA. 1+140 TO 1+269 - PLAN
1:250



2 C-102 IPIQIK STREET STA. 1+140 TO 1+269 - PROFILE
1:250H 1:50V

	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300
WATER MAIN INVERTS		22.30	22.82	23.14	24.45	25.29	26.15	VAULT INV. 27.10	
SANITARY SEWER INVERTS			22.13	VAULT INV. 22.42 SE 22.37 NW	23.82	24.65	25.48	VAULT INV. 26.37 S 26.32 N; 27.42 BLEEDER INVERT	

Conditions of Use

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8	RE-ISSUED FOR CONSTRUCTION	05/27/24	KJ
7	RE-ISSUED FOR CONSTRUCTION	03/04/24	KJ
6	ISSUED FOR CONSTRUCTION	12/06/23	KJ
5	REVISED - ISSUED FOR TENDER ADDENDUM	08/04/23	KJ
4	ISSUED FOR TENDER	07/07/23	KJ
3	ISSUED FOR INTERNAL REVIEW	06/23/23	KJ
2	RE-ISSUED FOR 75% REVIEW	05/31/23	KJ
1	ISSUED FOR 75% REVIEW	05/01/23	KJ

DESIGN: KJ | REVIEWED BY: KJ
DRAWN: TW/SC | CHECKED BY: KJ
DATE: MAY 2024
SCALE: 1:250 1:50

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT NEW CONSTRUCTION PLAN & PROFILE IPIQTUK STREET STA. 1+140 TO 1+263

PROJECT NO. 22-5181

SHEET NO. C-102

1 C-001 INUKSHUK AVENUE STA. 2+000 TO 2+190 - PLAN
1:250

2 C-103 INUKSHUK AVENUE STA. 2+000 TO 2+190 - PROFILE
1:250H 1:50V

SCALE 1:250 METRES
SCALE 1:50 METRES

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2	RE-ISSUED FOR 75% REVIEW	05/31/23	KJ
1	ISSUED FOR 75% REVIEW	05/01/23	KJ

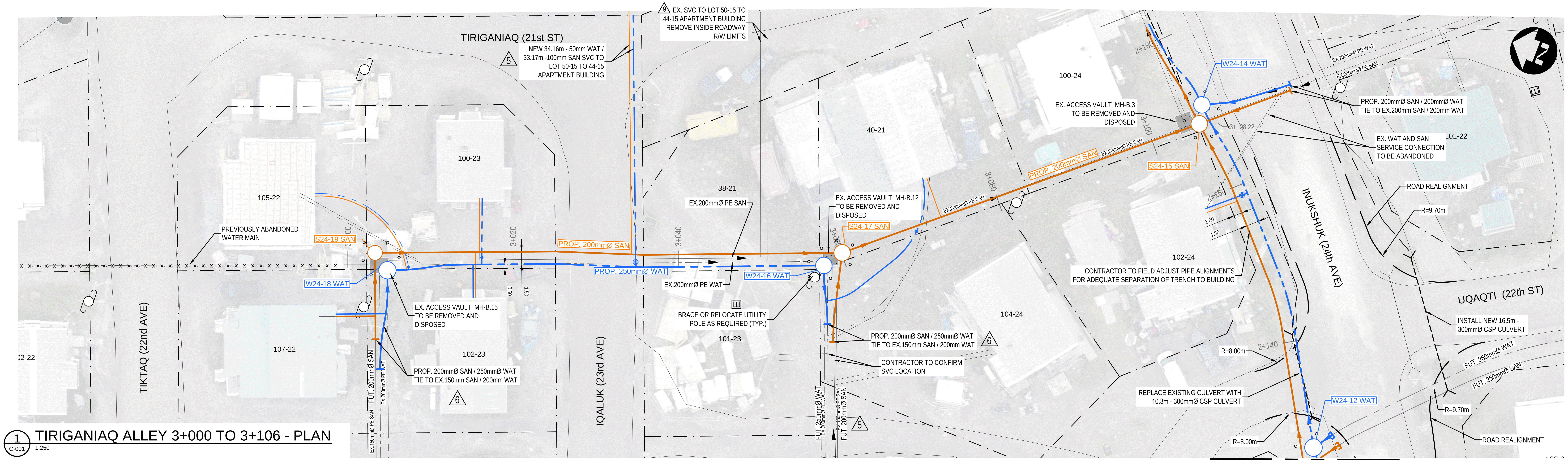
DESIGN: KJ
REVIEWED BY: KJ
DRAWN: TW/SC
CHECKED BY: KJ
DATE: MAY 2024
SCALE: 1:250 1:50

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT
NEW CONSTRUCTION PLAN & PROFILE
INUKSHUK AVENUE STA. 2+000 TO 2+190

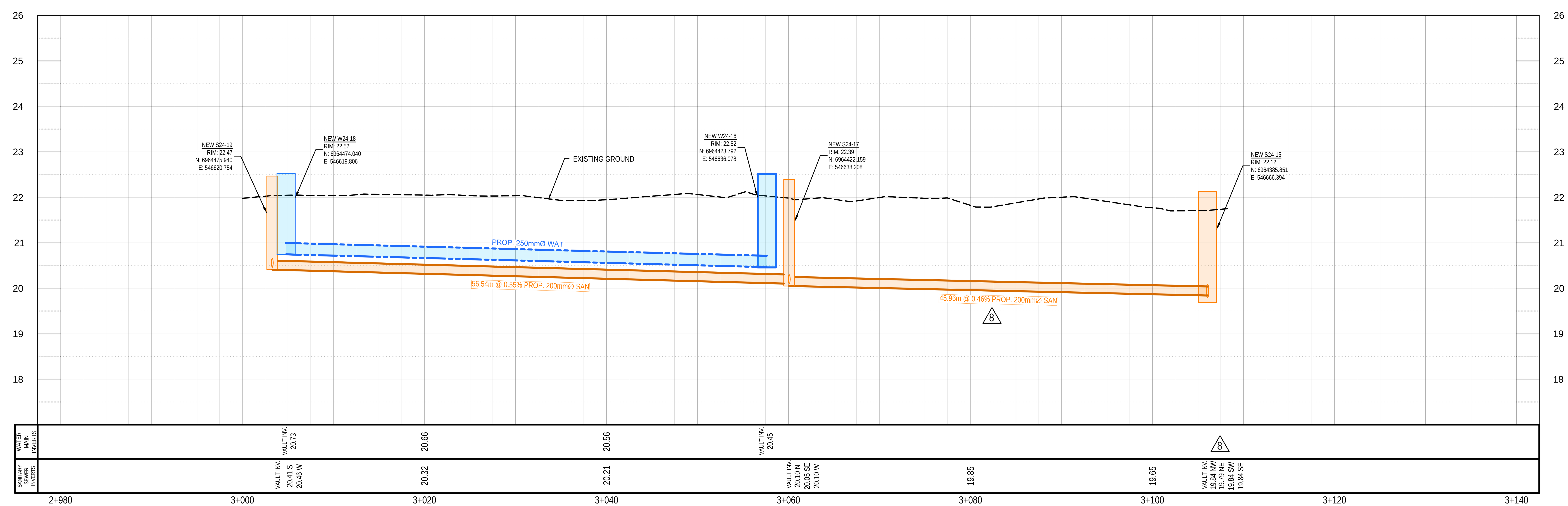
PROJECT NO. 22-5181

SHEET NO. C-103



1 / C-001 — TIRIGANIAQ ALLEY 3+000 TO 3+106 - PLAN

1:250



2 / C-105 — TIRIGANIAQ ALLEY 3+000 TO 3+106 - PROFILE

1:250H 1:50V

SCALE 1:250 METRES — SCALE 1:50 METRES

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8	RE-ISSUED FOR CONSTRUCTION	05/27/24	KJ
7	RE-ISSUED FOR CONSTRUCTION	03/04/24	KJ
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3	ISSUED FOR INTERNAL REVIEW	06/23/23	KJ
2	RE-ISSUED FOR 75% REVIEW	05/31/23	KJ
1	ISSUED FOR 75% REVIEW	05/01/23	KJ

DESIGN: KJ — REVIEWED BY: KJ
DRAWN: TW/SC — CHECKED BY: KJ
DATE: JUNE 2024
SCALE: 1:250 1:50

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

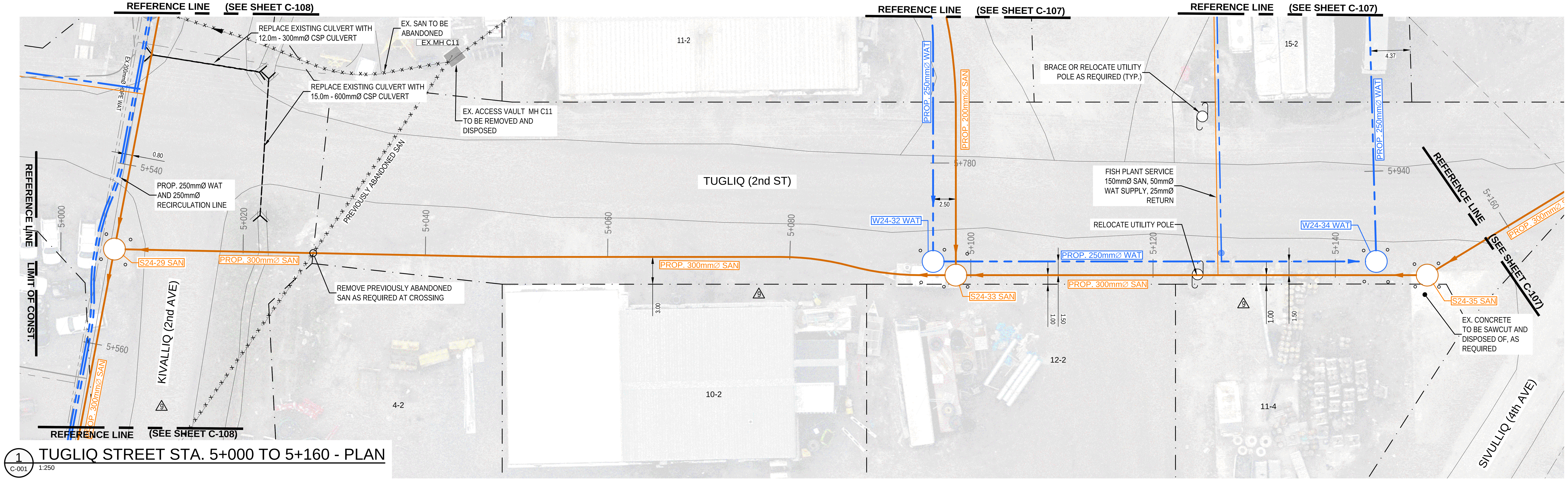
UTILIDOR REPLACEMENT
NEW CONSTRUCTION PLAN & PROFILE
TIRIGANIAQ ALLEY STA. 3+000 TO 3+106

PROJECT NO. 22-5181

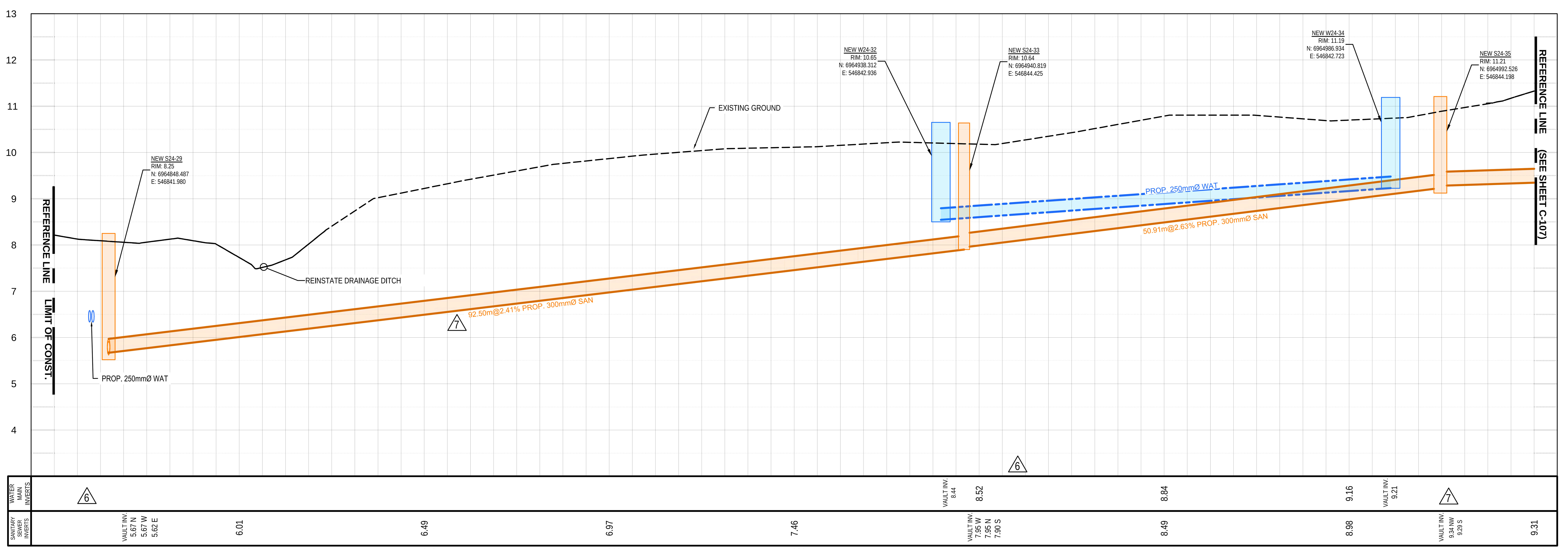
SHEET NO. C-105

DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8209

NOTE:
1. CONNECT TEMPORARY OVERLAND SERVICES DIRECTLY TO EXISTING BURIED SERVICES WITHIN INDUSTRIAL AREA.
2. ALL EXISTING DITCHES TO BE DISTURBED DURING CONSTRUCTION TO BE REINSTATED TO ORIGINAL CONDITIONS AFTER CONSTRUCTION UNLESS SPECIFIED IN DESIGN DRAWINGS



1 C-001 TUGLIQ STREET STA. 5+000 TO 5+160 - PLAN
1:250



2 C-106 TUGLIQ STREET STA. 5+140 TO 5+300 - PROFILE
1:250H 1:50V

SCALE 1:250 METRES
SCALE 1:50 METRES

Conditions of Use

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7	RE-ISSUED FOR CONSTRUCTION	03/04/24	KJ
6	ISSUED FOR CONSTRUCTION	12/06/23	KJ
5	REVISED ISSUED FOR TENDER ADDENDUM	08/04/23	KJ
4	ISSUED FOR TENDER	07/07/23	KJ
3	ISSUED FOR INTERNAL REVIEW	06/23/23	KJ
2	RE-ISSUED FOR 75% REVIEW	05/31/23	KJ
1	ISSUED FOR 75% REVIEW	05/01/23	KJ

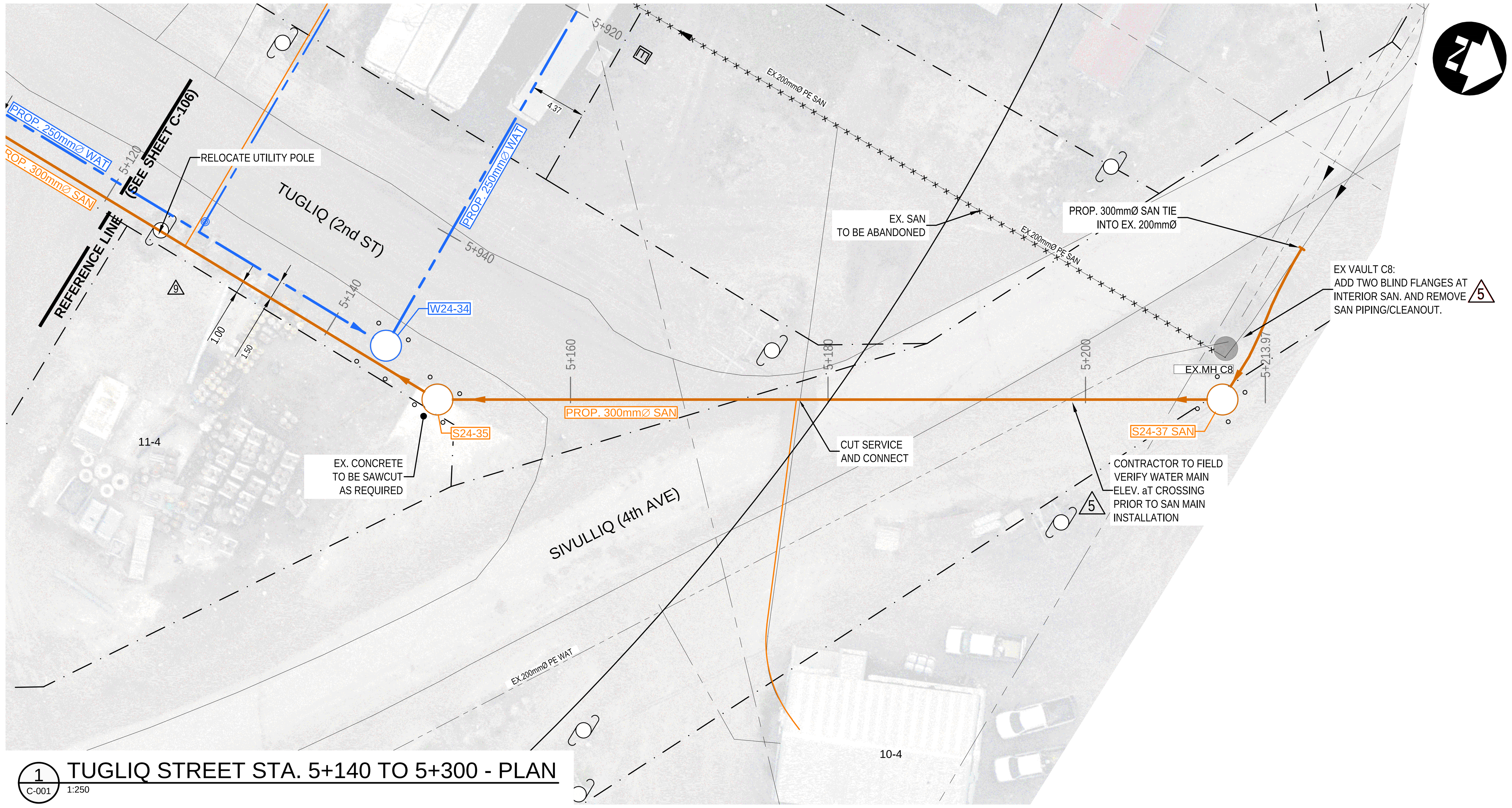
DESIGN: KJ
REVIEWED BY: KJ
DRAWN: TW/SC
CHECKED BY: KJ
DATE: JUNE 2024
SCALE: 1:250 1:50

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT
NEW CONSTRUCTION PLAN & PROFILE
TUGLIQ STREET STA. 5+000 TO 5+160

PROJECT NO. 22-5181
SHEET NO. C-106

DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8209



1 C-001 TUGLIQ STREET STA. 5+140 TO 5+300 - PLAN
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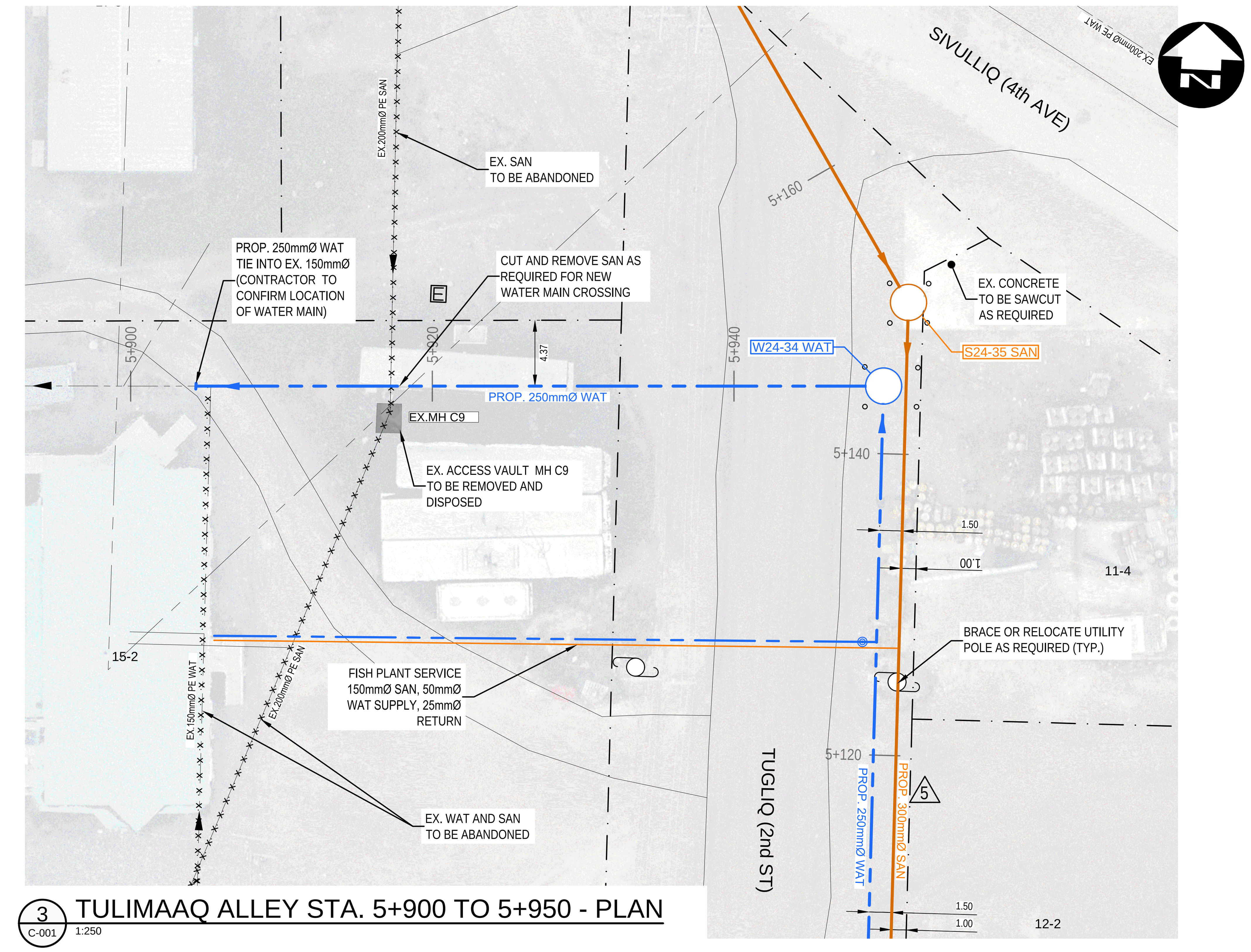
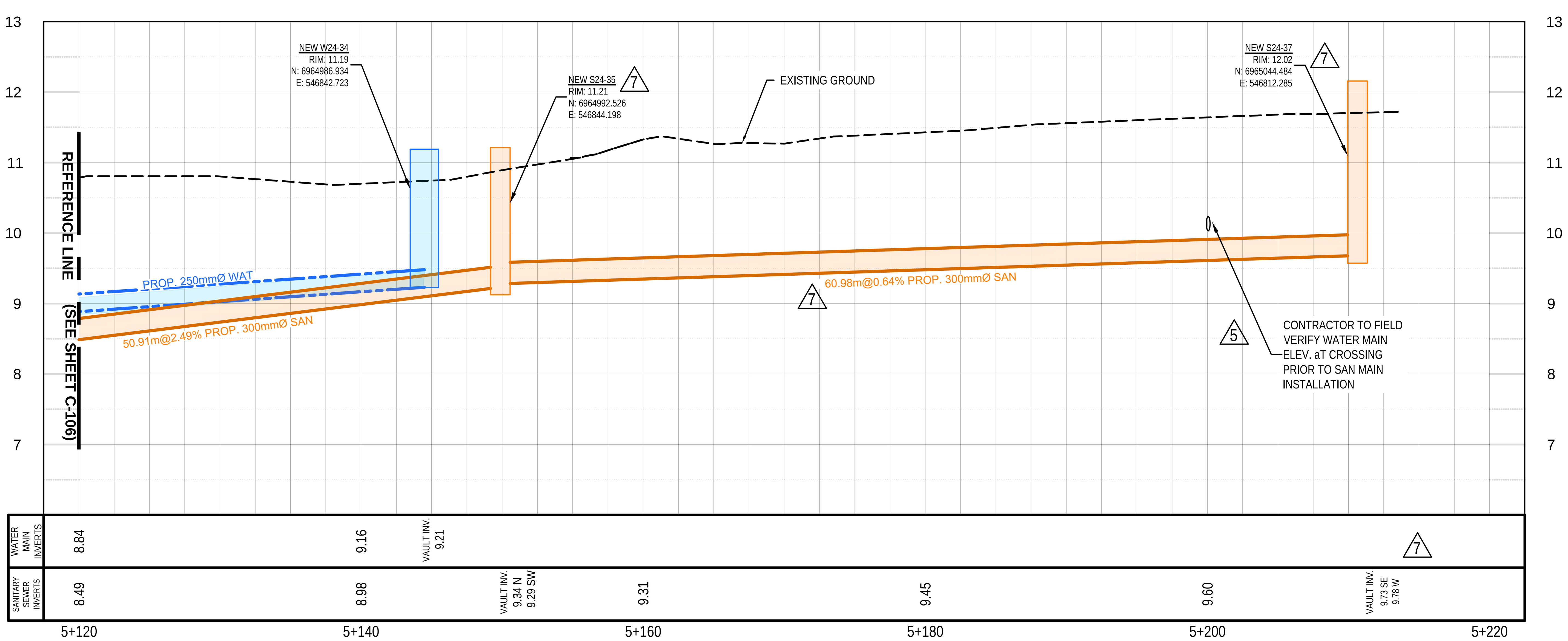
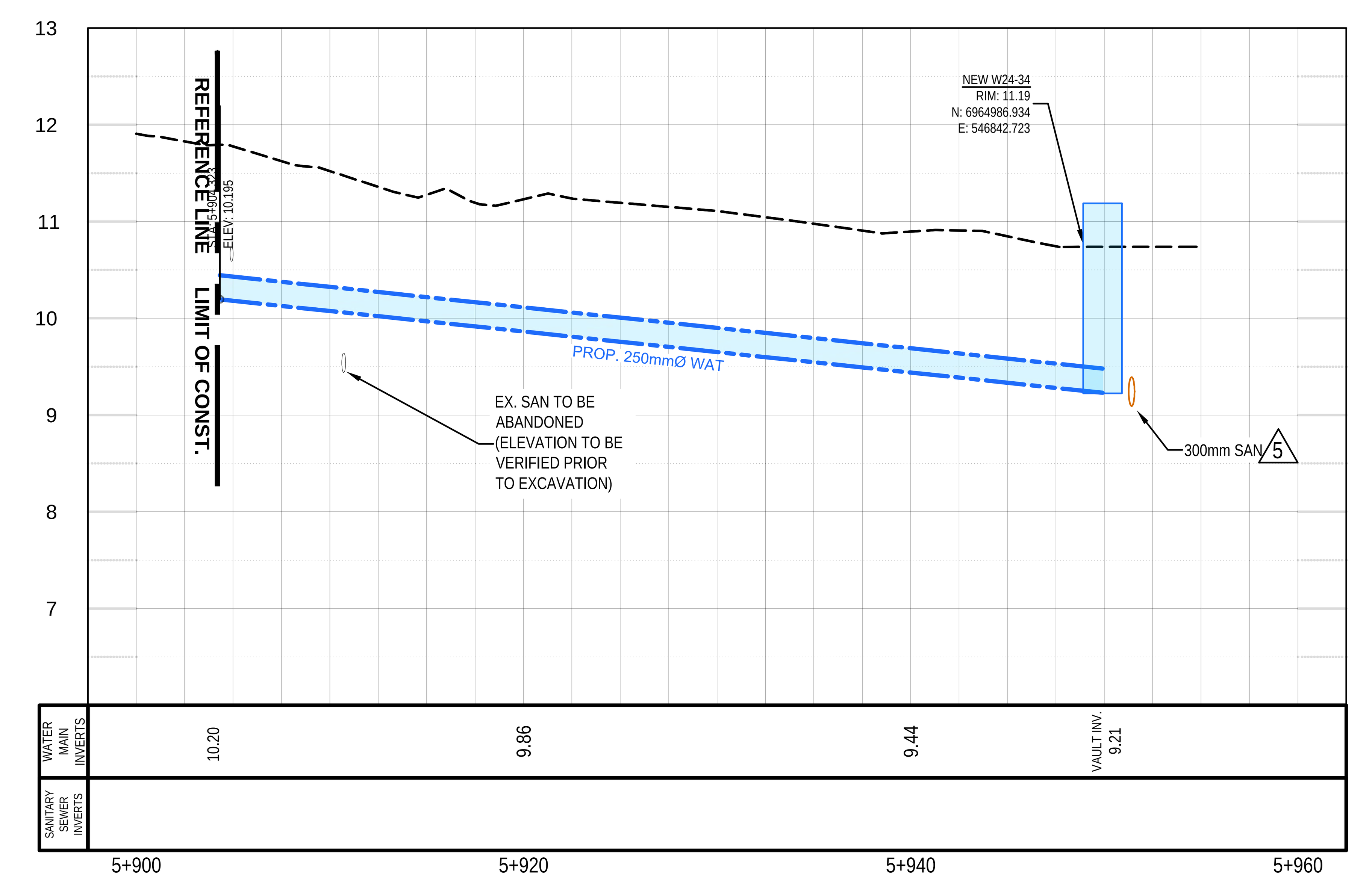


3 C-001 TULIMAAQ ALLEY STA. 5+900 TO 5+950 - PLAN
1:250



2 C-107 TUGLIQ STREET STA. 5+140 TO 5+300 - PROFILE
1:250H 1:50V



4 C-107 TULIMAAQ ALLEY STA. 5+900 TO 5+950 - PROFILE
1:250H 1:50V

SCALE 1:250 METRES — SCALE 1:50 METRES

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4	ISSUED FOR TENDER	07/07/23	KJ
3	ISSUED FOR INTERNAL REVIEW	06/23/23	KJ
2	RE-ISSUED FOR 75% REVIEW	05/31/23	KJ
1	ISSUED FOR 75% REVIEW	05/01/23	KJ

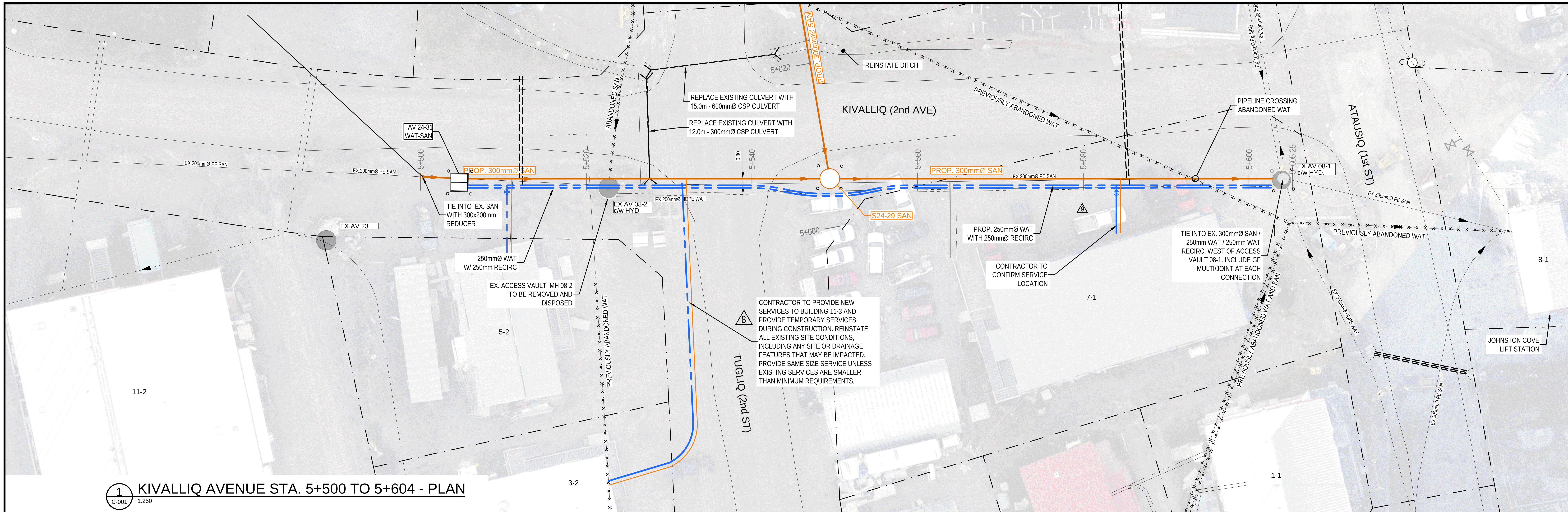
DESIGN: KJ — REVIEWED BY: KJ
DRAWN: TW/SC — CHECKED BY: KJ
DATE: JUNE 2024
SCALE: 1:250 1:50

