TOWN OF COCHRANE

BYLAW 09/2021

A bylaw of the Town of Cochrane in the Province of Alberta, Canada for the purpose of establishing Off-Site Levies.

WHEREAS: the *Municipal Government Act* provides that a council of a municipality may by bylaw provide for the imposition and payment of an off-site levy in respect of land that is to be developed or subdivided and authorize an agreement to be entered into in respect of the payment of such levy; and

WHEREAS: the Council of the Town of Cochrane deems it desirable to impose off-site levies for the purposes described in the *Municipal Government Act*; and

WHEREAS: the Council of the Town of Cochrane deems it desirable to authorize agreements to be entered into in respect of the payment of off-site levies; and

WHEREAS: the Town of Cochrane engaged the engineering firm of Urban Systems Ltd. to prepare a report in respect of the fair and equitable calculation of off-site levies for the purposes described in the *Municipal Government Act*, which information is attached as Schedule C to this Bylaw; and

WHEREAS: the Council has reviewed the report prepared by Urban Systems Ltd. and deems it desirable to impose off-site levies in accordance with such report.

NOW THEREFORE: The Council for the Town of Cochrane, duly assembled, hereby enacts as follows:

1. NAME OF BYLAW

1.1. This Bylaw may be cited as the "Off-Site Levy Bylaw".

2. INTERPRETATION

2.1. In this Bylaw:

a) **"Act"** means the *Municipal Government Act*, RSA 2000, c. M-26;

b) **"CAO"** means the Chief Administrative Officer of the Town, or that person's authorized delegate;

c) **"Community Purpose Lands"** means lands that are exempt from taxation pursuant to section 362(1)(b) of the Act;

d) **"Council"** means the municipal council of the Town of Cochrane;

e) **"Development Area"** means land that is to be developed or subdivided excepting:

   i. the area taken as environmental reserve or as an environmental reserve easement; and
   ii. the area taken as road right-of-way to the extent the road right-of-way width exceeds twenty-nine (29) metres;

f) **"Off-Site Levy"** means an off-site levy imposed by this Bylaw;

g) **"Redevelopment"** means subdivision or development on land that has previously been the subject of urban development, as determined by the CAO; and

h) **"Town"** means the municipal corporation of the Town of Cochrane or the geographical area within the municipal boundaries of the Town of Cochrane, as the context may require.

2.2. Any references in this Bylaw to any statutes are to those statutes as amended or replaced from time to time and any amendments thereto.

2.3. Whenever the singular or masculine form of a word is used in this Bylaw, it shall include the plural, feminine or neutral form of the word as the context so requires and vice versa.

2.4. The headings in this Bylaw do not form part of this Bylaw and shall not affect its interpretation.

2.5. The word "may" when used in this Bylaw shall be construed as permissive and empowering, and the word "shall" when used in this Bylaw shall be construed as imperative.

3. ADMINISTRATION AND ENFORCEMENT

3.1. Council hereby delegates to the CAO the authority to enforce and administer this Bylaw.

3.2. Without restricting subsection 3.1, where this Bylaw specifies that something is to be determined by the CAO or in the CAO's discretion, the CAO's decision shall be final.

4. ENACTMENT

4.1. Off-Site Levies are hereby imposed in respect of all land within the Town that is to be developed or subdivided against which off-site levies may be imposed in accordance with the Act.

5. AGREEMENTS

5.1. The Town may negotiate and enter into agreements with respect to the payment of Off-Site Levies.

5.2. Without restricting subsection 5.1, at the discretion of the CAO the Town may enter into agreements deferring the imposition of Off-Site Levies to future subdivision or development in the case of subdivision or development of Community Purpose Lands.

5.3. Without restricting subsection 5.1, at the discretion of the CAO the Town may enter into an agreement for the construction or payment for a project with excess capacity pursuant to section 651 of the Act. Such agreement may provide for the reimbursement of the cost incurred or payment made in respect of the excess capacity together with interest at the rate of prime plus 2%.

6. PAYMENT OF LEVIES

6.1. Except as otherwise expressly set out in this Bylaw, Off-Site Levies shall be payable in respect to the Development Area.

6.2. Off-Site Levies in respect of land that is subject to subdivision must be paid prior to the endorsement of the plan of subdivision.

6.3. Off-Site Levies in respect of land that is subject to development must be paid prior to the release of the development permit.

6.4. Notwithstanding clauses 6.2 and 6.3, if the CAO is satisfied that adequate security is provided for the payment of the Off-Site Levy, the Town may enter into an agreement whereby Off-Site Levies are paid as follows:

a) 40% (forty percent) of the Off-Site Levy shall be paid prior to the endorsement of the subdivision or the release of a development permit, as applicable; and

b) 60% (sixty percent) of the Off-Site Levy shall be paid within 1 (one) year of endorsement of the subdivision or release of the development permit, as applicable.

6.5 The Off-Site Levy rate payable in respect to the Development Area shall be the rate in effect on the date of endorsement of the plan of subdivision or the release of the development permit, as applicable.

7. REDEVELOPMENT

7.1. The Off-Site Levies in respect of Redevelopment shall be determined as follows, with reference to the methodology set out in Schedule C:

Redevelopment Levy Calculation = Off-Site Levy x Development Area x Incremental increase in intensity of development (as determined by the CAO)

8. DEFAULT OF PAYMENT

8.1. If a person fails, neglects or refuses to pay an Off-Site Levy, the Town may:

a) commence proceedings in court of competent jurisdiction for payment of the Off-Site Levy;

b) refuse to endorse a plan of subdivision or release a development permit; and

c) take any other steps available in law or equity for the failure, neglect or refusal to pay the Off-Site Levy.

9. OFF-SITE LEVY FUND

9.1. The CAO shall set up and maintain a separate fund for each grouping of facilities as provided in Schedule "B" in respect of which Off-Site Levies are paid.

9.2. Off-Site Levies shall be invested in accordance with the Town's investment policy in force from time to time.

10. DIVISION OF TOWN INTO AREAS

10.1. The Town is divided into 17 geographical areas as shown in Schedule "A", Map 1. Off-Site Levies will be imposed according to the geographical areas shown in Figure 1.

11. DETERMINATION OF THE LEVIES

11.1. Off-Site Levies for each of the geographical areas as shown in Schedule "A" shall be as shown in Schedule "B".

11.2. Notwithstanding section 11.1, Off-Site Levies in respect of Sanitary Collection Projects and Water Storage as identified in Schedule "B" will only be imposed against land if the subdivision or development's proposed servicing uses these facilities.

INFORMATION ON REQUEST

11.3. The Town shall disclose upon request the information the Town has relied upon in establishing the Off-Site Levies and the current Off-Site Levy fund balances.

12. YEARLY REPORT TO COUNCIL

12.1. No less than once in each calendar year, the CAO shall provide a report to Council, which report shall be publicly available, containing the information required in section 648.4(2) of the Act.

13. REVIEW

13.1. The calculation of the Off-Site Levies shall be reviewed no less than once every four (4) calendar years.

14. GENERAL PROVISIONS AND COMING INTO FORCE

14.1. If any term, clause or condition of this Bylaw or application thereof is found to be invalid or unenforceable, the remainder of this Bylaw or the application of such term, clause or condition shall not be affected and shall remain in force and effect.

