Stantec Consulting Ltd.
500–311 Portage Avenue, Winnipeg MB R3B 2B9

April 15, 2024

Attention: Director
Environmental Approval Branch
Environment and Climate Change
14 Fultz Boulevard
Winnipeg MB R3Y 0L6

Dear Sir/Madam,

Reference: The Rural Municipality of Headingley Wastewater Treatment Facility (WWTF)- Hydrogen Sulphide Stripping Tank Replacement - Notice of Alteration

Please see attached with this cover letter the following in support of the above application for the Rural Municipality of Headingley Wastewater Treatment Facility (WWTF) - Hydrogen Sulphide Stripping Tank Replacement - Notice of Alteration:

- Signed Notice of Alteration (NOA) Form
- One (1) paper and one (1) digital copy (copy sent via e-mail) of the NOA Report and supporting design drawings.
- Application fee of $ 500 payable to the Minister of Finance via a cheque.

Trust the attached information meets your requirements for this project. Should you have any questions, please do not hesitate to contact me.

Regards,

Stantec Consulting Ltd.

[redacted]

Saibal Basu Ph.D., P.Eng. (MB, ON)
Senior Principal
Water/Wastewater Lead (Prairies/Territories)
Phone: 204 488 5710
saibal.basu@stantec.com

Notice of Alteration Form

Manitoba

File No. :	Environment Act Licence No. : 2869 RRR

Legal name of the Licencee: The Rural Municipality of Headingley

Name of the development: Hydrogen Sulphide Stripping Tank Replacment

Category and Type of development per Classes of Development Regulation:

Waste Treatment and Disposal <SELECT>

Licencee Contact Person: Sandra Miller, Chief Administrative Officer

Mailing address of the Licencee: 1-126 Bridge Road

City: Headingley Province: MB Postal Code: R4H 1G9

Phone Number: (204) 837-5766 Fax: Email: smiller@rmofheadingley.ca

Name of proponent contact person for purposes of the environmental assessment (e.g. consultant):

Saibal Basu, Ph.D., P.Eng., Water/Wastewater Lead (Prairies/Territories)

Phone: (204) 981-2557 Fax: (204) 453-9012	Mailing address: 500-311 Portage Avenue

Email address: saibal.basu@stantec.com

Short Description of Alteration *(max 90 characters):*

Replacement of the H2S Stripping Tank currently bypassed due to corrosion damage.

Alteration fee attached: Yes: ☑ No: ☐

If No, please explain:

Date: April 15, 2024	Signature: [redacted] Printed name: Saibal Basu

A complete Notice of Alteration **(NoA)** consists of the following components:

- ☐ **Cover letter**
- ☐ **Notice of Alteration Form**
- ☐ **1 hard copy and 1 electronic copy of the NoA detailed report** (see "Information Bulletin - Alteration to Developments with Environment Act Licences")
- ☐ **$500 Application fee, if applicable** (Cheque, payable to the Minister of Finance)

Submit the complete NoA to:
Director, Environmental Approvals Branch
Manitoba Environment and Climate
14 Fultz Blvd
Winnipeg, Manitoba R3Y 0L6
EABDirector@gov.mb.ca

For more information:
Phone: (204) 945-8321 Fax: (204) 945-5229
https://www.gov.mb.ca/sd/permits_licenses_approvals/eal/licence/index.html

Note: Per Section 14(3) of the Environment Act, Major Notices of Alteration must be filed through submission of an Environment Act Proposal Form (see "Information Bulletin – Environment Act Proposal Report Guidelines")

Reset Print

THE RURAL MUNICIPALITY OF HEADINGLEY – WASTEWATER TREATMENT FACILITY (WWTF)

HYDROGEN SULPHIDE STRIPPING TANK REPLACEMENT - NOTICE OF ALTERATION

April 15, 2024

Prepared for:
RM of Headingley WWTF
5910 Portage Avenue
Headingley, MB R4H 1G9

Prepared by:
Stantec Consulting Ltd.
500-311 Portage Avenue
Winnipeg, MB R3B 2B9

Project Number:
111220850

THE RURAL MUNICIPALITY OF HEADINGLEY – WASTEWATER TREATMENT FACILITY (WWTF) HYDROGEN SULPHIDE STRIPPING TANK REPLACEMENT – NOTICE OF ALTERATION

The conclusions in the Report titled The Rural Municipality of Headingley – Wastewater Treatment Facility (WWTF) Hydrogen Sulphide Stripping Tank Replacement - Notice of Alteration are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from RM of Headingley (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by:

Signature

April 15, 2024

Saibal Basu, Ph.D., P.Eng.

Reviewed by:

Signature

April 15, 2024

Jamie Brewster, M.Sc.

Approved by:

Signature

April 15, 2024

Saibal Basu, Ph.D., P.Eng.

Table of Contents

LIST OF FIGURES

LIST OF APPENDICES

1 Introduction

1.1 Project Overview

The Rural Municipality of Headingley (Municipality) is a progressive and fast-growing community located on the western limits of the City of Winnipeg, Manitoba, Canada. The Municipality is served entirely by a Septic Tank Effluent Pumping (STEP) system with the effluent from individual septic tanks pumped into a community low pressure sewer (LPS) system. Wastewater from the Municipality is conveyed to the Wastewater Treatment Facility (WWTF) site by the existing LPS system which also serves to receive flows from the Women's Correctional Centre (WCC). Wastewater from the existing Headingley Correctional Institute (HCI) facility is conveyed to the WWTF via a gravity sewer, lift station and forcemain. The collected wastewater is treated at the WWTF which was commissioned in the late summer of 2011 (**see Figure 1-1**). The HWWTF treatment process is based on Sequencing Batch Reactor (SBR) technology and is designed to treat the combined wastewater from the Municipality, HCI and the WCC. Gravity wastewater from the HCI facility passes through a fine (6 mm) screen prior to being discharged to the SBR treatment process. The SBR system is designed to meet the limits set in the Environmental Act Licence (EAL) for carbonaceous biochemical oxygen demand (cBOD5), total suspended solids (TSS) ammonia-nitrogen (NH3-N), total nitrogen (TN) and total phosphorous (TP). Effluent from the SBR is discharged by gravity to an effluent equalization tank (EQ) from where it is pumped to the UV. The disinfected effluent is discharged via an existing manhole (located adjacent the HCI wastewater treatment plant, which has since been decommissioned) to the Assiniboine River. The wastewater from the Municipality's LPS is characterized by elevated levels of hydrogen sulfide and undergoes pre-treatment . The WWTF has a dedicated air stripping tank (refer to **Figure 1-2**) to deal with the high hydrogen sulphide present in the low-pressure sewer (LPS) system. As the LPS does not have sufficient head, the main lift station at the WWTF that receives the flows form the LPS in the community is utilized to pump sewage directly to the stripping tank. Off gas from the hydrogen sulfide stripping tank is directed to a biofilter. The stripping tank design and the key components can be defined as follows:

- Normal design flow: 21.3 L/s
- Peak design flow: 69 L/s
- Tank HRT at peak flow: 30 minutes

Figure 1-1: Headingley WWTP

Figure 1-2: Hydrogen Sulphide Stripping Tank

- Stripping tank: Bolted glass-lined steel construction, 4.27 m diameter and 9.5 m high c/w with exterior insulation
- Aeration system: Stainless Steel Jet aeration system c/w backflush (refer to **Figure 1-3**)
- Blower capacity: 450 scfm at 40 hp
- Jet motive pump: 15 hp

Figure 1-3: Jet Aeration/Mixing System Inside the Stripping Tank

The tank has been in operation since the commissioning of the WWTF in 2011. The roof and the top section of the tank has corroded significantly (**Figure 1-4**), and the tank has been bypassed since 2021. Significant repairs are necessary to allow the continued use of the tank for H_2S stripping. As an interim measure the Municipality has been dosing ferric chloride to mitigate the sulphide levels in the incoming low-pressure sewage.

