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1-800-351-0929

a division of Englobe

Town of Hanna
P.O. Box 430
Hanna, Alberta
T0J 1P0

June 30, 2023
File: N:\2460\041\00\L01

Attention: Kim Neill
Chief Administration Officer

Dear Mr. Neill:

Re: Town of Hanna Infrastructure Management Plan Update Report

INTRODUCTION

A municipality's infrastructure is the backbone to a community's economic prosperity and quality of life; however, municipalities are faced with competing priorities and infrastructure upkeep is sacrificed in the struggle to keep taxes affordable for local rate payers. This is increasingly challenging with recent inflationary costs and decreased funding from senior government, placing more burden on the local tax base.

The pressures the Town of Hanna (Town) face are similar to many smaller rural municipalities throughout Alberta. Much of the infrastructure was installed at the same time and is all starting to reach the end of its life simultaneously. Replacement costs are 10-15% higher than larger urban areas, and there is stagnant or decreasing population growth. Based on the 2022 census, Hanna's population is 2,658 people as compared to approximately 3,000 people in 2002.

Surface infrastructure (roads, sidewalks, etc.) are the most visible form of deterioration, but some of the most important infrastructure is not readily visible until it fails or fails to meet an adequate level of service. For this is reason, it is important to evaluate all infrastructure based on an overall condition, level of service, and risk assessment basis.

In 2014, the Town completed a comprehensive Infrastructure Report that documented the condition of the transportation, water, wastewater, and stormwater infrastructure. The report then developed a prioritized 10-year capital plan and budget to guide future infrastructure upgrades. This 2023 Study was not intended to reassess the condition of infrastructure, but rather to review progress since 2014 and to reassess the next 10-year capital plan.

1. FUNDING TRENDS

There are two main noncompetitive sources for funding for infrastructure projects in the Town of Hanna. These are the Municipal Sustainability Initiative (MSI) and the Canada Community-Building Fund (CCBF).

The MSI launched in 2007 and was an $11.3B commitment of funding over 10 years to municipalities. Since program launch, municipalities have been allocated more than $15.2B. However, this encompasses both MSI and the Basic Municipal Transportation Grant (BMTG), which was folded under MSI in 2014 to streamline the delivery of funding to municipalities. The BMTG consolidated funding from several transportation programs (of which not all municipalities were eligible), including:

- City Transportation Fund,
- Basic Capital Grant,

- Provincial Highway Maintenance Grant,
- Street Improvement Program,
- Streets Improvement Program for Hamlets,
- Rural Transportation Grant.

Based on a set formula that incorporates per capita, education property tax, and kilometres of local roads, MSI funding is allocated annually following legislative approval of the program budget. A portion of MSI funding is allocated to municipalities via the former BMTG allocation formula which means that for towns such as Hanna, their BMTG allocation delivered under the MSI is based on their municipal population.

The CCBF is grant funding delivered by the Province on behalf of the federal government. The current CCBF agreement runs from 2014-2024 but is expected to continue under a renewed federal-provincial agreement in 2024. Current CCBF allocations are determined annually on a per capita basis, and it is unknown if the allocation formula will change in the new agreement.

Table 1.1 provides a summary of the grant funding history for the last 10 years for the Town for the above-described grant programs.

Table 1.1: Historical Grant Funding for Hanna

Program Year	MSI		BMTG[1]	CCBF[2]
	Capital	Operating		
2023	$277,616	$305,666	N/A	$160,198
2022	$277,616	$152,833	N/A	$153,350
2021	$531,055	$152,833	$153,540	$299,630
2020	$419,405	$148,492	$153,540	$146,379
2019	$276,565	$141,138	$153,540	$289,168
2018	$277,480	$150,984	$153,540	$141,139
2017	$829,118	$129,837	$160,380	$144,580
2016	$485,598	$134,760	$160,380	$144,109
2015	$321,634	$146,817	$160,380	$140,127
2014	$708,979	$147,927	$160,380	$145,265
2013	$495,160	$274,958	N/A	$158,663

[1]*Delivered under the MSI.*
[2]*Formerly the Gas Tax Fund until renamed the CCBF in June 2021.*

Table 1.2 provides a summary of the grant funding allocated for the Town for 2024 and 2025.

Table 1.2: 2025 and 2025 Projected Grant Funding for Hanna

Program Year	MSI – Capital	CCBF[2]
2024	$579,831	$160,198
2025	$651,747	$160,198

The MSI (and BMTG delivered under the MSI) will be replaced by the Local Government Fiscal Framework (LGFF), beginning in 2024. The LGFF sets out a new funding model for capital grants to Alberta municipalities and Metis Settlements and is being implemented to provide local governments an awareness of provincial government funding for capital projects two years in advance. It is expected that this model will enable municipalities to be more informed for capital planning, project management, and budgeting.

The LGFF is based on sharing Alberta government risk with local governments, both increases and decreases, as annual LGFF funding will change based on the percentage change in provincial revenue from three years prior. This percentage change is identified as the Revenue Index Factor (RIF).

- For example, the RIF for 2025 is based on the change in provincial government revenue between 2021-2022 and 2022-2023.

Budget 2023 provided $485 million in MSI capital funding for 2023 and identified a baseline funding amount of $722 million for the new LGFF program in 2024. For subsequent years, the available LGFF capital funding is determined by multiplying the prior year amount by the RIF. Based on this calculation, the 2025 LGFF funding will be $820 million.

LGFF legislation sets out the calculation for determining the allocation of funding between Calgary and Edmonton. Remaining funds following these calculations will then be allocated to all other municipalities and Metis Settlements. ***Table 1.3*** shows the capital funding breakdown for the next two fiscal years. Like the current MSI formula, Calgary and Edmonton calculations are based on each city's municipal population, education property tax requisition, and the number of kilometres of open roads. The formula to allocate funding among all other local governments has not yet been finalized.

Table 1.3 Local Government Capital Funding (millions of dollars)

Municipality	2024-2025	2025-2026
Calgary	$224	$255
Edmonton	$158	$179
Local Governments (excluding Calgary and Edmonton)	$340	$386
Total	**$722**	**$820**

2. CAPITAL ASSET VALUE

The current estimated capital asset value for Town-owned transportation, water, wastewater, and stormwater infrastructure is roughly $180M or $67,700/person. ***Table 2.1*** provides a summary of cost for each infrastructure type.

Table 2.1: Cost Summary by Infrastructure Type

Infrastructure	2023 Replacement/Asset Value
Water Distribution (Excluding Treatment)	$32.0M
Wastewater	$36.6M
Water and Sewer Servicing	$27.2M
Stormwater Collection	$14.5M
Roads and Sidewalks	$69.7M
TOTAL	**$ 180M**
VALUE/RESIDENT	**$67,700/resident**

Values exclude Town-owned buildings and facilities with an approximate value of $40M.

3. WATER AND WASTEWATER INFRASTRUCTURE

Most of the Town's water distribution and wastewater collection system is ±70 years old having been installed in the 1950s and early 1960s. Prior to 1982 when the Henry Kroeger Regional Water Commission (HKRWSC) was commissioned, the Town's original water treatment plant was located at the current Recreation Centre site and water was provided from Fox Lake.

3.1 Water Distribution System

The Town's water distribution system consists of 37.5 km of water main ranging from 100 mm (4") to 400 mm (16") with 70% being less than 150 mm in size. In the last 25 years, the Town has replaced or installed about 2,500 m or ±6.5% of the network. The existing water distribution system is illustrated on ***Figure 2.1*** in ***Appendix A***.

Generally, there is adequate fire hydrant coverage throughout the Town. The distribution is generally able to meet domestic demands. While this is adequate hydrant coverage, the system is unable to meet fire demand requirements of 75 L/s in many parts of the Town, especially in the northeast quadrant. This is primarily due to the lack of an adequate skeletal network and many 100 mm (±25%) water mains making up the network.

The 2014 report identified several upgrades required to improve fire flow throughout the Town. The upgrades that are still required are listed below, and are shown on ***Figure 2.3*** in ***Appendix A***:

- Upgrade Centre Street water main from 100 mm to 300 mm from 2 Avenue to Fox Lake Trail. This would provide a good spine.
- Install 300 mm water main on Pioneer Trail from South Municipal Road to Fox Lake Trail.
- Install 300 mm water main on Fox Lake Trail from Argue Road to Pioneer Trail.
- Install 300 mm water main on Railway Avenue - Pioneer Trail to Centre Street.

Like the water mains, the valves are 70+ years old and have not been operated since installed. Staff are reluctant to operate valves as many of them do not seal fully or staff are afraid the valves will break or will be unable to reopen. This results in additional time, increased cost, and larger impact on residents when having to isolate sections of water mains during water main breaks or system maintenance. An annual valve replacement program budget of roughly $100,000/year should be implemented to replace four to six valves per year.

The Town is a partner of HKRWSC and receives its potable water from the commission. Based on the 2014 Study, the Town's demand represents approximately 58% of the HKRWSC capacity. As such, the Town is required to contribute to capital upgrades which are not included in this study.

3.2 Wastewater System

The wastewater system consists of roughly 25.3 km of collection mains, two private lift stations, two small Town lift stations, a Main Lift Station adjacent to the Visitor Centre and a wastewater treatment lagoon located 2.5 km south of Town. The Main Lift Station was constructed in 2008 at a cost of $1.8M. The existing wastewater collection system is illustrated on ***Figure 3.1*** in ***Appendix A***.

The 2014 Study identified that the wastewater system is prone to extreme infiltration during wet weather events up to 3-4 times normal flows. This is likely attributed to possible cross-connections with storm sewer, residential sump pump connections, and infiltration through manholes located within traplows.

Much of the collection system is comprised of Vitrified Clay Tile (VCT) pipe which is reaching the end of its life expectancy. VCT pipe is highly susceptible to breakage and settlement, which reduces capacity and increases maintenance and blockage risks. The 2014 Study recommended that a budget of $25,000/year be allocated towards an annual video inspection program. This would provide a means to monitor the system and assist with identifying potential high risk problem areas. The collection mains that are made of VCT or AC and have reached the end of their service lives should be replaced on an ongoing basis in conjunction with the water main or stormwater mains in the same road.

The sewage lagoon consists of four anerobic primary treatment cells, one facultative secondary treatment/polishing cell, and one storage cell with a total capacity of 406,000 m^3. Treated wastewater is discharged into Bull Pound Creek and ultimately into the Red Deer River. To provide effective treatment, the lagoons, solids and sludge, especially from the anaerobic cells, should be removed every 15-20 years.

The only cleaning record is of the first two lagoon cells 10 years ago; there was no other known cleaning in the last 25 years. It is recommended a sludge survey be completed to determine the volume of sludge accumulated in the lagoon and to provide an estimate of future cleaning cost. The cleaning of the lagoon project would be eligible for 60% Provincial funding under the Alberta Municipal Water Wastewater Program (AMWWP) grant.

3.3 Stormwater System

The Town's stormwater system consists of three primary catchment areas made up of a series of overland and underground conveyance systems. The existing stormwater system is illustrated in ***Figure 4.1*** in ***Appendix A***.

The 2014 Study identified 16 projects worth an estimated $2.375M to address at risk areas. In 2017, a new diversion and outfall was completed at the south end of 3 Street W, which was identified as the Priority 1 upgrade. This improvement helped increase the capacity of the west drainage system and helped reduce flooding risk at various priority areas throughout the west catchment. The remaining 15 "drainage areas at risk" stormwater upgrade sites are shown on ***Figure 4.2*** in ***Appendix A***.

With recent development of the Tim Hortons site (northeast corner of Palliser Trail and South Municipal Road), drainage in the area has become more problematic. During extreme wet periods, water has flooded Roundhouse Road and has caused drainage issues in the area. The Town has deepened the ditches along West Industrial Road to improve drainage but if additional development is planned for the area, an underground system should be provided at an estimated cost of about $300,000.