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

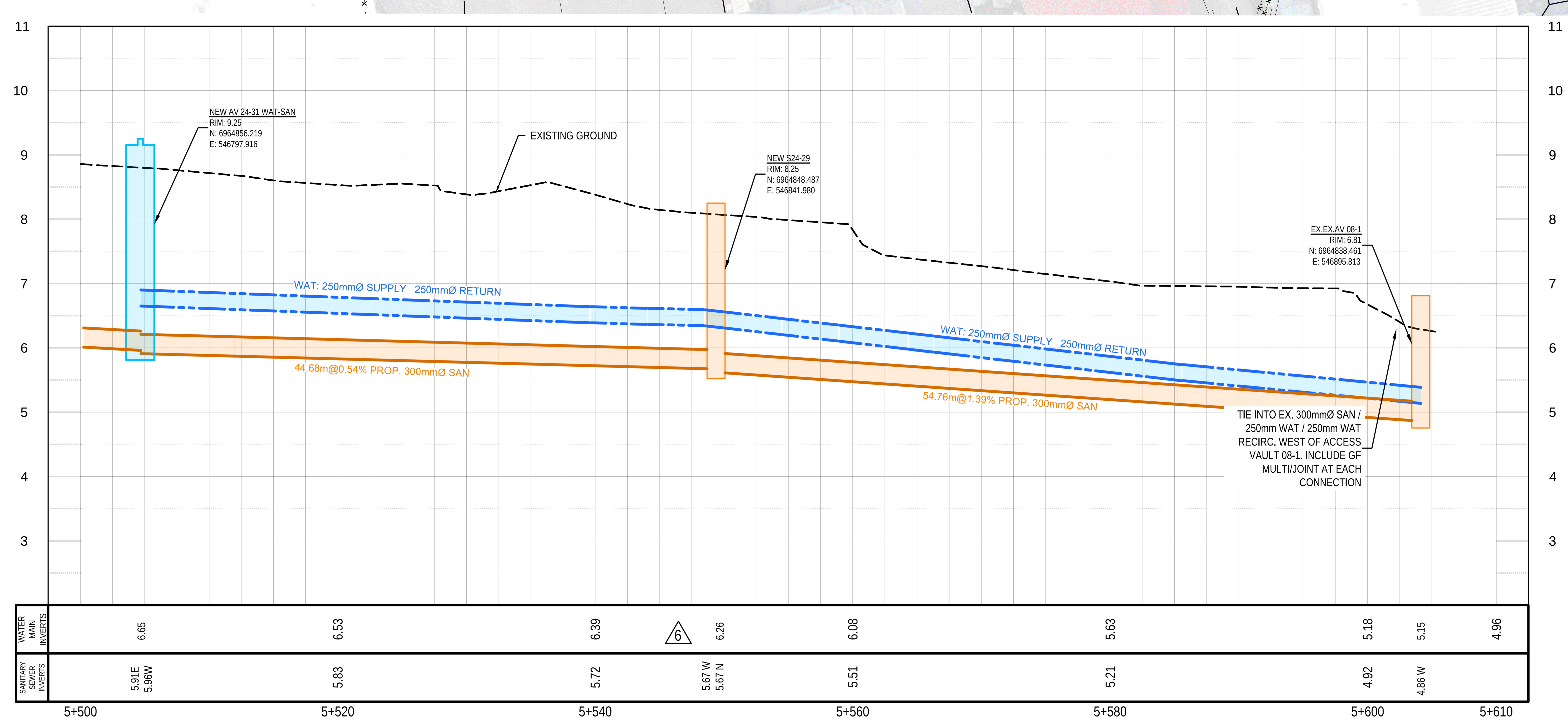
UTILIDOR REPLACEMENT
NEW CONSTRUCTION PLAN & PROFILE
TUGLIQ STREET AND TULIMAAQ ALLEY

PROJECT NO. 22-5181

SHEET NO. C-107



1 C-001 KIVALLIQ AVENUE STA. 5+500 TO 5+604 - PLAN
1:250



2 C-108 KIVALLIQ AVENUE STA. 5+500 TO 5+604 - PROFILE
1:250H 1:50V

SCALE 1:250 METRES — SCALE 1:50 METRES

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8	RE-ISSUED FOR CONSTRUCTION	05/27/24	KJ
7	RE-ISSUED FOR CONSTRUCTION	03/04/24	KJ
6	ISSUED FOR CONSTRUCTION	12/06/23	KJ
5	REVISED - ISSUED FOR TENDER ADDENDUM	08/04/23	KJ
4	ISSUED FOR TENDER	07/07/23	KJ
3	ISSUED FOR INTERNAL REVIEW	06/23/23	KJ
2	RE-ISSUED FOR 75% REVIEW	05/31/23	KJ
1	ISSUED FOR 75% REVIEW	05/01/23	KJ

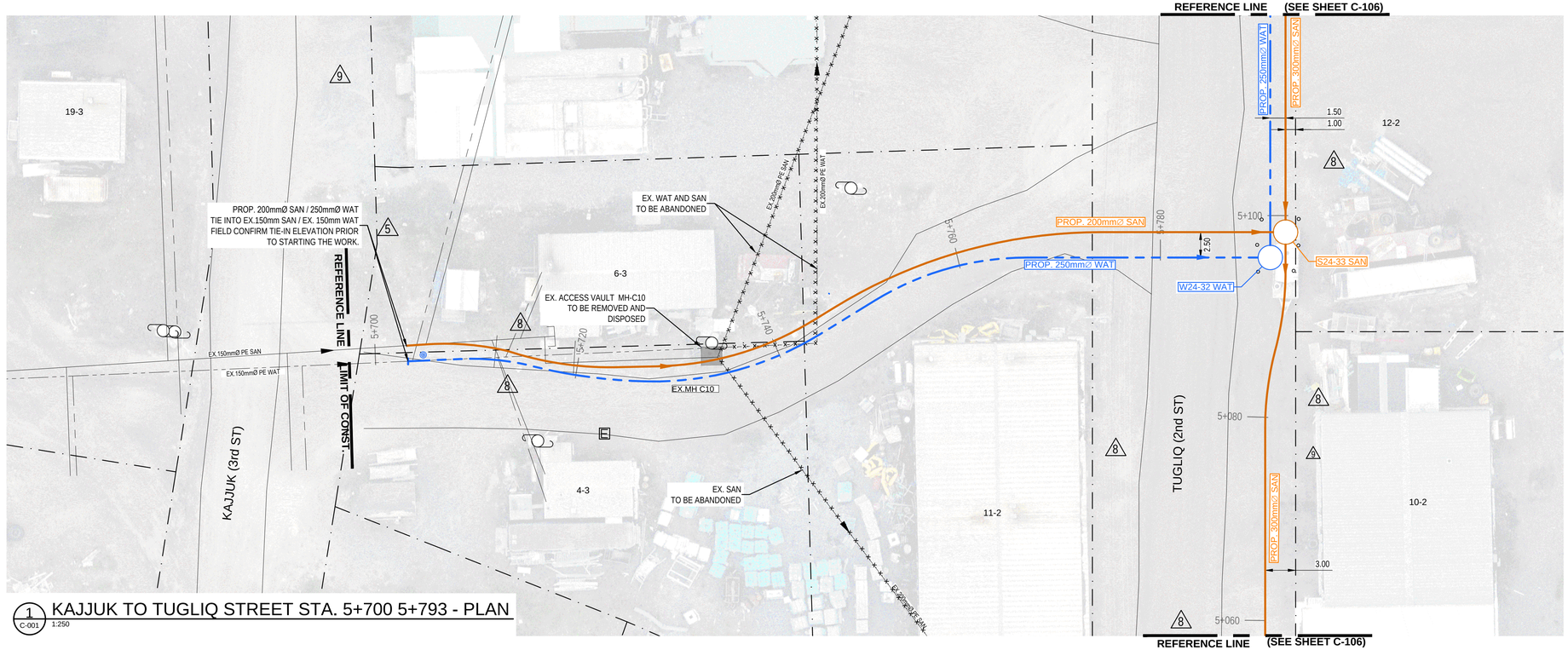
DESIGN: KJ	REVIEWED BY: KJ
DRAWN: TW/SC	CHECKED BY: KJ
DATE: JUNE 2024	
SCALE: 1:250 1:50	

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

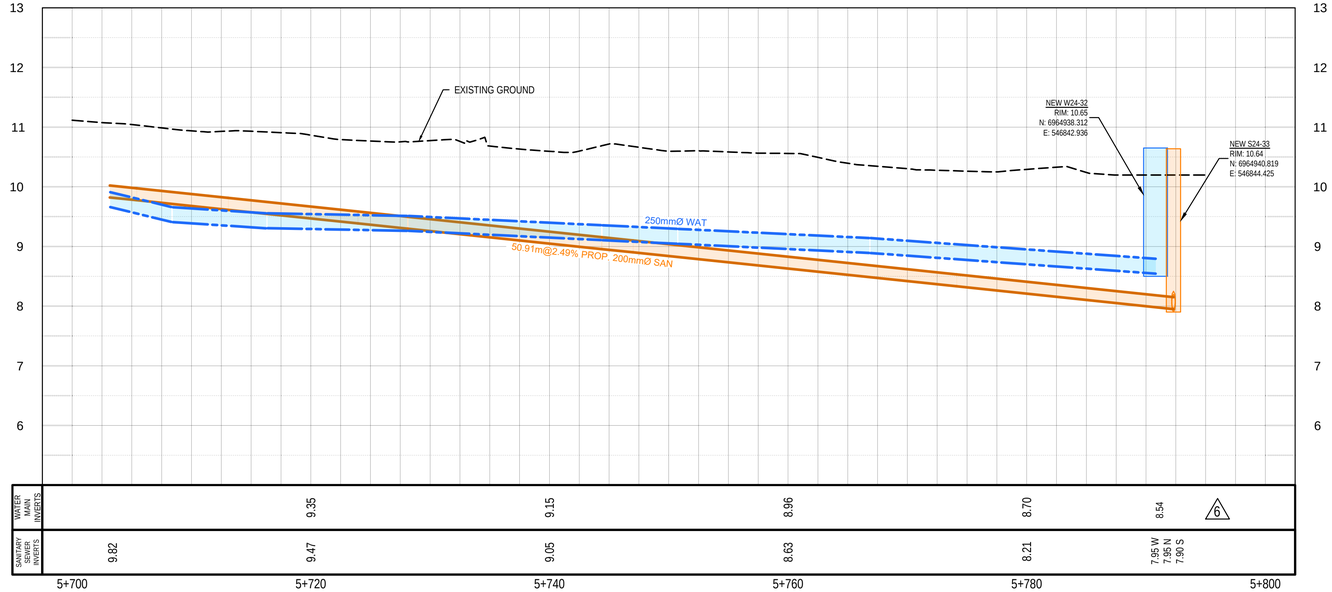
UTILIDOR REPLACEMENT
NEW CONSTRUCTION PLAN & PROFILE
KIVALLIQ AVENUE STA. 5+500 TO 5+604

PROJECT NO. 22-5181

SHEET NO. C-108



1 C-001 KAJJUK TO TUGLIQ STREET STA. 5+700 5+793 - PLAN
1:250



2 C-109 KAJJUK TO TUGLIQ STREET STA. 5+700 5+793 - PROFILE
1:250H 1:50V

SCALE 1:250 METRES SCALE 1:50 METRES

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4	RE-ISSUED FOR CONSTRUCTION	03/04/24	KJ
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	ISSUED FOR INTERNAL REVIEW	06/23/23	KJ
	RE-ISSUED FOR 75% REVIEW	05/31/23	KJ
	ISSUED FOR 75% REVIEW	05/01/23	KJ

DESIGN KJ | REVIEWED BY KJ
DRAWN TW/SC | CHECKED BY KJ
DATE JUNE 2024
SCALE 1:250 1:50

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

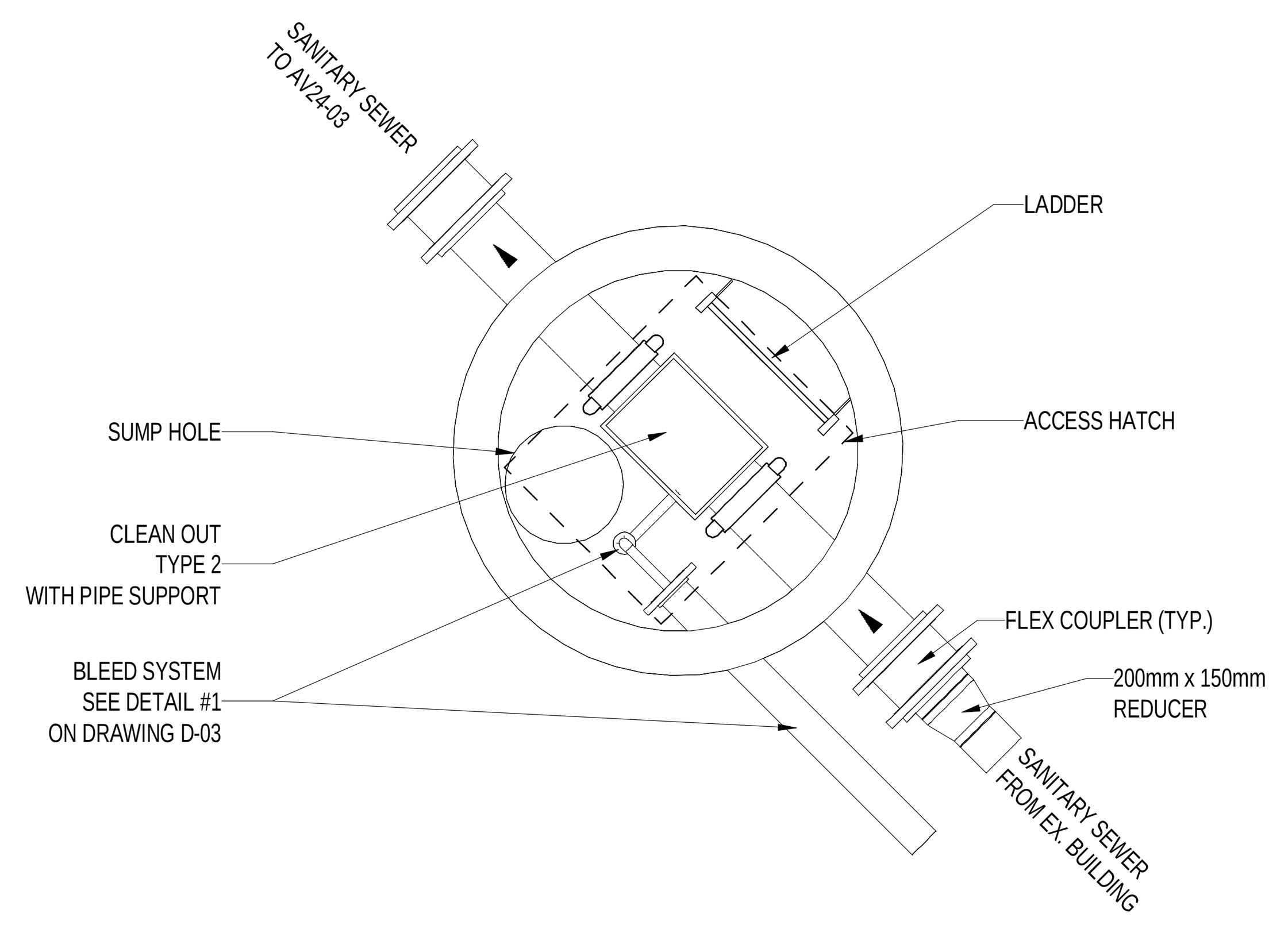
PROJECT NO. 22-5181

UTILIDOR REPLACEMENT
NEW CONSTRUCTION PLAN & PROFILE
KAJJUK TO TUGLIQ STREET STA. 5+700 5+793

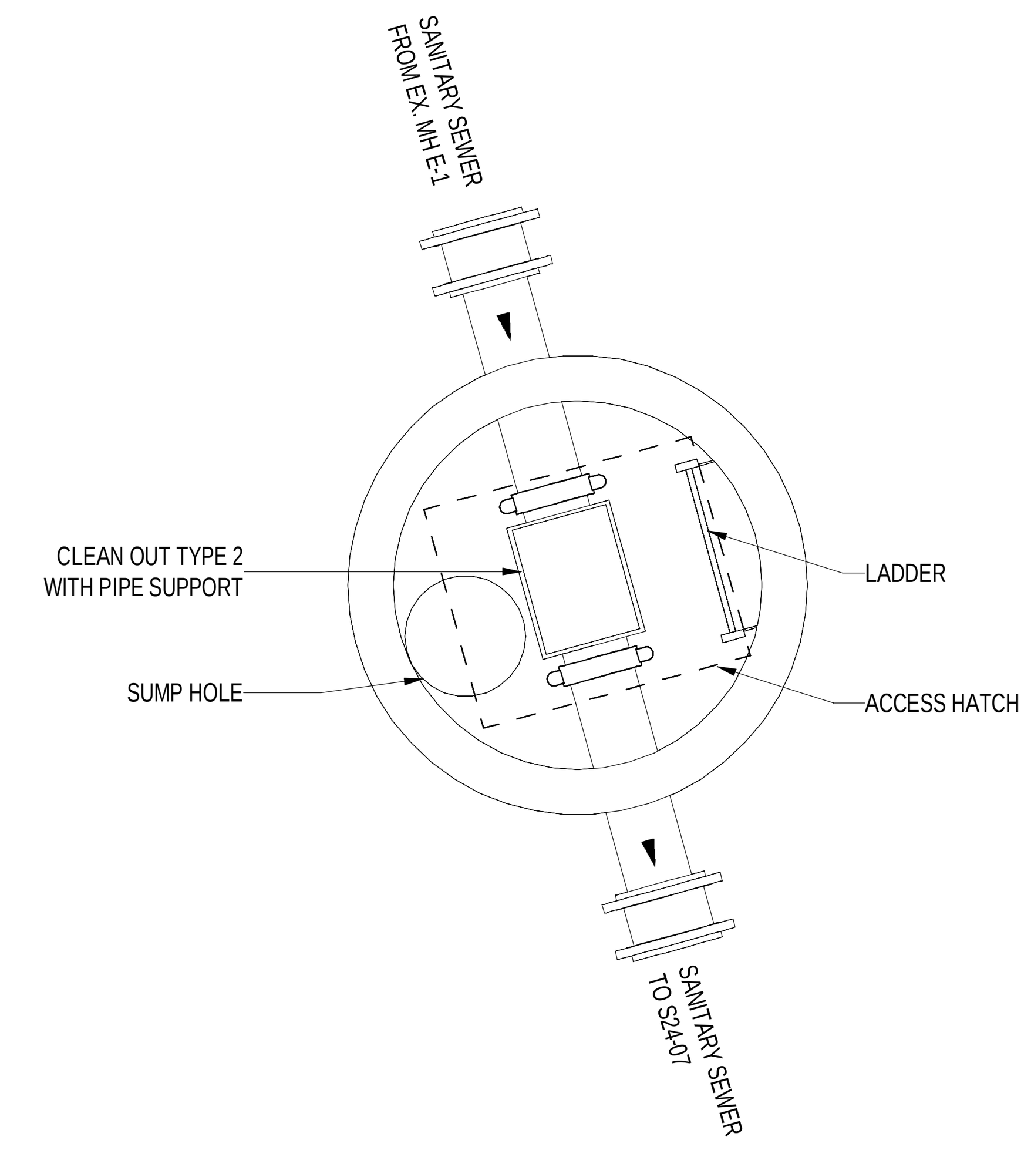
SHEET NO. C-109

DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2. PHONE (519) 438-6192. FAX (519) 672-8209

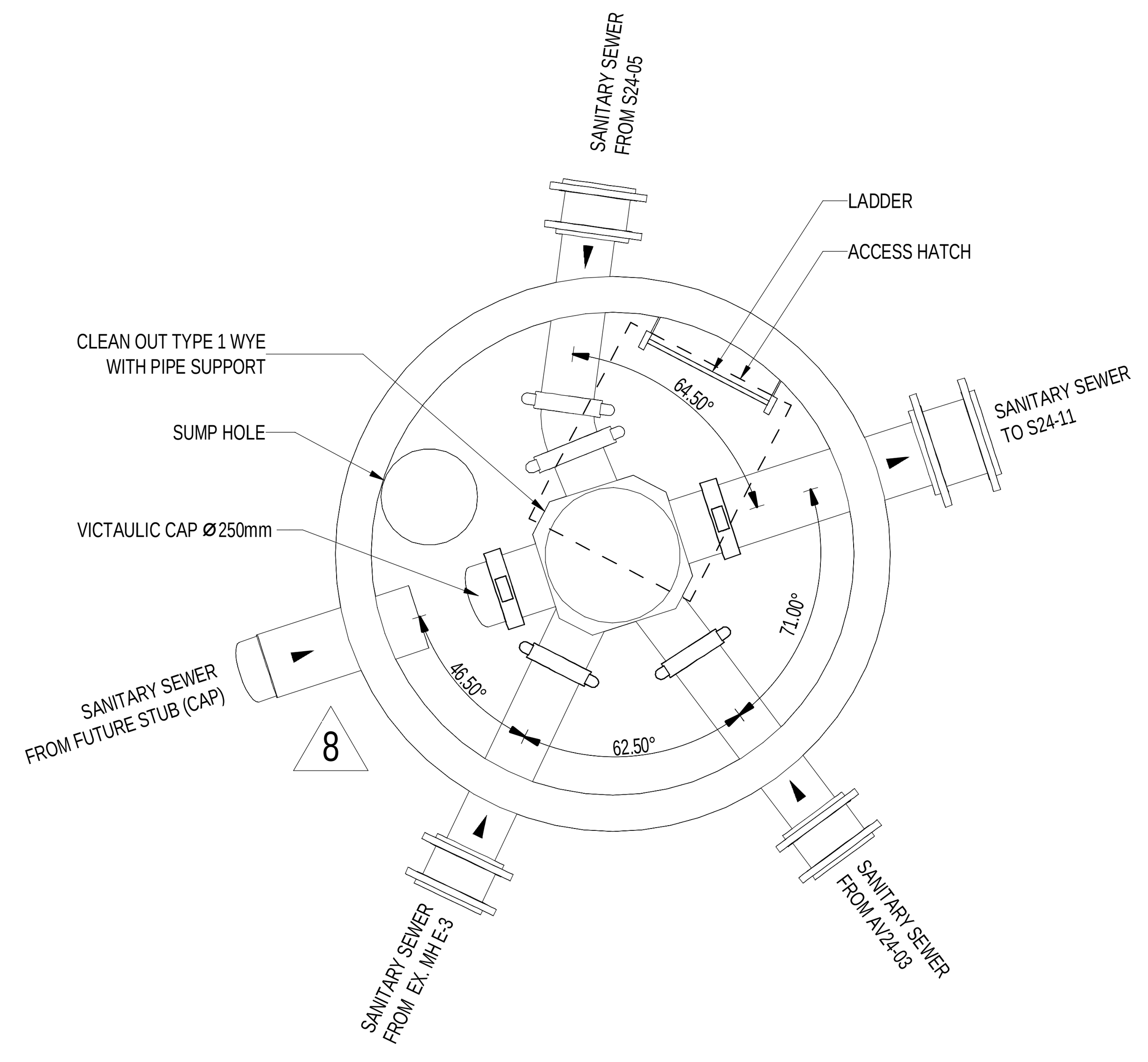
FILENAME: C:\PW WORKING DIRECTORY\PROJECTS 2022\DILLON_SILEW\DMS\87222581-2B-UTI-REF.DWG PLOTTED BY: WOODFORD, LYDIA
PLOT DATE: 2024-06-11 @ 10:12:49 AM PLOT SCALE: 1:250 PLOT STYLE: DILLON-STANDARD.CTB



S24-01 (SANITARY) PLAN VIEW BELOW GRADE 7
SCALE: 1 : 25



S24-05 (SANITARY) PLAN VIEW BELOW GRADE 7
SCALE: 1 : 25



S24-07 (SANITARY) PLAN VIEW BELOW GRADE 6
SCALE: NOT TO SCALE

S24 - 01 (SANITARY)					
ACCESS VAULT			SANITARY SEWER DIAMETERS (mm) / INVERTS (m)		
TOP (m)	FLOOR (m)	DIAMETER (mm)	EX. BUILDING S.E. INLET	AV24 - 03 N. OUTLET	BLEEDER S.W. INVERT AT PENETRATION
28.82	25.72	1220	200 / 26.17	200 / 26.12	27.42

S24 - 05 (SANITARY)				
ACCESS VAULT			SANITARY SEWER DIAMETERS (mm) / INVERTS (m)	
TOP (m)	FLOOR (m)	DIAMETER (mm)	EX. MH E-1 N.W. INLET	S24 - 07 S. OUTLET
25.24	22.97	1220	200 / 23.42	200 / 23.37

S24 - 07 (SANITARY)							
ACCESS VAULT			SANITARY SEWER DIAMETERS (mm) / INVERTS (m)				
TOP (m)	FLOOR (m)	DIAMETER (mm)	FUTURE STUB S.W. INLET	S24 - 05 N. INLET	S24 - 03 S.E. INLET	EX. MH E-3 S.W. INLET	S24 - 11 N.E. OUTLET
24.39	21.02	1830	250 / 21.47	200 / 21.47	200 / 21.47	200 / 21.47	250 / 21.42

NOTES:
1. SEE SPECIFICATION 33 05 14.03 TELETHERMICS PRE-FABRICATED STEEL MAINTENANCE HOLES FOR ACCESS VAULT INTERNAL PIPING SPECIFICATIONS.
2. CONTRACTOR TO CONFIRM LENGTHS, FITTINGS, AND INVERTS PRIOR TO CONSTRUCTION.
3. PIPE SUPPORTS REQUIRED AT ALL CLEANOUTS, BENDS, TEES, WYES, AND HYDRANTS.

PLOT DATE: 3/4/2024 8:13:50 AM
FILE NAME: W:\dms8786\225181-2B\VAULTS-CON.rvt

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PERMIT NUMBER
P 010
DILLON CONSULTING LIMITED

2024-03-04
REGISTERED PROFESSIONAL ENGINEER
S.J. GRASLEY
LICENSEE
L 5088
NT/NU

RE-ISSUED FOR CONSTRUCTION

Canada

Nunavut

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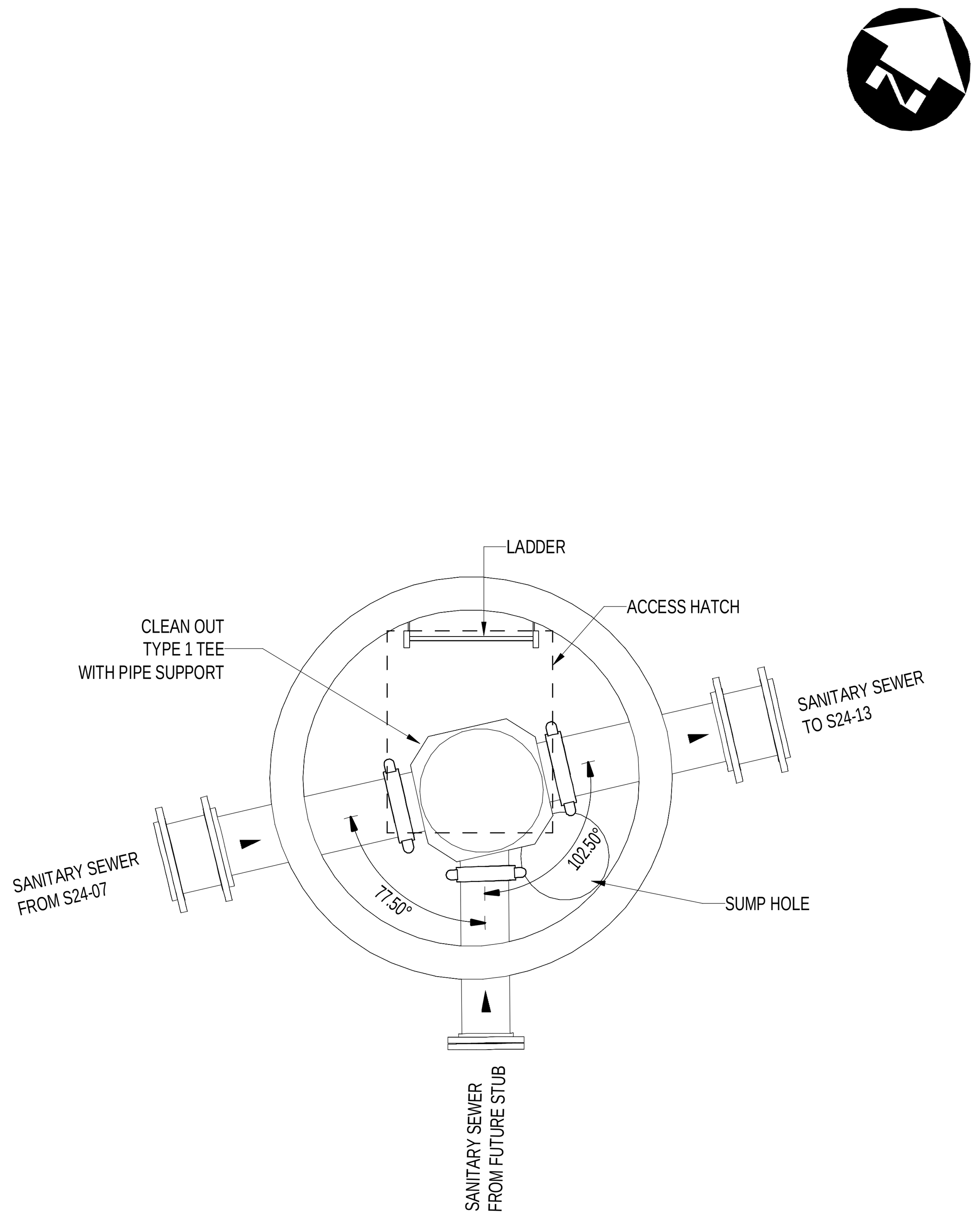
No.	ISSUED FOR	DATE	BY
8	RE-ISSUED FOR CONSTRUCTION	03/04/2024	KJ
7	REVISED VAULTS ELEVATIONS	01/22/2024	KJ
6	ISSUED FOR CONSTRUCTION	12/06/2023	KJ
5	REVISED - ISSUED FOR TENDER ADDENDUM	08/04/2023	KJ
4	ISSUED FOR TENDER	07/07/2023	KJ
3	ISSUED FOR INTERNAL REVIEW	06/23/2023	KJ
2	RE-ISSUED FOR 75% REVIEW	05/31/2023	KJ
1	ISSUED FOR 75% REVIEW	05/01/2023	KJ

