VILLAGE OF BIG VALLEY
AGENDA of the REGULAR COUNCIL MEETING
Held at the Village of Big Valley Administration Building
Monday, August 19, 2024 – 7:00 p.m.

1. Call to Order – 7:00 PM

2. Adoption of Agenda

3. Adoption of Minutes
   a. Regular Council Meeting Minutes – July 15, 2024

4. Visitors and Delegations

5. Old Business
   a. RFD 41-2024 - MPE – Lagoon Geotechnical Investigation Report
   b. RFD 42-2024 - John Deere Tractor Repair

6. New Business
   a. RFD 43-2024 - Request for Reduction of Taxes
   b. RFD 44-2024 - Aurora Land Consulting – Inter Pipeline Ltd. (IPL)
      Drumheller to Stettler Line Replacement Project
   c. RFD 45-2024 - 2025 ATCO Electric Franchise Fees
   d. RFD 46-2024 – Evolve Surface Strategies Inc. – Strathcona Resources Ltd.
      Fenn/Big Valley Phase 2 Remediation & Reclamation
   e. RFD 47-2024 – Appointment of Big Valley Library Board members
   f. RFD 48-2024 – Request to Lease a Road Allowance

7. Reports
   a. CAO Report
   b. PW Report
   b. Council Reports

8. Financial Statements
   a. ATB Bank Statement – July, 2024
   b. Cheque Register – July, 2024
   d. Utility Water Report – Purchases/Billed out – July 2024
   c. Budget Variances as of July 31, 2024

9. Correspondence
   a. RCMP dated August 2, 2024 – 2nd Quarter Community Policing Report
   b. RCMP dated August 13, 2024 – Meeting with RCMP Commanding Officer at Convention

10. Public Comments – Limited to 5 Minutes

11. Next Meeting – Monday, September 16, 2024 commencing at 7:00 PM

12. Closed Session
    Pursuant to Section 17 FOIPPA – Personnel Matter

13. Adjournment

VILLAGE OF BIG VALLEY

Regular Council Meeting Minutes

Monday, July 15, 2024

29, 1st Avenue South, Big Valley, Alberta

PRESENT: Mayor Chantelle Janke, Deputy Mayor Timmothy Field, Councillor Daniel Houle (Zoom)
Recording Secretary Colleen Mayne
Members of the Public, RCMP Staff Sargeant Cam Russell, Stu Salkeld, ECA Review

CALL TO ORDER: Mayor Janke called the meeting to order at 7:01 p.m.

ADOPTION OF AGENDA:

RES 24-07-01 **MOVED** by Mayor Janke that the Agenda for the June 15, 2024 Meeting be accepted as amended.

CARRIED

ADOPTION OF MINUTES:

REGULAR COUNCIL MEETING MINUTES – JUNE 17, 2024

RES 24-07-02 **MOVED** by Mayor Janke to approve the June 17, 2024 Regular Council Meeting Minutes as presented.

CARRIED

DELEGATIONS:

CATHY EVANS – SEWER LINE CONCERNS

RES 24-07-03 **MOVED** by Deputy Mayor Field to direct the CAO and Public Works to investigate available options to negate the risk of the sewer line freezing on the corner of 5th Ave and 4th Street, and bring back to a future meeting.

CARRIED

OLD BUSINESS:

ROD COUTURIER – LEASE AGREEMENT

RES 24-07-04 **MOVED** by Mayor Janke to direct the CAO to confirm property ownership for Block 23, Lots 4-10 in respect to the proposed Lease Agreement, and bring back to the next meeting.

CARRIED

BYLAW 881 – ANIMAL CONTROL BYLAW

RES 24-07-05 **MOVED** by Mayor Janke to give First Reading to Bylaw 881 – Animal Control Bylaw as presented.

CARRIED

RES 24-07-06 **MOVED** by Deputy Mayor Field to give Second Reading to Bylaw 881 – Animal Control Bylaw as presented.

CARRIED

RES 24-07-07 **MOVED** by Councillor Houle that Council gives permission to proceed to third and final reading of Bylaw 881 – Animal Control Bylaw as presented.

CARRIED

RES 24-07-08 **MOVED** by Deputy Mayor Field to give Third and Final Reading to Bylaw 881 – Animal Control Bylaw as presented.

CARRIED

NEW BUSINESS:

BYLAW 875 – NUISANCE ABATEMENT BYLAW

RES 24-07-09 **MOVED** by Mayor Janke to table Bylaw 875 – Nuisance Abatement Bylaw to a future Regular Council Meeting.

CARRIED

VILLAGE PROPERTY – BIKE PACKING EVENT

RES 24-07-10 **MOVED** by Deputy Mayor Field to direct the CAO to notify the Canadian Northern Society confirming use of Village Property on the east side of Railway Avenue and Round House area for the Bike Packing Event scheduled for July 20-21, providing there is proof of liability insurance.

CARRIED

REPORTS:

RES 24-07-11 **MOVED** by Mayor Janke to accept the CAO, Public Works and Council Reports for information.

CARRIED

FINANCIAL STATEMENTS – JULY, 2024:

RES 24-07-12 **MOVED** by Deputy Mayor Field to accept the Financial Statements as presented.

CARRIED

CORRESPONDENCE:

MELITTA SORENSEN – CHICKEN/FARM PROJECT

RES 24-07-13 **MOVED** by Mayor Janke to direct the CAO to respond to Ms. Sorensen's inquiry regarding a proposed chicken project with the school.

CARRIED

RES 24-07-14 MOVED by Mayor Janke to accept the correspondence for information.

CARRIED

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PUBLIC COMMENTS:

NEXT MEETING: Monday, August 19, 2024

CLOSED SESSION:
Pursuant to Section 17 FOIPPA – Personnel

RES 24-07-15 **MOVED** by Mayor Janke to go into Closed Session at 9:05 PM.

CARRIED

RES 24-07-16 **MOVED** by Councillor Houle to come out of Closed Session at 9:26 PM.

CARRIED

RES 24-07-17 **MOVED** BY Deputy Mayor Field to direct the CAO to add the John Deere Tractor Repair/Replacement to the August 19, 2024 Regular Council Meeting.

CARRIED

ADJOURNMENT: Mayor Janke adjourned the meeting at 9:27 PM.

_____
Chantelle Janke, Mayor

_____
Colleen Mayne, Chief Administrative Officer

REQUEST FOR DECISION

Date: August 19, 2024 RFD 41-2024
Memo To: Village Council
From: Colleen Mayne, CAO
Subject: MPE Engineering – Big Valley Lagoon Geotechnical Investigation Report

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PURPOSE

To have Council review the Lagoon Geotechnical Investigation Report provided by MPE Engineering and based on their findings, determine which direction Council will proceed to minimize risks and correct issue(s).

BACKGROUND:

MPE Engineering was hired in 2023 to undergo an infrastructure study, which included the Big Valley Lagoon. Upon review in early 2024, lagoon issues were identified, including a crack in the wall of the effluent pond going back to 2022, and had not been addressed since. An emergency discharge of the effluent pond was completed in the early summer of 2022; however, as of March 2024 no mandatory annual or bi-annual discharges had been made since. In failing to do a discharge between the summer of 2022 and spring of 2024, the Village was not only in contravention with Alberta Environment, but the probability of said crack expanding with the added volume and pressure, was high; the Village's code of practice states a minimum of 1 discharge a year, with the option of a 2nd (i.e. Spring & Fall). With the lagoon full, another emergency discharge was completed in April of this year, and MPE suggested the Village undertake a Geotechnical Investigation Study, to determine the current status of the lagoon's effluent pond and the crack. To do this, the current Infrastructure Study underwent a change of scope in relation to the Lagoon, and a Geotechnical Investigation Study was ordered, which involved obtaining an additional grant of $50,000 to recover the cost. The Lagoon Geotechnical Investigation Report findings have been included, and will be an invaluable resource for Council to gain a more clear understanding of the issue(s), as well as defining the level of urgency and direction of how to proceed, as well as anticipated costs associated.

OPTIONS:

1. Council review the Lagoon Geotechnical Investigation Report provided by MPE Engineering, and direct the CAO of which option they wish to proceed at this time.
2. Council review, but table the Lagoon Geotechnical Investigation Study results to the September 16th or October 21st Council Meetings until such time MPE finalizes and provides Council with their final Infrastructure Study Report and recommendations.

RECOMMENDATION:

THAT Village Council table making a decision of what direction to proceed with the Lagoon to either the September or October 2024 Council Meetings, when the final Infrastructure Study Report has been provided by MPE.

FINANCIAL IMPLICATIONS – N/A

PREPARED BY:
Colleen Mayne, CAO

a division of Englobe

VILLAGE OF BIG VALLEY

BIG VALLEY LAGOON

GEOTECHNICAL INVESTIGATION REPORT

Prepared By:
Hassan Chaudry, E.I.T.
Geotechnical Engineer

MPE a division of Englobe
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Date: August 2, 2024
Project #: 4418-001

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www.mpe.ca

CORPORATE AUTHORIZATION

This report has been prepared by MPE a division of Englobe (MPE), for the sole use of the Village of Big Valley. Any use that a third party makes of this report, or reliance on or decisions made based upon it is the responsibility of the third party. MPE accepts no responsibility for damages, if any, suffered by a third party as a result of decisions made or actions taken based upon this report. This report represents MPE's best judgement, based on the information available at the time of report preparation. Use of this report is subject to the appended Terms of Reference.

Respectfully submitted,

MPE a division of Englobe.

Prepared by:

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PERMIT TO PRACTICE
MPE, a division of Englobe Corp.

Signature _____

APEGA ID _____

Date _____

PERMIT NUMBER: P 7841

The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

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1.0 INTRODUCTION

MPE a division of Englobe (MPE) was retained by the Village of Big Valley (Client) to investigate the existing Big Valley Sewage Lagoon approximately 1 km south of the Village. It is understood that the Village is looking to address safety concerns surrounding the lagoon facility and dam safety deficiencies of the lagoon. Authorization to proceed with the work outlined in the proposal by MPE was received by Mrs. Colleen Mayne of the Village of Big Valley.

2.0 SCOPE OF WORK

Based on requirements from the client and previous discussions, the geotechnical investigation and study includes:

- A geotechnical site characterization to verify and quantify the material properties of the site soils.
- Stability analysis of the reservoir embankments in various scenarios.
- Development of repair concepts.

MPE also conducted a survey of the dam from which the topography of the dam and reservoir are shown on **Figure 1** in **Appendix B**.

The following documents were provided to facilitate the reporting and design of the project, applicable data extracted from the reports is included in **Appendix E**.

- Historic Plan Drawing: Road surface and underground utility records sewage lagoon plan, prepared by Underwood Mclellan Ltd (Underwood, 1983)
- Engineering Report: Big valley lagoon wastewater treatment system study – draft, prepared by Associated Engineering (Associated Engineering 2022)

3.0 BACKGROUND

The existing Big Valley Sewage Lagoon is located within LSD NE-23-35-20-W4M. The topography surrounding the site was generally sloped from southeast to northwest, as shown in **Figure 1, Appendix B.**

3.1 LAGOON CONDITIONS

Based on the provided record drawings, the lagoon was completed in April 1981 and has remained relatively unchanged since the original construction. Based on the record drawings, the site was generally constructed with a balance of cut and fill. The soils from the cut areas in the east areas were used to construct the fill slope along the west perimeter of the Storage Cell. The fill slope is the highest at the northwest corner of the Storage Cell, with a height of approximately 6 m. The slope decreases in height as the topography rises towards the south and east, to approximately 1 to 2 m at the southwest corner.

The record drawings also indicates that the slopes along the berms of the lagoon cells are generally sloped at 3H:1V, except for the west fill slope for the storage cell which is sloped at 2.5H:1V.

Based on the information provided and MPE's various site inspections, the lagoon has likely been slowly leaking for many years. A crack along the inside berm of the Storage Cell was noted near the discharge pipe of the cell, only visible during low operation. MPE has also conducted multiple inspections of the lagoon in 2024. The inspections in January 2024 noted exposed soil face due to erosion along the outlet channel, ice buildup along the discharge channel and at the southwest corner of the Storage Cell indicating continued seepage from the lagoon. The inspections in April and May 2024 noted flowing water within the outlet channel, but no water discharge from the outlet pipe. Lush green vegetation growth was noted along the toe of the west embankment of the Storage Cell, a review of satellite imagery confirms this observation with green vegetation growth visible as far back as 2003. The toe of the west embankment was noted to have standing water where the ice buildup was noted in January 2024. The May 2024 inspection also found that water was noted to be flowing out of a small hole in the west embankment approximately 80 m north of the outlet. No flowing water was noted during the April 2024 inspection. The water levels of the Storage Cell did appear to be higher in May 2024 compared to April. Based on these observations, it is a likely possibility that the water is flowing through a rodent hole that only experiences flow during high water levels.

3.2 DAM SAFETY REQUIREMENTS

The Canadian Dam Association (CDA) defines a dam as a barrier used for water retention capable of holding at least 30,000 m^3 of liquid that is at least 2.5 m high. The embankment height of the existing Storage Cell exceeds these limits and must therefore be designed to CDA standards (CDA, 2013). In Alberta, dams and canals are defined and regulated by the Water Act (Alberta Environment, 2018a), and are subject to the Alberta Dam and Canal Safety Directive (Alberta Environment 2018b). The prevailing Dam Safety Guidelines are those by the CDA (CDA 2007, 2013). This geotechnical design report has been prepared with consideration of the applicable regulations, directives, CDA Guidelines (2013) and related CDA technical bulletins.

The dam consequence classification is likely to be "Low" to "Significant"; MPE has assumed a dam consequence classification of "Significant" based on the potential damage to the environment, surrounding properties and infrastructure.

3.3 DESIGN STANDARD

The accepted factors of safety as per the Alberta Dam and Canal Safety Directive (Alberta Environment, 2018) and CDA (2013) consider the reliability of inputs to the stability analysis, the probability of the loading condition, and the consequences of potential failure. These accepted factor of safety (FS) values are provided in Table 1.

Table 1 – Target Factors of Safety for Slope Stability

Loading Condition	Minimum Factor of Safety	Slope
End of construction before reservoir filling	1.3	Upstream and Downstream
Long term (steady-state seepage, normal reservoir level)	1.5	Downstream
Full or partial rapid drawdown	1.2 – 1.3	Upstream
Pseudo-static	1.0	Upstream and Downstream
Post-earthquake	1.2 – 1.3	Upstream and Downstream

3.4 GEOLOGY

3.4.1 Surficial Geology

MPE reviewed mapping published by the Alberta Geological Survey (AGS). According to the surficial geology map (Alberta Geological Survey, 2013) the site surficial geology is classified as Stagnant Ice Moraine deposits bordered by Fluvial deposits to the west. The AGS defines the deposits as follows:

Stagnant Ice Moraine*: Sediments resulting from the collapse and slumping of englacial and supraglacial debris due to the melting of buried stagnant ice at the glacier margin; sediment is mainly till but locally includes stratified glaciolacustrine or glaciofluvial sediments; characterized by low- to high-relief hummocky topography.*

Fluvial Deposits*: Sediments deposited by streams and rivers; synonymous with alluvium; includes poorly to well-sorted, stratified to massive sand, gravel, silt, clay, and organic sediments occurring in channel and overbank deposits; in places, includes a significant component of colluvial deposits as these two units are inseparable at this map scale.*

3.4.2 Bedrock Geology

MPE reviewed the bedrock geology (Alberta Geological Survey, 2013) and the site bedrock geology is indicated as belonging to the Horseshoe Canyon Formation. The AGS defines the Horseshoe Canyon Formation as follows:

Horseshoe Canyon Formation: *Pale grey, fine- to very fine grained, feldspathic sandstone interbedded with siltstone, bentonitic mudstone, carbonaceous mudstone, concretionary sideritic layers, and laterally continuous coal seams; includes white, pedogenically altered sandstone and mudstone interval at top (formerly assigned to the Whitemud Formation); nonmarine to locally marginal marine.*

4.0 INVESTIGATION

The field program was carried out on April 22nd and 23rd, 2024, using a drill rig contracted from Val's Drilling of Airdrie, AB. The drill rig was equipped with solid stem continuous flight augers. Soil samples were retrieved at intervals of approximately 0.6 m. The soil was classified and logged by MPE's field representative, Mr. Chang Liu. Standard Penetration Testing was generally performed at intervals of 1.5 m. Piezometers were installed in 6 of 7 boreholes drilled. Water levels were measured in the boreholes during drilling and on May 13th, 2024, approximately 20 days after completion of drilling.

The existing lagoon and the surrounding site and borehole locations are labeled on **Figure 1**, **Appendix B**. The borehole locations were obtained by handheld GPS and the coordinates are shown on the borehole logs. The borehole elevations were obtained from MPE's survey or from Lidar data.

Laboratory testing was completed on selected soil samples to aid in the determination of engineering properties. Testing included natural moisture content, Atterberg limits, and grain size. The test results are summarized on the borehole logs included in **Appendix C**. Individual test reports for laboratory results are included in **Appendix D**.

The results of the field and laboratory work, and geotechnical recommendations for design and construction of the proposed development are included in this report.

5.0 SITE CONDITIONS

The soil conditions encountered on site generally comprised of clay fill overlying clay till and clay. Sand seams and sand layers with varying thicknesses were encountered between the clay fill and clay layers. The clay fill is suspected to be comprised of clay or clay till materials due to the similarities between the fill layers and the soils below the fill. The main distinction between fill and till layers was the difference in soil moisture and within the fill.

A summary of the soil layers encountered is provided below. For a more detailed view of the soil conditions, refer to the borehole logs in **Appendix C**. A description of the terms and symbols used on the borehole logs is also included in **Appendix C.**

5.1 TOPSOIL

Topsoil was encountered in all boreholes from surface up to 300 mm thick. The topsoil was generally described as organic with some root hairs, dark brown and damp.

5.2 CLAY FILL

Clay fill was encountered in boreholes all boreholes except 24BH007. The clay fill was encountered beneath the surficial topsoil and extended to depths of 0.8 to 5.4 metres below ground surface (mbgs). Based on the site topography and the record drawings, the fill was likely sourced from the surrounding in-situ soils. The clay fill was generally described as silty with trace to some sand, light brown, and moist. Sand and organic seams were commonly encountered near the fill interface.

Moisture contents taken from clay fill samples ranged between 9% and 20%. SPTs within the clay fill resulted in N values of 8 to 20 blows, indicating a stiff to very stiff consistency. Atterberg Limit tests conducted on clay fill samples indicated Liquid Limits between 38% and 44%, and plastic limits between 9% to 13%, indicating that the clay fill was medium plastic. Grain size analyses conducted on the clay fill samples indicated gravel content of 1% to 4%, sand content of 39%, silt content of 33% to 38%, and clay content of 21% to 26%.

5.2.1 Clay Till

Clay till was encountered in all boreholes except 24BH007. The clay till extended beyond the maximum drilled depths between 6.6 to 9.6 mbgs in 24BH001, 24BH002, 24BH003, 24BH005 and 24BH006, and to the underlying clay layer in 24BH004 at 9.2 mbgs. The clay till was generally described as silty with some sand, contained rust inclusions, was dark brown or grey, and damp to moist. Water bearing sand seams and organic seams were encountered within the till at this site, although not encountered during the field program, the local till is also known to contain cobbles and coarse-grained deposits.

Moisture contents taken from clay till samples ranged between 13% and 25%. SPTs within the clay till resulted in N values of 9 to 32 blows, indicating a stiff to hard consistency. One Atterberg limit test that was conducted on a sample of clay till indicated a liquid limit of 64% and a plastic limit of 15%, indicating that the clay till was high plastic.

5.2.2 Clay

Clay was encountered in 24BH004 below the clay till at 9.2 mbgs and in 24BH007 below the surficial topsoil at 0.3 mbgs, extending beyond the maximum drilled depths of 12.7 mbgs and 6.6 mbgs, respectively. The clay was generally described as containing some silt, trace sand, stiff to very stiff, brown and moist.

Moisture contents taken from clay samples ranged between 19% and 33%. SPTs within the clay resulted in N values of 8 to 15 blows, indicating a stiff consistency. Atterberg limit tests that was conducted on the clay samples indicated liquid limits of 52% to 53% and plastic limits of 12% to 13%, indicating that the clay was high plastic. Grain size analyses conducted on a clay sample indicated sand content of 9%, silt content of 55%, and clay content of 36%.

5.2.3 Sand

Sand was encountered in 24BH001 from 1.3 mbgs to 1.6 mbgs, 24BH002 from 4.2 mbgs to 5.5 mbgs, 24BH003 from 2.6 mbgs to 3.8 mbgs and 4.7 mbgs to 6.8 mbgs. The sand layers were generally described as fine grained, containing trace clay, was loose to compact and was generally wet with groundwater seepage. Water bearing sand seams were also encountered within the clay till.

Moisture contents taken from the sand samples ranged between 15% and 21%. SPTs within the sand resulted in N values of 8 to 15 blows, indicating a loose to compact consistency. Grain size analysis conducted on a sand sample indicated a sand content of 91%, silt content of 6%, and clay content of 3%.

5.2.4 Groundwater Conditions

At the time of drilling, groundwater seepage was encountered in all boreholes except for 24BH006. The seepage was generally encountered from the sand layers or coarse-grained deposits within the clay or till layers. Sloughing was also encountered in 24BH002 and 24BH003. Piezometers were installed in all boreholes except for 24BH002. Groundwater readings were taken on May 13th, 2024, 20 days after completion of drilling. The groundwater readings are summarized in Table B.

Table 2 – Groundwater Elevation – Measured May 13th, 2024

Borehole No.	Depth of Standpipe (m)	Depth of Groundwater (m)	Elevation of Borehole (m)	Elevation of Groundwater (m)
24BH001	6.1	2.1	832.1	830.0
24BH003	3.8	3.7	835.4	831.7
24BH004	12.7	5.5	831.5	826.0
24BH005	9.6	4.1	832.6	828.5
24BH006	9.6	Dry	834.4	Dry
24BH007	6.0	0.2	826.4	826.2

Groundwater levels are expected to fluctuate seasonally and in response to climatic conditions. If groundwater conditions encountered during construction are observed to be drastically different from this report, MPE should be notified so that the implications of the changes can be reviewed.

6.0 ANALYSIS

6.1 STABILITY ANALYSIS

The intended goal of the stability analysis for this project is to confirm that the existing reservoir embankments meet the minimum factors of safety (FS) described previously in **Section 3.2** or what option(s) are available to satisfy this requirement. The FS is the ratio of soil shear strength to shear stress along a failure plane within the slope, perpendicular to the axis of the dam. A FS of 1.0 is defined as reaching limit equilibrium and therefore the slope being analyzed is in a state of failure or deformation. A FS larger than 1.0 is theoretically indicative of a stable slope. A FS between 1.0 and 1.5 in the long term is typically not considered safe due to the possible variability in conditions present across the site.

The cross sections used in the stability and seepage analyses was developed from the survey data combined with the record drawings. The dam section with the greatest embankment height was chosen in order to assess the stability of the existing dam**.**

Soil profiles were created from the borehole information across the site but with emphasis given to boreholes on the west (24BH004, 24BH007, 24BH001) the locations of which are shown in **Appendix B**. The material properties for the stability models were based on information discussed in the previous sections and the stability models are shown in in **Appendix F**.

6.1.1 Soil Strength and Seepage Parameters

Soil strength parameters were based on field and laboratory index testing conducted on samples collected from the site. The effective friction angles of the fine-grained materials were estimated using various data including Atterberg limit tests, hydrometer tests, in-situ testing, and experience with similar materials. Soil strength parameters selected for the analyses contained within this report are shown in Table 3 below.

Table 3 – Material Strength and Seepage Properties

Soil Unit	Bulk Unit Weight (kN/m^3)	Effective Cohesion (kPa)	Effective Angle of Friction (°)	Hydraulic Conductivity (m/s)
Clay Fill	21	2	27	1.0e-08
Clay	19	1	26	5.0e-09
Clay Till with Sand Seams	19	0	30	1.0e-06
Drainage layer	17	0	35	1.0e-03
Liner[1]	10	0	28	1.0e-12

Note: [1] Tensile strength of 22kPa

Values selected were intended to be representative of site conditions and reasonably conservative. The cohesion used in the model is interpreted from site soil conditions and considered conservative; this is typical in slopes where cohesion may degrade due to environmental effects over time. For the effective

internal friction angle, representative values for each material were selected deemed reasonable for the soil description and available test results carried out on the respective soils.

The provided design geometry satisfies current guidelines (CDA, 2013). The stability model is sensitive to soil strength parameters, so the design strength parameters represent conservative values which are considered suitable based on laboratory testing and experience with similar soils.

6.1.2 Seepage Model

The geotechnical modelling computer program SLIDE, by RocScience, version 9.033, was utilized to complete the steady state and transient seepage analyses for this project to determine the phreatic surface in the embankment for stability modelling. The Storage Cell has a FSL of 831.28m however, during winter 2024 it was observed to be operating above FSL, as such the seepage model conservatively assumes a water level of 831.9m.

Steady-state seepage was conducted to assess the long-term stability upstream and downstream, and a transient seepage analysis was conducted to assess the upstream stability during rapid drawdown. Based on the site inspection, the dam does contain an outlet pipe at the western perimeter of the Storage Cell. It is understood that the Storage Cell is usually emptied annually. Rapid drawdown was assessed using an assumed draw down of 18 days for a reservoir water surface elevation drop from 831.9 m, to a completely empty reservoir elevation of 828.28m. It is noted that the recommended drawdown is 21 days however, 18 days has been considered to build in some conservatism into the analyses. The material properties for the seepage model were based on information discussed in the previous sections.

Seismic stability was modelled by performing a pseudo-static analysis for the design earthquake, as recommended by the CDA. The analysis for pseudo-static seismic conditions applies a horizontal force (seismic coefficient, K_H) to the stability model to simulate earthquake loading. The seismic coefficient is taken as a fraction of the Peak Ground Acceleration (PGA) for the site, for a given design earthquake. The design earthquake for Significant Consequence dams has an Annual Exceedance Probability of 1:1000. The National Building Code of Canada Seismic Hazard Calculator was used to obtain a site-specific PGA value of 0.10g for the 1:1000-year event. The site PGA is for a “Stiff Soil” condition (National Building Code of Canada 2020 Site Classification D).

For the determination of the horizontal seismic coefficient, PGA was reduced by half. A lateral seismic coefficient of **0.05g** was therefore used to complete the pseudo-static limit equilibrium analysis. It should be noted that this reduced seismic demand allows for up to 1 m of movement during the design seismic event.

6.1.3 Stability Models and Results

The GLE/Morgenstern-Price method was used to complete the analysis due to its ability to accommodate differing slip surface shapes, varied side force orientations, and because it satisfies force and moment equilibrium. Slip surfaces shallower than 1.0 m have been filtered out from the results.

Table 4 – Analyzed scenarios

Scenario	Description
A	Based on survey data to represent the dam in its current state
B	Option analysis of a 19.5 m horizontal drain at the toe of the downstream face
C	Option analysis of a geosynthetic liner on a portion of the upstream face
D	Option analysis of drain on downstream face underlying a new berm of clay fill
E	Analyzed with a lower water level (2.2m depth) to determine factor of safety if no other remediation is undertaken

Scenario A was modeled based on the survey data; the governing failure mode was a downstream failure of long-term steady state. The steady state model conservatively assumed that the reservoir was above FSL at 831.9m. Scenario B of Section A incorporated a gravel toe drain along the downstream slope of the dam, satisfying the minimum FS required by CDA. Scenario C incorporated a geosynthetic liner along the upstream slope of the dam. Additional details for each scenario are discussed in section 7.2.

The results of the loading conditions are summarized in Table 5 and are included in **Appendix F**. In the rapid drawdown condition, Day 6 was noted to have minimum FS where the water level was taken as 829.65m.

Table 5 – Stability Results Summary

Loading Condition	Minimum FS Required by CDA	Scenario A, FS	Scenario B, FS	Scenario C, FS	Scenario D, FS	Scenario E, FS
Long-Term (Steady State) Downstream	1.5	1.41	1.70	1.66	1.76	1.50
Rapid Drawdown Upstream	1.2	1.04	1.3	1.71	0.97	1.63
Pseudo-Static Seismic Downstream	1.0	-	1.43	1.40	1.43	-
Pseudo-Static Seismic Upstream	1.0	-	2.52	3.20	2.40	-

7.0 GEOTECHNICAL REVIEW

7.1 GEOTECHNICAL ASSESSMENT

As stated in Section 1.0, the upstream slope consists of a 2.5H:1V or flatter slope up to the crest elevation of 832.2 m. The downstream slope was surveyed at 3H:1V at the section analyzed. It is understood that the dam consists of a clay fill constructed from existing clay till excavated from the reservoir footprint.

Based on the field investigation and laboratory soil testing, the results showed that the embankment consisted of stiff to very stiff, medium plastic clay fill similar to the on-site clay till with SPTs N-values ranging from 8-20 blows. Clay till is considered suitable for embankment construction. Some organics were encountered within the Clay Fill and Clay Till during the investigation, which can create potential preferential flow paths within the dam. Observations such as seepage from the downstream embankment face or at the interface between natural soil and embankment fill may indicate the presence of preferential flow paths which could in time lead to loss of material and embankment instability. In addition, rodent holes have been observed along the crest and were the cause of an uncontrolled fluid release in May 2024.

Based on the stability analysis, the existing embankment do not meet CDA (CDA, 2013) factors of safety under long term steady state condition for the downstream slope. If one of the stabilization options were implemented it is anticipated that the embankment would meet the CDA factor of safety. Until stabilization measures can be implemented, it is recommended that the storage cell be operated at a reduced capacity (see Scenario E).

At this time, the 2.5H:1V upstream slope is marginally stable during drawdown, and falls just short of the required Factor of Safety at Section A. The analysis generally agrees with the performance history.

7.2 OPTIONS ANALYSIS

Below each scenario is discussed giving some brief details for better understanding and context. Any cost estimates are only indicative, once the remediation option has been selected an in-depth cost analysis will take place, as such the main intention for providing cost estimates at this stage is for comparison of each option analyzed.

7.2.1 Scenario B (horizontal drain)

The horizontal drain is to be at a minimum 19.5m in horizontal length, and 0.5m thickness, as shown in Figure 1 below. The drain will consist of washed filter sand, given the aforementioned dimensions this would equate to approximately 9.75m^3/m length in volume.

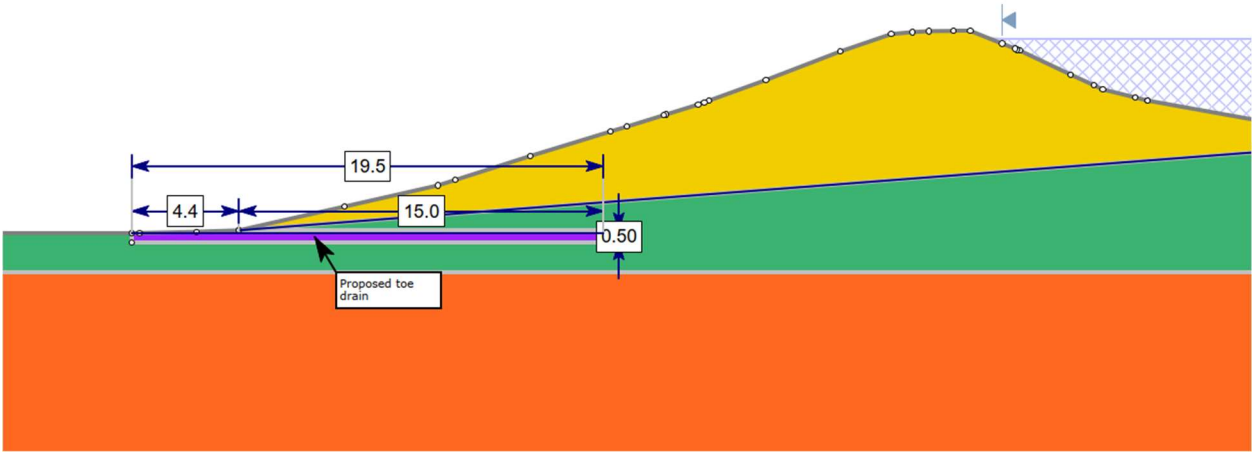

Figure 1 - Scenario B option sketch

To install the drain the existing embankment would need to be excavated and the water in the lagoon would also need to be drained for the period of the works, which has its own cost and time associated to be considered but is likely to be the most cost-effective option of the scenarios considered.

A drainage pipe would be incorporated running along the length of the embankment to collect any seepage and discharge it at an appropriate location. This would need periodic inspection and maintenance when required.

Since seepage through the embankment is still taking place as such environmental compliance must be considered and water samples will need to be collected and tested, if compliance is not achieved a geosynthetic liner would be required to keep the lagoon in operation.

Depending on the final scope of works, as a preliminary estimate this work could cost between $350,000 and $440,000. This estimate is based on an assumed remediation beginning just south of the outlet pipe and extending north for a total approximate length of 120m.

7.2.2 Scenario C (geosynthetic liner)

This option works by limiting any seepage through the upstream face of the embankment. For the installation the lagoon would be drained, the subgrade prepared, underdrains and venting installed, followed by liner placement.

Relative to other remediation options considered within this report, a liner will likely have the most disruption to lagoon operation. Synthetic liners typically have a design life of approximately 25 to 30 years. A robust liner with minimum thickness of 60mm is recommended. Suitable liner types include HDPE or UV stabilized LLDPE such as Layfield Enviroliner 6000.

Depending on the extent of required subgrade preparation, underdrains, and venting, this work could cost between $900,000-$1,000,000.

7.2.3 Scenario D (drain and berm)

A drainage layer on the existing upstream face with an overlying clay fill berm might be considered as an option as it satisfies the FS requirements for the downstream slope, but not for the upstream slope in rapid drawdown conditions. Despite this the benefit of this option is that it is possible to install this without having to drain the lagoon. However, if implemented, this solution does not address any potential environmental concerns related with contaminated seepage water or groundwater. The berm would consist of clay fill similar to that of the composition of the existing embankment material. The required drainage sand material for this option would be approximately 7.9m^3 per m length of embankment. Dimensions are shown in Figure 2 below.

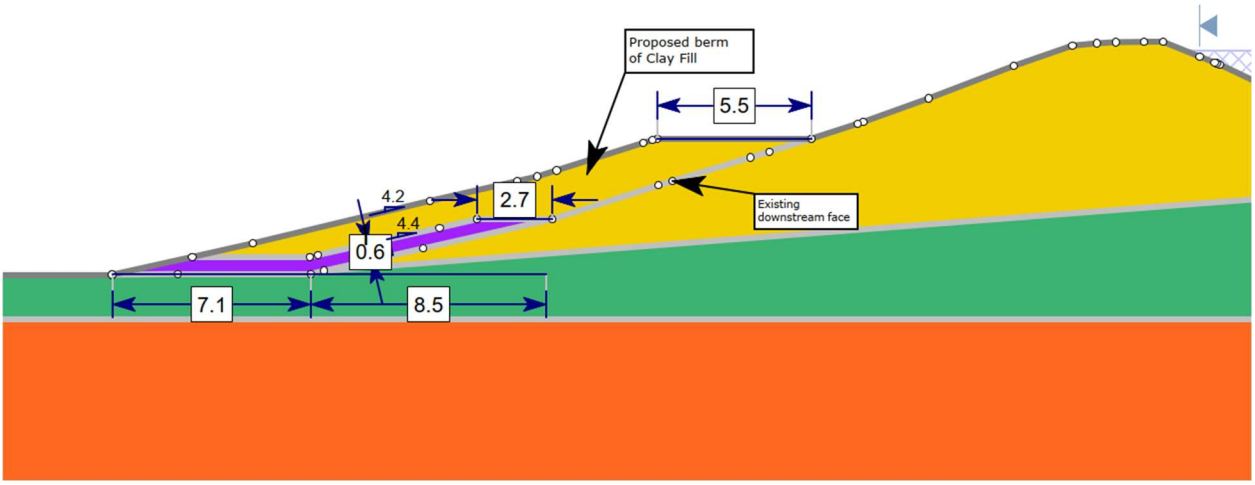

Figure 2 - Scenario D option sketch

Depending on the final scope of works, as a preliminary estimate this work could cost between $420,000-$500,000. This estimate is based on remediation being carried out in the vicinity of the outlet pipe and north of this area, for a total approximate length of 120m.

7.2.4 Scenario E (reduced operation level)

In the instance that it is not feasible to implement any of the aforementioned options, it is recommended that the lagoon is operated at a reduced operation level of 830.5m (2.2m depth). This might reduce the rate of seepage and as such theoretically satisfy the CDA FS requirements however, due to the soil conditions present, this option slows the possibility of piping but does not entirely mitigate it. If implemented, the lagoon would need regular inspections, and may require regulatory approvals for two or more discharges per year.

7.3 RECOMMENDATIONS

Considering both the results from the slide analyses as well as the observed site conditions, the most appropriate remediation option for the Big Valley Lagoon is a full synthetic liner. The liner option satisfies the stability requirements and also addresses the possible environmental impact the seepage might have.

As discussed in section 7.2, a horizontal toe drain might be the most cost-effective option which satisfies the stability requirements however, there is a risk that environmental compliance is not achieved, and in that case a full liner may be required.

In the case that no work can be carried out in the near future, as per what is assessed in scenario E the lagoon must be operated at a reduced operating level.

7.4 DAM SAFETY REQUIREMENTS

Based on MPE's visual assessment and engineering judgement, a preliminary dam Consequence Classification of "Low" is proposed. This should be verified through inundation analysis and qualitative review. As per the 2018 Alberta Dam & Canal Safety Directive (the Directive), a number of requirements will need to be met for the operational life of the structure. For a comprehensive list of requirements, refer to the Directive.

At a minimum, the Village should prepare the following documents:

1. Emergency Preparedness Plan (EPP) and Emergency Response Plan (ERP)
2. Operations, Maintenance, and Surveillance (OMS) Manual.
3. Annual Inspection Reports.

REFERENCES

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APPENDIX A:

TERMS OF REFERENCE

TERMS OF REFERENCE FOR GEOTECHNICAL REPORTS ISSUED BY MPE A DIVISION OF ENGLOBE.

MPE has prepared the following Terms of Reference to assist in the interpretation and use of MPE's Geotechnical Reports. Note that the information contained herein is considered supplemental to the body of the report. In case of any discrepancy between this appendix and the body of the report, the report will take precedence.

1.1 Use of The Report

This geotechnical report has been prepared for and tailored to the needs of a specific client, project, site, and purpose. Any party relying on this report other than the client for which it was prepared does so at their own risk.

In order to properly understand the suggestions, recommendations, and opinions expressed in the Report, reference must be made to the whole of the report. MPE cannot be responsible for improper use of portions of the report without reference to the whole report.

1.2 Changing Project Details

Important changes to project details which are made after this report has been prepared could render this report obsolete, or reduce its relevancy. MPE's geotechnical engineer should be retained to review project changes. Examples of important changes may include but are not limited to the following:

- Site layout.
- Function of a proposed structure.
- Type of structure or materials used.
- Elevations, design grades, or drainage.
- Project ownership or design team.

1.3 Nature and Exactness of Descriptions

Classification and identification of soils and rocks are based upon commonly accepted systems and methods used in professional geotechnical practice. Classification and identification of geological units are judgemental in nature as to their type, condition, or characteristics. MPE does not warrant conditions represented in the Report as being exact.

Changes from one geological zone to another may be indicated on the logs as a distinct line, but may in fact be transitional. Any circumstance which requires precise definition of soil or rock zone transition elevations may require further investigation and review.

1.4 Changes in Subsurface Conditions

This report has been prepared based on conditions that existed at the time the work scope was undertaken. Do not rely on this report if it is judged that the reliability of the report has been affected by:

- The passage of time;
- Man made events such as construction on or adjacent to the site;
- Natural events such as flood, drought, seismic activity, erosion, groundwater fluctuations, slope instability, etc;

Please contact MPE to confirm that this report is still reliable following any changes to the site or if the passage of time raises any question whether changes may have occurred.

1.5 Findings and Recommendations are Professional Opinion

Site exploration and testing are performed only at specific locations. The exploration provides a valuable yet incomplete picture of the site. In many cases, MPE will review regional geology alongside borehole and laboratory data. Engineering judgement has been applied in the interpretation of the data in order to render an opinion about the rest of the site. Actual subsurface conditions may differ significantly from those identified in the report. MPE should be retained to provide geotechnical design review and construction monitoring in order to manage the risks associated with unanticipated conditions.

1.6 Recommendations Are Not Final

Many of the recommendations presented in this report are considered confirmation-dependent, as they are developed on engineering judgement and opinion based on an incomplete investigation of site conditions. As such, they should not be considered final.

MPE's recommendations can be finalized only after the actual site conditions are revealed during construction. MPE cannot assume responsibility or liability for this report's recommendations if MPE has not been retained to perform the necessary construction monitoring.

1.7 Do Not Redraw Borehole Logs

MPE has prepared the final borehole logs based on interpretation of field logs and lab data. To prevent errors and omissions, the logs included in this report should not be redrawn for inclusion in other design drawings. Only photographic or complete electronic reproduction of the original is acceptable. Note that separating logs from the report can elevate risk.

1.8 Design Parameters

Where MPE's Report includes design parameters which have been derived from a site investigation, those recommended parameters are based on engineering judgement and may take into account multiple factors. Third party designers who apply their own interpretation to MPE's borehole logs do so at their own risk. MPE cannot be liable for third party interpretations.

1.9 Protection of Exposed Ground

Weathering and disturbance can substantially alter the physical properties of soil or rock. In circumstances where the strength of soil or rock is to be relied upon (such as for foundation support, floor slabs, roads, excavation or embankment sideslopes, etc.), it must be protected against weathering and disturbance at all times. Weathering includes freezing, wetting, or drying conditions.

1.10 Groundwater Fluctuation

MPE's site investigation should not be considered an exhaustive study of groundwater conditions. Groundwater levels will fluctuate, and MPE's boreholes may not have penetrated all natural flow paths. Groundwater conditions encountered during construction may differ dramatically from this report. Local experience and sound judgement will be required in the development of care-of-water procedures.

