



CONCEPT REPORT

50 Street (Dick Damron Drive) Rehabilitation Concept

November 2023



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1 INTRODUCTION

The Town of Bentley is seeking to develop a concept for the rehabilitation of 50 Street (Dick Damron Drive) including the replacement of aging infrastructure to meet the long term needs of the Town. The objective of the project is to develop a concept for the roadway and utilities between 50 Avenue and 55 Avenue, which will form the basis for future detailed design and implementation subject to Council approval and funding availability. The Town envisions development of the corridor as an entertainment district, with the redesign focused on beautifying the streetscape and improving the overall experience of residents and visitors. The concept proposes a full urban standard for the roadway, utility upgrades and replacements where necessary, and improvements to the pedestrian realm.

The Town engaged Associated Engineering to undertake the concept development of 50 Street (Dick Damron Drive). The scope of the assignment is bounded by the northside of 50 Avenue to the south and the northside of 55 Avenue to the north, including the intersection improvements along the road.

2 DATA COLLECTION AND EXISTING CONDITIONS

A preliminary topographic survey of the corridor was undertaken to confirm the existing ground profiles, ditches, drainage patterns, and the location of other surface features, such as utility poles, driveways, etc. Associated Engineering staff also walked the alignment to conduct an onsite review to confirm existing conditions and potential constraints, and to identify opportunities for future improvements. Information gathered from the survey and site review will be used to develop a comprehensive base plan for use in the concept development and to determine an initial approach to rehabilitation of the roadway.

2.1 Roadway

The existing roadway is within a 20 m right-of-way with an asphalt surface that varies in width from approximately 13.50 m (curb to curb) between 50 and 53 Avenue to 9.0 m (edge to edge) between 53 and 55 Avenue. The asphalt pavement extends to just north of 55 Avenue where the surfacing transitions to gravel. Concrete curbs exist on both sides of the roadway south of 53 Avenue and either gravel or grass shoulders north of 53 Avenue. The condition of the existing roadway surface is fair to poor with the condition deteriorating significantly in the north end of the corridor. Town staff note that replacement of this aging infrastructure is required.

2.2 Sidewalks

Narrow monolithic concrete sidewalks are provided on both sides of the street between 50 and 53 Avenue, except for the east block between 51 and 52 Avenue, where there is a separate sidewalk and grass boulevard. North of 53 Avenue, a narrow sidewalk is installed along the east side only and varies between monolithic and separate with a boulevard. The condition of the existing sidewalks south of 52 Avenue and along the west side between 52 and 53 Avenue are good, but north of 52 Avenue the overall quality and condition of the sidewalks deteriorates significantly. The Town has noted these sidewalks require replacement and a sidewalk replacement program is underway.

2.3 Parking

Parking varies along the corridor with parallel stalls provided on both sides of the roadway between 50 and 52 Avenue and angled parking provided east of the arena between 52 and 53 Avenue. Parking is not permitted along the west side of the roadway in front of the arena and no additional parking is provided north of 53 Avenue, with the exception

of gravel stalls in front of a multi-unit residential building. The gravel or grass shoulder north of 53 Avenue is typically used for informal parking by residents or as overflow parking during events at the arena. It is estimated there are approximately 45-50 stalls currently available; however, painted divider lines are not visible in all parking areas.

2.4 Fortis Poles and Street Lighting

Fortis utility poles and overhead services are along the east side of the corridor. Between 52 and 53 Avenue, where a boulevard is not present, the poles are located at the back of the existing parking stalls and within the asphalt surface. These poles were installed within the last year, and in some locations, encroach on the existing sidewalk. Initial discussions with the Town suggest that due to their recent installation, these poles may remain in place; however, replacement with more decorative standards should be explored.

Two separate requests were submitted to Fortis for exploration of potential improvements to illumination levels along the corridor. The first request focused on an assessment of the existing illumination and the potential for improvements, including upgrade of an existing fixture south of 53 Avenue to a higher wattage.

The second request was to provide a preliminary design and estimate for burying all existing overhead infrastructure, upgrading lighting levels to IESNA standards, and installation of decorative poles and fixtures. This option is to be considered in the functional design concept. Relocating overhead powerlines, and especially to an underground alignment can be cost prohibitive. While the concept will consider it, the cost to relocate them will be separated from the over all 50 Street rehabilitation cost. This is an item that will need to be revisited during detailed design and evaluated based on the funds available for the project.

2.5 Drainage

The underground drainage infrastructure is limited in the corridor, and mostly consists of catch basins connected to a short length of culvert, before discharging to a feature (a ditch or swale). The corridor slopes from north to south, and from east to west within the corridor.

North of 53 Avenue, on the east side of the corridor, drainage is managed via a ditch, which drains south into a culvert that crosses 50 Street and goes west. An existing storm sewer is located on the intersection of 50 Street and 53 Avenue. The upstream end of the storm sewer is a catch basin manhole on the northeast corner of the intersection draining west to outlet into a ditch along the north side of 53 Avenue that then flows north along the CN rail track. The figure showing existing drainage patterns prepared by Stantec is attached in [Appendix E](#).

On the west side (north of 53 Avenue), drainage from the street directly drains onto the adjacent farmland. This existing drainage course does not have its own right-of-way and crosses private property. The surface drainage is not attenuated in any way for quality and quantity. As well, since it is on private land, there is a risk of the drainage course being disturbed or re-directed that could have impacts upstream including the drainage from the Town.

To the south of 53 Avenue, surface drainage is accommodated in the gutters. Catch basins at 51 Avenue and 50 Avenue capture the surface runoff from approximately half a kilometer of road and approximately one third of the Town's surface drainage. These catch basins then drain to an existing 450 mm storm sewer trunk. The trunk drains to an existing stormwater management facility (pond) that attenuates flows and then drains to the west. The trunk was constructed a 375 mm stub was left (shown on record drawings but not confirmed) for future extension to the north of 50 Avenue.

2.6 Underground

2.6.1 Sanitary

A 200 mm diameter sanitary sewer runs underneath 50 Street from 55 Avenue to the alley north of 50 Avenue (northside of existing bar/restaurant). The sanitary sewer then runs west, connecting to a wastewater management facility. This north/south portion of the sanitary sewer system is responsible for collecting sanitary sewer flows within the Town limits east of 50 Street and north of 50 Avenue, resulting in a considerable portion of Bentley being served by this trunk sewer. Given the age and importance of the trunk, it is critical the sewer be rehabilitated as opportunity arises.

The condition of the existing trunk sewer was evaluated using a CCTV camera inspection, performed by High Pressure Flushing Inc. The inspection report was provided to Associated Engineering by the Town. The inspection shows that in some areas along a portion of the alignment have eroded exposing bare aggregate in the concrete pipe. There is a small area north of 50 Avenue where two breaks were observed in the CCTV video. There are cavities observable behind the breaks caused by the flow having eroded the soils and leaving voids that are subject to settlement. Both breaks are located on the main between 50 Avenue and 51 Avenue. The Town's Public Works Department is in the process of engaging a local contractor to repair these breaks to reduce the risk of further collapse.

In addition to the noted defects, most service connections from adjacent properties are protruding into the pipe. The protrusions can impede flows in the pipe and trap debris. Protrusions also limit the options available for rehabilitating the sanitary sewer pipe. The remainder of the alignment is reported to be clay tile pipe. The inspection operator noted sags and other deficiencies along the sewer where the inspection could be carried through.

2.6.2 Water

A 200 mm diameter watermain runs beneath 50 Street, starting at 50 Avenue and going to 52 Avenue, and then a 150 mm diameter from 52 Avenue to 55 Avenue. The existing pipe is asbestos cement installed in the 1970s and is reaching the end of its service life. Under the Town's current Asset Management planning, these lines are identified for lifecycle replacement when the opportunity presents itself. Replacing the existing waterlines with a proposed 200 mm PVC watermain from 50 Avenue to 55 Avenue and connecting to the lines along the alignment will improve distribution in the area.

Given that the road will be reconstructed, the Town may consider completing an assessment of the distribution system to identify if there are any restrictions in the system caused by the capacity of the existing line. If upsizing is required to provide improved flow, it would be prudent to replace the lines during the upgrading of the road.

3 COMMUNITY ENGAGEMENT AND FEEDBACK

The scope of work included engaging Town residents to aid in the development of the concept. It is important to the Town that the residents have an opportunity to guide the redesign of 50 Street and to prioritize the elements of the redesign to best fit the needs of the community. Associated Engineering prepared an initial concept plan to share with residents and seek input. The plan was shared through public engagement as well as an online survey hosted on the Town's website. The following presents the results of the community engagement.

3.1 Public Open House

A public open house was held on June 14, 2023, to present the preliminary concept plan and design approach and to solicit community feedback. The preliminary concept illustrated a narrowed roadway, parallel parking stalls for all parking areas, curb extensions at all intersections, a widened monolithic sidewalk along the west side of the corridor, and a relocated sidewalk along the east side of the corridor. The plan also illustrated where opportunities exist to provide features, such as a separate boulevard, expanded parking zones, and areas for furnishings and planting. Site constraints, such as the existing lane and driveway accesses and the current alignment of the Fortis poles were also identified as fixtures influencing the proposed design.

3.2 What We Heard

Community feedback was collected via a paper survey provided to each attendee, as well as a digital survey, hosted on the Town's website for a two-week period, following the open house. The primary concerns of most respondents were the condition of existing sidewalks, occasional congestion, lack of available parking, and lack of traffic calming. Residents told us the redesign should focus on a comfortable and safe corridor for the pedestrians, who primarily use it for recreation and travel to local businesses and amenities.

Improvements, such as wider sidewalks, shortened intersection crossings (curb extensions), upgraded lighting, and additional seating areas, were all identified as elements that should be considered in the redesign. Residents also noted that additional parking stalls should be added, where possible, to address congestion during social events and in high traffic areas. For the most part, residents were not in favour of a "themed" redevelopment and commented that the design approach should be uncomplicated and focused on replacing the aging infrastructure, ease of maintenance, but also include more planting and natural materials.