DESIGN: KJ
REVIEWED BY: KJ
DRAWN: SCC
CHECKED BY: KJ
DATE: MARCH 2024
SCALE: As indicated

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

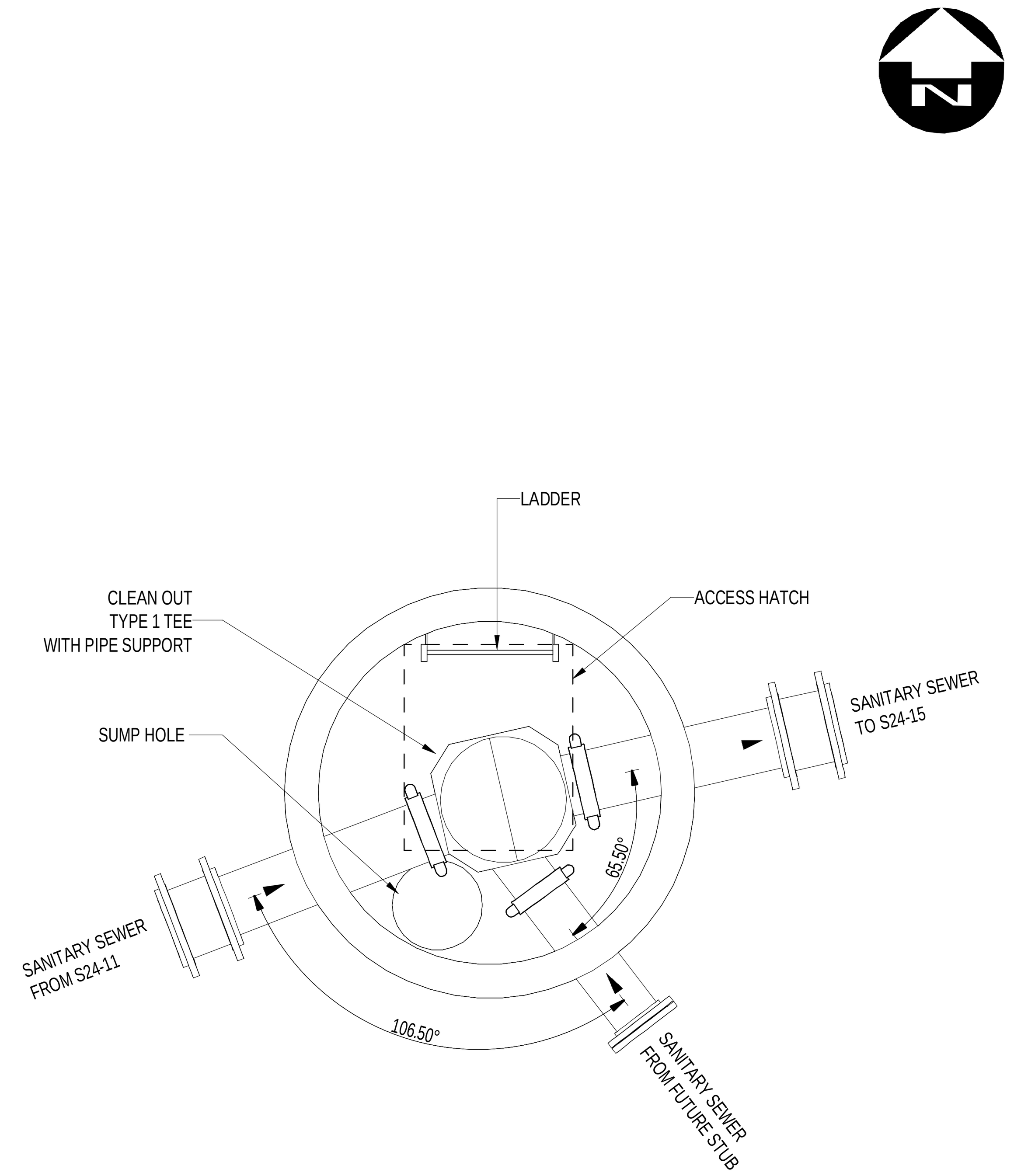
UTILIDOR REPLACEMENT
SANITARY SEWER - ACCESS VAULTS
S24-01, S24-05 AND S24-07

PROJECT NO. 22-5181
SHEET NO. C-201



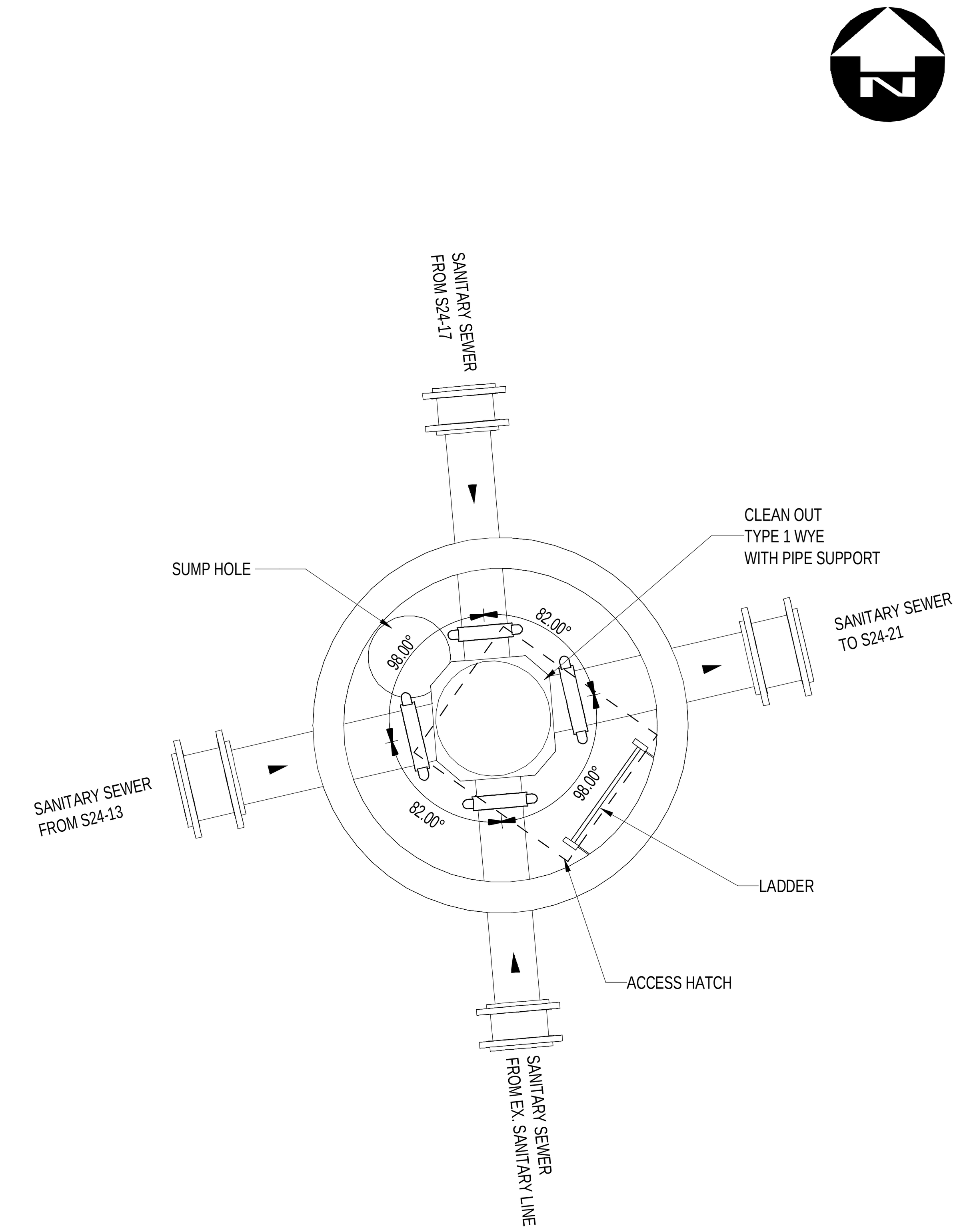
S24-11 (SANITARY) PLAN VIEW BELOW GRADE 6

SCALE: 1 : 25



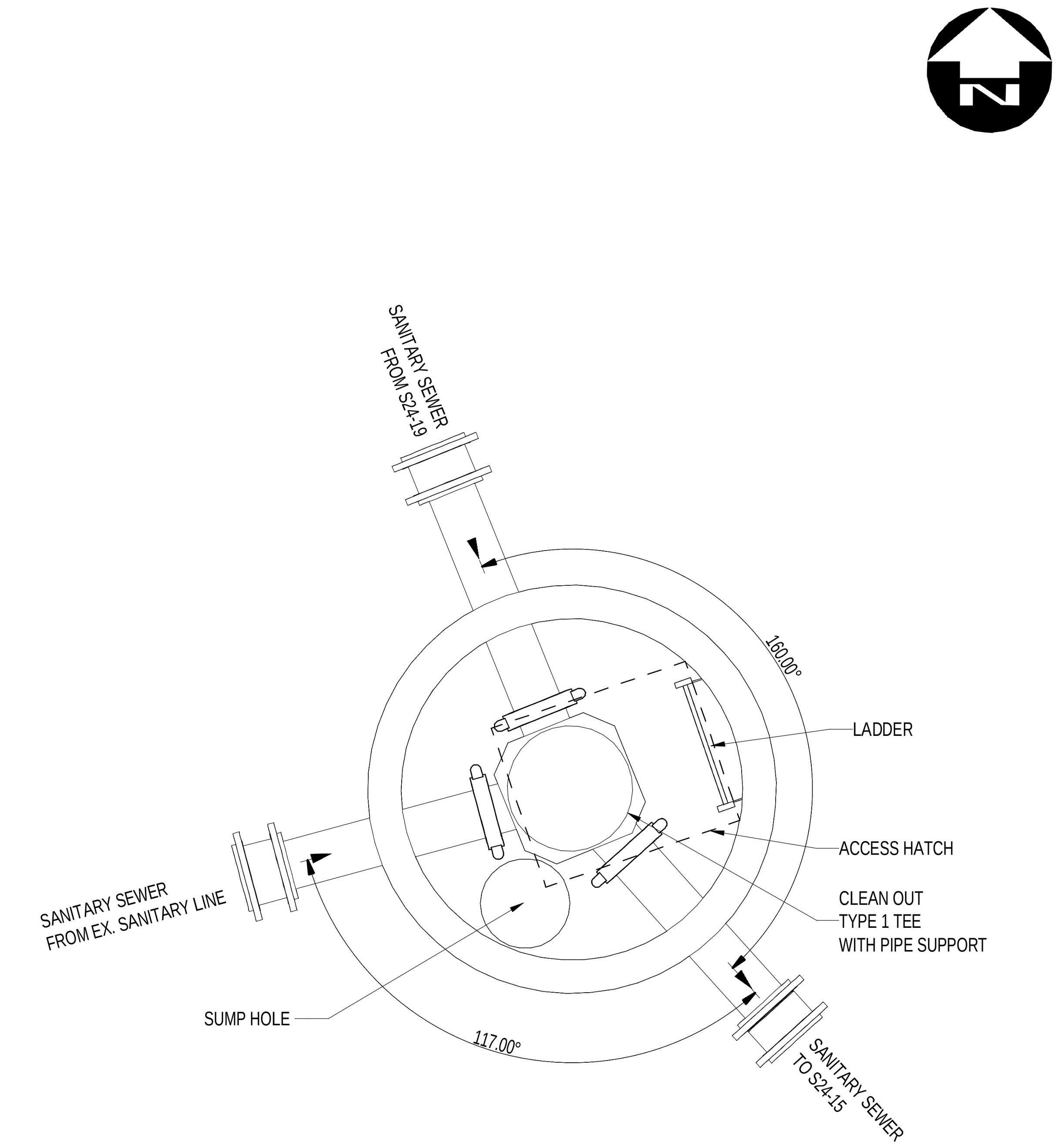
S24-13 (SANITARY) PLAN VIEW BELOW GRADE

SCALE: 1 : 25



S24-15 (SANITARY) PLAN VIEW BELOW GRADE 6

SCALE: 1 : 25



S24-17 (SANITARY) PLAN VIEW BELOW GRADE 6

SCALE: 1 : 25

S24 - 11 (SANITARY)					
ACCESS VAULT			SANITARY SEWER DIAMETERS (mm) / INVERTS (m)		
TOP (m)	FLOOR (m)	DIAMETER (mm)	S24 - 07 S.W. INLET	FUTURE STUB S. INLET	S24 - 13 N.E. OUTLET
22.86	20.10	1524	250 / 20.55	200 / 20.55	250 / 20.50

	S24 - 13 (SANITARY)					
	ACCESS VAULT			SANITARY SEWER DIAMETERS (mm) / INVERTS (m)		
	TOP (m)	FLOOR (m)	DIAMETER (mm)	S24 - 11 S.W. INLET	FUTURE STUB S.E. INLET	S24 - 15 N.E. OUTLET
9	22.62	19.78	1524	250 / 20.23	200 / 20.23	250 / 20.18

	S24 - 15 (SANITARY)						
	ACCESS VAULT			SANITARY SEWER DIAMETERS (mm) / INVERTS (m)			
	TOP (m)	FLOOR (m)	DIAMETER (mm)	S24 - 13 S.W. INLET	S24 - 17 N.W. INLET	EX. SAN. LINE S.E. INLET	N.E. OUTLET
9	22.12	19.39	1524	250 / 19.84	200 / 19.84	200 / 19.84	250 / 19.79

S24 - 17 (SANITARY)					
ACCESS VAULT			SANITARY SEWER DIAMETERS (mm) / INVERTS (m)		
TOP (m)	FLOOR (m)	DIAMETER (mm)	S24 - 19 N. INLET	EX. SAN. LINE W. INLET	S24 - 15 S.W. OUTLET
22.39	19.65	1524	200 / 20.10	200 / 20.10	200 / 20.05

NOTES:
1. SEE SPECIFICATION 33 05 14.03 TELETHERMICS PRE-FABRICATED STEEL MAINTENANCE HOLES FOR ACCESS VAULT INTERNAL PIPING SPECIFICATIONS.
2. CONTRACTOR TO CONFIRM LENGTHS, FITTINGS, AND INVERTS PRIOR TO CONSTRUCTION.
3. PIPE SUPPORTS REQUIRED AT ALL CLEANOUTS, BENDS, TEES, WYES, AND HYDRANTS.

PLOT DATE: 3/4/2024 8:13:50 AM
FILE NAME: W:\dms87865\225181-2BVAULTS-CON.rvt

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER
P 010
DILLON CONSULTING LIMITED

2024-03-04
REGISTERED PROFESSIONAL ENGINEER
S.J. GREELEY
LICENSEE
L 5088
NT/NU

RE-ISSUED FOR CONSTRUCTION

Canada
Nunavut
DILLON CONSULTING

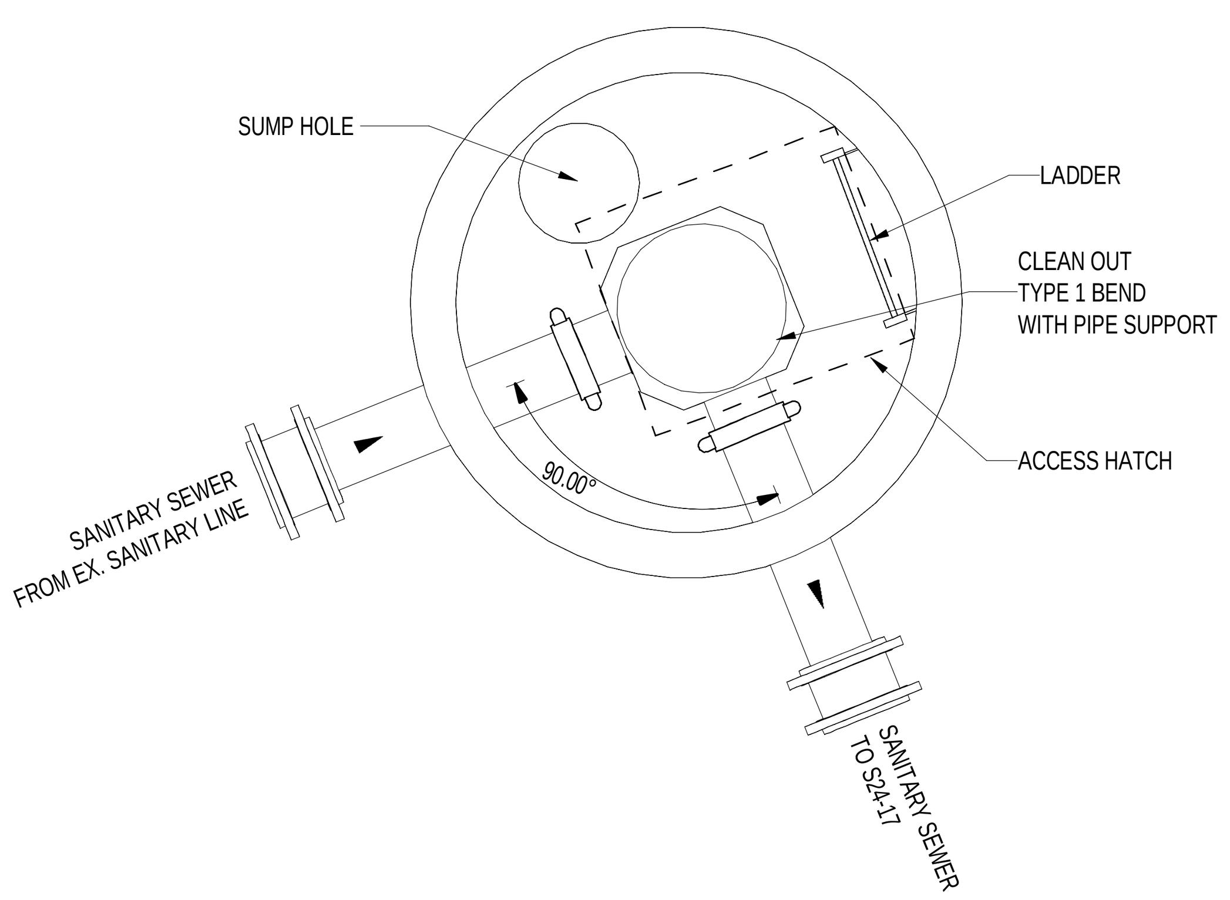
No.	ISSUED FOR	DATE	BY
9	RE-ISSUED FOR CONSTRUCTION	06/10/2024	KJ
8	RE-ISSUED FOR CONSTRUCTION	03/04/2024	KJ
7	REVISED VAULTS ELEVATIONS	01/22/2024	KJ
6	ISSUED FOR CONSTRUCTION	12/06/2023	KJ
5	REVISED - ISSUED FOR TENDER ADDENDUM	08/04/2023	KJ
4	ISSUED FOR TENDER	07/07/2023	KJ
3	ISSUED FOR INTERNAL REVIEW	06/23/2023	KJ
2	RE-ISSUED FOR 75% REVIEW	05/31/2023	KJ
1	ISSUED FOR 75% REVIEW	05/01/2023	KJ

DESIGN: KJ
REVIEWED BY: KJ
DRAWN: SCC
CHECKED BY: KJ
DATE: MARCH 2024
SCALE: As indicated

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

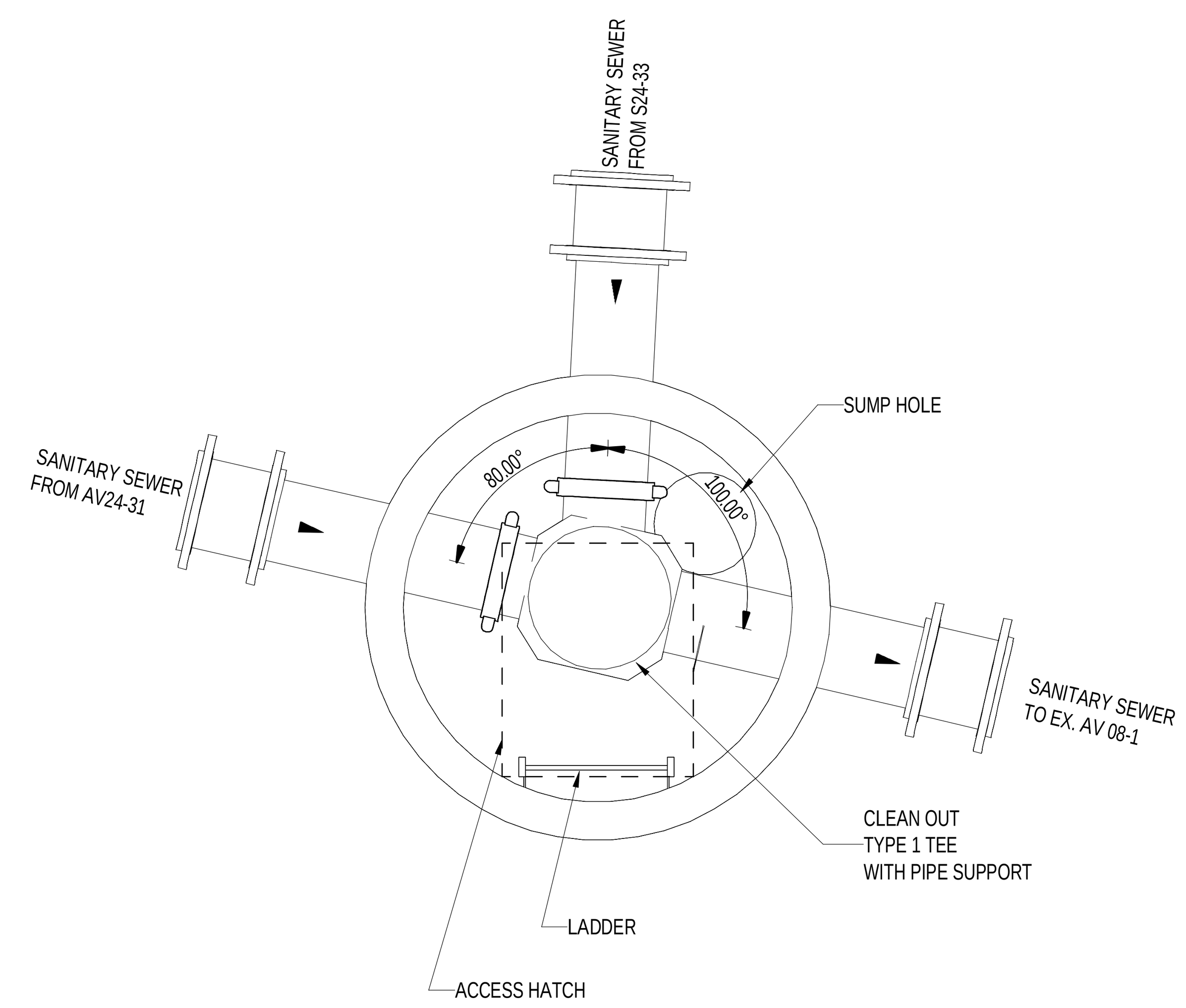
UTILIDOR REPLACEMENT
SANITARY SEWER - ACCESS VAULTS
S24-11, S24-13, S24-15 AND S24-17

PROJECT NO. 22-5181
SHEET NO. C-202



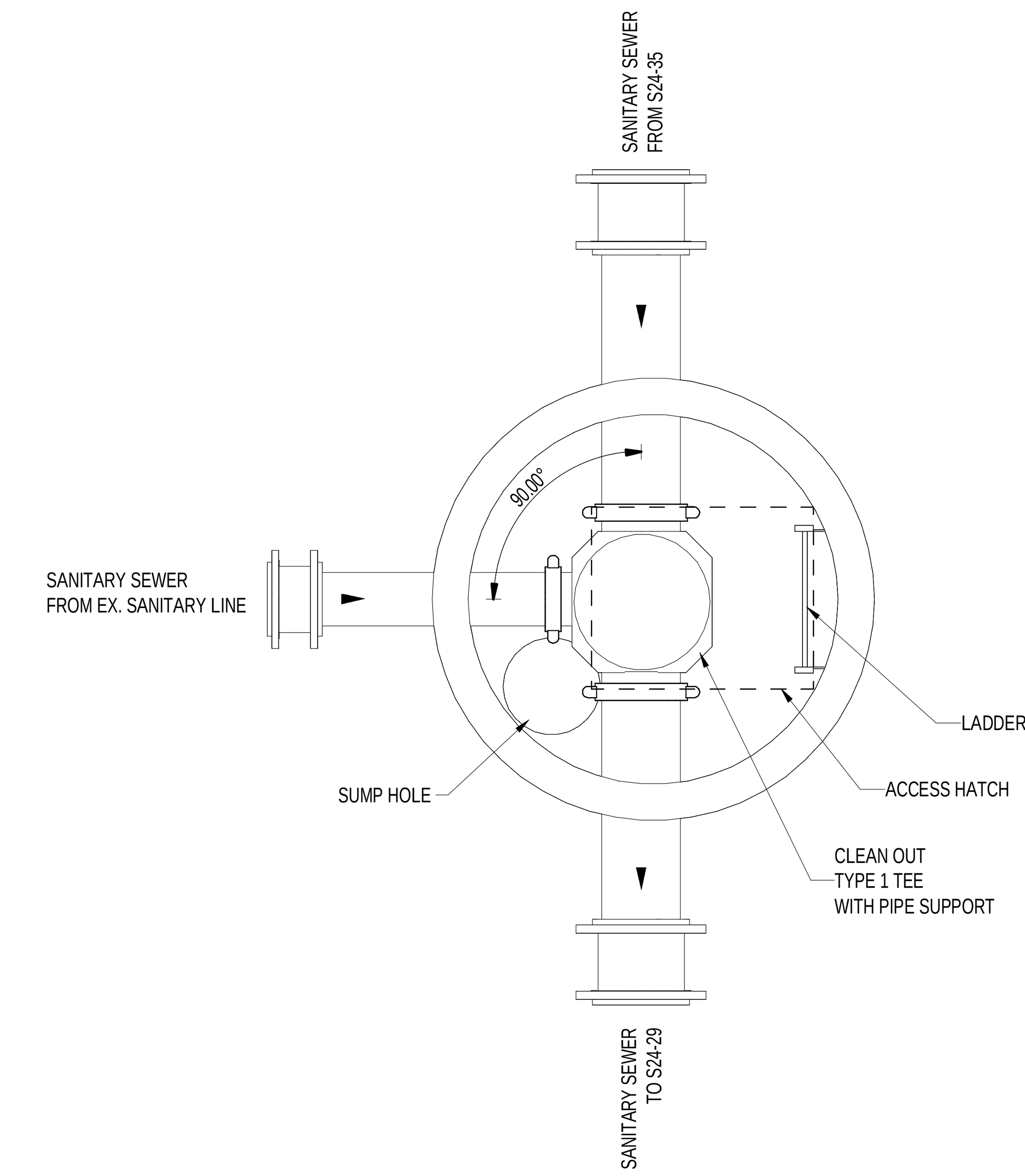
S24-19 (SANITARY) PLAN VIEW BELOW GRADE

SCALE: 1 : 25



S24-29 (SANITARY) PLAN VIEW BELOW GRADE

SCALE: 1 : 25



S24-33 (SANITARY) PLAN VIEW BELOW GRADE

SCALE: 1 : 25

S24 - 19 (SANITARY)				
ACCESS VAULT			SANITARY SEWER DIAMETERS (mm) / INVERTS (m)	
TOP (m)	FLOOR (m)	DIAMETER (mm)	EX. SAN. LINE W. INLET	S24 - 17 S. OUTLET
22.47	20.01	1524	200 / 20.46	200 / 20.41

S24 - 29 (SANITARY)					
ACCESS VAULT			SANITARY SEWER DIAMETERS (mm) / INVERTS (m)		
TOP (m)	FLOOR (m)	DIAMETER (mm)	AV24-31 W. INLET	S24 - 33 N. INLET	EX. MH E. OUTLET
8.25	5.22	1524	300 / 5.67	300 / 5.67	300 / 5.62

S24 - 33 (SANITARY)					
ACCESS VAULT			SANITARY SEWER DIAMETERS (mm) / INVERTS (m)		
TOP (m)	FLOOR (m)	DIAMETER (mm)	S24 - 35 N. INLET	W. INLET	S24 - 29 S. OUTLET
10.64	7.50	1830	300 / 7.95	200 / 7.95	300 / 7.90

NOTES:

1. SEE SPECIFICATION 33 05 14.03 TELETHERMICS PRE-FABRICATED STEEL MAINTENANCE HOLES FOR ACCESS VAULT INTERNAL PIPING SPECIFICATIONS.
2. CONTRACTOR TO CONFIRM LENGTHS, FITTINGS, AND INVERTS PRIOR TO CONSTRUCTION.
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Canada

Nunavut

DILLON CONSULTING

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2	RE-ISSUED FOR 75% REVIEW	05/31/2023	KJ
1	ISSUED FOR 75% REVIEW	05/01/2023	KJ

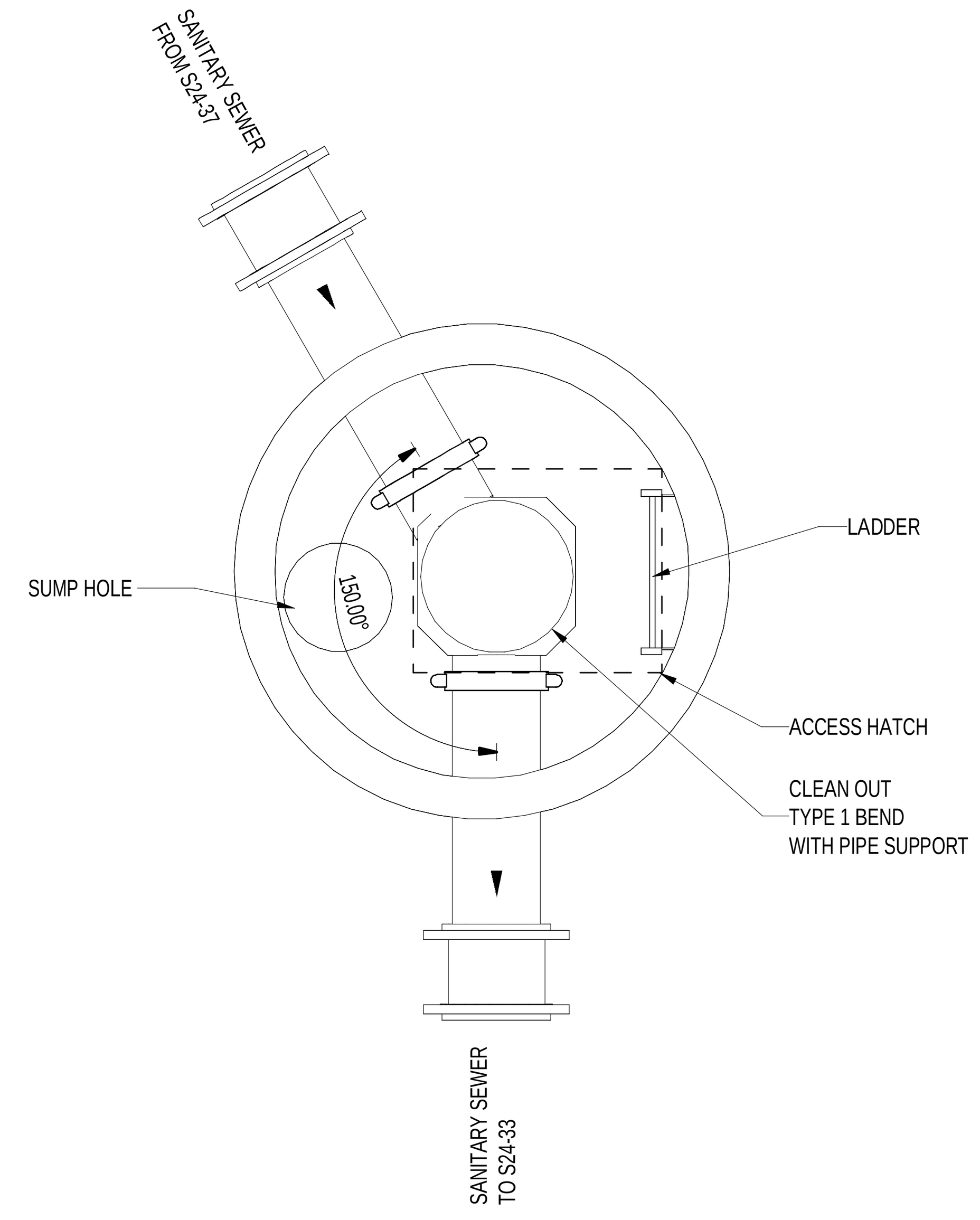
DESIGN: KJ
REVIEWED BY: KJ
DRAWN: SCC
CHECKED BY: KJ
DATE: MARCH 2024
SCALE: As indicated

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT
SANITARY SEWER - ACCESS VAULTS
S24-19, S24-29, AND S24-33