4. TRANSPORTATION

Hanna maintains roughly 370,000 m^2 or 33.5 km of road (assuming an average width of 11 m) of which 93% is paved. The existing road system is illustrated on ***Figure 5.1*** and the existing concrete surface works is shown in ***Figure 5.3*** in ***Appendix A***. Typical life expectancy of 25-35 years can be expected for the roads depending on traffic volume, traffic loadings, climate, and annual maintenance. A properly planned and adequately funded road rehabilitation strategy is essential to maintain a Town's road network. As is illustrated in ***Figure 1***, a road's condition can deteriorate rapidly and cost around four times more to rehabilitate if not properly planned. The cost to overlay a road is roughly $500/m. If left to deteriorate to the point full reconstruction is required, this cost would increase to roughly $1,800/m.

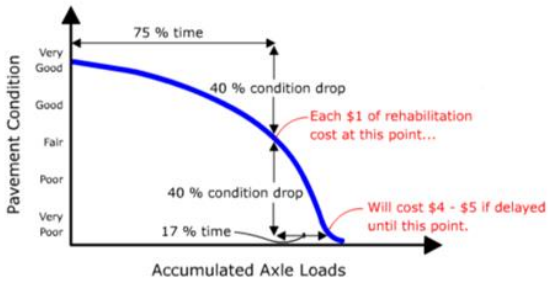


Figure 1: Road Deterioration Curve

A Pavement Management Study is critical to properly evaluate, prioritize, and identify required investment to maintain the network at an acceptable condition. A road condition assessment was completed as part of the 2014 Report which identified that 1% of the network required Immediate (1-3 years) attention, 3% required short-term (4-5 year), and 23% required medium term (6-7 years) attention. The results of the 2014 road priority assessment updated with road projects since then are shown on ***Figure 5.2***. The Pavement Management Study should be updated at a budget of $75,000.

Over the past 20 years, the Town has been budgeting ±$250,000/year towards road rehabilitation. This amounts to ±500 m of overlay or 140 m of full reconstruction. Over the past 20 years, about 11.0 km or 30% of the road network has been repaved, with 2,500 m being repaved in the past 10 years.

The 2014 Study identified that the boundary arterial roads (Pioneer Trail, Palliser Trail, and Fox Lake Trail) required attention by 2022. Based on visual inspection and discussion with Town staff, Pioneer Trail and Palliser have continued to deteriorate with rehabilitation scheduled for 2024.

In addition, a 2018 inspection and 2023 inspection of the Pioneer Trail bridge determined that immediate repairs are needed at the bridge. A separate study indicates the cost to replace the bridge is estimated to be $1.7M. Bridge replacement is scheduled for 2025.

5. 2014-2023 CAPITAL IMPROVEMENTS

The 2014 Study developed a prioritized capital plan of $11,660,000 to be completed over 10 years, based on an average annual capital investment of $1.2M/year. ***Table 5.1*** provides a summary of the Capital Projects completed since 2014. The average investment over the past nine years is roughly $706,000/year or $265/person.

Table 5.1: 2015-2023 Infrastructure Capital Expenditures

Year	Description	Surface	Potable Water	Wastewater	Stormwater	Total
2015	Fox Lake Trail 3 Street W – Golf Course Crescent	$850,000	$350,000			$1,200,000
2017	Infrastructure Program	$900,000	$120,000	$80,000	$400,000	$1,500,000
2018	2 Avenue Lift Station Wet Well			$48,000		$1,200,000
	Generator Purchase from HKRWSC		$152,000			
	Airport Runway Repaving	$700,000 total $158,000 Project Cost for Town with 25% Contribution STIP Grant.				
	Cervus Water Service		$300,000			
2019	Igloo Station Pump Replacement			$8,000		$ 8,000
2020	Infrastructure Program	$1,465,000				$2,100,000
2020	2 Avenue W – 3 Street W to 4 Street W	$425,000	$110,000	$100,000		
2023	Water Reader Software		$35,000			$ 35,000
2023	Airport Lighting	$314,000 total $75,000 Project Cost for Town with 25% Contribution STIP Grant				$ 314,000
TOTAL		**4,654,000**	**1,067,000**	**$236,000**	**$400,000**	**$6,357,000**
NINE YEAR AVERAGE ($/YEAR)						**$ 706,000**

6. PROPOSED 10-YEAR CAPITAL PLAN

Table 6.1 outlines the recommended capital plan for the next 10 years for the infrastructure upgrades identified in this report. This plan is a useful tool for the Town to reference on an ongoing basis. It is also intended for use as a discussion tool when prioritizing projects and forecasting annual and upcoming expenditures. The capital plan is intended to be a "living" document that is updated regularly as situations change and projects are completed.

The infrastructure projects for the water/wastewater/storm pipeline replacements are based on the separate risk assessments of the road, wastewater, water and stormwater systems. An overall importance rating for each road/replacement project was calculated, with higher weighting precedence given first to road, then water and finally wastewater and stormwater upgrades. The recommended infrastructure projects are also illustrated in ***Figure 6.1*** in ***Appendix A***.

The following costs include contingencies and engineering; however, they do not include GST. All costs are in 2023 dollars. For construction after 2023, we recommend considering an inflation rate of 3% per year. Detailed cost estimates can be found in ***Appendix B***. The estimated costs are order of magnitude for planning purposes only. More detailed design, costing and evaluation would need to be done prior to finalizing actual project budgets.

Table 6.1: 2024-2034 Infrastructure Capital Expenditures

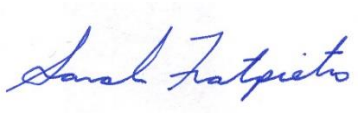
Year	Description	Total	Town Contribution
2024	2 Avenue W – 2 Street W to 1 Street E	$5,800,000	$1,450,000 Town 25% contribution
2024	Lagoon Sludge Assessment	$30,000	$30,000
2025	Palliser Trail Overlay – Highway 9 to Fox Lake Trail	$1,374,000	$1,374,000
2025	Pioneer Trail South Overlay – South Municipal Road to Bridge	$561,000	$561,000
2025	Pioneer Trail Bridge Replacement with duct for water looping	$1,697,000	$424,000 Town 25% Contribution STIP Grant.
2027	Pioneer Trail South Water Loop – South Municipal Road to Bridge with Water Loop in Road Ditch	$649,000	$649,000
2027	Pioneer Trail North Overlay – Bridge to Fox Lake Trail with Water Loop in road ditch	$836,000	$836,000
2027	Lagoon Cleaning	$1,000,000	$400,000 Town 40% Contribution AMWWP Grant. Project
2027	Fox Lake Trail West Overlay – Palliser Trail to 3 Street W	$172,000	$172,000
2028	Fox Lake Trail East – Pioneer Trail to Golf Course Road Water Loop	$347,000	$347,000
2028	Pavement Management Assessment	$75,000	$75,000
2030	2 Avenue W – Palliser Trail to 4 Street W and 3 Street W to 2 Street W	$2,589,000	$2,589,000
2032	4 Avenue and Centre Street to Railway Avenue	$2,173,000	$2,173,000
2034	1 Avenue E – 1 Street W to 2 Street E	$2,111,000	$2,111,000
	TOTAL COSTS	**$19,400,000**	**$13,200,000**
	11 YEAR AVERAGE ($/YEAR)	**$1,800,000**	**$1,200,000**

CLOSURE

Please contact the undersigned at 403-651-7017, if you have any questions or require clarification.

Yours truly,

MPE a division of Englobe

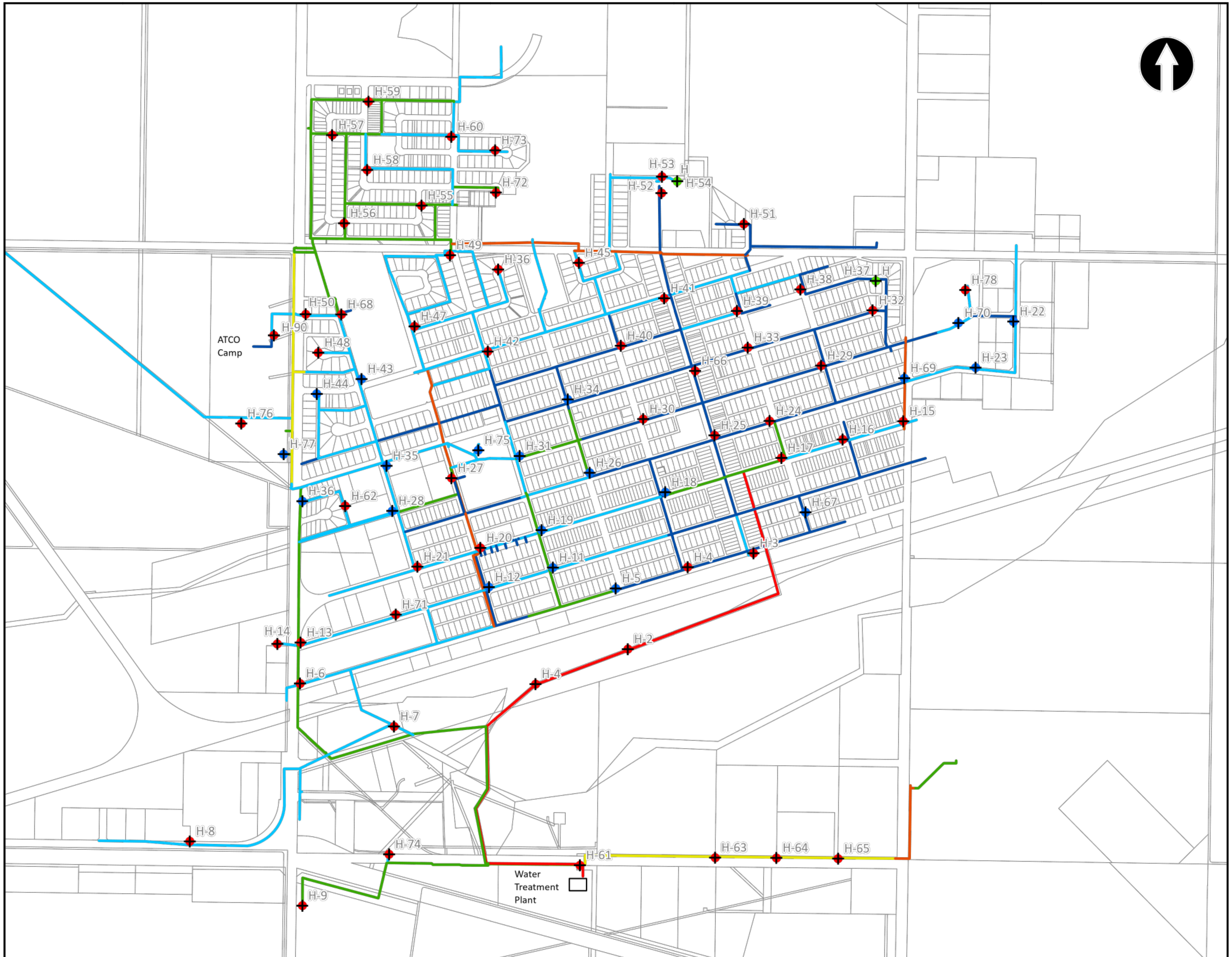


Sarah Fratpietro, P.Eng., LEED® A.P.
Project Manager

SF:sf
Enclosure: Appendix A: Figures
Appendix B: Updated Cost Estimates

APPENDIX A

Figures



Water Mains by Diameter

- <= 100mm
- 150mm
- 200mm
- 250mm
- 300mm
- 400mm

Hydrant

- Flow Test Complete
- Not Flow Tested
- Water Modelling Hydrant
- Parcel

0 500 m

Scale: 10,000
(ANSI B 11"x17")