4 CONCEPT DEVELOPMENT

The following concept was developed through consultation with the Town's project team and consideration of the feedback received from residents. A draft design board is provided to illustrate both plan and perspective views of the proposed redevelopment and includes a preliminary "kit of parts" identifying options for the general style and appearance of furnishings and site features. The draft design board is attached in [Appendix A](#) and described below.

4.1 Roadway

The functional design proposes reducing the roadway width between curbs to 11.5 m at parking locations and 9.0 m at intersections. Narrowing of the roadway will allow for parallel parking to be consistently incorporated on both sides of the street throughout the corridor and maximize the available pedestrian zone. Curb extensions are provided at all intersections and further define the pedestrian zone. A narrowed roadway and curb extensions improve pedestrian safety by slowing (calming) vehicle traffic and reducing the pedestrian walking distance at crosswalk locations. Curb extensions also provide an opportunity for incorporating streetscape elements, such as decorative paving, light standards, planting, and furnishings. Together these elements develop a rhythm and identity along the corridor and contribute to the overall sense of place.

The proposed roadway width will limit large agricultural vehicles through this corridor and an alternate route should be identified by the Town for occasional use.

4.2 Sidewalks

The functional design proposes concrete sidewalks on both sides of the corridor from 50 Avenue to 55 Avenue. A 2.5 m wide monolithic sidewalk is proposed for the west side of the corridor. There is sufficient right-of-way to accommodate additional sidewalk/boulevard width, with the only major site constraints being the patio dining at the Monkey Top Saloon and parking lot at Westview. A 1.5 m wide monolithic sidewalk is proposed for the east side, located between the existing Fortis utility poles and the roadway. There is also sufficient right-of-way to accommodate additional sidewalk/ boulevard width if the Fortis utility poles are removed. Curb extensions at all intersections provide space for seating nodes or rest areas within the pedestrian realm, improving accessibility and walkability. Additional rest areas are also provided at key locations along the corridor, such as near building entries and popular destinations. These areas are defined using consistent streetscape elements, such as contrasting paving, planting, and furnishings.

It is important to note that the existing grading of the road is a challenge to provide a uniform cross section. The east side of the right-of-way is higher in elevation than the west side, in some cases over 1 m in difference. The centerline of the existing road and cross fall is also higher than desirable. The revised design will consider the elevation difference and will provide adequate surface drainage and still reduce the overall crossfall. However, the allowable corrections are limited because 50 Street must still connect to the existing streets. Therefore, the reconstruction of any part of the road will require grading outside the right-of-way to tie into the existing properties. This will include landscaping on private property as well as reconstruction of portions of private driveways. In future phases, easements or land-use agreements will be required with the adjacent property owners and should therefore be considered in the scheduling and implementation.

4.3 Parking

The functional design proposes parallel parking on both sides of the corridor, where existing site constraints, such as driveways, parking lots, and utilities allow. Up to 65 parking stalls can be accommodated in the proposed arrangement with additional stalls available along the west side of 50 Street, north of 54 Avenue. Consistent application of parallel parking throughout the corridor establishes municipal parking expectations for residents and visitors. It also provides space within the right-of-way for wider sidewalks, an expanded pedestrian realm, and additional landscape buffer between public and private property. Angled parking for motorcycles is proposed adjacent to the Monkey Top Saloon, between 50 Avenue and the rear laneway. Existing driveways and laneways are accommodated along the corridor and additional signage will be required in the future to enforce no parking zones.

4.4 Lighting

The functional design proposes burying all existing overhead infrastructure, removal of existing wooden poles, and installation of decorative poles and fixtures. The Domus decorative pole and luminaire are suggested from the Fortis' catalogue of standard fixtures and will compliment the overall design of the corridor. Placement of the light standards at regular intervals and at each intersection will provide a consistent streetscape design element and meet IESNA standards for illumination levels. The proposed alignment of the east sidewalk has been designed to accommodate the existing Fortis poles to avoid relocation if necessary. The cost to relocate the poles is significant, and therefore has been separated from the over all project's costs. The Town can reevaluate relocation at future detailed design stages and based on funding available.

4.5 Streetscaping

The functional design recommends a consistent palette of surfacing, planting, and furnishings throughout the corridor to define and beautify the pedestrian realm and improve the experience of residents and visitors. Seating nodes are included at key locations along the corridor, such as curb extensions and near public facilities, or attractions. These nodes are characterized, using decorative paving and consistent furnishings, including benches, bike racks, planters, waste receptacles, and streetlights. Wood plank stamped concrete is proposed as decorative paving, in contrast to broom finished concrete sidewalks. A black powder-coated finish is recommended for all furnishings including the decorative light standards. Furnishings will also have wood or composite accents to further establish the rural theme and a wood post and rail fence provides a physical separation between the sidewalk and any parking lots or utility areas.

Tree planting is provided in the landscape buffer area between the sidewalk and property line along the west side of the corridor. This will add a vertical element to the design and provide additional shade for rest areas. Additional tree planting can also be accommodated along the east side of the corridor if the existing overhead lines are removed. Raised planters are proposed at all curb extensions and can be removed seasonally to facilitate street maintenance and snow clearing.

4.6 Drainage

The Stormwater Management Plan, prepared by Stantec, notes that the cross-sectional area of the road/boulevard is adequate for all flows generated; however, it recommends the inclusion of an underground system to provide a higher level of service. In this concept a stormwater trunk is proposed along 50 Street from the existing stub on 50 Avenue up to 52 Avenue, and a second storm sewer from 53 Avenue to 55 Avenue.

The existing catch basins at the intersections of 51, 52, and 53 Avenues are proposed to be replaced on the new alignment to capture surface water from the streets to the east. A 450 mm storm sewer is proposed on 50 Street to be extended from the existing manholes on 53 Avenue north to 54 and 55 Avenue and new catch basins are proposed at the intersections to convey stormwater to the existing storm sewer. The existing culvert is partially buried and suffers from freezing and frequent clogging. This culvert can be removed and replaced with appropriate catch basins with particular attention required to the grade behind the proposed walk to allow drainage. Catch basins are also proposed at the intersection of 54 Avenue on an alignment that facilitates the future development of 54 Avenue to the east.

The existing storm sewer on 50 Avenue includes a stub for the future extension to the north of 50 Avenue. The proposed 375 mm storm will be extended to 51 and 52 Avenue to accommodate the replacement of catch basins on the new alignment. The existing outfall of the storm sewer is to a ditch which drains to the south. Prior to construction of 50 Street, it will be important to evaluate the outfall ensure it is functioning as intended. The Town reports that the ability to drain the storm sewer is limited by the connecting ditch network. Confirming ditch grades through survey is suggested.

4.7 Underground

4.7.1 Sanitary Sewer Replacement

The existing sanitary sewer has reached the end of its design life. The CCTV inspection reveals several areas with significant deficiencies and the protruding services are concerning as they can trap debris and cause blockages in the flow. The reconstruction of 50 Street presents an opportunity to replace the existing sanitary sewer, upsize to accommodate future growth, and provide a new design life. There are two locations between MH59 and MH41, which

require immediate attention due to the observed pipe collapse. The Town is currently engaging resources to complete these repairs as soon as feasible. The failed sections should be exposed, and have the portions of the pipe cut, removed, and replaced with new 200 mm PVC DR 35. The southern location is relatively close to the existing manhole and should be replaced all the way to the manhole to reduce the number of couplers required.

4.7.2 Water

As noted previously, the existing watermain are reaching the end of their lifecycle and have been identified in the Asset Management Plan to be replaced when presented with the opportunity. The existing line north of 52 Avenue is 150 mm diameter and does not meet current Alberta Environment standards. A new 200 mm PVC DR18 main is proposed for the entire alignment. The section from 50 Avenue to 52 Avenue can be placed on the same alignment as the existing line. North of 52 Avenue the existing line jogs to the east side of the road before turning north again. The proposed alignment for the new line is to continue north on the same alignment as the south. This allows the new line to be constructed before the old line is taken out of service, and also allows for a consistent cross section for the surface infrastructure. A new line will also improve flows in the distribution system.

5 OPINION OF PROBABLE COST

An opinion of probable cost is included within [Appendix C](#). The estimate was prepared on a “per-block” basis and represents potential overall costs for the ultimate build-out of the corridor, as shown in the functional design plan and described above. A summary of the opinion of cost is as follows:

Table 5-1 Preliminary Opinion of Probable Costs

Location	Cost
Total - 50 to 51 Avenue	\$770,000.00
Total - 51 to 52 Avenue	\$930,000.00
Total - 52 to 53 Avenue	\$680,000.00
Total - 53 to 54 Avenue	\$670,000.00
Total - 54 to 55 Avenue	\$650,000.00
Subtotal	\$3,700,000.00
Engineering (10%)	\$370,000.00
Contingency (25%)	\$930,000.00
Total (Excl. GST)	\$5,000,000.00
Electrical (Optional Costs)	
Relocate Existing Lines Underground	\$630,000.00
Supply And Install New Light Standards	\$305,000.00
Subtotal	\$935,000.00
Grand Total (Excl. GST)	\$5,935,000.00

The costs provided are based on replacing the watermain and the sanitary sewer at the time of construction as well as the storm sewer on 50 Street. In the development of the concept, the team met with the electrical franchise utility (Fortis Alberta at the time of the study) to determine the costs and feasibility of moving the overhead power cable underground. Removing the overhead power lines will require the street lighting be replaced as the existing luminaries are mounted on the existing poles. However, it would also provide an opportunity for decorative poles to be installed to fit in with the new concepts and allow for supporting lighting for other activities (like decorations/street markets, etc.) the optional costs are included in the table for the Town's consideration.

6 SCHEDULE AND IMPLEMENTATION

Implementing the rehabilitation of 50 Street is a long and costly process. Generally the Town can expect construction of each block to require approximately one to two months of construction time. Given the length of the road and scope of work, it would be fair to assume that the project will require two construction seasons to complete. In advance of construction, the Town will need to schedule adequate time to complete detailed design, tender, and contractor selection.

The rehabilitation of the 50 Street does not require onerous Regulatory approvals. For the scope of work within the existing right-of-way, a Notification to Alberta Environment, as per the Water Act, will be required for changes or upgrades to the existing potable water distribution network, sanitary sewer collection network, and the proposed storm sewer.