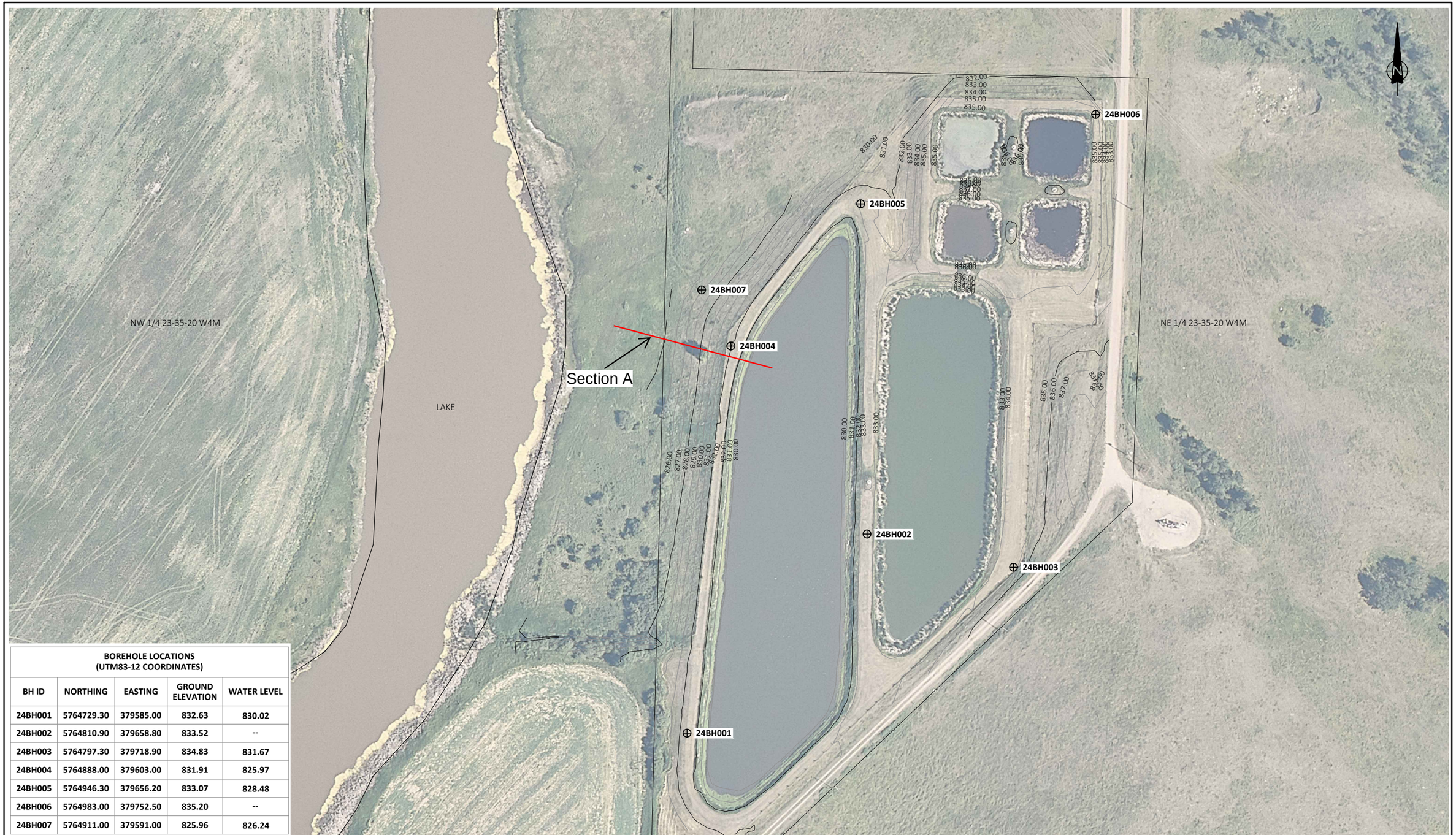
1.11 Support of Adjacent Structures

The influence that construction activity can have on adjacent structures or facilities should be considered by the owner, architect, prime engineer, contractor, or developer. MPE's geotechnical engineers should be consulted if adverse conditions are suspected.

Support of ground and structures adjacent to the proposed construction, which may be impacted by construction, is required.

APPENDIX B:

FIGURES



BOREHOLE LOCATIONS (UTM83-12 COORDINATES)				
BH ID	NORTHING	EASTING	GROUND ELEVATION	WATER LEVEL
24BH001	5764729.30	379585.00	832.63	830.02
24BH002	5764810.90	379658.80	833.52	--
24BH003	5764797.30	379718.90	834.83	831.67
24BH004	5764888.00	379603.00	831.91	825.97
24BH005	5764946.30	379656.20	833.07	828.48
24BH006	5764983.00	379752.50	835.20	--
24BH007	5764911.00	379591.00	825.96	826.24

LEGEND

MAJOR CONTOURS

MINOR CONTOURS

⊕ BOREHOLE

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VILLAGE OF BIG VALLEY

INFRASTRUCTURE MANAGEMENT PLAN
SITE PLAN - BOREHOLE LOCATIONS

SCALE:	1:1500	DATE:	JUNE 2024	JOB:	4418-001-01	DRAWING:	1

APPENDIX C:

BOREHOLE LOGS

EXPLANATION OF SYMBOLS AND TERMS

The symbols and terms used on the test hole logs to summarize the results of the field investigation and the laboratory testing are described on the following sheets.

Soils are classified and described according to their engineering properties and behaviour. The descriptions applied to the various soil units as shown on the logs follow the Unified Soil Classification system with slight modification to recognize inorganic clays to medium plasticity (CI). Such descriptions are judgmental in nature and may differ in detail from that actually encountered in the field. The descriptions noted in the logs from test holes are based solely on inspections of soil and rock samples recovered or cuttings observed. The actual nature of the materials between samples may vary.

Laboratory tests have been performed on the various samples noted, following standard testing procedures or protocol unless otherwise noted. The test results are intended to provide a general indication of some of the engineering properties of the material.

ABBREVIATIONS

w or MC	Moisture content (ASTM D2216)	PP	Pocket Penetrometer
W_P or PL	Plastic limit (ASTM D4318)	γ	Unit weight
W_L or LL	Liquid limit (ASTM D4318)	γ_d	Dry unit weight
I_P or PI	Plasticity Index	ρ	Density
NP	Non-plastic soil	ρ_d	Dry density
SH	Shelby tube sample	q_u	Unconfined compressive strength
AU	Auger sample	C_u	Undrained shear strength
B	Bulk Sample	SO_4	Concentration of water-soluble sulphates
UD	Undisturbed Sample	TCR	Total Core Recovery
RC	Rock Core Sample	RQD	Rock Quality Index
SPT	Standard Penetration Test	SCR	Solid Core Recovery
VST	Vane Shear Test	FI	Fracture Index
JSI	Jar Slake Index (I_j)		

SIZE RANGES OF SOIL COMPONENTS

Component	Size Range mm (US Sieve)
Boulders	Over 300 (12 inch)
Cobbles	75 (3 inch) to 300 (12 inch)
Gravel:	
Coarse	19 (3/4 inch) to 75 (3 inch)
Fine	5 (#4) to 19 (3/4 inch)
Sand:	
Coarse	2 (#10) to 5 (#4)
Medium	0.4 (#40) to 2 (#10)
Fine	0.08 (#200) to 0.4 (#40)
Clay and Silt	Less than 0.08 (#200)

SECONDARY CONSTITUENTS

Term	Percentage
and	35% - 50%
y/ey	20% - 35%
some	10% - 20%
trace	0 – 10%

CONSISTENCY OF FINE GRAINED SOILS

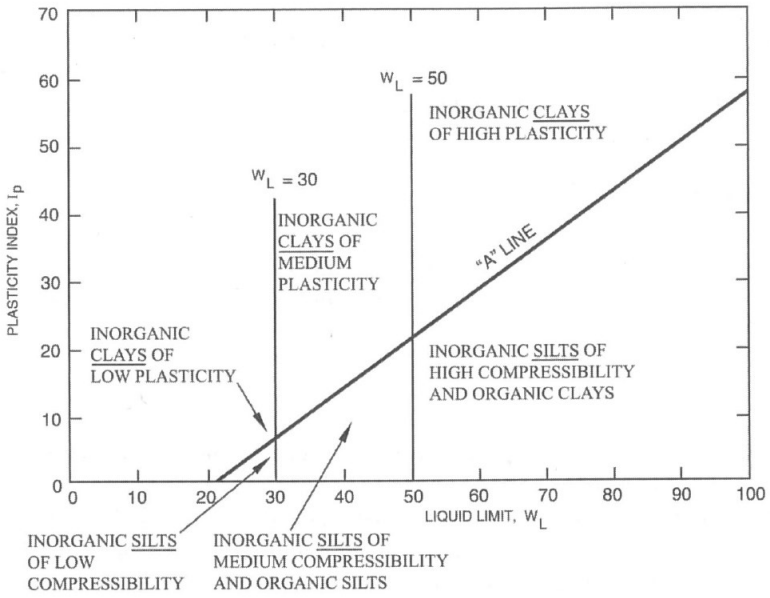
Term	Undrained Shear Strength (kPa)	SPT N	Description
Very soft	< 12	< 2	Easily penetrated with fist
Soft	12 – 25	2 – 4	Easily penetrated with thumb
Firm	25 – 50	4 – 8	Moderate effort to penetrate with thumb
Stiff	50 – 100	8 – 15	Great effort to indent with thumb
Very Stiff	100 – 200	15 – 30	Easily indented with thumbnail
Hard	> 200	> 30	Effort required to indent with thumbnail

DENSITY OF COARSE GRAINED SOILS

Term	SPT N	Approx. Relative Density (%)
Very loose	0 – 4	0 – 15
Loose	4 – 10	15 – 35
Compact	10 – 30	35 - 65
Dense	30 – 50	65 – 85
Very Dense	> 50	85 - 100

UNIFIED SOIL CLASSIFICATION SYSTEM (MODIFIED)

MAJOR DIVISION			GROUP SYMBOL	TYPICAL DESCRIPTION	LABORATORY CLASSIFICATION CRITERIA	
HIGHLY ORGANIC SOILS			PT	Peat and other highly organic soils	Strong colour or odor and fibrous texture	
COARSE-GRAINED SOILS MORE THAN HALF BY WEIGHT LARGER THAN 75 µm	GRAVELS MORE THAN HALF THE COARSE FRACTION LARGER THAN 4.75 mm	CLEAN GRAVELS (LESS THAN 5% FINES)	GW	Well-graded gravels, gravel-sand mixtures	$C_U=D_{60}/D_{10}$ >4	$C_C=(D_{30})^2/D_{10} \times D_{60}$ 1 to 3
			GP	Poorly graded gravels, gravel-sand mixtures	Not meeting all above requirements	
		GRAVELS WITH FINES (MORE THAN 12% FINES)	GM	Silty gravels, gravel-sand-silt mixtures	Atterberg limits below "A" line or PI < 4	
			GC	Clayey gravels, gravel-sand-clay mixtures	Atterberg limits above "A" line or PI > 7	
	SANDS MORE THAN HALF THE COARSE FRACTION LARGER THAN 4.75 mm	CLEAN SANDS (LESS THAN 5% FINES)	SW	Well-graded sands, gravelly sands	$C_U=D_{60}/D_{10}$ >6	$C_C=(D_{30})^2/D_{10} \times D_{60}$ 1 to 3
			SP	Poorly graded sands or gravelly sands	Not meeting all above requirements	
		SANDS WITH FINES (MORE THAN 12% FINES)	SM	Silty sands, sand-silt mixtures	Atterberg limits below "A" line or PI < 4	
			SC	Clayey sands, sand-clay mixtures	Atterberg limits above "A" line or PI > 7	
FINE-GRAINED SOILS MORE THAN HALF BY WEIGHT SMALLER THAN 75 µm	SILTS BELOW "A" LINE ON PLASTICITY CHART; NEGLIGIBLE ORGANIC CONTENT		ML	Inorganic silts and very fine sands, rock flour, silty sands of slight plasticity	LL < 50	SEE PLASTICITY CHART BELOW
			MH	Inorganic silts, micaceous or diatomaceous, fine sandy or silty soils	LL > 50	
	CLAYS ABOVE "A" LINE ON PLASTICITY CHART; NEGLIGIBLE ORGANIC CONTENT		CL	Inorganic clays of low plasticity, gravelly, sandy, or silty clays	LL < 30	
			CI	Inorganic clays of medium plasticity, silty clays	30 < LL < 50	
			CH	Inorganic clays of high plasticity	LL > 50	
	ORGANIC SILTS AND CLAYS BELOW "A" LINE ON PLASTICITY CHART		OL	Organic silts and organic silty clays of low plasticity	LL < 50	
			OH	Organic clays of high plasticity	LL > 50	



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BOREHOLE No : 24BH001

CLIENT	Town of Big Valley	PROJECT NAME	Big Valley Lagoon
PROJECT NUMBER	4418-001	PROJECT LOCATION	Big Valley Sewage Lagoon
DATE STARTED	04/22/2024 COMPLETED 04/22/2024	GROUND ELEVATION	832.1m N 5764729 E 379585
DRILLING CONTRACTOR	Val's Drilling	GROUND WATER ELEVATION / DEPTH	830.0 m 2.08 m
DRILLING METHOD	6" SSA	DATE GROUND WATER RECORDED	05/13/2024

Depth (m)	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	REMARKS	Elevation (m)
0	TOPSOIL, organic, some root hairs, dark brown, damp						832
	CLAY FILL, silty, some sand, low to medium plastic, firm to very stiff, light brown, moist		AU1		9.0		
1			AU2		14.7	1.2 m - Gravel = 4.0% 1.2 m - Sand = 39.0% Silt = 33.0% Clay = 24.0%	831
	SAND, some clay, trace silt,medium to fine grained, compact, brown, wet		SPT1	20			
	CLAY TILL, silty, some sand, medium to high plastic, very stiff, rust inclusions, dark brown, damp to moist		AU3		18.6		
2			AU4		17.0	2.7 m - LL = 64% PL = 15% PI = 49%	830
			SPT2	18			
3			AU5		15.4		829
	...3.8 m - from 3.8 to 4.3 m, sand seams up to 0.2 m thick, fine grained, wet with seepage		AU6		22.0		
4			SPT3	18			828
			AU7		21.4		
5			AU8		21.4		827
			SPT4	11			
6	End of Borehole @6.6 m						826
7							825
8							824
9							823

MOISTURE CONTENT
PLASTIC - LIQUID
SPT (N) Blows/300 mm
10 20 30 40
100 200 300 400
POCKET PEN (kPa)

Standpipe/ Instrument

Notes:

Seepage encountered from 3.8 to 4.3 m. Slotted 50 mm PVC standpipe installed to a depth of 6.1 m.

Logged By: C.Liu

Reviewed By: T.Curtis

22/05/2024

a division of Englobe

BOREHOLE No : 24BH002

CLIENT	Town of Big Valley	PROJECT NAME	Big Valley Lagoon
PROJECT NUMBER	4418-001	PROJECT LOCATION	Big Valley Sewage Lagoon
DATE STARTED	04/22/2024 COMPLETED 04/22/2024	GROUND ELEVATION	833.5m N 5764811 E 379659
DRILLING CONTRACTOR	Val's Drilling	GROUND WATER ELEVATION / DEPTH	
DRILLING METHOD	6" SSA	DATE GROUND WATER RECORDED	

Depth (m)	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	REMARKS	Elevation (m)
	TOPSOIL, organic, some root hairs, dark brown, damp						833
1	CLAY FILL, silty, some sand, low to medium plastic, stiff, brown, damp to moist ...0.1 m - from 0.1 to 0.9 m, dry		AU1		8.5		
			AU2		13.2	1.2 m - LL = 44% PL = 9% PI = 35%	832
2			SPT1	12			
			AU3		16.5		831
			AU4		18.0	2.7 m - Gravel = 2.0% 2.7 m - Sand = 39.0% Silt = 38.0% Clay = 21.0%	
3			ST1				
	CLAY TILL, silty, some sand, medium plastic, stiff, light brown, moist		AU5		21.6		830
4							
	SAND, trace gravel, trace silt, some clay, fine grained, compact, wet with seepage and sloughing		AU6		16.8		829
			SPT2	14			
5			AU7				
	CLAY TILL, silty, some sand, low to medium plastic, very stiff, rust inclusions, dark brown, damp		AU8		15.8		828
6			SPT4	15			
			AU9		14.5		827
7			AU10		20.6		
							826
8			AU11		17.3		
			AU12		16.5		825
9	End of Borehole @9.1 m						
							824

MOISTURE CONTENT
PLASTIC - LIQUID
SPT (N) Blows/300 mm
10 20 30 40
100 200 300 400
POCKET PEN (kPa)

Notes:

Seepage and sloughing encountered from 4.2 to 5.5 m, slough at 4.5 m on completion.

Logged By: C.Liu

Reviewed By: T.Curtis

22/05/2024

a division of Englobe

BOREHOLE No : 24BH003

CLIENT	Town of Big Valley	PROJECT NAME	Big Valley Lagoon
PROJECT NUMBER	4418-001	PROJECT LOCATION	Big Valley Sewage Lagoon
DATE STARTED	04/23/2024 COMPLETED 04/23/2024	GROUND ELEVATION	835.4m N 5764797 E 379719
DRILLING CONTRACTOR	Val's Drilling	GROUND WATER ELEVATION / DEPTH	831.7 m 3.70 m
DRILLING METHOD	6" SSA	DATE GROUND WATER RECORDED	05/13/2024

Depth (m)	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	REMARKS	Elevation (m)
0	TOPSOIL, organic, some root hairs, dark brown, damp						835
	CLAY FILL, silty, some sand, trace organics, low plastic, stiff, dark brown, moist		AU1		13.4		
1	..0.5 m - from 0.5 to 0.8 m, increased organics						
	CLAY TILL, silty, trace sand, medium plastic, stiff, mottled, moist		AU2		15.6		834
			ST1				
2			AU3		24.6		833
	SAND, fine grained, trace clay, loose to compact, gravel inclusions, light brown, wet		AU4		15.0		
3			SPT1	8			832
			AU5		15.0		
4	CLAY TILL, silty, some sand, low to medium plastic, stiff, rust inclusions, brown, moist		AU6		12.8		831
	SAND, fine grained, trace clay, loose to compact, grey, wet with seepage		SPT2	8			
5			AU7		17.0		830
			AU8		20.5	5.8 m - Sand = 91.0% Silt = 6.0% Clay = 3.0%	
6			SPT3	15			829
			AU9		16.5		
7	CLAY TILL, silty, some sand, medium plastic, very stiff, rust inclusions, dark grey, damp to moist		AU10		13.9		828
			SPT4	25			
8	End of Borehole @8.1 m						827
9							826

MOISTURE CONTENT
PLASTIC - LIQUID
SPT (N) Blows/300 mm
10 20 30 40
100 200 300 400
POCKET PEN (kPa)

Standpipe/ Instrument

Notes:

Seepage and sloughing encountered from 2.6 to 3.8 m., slough at 3.1 m on completion. Slotted 50 mm PVC standpipe installed to a depth of 8.1 m.

Logged By: C.Liu

Reviewed By: T.Curtis

22/05/2024

a division of Englobe

BOREHOLE No : 24BH004

CLIENT	Town of Big Valley	PROJECT NAME	Big Valley Lagoon
PROJECT NUMBER	4418-001	PROJECT LOCATION	Big Valley Sewage Lagoon
DATE STARTED	04/22/2024 COMPLETED 04/22/2024	GROUND ELEVATION	831.5m N 5764888 E 379603
DRILLING CONTRACTOR	Val's Drilling	GROUND WATER ELEVATION / DEPTH	826.0 m 5.48 m
DRILLING METHOD	6" SSA	DATE GROUND WATER RECORDED	05/13/2024

Depth (m)	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	REMARKS	Elevation (m)
0	TOPSOIL, organic, some root hairs, dark brown, damp						831
	CLAY FILL, silty, some sand, medium to high plastic, firm to very stiff, brown, moist		AU1		12.5		
1			AU2		17.7		830
			SPT1	8			
2			AU3		17.9	2.1 m - Gravel = 1.0% 2.1 m - Sand = 39.0% Silt = 34.0% Clay = 26.0%	829
	...2.2 m - from 2.2 to 2.8 m, firm, very moist		AU4		18.6		
3			SPT2	16			828
			AU5		15.3	3.7 m - LL = 38% PL = 13% PI = 25%	
4			AU6		16.2		827
			SPT3	20			
5	...5.2 m - from 5.2 to 5.3 m, sand seam, wet		AU7		13.9		826
	CLAY TILL, silty, some sand to sandy, low plastic, very stiff to hard, rust inclusions, dark grey, damp to moist		AU8		16.2		
6	...5.6 m - from 5.6 to 5.8 m, organic seam		SPT4	32			825
	...6.2 m - from 6.2 to 6.8 m, trace gravel, sandy, wet, seepage		AU9		13.0		
7			AU10		16.2		824
			SPT5	21			
8			AU11		19.0		823
			AU12		22.0		
9	CLAY, some silt, trace sand, high plastic, stiff to very stiff, brown, moist		SPT6	15			822
			AU13		24.9	9.8 m - LL =	

MOISTURE CONTENT
PLASTIC - LIQUID
SPT (N) Blows/300 mm
10 20 30 40
100 200 300 400
POCKET PEN (kPa)

Standpipe/ Instrument

Notes:

Seepage encountered from 6.2 to 6.8 m. Slotted 50 mm PVC standpipe installed to a depth of 12.7 m.

Logged By: C.Liu

Reviewed By: T.Curtis

a division of Englobe

BOREHOLE No : 24BH004

CLIENT	Town of Big Valley	PROJECT NAME	Big Valley Lagoon
PROJECT NUMBER	4418-001	PROJECT LOCATION	Big Valley Sewage Lagoon
DATE STARTED	04/22/2024 COMPLETED 04/22/2024	GROUND ELEVATION	831.5m N 5764888 E 379603
DRILLING CONTRACTOR	Val's Drilling	GROUND WATER ELEVATION / DEPTH	826.0 m 5.48 m
DRILLING METHOD	6" SSA	DATE GROUND WATER RECORDED	05/13/2024

Depth (m)	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	REMARKS	Elevation (m)
11	CLAY, some silt, trace sand, high plastic, stiff to very stiff, brown, moist	AU	AU14		25.0	53% PL = 13% PI = 40%	821
		SPT	SPT7	15			
		AU	AU15		22.5		820
12		AU	AU16		28.4		
		SPT	SPT8	14			819
13	End of Borehole @12.7 m						818
14							817
15							816
16							815
17							814
18							813
19							812

MOISTURE CONTENT
PLASTIC - LIQUID
SPT (N) Blows/300 mm
10 20 30 40
100 200 300 400
POCKET PEN (kPa)

Standpipe/ Instrument

Notes:

Seepage encountered from 6.2 to 6.8 m. Slotted 50 mm PVC standpipe installed to a depth of 12.7 m.

Logged By: C.Liu

Reviewed By: T.Curtis

a division of Englobe

BOREHOLE No : 24BH005

CLIENT	Town of Big Valley	PROJECT NAME	Big Valley Lagoon
PROJECT NUMBER	4418-001	PROJECT LOCATION	Big Valley Sewage Lagoon
DATE STARTED	04/22/2024 COMPLETED 04/22/2024	GROUND ELEVATION	832.6m N 5764946 E 379656
DRILLING CONTRACTOR	Val's Drilling	GROUND WATER ELEVATION / DEPTH	828.5 m 4.08 m
DRILLING METHOD	6" SSA	DATE GROUND WATER RECORDED	05/13/2024

Depth (m)	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	REMARKS	Elevation (m)
0	TOPSOIL, organic, some root hairs, dark brown, damp						832
	CLAY FILL, silty, some sand to sandy, low plastic, stiff to very stiff, rust inclusions, damp		AU1		10.1		
1			AU2		13.5		831
			SPT1	17			
2	CLAY TILL, silty, trace to some sand, medium plastic, very stiff, rust and coal inclusions, moist		AU3		17.2		830
	...1.8 m - from 1.8 to 2.9 m, moist ...2.2 m - from 2.2 to 2.4 m, organic seam		AU4		14.4		
3	...2.9 m - from 2.9 to 3.0 m, organic seam		SPT2	18			829
			AU5		16.1		
4			AU6		15.0		828
			SPT3	17			
5	...5 m - from 5.0 to 9.6 m, some silt, trace sand, medium to high plastic, stiff		AU7		16.6		827
			AU8		18.7		
6	...6.1 m - from 6.1 to 6.6 m, groundwater seepage		SPT4	11			826
			AU9		18.5		
7			AU10		17.3		825
			SPT5	14			
8			AU11		18.9		824
			AU12		17.2		
9			SPT6	9			823
	End of Borehole @9.6 m						

MOISTURE CONTENT
PLASTIC - LIQUID
SPT (N) Blows/300 mm
10 20 30 40
100 200 300 400
POCKET PEN (kPa)

Standpipe/ Instrument

Notes:

Seepage encountered from 6.1 to 6.6 m. Slotted 50 mm PVC standpipe installed to a depth of 9.6 m.

Logged By: C.Liu

Reviewed By: T.Curtis

a division of Englobe

BOREHOLE No : 24BH006

CLIENT	Town of Big Valley	PROJECT NAME	Big Valley Lagoon
PROJECT NUMBER	4418-001	PROJECT LOCATION	Big Valley Sewage Lagoon
DATE STARTED	04/23/2024 COMPLETED 04/23/2024	GROUND ELEVATION	834.4m N 5764983 E 379752
DRILLING CONTRACTOR	Val's Drilling	GROUND WATER ELEVATION / DEPTH	
DRILLING METHOD	6" SSA	DATE GROUND WATER RECORDED	05/13/2024

Depth (m)	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	Elevation (m)
0	TOPSOIL, organic, some root hairs, dark brown, damp					834
	CLAY FILL, silty, trace to some sand, medium plastic, stiff, brown, moist		AU1		11.9	
1			AU2		18.7	833
			SPT1	8		
2			AU3		20.4	832
	CLAY TILL, silty, some sand, medium plastic, very stiff, rust inclusions, grey, damp to moist		AU4		17.6	
3			SPT2	17		831
			AU5		14.6	
4			AU6		15.8	830
			SPT3	15		
5			AU7		13.4	829
			AU8		14.9	
6			SPT4	25		828
			AU9		16.4	
7			AU10		17.0	827
			SPT5	22		
8			AU11		17.2	826
			AU12		17.6	
9			SPT6	17		825
	End of Borehole @9.6 m					

MOISTURE CONTENT
PLASTIC - LIQUID
SPT (N) Blows/300 mm
10 20 30 40
100 200 300 400
POCKET PEN (kPa)

REMARKS

Standpipe/ Instrument

Notes:

No seepage or sloughing observed upon completion. Slotted 50 mm PVC standpipe installed to a depth of 9.6 m.

Logged By: C.Liu

Reviewed By: T.Curtis

a division of Englobe

BOREHOLE No : 24BH007

PAGE 1 0F 1

CLIENT	Town of Big Valley	PROJECT NAME	Big Valley Lagoon
PROJECT NUMBER	4418-001	PROJECT LOCATION	Big Valley Sewage Lagoon
DATE STARTED	04/23/2024 COMPLETED 04/23/2024	GROUND ELEVATION	826.4m N 5764911 E 379591
DRILLING CONTRACTOR	Val's Drilling	GROUND WATER ELEVATION / DEPTH	826.2 m 0.15 m
DRILLING METHOD	6" SSA	DATE GROUND WATER RECORDED	05/13/2024

Depth (m)	Soil Description	Sample Type	Sample Number	SPT (N)	Moisture Content (%)	REMARKS	Elevation (m)
0	TOPSOIL, organic, some root hairs, dark brown, damp						826
1	CLAY, silty, trace sand, medium to high plastic, stiff, light grey, moist to wet		AU1		31.3		
			AU2		19.0		825
			SPT1	12			
2			AU3		21.1	2.1 m - Sand = 9.0% Silt = 55.0% Clay = 36.0%	824
			AU4		24.4		
3	...2.8 m - groundwater seepage		SPT2	9			823
			AU5		26.6	3.7 m - LL = 52% PL = 12% PI = 40%	
4			AU6		25.2		822
			SPT3	8			
5			AU7		32.7		821
			AU8		29.4		
6			SPT4	10			820
	End of Borehole @6.6 m						
7							819
8							818
9							817

MOISTURE CONTENT
PLASTIC - LIQUID
SPT (N) Blows/300 mm
10 20 30 40
100 200 300 400
POCKET PEN (kPa)

Standpipe/ Instrument

Notes:

Seepage encountered from 2.8 m. Slotted 50 mm PVC standpipe installed to a depth of 6.6 m.

Logged By: C.Liu

Reviewed By: T.Curtis

22/05/2024

APPENDIX D

LAB TESTING

STANDARD TEST METHOD FOR PARTICLE SIZE

ASTM DESIGNATION D422

PROJECT:	4418-001 Big Valley Lagoon
CLIENT:	Englobe Corp. - MPE Engineering Ltd.
PROJECT NO:	02401816.000
LOCATION:	BH1 AU2
SAMPLE NO:	36208
DEPTH:	-
DESCRIPTION:	Silty Clay and Sand trace Gravel
DATE TESTED:	May 10,2024

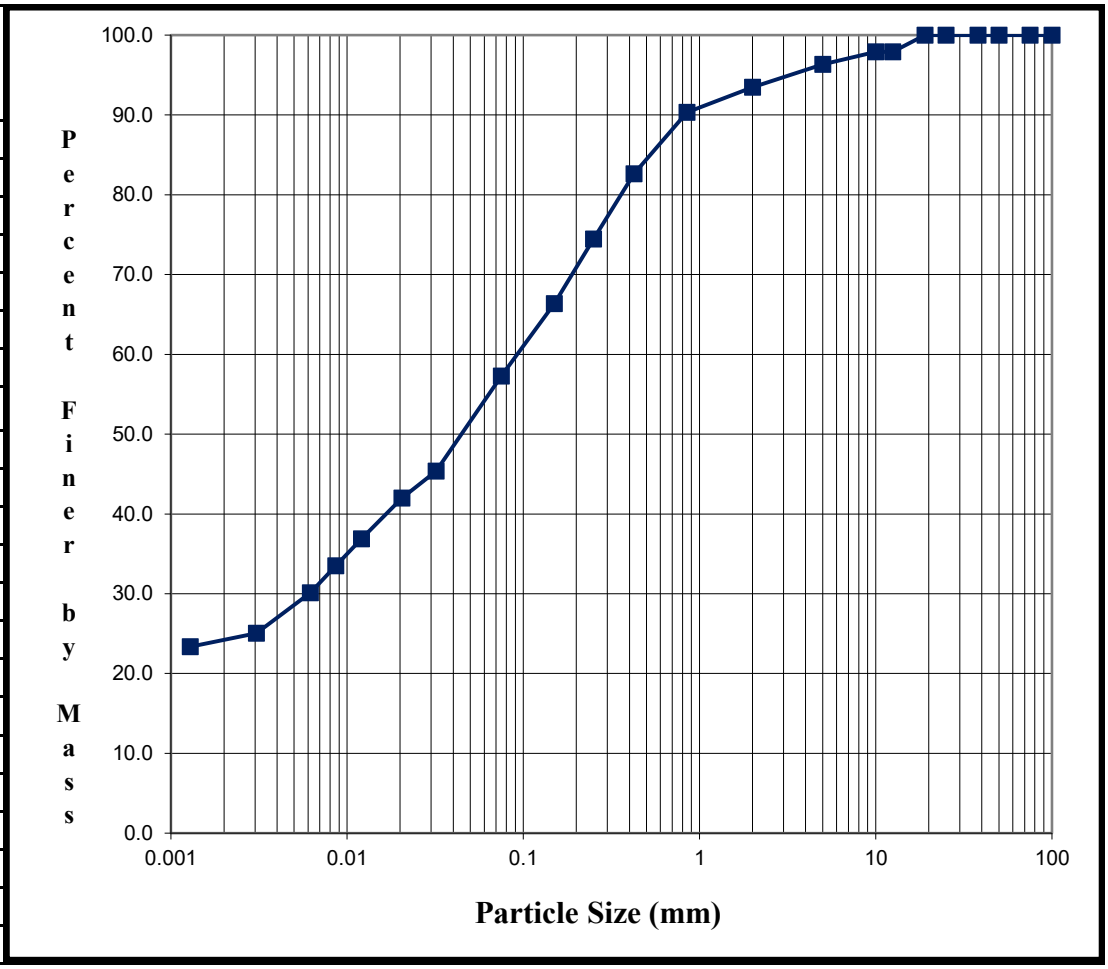
MATERIAL PORTION (%)	
CLAY	24
SILT	33
SAND	39
GRAVEL	4
COBBLES	0

DISPERSION PERIOD: 17.5 hrs

HARDNESS: Hard & Durable

SHAPE: Angular

PARTICLE SIZE	PERCENT PASSING
100 mm	100.0
75 mm	100.0
50 mm	100.0
38 mm	100.0
25 mm	100.0
19 mm	100.0
12.5 mm	97.9
10 mm	97.9
5.00 mm	96.3
2.00 mm	93.5
850 µm	90.3
425 µm	82.6
250 µm	74.5
150 µm	66.4
75 µm	57.3
32 µm	45.4
20 µm	42.0
12 µm	36.9
9 µm	33.5
6 µm	30.1
3 µm	25.0
1 µm	23.4



Reviewed by: _____

STANDARD TEST METHOD FOR PARTICLE SIZE

ASTM DESIGNATION D422

PROJECT:	4418-001 Big Valley Lagoon
CLIENT:	Englobe Corp. - MPE Engineering Ltd.
PROJECT NO:	02401816.000
LOCATION:	BH2 AU4
SAMPLE NO:	36208
DEPTH:	-
DESCRIPTION:	Silty Clay and Sand trace Gravel
DATE TESTED:	May 10,2024

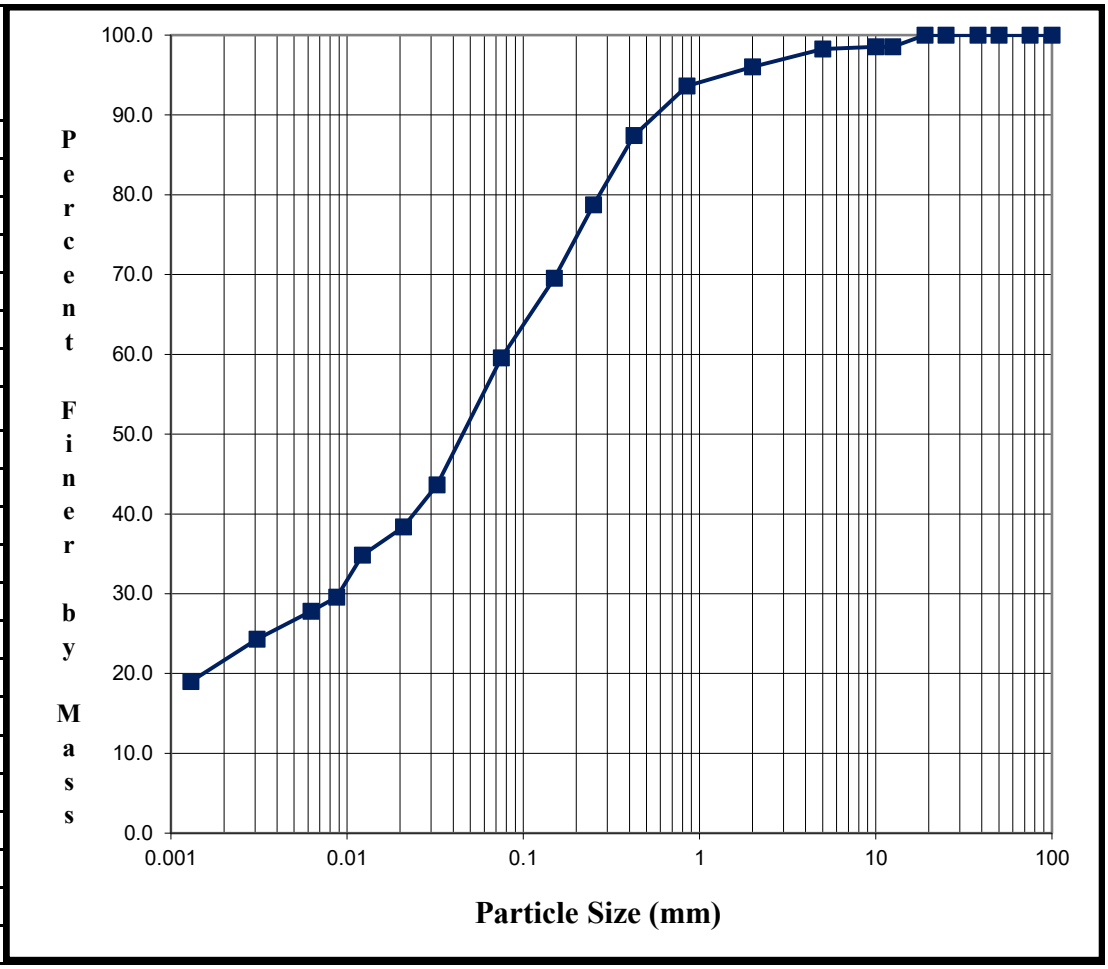
MATERIAL PORTION (%)	
CLAY	21
SILT	38
SAND	39
GRAVEL	2
COBBLES	0

DISPERSION PERIOD: 17.5 hrs

HARDNESS: Hard & Durable

SHAPE: Angular

PARTICLE SIZE	PERCENT PASSING
100 mm	100.0
75 mm	100.0
50 mm	100.0
38 mm	100.0
25 mm	100.0
19 mm	100.0
12.5 mm	98.5
10 mm	98.5
5.00 mm	98.3
2.00 mm	96.0
850 µm	93.6
425 µm	87.4
250 µm	78.7
150 µm	69.5
75 µm	59.5
32 µm	43.6
21 µm	38.4
12 µm	34.8
9 µm	29.6
6 µm	27.8
3 µm	24.3
1 µm	19.0



Reviewed by: _____

STANDARD TEST METHOD FOR PARTICLE SIZE

ASTM DESIGNATION D422

PROJECT:	4418-001 Big Valley Lagoon
CLIENT:	Englobe Corp. - MPE Engineering Ltd.
PROJECT NO:	02401816.000
LOCATION:	BH3 AU8
SAMPLE NO:	36208
DEPTH:	-
DESCRIPTION:	Sand trace Silt trace Clay
DATE TESTED:	May 10,2024

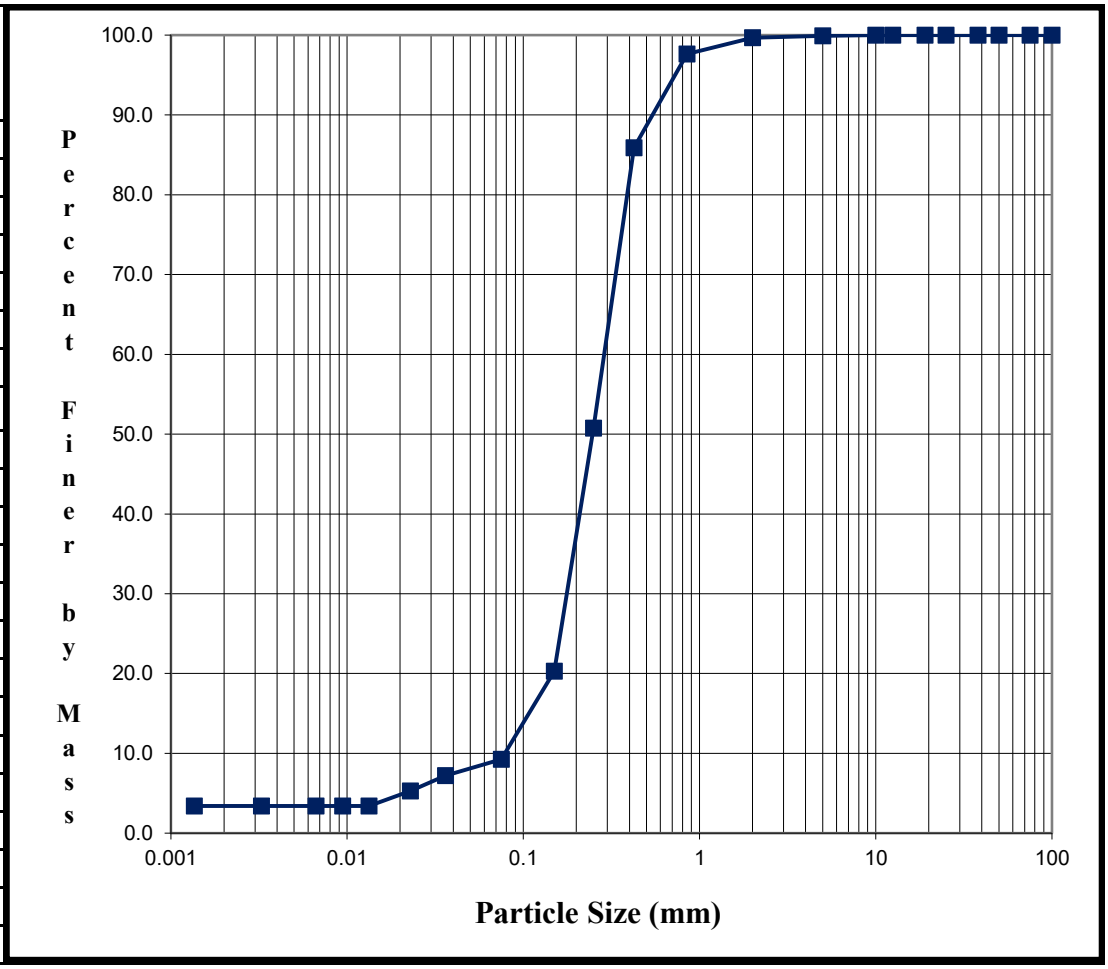
MATERIAL PORTION (%)	
CLAY	3
SILT	6
SAND	91
GRAVEL	0
COBBLES	0

DISPERSION PERIOD: 17.5 hrs

HARDNESS: Hard & Durable

SHAPE: Angular

PARTICLE SIZE	PERCENT PASSING
100 mm	100.0
75 mm	100.0
50 mm	100.0
38 mm	100.0
25 mm	100.0
19 mm	100.0
12.5 mm	100.0
10 mm	100.0
5.00 mm	99.9
2.00 mm	99.7
850 µm	97.6
425 µm	85.9
250 µm	50.8
150 µm	20.3
75 µm	9.2
36 µm	7.2
23 µm	5.3
13 µm	3.4
9 µm	3.4
7 µm	3.4
3 µm	3.4
1 µm	3.4