Stantec Consulting Ltd. (Stantec) was retained by the Municipality to undertake a Conceptual Study to develop options for the repair or replacement of the existing hydrogen sulphide (H_2S) stripping tank. The conclusion of the study was to replace the existing glass lined steel with a new FRP tank. The existing jet motive pump that provides mixing also requires replacement. Stantec undertook a detailed design of the proposed works, and the project was tendered in March 2024. The Contractor is scheduled to start work in July 2024.

Figure 1-4: Roof Corrosion of the Existing Stripping Tank

The Municipality is requesting this Notice of Alteration (NOA) to Environment Act Licence 2869 RRR.

1.2 The Proponent

For the purposes of development licensing, the proponent is the Rural Municipality of Headingley.

For further information regarding the development please contact the following:

Sandra Miller, Chief Administrative Officer
Rural Municipality of Headingley
1-126 Bridge Road
Headingley MB, R4H 1G9
Phone: (204) 837-5766
Email: smiller@rmofheadingley.ca

This Notice of Alteration was prepared by Stantec Consulting Ltd. The local contact is:

Mr. Saibal Basu, Ph.D., P.Eng.
Principal, Water/Wastewater – Team Lead (Prairies and Territories)
Email: saibal.basu@stantec.com

1.3 Land Use, Ownership and Property Rights

The proposed work will be undertaken within the existing WWTF site which is owned by the Municipality.

1.4 Regulatory Framework

The proposed Project requires submission of an NOA application to MECP as a Minor Alteration (existing hydrogen sulphide tank replacement) under *The Environment Act* (Manitoba). Other acts, regulations and guidance that apply to the Project include the following:

- The Environment Act, c. E125 Information Bulletin – Alterations to Developments with Environment Act Licences – related to Project development alterations

1.5 Public Engagement

The existing WWTF is located on the Municipality owned land within an area that is appropriately zoned for its land use. The proposed Project will be located on land owned by the Municipality. Public engagement for the Project comprises placement of the NOA on the Public Registry by Manitoba Environment and Climate Change (MECC) for public review and comment. No additional formal engagement has been undertaken for this project by the Municipality as the project is to replace existing non-functional equipment.

1.6 Funding

The Municipality will provide funding for all undertakings related to the Project. As noted earlier, the construction contract has been awarded.

2 Project Description

2.1 Hydrogen Sulphide Stripping Tank

The Project involves providing a FRP Hydrogen Sulphide Stripping Tank to replace the existing failed glass lined Hydrogen Sulphide Stripping Tank. The existing stainless steel jet mixing system will be reused and will be incorporated in the proposed tank system.

The proposed tank design shall include the following:

- Tank material: FRP
- Diameter: 4.27 m
- Straight side height: 9.15 m
- Bottom skirt height: 1.52 m
- Three (3) 200 mm dia. bottom flanged connections (influent from lift station / jet motive pump suction / jet motive pump discharge). Manufacturer to site measure location
- One (1) 300 mm dia. bottom flanged connection (effluent to wastewater treatment plant). Manufacturer to site measure location
- One (1) 150 mm dia. top flange connection (head space exhaust to biofilter fan)
- Three (3) 100 mm dia. top flange connection (process air / vent / valve stem)
- Two (2) 50 mm dia. top flange connections (instrumentation)
- One (1) 750 mm dia. top manway
- One (1) 600 mm dia. side bottom tank manway
- One (1) 600 mm dia. side bottom skirt manway

Interior piping to include:

- One (1) FRP jet motive header (reused from original tank)
- One (1) FRP backflush pipe to match existing backflush pipe
- One (1) FRP process air pipe to match existing process air pipe
- All interior piping to be supported inside tank
- FRP ladder with cage to top of tank

- FRP top platform with railing
- Tank and skirt to include 100 mm thick insulation
- Corrosion line: 1 ply “C” glass Veil and plies of 1.5 oz. mat
- Liner/Structure resin throughout, AOC Altek H834 polyester resin or approved equal
- Design pressure: atmospheric

2.2 Jet Motive Pump Replacement

The existing jet motive pump that provides tank mixing and located within an existing building is no longer functional and requires replacement. The pumping system can be described as follows:

Service	H_2S Stripping Tank Mixing (Raw Wastewater From Low Pressure Sewer)
Location	Lift Station Building
No. of Units	1
Rated Capacity (each)	>= 81.6 L/s @ 7.7 m TDH
Max RPM (motor)	1800
Minimum Overall Efficiency @ Rated Capacity	60%
Best Efficiency Point	>= 60 L/s
NPSH3 @ Rated Capacity	<= 7.3 m
Discharge	150 mm
Pump Model	Xylem NX 3153 MT c/w stainless steel impeller
Pump Motor	<= 12.7 kW, 600 V, 3 ph, 60 Hz, IE3 Premium Efficiency
Drive Type	Constant Speed

2.3 Supporting Drawings

The associated design drawings for the Project are provided in **Appendix A** of this report.

3 Environmental Effects and Mitigation

This section outlines the assessment of environmental effects.

3.1 Assessment of Environmental Effects

3.1.1 BIOPHYSICAL

3.1.1.1 Air Quality

There is minimal potential for emissions or fugitive dust generation, from Project construction activities. There will be very limited vehicular traffic and associated equipment emissions from activities during the tank replacement and associated construction activities and transportation of goods and materials to the construction site. No excavators, bulldozers, and dump trucks are expected on-site during construction.

Vehicle and any equipment exhaust emissions are expected to result in a potentially minor decrease in air quality. The decrease in air quality will be of short-term duration, occurring on a multiple irregular basis during work hours of the construction period on a local scale.

3.1.1.2 Surface Water

There are no natural surface water features on the Project site. The closest surface water body is the effluent receiving stream (Assiniboine River), located approximately 700 m to the south of the existing WWTF. No short-term effects to surface water quality are expected due to construction activities as no excavation and earthworks activities are required.

The Project will result in the improvement in the effluent quality (ammonia-nitrogen) being discharged to the Assiniboine River. Effective removal of the hydrogen sulphide present in the sewage via air stripping will improve plant performance for nitrification.

3.1.1.3 Groundwater

As stated above, since the proposed works will not involve any excavation or earthwork, impact on groundwater is not expected.

3.1.1.4 Soils and Terrain

There is very low potential for disturbance of soils and terrain through construction activities. Potential adverse residual effects on soil and terrain at the hydrogen sulphide tank site are anticipated to be negligible to low and short-term in duration.

3.1.1.5 Fish and Fish Habitat

There is no negative impact on fish and fish habitat anticipated from the planned construction activities.

The Project will have a positive impact on fish and fish habitat as effective removal of the hydrogen sulphide present in the sewage via air stripping will improve plant performance for nitrification.

3.1.2 SOCIO-ECONOMIC

3.1.2.1 Infrastructure and Services

During the construction, there will be a slight increase in construction traffic to the Project site. Traffic flows will increase very slightly on Gaol Road leading to the WWTF site for a very short duration. However, the potential effect is expected to be low, limited to the Project site and short-term in duration, multiple irregular in frequency.

Overall, the project will have a positive impact on the environment by providing an appropriate treatment of the highly septic wastewater and improving the overall quality of the effluent discharged to the Assiniboine River.