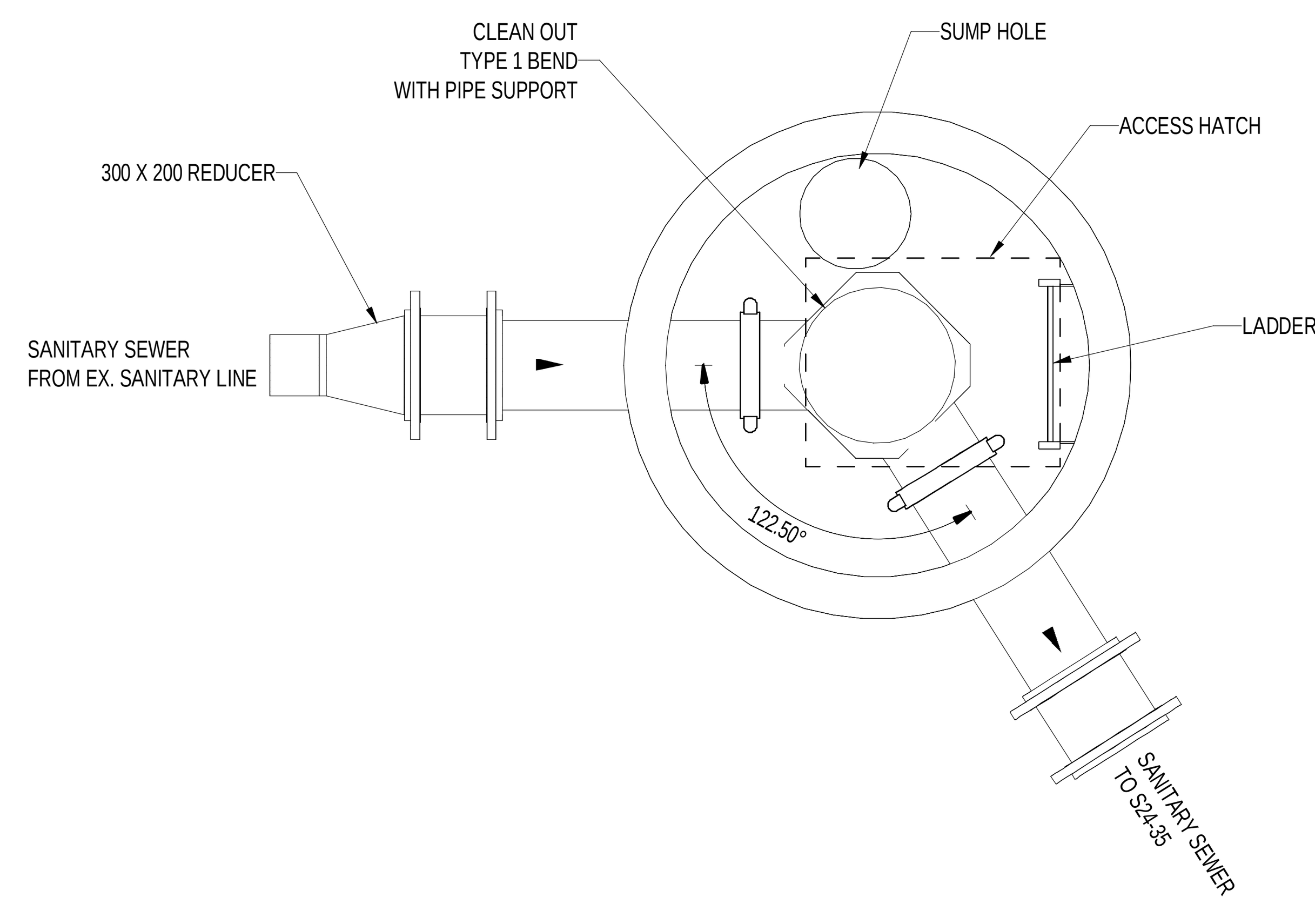
PROJECT NO. 22-5181

SHEET NO. C-203



S24-35 (SANITARY) PLAN VIEW BELOW GRADE 7

SCALE: NOT TO SCALE



S24-37 (SANITARY) PLAN VIEW BELOW GRADE 7

SCALE: 1 : 25

S24 - 35 (SANITARY)				
ACCESS VAULT			SANITARY SEWER DIAMETERS (mm) / INVERTS (m)	
TOP (m)	FLOOR (m)	DIAMETER (mm)	S24 - 37 N.W. INLET	S24 - 33 S. OUTLET
11.21	8.89	1524	300 / 9.34	300 / 9.29

S24 - 37 (SANITARY)				
ACCESS VAULT			SANITARY SEWER DIAMETERS (mm) / INVERTS (m)	
TOP (m)	FLOOR (m)	DIAMETER (mm)	EX. SAN. LINE W. INLET	S24 - 35 S.E. OUTLET
12.02	9.33	1524	300 / 9.78	300 / 9.73

NOTES:
1. SEE SPECIFICATION 33 05 14.03 TELETHERMICS PRE-FABRICATED STEEL MAINTENANCE HOLES FOR ACCESS VAULT INTERNAL PIPING SPECIFICATIONS.
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DILLON CONSULTING LIMITED

2024-03-04
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LICENSEE L 5088
NT/NU

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Nunavut

DILLON CONSULTING

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2	RE-ISSUED FOR 75% REVIEW	05/31/2023	KJ
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DESIGN: KJ
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DRAWN: SCC
CHECKED BY: KJ
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SCALE: As indicated

Government of Nunavut

Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT
SANITARY SEWER - ACCESS VAULTS
S24-35 AND S24-37

PROJECT NO. 22-5181

SHEET NO. C-204

PLOT DATE: 3/4/2024 8:13:51 AM
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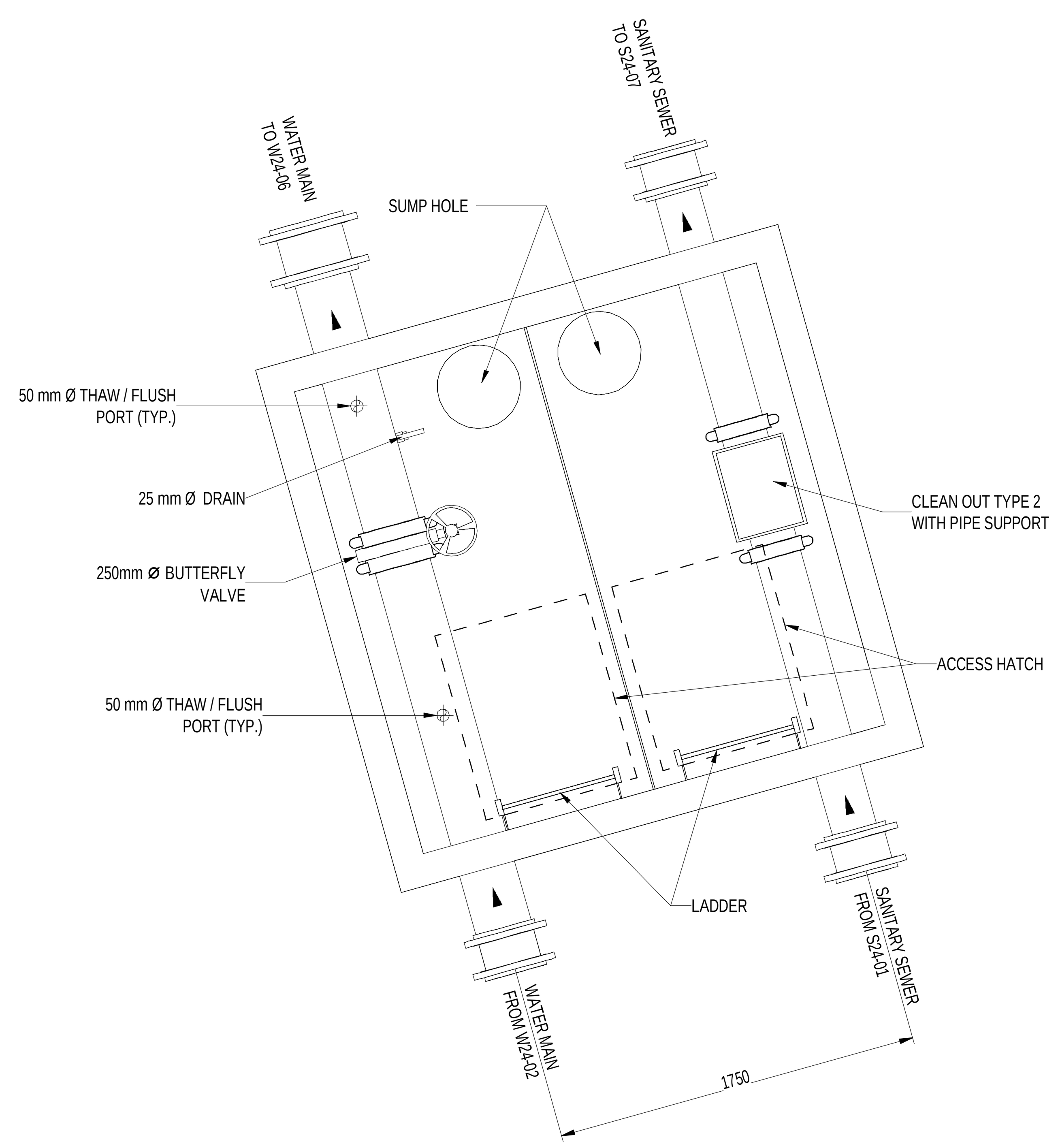
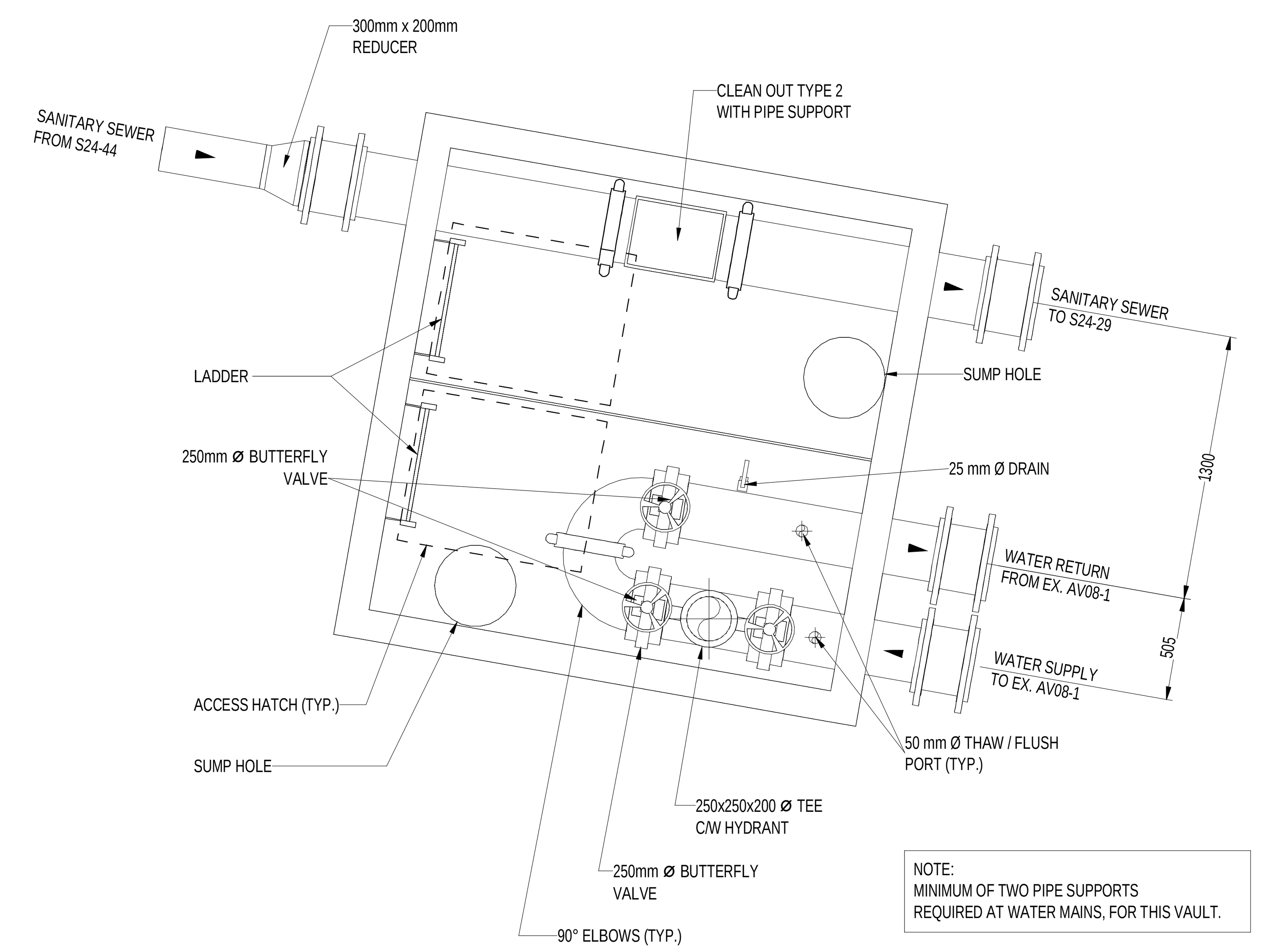


AV24-03 (WATER / SANITARY) PLAN VIEW BELOW GRADE

SCALE: 1 : 25



AV24-31 (WATER / SANITARY) PLAN VIEW BELOW GRADE 6

SCALE: 1 : 25

AV24 - 03 (WATER / SANITARY)						
ACCESS VAULT			WATER MAIN DIAMETERS (mm) / INVERTS (m)		SANITARY SEWER DIAMETERS (mm) / INVERTS (m)	
TOP (m)	FLOOR (m)	DIMENSION (mm)	W24 - 06 INLET	EX. BUILDING OUTLET	EX. BUILDING S.E. INLET	S24 - 07 N.W. OUTLET
24.82	21.75	2300 x 2300	250 / 22.76	250 / 22.76	200 / 22.20	200 / 22.15

9

AV24 - 31 (WATER / SANITARY)						
ACCESS VAULT			WATER MAIN DIAMETERS (mm) / INVERTS (m)		SANITARY SEWER DIAMETERS (mm) / INVERTS (m)	
TOP (m)	FLOOR (m)	DIMENSION (mm)	EX. MH (RECIRC) INLET	EX. MH (SUPPLY) W. OUTLET	EX. SAN. LINE N.W. INLET	S24 - 29 E. OUTLET
9.25	5.51	2300 x 2300	250 / 6.65	250 / 6.65	300 / 5.96	300 / 5.91

NOTES:

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PLOT DATE: 3/4/2024 8:13:51 AM
FILE NAME: W:\dms87865\225181-2BVAULTS-CON.rvt

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
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Canada

Nunavut

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2	RE-ISSUED FOR 75% REVIEW	05/31/2023	KJ
1	ISSUED FOR 75% REVIEW	05/01/2023	KJ

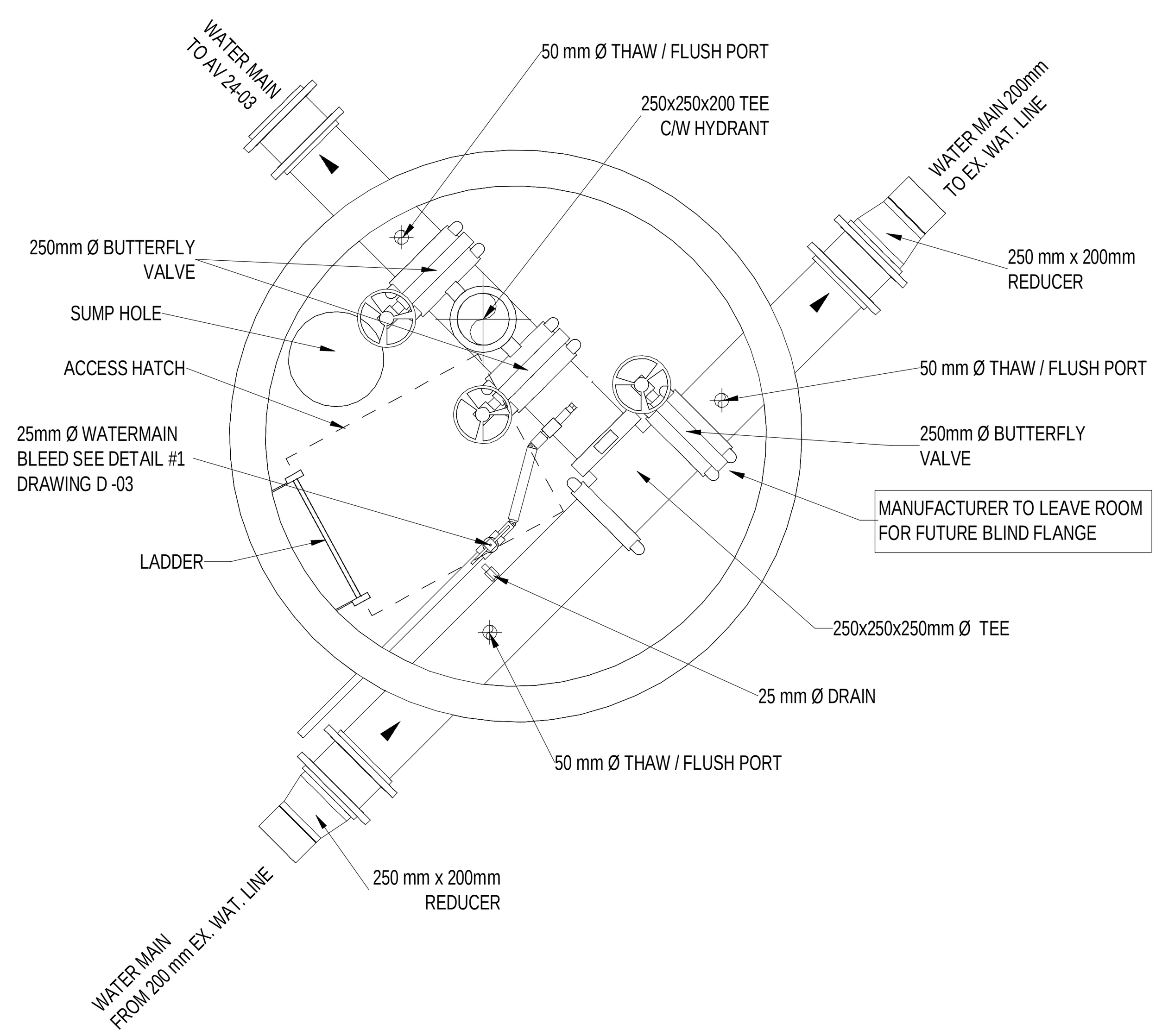
DESIGN: KJ
REVIEWED BY: KJ
DRAWN: SCC
CHECKED BY: KJ
DATE: MARCH 2024
SCALE: As indicated

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT
SANITARY SEWER - ACCESS VAULTS
AV24-03 AND AV24-31

PROJECT NO. 22-5181

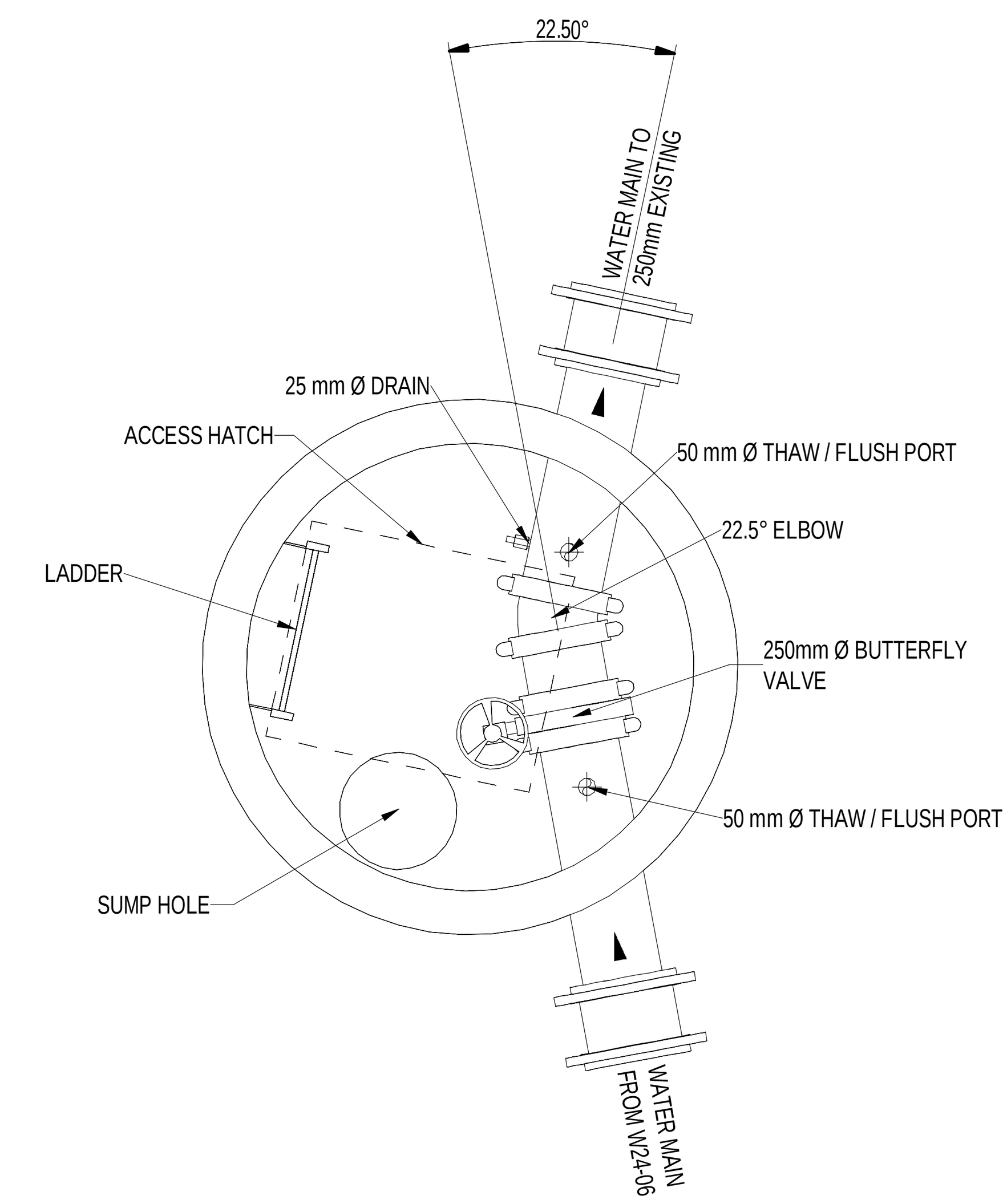
SHEET NO. C-205



W24-02 (WATER) PLAN VIEW BELOW GRADE

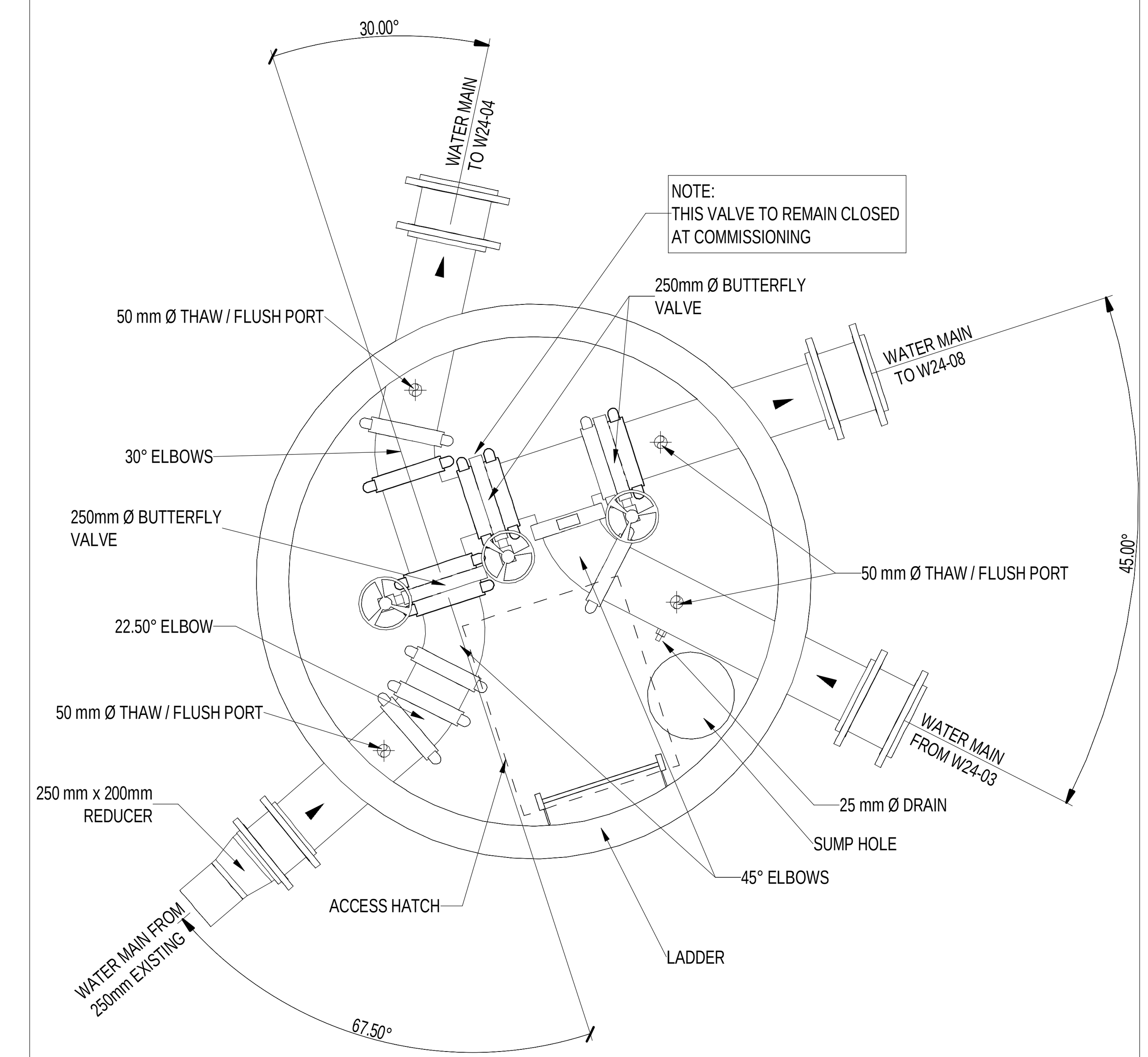
SCALE: 1 : 25

6



W24-04 (WATER) PLAN VIEW BELOW BELOW GRADE

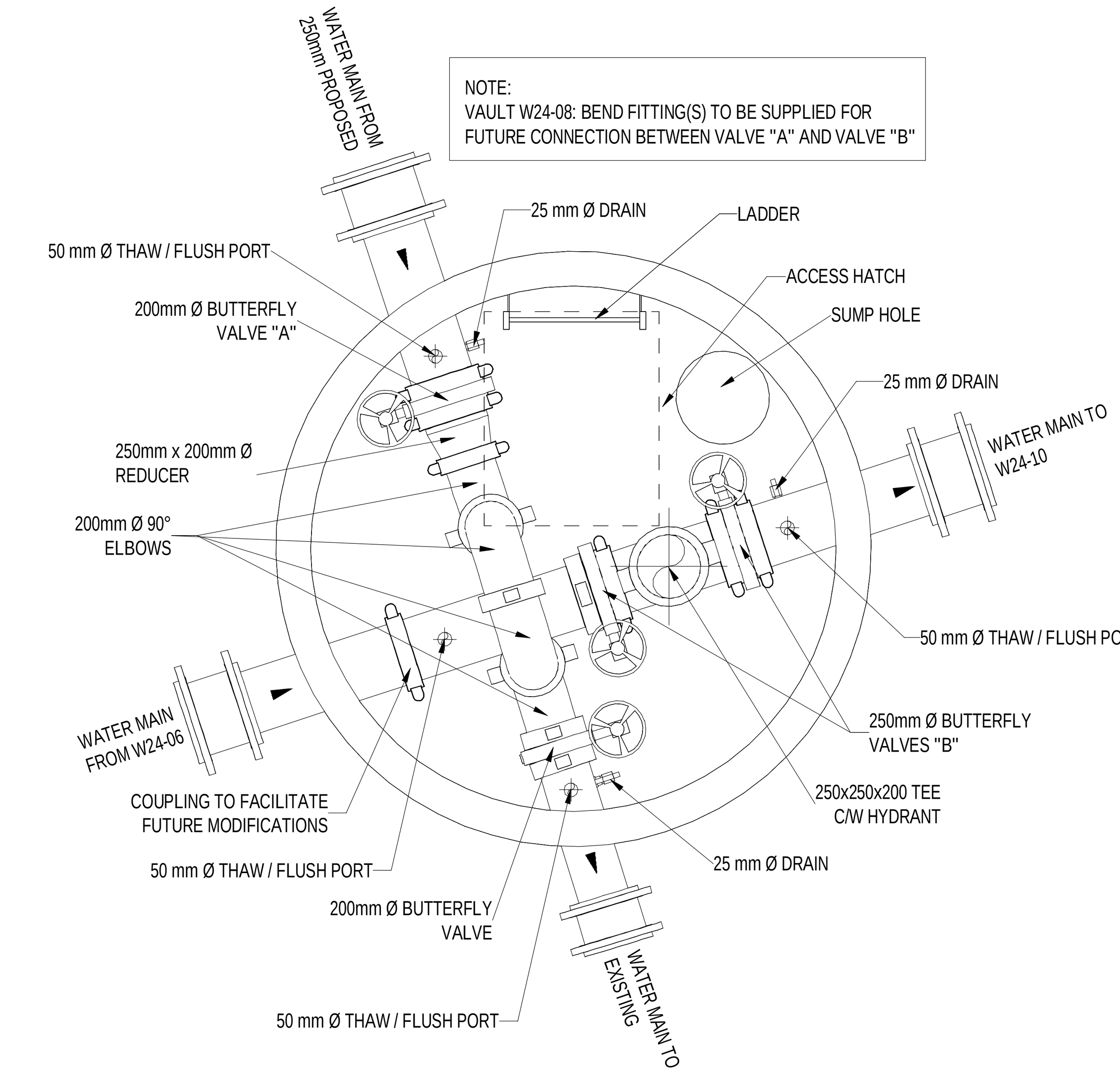
SCALE: 1 : 25



W24-06 (WATER) PLAN VIEW BELOW GRADE

SCALE: 1 : 25

6



W24-08 (WATER) PLAN VIEW BELOW GRADE

SCALE: 1 : 25

6

W24 - 02 (WATER)						
ACCESS VAULT			WATER MAIN DIAMETERS (mm) / INVERTS (m)			
TOP (m)	FLOOR (m)	DIAMETER (mm)	AV24 - 03 N.W. OUTLET	EX. WAT. LINE N.E. OUTLET	EX. 250 WAT. LINE S.W. INLET	BLEEDER INVERT AT VAULT PENETRATION
29.11	26.70	2250	250 / 27.10	250 / 27.10	250 / 27.10	27.42

W24 - 04 (WATER)				
ACCESS VAULT			WATER MAIN DIAMETERS (mm) / INVERTS (m)	
TOP (m)	FLOOR (m)	DIAMETER (mm)	EXISTING STUB INLET	W24 - 06 OUTLET
25.34	23.10	1524	250 / 23.50	250 / 23.50

W24 - 06 (WATER)						
ACCESS VAULT			WATER MAIN DIAMETERS (mm) / INVERTS (m)			
TOP (m)	FLOOR (m)	DIAMETER (mm)	EX. WAT. LINE INLET	AV24 - 03 INLET	W24 - 04 OUTLET	W24 - 08 OUTLET
24.44	22.01	2250	200 / 22.41	250 / 22.41	250 / 22.41	250 / 22.41

8

W24 - 08 (WATER)						
ACCESS VAULT			WATER MAIN DIAMETERS (mm) / INVERTS (m)			
TOP (m)	FLOOR (m)	DIAMETER (mm)	N. INLET	S. OUTLET	W 24 - 06 INLET	E. 24 - 10 OUTLET
23.43	21.03	2250	250 / 21.41	200 / 21.43	250 / 21.43	250 / 21.43

NOTES:
1. SEE SPECIFICATION 33 05 14.03 TELETHERMICS PRE-FABRICATED STEEL MAINTENANCE HOLES FOR ACCESS VAULT INTERNAL PIPING SPECIFICATIONS.
2. CONTRACTOR TO CONFIRM LENGTHS, FITTINGS, AND INVERTS PRIOR TO CONSTRUCTION.