A substantial portion of the work will be undertaken within the existing right-of-way. However, access to the adjacent properties will be required to meld the proposed grading onto the adjacent properties. The Town will need to secure temporary easements on the adjacent properties to facilitate construction.

6.1 Staging

Given the complexity of the project, the scale of construction, and the costs, staging the implementation is recommended. Ideally, the staging would be driven by the underground infrastructure starting on the low-end near 50 Avenue and progressing block by block northwards as funding allows. The Town has recently completed surface improvements on 50 Street from 50 Avenue to 52 Avenue. These improvements included sidewalk repairs and pavement repairs, so the existing road is in relatively good condition.

The existing road is in poorer condition north of 53 Avenue. The road shows signs of pavement failure and there are sections where the sidewalk has tripping hazards and other defects or does not exist at all. Therefore, from a priority perspective, the Town prefers to start the reconstruction of 50 Street between 53 Avenue and 55 Avenue to address the poor condition of the road and sidewalks. The proposed storm sewer starts in the intersection of 53 Avenue and there may be temporary work required to provide continuity in the drainage until the future downhill sections are completed, but these can be minimized during detailed design.

7 CONCLUSIONS

The objective of the project was to complete conceptual redesign of the roadway and utilities along 50 Street (Dick Damron Drive) between 50 Avenue and 55 Avenue, which will form the basis for future detail design upon Council's approval and funding. The analysis undertaken in this report shows that 50 Street (Dick Damron Drive) can be redesigned to improve the pedestrian experience while maintaining the connection to the current adjacent land uses. The redesign can be accommodated within the available roadway, which results in narrowing of the road width, but still allows the through traffic and necessary on-street parking.

The rehabilitation will require full reconstruction of the surface of the road. This is an opportunity for the Town to address the aging underground infrastructure at the same time. The existing potable water mains that are at the end of their lifecycle will be replaced in phases to accommodate the surface restoration. The inspection of the existing sanitary sewer shows that there are areas of the pipe that are failing and require repairs. The protrusion of the service connections into the main limit the options for rehabilitation. Furthermore, additional capacity on this trunk may be required to accommodate future development north of the Town. The sanitary sewer mains will need to be replaced as each block of the road is complete. The rehabilitation of the road is an opportunity for the Town to install a storm sewer trunk. This will facilitate surface drainage on the new road as well as capture surface drainage from the adjacent connecting Avenues.

The cost of the project is in the order of magnitude of \$4.7M. Removal of the existing overhead lines will require another approximately \$1M. A qualified general contractor, experienced in municipal construction should be capable of completing the works in two construction seasons. Funding constraints and other schedule conflicts may lead the Town to decide to implement the project in two phases. The blocks north of 53 Avenue could be advanced first considering the road is in poor condition.

8 RECOMMENDATIONS

The following recommendations are proposed for the Town's consideration based on the conclusion noted above and the concept development discussed in this report:

1. The Town complete the repairs of the pipe collapse on the sanitary sewer between 50 Avenue and 52 Avenue as soon as convenient.
2. The Town initiate detailed design of the 50 Street (Dick Damron Drive) project to be ready for construction in 2025 and 2026 subject to funding availability.
3. The Town seek funding for the project and budget approximately \$3M (accounting for inflation from 2023 to 2025) for construction in 2025.
4. The Town seek funding and budget an additional \$3.2M (accounting for inflation from 2023 to 2026) for construction in 2026.

CLOSURE

We trust the Town of Bentley will find this report comprehensive and that it provides the necessary information for the Town to proceed to the next stage. Should you have any questions or require additional information, please contact the undersigned.

The services provided by Associated Engineering Alberta Ltd. in the preparation of this report were conducted in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions. No other warranty expressed or implied is made.

Respectfully submitted,

Associated Engineering Alberta Ltd.

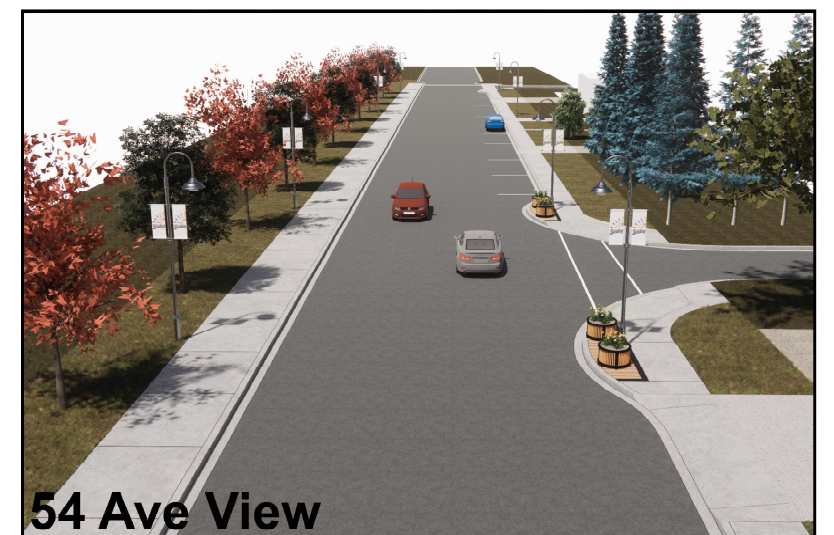
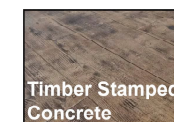
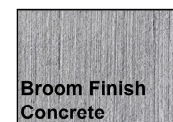
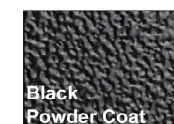
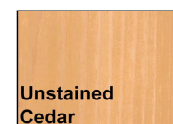
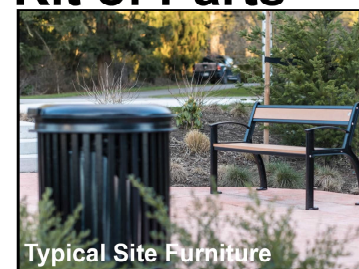
Nelson Dos Santos, P.Eng.
Project Manager

Jason Bennett, CSLA
Senior Landscape Architect

APPENDIX A – LANDSCAPE ARCHITECT'S CONCEPT PLAN



Kit of Parts



50th Street Functional Design - Concept Plan

APPENDIX B – ENGINEERING CONCEPT FIGURES





APPENDIX C - OPINION OF PROBABLE COST

Opinion of Probable Cost Summary 		Client			
		Town of Bentley			
		Project			
		50th Street Functional Design			
		Subject			
		Proj. No.: 2023-3666		Date: October 2023	
Item	Description				
1.0	50th Avenue to 51st Avenue				
1.1	General				\$ 110,000.00
1.2	Removals				\$ 25,160.00
1.3	Sanitary Sewer				\$ 131,049.50
1.4	Water				\$ 110,985.00
1.5	Storm Sewer				\$ 70,350.50
1.6	Surface Work				\$ 261,190.00
1.7	Landscaping				\$ 58,330.00
	TOTAL - 50th to 51st				\$ 767,065.00
2.0	51st Avenue to 52nd Avenue				
2.1	General				\$ 180,000.00
2.2	Removals				\$ 25,260.00
2.3	Sanitary Sewer				\$ 153,263.50
2.4	Water				\$ 153,655.00
2.5	Storm Sewer				\$ 127,226.50
2.6	Surface Work				\$ 245,336.00
2.7	Landscaping				\$ 44,700.00
	TOTAL - 51st to 52nd				\$ 929,441.00
3.0	52nd Avenue to 53rd Avenue				
3.1	General				\$ 110,000.00
3.2	Removals				\$ 25,820.00
3.3	Sanitary Sewer				\$ 137,180.00
3.4	Water				\$ 101,800.00
3.5	Storm Sewer				\$ 18,800.00
3.6	Surface Work				\$ 252,032.00
3.7	Landscaping				\$ 35,000.00
	TOTAL - 52nd to 53rd				\$ 680,632.00
4.0	53rd Avenue to 54th Avenue				
4.1	General				\$ 80,000.00
4.2	Removals				\$ 14,595.00
4.3	Sanitary Sewer				\$ 116,565.00
4.4	Water				\$ 128,850.00
4.5	Storm Sewer				\$ 66,948.00
4.6	Surface Work				\$ 239,466.00
4.7	Landscaping				\$ 24,425.00
	TOTAL - 53rd to 54th				\$ 670,849.00

Opinion of Probable Cost Summary 		Client			
		Town of Bentley			
		Project			
		50th Street Functional Design			
		Subject			
		Proj. No.: 2023-3666		Date: October 2023	
Item	Description				
5.0	54th Avenue to North of 55th Avenue				
5.1	General				\$ 80,000.00
5.2	Removals				\$ 15,395.00
5.3	Sanitary Sewer				\$ 122,180.00
5.4	Water				\$ 112,800.00
5.5	Storm Sewer				\$ 72,360.00
5.6	Surface Work				\$ 225,155.60
5.7	Landscaping				\$ 20,715.00
	TOTAL - 54th to 55th				\$ 648,605.60
	TOTAL - 50th to 51st				\$ 770,000.00
	TOTAL - 51st to 52nd				\$ 930,000.00
	TOTAL - 52nd to 53rd				\$ 680,000.00
	TOTAL - 53rd to 54th				\$ 670,000.00
	TOTAL - 54th to 55th				\$ 650,000.00
	SUBTOTAL				\$ 3,700,000.00
	Engineering (10%)				\$ 370,000.00
	Contingency (25%)				\$ 930,000.00
	TOTAL (EXCL. GST)				\$ 5,000,000.00
6	ELECTRICAL(Optional Costs)				
6.1	Relocate Existing Lines Underground	LS			\$ 630,000.00
6.2	Supply and Install New Light Standards	LS			\$ 305,000.00
	SUBTOTAL				\$ 935,000.00
	GRAND TOTAL (EXCL. GST)				\$ 5,935,000.00