Reviewed by: _____

STANDARD TEST METHOD FOR PARTICLE SIZE

ASTM DESIGNATION D422

PROJECT:	4418-001 Big Valley Lagoon
CLIENT:	Englobe Corp. - MPE Engineering Ltd.
PROJECT NO:	02401816.000
LOCATION:	BH4 AU3
SAMPLE NO:	36208
DEPTH:	-
DESCRIPTION:	Silty Clay and Sand
DATE TESTED:	May 10,2024

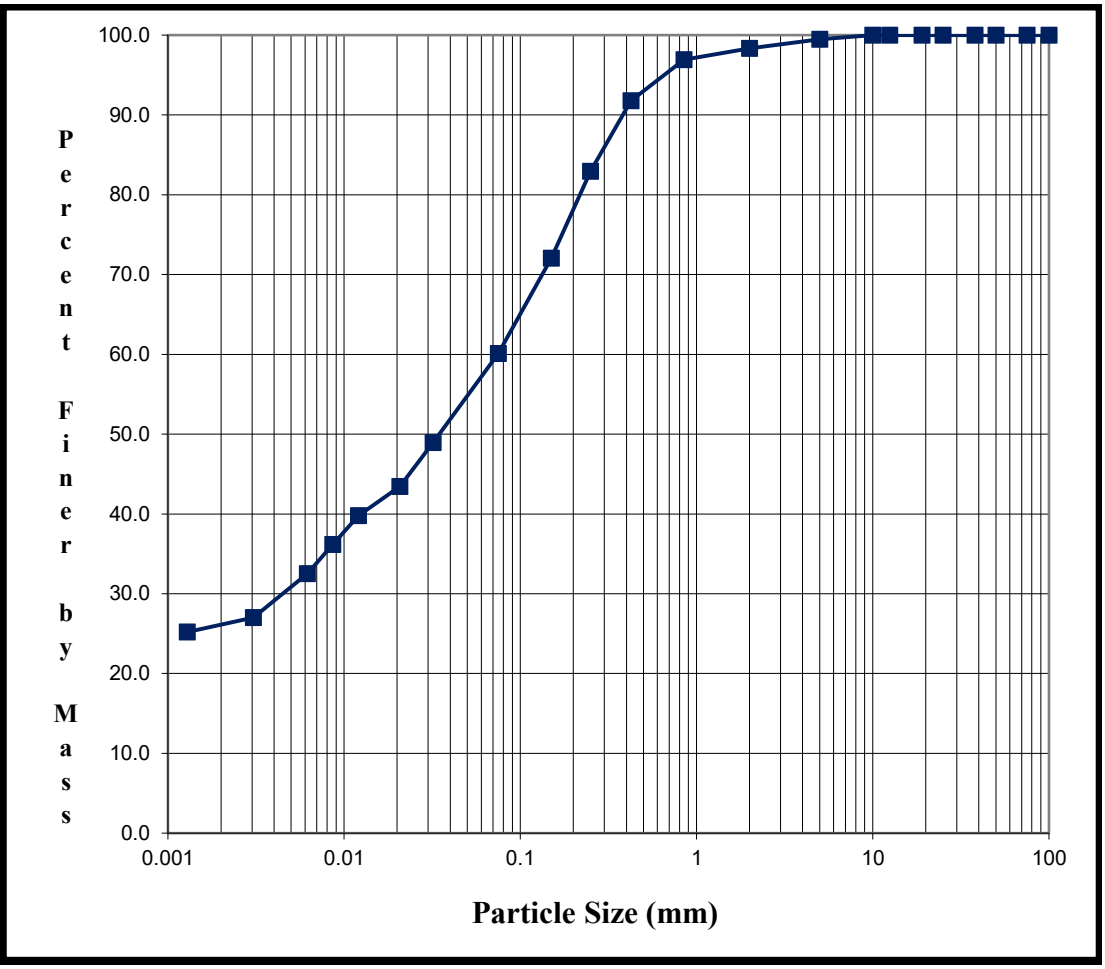
MATERIAL PORTION (%)	
CLAY	26
SILT	34
SAND	39
GRAVEL	1
COBBLES	0

DISPERSION PERIOD: 17.5 hrs

HARDNESS: Hard & Durable

SHAPE: Angular

PARTICLE SIZE	PERCENT PASSING
100 mm	100.0
75 mm	100.0
50 mm	100.0
38 mm	100.0
25 mm	100.0
19 mm	100.0
12.5 mm	100.0
10 mm	100.0
5.00 mm	99.5
2.00 mm	98.3
850 µm	96.9
425 µm	91.8
250 µm	82.9
150 µm	72.0
75 µm	60.1
32 µm	48.9
21 µm	43.5
12 µm	39.8
9 µm	36.2
6 µm	32.5
3 µm	27.0
1 µm	25.2



Reviewed by: _____

STANDARD TEST METHOD FOR PARTICLE SIZE

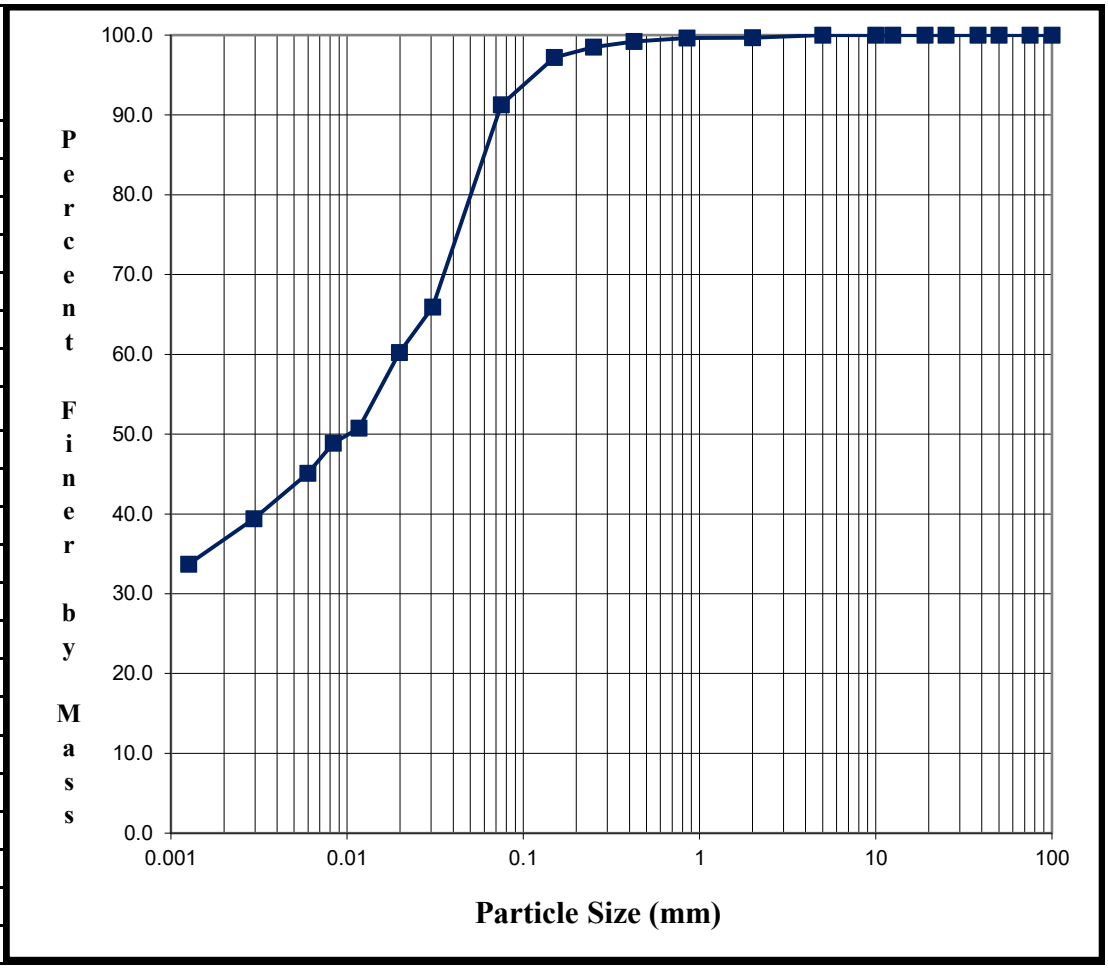
ASTM DESIGNATION D422

PROJECT:	4418-001 Big Valley Lagoon
CLIENT:	Englobe Corp. - MPE Engineering Ltd.
PROJECT NO:	02401816.000
LOCATION:	BH7 AU3
SAMPLE NO:	36208
DEPTH:	-
DESCRIPTION:	Silty Clay trace Sand
DATE TESTED:	May 10,2024

MATERIAL PORTION (%)	
CLAY	36
SILT	55
SAND	9
GRAVEL	0
COBBLES	0

DISPERSION PERIOD: 17.5 hrs
HARDNESS: Hard & Durable
SHAPE: Angular

PARTICLE SIZE	PERCENT PASSING
100 mm	100.0
75 mm	100.0
50 mm	100.0
38 mm	100.0
25 mm	100.0
19 mm	100.0
12.5 mm	100.0
10 mm	100.0
5.00 mm	100.0
2.00 mm	99.7
850 µm	99.6
425 µm	99.2
250 µm	98.5
150 µm	97.2
75 µm	91.3
31 µm	65.9
20 µm	60.2
12 µm	50.8
8 µm	48.9
6 µm	45.1
3 µm	39.4
1 µm	33.7



Reviewed by: _____

Atterberg Limit Test Results

Laboratory Data Report

CCIL

Project #: 02401816.000 Proj Name: MPE Miscellaneous Testing (2024)

Site: 4418-001 Big Valley Lagoon Sample No: 36208 A Rpt No.: 9

Description: Silty Clay

Material Source: ---

Client Name & Address:

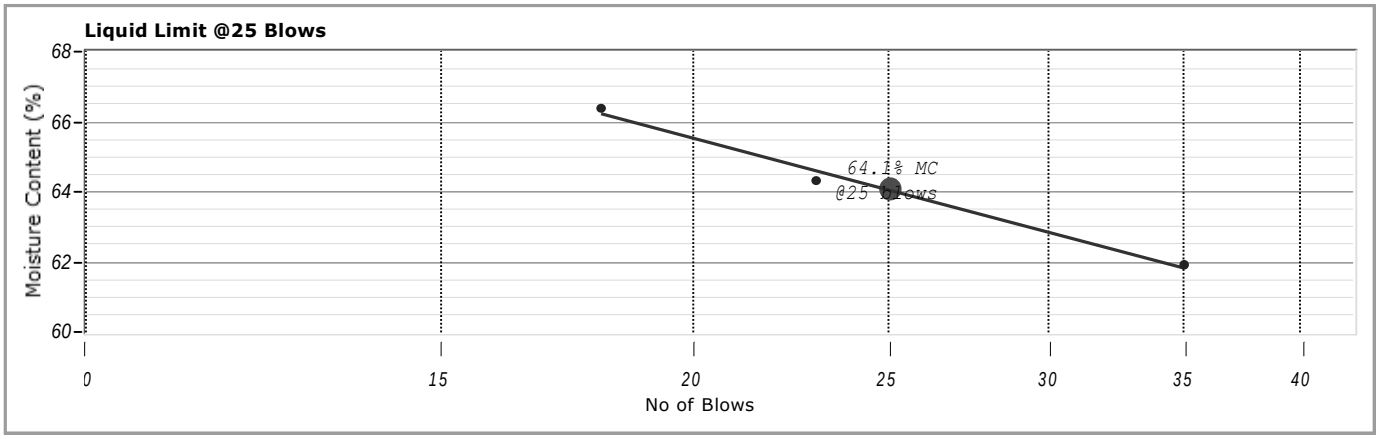
MPE Engineering Ltd
Suite 320, 6715 - 8 Street NE
Calgary Alberta T2E 7H7

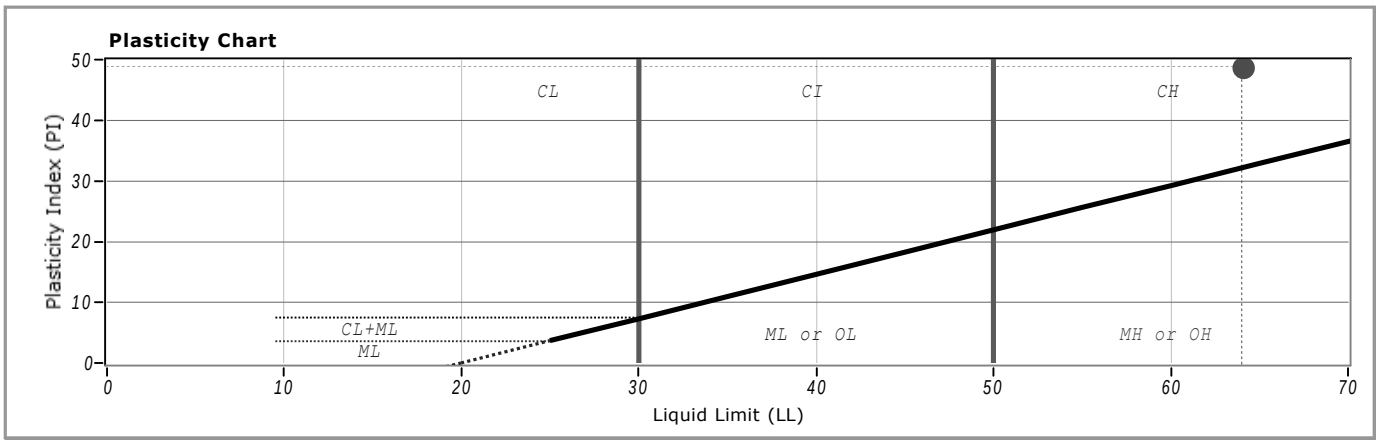
Sample Comment:

Date Sampled: May 06, 2024 By: Cli

Tested: May 10, 2024 By: HL

Borehole # BH1 AU4 Depth:





Liquid Limit: 64

Plastic Limit: 15

Plasticity Index: 49

Remarks:

Moisture Content: 17.0%

Harvir Kaur ---

Attn: Jill Hardy

CC:

Last Signed: Thu, May 16, 2024 21:22 : Rev: 001

Atterberg Limit Test Results

Laboratory Data Report

CCIL

Project #: 02401816.000 Proj Name: MPE Miscellaneous Testing (2024)

Site: 4418-001 Big Valley Lagoon Sample No: 36208 B Rpt No.: 10

Description: Silty Clay

Material Source: ---

Client Name & Address:

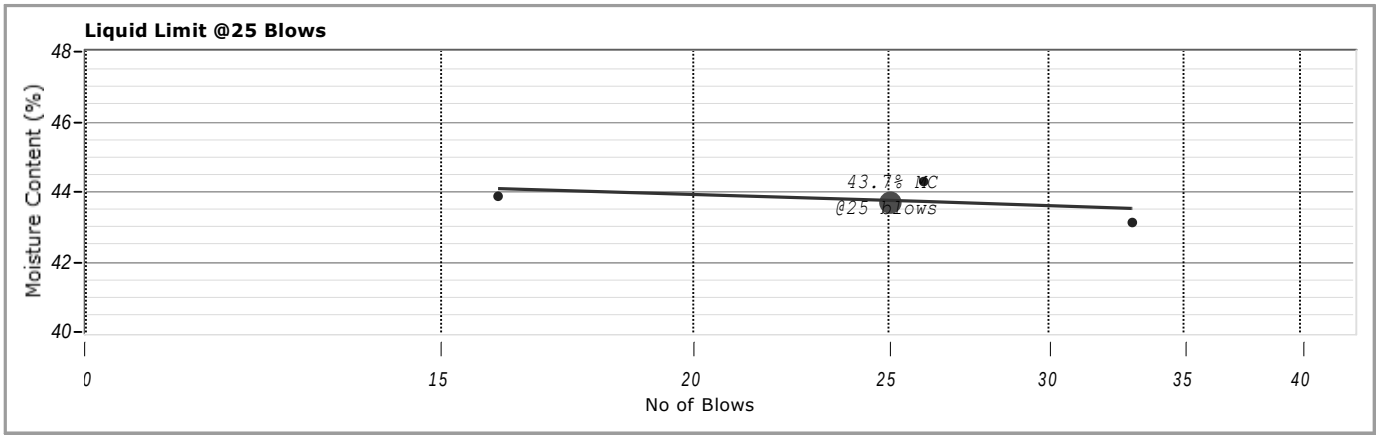
MPE Engineering Ltd
Suite 320, 6715 - 8 Street NE
Calgary Alberta T2E 7H7

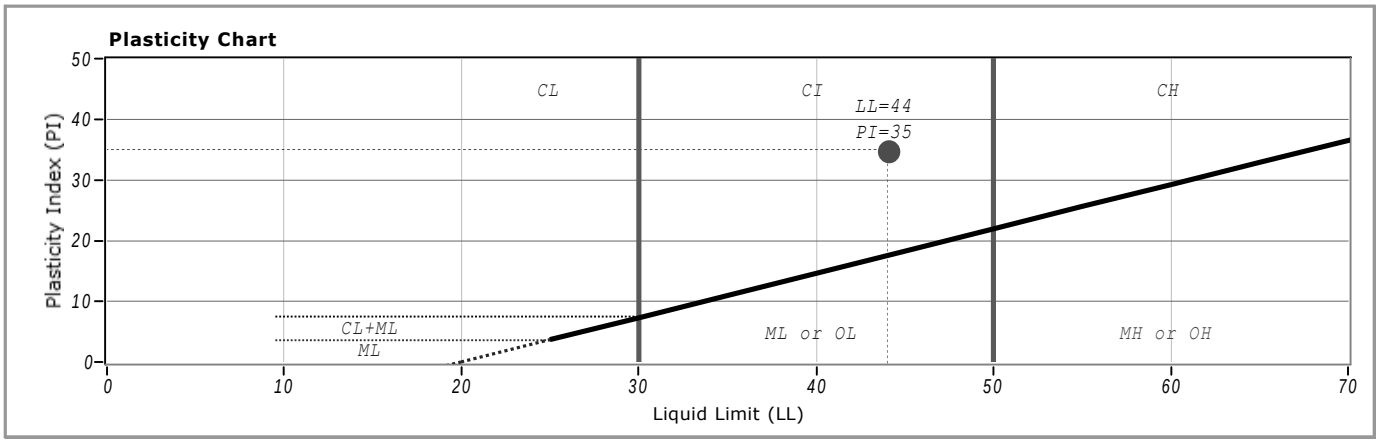
Sample Comment:

Date Sampled: May 06, 2024 By: Cli

Tested: May 10, 2024 By: HL

Borehole # BH2 AU2 Depth:





Liquid Limit: 44

Plastic Limit: 9

Plasticity Index: 35

Remarks:

Moisture Content: 13.2%

Harvir Kaur ---

Attn: Jill Hardy

CC:

Last Signed: Thu, May 16, 2024 21:26 : Rev: 001

Atterberg Limit Test Results

Laboratory Data Report

CCIL

Project #: 02401816.000 Proj Name: MPE Miscellaneous Testing (2024)

Site: 4418-001 Big Valley Lagoon Sample No: 36208 C Rpt No.: 11

Description: Silty Clay

Material Source: ---

Client Name & Address:

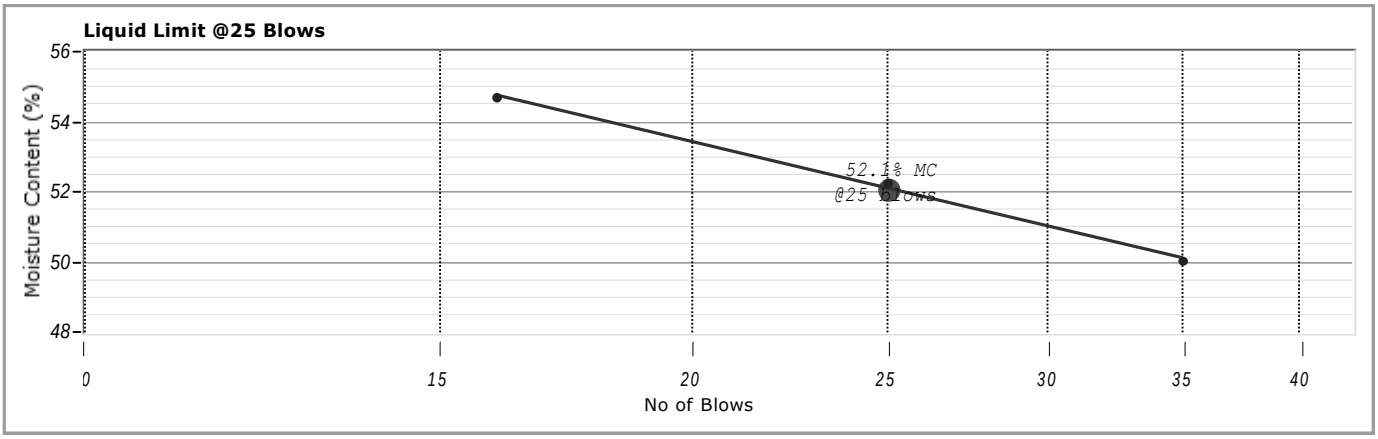
MPE Engineering Ltd
Suite 320, 6715 - 8 Street NE
Calgary Alberta T2E 7H7

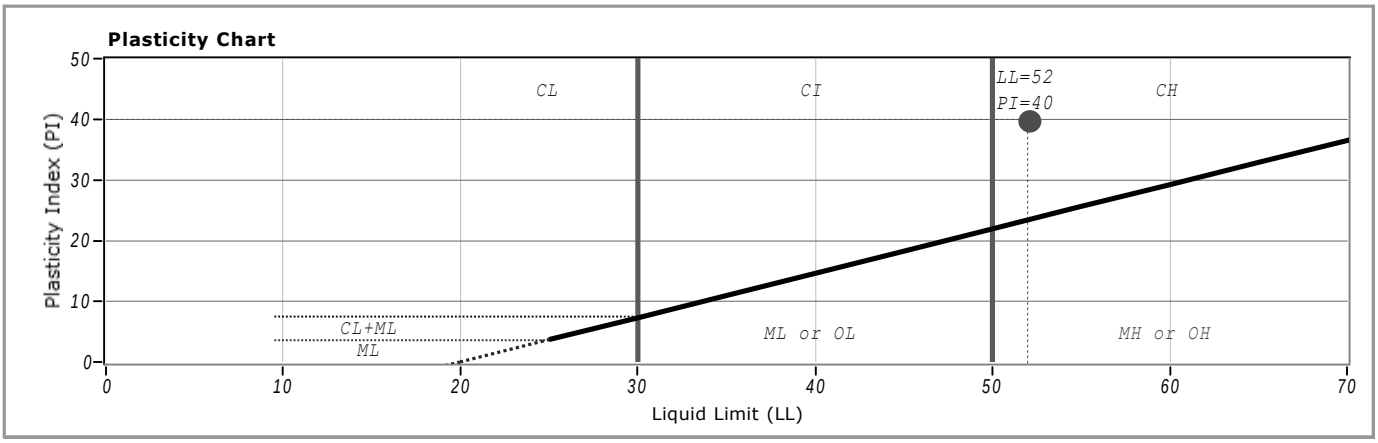
Sample Comment:

Date Sampled: May 06, 2024 By: Cli

Tested: May 10, 2024 By: HL

Borehole # BH4 AU5 Depth:





Liquid Limit: 52

Plastic Limit: 12

Plasticity Index: 40

Remarks:

Moisture Content: 15.3%

Harvir Kaur ---

Attn: Jill Hardy

CC:

Last Signed: Thu, May 16, 2024 21:27 : Rev: 001

Atterberg Limit Test Results

Laboratory Data Report

CCIL

Project #: 02401816.000 Proj Name: MPE Miscellaneous Testing (2024)

Site: 4418-001 Big Valley Lagoon Sample No: 36208 D Rpt No.: 12

Description: Silty Clay

Material Source: ---

Client Name & Address:

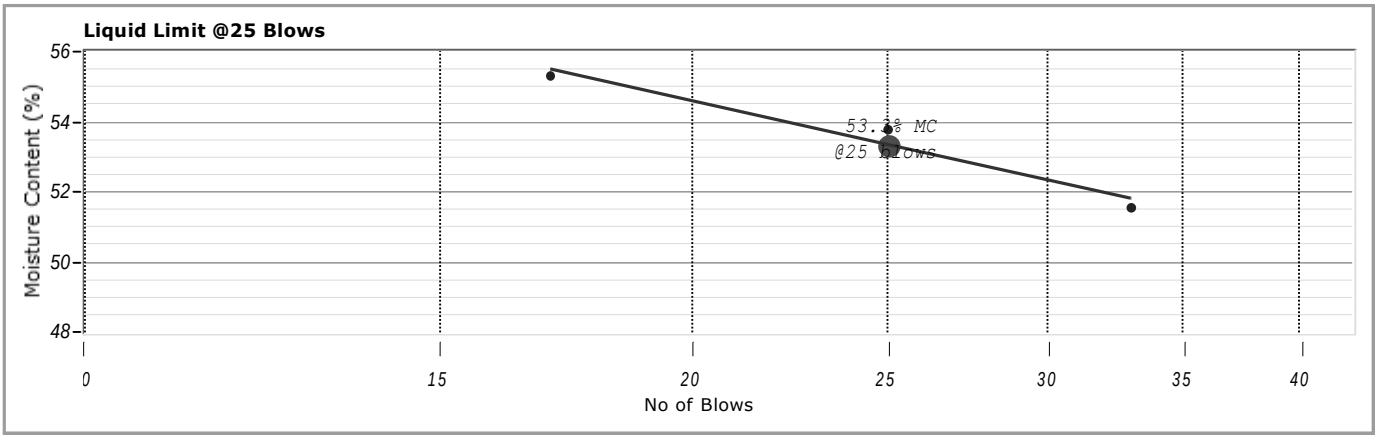
MPE Engineering Ltd
Suite 320, 6715 - 8 Street NE
Calgary Alberta T2E 7H7

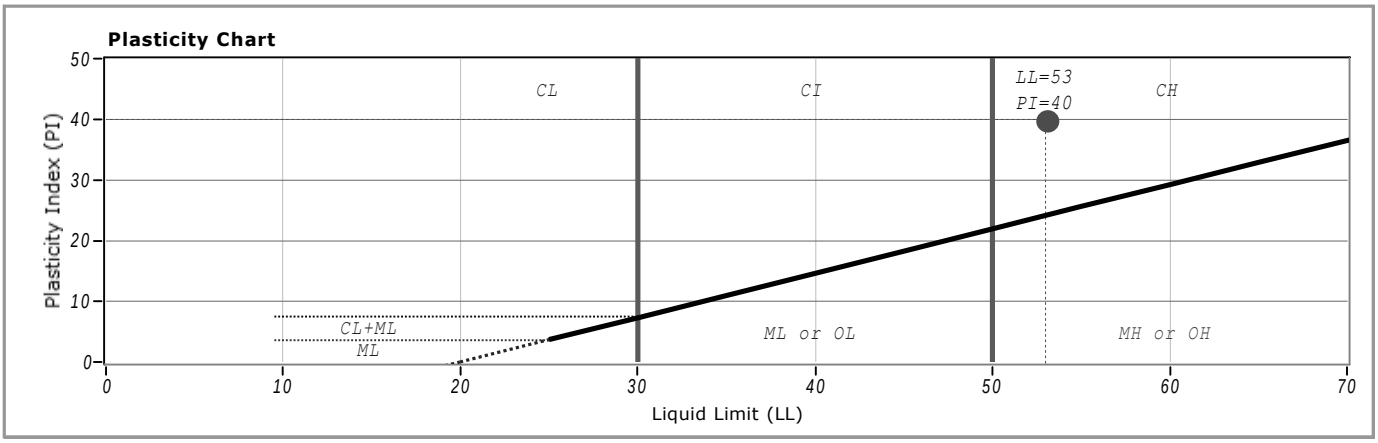
Sample Comment:

Date Sampled: May 06, 2024 By: Cli

Tested: May 13, 2024 By: FY

Borehole # BH4 AU13 Depth:





Liquid Limit: 53

Plastic Limit: 13

Plasticity Index: 40

Remarks:

Moisture Content: 24.9%

Harvir Kaur ---

Attn: Jill Hardy

CC:

Last Signed: Thu, May 16, 2024 21:29 : Rev: 001

Atterberg Limit Test Results

Laboratory Data Report

CCIL

Project #: 02401816.000 Proj Name: MPE Miscellaneous Testing (2024)

Site: 4418-001 Big Valley Lagoon Sample No: 36208 E Rpt No.: 13

Description: Silty Clay

Material Source: ---

Client Name & Address:

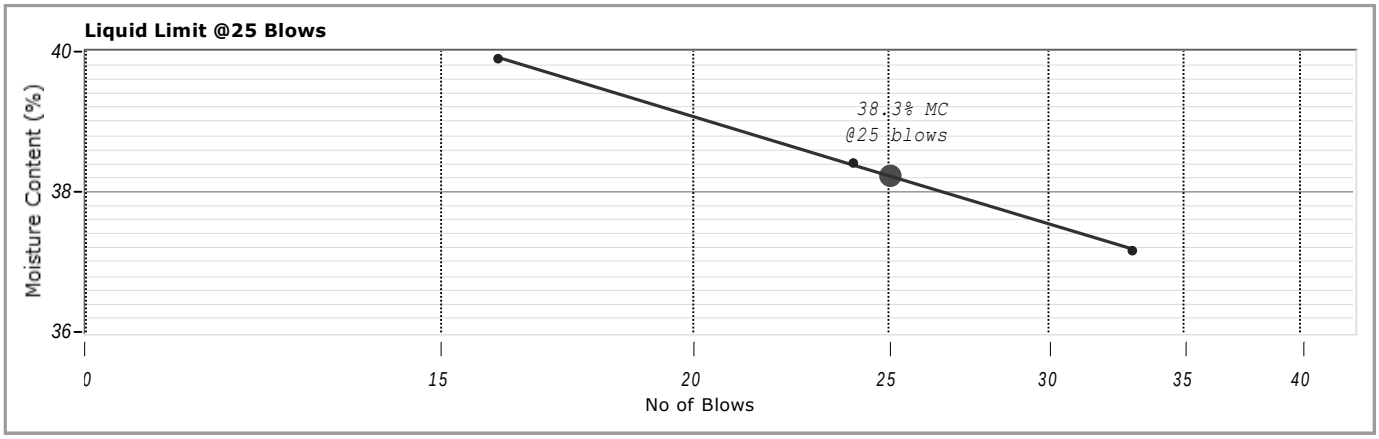
MPE Engineering Ltd
Suite 320, 6715 - 8 Street NE
Calgary Alberta T2E 7H7

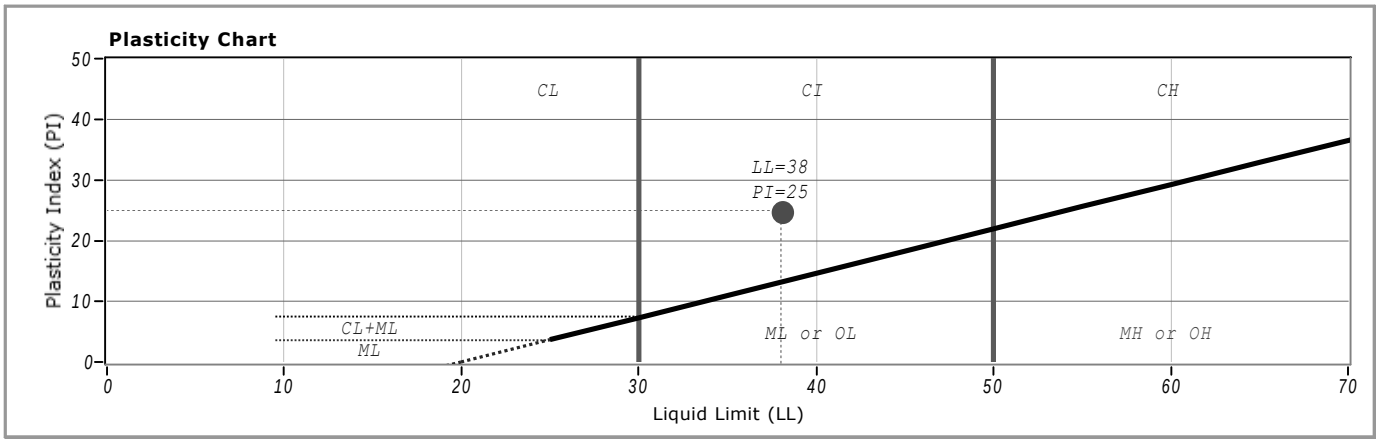
Sample Comment:

Date Sampled: May 06, 2024 By: Cli

Tested: May 10, 2024 By: HL

Borehole # BH7 AU5 Depth:





Liquid Limit: 38

Plastic Limit: 13

Plasticity Index: 25

Remarks:

Moisture Content: 26.6%

Harvir Kaur ---

Attn: Jill Hardy

CC:

Last Signed: Thu, May 16, 2024 21:30 : Rev: 001

APPENDIX E:

REFERENCE HISTORIC DOCUMENTS

N

N-S 1/4 LINE

TOE OF BERM

BARBED WIRE FENCE U.M.A. STD. 1.311

TOP OF BERM EL 118.0

12" DISCHARGE WITH CUT OFF WALL U.M.A. STD. 1.314

DRAINAGE DITCH EASEMENT

3:1

3 / 6

605'

184.4m

TOP OF BERM

NATURAL DRAIN

OIL PIPELINE R/W

STORAGE CELL
BOTTOM EL 115.3
W.L. EL 116.0
VOLUME 8.1 MIG.

596' = 181.4 m

TOP OF BERM 121.0

8" OVERFLOW

8" DRAIN

5 / 6

6 / 6

405'

TOP OF BERM 118.0

155'

TOE OF BERM

TOP OF BERM 127.5

44.5'

6" OVERFLOW

ANAEROBIC CELLS

6" DRAIN & OVERFLOW

8" INLET

BOTTOM EL 114.5
W.L. EL 124.5 ±0.1
VOLUME 0.195 MIG.

CUT-OFF WALL U.M.A. STD. 1.216

TOP OF BERM 127.5

TOE OF BERM

TO NATURAL DRAIN

SEWAGE LAGOON ENTRANCE DOUBLE GATE 1 / 6

OIL PIPELINE R/W

4" FORCEMAIN

AEROBIC CELL
BOTTOM EL 112.6
W.L. EL 117.47
VOLUME 0.54 MIG

340'

TOP OF BERM EL 124.0

GRADE TRANSITION

SLOPE BERM 3:1 FROM A TO ELEVATION OF 121.0 ON INSIDE OF BERM

N.E. 1/4 23-35-20-4

OIL WELL LEASE

10' 103' 10' 103' 10' 35'

236'

NOTE:
TO CONVERT SHOWN ELEVATIONS TO GEODETIC ELEVATIONS ADD 2610.18'

SCALES
0 20 40 80 120
1" = 40'
(1:480)

PERMIT

REV	Y	M	D	REVISION DESCRIPTION	DRN	SUPV	DES	CHK	ENG
0	81	04	07	FOR RECORDS	KMO				

ENGINEER

Underwood McLellan Ltd.
Consulting Engineers and Planners
British Columbia Alberta Saskatchewan
Manitoba Ontario
Yukon Territory Northwest Territories

VILLAGE OF BIG VALLEY

ROAD SURFACE AND UNDERGROUND UTILITY RECORDS
SEWAGE LAGOON PLAN

02-1983-__
STETTLER

CODE	DRAWING	REV
SK-00-47-A1	0-5	0

Associated Engineering | 75 YEARS

DRAFT

REPORT

Village of Big Valley

Big Valley Lagoon Wastewater Treatment System Study

FEBRUARY 2022

A Carbon Neutral Company

CANADA BEST MANAGED COMPANIES Platinum member

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1 INTRODUCTION

Associated Engineering (AE) was retained by the Knibb Developments Ltd, on behalf of the Village of Big Valley (the Village) to conduct a study of the Village's existing Lagoon Wastewater Treatment System (WWTS). The Village's public works department identified concerns with the operation of the lagoon, including non-oprational valves and potential for sludge build up as the lagoon had not been desludge for over ten years. The Village requested a study of the lagoon's operation and ability to meet current and future regulatory requirements. The study includes two main objectives:

- Identify short-term improvements to the WWTS to improve performance and maintainability.
- Evaluate long-term improvement options for the WWTS based on population growth and possibly more stringent future regulatory requirements.

1.1 Scope of Work

The scope of the study was to undertake the following:

- Review existing information, including Record Drawings, site visit observations and reports, operation staff concerns, regulatory requirements.
- Asses the existing system condition and the current and future treatment capacity requirements
- Establish design criteria for short-term and long-term improvement options
- Identify and evaluate upgrade options for a horizon of 20 years.
- Identify required regulatory approvals associated with the proposed upgrades
- Recommend a phased approach for short-term and long-term upgrades
- Estimate a range of probable costs for the recommended upgrades

2 REVIEW OF EXISTING INFORMATION

The following section provides a summary of the background information collected for review of the existing system.

2.1 Record Drawings

The following record drawings were referenced in the delivery of this report (Appendix A).

- Village of Big Valley Road Surface and Underground Utility Records, Underwood McLellan Ltd., 1983

2.2 Approvals

The following documents were referenced in the development of this report:

- The Village of Big Valley Sewage Lagoon Wastewater System was under a registration under the Environmental Protection and Enhancement Act (EPEA), and was required to follow the requirements of the latest approvals (EPEA Registration no. 420-02-00, Application no. 004-420, Effective Date of April 1997, Expiry Date of April 1, 2007, Approval Holder: Village of Big Valley).

- In July 25, 2005, the Director of Alberta Environment issued a notice to the Village in accordance with Section 3.2(2) of the Wastewater and Storm Drainage Regulation, that the Code of Practice for Wastewater Systems Using a Wastewater Lagoon would be applied to the operation of the Big Valley Wastewater System from September 1, 2005 (the Letter).

2.3 Reference Standards

The following documents form the basis of the recommendations for the long term development of the wastewater treatment lagoons, and outline the technical requirements for their design.

- Alberta Environment, 2003, Code of Practice for Wastewater Systems Using a Wastewater Lagoon (Code of Practice)
- Alberta Environment, 2004, Guide to Requirement for Wastewater Systems Using a Wastewater Lagoon
- Alberta Environment and Sustainable Resources Development (AESRD), 2013 Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems, Part 3 Wastewater Systems Standards for Performance and Design
- Alberta Environment and Sustainable Resources Development (AESRD), 2013 Standards and Guidelines for Municipal Waterworks, Part 4 Wastewater Systems Guidelines for Design, Operating and Monitoring
- Government of Canada, Wastewater Systems Effluent Regulations, Fisheries Act (R.S.C., 1985, c. F-14).

2.4 Site Visits

Two site visit were performed. On June 25, 2021, a site visit was conducted to meet with the client and initially assess the site conditions and discuss their operational concerns. On October 8, 2021, a second site visit was conducted to further assess the site conditions and also to meet with Lambourne/Hydrasurvey personnel performing Sludge Survey and observe the Sludge Survey process. The Site Visit Reports are provided in Appendix B.

2.5 Existing System Description

The Village's WWTS is a conventional sewage lagoon treatment system, located South of the Village (Figure 2-1). The WWTS consists of the following:

- A lift station located at northwest corner of Railway Ave S and 590 Highway intersection.
    - The lift station consists of 2 pumps (the capacity of the pumps could not be confirmed at the time of this report).
- A 100 mm (4") diameter force main, lifts sewage 11 m from the lift station to inlet point. The length of the force main from lift station to inlet is approximately 3660 m (~3.7 km).
- A convential lagoon system consisting of the following cells:
    - Four anaerobic cells
    - One facultative cell
    - One storage cell

Figure 2-2 shows an excerpt of the existing Village Lagoon WWTS from the design drawings.

Figure 2-1
Site Location

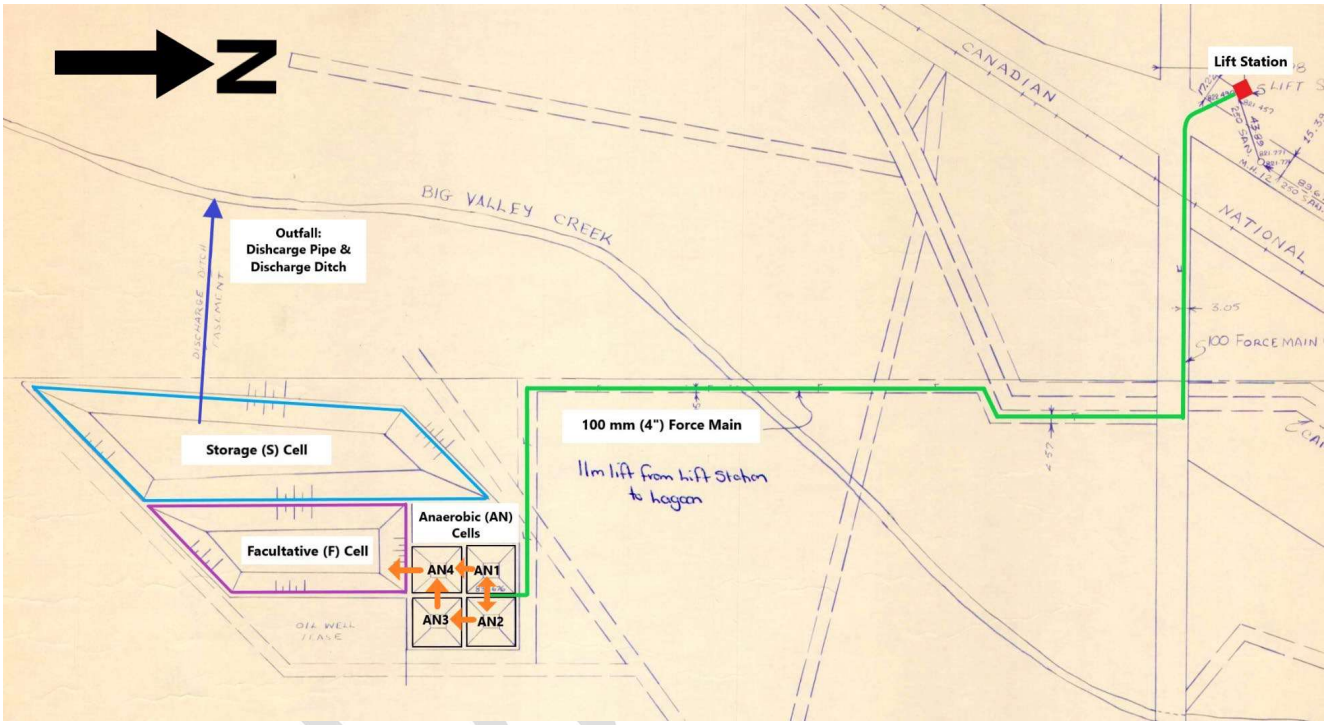


Figure 2-2
Existing Village of Big Valley Lagoon Wastewater Treatment System (WWTS)
Note: The orange arrows show wastewater flow between anaerobic (AN) cells.