1. **Background Layers:** World Topo Map; Province of Alberta, Esri Canada, Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA, EPA, USDA, NPS, AAFC, NRCan
2. **Data Sources:** Altalis, NRCAN, Statistics Canada
3. **Coordinate System:** NAD 1983 3TM 111

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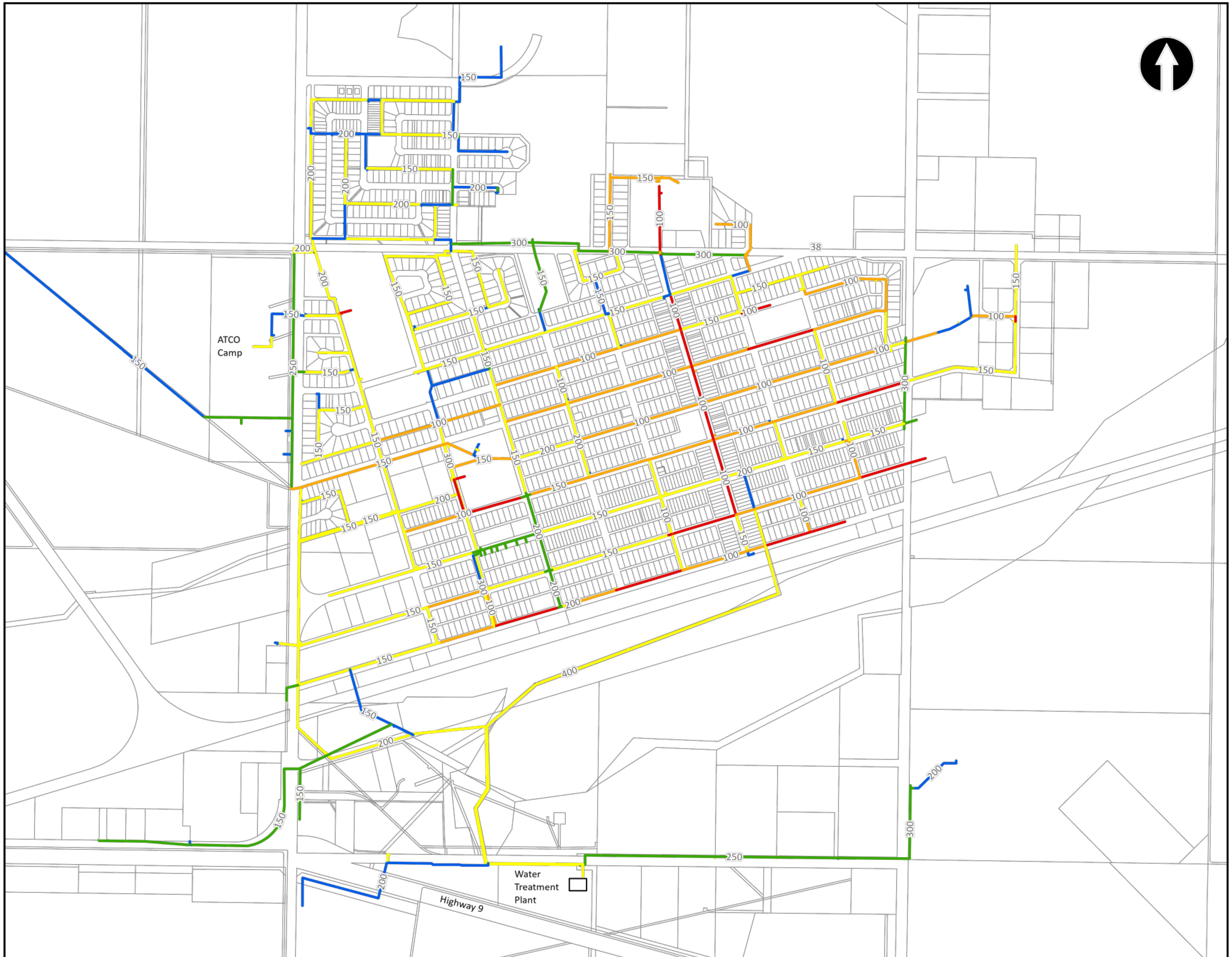
TOWN OF HANNA LIVE THE LIFESTYLE

TITLE
Existing Water Distribution System
IMP Update
Town of Hanna

LOCATION	REVIEW
Hanna, Alberta	Drawn by DM on 17 Oct 2023 Review by SF on 17 Oct 2023

JOB	FIGURE	PAGE	DATE
2460-041	2.1	1 / 1	30 June 2023



Existing Water Mains Priority Assessment

- 1 - Low
- 2
- 3 - Medium
- 4
- 5 - High
- Parcel

0 500 m

Scale: 10,000
(ANSI B 11"x17")

1. **Background Layers:** World Topo Map; Province of Alberta, Esri Canada, Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA, EPA, USDA, NPS, AAFC, NRCan
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TOWN OF HANNA LIVE THE LIFESTYLE

TITLE
Existing Water Distribution Priority Assessment
IMP Update
Town of Hanna

LOCATION	REVIEW
Hanna, Alberta	Drawn by DM on 18 Oct 2023 Review by SF on 18 Oct 2023

JOB	FIGURE	PAGE	DATE
2460-041	2.2	1 / 1	30 June 2023

Date: 22 Jan, 2024

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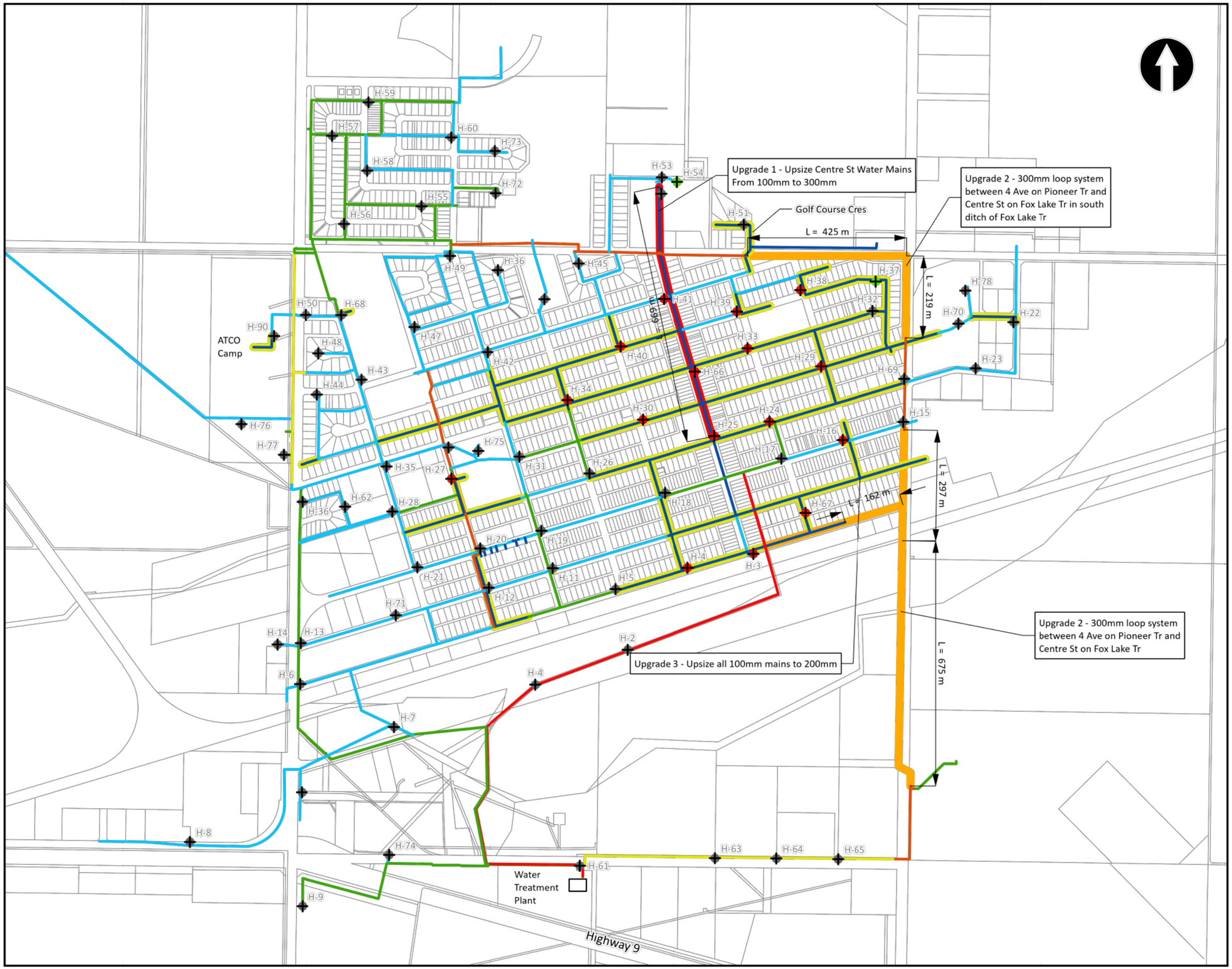

Water Mains by Diameter

- <= 100mm
- 150mm
- 200mm
- 250mm
- 300mm
- 400mm

Proposed Water Main Upgrades

- Upgrade 1 - Upsize Centre St Mains
- Upgrade 2 - Install Looping 300mm Main
- Upgrade 3 - Upsize All Existing 100mm Mains

Hydrants

- Existing Hydrants
- Existing Hydrants Connected to 100mm Main

Parcel

0 500 m

Scale: 10,000
(ANSI B 11"x17")

1. **Background Layers:** World Topo Map; Province of Alberta, Esri Canada, Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA, EPA, USDA, NPS, AAFC, NRCan
2. **Data Sources:** Altalis, NRCAN, Statistics Canada
3. **Coordinate System:** NAD 1983 3TM 111

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TOWN OF HANNA LIVE THE LIFESTYLE

TITLE

Proposed Water Distribution System Upgrades
IMP Update
Town of Hanna

LOCATION	REVIEW
Hanna, Alberta	Drawn by DM on 22 Nov 2023 Review by SF on 22 Nov 2023