Opinion of Probable Cost

50th Avenue to 51st Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension
1.0	GENERAL				
1.1	Contract Requirements (Mobilization, Demobilization, Bonding, Insurance, Traffic Control, Temporary Works etc.)	LS	1	\$100,000.00	\$ 100,000.00
1.2	Survey	LS	1	\$10,000.00	\$ 10,000.00
	TOTAL PART 1.0 - GENERAL				\$ 110,000.00
2.0	REMOVALS				
2.1	Remove and Dispose Concrete Monowalk (c/w curb)	m ²	356	\$35.00	\$ 12,460.00
2.2	Remove and Dispose Asphalt	m ³	110	\$50.00	\$ 5,500.00
2.3	Remove and Dispose Granular Road Structure	m ³	280	\$10.00	\$ 2,800.00
2.4	Remove and Dispose Granular Base (Monowalk)	m ³	40	\$10.00	\$ 400.00
2.5	Remove and Dispose Signs and Site Furnishings	LS	1	\$2,500.00	\$ 2,500.00
2.6	Remove and Dispose Vegetation	LS	1	\$1,500.00	\$ 1,500.00
	TOTAL PART 2.0 - REMOVALS				\$ 25,160.00
3.0	SANITARY SEWERS				
3.1	Trenching and Backfill (Depth to Invert)				
.1	0 m to 4 m	m	113	\$150.00	\$ 16,950.00
3.2	Pipe Zone Material				
.1	Class B for 200 mm Dia. Main	m	113	\$50.00	\$ 5,650.00
3.3	Over-excavation	m ³	51	\$70.00	\$ 3,559.50
3.4	Supply and Install Sanitary Sewer Main				
.1	250 mm Dia. PVC DR35	m	113	\$300.00	\$ 33,900.00
3.5	Supply and Install Manholes				
.1	1200 mm I.D.	vm	6	\$4,000.00	\$ 24,000.00
.2	Type F-80 Frame and Cover	ea	2	\$800.00	\$ 1,600.00
3.6	Sanitary Service				
.1	100 mm Dia. PVC DR35	ea	7	\$6,000.00	\$ 42,000.00
3.7	CCTV Sewer Inspection				
.1	Construction Completion	m	113	\$15.00	\$ 1,695.00
.2	End of Warranty Period	m	113	\$15.00	\$ 1,695.00
	TOTAL PART 3.0 - SANITARY SEWER				\$ 131,049.50
4.0	WATER MAINS				
4.1	Trenching and Backfill (Depth to Invert)				
.1	0 m to 4 m	m	117	\$150.00	\$ 17,550.00
4.2	Pipe Zone Material				
.1	Class B for 200 mm Dia. Main	m	117	\$50.00	\$ 5,850.00
4.3	Over-excavation	m ³	176	\$70.00	\$ 12,285.00
4.4	Supply and Install Water Main				

Opinion of Probable Cost
50th Avenue to 51st Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension
	.1 200 mm Dia. PVC DR18	m	117	\$300.00	\$ 35,100.00
4.5	Supply and Install Fittings c/w Thrust Blocking				
	.1 Tees	ea	1	\$4,000.00	\$ 4,000.00
	.2 Crosses	ea	0	\$4,000.00	\$ -
	.3 Valves	ea	2	\$5,000.00	\$ 10,000.00
	.4 Elbows	ea	0	\$4,000.00	\$ -
4.6	Water Service c/w CC				
	.1 100 mm Dia. PVC DR35	ea	7	\$1,600.00	\$ 11,200.00
4.7	Tie-in to existing Watermain	ea	3	\$5,000.00	\$ 15,000.00
	TOTAL PART 4.0 - WATER MAIN				\$ 110,985.00
5.0	STORM SEWER				
	.1 0 m to 4 m	m	87	\$150.00	\$ 13,050.00
5.2	Pipe Zone Material				
	.1 Class B for 250 mm Dia. Main	m	87	\$50.00	\$ 4,350.00
5.3	Over-excavation	m ³	39	\$70.00	\$ 2,740.50
5.4	Supply and Install Storm Sewer Main				
	.1 450 mm Dia. PVC DR35	m	87	\$400.00	\$ 34,800.00
5.5	Supply and Install Manholes				
	.1 1200 mm I.D.	vm	3	\$4,000.00	\$ 12,000.00
	.2 Type F-80 Frame and Cover	ea	1	\$800.00	\$ 800.00
5.6	Remove and Dispose Existing Catch Basins	ea		\$2,500.00	\$ -
5.7	Supply and Install Catch Basins c/w 250mm lead	ea	0	\$12,000.00	\$ -
5.8	500 dia. 20m long Culvert Outlet c/w End Treatment	ea	0	\$10,000.00	\$ -
5.9	CCTV Sewer Inspection				
	.1 Construction Completion	m	87	\$15.00	\$ 1,305.00
	.2 End of Warranty Period	m	87	\$15.00	\$ 1,305.00
	TOTAL PART 5.0 - STORM SEWER				\$ 70,350.50
6.0	SURFACE WORK				
6.1	Subgrade Preparation				
	.1 300 mm Depth	m ²	1,230	\$4.00	\$ 4,920.00
	.2 150 mm Depth	m ²	760	\$2.00	\$ 1,520.00
6.2	Granular Base				
	.1 20 mm Minus Base Gravel - 250 mm Depth	m ³	310	\$95.00	\$ 29,450.00
	.2 20 mm Minus Base Gravel - 150 mm Depth	m ³	120	\$95.00	\$ 11,400.00
6.3	Asphalt Paving				
	.1 60 mm Base Lift	m ²	1,230	\$30.00	\$ 36,900.00
	.2 40 mm Final Lift	m ²	1,230	\$20.00	\$ 24,600.00
	.4 Yellow Centerline	m	90	\$10.00	\$ 900.00
	.5 Cross Walks and Stop Bars	LS	1	\$1,000.00	\$ 1,000.00

Opinion of Probable Cost

50th Avenue to 51st Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension
6.4	.6 Parking Delineation Concrete	m	40	\$10.00	\$ 400.00
	.1 Curb and Gutter	m	230	\$160.00	\$ 36,800.00
	.2 Concrete Sidewalk (inc. lane and driveway access)	m ²	530	\$210.00	\$ 111,300.00
	.3 Para Ramps	ea	4	\$500.00	\$ 2,000.00
	TOTAL PART 6.0 - SURFACE WORK				\$ 261,190.00
7.0	LANDSCAPING				
7.1	Plant Material				
	.1 60mm Caliper Deciduous Tree	ea.	4	\$ 650.00	\$ 2,600.00
	.2 Perennials and Grasses	ea.	42	\$ 40.00	\$ 1,680.00
	.3 Sod Over 100mm Depth Topsoil	m ²	150	\$ 25.00	\$ 3,750.00
7.2	Site Furnishings				
	.1 Waste Receptacle	ea.	2	\$ 1,500.00	\$ 3,000.00
	.2 Bike Racks	ea.	2	\$ 1,000.00	\$ 2,000.00
	.3 Benches	ea.	3	\$ 2,000.00	\$ 6,000.00
	.4 Planters	m	8	\$ 850.00	\$ 6,800.00
	.5 Post and Rail Fence	m	53	\$ 500.00	\$ 26,500.00
7.3	Maintenance				
	.1 Watering, pruning and weeding as required	yea.	2	\$ 3,000.00	\$ 6,000.00
	TOTAL PART 7.0 - LANDSCAPING				\$ 58,330.00
	TOTAL PART 1.0 - GENERAL				\$ 110,000.00
	TOTAL PART 2.0 - REMOVALS				\$ 25,160.00
	TOTAL PART 3.0 - SANITARY SEWER				\$ 131,049.50
	TOTAL PART 4.0 - WATER MAIN				\$ 110,985.00
	TOTAL PART 5.0 - STORM SEWER				\$ 70,350.50
	TOTAL PART 6.0 - SURFACE WORK				\$ 261,190.00
	TOTAL PART 7.0 - LANDSCAPING				\$ 58,330.00
	SUBTOTAL				\$ 767,065.00
	Engineering (10%)				\$ 80,000.00
	Contingency (25%)				\$ 200,000.00
	GRAND TOTAL (EXCL. GST)				\$ 967,065.00
	NOTE: Subtotals and Grand Total rounded to nearest \$10,000.				

Opinion of Probable Cost 51st Avenue to 52nd Avenue 		<i>Client</i> Town of Bentley			
		<i>Project</i> 50th Street Functional Design			
		<i>Subject</i>			
		<i>Proj. No.:</i> 2023-3666 <i>Date:</i> October 2023			
Item	Description	Unit	Total	Unit Price	Extension
1.0	GENERAL				
1.1	Contract Requirements (Mobilization, Demobilization, Bonding, Insurance, Traffic Control, Temporary Works etc.)	LS	1	\$170,000.00	\$ 170,000.00
1.2	Survey	LS	1	\$10,000.00	\$ 10,000.00
	TOTAL PART 1.0 - GENERAL				\$ 180,000.00
2.0	REMOVALS				
2.1	Remove and Dispose Concrete Monowalk (c/w curb)	m ²	396	\$35.00	\$ 13,860.00
2.2	Remove and Dispose Asphalt	m ³	120	\$50.00	\$ 6,000.00
2.3	Remove and Dispose Granular Road Structure	m ³	300	\$10.00	\$ 3,000.00
2.4	Remove and Dispose Granular Base (Monowalk)	m ³	40	\$10.00	\$ 400.00
2.5	Remove and Dispose Signs and Site Furnishings	LS	1	\$500.00	\$ 500.00
2.6	Remove and Dispose Vegetation	LS	1	\$1,500.00	\$ 1,500.00
	TOTAL PART 2.0 - REMOVALS				\$ 25,260.00
3.0	SANITARY SEWERS				
3.1	Trenching and Backfill (Depth to Invert)				
.1	0 m to 4 m	m	149	\$150.00	\$ 22,350.00
3.2	Pipe Zone Material				
.1	Class B for 200 mm Dia. Main	m	149	\$50.00	\$ 7,450.00
3.3	Over-excavation	m ³	67	\$70.00	\$ 4,693.50
3.4	Supply and Install Sanitary Sewer Main				
.1	250 mm Dia. PVC DR35	m	149	\$300.00	\$ 44,700.00
3.5	Supply and Install Manholes				
.1	1200 mm I.D.	vm	6	\$4,000.00	\$ 24,000.00
.2	Type F-80 Frame and Cover	ea	2	\$800.00	\$ 1,600.00
3.6	Sanitary Service				
.1	100 mm Dia. PVC DR35	ea	4	\$6,000.00	\$ 24,000.00
3.7	CCTV Sewer Inspection				
.1	Construction Completion	m	149	\$15.00	\$ 2,235.00
.2	End of Warranty Period	m	149	\$15.00	\$ 2,235.00
3.8	Tie-in Existing Pipes to Manhole	ea	4	\$5,000.00	\$ 20,000.00
	TOTAL PART 3.0 - SANITARY SEWER				\$ 153,263.50
4.0	WATER MAINS				
4.1	Trenching and Backfill (Depth to Invert)				
.1	0 m to 4 m	m	131	\$150.00	\$ 19,650.00
4.2	Pipe Zone Material				
.1	Class B for 200 mm Dia. Main	m	131	\$50.00	\$ 6,550.00
4.3	Over-excavation	m ³	197	\$70.00	\$ 13,755.00

