

Request for Proposal

for

Design, Engineering and Construction Services

for

2025/2026 Water and Wastewater Infrastructure Improvements

Request for Proposal No.: 2025-01-WW

Issued: April 17, 2025

Submission Deadline: **May 12, 2025, 4:00 p.m. MST**

RFP Contact: Steve Altena

Telephone: 403-946-5565 ext. 223

Email: stevea@crossfieldalberta.com

Posted to: Alberta Purchasing Connection at <https://purchasing.alberta.ca/>
Town of Crossfield website at <https://crossfieldalberta.com/p/opportunities>

1005 Ross Street | P.O. Box 500 | Crossfield, AB. T0M 0S0 | (403) 946-5565

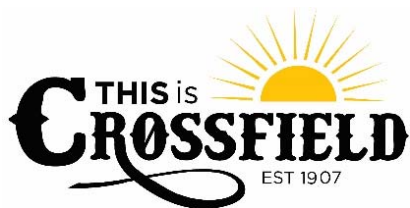


TABLE OF CONTENTS

1. INTRODUCTION 3

2. BACKGROUND 3

3. OBJECTIVE 3

4. SCOPE OF WORK..... 4

5. DELIVERABLES 7

6. PROJECT SCHEDULE AND ASSUMPTIONS 10

7. RFP SCHEDULE 11

8. SUBMISSION DETAILS 11

9. PROPOSAL CONTENT AND REQUIREMENTS 13

10. EVALUATION AND SELECTION 14

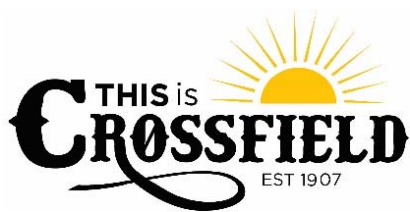
11. OTHER TERMS AND CONDITIONS 16

12. AWARD OF PROPOSAL..... 18

APPENDIX A – PROPOSAL FORM 19

APPENDIX B – DRAFT SERVICE AGREEMENT..... 20

APPENDIX C – TECHNICAL INFORMATION 21



1. INTRODUCTION

This Request for Proposal (RFP) issued by the Town of Crossfield (“the Town”) is an invitation for qualified engineering consultants (the Proponent) to submit proposals for the municipal 2025 Water and Wastewater Infrastructure Improvements, as further described in this RFP. Detailed requirements for submission, evaluation criteria, along with any specifications and qualifications are contained within. It is important to note that the Town follows City of Calgary construction specifications and standards.

The RFP documents are posted to the public through the Alberta Purchasing Connection (APC) website, and on the Town’s website. There will be no public opening of the proposals received.

2. BACKGROUND

The Town of Crossfield is a rapidly growing community with a strong industrial base, located approximately 50 km north of Calgary, Alberta, along Highway 2A. The town has experienced per annum growth of 4% - 5% in recent years and as of 2024, had a population of 4,211 residents.

The Town has a need to improve and replace aging water system infrastructure to address existing deficiencies and to support future growth. The Town requires the services of a consultant to provide engineering services for four (4) projects:

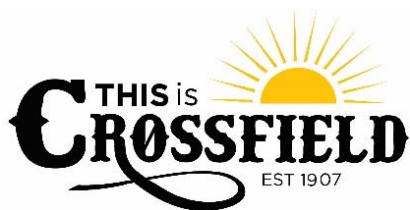
- i. Detailed design and construction of improvements to the outlet of the Town’s treated effluent storage cell, including:
 - installing fish screens and/or other features to block fish passage;
 - installing a water level meter;
 - valve replacement and piping reconfiguration to better utilize existing turbine pump.
- ii. Detailed design and construction for 460 m of water and wastewater main replacement along Laut Avenue.
- iii. Detailed design and construction for 224 m of wastewater main replacement in the Athabasca Crescent and Whitfield Avenue area.
- iv. Conceptual design, detailed design, and construction of drainage improvements for the Town’s bulk water station adjacent to Laut Avenue.

3. OBJECTIVE

The objective of this RFP is to select the most qualified consultant team based on their ability to provide the required engineering services for the following projects:

Treated Effluent Storage Cell Outlet Improvements

- a. Perform detailed design for improvements to the outlet of the Town’s treated effluent storage cell.



- b. Provide contract/construction administration and engineering services during the construction/installation of outlet improvements.
- 3.1. Wastewater Main Replacement – Athabasca Crescent and Whitfield Avenue
 - a. Perform detailed design for the construction of approximately 224 m of new PVC 200 mm diameter sanitary main including:
 - i. Replace existing 200 mm diameter sanitary main.
 - ii. Maintain existing services to all Town residents and businesses.
 - b. Provide contract/construction administration and engineering services during the construction of the new watermain and sanitary main, and the subsequent rehabilitation of disturbed areas.
- 3.2. Water and Wastewater Main Replacement – Laut Avenue
 - a. Perform detailed design for the construction of approximately 460 m of new PVC 400 mm diameter watermain, and 460 m of new PVC 750 mm diameter sanitary main, including:
 - i. Replace existing 250 mm diameter watermain and 300 mm diameter sanitary main.
 - ii. Maintain existing services to all Town residents and businesses.
 - b. Provide contract/construction administration and engineering services during the construction of the new watermain and sanitary main and the subsequent rehabilitation of Laut Avenue.
- 3.3. Bulk Water Station Improvements
 - a. Conduct a preliminary assessment and conceptual design of potential drainage improvements for the Town's bulk water station, including preparing preliminary construction costs.
 - b. Perform detailed design of drainage improvements for the bulk water station **(deletable)**.
 - c. Provide contract/construction administration and engineering services during the construction of drainage improvements at the bulk water station **(deletable)**.

4. SCOPE OF WORK

The successful Proponent will propose a team of professionals available to perform the scope of work outlined below. Additional technical information is provided in Appendix C.

- 4.1. Treated Effluent Storage Cell Outlet
 - a. Detailed Design and Construction Services Procurement
 - i. Conduct general project management for all design and construction service procurement activities.
 - ii. Consult with key stakeholders including, but not limited to, Alberta Environment and Protected Areas (AEPA) and shallow utilities as necessary.
 - iii. Hydrovac to confirm utility locations and coordinate shallow utility crossings and any required approvals as necessary.

- iv. Prepare detailed design for the installation of fish screens in accordance with Environment and Climate Change Canada (ECCC) and AEPA standards, guidelines and BMPs (Best Management Practices).
- v. Prepare detailed design for the installation of a water level meter and outlet valve replacement.
- vi. Review outlet piping configuration to better utilize existing turbine pump for effluent discharge.
- vii. Prepare detailed design to implement identified piping improvements should the Town choose to proceed **(deletable)**.
- viii. Identify any strategies, methods, or other infrastructure that may add value to the project and reduce immediate and/or long-term costs for the Town.
- ix. Prepare detailed cost estimate.
- x. Manage procurement including preparation of any quote or tender packages.
- xi. Provide quote or tender award recommendations.
- xii. Attend regular design update meetings with the Town.

b. Contract/Construction Administration

- i. Conduct general project management for all contract/construction administration activities.
- ii. Attend pre-construction meetings.
- iii. Adhere and participate in all site safety requirements and activities.
- iv. Monitor site safety and take appropriate action as necessary to address safety issues.
- v. Interpret the design and provide supportive engineering services.
- vi. Conduct inspections, survey and testing for quality assurance monitoring of the contractor's work.
- vii. Conduct on-site inspection and contract administration during construction.
- viii. Monitor, review and approve material quantities submitted by the contractor(s).
- ix. Manage construction budget and schedule, document and provide recommendations on change orders.
- x. Prepare monthly progressive payment estimates based on contractor progress to provide recommendations to the Town on monthly progressive payments.
- xi. Conduct project close-out activities including preparing final details, record plans and drawings and final progressive estimate.
- xii. Provide project management and engineering support for CCC (Construction Completion Certificate), warranty period and FAC (Final Acceptance Certificate).
- xiii. Attend regular meetings with the Town and contractor during construction.

4.2. Water and Wastewater Main Replacement Projects (x2) – Athabasca Crescent and Whitfield Avenue / Laut Avenue

a. Detailed Design and Construction Services Procurement

- i. Conduct general project management for all design and construction service procurement activities.

- ii. Review and become familiar with the existing reports and materials associated with the project, including the following:
 - Town of Crossfield Master Sanitary Servicing – Interim Development Evaluation prepared by Allnorth dated March 24, 2025 (Appendix C).
 - Sanitary Sewer Condition Assessment Addendum #1 prepared by Allnorth dated January 27, 2025 (Appendix C).
 - Town of Crossfield Master Sanitary Servicing Study 2020 Update prepared by Allnorth dated February 16, 2021 (<https://www.crossfieldalberta.com/p/municipal-plans>).
 - Town of Crossfield Master Water Servicing Study 2020 Update prepared by Allnorth dated July 2020 (<https://www.crossfieldalberta.com/p/municipal-plans>).
- iii. Consult with key stakeholders including, but not limited to, shallow utility companies and adjacent businesses whose operations may be impacted.
- iv. Hydrovac to confirm utility locations and coordinate shallow utility crossings and any required approvals.
- v. Conduct detailed survey of existing features.
- vi. Prepare detailed design of the new water and sanitary mains in accordance with the City of Calgary's standards and AEPA standards, guidelines and BMPs.
- vii. Identify any strategies, methods, or other infrastructure that may add value to the project and reduce immediate and/or long-term costs for the Town.
- viii. Prepare construction staging plan with consideration of traffic impacts and required water and sanitary bypass connections to maintain services to businesses and residents.
- ix. Prepare detailed design of all surface restoration work including for, but not limited to, any backfill, pavement, concrete features, landscaping and sign and pavement marking work.
- x. Prepare detailed cost and quantity estimates.
- xi. Manage procurement including preparation of construction and tender documents and managing the tendering process.
- xii. Carry out tender evaluation, recommendation and award.
- xiii. Provide support to the Town on any grant opportunities.
- xiv. Attend regular design update meetings with the Town.
- b. Construction
 - i. Conduct general project management for all contract/construction administration activities.
 - ii. Attend pre-construction meetings.
 - iii. Adhere and participate in all site safety requirements and activities.
 - iv. Monitor site safety and take appropriate action as necessary to address safety issues.
 - v. Interpret the design and provide supportive engineering services.
 - vi. Conduct inspections, survey and testing for quality assurance monitoring of the contractor's work in accordance with City of Calgary standards.
 - vii. Conduct on-site inspection and contract administration during construction.

- viii. Support commissioning activities for the water and sanitary mains.
- ix. Review, approve and monitor traffic accommodation, detours and erosion control plans.
- x. Monitor, review and approve material quantities submitted by the contractor.
- xi. Manage construction budget and schedule, document and provide recommendations on change orders.
- xii. Prepare monthly progressive payment estimates based on contractor progress to provide recommendations to the Town on monthly progressive payments.
- xiii. Conduct project close-out activities including preparing final details, record plans and drawings and final progressive estimate.
- xiv. Provide project management and engineering support for CCC, warranty period and FAC.
- xv. Attend regular meetings with the Town and contractor during construction.

4.3. Bulk Water Station Improvements

- a. Assessment and Conceptual Design
 - i. Conduct general project management for all assessment and conceptual design activities.
 - ii. Assess the bulk water station for opportunities to improve site drainage to manage potable water drainage/spills.
 - iii. Prepare conceptual design including proposed infrastructure and costs for improving site drainage in accordance with AEPA standards, guidelines and BMPs.
- b. Detailed Design and Construction Services Procurement **(deletable)**
 - i. Prepare detailed design for site drainage improvements.
 - ii. Project to be paired with the Laut Avenue water and sanitary main replacement project and will follow similar scope.
- c. Construction **(deletable)**
 - i. Conduct general project management for all contract/construction administration activities.
 - ii. Project to be paired with the Laut Avenue water and sanitary main replacement project and will follow similar scope.

5. DELIVERABLES

5.1. General

- a. Project Management
 - i. Update meetings and reports: Minimum monthly frequency during design and bi-weekly during construction periods.
 - ii. Quality assurance and quality control plans and reporting. The Town follows City of Calgary construction specifications.
 - iii. Review meetings at key stages in the design process.

- iv. Billing on a monthly cycle with a breakdown of hours and hourly rates per individual, tracking of original budget versus remaining budget and design and construction management budget forecasts to completion.

5.2. Treated Effluent Storage Cell Outlet Improvements

Components of this project may be designed and constructed within different timeframes. Most critical to the Town is the installation of fish screens or other feature to block fish passage.

a. Design

- i. Design package with 60% drawings and initial cost estimate.
- ii. Issued for Construction (IFC) drawings, specifications, quantities and final cost estimate.
- iii. Preparation of tender/quote package and advertisement on Alberta Purchasing Connection.
- iv. Support during tender/quote process including answering questions, releasing addenda and attending meetings.
- v. Review bids/quotes, create summary and provide recommendation to Town.

b. Construction

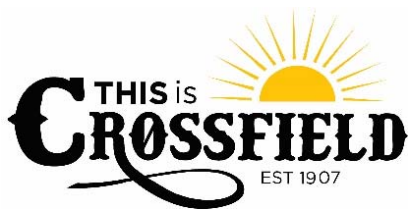
- i. Conduct general contract/construction administration activities.
- ii. Prepare a program for inspections, survey and testing for quality assurance monitoring during the work.
- iii. Conduct part-time inspections to ensure contractor is conforming to the specifications, drawings and timelines in the contract documents.
- iv. Review and make recommendations regarding contractor's payment requests.
- v. Chair construction status meetings.
- vi. Prepare and provide record drawings.
- vii. Complete warranty inspections and follow-up on contractor deficiencies.

5.3. Water and Wastewater Main Replacement Projects (x2) – Athabasca Crescent and Whitfield Avenue / Laut Avenue

Deliverables are to be submitted independently for each of the two projects based on the timelines laid out within this RFP.

a. Design

- i. Design package with 30% drawings and initial cost estimate.
- ii. Design package with 60% drawings and cost estimate.
- iii. Design package with 90% drawings, specifications, quantities and cost estimate.
- iv. Design package with IFC drawings, drawings, design report, specifications, quantities and cost estimate ready for tender.
- v. Preparation of tender package and advertisement on Alberta Purchasing Connection.
- vi. Support during tender process including answering questions, releasing addenda and attending meetings.



- vii. Review bids, create summary and provide recommendation to Town.

b. Construction

- i. Conduct general contract/construction administration activities.
- ii. Prepare a program for inspections, survey and testing for quality assurance monitoring during the work.
- iii. Conduct full-time inspections to ensure contractor is conforming to the specifications, drawings and timelines in the contract documents.
- iv. Review and make recommendations regarding contractor's payment requests.
- v. Review, monitor and enforce traffic accommodation plans.
- vi. Support the Town in public communications.
- vii. Chair bi-weekly construction status meetings.
- viii. Prepare and provide record drawings.
- ix. Complete warranty inspections and follow-up on contractor deficiencies.

5.4. Bulk Water Station Improvements

a. Design

- i. Conceptual design package with concept drawings, initial cost estimate and assessment memo.
- ii. Progressive detailed design included with 60-90-IFC drawings for Laut Avenue Water and Wastewater Main Replacement Project, should Town choose to proceed **(deletable)**.
- iii. Incorporation with Laut Avenue project tendering process.

b. Construction **(deletable)**

- i. Incorporation with Laut Avenue project construction activities.

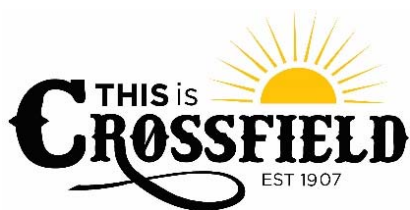
6. PROJECT SCHEDULE AND ASSUMPTIONS

The project dates and assumptions below are estimated for the purposes of project planning and costing specific to this RFP. These are subject to change as the projects progress.

Project	Milestone	Date	Assumptions
Treated Effluent Storage Cell Outlet Improvement	Design Completion	June 13, 2025	1 hydrovac hole
	Tender/Quote Award	June 30, 2025	
	Construction Completion	July 25, 2025	On-site: 4 hrs/day for 15 days
Wastewater Main Replacement - Athabasca Crescent and Whitfield Avenue	Design Completion	June 30, 2025	5 hydrovac holes
	Tender Award	July 21, 2025	
	Construction Completion	September 30, 2025	On-site: 8 hrs/day for 25 days
Water/Wastewater Main Replacement – Laut Avenue	Design Completion	September 30, 2025	10 hydrovac holes
	Tender Award	February 26, 2026	
	Construction Completion	August 31, 2026	On-site: 8 hrs/day for 50 days
Bulk Water Station Improvements	Assessment and Conceptual Design Completion	September 30, 2025 ¹	

¹ Follow Laut Avenue project schedule for tendering and construction should Town decide to advance Bulk Water Station improvement project.

The Town needs to advance the fish screen or other feature to block fish passage out of the treated effluent storage cell as soon as possible, and is flexible to advance the Treated Effluent Storage Cell Outlet Improvement project in stages to facilitate this.



7. RFP SCHEDULE

The events and dates listed below are usual events of the Proposal process. The schedule provided is for guidance only and the Town reserves the unqualified right to issue an addendum to modify or eliminate any aspect of the schedule. The events and dates listed under the closing date may change, be postponed, or cancelled.

Proposals will be privately opened at 9:00 a.m. at the Town Office located 1005 Ross Street, on the Tuesday following the closing date.

Issue Date of RFP	April 17, 2025
Deadline for Questions	May 1, 2025 @ 4:00 p.m.
Proposal Submission Deadline	May 12, 2025 @ 4:00 p.m.
Proposal Review Period	5 business days
Agreement Negotiation Period	5 business days
Anticipated Execution of Agreement	May 27, 2025

8. SUBMISSION DETAILS

- 8.1. Proposals specifically marked **“2025/2026 Water and Wastewater Infrastructure Improvements”** shall be received by the following:

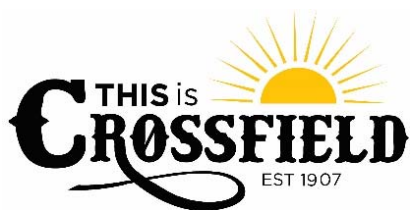
Town of Crossfield, Attention Steve Altena,
1005 Ross Street, P.O Box 500, Crossfield, Alberta T0M 0S0

- 8.2. Proposal submittal must be:

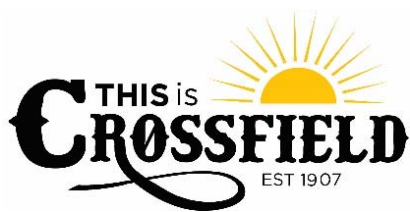
- Received by Town of Crossfield by the stated closing time at the address specified above.
- Duly signed; and submitted in hard copy.
- Three (3) hard copies of the proposals must be presented in sealed, clearly marked packages, one clearly marked “Original”, the others clearly marked “Copy”.
- Late, faxed, or electronic proposal packages will not be accepted.
- Submission Deadline: **May 12, 2025, at 4:00 p.m. Mountain Standard Time.**

- 8.3. All inquiries pertaining to this RFP should be directed in writing to Steve Altena at stevea@crossfieldalberta.com by 4:00 p.m. (MST) May 1, 2025.

Answers to all questions received will be combined and posted in one document by 4:00 p.m. (MST) on May 6, 2025 to Alberta Purchasing Connection and the Town’s website.



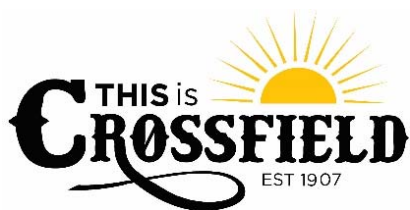
- 8.4. An optional virtual pre-submission meeting will be held on April 29, 2025, at 2 p.m. (MST). Please e-mail Steve Altena at stevea@crossfieldalberta.com prior to 4:00 p.m. (MST) April 28, 2025, to request the meeting link.
- 8.5. Proponents are asked to provide as much information as possible when replying to each point throughout the RFP, and must identify any specific provisions with which they are unwilling or unable to comply. Unwillingness or inability to comply with any specific provisions in this RFP may result in proposal being rejected.
- 8.6. Questions deemed critical for the preparation of Proposals will be provided with clarification via written addenda, distributed through the Alberta Purchasing Connection (APC) website and the Town's website, at the Town's discretion. The Town may not respond to inquiries received after the Deadline for Questions. Verbal answers or information provided by any Town staff or Town consultants are not binding to the Town.
- 8.7. If the Town determines that it is necessary to issue an addendum after the Deadline for Issuing Addenda, the Town may extend the Submission Deadline for a reasonable period of time.
- 8.8. Freedom of Information and Protection of Privacy (FOIP): All Proposals submitted become the property of the Town, and as such are subject to the provisions of Alberta's Freedom of Information and Protection of Privacy Act. Respondents who wish to ensure parts of their proposal are protected from disclosure under the Act should specifically identify any information or records provided with their Proposal that constitute trade secrets, and that are supplied in confidence, and the release of which could significantly harm their competitive position. Information that does not meet all three of the foregoing categories may be subject to disclosure to third parties. Please refer to the Freedom of Information and Protection of Privacy Act for further information.
- 8.9. Proponents may amend their Proposal prior to the Submission Deadline by submitting the amendment in a sealed package prominently marked with the RFP title and number and the full legal name and return address of the Proponent to the location set out above. Any amendment should clearly indicate which part of the proposal the amendment is intended to amend or replace.
- 8.10. At any time throughout the RFP process, up until the execution of a written agreement for provision of the Deliverables, a Proponent may withdraw a submitted Proposal. To withdraw a Proposal, a notice of withdrawal must be sent to the RFP Contact and must be signed by an authorized representative of the Proponent. The Town is under no obligation to return withdrawn proposals.



9. PROPOSAL CONTENT AND REQUIREMENTS

Proposals should be organized in the following format to facilitate evaluation and ensure each proposal received fair consideration.

- 9.1. **Submission Letter** – Must be dated and signed by principal authorized to negotiate, make commitments and provide clarifications on behalf of the Proponent.
- 9.2. **Proposal Form** – Must be completed and must include the Proposal Form as set out in Appendix A.
- 9.3. **Executive Summary** – Must highlight relevant points in the Proposal, including an overview of the project schedule and costs.
- 9.4. **Proponent Profile** – The Proposal must include:
 - A brief introduction of the Proponent, identifying members of the project team, the project lead and corporate oversight.
 - Identify a single point of contact.
 - Details of any sub-contracting arrangements, including sub-contracted project members.
 - Any changes in project team members must be disclosed to the Town, and the Proponent shall ensure such changes do not negatively impact the quality of the deliverables and project timelines.
- 9.5. **Proponent Information** – Proposals should be detailed enough to demonstrate how the Proponent's expertise, staff and resources best meet the needs of the Town as described in this RFP. The Proposal must include:
 - Corporate background, expertise and procedures.
 - Corporate organizational chart.
 - Current total staffing and capacity for completing the scope of work.
 - Summary of relevant municipal experience (maximum 5 pages), including examples of other similar projects.
 - Three (3) municipal references related to similar work that can attest to the quality, accuracy and professionalism of your employees and your firm.
- 9.6. **Project Approach and Costs** – The Proposal must include:
 - Description of project methodology for each of the four (4) projects, including for the design and construction phases. Describe any supplementary services that are value-added that may relate to this RFP.
 - Project schedule in Gantt chart or similar format for each of the four (4) projects.
 - Total estimated costs for each project with design and construction costs split out.



9.7. **Safety** – The Proponent shall highlight their safety program, including policies and procedures for conducting their work safely.

9.8. **Appendices** – The Proposal must include:

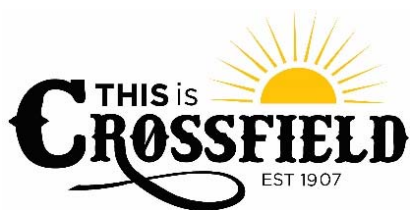
- Resumes of all project team members.
- Task breakdown and pricing proposal, including a table with personnel hours and rates for each task with costs totalled. The total should include all fees, costs and disbursements, sub-consultant fees, hydrovac costs and any other expenses.
- Safety and Insurance information, confirming the following:
 - i. Valid certificates of insurance:
 - Comprehensive Liability Insurance of \$5,000,000.
 - Comprehensive Automobile Liability Insurance of \$2,000,000.
 - ii. Current WCB Clearance Letter.
 - iii. Valid Certificate of Recognition (COR).
 - iv. The table of contents of the Proponent’s safety program.

10. EVALUATION AND SELECTION

The evaluation process will involve both qualitative and quantitative elements. All proposals presented will be evaluated in the context of the overall value that they provide to the Town of Crossfield. While cost is a significant part of the evaluation criteria, it will not be the sole determinant. Proposals will be reviewed by a team of Town personnel.

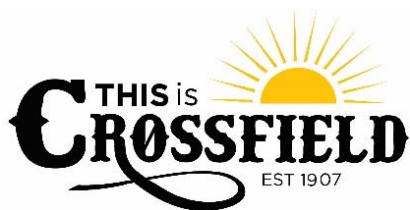
When evaluating Proposals, the Town may request further information from the Proponents and/or third parties in order to verify, clarify or supplement the information provided in the Proposal. The Town may revisit and re-evaluate the respondent’s submission based on any such information.

The Town of Crossfield criteria for evaluating the Proposals from qualified service Proponents for the collection and disposal of residential solid waste services within the Town are outlined in the table below. There are four (4) criteria to be evaluated, and each criterion has been assigned a weighting. Proposals will be rated on the criteria and assigned a score from 0 to 10 on each. Each criterion score will then be multiplied by the weight listed. The sum of all criteria scores will be the final ranking for a Proposal.



Criteria	Weighting	Score
<u>Project Understanding</u> Demonstrate an understanding of the scope, limitations, and intent of the requested services. Any unique insight into the service requirements shall be included. A strong understanding of Town specific considerations (i.e., infrastructure, policies, standards, etc.), and previous consulting experience in the Town will be considered advantageous.	30%	0-10
<u>Qualifications and Experience</u> Exhibit adequate corporate qualifications and experience to provide the Key Scope/Services requested. Proponents should clearly describe each key team member's knowledge and experience with projects of similar type and scale relating to each key team member's area of expertise. The following minimum information is requested: <ul style="list-style-type: none"> • Highlight relevant experience and expertise with similar projects. • Provide three (3) municipal references where the company has conducted similar work. • Resumes of Key Personnel – Identify single point of contact, key technical staff, and corporate oversight resumes. 	30%	0-10
<u>Cost of Services</u> Proposed fee/rate schedules are required and must demonstrate all fee and unit rates to provide the proposed services. Scoring will be based on a relative pricing formula chosen by the Town. In the event of a tie in Total Points, the selected Proponent will be the respondent with the lowest price.	30%	0-10
<u>Supplementary Services</u> Detail any additional value-added services your firm offers that may relate to this RFP.	10%	0-10

Points will be assigned for each applicable criteria based on the information provided in the response. Points can be modified, depending upon reference checks and other independent information received and confirmed. Scoring shall be awarded on a scale of 0 to 10, and the range is defined as follows:



Non-Monetary Scoring Points	Description
9 – 10	Fully exceeds expectations. Proponent clearly understands the requirements. <i>Excellent probability of success.</i>
7 – 8	Somewhat exceeds expectations. <i>High probability of success.</i>
5 – 6	Meets expectations. Proponent has a good understanding of the requirements. <i>Good probability of success.</i>
3 – 4	Somewhat meets expectations. Minor weakness or deficiencies. <i>Some probability of success.</i>
1 - 2	Does not meet expectations/ does not demonstrate an understanding of the requirements. <i>Low probability of success.</i>
0	Lack of response or complete misunderstanding of the requirements. <i>Very low probability of success.</i>

Points will be assigned for each Monetary Scored Criteria category based on a relative pricing formula. With this method, the quotation with the lowest cost receives the maximum points allowed. All other quotations receive a ratio of the points available based on their cost relationship to the lowest.

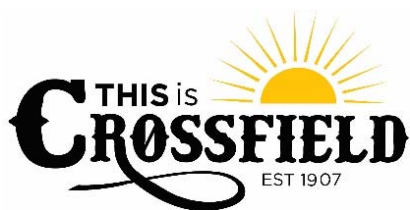
The Town may short-list Proponents. Proponents who are short-listed may be requested to make a formal presentation, at the sole cost of the Proponent.

In the event of a tie in Total Points, the selected proponent will be the respondent with the lowest price.