JOB	FIGURE	PAGE	DATE
2460-041	2.3	1 / 1	30 June 2023

Date: 22 Jan, 2024

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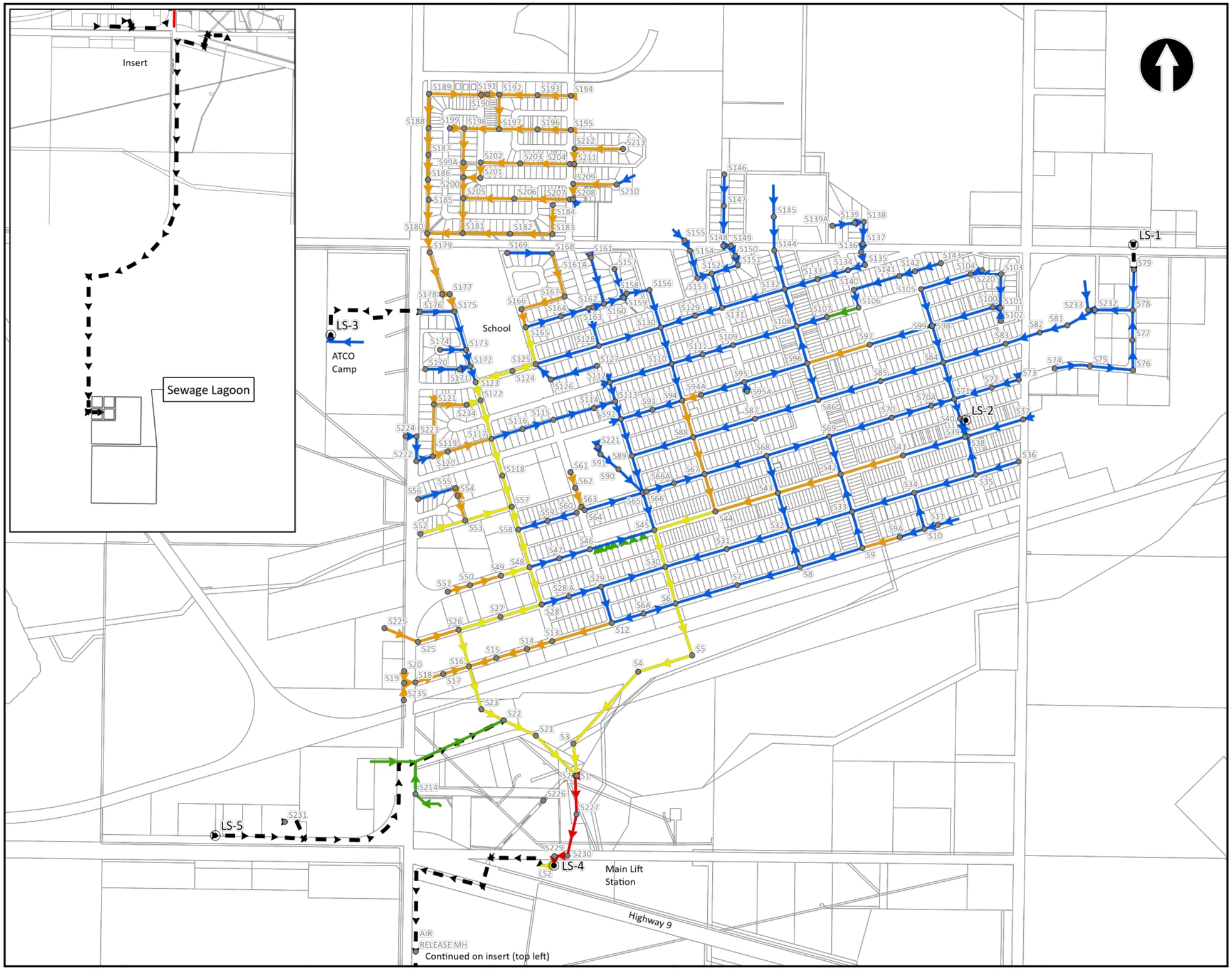

Sanitary Pipe by Diameter

- <= 150mm
- 200mm
- 250mm
- 300mm
- >= 400mm
- Sanitary Forcemain
- Sanitary Forcemain - Abandoned
- Sanitary Lift Station
- Sanitary Manhole
- Parcel

0 500 m

Scale: 10,000
(ANSI B 11"x17")

1. **Background Layers:** World Topo Map; Province of Alberta, Esri Canada, Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA, EPA, USDA, NPS, AAFC, NRCan
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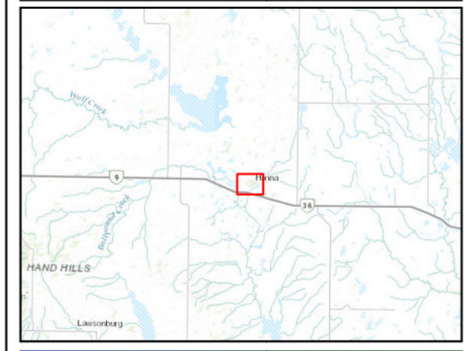

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TOWN OF HANNA LIVE THE LIFESTYLE

TITLE
Existing Wastewater Collection System
IMP Update
Town of Hanna

LOCATION	REVIEW
Hanna, Alberta	Drawn by DM on 18 Oct 2023 Review by SF on 18 Oct 2023

JOB	FIGURE	PAGE	DATE
2460-041	3.1	1 / 1	30 June 2023

Date: 22 Jan, 2024

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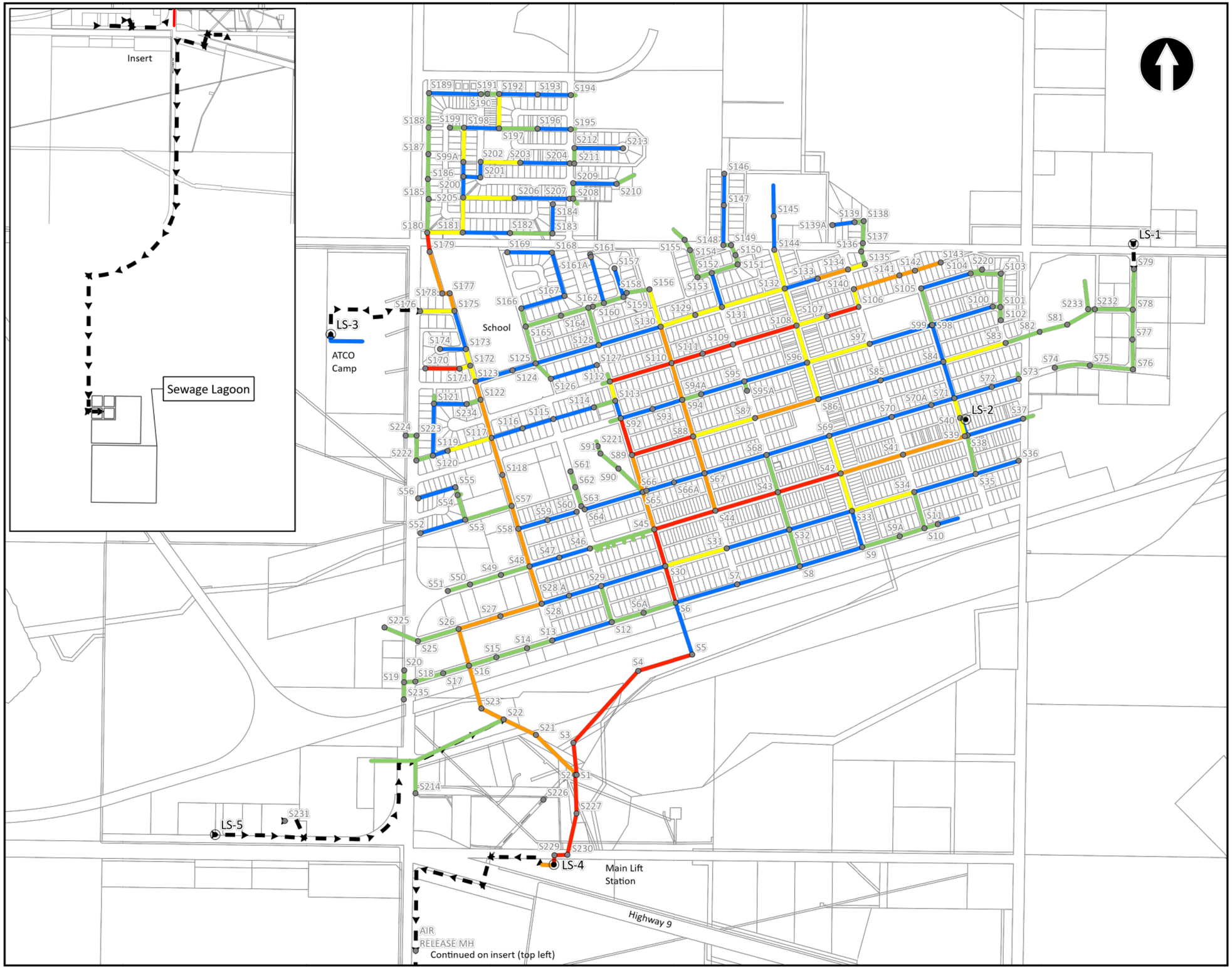

Sanitary Pipe - Risk Score

- 1 - Low
- 2
- 3 - Medium
- 4
- 5 - High
- Sanitary Forcemain
- Sanitary Forcemain - Abandoned
- Sanitary Manhole
- Sanitary Lift Station
- Parcel

0 500 m

Scale: 10,000
(ANSI B 11"x17")

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2. **Data Sources:** Altalis, NRCAN, Statistics Canada
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TOWN OF HANNA LIVE THE LIFESTYLE

TITLE
Wastewater System Priority Assessment
IMP Update
Town of Hanna

LOCATION	REVIEW
Hanna, Alberta	Drawn by DM on 17 Oct 2023 Review by SF on 17 Oct 2023

JOB	FIGURE	PAGE	DATE
2460-041	3.2	1 / 1	30 June 2023

Retention Pond

ATCO Camp

Retention Pond

214.5 ha

20.5 ha

43.8 ha

OUTFALL #1

OUTFALL #2

OUTFALL #3

OUTFALL #4

Highway 9

Storm Main by Diameter

- 200-300mm
- 375-450mm
- 525-600mm
- 675-750mm
- 900mm
- Culvert
- Storm Outfall
- Catch Basin
- Storm Manhole
- Retention Pond
- Drainage Split

0 500 m

Scale: 10,000
(ANSI B 11"x17")

1. **Background Layers:** World Topo Map; Province of Alberta, Esri Canada, Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA, EPA, USDA, NPS, AAFC, NRCan
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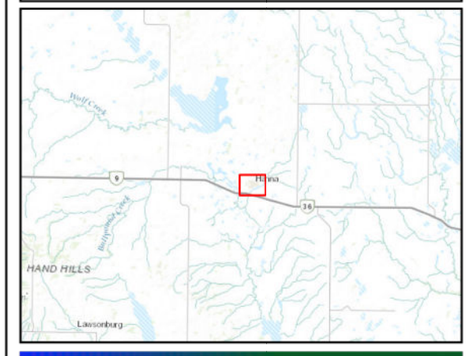


a division of Englobe

TOWN OF HANNA
LIVE THE LIFESTYLE

TITLE
Existing Stormwater Drainage System
IMP Update
Town of Hanna

LOCATION	REVIEW
Hanna, Alberta	Drawn by DM on 17 Oct 2023 Review by SF on 17 Oct 2023

JOB	FIGURE	PAGE	DATE
2460-041	4.1	1 / 1	30 June 2023

Date: 22 Jan, 2024

Path: M:\N-Data\2460 Town of Hanna\041 Hanna Asset Management\gis\pro_project\2460-041 IMP\Update 2460-041 IMP Update.aprx | Layout: Fig4.1 EvSimSystem | Author: dmerrick

Priority 1
See Note 3
Priority 11
Priority 12
Priority 13
See Note 2
Proposed Future Stormwater Main
Priority 8
Priority 3
Priority 10
Priority 2
Priority 4
Priority 6
Priority 14
Priority 5
Priority 9
Priority 7
See Note 1
Future Storm Main, Swale, and Outfall #5
Highway 9
FUT 300
FUT 450
FUT 450
FUT 450

Trap Low Areas
- 1-3 - Low Priority
- 4
- 5 - Medium Priority
- 6
- 7 - High Priority
- Storm Pipe
- Catch Basin
- Storm Manhole
- Proposed Future Storm Outfall
- Proposed Future Storm Main
- Proposed Future Swale

Notes:
1. Surface ponding has increased since adjacent lots have been paved.
2. Four catch basins in this area. Ponding has occurred but usually stays on street and does not overflow.
3. Ponding is generally not severe.