3.1.2.2 Employment and Economy

The proposed Project will create temporary construction employment and contribute positively to the general economy through the purchase of goods and services during construction. The project is not anticipated to result in effects on Indigenous Nations, due to the distance of nearest communities.

No adverse effects are expected because of the proposed development. There may be some minor economic impacts on the Municipality due to the capital costs associated with the replacement of the hydrogen sulphide stripping tank and associated infrastructure.

3.1.3 SUMMARY OF MITIGATION MEASURES

Proposed mitigation measures incorporated as part of this minor NOA include general mitigation measures that are typically applied during project construction and operation. Mitigation measures to be employed to prevent or mitigate adverse effects identified in the sections above include the following:

- Maintain all vehicles and equipment in good operating condition
- Reduce unnecessary idling of vehicles and equipment on-site
- Limit vehicle/equipment movement to the Project site
- Limit vehicle access to existing access roads and rights-of-way
- Utilize an approved dust suppressant and limit construction activities during high winds
- Maintain a 100 m setback from watercourses for all fueling and servicing activities
- Maintain proper storage of all waste materials, including hazardous waste materials, for proper disposal at a licensed waste disposal site

- Contractor will implement an Emergency Response Plan in the event of a major, reportable spill to MECC
- Surface disturbance will be limited to the Project site to the extent possible
- Noise disturbance will be limited using appropriately muffled vehicles and equipment
- Notify adjacent property owners of construction start and potential road closures for large vehicle movement or equipment deliveries
- Identify equipment and material delivery routes and limit on-road parking by providing off-road parking areas for construction workers, as practical
- Adhere to local speed limits and safe driving practices
- Limit damage to municipal roads from increased construction traffic

3.2 Accidents and Malfunctions

The effects of accidents and malfunctions for the Project are primarily related to the potential for fuel spills, and transportation accidents. During construction and operation, there exists the potential for fires at the Project site involving mechanical equipment and fuels, potential for environmental effects due to fuel spills and/or leaks from equipment, and transportation accidents that can result in the release of vehicle fluids to the environment (i.e., diesel, gasoline, oils, etc.) and the materials the vehicles were transporting. Accidents and malfunctions can potentially result in harm to on-site personnel, damage to equipment, the release of contaminants and/or hazardous materials from equipment/vehicles and storage tanks due to leaks or improper storage and handling and degradation of the environment and human health and safety.

Potential effects resulting from spills occurring in the construction and operations phases are anticipated to be low and short-term in duration. The potential for an increase in vehicle traffic taking a left turn off Highway 1 to Gaol Road could lead to transportation accidents is anticipated to be negligible.

Operational traffic at the facility operating at slow speeds and the utilization of qualified transport companies reduces the potential for on-site transportation accidents and risks. Measures to avoid adverse effects

associated with fire/explosion, spills and transportation accidents are as follows:

- Flammable waste and materials will be removed on a regular basis and disposed of at an appropriate licensed disposal facility.
- Appropriate fire extinguishers are available on-site during operations and are maintained to manufacturer’s standards.
- Refueling of vehicles and equipment will adhere to proper procedures and will use designated refueling areas or will be refueled off-site.

- Emergency spill kits will be maintained on-site, and staff will be trained to properly deploy spill kit materials and cleanup spills.
- Inspections of hydraulic and fuel systems on equipment and machinery will be undertaken on a regular basis. Leaks detected will be repaired immediately by trained personnel.
- Equipment and storage tanks will be regularly inspected and maintained to prevent leaks and failures.
- Existing traffic control measures (i.e., speed limits, signage) will be adhered to.

3.3 Follow-up Plans, Monitoring and Reporting

3.3.1 TREATMENT PROCESS MONITORING

Applicable warranties will be applied to the operation and performance of all structures, equipment and process components related to the proposed works. Following commissioning and acceptance testing, the Contractor will confirm that the replacement components are functioning as per design basis and report the results to the Engineer.

The stripping tank and the pumping system will be operated by certified operators from the Rural Municipality of Headingley. This includes system optimization, monitoring, and laboratory techniques to monitor day-to-day treatment operations for meeting the target effluent requirements.

4 Conclusions

The proposed new FRP Hydrogen Sulphide Stripping tank and the associated jet motive pump replacement project will improve the operation and efficiency of the treatment system. The temporary addition of ferric chloride will be discontinued which will reduce chemical handling at the plant.

The potential for adverse environmental effects related to the Project for most environmental components were found to be negligible to low in magnitude for construction and operation. Once operational, the Project will result in an improved effluent discharge and reduced water quality effects.