14.2. Schedule "C" provides information on the approach and methods used to calculate off-site levies in this bylaw.

14.3. This Bylaw repeals Bylaw 07/2018 and any amendments thereto.

14.4. This Bylaw shall come into full force and effect upon the date of third and final reading.

Read a First Time June 28, 2021

Read a Second Time July 12, 2021

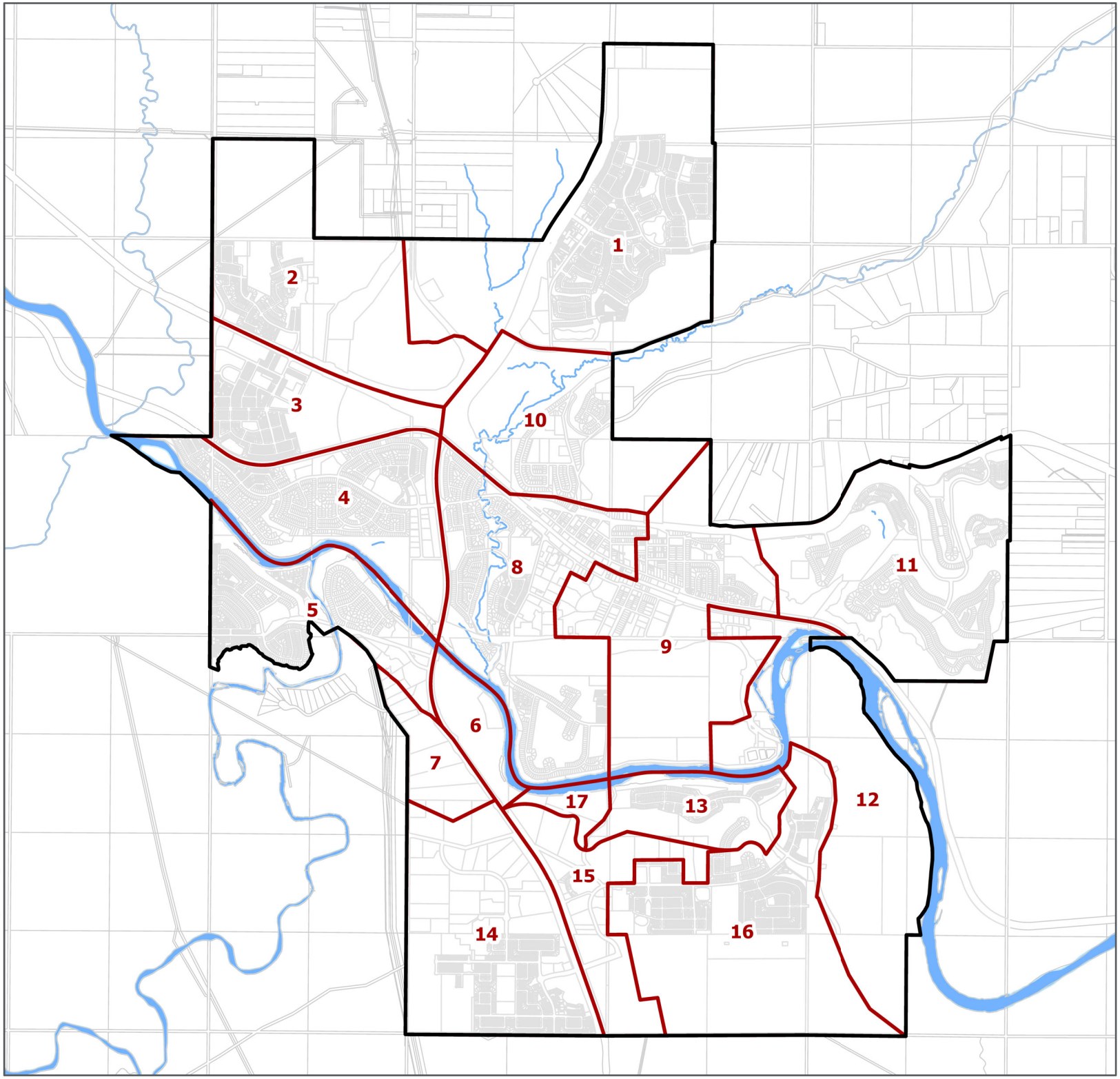
Read a Third Time July 12, 2021

Mayor

Manager, Legislative Services

Schedule A

MAP - DEVELOPMENT AREAS



cochrane
HOW THE WEST IS NOW

Town of Cochrane

Offsite Levies - 2021

Development Zones

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

0 200 400 600
Meters

N

Coordinate System:
NAD 1983 3TM 114

Scale:
1:42,500
(When plotted at 8.5"x11")

Project #:	1728.0249.04
Author:	JW
Checked:	KN
Status:	Review
Revision:	A
Date:	2021 / 5 / 13

URBAN systems

FIGURE 1

Schedule B

DETERMINATION OF THE LEVY

ALLOCATION OF OFF-SITE LEVIES TO DEVELOPMENT AREA (LEVY PER HECTARE)

The below table provides the levies by development area that will be effective as of the passing of the 2021 Bylaw. Every year (effective January 1) the levies shall increase by an inflation factor of 2% or as amended from time to time. The three-year horizons shown in the below table are for quick reference. The levies shall continue to inflate at the noted rate until such time as the Bylaw is updated and new rates are established.

Area	Sanitary Collection				Sanitary Disposal	Water Supply	Water Distribution	Water Storage		Transportation Off-Site	HWY Intersections				Police Station Facilities	Effective Until December 31, 2021	Effective Starting January 1, 2022	Effective Starting January 1, 2023
	Project SC1	Project SC2	Project SC3	Project SC4				Main Pressure Zone	River Heights Reservoir		HWY 22 - Sunset North	HWY 22 - Sunset South	HWY 22 - James Walker Trail	Hwy 1A - 5 Ave to Centre Ave				
1	$502	$2,650	$5,626	$12,672	$60,253	$13,669	$4,226			$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$292,223	$298,067	$304,028
2	$502	$2,650	$5,626	$12,672	$60,253	$13,669	$4,226			$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$292,223	$298,067	$304,028
3	$502	$2,650	$5,626	$12,672	$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$307,251	$313,396	$319,664
4	$502	$2,650		$12,672	$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$301,624	$307,657	$313,810
5	$502	$2,650		$12,672	$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$301,624	$307,657	$313,810
6	$502	$2,650		$12,672	$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$301,624	$307,657	$313,810
7	$502	$2,650		$12,672	$60,253	$13,669	$4,226		$36,889	$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$323,485	$329,955	$336,554
8	$502	$2,650			$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$288,952	$294,731	$300,625
9	$502				$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$286,302	$292,028	$297,869
10	$502	$2,650			$60,253	$13,669	$4,226			$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$273,924	$279,402	$284,990
11					$60,253	$13,669	$4,226			$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$270,772	$276,187	$281,711
12					$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$285,800	$291,516	$297,346
13					$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$285,800	$291,516	$297,346
14	$502				$60,253	$13,669	$4,226		$36,889	$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$308,163	$314,326	$320,613
15	$502				$60,253	$13,669	$4,226		$36,889	$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$308,163	$314,326	$320,613
16					$60,253	$13,669	$4,226		$36,889	$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$307,661	$313,814	$320,090
17	$502				$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$286,302	$292,028	$297,869

REDEVELOPMENT CALCULATION

The following calculation shall be used to calculate levies that apply to redevelopment (refer to Schedule C for redevelopment levy calculation examples):

Off-Site Levy (based on geographical area) x Development Area (Ha) x Incremental Intensity
= Redevelopment Levy Calculation

Incremental Intensity accounts for existing uses on the site, which may be reflected through the number of units or total floor area. **Incremental Intensity** will be determined by the Town of Cochrane utilizing historical development intensity and proposed development plans to establish base line and future intensity of use levels.