0 500 m

Scale: 10,000
(ANSI B 11"x17")

1. **Background Layers:** World Topo Map; Province of Alberta, Esri Canada, Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA, EPA, USDA, NPS, AAFC, NRCan
2. **Data Sources:** Altalis, NRCAN, Statistics Canada
3. **Coordinate System:** NAD 1983 3TM 111

HAND HILLS
Hanna
Laessonburg

a division of Englobe

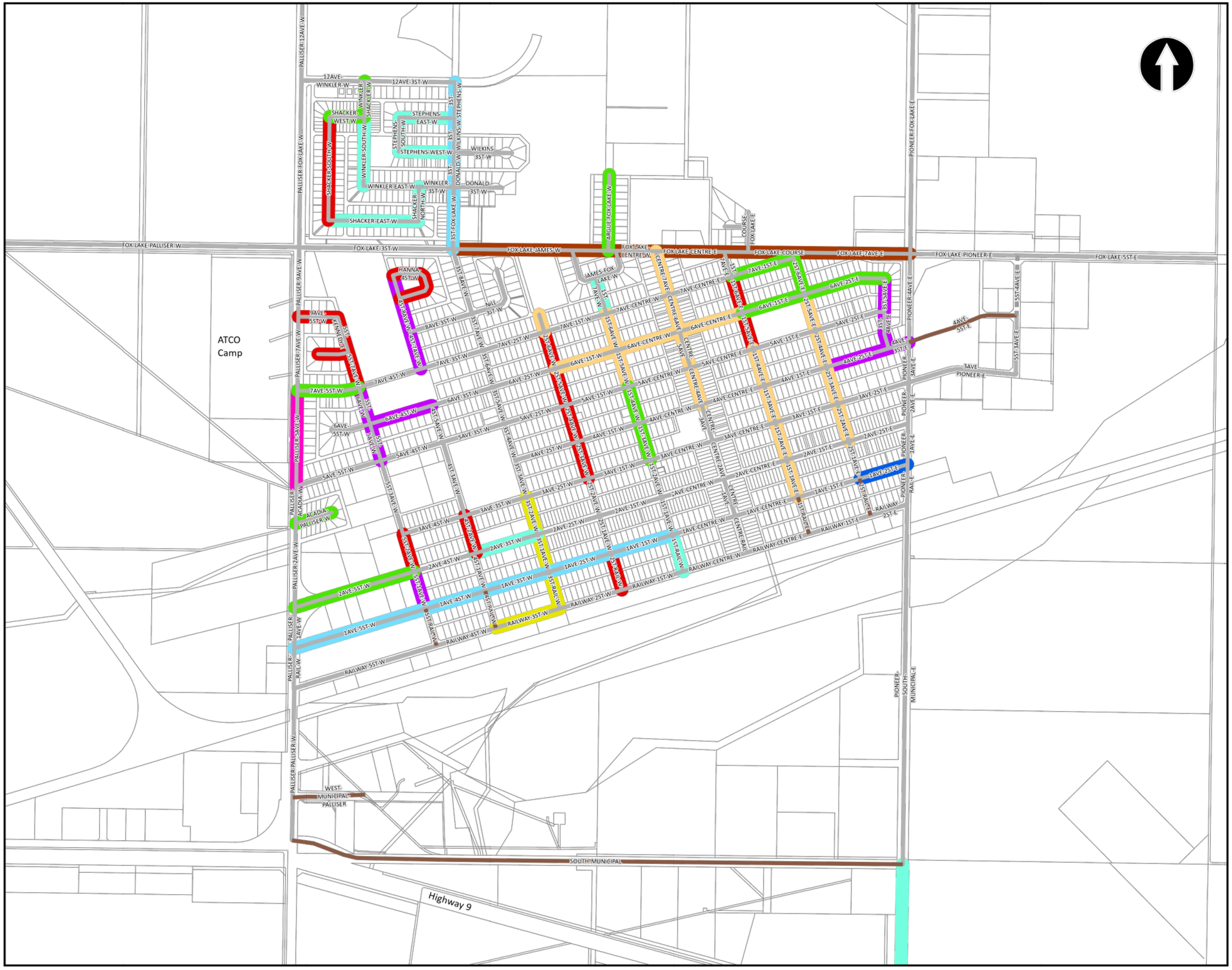
TOWN OF HANNA
LIVE THE LIFESTYLE

TITLE
Existing Stormwater Drainage System Trap Lows
IMP Update
Town of Hanna

LOCATION	REVIEW
Hanna, Alberta	Drawn by DM on 18 Oct 2023 Review by SF on 18 Oct 2023

JOB	FIGURE	PAGE	DATE
2460-041	4.2	1 / 1	30 June 2023

Date: 22 Jan, 2024
Path: M:\N-Data\2460 Town of Hanna\041 Hanna Asset Management\project\2460-041 IMPUpdate\2460-041 IMPUpdate.aprx | Layout: Fig4.2_ExStmSystemTrapLows | Author: dmerrick



Road Surface Material

- Asphalt
- Gravel
- Half Gravel

Road Overlay by Year

- 2020
- 2016
- 2015
- 2013
- 2011
- 2010
- 2008
- 2006
- 2004
- 2002
- Parcel

0 500 m

Scale: 10,000
(ANSI B 11"x17")

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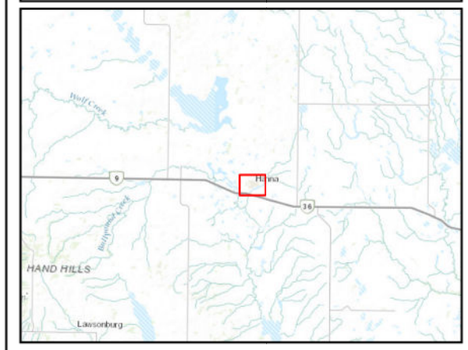
2. **Data Sources:** Altalis, NRCAN, Statistics Canada
3. **Coordinate System:** NAD 1983 3TM 111



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TOWN OF HANNA
LIVE THE LIFESTYLE

TITLE
Existing Road System - Surface Material and Overlay Year
IMP Update
Town of Hanna

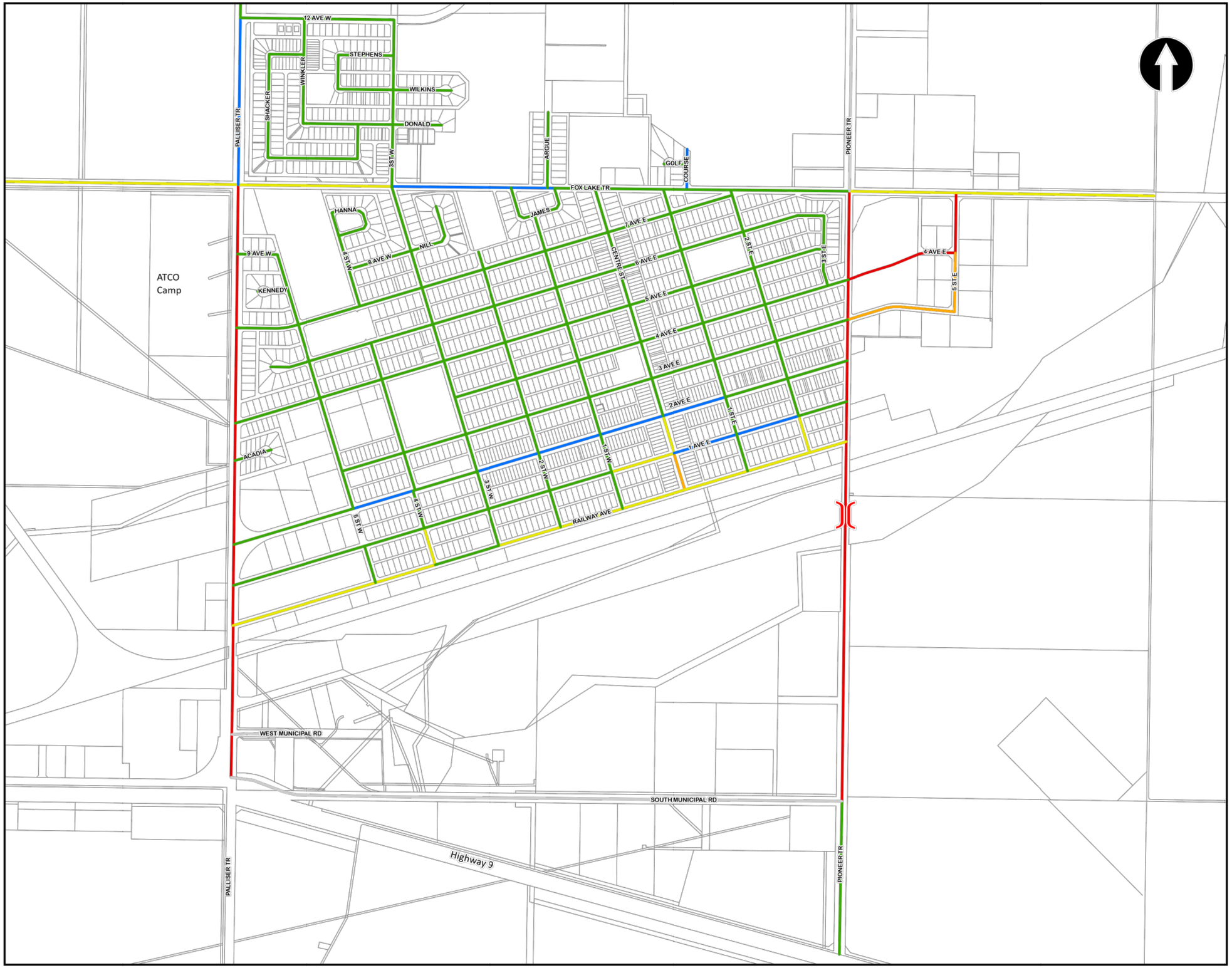
LOCATION
Hanna, Alberta

REVIEW
Drawn by DM on 17 Oct 2023
Review by SF on 17 Oct 2023

JOB	FIGURE	PAGE	DATE
2460-041	5.1	1 / 1	30 June 2023

Date: 22 Jan, 2024

Path: M:\N-Data\24\60 Town of Hanna\041 Hanna Asset Management\gis\gpo_project\2460-041_IMPUpdate.aprx | Layout: Fig5.1_ExRoadSystem | Author: dmenick



Road System Priority Categories

- 1 - Immediate (1-3 Years)
- 2 - Short Term (4-5 Years)
- 3 - Medium Term (6-7 Years)
- 4 - Long Term (7-10 Years)
- 5 - Extended Term (10+ Years)
- Gravel Road - Unrated
- Parcel

0 500 m

Scale: 10,000
(ANSI B 11"x17")

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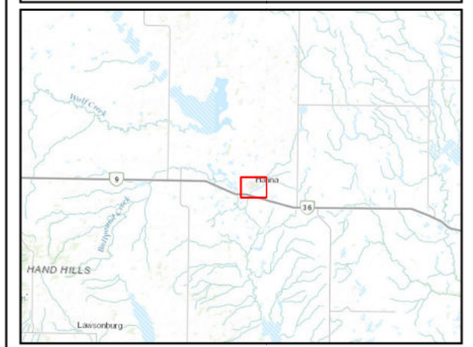
2. **Data Sources:** Altalis, NRCAN, Statistics Canada
3. **Coordinate System:** NAD 1983 3TM 111



MPE a division of Englobe

TOWN OF HANNA LIVE THE LIFESTYLE

TITLE
Existing Road System Priority Categories
IMP Update
Town of Hanna

LOCATION
Hanna, Alberta

REVIEW
Drawn by DM on 17 Oct 2023
Review by SF on 17 Oct 2023

JOB	FIGURE	PAGE	DATE
2460-041	5.2	1 / 1	30 June 2023

Asset ID	Street Name	Replace Walk (m)	Replace Curb (m)
3AVE-1ST-E	3AVE	0	5
1AVE-4ST-W	1AVE	0	10
1AVE-3ST-W	1AVE	0	12.5
2AVE-5ST-W	2AVE	0	14
2AVE-4ST-W	2AVE	0	30.5
1AVE-1ST-E	1AVE	0	33
2AVE-2ST-E	2AVE	0	40
2AVE-CENTRE-E	2AVE	0	85
RAILWAY-4ST-W	RAILWAY	0	85
2AVE-2ST-W	2AVE	0	129
7AVE-5ST-W	7AVE	22	22
9AVE-5ST-W	9AVE	25	25
2ST-1AVE-W	2ST	35	35
RAILWAY-2ST-W	RAILWAY	38	0
RAILWAY-CENTRE-W	RAILWAY	52	0
RAILWAY-3ST-W	RAILWAY	166	0