3 REGULATORY OVERVIEW

3.1 Provincial Standards

The existing lagoons currently operate under a Code of Practice (COP), issued by AEP. The COP does not stipulate any effluent discharge standards, except in instances where the treated effluent is being used for irrigation. The Village's superceded EPEA Approval allowed for discharing from the lagoon outfall to the Big Valley Creek, a maximum of twice per year between April 1 and November 30 over a maximum of 3 weeks per discharge, and this practice is still followed.

The design of conventional (non-aerated) lagoons in Alberta are usually governed by the Standards and Guideline for Municipal Waterworks, Wastewater and Storm Drainage Systems, by AEP. The AEP Standards and Guidelines provide recommended retention times and lagoon cell configuration for conventional (non-aerated) lagoons for different cell types. Any modifications or improvements should be in compliance with the current standards and guidelines and any deviations should be reviewed with AEP for approval.

Table 3-1 summarizes the Village of Big Valley's Lagoon WWTS requirements under the COP.

Table 3-1
The Village of Big Valley Lagoon WWTS Requirements Under the COP

Description	Action	Deadline
Annual reporting	The registration holder shall submit a report each year	by February 28 of each year (following the year in which the information was collected.)
Information to Report	The results of the treated wastewater discharge monitoring and measurements should be reported: • CBOD and TSS measurements (grab sample, once during discharge) • The measurement, or, if measurement is not possible, estimate of the total volume of discharge; • Period of discharge (start and end dates)	-
Record Keeping	Maintain an operating record, including: • Site evaluation reports • All registrations and authorizations issued • As-built drawings • Current version of the design • Operating procedures • Any complaints • The date and nature of all maintenance conducted	For the life of the system

Description	Action	Deadline
	• Notices to AEP regarding all extensions and replacements of any portion of the wastewater system • Notices for intention to use the treated effluent for irrigation (if applicale), • Documentation of all notifications given to downstream land users • Treated wastewater irrigation information (if applicable) • Sludge application information • Notices for contraventions • A copy of all inspection reports • A copy of the reclamation plan (if applicable) • A copy of the final reclamation report (if applicable) • A record of the names of all past and current certified operators.	

3.2 Federal Standards – WSER

The Wastewater Systems Effluent Regulations (Regulations or WSER) are Canada's first national standard for wastewater treatment, that includes limit values. The Regulations, published in July 2012, are established under the Fisheries Act and include mandatory minimum effluent quality standards that can be achieved through secondary wastewater treatment. The Regulations are administered by Environment and Climate Change Canada (ECCC).

The owner is expected to meet Federal regulatory requirements, such as the Fisheries Act, which prohibits the discharge of deleterious substances into waters frequent by fish.

Requirements for monitoring, record-keeping, reporting and toxicity testing are specified in the Regulations. The Regulations groups "Intermittently Discharging Wastewater Systems" to those with Annual Average Daily Volume of 100 m^3 to 17,500 m^3 and those with Annual Average Daily Volume more than 17,500 m^3. If the Annual Average Daily Volume is less than 100 m^3, WSER does not apply.

At the present time there is no harmonization of standards between the federal government and the Alberta Environment on the WSER requirements. Consequently, the Village is required to report independently on WSER to Environment Canada (EC) with regards to the reporting requirements as outlined in WSER.

Table 3-2 includes the wastewater effluent quality standards outlined in the WSER.

Table 3-2
Limits as per Wastewater Systems Effluent Regulations (WSER)

Parameter	Limit	Note
Annual Average Total Suspended Solids (TSS)	≤ 25 mg/L	
Annual Average Carbonaceous Biochemical Oxygen Demand (cBOD5)	≤ 25 mg/L	
Un-ionized ammonia NH_3 (mg/L, expressed as nitrogen (N) at 15°C ± 1°C) [1]	< 1.25 mg/L	Maximum concentration in the year
Annual Average Total Residual Chlorine (TRC)	≤ 0.02 mg/L	
Acute lethality [2]	non-acutely lethal effluent	

[1] WSER required un-ionized ammonia testing and reporting for wastewater systems up until June 30, 2014. After this date, if the discharged effluent causes acute lethality at the discharge point due to the concentration of un-ionized ammonia in the effluent, it requires applying to an authorization officer for an temporary authorization to deposit effluent that contains un-ionized ammonia.
[2] WSER requires acute lethality testing and reporting for wastewater systems that discharge an ADF of over 2,500 m^3/d.

Where discharges are unable to meet the cBOD or TSS standards, the Regulations provide a mechanism whereby additional time will be allowed for the municipality or owner to make the necessary improvements to achieve the standards. This flexibility is granted by means of a “Transitional Authorization (TA)”.

Where discharges are unable to meet the requirements for unionized ammonia limit in the effluent or where acute lethality of the effluent is determined to be primarily because of unionized ammonia, the Regulations provide for an alternative approach. This is based on achievement of an un-ionized ammonia limit of 0.016 mg/L, as N in the receiving stream 100 m downstream of the discharge and requires the owner to apply for a “Temporary Authorization to Deposit Un-ionized Ammonia”. However, after January 1, 2015, the frequency and number of samples required for un-ionized ammonia and acute lethality tests are not specified and reporting is not required for the Village’s WWTS due to the small annual average flow treated (<2,500 m^3/d).

Table 3-3 summarizes The Village of Big Valley Lagoon WWTS Requirements uneder the WSER.

Table 3-3
The Village of Big Valley Lagoon WWTS Requirements uneder the WSER

Description	Action	Timeline/Deadline
Register with WSER	• Online registration through Effluent Reporting Information System (ERRIS) via the Single Window Information Manager (SWIM)	Onetime
Annual sampling	• Sample collection from effluent at each discharge period • Sample analysis for BOD, TSS, un-ionized ammonia	Annual

Description	Action	Timeline/Deadline
Record keeping	The wastewater organization and facility that are required to comply with WSER must keep all records on site.	For a minimum of five years
Annual Reporting	• Thrpough EERIS • a statement that indicates that effluent was not deposited during the year, or a statement that indicates that effluent was not deposited during any month in the year; • and, for the year: ○ number of days effluent was deposited ○ volume (m3) of effluent deposited ○ average CBOD ○ average SS concentration ○ maximum concentration of NH3, until ○ June 30, 2014	Every February 14 of each year
TA application	Apply for TA or Temp Auth for uNH3 if needed	-

4 EXISITING LAGOON ASSESSMENT

4.1 Capacity Assessment

4.1.1 Effluent Flow Data Review

Effluent data was provided by the Village for the years 2015-2021, as well as copies of annual reports submitted to Alberta Environment. (Apendix C).The depth of water in the storage cell and the approximate volume of discharge were recorded on the annual reports. The recorded approximate volume of discharage was used to calculate the annual average effluent flow. Table 4-1 summarizes the effluent discharge information. The Village discharges the treated effluent twice a year, once in the spring and once in the fall. Based on the records provided, the discharge period varies between 6 to 17 days, which agrees with the regulatory requirement of three weeks or less.

Based on the reported discharge volumes , the estimated Annual Average Daily Flow Rate ranges from 120 to 204 m^3/d, with an average of 168 m^3/d. The comments provided by operation's staff suggest that 2017 and 2018 were dry years compared to 2019 and 2020 which saw greater amounts of precipitation leading to more inflow and infiltration into the WWTS. For example, the average daily flow rate between May 2020 and August 2020 increased to 405 m^3/d, based on the discharge volume recorded by operations staff.

It is noted that operations staff have changed recently and the method of how the volume and depth were being measured in the past could not be confirmed. The volume recorded was often noted as the total storage cell volume to the top of the berm as is noted on the record drawings as 8.19 MIG or 37,232 m^3. The depth was often recorded as 7 meters, however, there is no discharge manhole from the storage cell that would allow for confirmation of depth of water level. Available record drawings indicate a total depth of 4.9 m (16 ft) for storage cell. The approximate depth and volume of the existing cells was assessed during the sludge suvery, which generally matched the record drawings, however, the storage cell was not included in the sludge survey. It is recommended the Village confirm the volume and depth of the storage cell.

According to the Village's staff, annual water consumption in the Village amounts to about 29,500 m^3. However, at the time of this report, historical water consumption records were not available. Typically, 80-100% of drinking water in residential use is sent to waste.

Considering a current population of 349, this water use data results in 232 L water consumption per capita per day. Assuming 80-100% of the consumed water is converted to wastewater, it translates to 186-232 L wastewater generation per capita per day. Comparing it with 579 L wastewater generation per capita per year, it seems that a significant portion of the generated wastewater is coming from another source. There is a 60-70% balance which cannot be explained with the existing data and information. The source can be leakage, infiltarion and inflow (I&I), etc. Another explanation would be that the water use data was recorded incorrectly, which warrants further investigation and more accurate record keeping. Further analysis is required to find the underlying reason for this discrepancy. Should I&I be determined as the reason, reducing I&I can extend the existing holding capacity of each individual cell and can improve the overall performance of the WWTS facility.

The approximate depth and volume of the existing cells was assessed during the sludge suvery, which generally matched the record drawings, however, the storage cell was not included in the sludge survey. It is recommended the Village confirm the volume and depth of the storage cell, or consider other means of accurately measuring/calculating the discharge volume.

The recorded volumes and calculated annual average flow will be used to assess the current capacity of the system, however, it is recommended that the village check the influent flows to the lagoons from the pumped influent (using confirmed pump capacity and pump run time hours or by adding a flow meter at the lift station) as well as the historical water consumption records.

Table 4-1
Summary of Effluent Discharge Information

Description	Year 2015	Year 2016	Year 2016	Year 2017	Year 2017	Year 2018	Year 2018	Year 2019	Year 2019	Year 2020	Year 2020	Year 2021
Discharge START date	30-Sep-2015	May 31, 2016	Oct 24, 2016	May 28, 2017	Oct 30, 2017	May 29, 2018	Oct 30, 2018	Jun 4, 2019	Oct 21, 2019	May 4, 2020	Aug 4, 2020	Mar 12, 2021
Discharge END date	13-Oct-2015	Jun 13, 2016	Nov 4, 2016	Jun 14, 2017	Nov 6, 2017	Jun 11, 2018	Nov 5, 2018	Jun 18, 2019	Nov 4, 2019	May 19, 2020	Aug 19, 2020	Mar 26, 2021
Dischage period (days)	13	13	11	17	7	13	6	14	14	15	15	14
Depth of liquid in evaporation (i.e., storage) pond (m)	7	7	7	7	3	7	2.5	6	6.6	7	7	7
Reported discharge volume (m^3)	37,223	36,146	37,223	37,223	18,422	29,342	14,326	27,244	32,344	37,223	37,223	37,263
Annual Average Daily Flow (m^3/d)		201		152		120		163		204		

Note: Depths of liquid in evaporation (i.e., storage) pond are the values recorded on the Village's Annual Reports to Alberta Environment.

4.2 Anaerobic Cells

Based on the available record drawings, the four (4) anaerobic cells are each 31.5 m x 31.5 m with 4-meter (13 ft) depth from top of the berm to the bottom of the cell. The design water depth is 3.1 m (10.18 ft), for a volume of 886 m^3 per cell.

Figure 2-2 above illustrates the direction of flow through the anaerobic cells. Under normal operation, flow entering the lagoons may be split at the inlet manhole (MN #1) allowing flows to be directed to the either inlet cells (AN1 and AN2). Interconnecing manholes, between the cells, allow for the flow to be directed between the cells. As noted during the site visit, the valves on interconnecting manholes are not functioning and the wastewater distriubutes between AN cells as the following:

- Flow entering the Facility is split in a manhole (MN #1) located between the two northern anaerobic cells (AN1 and AN2).
- The treated sewage "drains and overflows" from the northern anaerobic cells (AN1 and AN2) to southern anaerobic cells (AN3 and AN4), through two manholes located between cells AN2 and AN3 cells (MN #2), and cells AN1 and AN4 (MN #3).
- Cell AN3 cell discharges to cell AN4 through another manhole (MN #4).
- Cell AN4 discharges to aerobic cell through a fifth manhole (MN #5).

Table 4-2 compares the the design criteria for the anaerobic cells against Alberta Environment's Standards using the maximum average daily flow (204 m^3/d).

Table 4-2
Anaerobic Cell Design Criteria Based on Average Flow of 204 m^3/d
(Based on Alberta Environment Guidelines)

Design Criteria	Regulatory Standard	Existing condition
Operating Depth	3.0 – 3.5 m	3.1 m
Inside Side Slopes	3:1	3:1
Number of Cells	0 - 4	Four cells [2]
Total Rentention (days)	2	3
Volume [3]	408 m^3 per cell	886 m^3 per cell

[1]Anaerobic cells are not required for annual average flows less than 250 m^3/d
[2] The cells are not operated in series. the flow is split between the first two cells (AN1 & AN2). Cell AN3 receives only half of the flow. Cell AN4 receives full flow. Under this condition, the holding capacity in each cell can be longer than what shown above. The holding capacities provided in the Table are based on the assumption that the cells are operated in series, and each cell received the whole flow.
[3] Working volume or water volume (not accounting for sludge accumulation)

4.3 Facultative Cell

This Facility has one existing facultative cell, that is referred to as "aerobic cell" on the Record Drawings. This existing facultative lagoon has an approximate surface area of 8,7300 $m^2$and an estimated working volume of 10,640 m^3. The overall depth of the facultative cell (top of the berm to floor) is 2.74 m (9') and the cell is designed for water depth of 1.67 m (5.47').

Table 4-3 compares the the design criteria for the faculative cell against Alberta Environment's Standards using the most recent maximum average daily flow (204 m^3/d). Based on the maximum daily average flow, the current volume of the facultative cell is undersized as compared to Alberta Environment's Standards and Guidelines.

It is worth mentioning that the facilities with this size (ADF below 250 m^3/d) do not require anaerobic cells as per AEP standards. The extra capacity by the four existing anaerobic cells is a bonus as added capacity. It can be given consideration in further assessment of the current and future capacity requirements of the whole facility that should be carried out in conceptual/preliminary design. However, this added capacity should be considered with caution during the conceptual/preliminary design step. Anaerobic, facultative, and storage cells in lagoon wastewater systems are designed for different treatment purposes, and the differences in design and purpose of these cells should be identified and accounted for appropriately in the conceptual/preliminary design.
The existing maximum depth of the facultative cell (1.67 m) exceeds the regulator maximum depth requirement of 1.5 m by about 20 cm. The functional purpose of this cell is to biologically stabilize the wastewater under predominantly aerobic conditions. Increase in water depth can interfere with the cell's functional purpose. However, since the maximum depth exceeds allowable maximum depth (1.5 m) by 13% only, it potentially does not interfere with the appropriate oxygenation of water columns required to support the functional purpose of the facultative lagoon.

Table 4-3
Facultative Cell Design Criteria Based on Average Flow of 204 m^3/d

Design Criteria	Regulatory Requirements	Existing condition (F cell only)	Existing condition (F cell + four AN cells)	Note
Maximum Depth	1.5 m	1.67 m	1.67 m (F cell), 3.1 (AN cells)	Maximum depth of the existing anaerobic cells do not meet the maximum depth requirement for anaerobic cells
Inside Side Slopes	3:1	3:1	3:1	
Number of Cells Required	1	1	1	
Rentention Time	60 days	52 days	69.5 days	
Volume [1]	12,240 m^3	10,638 m^3	14,182 m^3	

[1] Working volume or water volume (not accounting for sludge accumulation)

4.4 Storage Cell and Discharge

This Facility has one existing storage cell, with an approximate surface area of 13,224 m^2 (13.3 ha) and an estimated working volume of 37,232 m^3. The existing storage cell has an approximate total depth (top of the berm to floor) of 3.96 m (13 ft) and an approximate working depth (water level to floor) of 3.05 m (10 ft).

The storage cell discharges twice a year to the nearby "Big Valley Creek", categorizing The Village's Facility as "Intermittently Discharging Wastewater Systems" under WSER. The Big Valley Creek discharges into Red Deer Creek.

Table 4-4 compares the the design criteria for the storage cells against Alberta Environment's Standards using the most recent annual average daily flow (204 m^3/d). The storage cell appears to be undersized for the current system flows being observed.

Table 4-4
Storage Cell Design Criteria Based on Annual Average Flow of 204 m^3/d

Design Criteria	Regulatory Requirements	Existing condition
Maximum Depth	3.0 m	3.05 m
Side Slopes	3:1	3:1
Number of Cells Required	1	1
Retention Time[1]	365 days	183
Capacity [2]	74,460 m^3	37,232 m^3

[1] Based on Average Daily Design Flow

[2] Working volume or water volume (not accounting for sludge accumulation)

4.5 Outfall

The outfall from the storage cell is located at the southwest of the storage cell. It includes a 300-m (12") A.C. discharge pipe. The record drawings show the discharge pipe is equipped with a 200 mm (8") gate valve with extension rod and box, which can be accessed through top of the west berm of the storage cell.

Table 4-5 summarizes the design criteria of the Facility's discharge pipe, based on the current system flows and the Alberta Environment Guidelines. The discharge period meets the regulatory requirement (three weeks or less). Based on available historical reports for the years 2016-2021, an estimated discharge volume of 14,000 to 37,000 m^3 was discharged within 6 to 17 days. Based on design features of the discharge pipe, this volume is expected to be discharged in 7 days, indicating that the discharge pipe is not working at full capacity.

Table 4-5
Discharge Pipe Design Criteria
(Based on Existing Flows and Alberta Environment Guidelines)

Design Criteria	Requirements	Values/Description
Installation depth of drainage pipe	To ensure a minimum of 150 mm of liquid is retained	Record drawings show discharge pipe at a lower elevation than thte cell bottom It is unknown if the cell bottom slopes ot the disrcharge location or if the discharge pipe is installed in a sump.

Discharge structure	Should include:
	• A manhole to house the following:
	  ○ A valve
	  ○ A vertical overflow pipe for the drainage pipe
	  ○ A long stem for the valve to operate it without entering the manhole
	  ○ Erosion protection (e.g. Rip-Rap)
		Discharge structure of the Facility has all the required components except the manhole.

Nominal diameter	-	300 mm
Slope	-	0.00284
Capacity (flow)	-	0.064 m^3/s (5,500 m^3/d)
Discharge period	Three weeks or less	7 days [1]

[1] Based on design capacity of the storage cell (37,232 m^3).

4.6 Condition Assessment

Associated carried out a visual inspection of the lagoon site accompanied by representatives from the Village and Knibb Developments Ltd. A second site inspection was conducted during Sludge Survey (on October 8, 2021). Site inspection reports summarizing the observations are provided in Appendix B.

A summary of the key observations are provided here:

- Growth of vegetation and trees around the periphery of the lagoon cells is a matter of concern since the roots can undermine the liner, leading to leakage.
- According to Operation Staff, it has been about 10 years since accumulated bio-solids in the lagoons have been removed. This activity should be made a priority to ensure that sufficient capacity is available for solids settling and digestion. A sludge survey has been conducted as part of this study to quantify the sludge volume and quality, and to determine the impact on hydraulic retention time.
- The isolation structures between the anaerobic cells are not working. According to Operation Staff, these cells are currently working as flow through.
- Significant erosion on the outfall ditch was found and reported to be getting worse every year by operating staff.

- The discharge ditch is located on the neighbour's land, which may require laising with the neighbors for access and repair.
- Operating staff have reported that one of the interconnecting pipes from the anaerobic cell to the facultative cell does not work and repairs to the berm around the piping is required. The extent of repairs required could not be confirmed at the time of this report.
- The Village expressed concerns that the isolation structure manholes are protruding from the ground surface.

4.6.1 Sludge Accumulation

On behalf of the Village, AE retained Lambourne Environmental Ltd. (Lambourne) to perform a sludge survey on the anaerobic and facultative cells..

The sludge survey was conducted over two days (October 7 and 8, 2021) with the help of Lambourne's subcontractor, Hydrasurvey Ltd. Table 4-6 and Table 6-7 summarizes the sludge survey findings.

The complete sludge survey report is provided in Appendix C, the key considerations are as follows:

- The total estimated volume of the sludge in the 5 cells assessed is 3,500 m^3.
    - The total dry mass of the sludge is approximately 410 tonnes.
- Sludge Survey results indicated variable total and water depths for the surveyed lagoons. These values are reported in Table 4-7, and compared to design values based on Record Drawings. Measured water depth closely resembles the Record Drawings in all four anaerobic cells. Measured total depth, which was achieved by summing the maximum measured liner depth inside toe and the free board, is less than designh total depths as shown on Record Drawings for all surveyed anaerobic cells and facultative cells.
- Land application criteria was not met for cells AN1, AN4, and the Faculatvie cell (F). This was because the copper to phosphorus ratio of the sludge exceeded the regulatory requirements. This indicates a higher amount of copper in the wastewater sludge than typical. However, the exceedance was marginal. Three approaches can be recommended for these cells:
    i. Albert Environment may be willing to grant an exemption related to the higher copper to phosphorus ratios given the marginal exceedances. This option is subject to communication with and seeking advice from Albert Environment.
    ii. Resampling may provide results that would be in compliance.
    iii. Dewater the sludge collected from these cells using Geotube or centrifuge. Each method has its advantages and disadvantages, which are discussed in the sections that follow. The dewatered materials would be hauled to landfill.
- Dry mass in tonnes, or in short, dry tonnes (DT) is an important parameter in estimating the cost of landfilling and Geotube. The DT of sludge in AN1, AN4, and F cells collectively is 305 tonnes.

Table 4-6
Summary of Sludge Survey Findings (Sludge Depth and Volume, and The Remaining Hydrauilic Capacity)

Cell	Total Working Volume (m^3)	Estimated sludge volume (m3)	Remaining hydraulic capacity (considering sludge volume) (m^3)	Volume occupied by sludge (%)	Sludge depth (m)[1]	Dry solid mass (tonnes)	Land applied? (Yes/No)
AN1	886	571	372	58	0.4 – 2.2	36.3	N
AN2	886	271	638	28	0.1 – 1.3	46.4	Y
AN3	886	311	603	32	0.3 – 0.7	57.0	Y
AN4	886	328	585	34	0.4 – 0.9	39.3	N
F	10,638	1,987	8,298	22	0.2 – 0.6	229.4	N
Total		**3,468 (~ 3,500)**	-	-	-	**408.4 (~ 410)**	-

[1] The highest sludge depths are seen in the middle of AN1 and AN2. The sludge is almost evenly distributed in AN3 and AN4. In cell F, the highest sludge depths are seen at the inlet of this cell and at the southwest corner of the cell. The sludge is almost evenly distributed in the rest of cell F.

Table 4-7
Summary of Sludge Survey Findings (Water Depth and Total Depth)

Cell	Sludge Survey – Maximum Measured Liner Depth Inside Toe (m) [1]	Sludge Survey – Free Board (m)	Sludge Survey – Total Depth (m) [2]	Record Drawings - Design Water Depth (m)	Record Drawing – Design Total Depth (m)
AN1	3.25	0.54	**3.79**	3.1	**3.96**
AN2	3.37	0.26	**3.63**	3.1	**3.96**
AN3	3.22	0.42	**3.64**	3.1	**3.96**
AN4	3.11	0.4	**3.51**	3.1	**3.96**
F	1.97	0.33	**2.3**	1.67	**2.74**

[1] Water depth
[2] Sum of Maximum measured liner depth inside toe (water depth) + freeboard

Sludge Removal and Disposal: Sludge Survey results indicated that 30-60% of the anaerobic cells are occupied with sludge (Table 4-6). Accumulated sludge reduces the hydraulic capacity and subsequent treatment capacity of the anaerobic and facultative cells.

It is recommended that anaerobic cell # 1 (AN1) is desludged immediately, as the sludge survey showed that this anaerobic cell has the highest sludge accumulation (~60% of the lagoon's design capacity). Such significant reduction in hydraulic capacity can impact the treatment ability especially during a wet years, as it can reduce the retention time of sewage to below the holding capacity requirement outlined in the AEP guidelines. The values presented in Table 4-

8 outlines how the sludge accumulation has affected the holding capacity in the anaerobic and facultative cells. With the consideration of sludge buildup, the AN1 holding capacity has exceededthe AEP guidelines for minimum rentention time. The facultative (F) cell is below the minimum requirement of 60 days currently with 51 days without the consideration of sludge buildup. Sludge accumulation has exacerbated the situation, reducing the faculative cell holding capacity to 41 days.

Table 4-8
Effect of Sludge Accumulation on Holding Capacity

Cell #	Total Existing Capacity [1] (M^3)	Volume Occupied By Sludge (%)	Available Capacity For Treatment (M^3)	Holding Capacity Requirement (Days)	Existing Holding Capacity For Treatment WITHOUT the consideration of Sludge Accumulation (Days) [2]	Existing Holding Capacity For Treatment WITH the consideration of Sludge Accumulation (Days) [2]
AN1	979	58	411	2	4.3	1.82
AN2	979	28	705	2	4.3	3.13
AN3	979	32	668	2	4.3	2.95
AN4	979	34	646	2	4.3	2.87
F	8,900	22	6,942	60	51	41

[1] According to the Record Drawings
[2] Using ADF of 204 m^3/d

Sludge Treatment and Disposal: Two methodologies were considered for treating the sludge removed from the lagoon cells:

Land Application – Sludge is pumped in its liquid form directly into trucks, where it is land applied to agricultural land as fertilizer, and disked to incorporate the material into the soil. This requires a large area to spread upond, and the material must be incorporated immediately upon application.

The Village previously worked with a local land owner when the cells were last desludged. Land application is typically a lower cost solution and requires sampling of the land to confirm suitability, with approval from AEP from the land application program. If suitable land cannot be sourced, and/or subsequent sampling presents exceedance, Geotube® may be considered for all cells or a combination of land application and geotube dewatering

Geotube – Sludge is pumped into textile containment tubes and allowed to dewter on a pad until dry, typically one to two years. The dried material can then be mixed into on site topsoil, land applied, or landfilled depending on composition.

Geotube® is not a final disposal option, but a dewatering option. Thus, the dried materials in the Geotube® are needed to be disposed of either through landfilling after dewatering (typical approach) or alternative destination (such as tilling it on a tree farm).

The Geotubes are filled up with the collectd sludge, pretreated with polymer during the filling process. It is estimated that one Geotube® with the size 37m x 30.5m (120ft x 100ft) and one Geotube® with the size of 30.5m x 18m (100ft x 60ft) are needed for dewatering the sludge collected from AN1 to AN4 cells and F cells. Geotube® works like a filter. The filtrate from dewatering is allowed to drain through the filter material of the Geotube® and the process is repeated until there is no capacity left. The filtrate material is collected in a sump area built into the lined laydown area and pumped back into the lagoon or an alternative destination. Once the process has been completed the Geotube® is left alone to dewater (a minimum 4 – 6 weeks to up to 10 years); the longer the dewatering period, the drier the materials will be. Due to the compacted material inside the Geotube they will not re-hydrate from rain, snow, or flood. The freeze/thaw cycle that winter brings also significantly aids in the dewatering process. Once the contents are sufficiently dewatered such that they can be handled as a solid, the Geotube® can be cut open and the contents removed to landfill or an alternative destination.

Sludge Removal from Cells: There are two options for removing the sludge from the cells themselves; agitation pumping and dredging. Sludge removal from the anaerobic cells would involve isolating and decanting the cells to allow for removal using a pump with a mixing attachment to to mix water into the sludge to make it pumpable, sludge could be pumped directly into trucks and land applied in its liquid form, or pumped into geotubes. A floating dredge may be used for sludge remove in the facultative cell and would not require decanting the surface water level.

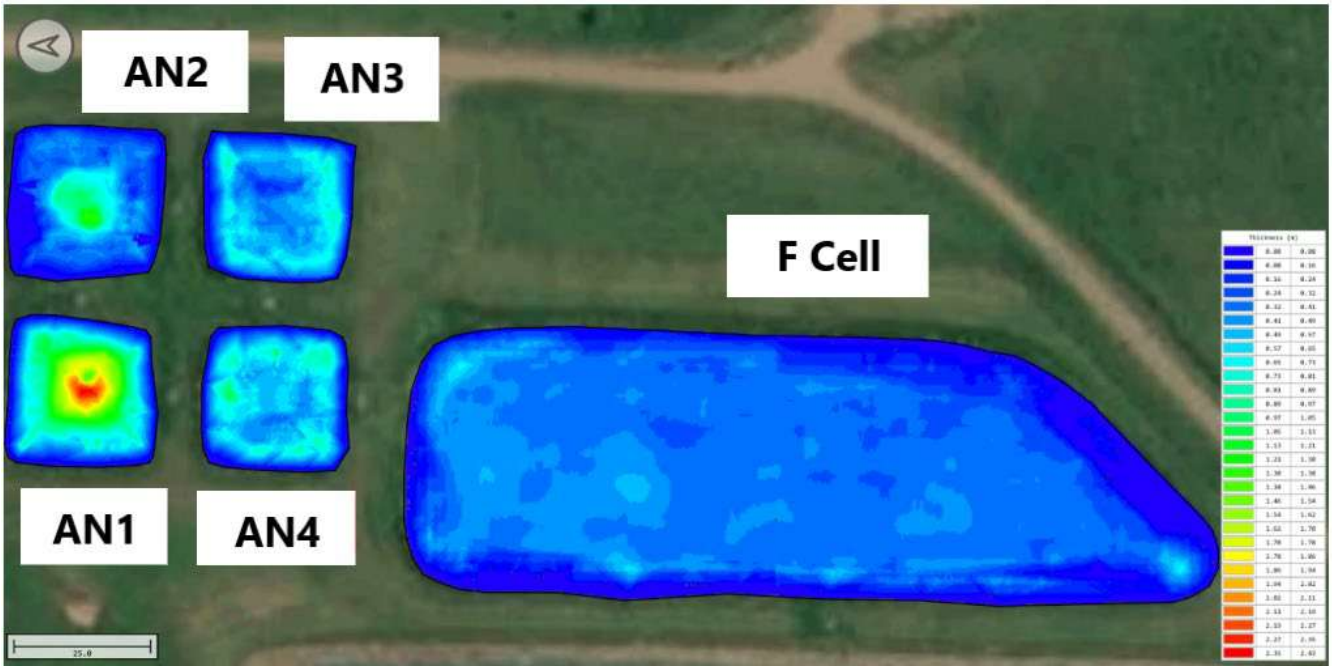


Figure 4-1
Sludge Thickness in the Surveyed Anaerobic Cells and Facultative Cell (Cell 5)
Note: Image is courtesy of Lambourne & Hydrasurvey.

4.7 Existing System Performance

4.7.1 Effluent Quality Data Review

Effluent quality data was provided by the Village of Big Valley (Appendix D), for the years 2015, and 2018 to 2021. The existing effluent quality data is summarized in Table 4-8. All years include Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) data. Chemical Oxygen Demand (COD) was analyzed in 2015 only. Nutrients including Total Phosphorus (TP), Total Nitrogen (TN), Total Kjeldahl Nitrogen (TKN), Nitrite Nitrogen (Nitrite-N), Nitrate Nitrogen (Nitrate-N) were tested in 2018 and 2021. The nutrient data does not include un-ionized ammonia in the data provided.

Figure 4-2 visualizes an increasing trend in BOD and TSS concentrations in the treated effluent of the Village's facility. It also shows the WSER Discharge Limit requirement, with a green line on the graph. WSER requires that BOD and TSS concentrations of the treated effluent are equal to or less than 25 mg/L. The BOD and TSS concentrations in the treated effluent generally meet the federal WSER requirements, except BOD in year 2021 and TSS in year 2019. These numbers were marginally higher than WSER discharge requirements. The values reported for TSS are variable and WSER allows exceptions for TSS during the months of July, August, September and October, however, the values reported for BOD have been consistently increasing over the past 5 years. This may be a result of increased sludge accumulation and increased flows reducing the available retention times

It is noted that the data provided only included one sampling analysis result per year. According to the Annual Reports received (see Table 4-1), the Village discharged the storage lagoons twice per year in the years 2016 to 2020. Also, the dates provided in Table 4-1 and Table 4-8 show that year 2018 sample was collected AFTER the dates recorded for discharge. So, either the date reported for sampling (Table 4-8) or the discharge END date (Table 4-1) is reported incorrectly. The WSER indicates that for discharge periods less than 30 days, sampling should be completed once per period.

According to the existing effluent quality data, the Village's sewage treatment system is not achieving federal limits, and thus upgrades including desludging is recommended. Although sampling for un-ionized ammonia and acute lethality is not specified and reporting for these parameters is not required under WSER, for facilities of this size, it is recommended the Village undertakes un-ionized ammonia tests for due diligence.

Table 4-9
Village of Big Valley Sewage Lagoon Facility Effluent Quality Data (Historical Data)

Parameter [1,2]	Year 2015	Year 2015	Year 2018	Year 2019	Year 2020	Year 2021	Provincial COD of Practice Requirements	Federal WSER Requirements
Date sampled	May 12, 2015	Oct 1, 2015	Nov 15, 2018	Jun 5, 2019	May 7, 2020	Mar 16, 2021	-	-
BOD	11	5	2.38	15.3	19.4	27.8	None defined	≤ 25
COD	75	-	-	-	-	-	Not applicable	-
TSS	16	<2	4	26	6	19	None defined	≤ 25

Parameter [1,2]	Year 2015	Year 2015	Year 2018	Year 2019	Year 2020	Year 2021	Provincial COD of Practice Requirements	Federal WSER Requirements
TP	-	-	-	-	-	2.799	Not applicable	-
TN	-	-	74.32	-	-	21.26	Not applicable	-
TKN	-	-	74.30	-	-	21.26	Not applicable	-
Nitrite-N	-	-	<0.005	-	-	<0.005	Not applicable	-
Nitrate-N	-	-	0.018	-	-	<0.010	Not applicable	-
Nitrite-N + Nitrate-N	-	-	0.018	-	-	<0.015	Not applicable	-

[1] Abbreviations: BOD = Biochemical Oxygen Demand, TSS = Total Suspended Solids, COD = Chemical Oxygen Demand, TP = Total Phosphorus, TN = Total Nitrogen, TKN = Total Kjeldahl Nitrogen, Nitrite-N = Nitrite Nitrogen, Nitrate-N = Nitrate Nitrogen, TRC = Total Residual Chlorine

[2] Units of all parameters are in mg/L.

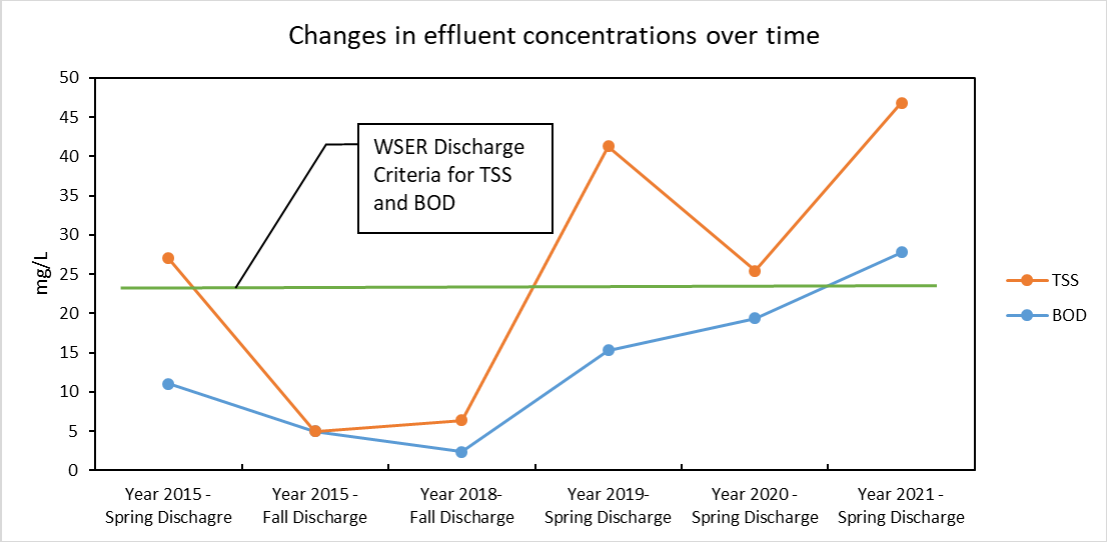
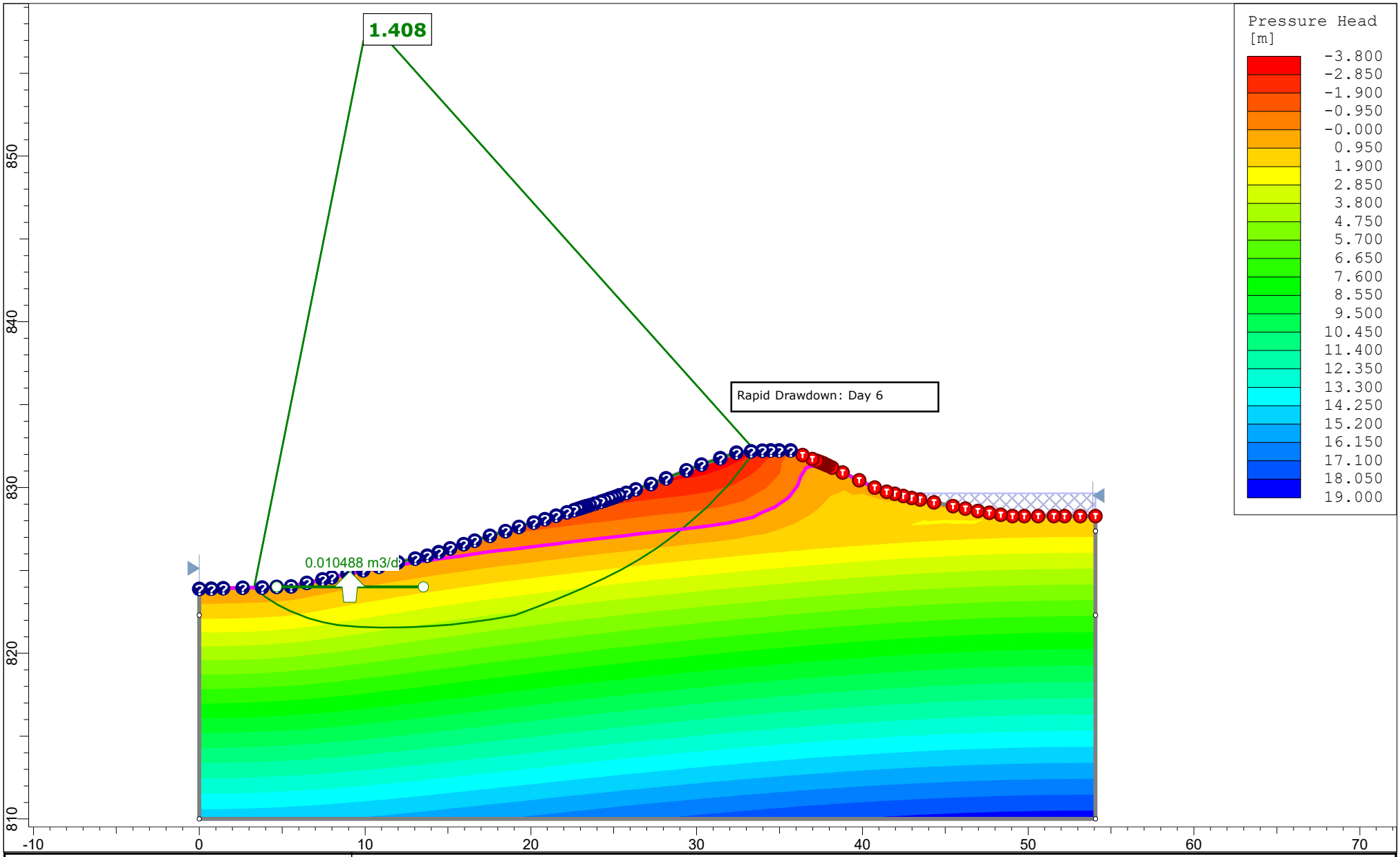