11. OTHER TERMS AND CONDITIONS

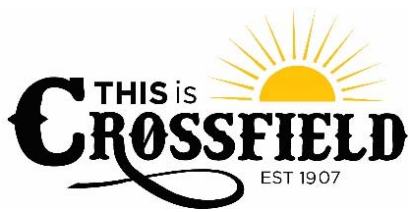
In responding to this RFP, and to be eligible for consideration, each respondent must submit a completed and signed proposal package that, among other things, acknowledges its acceptance of the RFP Terms of Reference and Governing Law as contained hereunder:

- 11.1. This RFP process is not intended to create a formal legally binding bidding process and shall not give rise to the legal rights or duties applied to a formal Contract, a binding bidding process or any other legal obligations arising out of any tendering process contract or collateral contract and instead shall be governed by the common law applicable to direct commercial negotiations.
- 11.2. The Town makes no representation, warranty, or guarantee as to the accuracy of the information contained in this RFP or issued by way of addenda. Any quantities shown or data contained in this RFP



or provided by way of addenda are estimates only and are for the sole purpose of indicating to Proponents, the general scale and scope of the deliverables. It is the Proponent's responsibility to obtain all the information necessary to prepare a proposal in response to this RFP.

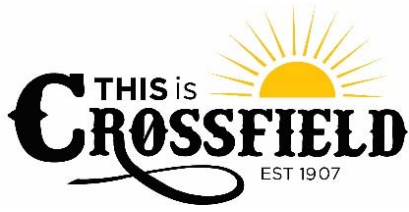
- 11.3. Neither party shall have the right to make any claims (in contract, or otherwise) against the other with respect to the award of a contract, the failure to award a contract, or the failure to honour a proposal.
- 11.4. The respondent will bear its own costs associated with, or incurred in, the preparation and presentation of its proposal package, including, if applicable, costs incurred for interviews, demonstrations, certificates or the like.
- 11.5. No legal obligation regarding the procurement of any goods or service shall be created between the respondent and the Town until the Town accepts the respondent's offer in writing.
- 11.6. The Town will not return the submission, or any accompanying documentation submitted by a respondent.
- 11.7. Proposals are to be submitted in English only.
- 11.8. The Town may elect not to consider a respondent whose proposal contains misrepresentations or any other inaccurate, misleading or incomplete information.
- 11.9. The Town may prohibit a respondent from participating in a procurement process based on poor past performance or inappropriate conduct, and such inappropriate conduct shall include but is not limited to:
 - i. the submission of quotations containing misrepresentations or any other inaccurate, misleading, or incomplete information.
 - ii. the refusal of the respondent to honour its pricing or other commitments made in its proposal.
 - iii. any other conduct, situation, or circumstance, as solely determined by the Town, which constitutes a Conflict of Interest.
- 11.10. The parties also acknowledge that these terms:
 - i. are included for greater certainty and are intended to be interpreted broadly and separately (with no particular provision intended to limit the scope of any other provision).
 - ii. are non-exhaustive (and shall not be construed as intending to limit the pre-existing rights of the parties to engage in pre-contractual discussions in accordance with the common law governing direct commercial negotiations).
 - iii. are to be governed by, and interpreted and construed in accordance with, the laws of the province of Alberta and the federal laws of Canada applicable therein.



- 11.11. During the term of the agreement, should the awarded Proponent become involved with a company merger or acquisition, the Town will have the option to either retain the new company or proceed with an RFP process by giving 60 days' notice to the Proponent.
- 11.12. Period of commitment: Proposals shall be final for 90 days from this RFP's closing date and time and may not be altered by subsequent offerings, discussions, or commitments unless the Proponent is requested to do so by the evaluation team.
- 11.13. Proposal rejection: The evaluation team may reject any or all Proposals or cancel this RFP process at any time.

12. AWARD OF PROPOSAL

- 12.1. The Town reserves the right to reject any or all Proposals or to accept the proposal deemed most favorable to the Municipality. All Proposals must be signed by a principal of the responding company.
- 12.2. Although the intended outcome is to enter into an agreement with a selected Proponent, the solicitation of Proposals does not in any way commit the Town to accept any Proposal or enter into a formal agreement with any organization. A draft Service Agreement is presented in Appendix B.
- 12.3. The Town reserves the right to waive formalities, reject any or all Proposals, or to accept a Proposal in part or in whole if deemed most favorable to the Town. The lowest rate/fee of any proposal may not necessarily be accepted.
- 12.4. The Town reserves the right to negotiate with any or all Proponents, including those Proponents that have submitted a Proposal that does not fully comply, either in material or non-material ways, with the RFP requirements.
- 12.5. Following the evaluation of Proposals, the Town intends to enter into agreement with the top-ranked Proponent which has been determined to have the ability to best meet the needs and expectations of the Town, and who offers the best overall content and value. A Proponent invited to enter into agreement negotiations should be prepared to provide requested information in a timely fashion and conduct its negotiations expeditiously.
- 12.6. If the Town and top-ranked Proponent cannot conclude negotiations and finalize an agreement, the Town may discontinue negotiations with the top-ranked Proponent and may invite the second ranked Proponent to enter into negotiations. This process will continue until an agreement is finalized, until there are no more eligible Proponents remaining for negotiations, or until the Town elects to cancel this RFP process.



APPENDIX A – PROPOSAL FORM

APPENDIX A – PROPOSAL FORM

Proponents are instructed to complete the Proposal Form below and include it in their proposal submission.

1. Proponent Information

Please fill out the following form, naming one person to be the proponent's contact for the RFP process and for any clarifications or communication that might be necessary.	
Full Legal Name of Proponent:	
Any Other Relevant Name under which Proponent Carries on Business:	
Street Address:	
City, Province/State:	
Postal Code:	
Phone Number:	
Fax Number:	
Company Website (if any):	
Proponent Contact Name and Title:	
Proponent Contact Phone:	
Proponent Contact Fax:	
Proponent Contact Email:	

2. Acknowledgment of Non-Binding Procurement Process

The proponent acknowledges that the RFP process will be governed by the terms and conditions of the RFP, and that, among other things, such terms and conditions confirm that this procurement process does not constitute a formal, legally binding bidding process (and for greater certainty, does not give rise to a Contract A bidding process contract), and that no legal relationship or obligation regarding the procurement of any good or service will be created between the Town and the proponent unless and until the Town and the proponent execute a written agreement for the Deliverables.

3. Ability to Provide Deliverables

The proponent has carefully examined the RFP documents and has a clear and comprehensive knowledge of the Deliverables required. The proponent represents and warrants its ability to provide the Deliverables in accordance with the requirements of the RFP for the rates set out in its proposal.

4. Non-Binding Pricing

The proponent has submitted its pricing in accordance with the instructions in the RFP. The proponent confirms that the pricing information provided is accurate. The proponent acknowledges that any inaccurate, misleading, or incomplete information, including withdrawn or altered pricing, could adversely impact the acceptance of its proposal or its eligibility for future work.

5. Addenda

The proponent is deemed to have read and taken into account all addenda issued by the Town prior to the RFP submission deadline. The proponent must set out below the number of each addendum received:

6. No Prohibited Conduct

The proponent declares that it has not engaged in any conduct prohibited by this RFP.

7. Conflict of Interest

Proponents must declare all potential Conflicts of Interest. This includes disclosing the names and all pertinent details of all individuals (employees, advisers, or individuals acting in any other capacity) who (a) participated in the preparation of the proposal; **AND** (b) were employees of the Town within twelve (12) months prior to the Submission Deadline.

If the box below is left blank, the proponent will be deemed to declare that (a) there was no Conflict of Interest in preparing its proposal; and (b) there is no foreseeable Conflict of Interest in performing the contractual obligations contemplated in the RFP.

Otherwise, if the statement below applies, check the box.

- ☐ The proponent declares that there is an actual or potential Conflict of Interest relating to the preparation of its proposal, and/or the proponent foresees an actual or potential Conflict of Interest in performing the contractual obligations contemplated in the RFP.

If the proponent declares an actual or potential Conflict of Interest by marking the box above, the proponent must set out below details of the actual or potential Conflict of Interest:

8. Disclosure of Information

The proponent hereby agrees that any information provided in this proposal, even if it is identified as being supplied in confidence, may be disclosed where required by law or by order of a court or tribunal. The proponent hereby consents to the disclosure, on a confidential basis, of this proposal by the Town to the advisers retained by the Town to advise or assist with the RFP process, including with respect to the evaluation this proposal.

Signature of Witness

Signature of Proponent Representative

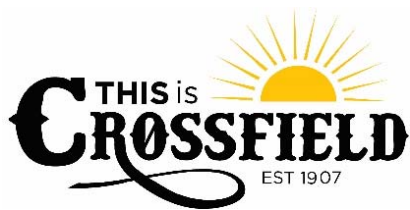
Name of Witness

Name of Proponent Representative

Title of Proponent Representative

Date

I have the authority to bind the proponent.



APPENDIX B – DRAFT SERVICE AGREEMENT

SERVICE AGREEMENT

THIS AGREEMENT is made in duplicate this _____ day of _____, 202__.

BETWEEN:

THE TOWN OF CROSSFIELD

(the "Town")

– and –

[INSERT NAME HERE]

(the "Consultant")

WHEREAS the Consultant is in the business of providing services of municipal engineering for water, wastewater and stormwater infrastructure;

AND WHEREAS the Consultant has represented through a Request for Proposal (RFP) process that the Consultant is skilled in providing these services, as more particularly specified in the Town's Request for Proposal for 2025/2026 Water and Wastewater Infrastructure Improvements;

NOW THEREFORE, in consideration of the mutual covenants and agreements herein provided, the parties hereto agree as follows:

Contract No.:

Bid Reference No.:

1. SERVICES AND OBLIGATIONS

- (a) The Consultant shall provide the Services described in the Consultant's Proposal dated [insert here] (the "Proposal") and submitted in reply to the RFP (hereinafter referred to as the "Services"). The Consultant warrants that the Services shall only be performed by the individuals identified by the Consultant in the Proposal unless prior written consent is provided by the Town. Notwithstanding the foregoing, the Town may in its sole and unfettered discretion require that an individual performing the Services be removed and replaced by a competent professional replacement to the satisfaction of the Town.
- (b) The Consultant shall perform the Services in accordance with and subject to the terms and conditions contained in this Agreement.
- (c) The Consultant shall be responsible and accountable to the Town and shall act in the best interests of the Town complying with and acting in accordance with any policies, procedures, by-laws or resolutions passed or adopted by the Town.
- (d) The Consultant shall commence the Services no later than [insert date here]. The Consultant acknowledges and accepts that time is of the essence of this Agreement.

- (e) The Term of this Agreement shall be to the conclusion of the Services related to the projects identified in the RFP, or as otherwise stated in this Agreement.
- (f) The Consultant shall comply with all reasonable requirements established by the Town's Chief Administrative Officer or his/her designate (hereinafter called "the Project Manager") for the performance of the Services, including but not limited to security, safety, environmental protection, emergency procedures and access.
- (g) The Consultant shall exercise the degree of care, skill, diligence, safety and efficiency normally provided by a qualified professional Consultant in accordance with all applicable law in the performance of services of a similar nature to the Services required under this Agreement.
- (h) The Consultant shall meet all deadlines requested by the Town and advise immediately of any inability to meet a proposed deadline.
- (i) In providing the Services, the Consultant, in its sole discretion shall determine how and when to perform the Services so long as the Consultant meets any deadlines which may be requested by the Town and in accordance with any governmental or municipal laws, acts, bylaws or policies.
- (j) The Town and the Consultant, by agreement in writing, may from time to time alter, add to, or deduct from the scope of the Services, and in such case the time for completion shall be adjusted accordingly.
- (k) No payment shall be made to the Consultant as compensation for damages for any delays or hindrances from any cause whatsoever in the progress of the Project, unless due to the Town's willful act or negligence.
- (l) The Consultant and the Consultant's employees:
 - (i) Shall conduct their duties related to the Agreement with impartiality and shall, if they exercise inspection or other discretionary authority over others in the course of those duties, disqualify themselves from dealing within anyone with whom a relationship between them could bring their impartiality into question.
 - (ii) Shall not influence, seek to influence, or otherwise take part in a decision of the Town, knowing that the decision might further their private interests.
 - (iii) Shall not accept any commission, discount, allowance, payment, gift, or other benefit that is connected, directly or indirectly, with the performance of their duties related to the Agreement, that causes, or would appear to cause, a conflict of interest.
 - (iv) Shall have no financial interest in the business of a third party that causes, or would appear to cause, a conflict of interest in connection with the performance of their duties related to the Agreement, and if such financial interest is acquired during the term of the Agreement, the Consultant shall promptly declare it to the Town.

2.

AGREEMENT DOCUMENTS

- (a) The following documents are incorporated into, and are deemed to be part of, this Agreement:
 - (i) RFP – 2025/2026 Water and Wastewater Infrastructure Improvements
 - (ii) **Proposal**
- (b) In the event of any inconsistency or conflict between the provisions of any of these documents, priority and precedence will be given by the following order:
 - (i) The body of this Agreement
 - (ii) RFP – 2025/2026 Water and Wastewater Infrastructure Improvements
 - (iii) **Proposal**
- (c) Or if the above order is not sufficient to resolve the inconsistency or conflict, then the following means may be used in the order listed:
 - (i) The most recent provision; or
 - (ii) The most specific provision.
- (d) In addition, and in any event the parties will endeavour to interpret the above documents, both individually and collectively, so as to give effect to the intentions of the parties and carrying out the Services in a timely, effective, and cost-effective manner.

3.

PAYMENT

- (a) The Town will pay the Consultant the rates provided for in the Proposal upon the prompt and faithful performance of the Services to the satisfaction of the Town. Payment shall be subject to all applicable legislation.
- (b) The Town shall not under any circumstances be obligated to pay to the Consultant any amount exceeding the sum set out in Section 3(a) unless prior written authorization has been obtained by the Consultant from the Town. Without limiting the generality of the foregoing, the Town shall not be required to make payment for any cost or disbursement incurred by or on behalf of the Consultant for the purpose of rectifying errors or omissions for which, in the reasonable opinion of the Town, the Consultant is responsible. These remedial services are not additional services.
- (c) The Consultant shall submit to the Town a monthly invoice which shall include sufficient detail to the reasonable satisfaction of the Town:
 - (i) describing the Services performed;
 - (ii) describing the time spent in the performance of the Services;
 - (iii) describing the disbursements and expenses incurred, if any, for which reimbursement is sought
- (d) The Town shall pay to the Consultant the invoiced fees within thirty (30) days of

receipt of invoice.

4. INFORMATION AND PROPERTY RIGHTS

- (a) The Consultant agrees that all base materials, research results, computer programs, drawings, documents and notes or materials of any type whatsoever developed or prepared by the Consultant (hereinafter called the "Documents") in performance of the Services shall vest and become the absolute property of the Town, including copyright of such and upon completion of the Services or termination of this Agreement, all copies of the Documents shall be delivered by the Consultant to the Town upon demand by the Town. Once the Town has possession of the Documents, the Town is solely responsible for the use the Town makes of them. This Section shall survive the termination of this Agreement.

5. REPORTING

- (a) The Consultant shall submit to the Project Manager regular progress reports with respect to the Services. If the Project Manager, acting reasonably, deems additional progress reports necessary the Consultant shall submit all additional progress reports requested by the Project Manager.
- (b) The Consultant shall meet with the Project Manager from time to time as requested by the Project Manager to review the performance of the Services. The designated representatives of the Consultant for the purpose of such meetings shall be as described in the Proposal.
- (c) The Consultant shall maintain records related to hours spent and costs incurred in performing the Services, for at least three years following the completion or termination of the Agreement. The Town reserves the right to audit or cause to be audited the Consultant's financial statements and accounts regarding the Town's account at any time during the term of this Agreement and such further three-year period.

6. SUSPENSION

- (a) The Town may, at any time by notice in writing, at its sole and unfettered discretion suspend the performance of the Services in whole or in part.
- (b) The Town shall pay all fees accrued due to the Consultant to the time of suspension, but payment of all other fees may be suspended by the Town.
- (c) The Town shall not be responsible for any fees incurred by the Consultant during the period of any suspension unless the Consultant satisfies the Project Manager, before incurring any such fees, of the necessity for the same and provides the Project Manager with such documentation as may be required by the Project Manager in support of the claim for fees.
- (d) The Consultant shall resume and complete the Services in accordance with the terms of this Agreement upon written notice from the Town. The Town shall make an equitable adjustment for terms of this Agreement which are affected by the suspension including time requirements and payment. Any dispute as to what constitutes an equitable adjustment may be decided by arbitration in the manner herein provided.
- (e) If the Town suspends the Services and does not authorize resumption of the

Services within 90 days after the effective date of the suspension, and the parties have not agreed to extend the suspension period on agreed terms, the Agreement is considered terminated on the 91st day after the effective date of the suspension.

- (f) When the suspension period expires, the Consultant may submit an invoice for any costs or expenses directly attributable to the suspension, and unavoidably incurred during the suspension period, regardless of whether the Services are resumed, or the Agreement is considered terminated.

7. TERMINATION OF AGREEMENT

- (a) The Town may terminate this Agreement by giving notice in writing which is delivered by hand or registered mail to the address in Section 14(a) (or as changed pursuant to Section 14(c)) for the Consultant, if:
 - (i) the Consultant has breached any of its obligations contained herein, fails to complete the Services or any portion thereof within the time limited by the Agreement for such completion and has failed to remedy such breach within ten (10) days of written notice thereof, or where the breach is incapable of being remedied within ten (10) days, has failed to commence to rectify such breach within the said ten (10) days and to diligently pursue such rectification until complete; or
 - (ii) there is a material error, incorrectness or breach of any representation or warranty of the Consultant contained herein; or
 - (iii) the Consultant becomes bankrupt or insolvent or takes the benefit of any statute for bankrupt or insolvent debtors or makes any proposal, assignment, or arrangement with any of its creditors; or
 - (iv) a trustee, receiver, receiver-manager or like person is appointed with respect to the business or assets of the Consultant.
 - (v) has any conflict of interest which may, in the opinion of the Town, have an adverse effect on the Project.
- (b) Notwithstanding the foregoing, the Town may terminate this Agreement at its sole and unfettered discretion for its convenience upon seven (7) days written notice, hand delivered to the address given in Section 14(a) (or as changed pursuant to Section 14(c)).
- (c) The Consultant, upon termination of this Agreement for any of the reasons set out in Section 7(a), shall be liable for, and upon demand shall pay to the Town an amount equal to, all loss or damage suffered, both directly and indirectly by the Town as a result of the non-completion of the Services. If the Consultant fails to pay the Town for any such loss or damage on demand, the Town shall be entitled to deduct the same from any payments due and payable to the Consultant, without prejudice to the Town's right to exercise any other remedies available to the Town at common law or at equity or under any statute.
- (d) The Consultant agrees that termination or suspension of this Agreement or a change to the Services in accordance with Section 1(j) does not operate so as to relieve or discharge the Consultant from any obligation under the Agreement or

imposed upon him by law in respect to the Services or any portion of the Services.

- (e) Subject to Section 7(c) the Town shall, in the event of any termination of this Agreement, pay to the Consultant all amounts for completed work due to the Consultant in accordance with this Agreement as well as all reasonable fees incurred up to the date of termination. The Town shall have no further liability of any nature whatsoever to the Consultant for any loss of profit or for loss of business opportunity or for any other losses suffered whatsoever, either directly or indirectly, by the Consultant as a result of the termination of this Agreement.
- (f) The Consultant shall, upon termination, forthwith deliver to the Town a reproducible copy of all materials used by the Consultant or prepared by the Consultant in relation to this Project.

8.

INDEMNITY AND INSURANCE

- (a) The Consultant shall indemnify and save harmless the Town, its servants, agents, employees and elected officials, from and against any and all losses, claims, demands, payments, suits, judgments, charges, expenses, actions, causes of actions and costs (including legal costs on a solicitor and his own client basis) suffered by any or all of them resulting from or occurring by reason of any error, omission or willful or negligent act or breach of this Agreement arising out of the performance of the Services by the Consultant or its servants, agents, employees or sub-consultants.
- (b) The Consultant shall maintain, in full force and effect with insurers licensed in the Province of Alberta, the following insurance:
 - (i) Comprehensive General Liability Insurance in respect to the Services and operations of the Consultant for bodily injury and/or property damage with policy limits of not less than [Five Million Dollars (\$5,000,000.00)] per occurrence. Such insurance shall include the Town as an additional insured, contain a cross liability clause and protect the Town from any claims by or through the Consultant.
 - (ii) Comprehensive Automobile Liability Insurance on all vehicles owned, operated or licensed in the Consultant's name, with limits of not less than \$2,000,000 per occurrence. The policy shall cover the Consultant for all sums which the Consultant shall become legally obligated to pay as damages because of bodily injury including passenger hazard and property damage caused by an occurrence.
- (c) The aforementioned insurance shall be in a form and with insurers acceptable to the Town's Insurance Broker. Any insurance called for under this Agreement shall be endorsed to provide the Town third (30) days advance written notice of cancellation or material change (material identified as any change restricting or reducing required coverage). Certified copies of the policies shall be provided to the Town by the Consultant or the Consultant's broker upon request by the Town, and evidence of renewal shall be provided to the Town not less than thirty (30) days prior to the expiry dates of the policies.
- (d) The Consultant shall be responsible for the payment of all premium and deductible amounts relating to the said insurance policies and the Consultant shall maintain the aforementioned insurance from the date of this Agreement until the Services are fully completed.

9.

SUBCONSULTANTS

- (a) The Consultant may, upon first obtaining the written approval of the Town, retain the services of one or more sub-consultant(s) as may be required to perform the Services. The Consultant shall obtain the approval of the Town before changing any sub-consultant.
- (b) The Consultant shall remain fully responsible for the performance of the Services even if the sub-consultants retained are approved pursuant to Section 9(a) by the Town.
- (c) The Consultant shall take all necessary measures to bind all sub-consultants to the terms of this Agreement.

10.

ORGANIZATION – EMPLOYMENT DISCLAIMER

- (a) The Agreement is for the services of the Consultant, as a separate business unit and neither the Consultant nor its employees, directors, officers, and agents shall be entitled to any benefits of any nature whatsoever available to employees of the Town other than to payments which are expressly provided for herein and those prescribed by law.
- (b) The Consultant, in providing the Services under the Agreement, does so under a contract for services and not of service, and is acting as a separate business unit and no agency, partnership, employer-employee or master-servant relationship is intended to be created between the Consultant and the Town.

11.

FORCE MAJEURE

- (a) Neither the Town nor the Consultant shall be held responsible for any delay or failure to perform its obligations under this Agreement where such delay or failure is due to fire, flood, explosion, war, riots or acts of civil disobedience, embargo, government action, Act of Public Authority, Act of God, or any other causes beyond their control, except labor disruption. Should the Force Majeure last longer than thirty (30) calendar days, the Town may terminate the Agreement.

12.

LEGAL REQUIREMENTS

- (a) The Consultant shall ensure that the Services comply with all relevant legislation including codes, bylaws and regulations as well as Town policies and procedures. Where there are two or more laws, ordinances, rules, regulations or codes applicable to the Services, the more restrictive shall apply.
- (b) The Consultant shall apply, pay for, and maintain in good standing all necessary permits or licenses required for the performance of the Services.
- (c) The Consultant shall at all times observe all the provisions of the *Labour Relations Code, Workers' Compensation Act, Environmental Protection and Enhancement Act and the Occupational Health and Safety Act* as well as rules and regulations pursuant thereto. In the event the Consultant fails to comply with any legislation or any regulations there under and the Town is required to do any act or thing or take any steps or pay any sums to rectify such non-compliance, the Town may subtract the cost of any such rectifications from any monies owed to the Consultant. Such action shall not be deemed a waiver of any action that the Town may pursue to collect any monies paid herewith that exceed the monies owed to the Consultant.

- (d) Without limiting the foregoing, the Consultant represents and warrants that it holds Workers Compensation Board (WCB) Clearance Status and shall continue to hold such status at all times throughout the performance of the Services. If at any time the Consultant's WCB Clearance Status is revoked or suspended, the Town may, without limitation to any other rights or remedies hereunder, immediately suspend the Services at the Consultant's cost until the WCB Clearance Status has been restored or may terminate this Agreement in accordance with Section 7(a).
- (e) The Consultant shall be responsible for the safety of workers and equipment on the Project as the Prime Consultant for the work and the worksite under the *Occupational Health and Safety Act*, and for the protection of the environment in relation to the Project. The Consultant shall bring to the attention of all sub-consultants all pertinent provisions of the *Occupational Health and Safety Act* and the *Environmental Protection and Enhancement Act* and regulations thereunder.

13. ASSIGNMENT AND AMENDMENT

- (a) The Consultant shall not, without the prior written consent of the Town, assign or in any way transfer its interest in or obligations under this Agreement to any other party. The Consultant acknowledges and accepts that the Town has chosen the Consultant to perform the Services because of the reputation of the Consultant and the qualifications of the persons identified in the Proposal, and the Consultant therefore agrees that the Town may in its absolute discretion refuse to accept any assignment or transfer of the Consultant's interest in or obligations hereunder, even if such refusal may be construed to be arbitrary or unreasonable.
- (b) This Agreement shall constitute the entire agreement between the parties related to the subject matter hereof, and supersedes any and all prior understandings, statements, warranties, representations, and agreements, oral and written, relating hereto.
- (c) All additions, amendments or modifications of this Agreement shall be binding only if the same is in writing and duly executed. If any terms of the documents incorporated herein, conflict with the terms of this Agreement, the terms and conditions of this Agreement shall prevail.

14. NOTICES

- (a) Any notices or other correspondence required to be given to an opposite party except for notice of termination shall be deemed to be adequately given if sent by prepaid registered mail addressed as follows:
 - (i) To the Consultant at: **[INSERT NAME & ADDRESS]**
 - (ii) To the Town at:

Town of Crossfield
Attention: Chief Administrative Officer
1005 Ross Street, PO Box 500
Crossfield AB T0M 0S0
- (b) Notice given as aforesaid, if posted in Alberta, shall conclusively be deemed to have been given on the fifth (5th) business day following the date on which such notice is mailed.

- (c) Either party may, at any time, give notice in writing to the other of any change of address of the party giving such notice and after the giving of such notice, the address therein specified shall be deemed to be the address of the said party for the giving of notice there under.
- (d) The word "notice" in this section shall be deemed to include any requests, statements or other writing in this Agreement provided or permitted to be given by the Town to the Consultant or by the Consultant to the Town.

15. SINGULAR AND MASCULINE

- (a) Words importing the singular or masculine also include the plural or feminine or body corporate where the context requires.

16. LAWS OF ALBERTA

- (a) This Agreement shall be construed in accordance with the laws of the Province of Alberta, and for the purposes of all legal proceedings this Agreement shall be deemed to have been performed in the said Province. If any provision herein contained shall in any way contravene the laws of the Province of Alberta, such provision shall be severed from the Agreement and the remaining provisions shall continue in force and effect. Nothing herein shall restrict the right of the Town to bring action against the Consultant in any Court of competent jurisdiction. The parties hereby irrevocably submit and attorn to the sole and exclusive jurisdiction of the Judicial District of Edmonton in the Province of Alberta for any legal proceeding arising under this Agreement.

17. INTERPRETATION

- (a) The headings in this Agreement are for ease of reference only and shall not be taken into consideration in construing or interpreting this Agreement.
- (b) If any provision of this Agreement is for any reason, found to be invalid or unenforceable by a body of competent jurisdiction, that provision shall be deemed severed from this Agreement and such invalidity, illegality or unenforceability shall not affect the validity of any other of its provision.

18. SUCCESSORS

- (a) This Agreement shall ensure to the benefit of and be binding upon the parties hereto and, except as hereinbefore provided, the successors and assigns thereof.

IN WITNESS WHEREOF the parties hereto have affixed their corporate seals by the hands of their proper signing officers in that behalf, effective the day and year first above written.