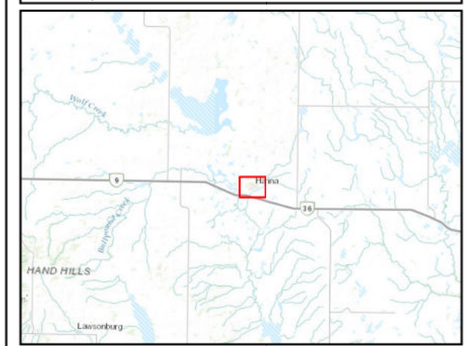
Existing Concrete Surface Works

- Attached Sidewalk Both Sides of Road
- Attached Sidewalk One Side of Road
- Separate Sidewalk Both Sides of Road
- Separate Sidewalk One Side of Road
- Separate Sidewalk and Attached Sidewalk LP
- Curb Both Sides of Road
- Curb One Side of Road
- No Concrete Surface Works
- Concrete Replacement Required
- Parcel

0 500 m

Scale: 10,000
(ANSI B 11"x17")

1. **Background Layers:** World Topo Map; Esri, © OpenStreetMap contributors, HERE, Garmin, FAO, USGS, EPA, NPS, AAFC, NRCan
2. **Data Sources:** Altalis, NRCAN, Statistics Canada
3. **Coordinate System:** NAD 1983 3TM 111



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TOWN OF HANNA
LIVE THE LIFESTYLE

TITLE
Existing Concrete Surface Works
IMP Update
Town of Hanna

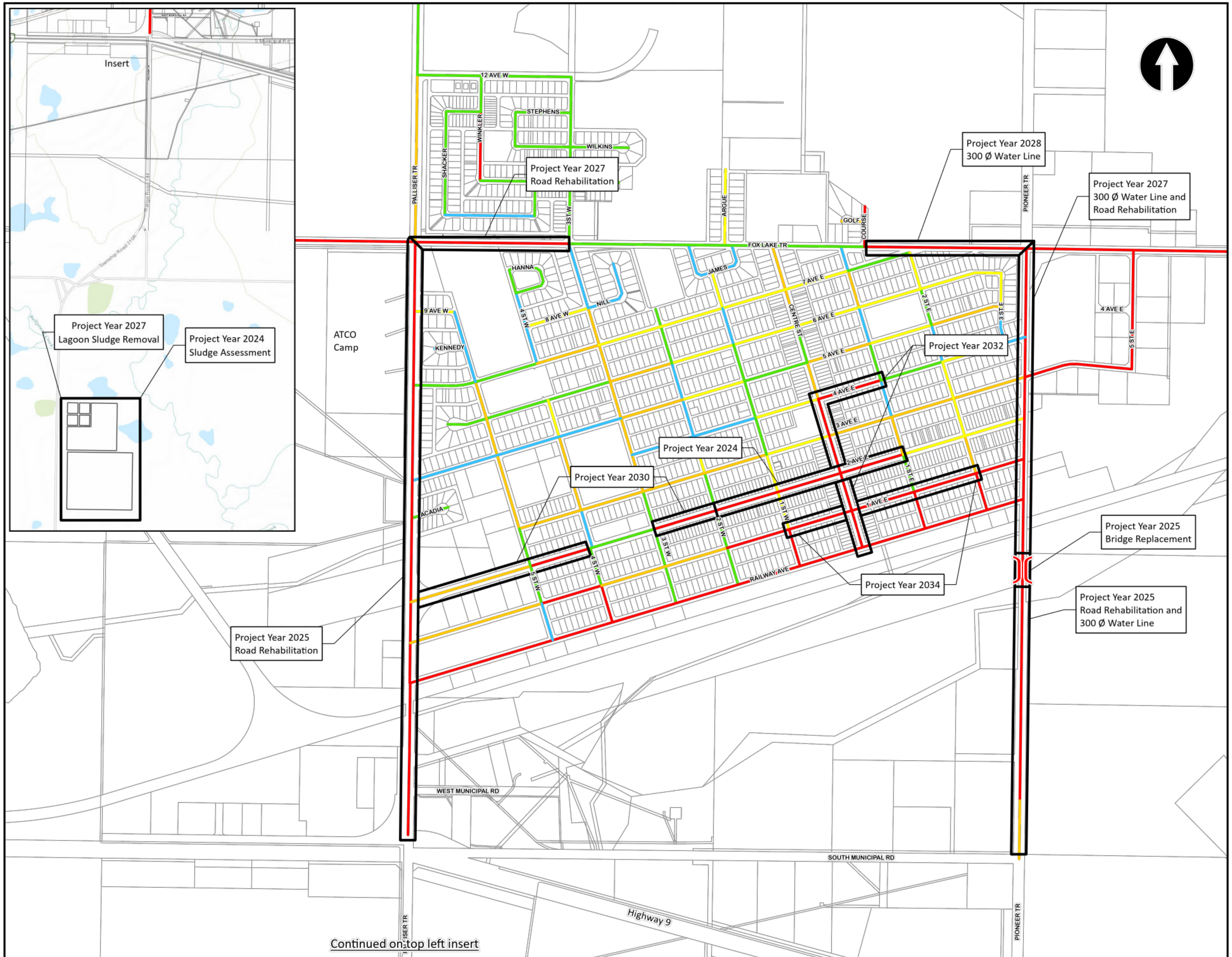
LOCATION
Hanna, Alberta

REVIEW
Drawn by DM on 18 Oct 2023
Review by SF on 18 Oct 2023

JOB	FIGURE	PAGE	DATE
2460-041	5.3	1 / 1	30 June 2023

Date: 22 Jan, 2024

Path: M:\N-Data\24\60 Town of Hanna\041 Hanna Asset Management\gis\pro_project\2460-041 IMP Update\2460-041 IMP Update.aprx | Layout: Fig5.3_ExConcSurfWorks | Author: dmenkel



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Combined Road and Water Priority Assessment

- Low Priority
- Medium Priority
- High Prioruty
- Proposed Projects
- Parcel

0 500 m

Scale: 10,000
(ANSI B 11"x17")

1. **Background Layers:** World Topo Map; Province of Alberta, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA, AAFC, NRCan; World Topo Map; Province of Alberta, Esri Canada, Esri, © OpenStreetMap contributors, HERE, Garmin, USGS, NGA, EPA, USDA, NPS, AAFC, NRCan
2. **Data Sources:** Altalis, NRCAN, Statistics Canada
3. **Coordinate System:** NAD 1983 3TM 111

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TOWN OF HANNA LIVE THE LIFESTYLE

TITLE
Proposed Projects
IMP Update
Town of Hanna

LOCATION	REVIEW
Hanna, Alberta	Drawn by DM on 22 Nov 2023 Review by SF on 22 Nov 2023

JOB	FIGURE	PAGE	DATE
2460-041	6.1	1 / 1	30 June 2023

Date: 22 Jan 2024

Path: M:\N-Data\24\60 Town of Hanna\041 Hanna Asset Mangement\gis\pro_project\2460-041_IMPUpdate\2460-041_IMPUpdate.aprx | Layout: Fig6.1_ProposedProjects | Author: dmerrick

APPENDIX B

Updated Cost Estimates

Town of Hanna

COST ESTIMATE - Water & Wastewater Pipeline Replacement Projects

SUMMARY

June 30, 2023

	PROJECT		COST ESTIMATE
1	2nd Ave Infrastructure Replacments 2nd Ave W to 1st Ave E	$	5,800,000
2	Palliser Trail Overlay - Hwy 9 to Fox Lake Trail	$	1,374,000
3	Pioneer Trail South Overlay - S Municipal Road to Pioneer Bridge	$	561,000
4	Pioneer Bridge Replacement	$	1,697,000
5	Pioneer Trail South Water Loop - S Municipal Rd to Bridge	$	649,000
6	Pioneer Trail North Overlay - Bridge to Fox Lake Trail	$	836,000
7	Fox Lake Trail Overlay - Palliseer Tr to 3 St W	$	172,000
8	Fox Lake Trail Overlay - Pioneer Trail to Gold Course Rd	$	347,000
9	2 Avenue W - Palliser Trail to 4 St W and 3 St W to 2 St W	$	2,589,000
10	Center St - Railway Ave to 2nd Ave, 2nd ave to 4th ave, and Center St to	$	2,173,000
11	1st Ave - 1st St E to 1st St W	$	2,111,000
	TOTAL PROJECTS COST ESTIMATE	**$**	**18,309,000**

Town of Hanna
COST ESTIMATE - Water & Wastewater Pipeline Replacement Projects

2nd Ave Infrastructure Replacments 2nd Ave W to 1st Ave E

	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST
	SCHEDULE A - 2nd ST. W TO CENTRE STREET				
1.0	**General**				
1.1	Mobilization and Demobilization	1	LS	$ 200,000.00	$ 200,000.00
1.2	Traffic Accommodation	1	LS	$ 40,000.00	$ 40,000.00
1.3	Care of Water	1	LS	$ 6,000.00	$ 6,000.00
1.4	Erosion and Sediment Control	1	LS	$ 14,000.00	$ 14,000.00
1.5	Temporary Construction Fence	1	LS	$ 8,000.00	$ 8,000.00
				SUBTOTAL - GENERAL	**$ 268,000.00**
2.0	**Deep Utilities**				
2.1	Sanitary Bypass Pumping and Temp Piping	1	L.S	$ 30,000.00	$ 30,000.00
2.2	Tie to Existing Sanitary Main	7	ea	$ 2,500.00	$ 17,500.00
2.3	Remove and Replace Type 5A SRC Manhole (3)	12	V.M.	$ 2,200.00	$ 26,400.00
2.4	Remove and Replace PVC SDR35 Sanitary Main				
	300 mm	6	m	$ 380.00	$ 2,280.00
	250 mm	470	m	$ 340.00	$ 159,800.00
	200 mm	108	m	$ 280.00	$ 30,240.00
2.5	150 mm Sanitary Service Connection	35	ea	$ 500.00	$ 17,500.00
2.6	150 mm Sanitary Service Pipe	420	m	$ 200.00	$ 84,000.00
2.7	Temporary Water Service Internal Plumbing Allowance	1	C.P.B.	$ 10,000.00	$ 10,000.00
2.8	Temporary Water Services to Exterior of Buildings	35	ea	$ 500.00	$ 17,500.00
2.9	Tie to Existing Water Main	6	ea	$ 2,500.00	$ 15,000.00
2.10	Remove and Replace 300 mm PVC C900 Water Main				
	300 mm	16	m	$ 475.00	$ 7,600.00
	200 mm	432	m	$ 380.00	$ 164,160.00
	150 mm	17	m	$ 320.00	$ 5,440.00
2.11	50 mm Water Service Connection	35	ea	$ 900.00	$ 31,500.00
2.12	50 mm Water Service Pipe	420	m	$ 190.00	$ 79,800.00
2.13	Remove and Replace Gate Valve				
	200 mm	6	ea	$ 3,800.00	$ 22,800.00
	150 mm	2	ea	$ 8,000.00	$ 16,000.00
2.14	Remove and Replace Fire Hydrant c/w Valve and Lead	1	ea	$ 12,000.00	$ 12,000.00
2.15	Tie to Existing Storm Main	1	ea	$ 2,500.00	$ 2,500.00
2.16	Remove and Replace Type 5A SRC Manhole (3)	7	V.M.	$ 2,200.00	$ 15,400.00
2.17	Remove and Replace 450 mm SDR35 Storm Main	388	m	$ 400.00	$ 155,200.00
2.18	Remove and Replace Type 'C' SRC Catch Basin	8	ea	$ 3,000.00	$ 24,000.00
2.19	Remove and Replace 300 mm PVC SDR35 Storm Lead	104	m	$ 220.00	$ 22,880.00
				SUBTOTAL - DEEP UTILITIES	**$ 969,500.00**
3.0	**Contaminated Soil Management**				
3.1	Remove and Dispose Contaminated Soil	7,267	tonne	$ 50.00	$ 363,330.00
3.2	Landfill Tipping Fee	7,267	tonne	$ 19.50	$ 141,698.70
3.3	Transport and Backfill Uncontaminated Soil	4,037	m^3	$ 55.00	$ 222,035.00
				SUBTOTAL - CONTAMINATED SOIL MANAGEMENT	**$ 727,100.00**
4.0	**Surface Works**				
4.1	Remove and Dispose of Existing Asphalt	8,410	m^2	$ 5.00	$ 42,050.00
4.2	Road Core 400 mm depth below top of asphalt	3,364	m^3	$ 12.31	$ 41,403.08
4.3	Subgrade Preparation	7,785	m^2	$ 3.00	$ 23,355.00
4.4	Granular Sub-Base 200mm Compacted Depth	7,785	m^2	$ 20.00	$ 155,700.00
4.5	Granular Base Course 100mm Compacted Depth	7,785	m^2	$ 12.00	$ 93,420.00
4.6	Asphaltic Concrete Mix 'A' c/w Prime (60 mm compacted depth)	7,785	m^2	$ 24.00	$ 186,840.00
4.7	Asphaltic Concrete Mix 'B' c/w Tack (40 mm compacted depth)	7,785	m^2	$ 22.00	$ 171,270.00
4.8	Remove and Replace 250 mm Standard Profile Curb & Gutter	572	m	$ 220.00	$ 125,840.00
4.9	Remove and Replace 250 mm Low Profile Curb & Gutter	295	m	$ 220.00	$ 64,900.00
4.10	Bump-out Concrete Sidewalk Fill	625	m^2	$ 160.00	$ 100,000.00
4.11	Remove and Dispose of Existing Sidewalk	719	m	$ 15.60	$ 11,216.40
	1.70 m Width	0	m	$ 250.00	$ -
	2.00 m Width	0	m	$ 333.33	$ -
	2.15 m Width	0	m	$ 358.33	$ -
4.12	Install Separate Sidewalk				
	1.20 m Width	41	m	$ 285.00	$ 11,599.50