APPENDIX A

Design Drawings

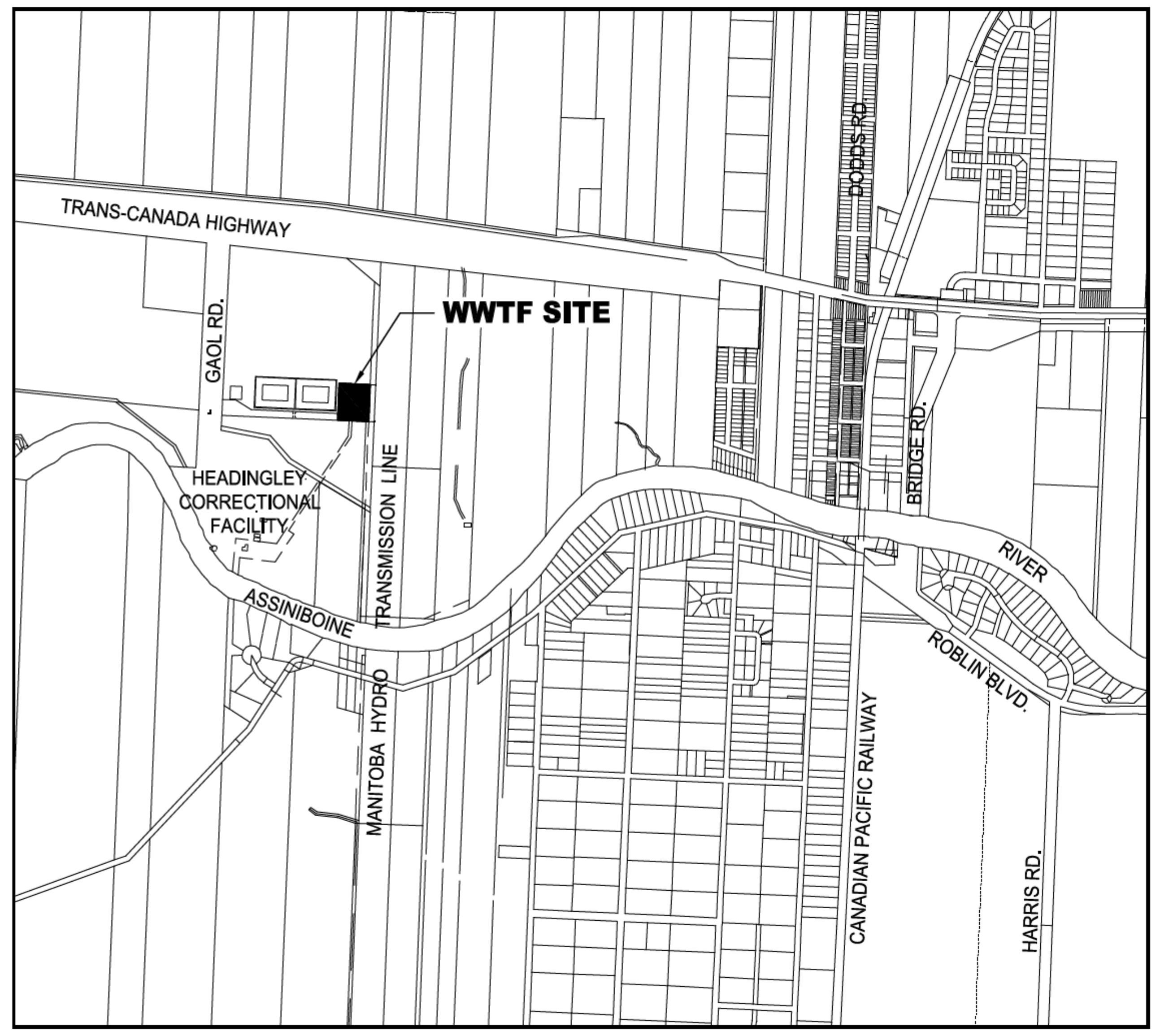
THE R.M. OF HEADINGLEY

HEADINGLEY WASTEWATER TREATMENT FACILITY HYDROGEN SULFIDE STRIPPING TANK REPLACEMENT AND ASSOCIATED WORKS

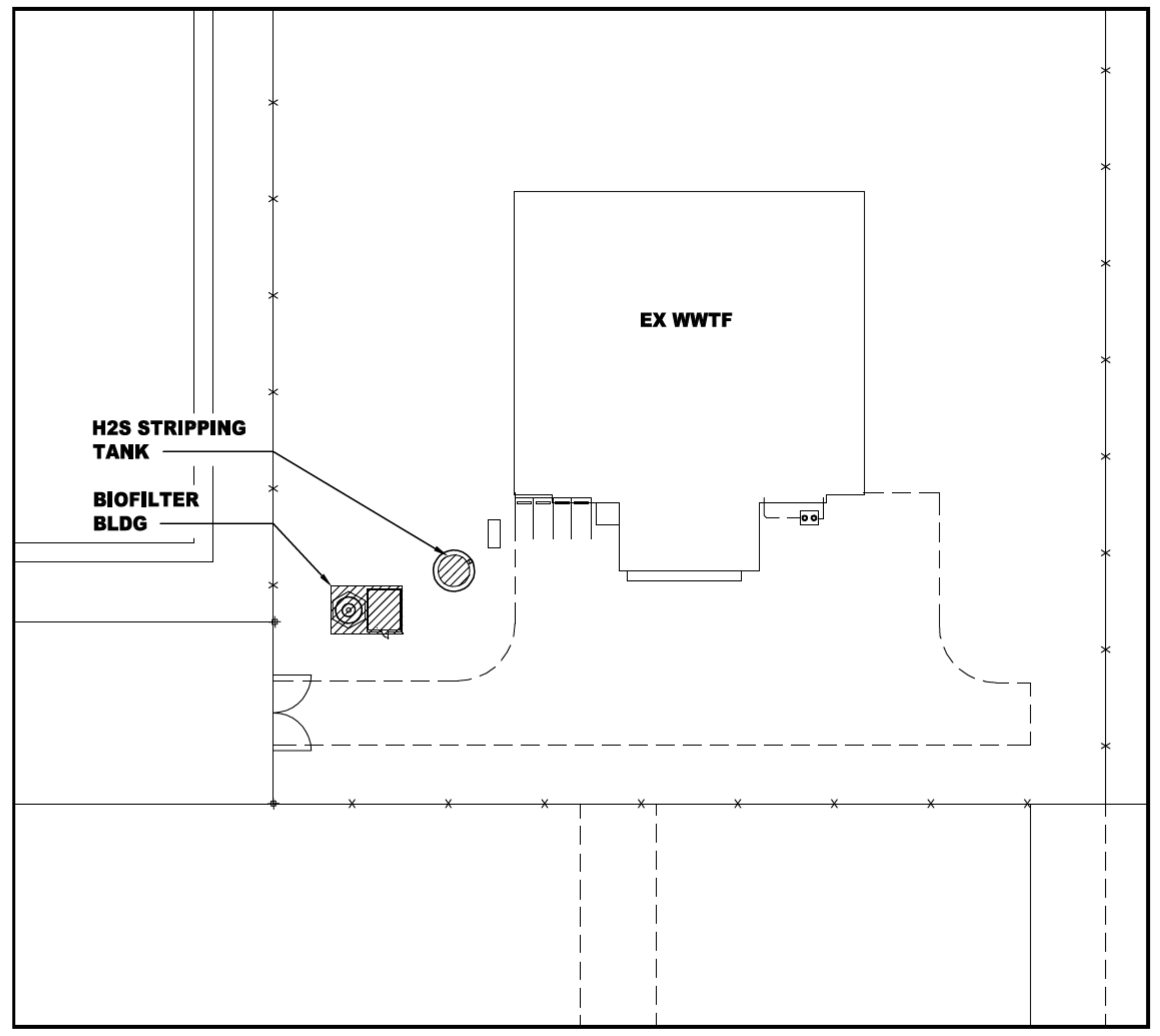
ISSUED FOR TENDER

February 2024

Project Number: 111220850



WWTF LOCATION PLAN



H2S STRIPPINGTANK AND BIOFILTER LOCATION PLAN

DRAWING INDEX

GENERAL

PROCESS

ELECTRICAL

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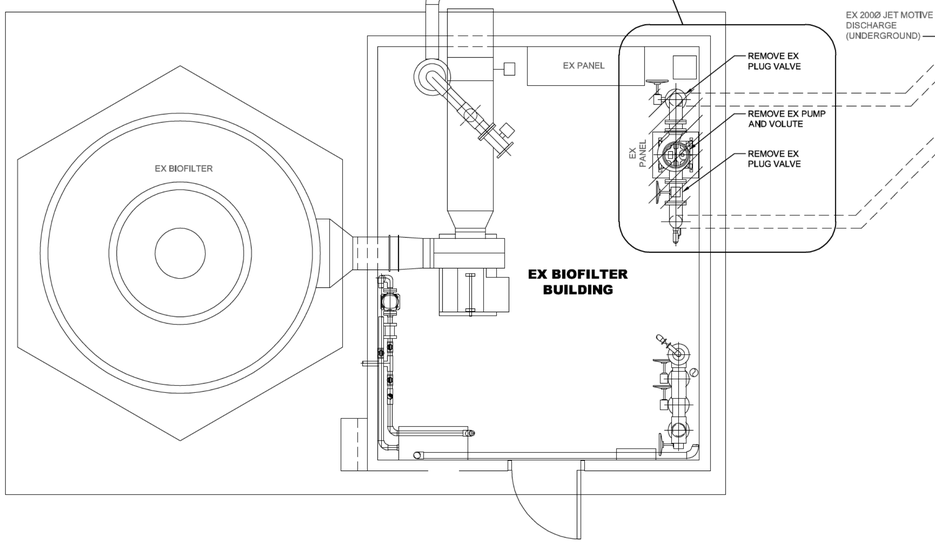