TOWN OF CROSSFIELD

[INSERT CONSULTANT'S NAME]

Date

Date

Town Representative (signature)

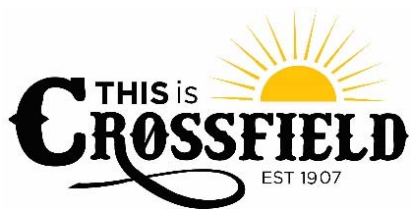
Consultant Representative (signature)

Name (print)

Name (print)

Title (print)

Title (print)



APPENDIX C – TECHNICAL INFORMATION

Town of Crossfield Master Sanitary Servicing – Interim Development Evaluation

500 1816 Crowchild Trail NW, Calgary, AB T2M 3Y7 Phone: 403-717-2370

Date:	March 24, 2025.	Project Number:	2403325
Attention:	Steve Altena	Project Description:	Town of Crossfield Master Sanitary Servicing – Interim Development Evaluation
Company:	Town of Crossfield	File Number:	2403325-1100-MEM-001
Phone:	403-946-5565	From:	Alex Mutasingwa
Fax:	403-946-4523	Email:	amutasingwa@allnorth.com
Email:	Stevea@crossfieldalberta.com	Rev:	2
Copy To:	Raul Morales, Lindsey Nash <lindseyn@crossfieldalberta.com>; Kinza Barney <kinzab@crossfieldalberta.com>; Joe Holstein <joe@crossfieldalberta.com>		

DOCUMENT INFORMATION

Document Type:	Town of Crossfield Master Sanitary Servicing – Interim Development Evaluation
Project Number:	2403325
File Number:	2403325-1100-MEM-001
Filename:	2403325-1100-MEM-001_Rev2-Town-of-Crossfield-MSS-Interim-Development-Evaluation.docx

REVISION HISTORY

Rev.#	Date of Issue	Prepared By	Reviewed By	Approved By	Description
0	2025-02-03	AM	AM	RM	For Use
1	2025-02-24	AM	AM	RM	For Use
2	2025-03-24	AM	AM	RM	For Use

APEGA Professional Member	APEGA Responsible Member

DISCLAIMER

The information contained in this document is the exclusive property of Allnorth Consultants Limited (Allnorth) and shall not be reproduced, or disclosed or communicated to any unauthorized person, or used in any other unauthorized way whatsoever without the express written permission of Allnorth. This information has been prepared by Allnorth exclusively for the Town of Crossfield and reflects our judgment based on the information available at the time that it was prepared. Any use of the report by third parties, or any reliance on or decisions made based on it, are the responsibility of such third parties. Allnorth does not accept responsibility for any damages suffered by any third party as a result of their reliance on or use of this report.

Copyright © Allnorth Consultants Limited, all rights reserved.



SANITARY SEWER CONDITION ASSESSMENT

ADDENDUM #1

Prepared For: Town of Crossfield

Submitted By: Allnorth Consultants Limited
500-1816 Crowchild Trail NW
Calgary, AB T2M 3Y7
Phone : 403-717-2370

Allnorth Contact: Raul Morales

Project Number: 2303189

Date: January 27, 2025



DOCUMENT INFORMATION

Project Number:	2303189
File Number:	2303189-1100-ADD- 001
Filename:	2303189-1100-ADD- 001_0-Crossfield Sewer Condition Assessment Addendum #1
Document Revision:	0

REVISION HISTORY

Rev.#	Date of Issue	Prepared By	Approved By	Description
0	Jan 27, 2025	Charles Mungwakuzwe, P. Eng., CPESC.	Clarence Chu, P. Eng.	Issued for Use

APEGA Professional Member	APEGA Responsible Member

DISCLAIMER

The information contained in this document is the exclusive property of Allnorth Consultants Limited (Allnorth) and shall not be reproduced, or disclosed or communicated to any unauthorized person, or used in any other unauthorized way whatsoever without the express written permission of Allnorth. This information has been prepared by Allnorth exclusively for Suncor and reflects our judgment based on the information available at the time that it was prepared. Any use of the report by third parties, or any reliance on or decisions made based on it, are the responsibility of such third parties. Allnorth does not accept responsibility for any damages suffered by any third party as a result of their reliance on or use of this report.

Copyright © Allnorth Consultants Limited, all rights reserved.



TABLE OF CONTENTS

1. INTRODUCTION.....	1
2. METHODOLOGY AND CHALLENGES.....	1
3. INSPECTION RESULTS AND CONCLUSIONS.....	2
REFERENCE.....	5

APPENDICES

Appendix A	Initial Sewer Condition Map
Appendix B	Current Sewer Condition Map, 2025
Appendix C	Capital Cost Estimate, 2025

LIST OF TABLES

Table 1-1 Location of Re-assessed Sanitary Sewer Pipes
Table 3-1 Town of Crossfield Sanitary Sewer Pipe Condition Assessment Results



1. Introduction

In 2017, the Town of Crossfield (Town) retained Allnorth Consultants Limited (Allnorth) to conduct a video-based sanitary inspection of selected sanitary sewer conduits, and to provide budgetary and maintenance program recommendations. For this study, Allnorth selected critical sanitary sewer sections for inspection in order to prioritize the repairs and examine the potential for alternative trenchless repair methods. A Sanitary Sewer Condition Assessment report "180613-MT-RPT-16CG0091 Crossfield Sanitary Sewer Assessment-Rev2" was prepared and submitted to the Town of Crossfield on June 13, 2018. The conditions of the existing pipes were rated Good, Fair, Poor and Severe based on the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment & Certification Program (PACP) rating system. Refer to **Appendix A** for the initial condition map and refer to the initial assessment report for further details.

Over the past few years, the Town has upgraded and repaired sanitary pipes with Severe rated condition and most of the pipes with poor rated conditions. In 2023, the Town requested Allnorth to reassess the condition of the remaining pipes with poor rated conditions that have not been replaced (see **Table 1-1** and **Appendix B**) to check whether their conditions have deteriorated further or confirm if they are still in relatively same condition as previously rated. Allnorth engaged Calgary Sewer Scope Inc. to perform sanitary sewer CCTV Inspection and Evaluation for Allnorth's condition analysis and recommendations. The site inspections were completed in July 2024.

Table 1-1 Location of Re-assessed Sanitary Sewer Pipes

Street Name	From	To	Diameter (mm)	Length (m)
Laut Ave	Railway St	Laut Cres (W)	300	414
Athabasca Cres	Athabasca Cres	Lane	200	98
Lane - Saskatchewan St	Athabasca Cres	Mountain Ave	200	126

Note that this was a condition re-assessment and not a capacity assessment, however presence of high water levels may indicate a reduced capacity.

2. Methodology and challenges

This re-assessment was part of the ongoing sanitary sewer upgrade and maintenance as outlined in the 2018 Sanitary Sewer Condition Assessment report. The inspection was carried out only to those poorly rated sanitary sewer that were previously inspected but



have not been replaced or upgraded. No further sanitary pipe system inventory was assessed.

Approximately 540 meters of sanitary sewer lines were inspected by Calgary Sewer Scope Inc. using CCTV video inspection with the latest PACP & City of Calgary inspection specifications through identified manhole locations from manhole to manhole. Reverse inspections were made if obstructed and inspection could not be completed after flushing. High-definition video recordings with identified problem areas along with a comprehensive written report were provided to Allnorth for review and recommendations.

After weeks of delays due to bad weather, the site inspection was finally completed in March 2024, however at that time, the inspections on Laut Avenue did not prove successful as the water levels during the inspection were too high to discern any real information from them. Most of the inspections were abandoned shortly after entering the pipe and had to reschedule during the night to try and inspect during low-flow conditions. A second attempt was made during the night of July 11, 2024. Unfortunately, the flow was the same as the previous inspections, and no new information was gathered suggesting that the lines are fully submerged and likely in need of a capacity upgrade as per Master Sanitary Servicing Study (Allnorth 2020).

Based on our experience, it is unlikely that the condition of this section of the sewer system has experienced a catastrophic failure, and the submerged condition is due to a structural failure including sagging of the pipes however this cannot be ascertained due to lack of CCTV footage. Based on that, it is fair to assume that the condition of this pipe system has worsened and remains in poor condition. A replacement/upsized should be completed as soon as possible.

3. Inspection results and conclusions

As indicated in **Table 1-1**, three main sanitary sewer pipes were re-assessed as they have not been replaced so far: MH-28 to MH-33 along Laut Ave, MH-152 to MH-153 along Athabasca Crescent, and MH-153 to MH-146 along the Lane and Saskatchewan Street.

Table 3-1 provides a summary of the inspection results and sanitary sewer defects based on the review of CCTV data as graded by the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment & Certification Program (PACP) rating system. Refer to the main report 180613-MT-RPT-16CG0091 Crossfield Sanitary Sewer Assessment for details.

Based on the review of the CCTV Inspections, most of the issues observed are cracks, intruding laterals, submerged sections due to blockages, sags and potentially limited



capacity. It is also worth noting that, as indicated in previous sections, the CCTV inspections did not prove successful in many sections as the water levels were high, especially along Laut Ave. The high-water level may be a result of structural defects or simply the pipe overcapacity.

Overall Allnorth recommends replacement all these pipes as soon as possible. However, given that replacement will only resolve sagging and aging material issues and not capacity issues, Allnorth recommends upsizing of the existing sanitary sewer along Laut Avenue as this presented significant signs of undercapacity, for more details refer to Allnorth's report 241206-AM-Town of Crossfield MSS Interim Development Evaluation. This report provides in depth capacity analysis of the sanitary sewer along Laut Avenue and cost estimate for upsizing works.

Appendix B provides an updated map of the Town of Crossfield's sewer conditions, including the pipes that have been upgraded since the 2017 report that are now rated "Good Condition".

Refer to **Appendix C** for cost estimates for replacement of sanitary sewer pipes from MH-152 to MH-153 along Athabasca Crescent, and MH-153 to MH-146 along the Lane and Saskatchewan Street.



Table 3-1 Town of Crossfield Sanitary Sewer Pipe Condition Assessment Results

Pipe ID	Manhole IDs		Street Location			Condition Indices		Quick Rating	CCTV Video Observations	Previous Condition Category	Repair Recommendation and Timing	Next Inspection
	From	To	Street Name	From	To	Structural	O&M					
L 29	MH 28	MH 29	Laut Ave	Laut Cres (E)	Railway St	-	-	Unable to determine, camera fully submerged	1.91m - Camera Underwater 2.41m - Survey Abandoned, Camera fully submerged	Poor	Replacement & upsize	Post-repair
L 29	MH 29	MH 28	Laut Ave	Railway St	Laut Cres (E)	-	-	Unable to determine, camera fully submerged	0.83m - Camera Underwater 0.83m - Survey Abandoned, Camera fully submerged	Poor	Replacement & upsize	Post-repair
L 30	MH 29	MH 30	Laut Ave	Laut Cres (E)	Laut Cres (W)	-	-	Unable to determine, camera fully submerged	0.00m - Camera Underwater 0.57m - Survey Abandoned, Camera fully submerged	Fair	Replacement & upsize	Post-repair
L 30	MH 30	MH 29	Laut Ave	Laut Cres (W)	Laut Cres (E)	-	-	Unable to determine, camera fully submerged	0.03m - Camera Underwater 0.03m - Survey Abandoned, Camera fully submerged	Fair	Replacement & upsize	Post-repair
L 31	MH 30	MH 31	Laut Ave	Laut Cres (E)	Laut Cres (W)	-	-	Unable to determine, camera fully submerged	0.00m - Camera Underwater 0.03m - Survey Abandoned, Camera fully submerged	Poor	Replacement & upsize	Post-repair
L 31	MH 31	MH 30	Laut Ave	Laut Cres (W)	Laut Cres (E)	-	-	Unable to determine, camera fully submerged	0.00m - Camera Underwater 0.09m - Survey Abandoned, Camera fully submerged	Poor	Replacement & upsize	Post-repair
L 32	MH 31	MH 32	Laut Ave	Bulk Water Stn	Laut Cres (W)	-	-	Unable to determine, camera fully submerged	0.00m - Camera Underwater 0.26m - Survey Abandoned, Camera fully submerged	Poor	Replacement & upsize	Post-repair
L 160	MH 152	MH 153	Athabasca Cres	Whitfield Ave (W)	Whitfield Ave (E)	-	-	Unable to determine, Survey abandoned	1.82m - Intruding Lateral at 9 o'clock, within 200mm 1.82m - Survey Abandoned, Unable to pass lateral	Poor	Replacement	Post-repair
L 160	MH 153	MH 152	Athabasca Cres	Whitfield Ave (E)	Whitfield Ave (W)	2.0	0.0	2100	85.27m - Intruding Lateral at 3 o'clock 85.27m - Survey Abandoned, Unable to pass lateral Cracks, moderate age-related spalling.	Poor	Replacement	Post-repair
L 162	MH 153	MH 164	Lane	Athabasca Cres	Whitfield Ave	-	-	Unable to determine, camera fully submerged	1.04m - Camera Underwater 1.04m - Survey Abandoned, Camera fully submerged	Poor	Replacement	Post-repair
L 162	MH 164	MH 153	Lane	Whitfield Ave	Athabasca Cres	-	-	Unable to determine, Survey abandoned	3.21m - Intruding Lateral at 3 o'clock, within 200mm 3.21m - Survey Abandoned, Unable to pass lateral	Poor	Replacement	Post-repair
L 174	MH 164	MH 146	Saskatchewan St	Whitfield Ave	Mountain Ave	2.0	1.0	2111	Cracks, moderate age-related spalling. Variable water level is likely due to submerged gravel or minor sags.	Poor	Replacement	Post-repair



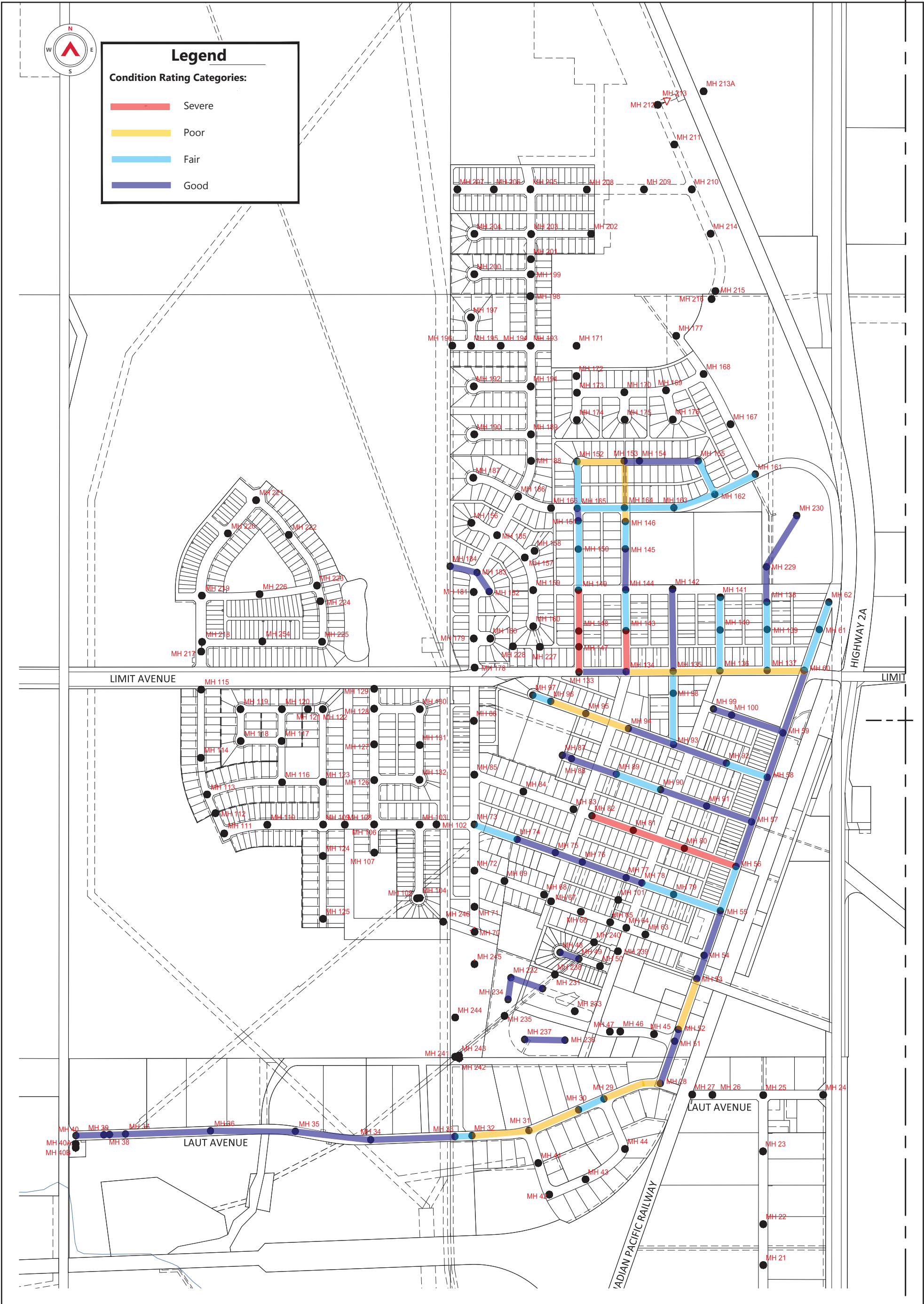
Reference

180613 -MT-RPT-16CG0091 Sanitary Sewer Condition Assessment Rev 2. Report, Prepared by Allnorth for The town of Crossfield, 13 June 2018.

241206-AM-Town of Crossfield MSS Interim Development Evaluation Report, Prepared by Allnorth for The town of Crossfield, 13 June 2018.



Appendix A Initial Sewer Condition Map



<table><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td>REV</td><td>YY/MM/DD</td><td>DESCRIPTION</td><td>DRWN</td><td>APVD</td><td> </td></tr></table>																															REV	YY/MM/DD	DESCRIPTION	DRWN	APVD		<p>Copyright © Allnorth Consultants Limited and affiliated companies. All rights reserved. The information contained in this document is the exclusive property of Allnorth Consultants Limited and affiliated companies and shall not be reproduced or disclosed, or communicated to any unauthorized person, or used in any other unauthorized manner, without the express written permission of Allnorth Consultants Limited and affiliated companies.</p> <p>CLIENT:</p> <div><p>TOWN OF CROSSFIELD Alberta, Canada</p></div> <div></div>	<p>TITLE:</p> <p>Sanitary Sewer Condition Map (Inspected Sewers)</p> <table><tr><td>CLIENT NO:</td><td>-</td><td>DRWN:</td><td>DATE: 17/11/20</td></tr><tr><td>PROJECT NO:</td><td>16CG0091</td><td>DSGN:</td><td>DATE:</td></tr><tr><td>DRAWING SIZE:</td><td>ANSI "B"</td><td>CHKD:</td><td>DATE:</td></tr><tr><td>SCALE:</td><td>1:7500</td><td>APVD:</td><td>DATE:</td></tr></table>	CLIENT NO:	-	DRWN:	DATE: 17/11/20	PROJECT NO:	16CG0091	DSGN:	DATE:	DRAWING SIZE:	ANSI "B"	CHKD:	DATE:	SCALE:	1:7500	APVD:	DATE:	<p>PROJECT:</p> <p>Town of Crossfield Sanitary Sewer Condition Assessment</p> <table><tr><td>DWG NO:</td><td>FIGURE 4-1</td><td>REV:</td><td>B</td></tr></table>	DWG NO:	FIGURE 4-1	REV:	B
REV	YY/MM/DD	DESCRIPTION	DRWN	APVD																																																							
CLIENT NO:	-	DRWN:	DATE: 17/11/20																																																								
PROJECT NO:	16CG0091	DSGN:	DATE:																																																								
DRAWING SIZE:	ANSI "B"	CHKD:	DATE:																																																								
SCALE:	1:7500	APVD:	DATE:																																																								
DWG NO:	FIGURE 4-1	REV:	B																																																								



Appendix B Current Sewer Condition Map, 2025



Appendix C Capital Cost Estimate, 2025

Capital Cost Estimate - Appendix C (2025)

Owner:	Town of Crossfield	Project No:	2303189
Project:	2025 Sanitary Sewer Replacement	Date:	2025-01-27
Streets	Athabasca Crescent, Lane and Saskatchewan Street.	Number #:	2303189-1100-CCE-001
Location:	Crossfield, AB	Revision:	0

Item #	Item Description	Unit	Est. Qty	Unit Price	Total Amount
C.1	GENERAL				
C.1.1	Mobilization/Demobilization	L.S.	1	\$ 20,000.00	\$ 20,000.00
C.1.2	Dewatering Allowance	L.S.	1	\$ 2,000.00	\$ 2,000.00
C.1.3	Hydrovac	hr	4	\$ 493.11	\$ 1,972
C.1.4	Traffic accommodation	L.S.	1	\$ 4,000.00	\$ 4,000
C.1.5	Protection of Shallow utilities	L.S.	1	\$ 1,443.00	\$ 1,443
C.1.6	Sanitary bypass pumping	L.S.	1	\$ 15,000.00	\$ 15,000
C.1.7	Quality control testing	L.S.	1	\$ 6,000.00	\$ 6,000
Sub-Total					\$ 50,415
C.2	SITE WORK AND REMOVALS				
C.2.1	Saw cutting	l.m.	448	\$ 9.26	\$ 4,148
C.2.2	Road core incl. asphalt removal, base course and surplus material and disposal	m ²	672	\$ 44.00	\$ 29,568
C.2.3	Removal & disposal - existing sanitary pipe	l.m.	224	\$ 30.00	\$ 6,720
C.2.4	Removal & disposal - existing sanitary manholes	ea.	4	\$ 700.00	\$ 2,800
Sub-Total					\$ 43,236
C.3	SANITARY SEWER				
C.3.1	Sanitary sewer - 200 mm PVC DR 35, 5m depth	l.m.	224	\$ 247.00	\$ 55,328
C.3.2	Sanitary manholes - Type 5A	v.m.	20	\$ 1,784.00	\$ 35,680
C.3.3	Tie-in to existing	ea.	2	\$ 12,000.00	\$ 24,000
Sub-Total					\$ 115,008
C.4	SERVICES				
C.4.1	Reconnection of existing sewer services (100 mm)	ea.	10	\$ 1,500.00	\$ 15,000
Sub-Total					\$ 15,000
C.5	SURFACE IMPROVEMENT				

Capital Cost Estimate - Appendix C (2025)

Owner:	Town of Crossfield	Project No:	2303189
Project:	2025 Sanitary Sewer Replacement	Date:	2025-01-27
Streets	Athabasca Crescent, Lane and Saskatchewan Street.	Number #:	2303189-1100-CCE-001
Location:	Crossfield, AB	Revision:	0

Item #	Item Description	Unit	Est. Qty	Unit Price	Total Amount
C.5.1	Common backfill of subgrade undercuts	m ³	60	\$ 36.00	\$ 2,171
C.5.2	Sub-grade preparation (150 mm worked depth)	m ²	101	\$ 3.00	\$ 302
C.5.3	Granular sub-base - 200 mm compacted depth	m ²	134	\$ 13.00	\$ 1,747
C.5.4	Granular base-course - 100 mm compacted depth	m ²	67	\$ 12.00	\$ 806
	Asphalt pavement:				
C.5.5	a) 70 mm depth - Mix 'A'	m ²	47	\$ 60.00	\$ 2,822
C.5.6	b) 40 mm depth - Mix 'B'	m ²	27	\$ 25.00	\$ 672
	Adjustment of appurtenances - to finished grade c/w asphalt taper:				
C.5.7	Manholes	ea.	4	\$ 580.00	\$ 2,320
C.5.8	Pavement markings	L.S.	1	\$ 6,356.90	\$ 6,357
Sub-Total					\$ 17,198
Appendix C - SUBTOTAL:					\$ 240,858
30% ENGINEERING & CONTINGENCY:					\$ 72,257
Appendix C - TOTAL:					\$ 313,115
Unit Price per I.m. of Sanitary Sewer Replaced:					\$ 1,400

Note:

- This cost estimate is based on various sources including City of Calgary approved rates 2024, Alberta Transportation unit price average reports and contractors
- These prices may change depending on the market and accessibility.

TABLE OF CONTENTS

1	INTRODUCTION	4
1.1	Project Scope	4
1.2	Town of Crossfield MSSS 2020 Update	5
2	MODEL DEVELOPMENT	6
2.1	Level of Service Criteria	8
3	EVALUATION RESULTS	8
3.1	Base Case Scenario	8
3.2	Laut Avenue Pipe Upsizing	16
3.3	Range Road 12 (RR12) Trunk Development	28
4	COST ESTIMATES FOR OPTIONS	38
5	CONCLUSIONS	39
6	RECCOMENDATIONS	39
	REFERENCES	40

APPENDICES

Appendix A Attachments

LIST OF TABLES

Table 1-1: Assumed Development – Vista Crossing, Hawk’s Landing and Iron Landing	5
Table 2-1: RDII Unit Hydrograph Parameters	8
Table 3-1: HGL Below Ground Elevation for Laut Ave and Railway St. – Base Case Scenario	9
Table 3-2: HGL Below Ground Elevation for Laut Avenue and Railway Street - RR12 Trunk Development	28
Table 4-1: Budgetary Cost Estimates	38

LIST OF FIGURES

Figure 2-1: Location of Vista Crossing Temporary Pump Station	7
Figure 3-1: HGL at Laut Avenue and Railway Street – Base Case Scenario	11
Figure 3-2: HGL from Vista Crossing Temporary Pumping Station to Laut Avenue – Base Case Scenario	14
Figure 3-3a: HGL from Vista Crossing Temporary Pumping Station to Laut Avenue – Base Case Scenario	15
Figure 3-4: HGL at Laut Avenue and Railway Street – Laut Ave Pipe Upsizing	19

Figure 3-5a: HGL at Laut Avenue and Railway Street – Laut Ave Pipe Upsizing.....	20
Figure 3-6: HGL from Vista Crossing Temporary Pumping Station to Laut Ave – Laut Ave Pipe Upsizing	23
Figure 3-7a: HGL from Vista Crossing Temporary Pumping Station to Laut Ave – Laut Ave Pipe Upsizing	24
Figure 3-8: HGL at Laut Ave and Flows from Node N-JASP-11 – Laut Ave Pipe Upsizing	27
Figure 3-9: HGL at Laut Avenue and Railway Street – RR12 Trunk Development	30
Figure 3-10a: HGL at Laut Avenue and Railway Street – RR12 Trunk Development.....	31
Figure 3-11: HGL from Vista Crossing Temporary Pumping Station to Laut Avenue – RR12 Trunk Development	34
Figure 3-12a: HGL from Vista Crossing Temporary Pumping Station to Laut Avenue – RR12 Trunk Development	35
Figure 3-13: HGL from Vista Crossing N-VST-332 to MH 40 via RR12 – RR12 Trunk Development.....	37

This memorandum provides an evaluation of the Town of Crossfield Master Sanitary Servicing for the interim developments. This evaluation is in regards with what of the two options of infrastructure should be developed: the Range Road 12 (RR12) Trunk or pipe upsizing on the Laut Avenue as the developments in Vista Crossing, Hawk's Landing, and Iron Landing takes place. This plan utilizes different development phasing assumptions than Town of Crossfield Master Sanitary Servicing Study 2020 Update (Allnorth, February 2021) as described further in Section 1.2, specifically for the years between 2024 to 2038.

1 INTRODUCTION

The Town of Crossfield contracted Allnorth to complete professional civil engineering services to evaluate the Town's Sanitary system current condition given the development growth in recent years since the completion of Town of Crossfield Master Sanitary Servicing Study 2020 Update (Allnorth, February 2021). This capacity assessment shall be interpreted in conjunction with Town of Crossfield Sanitary Sewer Assessment (Allnorth, January 2025) to determine the urgency of the upgrade, specifically on Laut Avenue, from Railway Street to Laut Crescent West.

The Town of Crossfield Sanitary Sewer Assessment Addendum #1 was a follow-up for the Sanitary Sewer Condition Assessment (Allnorth, June 2018) completed in 2018. Condition assessment completed for Laut Avenue (Allnorth, June 2018) from manhole MH28 to MH33, was evaluated to be in poor condition. This consisted of defective laterals, variable water levels likely due to minor sags or gravel accumulation, and moderate age-related spalling. For the current inspection that was made in March 2024 and on July 11, 2024 (Allnorth, January 2025) the pipe from manhole MH28 to MH33 the pipes were full of water. The camera was fully submerged, and the survey was abandoned as no useful information was obtained, which suggested the need for capacity upgrade.

The goal of this project is to evaluate two options for the key infrastructure upgrades identified that include pipe upsizing on the Laut Avenue or development of the Range Road 12 (RR12) Trunk.

1.1 Project Scope

Based on the proposal, the project scope of work include the following:

- Conduct a background review of all planned and recently developed areas.
- Update existing model to reflect all developed and approved development since 2020.
- Complete hydraulic model evaluation of the capacity of the existing system sanitary with consideration of three options:
 - Base case scenario that includes all developed and approved development since 2020.
 - Pipe upsizing on Laut Avenue are implemented, without development of RR12 Trunk, while maximizing the growth that can be accommodated.
 - Assess if commercial/industrial development in the future near-term for NW 24-28-1-5, SW 25-28-1-5, south portion of SW 36-28-1-5, and NW 25-28-1-5 can be supported. A review of the current model shows that areas NW 25-28-1-5, south portion of SW 36-28-1-5 and SW 25-28-1-5 drains to Laut Avenue from Node N-JASP-11. Areas in NW 24-28-1-5 drains to McCool Street sewer line from MH 1A-1 on Western Drive (Township Road 284). Thus, areas NW 25-

28-1-5, south portion of SW 36-28-1-5 and SW 25-28-1-5 draining to Laut Avenue, and areas in NW 24-28-1-5 McCool Street sewer will be assessed.