	1.70 m Width	68	m	$ 403.75	$ 27,535.75
	2.00 m Width	189	m	$ 475.00	$ 89,870.00
	2.15 m Width	493	m	$ 510.63	$ 251,840.25
4.13	Install Reinforced Concrete Letdown	60	m^2	$ 280.00	$ 16,800.00
4.14	Install Wheelchair Ramps	31	ea	$ 1,800.00	$ 55,800.00
4.15	Adjustment of Appurtenances				
	Manholes	6	ea.	$ 1,500.00	$ 9,000.00
	Valves	8	ea.	$ 750.00	$ 6,000.00
4.16	Remove and Replace Signs	25	ea.	$ 850.00	$ 21,250.00
4.17	Replace Pavement Line Painting	1	L.S.	$ 40,000.00	$ 40,000.00
4.18	Remove and Replace Street Lights (ATCO Lump Sum)	1	L.S.	$ 331,441.05	$ 331,441.05
				SUBTOTAL - SURFACE WORKS	**$ 1,877,100.00**
5.0	**Street Furniture**				
5.1	Recycling Containers	8	ea	$ 2,070.00	$ 16,560.00
5.2	Litter Containers	8	ea	$ 1,911.60	$ 15,292.80
5.3	Bollards	55	ea	$ 1,488.00	$ 81,840.00
5.4	Table and Chairs	4	ea	$ 7,263.00	$ 29,052.00
5.5	Wind Screen	0	ea	$ 10,550.00	$ -
5.5	Benches	5	ea	$ 3,920.00	$ 19,600.00
5.6	Bike Racks	6	ea	$ 500.00	$ 3,000.00
5.7	Planters	14	ea	$ 3,938.40	$ 55,137.60
				SUBTOTAL - STREET FURNITURE	**$ 220,500.00**
Schedule A Subtotal					**$ 4,062,200.00**
CONTINGENCY (15%)					$ 609,300.00
ENGINEERING, ENVIRONMENTAL, AND MATERIALS TESTING SERVICES					$ 340,000.00
SCHEDULE A TOTAL					**$ 5,011,500.00**

SCHEDULE B - EAST OF CENTRE STREET (PROVISIONAL WORK)					
1.0	**General**				
1.1	Mobilization and Demobilization	1	LS	$ 30,000.00	$ 30,000.00
1.2	Traffic Accommodation	1	LS	$ 6,000.00	$ 6,000.00
1.3	Care of Water	1	LS	$ 900.00	$ 900.00
1.4	Erosion and Sediment Control	1	LS	$ 2,100.00	$ 2,100.00
1.5	Temporary Construction Fence	1	LS	$ 1,200.00	$ 1,200.00
				SUBTOTAL - GENERAL	**$ 40,200.00**
2.0	**Deep Utilities**				
2.1	Tie to existing Sanitary Main	1	ea	$ 2,500.00	$ 2,500.00
2.2	Remove and Replace 250 mm PVC SDR35 Sanitary Main	88	m	$ 340.00	$ 29,920.00
2.3	150 mm Sanitary Service Connection	3	ea	$ 500.00	$ 1,500.00
2.4	150 mm Sanitary Service Pipe	83	m	$ 200.00	$ 16,685.71
2.5	Temporary Water Service Internal Plumbing Allowance	1	C.P.B	$ 10,000.00	$ 10,000.00
2.6	Temporary Water Services to Exterior of Buildings	7	ea	$ 500.00	$ 3,500.00
2.7	Tie to Existing Water Main	1	ea	$ 2,500.00	$ 2,500.00
2.8	Remove and Replace 150 mm PVC C900	101	m	$ 320.00	$ 32,320.00
2.9	Remove and Replace 150 mm Gate Valve	2	ea	$ 8,000.00	$ 16,000.00
2.10	50 mm Water Service Connection	3	ea	$ 900.00	$ 2,700.00
2.11	50 mm Water Service Pipe	86	m	$ 190.00	$ 16,285.71
				SUBTOTAL - DEEP UTILITIES	**$ 133,900.00**
3.0	**Contaminated Soil Management**				
3.1	Remove and Dispose Contaminated Soil	1,359	tonne	$ 50.00	$ 67,950.00
3.2	Landfill Tipping Fee	1,359	tonne	$ 19.50	$ 26,500.50
3.3	Transport and Backfill Uncontaminated Soil	755	m^3	$ 55.00	$ 41,525.00
				SUBTOTAL - CONTAMINATED SOIL MANAGEMENT	**$ 136,000.00**
4.0	**Surface Works**				
4.1	Remove and Dispose of Existing Asphalt	1,480	m^2	$ 5.00	$ 7,400.00
4.2	Road Core 400 mm depth below top of asphalt	592	m^3	$ 14.15	$ 8,379.28
4.3	Subgrade Preparation	1,660	m^2	$ 3.00	$ 4,980.00
4.4	Granular Sub-Base 200mm Compacted Depth	1,660	m^2	$ 23.00	$ 38,180.00
4.5	Granular Base Course 100mm Compacted Depth	1,660	m^2	$ 12.00	$ 19,920.00
4.6	Asphaltic Concrete Mix 'A' c/w Prime (60 mm compacted depth)	1,660	m^2	$ 27.60	$ 45,816.00
4.7	Asphaltic Concrete Mix 'B' c/w Tack (40 mm compacted depth)	1,660	m^2	$ 22.00	$ 36,520.00
4.8	Remove and Replace 250 mm Standard Profile Curb & Gutter	169	m	$ 220.00	$ 37,180.00

4.9	Remove and Dispose of Existing Sidewalk	156	m	$ 15.60	$ 2,433.60
4.10	Install Separate Sidewalk				
	1.10 m Width	62	m	$ 261.25	$ 16,093.00
	1.70 m Width	110	m	$ 403.75	$ 44,412.50
4.11	Install Reinforced Concrete Letdowns	25	m^2	$ 220.00	$ 5,500.00
4.12	Install Wheelchair Ramps	2	ea.	$ 1,800.00	$ 3,600.00
4.13	Remove and Replace Signs	2	ea.	$ 850.00	$ 1,700.00
4.14	Remove and Replace Street Lights (ATCO Lump Sum)	1	L.S.	$ 50,000.00	$ 50,000.00
				SUBTOTAL - SURFACE WORKS	**$ 322,100.00**
Schedule B Subtotal					**$ 632,200.00**
CONTINGENCY (15%)					$ 94,800.00
ENGINEERING, ENVIRONMENTAL, AND MATERIALS TESTING SERVICES					$ 52,000.00
SCHEDULE B TOTAL					**$ 779,000.00**
GRAND TOTAL					**$ 5,800,000.00**

Town of Hanna
COST ESTIMATE - Water & Wastewater Pipeline Replacement Projects

Palliser Trail Overlay - Hwy 9 to Fox Lake Trail

DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
Palliser Trail Overlay - Hwy 9 to Fox Lake Trail				
Mobilization	1	L.S.	$ 99,000.00	$ 99,000.00
Cold Milling Asphalt Pavement	20830	m²	$ 5.00	$ 104,150.00
Concrete Curb and Gutter - Remove and Replace	190	m	$ 250.00	$ 47,500.00
Asphalt Concrete Pavement	4460	tonne	$ 110.00	$ 490,600.00
Crack Repair	1	L.S.	$ 119,500.00	$ 119,500.00
Bi-axial Fibreglass Geogrid	14970	m²	$ 15.00	$ 224,550.00
				$ -
Subtotal				$ 1,085,300.00
CONTINGENCY/EXTRA WORK				$ 208,000.00
ENGINEERING - CONSTRUCTION ONLY				$ 80,700.00
TOTAL				**$ 1,374,000.00**

Town of Hanna
COST ESTIMATE - Water & Wastewater Pipeline Replacement Projects

Pioneer Trail South Overlay - S Municipal Road to Pioneer Bridge

DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
Pioneer Trail South Overlay - S Municipal Road to Pioneer Bridge				
Mobilization	1	L.S.	$ 38,000.00	38,000.00
Cold Milling Asphalt Pavement	8770	m²	$ 5.00	43,850.00
Concrete Curb and Gutter - Remove and Replace	0	m	$ 250.00	-
Asphalt Concrete Pavement	1840	tonne	$ 110.00	202,400.00
Crack Repair	1	L.S.	$ 49,000.00	49,000.00
Bi-axial Fibreglass Geogrid	5930	m²	$ 15.00	88,950.00
Subtotal				$ 422,200.00
CONTINGENCY/EXTRA WORK				$ 98,800.00
ENGINEERING (CONSTRUCTION ONLY)				$ 40,000.00
TOTAL				**$ 561,000.00**

Town of Hanna
COST ESTIMATE - Water & Wastewater Pipeline Replacement Projects

Pioneer Bridge Replacement

	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
Pioneer Bridge Replacement					
1	Mobilization / Demobilization	1	L.S.	111,000.00	$ 111,000.00
2	Site Isolation	1	L.S.	25,000.00	$ 25,000.00
3	Environmental	26	days	10,000.00	$ 260,000.00
4	Demolition & Removal	1	L.S.	100,000.00	$ 100,000.00
5	Excavation	1	L.S.	80,000.00	$ 80,000.00
6	Bridge Construction	1	L.S.	600,000.00	$ 600,000.00
7	Pavement	1	L.S.	40,000.00	$ 40,000.00
				SUBTOTAL	$ 1,216,000.00
				CONSTRUCTION CONTINGENCY ALLOWANCE (25%)	**$ 304,000.00**
				DESIGN ENGINEERING	**$ 73,000.00**
				CONSTRUCTION ENGINEERING	**$ 104,000.00**
				TOTAL	**$ 1,697,000.00**

