

# Agenda

## ENERGY AND INFRASTRUCTURE COMMITTEE MEETING

Thursday, June 15, 2023

4:30 PM

City Hall, Boardroom 2-1

MS Teams: [Click here to join the meeting](#)

The *Municipal Government Act* (MGA) states all meetings are public unless the [Freedom of Information and Protection of Privacy Act](#) (FOIP) applies.  
See applicable references below.

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### 1. MANAGING DIRECTOR'S SERVICE AREA UPDATE - VERBAL

*Standing Item*

Information

Notes:

Managing Director topics of interest include spring/summer operations, recent rain event, Transportation Master Plan update, Active Transportation and Transportation Safety Plan Development, Airport matters, MHS-11 Substation, Project Clear Horizon, and WTP Residuals Handling Facility.

### 2. SAAMIS HEIGHTS SPECIAL-USE ACCESS/EGRESS CONSTRUCTION BUDGET AMENDMENT

*The Administrative Committee supported the recommendation - May 31, 2023*

Adoption

Notes:

A presentation will be provided.

### 3. ESTABLISHMENT OF 200AMP ELECTRIC SERVICES STANDARD IN NEW GREENFIELD SUBDIVISION DEVELOPMENT

*The Administrative Committee supported the recommendation - May 31, 2023*

Adoption

Notes:

### 4. COMMITTEE OUTSTANDING ITEMS

*Standing Item*

Information

Notes:

**5. MOTION TO CLOSE MEETING TO THE PUBLIC**

**Notes:**

**In Camera:**

**Managing Director's Service Area Update - Verbal (s.24 advice from officials)**

**Committee Outstanding Items (s.24 advice from officials)**

**Adjournment**

# BRIEFING NOTE

DECISION

## SAAMIS HEIGHTS SPECIAL-USE ACCESS/EGRESS CONSTRUCTION BUDGET AMENDMENT

MAY 31, 2023

### ISSUE:

Budget amendment needed to construct a special-use access/egress in Saamis Heights for public use, only during emergencies and at times when use of the Sierra Boulevard SW/South Ridge Drive SW intersection (primary access) is limited.

### RECOMMENDATION:

It is recommended through the Administrative Committee and the Energy and Infrastructure Committee that City Council approves:

- Expanding the current emergency vehicle only access to allow for two-way public traffic only during emergencies and when use of the primary access is limited.
- A 2023 Tangible Capital Asset budget amendment for \$250,000 for the Saamis Heights Special Use Access Construction Project.

### COUNCIL STRATEGIC PRIORITY:

Community Wellness

Construction of the road would provide the Saamis Heights community with an additional access/egress during situations when use of the Sierra Boulevard SW/South Ridge Drive SW intersection became limited or fully closed to traffic. It would also provide an additional egress point in the event the community had to be evacuated due to emergency events such as wildfire encroachment.

### KEY RISKS:

#### Health, Safety and Environmental Impact:

N/A

#### Financial Impact:

Funding Request:	Yes	If yes, amount: \$250,000
Budgeted Item:	No	Funding Source: Government Grant
Funding Explanation:	Canada Community Building Fund will be used to fund this capital project	
Budget Amendment Form?	Yes	

Construction of the road will require ongoing maintenance (e.g. snow clearing) to be managed through the City Assets Surface current operating budget.

#### Legal / Policy Impact:

There is minimal legal/policy impact associated with the recommended option given that the alignment is an expansion of an existing emergency access route.

#### Public Implications:

In the past, the City has received requests from the public for a second access/egress into the Saamis Heights community. Although the current capacity of the Sierra Boulevard SW access/egress meets the required standard for the traffic volume generated by the area, a second public access/egress would offer an improved level of service and enhanced safety when use of the primary access is limited. Construction of the access along alignments other than the recommended option may result in resident/property owner dissatisfaction and/or delays associated with acquiring required property.

## **BACKGROUND:**

### History

Development of the Saamis Heights community was initially identified in the 1990's, with the Area Structure Plan approved in 1999. At that time, the transportation network identified that Sierra Boulevard SW would be the main collector road through Saamis Heights, continuing into the privately owned lands to the south, now known as the Cimarron lands, on which future development was planned. To date, limited development has occurred on the Cimarron lands, and no extension to Sierra Boulevard SW has moved forward.

Given that development has been slow to proceed in the Cimarron area, the primary vehicle access/egress for Saamis Heights remains at the Sierra Boulevard SW/South Ridge Drive SW intersection. A second, single lane access currently exists off South Ridge Drive SW along the south edge of Saamis Heights (existing multi-use trail) and is intended for emergency vehicle use only, in the event that the primary entrance into Saamis Heights is not accessible. Of note, there is no record of the existing emergency access ever being used during an emergency situation.

### Alignment Options Evaluation

Over 2021/22, City staff (including two Technical Coordinating Committee circulations) were asked to evaluate various route options for a second access/egress for public use as illustrated in Attachment #1 and outlined below.

- Option 1 - Expand the current emergency vehicle only route to allow two-way public traffic.
- Option 2 - Construct a two-way road from the Sierra Boulevard SW cul-de-sac to South Ridge Drive SW.
- Option 3 - Construct a two-way road from the Sierra Boulevard SW cul-de-sac south through the Cimarron lands. The road could either be extended directly south to South Boundary Road SW or turn eastward and intersect South Ridge Drive SW.
- Option 4 - Use the existing single lane emergency vehicle only access for public vehicles, and not expand to a new two-lane road (i.e. Option 1).
- Option 5 - Use the existing single lane emergency vehicle only access for public vehicles to enter Saamis Heights and use the existing multi-use trail towards Coulee Ridge for public vehicles to egress Saamis Heights.

The evaluation included a risk assessment and cost benefit analysis with respect to land acquisition requirements, construction constraints/cost comparisons, existing Saamis Heights resident impacts, future planning implications (Cimarron area), and operational efficiencies during emergency situations, as well as timing of when construction could be completed.

The evaluation also considered the viability of the new access being used by the public full time or during times when the primary access was limited. However, using the routes shown in Options 1, 2, 4 and 5 for full time public use is not recommended as there is a high risk of adjacent resident opposition and potential legal challenges may result if these routes were used as a permanent public-use road. These routes were never contemplated as major traffic routes during the Saamis Heights planning process and may negatively impact private properties in the area. Conversely, the risk is considered low if these option routes are used on a limited basis only.

In addition, the City engaged a third party to run computer simulations that assessed public response during an emergency situation where limited community access/egress was present. The simulation used artificial intelligence (AI) to consider typical public behaviors/responses with respect to the identified route options during various emergency scenarios, ranking each identified route option.