- Development of RR12 Trunk is implemented, without improvement on Laut Avenue, while maximizing the growth that can be accommodated.
- Prepare a high-level cost estimate for the two improvement options.
- Summarize the findings in a technical memorandum.
- Present to the Council and Town of Crossfield the results of the evaluation.

1.2 Town of Crossfield MSSS 2020 Update

The Town of Crossfield Master Sanitary Servicing Study 2020 Update was completed to expand the master planning horizon to include a large, proposed annexation of 22 quarter-sections, in addition to the current town area of 25 quarter-sections, for a total of 47 quarter-sections covering approximately 2,550 ha. The limits of the proposed annexation are as per the Town of Crossfield Land Use Bylaw Map (September 2018).

Vista Crossing, Hawk's Landing, and Iron Landing were earmarked to be developed for the years from 2019 to 2038 as summarised in the table below, extracted from the MSSS 2020 Update. Some areas of the Joint ASP are included in the **Table 1-1**. The sewer capacity analysis assumed the Joint ASP development will eventually take place, however, not assessed against the existing conditions because there is no active development occurring east of Highway 2A. To support the growth in the Joint ASP areas was considered in the improvement scenario.

Vista Crossing, Hawk's Landing, and Iron Landing are actively developing and so supporting these developments was the focus of the existing condition scenario; evaluating the capacity of the existing sanitary system while maximizing growth that can be supported.

Table 1-1: Assumed Development – Vista Crossing, Hawk's Landing, and Iron Landing

Year Range	Projected Population Growth (Equivalent, All Land Use Types)								Total Equivalent Population	Total Residential Population
	Existing Town excl. Upcoming ASPs	Upcoming Developments			Joint ASP	Balance of 2010 Annexation Lands	Balance of Future Annexation Lands	Total Growth (= 6% P.A.) ¹		
		Vista Crossing	Hawk's Landing	Iron Landing						
Build-out Total	4,668	2,993	2,725	1,618	4,153	1,507	0	N/A	73,159	42,640
Existing (2018) Total	4,668	548	0	292	0	0	0	N/A	5,508	3,895
2019-2023	-	815	500	-	548	-	-	1,863	7,371	5,189
2024-2028	-	815	742	200	736	-	-	2,493	9,864	6,912
2029-2033	-	815	742	563	973	243	-	3,336	13,201	9,212
2034-2038	-	-	741	563	1,896	1,264	-	4,465	17,666	11,609

Notes:

1. Extracted from Table 2-10 of MSSS 2020 Update.
2. P.A means per annum (annual growth rate).
3. Total Residential Population is the estimated population of Town of Crossfield as presented in MSSS 2020 Update.

2 MODEL DEVELOPMENT

The existing XPSWMM model version 24.1.7.0 used for the Town of Crossfield Master Sanitary Servicing Study 2020 Update was updated to reflect the current developments and subdivision approvals from 2020 to 2024 as provided by the Town. This section describes the modifications made to sanitary sewer system model.

The base case model was modified to only include existing developments, and incremental addition of the developments added to analyse the two options as described in **Section 1.1**, until the system had no capacity. Options were then analyzed by either introducing Trunk on RR12 or upgrade Laut Avenue pipes.

The hydraulic model has input parameters to represent the physical model elements and the flows that are to be accommodated by the system. The physical system consists of the sanitary sewer network, the sewer sheds, and the pump stations. The sewer sheds are assigned design parameters similar to the Town of Crossfield Master Sanitary Servicing Study 2020 Update, which were derived from Town of Crossfield Master Water Servicing Study 2020 Update as summarized below:

- Residential Population Density: 40.5 people/ha
- House Density: 2.7 persons/unit
- Commercial Population Density: 6.5 people/ha
- Industrial Population Density: 7.8 people/ha
- Residential Sewer Generation Rate: 268 L/person/day
- Commercial Sewer Generation Rate: 0.10 L/s/ha
- Industrial Sewer Generation Rate: 0.10 L/s/ha

The equivalent population density for non-residential existing areas was calculated using the total areas and total metered volumes of residential, commercial, and industrial land uses (Allnorth, July 2020). For commercial areas and industrial areas, the equivalent populations were calculated to be 6.5 and 7.8 persons/ha, respectively. House density information was based on Statistics Canada 2016 census data. However, it still holds for 2021 census data; total population (3599) divided by total number private dwellings (1326) occupied by usual residents, which is determined to be 2.7 persons /unit. Residential sewer generation rate of 268 L/s/ha was estimated from 85% of residential average day demand of 315 L/person/day (Allnorth, July 2020). The commercial and industrial sewer generation rates of 0.1 L/s/ha are consistent with typical planning assumptions to account for variability of potential development types.

A temporary pump station at Vista Crossing is introduced in the model as it was previously not included. The pump curves for Flygt Pump Model No. NP3127-HT3-488 used were downloaded from xylem website (<https://www.xylem.com/en-ca/>) for input in the model. The precast 2134 mm diameter wet well was located at approximate Latitude 51.432557° and Longitude -114.046390°. As required the start (1107.67 m) and stop (1106.89 m) elevations setting were obtained from as-built drawing No. 44-4 for project No. CGY-00092001-13 prepared by Exp as supplied the Town.

Previously not included, a 100 mm HDPE sanitary forcemain at Vista Crossing, is introduced in the model pumping from the wet well to existing sanitary manhole S-25, see **Figure 2-1**.

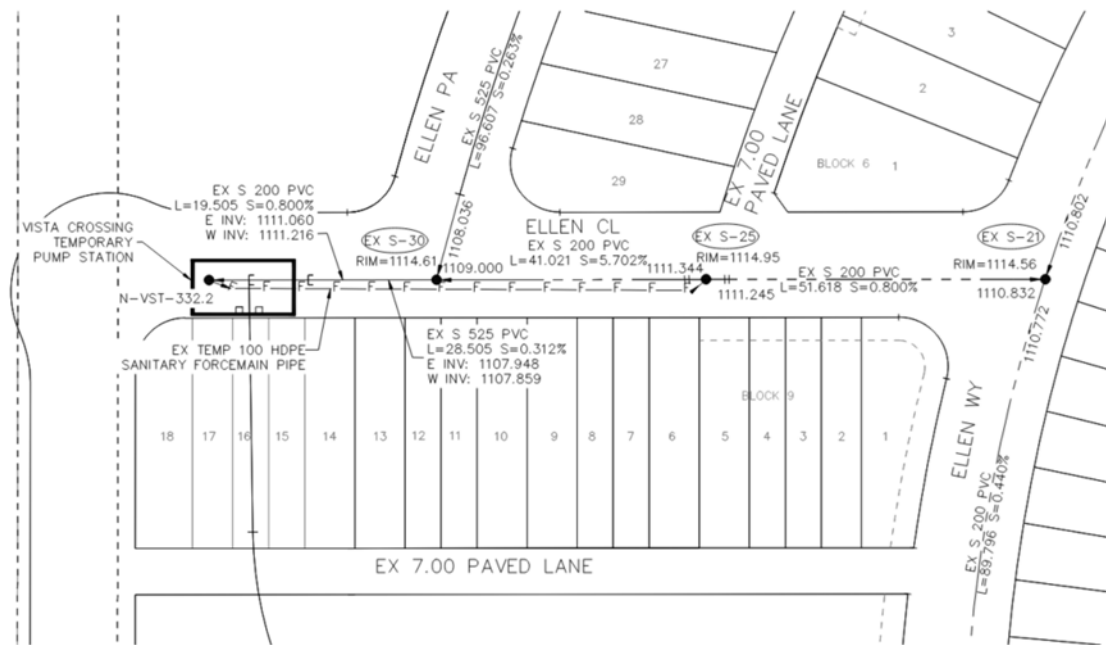


Figure 2-1: Location of Vista Crossing Temporary Pump Station

The sanitary flows were broken down into two categories: dry weather flow and wet weather flow. Dry weather flow includes baseline flow (groundwater infiltration) and sewage generation, and wet weather flow includes the dry weather flow and additional inflow, and infiltration associated with a storm event.

Excessive inflow and infiltration (I&I) in the sewer system consumes the sewer capacity and impairs the capacity of the system infrastructure to manage future growth. This can trigger unnecessary upgrades to the sanitary conveyance system and wastewater treatment system to accommodate the I&I, considering the Lagoon is nearing capacity. Alberta Environment recommends a value I & I allowance of 0.28 L/s/ha (Alberta Government, March 2013).

Rainfall was applied as a City of Calgary 1-in-10-year Chicago distribution storm and multiplied by 7.5%. This 7.5% factor was chosen so that RDII module in XPSWMM was able to generate I & I allowance equivalent to 24,192 L/ha/d (0.28 L/s/ha) based on Alberta Government guidelines (Alberta Government, March 2013).

Rainfall-dependent inflow and infiltration requires calibration to predict the matched recorded wet weather flows, however, for the current model typical unit hydrograph parameters (RTK factors) for the RDII unit hydrograph were used in the RDII module of XPSWMM as summarized in **Table 2-1** to generate approximate 24,192 L/ha/d of maximum infiltration rates.

Table 2-1: RDII Unit Hydrograph Parameters

Parameter Description	Short Term	Medium Term	Long Term
Fraction of Rainfall (R)	0.3	0.2	0.1
Time of Hydrograph to Peak, T (hrs)	12	24	240
Ratio of Recession Time to Peak Time (K)	2	4	1
Maximum Initial Abstraction (mm)	35	35	35
Initial Storage	0.0	0.0	0.0
Recovery Rate of Storage	0.0	0.0	0.0

2.1 Level of Service Criteria

The evaluated target level of service for the entire sanitary sewer network was based on the hydraulic capacity of the collection system and the risk of surcharging that would result in basement flooding. Similar to Town of Crossfield Master Sanitary Servicing Study 2020 Update, the following criteria are evaluated:

- For dry weather flows, based on industry best practices, any sewers with a sewer flow depth to pipe diameter ratio (d/D ratio) equal or greater than 0.85 (85%) are identified as having hydraulic capacity constraints.
- For wet weather flow events, which were used in the XPSWMM model analysis for this study, surcharging (d/D ratio greater than 1) is considered acceptable provided the hydraulic grade line (HGL) remains at least 2.0 m below ground elevation. For residential areas, a HGL of 2.0 m below ground elevation coincides with the assumed basement elevation for homes with direct or indirect basement connections to the sewer. An increase in HGL beyond this would present a risk for basement flooding.

3 EVALUATION RESULTS

3.1 Base Case Scenario

The base case scenario evaluated existing model updates to reflect all developed and approved developments since 2020, including incremental addition of more Lots until the sanitary system had no capacity. In the base case scenario, wastewater on the west side of Vista Crossing is collected by the 525 mm diameter PVC sanitary main and discharges to a 2134 mm diameter lift station wet well located east of Ellen Way. The sewer is then pumped from Vista Crossing temporary pump station by FLYGT pump (model No. NP3127-HT3-488) to existing Manhole S-25 through a 100 mm HDPE force main. Areas serviced by Base Case Scenario are presented in Drawing No. 2403325-Figure3-1.

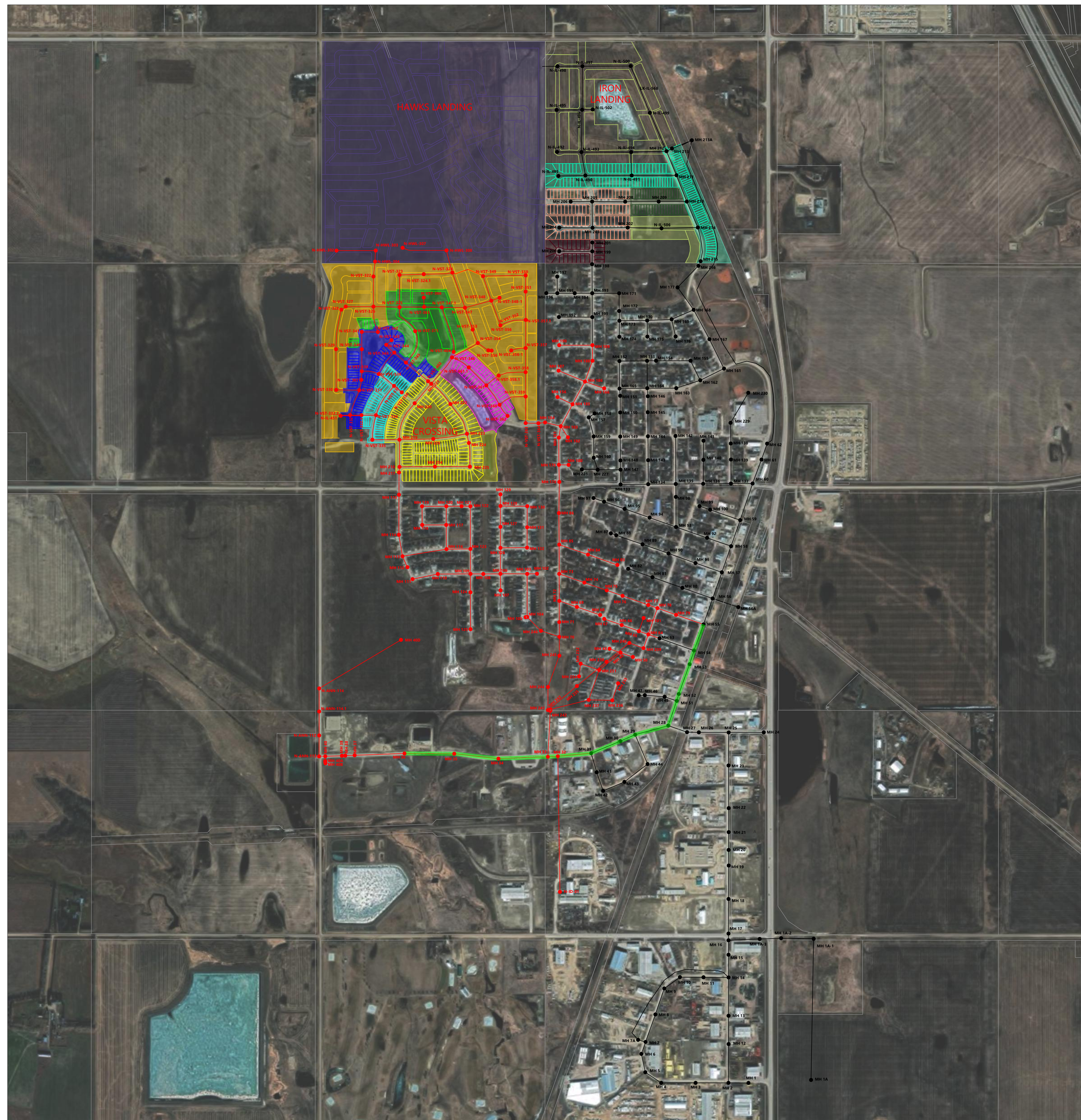
The model results indicate the following can be accommodated by existing system:







- All future phases of Vista Crossing (Phase 1 to Phase 5, and all other future phases).
- Southern part of Hawk's Landing with an area of 1.31 ha is supported by the same collection route as Vista Crossing.
- Most of Iron Landing areas with exception of 1.0 hectare in the of northern area that would not be accommodated due to topography sloping to the north.

Railway Street with pipe diameter 525 mm (between manhole MH 28 and MH 53) and Laut Avenue with pipe diameter is 300 mm (between manhole MH 28 and MH 33), where the pipe diameter is 300 mm, the pipes are surcharging (d/D ratio greater than 1). Between MH 33 and MH 53 the pipes are flowing at d/D between 1.374 and 6.663 along the selected alignment. The pipes are not surcharging ($d/D \leq 1$) between MH 33 and MH 36; and between MH 53 and MH 55, the pipes are flowing at d/D between 0.180 and 0.595. However, the hydraulic grade line (HGL) is greater than 2.0 m below ground elevation, which is acceptable based on level of service criteria, see **Figure 3-1** and **Table 3-1**.

Table 3-1: HGL Below Ground Elevation for Laut Ave and Railway St. – Base Case Scenario

MH ID	Maximum Water Surface Elevation (m)	MH Rim Elevation (m)	HGL Below Ground Elevation (m)	Remark
MH36	1098.840	1105.000	6.16	Acceptable based on Level of Service Criteria.
MH35	1099.055	1105.000	5.94	
MH34	1099.247	1105.000	5.75	
MH33	1099.460	1104.580	5.12	
MH32	1100.200	1104.892	4.69	
MH31	1101.080	1104.787	3.71	
MH30	1101.676	1105.000	3.32	
MH29	1101.975	1104.940	2.97	
MH28	1102.794	1105.519	2.72	
MH51	1102.798	1105.318	2.52	
MH52	1102.799	1105.268	2.47	
MH53	1102.803	1106.000	3.20	
MH54	1102.916	1106.390	3.47	
MH55	1103.827	1107.687	3.86	



	PHASE 1
	PHASE 2
	PHASE 3
	PHASE 4
	PHASE 5
	FUTURE PHASES

PHASE 1

PHASE 2&3

PHASE 4

PHASE 5

FUTURE PHASES



HAWKS LANDING PHASES

PLAN FOR FIGURE 3-1

EXISTING SEWER LINE FLOWING
THROUGH RAILWAY STREET &
LAUT AVENUE

EXISTING SEWER LINE FLOWING
THROUGH VISTA DRIVE, SMITH
AVENUE & LAUT AVENUE

NOT FOR
CONSTRUCTION

REFERENCE DRAWINGS						
DRAWING NO.	DRAWING DESCRIPTION/TITLE				REF.	
-	-				1	
PERMIT TO PRACTICE:						
ENGINEER SEAL:						
<small>Copyright © Allnorth Consultants Limited and affiliated companies. all rights reserved. The information contained in this document is the exclusive property of Allnorth Consultants Limited and affiliated companies and shall not be reproduced, or disclosed, or communicated to any unauthorized person, or used in any other unauthorized manner / form whatsoever, without the express written permission of Allnorth Consultants Limited and affiliated companies.</small>						
-	-	-		-	-	-
REV	YY/MM/DD	DESCRIPTION			DRWN	CHKD APVD
CLIENT:						
<div></div>						
<div></div>						
CLIENT NO:	-	DRWN:	ABK	DATE:	24 12 05	
PROJECT NO:	-	DSGN:	-	DATE:	-	
DRAWING SIZE:	ANSI "D"	CHKD:	AM	DATE:	24 12 05	
SCALE:	1:8000	APVD:	-	DATE:	-	
PROJECT:						
<h2>TOWN OF CROSSFIELD</h2>						
TITLE:						
<h1>MASTER SANITARY SERVICING STUDY BASE CASE SCENARIO</h1>						
DWG NO: 2403325 - FIGURE 3-1					REV: A	

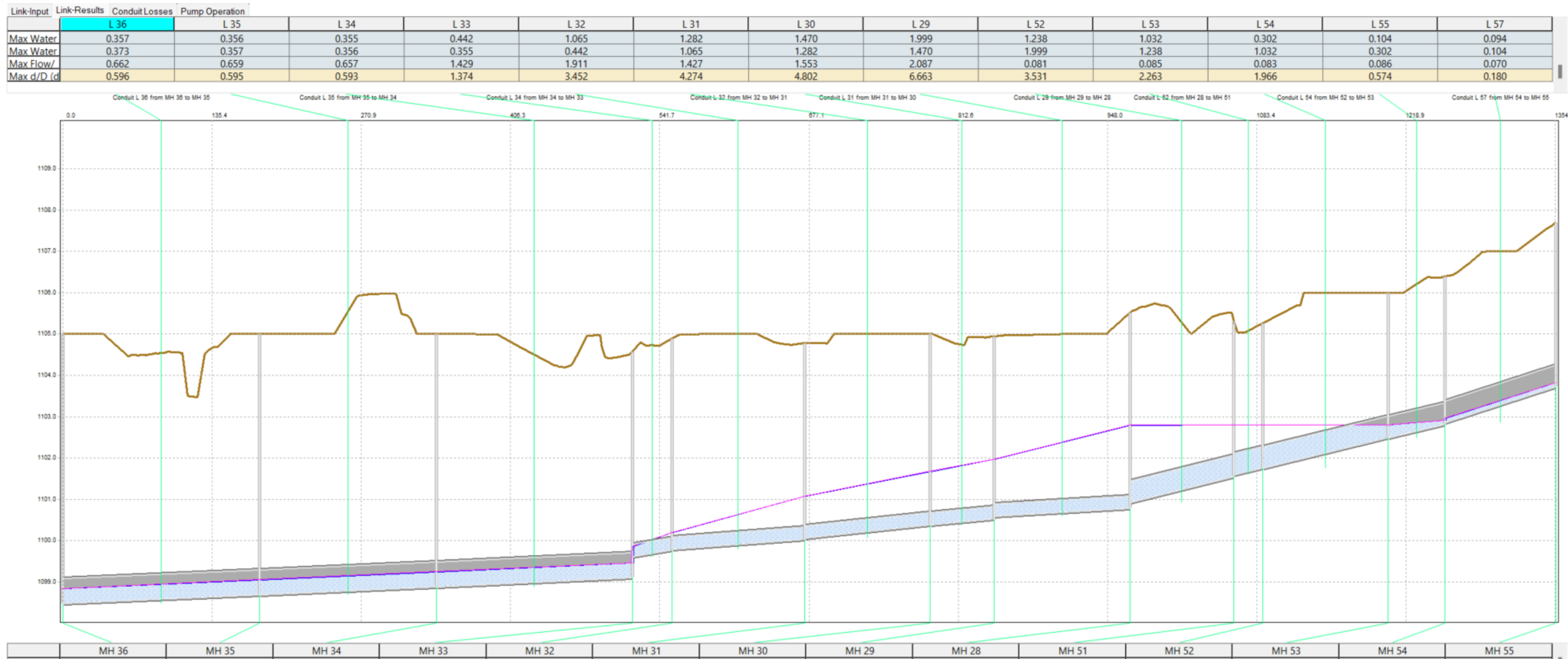
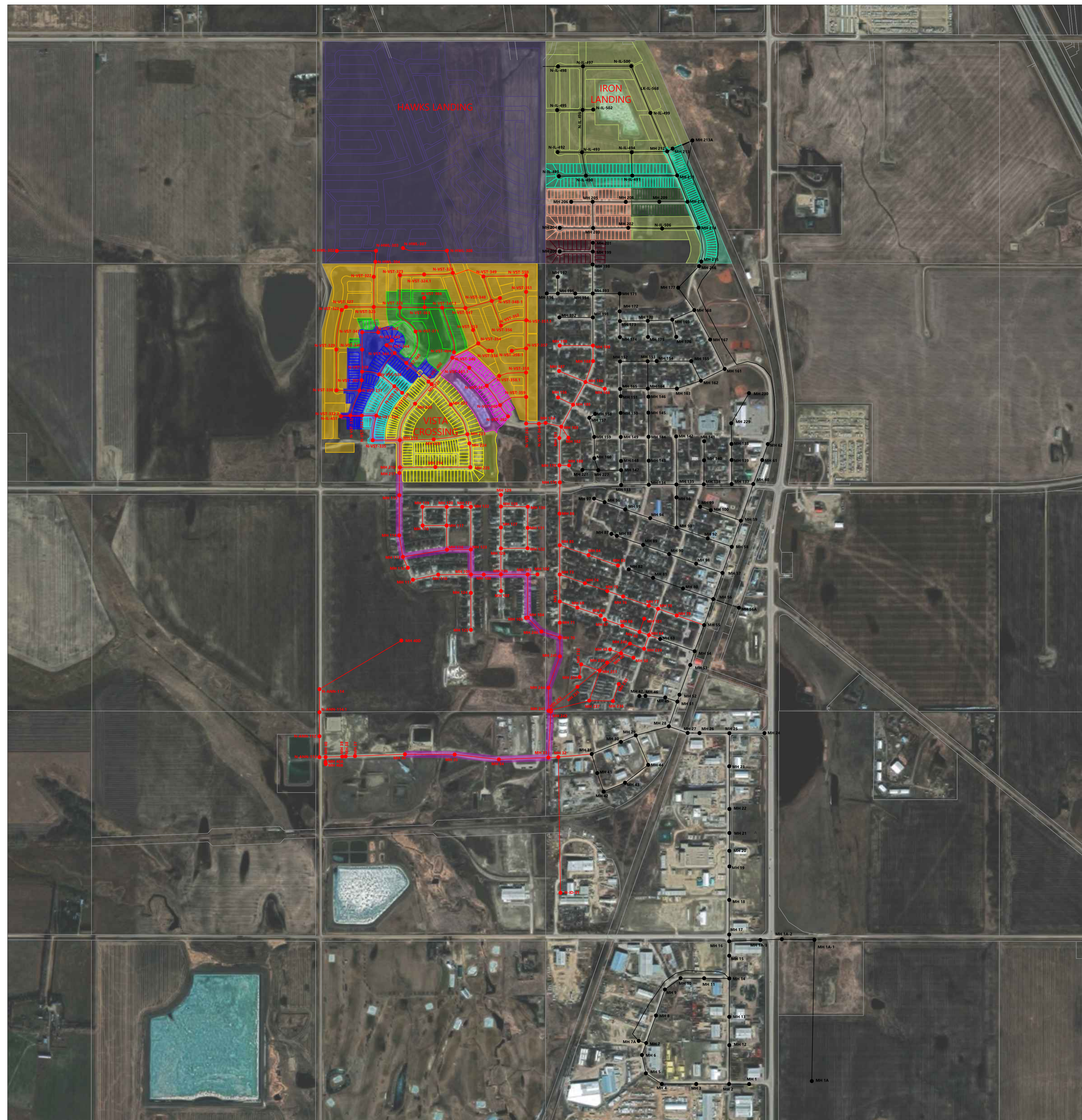




Figure 3-1: HGL at Laut Avenue and Railway Street – Base Case Scenario

- The HGL from Vista Crossing Temporary Pumping Station to Laut Avenue is shown in drawing # **2403325-Figure3-2, Figure 3-2** and **Figure 3-3**, the pipes are flowing as follows:
 - Partially full ($d/D \leq 1$) between MH 36 and MH 244; the pipes are flowing at d/D between 0.334 and 0.601 along the selected alignment.
 - Full ($d/D \geq 1$) between MH 244 and MH 106; the pipes are flowing at d/D between 0.899 and 2.002 along the selected alignment.
 - Full ($d/D \geq 1$) between MH 114 and Node N-VST-33; the pipes are flowing at d/D between 0.879 and 1.405 along the selected alignment.

Based on the ground elevation profile between MH 244 and MH 246 the pipes are installed less than 2.0 m below the ground, thus, the HGL is less than 2.0 m below the ground. From the current analysis the pipes there no risk for surcharge, however, if more flow is conveyed through this location there could be a risk of basement backups in the nearby properties. The other issue that could be experienced is sewer smell issues. The rest of the alignment is acceptable based on level of service criteria.