Opinion of Probable Cost

51st Avenue to 52nd Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension
4.4	Supply and Install Water Main				
	.1 200 mm Dia. PVC DR18	m	131	\$300.00	\$ 39,300.00
4.5	Supply and Install Fittings c/w Thrust Blocking				
	.1 Tees	ea	0	\$4,000.00	\$ -
	.2 Crosses	ea	2	\$4,000.00	\$ 8,000.00
	.3 Valves	ea	6	\$5,000.00	\$ 30,000.00
	.4 Elbows	ea	0	\$4,000.00	\$ -
4.6	Water Service c/w CC				
	.1 100 mm Dia. PVC DR35	ea	4	\$1,600.00	\$ 6,400.00
4.7	Tie-in to existing Watermain	ea	6	\$5,000.00	\$ 30,000.00
TOTAL PART 4.0 - WATER MAIN					\$ 153,655.00
5.0	STORM SEWER				
	.1 0 m to 4 m	m	111	\$150.00	\$ 16,650.00
5.2	Pipe Zone Material				
	.1 Class B for 250 mm Dia. Main	m	111	\$50.00	\$ 5,550.00
5.3	Over-excavation	m ³	50	\$70.00	\$ 3,496.50
5.4	Supply and Install Storm Sewer Main				
	.1 450 mm Dia. PVC DR35	m	111	\$400.00	\$ 44,400.00
5.5	Supply and Install Manholes				
	.1 1200 mm I.D.	vm	3	\$4,000.00	\$ 12,000.00
	.2 Type F-80 Frame and Cover	ea	1	\$800.00	\$ 800.00
5.6	Remove and Dispose Existing Catch Basins	ea	2	\$2,500.00	\$ 5,000.00
5.7	Supply and Install Catch Basins c/w 250mm lead	ea	3	\$12,000.00	\$ 36,000.00
5.8	500 dia. 20m long Culvert Outlet c/w End Treatment	ea	0	\$10,000.00	\$ -
5.9	CCTV Sewer Inspection				
	.1 Construction Completion	m	111	\$15.00	\$ 1,665.00
	.2 End of Warranty Period	m	111	\$15.00	\$ 1,665.00
TOTAL PART 5.0 - STORM SEWER					\$ 127,226.50
6.0	SURFACE WORK				
6.1	Subgrade Preparation				
	.1 300 mm Depth	m ²	1,314	\$4.00	\$ 5,256.00
	.2 150 mm Depth	m ²	665	\$2.00	\$ 1,330.00
6.2	Granular Base				
	.1 20 mm Minus Base Gravel - 250 mm Depth	m ³	330	\$95.00	\$ 31,350.00
	.2 20 mm Minus Base Gravel - 150 mm Depth	m ³	100	\$95.00	\$ 9,500.00
6.3	Asphalt Paving				
	.1 60 mm Base Lift	m ²	1,314	\$30.00	\$ 39,420.00
	.2 40 mm Final Lift	m ²	1,314	\$20.00	\$ 26,280.00
	.3 Yellow Centerline	m	105	\$10.00	\$ 1,050.00

Opinion of Probable Cost

51st Avenue to 52nd Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension
6.4	.4 Cross Walks and Stop Bars	LS	1	\$1,000.00	\$ 1,000.00
	.5 Parking Delineation Concrete	m	50	\$10.00	\$ 500.00
	.1 Curb and Gutter	m	240	\$160.00	\$ 38,400.00
	.2 Concrete Sidewalk (inc. lane and driveway access)	m ²	425	\$210.00	\$ 89,250.00
	.3 Para Ramps	ea	4	\$500.00	\$ 2,000.00
TOTAL PART 6.0 - SURFACE WORK					\$ 245,336.00
7.0	LANDSCAPING				
7.1	Plant Material				
	.1 60mm Caliper Deciduous Tree	ea.	2	\$ 650.00	\$ 1,300.00
	.2 Perennials and Grasses	ea.		\$ 40.00	\$ -
	.3 Sod Over 100mm Depth Topsoil	m ²	400	\$ 25.00	\$ 10,000.00
7.2	Site Furnishings				
	.1 Waste Receptacle	ea.	2	\$ 1,500.00	\$ 3,000.00
	.2 Bike Racks	ea.	1	\$ 1,000.00	\$ 1,000.00
	.3 Benches	ea.	4	\$ 2,000.00	\$ 8,000.00
	.4 Planters	ea.	4	\$ 850.00	\$ 3,400.00
	.5 Post and Rail Fence	m	24	\$ 500.00	\$ 12,000.00
7.3	Maintenance				
	.1 Watering, pruning and weeding as required	yea.	2	\$ 3,000.00	\$ 6,000.00
TOTAL PART 7.0 - LANDSCAPING					\$ 44,700.00
TOTAL PART 8.0 - ELECTRICAL					#REF!
TOTAL PART 1.0 - GENERAL					\$ 180,000.00
TOTAL PART 2.0 - REMOVALS					\$ 25,260.00
TOTAL PART 3.0 - SANITARY SEWER					\$ 153,263.50
TOTAL PART 4.0 - WATER MAIN					\$ 153,655.00
TOTAL PART 5.0 - STORM SEWER					\$ 127,226.50
TOTAL PART 6.0 - SURFACE WORK					\$ 245,336.00
TOTAL PART 7.0 - LANDSCAPING					\$ 44,700.00
SUBTOTAL					\$ 929,441.00
Engineering (10%)					\$ 100,000.00
Contingency (25%)					\$ 240,000.00
GRAND TOTAL (EXCL. GST)					\$ 1,169,441.00
NOTE: Subtotals and Grand Total rounded to nearest \$10,000.					

Opinion of Probable Cost
51st Avenue to 52nd Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension

Opinion of Probable Cost

52nd Avenue to 53rd Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension
1.0	GENERAL				
1.1	Contract Requirements (Mobilization, Demobilization, Bonding, Insurance, Traffic Control, Temporary Works etc.)	LS	1	\$100,000.00	\$ 100,000.00
1.2	Survey	LS	1	\$10,000.00	\$ 10,000.00
	TOTAL PART 1.0 - GENERAL				\$ 110,000.00
2.0	REMOVALS				
2.1	Remove and Dispose Concrete Monowalk (c/w curb)	m ²	332	\$35.00	\$ 11,620.00
2.2	Remove and Dispose Asphalt	m ³	130	\$50.00	\$ 6,500.00
2.3	Remove and Dispose Granular Road Structure	m ³	330	\$10.00	\$ 3,300.00
2.4	Remove and Dispose Granular Base (Monowalk)	m ³	40	\$10.00	\$ 400.00
2.5	Remove and Dispose Signs and Site Furnishings	LS	1	\$2,500.00	\$ 2,500.00
2.6	Remove and Dispose Vegetation	LS	1	\$1,500.00	\$ 1,500.00
	TOTAL PART 2.0 - REMOVALS				\$ 25,820.00
3.0	SANITARY SEWERS				
3.1	Trenching and Backfill (Depth to Invert)				
.1	0 m to 4 m	m	120	\$150.00	\$ 18,000.00
3.2	Pipe Zone Material				
.1	Class B for 200 mm Dia. Main	m	120	\$50.00	\$ 6,000.00
3.3	Over-excavation	m ³	54	\$70.00	\$ 3,780.00
3.4	Supply and Install Sanitary Sewer Main				
.1	250 mm Dia. PVC DR35	m	120	\$300.00	\$ 36,000.00
3.5	Supply and Install Manholes				
.1	1200 mm I.D.	vm	3	\$4,000.00	\$ 12,000.00
.2	Type F-80 Frame and Cover	ea	1	\$800.00	\$ 800.00
3.6	Sanitary Service				
.1	100 mm Dia. PVC DR35	ea	7	\$6,000.00	\$ 42,000.00
3.7	CCTV Sewer Inspection				
.1	Construction Completion	m	120	\$15.00	\$ 1,800.00
.2	End of Warranty Period	m	120	\$15.00	\$ 1,800.00
3.8	Tie-in Existing Pipes to Manhole	ea	3	\$5,000.00	\$ 15,000.00
	TOTAL PART 3.0 - SANITARY SEWER				\$ 137,180.00
4.0	WATER MAINS				
4.1	Trenching and Backfill (Depth to Invert)				
.1	0 m to 4 m	m	120	\$150.00	\$ 18,000.00
4.2	Pipe Zone Material				
.1	Class B for 200 mm Dia. Main	m	120	\$50.00	\$ 6,000.00
4.3	Over-excavation	m ³	180	\$70.00	\$ 12,600.00