### Discussion/Recommendation

Option 1 (expand the current emergency vehicle only route to allow two-way public traffic) offers the shortest route, minimal construction constraints, no property acquisition requirements and has low construction costs (estimated \$250,000). This option would have some neighbourhood disruption resulting from construction; however, it is not anticipated to take an extended period of time and could be completed in 2023. Option 1 was also identified as the optimal route during the computer AI simulation exercise.



A potential risk with this option is that it would involve use of what may be considered a circuitous route for vehicles through the community, which may create public confusion during an emergency. However, this risk is considered low and manageable through extensive public education, installation of appropriate wayfinding signs, and development of a robust traffic management plan. City Assets and Fire & Emergency Services will collaborate in the development of the plan.

Based on the evaluation and computer simulation results, staff has identified Option 1, expanding the current emergency vehicle only route to allow two-way traffic, during limited times as the preferred/recommended option. This option requires a new 2023 Tangible Capital Asset Budget amendment for \$250,000.

Of note, roads are generally the responsibility of the land developer to construct before being dedicated to the City to own, operate, and maintain. The current proposal is for the City to take responsibility for the construction of this access/egress because the City of Medicine Hat was the developer of Saamis Heights, and the second access was not a requirement at the time the development occurred.

It is also important to note that at the time of Saamis Heights Area Structure Plan approval, the existing public access was considered sufficient for the size and intensity of development proposed, and no secondary public access was required. Had Saamis Heights been developed today, a second public access would be required. Saamis Heights is considered legally non-conforming in this respect and thus there is no requirement to construct a fully public secondary access to the community. The proposed special use access is intended to improve service levels and enhance safety in the area until such time as the Cimarron lands are developed and a permanent second public access/egress to Saamis Heights is constructed.

#### **OPTIONS CONSIDERED & POTENTIAL IMPLICATIONS:**

- Construct a two-way road from the Sierra Boulevard SW cul-de-sac to South Ridge Drive SW (Option 2) - This option is not recommended based on the higher construction costs (approximately \$700,000) and potential constructability issues (e.g. utilities and drainage). Depending on the potential issues identified during a design phase, this option may not be completed until 2024.
- Construct a two-way road from the Sierra Boulevard SW cul-de-sac south through the Cimarron lands (Option 3) - This option is not recommended due to the significant costs, estimated to be multiple millions of dollars. This option also presents the most challenges as it requires land acquisition which may be costly and time consuming. In addition, significant utility issues exist (e.g. installing utilities that may not be used for some time) and potential conflicts for future development of the Cimarron area, given that future plans for the area are not presently known.
- Use the existing single lane emergency vehicle only access for public vehicles, and not expand to a new two-lane road (Option 4) - This option is not recommended as there are significant risks with managing two-way public traffic through a single lane. Any blockage of the route (e.g. vehicle breakdown) would pose substantial challenges with vehicle movements, including emergency vehicles trying to attend emergencies.
- Use the existing single lane emergency vehicle only access for public vehicles to enter Saamis Heights and use the existing multi-use trail towards Coulee Ridge for public vehicles to egress Saamis Heights (Option 5) - This option is not recommended as there are significant risks with managing public traffic through single lanes. Any blockage of the route (e.g. vehicle breakdown) would pose substantial challenges with vehicle movements, including emergency vehicles trying to attend emergencies. Also, the multi-use trail to Coulee Ridge has potential terrain issues going through the coulee.

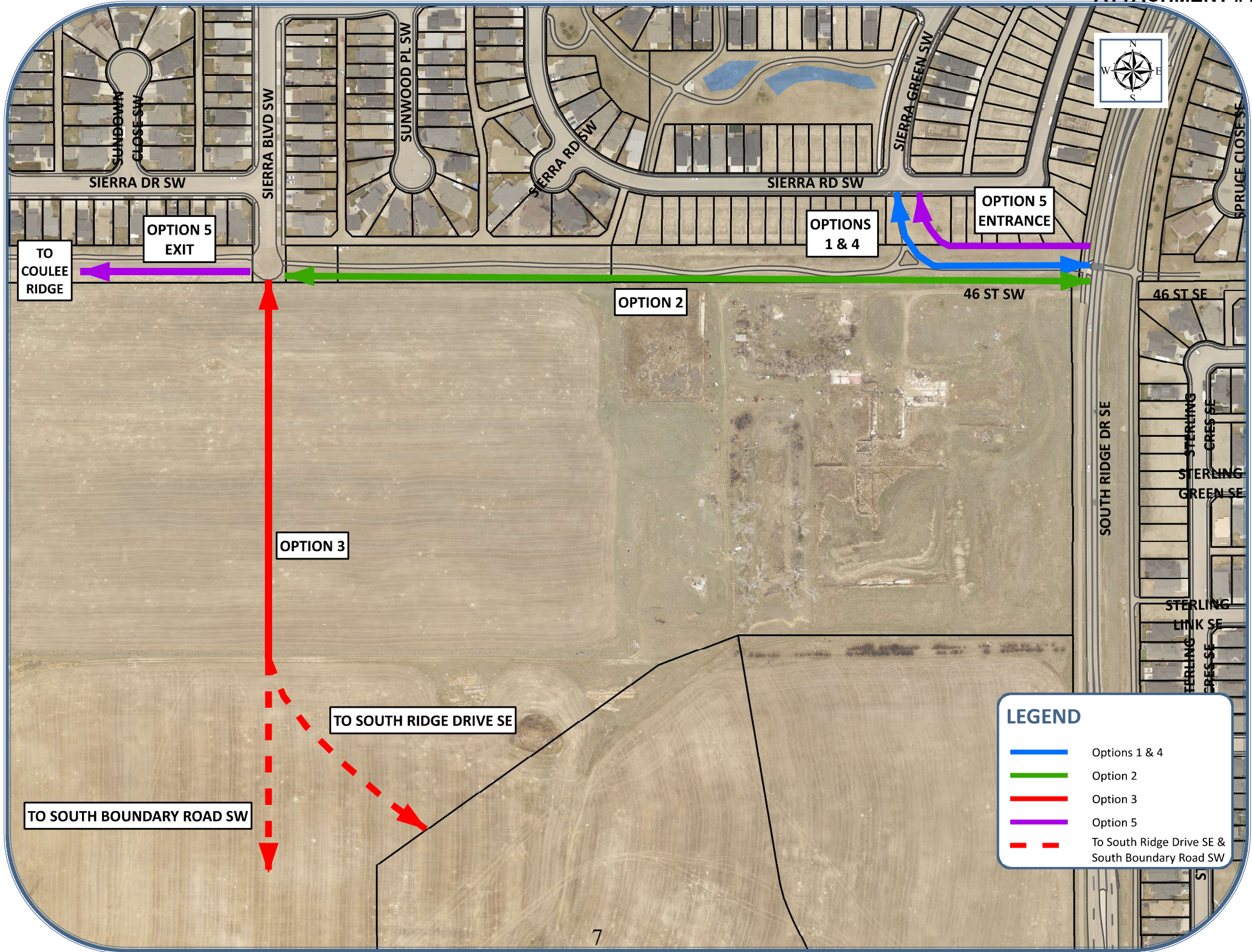
**IMPLEMENTATION PLAN:**

Subject to Council approval, the following plan will be implemented:

1. Complete engineering design and tender construction (Q2/3 2023)
2. Development of a Community Awareness Plan and Traffic Management Plan (Q2/3 2023)
3. Complete construction (Q3 2023)
4. Community Awareness Plan to be shared with residents near construction completion (Q3 2023)
5. A portion of the Canada Community Building Fund will be committed internally. If the Canadian Community Building Fund grant application is not approved by Municipal Affairs, City Assets will work with Treasury to identify an alternative source of funding and request a reallocation of funding by the City Manager.