 **MH 220** EXISTING SEWER LINE FLOWING THROUGH VISTA DRIVE, SMITH AVENUE & LAUT AVENUE

 **MH 160** EXISTING SEWER LINE FLOWING THROUGH RAILWAY STREET & LAUT AVENUE

NOT FOR
CONSTRUCTION

[illegible]

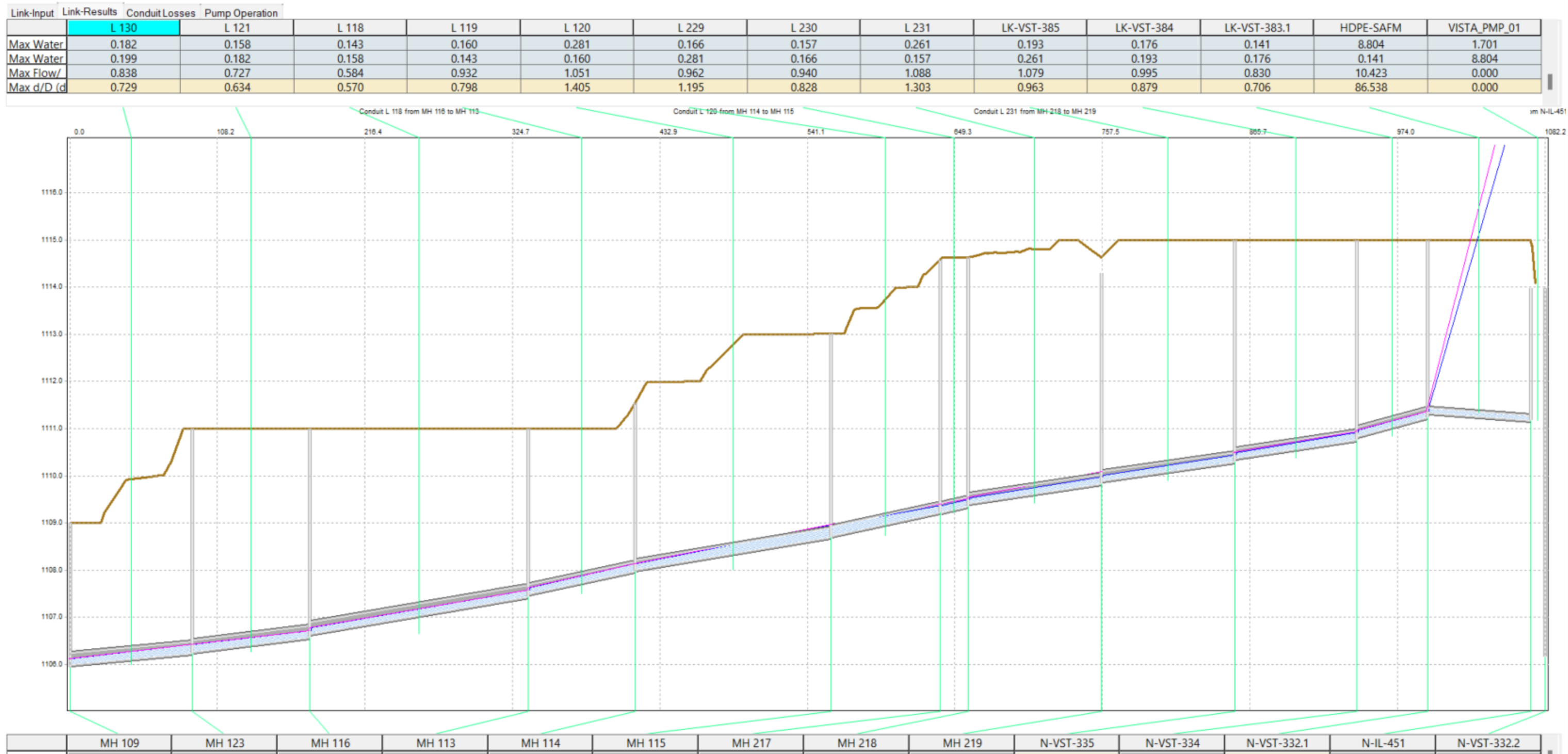


Figure 3-2: HGL from Vista Crossing Temporary Pumping Station to Laut Avenue – Base Case Scenario

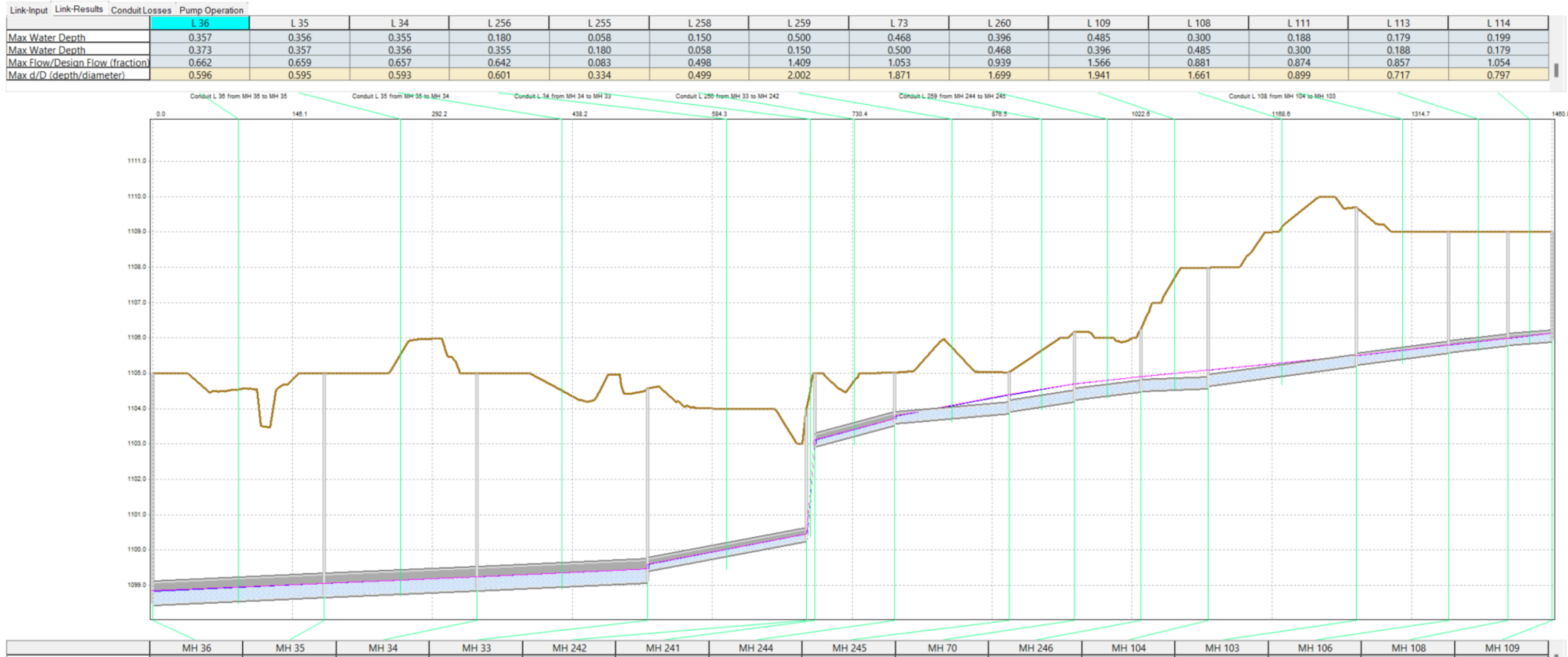


Figure 3-3:: HGL from Vista Crossing Temporary Pumping Station to Laut Avenue – Base Case Scenario

3.2 Laut Avenue Pipe Upsizing

This scenario analyses a replacement of the existing 300 mm diameter Laut Avenue sanitary main between manholes MH 28 and MH 33 with a 750 mm diameter PVC pipe. The basis for upsizing to 750 mm diameter PVC pipe is to be able to handle all areas of the base case scenario (see **Section 3.1**) and support the following:

- All Hawk's Landing future developments.
- Developments on Quarter sections NW 25-28-1-5, SW 25-28-1-5 and south portion of SW 36-28-1-5. The land use for NW 25-28-1-5 is mix of Commercial / Industrial; SW 25-28-1-5 is Industrial and south portion of SW 36-28-1-5 is Residential with 20 acres commercial.
- In addition, once the Iron Landing Lift station is diverted to pump to the west to discharge to a 525 mm Trunk that flows through Vista Crossing to RR 12 Trunk; these pipes would also be able to handle flows from Trunk E1 and Trunk E3 refer to the Town of Crossfield Master Sanitary Servicing Study 2020 Update (Allnorth, February 2021).

Similar to the base case scenario, wastewater on the west side of Vista Crossing is collected by the 525 mm diameter PVC sanitary main and discharges to a 2134 mm diameter lift station wet well located east of Ellen Way. The sewer is then pumped from Vista Crossing temporary pump station by FLYGT pump (model No. NP3127-HT3-488) to existing Manhole S-25 through a 100 mm HDPE force main. Areas serviced by Base Case Scenario are presented in Drawing No. 2403325 - Figure 2 in Appendix A.

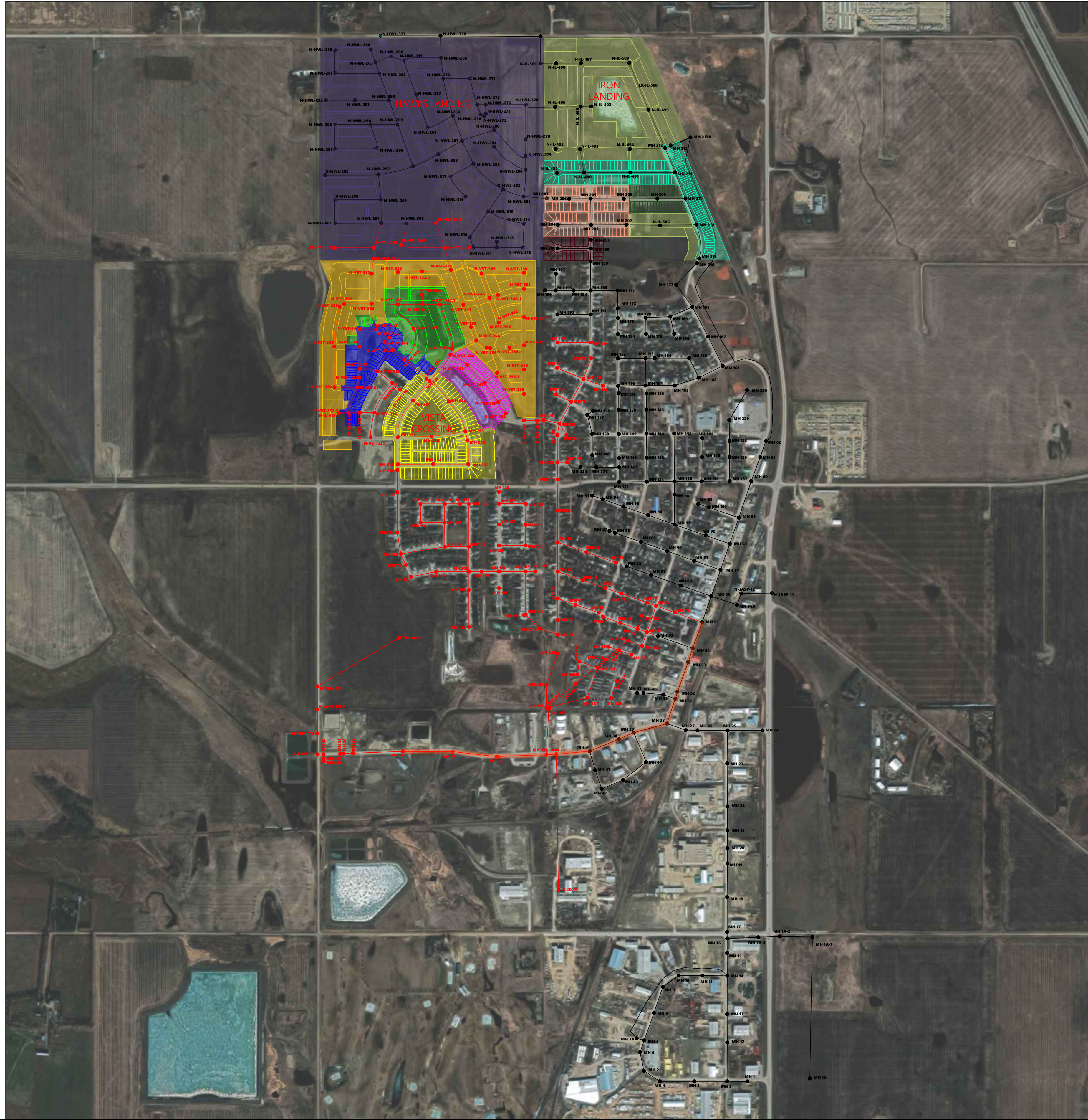
The model results indicate the following can be supported by the Laut Avenue pipe upgrades:

- All areas of the base case scenario (see **Section 3.1**).
- All Hawk's Landing future developments.
- Most of Iron Landing areas with exception 1.0 hectare of the of northern area that would not be accommodated due to topography.

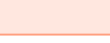
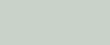








The Railway Street with pipe diameter 525 mm and Laut Avenue, where the pipe diameter has been upsized to 750 mm, see Drawing # **2403325-Figure3-3, Figure 3-4 and Figure 3-5**.

- In **Figure 3-4**, the Laut Avenue is upsized for 750 between MH 28 and MH33, the rest of the pipe remains 600 mm with expectation for future upgrades. The pipes are flowing as follows:
 - Partially full ($d/D < 1$) between MH 28 and MH 55; the pipes are flowing at d/D between 0.429 and 0.479 along the selected alignment.
 - Full ($d/D \geq 1$) between MH 28 and MH 36; the pipes are flowing at d/D between 1.033 and 2.661 along the selected alignment.
- In **Figure 3-5**, the Laut Avenue is upsized for 750 between MH 28 and MH39, this show how future flows would be handled once the Iron Landing pump station to be re-routed and force main installed pumping from MH 213A to Node N-HWL-303 in Hawks Landing to discharge to a 525 mm Trunk that flows through Vista Crossing to RR 12 Trunk. The pipes are flowing as follows:

- Partially full ($d/D < 1$) between MH 32 and MH 55; the pipes are flowing at d/D between 0.608 and 0.864 along the selected alignment.
- Full ($d/D \geq 1$) between MH 32 and MH 35; the pipes are flowing at d/D between 1.013 and 1.025 along the selected alignment.
- Partially full ($d/D < 1$) between MH 35 and MH 40; the pipes are flowing at d/D between 0.619 and 0.933 along the selected alignment.



IRON LANDING PHASES

- | | |
|---|--|
|  | PHASE 1 |
|  | PHASE 2&3 |
|  | PHASE 4 |
|  | PHASE 5 |
|  | FUTURE PHASES |
|  | HAWKS LANDING PHASES |
|  | PLAN FOR FIGURE 3-3 |
|  | EXISTING SEWER LINE FLOWING
THROUGH RAILWAY STREET &
LAUT AVENUE  |
|  | EXISTING SEWER LINE FLOWING
THROUGH VISTA DRIVE, SMITH
AVENUE & LAUT AVENUE |

NOT FOR
CONSTRUCTION

[illegible]

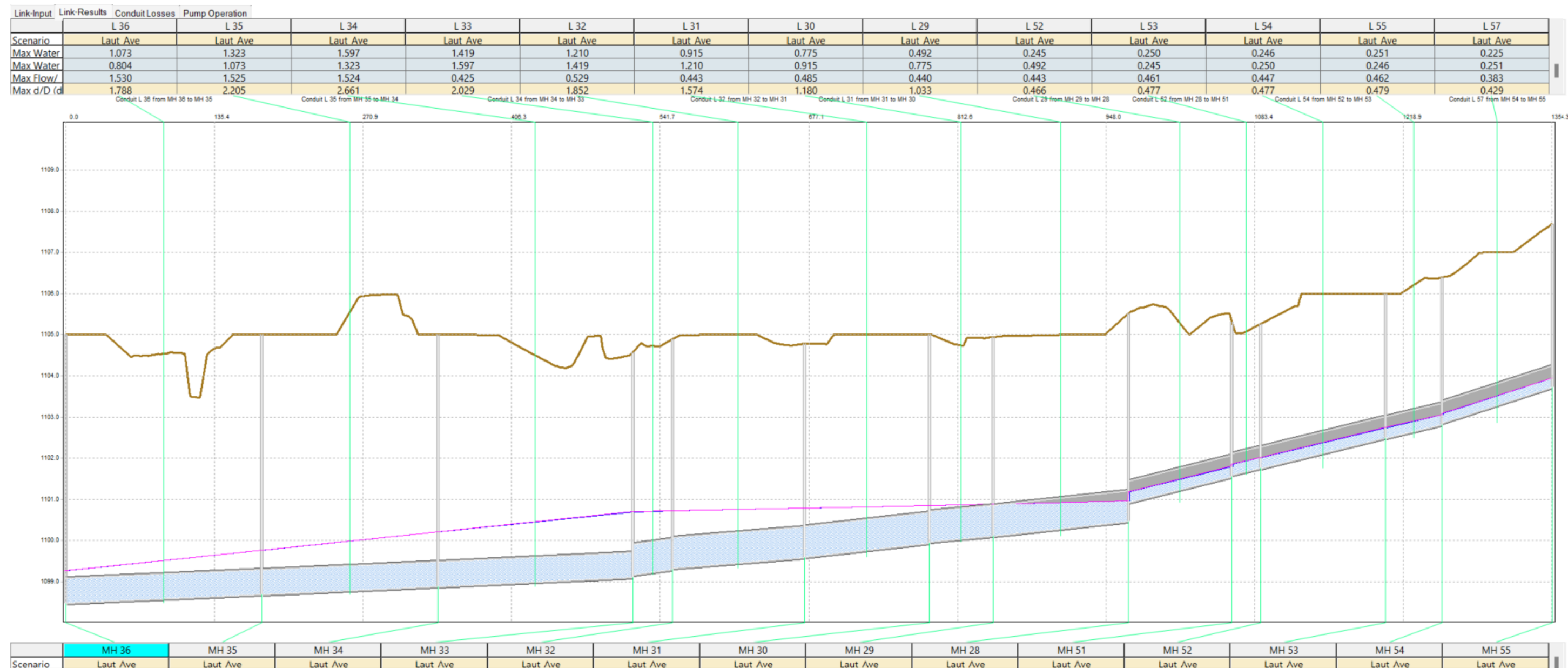


Figure 3-4: HGL at Laut Avenue and Railway Street – Laut Ave Pipe Upsizing

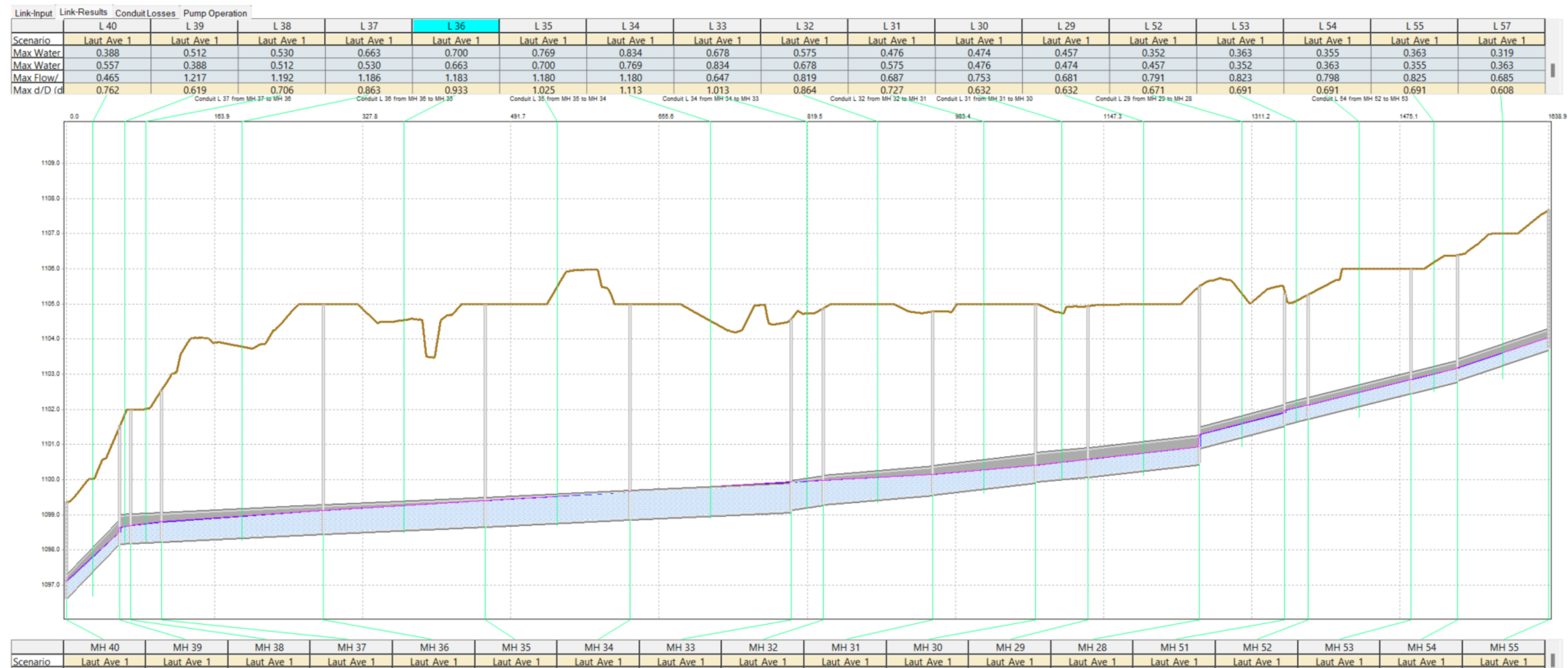
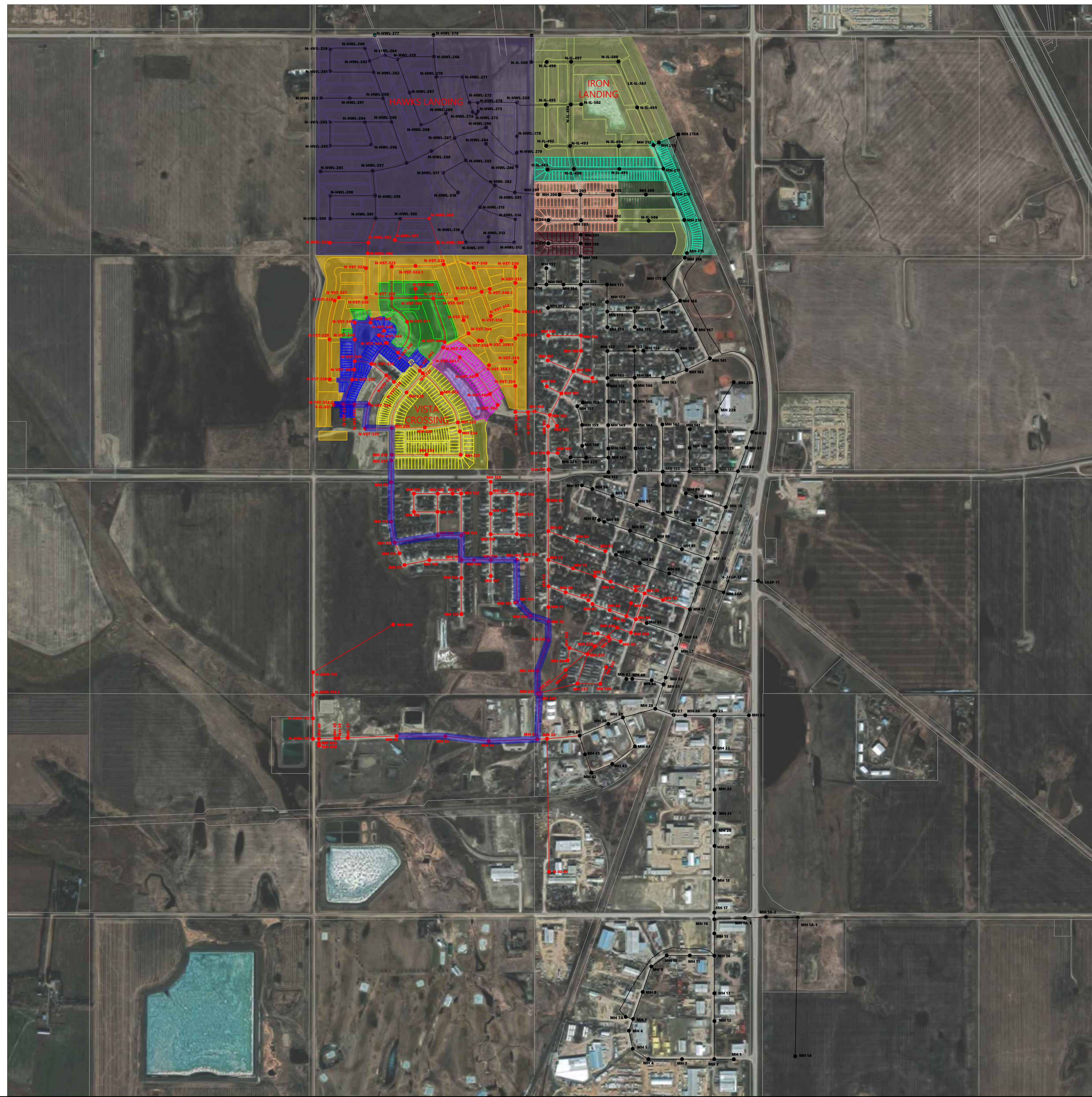




Figure 3-5: HGL at Laut Avenue and Railway Street – Laut Ave Pipe Upsizing

- The HGL from Vista Crossing Temporary Pumping Station to Laut Avenue is shown in drawing # **2403325-Figure3-4**, **Figure 3-6** and **Figure 3-7** the pipes are flowing as follows:
 - Full ($d/D \geq 1$) between MH 36 and MH 241; the pipes are flowing at d/D between 1.788 and 4.219 along the selected alignment.
 - Partially full ($d/D \leq 1$) between MH 241 and MH 244; the pipes are flowing at d/D of 0.508 along the selected alignment.
 - Full ($d/D \geq 1$) between MH 244 and MH 108; the pipes are flowing at d/D between 1.060 and 2.134 along the selected alignment.
 - Partially full ($d/D \leq 1$) between MH 108 and MH 109; the pipes are flowing at d/D of 0.846 along the selected alignment.
 - Partially full ($d/D \leq 1$) between MH 109 and MH 114; the pipes are flowing at d/D between 0.599 and 0.870 along the selected alignment.
 - Full ($d/D \geq 1$) between MH 114 and Node N-VST-335; the pipes are flowing at d/D between 1.488 and 1.879 along the selected alignment.
 - Partially full ($d/D \leq 1$) between N-VST-335 and Node N-VST-332.1; the pipes are flowing at d/D between 0.726 and 0.986 along the selected alignment.

Based ground elevation profile on **Figure 3-6**, between MH 241 and MH 246, the pipes are installed less than 2.0 m below the ground, thus, the HGL is less than 2.0 m below the ground. The reset of the alignment is acceptable based on level of service criteria.