Schedule C

OFF-SITE LEVY BACKGROUND REPORT 2021

OFF-SITE LEVY BACKGROUND REPORT

OFF-SITE LEVIES BACKGROUND REPORT 2021

Prepared for the Town of Cochrane

June 11, 2021

URBAN SYSTEMS

Suite 101, 134 - 11 Avenue SE, Calgary, AB T2G 0X5 | T: 403.291.1193

OFF-SITE LEVIES BACKGROUND REPORT 2021

PREPARED FOR:

Town of Cochrane
101 RancheHouse Road
Cochrane, AB T4C 2K8

Attention: Riley Welden

Suite 101, 134 - 11 Avenue SE, Calgary, AB T2G 0X5 | T: 403.291.1193

File: 1728.0249.03

TABLE OF CONTENTS

TABLES

APPENDICES

FORWARD

This report provides information to support the 2021 update of the Town of Cochrane's Off-Site Levy Bylaw and is intended to provide information on the approach and methods used to calculate off-site levies in Cochrane.

The intent of the 2021 Off-Site Levy Bylaw update is to revise projects and project costs where applicable, account for collections since the last Levy update, update growth assumptions, and include new infrastructure to facilitate cost recovery for frontending developers.

Similar to the update in 2018, a working group of development industry representatives was established to obtain feedback throughout the update process. Over the past couple of years, the working group was consulted, including through regular meetings and other communications. In addition to consultation with the working group, the broader development industry in Cochrane was also consulted through the update process. The community as a whole will be consulted prior to adoption of the 2021 Off-Site Levy Bylaw through a non-statutory public hearing process.

1. INTRODUCTION

Collecting off-site levies for subdivisions and developments allows the Town of Cochrane to ensure that new developments pay for the cost of infrastructure to service new developments. Collecting off-site levies is intended to result in a reduced need for taxes and utility rates to cover the costs of new development.

Through consideration of applicable statutory and non-statutory plans and comprehensive infrastructure master planning, the Town works proactively to anticipate infrastructure needs to service future developments. However, many things can influence the Town's ability to predict, with certainty, the future cost and methods of infrastructure servicing to service new development. Some of the factors that can influence the cost and shape of the infrastructure required, include construction cost inflation, the order of development, technology, and environmental factors and requirements. Fairness is best achieved through keeping the necessary assessments of future infrastructure needs current.

The Town also endeavors to keep the determination of off-site levies current to ensure that both the development industry and the existing taxpayers are not overly burdened with changes that result over time with respect to the provision of infrastructure. Updates to the Off-Site Levies Bylaw can result in the adjustment of costs due to inflation, the reassessment of the scope of projects, the reassessment of beneficiaries, and sometimes, the addition of new projects. Some of the changes can result in inconsistencies from year to year, but this is necessary to ensure that the Town is not overly burdened with the cost of new infrastructure in the future. When determining off-site levies, the Town seeks to find a balance between achieving equity between beneficiaries while still maintaining reasonable administrative efficiency.

Where infrastructure or facilities affect or provide services to other municipalities, this has been taken into consideration in this report.

2. ENABLING LEGISLATION

The Municipal Government Act (MGA) is the Provincial Legislation that governs the conduct of municipalities. The MGA provides the rules or laws that municipalities must follow in undertaking its function as a municipal government. The rules that govern the imposition or collection of off-site levies are included in the MGA. Section 648 allows municipalities to pass bylaws requiring the payment of off-site levies subject to several conditions. Section 648(2) specifically states:

- An off-site levy may be used only to pay for all or part of the capital cost of any or all of the following:
    - a) new or expanded facilities for the storage, transmission, treatment or supplying of water;
    - b) new or expanded facilities for the treatment, movement or disposal of sanitary sewage;
    - c) new or expanded storm sewer drainage facilities;
    - (c.1) new or expanded roads required for or impacted by a subdivision or development;
    - (c.2) subject to the regulations, new or expanded transportation infrastructure required to connect, or to improve the connection of, municipal roads to provincial highways resulting from a subdivision or development;
    - d) land required for or in connection with any facilities described in clauses (a) to (c.2).
- Additionally, Section 648(2.1) specifically states:

  In addition to the capital cost of facilities described in subsection (2), an off-site levy may be used to pay for all or part of the capital cost for any of the following purposes, including the cost of any related appurtenances and any land required for or in connection with the purpose:

    - a) new or expanded community recreation facilities;
    - b) new or expanded fire hall facilities;
    - c) new or expanded police station facilities;
    - d) new or expanded libraries.

Municipalities must follow the MGA when determining their off-site levy charges. Municipalities must also follow regulations established to guide the implementation of off-site levies. Among other things, the MGA and the Off-Site Levies Regulation require that there be a correlation between the levy and the impacts of new development, that the method of calculation is clear, that the information used in the levy calculations is kept current, and that the levies are determined in consultation with affected stakeholders.

If the Town enters into an agreement pursuant to section 648 of the MGA whereby a developer constructs or pays for an improvement with an excess capacity, the Town must comply with section 651 of the MGA regarding recovery of costs by the developer for that excess capacity.

The MGA allows municipalities to charge for each type of infrastructure separately and over time. This permits municipalities to collect levies for a development area that has already paid levies if the levy being imposed is for a different type of infrastructure.

3. GUIDING PRINCIPLES

Off-site levies are one tool that can be utilized by municipalities to finance and fund growth-related infrastructure. Off-site levy programs, like other programs utilized by municipalities, should reflect broader objectives of the community. The following Guiding Principles serve as a benchmark to evaluate future servicing and financing decisions and serve as a for growth-related infrastructure.

GUIDING PRINCIPLE #1

BALANCING MUNICIPAL FINANCIAL RISK

Balance financial risk to minimize the burden on the Municipality while stimulating sustainable long-term growth.

- Municipalities generally assume financial risks when they undertake capital projects to accommodate new development. This is especially true when long-term borrowing is used to finance capital projects that are required by new development prior to having collected the necessary off-site levies and other funds from developers to pay for these projects. While the Town feels that it is important to take measures to support and stimulate growth, to take on all risk for development, assumes too much financial risk for the Town.

GUIDING PRINCIPLE #2

EQUITY

Ensure equitable allocation of costs of capital projects based on a user pay system.

- Equity is a major consideration in the development of the Town's infrastructure financing and cost recovery strategy for each capital project. The Town largely uses a "user pay" philosophy where beneficiaries of a service are expected to pay its cost. Where a service provides broad based benefits to the community as a whole, the municipality contributes to the funding of the project. However, where a service provides a benefit only to new development, the cost of the project(s) are allocated directly to the development through a variety of mechanisms.

GUIDING PRINCIPLE #3

ADMINISTRATIVE EFFICIENCY

Ensure a balance between the principle of equity and administrative efficiency.

- If the principle of equity was the only consideration, complex financial management and cost recovery procedures can result. Instead, equity is balanced with administrative efficiency to ensure cost recovery strategies that are easily implemented, efficient and cost effective.

GUIDING PRINCIPLE #4

BALANCED APPROACH TO PAYING CAPITAL PROJECTS

Incorporate a balanced "pay as you go" approach to completing capital projects.

- Take a balanced approach to paying for capital projects that considers the long-term objectives and goals and the needs of the community. These capital projects will be financed using a variety of approaches dependent on the circumstances and need.

GUIDING PRINCIPLE #5

THE TOWN NEEDS TO REMAIN COMPETITIVE

Off-site levies, property taxes, utility rates, and other municipal fees need to be structured to allow Cochrane to compete with surrounding communities.

- When establishing charges, the Town is mindful of what other municipalities are charging. Further, when considering the establishment of development related charges, the impact to other forms of levies, taxes, and charges need to be considered.