<b>PREPARED BY &amp; DATE:</b>	Stan Nowakowski, P.Eng. Manager of Engineering – City Assets	May 26, 2023
<b>REVIEWED BY &amp; DATE:</b>	Pat Bohan Director – City Assets  Chad Eakins Fire Chief – Fire & Emergency Services  Kristen Young Supervisor – Accounting  Brian Stauth Managing Director, Public Services Division  Dennis Egert Managing Director, Corporate Services Division	
<b>APPROVED BY &amp; DATE:</b>	Brad Maynes Managing Director, Energy & Infrastructure Division	
<b>ATTACHMENTS:</b>	#1: Saamis Heights Access Route Options #2: Tangible Capital Asset Budget Amendment Form #3: Saamis Heights Special-Use Access Presentation	







**MUNICIPAL SERVICES**  
**Tangible Capital Asset and Operating Budget Amendment**

**ATTACHMENT #2**

Amendment Description: Saamis Heights Special-Use Access Construction  
TCA Location: Medicine Hat  
Expected Life: 25 Is this a new TCA? Yes  
If Not a new TCA, Indicate Betterment Type: 4

Dennis Egert  
Dennis Egert (May 26, 2023 10:49 MDT)

May 26, 2023

For Use by Finance Only
Reviewed By:
T Regehr
Review Date:
2023.05.10
Corporate Services Managing Director

1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality; 5. Replacement

Amended Capital Budget	2023	2024
Original Budget Amount:		
Amended Increase (Decrease):		
Saamis Heights Special-Use Access	250,000	
<b>Total Budget</b>	<b>250,000</b>	<b>-</b>
Capital Financing Source(s)		
for Amendment Amount		
Original Source & Amount		
Amended Source & Amount		
Increase (Decrease):		
Canada Community Building Fund Grant	250,000	
New Financing Arrangement		
Term:		
Interest Rate:		

Amended Operating Budget	2023	2024	When Project is Fully Operational
Expenses:			
Salaries & Benefits			
Other Costs			
Interest			
Amortization		5,000	10,000
<b>Total Expenses</b>	<b>0</b>	<b>5,000</b>	<b>10,000</b>
Manpower Impact:			
PEP			
FTE			
Funding (eg. Third Party):			
Internal Loan - Repayable			
<b>Total Funding</b>	<b>0</b>	<b>-</b>	<b>-</b>
<b>Net Operating Change</b>	<b>0</b>	<b>5,000</b>	<b>10,000</b>
Cash Flow:			
Less Amortization	-	(5,000)	(10,000)
Principal Repayment	-		
<b>Net Cash Requirement</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

# Saamis Heights Special-Use Access

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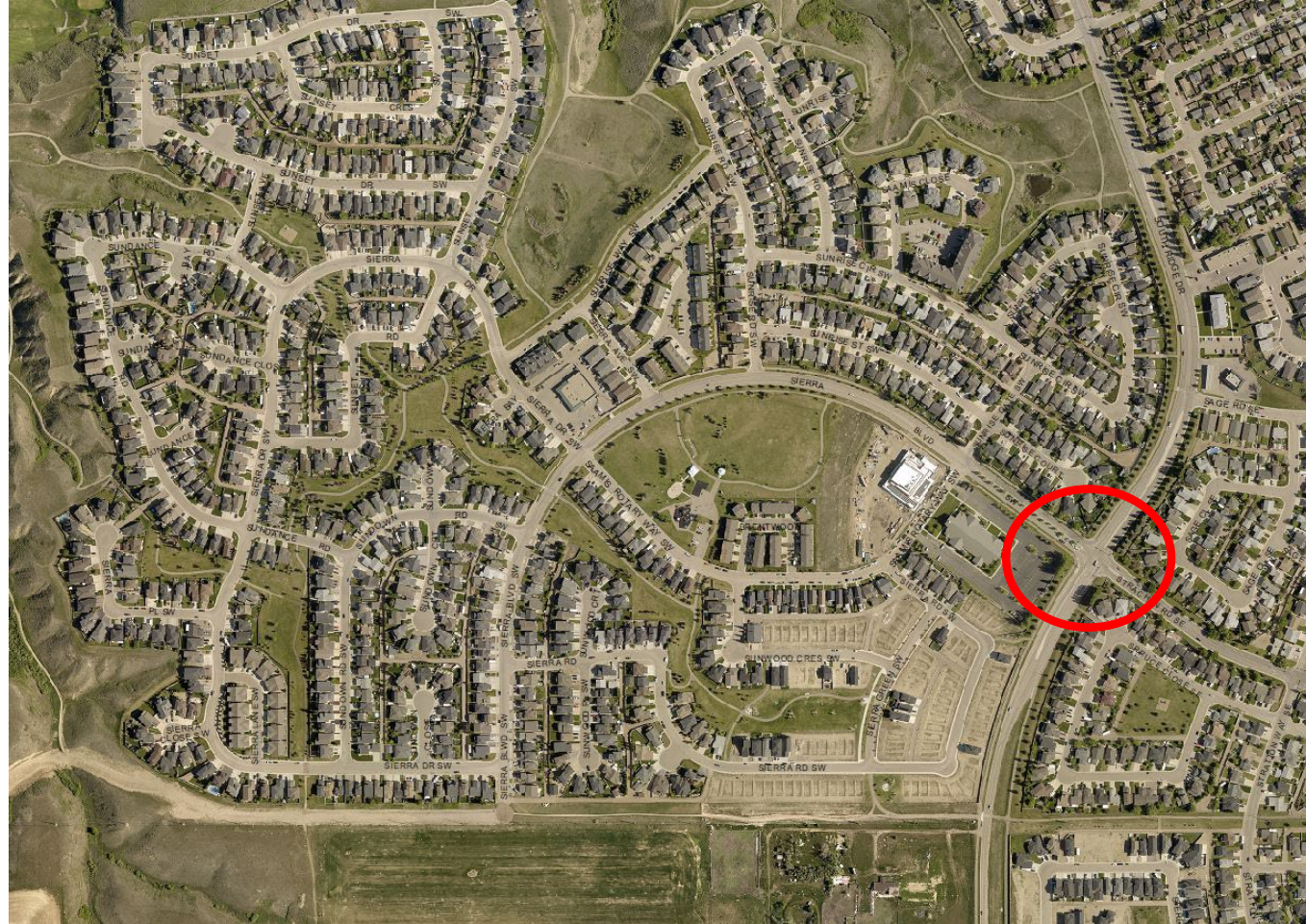
Construction Project Tangible Capital Asset  
Budget Amendment