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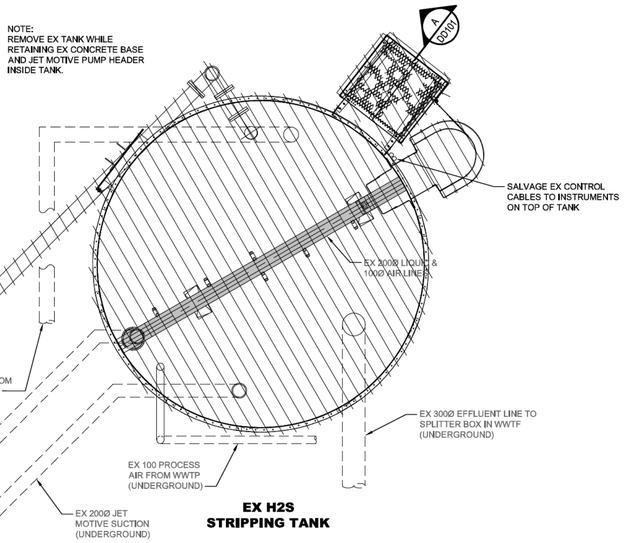
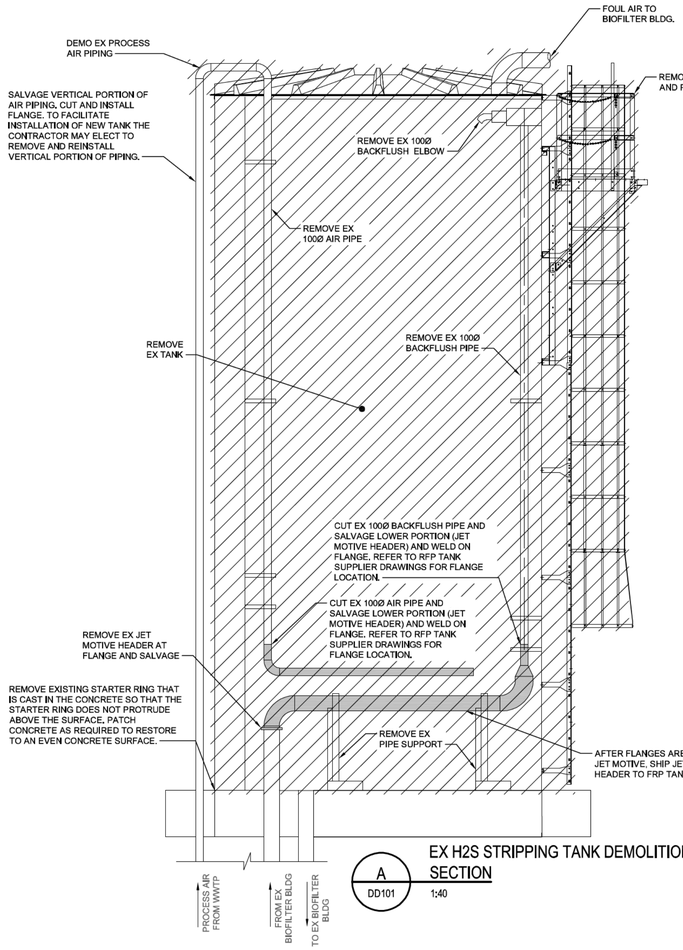
1 DD101 EX BIOFILTER BUILDING DEMOLITION PLAN 1:40





A DD101 EX H2S STRIPPING TANK DEMOLITION SECTION 1:40

Stantec

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Notes

1. REMOVE AND SALVAGE EX LEVEL AND PRESSURE INSTRUMENTATION FROM TANK PRIOR TO DEMOLITION.

Revision		By	Appd.	YYYY.MM.DD
G				
F				
E				
D				
C				
B	FOR TENDER	JB	SB	2024.02.09
A	FOR 95% REVIEW	JB	JB	2024.01.05

Issued	By	Appd.	YYYY.MM.DD
File Name: 20850d-101.dwg	SC Dwn.	JB Dsgn.	SAB Chkd.	2/12/2024 YYYY.MM.DD

Permit/Seal

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
Stantec Consulting Ltd.
No. 1301

[redacted]

Client/Project Logo

Client/Project
R.M. OF HEADINGLEY

HEADINGLEY WATER TREATMENT FACILITY
HYDROGEN SULPHIDE STRIPPING TANK
REPLACEMENT AND ASSOCIATED WORKS

Title
DEMOLITION PLAN

Project No. 111220850

Scale 1:40 (0, 400, 1200, 2000)

Revision

Drawing No. DD101

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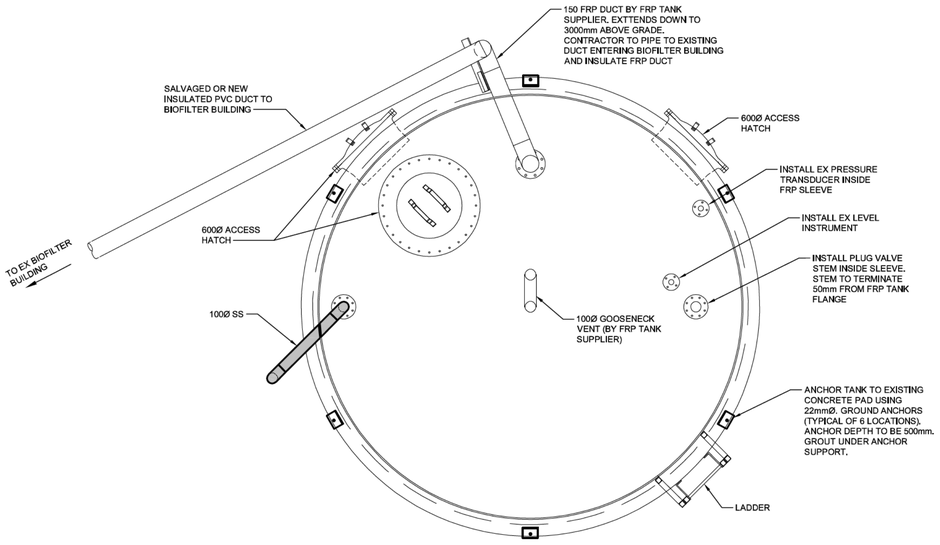

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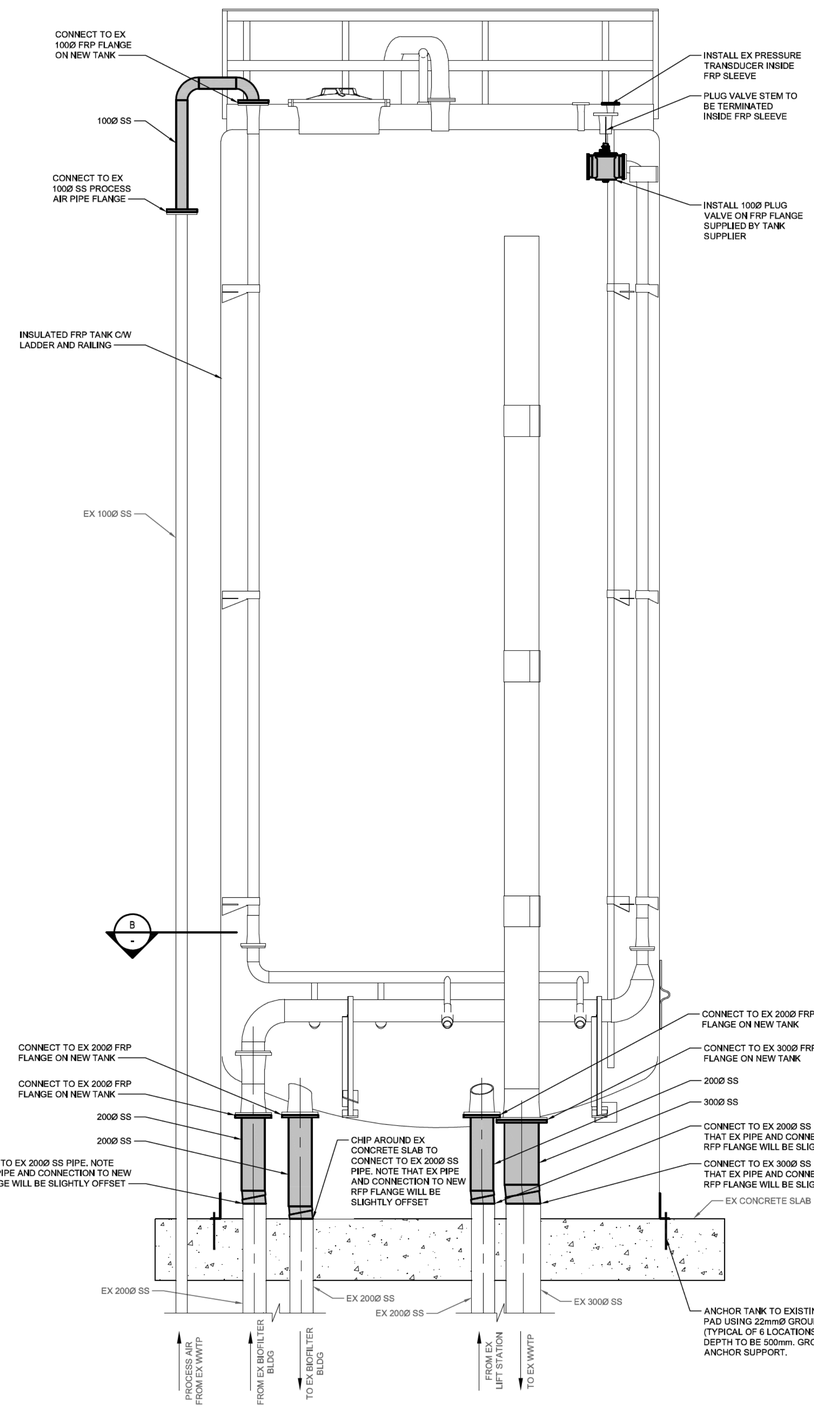
1:30