4. ANTICIPATED GROWTH

Growth assumptions are used to determine the projected population and development area expected to contribute to levy infrastructure within the different growth windows. Projections for residential and non-residential growth are based on assumptions from the Town of Cochrane Growth Management Strategy. The assumed rates of residential and non-residential growth are displayed in **Table 1** below.

Table 1: Assumed Population and Development Area (Ha) Growth Projections

Year	Growth Rate	Population	Residential (Ha)[2]	Non-Residential (Ha)
2019 Municipal Census		29,277		
2020 [1]		31,252		
2021-2025	3%	36,230	96	17
2026-2030	3%	42,000	111	19
2031-2035	2%	46,371	84	15
2036-2040	2%	51,198	93	16

To allocate project recoveries that are area-specific, an approximate allocation of growth by area is required. For area-specific recoveries the Town is demarcated into 17 development zones as shown on **Figure 1.**

Table 2 provides the assumed distribution of development to the different geographical growth areas across the Town over the 20-year development window (2020-2039). This anticipated growth informs the assumed rate of growth utilized within area-specific calculations. **Figure 2** displays the anticipated growth by growth area over the 20-year timeframe.

Table 2: Anticipated Growth in 20-Year Window by Growth Area

Growth Area	Anticipated Development by Growth Area (Ha) – 2020 to 2039
North	64
West	112
South	164
Southwest	46
Central	65
Total	450

[1] Note, the 2019 Municipal Census was conducted at the beginning of 2019. The Town's population in April 2019 was 29,277. The proportionate amount (2/3) of assumed growth (4%) and all of 2020 assumed population at the end of 2020 (31,252).
[2]Estimate of development area based on an average of 20 units/ha and 2.6 people per unit.

5. METHODOLOGY FOR DETERMINING OFF-SITE LEVIES

The Town of Cochrane has engaged Urban Systems Ltd. to calculate the off-site levies. The 2021 Off-Site Levy Bylaw update continues to utilize a cash flow projection model. The model uses assumptions for growth, interest rates, financing rates and inflation to determine the levy rates for growth. The detailed methodology and assumptions used in the cost recovery model are provided in the following sections.

5.1. REVOLVING VS. CAPACITY

Generally, off-site levies are determined under one of two cost recovery program methodologies: a revolving program or a capacity-based program. The revolving timeframe approach considers potential development within a set number of years. If there are several projects anticipated over time, the revolving timeframe approach helps to minimize fluctuations and provides more funding flexibility. For Cochrane's levy calculations, a 20-year revolving program is used, as this typically matches the long-term planning horizon for Cochrane. In this timeframe, the Town has a reasonable understanding of its infrastructure needs and the costs for major infrastructure improvements are captured within the 20-year calculation which results in consistent charges over time as the window moves forward and costs are recalculated.

A capacity-based program considers all the projects necessary to service the build-out of a particular area / community and typically includes a long-time horizon. A capacity-based approach considers all land potentially available for build-out and is typically most appropriate for well-defined build-out areas with a limited number of projects. A fixed development window (i.e., a set number of hectares) is utilized for highway intersections. The 2021 Off-Site Levy Bylaw Update includes three new intersections. The fixed window balances recovery timing with a reasonable window of benefit (20-years). The cost recovery methodology used for each infrastructure type is indicated in **Table 3**.

Table 3: Summary of Cost Recovery Method by Infrastructure Type

Infrastructure Type	Revolving Timeframe	Capacity / Fixed Development Window
Sanitary Sewer Collection Projects		✓
Sanitary Disposal Projects		✓
Water Supply & Treatment Projects	✓	
Water Distribution Projects	✓	
Water Storage Projects		✓
Transportation Projects	✓	✓
Police Station Facilities		✓

5.2. BENEFIT ALLOCATION RATIONALE

In determining allocation of benefit of projects to existing development or existing users of infrastructure, several factors are considered including capacity allocation, asset renewal benefits, and improved level of service to existing users. In general, for water and wastewater infrastructure,

allocation of benefit is determined based on the portion of the capacity of the upgrade that is required to serve existing development and the portion of capacity allocated to growth. In addition, allocation of benefit to existing users is also considered when regulatory compliance upgrades, renewal of existing assets and/or improved level of service provides benefit to existing users at the time the project was first included in the calculation of off-site levies.

For transportation and police station facility projects, benefit allocation of projects is more difficult, as capacity allocations are harder to determine. Allocation of benefit for transportation projects, has been determined in previous Off-Site Levy Bylaw calculations based on population. When allocating benefit for transportation projects between existing development (Town-at-large) and new development, a ratio is established using population at the time levies started to be collected and the population when the levies will be fully collected for the project. As non-residential development is estimated to be consistently proportionate to residential development, the population ratio used to apportion benefit is representative of apportionment based on total development. A similar approach based on population is used to determine benefit allocation for Community Amenity infrastructure projects.

5.3. APPLICATION OF LEVY

5.3.1. AREA-SPECIFIC & TOWN-WIDE LEVY CALCULATIONS

Cost recovery of off-site levy infrastructure projects can be calculated and applied on a town-wide basis or on a specific benefitting area or catchment basis. The decision to apply levies by either of these methods depends on the infrastructure projects and whether the benefit of the projects can be definitively allocated to a specific area. **Table 4** displays how the infrastructure types for the purposes of the current levy calculations are calculated. For area-specific calculations the Town is divided into development zones for sanitary collection and catchments for water storage projects. These zones and catchments are demarcated based on anticipated areas of benefit for the specific infrastructure. **Figure 1** captures the development zones within the Town. Under each sanitary collection project, the benefiting development zones are indicated. **Figure 6** displays the water storage catchment extents. The total remaining benefiting hectares to contribute to these area-specific projects is indicated under each project in Section 7.

Table 4: Summary of Levy Calculation Method by Infrastructure Type

Infrastructure Type	Town-Wide Levy Calculation	Area-specific Levy Calculation
Sanitary Sewer Collection Projects		✓
Sanitary Disposal Projects	✓	
Water Supply & Treatment Projects	✓	
Water Distribution Projects	✓	
Water Storage Projects		✓
Transportation Projects	✓	
Police Station Facilities	✓	

5.3.2. REDEVELOPMENT

Redevelopment shall be subject to offsite levies where the lands have not been previously subject to an off-site levy for the same purpose. Redevelopment refers to the creation of new units, uses or lots on previously developed land. An incremental intensity calculation is utilized to determine the off-site levy applicable for redevelopment. Application of the incremental intensity calculation accounts for previous use of existing infrastructure and applies the levy to only the increased intensity of development for the lands within the development area (refer to **Appendix D** for example calculations).

[Redevelopment Levy Calculation = Off-Site Levy X Development Area X Incremental Intensity]

Incremental Intensity accounts for existing uses on the site, which may be reflected through the number of units or total floor area. Incremental Intensity will be determined by the Town of Cochrane utilizing historical development intensity and proposed development plans to establish base line and future intensity of use levels.

5.3.3. LAND AREA TO BE CHARGED LEVIES

The land area to be charged levies includes all lands within the development area, excluding Environmental Reserve and Environmental Reserve Easement and the area of land required to provide additional road right-of-way for arterial roads above the width of a divided primary collector which is 29.0 m. Levies for Community Purpose Lands, that are owned by the Town and that are exempt from taxation, may also be deferred at the CAO's discretion.

5.4. FINANCIAL MODEL INPUTS

A cash flow model is used to calculate the levies. Assumptions related to interest earned/paid on fund balances, inflation and payment timing are required to determine the financial inputs used in the model. The assumptions are based on market conditions at the time of the update, along with input from the Town and Development Industry.