# Background

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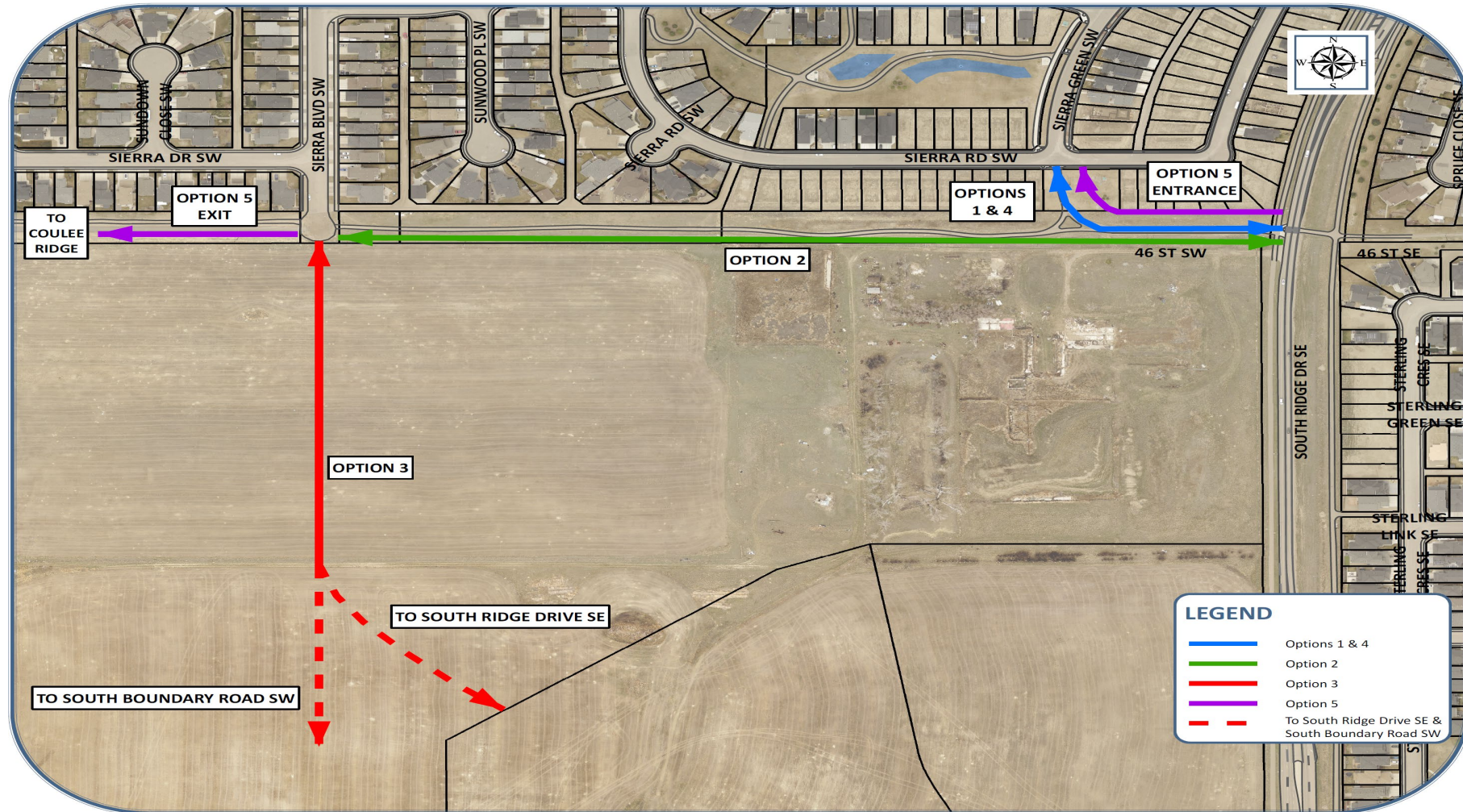