- 
MH 220
- 
MH 160

EXISTING SEWER LINE FLOWING THROUGH VISTA DRIVE, SMITH AVENUE & LAUT AVENUE

EXISTING SEWER LINE FLOWING THROUGH RAILWAY STREET & LAUT AVENUE

NOT FOR
CONSTRUCTION

[illegible]

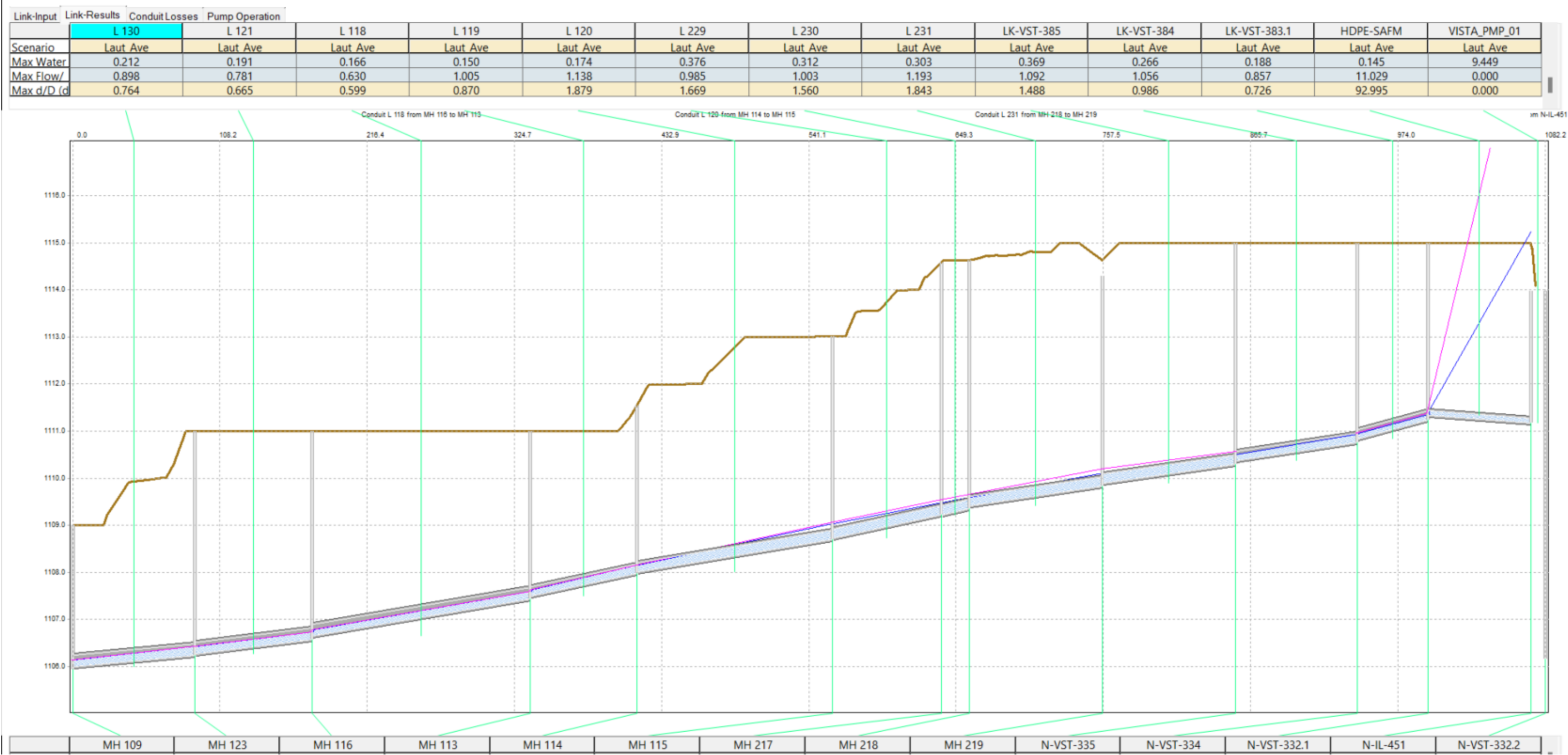


Figure 3-6: HGL from Vista Crossing Temporary Pumping Station to Laut Ave – Laut Ave Pipe Upsizing

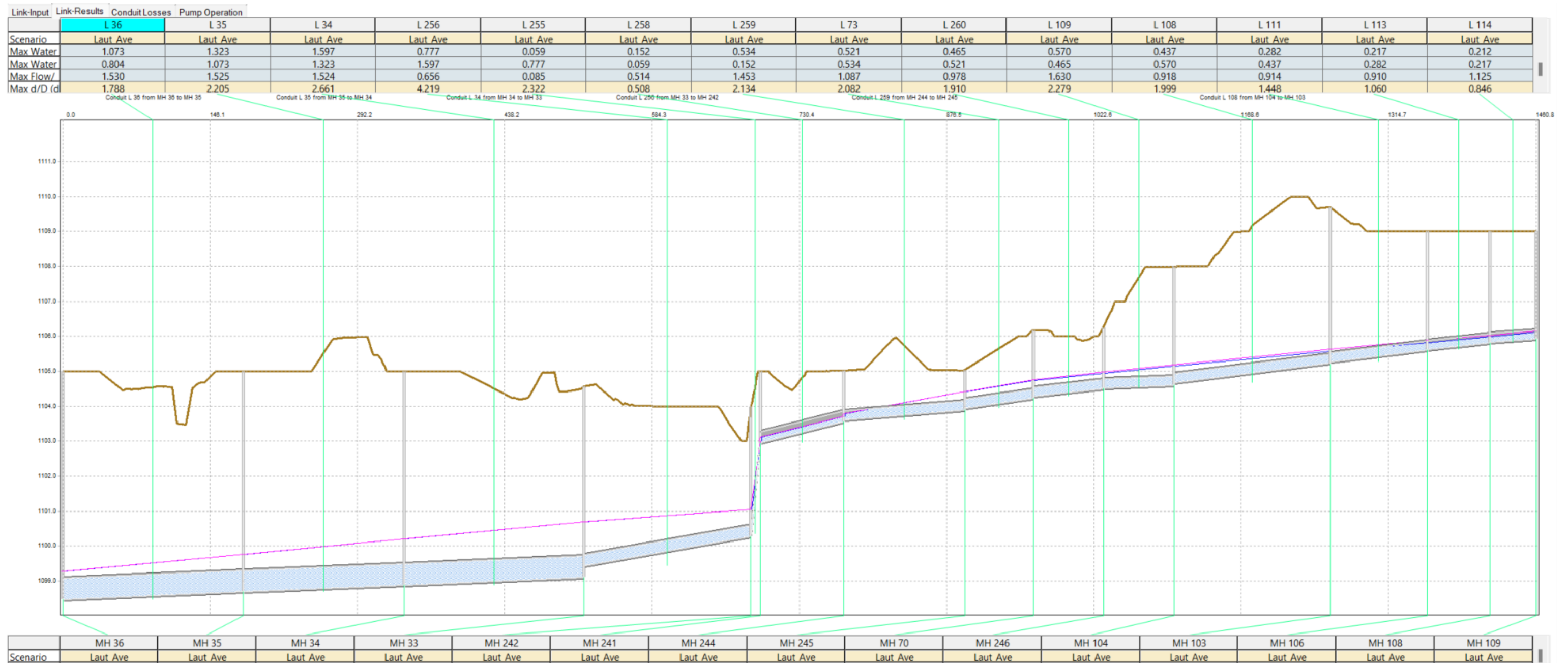
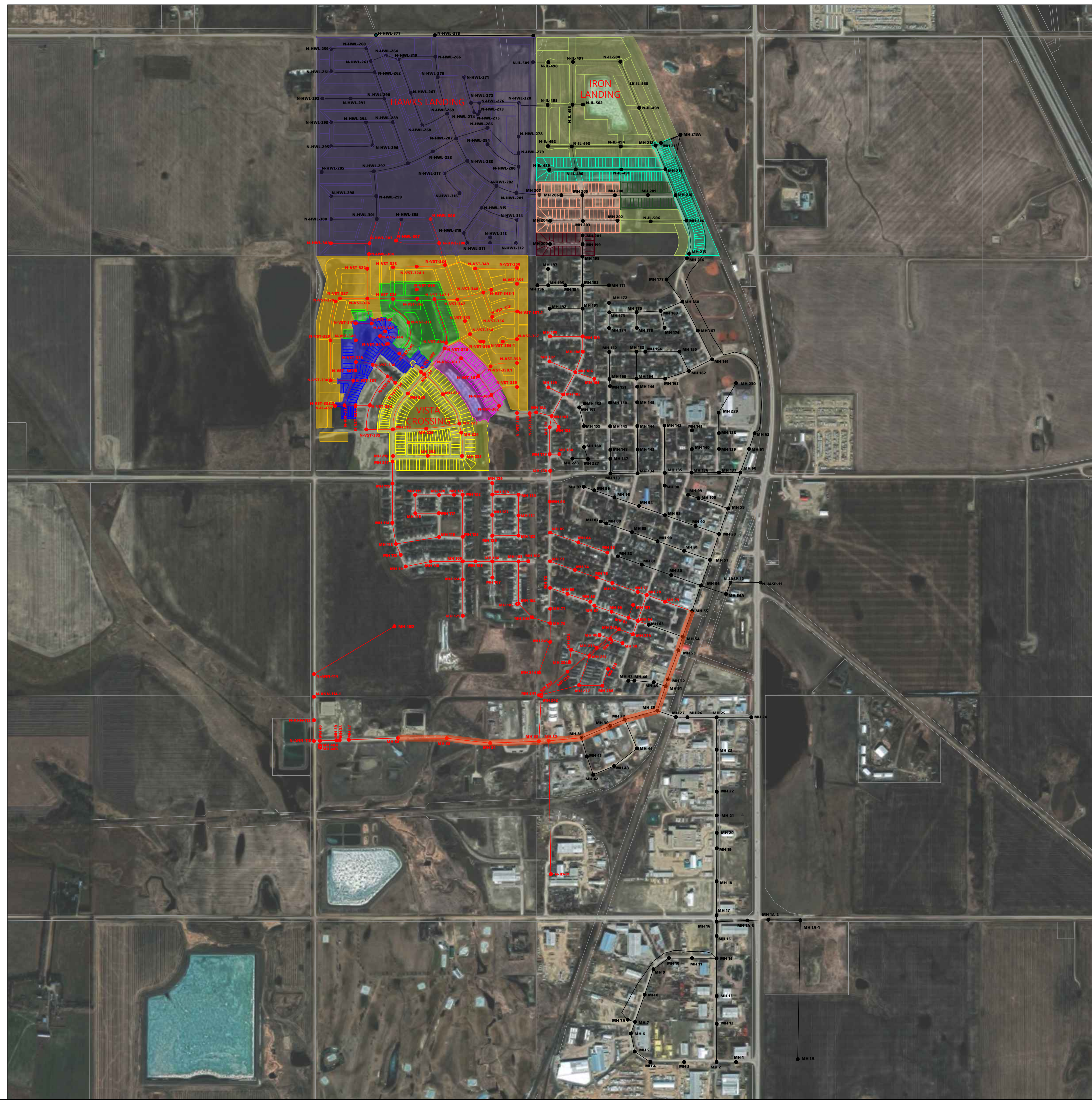


Figure 3-7:: HGL from Vista Crossing Temporary Pumping Station to Laut Ave – Laut Ave Pipe Upsizing

- In this scenario of Laut Ave Pipe is upsized to 750 between MH 28 and MH39, for the ultimate case that includes Trunk E1 and trunk E3. The flows from residential areas of NW 25-28-1-5 and SW 36-28-1-5 were added as an option. The HGL from Node N-JASP-11 (which serves residential areas of NW 25-28-1-5 and SW 36-28-1-5) to Laut Avenue is shown in **Figure 3-8**.
 - The pipes are flowing partially full ($d/D \leq 1$) between MH 56 and Node N-JASP-11; the pipes are flowing at d/D between 0.645 and 0.874 along the selected alignment.
 - The pipe is flowing full ($d/D \geq 1$) between MH 55 and MH 56; the pipe is flowing at d/D of 1.189 along the selected alignment.
 - The pipes are flowing partially full ($d/D \leq 1$) between MH 32 and MH 55; the pipes are flowing at d/D between 0.641 and 0.702 along the selected alignment.
 - The pipes are flowing full ($d/D \geq 1$) between MH 35 and MH 32; the pipes are flowing at d/D between 1.044 and 1.144 along the selected alignment.
 - The pipe is flowing partially full ($d/D \leq 1$) between MH 35 and MH 36; the pipe is flowing at d/D of 0.954 along the selected alignment.

The industrial / commercial areas of NW 25-28-1-5 and SW 36-28-1-5, based on the topography can drain south by gravity to Node N-JASP-11. Based on the HGL these areas can be developed by utilizing the upgrades of Laut Avenue to 525 mm diameter pipe, which shows it can support flows from the residential areas of NW 25-28-1-5 and SW 36-28-1-5.

- Flows from industrial / commercial areas of SW 25-28-1-5 and NW 25-28-1-5 that drains to McCool Street sewer line from MH 1A-1 on Western Drive (Township Road 284) were also evaluated. The McCool Street 250 mm diameter sewer line need upgrades to accommodate these flows as currently it is flowing full and HGL is to the ground surface. The upgrade of McCool Street from 250 mm diameter shall involve upsizing the pipes as follows:
 - Between Manhole MH 28 to MH 27 from 250 mm to 450 mm diameter,
 - Between Manhole MH 27 to MH 20, from 250 mm to 400 mm diameter,
 - Between Manhole MH 20 to MH 15, from 250 mm to 350 mm diameter, and
 - Between Manhole MH 15 to MH 14, shall remain 250 mm diameter.



MH 220 EXISTING SEWER LINE FLOWING
THROUGH VISTA DRIVE, SMITH
AVENUE & LAUT AVENUE

NOT FOR
CONSTRUCTION

[illegible]

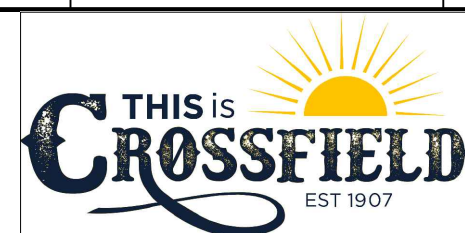
PERMIT TO PRACTICE:

ENGINEER SEAL:

Copyright © Allnorth Consultants Limited and affiliated companies, all rights reserved. The information contained in this document is the exclusive property of Allnorth Consultants Limited and affiliated companies and shall not be reproduced, or disclosed, or communicated to any unauthorized person, or used in any other unauthorized manner / form whatsoever, without the express written permission of Allnorth Consultants Limited and affiliated companies.

[illegible]

REV	YY/MM/DD	DESCRIPTION	DRWN	CHKD	APVD
-----	----------	-------------	------	------	------



CLIENT NO:	-	DRWN:	ABK	DATE:	24 12 05
PROJECT NO:	-	DSGN:	-	DATE:	-
DRAWING SIZE:	ANSI "D"	CHKD:	AM	DATE:	24 12 05
SCALE:	1:8000	APVD:	-	DATE:	-

PROJECT:

TOWN OF CROSSFIELD

TITLE: **MASTER SANITARY
SERVICING STUDY
LAUT AVENUE PIPE
UPSIZING**

DWG NO: 2403325 - FIGURE 3-5	REV: A
--	------------------

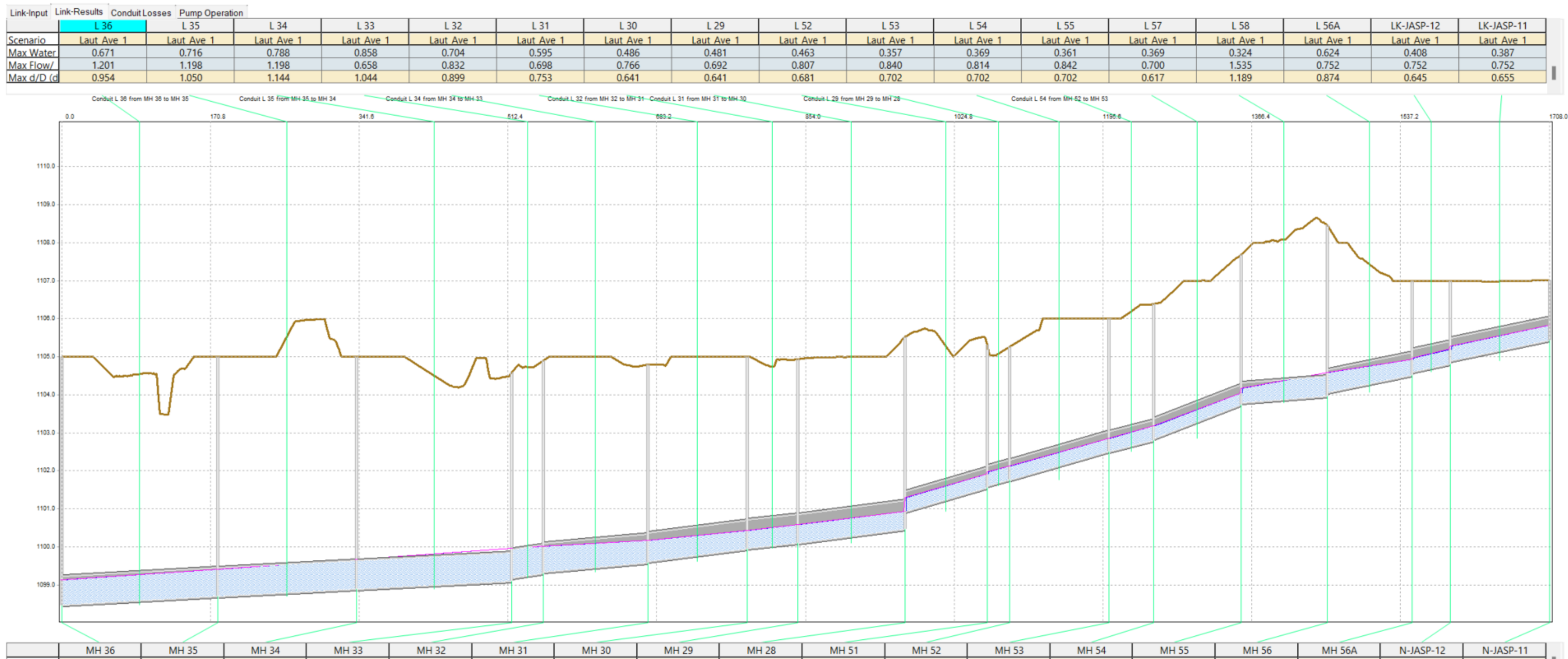


Figure 3-8: HGL at Laut Ave and Flows from Node N-JASP-11 – Laut Ave Pipe Upsizing

3.3 Range Road 12 (RR12) Trunk Development

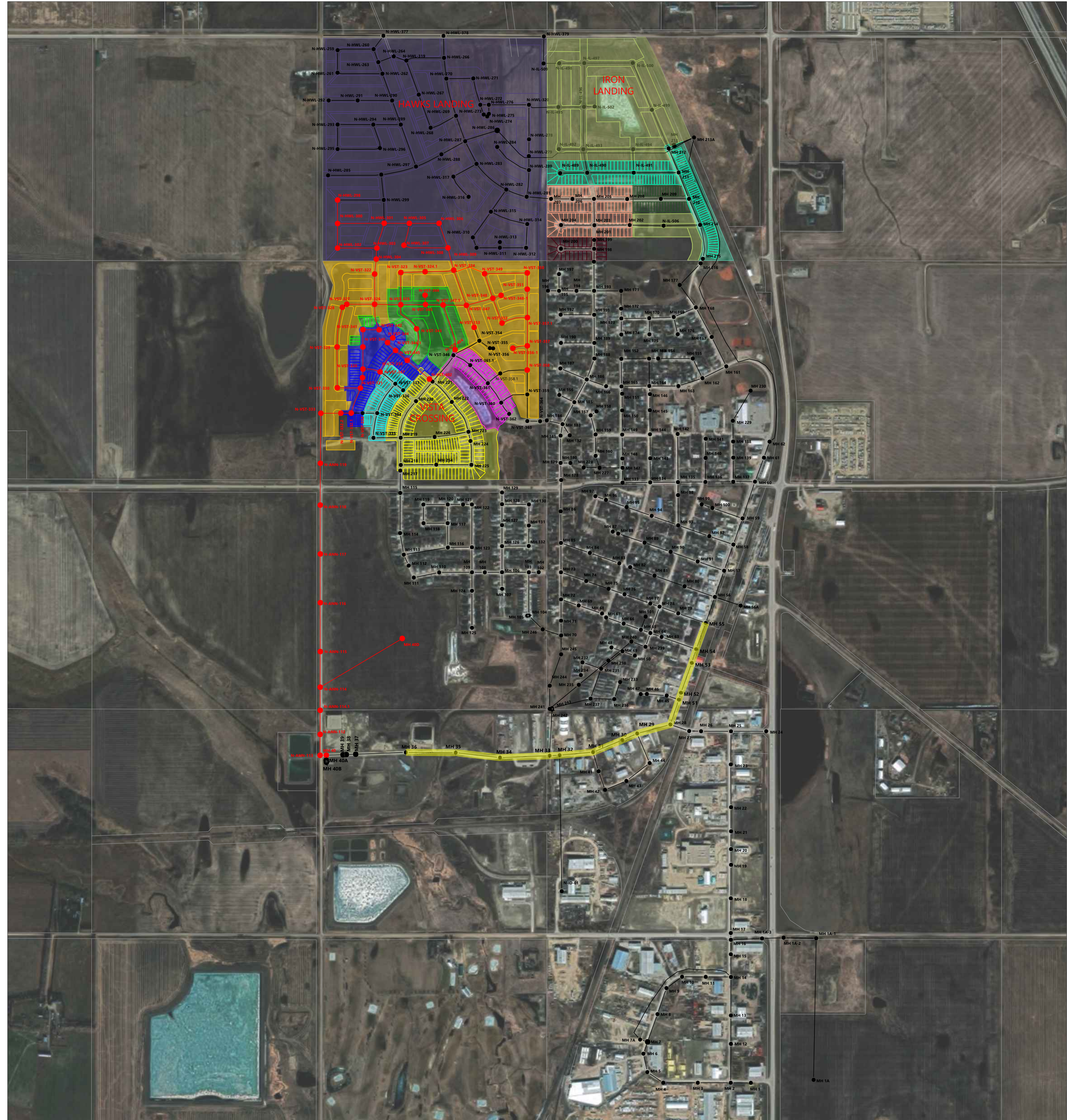
This scenario analyzed Range Road 12 (RR12) Trunk Development. In this scenario, the Vista Crossing temporary pump station was removed in the model and flows are directed to RR12 Trunk via 525 mm diameter pipe. Areas serviced by RR12 Trunk Development are presented in Drawing No. **2403325-Figure3-6**. This option requires the Iron Landing pump station to be re-routed and force main installed pumping from MH 213A to Node N-HWL-303 in Hawks Landing to discharge to a 525 mm Trunk that flows through Vista Crossing to RR 12 Trunk.

The model results for the RR12 trunk development option indicate the following can be supported by the upgrades:







- All future phases of Vista Crossing (Phase 1 to Phase 5, and all other future phases).
- Most of Iron Landing areas with exception 1.0 hectare of the of northern area that would not be accommodated due to topography.
- The Railway Street with pipe diameter 525 mm and Laut Avenue, where the pipe diameter is 300 mm, the pipes are surcharging with d/D greater than one; between 2.235 and 13.323. The hydraulic grade line is less than 2.0 m below ground elevation at MH51, see Drawing # **2403325-Figure3-6, Figure 3-9, Figure 3-10** and **Table 3-2**, which is unacceptable based on the level of service criteria.

Table 3-2: HGL Below Ground Elevation for Laut Avenue and Railway Street - RR12 Trunk Development

MH ID	Maximum Water Surface Elevation (m)	MH Rim Elevation (m)	HGL Below Ground Elevation (m)	Remark
MH28	1104.792	1105.519	0.727	HGL less than 2.0 m below ground elevation, unacceptable.
MH51	1104.813	1105.319	0.505	
MH52	1104.818	1105.268	0.450	



VISTA CROSSING PHASES

- | | |
|---|---------------|
|  | PHASE 1 |
|  | PHASE 2 |
|  | PHASE 3 |
|  | PHASE 4 |
|  | PHASE 5 |
|  | FUTURE PHASES |

IRON LANDING PHASES

-
- PHASE 1
- PHASE 2&3
- PHASE 4
- PHASE 5
- FUTURE PHASES
- HAWKS LANDING PHASES

PLAN FOR FIGURE 3-6

MH 160 EXISTING SEWER LINE FLOWING THROUGH RAILWAY STREET & LAUT AVENUE

MH 220 EXISTING SEWER LINE FLOWING
THROUGH RANGE ROAD 12

NOT FOR
CONSTRUCTION

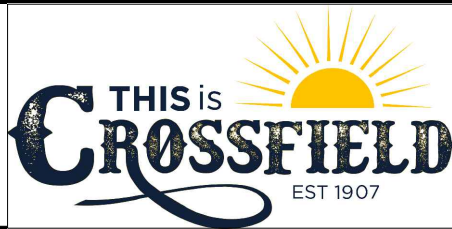
[illegible]

PERMIT TO PRACTICE:

ENGINEER SEAL:

Copyright © Allnorth Consultants Limited and affiliated companies, all rights reserved. The information contained in this document is the exclusive property of Allnorth Consultants Limited and affiliated companies and shall not be reproduced, or disclosed, or communicated to any unauthorized person, or used in any other unauthorized manner / form whatsoever, without the express written permission of Allnorth Consultants Limited and affiliated companies.

-	-	-				-	-	-	



CLIENT NO:	-	DRWN:	ABK	DATE:	24 12 05
PROJECT NO:	-	DSGN:	-	DATE:	-
DRAWING SIZE:	ANSI "D"	CHKD:	AM	DATE:	24 12 05
SCALE:	1:8000	APVD:	-	DATE:	-