Town of Hanna
COST ESTIMATE - Water & Wastewater Pipeline Replacement Projects

Pioneer Trail North Overlay - Bridge to Fox Lake Trail

	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
Pioneer Trail North Overlay - Bridge to Fox Lake Trail					
1	Mobilization and Demobilization	1	LS	$ 30,000	$ 30,000
2	Temporary Water Servicing	0	LS	$ 500	$ -
3	Asphalt Removal and Disposal	6400	m2	$ 5	$ 32,000
4	300mm Water Main	650	m	$ 475	$ 308,750
5	Tie-in to Existing Water Main	2	each	$ 2,500	$ 5,000
6	300mm gate valves	12	each	$ 6,000	$ 72,000
7	Asphalt Concrete Pavement	752	Tonne	$ 110	$ 82,720
8	Bi-axial Fibreglass Geogrid	3400	m2	$ 15	$ 51,000
SUBTOTAL					**$ 581,000**
CONTINGENCY (25%)					$ 145,300.00
ENGINEERING (15%)					$ 108,900.00
TOTAL					**$ 836,000.00**

Town of Hanna
COST ESTIMATE - Water & Wastewater Pipeline Replacement Projects

Pioneer Trail South Water Loop - S Municipal Rd to Bridge

	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
Pioneer Trail South Water Loop - S Municipal Rd to Bridge					
1.0	**General**				
1.1	Mobilization and Demobilization	1	LS	$ 23,000.00	$ 23,000.00
1.2	Traffic Accommodation	1	LS	$ 10,000.00	$ 10,000.00
1.3	Care of Water	1	LS	$ 5,000.00	$ 5,000.00
1.4	Erosion and Sediment Control	1	LS	$ 15,000.00	$ 15,000.00
1.5	Temporary Construction Fence	1	LS	$ 8,000.00	$ 8,000.00
				SUBTOTAL - GENERAL	**$ 61,000.00**
2.0	**Deep Utilities**				
2.1	Tie to Existing Water Main	3	ea	$ 2,500.00	$ 7,500.00
2.2	Install 300 mm PVC C900 Water Main	755	m	$ 475.00	$ 358,700.00
2.3	Install 300 mm Gate Valve	4	ea	$ 6,000.00	$ 24,000.00
				SUBTOTAL - DEEP UTILITIES	**$ 390,200.00**
Subtotal					$ 451,200.00
CONTINGENCY (25%)					$ 112,800.00
ENGINEERING (15%)					$ 84,600.00
TOTAL					**$ 649,000.00**

Town of Hanna
COST ESTIMATE - Water & Wastewater Pipeline Replacement Projects

Fox Lake Trail Overlay - Palliseer Tr to 3 St W

	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
Fox Lake Trail Overlay - Palliseer Tr to 3 St W					
1	Mobilization and Demobilization	1	LS	$ 7,000	$ 7,000
2	Crack Repair	1	LS	$ 9,800	$ 9,800
3	Concrete Curb and Gutter - Remove and Replace	0	m	$ 250	$ -
4	Asphalt Removal and Disposal	3100	m2	$ 5	$ 15,500
5	Asphalt Concrete Pavement	365	Tonne	$ 110	$ 40,150
6	Bi-axial Fibreglass Geogrid	3100	m2	$ 15	$ 46,500
SUBTOTAL					**$ 119,000**
CONTINGENCY (25%)					$ 29,800.00
ENGINEERING (15%)					$ 22,300.00
TOTAL					**$ 172,000.00**

Town of Hanna
COST ESTIMATE - Water & Wastewater Pipeline Replacement Projects

Fox Lake Trail Overlay - Pioneer Trail to Gold Course Rd

	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
Fox Lake Trail Overlay - Pioneer Trail to Gold Course Rd					
1	Mobilization and Demobilization	1	LS	$ 10,000	$ 10,000
2	Temporary Water Servicing	0	LS	$ 500	$ -
3	Asphalt Removal and Disposal	0	m2	$ 5	$ -
4	Remove 100 mm, replace with 300mm Water Main	425	m	$ 475	$ 201,875
5	Tie-in to Existing Water Main	2	each	$ 2,500	$ 5,000
6	300mm gate valves	4	each	$ 6,000	$ 24,000
7	Concrete Curb and Gutter - Remove and Replace	0	m	$ 250	$ -
8	Asphalt Concrete Pavement	0	Tonne	$ 110	$ -
9	Crack Repair	0	LS	$ 9,900	$ -
9	Bi-axial Fibreglass Geogrid	0	m2	$ 15	$ -
SUBTOTAL					**$ 241,000**
CONTINGENCY (25%)					$ 60,300.00
ENGINEERING (15%)					$ 45,200.00
TOTAL					**$ 347,000.00**

Town of Hanna
COST ESTIMATE - Water & Wastewater Pipeline Replacement Projects

2 Avenue W - Palliser Trail to 4 St W and 3 St W to 2 St W

	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
2 Avenue W - Palliser Trail to 4 St W and 3 St W to 2 St W					
1	Mobilization and Demobilization	1	LS	$ 160,000	$ 160,000
2	Temporary Water Servicing	21	LS	$ 500	$ 10,500
3	Asphalt Removal and Disposal	9350	m2	$ 5	$ 46,750
4	Remove and Replace 200mm PVC SDR35 Sanitary Sewer	180	m	$ 280	$ 50,400
5	Remove and Replace 250mm PVC SDR35 Sanitary Sewer	225	m	$ 340	$ 76,500
6	Remove and Replace 300mm PVC SDR35 Sanitary Sewer	260	m	$ 380	$ 98,800
7	150 mm Sanitary Service Connection	21	ea	$ 500.00	$ 10,500.00
8	Remove and Replace Type 'C' SRC Catch Basin	2	ea	$ 3,000.00	$ 6,000.00
9	Remove and Replace 150mm Water Main with 200mm	665	m	$ 380	$ 252,700
10	Tie-in to Existing Water Main	4	each	$ 2,500	$ 10,000
11	Remove and Replace 450 mm SDR35 Storm Main	170	m	$ 400.00	$ 68,000.00
12	Reconnect and replace Ex Wastewater Services	2	each	$ 2,500	$ 5,000
13	Remove and Replace 200mm gate valves	8	each	$ 5,000	$ 40,000
14	Remove and Replace Fire Hydrant	1	each	$ 12,000	$ 12,000
15	Remove and Replace Type 5A SRC Manholes	21	vm	$ 2,200	$ 46,200
16	Tie Ex Sanitary Sewer to Manholes	4	each	$ 2,500	$ 10,000
17	Road Core	9350	m2	$ 5	$ 46,750
18	Subgrade Preparation	9350	m2	$ 3.0	$ 28,050
19	Sub-Base Gravel (300mm compacted to 98% SPD)	9350	m2	$ 30	$ 280,500
20	Base Gravel (50mm compacted to 98% SPD)	9350	m2	$ 12	$ 112,200
21	Asphaltic Concrete Mix 'A' c/w Prime (60 mm compacted depth)	9350	m2	$ 24	$ 224,400
22	Asphaltic Concrete Mix 'B' c/w Tack (40 mm compacted depth)	9350	m2	$ 22	$ 205,700
SUBTOTAL					**$ 1,801,000**
CONTINGENCY (25%)					$ 450,300.00
ENGINEERING (15%)					$ 337,700.00
TOTAL					**$ 2,589,000.00**

Town of Hanna
COST ESTIMATE - Water & Wastewater Pipeline Replacement Projects

Center St - Railway Ave to 2nd Ave, 2nd ave to 4th ave, and Center St to 1st St on 4th Ave

	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
Center St - Railway Ave to 2nd Ave, 2nd ave to 4th ave, and Center St to 1st St on 4th Ave					
1	Mobilization and Demobilization	1	LS	$ 140,000	$ 140,000
2	Temporary Water Servicing	28	LS	$ 500	$ 14,000
3	Asphalt Removal and Disposal	8000	m2	$ 5	$ 40,000
4	Remove and Replace 200mm PVC SDR35 Sanitary Sewer	465	m	$ 280	$ 130,200
5	150 mm Sanitary Service Connection	28	ea	$ 500.00	$ 14,000.00
6	Remove and Replace 150mm Water Main	310	m	$ 320	$ 99,200
7	Remvoe 100mm and Replace with 150mm Water Main	465	m	$ 320	$ 148,800
8	Tie-in to Existing Water Main	12	each	$ 2,500	$ 30,000
9	Remove and Replace 150mm gate valves	12	each	$ 8,000	$ 96,000
10	Replace Fire Hydrant	1	each	$ 12,000	$ 12,000
11	Remove and Replace Type 5A SRC Manholes	3	vm	$ 2,200	$ 6,600
12	Tie Ex Sanitary Sewer to Manholes	5	each	$ 2,500	$ 12,500
13	Road Core	8000	m2	$ 5	$ 40,000
14	Subgrade Preparation	8000	m2	$ 3.0	$ 24,000
15	Sub-Base Gravel (300mm compacted to 98% SPD)	8000	m2	$ 30	$ 240,000
16	Base Gravel (50mm compacted to 98% SPD)	8000	m2	$ 12	$ 96,000
17	Asphaltic Concrete Mix 'A' c/w Prime (60 mm compacted depth)	8000	m2	$ 24	$ 192,000
18	Asphaltic Concrete Mix 'B' c/w Tack (40 mm compacted depth)	8000	m2	$ 22	$ 176,000
SUBTOTAL					**$ 1,511,000**
CONTINGENCY (25%)					$ 377,800.00
ENGINEERING (15%)					$ 283,300.00
TOTAL					**$ 2,173,000.00**

Town of Hanna
COST ESTIMATE - Water & Wastewater Pipeline Replacement Projects

1st Ave - 1st St E to 1st St W

	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
1st Ave - 1st St E to 1st St W					
1	Mobilization and Demobilization	1	LS	$ 130,000	$ 130,000
2	Temporary Water Servicing	42	LS	$ 500	$ 21,000
3	Asphalt Removal and Disposal	7300	m2	$ 5	$ 36,500
4	Remove and Replace 200mm PVC SDR35 Sanitary Sewer	520	m	$ 280	$ 145,600
5	150 mm Sanitary Service Connection	42	ea	$ 500.00	$ 21,000.00
6	Remove and Replace Type 'C' SRC Catch Basin	4	ea	$ 3,000.00	$ 12,000.00
7	Remove and Replace 150mm Water Main	520	m	$ 320	$ 166,400
8	Remove and Replace Type 5A SRC Manholes	6	each	$ 2,200	$ 13,200
9	Tie-in to Existing Water Main	8	each	$ 2,500	$ 20,000
10	Remove and Replace 600 mm SDR35 Storm Main	290	m	$ 400.00	$ 116,000.00
11	Reconnect and replace Ex Wastewater Services	2	each	$ 2,500	$ 5,000
12	150mm gate valves	8	each	$ 8,000	$ 64,000
13	Replace Fire Hydrant	0	each	$ 12,000	$ -
14	Remove and Replace Type 5A SRC Manholes	3	vm	$ 2,200	$ 6,600
15	Tie Ex Sanitary Sewer to Manholes	4	each	$ 2,500	$ 10,000
16	Road Core	7300	m2	$ 5	$ 36,500
17	Subgrade Preparation	7300	m2	$ 3.0	$ 21,900
18	Sub-Base Gravel (300mm compacted to 98% SPD)	7300	m2	$ 30	$ 219,000
19	Base Gravel (50mm compacted to 98% SPD)	7300	m2	$ 12	$ 87,600
20	Asphaltic Concrete Mix 'A' c/w Prime (60 mm compacted depth)	7300	m2	$ 24	$ 175,200
21	Asphaltic Concrete Mix 'B' c/w Tack (40 mm compacted depth)	7300	m2	$ 22	$ 160,600
SUBTOTAL					**$ 1,468,000**
CONTINGENCY (25%)					$ 367,000.00
ENGINEERING (15%)					$ 275,300.00
TOTAL					**$ 2,111,000.00**