Opinion of Probable Cost

52nd Avenue to 53rd Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension
4.4	Supply and Install Water Main				
	.1 200 mm Dia. PVC DR18	m	120	\$300.00	\$ 36,000.00
4.5	Supply and Install Fittings c/w Thrust Blocking				
	.1 Tees	ea	0	\$4,000.00	\$ -
	.2 Crosses	ea	0	\$4,000.00	\$ -
	.3 Valves	ea	0	\$5,000.00	\$ -
	.4 Elbows	ea	2	\$4,000.00	\$ 8,000.00
4.6	Water Service c/w CC				
	.1 100 mm Dia. PVC DR35	ea	7	\$1,600.00	\$ 11,200.00
4.8	Tie-in to existing Watermain	ea	2	\$5,000.00	\$ 10,000.00
	TOTAL PART 4.0 - WATER MAIN				\$ 101,800.00
5.0	STORM SEWER				
	.1 0 m to 4 m	m	0	\$150.00	\$ -
5.2	Pipe Zone Material				
	.1 Class B for 250 mm Dia. Main	m	0	\$50.00	\$ -
5.3	Over-excavation	m ³	0	\$70.00	\$ -
5.4	Supply and Install Storm Sewer Main				
	.1 450 mm Dia. PVC DR35	m	0	\$400.00	\$ -
5.5	Supply and Install Manholes				
	.1 1200 mm I.D. (Perched)	vm	3	\$2,000.00	\$ 6,000.00
	.2 Type F-80 Frame and Cover	ea	1	\$800.00	\$ 800.00
5.6	Remove and Dispose Existing Catch Basins	ea		\$2,500.00	\$ -
5.7	Supply and Install Catch Basins c/w 250mm lead	ea	3	\$4,000.00	\$ 12,000.00
5.8	500 dia. 20m long Culvert Outlet c/w End Treatment	ea	0	\$10,000.00	\$ -
5.9	CCTV Sewer Inspection				
	.1 Construction Completion	m	0	\$15.00	\$ -
	.2 End of Warranty Period	m	0	\$15.00	\$ -
	TOTAL PART 5.0 - STORM SEWER				\$ 18,800.00
6.0	SURFACE WORK				
6.1	Subgrade Preparation				
	.1 300 mm Depth	m ²	1,343	\$4.00	\$ 5,372.00
	.2 150 mm Depth	m ²	680	\$2.00	\$ 1,360.00
6.2	Granular Base				
	.1 20 mm Minus Base Gravel - 250 mm Depth	m ³	340	\$95.00	\$ 32,300.00
	.2 20 mm Minus Base Gravel - 150 mm Depth	m ³	110	\$95.00	\$ 10,450.00
6.3	Asphalt Paving				
	.1 60 mm Base Lift	m ²	1,343	\$30.00	\$ 40,290.00
	.2 40 mm Final Lift	m ²	1,343	\$20.00	\$ 26,860.00
	.3 Yellow Centerline	m	105	\$10.00	\$ 1,050.00

Opinion of Probable Cost

52nd Avenue to 53rd Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension
6.4	.4 Cross Walks and Stop Bars	LS	1	\$1,000.00	\$ 1,000.00
	.5 Parking Delineation Concrete	m	55	\$10.00	\$ 550.00
	.1 Curb and Gutter	m	240	\$160.00	\$ 38,400.00
	.2 Concrete Sidewalk (inc. lane and driveway access)	m ²	440	\$210.00	\$ 92,400.00
	.3 Para Ramps	ea	4	\$500.00	\$ 2,000.00
TOTAL PART 6.0 - SURFACE WORK					\$ 252,032.00
7.0	LANDSCAPING				
7.1	Plant Material				
	.1 60mm Caliper Deciduous Tree	ea.	6	\$ 650.00	\$ 3,900.00
	.3 Perennials and Grasses	ea.		\$ 40.00	\$ -
	.4 Sod Over 100mm Depth Topsoil	m ²	400	\$ 25.00	\$ 10,000.00
7.2	Site Furnishings				
	.1 Waste Receptacle	ea.	2	\$ 1,500.00	\$ 3,000.00
	.2 Bike Racks	ea.	1	\$ 1,000.00	\$ 1,000.00
	.3 Benches	ea.	3	\$ 2,000.00	\$ 6,000.00
	.4 Planters	m	6	\$ 850.00	\$ 5,100.00
	.5 Post and Rail Fence	m	0	\$ 500.00	\$ -
7.3	Maintenance				
	.1 Watering, pruning and weeding as required	yea.	2	\$ 3,000.00	\$ 6,000.00
TOTAL PART 7.0 - LANDSCAPING					\$ 35,000.00
TOTAL PART 1.0 - GENERAL					\$ 110,000.00
TOTAL PART 2.0 - REMOVALS					\$ 25,820.00
TOTAL PART 3.0 - SANITARY SEWER					\$ 137,180.00
TOTAL PART 4.0 - WATER MAIN					\$ 101,800.00
TOTAL PART 5.0 - STORM SEWER					\$ 18,800.00
TOTAL PART 6.0 - SURFACE WORK					\$ 252,032.00
TOTAL PART 7.0 - LANDSCAPING					\$ 35,000.00
SUBTOTAL					\$ 680,632.00
Engineering (10%)					\$ 70,000.00
Contingency (25%)					\$ 180,000.00
GRAND TOTAL (EXCL. GST)					\$ 860,632.00
NOTE: Subtotals and Grand Total rounded to nearest \$10,000.					

Opinion of Probable Cost 53rd Avenue to 54th Avenue 		<i>Client</i> Town of Bentley			
		<i>Project</i> 50th Street Functional Design			
		<i>Subject</i>			
		<i>Proj. No.:</i> 2023-3666 <i>Date:</i> October 2023			
Item	Description	Unit	Total	Unit Price	Extension
1.0	GENERAL				
1.1	Contract Requirements (Mobilization, Demobilization, Bonding, Insurance, Traffic Control, Temporary Works etc.)	LS	1	\$70,000.00	\$ 70,000.00
1.2	Survey	LS	1	\$10,000.00	\$ 10,000.00
	TOTAL PART 1.0 - GENERAL				\$ 80,000.00
2.0	REMOVALS				
2.1	Remove and Dispose Concrete Monowalk (c/w curb)	m ²	137	\$35.00	\$ 4,795.00
2.2	Remove and Dispose Asphalt	m ³	100	\$50.00	\$ 5,000.00
2.3	Remove and Dispose Granular Road Structure	m ³	260	\$10.00	\$ 2,600.00
2.4	Remove and Dispose Granular Base (Monowalk)	m ³	20	\$10.00	\$ 200.00
2.5	Remove and Dispose Signs and Site Furnishings	LS	1	\$500.00	\$ 500.00
2.6	Remove and Dispose Vegetation	LS	1	\$1,500.00	\$ 1,500.00
	TOTAL PART 2.0 - REMOVALS				\$ 14,595.00
3.0	SANITARY SEWERS				
3.1	Trenching and Backfill (Depth to Invert)				
.1	0 m to 4 m	m	110	\$150.00	\$ 16,500.00
3.2	Pipe Zone Material				
.1	Class B for 200 mm Dia. Main	m	110	\$50.00	\$ 5,500.00
3.3	Over-excavation	m ³	50	\$70.00	\$ 3,465.00
3.4	Supply and Install Sanitary Sewer Main				
.1	250 mm Dia. PVC DR35	m	110	\$300.00	\$ 33,000.00
3.5	Supply and Install Manholes				
.1	1200 mm I.D.	vm	3	\$4,000.00	\$ 12,000.00
.2	Type F-80 Frame and Cover	ea	1	\$800.00	\$ 800.00
3.6	Sanitary Service				
.1	100 mm Dia. PVC DR35	ea	7	\$6,000.00	\$ 42,000.00
3.7	CCTV Sewer Inspection				
.1	Construction Completion	m	110	\$15.00	\$ 1,650.00
.2	End of Warranty Period	m	110	\$15.00	\$ 1,650.00
	TOTAL PART 3.0 - SANITARY SEWER				\$ 116,565.00
4.0	WATER MAINS				
4.1	Trenching and Backfill (Depth to Invert)				
.1	0 m to 4 m	m	130	\$150.00	\$ 19,500.00
4.2	Pipe Zone Material				
.1	Class B for 200 mm Dia. Main	m	130	\$50.00	\$ 6,500.00
4.3	Over-excavation	m ³	195	\$70.00	\$ 13,650.00
4.4	Supply and Install Water Main				

Opinion of Probable Cost

53rd Avenue to 54th Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension
4.5	.1 200 mm Dia. PVC DR18 Supply and Install Fittings c/w Thrust Blocking	m	130	\$300.00	\$ 39,000.00
	.1 Tees	ea		\$4,000.00	\$ -
	.2 Crosses	ea	1	\$4,000.00	\$ 4,000.00
	.3 Valves	ea	3	\$5,000.00	\$ 15,000.00
	.4 Elbows	ea		\$4,000.00	\$ -
4.6	Water Service c/w CC				
	.1 100 mm Dia. PVC DR35	ea	7	\$1,600.00	\$ 11,200.00
4.7	Tie-in to existing Watermain	ea	4	\$5,000.00	\$ 20,000.00
	TOTAL PART 4.0 - WATER MAIN				\$ 128,850.00
5.0	STORM SEWER				
	.1 0 m to 4 m	m	103	\$150.00	\$ 15,420.00
5.2	Pipe Zone Material				
	.1 Class B for 250 mm Dia. Main	m	103	\$50.00	\$ 5,140.00
5.3	Over-excavation	m ³	154	\$70.00	\$ 10,794.00
5.4	Supply and Install Storm Sewer Main				
	.1 250 mm Dia. PVC DR35	m	103	\$75.00	\$ 7,710.00
5.5	Supply and Install Manholes				
	.1 1200 mm I.D.	vm	3	\$4,000.00	\$ 12,000.00
	.2 Type F-80 Frame and Cover	ea	1	\$800.00	\$ 800.00
5.6	Remove and Dispose Existing Catch Basins	ea		\$2,500.00	\$ -
5.7	Supply and Install Catch Basins c/w 250mm lead	ea	3	\$4,000.00	\$ 12,000.00
5.8	500 dia. 20m long Culvert Outlet c/w End Treatment	ea	0	\$10,000.00	\$ -
5.9	CCTV Sewer Inspection				
	.1 Construction Completion	m	103	\$15.00	\$ 1,542.00
	.2 End of Warranty Period	m	103	\$15.00	\$ 1,542.00
	TOTAL PART 5.0 - STORM SEWER				\$ 66,948.00
6.0	SURFACE WORK				
6.1	Subgrade Preparation				
	.1 300 mm Depth	m ²	1,244	\$4.00	\$ 4,976.00
	.2 150 mm Depth	m ²	430	\$2.00	\$ 860.00
6.2	Granular Base				
	.1 20 mm Minus Base Gravel - 250 mm Depth	m ³	320	\$95.00	\$ 30,400.00
	.2 20 mm Minus Base Gravel - 150 mm Depth	m ³	70	\$95.00	\$ 6,650.00
6.3	Asphalt Paving				
	.1 60 mm Base Lift	m ²	1,244	\$30.00	\$ 37,320.00
	.2 40 mm Final Lift	m ²	1,244	\$20.00	\$ 24,880.00
	.4 Yellow Centerline	m	100	\$10.00	\$ 1,000.00
	.5 Cross Walks and Stop Bars	LS	1	\$1,000.00	\$ 1,000.00