PLOT DATE: 3/4/2024 8:15:31 AM
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PERMIT NUMBER
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DESIGN	REVIEWED BY
KJ	KJ
DRAWN	**CHECKED BY**
SCC/JCP	KJ

DATE: MARCH 2024

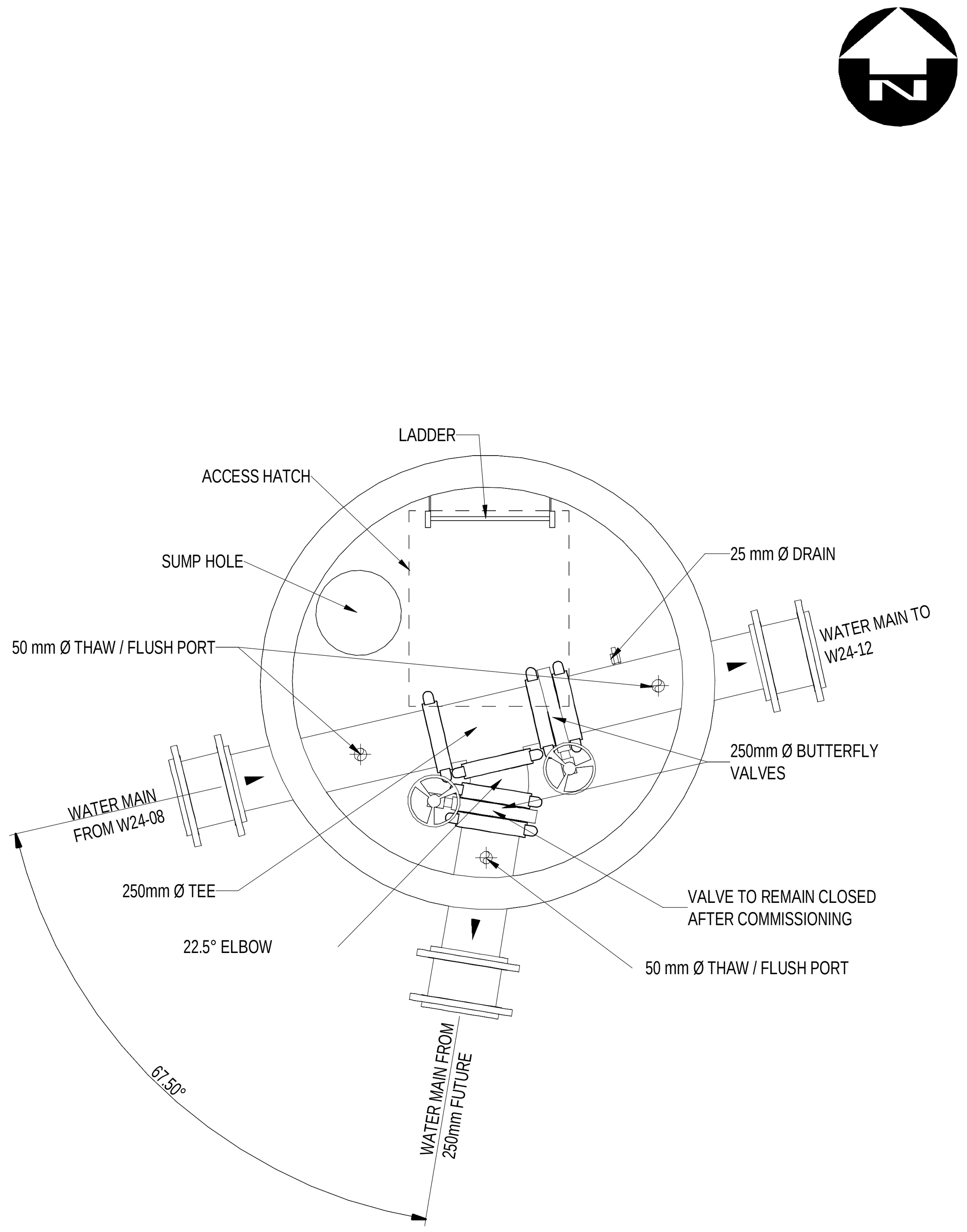
SCALE: As indicated

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT WATER MAIN - ACCESS VAULTS W24-02 W24-04, W24-06 AND W24-08

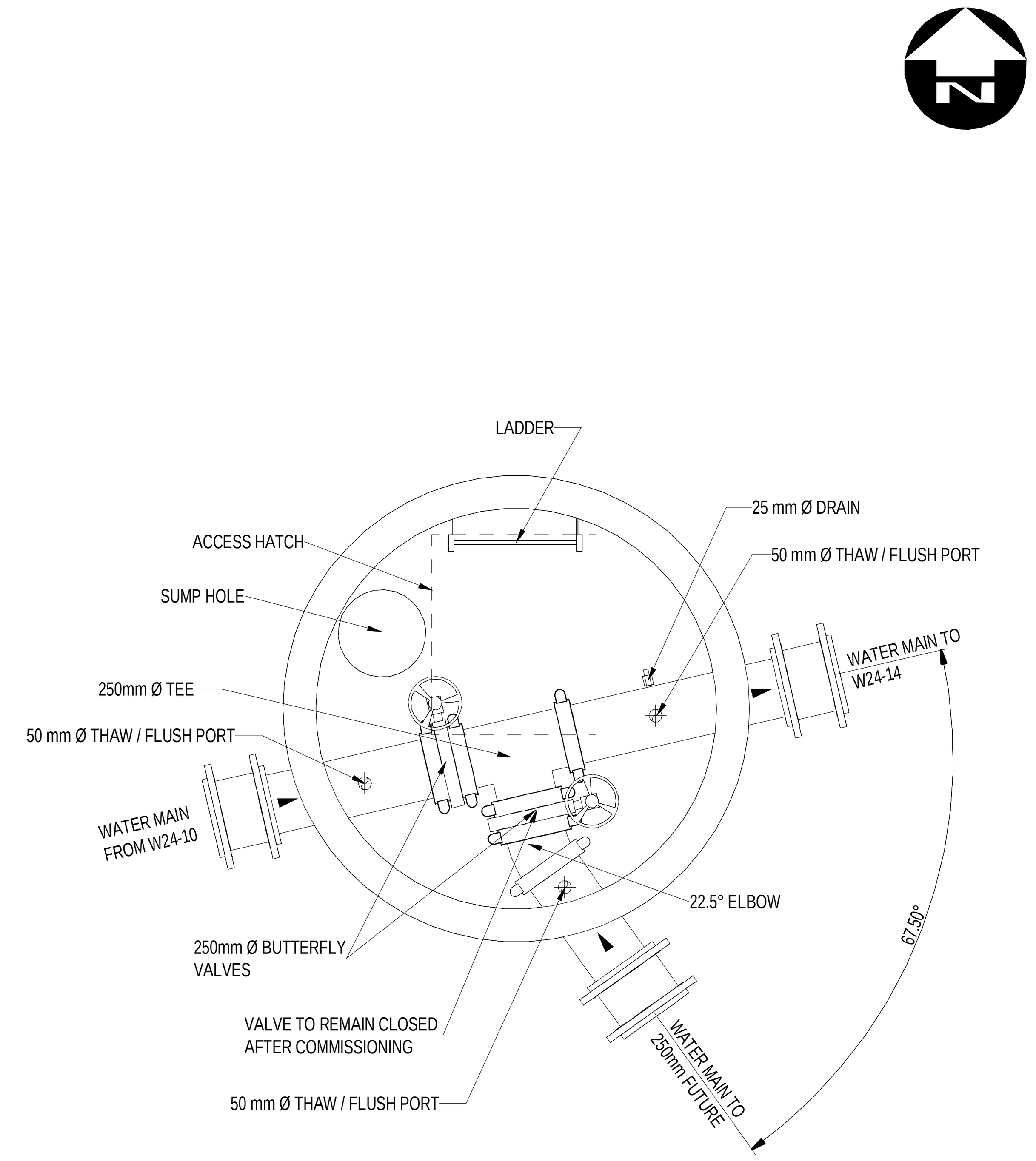
PROJECT NO. 22-5181

SHEET NO. C-206



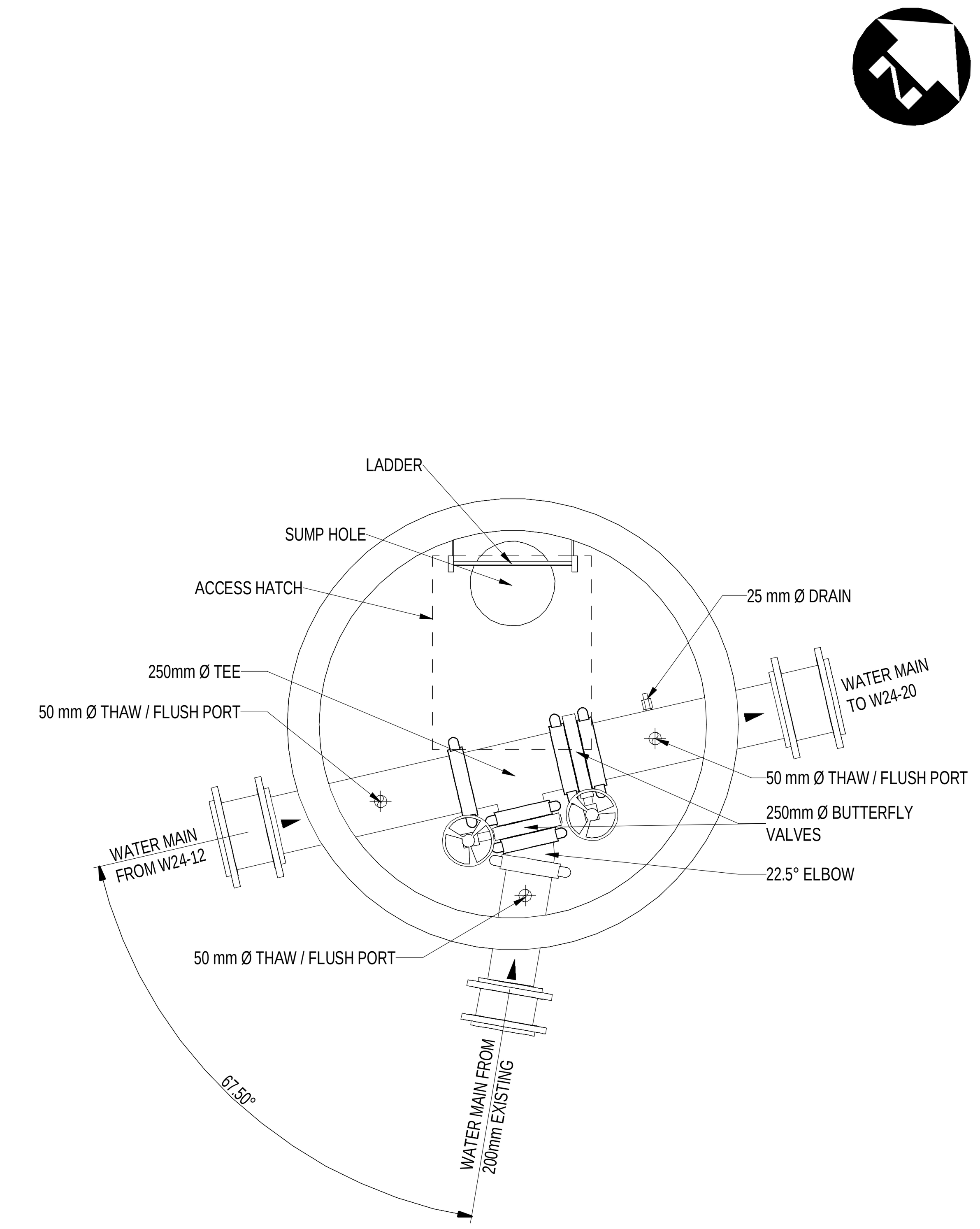
W24-10 (WATER) PLAN VIEW BELOW GRADE

SCALE: 1 : 25



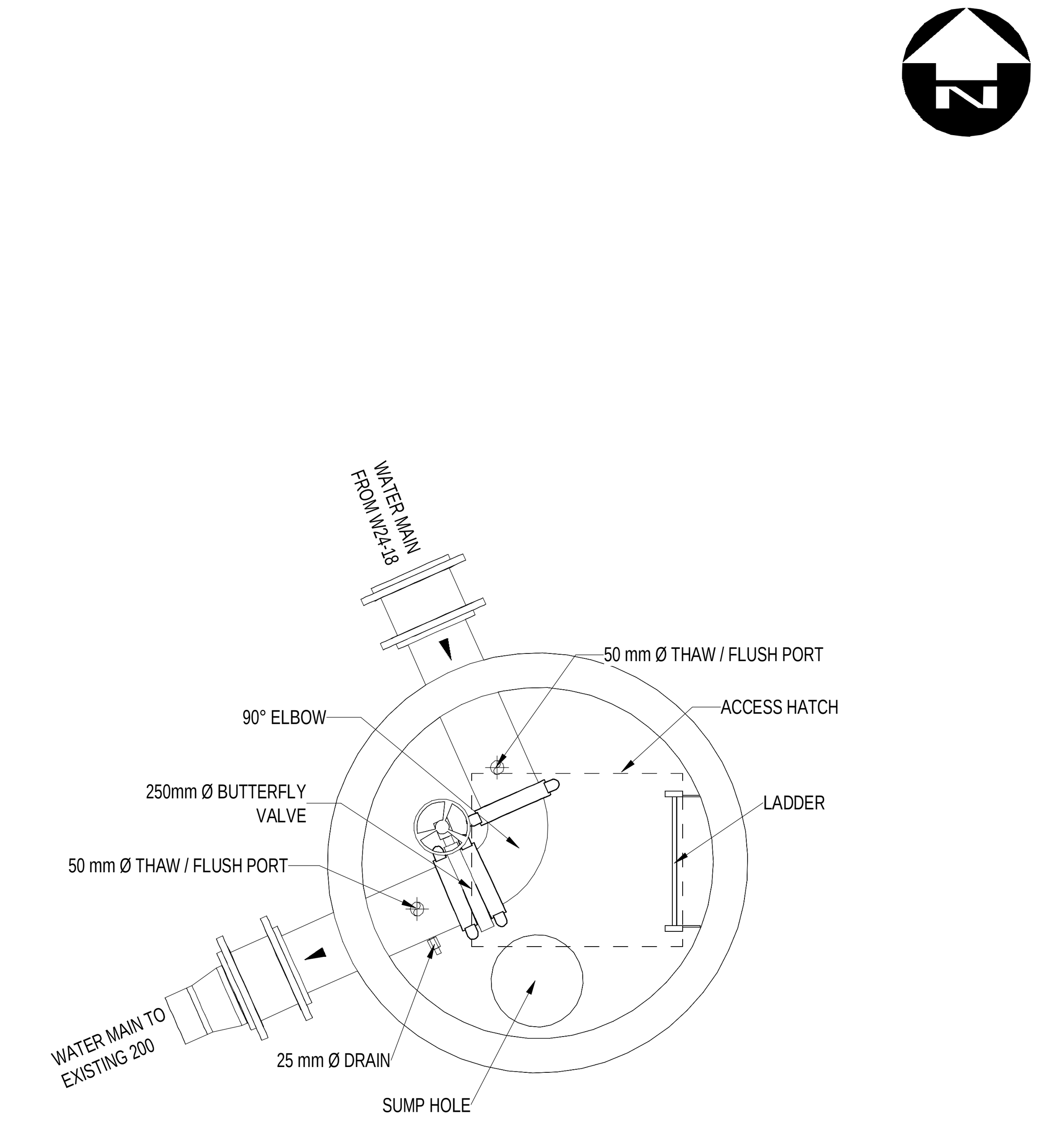
W24-12 (WATER) PLAN VIEW BELOW GRADE

SCALE: 1 : 25



W24-14 (WATER) PLAN VIEW BELOW GRADE

SCALE: 1 : 25



W24-16 (WATER) PLAN VIEW BELOW GRADE

6

SCALE: 1 : 25

W24 - 10 (WATER)					
ACCESS VAULT			WATER MAIN DIAMETERS (mm) / INVERTS (m)		
TOP (m)	FLOOR (m)	DIAMETER (mm)	W24 - 08 INLET	W24 - 12 OUTLET	FUTURE STUB INLET
22.89	20.60	1830	250 / 21.00	250 / 21.00	250 / 21.00

W24 - 12 (WATER)					
ACCESS VAULT			WATER MAIN DIAMETERS (mm) / INVERTS (m)		
TOP (m)	FLOOR (m)	DIAMETER (mm)	W24 - 10 INLET	W24 - 14 OUTLET	FUTURE STUB INLET
22.55	20.17	1830	250 / 20.57	250 / 20.57	250 / 20.57

8

W24 - 14 (WATER)					
ACCESS VAULT			WATER MAIN DIAMETERS (mm) / INVERTS (m)		
TOP (m)	FLOOR (m)	DIAMETER (mm)	EX. WAT. LINE INLET	W24 - 12 OUTLET	W24-20 OUTLET
22.05	19.60	1830	200 / 20.027	250 / 20.00	250 / 20.00

W24 - 16 (WATER)				
ACCESS VAULT			WATER MAIN DIAMETERS (mm) / INVERTS (m)	
TOP (m)	FLOOR (m)	DIAMETER (mm)	W24 - 18 INLET	EX. WAT. LINE OUTLET
22.52	20.05	1524	250 / 20.45	250 / 20.45

NOTES:
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PLOT DATE: 3/4/2024 8:15:31 AM
FILE NAME: W:\dms87665\225181-2B\VAULTS-CON-WAT.rvt

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Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

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DESIGN	REVIEWED BY
KJ	KJ
DRAWN: SCC	CHECKED BY: KJ

DATE: MARCH 2024

SCALE: As indicated

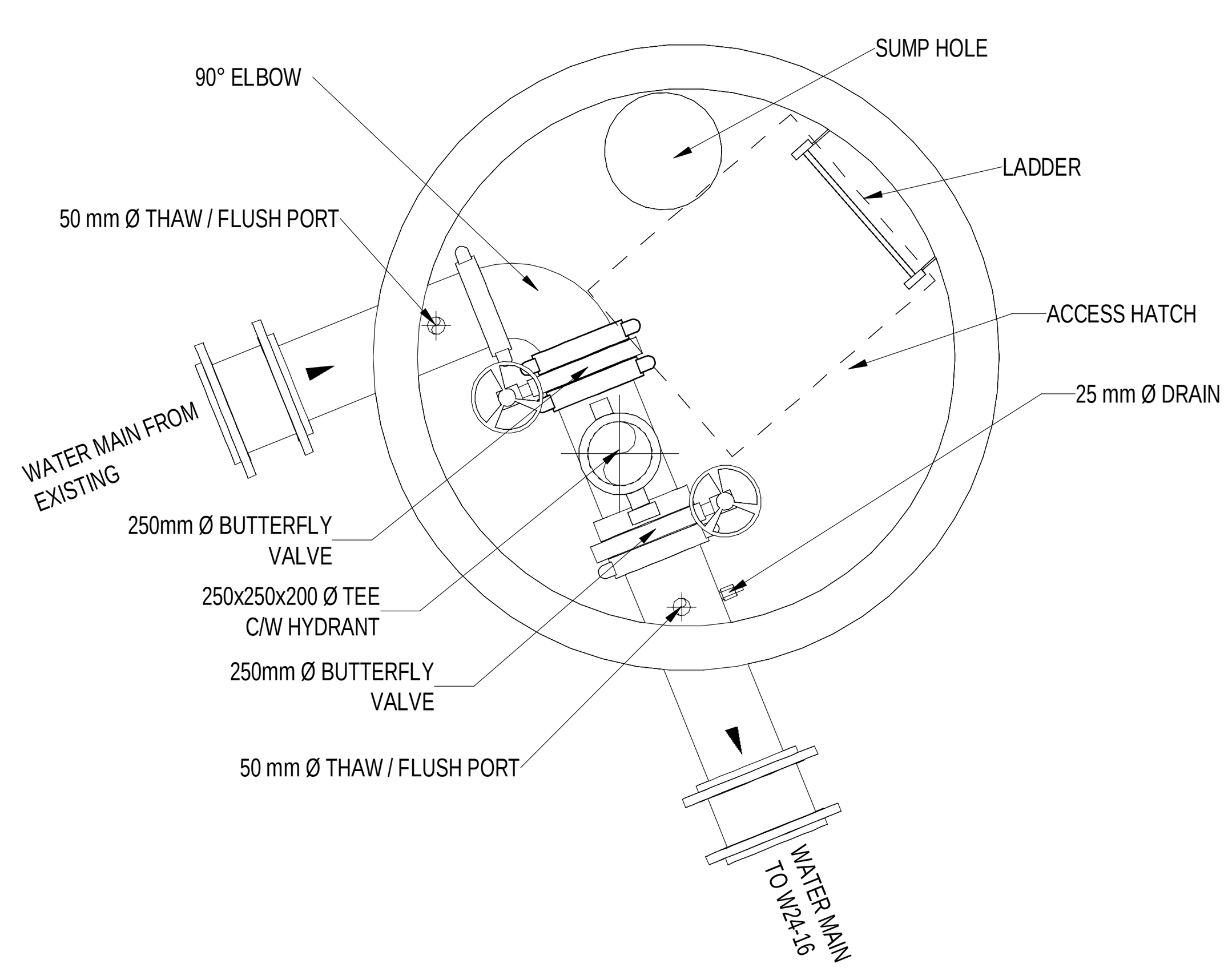
Government of Nunavut

Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT
WATER MAIN - ACCESS VAULTS
W24-10, W24-12, W24-14 AND W24-16

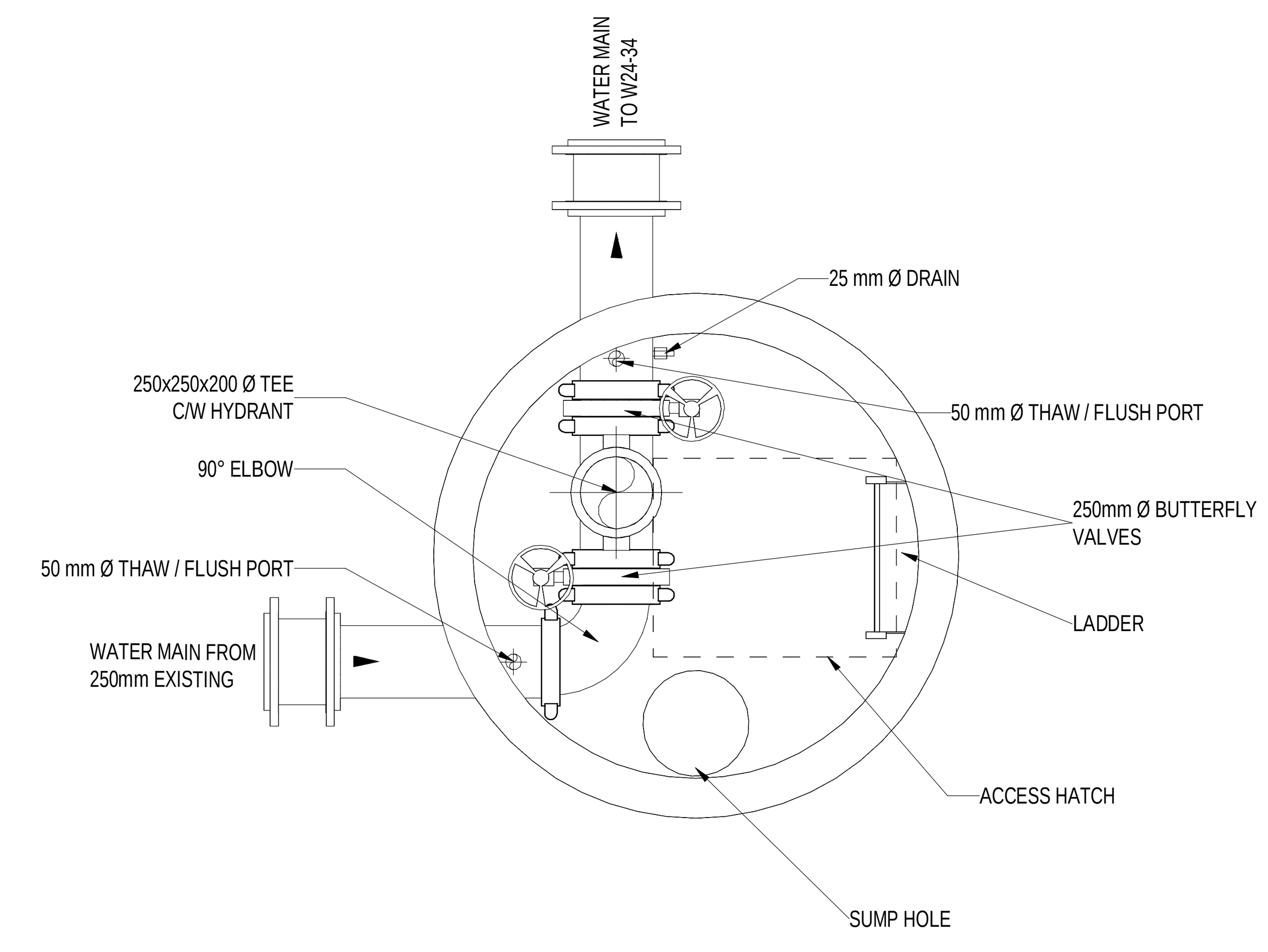
PROJECT NO. 22-5181

SHEET NO. C-207



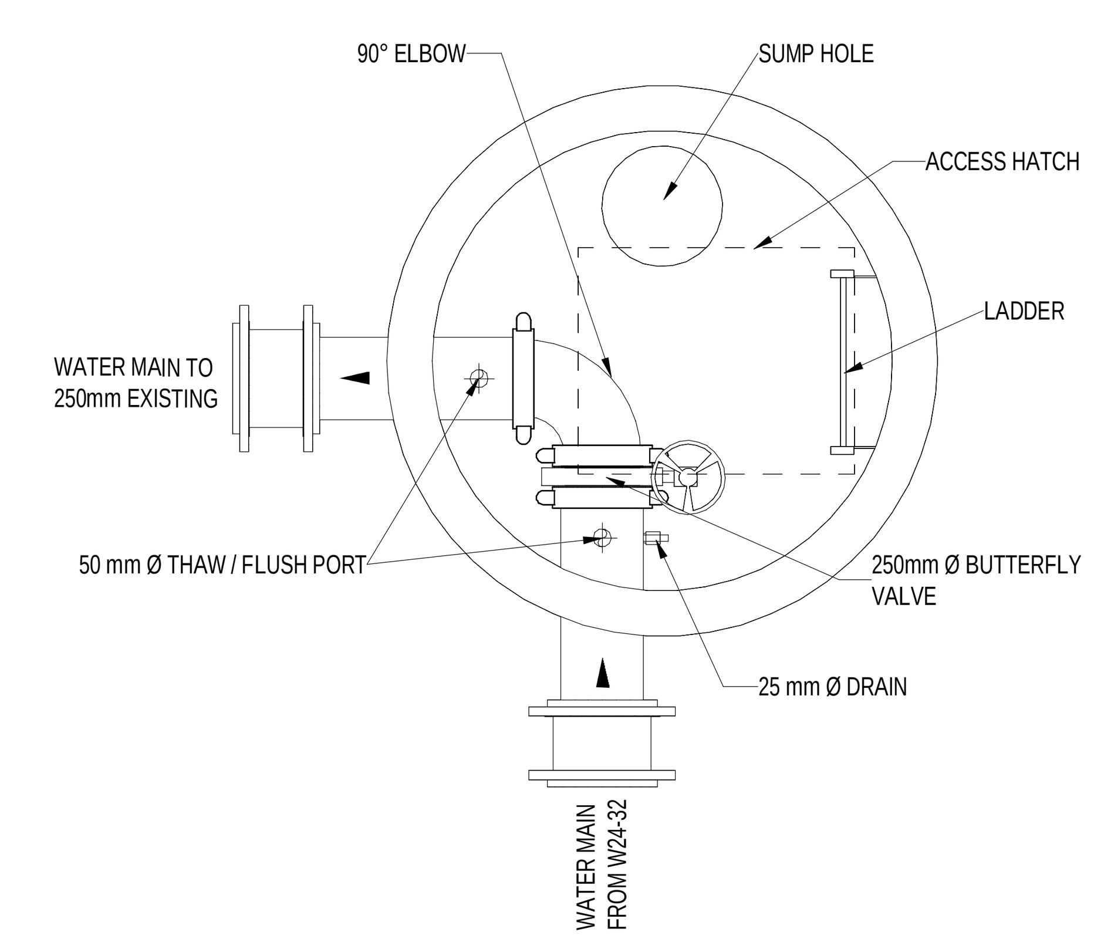
W24-18 (WATER) PLAN VIEW BELOW GRADE 7

SCALE: 1 : 25



W24-32 (WATER) PLAN VIEW BELOW GRADE 7

SCALE: 1 : 25



W24-34 (WATER) PLAN VIEW BELOW GRADE 6

SCALE: 1 : 25

W24 - 18 (WATER)				
ACCESS VAULT			WATER MAIN DIAMETERS (mm) / INVERTS (m)	
TOP (m)	FLOOR (m)	DIAMETER (mm)	EX. WAT. LINE (WEST) INLET	W24 - 16 OUTLET
22.52	20.33	1830	250 / 20.73	250 / 20.73

W24 - 32 (WATER)				
ACCESS VAULT			WATER MAIN DIAMETERS (mm) / INVERTS (m)	
TOP (m)	FLOOR (m)	DIAMETER (mm)	EX. WAT. LINE INLET	W24 - 34 OUTLET
10.65	8.04	1830	250 / 8.44	250 / 8.44

W24 - 34 (WATER)				
ACCESS VAULT			WATER MAIN DIAMETERS (mm) / INVERTS (m)	
TOP (m)	FLOOR (m)	DIAMETER (mm)	W24 - 32 INLET	EX. WAT. LINE OUTLET
11.19	8.80	1524	250 / 9.21	250 / 9.21

NOTES:
1. SEE SPECIFICATION 33 05 14.03 TELETHERMICS PRE-FABRICATED STEEL MAINTENANCE HOLES FOR ACCESS VAULT INTERNAL PIPING SPECIFICATIONS.
2. CONTRACTOR TO CONFIRM LENGTHS, FITTINGS, AND INVERTS PRIOR TO CONSTRUCTION.