5.4.1. INTEREST EARNED/PAID AND INFLATION

Two distinct costs related to debt are utilized in the model depending on the entity financing the infrastructure. Where a developer has agreed to finance and/or construct infrastructure with excess capacity, the debt cost utilized for this infrastructure has been determined through consultation with Industry. "Prime" reflects the Prime Rate at the time of authoring this report as posted by the Bank of Canada. The following assumptions have been utilized in the levy calculations:

Table 5: Financial Model Inputs

Interest Earned on Positive Fund Balances	0.5%
Debt Cost on Negative Fund Balances Financed by Town	2.5%
Debt Cost on Negative Fund Balances Financed by Industry	4.45% (Prime + 2%)
Inflation Rate	2%

5.4.2. PAYMENT TIMING

The financial model for determining the levies also needs to consider the timing of off-site levy payments. The Town may enter into an agreement to permit the levies to be paid in two payments. Most development opts for the two-payment plan and therefore the financial model assumes this lag in payment. The first payment, which is 40% of the off-site levy, shall be paid prior to the endorsement of the subdivision or the release of a development permit. The second payment, which is the remaining balance, shall be paid within one year of endorsement of the subdivision or release of the development permit when suitable security is provided.

5.5. LEVY FUND BALANCES

To properly account for previous collection of levies and off-site levy project costs incurred to-date, off-site levy fund balances are brought forward into the levy calculation model. This ensures that any surplus funds to be spent on future projects are subtracted from the levy calculations to avoid collecting twice for projects. In addition, any deficit in funds to pay for previously constructed projects where the levies portion has not been fully collected is brought forward to the new levy calculation. The model starts with either a positive or negative fund balance for each of the levy fund categories to reflect the status of levy collections. Levy fund balances reflected in the 2021 Off-Site Levy Bylaw update are as of December 31, 2019.

6. INFRASTRUCTURE INCLUDED IN THE OFF-SITE LEVY PROGRAM

6.1. WATER INFRASTRUCTURE

Water infrastructure projects in the Town of Cochrane that are considered for possible inclusion in the off-site levies program can be grouped into three categories:

- Water Supply and Treatment
- Water Distribution
- Water Storage

6.1.1. WATER SUPPLY AND TREATMENT

Projects related to the supply and treatment of water benefit all developments regardless of location and therefore the levy is calculated on at Town-wide basis. When a water supply and/or treatment expansion provides improved supply and treatment to existing development, that portion of the project is allocated as benefit to the Town-at-large.

6.1.2. WATER DISTRIBUTION

The water distribution network of the main pressure zone is an interlinked network of pipes that together provides the necessary system water pressure, fire flow distribution and water flow to fill all water storage reservoirs in the Town. Improvements in this infrastructure category will enhance the water flow to those developments within the main distribution network and will also provide the necessary water flow to fill the reservoirs to service the upper zones. As a result, any water distribution improvements that enhance the main water network provide benefit to all new developments.

Unless there is an existing deficiency in the distribution system that is improved by a water distribution project, the project will only provide benefit to new development. An improvement could be considered to benefit existing development when the improvement also replaces existing aged infrastructure; any benefit of infrastructure renewal could be shared by the existing development. However, if the existing infrastructure is new, relative to its design life, the Town may not consider the project as providing a benefit to existing users as the infrastructure would not need to be rehabilitated for many years in the future.

Certainly, there will be more benefit to a development when the improvement also serves as the distribution of water within the development's on-site distribution network. Many municipalities determine a certain size of main within a development that would be the developer's sole responsibility to construct. Any pipe size installed above this base diameter is considered over-sizing. Through its Subdivision Servicing Agreement, the Town considers the construction of on-site 300 mm diameter mains or less to be the responsibility of the on-site developer and therefore, these projects are not included in the off-site levies. Any over-size cost associated with increasing the pipe size greater than 300 mm diameter in the Main Pressure Zone would be a benefit to the entire network, and thus have been included in the off-site levy for new development in all development zones.

6.1.3. WATER STORAGE

Due to the layout of the Town's water system, most water storage reservoirs serve distinct development areas or elevated pressure zones. As well, the supply mains that feed these reservoirs only serve to supply water to the water reservoirs. These mains are at an elevation that will not provide adequate

pressure to permit direct service connections or tie-ins. As a result, it can be said that these mains are dedicated to the supply of the storage reservoir. The benefiting area of the water storage reservoirs and their associated dedicated supply mains can be clearly defined as the service area of the reservoir. In all recent cases in Cochrane, developers have extended the dedicated supply mains and constructed the reservoirs to service these defined areas. In these instances, frontending developers recover costs for the portion of the infrastructure that benefits other developments through frontending agreements and endeavours to assist by the Town.

The Town has now determined that it will consider including dedicated water supply mains and water storage reservoir projects in the off-site levy program. If a developer has entered into an agreement with the Town to finance and/or construct this infrastructure, the off-site levy program will assist developer(s) in the recovery of the costs to frontend infrastructure for other developers.

The existing 2-million-gallon reservoir that currently serves the main pressure zone of the Town was constructed by the Town and there is currently no recovery in place for this initial project. The reservoir, however, will need to be expanded and the future expansion project will be recovered through off-site levies (WS-1 Main Pressure Zone Reservoir). The calculation will be applied on an area-specific basis to growth in the main pressure zone served by this reservoir.

6.2. SANITARY INFRASTRUCTURE

Sanitary Infrastructure Projects that could be considered for off-site levies projects can be grouped into two categories:

- Sanitary Disposal Projects
- Sanitary Collection Projects

6.2.1. SANITARY DISPOSAL PROJECTS

Sanitary disposal projects include improvements related to facilities and pipelines that pump effluent to the City of Calgary for disposal. These facilities and pipelines benefit all new development regardless of location. Benefit to existing users will only be considered if the upgraded project includes improvements to the existing system.

6.2.2. SANITARY COLLECTION PROJECTS

Due to the nature of sanitary collection systems, the capacity of the various sections of the system can be allocated to specific development zones. Where new collection mains are extended to new development zones, the developers extend the mains, and the Town enters an 'Endeavour to Assist' agreement to assist the developer who constructs these mains to recover from future developers that benefit from the mains. These extension projects are not included in the off-site levies.

When mains within the Town's existing collection system are twinned or replaced to provide additional capacity, the Town undertakes, or frontends these upgrades and recovers the costs through an off-site levy. Only when the replacement of an existing sanitary collection main provides a benefit to existing users through renewal of aging infrastructure will the Town consider an allocation of costs to existing development.

6.3. TRANSPORTATION PROJECTS

Generally, it is difficult to isolate specific development areas that benefit from transportation infrastructure. However, lower standard roads are intended to provide access to properties while higher standard roads are intended to move traffic through development areas. Higher standard roads provide more regional or Town-wide benefit than lower standard roads.

6.3.1. OFF-SITE TRANSPORTATION

In a number of municipalities, primary collectors are the road standard that determines if a road is local and/or regional in nature. Roadways constructed to a primary collector standard or less provides more of a local benefit and, as such, are built by the local developer and are not included in the off-site levies. If a developer is advancing a roadway through their development that will ultimately be an arterial standard, the developer is required to provide the entire right-of-way, pre-grade the entire right-of-way and construct the initial half of the arterial. Construction of the initial half of the arterial approximately equates to the same investment had the developer built the required minimum standard, primary collector. Any over-sizing beyond a primary collector provides a regional or town-wide benefit as the roadway's primary purpose is to move traffic through the development, and thus these projects are included in the off-site levies.

In some cases, primary collectors or arterials may improve the existing traffic network such that it can be deemed to also provide a benefit to the existing development in addition to providing capacity to the network for new development. In general, the Town considers all major, off-site transportation connections and arterial over-sizing projects to have a community wide benefit when included in the off-site levies.