Figure 4-2
Changes in BOD and TSS Effluent Concentration Over the Last 5 Years

APPENDIX F

SLIDE2 OUTPUT RESULTS



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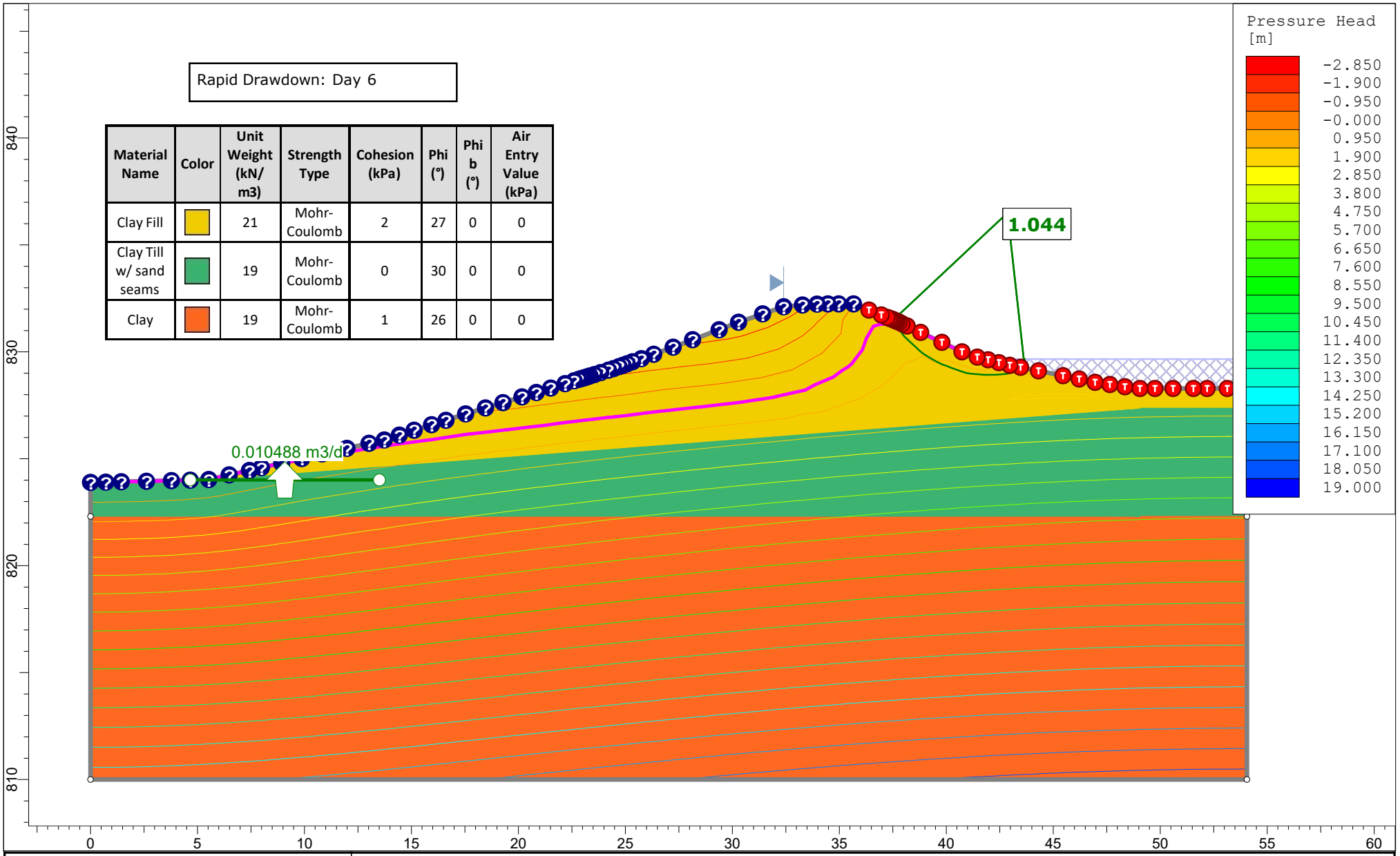
	Drawn By	*Company*	
	Date 6/24/2024, 5:09:59 PM	*File Name*	Big Valley-2.slmd

SLIDEINTERPRET 9.033

Rapid Drawdown: Day 6

Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Phi b (°)	Air Entry Value (kPa)
Clay Fill		21	Mohr-Coulomb	2	27	0	0
Clay Till w/ sand seams		19	Mohr-Coulomb	0	30	0	0
Clay		19	Mohr-Coulomb	1	26	0	0



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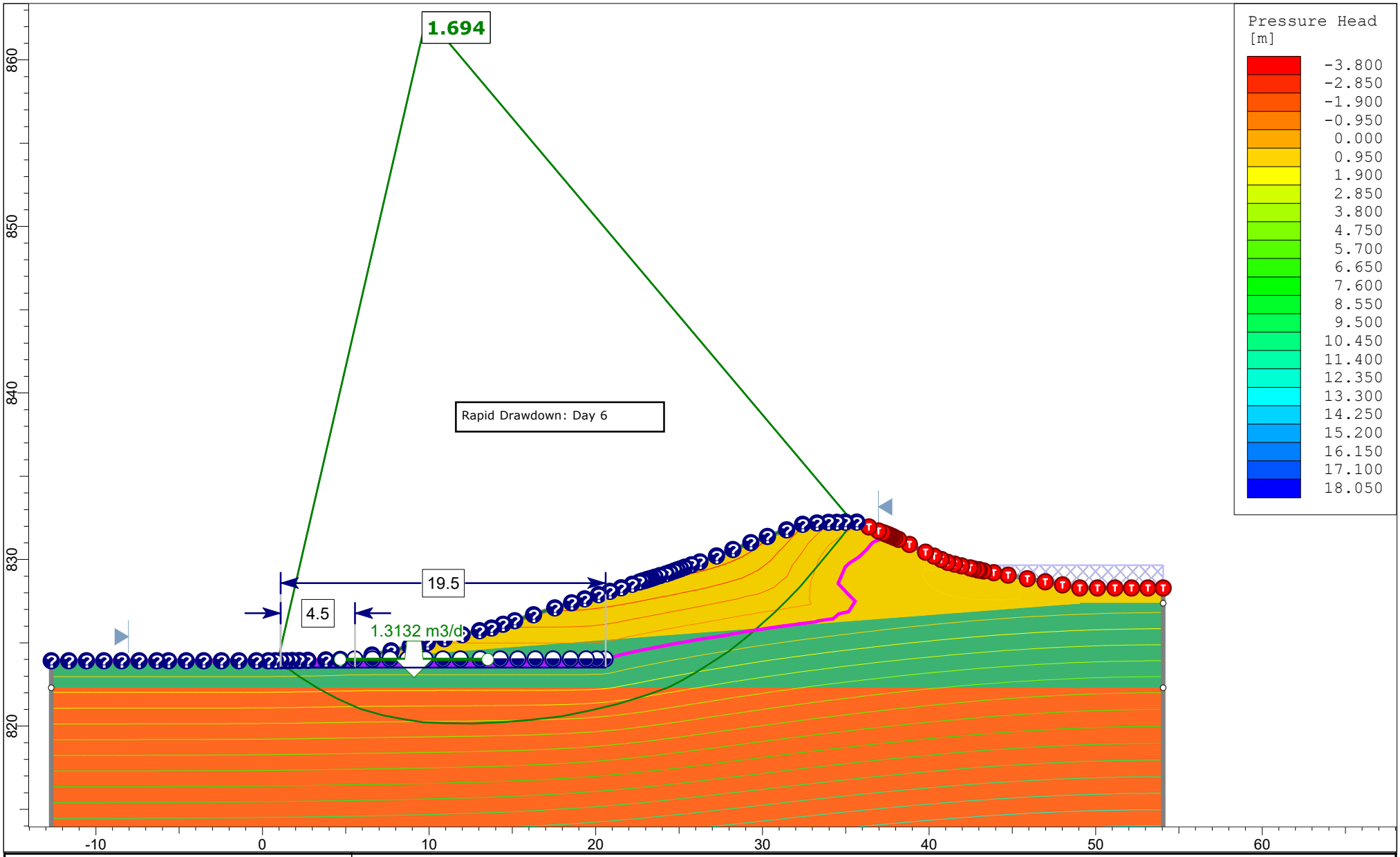

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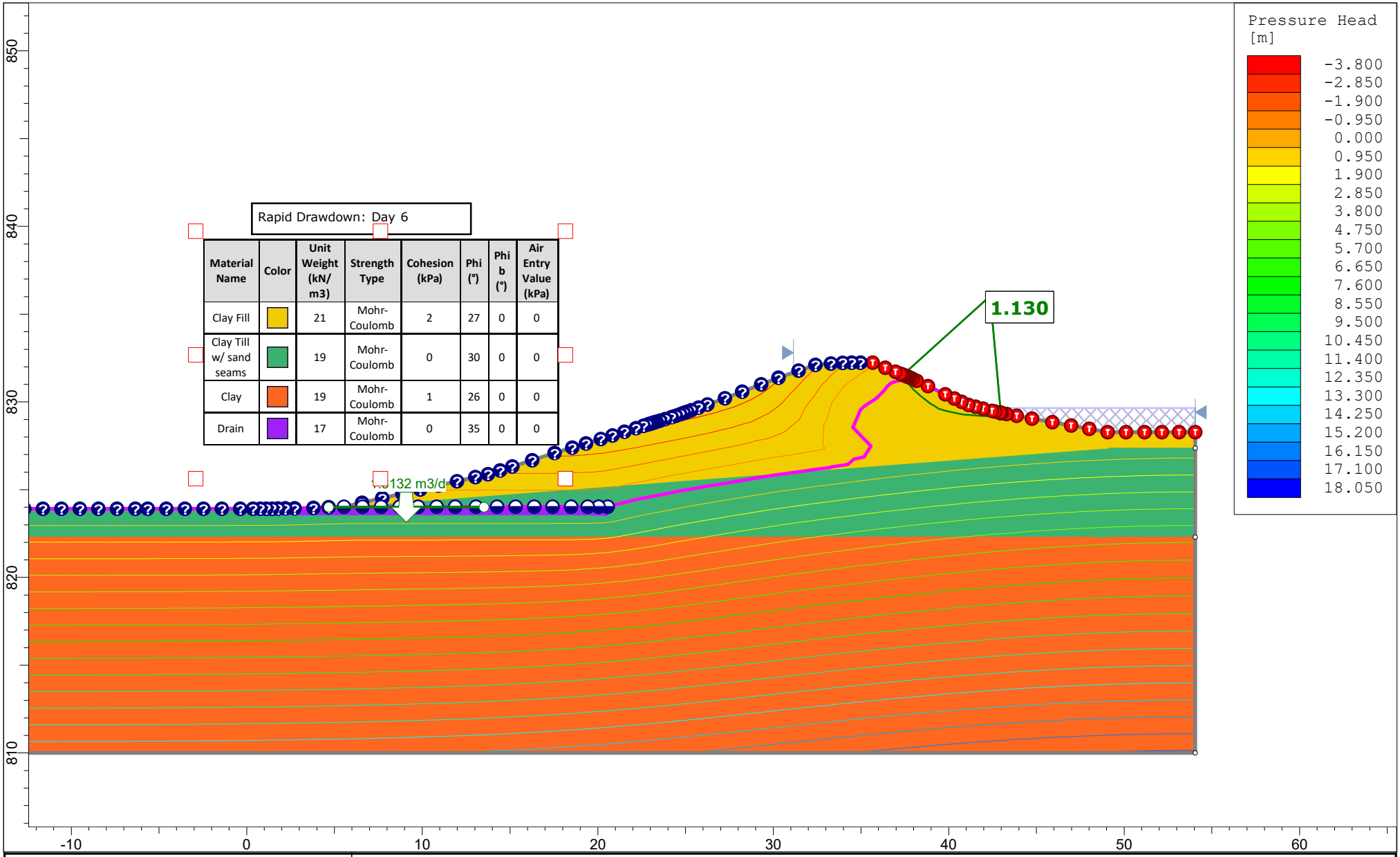

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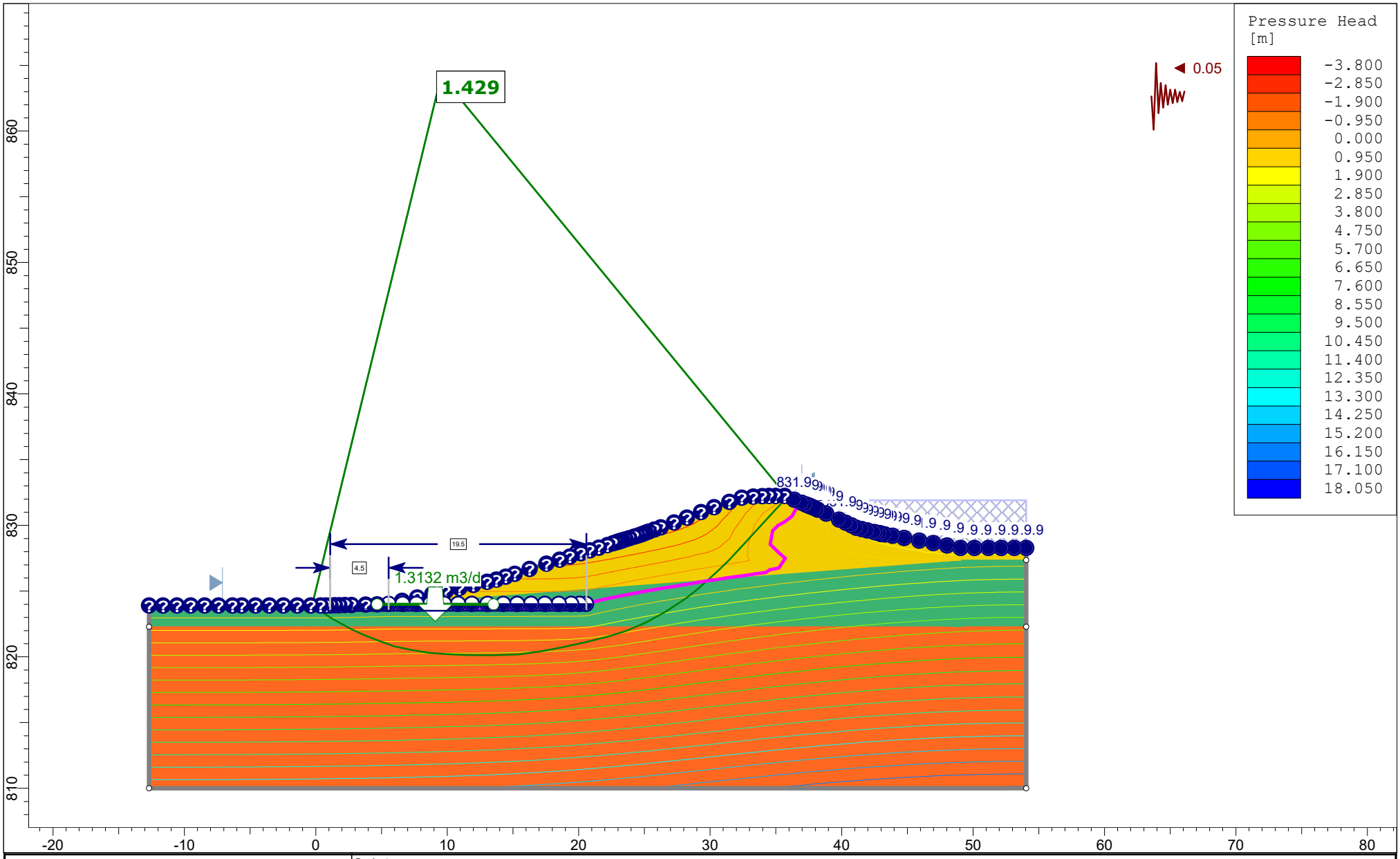

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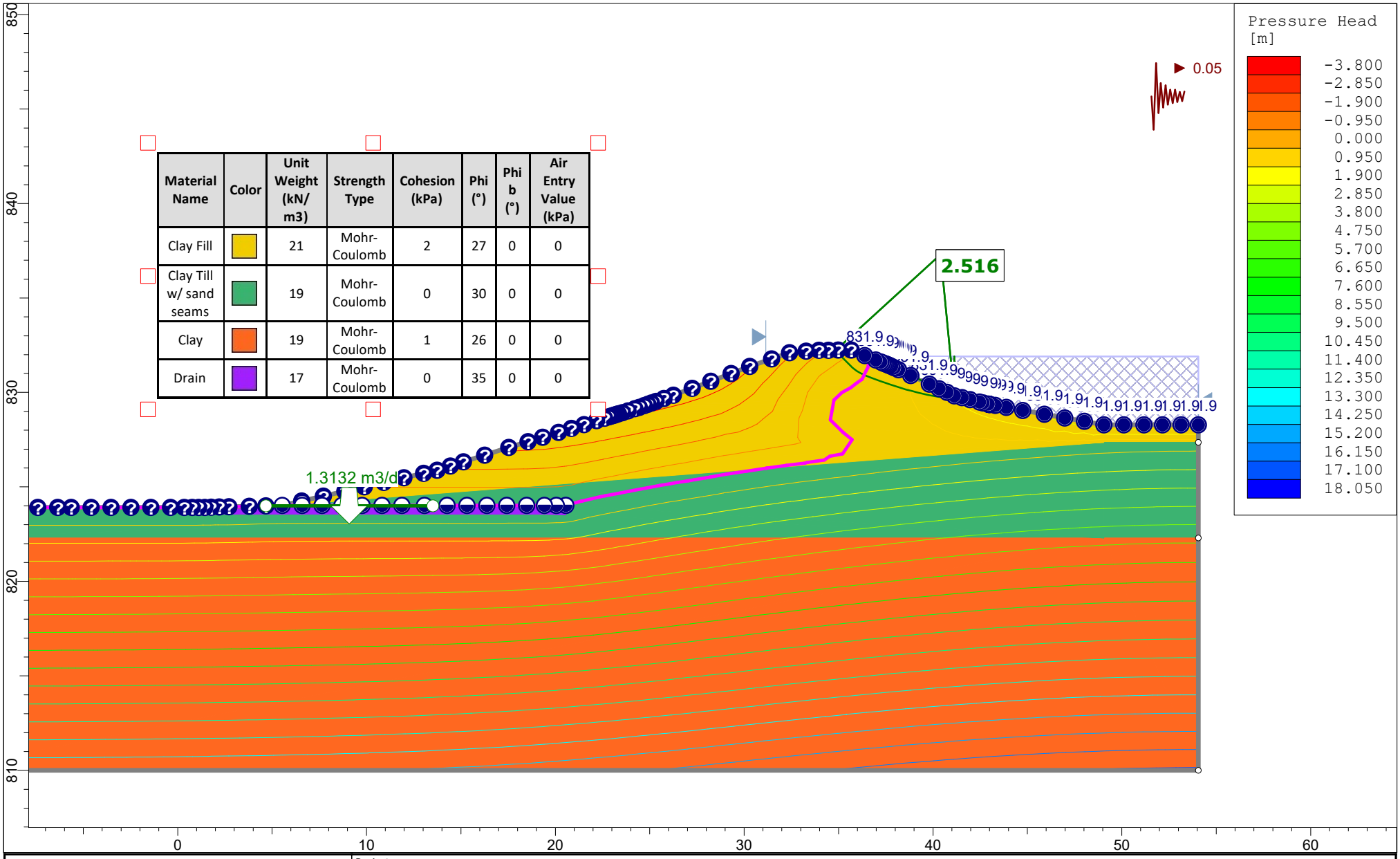


Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Phi b (°)	Air Entry Value (kPa)
Clay Fill		21	Mohr-Coulomb	2	27	0	0
Clay Till w/ sand seams		19	Mohr-Coulomb	0	30	0	0
Clay		19	Mohr-Coulomb	1	26	0	0
Drain		17	Mohr-Coulomb	0	35	0	0

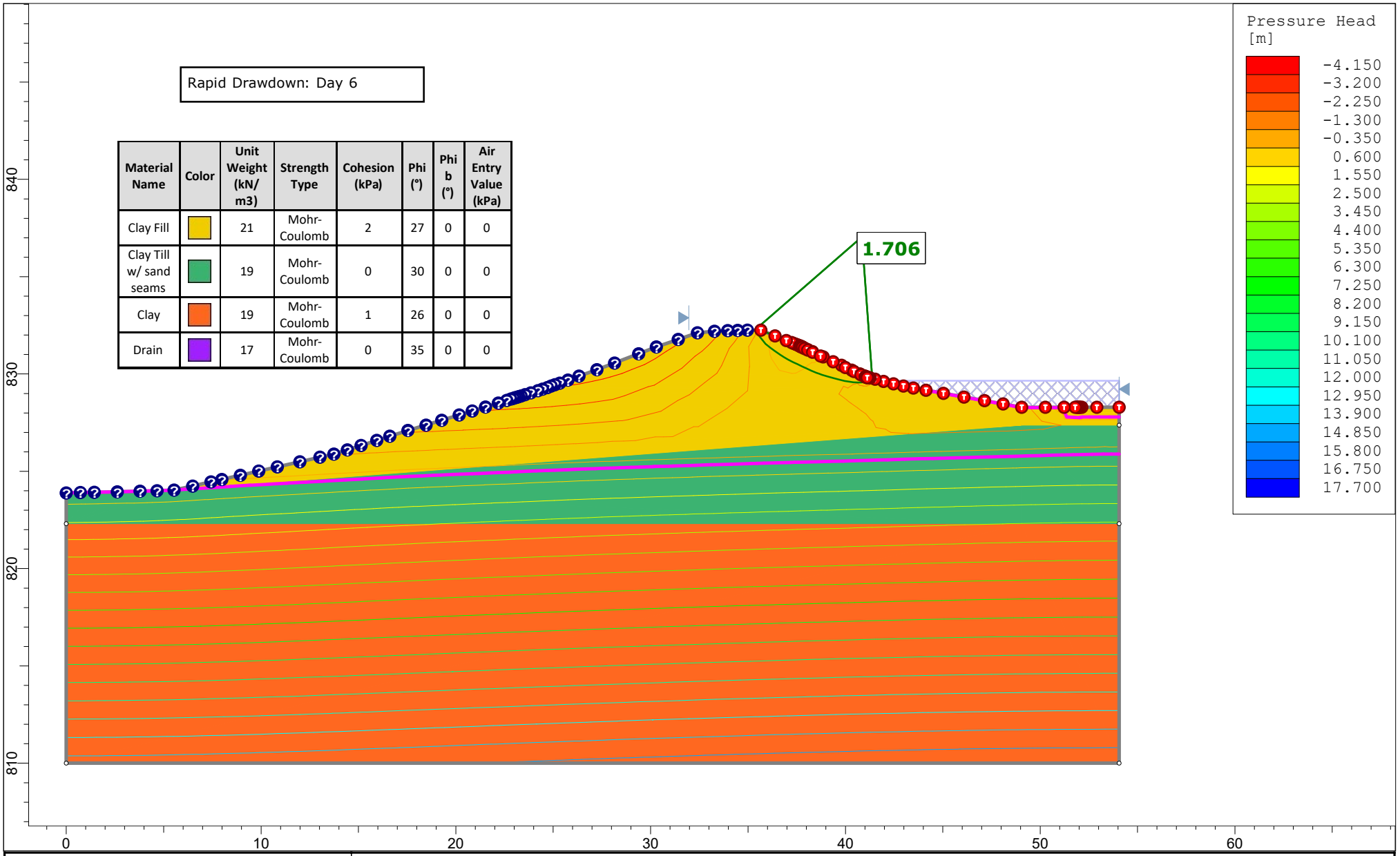
rocscience

SLIDEINTERPRET 9.033

Project	Slide2 - An Interactive Slope Stability Program		
Group	Scenario B - Seismic	Scenario	Seismic Upstream
Drawn By		Company	
Date	6/24/2024, 5:09:59 PM	File Name	Big Valley-2.slmd

Rapid Drawdown: Day 6

Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Phi b (°)	Air Entry Value (kPa)
Clay Fill		21	Mohr-Coulomb	2	27	0	0
Clay Till w/ sand seams		19	Mohr-Coulomb	0	30	0	0
Clay		19	Mohr-Coulomb	1	26	0	0
Drain		17	Mohr-Coulomb	0	35	0	0



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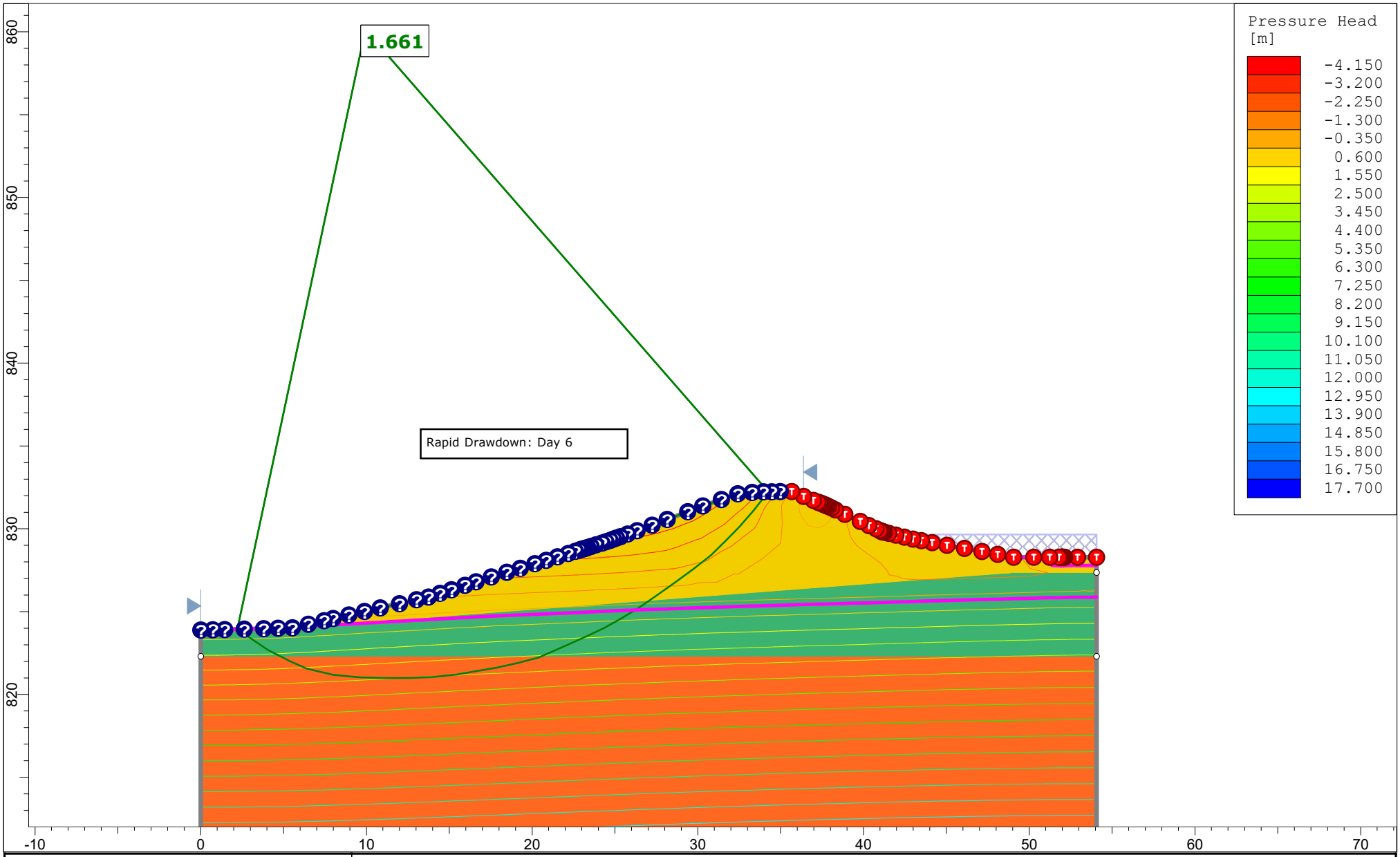

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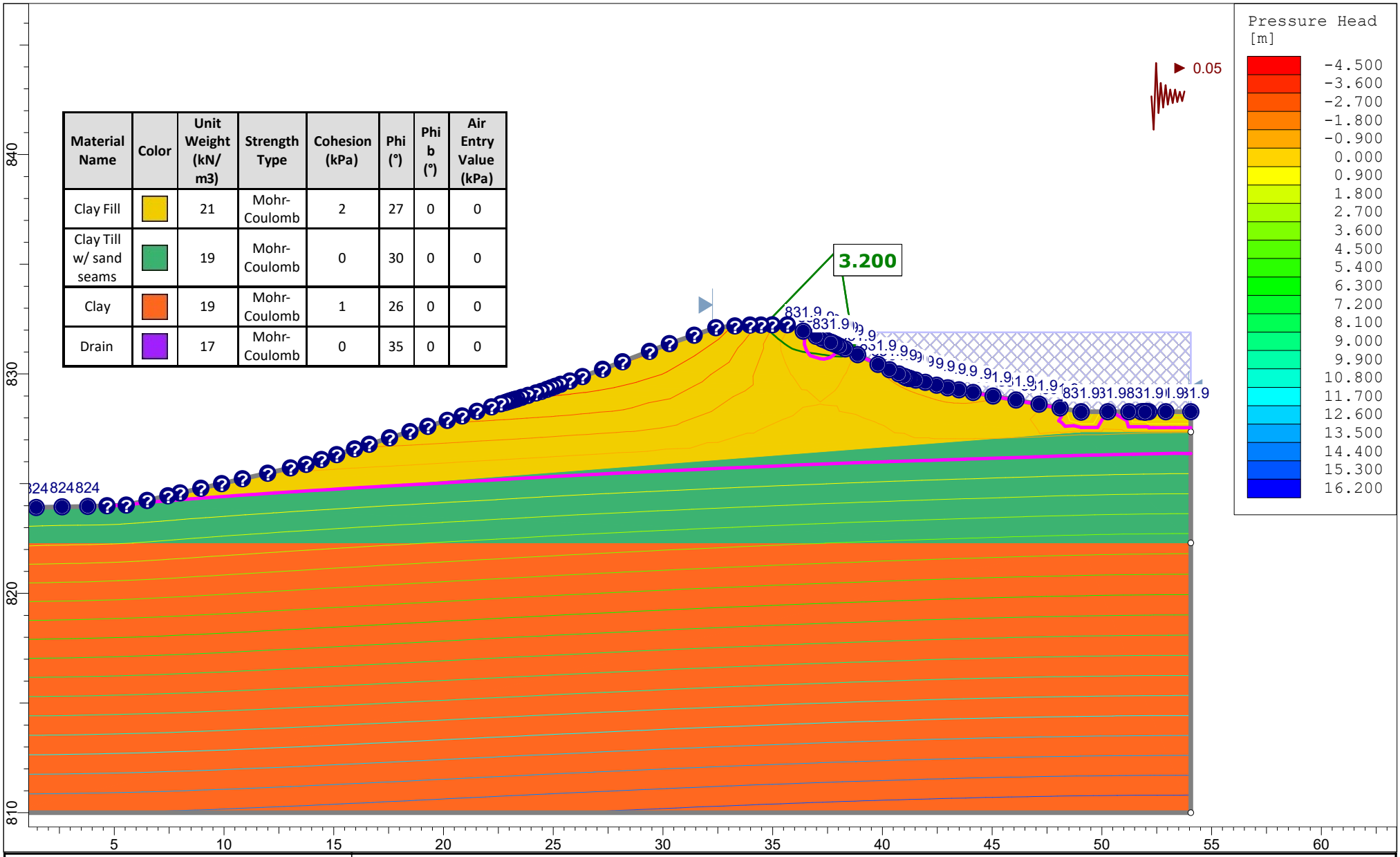
SLIDEINTERPRET 9.033	Date	6/24/2024, 5:09:59 PM	File Name: Big Valley-2.slmd

Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Phi b (°)	Air Entry Value (kPa)
Clay Fill		21	Mohr-Coulomb	2	27	0	0
Clay Till w/ sand seams		19	Mohr-Coulomb	0	30	0	0
Clay		19	Mohr-Coulomb	1	26	0	0
Drain		17	Mohr-Coulomb	0	35	0	0



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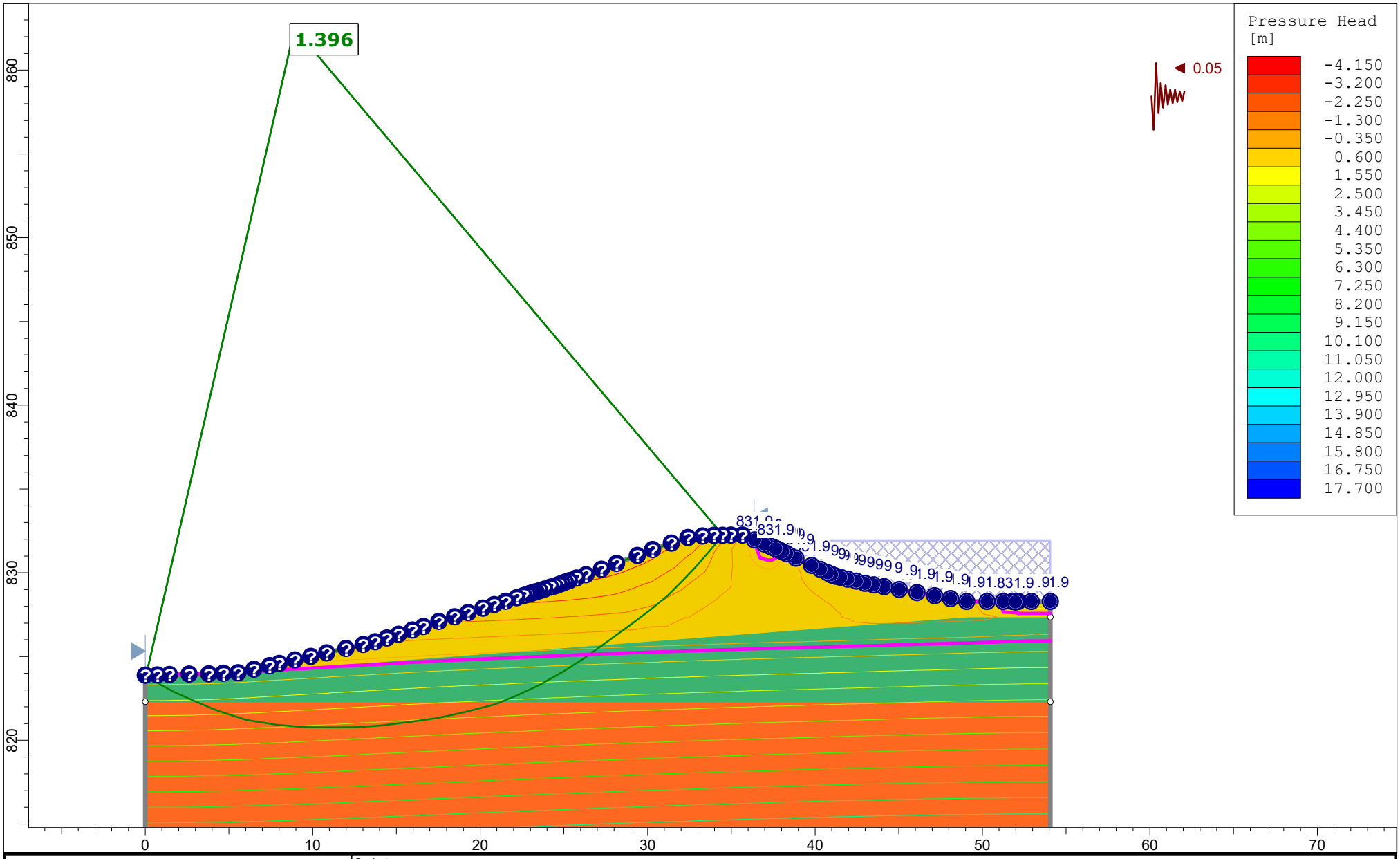

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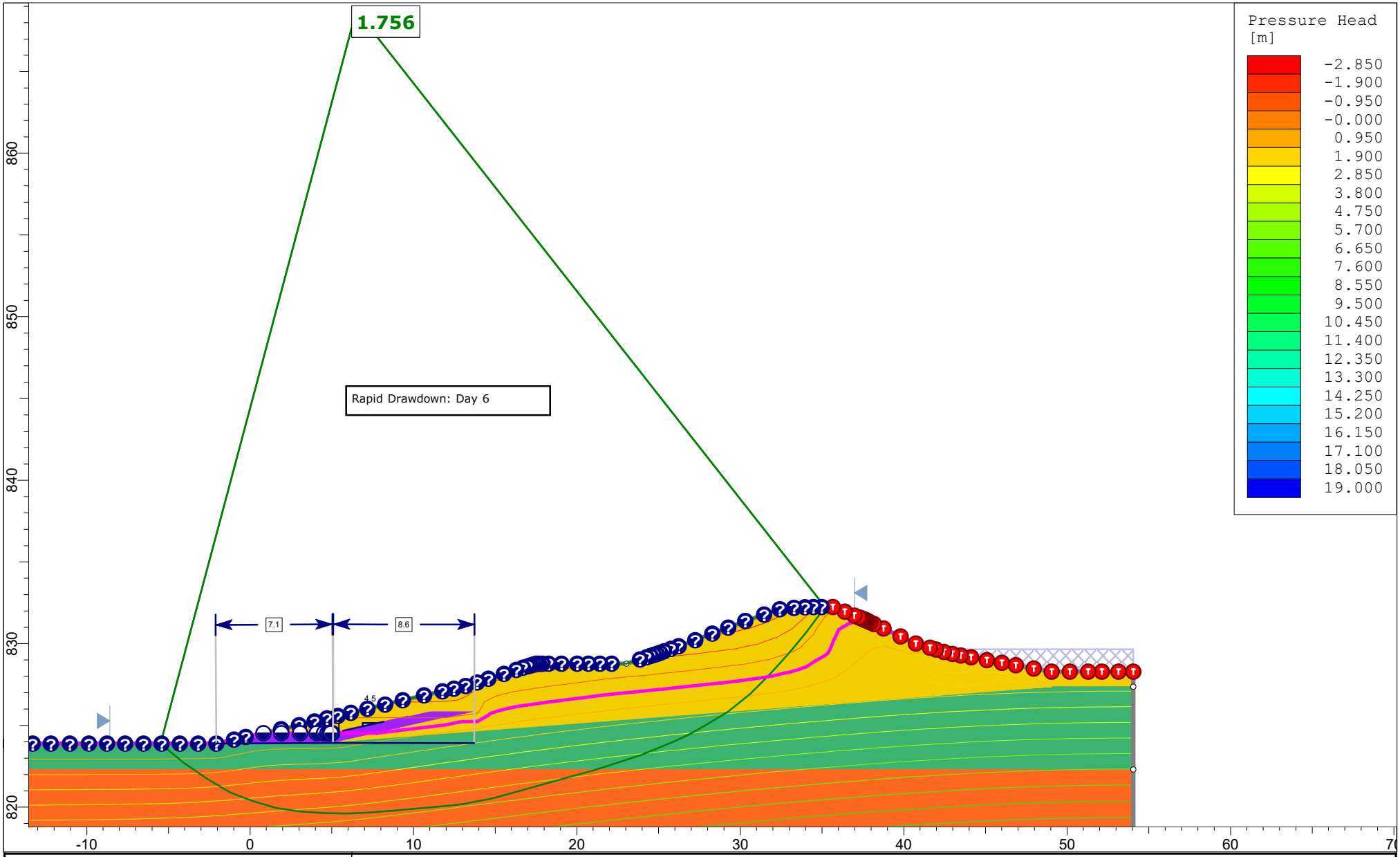

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	Drawn By		Company
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Rapid Drawdown: Day 6

Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Phi b (°)	Air Entry Value (kPa)
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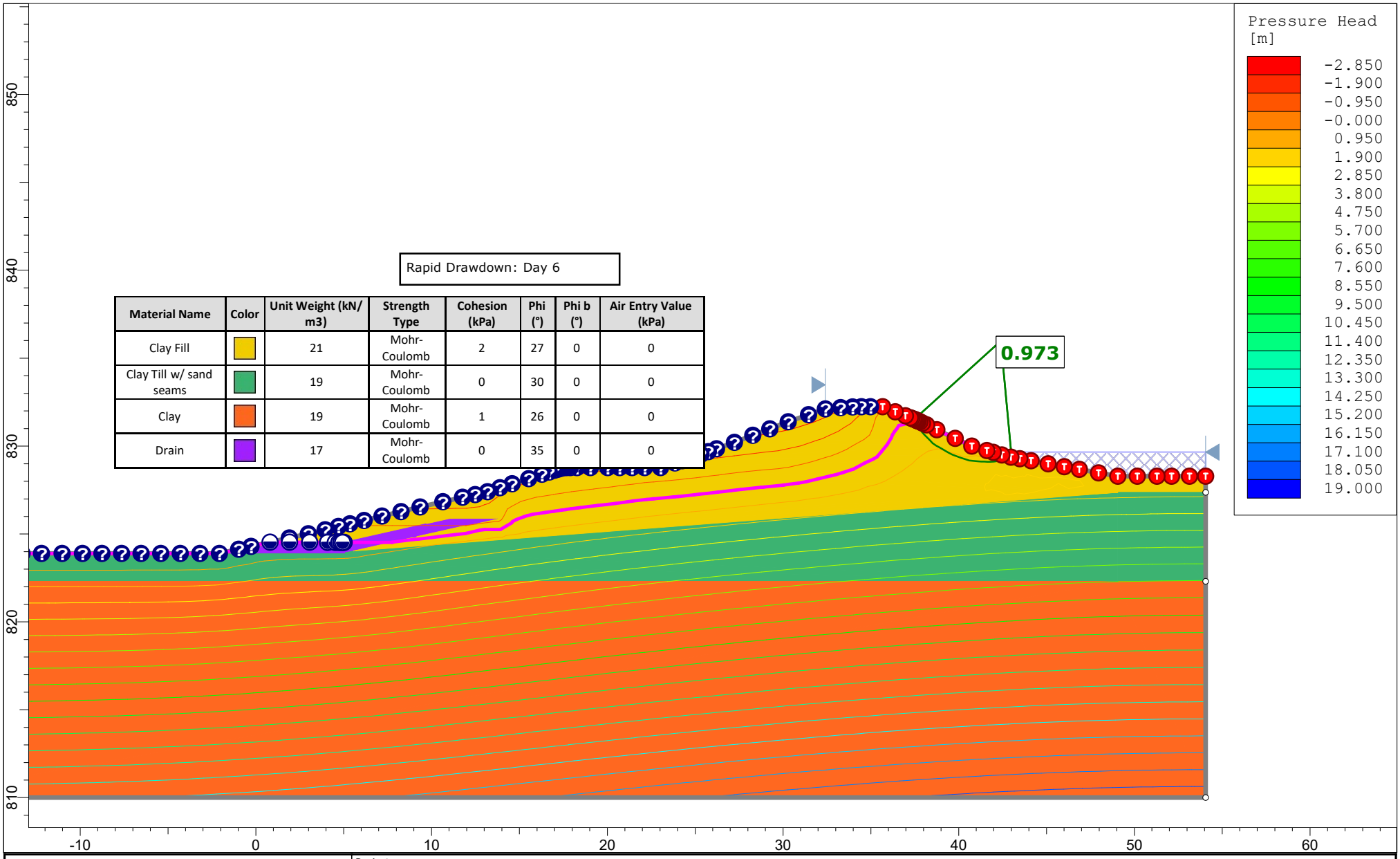
Clay Till w/ sand seams		19	Mohr-Coulomb	0	30	0	0
Clay		19	Mohr-Coulomb	1	26	0	0
Drain		17	Mohr-Coulomb	0	35	0	0