TOWN OF CROSSFIELD

TITLE: **MASTER SANITARY
SERVICING STUDY
RANGE ROAD 12
TRUNK DEVELOPMENT**

DWG NO:
2403325 - FIGURE 3-6

LEV:
A

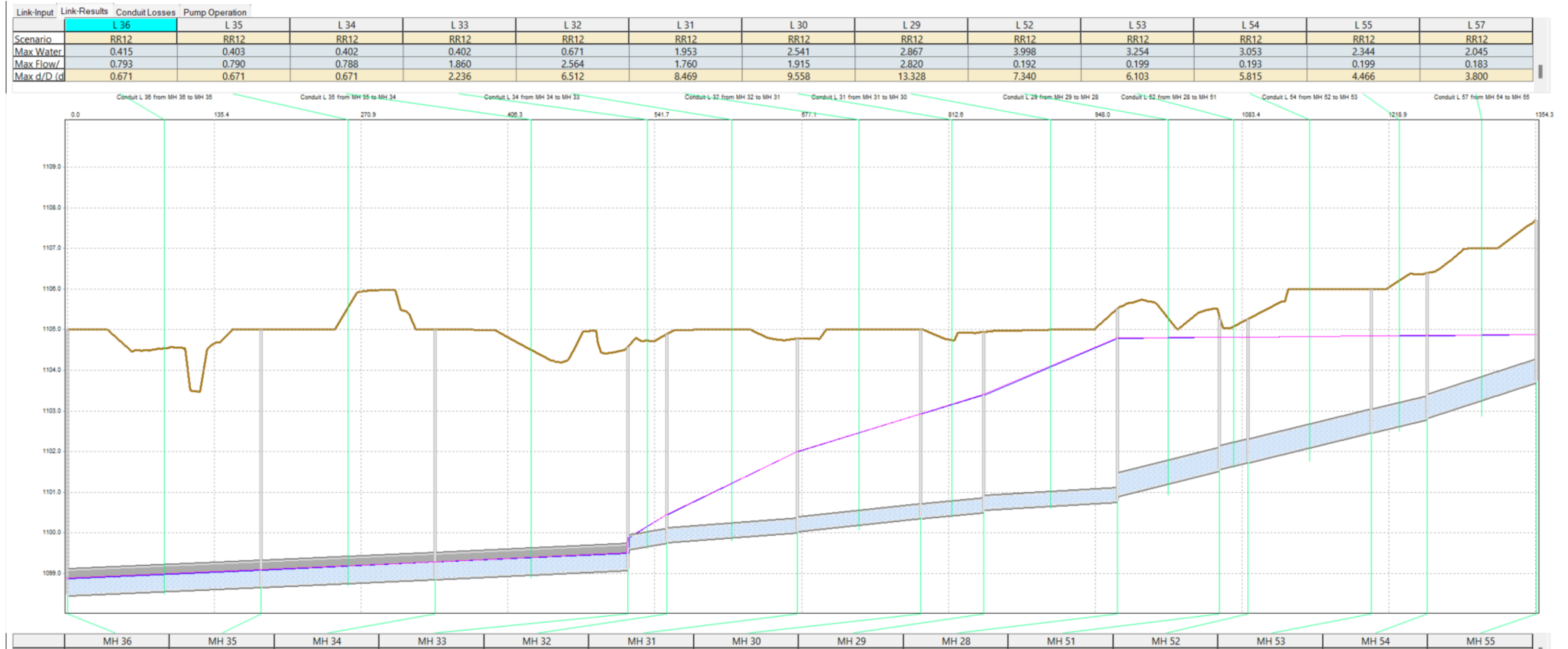


Figure 3-9: HGL at Laut Avenue and Railway Street – RR12 Trunk Development

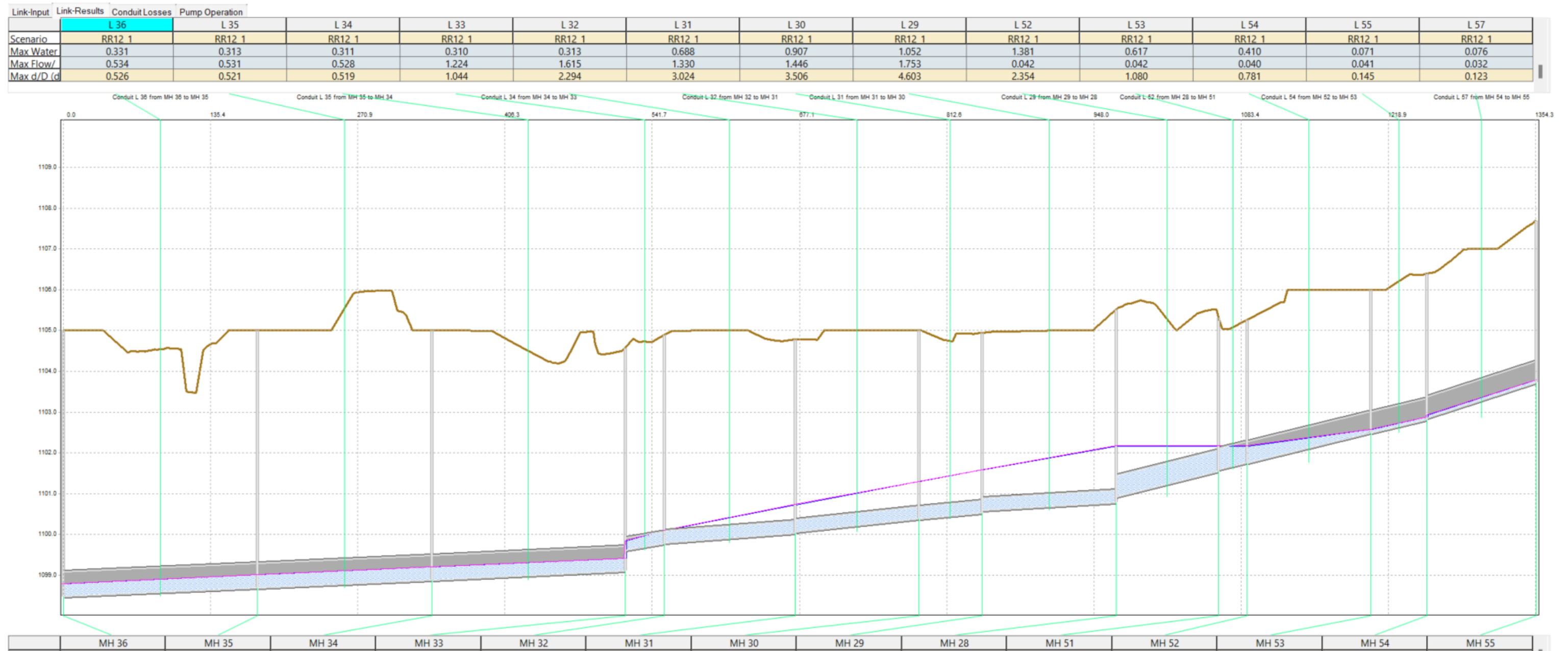
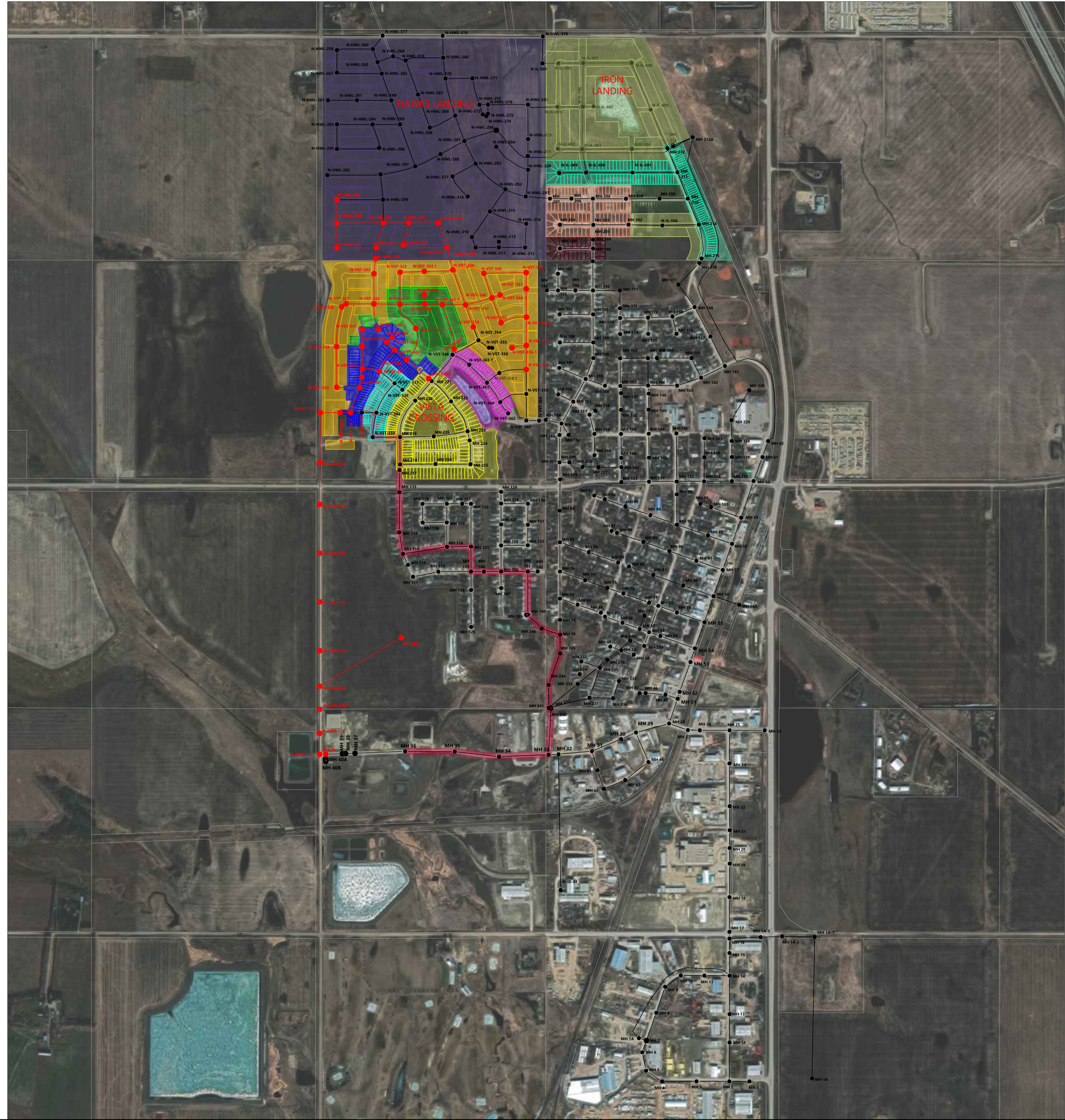


Figure 3-10: HGL at Laut Avenue and Railway Street – RR12 Trunk Development

- The HGL from Vista Crossing upstream of the location of previous discharge location of temporary Pumping Station at Node N-VST-332.1 to Laut Avenue shown in **Figure 3-11** and **Figure 3-12** is similar to the base case. The pipe is flowing partially full ($d/D \leq 1$) with d/D varying between 0.093 and 0.82.
- Range Road 12 trunk flows almost empty with d/D ratio less than 0.2 as shown in **Figure 3-13**, even though Hawk's Landing and Iron Landing force main is re-routed.



 MH 220 EXISTING SEWER LINE FLOWING THROUGH RANGE ROAD 12

NOT FOR
CONSTRUCTION

[illegible]

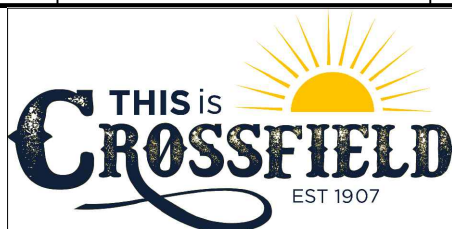
PERMIT TO PRACTICE:

ENGINEER SEAL:

Copyright © Alhorth Consultants Limited and affiliated companies, all rights reserved. The information contained in this document is the exclusive property of Alhorth Consultants Limited and affiliated companies and shall not be reproduced, or disclosed, or communicated to any unauthorized person, or used in any other unauthorized manner / form whatsoever, without the express written permission of Alhorth Consultants Limited and affiliated companies.

-	-	-		-	-	-

CLIENT:



CLIENT NO:	-	DRWN:	ABK	DATE:	24 12 05
PROJECT NO:	-	DSGN:	-	DATE:	-
DRAWING SIZE:	ANSI "D"	CHKD:	AM	DATE:	24 12 05
SCALE:	1:8000	APVD:	-	DATE:	-

PROJECT:

TOWN OF CROSSFIELD

TITLE: **MASTER SANITARY
SERVICING STUDY
RANGE ROAD 12
TRUNK DEVELOPMENT**

DWG NO: 2403325 - FIGURE 3-7	REV: A
--	------------------

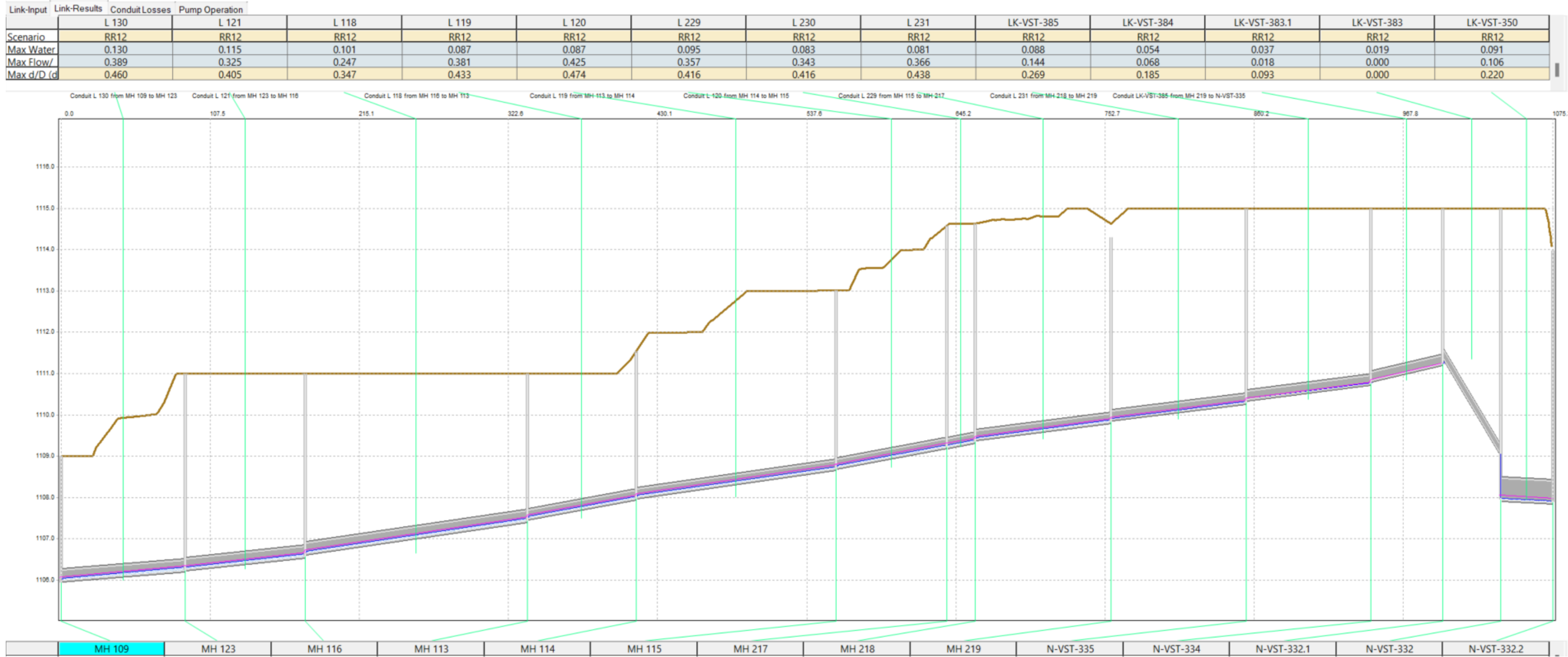


Figure 3-11: HGL from Vista Crossing Temporary Pumping Station to Laut Avenue – RR12 Trunk Development

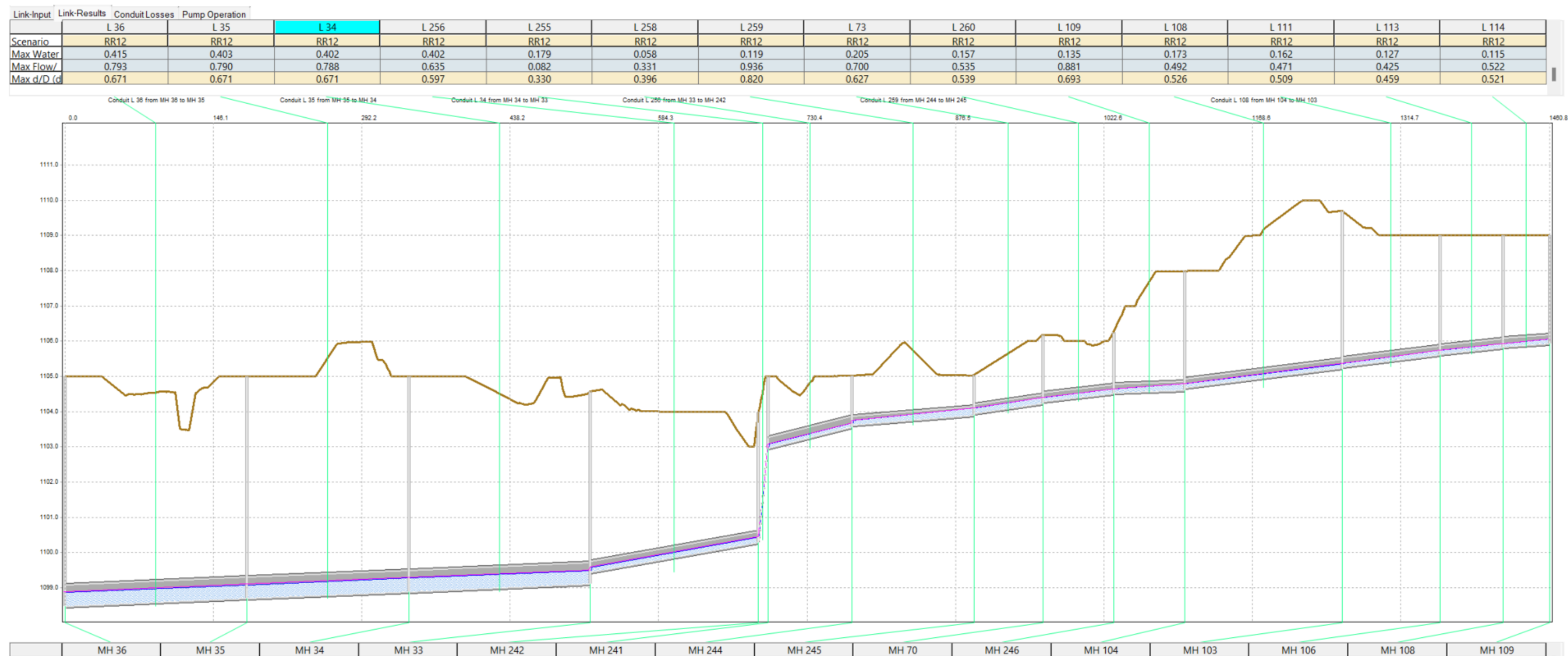


Figure 3-12: HGL from Vista Crossing Temporary Pumping Station to Laut Avenue – RR12 Trunk Development



Figure 3-13: HGL from Vista Crossing N-VST-332 to MH 40 via RR12 – RR12 Trunk Development

4 COST ESTIMATES FOR OPTIONS

The budgetary cost estimate for the two options presented in **Table 4-1** are prepared assuming the following:

- The pricing is based on Allnorth recent tenders in the region, and the 2024 City of Calgary Master Development Agreement Unit Rates Schedule (City of Calgary, February 2024).
- Cost estimates include supply, installation, and a 30% allowance for engineering and contingency.
- All trunks have been assumed to be installed by standard trench method at 5 - 5.5 m deep, and all trenches are 8 m wide at the ground surface.
- Prices based on standard bedding and typical trench conditions. No allowance for concrete bedding, unsuitable excavation, rock, or debris excavation with the trenches has been included.
- Existing road widths are 16 m and existing sewer trunks throughout the town are in road centrelines.
- Surface restoration for new trunks within current farmland areas is assumed to be part of the future development / subdivision cost.
- Quantities for hydro vac and existing shallow utility protection have been halved or quartered, depending on the expected level of development in the area and adjacent areas at the time of trunk installation.

Based on the Town of Crossfield Master Water Servicing Study 2020 Update (Allnorth, July 2020) there an opportunity to also improve the watermain at the fraction of the cost in the section of Laut Avenue that the new sewer would be constructed, if the sewer trunk and water main constructed at the same time. The expected cost to be shared between the sewer trunk and water main installation include general costs, site work and removal and surface improvements. Which could reduce the cost by 14% of the water main installation in that section of sewer trunk replacement.

Table 4-1: Budgetary Cost Estimates

Project ID	Project	Description	Cost Estimate (\$)
1	Laut Avenue Pipe Upsizing	<ul style="list-style-type: none"> • 460 m of Ø 750 mm Sanitary Trunk Spanning from intersection of Laut Ave and Railway St along Laut Ave, MH 28 to MH 33. • 460 m of Ø 400 mm Watermain Spanning between MH 28 and MH 33; intersection of Laut Ave and Railway St along Laut Avenue 	3,513,761
2	Range Road 12 Trunk Development	1,240 m of Ø 675 mm and 75 m of Ø 750 mm Spanning from Vista Crossing along RR12 to West Lift Station	3,799,540
Notes: <ul style="list-style-type: none"> • The expected cost to be shared between the sewer trunk and water main installation include general costs, site work and removal and surface improvements, which could reduce the cost of water main by 26%. 			

5 CONCLUSIONS

Based on the evaluation of the three options, Base Case Scenario, Laut Avenue Pipe Upsizing and Range Road 12 Trunk Development, the following can be concluded.

- The base case scenario has no changes to the existing system. This existing system can support all future phases of Vista Crossing (Phase 1 to Phase 5, and all other future phases) and most of Iron Landing areas with exception of 1.0 hectare in the of northern area that would not be accommodated due to topography sloping to the north. Portion of Railway Street with pipe diameter 525 mm and Laut Avenue, where the pipe diameter is 300 mm, the pipes are surcharging with $d/D \geq 1$ (d/D ratio greater than 1). However, the hydraulic grade line (HGL) is greater than 2.0 m below ground elevation, which is acceptable based on level of service criteria. If the assessment of Laut Avenue 300 mm diameter pipes is in good condition, upsizing can be delayed until the time warrants.
- The scenario for assessing the impact of upsizing the Laut Avenue sanitary trunk from Railway Street, MH 28 to MH 33, with a total length of 460 m was made. It was determined that the replacement of the existing 300 mm main with a 750 mm trunk main can support all future development phases of Vista Crossing (Phase 1 to Phase 5, and all other future phases), all of Hawk's Landing future developments and most of Iron Landing areas with exception of 1.0 hectare in the of northern area that would not be accommodated due to topography sloping to the north. The surcharging in Railway Street with pipe diameter 525 mm and Laut Avenue are eliminated by upsizing Laut Avenue 300 mm diameter pipes to 750 mm diameter pipes form MH 28 to MH 33. In addition, commercial / industrial areas of NW 25-28-1-5, SW 25 28-1-5 and south areas of SW 36-28-1-5 can be supported. The upsizing of Laut Avenue will also accommodate areas in NW-24 28-1-5 with improvements to McCool Street sanitary trunk.
- If upsizing the Laut Avenue sanitary trunk is completed together with improvement of water main in Laut Avenue based on the Town of Crossfield Master Water Servicing Study 2020 Update (Allnorth, July 2020) there an opportunity of reducing the cost by 26% of the water main installation in that section of sewer trunk replacement.
- The scenario for assessing the impact of development sanitary trunk on RR12, Node N-VST-333 to Node N-ANN-113, with a total length of 1250 m was made. The RR12 trunk development flows partially full ($d/D \leq 1.0$), with a maximum at $d/D=0.2$. This option would not be suitable to be developed until portion of flows from Iron Landing, Vista Crossing, Hawk's Landing and Northern portions of Trunk W1, Trunk C1, Trunk N1, Trunk N2 including New N1 Lif station and New North Lift station. In addition, the Iron Landing pump station to be re-routed and force main installed pumping from MH 213A to Node N-HWL-303 in Hawks Landing to discharge to a 525 mm Trunk that flows through Vista Crossing to RR 12 Trunk. These Town's future development would require much growth that cannot be seen in near future.

6 RECCOMENDATIONS

It is recommended to upsizing Laut Avenue 300 mm sanitary trunk to 750 mm sanitary trunk from manhole MH 28 to MH 33 with a total length Of 460 m. This would have an advantage of supporting base case scenario, all future phases of Vista Crossing (Phase 1 to Phase 5, and all other future phases),

all of Hawk's Landing future developments and most of Iron Landing areas, including, commercial / industrial areas of NW 25-28-1-5, SW-25 28-1-5 and south areas of SW 36-28-1-5.

Considering past completed condition assessments (Allnorth, June 2018; Allnorth, January 2025) from manhole MH 28 to MH 33, was evaluated to be in poor condition. This consisted of defective laterals, variable water levels likely due to minor sags or gravel accumulation, and moderate age-related spalling. Allnorth recommends undertaking upsizing this sanitary trunk and it should also be undertaken in parallel with water main installation, which could reduce the cost of water main by 26%.

REFERENCES

Alberta Government, March 2013, Alberta Environment Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems, Part 4, Wastewater Systems Guidelines for Design, Operating and Monitoring.

Allnorth, June 2018, Sanitary Sewer Condition Assessment Report, rev 2. Prepared for Town of Crossfield. June 13, 2018.

Allnorth, July 2020, Town of Crossfield Master Water Servicing Study 2020 Update, rev A. Prepared for Town of Crossfield. July 21, 2020.

Allnorth, February 2021, Town of Crossfield Master Sanitary Servicing Study 2020 Update, rev 2. Prepared for Town of Crossfield. February 16, 2021.

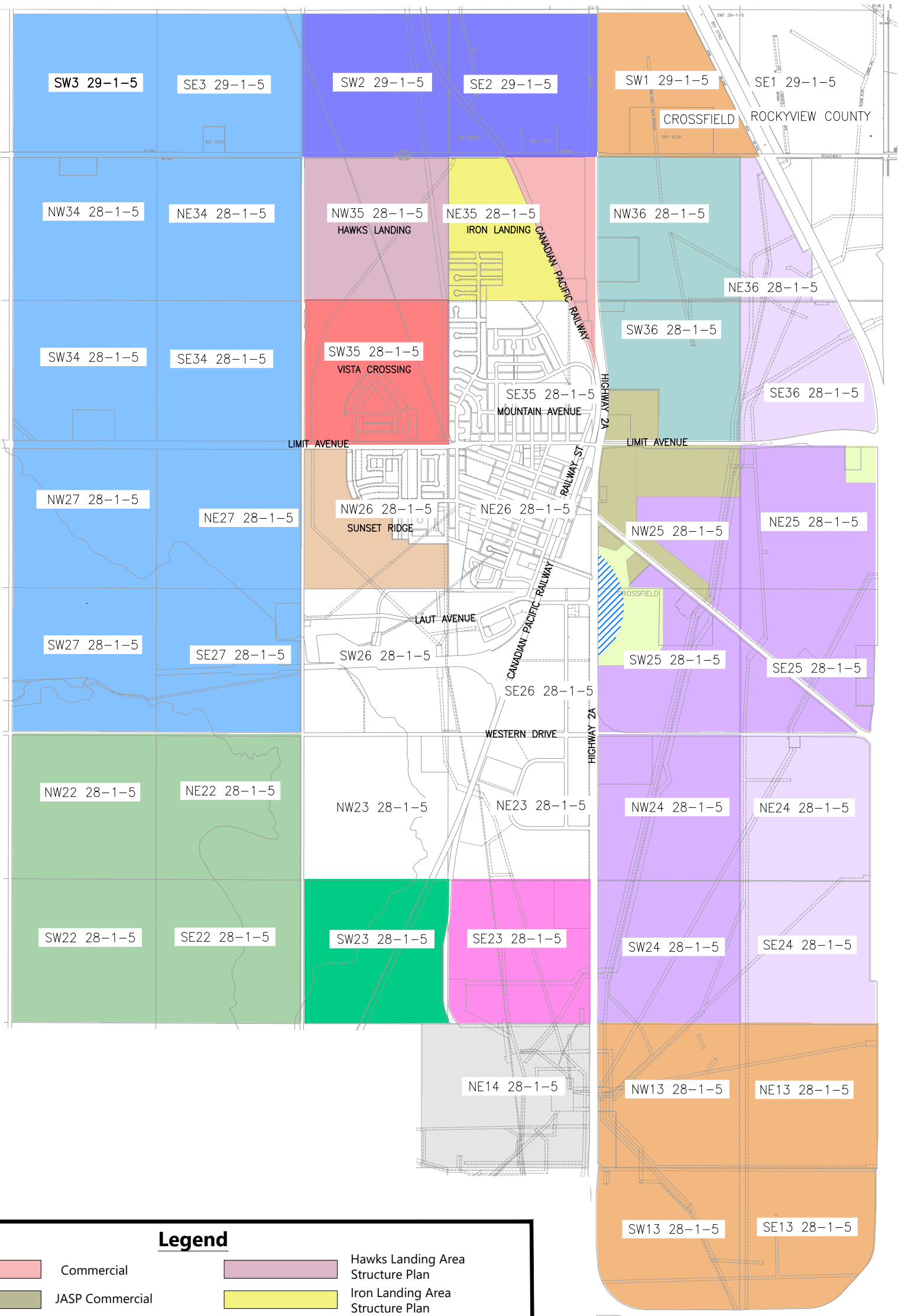
Allnorth, January 2025, Town of Crossfield Sanitary Sewer Assessment Addendum #1, rev A. Prepared for Town of Crossfield. January 28, 2025.

City of Calgary, February 2024, 2024 Development Agreement Standard Terms and Conditions. February 7, 2024.




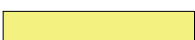






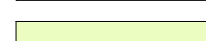


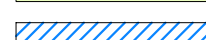





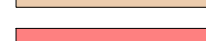


MPE Engineering Ltd. (MPE), August 2017, Crossfield /Rocky View County Joint Area Structure Plan (Joint ASP) Water Servicing Study.

Town of Crossfield, September 2018, Town of Crossfield Land Use Bylaw Map.

Appendix A



Legend

- | | | |
|--|---|--|
|  Commercial |  Hawks Landing Area Structure Plan | |
|  JASP Commercial |  Iron Landing Area Structure Plan | |
|  Residential Growth Area |  Annex-Existing Development | |
|  JASP Industrial |  Annex-Golf Course | |
|  JASP Light Industrial |  Annex-Industrial&Commercial | |
|  JASP Green Space |  Annex-Industrial |  Municipal and Institutional |
|  JASP Wetlands |  Annex-Residential Mix Use |  Current Crossfield Town Boundary |
|  Sunset Ridge Area Structure plan |  Annex-Residential Single Detached |  Joint ASP Bounday Rockyview County |
|  Vista Crossing Area Structure Plan |  Annex-Urban Reserve |  Proposed New Annexation Boundary |

CLIENT:



CONSULTANT:



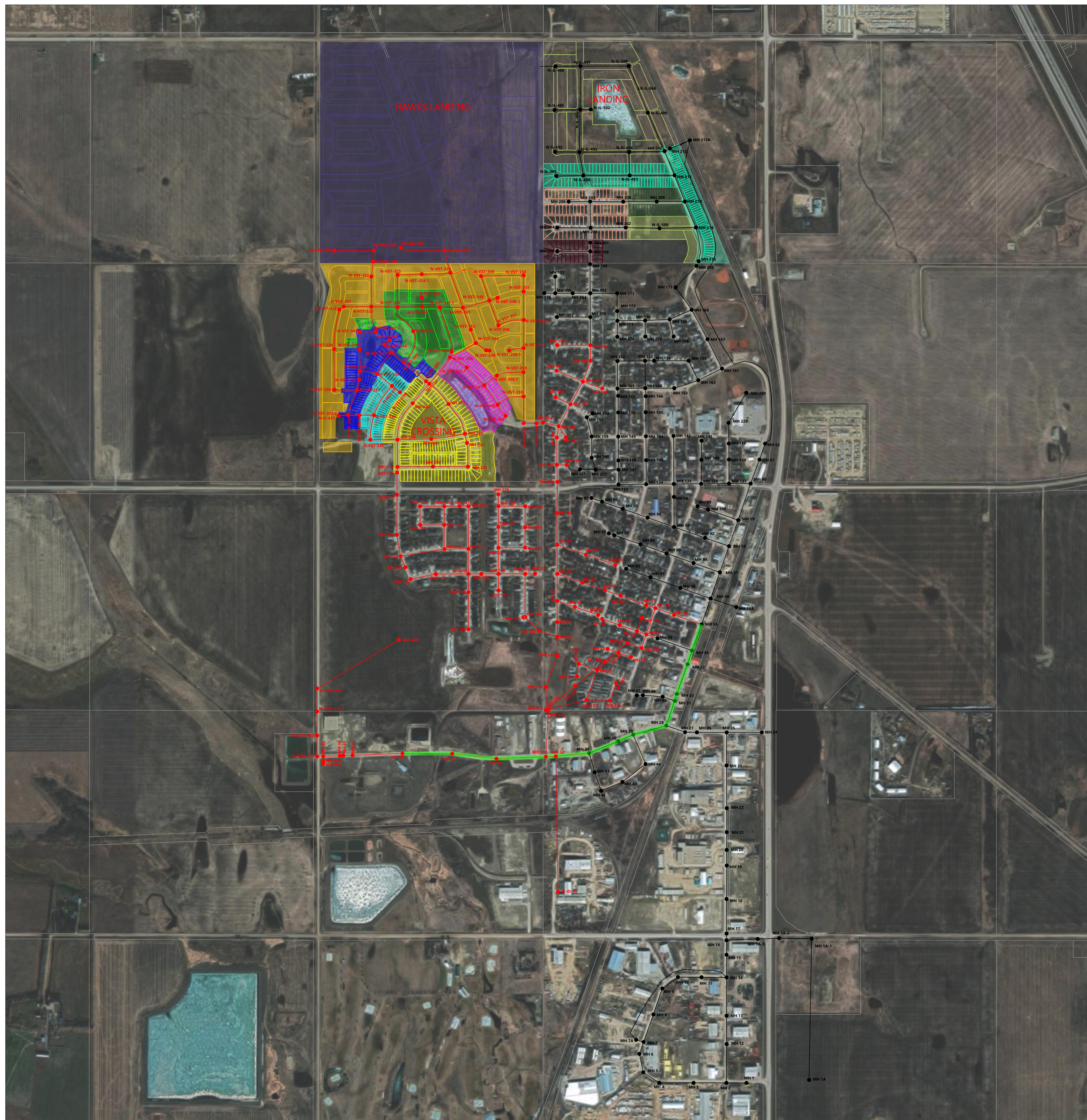
PROJECT

TOWN OF CROSSFIELD
MASTER SANITARY
SERVICING STUDY







FIG TITLE

LAND USE

FIGURE 2-2



VISTA CROSSING PHASES

- | | |
|---|---------------|
|  | PHASE 1 |
|  | PHASE 2 |
|  | PHASE 3 |
|  | PHASE 4 |
|  | PHASE 5 |
|  | FUTURE PHASES |

IRON LANDING PHASES

-
- PHASE 1
- PHASE 2&3
- PHASE 4
- PHASE 5
- FUTURE PHASES

HAWKS LANDING PHASES

- PLAN FOR FIGURE 3-1

EXISTING SEWER LINE FLOWING THROUGH RAILWAY STREET & LAUT AVENUE

EXISTING SEWER LINE FLOWING THROUGH VISTA DRIVE, SMITH AVENUE & LAUT AVENUE

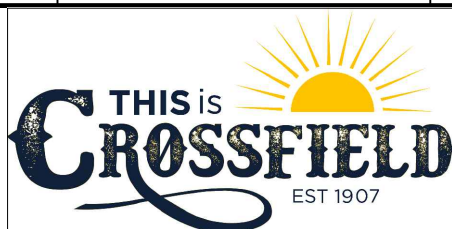
[illegible]

PERMIT TO PRACTICE:

ENGINEER SEAL:

Copyright © Allnorth Consultants Limited and affiliated companies, all rights reserved. The information contained in this document is the exclusive property of Allnorth Consultants Limited and affiliated companies and shall not be reproduced, or disclosed, or communicated to any unauthorized person, or used in any other unauthorized manner / form whatsoever, without the express written permission of Allnorth Consultants Limited and affiliated companies.