A / D-101 PROPOSED H2S STRIPPING TANK SECTION

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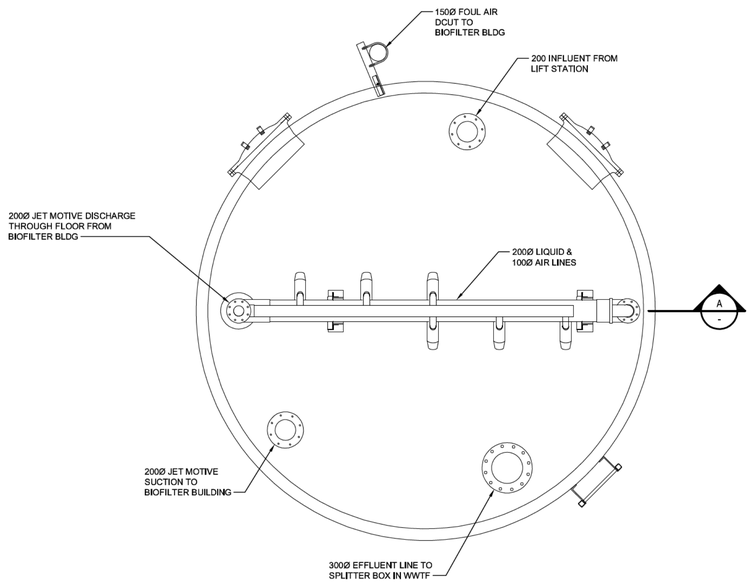

B / D-101 PROPOSED H2S STRIPPING TANK LOWER SECTION

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Notes

1. ALL INTERIOR PIPING IS INCLUDED AS PART OF THE TANK OR INSTALLED BY THE FRP TANK SUPPLIER PRIOR TO SHIPPING TO SITE.
2. THE ONLY COMPONENTS TO BE INSTALLED INSIDE THE TANK IS THE 100mm DIAMETER PLUG VALVE AND PRESSURE TRANSDUCER INSTRUMENT.

Revision	By	Appd.	YYYY.MM.DD
7			
6			
5			
4			
3			
2			
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G			
F			
E			
D			
C			
B FOR TENDER	JB	SB	2024.02.09
A FOR 95% REVIEW	JB	JB	2024.01.05
Issued	By	Appd.	YYYY.MM.DD

File Name: 20850d-101.dwg	SC	JB	SAB	2/12/2024
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
Stantec Consulting Ltd.
No. 1301

Client/Project Logo

Client/Project
R.M. OF HEADINGLEY

HEADINGLEY WATER TREATMENT FACILITY
HYDROGEN SULPHIDE STRIPPING TANK
REPLACEMENT AND ASSOCIATED WORKS

Title
H2S STRIPPING TANK
PLAN & SECTION

Project No. 111220850

Scale 1:30 (300 900 1500)

Revision

Drawing No. D-101

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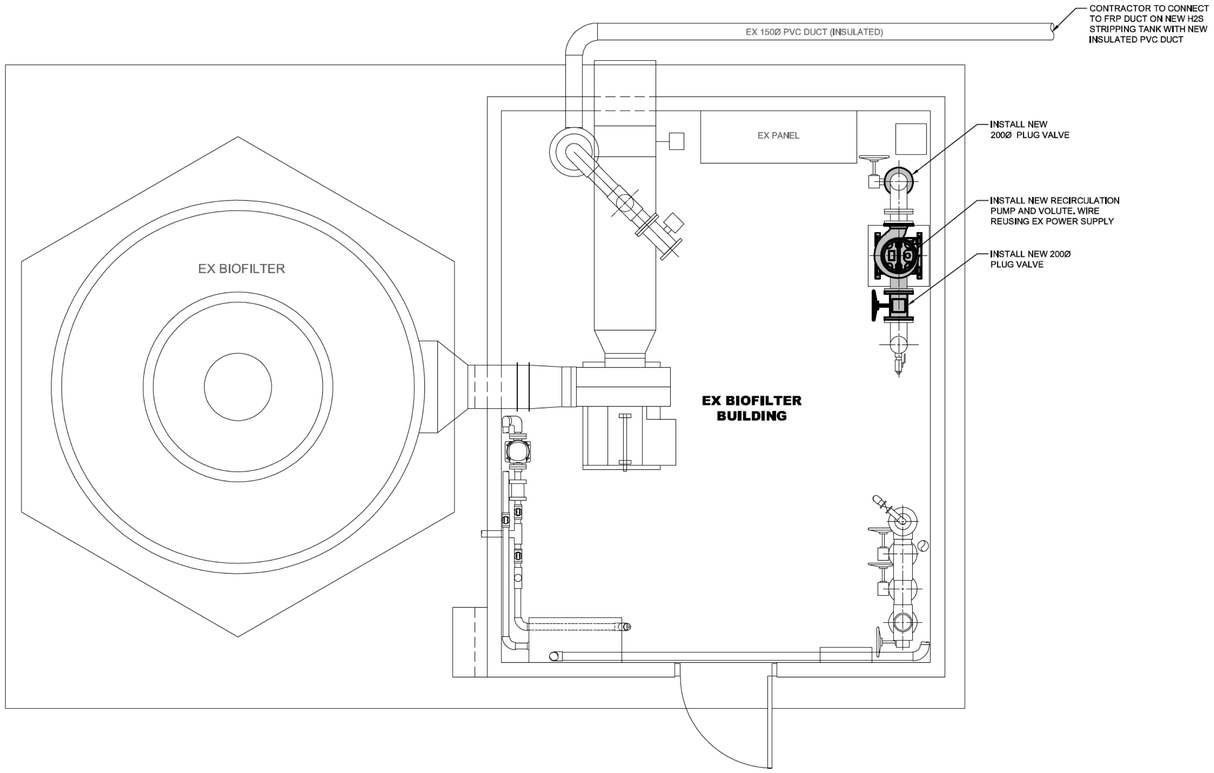

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1
D-102

PROPOSED BIOFILTER BUILDING PLAN

1:30

Stantec

Stantec Consulting Ltd.
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Revision	By	Appd.	YYYY.MM.DD
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B FOR TENDER	JB	SB	2024.02.09
A FOR 95% REVIEW	JB	JB	2024.01.05