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SLIDEINTERPRET 9.033

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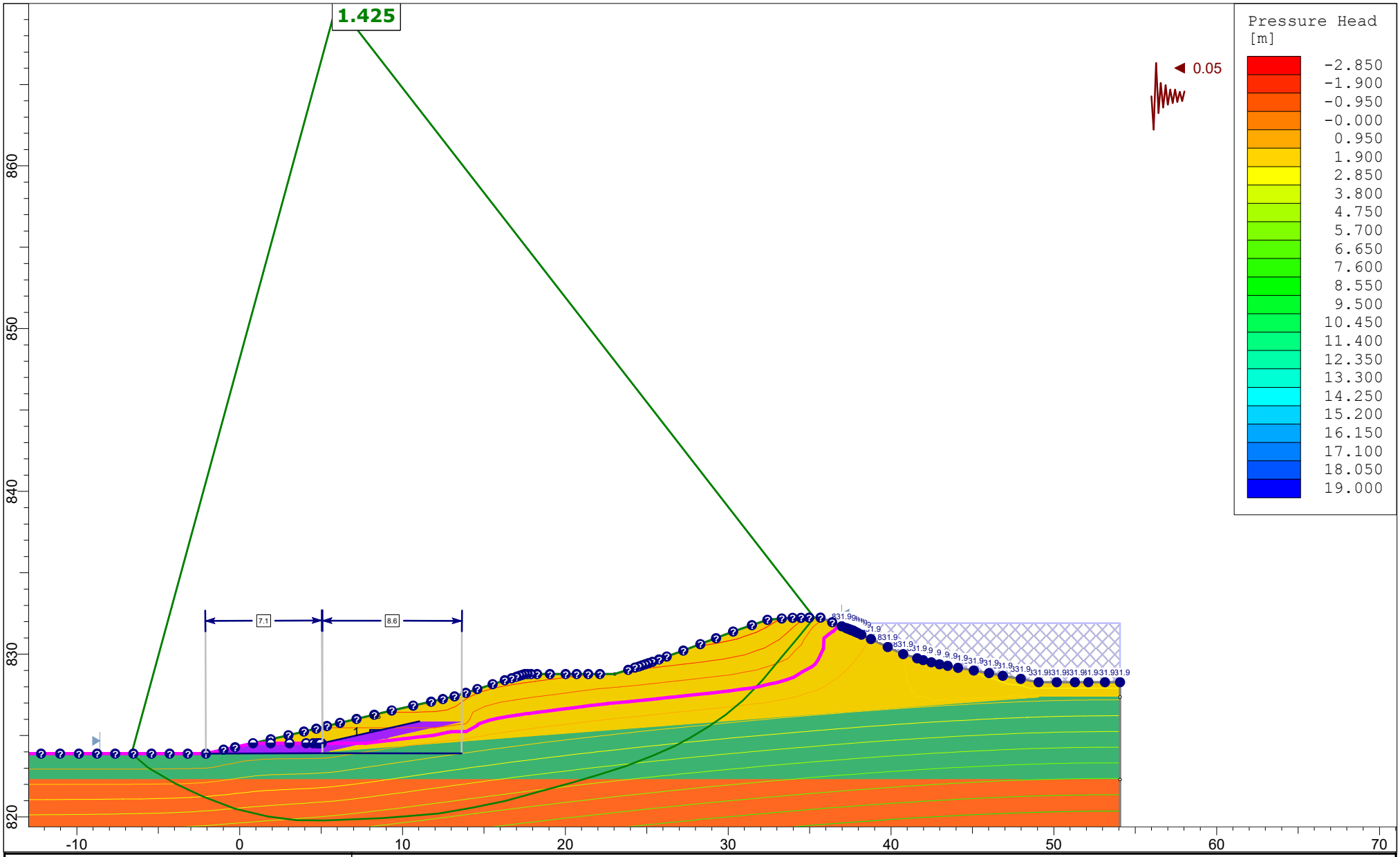

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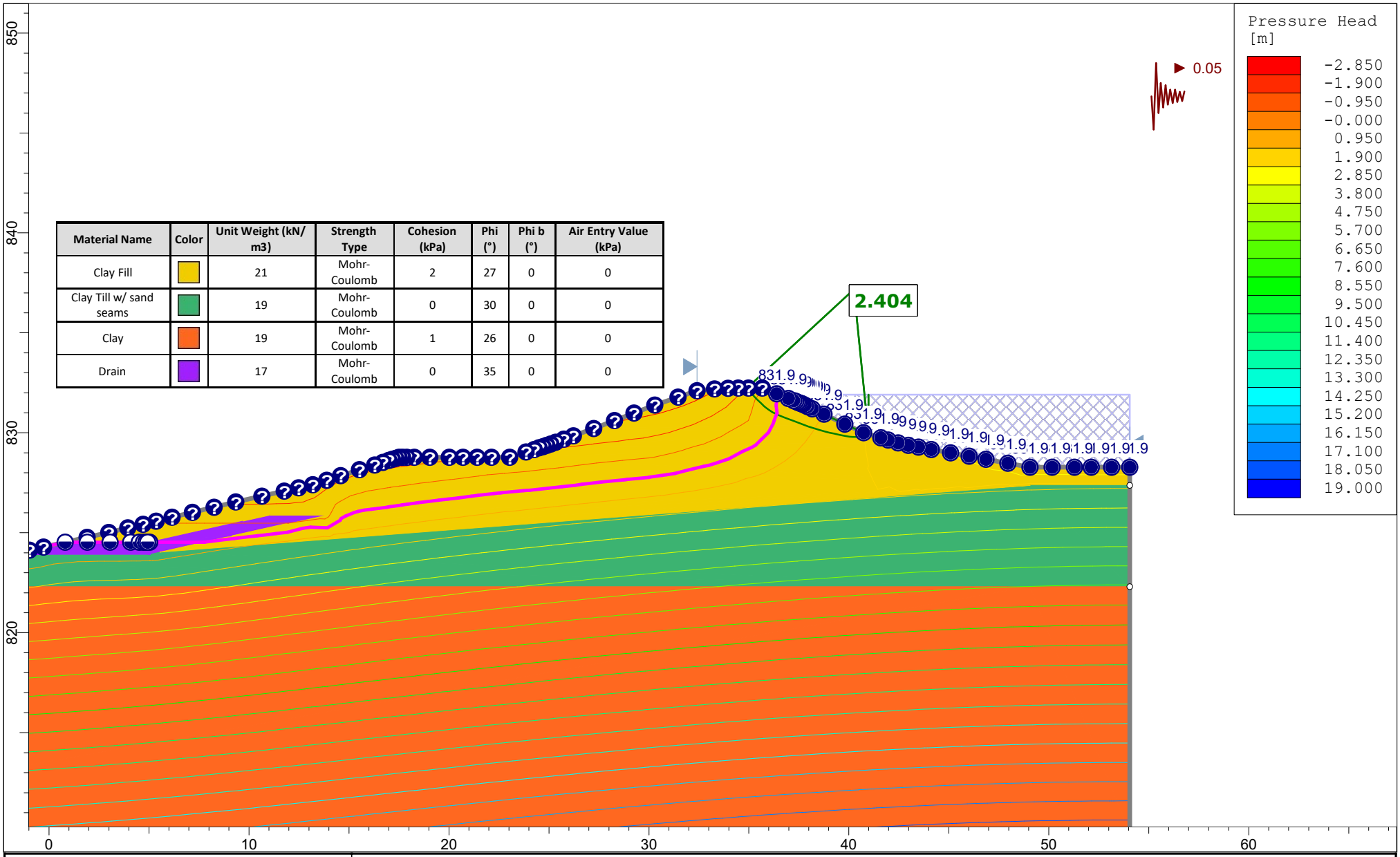

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Clay Fill		21	Mohr-Coulomb	2	27	0	0
Clay Till w/ sand seams		19	Mohr-Coulomb	0	30	0	0
Clay		19	Mohr-Coulomb	1	26	0	0
Drain		17	Mohr-Coulomb	0	35	0	0

rocscience

SLIDEINTERPRET 9.033

Project	Slide2 - An Interactive Slope Stability Program		
Group	Scenario D - Seismic	Scenario	Seismic Upstream
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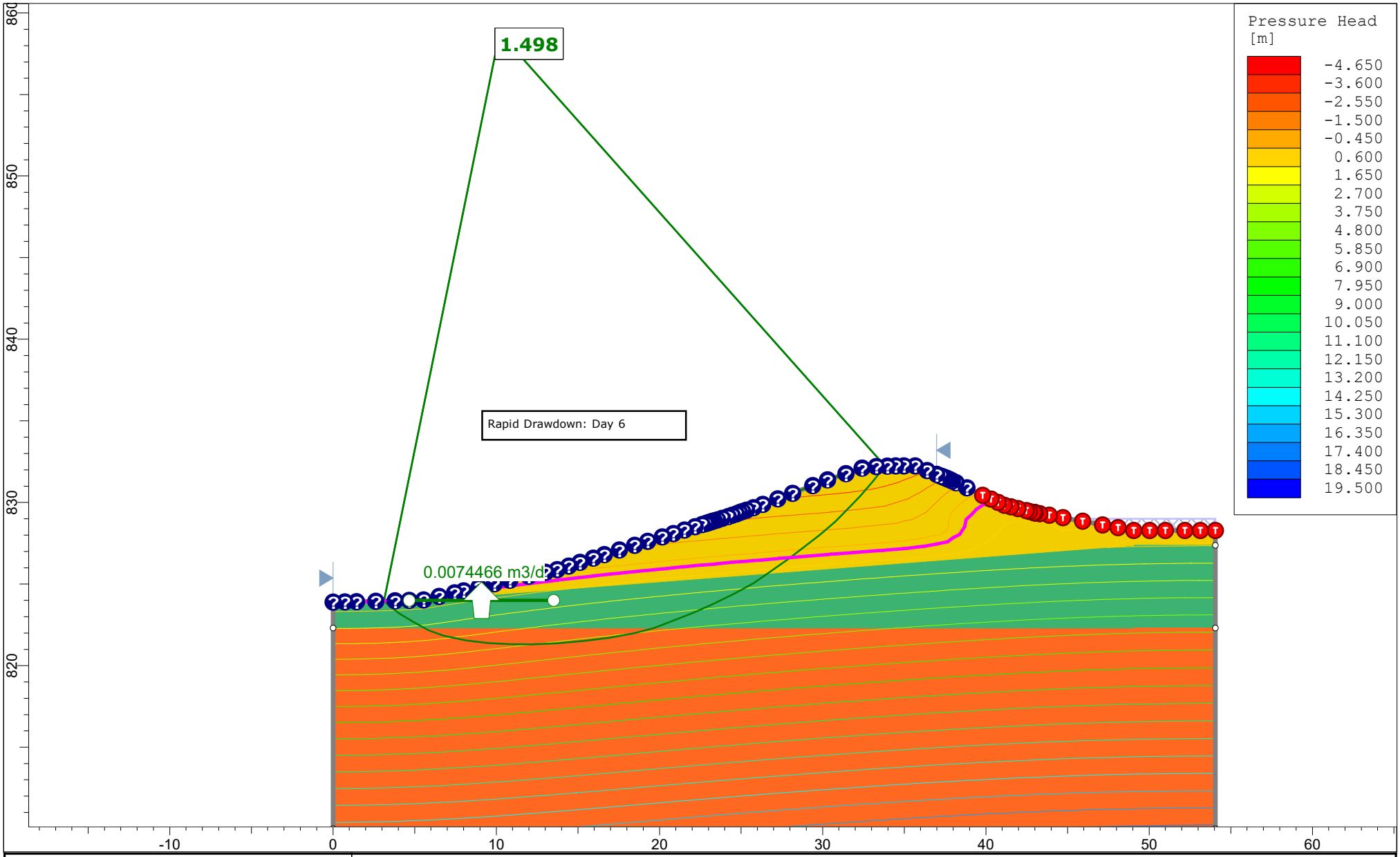

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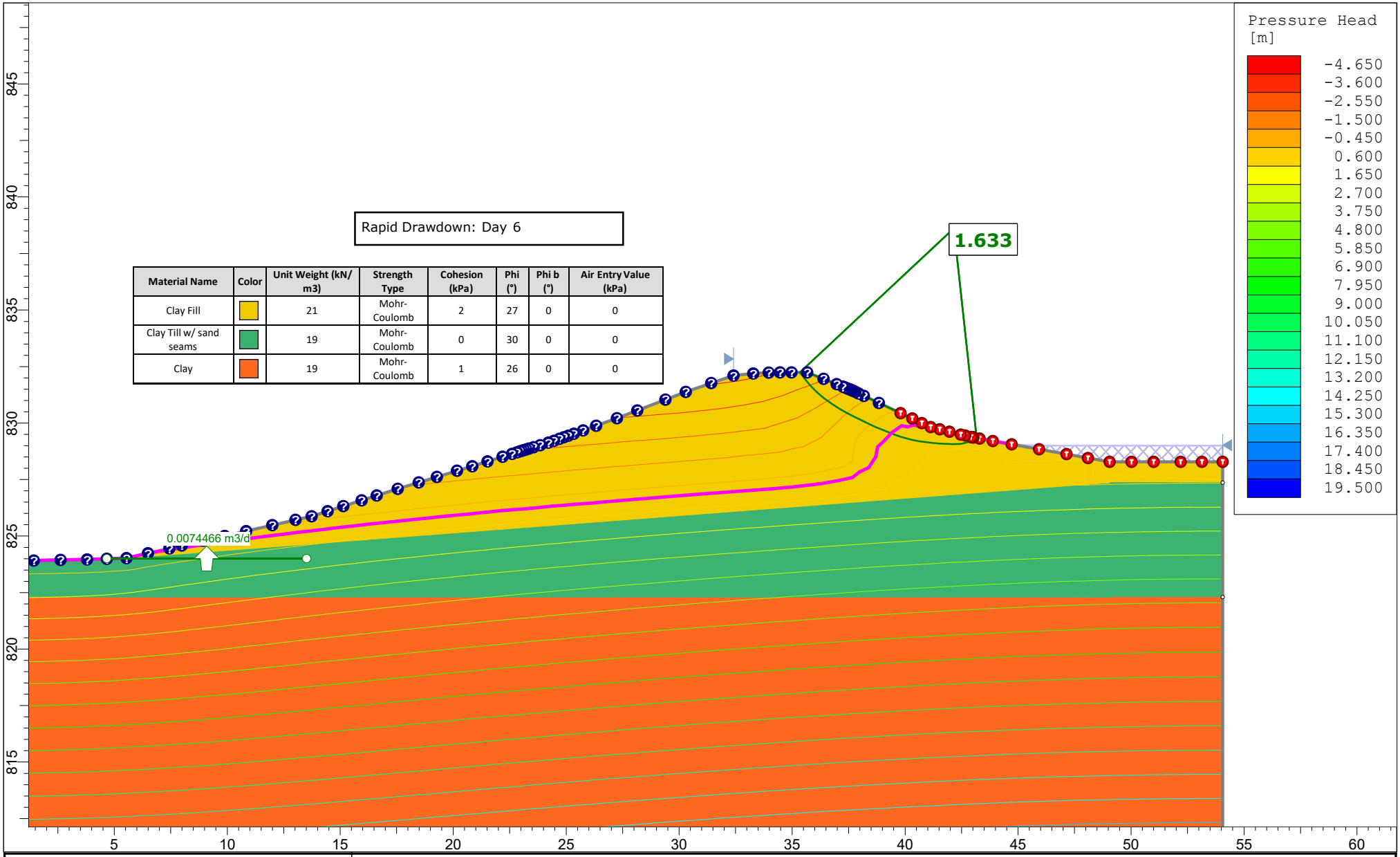


rocscience

SLIDEINTERPRET 9.033

Project	Slide2 - An Interactive Slope Stability Program		
Group	Scenario E	Scenario	Rapid Drawdown - Upstream
Drawn By		Company	
Date	6/24/2024, 5:09:59 PM	File Name	Big Valley-2.slmd

REQUEST FOR DECISION

Date: August 19, 2024 RFD 42-2024
Memo To: Village Council
From: Colleen Mayne, CAO
Subject: John Deere 6210 Repair

PURPOSE

For Council to review the Whitesands (Auto) Farming Quote for repair of the Village John Deere 6210 Front Wheel Assist Tractor with 640 Loader and determine whether to repair or not.

BACKGROUND:

The Village of Big Valley John Deere 6210 Tractor was taken out of service due to being deemed unsafe, until repairs are made. The tractor was hauled to the Whitesands Colony shop this Spring to obtain a 3rd quote (attached). A new bucket will be required which will be an addition to the quoted price. Should Council direct the CAO to contact Whitesands to repair the tractor, the cost to quote will be included within the quote price; if not, an invoice for the quote will be issued by Whitesands.

As the tractor repair would extend the life of the tractor, the repairs would qualify to use Capital Grant funding, and would become depreciable based on standard municipal asset depreciation rules. In addition, with limited resources, the tractor can be used this fall to catch up on Village maintenance which either hasn't been done, or have hired a contractor to fulfil, along with upcoming snow removal and other winter uses.

OPTIONS:

1. Council direct the CAO to contact Whitesands, and proceed with the tractor repair, including a new bucket.
2. Council table the tractor repair to a future meeting.
3. Council determine an alternative equipment resource to carry on normal Village Operations and amend the 2024 Operating Budget as necessary.

RECOMMENDATION:

THAT Village Council direct the CAO to contact Whitesands, and proceed with the tractor repair, including a new bucket.

FINANCIAL IMPLICATIONS – Cost of Repair

PREPARED BY:
Colleen Mayne, CAO

WHITESAND(AUTO) FARMING

STETTLER AB BOX 29 T0C 2L0
YOUR ONE STOP REPAIR SHOP
GEORGE CELL 403 323 2408
STEVEN CELL 403 741 8091

Invoice

Date	Invoice #
5/13/2024	5380

Invoice To
VILLAGE OF BIG VALLEY

P.O. No.	Terms	Project
QUOTE		

Description	Qty	Rate	Amount
INSPECK JOHN DEERE 6210 FRONT WHEEL ASSIST TRACTOR WITH 640 LOADER.LOOKED ALL OVER FOR USED LOADER COULD NOT FIND ANYTHING THAT IS WORTH INSTALLING. FOUND UNIT COULD NOT BE SHIFTED INTO PARK OR INTO ANY GEAR. FOUND FRONT RIGHT SIDE INNER TIE ROD END BAD. FOUND OIL LEAK UNDER TRACTOR AT VALVE HOUSING. FOUND OIL LEAK ON ENGINE OIL COOLER HOUSING. FOUNS FRONT DIFF ALL OIL SEALS LEAKING. FOUND SOME PARTS ON REAR 3 POINT HITCH MISSING TO LOCK ARMS. NEEDS NEW FAN BELT.			
VIN LO6210V30G157			
Hours 6937		0.00	0.00
FRONT AXLE OIL SEALS WITH OIL AND TIE ROD END.		0.00	0.00
Labour per Hour HD Duty TO R@R OIL SEAL ON FRONT AXLE		1,146.00	1,146.00
FRONT RIGHT SIDE INNER TIE ROD END PATS WITH LABOUR.		600.00	600.00
TO REPAIR ENGINE OIL COOLER HOUSING OIL LEAK PARTS WITH LABOUR		0.00	0.00
REPAIR OIL LEAK UNDER TRACTOR WITH HYD OIL AND FILTERS.		250.00	250.00
FAN BELT		1,100.00	1,100.00
JOHN DEERE 640 GRAPPLE NEW WITH HOSES.		80.00	80.00
Labour per Hour HD Duty TO MOUNT NEW LOADER.		32,957.00	32,957.00
REAR 3 POINT HITCH PARTS	8	112.00	896.00
REPAIR PND SHIFTING PROBLEM LABOUR WITH PARTS.		120.00	120.00
BUCKET IS NOT INCLUDED IN LOADER QUOTE		1,200.00	1,200.00
PLEASE NOTE PRICE CAN CHANGE -/+ 15 %		0.00	0.00
GST on sales		5.00%	1,917.45

Total	$40,266.45
Payments/Credits	$0.00
Balance Due	$40,266.45

GST/HST No. 823854682

QST No.

E-mail
george@whitesandauto.com

REQUEST FOR DECISION

Date: August 19, 2024 RFD 43-2024
Memo To: Village Council
From: Cheryl Bartley, Admin Asst
Subject: Request to Reduce Property Taxes

PURPOSE

For Council to review the attached email from a resident, requesting a reduction of taxes on Roll #000-1090.

BACKGROUND:

This property has been owned by the same residents for several years, with no services or improvements being made due to lot location and circumstances. Reasons for the request for a tax reduction are included in the attached email.

Due to the location of the lot, with minimal frontage, size, and having no services or improvements, the value is substantially low, and would be very difficult to sell on its own. It is currently being assessed and taxed as minimum tax with the total 2024 tax bill of $635.00. Based on the owner's reasoning, the lot is approximately 1/3 the size of a "regular" lot with no services or improvements, and as such should be taxed accordingly.

The owner has confirmed that while in their ownership the property will continue to be maintained.

Council is the body that has the ability to reduce, cancel or refund taxes as per the *Municipal Government Act* RSA 2000 – Chapter M-26, Section 347(1).

> If a Council considers it equitable to do so, it may, generally or with respect to a particular taxable property or business or a class of taxable property or business, do one or more of the following, with or without conditions:
>
> a) Cancel or reduce tax arrears;
> b) Cancel or refund all or part of a tax;
> c) Defer the collection of a tax.

OPTIONS:

1. **THAT** Council make an exception to the said lot, and reduce the 2025 annual minimum tax from $606 to an amount determined by Council, with the property owner being required to resubmit each year for consideration.
2. **THAT** Council deny the request, and maintain said lot with the minimum tax.

RECOMMENDATION:

1. **THAT** Village Council table the request of prorating and/or reducing the minimum tax on any Village lot and be considered within Council's 2025 Operating Budget deliberations later in the 2024 year.

FINANCIAL IMPLICATIONS – Loss of tax revenue

PREPARED BY: Cheryl Bartley, Admin Asst

Consideration for a tax break on spare lot

marj Olive <marj.olive@gmail.com>

Fri 02-Aug-24 9:29 AM

To:Cheryl Bartley <info@villageofbigvalley.ca>

Dear Council, we respectful are inquiring for your kind consideration for a break in the amount of our taxes on our spare lot west next to the seniors drop in. We purchased it years ago for parking as we do not have the same access as other tax payers for a two way park able street and side walk for our family and guests. The lot is only 1/3rd useful due to the ditch which houses the Village culvert system for Main Street. Prior to owning it at our own time and exspense in consideration to the appearance we maintained it for years at our own time and expense. We are being charged full taxation for a serviced complete lot which ours is neither . When we built in 2007 the council at the time refused to bring services to our home lots we paid out of pocket thousands to have the Village services brought over and then the Village piggy backed off our service to service the entire area south of our lots. Then the council at the time took away 25 feet off both our homes lot for an easement for moving mobile homes in and out. We believe we have given enough and would like your kind c onsideration in pay 1/3 of a services lot tax amount because also as I said it is unserved and unserviceable . We keep our home in good re pair support our community and would like your kind consideration in this matter.
Respectfully
Ron and Marj Olive -Kilpatrick

Sent from my iPhone

REQUEST FOR DECISION

Date: August 19, 2024 RFD 44-2024
Memo To: Village Council
From: Colleen Mayne, CAO
Subject: Aurora Land Consulting – IPL Pipeline Project (Drumheller to Stettler)

PURPOSE

For Council to consider a request by Aurora Land Consulting Ltd, to reroute a pipeline which would run parallel to the Village, alongside 2 other lines already in existence within Village boundaries.

BACKGROUND:

As part of a proposed 2-year long line replacement project, Inter Pipeline Ltd (IPL) is in the process of investigating location options for the Drumheller to Stettler Line currently running parallel along the Village, but on private property. (See the attached aerial shot wherein the current line is coloured blue). Their proposal relocates the replacement line to be placed within Village boundaries (coloured green), alongside 2 other lines already established with one containing H2S, which in turn has resulted in long-term development limiting setbacks.

Aurora has stated within the attached email that the contents of this replacement line would have zero H2S content. It goes on to say that at a later time however, and prior to acquisition, there is a possibility the shipping content may change, at which time the Village would be notified of the updated information as "part of the D56 non-objection process".

OPTIONS:

1. **THAT** Council approve the proposed Inter Pipeline Ltd (IPL) replacement project to be located within Village property, and will be placed adjacent to the already existing pipelines.

2. **THAT** Council table the decision to approve the proposed Inter Pipeline Ltd (IPL) replacement project within the Village boundaries until Parkland Community Planning Services have been consulted in relation to development and safety issues.

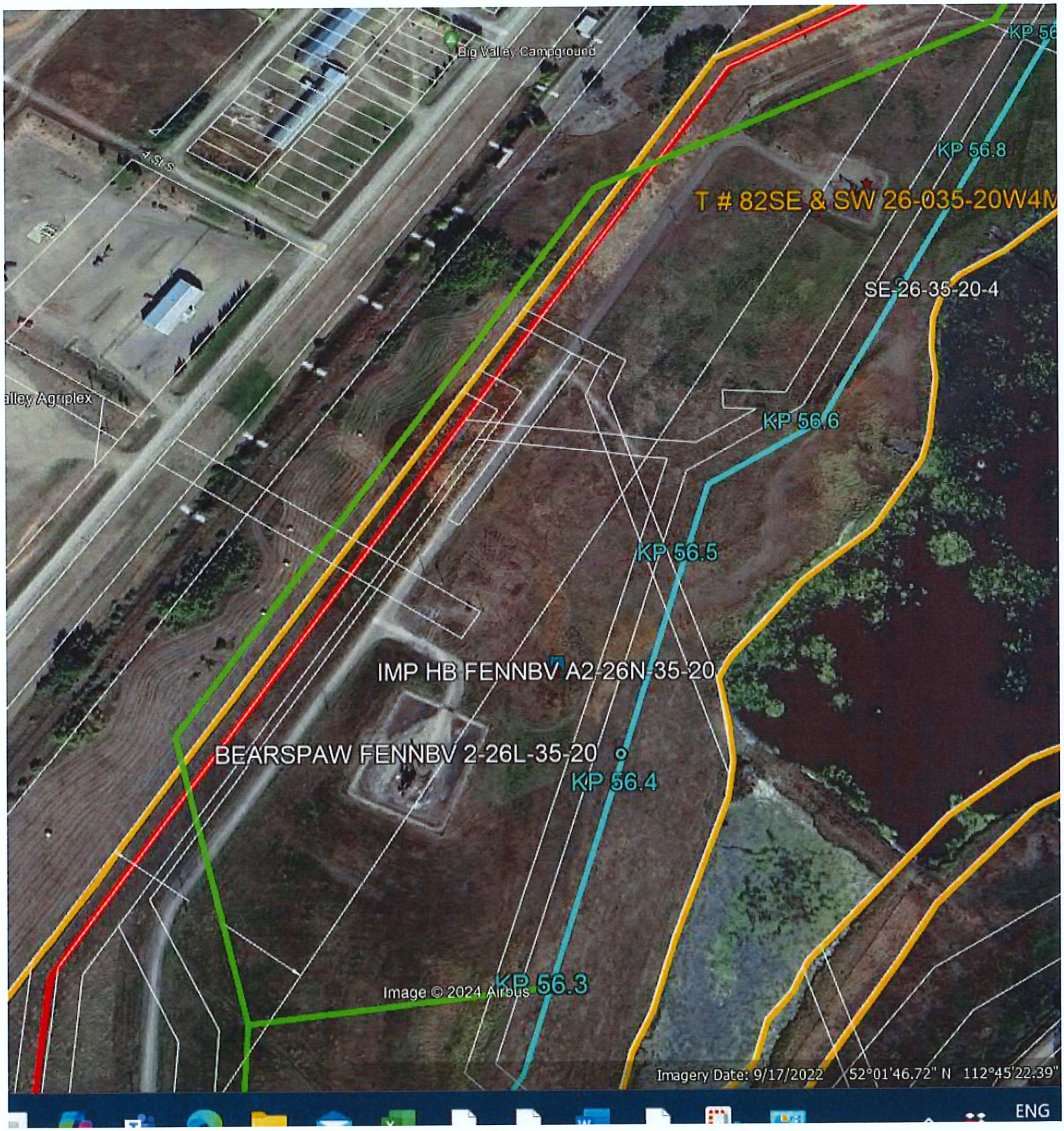
3. **THAT** Council deny the relocation of the Inter Pipeline Ltd (IPL) replacement project within Village boundaries.

RECOMMENDATION:

4. **THAT** Council table the decision to approve the proposed Inter Pipeline Ltd (IPL) replacement project within the Village boundaries until Parkland Community Planning Services have been consulted in relation to development and safety issues.

FINANCIAL IMPLICATIONS – Unknown at this time

PREPARED BY: Colleen Mayne, CAO


Big Valley Campground
KP 56
KP 56.8
T # 82SE & SW 26-035-20W4M
SE-26-35-20-4
alley Agriplex
KP 56.6
KP 56.5
IMP HB FENNBV A2-26N-35-20
BEARSPAW FENNBV 2-26L-35-20
KP 56.4
KP 56.3
Image © 2024 Airbus
Imagery Date: 9/17/2022
52°01'46.72" N 112°45'22.39"
ENG

Colleen Mayne

From: Kevin DeMonnin <kevin@auroraland.ca>
Sent: July 31, 2024 2:45 PM
To: Colleen Mayne
Cc: Josh Vass
Subject: RE: [External] RE: P240120 - Inter Pipeline Ltd. (IPL) - Drumheller to Stettler Line Replacement Project

Good afternoon Colleen,

Thanks again for chatting with me yesterday! As committed, I've followed up with Inter Pipeline to discuss the product for this proposed pipeline project, and they have advised that the H2S content of the existing line this project is meant to replace is zero. This would result in development setbacks being restricted only to the boundaries of the Right of Way (expected to be 10 meters wide for this project) with no development restrictions outside of that area.

In the event that the shipping product planned for the line changes and impacts this projected information, the updated information would be provided as part of the D56 non-objection process, and would be provided to the Village prior to acquisition (at this point we don't require a hard yes on agreeance to the project, we are just looking to confirm whether the Village is open to providing consent to IPL to complete survey work and advise if the project routing is expected to be agreeable based on the current available information).

If there is any additional information I can provide prior to the upcoming council meeting on August 18th please don't hesitate to reach out!

Appreciatively,

Kevin DeMonnin
Project Manager/Land Agent
Aurora Land Consulting Ltd.
C: 780-918-6084
P: 780-423-0211
F: 780-426-1404

From: Josh Vass <jvass@auroraland.ca>
Sent: Monday, July 29, 2024 8:36 AM
To: Kevin DeMonnin <kevin@auroraland.ca>
Subject: FW: [External] RE: P240120 - Inter Pipeline Ltd. (IPL) - Drumheller to Stettler Line Replacement Project

From: Josh Vass <jvass@auroraland.ca>
Sent: Friday, July 26, 2024 9:30 AM
To: 'Colleen Mayne' <cao@villageofbigvalley.ca>
Subject: RE: [External] RE: P240120 - Inter Pipeline Ltd. (IPL) - Drumheller to Stettler Line Replacement Project

Morning Colleen,

Hope you're having a great week! Did you have a chance to review the proposed routing and have any feedback?

Thanks,
Josh

From: Colleen Mayne <cao@villageofbigvalley.ca>
Sent: Tuesday, July 16, 2024 10:40 AM
To: Josh Vass <jvass@auroraland.ca>
Subject: [External] RE: P240120 - Inter Pipeline Ltd. (IPL) - Drumheller to Stettler Line Replacement Project

Hi Josh,

Do you have a timeframe of when this re-routing decision has to be made?

Thank you,

Colleen Mayne
Chief Administrative Officer
Village of Big Valley
P:(403)876-2269
F: (403)876-2223

From: Josh Vass <jvass@auroraland.ca>
Sent: Tuesday, July 16, 2024 10:27 AM
To: Colleen Mayne <cao@villageofbigvalley.ca>
Subject: P240120 - Inter Pipeline Ltd. (IPL) - Drumheller to Stettler Line Replacement Project

Good Morning Colleen,

IPL is looking at routing options for their Project and one of the possible re-routes impacts land owned by The Village of Big Valley within SE 27-02-12 W4M. I have included a snippet below to show the parcel I am reference. I have also attached an image showing the proposed re-route as well as a legend below for the various pipelines/routes. Can you confirm if the village would be amenable to the proposed re-route as provided? Compensation will be provided for the pipeline, temporary workspace (TWS) to build as well as damages to anyone who may be renting or using the land for hay, etc. If amenable, I will send out an electronic survey consent form, or add these lands to the existing signed form, whichever is preferred.

REQUEST FOR DECISION

Date: August 19, 2024 RFD 45-2024
Memo To: Village Council
From: Colleen Mayne, CAO
Subject: ATCO 2025 Franchise Fees

PURPOSE

For Council to consider a change to the ATCO Electric Franchise Fee rate for 2025; written request to increase the Fee must be received by ATCO Electric no later than October 1, 2024 to be considered for 2025.

BACKGROUND:

ATCO Electric is providing the opportunity for Council to consider a change in the 2025 Franchise Fee Percentage, currently set at 2%.

Email excerpt "Under the Franchise Agreement, before September 1 of each year ATCO must reach out to each of our Franchise Holders of the previous year's Distribution Revenue, and an estimate for the revenue for next year. In previous years we have sent out a longer letter with the steps for changing the Franchise Fee, this year the letter has been simplified.
If your Municipality wishes to change the Franchise Fee, please reach out to me and I will supply the steps to complete this.

Note: the Government of Alberta has made changes to unify the way Utilities calculate the Franchise Fees. It now must be based on the Distribution Tariff, and not on the cost of electricity. ATCO Electrical Division has always calculated our fees in this manner, but many have not. This will result in the AUC being flooded with a higher volume of Franchise Fee Changes to work through".

OPTIONS:

1. **THAT** Council maintain the ATCO Electric 2% Franchise Fee, providing an estimated $9,128 Franchise Fees for the 2025 year.
2. **THAT** Council increase the ATCO Electric 2% Franchise Fee to generate additional 2025 municipal revenue.
3. **THAT** Council decrease the ATCO Electric 2% Franchise Fee which will reduce 2025 municipal revenue.

RECOMMENDATION:

1. **THAT** Village Council maintain the ATCO Electric 2% Franchise Fee for the 2025 year.

FINANCIAL IMPLICATIONS – N/A

PREPARED BY: Colleen Mayne, CAO

Colleen Mayne

From: Volker, Tracy <Tracy.Volker@atco.com>
Sent: August 13, 2024 2:30 PM
To: Colleen Mayne
Subject: Distribution Revenue Forecast for 2025 Franchise Fee
Attachments: Village of Big Valley - Final.pdf

Hello Colleen

Under the Franchise Agreement, before September 1 of each year ATCO must reach out to each of our Franchise Holders of the previous year's Distribution Revenue, and an estimate for the revenue for next year.
In previous years we have sent out a longer letter with the steps for changing the Franchise Fee, this year the letter has been simplified.
If your Municipality wishes to change the Franchise Fee, please reach out to me and I will supply the steps to complete this.

Note: the Government of Alberta has made changes to unify the way Utilities calculate the Franchise Fees. It now must be based on the Distribution Tariff, and not on the cost of electricity. ATCO Electrical Division has always calculated our fees in this manner, but many have not. This will result in the AUC being flooded with a higher volume of Franchise Fee Changes to work through.
In the past we have always recommended the customer notice of Rate change be published prior to October 10, to be eligible for the January 1rst rate change. This year we recommend much sooner.

Thank You

Tracy Volker (she, her)
Customer Sales Representative
Electricity
C. 403-741-4792 Teams 403-355-0999
A. PO Box 730, 4105-50 Ave Stettler AB T0C 2L0
ATCO.com Facebook Twitter LinkedIn

ATCO Energy Systems

ATCO.com LinkedIn Facebook Instagram Twitter

ATCO Energy Systems™

August 13, 2024

Village of Big Valley
Box 236
Big Valley, Alberta T0J 0G0

Attention: Colleen Mayne

Re: ATCO Electric Distribution Revenue Forecast for 2025 Franchise Fee

As per the electric distribution system franchise agreement between ATCO Electric (ATCO) and the Village of Big Valley, ATCO pays the Village of Big Valley a franchise fee. The franchise fee is collected from customers within the Village of Big Valley that receive electric distribution service and is calculated as a percentage of ATCO's revenue derived from the distribution tariff.

The franchise agreement requires that we provide you ATCO's total revenues derived from the distribution tariff within the Village of Big Valley for 2023 and an estimate of total revenues to be derived from the distribution tariff within the Village of Big Valley for 2025. The chart below provides this information as well as the estimated franchise fees for the Village of Big Valley in 2025.

ATCO's Delivery Tariff Revenue in 2023	ATCO's Estimated Delivery Tariff Revenue for 2025	Your Current Franchise Fee Percentage	Your Estimated Franchise Fees for 2025
$426,729	$456,376	2%	$9,128

The estimates above are based on the best information currently available. These estimates are subject to change due to final approval of tariffs by the Alberta Utilities Commission, weather variations, and changes in customer consumption.

Under the franchise agreement, the Village of Big Valley has the option of changing its franchise fee percentage for 2025. If you are considering changing the franchise fee in 2025, please contact us as soon as possible to learn about the process and timing requirements. We will guide you through the process and file an application with the Alberta Utilities Commission for approval. A request to change the franchise fee must be made in writing and must be received by ATCO on or before October 1st, 2024.

We trust you will find this information useful. Should you have any questions or require anything further, please do not hesitate to contact me at 403-741-4792.

Yours truly,

Tracy Volker

Digitally signed by Tracy Volker
DN: cn=Tracy Volker, o=ATCO, ou=Customer Sales Representative, email=tracy.volker@atco.com, c=CA
Date: 2024.08.13 09:12:39 -06'00'

Tracy Volker
Customer Sales Representative
ATCO Electric Ltd.

REQUEST FOR DECISION

Date: August 19, 2024 RFD 46-2024
Memo To: Village Council
From: Colleen Mayne, CAO
Subject: Evolve Surface Strategies Inc – Strathcona Resources Ltd
Fenn/Big Valley Phase 2 Remediation and Reclamation

PURPOSE

For Council to consider a request by Evolve Surface Strategies Inc. on behalf of Strathcona Resources Ltd. to approve access to reclaim a wellsite, with the location identified on the aerial photo.

BACKGROUND:

In the process of remediation and reclaiming a well site, Strathcona 23736/61, a request has been made for Council to approve access, which will involve crossing over the Village Wastewater Line. No disruption shall be made to any road, land, or waterline other than for the purpose of driving their equipment to the wellsite referred to.

OPTIONS:

1. **THAT** Council approve Strathcona Resources Ltd's request for access for the purpose of reclaiming wellsite Strathcona 23736/61.

2. **THAT** Council deny Strathcona Resources Ltd's request for access for the purpose of reclaiming wellsite Strathcona 23736/61.

RECOMMENDATION:

1. **THAT** Council approve Strathcona Resources Ltd's request for access for the purpose of reclaiming wellsite Strathcona 23736/61.

FINANCIAL IMPLICATIONS – N/A

PREPARED BY: Colleen Mayne, CAO

evolve
SURFACE STRATEGIES INC.

July 31, 2024

Via Email: info@villageofbigvalley.ca

VILLAGE OF BIG VALLEY
29 - 1st Avenue South
Box 236
Big Valley, Alberta T0J 0G0

RE: STRATHCONA RESOURCES LTD.
FENN BIG VALLEY PHASE 2 REMEDIATION AND RECLAMATION
LEGAL LOCATION: 102/04-25-035-20 W4M
SURFACE: SW 25-035-20 W4M
STRATHCONA FILE: TBD EVOLVE FILE: 34462

On behalf of our client, Strathcona Resources Ltd. ("Strathcona") we hereby request your approval as more particularly described below for the above listed proposed project.

AFFECTED LANDS	REQUEST DETAILS
SW 25-035-20 W4M	Cross water dispersal P/L R/W during access for the purpose of reclamation and remediation.

Strathcona is looking to obtain approval for various reclamation/remediation activities taking place within the next two years. As such, we respectfully request the agreement to be issued for a two-year period and ask the following clause be included in the consent: "This agreement expires two years from the effective date, if applicable, or the date the agreement was issued"

Kindly outline your terms and conditions and forward your agreement to Evolve Surface Strategies Inc. care of the undersigned. Please issue the agreement in the name of:

Strathcona Resources Ltd.
Suite 1900, 421 – 7th Avenue SW
Calgary, Alberta T2P 4K9

Should you have any questions or require further information regarding this project, please contact the undersigned at (403) 912-2600 or by email at mariah.gordon@evolvesurface.com.

Yours truly,
Evolve Surface Strategies Inc.
Agent for Strathcona Resources Ltd.