6.3.2. HIGHWAY INTERSECTIONS

The Highway 1A intersections provide a direct connection to the Town's commercial business area, the Town at-large and access to the region. Given the regional nature of the connections they provide benefit Town-wide including both existing and future development.

Other highway intersections, provide direct access to specific development areas. These intersection improvements have historically been funded by adjacent development areas. Through consultation with Industry, three new highway intersections have been included as projects in the 2021 Off-Site Levy Bylaw. If a developer has entered into an agreement with the Town to construct this infrastructure, the off-site levy program will assist developer(s) in the recovery of the costs to frontend infrastructure for other developers.

6.4. POLICE STATION FACILITIES

Community amenity infrastructure (new or expanded community recreation facilities, fire hall facilities, police station facilities and/or library facilities) can now be included within off-site levy bylaws. Currently, the future Protective Services Building (police station facility) is the only community amenity facility included at this time. Identification of this police station facility takes into consideration the allocation benefit, anticipated growth, and level of service. The Protective Services Building is planned to serve existing and future urban (Cochrane) and rural catchments. The RCMP utilize staff complements to determine the Provincial financial contribution to the overall facility, while population equivalents are utilized to determine existing and future benefit within the Town.

7. OFF-SITE LEVY PROJECTS

7.1. SANITARY

7.1.1. COLLECTION

The sanitary collection projects required to serve growth within the development window include projects as determined in the following report with cost estimates and project needs updated from time to time through further review and study.

- Town of Cochrane – Water and Wastewater (W3) Master Plan, December 2012

SC1 - Burnco Trunk Sewer

Project Description

This trunk sewer project is an upgrade to an existing trunk sewer within the Town's collection system. The project was undertaken in 2003 and included the twinning of the existing 450 mm diameter main. For the location of the project, **see Figure 3**. The original main is 450 mm diameter concrete pipe, and the installed twin main is 450 mm diameter PVC pipe.

Project Cost

The project is complete. The actual final project cost was $415,971.

Project Beneficiaries

There is no benefit of this project to existing users as the project is a twinning of an existing main and, therefore the existing main will remain in service to provide capacity for the existing users. The existing asset is not renewed and therefore the project does not provide any asset renewal benefit. Although there will be two mains providing service, it is also determined that this does not provide any increased reliability of service, as both mains are required to provide the capacity for the designed flow. One main alone could not provide enough capacity to accommodate all the flow. The beneficiaries of this sanitary sewer collection project can be defined on an area-specific basis. The development zones that benefit from this project are zones 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 15 and 17. The development zones are shown on **Figure 1**.

Rocky View County (RVC) – Cochrane Lake development has been allocated 15.5% of the capacity of the trunk sewer. From a capital contribution perspective this equates to $64,751 of the actual project cost. RVC's capital contribution and debt costs to the end of December 31, 2019, are reflected in the fund balance.

Levy Calculation

The remaining levy fund balance for this project as of December 31, 2019, is ($32,749). The remaining benefitting area for recovery of this area-specific project is 65 hectares. Based on anticipated growth, recovery from the remaining hectares is to be achieved by the end of 2023. The resulting levy calculation from the model is $502 per hectare.

SC2 - Riverview Trunk Sewer

Project Description

This trunk sewer project is an upgrade to an existing trunk sewer within the Town's collection system. The project was undertaken in 2004 and completed in 2005. The project was planned to be undertaken as a twinning project as the existing trunk main was deemed to be in good condition and replacement was not anticipated for many years. However, the final construction technique involved trenchless technologies which resulted in the existing 375 mm diameter main being expanded to an increased diameter of 600 mm. The location of the project is shown in **Figure 3**.

Project Cost

The project is complete. The actual final project cost was $1,101,967.

Project Beneficiaries

There is no benefit of this project to the existing users as the project could have been constructed as a twinning project. The method of construction chosen for this project resulted in the project benefitting from the existing infrastructure and using the existing pipe to allow pipe expansion to occur. Although the method of construction resulted in a new pipe for existing users, this benefit is not deemed to be significant due to the 50-year asset life that was remaining in the asset at the time of replacement. As the Town's main did not warrant replacement for many years, there is no significant value achieved by the existing users from this upgrade.

The beneficiaries of this sanitary sewer collection project can be defined on an area-specific basis. The development zones that benefit from this project are zone 1, 2, 3, 4, 5, 6, 7, 8 and 10. The development zones are shown on **Figure 1**.

Rocky View County – Cochrane Lake development has been allocated 17.8% of the capacity. From a capital contribution perspective this equates to $197,043 of the actual project cost. RVC's capital contribution and debt costs to the end of December 31, 2019, are reflected in the fund balance.

Levy Calculation

The remaining levy fund balance for this project as of December 31, 2019, is ($152,813). The remaining benefitting area for recovery of this area-specific project is 59 hectares. Based on anticipated growth, recovery from the remaining hectares is to be achieved by the end of 2025. The resulting levy calculation from the model is $2,650 per hectare.

SC3 - Highway 22 Trunk Sewer

Project Description

This project is a new 600 mm diameter trunk main, constructed adjacent to Highway 22 south of Highway 1A. The project is shown on **Figure 3**.

Project Cost

The project is complete. The actual final project cost was $1,835,870.

Project Beneficiaries

There is no benefit from this project to existing users as the project is a new main to service new development areas only. The beneficiaries of this sanitary sewer collection project can be defined on a specific area basis. The development zones that benefit from this project are zones 1, 2, and 3. The development zones are shown on **Figure 1**.

Rocky View County – Cochrane Lake development has been allocated 12.8% of the capacity. From a capital contribution perspective this equates to $235,481 of the project cost. RVC's capital contribution and debt costs to the end of December 31, 2019, are reflected in the fund balance.

Levy Calculation

The remaining levy fund balance for this project as of December 31, 2019, is ($257,229). The remaining benefitting area for recovery of this area-specific project is 47 hectares. Based on anticipated growth, recovery from the remaining hectares is to be achieved by the end of 2024. The resulting levy calculation from the model is $5,626 per hectare.

SC4 - Highway 22 to Riverview Syphon

Project Description

This project is a new syphon trunk main that will be required to twin the existing syphon sewer that runs from Hwy 22 to Riverview Drive. The project location is shown on **Figure 3**. More details of this project are included in **Appendix C**.

Project Cost

The project cost estimate in 2020 dollars is $3,950,980.

Project Beneficiaries

There is no benefit of this project to existing users as the project is a twinning of an existing main and, therefore, the existing main will remain in service to provide capacity for the existing users. The existing asset is not renewed and therefore the project does not provide any asset renewal benefit. Although there will be two mains providing service, it was also determined that this does not provide any increased reliability of service, as both mains are required to provide the capacity for the design flow. One main alone could not provide enough capacity to accommodate all the flow.

The beneficiaries of this sanitary sewer collection project can be defined on an area-specific basis. The development zones that benefit from this project include zones are 1, 2, 3, 4, 5, 6 and 7. The development zones are shown on **Figure 1**.

Rocky View County – Cochrane Lake development has contributed $203,189 towards this project. RVC's capital contribution and debt costs to the end of December 31, 2019, are reflected in the fund balance.

Levy Calculation

The levy fund balance for this project as of December 31, 2019, is $835,159. The levy for this project is calculated over the 20-year model calculation. The resulting levy calculation from the model is $12,672 per hectare.

7.1.2. DISPOSAL

The sanitary disposal projects required to serve growth within the development window include projects as determined in the following reports with cost estimates and project needs updated from time to time through further review and study.