# Background



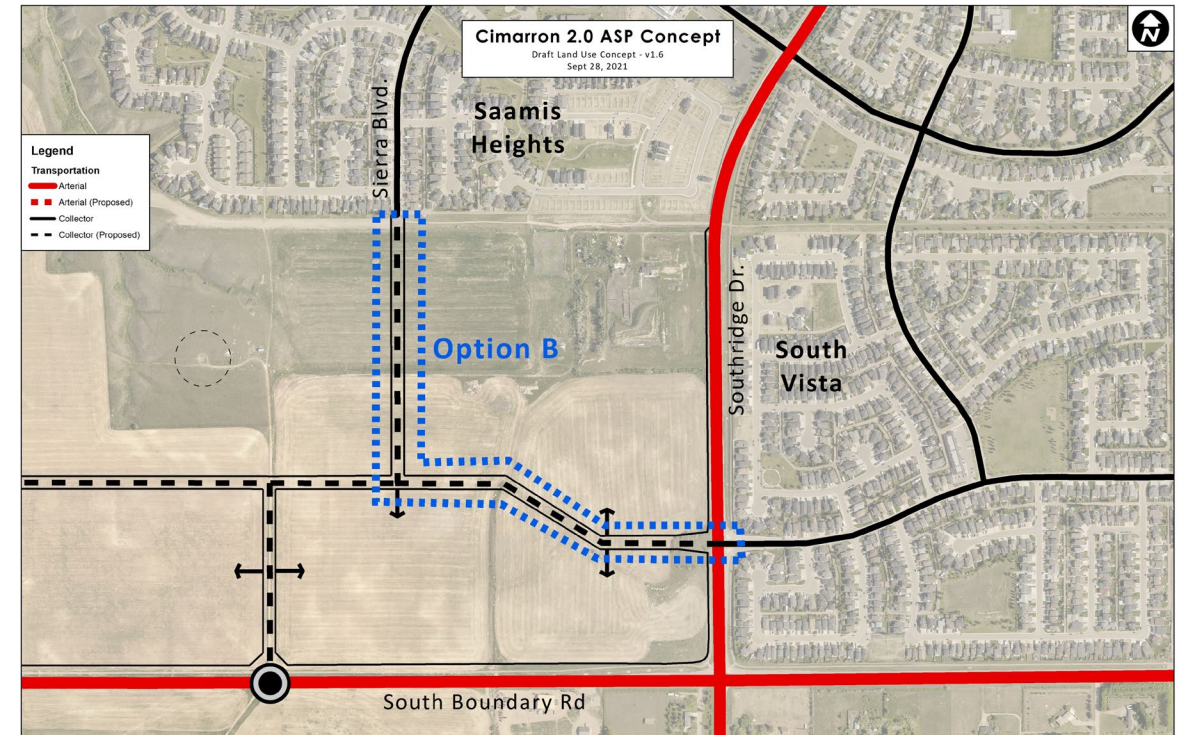
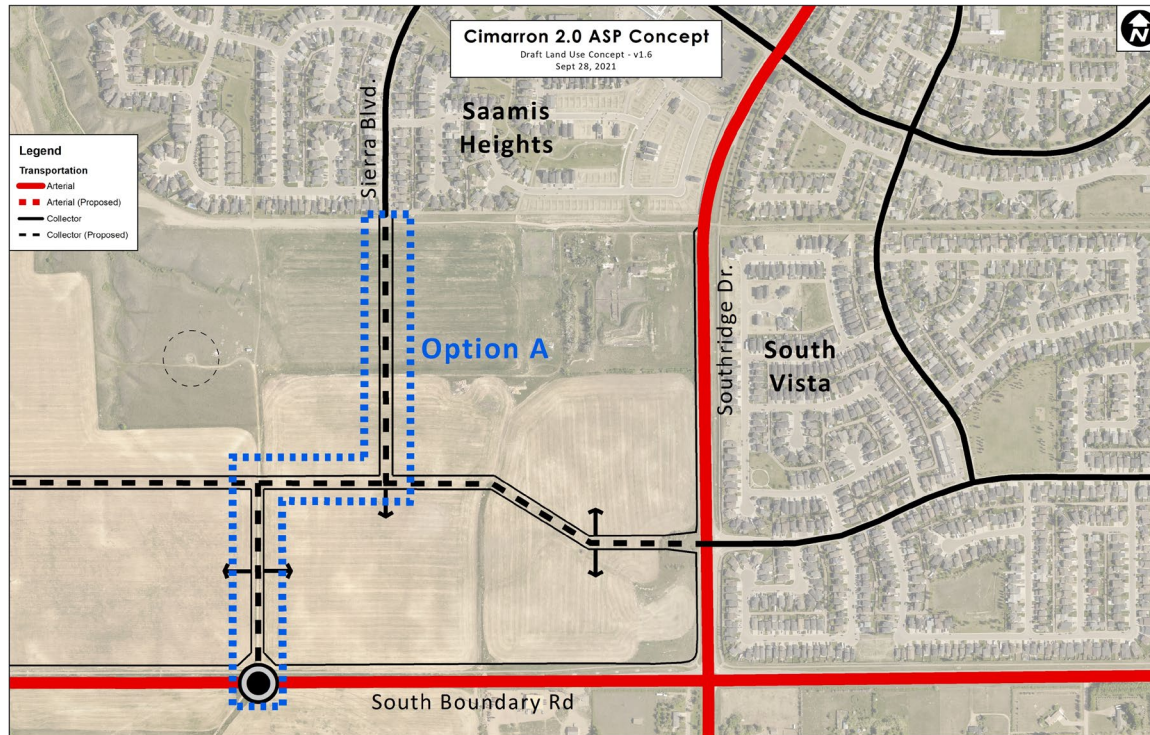


# Options Reviewed





# Options Reviewed (Option 3 Details)



# Options Reviewed

	Pros	Cons
<b>Option 1</b>	<ul style="list-style-type: none"> <li>- Shortest Route/Low Costs</li> <li>- 2023 Completion</li> <li>- No Land Acquisition</li> </ul>	<ul style="list-style-type: none"> <li>- Circuitous Route (Manageable)</li> <li>- South Ridge Drive Access</li> </ul>
<b>Option 2</b>	<ul style="list-style-type: none"> <li>- Sierra BV Connection</li> <li>- No Land Acquisition</li> </ul>	<ul style="list-style-type: none"> <li>- Longer Route/Higher Costs</li> <li>- Potential Homeowner Opposition</li> <li>- Potential Utility Conflicts</li> <li>- 2023 Completion?</li> <li>- South Ridge Drive Access</li> </ul>
<b>Option 3</b>	<ul style="list-style-type: none"> <li>- Sierra BV Connection</li> <li>- Fewer Utility Conflicts</li> </ul>	<ul style="list-style-type: none"> <li>- Longest Route/Highest Costs</li> <li>- Land Acquisition</li> <li>- ASP Conflicts</li> </ul>
<b>Option 4</b>	<ul style="list-style-type: none"> <li>- Shortest Route/Minimal Construction/Lowest Costs</li> <li>- 2023 Completion</li> <li>- No Land Acquisition</li> </ul>	<ul style="list-style-type: none"> <li>- Traffic Management Risk</li> <li>- South Ridge Drive Access</li> </ul>
<b>Option 5</b>	<ul style="list-style-type: none"> <li>- Sierra BV Connection</li> <li>- 2023 Completion</li> <li>- No Land Acquisition</li> </ul>	<ul style="list-style-type: none"> <li>- Traffic Management Risk</li> <li>- South Ridge Drive Access</li> <li>- Cost may be high to improve trails</li> </ul>



# Recommendation



# BRIEFING NOTE

DECISION

## ESTABLISHMENT OF 200AMP ELECTRIC SERVICES STANDARD IN NEW GREENFIELD SUBDIVISION DEVELOPMENT

MAY 31, 2023

### ISSUE:

Local customer demand for increased electrical capacity in new single family home development is evolving. City Operations (Electric Distribution) seeks endorsement to alter the minimum service size standard in all new greenfield subdivisions reflective of this observed changing consumer demand.

### RECOMMENDATION:

It is recommended through the Administrative Committee and the Energy and Infrastructure Committee that City Council approves altering the minimum electrical service size engineering standard, available within the City of Medicine Hat franchise territory, for all new greenfield residential subdivisions from the existing 100 amp minimum service to 200 amp minimum services effective July 1, 2023.

Applicable alterations to Administration's Utility Capital Investment Procedure will occur reflective of City Council's direction.

### COUNCIL STRATEGIC PRIORITY:

Partnerships & Governance

Increasing electric capacity in greenfield subdivision development aligns with national industry association, Electricity Canada, strategies to support electrification which better serve consumer's behind-the-meter energy needs. This national industry association strategy specifically aligns closely with the Canadian 2022 – 2026 Federal Sustainable Development Strategy.