PLOT DATE: 3/4/2024 8:15:32 AM
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THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER P 010
DILLON CONSULTING LIMITED

2024-03-04
REGISTERED PROFESSIONAL ENGINEER S.J. GREELEY LICENSEE L 5088 NT/NU

RE-IUSSED FOR CONSTRUCTION

Canada
Nunavut
DILLON CONSULTING

No.	ISSUED FOR	DATE	BY
7	RE-ISSUED FOR CONSTRUCTION	03/04/2024	KJ
6	ISSUED FOR CONSTRUCTION	12/06/2023	KJ
5	REVISED - ISSUED FOR TENDER ADDENDUM	08/04/2023	KJ
4	ISSUED FOR TENDER	07/07/2023	KJ
3	ISSUED FOR INTERNAL REVIEW	06/23/2023	KJ
2	RE-ISSUED FOR 75% REVIEW	05/31/2023	KJ
1	ISSUED FOR 75% REVIEW	05/01/2023	KJ

DESIGN: KJ | REVIEWED BY: KJ
DRAWN: SCC | CHECKED BY: KJ
DATE: MARCH 2024
SCALE: As indicated

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT WATER MAIN - ACCESS VAULT W24-18, W24-32, AND W24-34

PROJECT NO. 22-5181
SHEET NO. C-208

1 IPIKTUQ STREET SANITARY AND WATER ALIGNMENTS
C-001
1:400

SCALE 1:400 METRES

1 IPIKTUQ STREET - SANITARY							
No.	LENGTH (m)	RADIUS (m)	DIRECTION (DD MM SS")	START POINT	START STATION	END POINT	END STATION
SL-1000	41.353		S18 29 04"E	N6964360.539 E546510.902	1+000.000	N6964321.319 E546524.013	1+041.353
SC-1002	11.195	30.344	S07 54 56"E	N6964321.319 E546524.013	1+041.353	N6964310.294 E546525.546	1+052.547
SC-1003	12.499	27.232	S53 29 38"E	N6964310.294 E546525.546	1+052.547	N6964302.924 E546535.505	1+065.046
SC-1004	23.223	27.628	S44 34 12"E	N6964302.924 E546535.505	1+065.046	N6964286.862 E546551.327	1+088.270
SL-1006	15.218		S18 32 13"E	N6964286.862 E546551.327	1+088.270	N6964272.434 E546556.165	1+103.487
SC-1000	3.086	30.000	S21 29 02"E	N6964272.434 E546556.165	1+103.487	N6964269.564 E546557.295	1+106.573
SL-1001	40.464		S24 25 52"E	N6964269.564 E546557.295	1+106.573	N6964232.723 E546574.030	1+147.037
SL-1002	24.335		S24 25 52"E	N6964232.723 E546574.030	1+147.037	N6964210.567 E546584.095	1+171.372
SL-1003	17.642		S28 01 01"E	N6964210.567 E546584.095	1+171.372	N6964194.993 E546592.382	1+189.014
SC-1001	11.029	30.000	S38 32 58"E	N6964194.993 E546592.382	1+189.014	N6964186.415 E546599.217	1+200.043
SL-1004	17.643		S49 04 54"E	N6964186.415 E546599.217	1+200.043	N6964174.860 E546612.548	1+217.686
SL-1005	37.544		S52 41 57"E	N6964174.860 E546612.548	1+217.686	N6964152.108 E546642.413	1+255.230

1 IPIKTUQ STREET - WATER							
No.	LENGTH (m)	RADIUS (m)	DIRECTION (DD MM SS")	START POINT	START STATION	END POINT	END STATION
WL-1007	1.141		S29 33 52"E	N6964357.727 E546508.703	1+000.000	N6964356.734 E546509.266	1+001.141
WC-1005	8.357	118.656	S27 08 49"E	N6964356.734 E546509.266	1+001.141	N6964349.300 E546513.078	1+009.498
WL-1008	22.537		S18 29 04"E	N6964349.300 E546513.078	1+009.498	N6964327.925 E546520.223	1+032.035
WC-1009	3.187	30.000	S15 26 28"E	N6964327.925 E546520.223	1+032.035	N6964324.855 E546521.071	1+035.222
WL-1013	5.457		S14 40 12"E	N6964324.855 E546521.071	1+035.222	N6964319.576 E546522.453	1+040.679
WC-1010	12.726	35.568	S02 14 45"W	N6964319.576 E546522.453	1+040.679	N6964306.927 E546521.957	1+053.405
WL-1014	7.220		S64 47 22"E	N6964306.927 E546521.957	1+053.405	N6964303.852 E546528.490	1+060.625
WC-1011	3.033	25.000	S62 38 02"E	N6964303.852 E546528.490	1+060.625	N6964302.458 E546531.182	1+063.659
WL-1015	6.107		S66 06 36"E	N6964302.458 E546531.182	1+063.659	N6964299.985 E546536.766	1+069.765
WC-1012	19.364	25.139	S44 02 37"E	N6964299.985 E546536.766	1+069.765	N6964286.408 E546549.897	1+089.129
WL-1016	15.774		S18 32 13"E	N6964286.408 E546549.897	1+089.129	N6964271.452 E546554.912	1+104.903
WC-1006	2.194	21.151	S21 30 29"E	N6964271.452 E546554.912	1+104.903	N6964269.412 E546555.716	1+107.097
WL-1009	64.578		S24 25 52"E	N6964269.412 E546555.716	1+107.097	N6964210.616 E546582.425	1+171.675
WC-1007	1.565	25.000	S26 13 27"E	N6964210.616 E546582.425	1+171.675	N6964209.213 E546583.117	1+173.240
WL-1010	16.627		S28 01 01"E	N6964209.213 E546583.117	1+173.240	N6964194.534 E546590.927	1+189.867
WC-1008	12.132	33.000	S38 32 58"E	N6964194.534 E546590.927	1+189.867	N6964185.099 E546598.445	1+201.999
WL-1011	17.411		S49 04 54"E	N6964185.099 E546598.445	1+201.999	N6964173.695 E546611.602	1+219.410
WL-1012	39.458		S52 45 22"E	N6964173.695 E546611.602	1+219.410	N6964149.815 E546643.013	1+258.868

ISSUED FOR CONSTRUCTION

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DESIGN KJ | REVIEWED BY KJ
DRAWN TW | CHECKED BY KJ
DATE MARCH 2024
SCALE 1:400

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT ALIGNMENT PLAN IPIKTUQ STREET SANITARY AND WATER

PROJECT NO. 22-5181

SHEET NO. C-401

1 (C-001) INUKSHUK AND TARIUQ AVENUE SANITARY AND WATER ALIGNMENTS

1:400

SCALE 1:500 METRES

2 INUKSHUK TARIUQ AVENUE - SANITARY							
No.	LENGTH (m)	RADIUS (m)	DIRECTION (DD MM SS")	START POINT	START STATION	END POINT	END STATION
SL-2000	82.343		N65 23 07"E	N6964310.294 E546525.546	2+000.000	N6964344.591 E546600.406	2+082.343
SC-2000	4.192	30.000	N58 53 18"E	N6964356.291 E546623.658	2+108.373	N6964358.455 E546627.244	2+112.566
SL-2002	4.190		N54 53 06"E	N6964358.455 E546627.244	2+112.566	N6964360.865 E546630.672	2+116.756
SL-2003	16.934		N62 49 33"E	N6964360.865 E546630.672	2+116.756	N6964368.599 E546645.736	2+133.690
SC-2001	6.527	30.000	N56 35 36"E	N6964368.599 E546645.736	2+133.690	N6964372.185 E546651.174	2+140.217
SL-2004	11.300		N50 21 38"E	N6964372.185 E546651.174	2+140.217	N6964379.394 E546659.876	2+151.516
SC-2002	3.237	30.000	N47 16 10"E	N6964379.394 E546659.876	2+151.516	N6964381.589 E546662.252	2+154.753
SL-2005	6.174		N42 34 06"E	N6964381.589 E546662.252	2+154.753	N6964386.136 E546666.429	2+160.927
SL-2006	2.068		N48 59 20"E	N6964386.136 E546666.429	2+160.927	N6964387.493 E546667.989	2+162.995

2 INUKSHUK TARIUQ AVENUE - WATER							
No.	LENGTH (m)	RADIUS (m)	DIRECTION (DD MM SS")	START POINT	START STATION	END POINT	END STATION
WL-2016	30.586		N63 32 39"E	N6964342.262 E546598.723	2+084.519	N6964355.888 E546626.106	2+115.105
WC-2006	4.534	30.000	N59 12 53"E	N6964355.888 E546626.106	2+115.105	N6964358.206 E546629.998	2+119.639
WL-2017	4.185		N54 53 06"E	N6964358.206 E546629.998	2+119.639	N6964360.613 E546633.421	2+123.824
WL-2018	14.696		N62 49 33"E	N6964360.613 E546633.421	2+123.824	N6964367.325 E546646.494	2+138.519
WC-2007	6.853	31.500	N56 35 36"E	N6964367.325 E546646.494	2+138.519	N6964371.090 E546652.204	2+145.372
WL-2019	11.565		N50 21 38"E	N6964371.090 E546652.204	2+145.372	N6964378.468 E546661.110	2+156.937
WC-2008	5.097	30.000	N45 29 34"E	N6964378.468 E546661.110	2+156.937	N6964382.037 E546664.741	2+162.035
WL-2020	3.720		N40 37 30"E	N6964382.037 E546664.741	2+162.035	N6964384.861 E546667.163	2+165.755
WL-2021	2.053		N47 24 04"E	N6964384.861 E546667.163	2+165.755	N6964386.250 E546668.674	2+167.807

DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE (519) 438-6192, FAX (519) 672-8209

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PERMIT NUMBER
P 010
DILLON CONSULTING LIMITED

ISSUED FOR CONSTRUCTION

Canada

Nunavut

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DESIGN: KJ
REVIEWED BY: KJ
DRAWN: TW
CHECKED BY: KJ
DATE: MARCH 2024
SCALE: 1:250 1:50

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT
ALIGNMENT PLAN
INUKSHUK - TARIUQ AVENUE SANITARY AND WATER

PROJECT NO. 22-5181

SHEET NO. C-402

1 C-001 TIRIGANIAQ ALLEY SANITARY AND WATER ALIGNMENTS

1:250

SCALE 1:250 METRES

3 TIRIGANIAQ ALLEY - SANITARY							
No.	LENGTH (m)	RADIUS (m)	DIRECTION (DD MM SS")	START POINT	START STATION	END POINT	END STATION
SL-3000	8.899		S18 25 03"E	N6964475.940 E546620.754	3+000.000	N6964467.497 E546623.566	3+008.899
SL-3001	4.778		S18 25 42"E	N6964467.497 E546623.566	3+008.899	N6964462.965 E546625.076	3+013.676
SL-3002	6.546		S18 25 34"E	N6964462.965 E546625.076	3+013.676	N6964456.755 E546627.145	3+020.222
SL-3003	12.349		S16 06 46"E	N6964456.755 E546627.145	3+020.222	N6964444.891 E546630.572	3+032.571
SL-3004	11.044		S18 34 16"E	N6964444.891 E546630.572	3+032.571	N6964434.422 E546634.090	3+043.615
SL-3005	12.936		S18 33 54"E	N6964434.422 E546634.090	3+043.615	N6964422.159 E546638.208	3+056.551
SL-3006	45.964		S37 49 18"E	N6964422.159 E546638.208	3+056.551	N6964385.851 E546666.394	3+102.515
SL-3007	45.964		S37 49 18"E	N6964422.159 E546638.208	3+056.551	N6964385.851 E546666.394	3+102.515

3 TIRIGANIAQ ALLEY - WATER							
No.	LENGTH (m)	RADIUS (m)	DIRECTION (DD MM SS")	START POINT	START STATION	END POINT	END STATION
WL-3008	2.313		S18 43 35"E	N6964473.862 E546619.223	3+000.000	N6964471.672 E546619.966	3+002.313
WL-3009	1.290		S24 05 15"E	N6964471.672 E546619.966	3+002.313	N6964470.494 E546620.492	3+003.603
WL-3010	3.306		S25 34 01"E	N6964470.494 E546620.492	3+003.603	N6964467.512 E546621.919	3+006.909
WL-3011	4.062		S19 16 30"E	N6964467.512 E546621.919	3+006.909	N6964463.677 E546623.260	3+010.971
WL-3012	9.463		S18 21 50"E	N6964463.677 E546623.260	3+010.971	N6964454.696 E546626.241	3+020.434
WL-3013	11.379		S15 52 39"E	N6964454.696 E546626.241	3+020.434	N6964443.751 E546629.355	3+031.813
WL-3014	21.061		S18 36 56"E	N6964443.751 E546629.355	3+031.813	N6964423.792 E546636.078	3+052.874
WL-3015	21.061		S18 36 56"E	N6964443.751 E546629.355	3+031.813	N6964423.792 E546636.078	3+052.874

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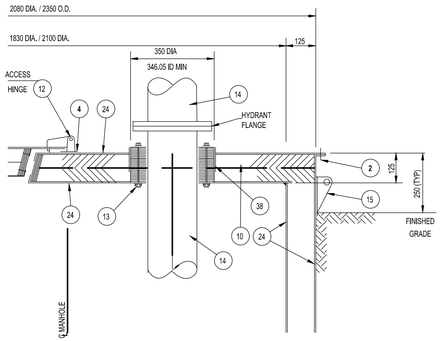
DESIGN: KJ | REVIEWED BY: KJ
DRAWN: TW/SC | CHECKED BY: KJ
DATE: MARCH 2024
SCALE: 1:250 1:50

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

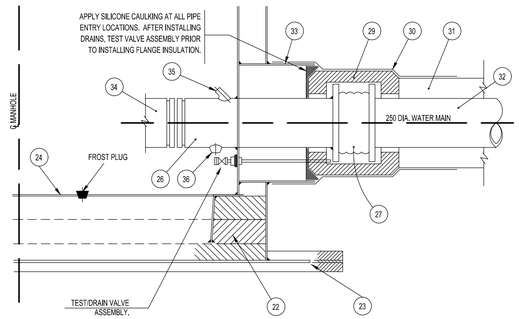
UTILIDOR REPLACEMENT
ALIGNMENT PLAN
TIRIGANIAQ ALLEY SANITARY AND WATER

PROJECT NO. 22-5181

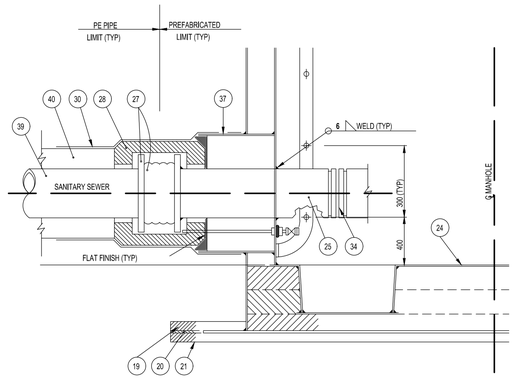
SHEET NO. C-403



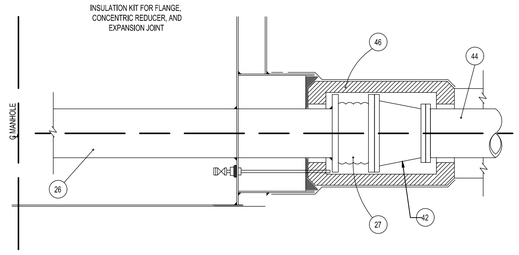
1 TYPICAL HYDRANT ACCESS VAULT PENETRATION
N.T.S.



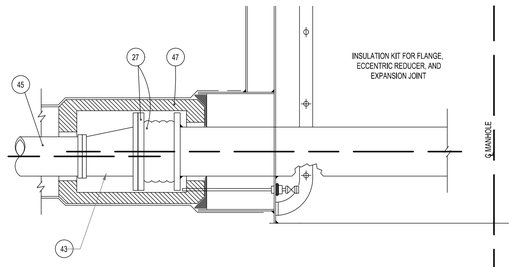
2 TYPICAL WATERMAIN ACCESS VAULT PENETRATION
N.T.S.



3 TYPICAL SANITARY ACCESS VAULT PENETRATION
N.T.S.



4 TYPICAL WATERMAIN ACCESS VAULT PENETRATION WITH INCREASER/REDUCER
N.T.S.



5 TYPICAL SANITARY SEWER ACCESS VAULT PENETRATION WITH ECCENTRIC INCREASER/REDUCER
N.T.S.

GENERAL NOTES:

1. CONSTRUCT ACCESS VAULTS FROM 6mm STEEL PLATE WITH CONTINUOUS (FULLY) WELDED CONSTRUCTION. FABRICATE COMPLETELY PRIOR TO EPOXY COATING. WELDING & FABRICATION TO CSA W59-1977 & W47-1-1973.
2. ALL STEEL TO BE CASA G40-21 /TYPE 260W, OR ASTM A36-62T.
3. ALL PIPING INSIDE THE ACCESS VAULTS IS TO BE PREFABRICATED TO THE LIMITS SHOWN ON THE TYPICAL SECTION AND AS SHOWN ON THE PLANS. PROVIDE PIPE ENTRY SPOOL PIECES, LADDER MOUNTING STUDS & ALL OTHER ACCESS VAULT HARDWARE, ETC., AS REQUIRED, PRE-WELDED IN PLACE PRIOR TO SANDBLASTING AND EPOXY COATING.
4. ALL PREFABRICATED STEEL PARTS OF ACCESS VAULT (EXCEPT TOP PLATE, HATCH AND LADDER) INCLUDING PIPE ENTRY SPOOL PIECES, SHALL BE SANDBLASTED AND EPOXY COATED INSIDE AND OUTSIDE.
5. TOP PLATE, HATCH, HINGES & LADDER, SHALL BE HOT DIPPED GALVANIZED TO CSA G164 MINIMUM 610 G/M2.
6. ALL NUTS, BOLTS, WASHERS, SCREW ETC., HOT DIPPED OR CADMIUM PLATED.
7. FLANGE INSULATION KITS AND STYROFOAM ACCESS VAULT BASE INSULATION SUPPLIED AS PART OF ACCESS VAULTS.
8. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED.

KEY TO NUMBERED PARTS:

1. GASKET 50 mm X 3 mm, COMPRESSIBLE NEOPRENE RUBBER.
2. 12 mm Ø GALVANI ED STEEL BOLTS, NUTS AND WASHERS @ 210 mm EQUAL SPACING.
3. HASP ASSEMBLY.
4. 50 mm X 60 mm X 12 mm STEEL HINGE BASE PLATE WELDED TO ACCESS VAULT TOP.
5. 19 mm X 38 mm 35 DUROMETER SOFT NATURAL RUBBER STRIP (REVERSIBLE) GASKET TO ACHIEVE AIRTIGHT & WATERPROOF SEAL ALL AROUND.
6. 50 mm X 4 mm STEEL BAR WELDED TO LID.
7. LIFTING EYE 12 mm Ø STEEL DIA. STEEL X 40 mm INSIDE LOOP.
8. 6 mm GALVANIZED STEEL NUT, COUNTERSUNK BOLT & WASHER @ 100 mm CENTERS.
9. 6 mm X 19 mm GALVANIZED STEEL COUNTERSUNK SHEET METAL SCREWS @ 100 mm CENTRES.
10. POLYURETHANE SHEET INSULATION, 240 KPA CUT TO SIZE.
11. 20 mm THICK HIGH DENSITY POLYETHYLENE.
12. HINGES SPACED AT 400 mm APART.
13. LINK-SEAL MODEL LS-525-C (200X350) OR APPROVED EQUAL TO FIT ITEMS 14 & 40.
14. 200 mm CRANE MCAVITY M-67 "IN-LINE" FIRE HYDRANT.
15. LIFTING LUGS - TWO PER ACCESS VAULT. 150 mm X 75 mm X 12 mm THK. WITH 38 mm Ø LIFTING EYE, C/W 200 X 200 X 12 STEEL REINFORCING PLATE CURVED TO RADIUS, CONTINUOUSLY WELDED. CAPACITY OF LIFTING LUGS TO BE CONFIRMED BY MANUFACTURER.
16. 65 mm Ø THREADED STEEL HALF NIPPLE CONDUIT SLEEVE (FOR EXTENSION CORD OR SUMP PUMP DISCHARGE) IN APPROPRIATE LOCATION, C/W THREADED GALV. STEEL CAPS.
17. SPRAYED POLYURETHANE INSULATION, 240 KPA.
18. LADDER. LENGTH AS REQUIRED. 450 mm WIDE MADE FROM 65 mm X 12 mm FLAT BAR VERTICALS & SUPPORTS WITH 20 mm DIA. RUNGS. WELDED CONSTRUCTION THROUGHOUT. ALL EDGES TO BE GROUND SMOOTH. GALVANIZE AFTER FABRICATION. FASTEN WITH STUDS WELDED TO INNER WALL. FALL ARREST TIE OFF POINT TO BE SUPPLIED. CAPACITY AND DESIGN TO BE COMPLETED BY MANUFACTURER.
19. 38 mm THICK STYROFOAM, 4 PCS, OUTER EDGE TO MATCH ITEM 21 - DOW CHEMICAL HI 60, 410 KPA COMPRESSIVE STRENGTH.
20. FILLER PIECE. 10 mm THICK STYROFOAM INSULATION DOW CHEMICAL HI 60.
21. 38 mm THICK X 2438 X 2438 STYROFOAM INSULATION DOW CHEMICAL HI 60.
22. POLYURETHANE SHEET INSULATION CUT TO SIZE, 240 KPA.
23. 10 mm THICK X 2438 X 2438 SQUARE STEEL BASE PLATE.
24. 6 mm THICK STEEL PLATE ACCESS VAULT CONSTRUCTION.
25. SANITARY SEWER ENTRY. SCHEDULE 40 STEEL PIPE SPOOL PIECE.
26. WATER MAIN ENTRY. SCHEDULE 40 STEEL PIPE SPOOL PIECE.
27. GF MULTI/JOINT 3007 RESTRAINT COUPLING OR APPROVED EQUAL. REFER TO SPECIFICATIONS. COMES WITH STAINLESS STEEL PIPE STIFFENER INSERTS.
28. INSULATION KIT FOR 200mmØ / 300Ø FLANGE + EXPANSION JOINT, (MASTIC COAT INNER SURFACES) AND FRP COATING.
29. INSULATION KIT FOR 250mmØ FLANGE + EXPANSION JOINT, (MASTIC COAT INNER SURFACAES) AND FRP COATING.
30. RAYCHEM THERMACLAD HEAT SHRINK TAPE, 2 LAYER, MIN. 50% OVERLAP EACH WRAP.
31. 75 mm THICK POLYURETHANE INSULATION HALVES OR PE PIPE PRE-INSULATION TO SUIT PIPE SIZES.
32. 250 mm (IP SIZE) DR 11 HDPE WATER MAIN.
33. STEEL RING SECTION WELDED TO ACCESS VAULT OUTER WALL.
34. 304 SCHEDULE 40 STAINLESS STEEL PIPING.
35. 50 mm Ø LATROLET.
36. 25 mm Ø THREADOLET.
37. STEEL RING SECTION WELDED TO ACCESS VAULT OUTER WALL..
38. 350 mm Ø SCHEDULE 10 (346 mm ID) STEEL PIPE X 100 M LONG WELDED TO ACCESS VAULT TOP PLATE.
39. 300 mm Ø (IP SI E) DR 11 HDPE SEWER MAIN.
40. 75 mm THICK POLYURETHANE INSULATION HALVES OR PE PIPE PRE-INSULATION TO SUIT PIPE SIZES.
41. POLYETHYLENE LINER TUBE, PACK WITH STYROFOAM INSULATION.
42. CONCENTRIC INCREASER/REDUCER TO MATCH EXTERIOR PIPE SIZE.
43. ECCENTRIC INCREASER/REDUCER TO MATCH EXTERIOR PIPE SIZE.
44. HDPE WATER MAIN.
45. HDPE SANITARY SEWER.
46. INSULATION KIT FOR FLANGE, CONCENTRIC REDUCER AND EXPANSION JOINT, (MASTIC COAT INNER SURFACES) AND FRP COATING.
47. INSULATION KIT FOR FLANGE, ECCENTRIC REDUCER AND EXPANSION JOINT, (MASTIC COAT INNER SURFACES) AND FRP COATING.

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER P 010
DILLON CONSULTING LIMITED

ISSUED FOR CONSTRUCTION

No.	ISSUED FOR	DATE	BY
7			
6	RE-ISSUED FOR CONSTRUCTION	03/04/24	KJ
5	ISSUED FOR CONSTRUCTION	12/06/23	KJ
4	REVISED - ISSUED FOR TENDER ADDENDUM	08/06/23	KJ
3	ISSUED FOR TENDER	07/07/23	KJ
2	ISSUED FOR INTERNAL REVIEW	06/23/23	KJ
1	RE-ISSUED FOR 75% REVIEW	05/31/23	KJ
	ISSUED FOR 75% REVIEW	05/01/23	KJ

DESIGN KJ | REVIEWED BY KJ
DRAWN TW/SC | CHECKED BY KJ
DATE MARCH 2024
SCALE AS SHOWN

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT
TYPICAL DETAILS
WATER AND SANITARY VAULT PENETRATION DETAILS

PROJECT NO. 22-5181
SHEET NO. C-501

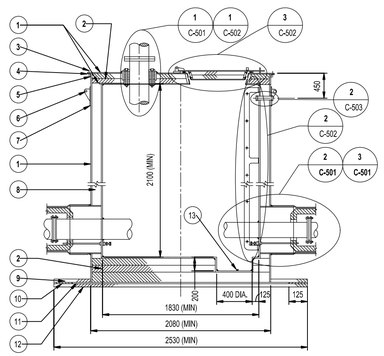
FILENAME: C:\PW WORKING DIRECTORY\PROJECTS 2022\DILLON_SSLEW\DMS8786B\225181-02-2B-TYP-CON.DWG PLOTTED BY: WOODFORD, LYDIA
PLOT DATE: 2024-06-10 @ 12:13:38 PM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON_STANDARD.CTB

KEY TO NUMBERED PARTS:

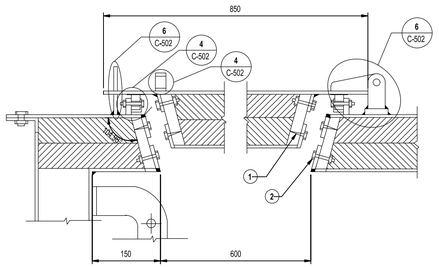
1. 6 mm THICK STEEL PLATE ACCESS VAULT CONSTRUCTION
2. URETHANE SHEET INSULATION CUT TO SIZE
3. 12 mm CAD. PLATED STEEL BOLT, NUT, WASHER 32 mm MIN AT EQUAL SPACING
4. 3 mm x 5 mm COMPRESSIBLE NEOPRENE RUBBER GASKET
5. 10 mm THICK 50 mm x 50 mm MIN. ANGLE WELDED FULL LENGTH
6. LIFTING LUGS - TWO PER ACCESS VAULT, 150 mm x 75 mm x 12 mm THICK WITH 38 DIA. LIFTING EYE. CAPACITY OF LIFTING LUGS TO BE CONFIRMED BY MANUFACTURER.
7. REINFORCING PLATE 200 mm x 200 mm x 12 mm CURVED TO EXTERIOR WALL RADIUS
8. FORMED IN PLACE INSULATION (URETHANE)
9. 38 mm THICK STYROFOAM CUT TO MATCH EXTERIOR WALL RADIUS
10. FILLER PIECE - 10 mm THICK INSULATION
11. 10 mm THICK STEEL BASE PLATE
12. 38 mm THICK INSULATION
13. FROST PLUG

ACCESS VAULT - GENERAL NOTES:

1. CONSTRUCT ACCESS VAULTS FROM 6mm STEEL PLATE WITH CONTINUOUS (FULLY) WELDED CONSTRUCTION. FABRICATE COMPLETELY PRIOR TO EPOXY COATING. WELDING AND FABRICATION TO CSA W59-1977 % W47-1-1973.
2. ALL STEEL TO BE CSA G40.21 TYPE 260W OR ASTM A36-62T.
3. ALL PIPING INSIDE THE ACCESS VAULT TO BE PREFABRICATED TO THE LIMITS SHOWN ON THE TYPICAL SECTION AND SHOWN ON THE LAYOUT PLANS.
4. PROVIDE PIPE ENTRY SPOOL PIECES, LADDER MOUNTING STUDS & ALL OTHER ACCESS VAULT PARTS, ETC. AS REQUIRED, PRE-WELDED IN PLACE PRIOR TO SANDBLASTING AND EPOXY COATING.
5. ALL PREFABRICATED STEEL PARTS OF THE ACCESS VAULT (EXCEPT TOP PLATE HATCH AND LADDER) SHALL BE SANDBLASTED AND EPOXY COATED INSIDE AND OUTSIDE AS PER SPECIFICATIONS.
6. TOP PLATE, HATCH, HINGE, & LADDER SHALL BE HOT DIPPED GALVANIZED TO CSA G164 MINIMUM 610g/m2.
7. ALL NUTS, BOLTS, WASHERS, SCREWS ETC. SHALL BE ZINC PLATED OR CAMIUM PLATED.
8. FLANGE INSULATION KITS AND STYROFOAM ACCESS VAULT BASE INSULATION SUPPLIED AS PART OF THE ACCESS VAULT.
9. HYDRANT, AND LINK SEAL JOINT TO BE SHIPPED SEPARATELY (INSIDE ACCESS VAULT).
10. PRIOR TO SHIPPING, ALL FACES OF FLANGES PROJECTING OUTSIDE THE ACCESS VAULT SHALL PROTECTED BY 5/8" THICK PLYWOOD COVER BY 4 BOLTS.
11. PROVIDED WITH EACH ACCESS VAULT SHALL BE FOUR 200mm DIA. STEEL BUMPER POST, ONE TO INCLUDE SIGN.
12. PAINT SPECIFICATIONS:
    A. SANDBLAST SSPC SP10
    B. 2 COATS OF INTEGARD EX HB FROM INTERNATIONAL, 16 MILS DRY THICKNESS
    C. COLOURS: OUTSIDE - GREY , INSIDE - BEIGE



1 ACCESS VAULT DETAIL
N.T.S.

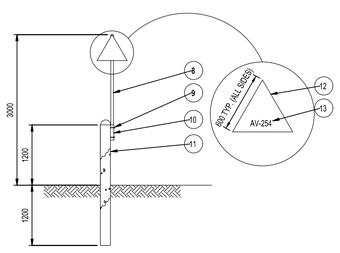


ACCESS VAULT COVER

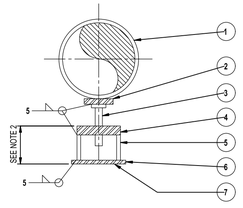
KEY TO NUMBERED PARTS:

1. #12-30 PAN HEAD SHEET METAL SCREWS AT 100 SPACING
2. 6 mm GALVANIZED BOLTS, NUT, & WASHER AT 100 mm SPACING

3 ACCESS VAULT COVER DETAIL
N.T.S.



BUMPER POST DETAIL



PIPE SUPPORT DETAIL

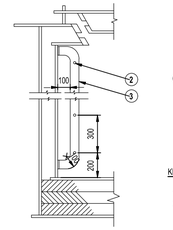
NOTES:

1. SEE DETAIL 1 ON THIS SHEET FOR GENERAL ACCESS VAULT NOTES.
2. HEIGHT TO BE 100 mm FOR SANITARY OR WATER IN SEPARATE AV, 500mm FOR WATER IN COMMON AV.
3. POST, SLEEVE AND MAST TO BE PAINTED RED AFTER FABRICATION.
4. 4 BOLLARDS REQUIRED PER ACCESS VAULT. ONE BOLLARD PER ACCESS VAULT TO INCLUDE MAST AND SIGN.
5. BACKFILL WITH MODIFIED GRANULAR 'B'

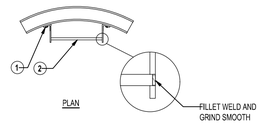
KEY TO NUMBERED PARTS:

1. WATER MAIN - HOT DIPPED GALV. STEEL PIPING
2. 75 mm DIA. x 12 THICK PLATE
3. 20 mm x 15 'O' BOLT
4. 20 THICK PLATE DRILLED AND TAPPED
5. 100 mm DIA. SCHEDULE 40 STEEL PIPE
6. 150 mm x 150 mm x 12 mm THICK PLATE
7. 2 - 15mm DIA. HOLES
8. 50mm DIA. GALV. STEEL PIPE MAST - 4 - 11mm DIA. BOLT HOLES
9. 2 - 9mm DIA. x 89 mm LONG GALV. BOLTS THROUGH SLEEVE AND MAST.
10. 65 mm DIA. STEEL SLEEVE WELDED TO POST, c/w 2 - 11 mm DIA. DRILLED HOLES
11. 200 mm DIA. STEEL PIPE POST EPOXY COATED AND FILLED WITH CONCRETE
12. 3 mm THICK STEEL PLATE SIGN PAINTED RED c/w 2 - 11mm DIA. DRILLED BOLT HOLES. SIGN SECURED TO MAST WITH 2 - 9mm DIA x 76 LG. GALV. BOLTS
13. WHITE LETTERING, 100mm HIGH. LETTERING TO MATCH ACTUAL ACCESS VAULT NUMBERING.

6 ACCESS VAULT MISCELLANEOUS DETAILS 2
N.T.S.



ELEVATION



PLAN

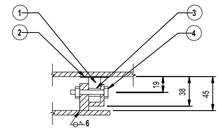
FILLET WELD AND GRIND SMOOTH

NOTE:
1. LADDER TO BE HOT DIPPED GALVANIZED AFTER FABRICATION

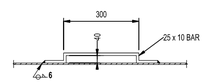
KEY TO NUMBERED PARTS:

1. 12 mm DIA. STUD WELDED TO INNER WALL C/W FASTENING NUTS
2. 20 mm DIA. RUNGS INSERTED HALFWAY THROUGH HOLES IN STRINGER, FILLET WELD REMAINDER OF HOLE AND GRIND SMOOTH - SEE DETAIL PLAN VIEW
3. 63.5 mm x 9.5 mm FLAT BAR STRINGER, BENT TO MAKE SUPPORTS AND DRILLED THROUGH FOR RUNGS

2 LADDER DETAIL
N.T.S.



COVER SEAL DETAIL

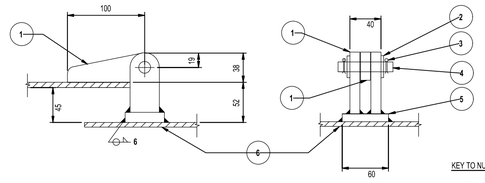


COVER HANDLE DETAIL

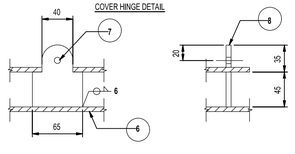
KEY TO NUMBERED PARTS:

1. 37mm DIA. METKA IND. TG-155 GASKET
2. 25mm WIDE TEFLON TAPE APPLIED TO DOOR
3. 6.5mm X 17 mm SPACER
4. 6mm X 31mm CAD. PLATED STEEL BOLT 150mm SPACING

4 ACCESS VAULT MISCELLANEOUS DETAILS 1
N.T.S.



COVER HINGE DETAIL



LOCK HASP DETAIL

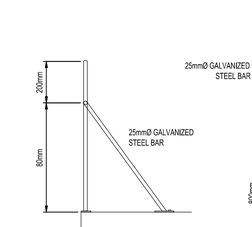
KEY TO NUMBERED PARTS:

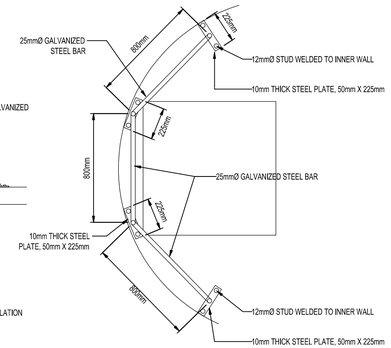
1. 13 mm HOT DIPPED GALV. STEEL PLATE
2. CAD. PLATED WASHER (TYP.)
3. COLLAR PIN (TYP.)
4. 12.7 mm DIA. CAD. PLATED PIN
5. 12 mm THICK STEEL BAR UNDER HINGES
6. 6 mm THICK STEEL PLATE ACCESS VAULT CONSTRUCTION
7. 8 mm DIA. HOLE DRILLED FOR PADLOCK
8. 6 mm THICK GALV. STEEL STAPLE

NOTES:

1. TWO HINGES ARE REQUIRED PER COVER
2. HINGES TO BE SPACED AT 400mm APART

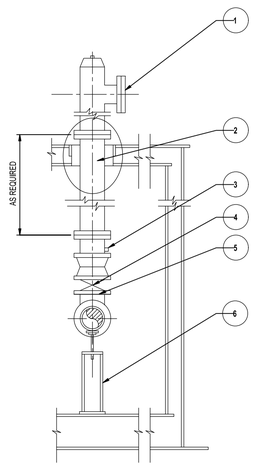
7 ACCESS VAULT COVER MISCELLANEOUS DETAILS
N.T.S.