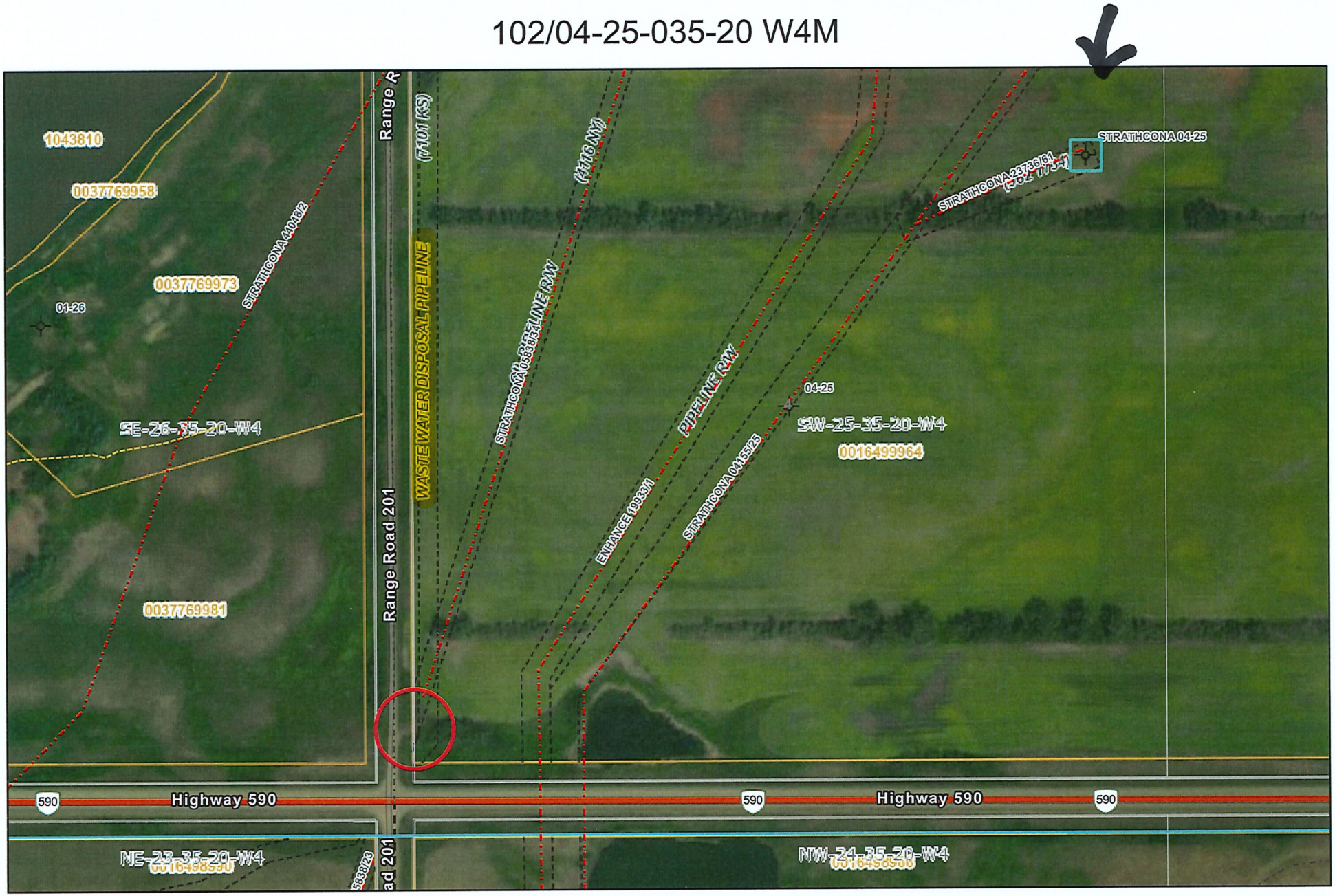
Mariah Gordon

Mariah Gordon
Right of Way Administrator

/mg
Enclosure(s)

Head Office 105 – 58 Gateway Dr NE, Airdrie, AB T4B 0J6 evolvesurface.com

102/04-25-035-20 W4M



6/14/2024, 2:16:13 PM

IHS_Data_WPF_8341

IHS_Data_WPF_344

Abandoned — AB - Low Pressure Gas Pipelines

AB - Telus Trench Lines

Abandoned — AB - Road Grades

Highway Hard Surface

Abandoned — High Grade Gravel

Abandoned — Mid Grade Gravel

ATS Grids - Sections

ATS Grids - Quarter Sections

ATS Grids - Legal Subdivision

Alberta Quarter Section Fabric

Alberta Section Fabric

Saskatchewan Quarter Section Fabric

Saskatchewan Section Fabric

Ontario Concession Lots

Manitoba Quarter Section Fabric

Manitoba Section Fabric

Strata Parcels

Protected Areas

Oil and Gas Parcels

Mineral Claim Parcels

Indian Reserve Surface Oil and Gas Parcels

Cree Naskapi Rights

Easements

Condominiums

Yukon First Nation Parcels

Tlicho Parcels

Salt River First Nation Parcels

Sahtu Parcels

Inuvialuit Final Agreement Parcels

Inuit Owned Land Parcels

Gwichin Parcels

Cree Naskapi Category 1A and 1AN Parcels

Land Parcels

Land Ownership Outline

1:4,514

0 0.02 0.04 0.09 mi

0 0.04 0.07 0.15 km

Evolve Surface Strategies Inc.

REQUEST FOR DECISION

Date: August 19, 2024 RFD 48-2024
Memo To: Village Council
From: Colleen Mayne, CAO
Subject: Rod Couturier – Lease Agreement

PURPOSE

To provide Council with updated information regarding property ownership for Block 23, Lots 4-10 and Block 25, Lot 1 with respect to his proposed road allowance lease Agreement.

BACKGROUND:

Mr. Couturier had presented a request to lease the road allowance lot(s) at a previous Council Meeting. Based on previous administration's information Mr. Couturier was told the structure built on the north end of said lots was on Block 25, Lot 1.

In reviewing the Village property files, confirming with Land Titles, as well as bills of sale and records, it has been determined that Block 23, Lots 4-10 are all owned by Mr. Couturier, as well as Block 25, Lot 1.

The structure toward the north end of his property is situated on Block 23, Lot 10. Block 25, Lot 1 has been confirmed to be the lot located on the north side of the lease road, and is owned by same.

Based on the above information the request to lease the road allowance has been withdrawn, as there is no need.

OPTIONS:

1. **THAT** Council accept the request to lease the road allowance and updated info as information.

RECOMMENDATION:

2. **THAT** Council accept the request to lease the road allowance and updated info as information.

FINANCIAL IMPLICATIONS – N/A

PREPARED BY: Colleen Mayne, CAO

REQUEST FOR DECISION

Date: August 19, 2024 RFD 48-2024
Memo To: Village Council
From: Colleen Mayne, CAO
Subject: Rod Couturier – Lease Agreement

PURPOSE

To provide Council with updated information regarding property ownership for Block 23, Lots 4-10 and Block 25, Lot 1 with respect to his proposed road allowance lease Agreement.

BACKGROUND:

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In reviewing the Village property files, confirming with Land Titles, as well as bills of sale and records, it has been determined that Block 23, Lots 4-10 are all owned by Mr. Couturier, as well as Block 25, Lot 1.

The structure toward the north end of his property is situated on Block 23, Lot 10. Block 25, Lot 1 has been confirmed to be the lot located on the north side of the lease road, and is owned by same.

Based on the above information the request to lease the road allowance has been withdrawn, as there is no need.

OPTIONS:

1. **THAT** Council accept the request to lease the road allowance and updated info as information.

RECOMMENDATION:

2. **THAT** Council accept the request to lease the road allowance and updated info as information.

FINANCIAL IMPLICATIONS – N/A

PREPARED BY: Colleen Mayne, CAO

August 19th, 2024

Public Works Report:

-Transplanted two trees on the Boulevard of 3rd St.

-Trimmed trees around the village which included: alley, streets, and avenues.

-Cleaned up the South and East side of the cemetery by weed whacking and removing the dirt piles; still need to trim trees around the North end and around some headstones.

-Water testing three times a week

-Cut the grass and did weed whacking around the lagoons, trying to manage the cattails that are impeding the cells' ability to work. Cell 3 has an algae mat on it because the wind cannot circulate the water, so we need to either apply chemical or look at getting the cattails removed.

-Several areas of the release cell at the lagoons need some work to be addressed, like rebuilding of the berm around the entirety. There was several cracks and holes made from muskrats that were discovered after weed whacking.

-Water valve on Main Street and 2nd Ave. North that was paved over in October 2021, has been uncovered and brought flush with the asphalt. We needed Janke to help raise the outer sleeve of the water valve to make it flush with the top of the asphalt.

-Sewer lines on 5th Ave. and along Railway Ave. flushed, as well as a couple of culverts. We will need to address the sediment buildup along two ditches, which will aid in the spring runoff and heavy rains.

-Alleys were graded. They will need resurfacing material added as the gravel is getting sparse on them.

-Water distribution pressure transmitter needs replacing, which takes four months to get the part. (The transmitter is used to tell the pressure from the booster station to the tower.); need to order.

-Cleaned the sand, gravel and weeds along the curbs, swales and sidewalks

Equipment

A tractor is required for the following:

-To paint the back half of the Quonset that has been exposed since 2021.

-To remove the clay and rock from 6 burial plots and add nice dirt on top so we can seed grass.

-To add dirt where the sidewalks were repaired in 2023, as there are deep trenches along them which could lead to the erosion of the foundation.

-To smooth the ruts at the lagoons made by the vac truck.

-To fix the shop lights that are burnt out and/or ballasts that need replacing.

-To add gravel to 3rd Ave. North where washouts have occurred during the rainstorms and spring run off. We may look into putting a culvert in the area to divert the water.

Respectfully Submitted,
Tammy Rotvik

ATB Financial™

SAVING I BORROWING I INVESTING I KNOW-HOW

Consolidated Statement

Statement date July 31, 2024
Transit number 07479-219
Customer number 0000076530
Cheque images 29
Page number 1 of 14

ATB0114001_6931845_001 E D 07479 00506

VILLAGE OF BIG VALLEY
PO Box 236
BIG VALLEY AB T0J 0G0

Your ATB Financial Branch
07479 Stettler Branch
6604 50 Ave
Stettler AB
T0C 2L2

If you have any questions, contact us at 1 800 332-8383 or visit us at www.atb.com

A summary of your accounts on Jul 31, 2024

Deposits	Value on Jul 31, 2024
	CAD
Business Public Sector Operating #00119372424	70,793.51
Business Public Sector Savings #00314543378	896,802.12
Notice on Amount 90 days #00627651200 *Inactive*	3,822.60
Total Deposits	**$971,418.23**

Find an error? Give us a call or drop by a branch. We'll take care of it.

A summary of Deposit Account
Business Public Sector Operating

00119372424		Transit # 07479-219
Your balance forward on Jun 30, 2024		$74,415.48
Debits to your account (53 items)	-	$209,042.89
Credits to your account (148 items)	+	$205,420.92
Your closing balance on Jul 31, 2024	=	**$70,793.51**

ATB0114001_6931845_001 - 0000506 HRI - 29 - 07 - 07 - 09 -- 003821

ATB Financial™

SAVING I BORROWING I INVESTING I KNOW-HOW

Details of your account transactions

Date	Description	Debits to your account ($)	Credits to your account ($)	Balance ($)
Jun 30	**Balance forward**			**$74,415.48**
Jul 1	INTERAC e-Transfer Received - Autodeposit		$200.00	74,615.48
Jul 2	Customer Bill Pay Cover		$150.00	74,765.48
Jul 2	Customer Bill Pay Cover		$100.00	74,865.48
Jul 2	Customer Bill Pay Cover		$160.20	75,025.68
Jul 2	INTERAC e-Transfer Received - Autodeposit		$272.00	75,297.68
Jul 2	INTERAC e-Transfer Received - Autodeposit		$150.00	75,447.68
Jul 2	INTERAC e-Transfer Received - Autodeposit		$39.32	75,487.00
Jul 2	INTERAC e-Transfer Received - Autodeposit		$90.00	75,577.00
Jul 2	INTERAC e-Transfer Received - Autodeposit		$69.08	75,646.08
Jul 2	INTERAC e-Transfer Received - Autodeposit		$94.42	75,740.50
Jul 2	INTERAC e-Transfer Received - Autodeposit		$500.00	76,240.50
Jul 2	INTERAC e-Transfer Received - Autodeposit		$223.00	76,463.50
Jul 2	INTERAC e-Transfer Received - Autodeposit		$61.47	76,524.97
Jul 2	INTERAC e-Transfer Received - Autodeposit		$42.22	76,567.19
Jul 2	INTERAC e-Transfer Received - Autodeposit		$140.00	76,707.19
Jul 2	INTERAC e-Transfer Received - Autodeposit		$99.17	76,806.36
Jul 2	Cheque #000000012587	$200.00		76,606.36
Jul 2	Direct Debit ATB Govt Tax Filing MONTHLY FEE	$1.00		76,605.36
Jul 2	Cheque #000000012582	$5,997.05		70,608.31
Jul 3	Customer Bill Pay Cover		$263.44	70,871.75
Jul 3	INTERAC e-Transfer Received - Autodeposit		$45.12	70,916.87
Jul 3	INTERAC e-Transfer Received - Autodeposit		$125.00	71,041.87
Jul 3	INTERAC e-Transfer Received - Autodeposit		$300.00	71,341.87
Jul 3	Deposit Cash		$66.00	71,407.87
Jul 3	Cheque #000000012574	$28.38		71,379.49
Jul 3	Cheque #000000012593	$138.60		71,240.89
Jul 3	INTERAC e-Transfer Received - Autodeposit		$56.72	71,297.61
Jul 3	INTERAC e-Transfer Received - Autodeposit		$113.31	71,410.92
Jul 3	INTERAC e-Transfer Received - Autodeposit		$91.52	71,502.44

ATB0114001_6931845_001 - 0000506 003822

Details of your account transactions (continued)

Date	Description	Debits to your account ($)	Credits to your account ($)	Balance ($)
Jul 3	INTERAC e-Transfer Received - Autodeposit		$79.92	71,582.36
Jul 3	Cheque #000000012583	$1,269.98		70,312.38
Jul 4	INTERAC e-Transfer Received - Autodeposit		$56.72	70,369.10
Jul 4	INTERAC e-Transfer Received - Autodeposit		$60.00	70,429.10
Jul 4	Customer Bill Pay Cover		$145.12	70,574.22
Jul 4	Direct Deposit Misc. Payments Government of A		$2,736.85	73,311.07
Jul 4	INTERAC e-Transfer Received - Autodeposit		$56.72	73,367.79
Jul 4	INTERAC e-Transfer Received - Autodeposit		$1,000.00	74,367.79
Jul 4	Customer Bill Pay Cover		$200.00	74,567.79
Jul 4	INTERAC e-Transfer Received - Autodeposit		$845.23	75,413.02
Jul 4	INTERAC e-Transfer Received - Autodeposit		$1,089.39	76,502.41
Jul 4	INTERAC e-Transfer Received - Autodeposit		$30.62	76,533.03
Jul 4	INTERAC e-Transfer Received - Autodeposit		$85.72	76,618.75
Jul 4	Cheque #000000012595	$322.08		76,296.67
Jul 4	Cheque #000000012577	$415.80		75,880.87
Jul 4	Deposit Mixed		$6,238.86	82,119.73
Jul 4	Reverse Deposit Mixed	$6,238.86		75,880.87
Jul 4	Deposit Mixed		$6,139.36	82,020.23
Jul 4	INTERAC e-Transfer Received - Autodeposit		$40.00	82,060.23
Jul 5	Customer Bill Pay Cover		$93.14	82,153.37
Jul 5	INTERAC e-Transfer Received - Autodeposit		$30.00	82,183.37
Jul 5	INTERAC e-Transfer Received - Autodeposit		$100.00	82,283.37
Jul 5	Cheque #000000012592	$471.18		81,812.19
Jul 6	Customer Bill Pay Cover		$179.11	81,991.30
Jul 6	INTERAC e-Transfer Received - Autodeposit		$61.41	82,052.71
Jul 6	INTERAC e-Transfer Received - Autodeposit		$599.59	82,652.30
Jul 6	INTERAC e-Transfer Received - Autodeposit		$55.67	82,707.97
Jul 7	INTERAC e-Transfer Received - Autodeposit		$12.50	82,720.47
Jul 7	INTERAC e-Transfer Received - Autodeposit		$250.00	82,970.47
Jul 8	Customer Bill Pay Cover		$135.09	83,105.56
Jul 8	INTERAC e-Transfer Received - Autodeposit		$33.52	83,139.08

ATB0114001_6931845_001 - 0000506 HRI - 29 - 07 - 06 - 08 - - 003823

Details of your account transactions (continued)

Date	Description	Debits to your account ($)	Credits to your account ($)	Balance ($)
Jul 8	INTERAC e-Transfer Received - Autodeposit		$60.00	83,199.08
Jul 9	Customer Bill Pay Cover		$68.32	83,267.40
Jul 9	Customer Bill Pay Cover		$53.82	83,321.22
Jul 9	INTERAC e-Transfer Received - Autodeposit		$42.23	83,363.45
Jul 9	INTERAC e-Transfer Received - Autodeposit		$45.12	83,408.57
Jul 10	INTERAC e-Transfer Received - Autodeposit		$2,000.00	85,408.57
Jul 10	INTERAC e-Transfer Received - Autodeposit		$92.09	85,500.66
Jul 10	INTERAC e-Transfer Received - Autodeposit		$138.49	85,639.15
Jul 10	Bill Payment TELUS COMMUNICATIONS	$100.48		85,538.67
Jul 10	Bill Payment TELUS COMMUNICATIONS	$60.52		85,478.15
Jul 10	Bill Payment TELUS COMMUNICATIONS	$75.53		85,402.62
Jul 10	Cheque #000000012579	$50.98		85,351.64
Jul 10	Cheque #000000012605	$269.19		85,082.45
Jul 10	Cheque #000000012606	$573.30		84,509.15
Jul 11	Customer Bill Pay Cover		$1,633.82	86,142.97
Jul 11	INTERAC e-Transfer Received - Autodeposit		$1,000.00	87,142.97
Jul 11	Deposit Mixed		$13,476.11	100,619.08
Jul 11	Direct Deposit Property Taxes CIBCMORTGAGES		$9,149.04	109,768.12
Jul 11	Cheque #000000012588	$2,000.00		107,768.12
Jul 12	INTERAC e-Transfer Received - Autodeposit		$2,167.65	109,935.77
Jul 12	INTERAC e-Transfer Received - Autodeposit		$181.53	110,117.30
Jul 12	Customer Bill Pay Cover		$580.39	110,697.69
Jul 12	Direct Deposit Misc. Payments CTY STET		$282.35	110,980.04
Jul 12	Direct Deposit Misc. Payments BGIS		$635.73	111,615.77
Jul 12	Direct Deposit Accounts Payable ATCO ELECTRIC		$769.64	112,385.41
Jul 12	Cheque #000000012602	$167.54		112,217.87
Jul 12	Cheque #000000012610	$260.00		111,957.87
Jul 12	Cheque #000000012608	$485.00		111,472.87
Jul 12	Cheque #000000012607	$814.99		110,657.88
Jul 13	Customer Bill Pay Cover		$1,278.86	111,936.74

ATB0114001_6931845_001 - 0000506 003824

Details of your account transactions (continued)

Date	Description	Debits to your account ($)	Credits to your account ($)	Balance ($)
Jul 13	INTERAC e-Transfer Received - Autodeposit		$137.00	112,073.74
Jul 13	INTERAC e-Transfer Received - Autodeposit		$100.00	112,173.74
Jul 13	INTERAC e-Transfer Received - Autodeposit		$53.82	112,227.56
Jul 14	INTERAC e-Transfer Received - Autodeposit		$56.72	112,284.28
Jul 15	Customer Bill Pay Cover		$42.22	112,326.50
Jul 15	Direct Deposit Accounts Payable CLEARVIEW SCHOO		$212.92	112,539.42
Jul 15	INTERAC e-Transfer Received - Autodeposit		$2,757.47	115,296.89
Jul 15	EFT Sent 000592694652	$1,000.00		114,296.89
Jul 15	EFT Sent 000592692906	$700.00		113,596.89
Jul 15	Cheque #000000012611	$5,078.43		108,518.46
Jul 15	Direct Debit Misc. Payments WCB ALBERTA	$1,553.33		106,965.13
Jul 15	Cheque #000000012589	$6,289.00		100,676.13
Jul 16	INTERAC e-Transfer Received - Autodeposit		$158.14	100,834.27
Jul 16	INTERAC e-Transfer Received - Autodeposit		$40.00	100,874.27
Jul 16	Customer Bill Pay Cover		$1,948.02	102,822.29
Jul 16	INTERAC e-Transfer Received - Autodeposit		$2,578.62	105,400.91
Jul 16	INTERAC e-Transfer Received - Autodeposit		$85.72	105,486.63
Jul 16	Cheque #000000012612	$1,146.60		104,340.03
Jul 17	INTERAC e-Transfer Received - Autodeposit		$210.00	104,550.03
Jul 17	INTERAC e-Transfer Received - Autodeposit		$59.62	104,609.65
Jul 17	INTERAC e-Transfer Received - Autodeposit		$114.72	104,724.37
Jul 17	Direct Deposit Accounts Payable ATCO GAS		$3,904.73	108,629.10
Jul 17	Deposit Mixed		$13,156.35	121,785.45
Jul 17	Cheque #000000012578	$150.00		121,635.45
Jul 18	INTERAC e-Transfer Received - Autodeposit		$36.42	121,671.87
Jul 18	Customer Bill Pay Cover		$105.62	121,777.49
Jul 18	Cheque #000000012603	$577.50		121,199.99
Jul 19	Customer Bill Pay Cover		$30.62	121,230.61
Jul 19	Direct Deposit Misc. Payments 015783825706AJ5		$5,775.58	127,006.19
Jul 19	Customer Bill Pay Cover		$795.20	127,801.39
Jul 19	INTERAC e-Transfer Received - Autodeposit		$59.62	127,861.01

ATB0114001_6931845_001 - 0000506 HRI - 29 - 07 - 05 - 07 - - 003825

Details of your account transactions (continued)

Date	Description	Debits to your account ($)	Credits to your account ($)	Balance ($)
Jul 19	Direct Deposit Misc. Payments BROOKFIELD TELU		$60.34	127,921.35
Jul 20	INTERAC e-Transfer Received - Autodeposit		$56.72	127,978.07
Jul 22	Customer Bill Pay Cover		$225.00	128,203.07
Jul 22	Direct Deposit Bill Payment CUCBC		$1,358.87	129,561.94
Jul 22	Cheque #000000012599	$126.00		129,435.94
Jul 22	INTERAC e-Transfer Received - Autodeposit		$744.59	130,180.53
Jul 23	Customer Bill Pay Cover		$3,476.69	133,657.22
Jul 24	INTERAC e-Transfer Received - Autodeposit		$2,320.89	135,978.11
Jul 24	INTERAC e-Transfer Received - Autodeposit		$1,135.00	137,113.11
Jul 24	Deposit Cheque		$489.00	137,602.11
Jul 24	Withdrawal	$489.00		137,113.11
Jul 24	INTERAC e-Transfer Received - Autodeposit		$1,523.67	138,636.78
Jul 25	Customer Bill Pay Cover		$1,745.98	140,382.76
Jul 25	Bill Payment TELUS COMMUNICATIONS	$100.48		140,282.28
Jul 25	Bill Payment TELUS COMMUNICATIONS	$60.52		140,221.76
Jul 25	Bill Payment TELUS COMMUNICATIONS	$75.53		140,146.23
Jul 25	Bill Payment TELUS MOBILITY INC	$447.29		139,698.94
Jul 25	Bill Payment TELUS MOBILITY INC	$20.74		139,678.20
Jul 25	Deposit Mixed		$38,404.14	178,082.34
Jul 25	INTERAC e-Transfer Received - Autodeposit		$180.00	178,262.34
Jul 25	INTERAC e-Transfer Received - Autodeposit		$128.77	178,391.11
Jul 25	INTERAC e-Transfer Received - Autodeposit		$2,546.20	180,937.31
Jul 25	INTERAC e-Transfer Received - Autodeposit		$129.00	181,066.31
Jul 26	Direct Deposit Accounts Payable ATCO ELECTRIC		$4,767.55	185,833.86
Jul 26	Direct Deposit Accounts Payable ATCO GAS		$805.75	186,639.61
Jul 26	INTERAC e-Transfer Received - Autodeposit		$692.49	187,332.10
Jul 26	INTERAC e-Transfer Received - Autodeposit		$111.82	187,443.92
Jul 27	Customer Bill Pay Cover		$80.00	187,523.92
Jul 28	INTERAC e-Transfer Received - Autodeposit		$520.31	188,044.23
Jul 28	INTERAC e-Transfer Received - Autodeposit		$635.00	188,679.23

ATB0114001_6931845_001 - 0000506 003826

Details of your account transactions (continued)

Date	Description	Debits to your account ($)	Credits to your account ($)	Balance ($)
Jul 29	INTERAC e-Transfer Received - Autodeposit		$110.00	188,789.23
Jul 29	Customer Bill Pay Cover		$186.42	188,975.65
Jul 29	INTERAC e-Transfer Received - Autodeposit		$3,223.66	192,199.31
Jul 29	INTERAC e-Transfer Received - Autodeposit		$2,096.23	194,295.54
Jul 29	Cheque #000000012598	$100.00		194,195.54
Jul 29	Cheque #000000012620	$489.00		193,706.54
Jul 29	Cheque #000000012619	$203.18		193,503.36
Jul 29	Cheque #000000012604	$35.70		193,467.66
Jul 29	Direct Debit Misc. Payments AUMA/AMSC	$3,734.88		189,732.78
Jul 30	Customer Bill Pay Cover		$3,133.44	192,866.22
Jul 30	INTERAC e-Transfer Received - Autodeposit		$140.00	193,006.22
Jul 30	Direct Deposit Bill Payment CUCBC		$110.00	193,116.22
Jul 30	INTERAC e-Transfer Received - Autodeposit		$40.00	193,156.22
Jul 30	Deposit Mixed		$20,900.80	214,057.02
Jul 30	Customer Bill Pay Cover		$205.76	214,262.78
Jul 30	Transfer Transfer To *******3378	$150,000.00		64,262.78
Jul 30	INTERAC e-Transfer Received - Autodeposit		$81.77	64,344.55
Jul 30	EFT Sent 000601165179	$2,875.36		61,469.19
Jul 30	EFT Sent 000601166240	$4,326.22		57,142.97
Jul 30	EFT Sent 000601166321	$3,261.44		53,881.53
Jul 30	EFT Sent 000601169690	$2,588.30		51,293.23
Jul 30	EFT Sent 000601168975	$3,359.07		47,934.16
Jul 30	INTERAC e-Transfer Received - Autodeposit		$2,135.30	50,069.46
Jul 30	INTERAC e-Transfer Received - Autodeposit		$78.87	50,148.33
Jul 30	Cheque #000000012618	$150.97		49,997.36
Jul 30	INTERAC e-Transfer Received - Autodeposit		$1,028.83	51,026.19
Jul 30	INTERAC e-Transfer Received - Autodeposit		$88.62	51,114.81
Jul 30	INTERAC e-Transfer Received - Autodeposit		$300.00	51,414.81
Jul 30	Cheque #000000012580	$75.00		51,339.81
Jul 31	Customer Bill Pay Cover		$270.89	51,610.70

ATB0114001_6931845_001 - 0000506 HRI - 29 - 07 - 04 - 06 - - 003827

ATB Financial™

SAVING | BORROWING | INVESTING | KNOW-HOW

Consolidated Statement

Statement date July 31, 2024
Transit number 07479-219
Customer number 0000076530

Details of your account transactions

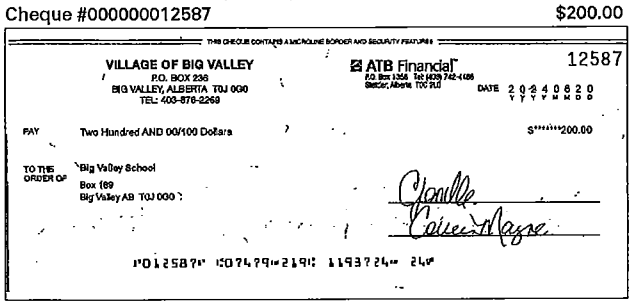
Date	Description	Debits to your account ($)	Credits to your account ($)	Balance ($)
Jun 30	**Balance forward**			**$743,449.72**
Jul 30	Transfer Transfer From *******2424		$150,000.00	893,449.72
Jul 31	Interest Payment		$3,352.40	896,802.12
Jul 31	**Closing balance**			**$896,802.12**

ATB0114001_6931845_001 - 0000506 HRI - 29 - 07 - 03 - 05 - - 003829

ATB Financial™

SAVING I BORROWING I INVESTING I KNOW-HOW

Business Public Sector Operating 00119372424
Cheque #000000012587 $200.00


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
Stettler, Alberta T0C 2L0

12587

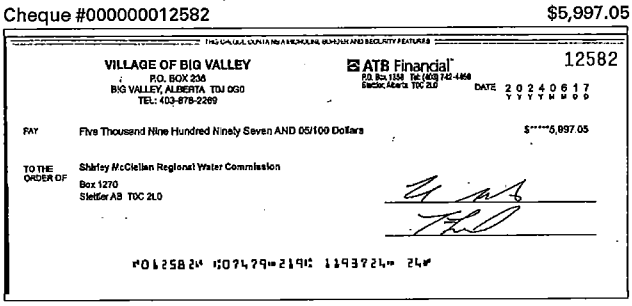
DATE 2024 06 20 (YYYY MM DD)

PAY Two Hundred AND 00/100 Dollars $*****200.00

TO THE ORDER OF Big Valley School
Box 189
Big Valley AB T0J 0G0

⑈012587⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012582 $5,997.05


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12582

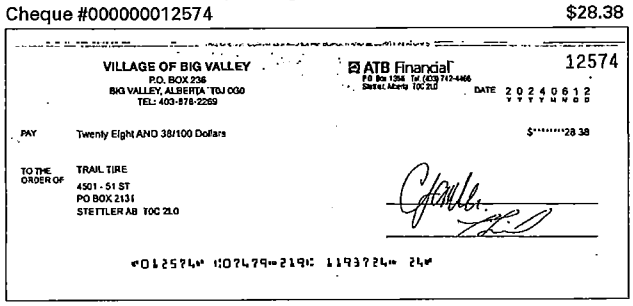
DATE 2024 06 17 (YYYY MM DD)

PAY Five Thousand Nine Hundred Ninety Seven AND 05/100 Dollars $*****5,997.05

TO THE ORDER OF Shirley McClellan Regional Water Commission
Box 1270
Stettler AB T0C 2L0

⑈012582⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012574 $28.38


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12574

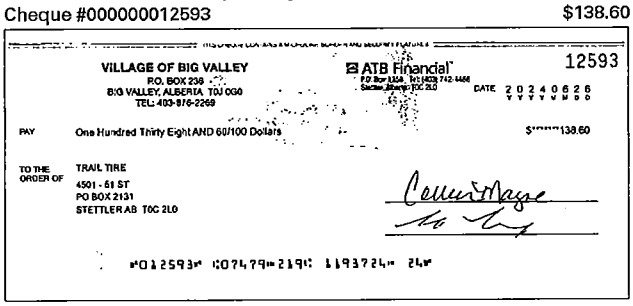
DATE 2024 06 12 (YYYY MM DD)

PAY Twenty Eight AND 38/100 Dollars $********28.38

TO THE ORDER OF TRAIL TIRE
4501 - 51 ST
PO BOX 2131
STETTLER AB T0C 2L0

⑈012574⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012593 $138.60


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12593

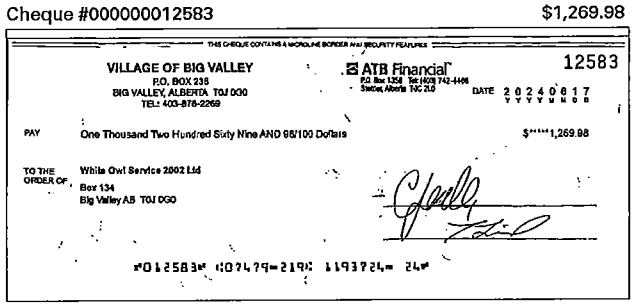
DATE 2024 06 26 (YYYY MM DD)

PAY One Hundred Thirty Eight AND 60/100 Dollars $********138.60

TO THE ORDER OF TRAIL TIRE
4501 - 51 ST
PO BOX 2131
STETTLER AB T0C 2L0

⑈012593⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012583 $1,269.98


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12583

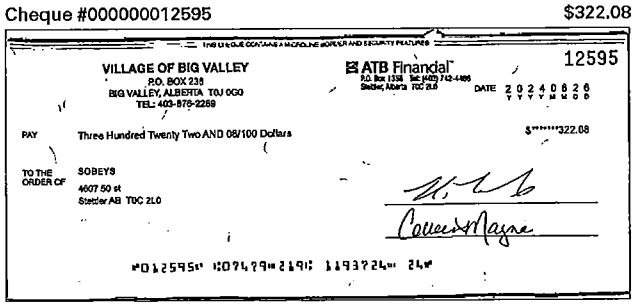
DATE 2024 06 17 (YYYY MM DD)

PAY One Thousand Two Hundred Sixty Nine AND 98/100 Dollars $*****1,269.98

TO THE ORDER OF White Owl Service 2002 Ltd
Box 134
Big Valley AB T0J 0G0

⑈012583⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012595 $322.08


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12595

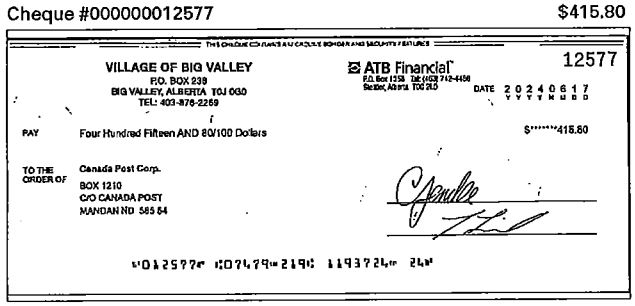
DATE 2024 06 26 (YYYY MM DD)

PAY Three Hundred Twenty Two AND 08/100 Dollars $*****322.08

TO THE ORDER OF SOBEYS
4607 50 st
Stettler AB T0C 2L0

⑈012595⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012577 $415.80


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12577

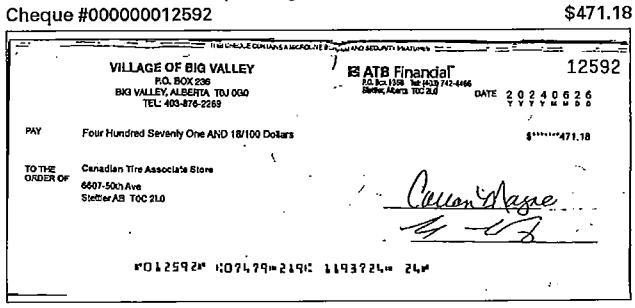
DATE 2024 06 17 (YYYY MM DD)

PAY Four Hundred Fifteen AND 80/100 Dollars $*****415.80

TO THE ORDER OF Canada Post Corp.
BOX 1210
C/O CANADA POST
MANDAN ND 585 54

⑈012577⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012592 $471.18


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12592

DATE 2024 06 26 (YYYY MM DD)

PAY Four Hundred Seventy One AND 18/100 Dollars $*****471.18

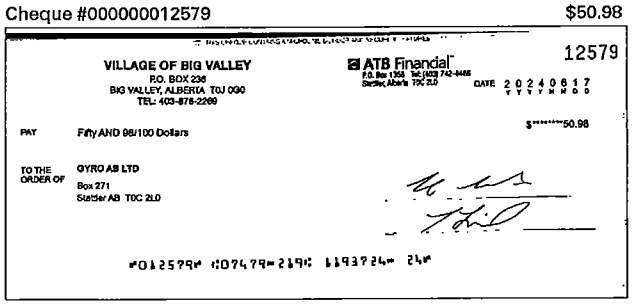
TO THE ORDER OF Canadian Tire Associate Store
6607-50th Ave
Stettler AB T0C 2L0

⑈012592⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

ATB Financial™

SAVING I BORROWING I INVESTING I KNOW-HOW

Business Public Sector Operating 00119372424
Cheque #000000012579 $50.98


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12579

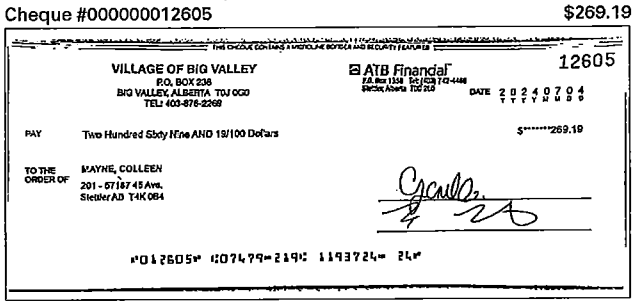
DATE 2024 06 17 YYYY MM DD

PAY Fifty AND 98/100 Dollars $*******50.98

TO THE ORDER OF GYRO AB LTD
Box 271
Stettler AB T0C 2L0

⑈012579⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012605 $269.19


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12605

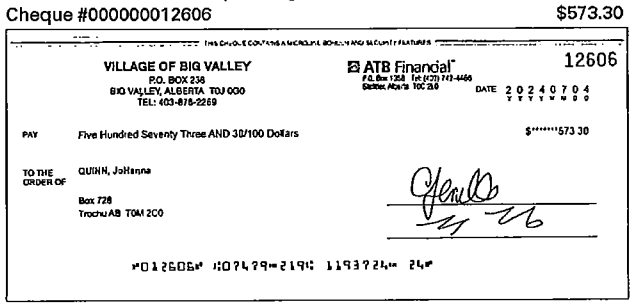
DATE 2024 07 04 YYYY MM DD

PAY Two Hundred Sixty Nine AND 19/100 Dollars $*******269.19

TO THE ORDER OF MAYNE, COLLEEN
201 - 57187 45 Ave.
Stettler AB T4K 0B4

⑈012605⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012606 $573.30


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12606

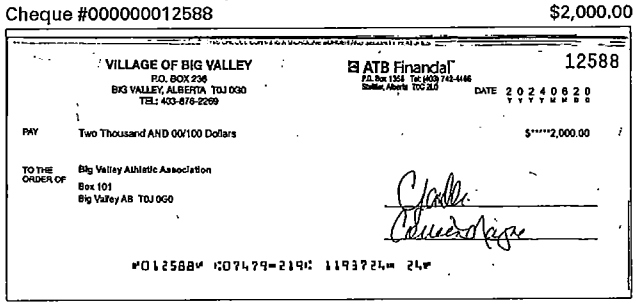
DATE 2024 07 04 YYYY MM DD

PAY Five Hundred Seventy Three AND 30/100 Dollars $*******573.30

TO THE ORDER OF QUINN, JoHanna
Box 728
Trochu AB T0M 2C0

⑈012606⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012588 $2,000.00


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12588

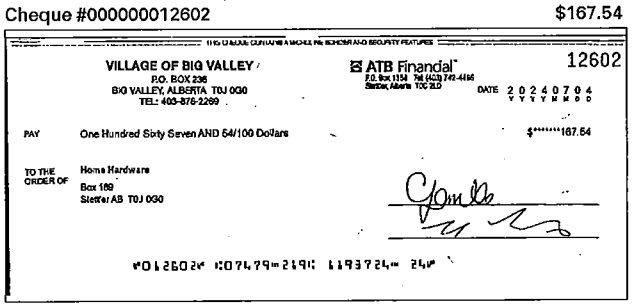
DATE 2024 06 20 YYYY MM DD

PAY Two Thousand AND 00/100 Dollars $*****2,000.00

TO THE ORDER OF Big Valley Athletic Association
Box 101
Big Valley AB T0J 0G0

⑈012588⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012602 $167.54


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12602

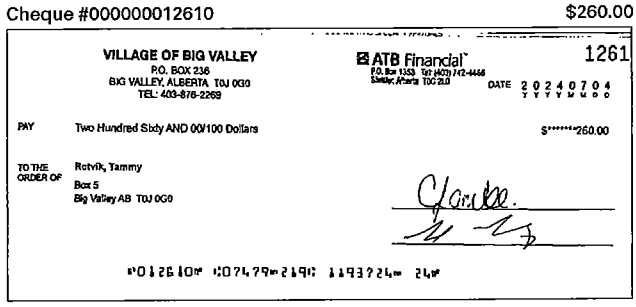
DATE 2024 07 04 YYYY MM DD

PAY One Hundred Sixty Seven AND 54/100 Dollars $*******167.54

TO THE ORDER OF Home Hardware
Box 169
Stettler AB T0J 0G0

⑈012602⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012610 $260.00


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

1261

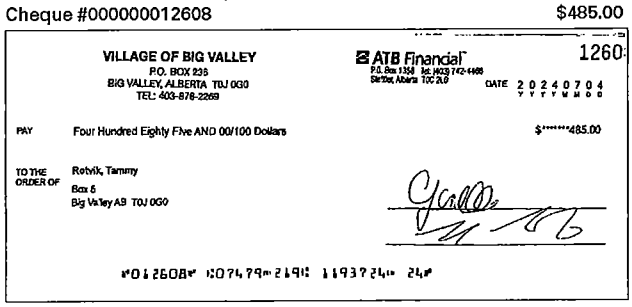
DATE 2024 07 04 YYYY MM DD

PAY Two Hundred Sixty AND 00/100 Dollars $*******260.00

TO THE ORDER OF Rotvik, Tammy
Box 5
Big Valley AB T0J 0G0

⑈012610⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012608 $485.00


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

1260

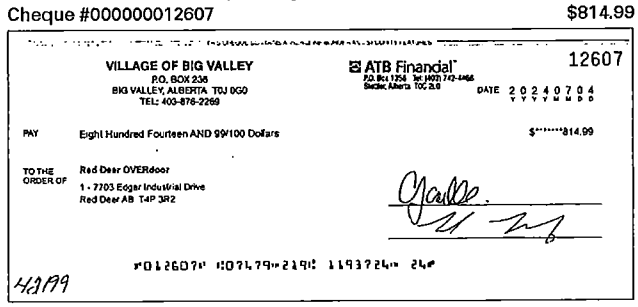
DATE 2024 07 04 YYYY MM DD

PAY Four Hundred Eighty Five AND 00/100 Dollars $*******485.00

TO THE ORDER OF Rotvik, Tammy
Box 5
Big Valley AB T0J 0G0

⑈012608⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012607 $814.99


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12607

DATE 2024 07 04 YYYY MM DD

PAY Eight Hundred Fourteen AND 99/100 Dollars $*******814.99

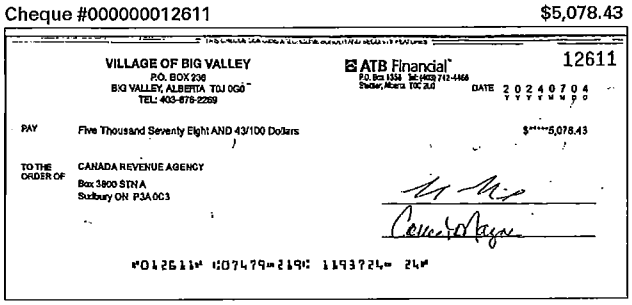
TO THE ORDER OF Red Deer OVERdoor
1 - 7703 Edgar Industrial Drive
Red Deer AB T4P 3R2