- Town of Cochrane – Water and Wastewater (W3) Master Plan, December 2012
- Sanitary Sewer Strategy, June 2015
- Sanitary Sewer Strategy – Updated - May 2017

Project Description

Sanitary disposal projects include a complete pump station and pipeline twinning project that pumps effluent to the City of Calgary for disposal. The project has a phased implementation strategy based on a build-out (capacity) based timeframe. **Figure 4** shows the location of the projects.

Project Cost

Future project costs for pump station upgrades, pipeline twinning and wet wells have been obtained from the above reports and updated to 2020 dollars. The Alberta Municipal Water and Wastewater Partnership Program provides project specific grants for all wastewater disposal projects. Grant calculations are provided in **Appendix B**. Summary of the project costs including estimated grants and anticipated timing of grants is provided in **Table 6**.

Table 6: Sanitary Disposal Project Costs

Project	Estimated Project Cost ($2020) Remaining / Future	Anticipated Year for Construction Completion	Estimated Grant ($2020)	Anticipated Year Grant Received	Allocation of Benefit to New Development
SD2 – Wet Well Phase 0		Complete	$1,461,910	2021	100%
Pipeline Phase 1	$14,705,000	2025	$1,198,016	2027	100%
Pipeline Phase 2	$13,095,307	2030	$365,438	2032	100%
Pipeline Phase 3+4	$22,911,481	2039	$0	-	100%
Combined Total	**$50,711,787**		**$3,025,364**		

Project Beneficiaries

All projects required in the Sanitary Sewer Strategy are required to only serve new growth. There is no benefit of this project to existing users as the project is twinning of an existing main and pump station and, therefore, the existing system will remain in service to provide capacity for the existing users. The existing asset is not renewed and therefore the infrastructure does not provide any asset renewal benefit. Although there will be two mains and pump stations providing service, it is also determined that this does not provide any increased reliability of service, as both systems are required to provide the capacity for the design flow. One main and pump station system could not provide enough capacity to accommodate all the flow.

The allocation of benefit for Rocky View County (Cochrane Lake area) is as determined in the report, titled "Proposed Sanitary Sewer User Rate MD of Rocky View, March 2005". From a capacity contribution perspective, Rocky View County – Cochrane Lake development contributed $788,144 towards this project. This capital contribution and accumulated interest is reflected in the fund balance.

Levy Calculation

The levy fund balance as of December 31, 2019, is $4,087,363. The levy for these sanitary disposal projects is calculated on a build-out (capacity) basis. Build-out capacity of these improvements is based on a population equivalency of 64,000 (+/- 770 ha of development). The resulting levy calculation from the model is $60,253 per hectare.

7.2. WATER

7.2.1. WATER SUPPLY AND TREATMENT

The water supply and treatment projects are required to serve growth within the development window as determined in the following reports with cost estimates and project needs updated from time to time through further review and study.

- Town of Cochrane – Water and Wastewater (W3) Master Plan, December 2012
- Town of Cochrane Water Treatment Upgrade Study, November 2015

Project Description

The water supply and treatment projects included in the levies are all the upgraded projects required to supply and treat water in the 20-year timeframe. **Figure 5** shows the location of the projects. The water supply and treatment upgrades include the following projects.

- WT2b is the addition of a new membrane filtration rack.
- WT3 includes additional high lift pump upgrade, and membrane filtration influent strainers.
- WT4 includes flocculation retrofit, high-rate dissolved air flotation, membrane feed pump & a new emergency generator.
- WT5 includes replacement of the last 50Hp high lift pump with a 150Hp pump.

Project Costs

The project costs for water treatment plant upgrades are from the above reports and updated to 2020 dollars. The Alberta Municipal Water and Wastewater Partnership Program provides project specific grants for all water treatment upgrade projects. Grant calculations are provided in **Appendix B**. Summary of the project costs including estimated grants is provided in **Table 7**.

Table 7: Water Supply and Treatment Projects Costs

Project	Estimated Project Cost ($2020) Remaining / Future	Anticipated Year for Construction Completion	Estimated Grant ($2020)	Anticipated Year Grant Received	Allocation of Benefit to New Development
WT2b – New Membrane Filtration Rack	$186,111	2020		2020	100%
WT3 – Addition of High Lift Pump & Strainers	$345,529	2023	$37,491	2025	60%
WT4 – Treatment Upgrades	$4,639,601	2027	$304,548	2029	62%
WT5 – Pump Replacement & Upgrades	$103,998	2033	$0	2035	67%
Combined Total	**$5,275,240**		**$342,038**		

Project Beneficiaries

Project WT2b is the addition of a new membrane filtration rack to the existing treatment process to add additional capacity for growth. This project is 100% allocated to growth as the project is providing additional filtration capacity.

Project WT3 includes additional high lift pump upgrades and influent strainers. This project provides benefit to both existing and future growth. As such, an allocation of benefit of 60% based on the replacement of existing infrastructure (benefit to existing) and benefit to growth to a population equivalency of 40,000.

Project WT4 includes treatment upgrades that provide benefits to future growth and existing users based on capacity along with upgrades that are solely attributed to growth. For example, a new generator is required for growth – such improvements are allocated 100% to growth, while other improvements provide benefit to existing. The overall benefit allocation to growth for project WT4 is 62% based on a benefiting population equivalency of 40,000.

Project WT5 includes replacement of existing pumps, and the benefit is 67% allocated to growth based on the replacement of existing infrastructure and a benefiting population equivalency of 40,000.

These water treatment and supply projects benefit all development and, therefore, will be collected on a Town-wide basis.

Levy Calculation

The levy fund balance as of December 31, 2019, is ($2,548,292). The levy for water supply and treatment projects is calculated based on a 20-year recovery model. The resulting levy calculation from the model is $13,669 per hectare.

7.2.2. WATER DISTRIBUTION

The water distribution projects required within the development window include projects as determined in the following report with cost estimates and project needs updated from time to time through further review and study.

- Town of Cochrane – Water and Wastewater (W3) Master Plan, December 2012

Project Description

The water distribution projects included in the levies are all upgrade projects required for water distribution in the 20-year timeframe. The projects are shown on **Figure 5**. The water distribution upgrades include three projects.

- WD1 - Heartland Oversize Projects (3): Watermain projects oversized by the Heartland developer. The Town has an agreement to reimburse the Heartland developer for advancing the oversized portion of these mains. The over-sizing project costs were based on the City of Calgary, Standard Development Agreement Rates at the time.
- WD2 - Griffin Industrial Loop Across CPR: Future watermain loop across the CPR tracks near the Griffin Industrial development.
- WD3 - 600 mm Diameter Feedermain: New feedermain to be constructed from the water treatment plant to Highway 22.

Project Cost

Table 8 provides the list of water distribution projects.

Table 8: Water Distribution Projects

Project	Estimated Project Cost ($2020) Remaining / Future	Estimated Year for Construction Completion	Allocation of Benefit to New Development
WD1 - Heartland Oversize Projects (3)	$365,346		100%
WD2 - Griffin Industrial Loop Across CPR	$371,526	2025	90%
WD3 - 600 mm Diameter Feedermain	$2,458,374	2035	100%
Combined Total	**$3,195,246**		

Project Beneficiaries

These projects are upgrades to the water distribution network that distributes water to all reservoirs, supplying the entire water system. Project WD2 has been deemed to also provide increased fire protection to existing developments in the vicinity of the project and therefore 10% of the project is deemed to provide benefit to existing development. Projects WD1 and WD3 are 100% allocated to growth as there is no increased reliability of service provided by the new mains as the Town's system is currently looped sufficiently for a high degree of reliability of service.

These projects are upgrades to feedermains in the main pressure zone, all development zones benefit from these projects, and as such, the levy is calculated on a Town-wide basis.