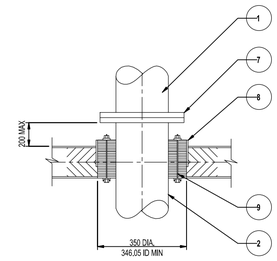




NOTE:
APPLY MASTIC ON UNDERSIDE OF BOLT PLATES PRIOR TO INSTALLATION

5 LADDER EXTENSION DETAIL
N.T.S.





KEY TO NUMBERED PARTS:

1. 200mm CRANE McAVITY M-67 "IN-LINE" FIRE HYDRANT.
2. FIRE HYDRANT BARREL.
3. VALVE & CAP TO MATCH HYDRANT DRAIN PORT.
4. 200mm LUG TYPE OR VICTAULIC BUTTERFLY VALVE COMPLETE WITH OPERATOR.
5. FLANGE TEE 1080 kPA - DIA. TO MATCH MAIN AND HYDRANT SIZE.
6. PIPE SUPPORT.
7. HYDRANT FLANGE.
8. 350 DIA. SCHEDULE 10 (364 I.D.) STEEL PIPE x 100 LONG WELDED TO ACCESS VAULT TOP PLATE.
9. LINK-SEAL MODEL LS-525-C OR APPROVED EQUIVALENT

8 FIRE HYDRANT DETAILS
N.T.S.

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No.	ISSUED FOR	DATE	BY
7			
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DESIGN: KJ | REVIEWED BY: KJ
DRAWN: TW/SC | CHECKED BY: KJ
DATE: MARCH 2024
SCALE: AS SHOWN

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

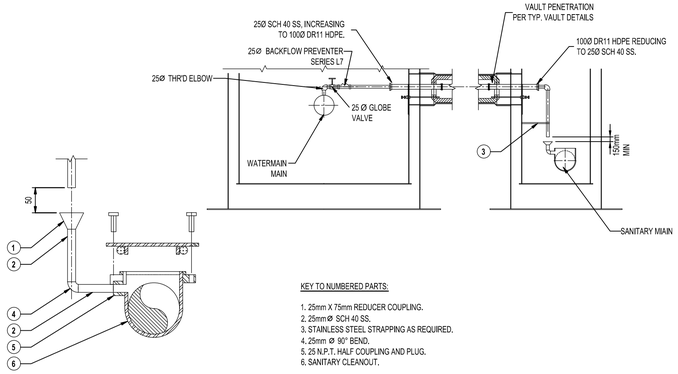
UTILIDOR REPLACEMENT
TYPICAL DETAILS
ACCESS VAULT DETAILS (1 OF 4)

PROJECT NO. 22-5181

SHEET NO. C-502

DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2. PHONE (519) 438-6192. FAX (519) 672-8209

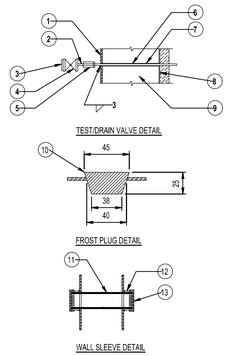
FILENAME: C:\PW WORKING DIRECTORY\PROJECTS 2022\DILLON_55LEW\DMS8766\225181-02-2B-TYP-CON.DWG PLOTTED BY: WOODFORD, LYDIA
PLOT DATE: 2024-06-19 @ 2:49:20 PM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB



KEY TO NUMBERED PARTS:

1. 25mm X 75mm REDUCER COUPLING.
2. 25mmØ SCH 40 SS.
3. STAINLESS STEEL STRAPPING AS REQUIRED.
4. 25mm Ø 90° BEND.
5. 25 N.P.T. HALF COUPLING AND PLUG.
6. SANITARY CLEANOUT.

1 WATERMAIN BLEED DETAIL
N.T.S.



TEST/DRAIN VALVE DETAIL

FROST PLUG DETAIL

WALL SLEEVE DETAIL

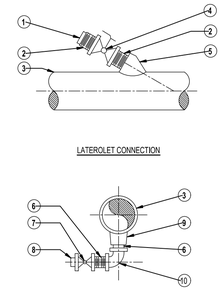
KEY TO NUMBERED PARTS:

1. 6 mm THICK STEEL PLATE ACCESS VAULT WALL
2. 12 mm DIA. GALV. ST. NIPPLE
3. 12 mm DIA. PLUG
4. 12 mm DIA. SCREWED BALL VALVE
5. 12 mm DIA. GALV. ST. COUPLING
6. 12 mm DIA. GALV. ST. PIPE
7. DRILL THROUGH SHOP CAST POLYURETHANE INSULATION
8. FLANGE INSULATION KIT BY OTHERS
9. SHOP CAST POLYURETHANE INSULATION
10. FROST PLUG TO BE MADE FROM SOLID BLACK RUBBER DRIVER TIGHTLY INTO HOLE
11. 37 mm DIA. RIGID PVC - OIL COAT SURFACE PRIOR TO INSULATING
12. 50 mm DIA. SCHEDULE 40 NIPPLE
13. 50 mm DIA. CAP

NOTES:

1. PROVIDE FROST PLUG IN FLOOR PLATE AND SUMP HOLE.
2. PLUG TO HAVE A 10mm PROJECTION ABOVE FLOOR AFTER BEING PLACED TIGHTLY INTO HOLE.
3. 2 WALL SLEEVES REQUIRED PER ACCESS VAULT.

2 MISCELLANEOUS VAULT DETAILS
N.T.S.



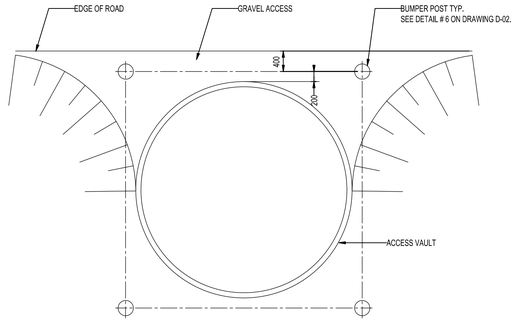
LATEROLET CONNECTION

WATER MAIN DRAIN

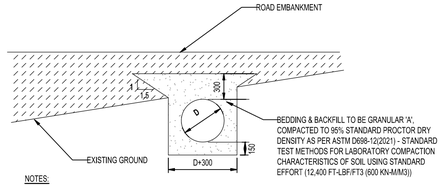
KEY TO NUMBERED PARTS:

1. 50mm DIA. N.P.T. PLUG
2. 50mm DIA. N.P.T. NIPPLE
3. WATER MAIN - HOT DIPPED GALV. STEEL PIPING
4. 50mm DIA. BALL VALVE
5. 50mm DIA. LATEROLET
6. 25mm DIA. N.P.T. SHORT NIPPLE
7. 25mm DIA. BALL VALVE
8. 25mm DIA. N.P.T. PLUG
9. 25mm DIA. N.P.T. THEODOLET
10. 25mm DIA. 90 DEGREE ELBOW N.P.T. FEMALE

3 LATEROLET AND DRAIN DETAILS
N.T.S.



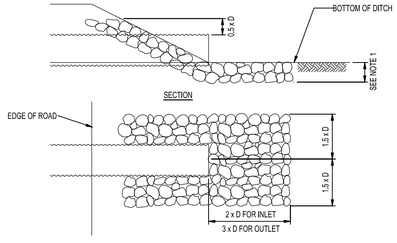
4 ACCESS VAULT BOLLARD POST DETAIL
N.T.S.



NOTES:

1. MINIMUM COVER TO BE 450mm IN ROADS AND 300mm IN DRIVEWAYS.
2. INVERT OF CULVERT TO BE 0.1D BELOW EXISTING GROUND.

5 PIPE CULVERT IN A TRENCH
N.T.S.



NOTES:

1. RIP-RAP THICKNESS TO BE 300mm FOR DIA. LESS THAN 1400mm, AND 600mm FOR DIA. GREATER THAN 1400mm.
2. RIP-RAP TO BE HAND PLACED.
3. MINIMUM CULVERT DIA. TO BE 400mm.
4. NOMINAL SIZE OR RIP-RAP TO BE 0.5 THICKNESS
5. FILTER CLOTH TO BE INSTALL UNDER ENTIRE RIP-RAP APRON.

6 CULVERT APRON DETAIL
N.T.S.

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Canada

Nunavut

DILLON CONSULTING

No.	ISSUED FOR	DATE	BY
7	RE-ISSUED FOR CONSTRUCTION	03/04/24	KJ
6	ISSUED FOR CONSTRUCTION	12/02/24	KJ
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2	RE-ISSUED FOR 75% REVIEW	05/31/23	KJ
1	ISSUED FOR 75% REVIEW	05/01/23	KJ

DESIGN: KJ | REVIEWED BY: KJ
DRAWN: TW/SC | CHECKED BY: KJ
DATE: MARCH 2024
SCALE: AS SHOWN

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

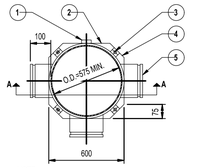
UTILIDOR REPLACEMENT
TYPICAL DETAILS
ACCESS VAULT DETAILS (2 OF 4)

PROJECT NO. 22-5181

SHEET NO. C-503

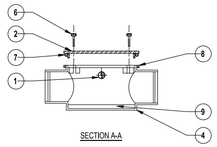
FILENAME: C:\PW WORKING DIRECTORY\PROJECTS 2022\DILLON_55LEW\DWGS7868\225181-02-2B-TYP-CON.DWG PLOTTED BY: WOODFORD, LYDIA
PLOT DATE: 2024-06-10 @ 2:40:57 PM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2. PHONE (519) 438-6192. FAX (519) 672-8209



NOTE:
1. O.D. TO BE SIZED BY CONTRACTOR

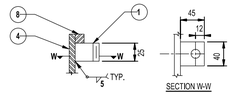
PLAN



TYPE 1 CLEANOUT - TEE

KEY TO NUMBERED PARTS:

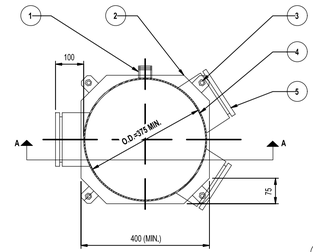
1. 25 N.P.T. HALF COUPLING AND PLUG
2. FABRICATED CLEANOUT COVER FROM 6 THICK PLATE CONTINUOUS BUTT WELDED AND HOT DIPPED GALV. AFTER FABRICATION
3. SS BOLT LUGS TAPPED 12 NC
4. FABRICATED CLEAOUT BODY FROM 6 THICK STAINLESS STEEL PLATE CONTINUOUS BUTT WELD
5. SCHEDULE 40 STEEL - NIPPLE VICTAULIC GROOVED (SIZE TO MATCH PIPE SIZE)
6. 12 NC X 73 LONG CAD PLATED HEX HEAD SCREW AND WASHER
7. 20k ONE PIECE SOFT RUBBER GASKET O RING STRETCH TO FIT COVER
8. 12 SQ. ROD RIM
9. CEMENT MORTAR BENCHING SUPPLIED AND INSTALLED BY INSTALLING CONTRACTOR



BOLT & LUG DETAIL

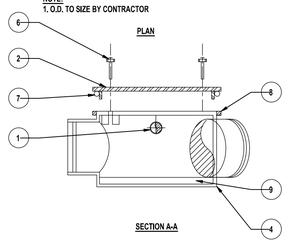
NOTE:
1. SEE DETAIL 1 ON SHEET C1001 FOR GENERAL ACCESS VAULT NOTES.

1 CLEANOUT TYPE 1 - TEE
N.T.S.



NOTE:
1. O.D. TO SIZE BY CONTRACTOR

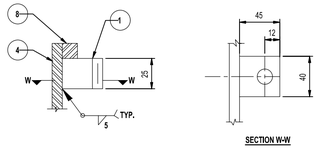
PLAN



TYPE 1 CLEANOUT - WYE

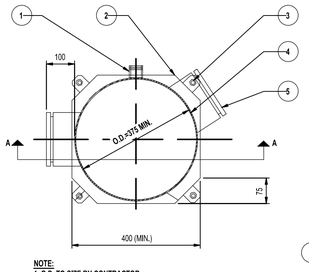
KEY TO NUMBERED PARTS:

1. 25 N.P.T. HALF COUPLING AND PLUG
2. FABRICATED CLEANOUT COVER FROM 6 THICK STAINLESS STEEL PLATE CONTINUOUS BUTT WELDED
3. SS BOLT LUGS TAPPED 12 NC
4. FABRICATED CLEAOUT BODY FROM 6 THICK STAINLESS STEEL PLATE CONTINUOUS BUTT WELD
5. SCHEDULE 40 STEEL - NIPPLE VICTAULIC GROOVED (SIZE TO MATCH PIPE SIZE)
6. 12 NC X 73 LONG CAD PLATED HEX HEAD SCREW AND WASHER
7. 20k ONE PIECE SOFT RUBBER GASKET O RING STRETCH TO FIT COVER
8. 12 SQ. ROD RIM
9. CEMENT MORTAR BENCHING SUPPLIED AND INSTALLED BY INSTALLING CONTRACTOR



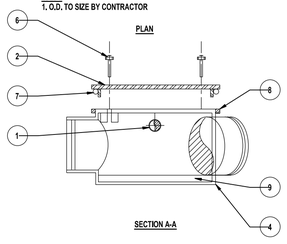
BOLT & LUG DETAIL

2 CLEANOUT TYPE 1 - WYE
N.T.S.



NOTE:
1. O.D. TO SIZE BY CONTRACTOR

PLAN



TYPE 1 CLEANOUT - WYE

KEY TO NUMBERED PARTS:

1. 25 N.P.T. HALF COUPLING AND PLUG
2. FABRICATED CLEANOUT COVER FROM 6 THICK STAINLESS STEEL PLATE CONTINUOUS BUTT WELDED
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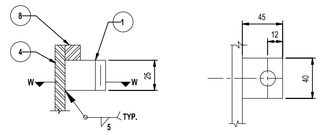
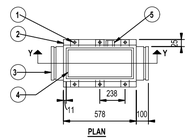
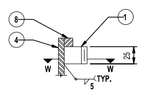
9. CEMENT MORTAR BENCHING SUPPLIED AND INSTALLED BY INSTALLING CONTRACTOR

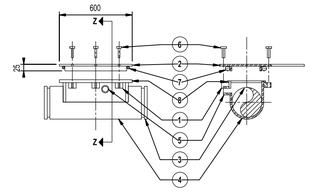


BOLT & LUG DETAIL

3 CLEANOUT TYPE 1 - BEND
N.T.S.







KEY TO NUMBERED PARTS:

1. SS BOLT LUGS TAPPED 12 NC
2. FABRICATED CLEANOUT COVER FROM 6 THICK STAINLESS STEEL PLATE CONTINUOUS BUTT WELDED
3. SCHEDULE 40 STEEL - NIPPLE VICTAULIC GROOVED (SIZE TO MATCH PIPE SIZE).
4. FABRICATED CLEANOUT BODY FROM 6 THICK STAINLESS STEEL PLATE CONTINUOUS BUTT WELD
5. 25 mm N.P.T. HALF COUPLING AND PLUG.
6. 12 mm NC x 73 mm LONG CAD PLATED HEX HEAD SCREW AND WASHER.
7. 20k ONE PIECE SOFT RUBBER GASKET O RING STRETCH TO FIT COVER.
8. 12 SQ. ROD RIM.

4 CLEANOUT TYPE 2
N.T.S.

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER
P 010
DILLON CONSULTING LIMITED

ISSUED FOR CONSTRUCTION

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Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT
TYPICAL DETAILS
ACCESS VAULT DETAILS (3 OF 4)

PROJECT NO. 22-5181

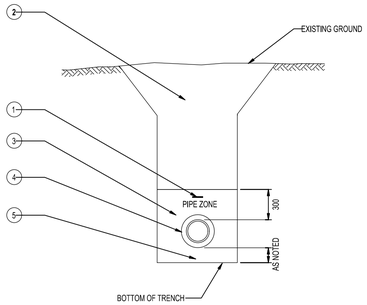
SHEET NO. C-504

FILENAME: C:\PW WORKING DIRECTORY\PROJECTS 2022\DILLON_-55LEW\DMS8766\225181-02-2B-TYP-CON.DWG PLOTTED BY: WOODFORD, LYDIA
PLOT DATE: 2024-06-10 @ 2:39:23 PM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB

DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2. PHONE (519) 438-6192. FAX (519) 672-8209

KEY TO NUMBERED PARTS:

1. DETECTABLE METALLIC UNDERGROUND WARNING / MARKER TAPE TO BE INSTALLED ABOVE ALL MAINS.
2. SELECT NATIVE BACKFILL MATERIAL, OR ENGINEERED BACKFILL WHERE DIRECTED BY ENGINEER.
3. SAND BACKFILL, COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY AS PER ASTM D698 MINIMUM 300 mm COVER OVER PIPES.
4. WATER MAIN OR SANITARY SEWER - DR11 HDPE PIPE c/w 75mm SHOP APPLIED POLYURETHANE INSULATION FRP JACKET.
5. SAND BEDDING COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY AS PER ASTM D698 150 mm (230 mm IN ROCK).



NOTES:

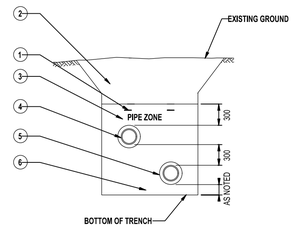
1. TEST PITS TO BE DUG EVERY 15m TO A DEPTH OF 500mm BELOW PIPE INVERT TO CHECK FOR PRESENCE OF SILT. SUBEXCAVATE AS REQUIRED, TO A DEPTH OF 450 mm BELOW PIPE INVERT AND BACKFILLED WITH GRANULAR B COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY AS PER ASTM D698.
2. SANITARY SEWERS AND WATER MAINS TO HAVE A MINIMUM 1.2m COVER.

5

1 TYPICAL TRENCH DETAIL 1
N.T.S.

KEY TO NUMBERED PARTS:

1. DETECTABLE METALLIC UNDERGROUND MARKER TAPE TO BE INSTALLED ABOVE ALL MAINS.
2. SELECT NATIVE BACKFILL MATERIAL, OR ENGINEERED BACKFILL WHERE DIRECTED BY ENGINEER.
3. SAND BACKFILL, COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY AS PER ASTM D698, MINIMUM 300 mm COVER OVER PIPES.
4. WATER MAIN - DR11 HDPE PIPE c/w 75mm SHOP APPLIED POLYURETHANE INSULATION FRP JACKET.
5. SANITARY MAIN - DR11 HDPE PIPE c/w 75mm SHOP APPLIED POLYURETHANE INSULATION FRP JACKET.
6. SAND BEDDING COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY AS PER ASTM D698, 150 mm (230 mm IN ROCK).



NOTES:

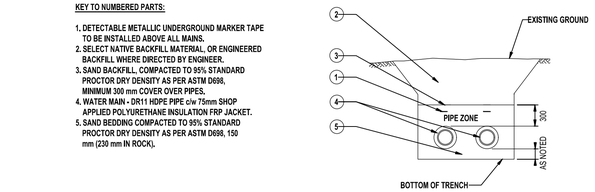
1. PIPES TO BE SPACED 230 mm, OR GREATER, FROM TRENCH WALL AND OTHER PIPES TO ALLOW COMPACTION.
2. TEST PITS TO BE DUG EVERY 15m TO A DEPTH OF 500mm BELOW PIPE INVERT TO CHECK FOR PRESENCE OF SILT. SUBEXCAVATE AS REQUIRED, TO A DEPTH OF 450 mm BELOW PIPE INVERT AND BACKFILLED WITH GRANULAR B COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY AS PER ASTM D698.
3. SANITARY SEWERS AND WATER MAINS TO HAVE A MINIMUM 1.2m COVER.

5

2 TYPICAL TRENCH DETAIL WATERMAIN, AND SANITARY SEWER
N.T.S.

KEY TO NUMBERED PARTS:

1. DETECTABLE METALLIC UNDERGROUND MARKER TAPE TO BE INSTALLED ABOVE ALL MAINS.
2. SELECT NATIVE BACKFILL MATERIAL, OR ENGINEERED BACKFILL WHERE DIRECTED BY ENGINEER.
3. SAND BACKFILL, COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY AS PER ASTM D698, MINIMUM 300 mm COVER OVER PIPES.
4. WATER MAIN - DR11 HDPE PIPE c/w 75mm SHOP APPLIED POLYURETHANE INSULATION FRP JACKET.
5. SAND BEDDING COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY AS PER ASTM D698, 150 mm (230 mm IN ROCK),



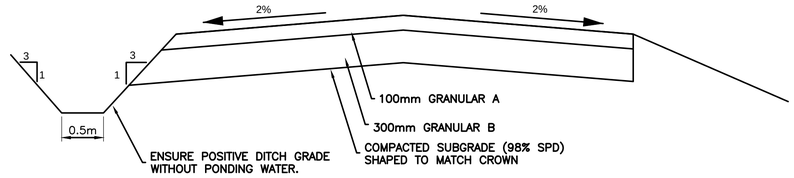
NOTES:

1. PIPES TO BE SPACED 230 mm, OR GREATER, FROM TRENCH WALL AND OTHER PIPES TO ALLOW COMPACTION.
2. TEST PITS TO BE DUG EVERY 15m TO A DEPTH OF 500mm BELOW PIPE INVERT TO CHECK FOR PRESENCE OF SILT. SUBEXCAVATE AS REQUIRED, TO A DEPTH OF 450 mm BELOW PIPE INVERT AND BACKFILLED WITH GRANULAR B COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY AS PER ASTM D698.
3. WATER MAINS TO HAVE MIN. 1.20m COVER.

5

3 TYPICAL TRENCH DETAIL WATER SUPPLY AND RETURN MAINS
N.T.S.

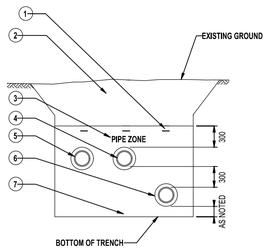
NOTE:
WHERE COLD MIX IS REQUIRED (INUKSHUK & TARIUQ EXCAVATIONS), ADD 75mm THICKNESS TO STRUCTURE SHOWN BELOW. COLD MIX SHALL BE SUPPLIED AND INSTALLED PER MANUFACTURER SPECIFICATION.



6 ROADWAY AND DITCH RESTORATION DETAIL
N.T.S.

KEY TO NUMBERED PARTS:

1. DETECTABLE METALLIC UNDERGROUND MARKER TAPE TO BE INSTALLED ABOVE ALL MAINS.
2. SELECT NATIVE BACKFILL MATERIAL, OR ENGINEERED BACKFILL WHERE DIRECTED BY ENGINEER.
3. SAND BACKFILL, COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY AS PER ASTM D698, MINIMUM 300 mm COVER OVER PIPES.
4. WATER MAIN - DR11 HDPE PIPE c/w 75mm SHOP APPLIED POLYURETHANE INSULATION FRP JACKET.
5. RECIRCULATION LINE - DR11 HDPE PIPE c/w 75mm SHOP APPLIED POLYURETHANE INSULATION FRP JACKET.
6. SANITARY SERVICE - DR11 HDPE PIPE c/w 75mm SHOP APPLIED POLYURETHANE INSULATION FRP JACKET.
7. SAND BEDDING COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY AS PER ASTM D698, 150 mm (230 mm IN ROCK),

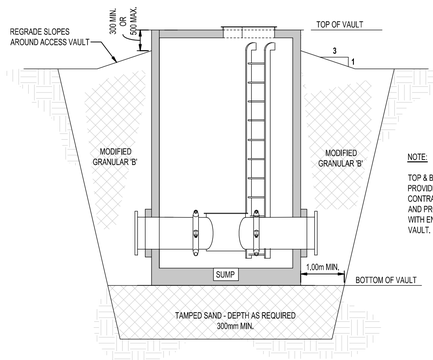


NOTES:

1. PIPES TO BE SPACED 230 mm, OR GREATER, FROM TRENCH WALL AND OTHER PIPES TO ALLOW COMPACTION.
2. TEST PITS TO BE DUG EVERY 15m TO A DEPTH OF 500mm BELOW PIPE INVERT TO CHECK FOR PRESENCE OF SILT. SUBEXCAVATE AS REQUIRED, TO A DEPTH OF 450 mm BELOW PIPE INVERT AND BACKFILLED WITH GRANULAR B COMPACTED TO 95% STANDARD PROCTOR DRY DENSITY AS PER ASTM D698.
3. SANITARY SEWERS AND WATER MAINS TO HAVE A MINIMUM 1.2m COVER .

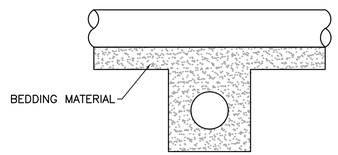
5

4 TYPICAL TRENCH DETAIL WATERMAIN RECIRCULATION AND SANITARY
N.T.S.



NOTE:
TOP & BOTTOM OF VAULT ELEVATIONS PROVIDED FOR REFERENCE ONLY. CONTRACTOR TO VERIFY EXISTING GROUND AND PROPOSED TOP OF VAULT ELEVATIONS WITH ENGINEER PRIOR TO CONSTRUCTION OF VAULT.

5 TYPICAL ACCESS VAULT DETAIL
N.T.S.



NOTES:
- WATER SHALL CROSS OVER SANITARY UNLESS PIPE COVER IS LIMITED.
- MIN. 300mm OF COMPACTED BEDDING MATERIAL REQUIRED BETWEEN LOW PIPE CROWN AND HIGH PIPE INVERT AT ALL CROSSINGS.
- WATER MAINS SHALL BE INSTALLED WITHOUT PEAKS AT CROSSINGS. LOWER THE LOW PIPE TO PREVENT WATER MAIN PEAKS. CONSULT WITH ENGINEER IF GRADE CHANGE REQUIRED.
- MIN. PIPE COVER 1.20m.
- HIGH PIPE SHALL BE FULLY BEDDED (150mm) ALONG PIPE. CROSSING PIPES SHALL NOT CONTACT.
- PIPE JOINTS SHALL NOT BE PRESENT WITHIN 2m OF CROSSING.

5

7 CROSSING PIPE DETAIL
N.T.S.

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PERMIT NUMBER P 010
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Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

PROJECT NO. 22-5181

UTILIDOR REPLACEMENT
TYPICAL DETAILS
ACCESS VAULT DETAILS (4 OF 4)

SHEET NO. C-505

DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2. PHONE (519) 438-6192. FAX (519) 672-8209

FILENAME: C:\PW WORKING DIRECTORY\PROJECTS 2022\DILLON_-55LEWA\DMS8788\225181-02-2B-TYP-CON.DWG PLOTTED BY: WOODFORD, LYDIA
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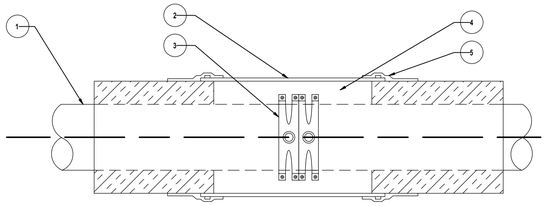


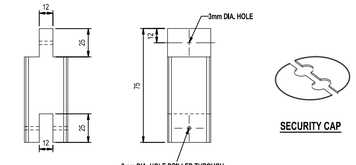
KEY TO NUMBERED PARTS:

1. WATER MAIN - DR 11 HDPE PIPE c/w 75mm APPLIED POLYURETHANE INSULATION & FRP JACKET.
2. INSULATION FORM (SEE DETAIL), SIZED TO FIT WATER MAIN O.D. AND SERVICE LATERAL O.D., 25mm LAP REQUIRED ON EACH SIDE.
3. 2x ROBAR 2706 TAPPING SADDLE, DOUBLE STRAP OR EQUAL.
4. FIELD POURED POLYURETHANE INSULATION FOAM (207 kPa COMPRESSIVE STRENGTH).
5. HEAT SHRINK SLEEVE, MIN. 100mm LAP ON BLACK JACKET.

NOTES:

1. ALL EXPOSED SURFACES OF POLYURETHANE TO BE FIELD COATED WITH MASTIC.
2. METAL SURFACES IN CONTACT WITH FIELD POURED POLYURETHANE INSULATION SHALL BE COATED WITH OIL SEPARATING AGENT.

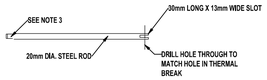
1 TYPICAL WATER SERVICE AT MAIN (PLAN VIEW)
N.T.S.



NOTE
1. MADE FROM 38mm DIA. ROUND HDPE BAR STOCK

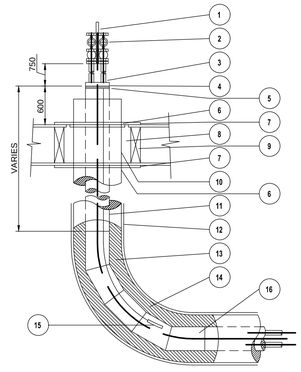
HDPE THERMAL BREAK

SECURITY CAP



NOTES:
1. ROD SHALL BE FIELD FABRICATED. ZINC RICH PAINT COATED AFTER FABRICATION.
2. ROD SHALL BE SUFFICIENT LENGTH TO EXTEND FROM THERMAL BREAK TO TOP OF HDPE PIPE (ITEM 18) BUT SHALL NOT EXTEND ABOVE EXISTING GROUND SURFACE.
3. TOP SECTION OF ROD TO BE 32mm LONG X 19mm WIDE X 6mm THICK WITH 5mm LONG TOP BEVEL (SIMILAR TO TOP OF CRANE McAVITY W-6221 ROD).

2 VALVE OPERATING ROD
N.T.S.



NOTES:

1. ALL EXPOSED SURFACES OF POLYURETHANE TO BE FIELD COATED WITH MASTIC.
2. THE INSIDE SURFACES OF METAL TO BE IN CONTACT WITH FIELD POURED POLYURETHANE INSULATION SHALL BE COATED WITH OIL SEPARATING AGENT.
3. INSULATION FORMS AND METAL COVER PARTS, TO BE 1.6mm THICK STEEL, CONTINUOUS WELDED SEAMS, HOT DIPPED GALVANIZED AFTER FABRICATION.