Issued	By	Appd.	YYYY.MM.DD

File Name: 20850d-101.dwg	SC	JB	SAB	2/12/2024
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

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Certificate of Authorization
Stantec Consulting Ltd.
No. 1301

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Client/Project

R.M. OF HEADINGLEY

HEADINGLEY WATER TREATMENT FACILITY
HYDROGEN SULPHIDE STRIPPING TANK
REPLACEMENT AND ASSOCIATED WORKS

Title

BIOFILTER BUILDING PLAN AND DETAILS

Project No.
111220850

Scale
1:30 300 900 1500

Revision

Drawing No.
D-102

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2024/02/12 10:46 AM By: Cabanero, Shenwin

ORIGINAL SHEET - ISO A1 (594x841) v1801 - REVIT

1 D-901 H2S STRIPPING TANK 3D ISOMETRIC VIEW

1:30

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B FOR TENDER	JB	SB	2024.02.09
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File Name: 208506-101.dwg	SC Dwn.	JB Dsgn.	SAB Chkd.	2/12/2024 YYYY.MM.DD

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HEADINGLEY WATER TREATMENT FACILITY
HYDROGEN SULPHIDE STRIPPING TANK
REPLACEMENT AND ASSOCIATED WORKS

Title

H2S STRIPPING TANK
3D ISOMETRIC VIEW

Project No. 111220850

Scale 1:30 (300 900 1500)

Revision

Drawing No. D-901

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2024/02/12 10:47 AM By: Catcheretto, Sherwin

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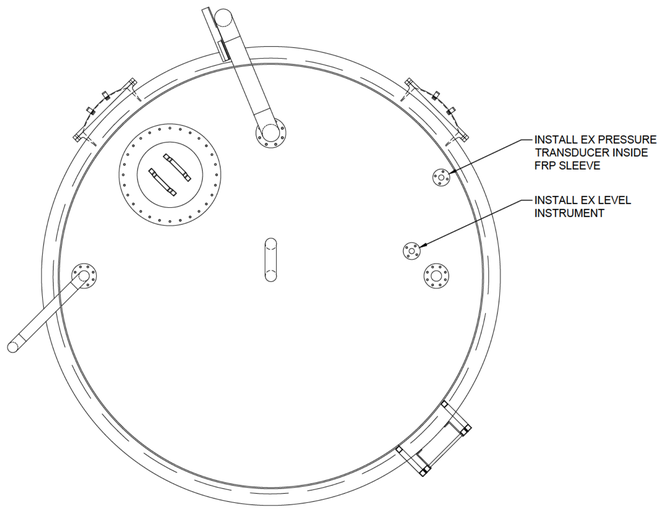
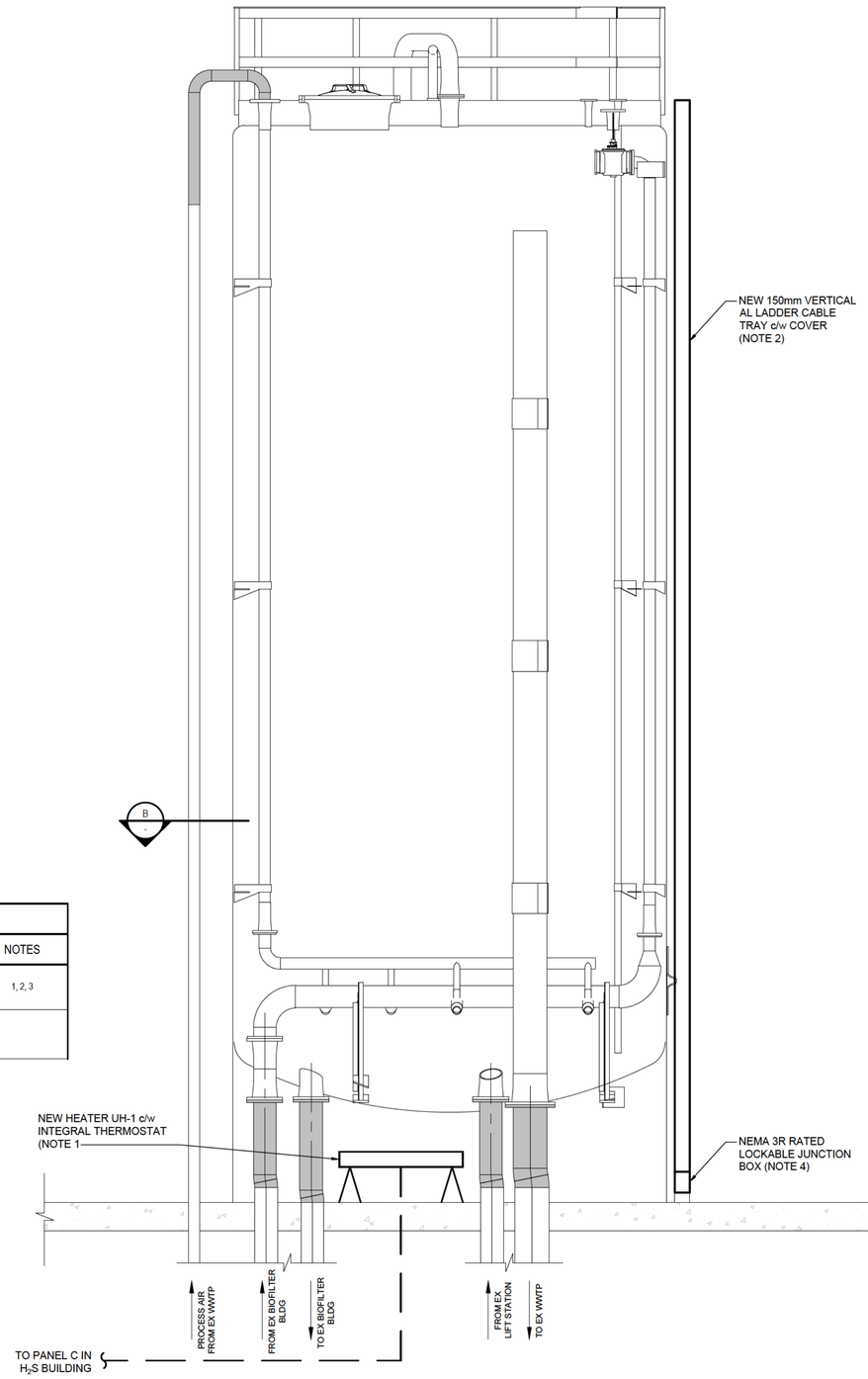


1 / E-101 PROPOSED H2S STRIPPING TANK UPPER PLAN
1:30



A / E-101 PROPOSED H2S STRIPPING TANK SECTION
1:30

UNIT HEATER SCHEDULE													
TAG	DESCRIPTION	LOCATION	kW	VOLTS	PHASE	POWER SOURCE	MANUFACTURER	MODEL	DISC SWITCH	INSTALLATION	CONTROL	UNIT RATING	NOTES
CH-1	CONVECTION HEATER	BELOW NEW H2S STRIPPING TANK	0.75kW	120V	1	OUTFALL PANEL	NORSEMAN	XB1-3-075-T2D-1-1R	BREAKER IN PANEL C AT THE H2S BLDG DIST PNL	WALL	BUILT-IN THERMOSTAT	WET & CORROSIVE	1, 2, 3