### KEY RISKS:

#### Health, Safety and Environmental Impact:

N/A

#### Financial Impact:

Funding Request:	No	If yes, amount: N/A
Budgeted Item:	No	Funding Source: Debenture/Third Party Funding
Funding Explanation:	Capital costs will be shared between the City as Debenture and the Developer as Third-Party Funding. Funding requests for Greenfield developments will be made after developers request to City Operations for shallow utility system extensions and capital investment funding amounts have been determined.	
Budget Amendment Form?	No	

The average incremental cost increase, per greenfield single family residential subdivision lot, for a 200 amp electrical service versus installing a 100 amp service is approximately \$580.

The amount of utility investment for a greenfield subdivision, as per the established Utility Capital Investment Procedure, is based on the number of lots developed with a maximum utility investment level of \$3,400 per lot for 200 amp service developments. The previous maximum investment was \$3,000 per lot for the 100 amp service developments.

#### Legal / Policy Impact:

N/A

#### Public Implications:

Altering the minimum electrical service standard to a 200 amp service in greenfield subdivision developments ensures the customer who purchases the lot will be able to incorporate their evolving consumer expectations into their residence without incurring additional electric service upgrades post home construction. Construction of 200 amp residential lots at the greenfield subdivision stage saves individual residential property owners additional upgrade costs, from 100 to 200 amp, post home



construction on average \$2,800 per installation with ranges in costs between \$754.72 to \$13,613.54 depending on site conditions.

Between 2020 to April 2023 the Utility received one hundred and one (101) enquiries for 200 amp electrical service upgrades to existing infill properties. This frequency of enquiry is increasing with forty-five (45) enquiries having been received between October 2022 to April 2023. Of those total enquiries, twenty-two (22) customers proceeded with the upgrade for the following types of activities:

- Eleven (11) house renovations
- One (1) pool installation
- One (1) detached garage installation
- Four (4) hot tub Installations
- Two (2) electric vehicle chargers
- One (1) solar installation
- Two (2) unspecified

## **BACKGROUND:**

City Council endorsed a motion on September 6, 2022, directing that *“Administration develop a plan for the upcoming capital budget cycle that would formalize the cost and payment structures for transitioning to higher amperage service for all properties in order to keep up with the provincial and federal push for electric vehicles (electrification)”*. There are two distinct circumstances which may require the installation of 200 amp services: new greenfield subdivision development and brownfield infill/property upgrades. This briefing note specifically addresses the background and recommendations for electrification transitioning in new greenfield subdivision development. Brownfield electrification transitioning will be addressed in a separate briefing note as the background and resulting recommendations vary from greenfield.

As part of the global energy transition consumer demand in residential development is shifting towards higher electrification of their energy needs. Modern examples can be seen through increasing prevalence of employing electricity as the primary energy source in personal transportation, home heating, distributed generation, more and increasingly complex technological improvements to various residential appliances. This ongoing evolution of consumer expectations is impacting infrastructure design in new subdivision developments. Therefore, City Operations (Electric Distribution) practices a model of continuous improvement in our engineering standards in support of observed changes to consumer expectations. The alteration of minimum electrical services installed in new greenfield residential subdivisions is an example of that continuous improvement cycle.

Administration’s Utility Capital Investment Procedure (attached) details the methodology used to employ City Council direction; the Shallow Utility Investment Model approved by City Council on August 2, 2016. The methodology balances the City’s financial stability while promoting the expansion of the tax base through the sharing of capital investment between subdivision developers and the City Utility. The capital cost to the City forms part of the utilities distribution tariffs (rates) allocated to customers. The investment methodology in the procedure is based on a revenue model which projects anticipated capital returns on investment within the first ten years of a new residential greenfield subdivision development, based on the number of individual services and the individual service sizes.

Between years 2016 to 2020, approximately one hundred (100) residential lots have been constructed by subdivision developers all of which had 100 amp electrical services installed as per the existing Electrical Utility engineering standard. There are currently one hundred sixty (160) known vacant single family lots within the City that are serviced with 100 amp electrical services. In 2020 a third-party developer requested their proposed forty-six (46) lot subdivision development be serviced with 200 amp electrical services, instead of 100 amp, due to anticipated customer demand. Since that initial request in 2020 all subsequent subdivision developers have made similar requests. There are currently an additional one hundred and forty (140) greenfield subdivision lots in the que for construction in 2023 and 2024 all of which will have 200 amp electrical services at the specific request of the subdivision developers. There are no known, new single family residential subdivision lots in the que for construction with 100 amp electrical services as per specific design requests by the applicable subdivision developer.

The residential subdivision developer's preference of 200 amp electrical services for greenfield residential lots is echoed by the Medicine Hat local home builders association, BILD, through consultation with the Utility discussing BILD's observed expectations from their clientele. In addition to consultation with the Utility, BILD petitioned the Alberta Safety Codes Council in 2022 to consider mandating all new residential services be a minimum of 200 amp throughout the province of Alberta. The Alberta Safety Codes Council declined to take up the petition citing that establishing electrical servicing standards are within the authority of the "authorities having jurisdiction". Within the City of Medicine Hat electrical franchise territory, the City of Medicine Hat Electric Utility has been specifically named to be the "authority having jurisdiction"; authority granted by Alberta Municipal Affairs. In addition to the decision from the Alberta Safety Codes Council, the Alberta Utilities Commission (AUC) recently ruled, in decision 26649-D02-2022, that the "authority having jurisdiction" has the authority to decide electrical design standards as per the Alberta *Electric Utilities Act*. In this specific AUC decision, a subdivision developer initiated a statement of claim within the Fortis designated franchise territory. The subdivision developer was seeking electrical services of a lesser standard than the engineering standards established by Fortis. The subdivision developer was unsuccessful in their claim to the AUC.

#### **OPTIONS CONSIDERED & POTENTIAL IMPLICATIONS:**

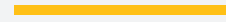
- Option 1: Status Quo - not recommended as 100 amp services no longer meet consumer expectations in new single family housing developments as observed by requests from subdivision developers and BILD.
- Option 2: Set new residential electrical services to a minimum of 200 amp in greenfield subdivisions with no additional funding mechanism in Administration's Utility Capital Investment Procedure - not recommended as it does not align with the Shallow Utility Investment Model approved by City Council on August 2, 2016.

#### **IMPLEMENTATION PLAN:**

- Accept changes to Administration's Utility Capital Investment Procedure.
- Amend City Operations (Electric Distribution) engineering standards to set 200 amp as the minimum electric service size in low density residential greenfield subdivision development.
- Communicate changes via updates to City of Medicine Hat web materials and through ongoing communication with subdivision developers, home builders, and applicable sub-contractors.