Opinion of Probable Cost

53rd Avenue to 54th Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension
6.4	.6 Parking Delineation Concrete	m	40	\$10.00	\$ 400.00
	.1 Curb and Gutter	m	238	\$160.00	\$ 38,080.00
	.2 Concrete Sidewalk (inc. lane and driveway access)	m ²	440	\$210.00	\$ 92,400.00
	.3 Para Ramps	ea	3	\$500.00	\$ 1,500.00
	TOTAL PART 6.0 - SURFACE WORK				\$ 239,466.00
7.0	LANDSCAPING				
7.1	Plant Material				
	.1 60mm Caliper Deciduous Tree	ea.	3	\$ 650.00	\$ 1,950.00
	.2 Shrubs	ea.		\$ 70.00	\$ -
	.3 Perennials and Grasses	ea.		\$ 40.00	\$ -
	.4 Sod Over 100mm Depth Topsoil	m ²	455	\$ 25.00	\$ 11,375.00
7.2	Site Furnishings				
	.1 Waste Receptacle	ea.	0	\$ 1,500.00	\$ -
	.2 Bike Racks	ea.	0	\$ 1,000.00	\$ -
	.3 Benches	ea.	0	\$ 2,000.00	\$ -
	.4 Planters	ea.	6	\$ 850.00	\$ 5,100.00
	.5 Post and Rail Fence	m	0	\$ 500.00	\$ -
7.3	Maintenance				
	.1 Watering, pruning and weeding as required	yea.	2	\$ 3,000.00	\$ 6,000.00
	TOTAL PART 7.0 - LANDSCAPING				\$ 24,425.00
	TOTAL PART 1.0 - GENERAL				\$ 80,000.00
	TOTAL PART 2.0 - REMOVALS				\$ 14,595.00
	TOTAL PART 3.0 - SANITARY SEWER				\$ 116,565.00
	TOTAL PART 4.0 - WATER MAIN				\$ 128,850.00
	TOTAL PART 5.0 - STORM SEWER				\$ 66,948.00
	TOTAL PART 6.0 - SURFACE WORK				\$ 239,466.00
	TOTAL PART 7.0 - LANDSCAPING				\$ 24,425.00
	SUBTOTAL				\$ 670,849.00
	Engineering (10%)				\$ 70,000.00
	Contingency (25%)				\$ 170,000.00
	GRAND TOTAL (EXCL. GST)				\$ 840,849.00
	NOTE: Subtotals and Grand Total rounded to nearest \$10,000.				

Opinion of Probable Cost 54th Avenue to North of 55th Avenue 		<i>Client</i> Town of Bentley <i>Project</i> 50th Street Functional Design <i>Subject</i> <i>Proj. No.: 2023-3666</i> <i>Date: October 2023</i>			
Item	Description	Unit	Total	Unit Price	Extension
1.0	GENERAL				
1.1	Contract Requirements (Mobilization, Demobilization, Bonding, Insurance, Traffic Control, Temporary Works etc.)	LS	1	\$70,000.00	\$ 70,000.00
1.2	Survey	LS	1	\$10,000.00	\$ 10,000.00
	TOTAL PART 1.0 - GENERAL				\$ 80,000.00
2.0	REMOVALS				
2.1	Remove and Dispose Concrete Monowalk (c/w curb)	m ²	137	\$35.00	\$ 4,795.00
2.2	Remove and Dispose Asphalt	m ³	110	\$50.00	\$ 5,500.00
2.3	Remove and Dispose Granular Road Structure	m ³	290	\$10.00	\$ 2,900.00
2.4	Remove and Dispose Granular Base (Monowalk)	m ³	20	\$10.00	\$ 200.00
2.5	Remove and Dispose Signs and Site Furnishings	LS	1	\$500.00	\$ 500.00
2.6	Remove and Dispose Vegetation	LS	1	\$1,500.00	\$ 1,500.00
	TOTAL PART 2.0 - REMOVALS				\$ 15,395.00
3.0	SANITARY SEWERS				
3.1	Trenching and Backfill (Depth to Invert)				
.1	0 m to 4 m	m	120	\$150.00	\$ 18,000.00
3.2	Pipe Zone Material				
.1	Class B for 200 mm Dia. Main	m	120	\$50.00	\$ 6,000.00
3.3	Over-excavation	m ³	54	\$70.00	\$ 3,780.00
3.4	Supply and Install Sanitary Sewer Main				
.1	250 mm Dia. PVC DR35	m	120	\$300.00	\$ 36,000.00
3.5	Supply and Install Manholes				
.1	1200 mm I.D.	vm	3	\$4,000.00	\$ 12,000.00
.2	Type F-80 Frame and Cover	ea	1	\$800.00	\$ 800.00
3.6	Sanitary Service				
.1	100 mm Dia. PVC DR35	ea	7	\$6,000.00	\$ 42,000.00
3.7	CCTV Sewer Inspection				
.1	Construction Completion	m	120	\$15.00	\$ 1,800.00
.2	End of Warranty Period	m	120	\$15.00	\$ 1,800.00
	TOTAL PART 3.0 - SANITARY SEWER				\$ 122,180.00
4.0	WATER MAINS				
4.0	WATER MAINS				
4.1	Trenching and Backfill (Depth to Invert)				
.1	0 m to 4 m	m	120	\$150.00	\$ 18,000.00
4.2	Pipe Zone Material				
.1	Class B for 200 mm Dia. Main	m	120	\$50.00	\$ 6,000.00
4.3	Over-excavation	m ³	180	\$70.00	\$ 12,600.00

Opinion of Probable Cost
54th Avenue to North of 55th Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension
4.4	Supply and Install Water Main				
.1	200 mm Dia. PVC DR18	m	120	\$300.00	\$ 36,000.00
4.5	Supply and Install Fittings c/w Thrust Blocking				
.1	Tees	ea	1	\$4,000.00	\$ 4,000.00
.2	Crosses	ea		\$4,000.00	\$ -
.3	Valves	ea	2	\$5,000.00	\$ 10,000.00
.4	Elbows	ea		\$4,000.00	\$ -
4.6	Water Service c/w CC				
.1	100 mm Dia. PVC DR35	ea	7	\$1,600.00	\$ 11,200.00
4.7	Tie-in to existing Watermain	ea	3	\$5,000.00	\$ 15,000.00
	TOTAL PART 4.0 - WATER MAIN				\$ 112,800.00
5.0	STORM SEWER				
.1	0 m to 4 m	m	116	\$150.00	\$ 17,400.00
5.2	Pipe Zone Material				
.1	Class B for 250 mm Dia. Main	m	116	\$50.00	\$ 5,800.00
5.3	Over-excavation	m ³	174	\$70.00	\$ 12,180.00
5.4	Supply and Install Storm Sewer Main				
.1	250 mm Dia. PVC DR35	m	116	\$75.00	\$ 8,700.00
5.5	Supply and Install Manholes				
.1	1200 mm I.D.	vm	3	\$4,000.00	\$ 12,000.00
.2	Type F-80 Frame and Cover	ea	1	\$800.00	\$ 800.00
5.6	Remove and Dispose Existing Catch Basins	ea		\$2,500.00	\$ -
5.7	Supply and Install Catch Basins c/w 250mm lead	ea	3	\$4,000.00	\$ 12,000.00
5.8	500 dia. 20m long Culvert Outlet c/w End Treatment	ea	0	\$10,000.00	\$ -
5.9	CCTV Sewer Inspection				
.1	Construction Completion	m	116	\$15.00	\$ 1,740.00
.2	End of Warranty Period	m	116	\$15.00	\$ 1,740.00
	TOTAL PART 5.0 - STORM SEWER				\$ 72,360.00

Opinion of Probable Cost
54th Avenue to North of 55th Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension
6.0	SURFACE WORK				
6.1	Subgrade Preparation				
.1	300 mm Depth	m ²	2,066	\$4.00	\$ 8,264.00
.2	150 mm Depth	m ²	465	\$2.00	\$ 930.00
6.2	Granular Base				
.1	20 mm Minus Base Gravel - 250 mm Depth	m ³	520	\$95.00	\$ 49,400.00
.2	20 mm Minus Base Gravel - 150 mm Depth	m ³	70	\$95.00	\$ 6,650.00
6.3	Asphalt Paving				
.1	60 mm Base Lift	m ³	124	\$30.00	\$ 3,718.80
.2	40 mm Final Lift	m ³	83	\$20.00	\$ 1,652.80
.4	Yellow Centerline	m	192	\$10.00	\$ 1,920.00
.5	Cross Walks and Stop Bars	LS	1	\$1,000.00	\$ 1,000.00
.6	Parking Delineation	m	30	\$10.00	\$ 300.00
6.4	Concrete				
.1	Curb and Gutter	m	403	\$160.00	\$ 64,480.00
.2	Concrete Sidewalk (inc. lane and driveway access)	m ²	404	\$210.00	\$ 84,840.00
.3	Para Ramps	ea	4	\$500.00	\$ 2,000.00
	TOTAL PART 6.0 - SURFACE WORK				\$ 225,155.60
7.0	LANDSCAPING				
7.1	Plant Material				
.1	60mm Caliper Deciduous Tree	ea.	2	\$ 650.00	\$ 1,300.00
.2	Shrubs	ea.		\$ 70.00	\$ -
.3	Perennials and Grasses	ea.	26	\$ 40.00	\$ 1,040.00
.4	Sod Over 100mm Depth Topsoil	m ²	455	\$ 25.00	\$ 11,375.00
7.2	Site Furnishings				
.1	Waste Receptacle	ea.	0	\$ 1,500.00	\$ -
.2	Bike Racks	ea.	0	\$ 1,000.00	\$ -
.3	Benches	ea.	0	\$ 2,000.00	\$ -
.4	Planters	ea.	2	\$ 500.00	\$ 1,000.00
.5	Post and Rail Fence	m	0	\$ 500.00	\$ -
7.3	Maintenance				
.1	Watering, pruning and weeding as required	yea.	2	\$ 3,000.00	\$ 6,000.00
	TOTAL PART 7.0 - LANDSCAPING				\$ 20,715.00