NOTES:
1. ALL UNIT HEATERS SHALL BE SUPPLIED COMPLETED WITH ALL REQUIRED MOUNTING HARDWARE FOR A COMPLETE AND OPERATIONAL
2. ALL UNIT HEATER SHALL BE RATED FOR USE IN THE AREA IN WHICH IT IS INSTALLED
3. COORDINATE ALL BREAKERS SIZE WITH UNIT SHOP DRAWING

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Notes

1. INSTALL HEATER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PLACE HEATER NEAR THE CENTER OF THE TANK AND ANCHOR TO THE CONCRETE BASE USING APPROVED MOUNTING BRACKETS. PLACE HEATER SUCH THAT DISTANCE FROM PIPES IS MAXIMIZED
2. SUPPORT CABLE TRAY IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ANCOR THE CABLE TRAY TO THE CONCRETE BASE AT THE BOTTOM OF THE TANK AND TO THE BRACKETS AT THE TOP OF THE TANK.
3. SUPPORT THE INSTRUMENTATION CABLES EVERY 5FT ALONG VERTICAL RUN.
4. INSTALL A NEMA 3R RATED LOCKABLE JUNCTION BOX TO THE VERTICAL CABLE TRAY. TERMINATE THE EXISTING INSTRUMENTATION CABLE WITHIN THIS BOX, AND EXTEND NEW CABLE UP TO THE INSTRUMENT. CABLE TYPE SHALL MATCH EXISTING.

DEMOLITION NOTES:

1. THERE ARE TWO EXISTING INSTRUMENTS (ONE LEVEL TRANSDUCER AND ONE PRESSURE TRANSDUCER) INSTALLED WITHIN THE EXISTING H2S STRIPPING TANK THAT IS TO BE DEMOLISHED. SALVAGE THE TWO INSTRUMENTS FOR INSTALLATION ON THE NEW TANK.
2. SALVAGE AND PROTECT THE EXISTING INSTRUMENT CABLES IN PLACE. CABLES SHALL BE USED IN THE FINAL INSTALLATION. PROTECT CABLES DURING CONSTRUCTION. EXISTING INSTRUMENT CABLES ARE ROUTED WITHIN.

Revision	By	Appd.	YYYY.MM.DD
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HEADINGLEY WATER TREATMENT FACILITY
HYDROGEN SULPHIDE STRIPPING TANK
REPLACEMENT AND ASSOCIATED WORKS

Title
ELECTRICAL
H2S STRIPPING TANK

Project No. 111220850
Scale
Revision
Drawing No. **E-101**

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2024/02/12 2:20 PM By: Murray, Glenn

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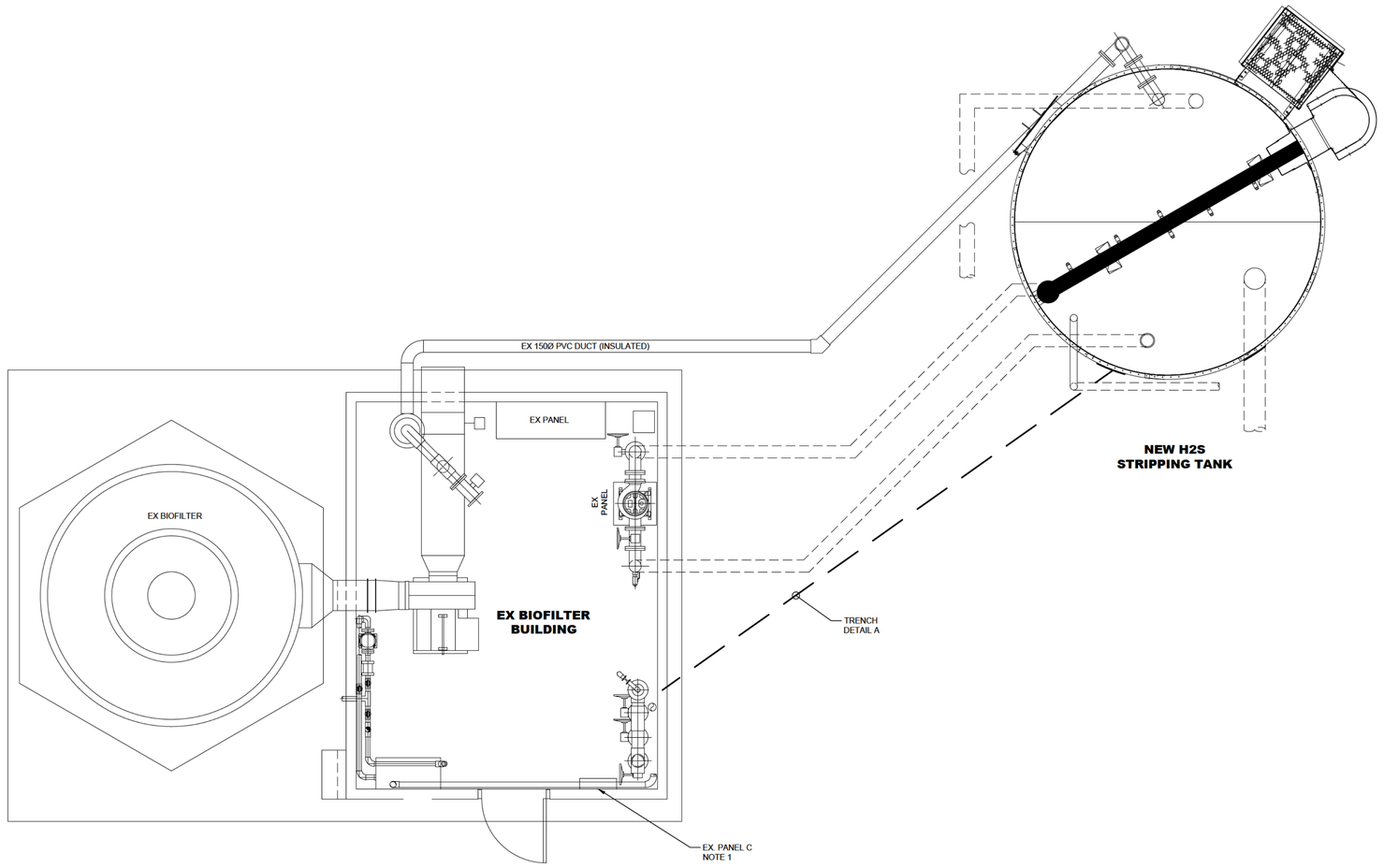

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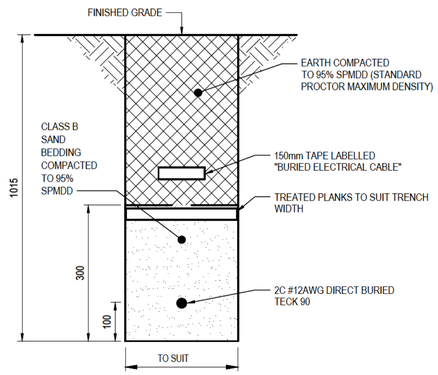
1 E-102 EX BIOFILTER BUILDING PLAN 1:40



A E-102 TRENCH DETAIL - HEATER N.T.S.

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Notes

1. PROVIDE NEW 15A BREAKER IN EXISTING PANEL C FOR NEW HEATER POWER.

Revision	By	Appd.	YYYY.MM.DD
7			
6			
5			
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F			
E			
D			
C			
B			
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Issued	By	Appd.	YYYY.MM.DD

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HEADINGLEY WATER TREATMENT FACILITY
HYDROGEN SULPHIDE STRIPPING TANK
REPLACEMENT AND ASSOCIATED WORKS

Title
ELECTRICAL
HEATER POWER TO STRIPPING TANK

Project No.	Scale
111220850	

Revision	Drawing No.
	E-102

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2024/02/12 2:19 PM By: Murray, Glenn

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