3 TYPICAL WATER SERVICE RISER AT HOUSE
N.T.S.

KEY TO NUMBERED PARTS:

1. 2,000 mm EXCESS HEATING CABLE TO BE LEFT AT BOTH ENDS.
2. 25 mm BALL VALVES, COMPRESSION WITH SEAMLESS STAINLESS STEEL INSERT (MUELLER H-15219 OR EQUAL).
3. FIELD INSTALLED 25 mm OR 38 mm HDPE DR 11 (1,100 KPA) SUPPLY & RETURN WATER SERVICE PIPE - CONTINUOUS LENGTH FROM COIL STOCK.
4. SECURITY CAP.
5. STAINLESS STEEL GEAR CLAMP HOLDING SECURITY CLAMP IN PLACE.
6. CAULK WITH SILICON ALL AROUND.
7. 20 mm PLYWOOD GLUED AND SCREWED TO JOISTS/STUDS AND HEADERS.
8. POLYURETHANE INSULATION FROM PORTABLE FOAM PACK TO FILL VOID.
9. FLOOR JOIST.
10. FIBERGLASS REINFORCED PLASTIC THIMBLE.
11. 100 mm OR 150 mm Ø HDPE DR 17 (690 KPA) CARRIER PIPE BUTT FUSED IN FIELD WITH BLIND FLANGE INSTALLED 1 M INSIDE PROPERTY LINE.
12. HEAT SHRINK TO SUIT.
13. POLYURETHANE HALF SHELL CUT TO LENGTH AND COATED WITH ASPHALT MASTIC.
14. LONG RADIUS 90° ELBOW REINFORCED PLASTIC JACKET.
15. THERMOSTAT BULB.
16. BUTT FUSION JOINT MADE BY A QUALIFIED AND LICENSED JOINING TECHNICIAN.
17. HOLES TO FIT 25 mm HDPE LINES.
18. 20 mm PLYWOOD TO FIT PIPE O. D..
19. 22 GA. SHEET METAL GALVANIZED.
20. HOLE FOR THERMOSTAT BULB AND HOLE FOR HEAT TRACE CABLE.
21. 75 mm NOMINAL THICKNESS SHOP CAST POLYURETHANE INSULATION AND BLACK JACKET.
22. TWO FULL TURNS OF POLYESTER PACKAGING TAPE APPLIED EVERY 2 M MIN..
23. 100 mm OR 150 mm Ø HDPE DR 17 (690 KPA) CARRIER PIPE BUTT FUSED IN FIELD WITH BLIND FLANGE INSTALLED 1 M INSIDE PROPERTY LINE.
24. 250mm Ø HDPE WATER MAIN WITH 75 mm POLYURETHANE INSULATION.
25. HEAT SHRINK SLEEVE MIN. 100 mm LAP ON BLACK JACKET AFTER SHRINKAGE.
26. FIELD COAT ALL EXPOSED POLYURETHANE WITH MASTIC.
27. DIA. TO SUIT INSULATED MAIN PIPE O. D. AND REQUIREMENT OF 25 mm LAP ON EACH SIDE.
28. STAINLESS STEEL GEAR CLAMPS.
29. HOLES TO BE DRILLED IN FIELD TO SUIT, FOR GALVANIZED SHEET METAL SCREWS.
30. DIA. TO SUIT INSULATED MAIN PIPE O. D. AND REQUIREMENT OF 25 mm LAP ON EACH SIDE.
31. ROBAR 2706 TAPPING SADDLE, DOUBLE STRAP - SUPPLY AND INSTALL.
32. POLYURETHANE FOAM PLUG - SUPPLY AND INSTALL.
33. PVC TAPE WRAPPED OVER ALL HEAT TRACE CABLE AND OVER PIPE/FITTINGS, ETC., WITHIN INSULATION FORM. (TO KEEP FIELD POURED URETHANE OUT FROM BETWEEN HEAT TRACING AND PIPING).
34. FIELD POURED POLYURETHANE INSULATION FOAM INSULATION 207 KPA COMPRESSIVE STRENGTH.-SUPPLY AND INSTALL WATER SERVICE INSULATION FORMS.
35. 150 mm WIDE PE WARNING TAPE.
36. FIELD CUT HOLES (IF REQD FOR FOAM INJECTION) TO BE MASTIC COATED AFTER FOAM INJECTION.
37. 100mm Ø OR 150 mm Ø FACTORY FABRICATED DR 17 HDPE 45° BEND WITH FACTORY APPLIED POLYURETHANE INSULATION/FRP JACKET COVER AND PLAIN ENDS.
38. 25mm OR 38 mm BRONZE BALL CORPORATION STOP - 25mm Ø MIPT INLET X 25mm Ø HDPE DR 11 OR 38 Ø MIPT X 38Ø HDPE DR 11 - JOINT OUTLET C/W STAINLESS STL. INSERT STIFFENERS - FORD BALL CORP, FB SERIES 1000 OR EQUAL. (2 REQUIRED PER SERVICE).
39. 100 X 100 WOODEN MARKER STAKE.

WATER NUMBERING PARTS LIST

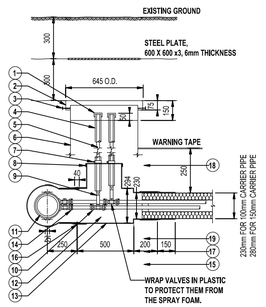
SERVICE SIZING TABLE

Building Type	Water Supply	Water Return	Sanitary Sewer	Carrier Pipe
Single family	25 mm	25 mm	100 mm	100 mm
2-plex	25 mm	25 mm	100 mm	100 mm
3-plex	25 mm	25 mm	100 mm	100 mm
4-plex	38 mm	25 mm	150 mm	150 mm
6-plex	38 mm	25 mm	150 mm	150 mm
8-plex	50 mm	25 mm	150 mm	150 mm
10-plex	50 mm	25 mm	150 mm	150 mm

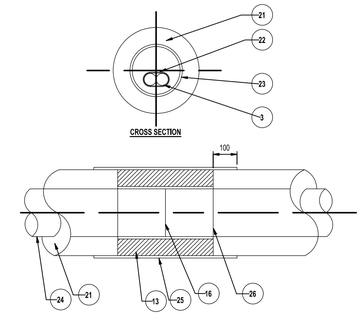
TYPICAL WATER SERVICE SIZING TABLE ONLY

KEY TO NUMBERED PARTS:

1. SNUG FITTING PLASTIC CAP.
2. STEEL LID MADE FROM 2.7mm THICK SHEET STEEL GALVANIZED AFTER FABRICATION.
3. 12mm DIA. SCREW BOLT WITH WELDED NUT, GALVANIZED (FOUR PER LID)
4. 50 DIA. DR 9 HDPE PIPE VALVE EXTENSION FIELD CUT TO LENGTH AND FILLED WITH ESSO EPIC-102 GREASE.
5. VALVE OPERATING ROD CONNECT TO ITEM 45 WITH BRASS COTTER PIN.
6. 600mm DIA. 68 X 13 X 1.6mm THICK GALVANIZED STEEL CULVERT.
7. STAINLESS STEEL WORM GEAR HOSE CLAMP TO PREVENT MOVEMENT OF VALVE EXTENSION PIPE. CAULK WITH SILICON ALL AROUND.
8. 296mm INSIDE DIA. REMOVABLE GALVANIZED SHEET METAL CAP WITH FIELD CUT HOLES.
9. HDPE THERMAL BREAK CONNECT TO ITEM 2 WITH BRASS COTTER PIN.
10. BALL VALVES SHALL BE FORD B44-444 (25mm LINE) OR B66-777 (50mm LINE) WITH PACK JOINT FOR HDPE INCLUDING INSERT STIFFENER AND FOR COPPER PIPE ON END IN BUILDING.
11. HDPE DR 11 WATER MAIN WITH 75mm POLYURETHANE INSULATION.
12. POLYURETHAN INSULATION FROM PORTABLE FOAM PACK TO FILL VOID.
13. BOTTOM INSULATION FORM OF GALVANIZED SHEET STEEL.
14. MAIN STOP SHALL BE FORD F1100 OR EQUAL WITH PACK JOINT AND SEAMLESS INSERT STIFFENER FOR HDPE PIPE - 25mm DIA. OR 50mm DIA. AS REQUIRED.
15. HDPE DR11 SUPPLY AND RECIRCULATION PIPE - FIELD INSTALLED CONTINUOUS LENGTH FROM COIL STOCK. 25mm (BOTH) OR 50mm WITH 25mm RETURN.
16. No. 8 X 13mm CADMIUM PLATED SHEET METAL SCREWS.
17. HEAT SHRINK TO BE MIN. 100mm LAP ON BLACK JACKET AFTER SHRINKAGE.
18. POLYURETHANE OR FIBRE REINFORCED PLASTIC (FRP) FOAM PLUG. (MINIMUM 50mm THICK)
19. SHOP CAST 75mm (SEE SPECS) THICK POLYRETHANE INSULATION WITH BLACK JACKET PROTECTIVE COATING.



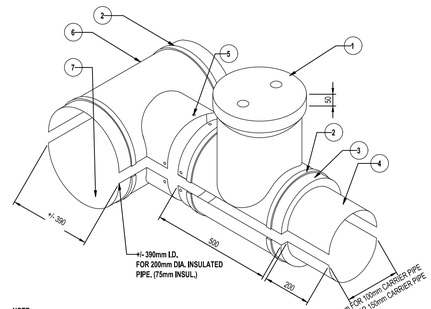
4 TYPICAL WATER SERVICE CONNECTION AT MAIN SIDE (SECTION VIEW)
N.T.S.



NOTE:
1. PIPE SPACING AND TRENCH WIDTH MAY BE INCREASED TO

WATER SERVICE CONNECTON PLAN

5 TYPICAL WATER SERVICE JOINT CONNECTION PLAN & CROSS SECTION
N.T.S.



NOTE:
STEEL FORM TO SUIT O.D. OF INSULATED MAIN PIPE PLUS 25mm LAP REQUIRED ON EACH SIDE. SEE DETAIL

KEY TO NUMBERED PARTS:

1. 296mm INSIDE DIA. REMOVABLE GALVANIZED SHEET METAL CAP WITH FIELD CUT HOLES.
2. STAINLESS STEEL BAND-IT CLIPS #M211.
3. 294mm OUTSIDE DIA. X 50mm LONG.
4. 200mm LONG, 230mm INSIDE DIA. FOR 100 DIA. CARRIER PIPE, 280mm INSIDE DIA FOR 150mm DIA. CARRIER PIPE.
5. HOLES TO BE DRILLED IN FIELD TO SUIT.
6. 390mm INSIDE DIA. X 580mm LONG FOR 200mm DIA. MAIN.
7. BOTTOM INSULATION FORM OF GALVANIZED SHEET STEEL.

6 STEEL WATER SERVICE FORM
N.T.S.

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER P 010
DILLON CONSULTING LIMITED

ISSUED FOR CONSTRUCTION

No.	ISSUED FOR	DATE	BY
8	RE-ISSUED FOR CONSTRUCTION	06/10/24	KJ
7	RE-ISSUED FOR CONSTRUCTION	03/04/24	KJ
6	ISSUED FOR CONSTRUCTION	12/02/24	KJ
5	REVISED - ISSUED FOR TENDER ADDENDUM	08/04/23	KJ
4	ISSUED FOR TENDER	07/07/23	KJ
3	ISSUED FOR INTERNAL REVIEW	06/23/23	KJ
2	RE-ISSUED FOR 75% REVIEW	05/31/23	KJ
1	ISSUED FOR 75% REVIEW	05/01/23	KJ

DESIGN: KJ | REVIEWED BY: KJ
DRAWN: TW/SC | CHECKED BY: KJ
DATE: JUNE 2024
SCALE: AS SHOWN

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT
TYPICAL DETAILS
WATER SERVICE DETAILS

PROJECT NO. 22-5181

SHEET NO. C-506

DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2. PHONE (519) 438-6192. FAX (519) 672-8209

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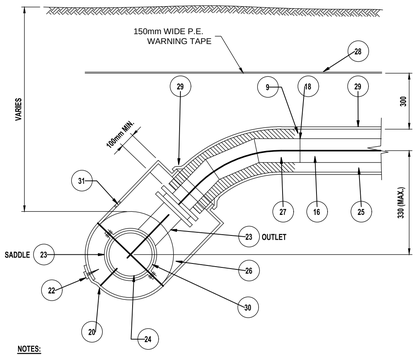
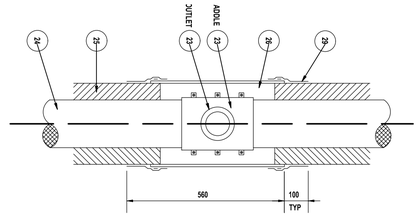


NOTES:

1. ALL EXPOSED SURFACES OF POLYURETHANE TO BE FIELD COATED WITH MASTIC.
2. THE INSIDE SURFACES OF METAL TO BE IN CONTACT WITH FIELD POURED POLYURETHANE INSULATION SHALL BE COATED WITH OIL SEPARATING AGENT.
3. INSULATION FORMS AND METAL COVER PARTS, TO BE 1.6mm THICK STEEL, CONTINUOUS WELDED SEAMS, HOT DIPPED GALVANIZED AFTER FABRICATION.

1. TYPICAL SANITARY SERVICE CONNECTION AT MAIN
N.T.S.



SERVICE CONNECTION PLAN

SERVICE SIZING TABLE

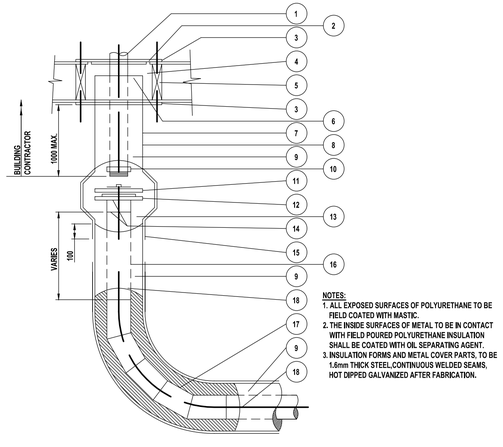
Building Type	Water Supply	Water Return	Sanitary Sewer	Carrier Pipe
Single family	25 mm	25 mm	100 mm	100 mm
2-plex	25 mm	25 mm	100 mm	100 mm
3-plex	25 mm	25 mm	100 mm	100 mm
4-plex	38 mm	25 mm	150 mm	150 mm
6-plex	38 mm	25 mm	150 mm	150 mm
8-plex	50 mm	25 mm	150 mm	150 mm
10-plex	50 mm	25 mm	150 mm	150 mm

2. TYPICAL SANITARY SERVICE CONNECTION AT MAIN AND SIZING TABLE
N.T.S.

KEY TO NUMBERED PARTS:

1. 75 mm DIA. PVC OR ABS.
2. 200 mm CHIMNEY CLEAN OUT PLUG. CUT HOLE TO FIT O. D. OF PIPE.
3. 20 mm PLYWOOD GLUED AND SCREWED TO JOISTSTUDS AND HEADERS.
4. POLYURETHANE INSULATION FROM PORTABLE FOAM PACK TO FILL VOID.
5. FLOOR JOIST.
6. SILICON SEALER APPLIED TO THIS SECTION BEFORE INSERTING INSULATED PIPE INTO OPENING.
7. 290 mm GALVANIZED THIMBLE 22 GA. TOP AND BOTTOM SCREWED TO PLYWOOD.
8. HEAT SHRINK TO SUIT.
9. POLYURETHANE HALF SHELLS CUT TO LENGTH COATED WITH FIELD APPLIED MASTIC.
10. 100mm OR 150mm Ø ADAPTER SOCKETS X MPT TO SUIT BUILDING PLUMBING MATERIALS-BY OTHERS.
11. 100 mm OR 150mm Ø COMPANION FLANGE WITH RUBBER GASKET AND BOLTS DRILLED AND TAPPED, WITH 100mm OR 150mm Ø PVC TEMPORARY PLUG.
12. BACKUP RING FOR FLANGE ASSEMBLY.
13. INSULATION FIT FOR FLANGE ASSEMBLY.
14. STUB END BUTT FUSED TO 100 mm PE PIPE.
15. HEAT SHRINK TO FIT OVER INSULATION KIT ASSEMBLY.
16. SANITARY SERVICE 100mm OR 150mm DIA. WITH 75mm NOMINAL POLYURETHANE AND FACTORY INSTALLED, JACKET INSTALLED TO 1m INSIDE PROPERTY LINE AND TERMINATED WITH A BLIND FLANGE.
17. LONG RADIUS 90° ELBOW WITH FACTORY APPLIED POLYURETHANE INSULATION AND FIBERGLASS REINFORCED PLASTIC JACKET.
18. FIELD BUTT FUSION JOINT MADE BY A QUALIFIED AND LICENSED JOINING TECHNICIAN.
19. HOLES TO BE DRILLED IN FIELD TO SUIT.
20. DIA. TO SUIT INSULATED MAIN PIPE O. D. AND REQUIREMENT OF 25 mm LAP ON EACH SIDE.
21. STAINLESS STEEL GEAR CLAMPS.
22. GALVANIZED HEX HEAD METAL SCREWS.
23. ROBAR NO. 6628 OUTLET SLEEVE SADDLE (SIZE OF MAIN X 2100 mm DIA. OUTLET).
24. 250mmØ OR 200mm Ø HDPE SANITARY SEWER MAIN.
25. 25 mm NOMINAL THICKNESS SHOP CAST POLYURETHANE INSULATION AND BLACK JACKET.
26. FIELD POURED POLYURETHANE INSULATION FOAM INSULATION 207 KPA COMPRESSIVE STRENGTH.
27. 100 mm OR 150 mm Ø FACTORY FABRICATED DR 11 HDPE 45° BEND WITH FACTORY APPLIED POLYURETHANE JACKET INSULATION/FRP JACKET COVER, HDPE STUB END, DUCTILE IRON BACKUP RING, FULL FACE REINFORCED RUBBER GASKET AND FLANGE BOLTS ONE END AND PLAIN OTHER END.
28. 150 mm WIDE PE WARNING TAPE.
29. MASTIC LINED HEAT SHRINK TAPE 100 mm OVERLAP ON SHELLS AND PIPE JACKET.
30. HOLE DRILLED IN MAIN FOR SERVICE WITH HOLE SAW.
31. FIELD CUT HOLES (IF REQ'D FOR FOAM INJECTION) TO BE MASTIC COATED AFTER FOAM INJECTION.

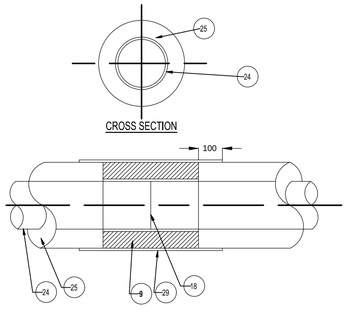
SANITARY SERVICE NUMBERED PARTS LIST



NOTES:

1. ALL EXPOSED SURFACES OF POLYURETHANE TO BE FIELD COATED WITH MASTIC.
2. THE INSIDE SURFACES OF METAL TO BE IN CONTACT WITH FIELD POURED POLYURETHANE INSULATION SHALL BE COATED WITH OIL SEPARATING AGENT.
3. INSULATION FORMS AND METAL COVER PARTS, TO BE 1.6mm THICK STEEL, CONTINUOUS WELDED SEAMS, HOT DIPPED GALVANIZED AFTER FABRICATION.

3. TYPICAL SANITARY SERVICE RISER AT HOUSE
N.T.S.



NOTE:

1. PIPE SPACING AND TRENCH WIDTH MAY BE INCREASED TO

SANITARY SERVICE CONNECTION PLAN

3. TYPICAL SANITARY SERVICE RISER AT HOUSE
N.T.S.

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER
P 010
DILLON CONSULTING LIMITED

ISSUED FOR CONSTRUCTION

No.	ISSUED FOR	DATE	BY
4	RE-ISSUED FOR CONSTRUCTION	03/04/24	KJ
3	ISSUED FOR CONSTRUCTION	12/02/24	KJ
2	REVISED - ISSUED FOR TENDER ADDENDUM	08/04/23	KJ
1	ISSUED FOR TENDER	07/07/23	KJ
	ISSUED FOR INTERNAL REVIEW	06/23/23	KJ
	RE-ISSUED FOR 75% REVIEW	05/31/23	KJ
	ISSUED FOR 75% REVIEW	05/01/23	KJ

DESIGN: KJ | REVIEWED BY: KJ
DRAWN: TW/SC | CHECKED BY: KJ
DATE: MARCH 2024
SCALE: AS SHOWN

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

UTILIDOR REPLACEMENT
TYPICAL DETAILS
SANITARY SERVICE DETAILS

PROJECT NO. 22-5181

SHEET NO. C-507

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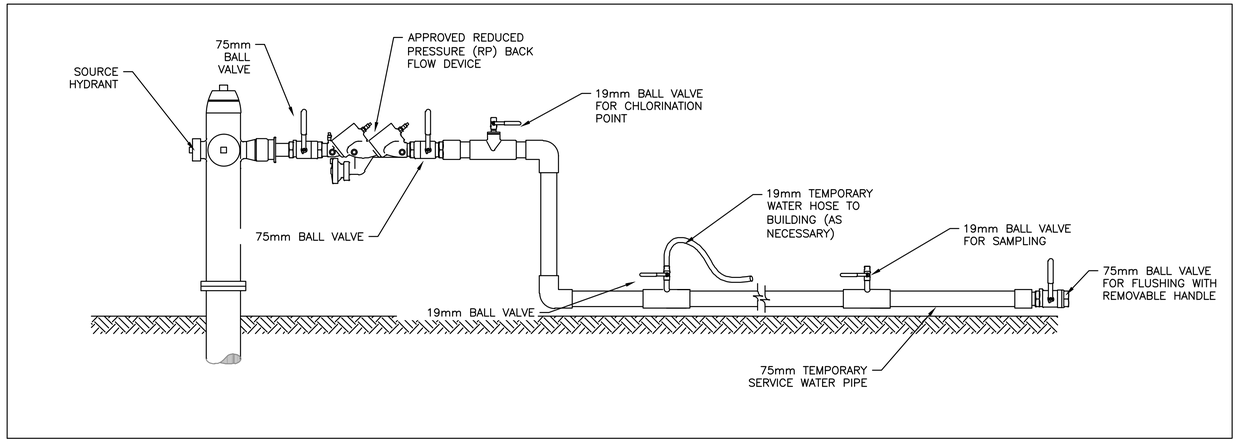
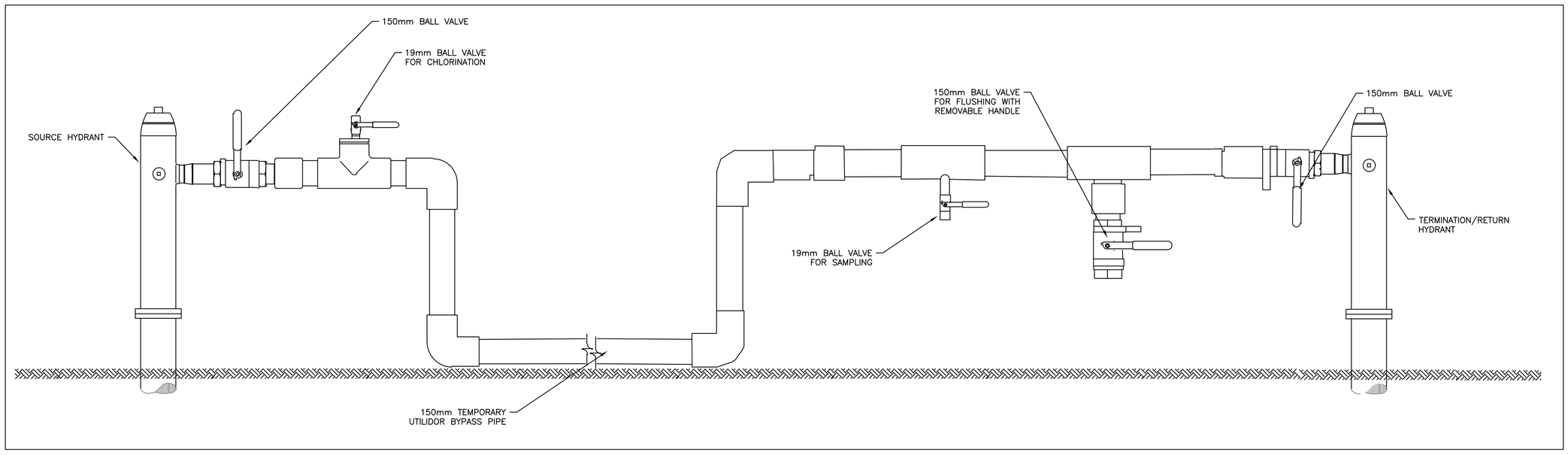
DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2. PHONE (519) 438-6192. FAX (519) 672-8209



1 TYPICAL HYDRANT TO TEMPORARY SERVICE PIPING CONNECTION
NTS



2 TYPICAL HYDRANT TO HYDRANT BYPASS PIPING CONNECTION
NTS

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER
P 010
DILLON CONSULTING LIMITED

ISSUED FOR CONSTRUCTION

No.	ISSUED FOR	DATE	BY
5	RE-ISSUED FOR CONSTRUCTION	03/04/24	KJ
4	ISSUED FOR CONSTRUCTION	12/02/24	KJ
3	REVISED - ISSUED FOR TENDER ADDENDUM	08/04/23	KJ
4	ISSUED FOR TENDER	07/07/23	KJ
3	ISSUED FOR INTERNAL REVIEW	06/23/23	KJ
2	RE-ISSUED FOR 75% REVIEW	05/31/23	KJ
1	ISSUED FOR 75% REVIEW	05/01/23	KJ

DESIGN: KJ | REVIEWED BY: KJ
DRAWN: TW/SC | CHECKED BY: KJ
DATE: MARCH 2024
SCALE: AS SHOWN

Government of Nunavut
Rankin Inlet Utilidor Replacement - Phase 2B

PROJECT NO. 22-5181

UTILIDOR REPLACEMENT
TYPICAL DETAILS
TEMPORARY WATER SUPPLY PIPING DETAILS

SHEET NO. C-508

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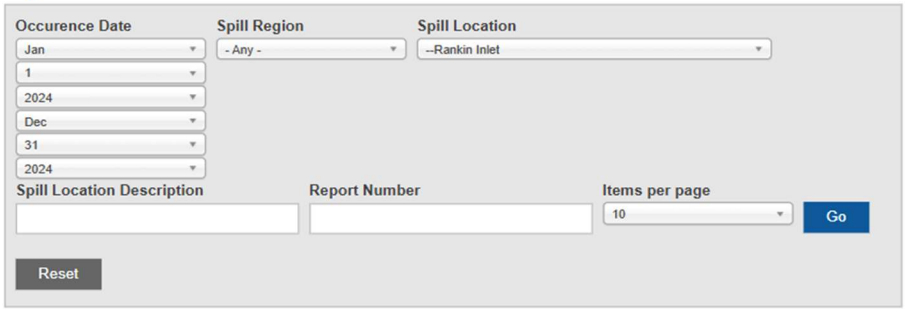
DILLON CONSULTING LIMITED 130 DUFFERIN AVENUE LONDON, ONTARIO N6A 5R2 PHONE (519) 438-6192 FAX (519) 672-2009

Appendix C: Hazardous Materials Spills Database for Rankin Inlet in 2024

None of the spills, as shown below, that occurred in Rankin Inlet in 2024 are associated with 3AM-GRA1631.

2024 ANNUAL REPORT FOR 3AM-GRA1631
GOVERNMENT OF NUNAVUT – DEPARTMENT OF TRANSPORTATION AND INFRASTRUCTURE NUNAVUT

Spills



Spill	Occurance Date	Spill Region	Location	Location Description	Product Spilled	Quantity	Measurement	Spill Cause	Lead Agency
spill-2024280	July 17, 2024		Rankin Inlet, Community, Nunavut	Rankin Inlet	Petroleum - fuel oil (jet A, diesel, turbo A, heat)	7000.00	Liters	Unknown Cause	GN - Government of Nunavut
spill-2024250	June 29, 2024		Rankin Inlet	Coats Island Hudson Strait	Other	Unknown Quantity		Other	CCG/TCMSS - Canadian Coast Guard/Transport Canada, Marine Safety and Security
spill-2024212	June 6, 2024	Kivalliq	Rankin Inlet, Community, Nunavut	Ranking Inlet Housing Unit 411	Petroleum - fuel oil (jet A, diesel, turbo A, heat)	123.00	Liters		GN - Government of Nunavut
spill-2024202	May 30, 2024		Rankin Inlet	Rankin Inlet	Petroleum - fuel oil (jet A, diesel, turbo A, heat)	2000.00	Liters	Other	GN - Government of Nunavut
spill-2024200	May 30, 2024	Kivalliq	Rankin Inlet	33 Plex Rankin Inlet	Petroleum - fuel oil (jet A, diesel, turbo A, heat)	50.00	Liters	Overflow Event	GN - Government of Nunavut
spill-2024126	April 25, 2024	Kivalliq	Rankin Inlet, Community, Nunavut	Rankin Inlet Lake B5 0m	Petroleum - lubricating oil (lube, hydraulic)	10.00	Liters	Other	CIRNAC - Crown-Indigenous Relations and Northern Affairs Canada

Appendix D: CIRNAC Annual Inspection Report 2024

Water Licence Inspection Report

☒Original
☐Follow-Up Report

Organization	Representative
Government of Nunavut, Community and Government Services	**Ramesh Ummat**
Authorization No. / Expiry	**Representative's Title**
3AM-GRA1631	**Regional Director, Infrastructure Kivalliq.**
Inspection Date	**Inspector**
September 18th 2024	**RMO Atuat Shouldice**
Other Authorization/s	

Activities Inspected

☐ **Camp, Commercial** ☐ **Drilling** ☐ **Mining** ☐ **Construction** ☐ **Reclamation** ☐ **Fuel Storage** ☐ **Roads/Hauling** ☐ **Winter Hauling**
☐ **Camp, Private** ☒ **Other Municipal**

Section 1 Comments

On September 18th 2024 an inspection was conducted of Water Licence 3AM-GRA1631 (Licence) Government of Nunavut, Community and Government Services. Resource Management Officer Atuat Shouldice (Inspector) for Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) was accompanied by Steve Fitzpatrick, Facilities Manager Government of Nunavut, Community and Government Services(CGS).

-Water Supply Facility
Raw water is pumped from Nipissar Lake to the Water Treatment facility with in the community. Water is metered at source and daily pumping logs were available. Spill response equipment was on site as required in the operation and maintenance manual. Photo #1

-Water resupply station
pumping station at Lower Landing Lake for replenishing Nipissar Lake during the open water season was in operation. Facility's Maintainer Bill Ross (CGS) walked Inspector through operation of facility, refueling procedures to minimize chances of spills. Metered water logs were available. Photo #2

-Sewage Treatment Facility (SDF)
All sewage and gray water is directed to the Sewage Treatment Facility. On average one cubic meter of solids are produced per week and disposed of in a designated location in the municipal landfill. Discharged sewage is metered in facility and daily logs were available.

-Administrative
As of October 21st , 2024, The 2023 annual report was not submitted to the Nunavut Water Board.

Section 2 Non-Compliance with Choose an item.

Non-Compliance with the Licence:

- Part B Item 1: Failure to submit annual report

Canada

Section 3 Action Required
The Licensee shall: • Submit annual report by the 27th November 2024 to the Board.
Section 4 Other

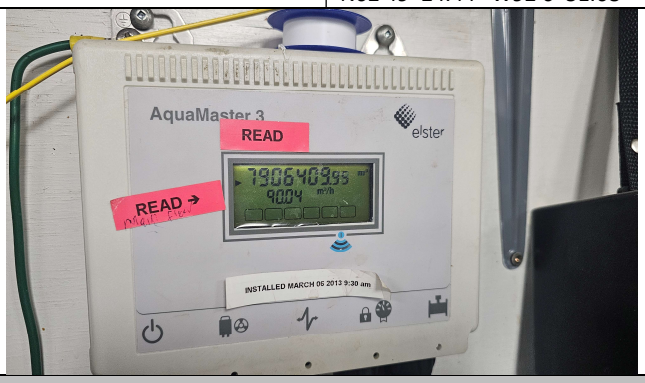
Licensee or Representative	**Inspector's Name**
Ramesh Ummat	Atuat Shouldice
Signature	**Signature**
	
Date	**Date**
	October 31st 2024

Office Use Only:	Follow-up report to be issued by Inspector	☐ Yes ☐ No

PHOTO LOG

Date:	**Authorization Number:**	**Camera/Model:**	**Inspector**
Wednesday, September 18, 2024	3AM-GRA1631	Samsung S21	Atuat Shouldice

Photo No.	**Lat/Long (DD.MM.SS.SS, NAD83)**
Photo 1	N62 49' 24.44" W92 6' 51.68



Description:
Meter at Nipssar Lake

Photo No.	**Lat/Long (DD.MM.SS.SS, NAD83)**
Photo 2	N62 51' 39.66" W92 9' 11.48"

Description:
Resupply Facility, spill response drum adjacent to fuel tank