<b>PREPARED BY &amp; DATE:</b>	Christy Garland Engineering Manager, City Operations	May 25, 2023
<b>REVIEWED BY &amp; DATE:</b>	Grayson Mauch Director, City Operations	
<b>APPROVED BY &amp; DATE:</b>	Brad Maynes Managing Director, Energy & Infrastructure Division	
<b>ATTACHMENTS:</b>	#1: City of Medicine Hat Utility Distribution Systems Capital Investment Procedure 2023 #2: Current Inventory of Undeveloped Single Family Lots with 100 Amp Electrical Service	

# Utility Distribution Systems



Capital Investment Procedure - 2023

City Operations  
May 2023

**Document Purpose:**

The purpose of this document is:

- To describe the procedure of the City of Medicine Hat Utility Distribution Systems Department (utility) for investing in gas and electric distribution system assets.
- To capture and clarify rules and guidelines for administering the investment procedure.

**Definitions:**

*Connected Load:* energy requirements when all connected systems and equipment are operating simultaneously.

*Customer Contribution:* charges for customer related requested new or expanded distribution facilities less utility investment.

*Customer Related:* facilities dedicated to serve one or a small number of customers. This usually means all servicing on private property but may also mean any costs incurred off of the private property that cannot be considered system related.

*Infill Development:* refers to developments in mature areas. These connections are considered a special service request and will be reviewed on a case-by-case basis.

*Investment:* refers to the utility capital investment in new or expanded distribution system assets entitling the utility to a rate of return.

*Metered connection/or service connection:* a service connection with a unique site ID and a City of Medicine Hat gas and/or electric meter provided for billing purposes.

*Commercial Connection:* are gas service connections that are outside utility standards contained in the Terms and Conditions. They may also require dedicated off-site facilities.

*Non-Standard Connection:* are electric service connections that are outside utility standards contained in the Terms and Conditions. A service connection is non-standard if it requires dedicated off-site facilities.

*Net Utility Cost (NUC):* NUC is equal to the total estimated costs subject to utility investment. NUC includes sharable system related costs net of any amounts recovered from joint construction.

*Off-Site Costs:* system related facilities that cannot be used to provide for other service connections or will not be required or available for other service connections within the next five years. This does not include facilities on the customer's property. It applies to upgrades or additions to the system that will only benefit the specific customer.

*On-Site Costs:* all on-site costs net of joint construction recovery and excluding any secondary costs.

*Electric Secondary Costs:* all costs downstream of transformation are the responsibility of the customer. Costs to the utility to install these facilities are included in estimates as a customer contribution requirement.

*System Related:* facilities required to provide service to multiple end-users. The utility invests in shared system related costs. System related are deemed to be dedicated (excluded from NUC) if the system related facilities cannot be used to provide for other service connections, or in the view of the utility will not be required or available for other service connections within the next five years.



## **Procedure Summary**

- The utility will not unfairly burden its ratepayers due to excess costs of special service requests required by one customer or a small group of customers.
- The level of utility investment is estimated before construction begins.
- Where the total cost of the installed system related facilities exceeds the utility investment threshold, the applicant is required to contribute equal to the total cost less utility investment.
- Prior to construction of the utility system for the customer, the utility requires a Distribution Installation Agreement between the customer and utility.

## **Procedure for Development Considerations**

- For distribution system installations within designated residential subdivision development areas, the utility invests up to a maximum of the standard amount per metering point outlined in Schedule A.
- Installed on-site servicing costs do not include the cost of secondary facilities on private property.
- For individual electric service connections, the customer invests the cost of the transformer.
- For distribution system installations outside of residential subdivision development the utility will invest in the cost to provide system related distribution facilities where those facilities will be used to provide other service connections within five years of the in-service date of the distribution facility.
- Where an applicant provides a contribution toward dedicated off-site facilities which, within the next five years, subsequently are used to provide for other service connections, all or a portion of the contribution may be refunded to the applicant.

## UTILITY DISTRIBUTION SYSTEMS CAPITAL INVESTMENT

This framework establishes the basis on which the utility invests in capital to extend or expand system related facilities to service gas and electric distribution customers within the City of Medicine Hat service territory.

### Capital Investment Basis

- Principally the utility assumes the cost of all standard new facilities and facilities upgraded to meet capacity requirements or system integrity planning; forming the basis for a return on equity.
- Investment in capital and the cost of that capital form part of the utilities distribution tariffs (rates) allocated to customers over the life of the capital assets based on the cost to serve each customer class.
- To manage system related investment risk, the utility limits its liability by establishing a maximum investment threshold based on the cost of standard system related costs. Costs incurred for special service requests beyond the established thresholds are the responsibility of the customer (customer contribution).
- Contributions and obligations of applicants are outlined within an agreement between the utility and the applicant: the Distribution Installation Agreement.
- The capital investment provides the basis on which investment and contributions may be altered because of subsequent changes in the servicing requirements of customers.
- The utility *does not* invest in any street lighting infrastructure including the service wire to the facility or meter base. The developer is required to provide the full customer contribution prior to the installation of any street lighting facilities

### General Provisions

- Investments and contributions required under this framework are on a go-forward basis and apply only to new or upgraded distribution servicing which occurs on and after January 1, 2017; they do not apply retroactively.
- For system requests, the utility estimates the cost of the connection, the applicable investment and any expected net customer contribution and forms part of the Distribution Installation Agreement.
- The utility investment is applicable to all system extensions and connections which, in the judgment of the utility will be installed for a period of five or more years. Customer related and system related facilities provided for a period of less than five years are viewed as temporary.
- System Connection Investment Proposals shall be in writing and form part of the Distribution Installation Agreement.
- Where a customer contribution is required, the applicant is required to pay the utility all the customer contribution costs before servicing work begins.

- The final estimated system extension cost forms the basis for utility investment and customer contribution. However, the utility reserves the right to withhold all or a portion of its investment where the actual subsequent cost to provide service is beyond the original estimate and deemed reasonably outside its control.
- Where an applicant provides a contribution toward dedicated off-site facilities which, within the next five years, subsequently are used to provide for other system connections, all or a portion of the contribution may be refunded to the applicant.

## **SERVICE EXTENSION**

The utility shall, in accordance with these Terms and Conditions, extend its distribution facilities for the purpose of providing permanent distribution service to a customer who qualifies for distribution service. The following investment and contribution conditions will apply:

- (a) The applicant shall pay to the utility the costs set out in Schedule B (the customer contribution) for the service connection from utility's distribution main to the meter on the applicant's premises ("service line").
- (b) Subject to clause (a), if the applicant's premises are situated in the City of Medicine Hat Distribution service territory, the utility shall, without charges other than those payable under the applicable Rate Schedule, extend its distribution system for the purpose of providing permanent distribution service to the applicant provided that the distribution service being requested by the applicant is a standard service as defined by these Terms and Conditions.
- (c) The utility does not invest in the installation of distribution facilities for unmetered services. The customer is required to provide the full customer contribution prior to the installation of any unmetered services.