Opinion of Probable Cost
54th Avenue to North of 55th Avenue



Client

Town of Bentley

Project

50th Street Functional Design

Subject

Proj. No.: 2023-3666

Date: October 2023

Item	Description	Unit	Total	Unit Price	Extension
	TOTAL PART 1.0 - GENERAL				\$ 80,000.00
	TOTAL PART 2.0 - REMOVALS				\$ 15,395.00
	TOTAL PART 3.0 - SANITARY SEWER				\$ 122,180.00
	TOTAL PART 4.0 - WATER MAIN				\$ 112,800.00
	TOTAL PART 5.0 - STORM SEWER				\$ 72,360.00
	TOTAL PART 6.0 - SURFACE WORK				\$ 225,155.60
	TOTAL PART 7.0 - LANDSCAPING				\$ 20,715.00
	SUBTOTAL				\$ 648,605.60
	Engineering (10%)				\$ 70,000.00
	Contingency (25%)				\$ 170,000.00
	GRAND TOTAL (EXCL. GST)				\$ 818,605.60

NOTE:

Subtotals and Grand Total rounded to nearest \$10,000.

APPENDIX D - SUMMARY OF PUBLIC ENGAGEMENT MEMO



Client:	Marc Fortais, CAO Town of Bentley		
Date:	July 3, 2023	File No.	
Subject:	50 th Street Functional Design Public Engagement Summary	Project:	2023-3666
By:	Jason Bennett, CSLA	Checked:	Nelson Dos Santos

1 BACKGROUND

A public open house was held by the Town of Bentley, on June 14th, with a representative from Associated Engineering in attendance to answer questions and collect feedback on the 50th Street Redesign project. During the engagement session, a preliminary functional design was presented which consisted of 2 design boards identifying the opportunities and constraints related to potential improvements along the corridor. Key design components, presented as part of the preliminary functional plan, included:

- narrowed roadway width (modified City of Red Deer/ Red Deer County Residential Collector cross section),
- widened sidewalk along the west side,
- realigned sidewalk along the east side,
- additional landscaped space between back of walk and ROW,
- parallel parking on both sides of the street, and
- expanded curb bulges at all intersections.

Approximately 35-40 residents attended the session throughout the evening. A paper survey, consisting of 5 questions was provided to each attendee so that they may offer their input into the design, with a total of 8 completed surveys collected at the event or later delivered to the Town office. The survey was also hosted digitally for a period of 2 weeks via a link on the Town's website and social media. A total of 39 digital responses were collected at the time the survey closed on June 30th, 2023, with all but 7 of the responses from residents who did not attend the open house.

The following is a record of the common themes we heard during the open house and subsequent engagement survey with regards to how the corridor is used and the overall vision for the redesign.

2 COMMUNITY FEEDBACK

Question 1 – What is your priority for the redesign of 50th Street?

What We Heard...

The most frequent responses to this question were: safety and replacement sidewalks, with additional parking, traffic calming, and less congestion also noted as priorities. In general, respondents felt the redesign of 50th Street should be pedestrian oriented and safe, either through replacement of existing



sidewalks (where required) or further enhancements of the streetscape to address congestion. The addition of parking stalls along the corridor was noted frequently, possibly as a measure to address concerns of vehicle congestion at the intersection of 50th Avenue, near the arena, and during market days. Numerous responses questioned the need for additional improvements when the existing sidewalks and grading are what really need to be addressed.

What this means for the design...

The design should focus on a comfortable and safe pedestrian corridor. This could include wider sidewalks, shortened intersection crossings (curb bulges), and additional seating and rest areas. Where possible current parking should be expanded to provide additional stalls. Additional planting should also be explored with consideration of future maintenance requirements.

The Town could also investigate opportunities to expand parking lots at high demand locations such as the arena.

Question 2 – How do you currently use 50th Street?

What We Heard...

The most frequent responses to this question were: walking for recreation or access to activities/ businesses, driving to access activities/ business, and parking. One-third of the respondents noted they currently live on the street and use it for both residential parking and access to activities and businesses. Several respondents reported that they prefer to avoid driving in the area at times due to congestion around the arena and intersection of 50th Avenue. The preference noted for walking is likely due to both the relatively short trip from nearby residential areas as well as limited available parking during popular events such as the market and wing night.

What this means for the design...

The design should focus on providing a comfortable and safe corridor for pedestrians who use it for recreation and access to local amenities. This could include wider sidewalks, shortened intersection crossings, and additional seating and rest areas.

Where possible, existing parking facilities should be expanded to provide additional stalls.

Question 3 – What are some current issues with 50th Street that should be addressed as part of this redesign?

What We Heard...

The most frequent responses to this question were: condition of the sidewalks, available parking, maintenance of sidewalks and adjacent landscaping. Lighting was also noted by several respondents but may be limited to specific locations and not the entire corridor. It is very clear that residents feel the replacement of the existing sidewalks, specifically along the northeast portion of the corridor, is a high priority. Comments regarding parking typically note congestion in high activity areas (arena and the intersection of 50th Avenue) and the possible need for additional parking lot development. Lack of signage and enforcement of parking issues (angled in an area designated for parallel, for example) was



also noted and will be an important factor if the parking orientation was to change. Maintenance of existing sidewalks and landscaping was also mentioned frequently, and future maintenance requirements should be considered in the final design.

What this means for the design...

The design should address the condition of existing sidewalks and available parking. The focus should be on providing a comfortable and safe corridor for pedestrians and where possible, expand existing parking facilities to provide additional stalls. Future operational and maintenance requirements should also be considered to ensure sidewalks and parking areas are easily cleared in the winter months, furnishings are resilient, and planting is drought tolerant and limited to key project areas.

Question 4 – What features would you like to see in the redesign of 50th Street?

What We Heard...

The most frequent responses to this question were: wider sidewalks, benches and sitting areas, additional planting, and lighting. In general, respondents felt the redesign of 50th Street should be pedestrian oriented, either through replacement of existing sidewalks (where required) or further enhancements to improve comfort and safety, including benches, lighting, and planting. Many responses also suggested limiting the upgrades to fixing existing sidewalks and improved maintenance as priorities. Respondents who provided comments such as these, noted the potential cost as their primary concern regarding upgrades to the corridor. In response to this question, additional parking and traffic calming were not frequently noted as desired features of the redesign and when parking was suggested, it was in the form of expanded parking lots to address congestion.

What this means for the design...

The design should focus on a comfortable and safe pedestrian corridor. At a minimum, this would include replacement and widening of existing sidewalks. Additional features such as shortened intersection crossings (curb bulges), seating areas, and landscape planting should also be considered. Additional pedestrian level lighting could also be provided along the west side of the corridor if overhead lighting along the east side is determined to be insufficient.

The Town could also investigate opportunities to expand parking lots at high demand locations such as the arena.

Question 5 – What theme would you like to see in the redesign of 50th Street?

What We Heard...

The most frequent responses to this question were: highlight natural materials, prefer not to have a theme, and western motifs. There was a noted preference for the design of the corridor to be timeless and stand on its own and not be too thematic, simpler is better. Where “no theme” was indicated, respondents preferred either a simpler approach such as replacing the existing sidewalks or minimal enhancements. It was noted by several respondents that more could be done to identify the street as Dick Damron Drive, for example replacing existing street signs with something more decorative. Music



and the legacy of Dick Damron were also noted as potential themes by some respondents, but others preferred to see this limited to improved signage or public art (murals).

What this means for the design...

The design should focus on inclusion of natural materials such as wood, stone, and planting to suit the rural character of the corridor. Inclusion of the Town's branding should still be included on pageantry items such as banner poles and furnishings where possible. Overall, the preference is for a simpler approach to the redesign with a focus on landscaping and replacement of the existing sidewalks.

3 NEXT STEPS

The next step for the project is to meet with the Town to review the results of public engagement and confirm the design principles so the functional concept plan can be finalized. This meeting is scheduled to take place the week of July 3rd. Once the design principles and approach have been confirmed, Associated Engineering will begin refinement of the functional plan presented at the open house and development of representative cross sections. Three cross sections will be developed to illustrate the corridor design and will cover the "urban" portion of the project at 50th Avenue, the "semi-rural" section at the arena and residences, and the "rural" section at 55th Avenue.

Yours truly,

Jason Bennett, CSLA
Senior Landscape Architect

APPENDIX E - STORMWATER MASTER PLAN



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2010-02-24 02:53PM By: bdorls

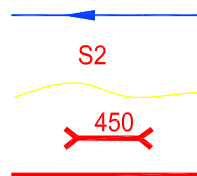
January, 2010
112848134

ORIGINAL SHEET - ANSI B



Stantec Consulting Ltd.
600-4808 Ross Street
Red Deer AB Canada
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Tel. 403.341.3320
Fax. 403.342.0969
www.stantec.com

Legend



FLOW DIRECTION
DRAINAGE DITCH
CATCHMENT ID
3.0m CONTOUR INTERVAL
CULVERT & DIAMETER (mm)
CATCHMENT BOUNDARY

Notes



Client/Project

**TOWN OF BENTLEY
STORMWATER MANAGEMENT PLAN
FOR BENTLEY ROADS PROGRAM**

Figure No.

1.1

Title

EXISTING DRAINAGE PATTERNS