REV	YY/MM/DD	DESCRIPTION	DRWN	CHKD	APVD
-----	----------	-------------	------	------	------



CLIENT NO:	-	DRWN:	ABK	DATE:	24 12 05
PROJECT NO:	-	DSGN:	-	DATE:	-
DRAWING SIZE:	ANSI "D"	CHKD:	AM	DATE:	24 12 05
SCALE:	1:8000	APVD:	-	DATE:	-

PROJECT:

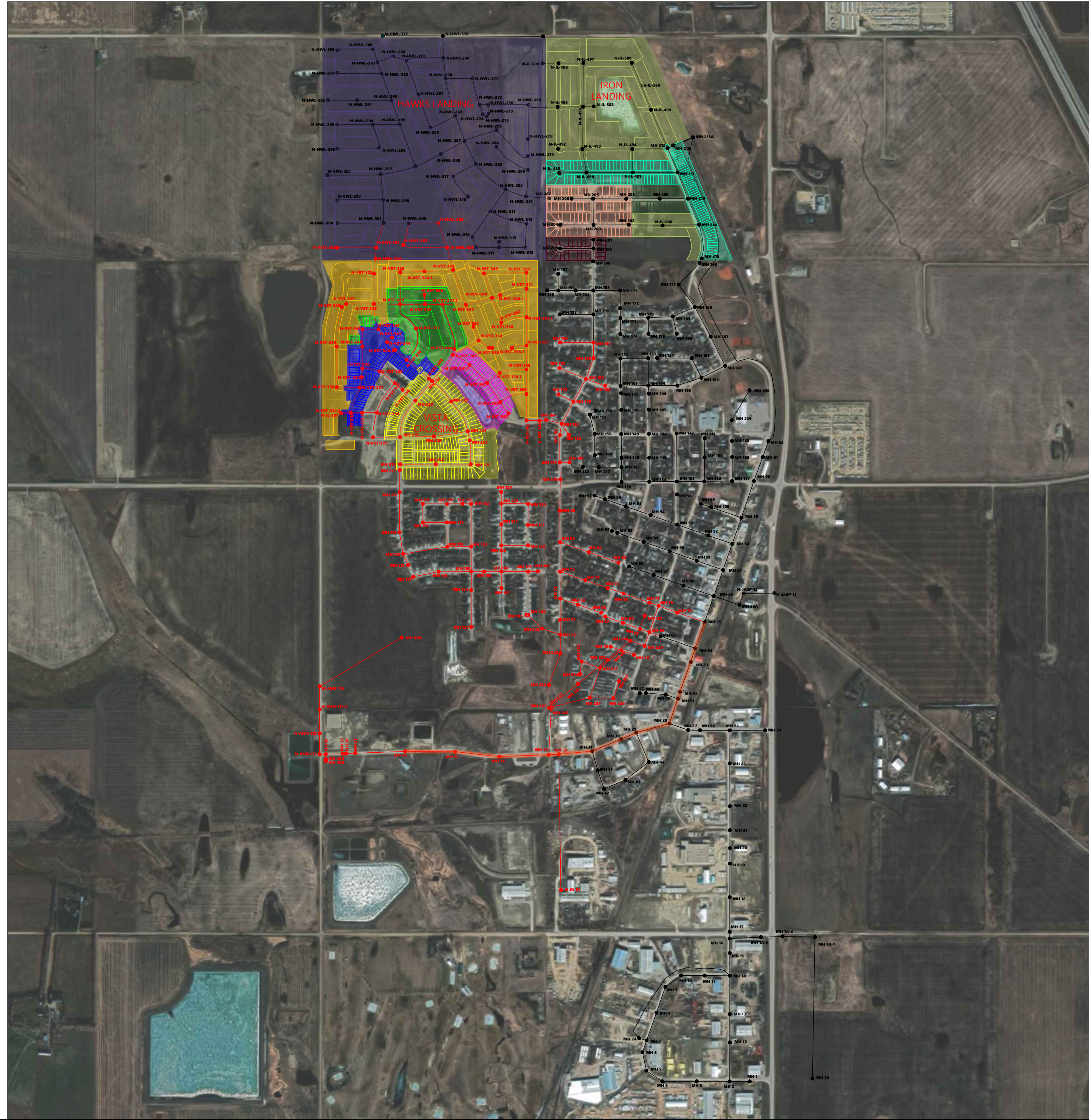
TOWN OF CROSSFIELD

TITLE:

MASTER SANITARY SERVICING STUDY BASE CASE SCENARIO

DWG NO: 2403325 - FIGURE 3-1	REV: A
--	------------------

NOT FOR
CONSTRUCTION

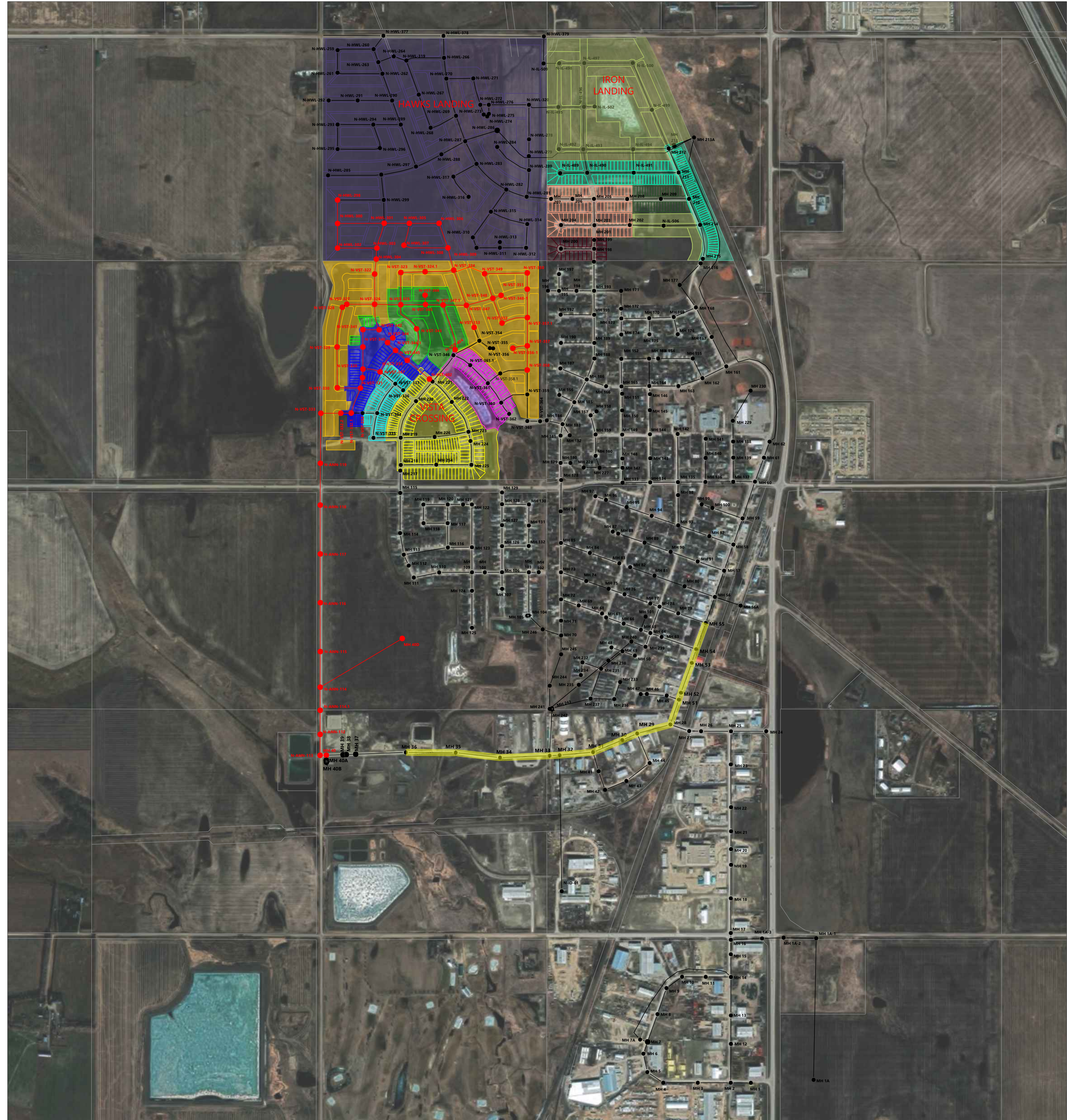


IRON LANDING PHASES







-
- PHASE 1
- PHASE 2&3
- PHASE 4
- PHASE 5
- FUTURE PHASES
- HAWKS LANDING PHASES
- PLAN FOR FIGURE 3-3
- EXISTING SEWER LINE FLOWING THROUGH RAILWAY STREET & LAUT AVENUE
- EXISTING SEWER LINE FLOWING THROUGH VISTA DRIVE, SMITH AVENUE & LAUT AVENUE

NOT FOR
CONSTRUCTION

[illegible]



VISTA CROSSING PHASES

- | | |
|---|---------------|
|  | PHASE 1 |
|  | PHASE 2 |
|  | PHASE 3 |
|  | PHASE 4 |
|  | PHASE 5 |
|  | FUTURE PHASES |

IRON LANDING PHASES

-
- PHASE 1
- PHASE 2&3
- PHASE 4
- PHASE 5
- FUTURE PHASES
- HAWKS LANDING PHASES

PLAN FOR FIGURE 3-6

MH 160 EXISTING SEWER LINE FLOWING THROUGH RAILWAY STREET & LAUT AVENUE

MH 220 EXISTING SEWER LINE FLOWING
THROUGH RANGE ROAD 12

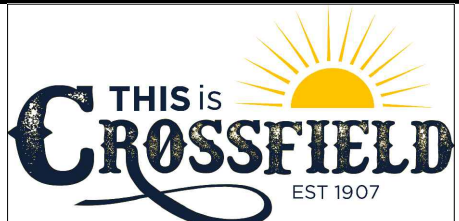
NOT FOR
CONSTRUCTION

[illegible]

PERMIT TO PRACTICE:

ENGINEER SEAL:

Copyright © Allnorth Consultants Limited and affiliated companies, all rights reserved. The information contained in this document is the exclusive property of Allnorth Consultants Limited and affiliated companies and shall not be reproduced, or disclosed, or communicated to any unauthorized person, or used in any other unauthorized manner / form whatsoever, without the express written permission of Allnorth Consultants Limited and affiliated companies.

[illegible]

CLIENT NO:	-	DRWN:	ABK	DATE:	24 12 05
PROJECT NO:	-	DSGN:	-	DATE:	-
DRAWING SIZE:	ANSI "D"	CHKD:	AM	DATE:	24 12 05
SCALE:	1:8000	APVD:	-	DATE:	-

TOWN OF CROSSFIELD

TITLE: **MASTER SANITARY
SERVICING STUDY
RANGE ROAD 12
TRUNK DEVELOPMENT**

DWG NO: 2403325 - FIGURE 3-6	REV: A
--	------------------

Owner:	Town of Crossfield	Project No:		2403325	
Project:	Sanitary & Water mains Upgrade	Date:		2025-02-19	
Streets	Laut Avenue (MH 28 to MH 33)	Number #:		2403325-1100-CCE-001	
Location:	Town of Crossfield, AB	Revision:		1	
	Probable Cost Estimate				
Item #	Description	Unit	Est. Qty	Unit Price	Total
1.00	GENERAL				
1.01	Mobilization/Demobilization	L.S.	1	\$ 245,717.58	\$ 245,718
1.02	Shallow Utility Protection	ea.	39	\$ 460.75	\$ 17,969
1.03	Dewatering Allowance	L.S.	1	\$ 7,363.52	\$ 7,364
1.04	Tree Protection	L.S.	1	\$ 1,442.81	\$ 1,443
1.05	Hydrovac	hr	48	\$ 493.11	\$ 23,669
1.06	Traffic accommodation	L.S.	1	\$ 10,729.78	\$ 10,730
1.07	Quality control testing and CCTV Inspection	L.S.	1	\$ 25,500.00	\$ 25,500
1.08	Sanitary Bypass Pumping	L.S.	1	\$ 100,000.00	\$ 100,000
1.09	Temporary Water Service	L.S.	1	\$ 40,000.00	\$ 40,000
Sub-Total					\$ 472,392
2.00	SITE WORK AND REMOVALS				
2.01	Saw cutting	l.m.	920	\$ 9.26	\$ 8,519
2.02	Road core incl. asphalt removal, base course and surplus material and disposal	m²	3,680	\$ 44.00	\$ 161,920
2.03	Breakout and Remove concrete sidewalks, Curb & Gutter low profile	l.m.	48	\$ 168.00	\$ 8,064
2.04	Removal & disposal - existing sanitary pipe	l.m.	460	\$ 30.00	\$ 13,800
2.05	Removal & disposal - existing sanitary manholes	ea.	6	\$ 700.00	\$ 4,200
2.06	Removal & disposal - existing water main	l.m.	460	\$ 701.00	\$ 322,460
Sub-Total					\$ 518,963
3.00	SANITARY SEWER				
3.01	SDR 35 PVC Pipe for gravity sewer:				
	750 mm PVC DR 35, 5-5.5m depth	l.m.	460	\$ 1,480.00	\$ 680,800
3.02	Manhole Type 5A, 5.0-5.5m depth	ea.	6	\$ 9,812.00	\$ 58,872
3.03	Tie-in to existing mains	ea.	6	\$ 12,000.00	\$ 72,000
3.04	Reconnection of existing sewer services (100 mm)	ea.	12	\$ 1,500.00	\$ 18,000
3.05	Major pipeline crossing	ea.	1	\$ 20,000.00	\$ 20,000
Sub-Total					\$ 849,672
4.00	WATER MAINS				
4.01	Water main including fittings:				
	a) 400 mm PVC DR 18, 2.5-3.0 m depth	l.m.	460	\$ 575.00	\$ 264,500
	b) 150 mm PVC DR 18, 2.5-3.0 m depth (Hydrant Leads)	l.m.	8	\$ 294.00	\$ 2,352
4.02	Gate Valves - 400 mm	ea.	3	\$ 14,800.00	\$ 44,400
4.03	Tie-in to existing mains	ea.	2	\$ 12,000.00	\$ 24,000
4.04	Replacement and reconnecting existing 20 mm water services up to property line	ea.	12	\$ 1,500.00	\$ 18,000
Sub-Total					\$ 353,252

Owner:	Town of Crossfield	Project No:	2403325		
Project:	Sanitary & Water mains Upgrade	Date:	2025-02-19		
Streets	Laut Avenue (MH 28 to MH 33)	Number #:	2403325-1100-CCE-001		
Location:	Town of Crossfield, AB	Revision:	1		
	Probable Cost Estimate				
Item #	Description	Unit	Est. Qty	Unit Price	Total
5.00	SURFACE IMPROVEMENTS				
5.01	Sub-grade preparation (150 mm worked depth)	m ²	3,680	\$ 3.00	\$ 11,040
5.02	Granular sub-base - 400 mm compacted depth	m ²	3,680	\$ 24.00	\$ 88,320
5.03	Granular base-course - 225 mm compacted depth	m ²	3,680	\$ 16.00	\$ 58,880
5.04	Sidewalk and Curb & Gutter Spot Repair	l.m.	48	\$ 500.00	\$ 24,000
5.05	Restoration of Topsoil & Landscaping	m ²	115	\$ 24.67	\$ 2,837
5.06	Asphalt pavement: 60 mm depth - Mix 'A'	m ²	3,680	\$ 60.00	\$ 220,800
5.07	Asphalt pavement: 40 mm depth - Mix 'B'	m ²	3,680	\$ 25.00	\$ 92,000
5.08	Pavement markings	L.S.	1	\$ 6,356.90	\$ 6,357
5.09	Adjustment of appurtenances - to finished grade c/w asphalt taper:				
	a) Manholes	ea.	6	\$ 580.00	\$ 3,480
	b) Water valves	ea.	3	\$ 300.00	\$ 900
				Sub-Total	\$ 508,614
				Project Subtotal:	\$ 2,702,893
				30% Engineering & Contingency:	\$ 810,868
				Project Total:	\$ 3,513,761
Notes	-This is a class 5 estimate or order of magnitude estimate based on rough assumptions, and minimal project definition. - This cost estimate used various sources including City of Calgary approved rates 2024, Alberta Transportation unit price average reports and contractors - These prices may change depending on the market and accessibility.				

Owner:	Town of Crossfield	Project No:	2403325		
Project:	Range Road 12 - Sanitary Trunk	Date:	2025-02-19		
Streets	Range Road 12	Number #:	2403325-1100-CCE-002		
Location:	Town of Crossfield, AB	Revision:	1		
	Probable Cost Estimate				
Item #	Description	Unit	Est. Qty	Unit Price	Total
1.00	GENERAL				
1.01	Mobilization/Demobilization	L.S.	1	\$ 265,702.10	\$ 265,702
1.02	Shallow Utility Protection	ea.	36	\$ 460.75	\$ 16,587
1.03	Dewatering Allowance	L.S.	1	\$ 19,849.49	\$ 19,849
1.04	Tree Protection	L.S.	1	\$ 3,889.32	\$ 3,889
1.05	Hydrovac	hr	48	\$ 493.11	\$ 23,669
1.06	Traffic accommodation	L.S.	1	\$ 29,157.00	\$ 29,157
1.07	Quality control testing and CCTV Inspection	L.S.	1	\$ 65,000.00	\$ 65,000
Sub-Total					\$ 423,854
2.00	SITE WORK AND REMOVALS				
2.01	Saw cutting	l.m.	20	\$ 9.26	\$ 185
2.02	Road core incl. asphalt remova, base course and surplus material and disposal	m²	10,000	\$ 44.00	\$ 440,000
Sub-Total					\$ 440,185
3.00	SANITARY SEWER				
3.01	SDR 35 PVC Pipe for gravity sewer:				
	f) 675 mm PVC DR 35, 5.0-5.5m depth	l.m.	1,240	\$ 1,112.00	\$ 1,378,880
	g) 750 mm PVC DR 35, 5.0-5.5m depth	l.m.	75	\$ 1,344.00	\$ 100,800
3.02	Manhole Type 5A, 5.0-5.5m depth	ea.	13	\$ 9,812.00	\$ 127,556
3.03	Tie-in to existing	ea.	1	\$ 12,000.00	\$ 12,000
3.04	Major pipeline crossing	ea.	1	\$ 20,000.00	\$ 20,000
Sub-Total					\$ 1,639,236
4.00	SURFACE IMPROVEMENTS				
4.01	Sub-grade preparation (150 mm worked depth)	m²	10,000	\$ 1.98	\$ 19,800
4.02	Granular sub-base - 400 mm compacted depth	m²	10,000	\$ 23.29	\$ 232,900
4.03	Granular base-course - 225 mm compacted depth	m²	10,000	\$ 15.23	\$ 152,300
4.04	Restoration of Topsoil & Landscaping	m²	310	\$ 24.67	\$ 7,648
4.05	Asphalt pavement: 60 mm depth - Mix 'A' at Township Rd 285 Crossing	m²	80	\$ 60.00	\$ 4,800
4.06	Asphalt pavement: 40 mm depth - Mix 'B' at Township Rd 285 Crossing	m²	80	\$ 25.00	\$ 2,000
Sub-Total					\$ 419,448
		Project Subtotal:			2,922,723
		30% Engineering & Contingency:			876,817
		Project Total:			3,799,540
Notes	-This is a class 5 estimate or order of magnitude estimate based on rough assumptions, and minimal project definition. - This cost estimate used various sources including City of Calgary approved rates 2024, Alberta Transportation unit price average reports and contractors - These prices may change depending on the market and accessibility.				

Laut Avenue - Sanitary Trunk (Separate)					
Description	Unit	Est. Qty		Unit Price	Total Amt
GENERAL					
Mobilization/Demobilization	L.S.	1	\$	173,708.38	\$ 173,708.38
Shallow Utility Protection	ea.	39	\$	460.75	\$ 17,969.25
Dewatering Allowance	L.S.	1	\$	7,363.52	\$ 7,363.52
Tree Protection	L.S.	1	\$	1,442.81	\$ 1,442.81
Hydrovac	hr	48	\$	493.11	\$ 23,669.28
Traffic accommodation	L.S.	1	\$	10,729.78	\$ 10,729.78
Quality control testing and CCTV Inspection	L.S.	1	\$	25,500.00	\$ 25,500.00
Sanitary Bypass Pumping	L.S.	1	\$	100,000.00	\$ 100,000.00
SITE WORK AND REMOVALS					
Saw cutting	l.m.	920	\$	9.26	\$ 8,519.20
Road core incl. asphalt removal, base course and surplus material and disposal	m2	3,680	\$	44.00	\$ 161,920.00
Breakout and Replace Curb & Gutter low profile	l.m.	48	\$	168.00	\$ 8,064.00
Removal & disposal - existing sanitary pipe	l.m.	460	\$	30.00	\$ 13,800.00
Removal & disposal - existing sanitary manholes	ea.	6	\$	700.00	\$ 4,200.00
SANITARY SEWER					
SDR 35 PVC Pipe for gravity sewer:					
a) 750 mm PVC DR 35, 5.0-5.5m depth	l.m.	460	\$	1,480.00	\$ 680,800.00
HDPE Pipe for sanitary force main:					
Manhole Type 5A, 5.0-5.5m depth	ea.	6	\$	9,812.00	\$ 58,872.00
Tie-in to existing	ea.	6	\$	12,000.00	\$ 72,000.00
Reconnection of existing sewer services (100 mm)	e.a	12	\$	1,500.00	\$ 18,000.00
Crossings					
Major pipeline crossing	ea.	1	\$	20,000.00	\$ 20,000.00
SURFACE IMPROVEMENTS					
Sub-grade preparation (150 mm worked depth)	m²	3,680	\$	3.00	\$ 11,040.00
Granular sub-base - 400 mm compacted depth	m²	3,680	\$	24.00	\$ 88,320.00
Granular base-course - 225 mm compacted depth	m²	3,680	\$	16.00	\$ 58,880.00
Sidewalk and Curb & Gutter Spot Repair	l.m.	48	\$	500.00	\$ 24,000.00
Surface Restoration					0.00
Restoration of Topsoil & Landscaping	m²	115	\$	24.67	\$ 2,837.05
Asphalt pavement: 60 mm depth - Mix 'A'	m²	3,680	\$	60.00	\$ 220,800.00
Asphalt pavement: 40 mm depth - Mix 'B'	m²	3,680	\$	25.00	\$ 92,000.00
Pavement markings	L.S.	1	\$	6,356.90	\$ 6,356.90
	Project Subtotal:			\$	1,910,792.17
		30% Engineering & Contingency:		\$	573,237.65
	Project Total:			\$	2,484,029.82

Laut Avenue - Water Main (Separate)					
Description	Unit	Est. Qty		Unit Price	Total Amt
GENERAL					
Mobilization/Demobilization	L.S.	1	\$	111,864.78	\$ 111,864.78
Shallow Utility Protection	ea.	39	\$	460.75	\$ 17,969.25
Dewatering Allowance	L.S.	1	\$	7,363.52	\$ 7,363.52
Tree Protection	L.S.	1	\$	1,442.81	\$ 1,442.81
Hydrovac	hr	48	\$	493.11	\$ 23,669.28
Traffic accommodation	L.S.	1	\$	10,729.78	\$ 10,729.78
Quality control testing and CCTV Inspection	L.S.	1	\$	25,500.00	\$ 25,500.00
SITE WORK AND REMOVALS					
Saw cutting	l.m.	920	\$	9.26	\$ 8,519.20
Road core incl. asphalt removal, base course and surplus material and disposal	m2	3,680	\$	44.00	\$ 161,920.00
Removal & disposal - existing water main	l.m.	460	\$	30.00	\$ 13,800.00
Removal & disposal - existing sidewalk and curb & gutter as required for water main installation	l.m.	42	\$	30.00	\$ 1,260.00
WATER MAINS					
Temporary Water Service	L.S.	1	\$	40,000.00	40,000.00
Water main including fittings:					
a) 400 mm PVC DR 18, 2.5-3.0 m depth	l.m.	460	\$	450.00	\$ 207,000.00
b) 150 mm PVC DR 18, 2.5-3.0 m depth (Hydrant Leads)	l.m.	8	\$	270.00	\$ 2,160.00
c) Gate Valves - 400 mm	ea.	3	\$	8,900.00	\$ 26,700.00
Tie-in to existing	ea.	2	\$	12,000.00	\$ 24,000.00
Reolacement existing 20 mm water services (100 mm)	e.a	12	\$	1,500.00	\$ 18,000.00
Crossings					
Major pipeline crossing	ea.	1	\$	20,000.00	\$ 20,000.00
SURFACE IMPROVEMENTS					
Sub-grade preparation (150 mm worked depth)	m²	3,680	\$	3.00	\$ 11,040.00
Granular sub-base - 400 mm compacted depth	m²	3,680	\$	24.00	\$ 88,320.00
Granular base-course - 225 mm compacted depth	m²	3,680	\$	16.00	\$ 58,880.00
Sidewalk and Curb & Gutter Spot Repair	l.m.	48	\$	500.00	\$ 24,000.00
Surface Restoration					0.00
Restoration of Topsoil & Landscaping	m²	115	\$	24.67	\$ 2,837.05
Asphalt pavement: 60 mm depth - Mix 'A'	m²	3,680	\$	60.00	\$ 220,800.00
Asphalt pavement: 40 mm depth - Mix 'B'	m²	3,680	\$	25.00	\$ 92,000.00
Pavement markings	L.S.	1	\$	6,356.90	\$ 6,356.90
Adjustment of appurtenances - to finished grade c/w asphalt taper:					
a) Manholes	ea.	6		580.00	3,480.00
b) Water valves	ea.	3		300.00	900.00
	Project Subtotal:			\$	1,230,512.57
		30% Engineering & Contingency:		\$	369,153.77
	Project Total:			\$	1,599,666.34