## **SYSTEM EXTENSION**

The utility shall, in accordance with these Terms and Conditions, extend its distribution system for the purpose of providing permanent distribution facilities to a customer who qualifies for supply from the distribution system. The following investment and contribution conditions will apply:

- (a) If an applicant requests that the utility to extend the distribution system for the purpose of providing permanent facilities to two or more contiguous lots or parcels of land, the utility shall, in accordance with these Terms and Conditions, extend its distribution system as per the Distribution Installation Agreement.
- (b) If permanent distribution services are added to a system extension more than the original capital investment scenario within five years of such system being available, the utility shall, upon application by the customer, refund all or a portion of the original system extension cost.

## CHANGE IN SYSTEM REQUIREMENTS

### *Changes to Utility Service*

A Customer shall provide the utility reasonable written notice prior to any change in distribution service requirements, including any change in connected load to enable the utility to determine whether it can supply the revised service requirements without changes to the distribution system. The utility shall not be obligated to supply customers any load more than originally agreed to by the utility.

The customer shall not alter the distribution service.

If a change in a customer's connected load requires a change to the utility's distribution system, and that change solely benefits the customer that customer may be required to pay the utility's costs of such changes as outlined in Service Extension and System Extension above.

### *Relocation of Distribution System*

In any case in which the customer requests a relocation of any distribution system infrastructure (mains, poles, cables, service lines, regulators, transformers and meters, or meters), the customer requesting such relocation or installation may be required to pay the costs set out in Schedule B (or the full estimated cost). The customer is responsible to pay for the relocation in advance of the utility undertaking such work. The utility reserves the right, at its expense, to relocate distribution infrastructure or meters for operating convenience or system integrity.

## Schedule A – City of Medicine Hat Distribution On-Site Investment Threshold

### City of Medicine Hat Distribution Investment

The amount of utility investment for the applicant's specific facilities is contingent on the applicant's connected load and the Term of this Agreement. The utility investment will be no greater than the net present value of the revenue expected to be collected in the first 10 years of distribution service discounted at a rate equal to utility's weighted average costs of capital (WACC).

Revenue is defined as the revenue per customer as determined by the approved Gas Utility Bylaw and Electric Utility Bylaw rates for the corresponding rate classifications.

Contribution Threshold

Service Load (kVA)	Investment Basis		Maximum Investment
Lighting Services	N/A	No investment toward NUC	\$0
Under 5	N/A	No investment toward NUC for unmetered service connections	\$0
Subdivision	Per Electric Service	Per residential service connection	\$3,400 – 200A service
Subdivision	Per Gas Service	Per residential service connection	\$3,400

\* NUC: Net Utility Cost including on-site and off-site costs

## CURRENT INVENTORY OF UNDEVELOPED SINGLE-FAMILY LOTS WITH 100 AMP ELECTRICAL SERVICE

### Legend

Light Yellow = Developed Single Family

Dark Yellow = Developed 2 unit Attached Housing (Duplex)

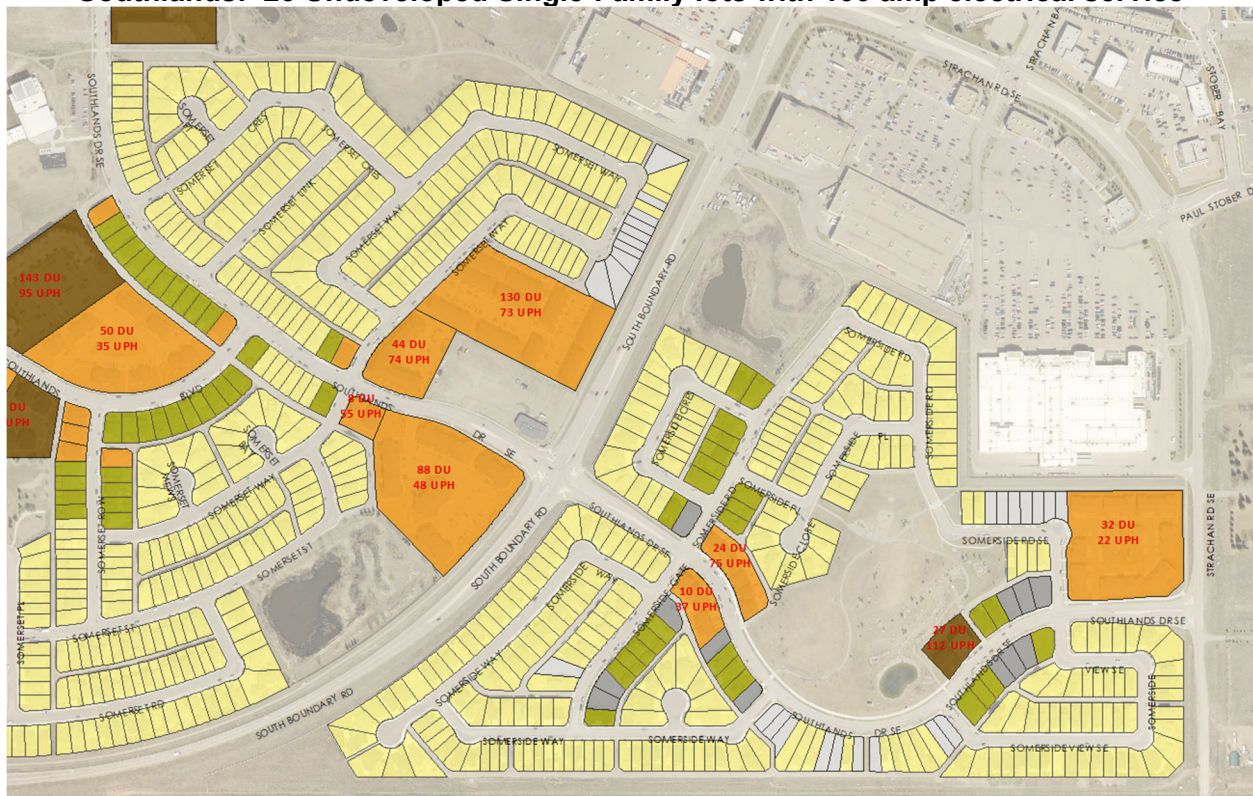
Orange = Fourplex/Townhouse/Rowhouse

Brown = Multi family (apartment)

**Light Grey = Undeveloped Single Family (160 in total)**

Dark Grey = Undeveloped 2 unit Attached Housing (Duplex)

### Southlands: 26 Undeveloped Single-Family lots with 100 amp electrical service





The map displays the South Vista subdivision, bounded by Southridge Dr to the north and South Boundary Rd SE to the south. The subdivision is characterized by a grid of streets and numerous lots. Key streets include Sterling Green, Stratton Way SE, Vista Close, and Vista Dr SE. The map also shows a large parking lot area on the right side, adjacent to a road labeled 8 and 17. The map is color-coded with yellow for lots and grey for roads.





**ENERGY & INFRASTRUCTURE STANDING COMMITTEE**

## OUTSTANDING ITEMS LIST

**June 15, 2023**

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