⑈012607⑈ ⑆07479-219⑆ 1193724⑈ 24⑈

43199

ATB0114001_6931845_001 - 0000506 003832

Business Public Sector Operating 00119372424
Cheque #000000012611 $5,078.43


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

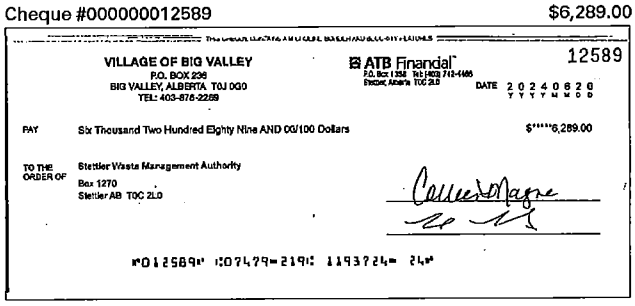
12611

DATE 2024 07 04 YYYY MM DD

PAY Five Thousand Seventy Eight AND 43/100 Dollars $*****5,078.43

TO THE ORDER OF CANADA REVENUE AGENCY
Box 3800 STN A
Sudbury ON P3A 0C3

Business Public Sector Operating 00119372424
Cheque #000000012589 $6,289.00


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

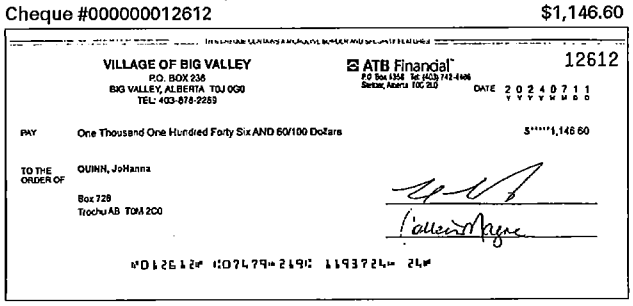
12589

DATE 2024 06 20 YYYY MM DD

PAY Six Thousand Two Hundred Eighty Nine AND 00/100 Dollars $*****6,289.00

TO THE ORDER OF Stettler Waste Management Authority
Box 1270
Stettler AB T0C 2L0

Business Public Sector Operating 00119372424
Cheque #000000012612 $1,146.60


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

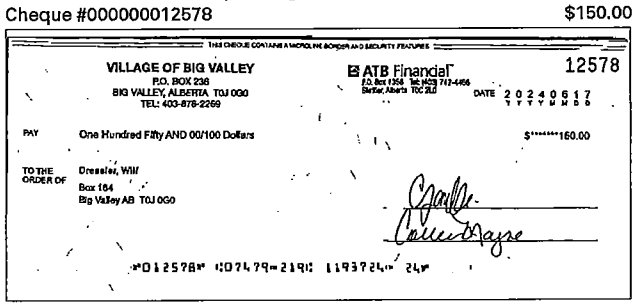
12612

DATE 2024 07 11 YYYY MM DD

PAY One Thousand One Hundred Forty Six AND 60/100 Dollars $*****1,146.60

TO THE ORDER OF QUINN, JoHanna
Box 728
Trochu AB T0M 2C0

Business Public Sector Operating 00119372424
Cheque #000000012578 $150.00


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

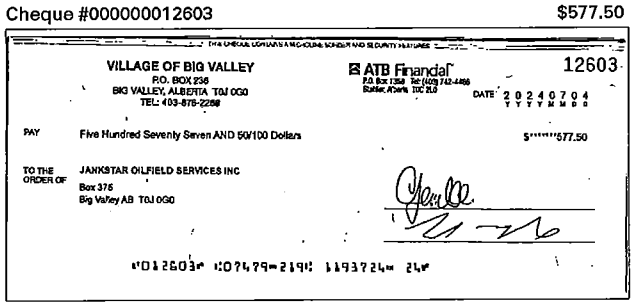
12578

DATE 2024 06 17 YYYY MM DD

PAY One Hundred Fifty AND 00/100 Dollars $*******150.00

TO THE ORDER OF Dressler, Will
Box 164
Big Valley AB T0J 0G0

Business Public Sector Operating 00119372424
Cheque #000000012603 $577.50


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

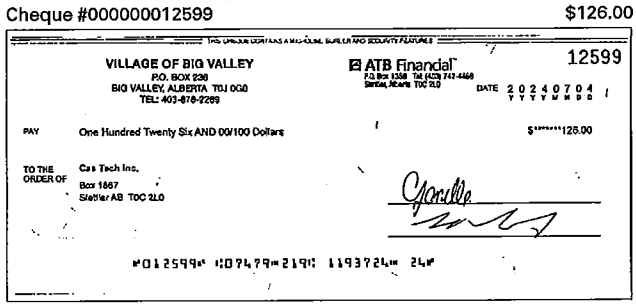
12603

DATE 2024 07 04 YYYY MM DD

PAY Five Hundred Seventy Seven AND 50/100 Dollars $*******577.50

TO THE ORDER OF JANKSTAR OILFIELD SERVICES INC
Box 375
Big Valley AB T0J 0G0

Business Public Sector Operating 00119372424
Cheque #000000012599 $126.00


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

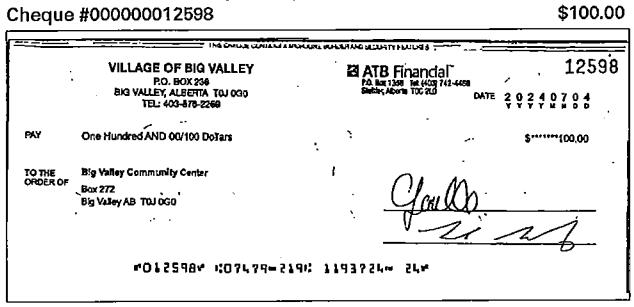
12599

DATE 2024 07 04 YYYY MM DD

PAY One Hundred Twenty Six AND 00/100 Dollars $*******126.00

TO THE ORDER OF Cas Tech Inc.
Box 1867
Stettler AB T0C 2L0

Business Public Sector Operating 00119372424
Cheque #000000012598 $100.00


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

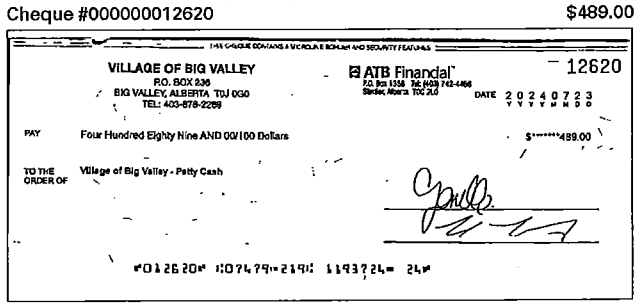
12598

DATE 2024 07 04 YYYY MM DD

PAY One Hundred AND 00/100 Dollars $*******100.00

TO THE ORDER OF Big Valley Community Center
Box 272
Big Valley AB T0J 0G0

Business Public Sector Operating 00119372424
Cheque #000000012620 $489.00


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel: (403) 742-4466
Stettler, Alberta T0C 2L0

12620

DATE 2024 07 23 YYYY MM DD

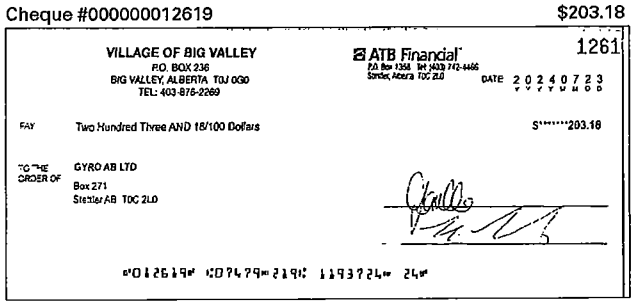
PAY Four Hundred Eighty Nine AND 00/100 Dollars $*******489.00

TO THE ORDER OF Village of Big Valley - Petty Cash

ATB Financial™

SAVING I BORROWING I INVESTING I KNOW-HOW

Business Public Sector Operating 00119372424
Cheque #000000012619 $203.18


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
Sedgewick, Alberta T0C 2L0

1261

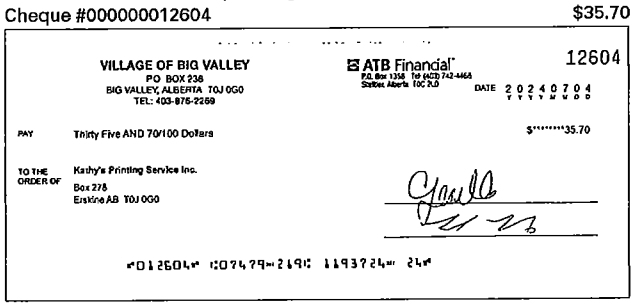
DATE 2024 07 23 (YYYY MM DD)

PAY Two Hundred Three AND 18/100 Dollars $*******203.18

TO THE ORDER OF GYRO AB LTD
Box 271
Stettler AB T0C 2L0

⑈012619⑈ ⑆07479⑈219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012604 $35.70


VILLAGE OF BIG VALLEY
PO BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel (403) 742-4466
Stettler, Alberta T0C 2L0

12604

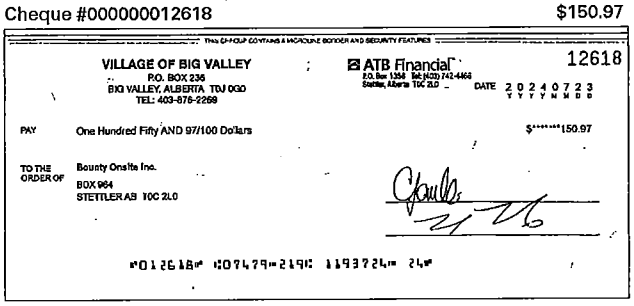
DATE 2024 07 04 (YYYY MM DD)

PAY Thirty Five AND 70/100 Dollars $*******35.70

TO THE ORDER OF Kathy's Printing Service Inc.
Box 278
Erskine AB T0J 0G0

⑈012604⑈ ⑆07479⑈219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012618 $150.97


THIS DOCUMENT CONTAINS A MICROLINE BORDER AND SECURITY FEATURES

VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel (403) 742-4466
Stettler, Alberta T0C 2L0

12618

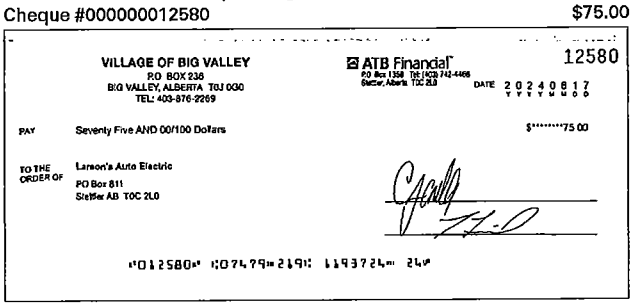
DATE 2024 07 23 (YYYY MM DD)

PAY One Hundred Fifty AND 97/100 Dollars $*******150.97

TO THE ORDER OF Bounty Onsite Inc.
BOX 964
STETTLER AB T0C 2L0

⑈012618⑈ ⑆07479⑈219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012580 $75.00


VILLAGE OF BIG VALLEY
PO BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel (403) 742-4466
Stettler, Alberta T0C 2L0

12580

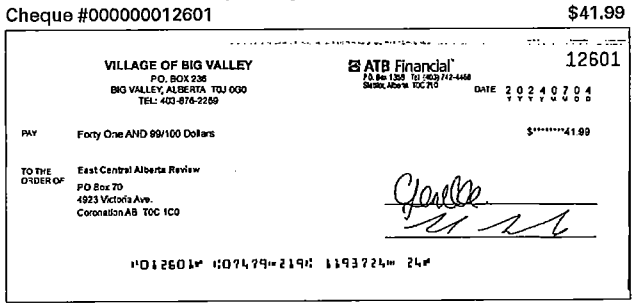
DATE 2024 08 17 (YYYY MM DD)

PAY Seventy Five AND 00/100 Dollars $*******75.00

TO THE ORDER OF Larson's Auto Electric
PO Box 811
Stettler AB T0C 2L0

⑈012580⑈ ⑆07479⑈219⑆ 1193724⑈ 24⑈

Business Public Sector Operating 00119372424
Cheque #000000012601 $41.99


VILLAGE OF BIG VALLEY
P.O. BOX 236
BIG VALLEY, ALBERTA T0J 0G0
TEL: 403-876-2269

ATB Financial
P.O. Box 1358 Tel (403) 742-4466
Stettler, Alberta T0C 2L0

12601

DATE 2024 07 04 (YYYY MM DD)

PAY Forty One AND 99/100 Dollars $*******41.99

TO THE ORDER OF East Central Alberta Review
PO Box 70
4923 Victoria Ave.
Coronation AB T0C 1C0

⑈012601⑈ ⑆07479⑈219⑆ 1193724⑈ 24⑈

ATB0114001_6931845_001 - 0000506 003834

July. 2024

Name	Invoice #	Reason	Amount	GL Code	date	ck #
Tammy Rotvik	na	water certificate	485	1-2-4100-148/4100/148		
Kathys Printing Serv	6826	commi. Of oath	35.7	1-2-1100-510	04-Jul	
Cas Tech Computers	1825	remote monitoring	126	1-2-1200-250	04-Jul	
Red Deer Overhead door	42199	repair dry shop door	814.99	1-2-3200-250	04-Jul	
Stettler Home Hardware	137804	chain, line, poly cut	167.54	1-2-3200-510	04-Jul	
Colleen Mayne	na	canada day items	269.19	1-2-7200-270	04-Jul	
East Central Review	20585	Canada Advertising	41.99	1-2-7200-270	04-Jul	
JoHanna Quinn	102	water testing exp	573.3	1-2-4100-250	04-Jul	
Big Valley community hall	04-Jul	brand donation rem.b	100	1-2-1200-990	04-Jul	
White Owl Services	03-Mar	June Fuel	366.99	1-2-3200-510	04-Jul	
Jankstar	2905	hang flags,	577.5	1-2-3200-520	04-Jul	
Canada Revenu AG.	04-Jul	june payroll remitance.	5078.43		04-Jul	
Telus-fireline	conf #1479215396	fireline-2554287180	100.48	1-2-2300-215	july 10 Eft	1479215396
Telus-fireline	conf # 001479215867	fireline-20000091	60..52	1-2-2300.215	july 10 eft	1479215867
Telus- office internet	conf # 001479215556	internet	75.53	1-2-1200-215	july 10 eft	##########
JoHanna Quinn	103-104	water testomg	1146.6	1-2-4100-250		
Canadian tire	2473	wasp control	93.39	1-2-7200-250	23-Jul	12616
Kathys Printing	6802	name tags./stamp	71.4	1-2-1100-510	23-Jul	12613
Gyro ab ltd	4242	blade deck	203.18	1-2-3200-520	23-Jul	12619
Future AG	is82104	blade kit kubota	124.58	1-2-3200-510	23-Jul	12617
Bounty on site	001-154420	supplies public toilet	150.97	1-2-7200-510	23-Jul	12618
Parkland Regional Library	02-Mar	3rd qurter req	821.73	1-2-7400-770	23-Jul	12614
Tammy Rotvik	02-Jun	1 tonn mirror- pick & pull	44.28	1-2-3200-510	23-Jul	12615
Village of Big Valley	22-Jul	petty cash	489		12-Jul	12620
telus mobility	10-Jul	Public works phone	20.74	1-2-3200-215		eft
telus	04-Jul	office internet	75.53	1-2-1200-215		eft
Telus	04-Jul	fireline	100.48	1-2-2300-215		eft
Telus	01-Jul	fireline	60.52	1-2-2300-215		eft
Telus	17-Jul	Office phones	447.25	1-2-1200-215		eft

June. 2024

Name	Invoice #	Reason	Amount	GL Code	date	ck #
County of Stettler	cos010421	utility monitoring May	5652.36	1-2-4100-250-124200510	10-Jun	12558
Bagshaw Electric	W14556	repair sewer pump	983.33	1-2-4200-250	10-Jun	12554
Town of Stettler	invc045471	street sweeping	1957.73	1-2-3200-250	10-Jun	12564
Wallys backhoe	2346	10 yards road crush, county stettler levy road	476.5	1-2-3200.520	10-Jun	12467
Stettler building supplies	an1915	2x8 and batteries	67.99	1-2-3200-510	10-Jun	12563
GYRO	4050	blade 21 60 deck	193.5	1-2-3200-520	10-Jun	12559
County of Stettler	cos010388	caro analytical services	173.5	1-2-4200-250	10-Jun	12558
CAEP	122781	CAEP membership fees 2024	302.4	1-2-1200-212	10-Jun	12556
Linde	43115384	oxygen tanks	534.92	1-2-3200-510	10-Jun	12562
Village of Big Valley	01-Jun	petty cash reimburssment	497.83	121200215/1200	10-Jun	12566
Action plumbing	242650	excavat & replace sewer to main	2784.29	1-2-4200-250	10-Jun	12553
Stettler Home Hardware	137466	soap, plant fert, supplies	210.3	1-2-3200-510	10-Jun	12560
County of Stettler Housing	#224-requs05	third quarter payment	3177.00	1-2-800-199	10-Jun	12557
John Deer Financial	04-Jul	oil filter, parts	295.16	1-2-3200-520	10-Jun	12561
Uptown Office Supply	9025	office supplies	100.59	1-2-1200-510	10-Jun	12565
CRA	10-Jun	cra remittance	4350.58		10-Jun	12555
Woodys/Nappa	612-884790	battery for water tank- repair	246.32	1-2-3200-520	12-Jun	12575
MPE	4418-001-01-11	lagoo april	21303.45	1-2-1200-840	12-Jun	12571
On Earth Greenhouse	894318	flowers for summer planters	946.44	1-2-3200-510	12-Jun	12572
Gary Moe Chevrolet	305756	plug for oil for white truck	9.83	1-2-3200-520	12-Jun	12568
Stettler home hardware	137556	line for weedwacker	64.04	1-2-3200-520	12-Jun	12569
Trail Tire	27392	tire tube for mower	28.38	1-2-3200-520	12-Jun	12574
Tammy Rotvik	26-May	milage and meals remb.	234.44	1-2-4100-148	12-Jun	12573
JANKSTAR	2904	4 hrs skid steer, fill in ruts, bottle depo	420	1-2-3200-255	12-Jun	12570
Wilf Dressler	642629	roto-till pruple park	150	1-2-3200-250	17-Jun	12578
Alberta Municipal Affairs	17-Jun	Desingated industerial Property Requisition Notice	255.05	1-2-0100-198	17-Jun	12576
MPE	4418-001-01-12	lagoon study	20435.98	1-2-1200-840	17-Jun	12585
Larsons Auto Electric	4060222	labor- weed whipper	75	1-2-3200.-520	17-Jun	12580
White owl	89828	fuel for trucks and lawn mowers	1269.98	1-2-3200-510	17-Jun	12583
Gyro	4121	air filter kit	50.98	123200520	17-Jun	12579
Shirley McClellan Regiona Water	smrwsc003501	water consumption charge for May	5997.05	1-2-4100-550	17-Jun	12582
Canada Post	15-Jun	4 rolls of postage stamps	455.8	1-2-1200-215	17-Jun	12577
Telus mobility	10-Jun	38289008-public works phone	123.7	1-2-3200-215	17-Jun	eft
Telus- fire line	01-Jun	200000191-9- fire line	57.51	1-2-2300-215	17-Jun	eft
Telus -fire line	04-Jun	255428710 0-fireline	101.84	1-2-2300-215	17-Jun	eft
AWWOA	55520	membership	60	1-2-1200-212	17-Jun	12584
AWWOA	55521	water quality sampling & testing class-Tammy	335.62	1-2-4200-418	17-Jun	12584
JoHanna Quinn	100	water testing june 10, 12, 14/Milage	573.3	1-2-4100-250	17-Jun	12586
Big valley School	request May 21	awards sponsorship	200	1-2-1200-250	20-Jun	
Big Valley Athletic Assoc		Fcss grant reqeuest	2000	1-2-5100-770	20-Jun	
Stettler Waste Manage	smw000445	Q2 waste requ	6289	1-2-4300-350	20-Jun	
JoHanna Quinn	101	water testing- June 17-20-22	573.3	1-2-4100-250	26-Jun	
Trail Tire	27449	trailer tire repair	138.6	1-2-3200-250	26-Jun	
Canadian tire	2442	ratchet tie downs	33.59	1-2-3200-250	26-Jun	
Canadian Tire	2406	flags for Village-	218.3	1-2-7200-250	26-Jun	
Canadian Tire	2439	flags for Village-	219.27	1-2-7200-250	26-Jun	
Sobeys		Canada Day items	322.08	1-2.7200-270	26-Jun	
Eldon Stewart	na	utility rembursment- over paid utility bill. Then sold house,	328.47	1-2-1200-540	27-Jun	

EXPENSE TRENDS

Utility Bills 90 Days Overdue	15	18	20	20	17	18	16							
$ Amount	$1,871.79	$3,120.39	$3,688.90	$4,686.95	$1,143.31	$1,148.18	$1,848.81							

Expenses	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Trend
Cubic Meter Purchased	2,166.00	2,121.70	1,964.81	2,110.00	2,119.10	2,107.00	3,267.10						15,855.71	
Cubic Meter Billed	1,671.00	1,398.00	1,572.00	1,847.00	1,867.00	5,318.60	2,627.00							
Shirley $ Billed	6,129.78	6,004.41	5,560.41	5,972.40	5,997.05	5,962.81	9,245.89						44,872.75	
Residents $ Billed	4,678.80	3,941.40	4,401.60	5,171.60	5,414.30	5,318.60	7,618.38						36,544.68	
Flat Water Fee $	5,202.00	5,304.00	5,198.70	5,482.50	5,227.50	5,355.00	5,253.00						37,022.70	
Total	**19,847.58**	**18,769.51**	**18,697.52**	**20,583.50**	**20,624.95**	**24,062.01**	**28,011.37**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	##########	

Colleen Mayne

From: Russell, Cam (RCMP/GRC) <Cameron.Russell@rcmp-grc.gc.ca>
Sent: August 13, 2024 3:06 PM
To: Leann Graham; CAO; Colleen Mayne; Info; info@stettlercounty.ca; Yvette Cassidy
Subject: Alberta Municipalities Convention

Good afternoon,

I have been asked to canvas all municipalities in the Stettler Detachment area as to their/your interest in a meeting with our RCMP Commanding Officer during the convention.

If any of you are wanting to meet with the CO, I will ask that you identify issues that you wish to discuss prior to Aug 19 in order for everyone to be prepared and so I can respond to the CO's office.

If I haven't heard from you by the above noted date, I will assume that your community is not interested in meeting with the CO at the Convention and reply to their message advising of same.

Kind regards,

S/Sgt. Cam Russell
Detachment Commander
Stettler RCMP
403-742-3382

Royal Canadian Mounted Police / Gendarmerie royale du Canada

RCMP

ROYAL CANADIAN MOUNTED POLICE

August 2nd, 2024

S/Sgt. Cam Russell
Detachment Commander
Stettler, AB

Dear Mayor's, Reeve, Councillors and CAO's

Please find attached the quarterly Community Policing Report for the period from April 1st to June 30th, 2024. This report provides a detailed overview of human resources, financial data, and crime statistics for the Stettler Detachment.

As we progress through summer, I would like to reflect on the 2023 wildfire season, which was one of the most devastating in Alberta's history. In preparation for the 2024 wildfire season, the Alberta RCMP has ensured that we are well-prepared to meet the needs of the communities we serve. This proactive approach involved early staffing of our Division Emergency Operations Center to facilitate the processing of information and the deployment of additional resources to communities under threat. Although the moderate weather in May and June resulted in fewer wildfires compared to 2023, we have observed an increase in wildfire activity towards the end of July. The Alberta RCMP remains vigilant and ready to respond as these wildfires continue to threaten our citizens and communities.

Additionally, the recently announced G7 meeting scheduled to take place in Kananaskis in 2025 will require significant coordination and effort. While the specific dates have yet to be released, planning is already underway. As more information becomes available regarding the event and the expectations for the Alberta RCMP, we will keep our communities informed.

Thank you for your ongoing support and engagement. I am always available to discuss your community-identified policing priorities and any ideas you may have to enhance our service delivery. As the Chief of Police for your community, please do not hesitate to contact me with any questions or concerns.

Best regards,

S/Sgt. Cam Russell
Chief of Police
Stettler RCMP Detachment

RCMP
ROYAL CANADIAN MOUNTED POLICE

RCMP Provincial Policing Report

Detachment Information

Name of Detachment
Stettler

Name of Detachment Commander
S/Sgt. Cam Russell

Quarter
Q1

Date of Report (yyyy-mm-dd)

FTE Utilization Plan
2024/25

Community Consultations

Consultation No. 1

Date (yyyy-mm-dd)
2024-05-08

Meeting Type
Meeting with Elected Officials

Topics Discussed
Crime trends, staffing levels, highway at Erskine turning issues

Notes /Comments
Stettler County Council meeting

Consultation No. 2

Date (yyyy-mm-dd)
2024-04-19

Meeting Type
Meeting with Stakeholder(s)

Topics Discussed
Emergency Disaster round table with County CPO and Fire Chief

Notes /Comments
Discussion on rolls and responsibilities, what stage will the event be escalated to the next level of command structure.

Consultation No. 3

Date (yyyy-mm-dd)
2024-05-21

Meeting Type
Meeting with Elected Officials

Topics Discussed
Crime reduction/property crime, this years MYFP

Notes /Comments
Town of Stettler Council meeting

Consultation No. 4

Date (yyyy-mm-dd)
2024-06-12

Meeting Type
Meeting with Elected Officials

Topics Discussed
Upcoming AGM, golf carts and OHV's

Notes /Comments
Asked for County CPO to attend and present their CPTD measures to safeguard property

Consultation No. 5

Date (yyyy-mm-dd)
2024-06-14

Meeting Type
Meeting with Stakeholder(s)

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Topics Discussed

School Resource Officer program

Notes /Comments

Funding and support for the position

Community Priorities

Priority No. 1

Priority
Crime Reduction / Property Crime

Current Status and Results
Detachment employee's continue to educate and work together with stakeholders on preventative measures that can be taken to secure their properties and make safe/ sound decisions. Detachment stats have continued to be low overall, direction has been provided for GD members to maintain continuous compliance checks on prolific offenders in the area.

Priority No. 2

Priority
Enhanced Public Confidence and Engagement - Engage with Community Members and Councils

Current Status and Results
Several engagements have been complete this quarter including a town hall in the Village of Big Valley which was cohosted by Stettler County CPO's, all town, village and county councils have been engaged this quarter along with several events in the community. Patrols around our summer villages have been made a priority however due to low water levels we have not been able to use our police boat for patrols on the lake.

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Crime Statistics[1]

The following table provides policing statistics on actual offences within the periods listed. Please see Appendix for additional information and a five-year comparison.

Category	April - June			January - December		
	2023	2024	% Change Year-over-Year	2022	2023	% Change Year-over-Year
Persons Crime	20	13	-35 %	66	49	-26 %
Property Crime	37	36	-2.7 %	136	131	-4 %
Other Criminal Code	17	8	-52.9 %	30	60	100 %
Total Criminal Code	74	57	-23 %	232	240	3 %
Drugs Offences	2	0	-100 %	3	9	200 %
Total Federal Acts	4	0	-100 %	5	14	180 %
Total Provincial Acts	11	17	54.5 %	65	62	-5 %
Municipal By-Laws	2	1	-50 %	2	5	150 %
Motor Vehicle Collisions	29	26	-10.3 %	264	259	-2 %
Provincial Code Traffic	163	195	19.6 %	311	722	132 %
Other Traffic	0	0	%	1	1	0 %
Criminal Code Traffic	5	13	160 %	28	24	-14 %
Total Traffic Offences	168	208	23.8 %	340	747	120 %

1. Data extracted from a live database (PROS) and is subject to change over time.

Trend / Points of Interest

RCMP
ROYAL CANADIAN MOUNTED POLICE

Provincial Service Composition[2]

Staffing Category	Established Positions	Working	Soft Vacancies[3]	Hard Vacancies[4]
Police Officers	4	3	1	0
Detachment Support	1	1	0	0

2. Data extracted on June 30, 1 and is subject to change.

3. Soft Vacancies are positions that are filled but vacant due to maternity/paternity leave, medical leave, etc. and are still included in the overall FTE count.

4. Hard Vacancies reflect positions that do not have an employee attached and need to be filled.

Comments
Police Officers:
Of the four established positions, three officers are currently working. There is one officer on special leave (one Medical leave). There is no hard vacancy at this time.

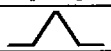
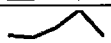
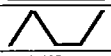
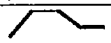
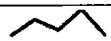
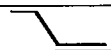
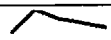
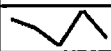
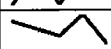
Detachment Support:
Of the one established position, ne resource is currently working.

RCMP
ROYAL CANADIAN MOUNTED POLICE

Stettler Provincial Detachment
Crime Statistics (Actual)
April – June: 2020 - 2024

All categories contain "Attempted" and/or "Completed"

July 5, 2024

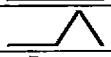
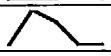
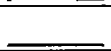
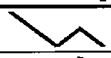
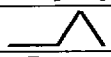
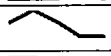
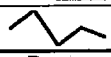
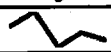
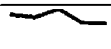
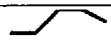
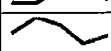
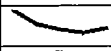
CATEGORY	Trend	2020	2021	2022	2023	2024	% Change 2020 - 2024	% Change 2023 - 2024	Avg File +/- per Year
Offences Related to Death		0	0	0	0	0	N/A	N/A	0.0
Robbery		0	0	0	0	0	N/A	N/A	0.0
Sexual Assaults		2	0	2	0	1	-50%	N/A	-0.2
Other Sexual Offences		0	0	3	0	0	N/A	N/A	0.0
Assault		4	3	7	14	4	0%	-71%	1.1
Kidnapping/Hostage/Abduction		0	0	0	0	0	N/A	N/A	0.0
Extortion		0	1	0	0	1	N/A	N/A	0.1
Criminal Harassment		1	4	4	2	2	100%	0%	0.0
Uttering Threats		5	2	8	4	5	0%	25%	0.2
TOTAL PERSONS		**12**	**10**	**24**	**20**	**13**	**8%**	**-35%**	**1.2**
Break & Enter		7	11	3	14	9	29%	-36%	0.7
Theft of Motor Vehicle		13	4	8	1	4	-69%	300%	-2.1
Theft Over $5,000		1	2	1	0	1	0%	N/A	-0.2
Theft Under $5,000		11	13	6	4	9	-18%	125%	-1.3
Possn Stn Goods		8	4	2	4	2	-75%	-50%	-1.2
Fraud		2	5	3	7	2	0%	-71%	0.2
Arson		2	2	0	0	0	-100%	N/A	-0.6
Mischief - Damage To Property		3	8	6	5	4	33%	-20%	-0.1
Mischief - Other		3	4	1	2	5	67%	150%	0.2
TOTAL PROPERTY		**50**	**53**	**30**	**37**	**36**	**-28%**	**-3%**	**-4.4**
Offensive Weapons		3	2	0	4	1	-67%	-75%	-0.2
Disturbing the peace		0	2	0	2	2	N/A	0%	0.4
Fail to Comply & Breaches		4	3	2	5	1	-75%	-80%	-0.4
OTHER CRIMINAL CODE		3	1	2	6	4	33%	-33%	0.7
TOTAL OTHER CRIMINAL CODE		**10**	**8**	**4**	**17**	**8**	**-20%**	**-53%**	**0.5**
TOTAL CRIMINAL CODE		72	71	58	74	57	-21%	-23%	-2.7

RCMP
ROYAL CANADIAN MOUNTED POLICE

Stettler Provincial Detachment
Crime Statistics (Actual)
April – June: 2020 - 2024

All categories contain "Attempted" and/or "Completed"

July 5, 2024

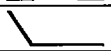
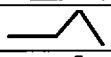
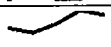
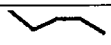
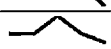
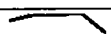
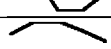
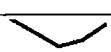
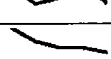
CATEGORY	Trend	2020	2021	2022	2023	2024	% Change 2020 - 2024	% Change 2023 - 2024	Avg File +/- per Year
Drug Enforcement - Production		0	0	0	0	0	N/A	N/A	0.0
Drug Enforcement - Possession		0	0	0	2	0	N/A	-100%	0.2
Drug Enforcement - Trafficking		0	3	2	0	0	N/A	N/A	-0.3
Drug Enforcement - Other		0	0	0	0	0	N/A	N/A	0.0
Total Drugs		**0**	**3**	**2**	**2**	**0**	**N/A**	**-100%**	**-0.1**
Cannabis Enforcement		0	0	0	0	0	N/A	N/A	0.0
Federal - General		1	0	0	2	0	-100%	-100%	0.0
TOTAL FEDERAL		**1**	**3**	**2**	**4**	**0**	**-100%**	**-100%**	**-0.1**
Liquor Act		2	1	0	1	0	-100%	-100%	-0.4
Cannabis Act		0	0	0	1	0	N/A	-100%	0.1
Mental Health Act		8	12	8	3	3	-63%	0%	-1.9
Other Provincial Stats		16	17	4	6	14	-13%	133%	-1.5
Total Provincial Stats		**26**	**30**	**12**	**11**	**17**	**-35%**	**55%**	**-3.7**
Municipal By-laws Traffic		1	1	0	0	0	-100%	N/A	-0.3
Municipal By-laws		2	4	0	2	1	-50%	-50%	-0.4
Total Municipal		**3**	**5**	**0**	**2**	**1**	**-67%**	**-50%**	**-0.7**
Fatals		0	0	1	1	0	N/A	-100%	0.1
Injury MVC		6	3	5	1	1	-83%	0%	-1.2
Property Damage MVC (Reportable)		33	30	39	24	23	-30%	-4%	-2.6
Property Damage MVC (Non Reportable)		1	1	3	3	2	100%	-33%	0.4
TOTAL MVC		**40**	**34**	**48**	**29**	**26**	**-35%**	**-10%**	**-3.3**
Roadside Suspension - Alcohol (Prov)		0	6	2	3	5	N/A	67%	0.7
Roadside Suspension - Drugs (Prov)		0	1	0	0	0	N/A	N/A	-0.1
Total Provincial Traffic		**92**	**228**	**79**	**163**	**195**	**112%**	**20%**	**14.1**
Other Traffic		**2**	**0**	**0**	**0**	**0**	**-100%**	**N/A**	**-0.4**
Criminal Code Traffic		**7**	**10**	**4**	**5**	**13**	**86%**	**160%**	**0.7**
Common Police Activities									
False Alarms		**1**	**1**	**5**	**9**	**2**	**100%**	**-78%**	**1.0**
False/Abandoned 911 Call and 911 Act		**4**	**8**	**6**	**1**	**3**	**-25%**	**200%**	**-0.9**
Suspicious Person/Vehicle/Property		**54**	**29**	**19**	**13**	**21**	**-61%**	**62%**	**-8.2**
Persons Reported Missing		**0**	**1**	**2**	**0**	**1**	**N/A**	**N/A**	**0.1**
Search Warrants		**0**	**0**	**0**	**0**	**0**	**N/A**	**N/A**	**0.0**
Spousal Abuse - Survey Code (Reported)		**8**	**5**	**1**	**4**	**9**	**13%**	**125%**	**0.1**
Form 10 (MHA) (Reported)		**0**	**1**	**0**	**0**	**0**	**N/A**	**N/A**	**-0.1**

RCMP
ROYAL CANADIAN MOUNTED POLICE

Stettler Municipal Detachment
Crime Statistics (Actual)
April – June: 2020 - 2024

All categories contain "Attempted" and/or "Completed"

July 5, 2024

CATEGORY	Trend	2020	2021	2022	2023	2024	% Change 2020 - 2024	% Change 2023 - 2024	Avg File +/- per Year
Offences Related to Death		0	0	1	0	0	N/A	N/A	0.0
Robbery		1	0	0	0	0	-100%	N/A	-0.2
Sexual Assaults		1	1	1	4	0	-100%	-100%	0.1
Other Sexual Offences		0	0	1	2	0	N/A	-100%	0.2
Assault		29	18	19	24	17	-41%	-29%	-1.8
Kidnapping/Hostage/Abduction		0	0	0	1	0	N/A	-100%	0.1
Extortion		0	1	0	0	1	N/A	N/A	0.1
Criminal Harassment		4	3	5	8	7	75%	-13%	1.1
Uttering Threats		20	9	15	15	7	-65%	-53%	-2.0
TOTAL PERSONS		**55**	**32**	**42**	**54**	**32**	**-42%**	**-41%**	**-2.4**
Break & Enter		11	16	11	11	8	-27%	-27%	-1.1
Theft of Motor Vehicle		11	14	8	8	0	-100%	-100%	-2.8
Theft Over $5,000		2	2	4	2	1	-50%	-50%	-0.2
Theft Under $5,000		21	25	25	26	12	-43%	-54%	-1.7
Possn Stn Goods		11	8	4	5	3	-73%	-40%	-1.9
Fraud		12	17	12	16	12	0%	-25%	-0.1
Arson		1	2	0	0	1	0%	N/A	-0.2
Mischief - Damage To Property		15	23	23	17	10	-33%	-41%	-1.6
Mischief - Other		23	14	5	9	19	-17%	111%	-1.3
TOTAL PROPERTY		**107**	**121**	**92**	**94**	**66**	**-38%**	**-30%**	**-10.9**
Offensive Weapons		3	5	8	2	4	33%	100%	-0.1
Disturbing the peace		22	10	14	25	11	-50%	-56%	-0.7
Fail to Comply & Breaches		29	18	13	13	9	-69%	-31%	-4.5
OTHER CRIMINAL CODE		8	10	9	12	3	-63%	-75%	-0.8
TOTAL OTHER CRIMINAL CODE		**62**	**43**	**44**	**52**	**27**	**-56%**	**-48%**	**-6.1**
TOTAL CRIMINAL CODE		224	196	178	200	125	-44%	-38%	-19.4

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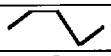
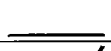
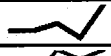
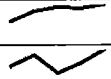
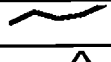
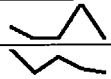
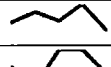
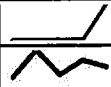
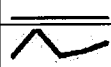
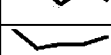
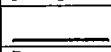
CATEGORY	Trend	2020	2021	2022	2023	2024	% Change 2020 - 2024	% Change 2023 - 2024	Avg File +/- per Year
Drug Enforcement - Production		0	0	0	0	1	N/A	N/A	0.2
Drug Enforcement - Possession		2	2	2	1	8	300%	700%	1.1
Drug Enforcement - Trafficking		1	2	2	0	1	0%	N/A	-0.2
Drug Enforcement - Other		0	0	1	0	0	N/A	N/A	0.0
Total Drugs		**3**	**4**	**5**	**1**	**10**	**233%**	**900%**	**1.1**
Cannabis Enforcement		0	0	0	0	0	N/A	N/A	0.0
Federal - General		1	0	2	0	5	400%	N/A	0.8
TOTAL FEDERAL		**4**	**4**	**7**	**1**	**15**	**275%**	**1400%**	**1.9**
Liquor Act		0	1	4	3	4	N/A	33%	1.0
Cannabis Act		0	1	2	0	0	N/A	N/A	-0.1
Mental Health Act		13	20	23	22	25	92%	14%	2.6
Other Provincial Stats		21	33	13	24	39	86%	63%	2.7
Total Provincial Stats		**34**	**55**	**42**	**49**	**68**	**100%**	**39%**	**6.2**
Municipal By-laws Traffic		1	0	0	3	0	-100%	-100%	0.1
Municipal By-laws		9	3	7	4	3	-67%	-25%	-1.1
Total Municipal		**10**	**3**	**7**	**7**	**3**	**-70%**	**-57%**	**-1.0**
Fatals		0	0	0	0	0	N/A	N/A	0.0
Injury MVC		3	4	3	1	0	-100%	-100%	-0.9
Property Damage MVC (Reportable)		21	33	22	42	12	-43%	-71%	-0.9
Property Damage MVC (Non Reportable)		3	0	6	6	2	-33%	-67%	0.4
TOTAL MVC		**27**	**37**	**31**	**49**	**14**	**-48%**	**-71%**	**-1.4**
Roadside Suspension - Alcohol (Prov)		0	6	0	3	5	N/A	67%	0.7
Roadside Suspension - Drugs (Prov)		0	0	0	0	1	N/A	N/A	0.2
Total Provincial Traffic		**80**	**358**	**108**	**253**	**186**	**133%**	**-26%**	**10.7**
Other Traffic		**0**	**0**	**0**	**0**	**0**	**N/A**	**N/A**	**0.0**
Criminal Code Traffic		**4**	**17**	**4**	**6**	**10**	**150%**	**67%**	**0.1**
Common Police Activities									
False Alarms		**18**	**24**	**10**	**20**	**13**	**-28%**	**-35%**	**-1.4**
False/Abandoned 911 Call and 911 Act		**8**	**3**	**4**	**4**	**6**	**-25%**	**50%**	**-0.3**
Suspicious Person/Vehicle/Property		**71**	**67**	**46**	**45**	**27**	**-62%**	**-40%**	**-11.0**
Persons Reported Missing		**0**	**3**	**0**	**3**	**4**	**N/A**	**33%**	**0.8**
Search Warrants		**0**	**0**	**0**	**0**	**0**	**N/A**	**N/A**	**0.0**
Spousal Abuse - Survey Code (Reported)		**28**	**18**	**13**	**23**	**17**	**-39%**	**-26%**	**-1.7**
Form 10 (MHA) (Reported)		**1**	**0**	**2**	**1**	**3**	**200%**	**200%**	**0.5**