Levy Calculation

The levy fund balance as of December 31, 2019, is $1,716,876. The levy for water distribution projects is calculated on a 20-year revolving model. The resulting levy calculated from the model is $4,226 per hectare.

7.2.3. WATER STORAGE

WS1 - Main Pressure Zone Reservoir Expansion

The need for the Main Pressure Zone Reservoir Expansion to support future growth was identified in the following report with cost estimates and project needs updated from time to time through further review and study.

- Town of Cochrane – Water and Wastewater (W3) Master Plan, December 2012

Typically, developers have constructed the supply mains and the storage reservoirs for various developments areas. However, the *Town of Cochrane Water and Wastewater (W3) Master Plan*, identified the need to expand the Town's main reservoir storage capacity to support development within this water pressure zone as this reservoir serves several development areas, this project will continue to remain an off-site levy project.

Project Description

This project includes an expansion of the existing 2-million-gallon reservoir. The expansion is planned to be constructed adjacent to the existing reservoir. The project location and pressure zone catchment are shown in **Figure 6**.

Project Cost

The cost for this project is provided in **Table 9**.

Table 9: Main Pressure Zone Reservoir Expansion Project

Project	Estimated Project Cost ($2020) Remaining / Future	Estimated Year for Construction Completion	Allocation of Benefit to New Development
WS1 - Main Pressure Zone Reservoir Expansion	$4,421,569	2025	100%

Project Beneficiaries

This project benefits all new development that develops in the main pressure zone catchment area (area-specific). The development zones that benefit from this project are zones 3, 4, 5, 6, 8, 9, 12, 13 and 17. The Main Pressure Zone catchment is shown on **Figure 6**. This project provides addition storage capacity.

There is no benefit to existing development as the current facility provides the storage capacity necessary for existing development. There is no asset renewal that results from the addition of this project.

Levy Calculation

The levy fund balance as of December 31, 2019, is $412,774. The levy for water storage projects is calculated on a capacity basis. The remaining benefitting area for recovery of this area-specific project is 296 hectares. Based on anticipated growth, recovery from the remaining hectares is anticipated to be achieved by the end of 2041. The resulting levy calculation from the model is $15,028 per hectare.

WS2 - River Heights Reservoir and Pump Station Expansion

The need for the River Heights Reservoir and Pump Station Expansion to support future growth was identified in the following report with cost estimates and project needs updated from time to time through further review and study.

- Town of Cochrane – Reservoir and Pump Station Expansion Preliminary Design Report, May 2021

Historically, developers have constructed the dedicated supply mains and storage reservoirs for various development areas. River Heights Reservoir and Pump Station Expansion is intended to also be financed by Industry through the off-site levy program. Through consultation with Industry, the 2021 Off-Site Levy Bylaw is to include the River Heights Reservoir and Pump Station Expansion. If a developer has entered into an agreement with the Town to construct this infrastructure, the off-site levy program will assist developer(s) in the recovery of the costs to frontend infrastructure for other developer(s). The Town has been collecting contributions towards an overall water storage solution in this catchment since 2017. These collections are reflected in the fund balance less the work expended to-date to advance the project.

Project Description

This project includes the expansion of the existing River Heights reservoir and pump station. The project is split into two phases. Phase 1 includes upsizing of existing pumps, electrical upgrades required to support the new pumps, a generator upgrade and the of the first cell of the ultimate two cell reservoir upgrade. Phases 2 includes the addition of a second expansion cell. The location of the project is shown in **Figure 6**.

Project Cost

The cost for this project is provided in **Table 10**.

Table 10: River Heights Reservoir and Pump Station Expansion Projects

Project	Estimated Project Cost ($2020) Remaining / Future	Estimated Year for Construction Completion	Allocation of Benefit to New Development
WS2 - River Heights Reservoir and Pump Station Expansion Phase 1	$7,681,373	2023	100%
WS2 - River Heights Reservoir and Pump Station Expansion Phase 2	$3,666,667	2038	100%

Project Beneficiaries

This project benefits all new development that develops in the River Heights catchment area (area-specific). The development zones that benefit from this project are zones 7, 14, 15, and 16. River Heights catchment is shown on **Figure 6**. This project provides addition storage capacity. There is no benefit to existing development as the current facility provides the storage capacity necessary for existing development.

Levy Calculation

The levy fund balance as of December 31, 2019, is $599,088. The levy for River Heights Reservoir and Pump Station Expansion is calculated on a capacity basis. The remaining benefitting area for recovery of this area-specific project is 403 hectares. Based on anticipated growth, recovery from the remaining hectares is anticipated to be achieved by the end of 2056. The resulting levy calculation from the model is $36,889 per hectare.

7.3. TRANSPORTATION OFF-SITE

The transportation projects required within the development window include projects as determined in the following reports with cost estimates and project needs updated from time to time through further review and study.

- James Walker Trail North Section: James Walker Trail, Bridge & Griffin Road Functional Design Report, October 2017
- Connecting Cochrane, March 2017

The projects are shown on **Figure 7**.

Project Description

- **T1 – Horse Creek Road CPR Crossing**
  This project is the extension of a roadway from Highway 1A to the west end of Quigley Drive. This project will only include the section across the CPR right of way from Paint Horse Drive to Quigley Drive. This project has been divided into two phases. Phase 1 includes an at-grade multi-use pathway. Phase 2 consists of a future two-lane roadway. More details of this project are included in **Appendix C**.
- **T2 - Centre Avenue – Hwy 1A to Railway Street**
  Arterial widening of Centre Avenue from Highway 1A to Railway Street.
- **T3 – Griffin Road – Griffin Industrial to Arena Intersection**
  This project consists of two phases. Phase 1 scope includes the first two lanes of Griffin Road arterial from Griffin Industrial Point to Arena Intersection. This project has been completed. Phase 2 reflects the design work only for the second two lanes of Griffin Road arterial from Griffin Industrial Point to arena intersection. Construction of the second two lanes is the responsibility of the adjacent landowner(s).
- **T4 – James Walker Trail (JWT) – Jack Tennant Memorial Bridge to Riviera Way Connection**
  First two lanes of JWT south from the Jack Tennant Memorial Bridge to Riviera Way connection. The second two lanes for this stretch of JWT are the responsibility of adjacent landowner(s).
- **T5 – James Walker Trail (JWT) – Rivera Way Connection to Southbow Intersection**
  Project consists of two phases. Phase 1 scope includes earthworks between Rivera Way and the intersection at Southbow landing and Summit of Riversong property boundary. Phase 2

consists of the first two lanes from Riviera Way connection to intersection at Southbow Landing and Summit of Riversong property boundary. The second two lanes for this stretch of JWT are the responsibility of adjacent landowner(s).

- **T6 – Griffin Road – Arena Intersection to Jack Tennant Memorial Bridge**
  This project consists of two phases. Phase 1 captures the two-lane connection from the intersection at the arena to the north end of Jack Tennant Memorial Bridge. Phase 2 includes the second two lanes from the intersection at the arena to the north end of Jack Tennant Memorial Bridge. More details of this project are included in **Appendix C**.
- **T7 – Jack Tennant Memorial Bridge**
  This project consists of two phases. Phase 1 scope includes the first two lanes of the Jack Tennant Memorial Bridge. Phase 2 scope includes the second two lanes of the Jack Tennant Memorial Bridge. More details of this project are included in **Appendix C**.
- **T8 – Griffin Road – Centre Ave to Griffin Industrial Point**
  Arterial widening to four lanes of Griffin Road from Centre Ave to Griffin Industrial Point – connection to other improvements south along Griffin Road.
- **T9 - James Walker Trail (JWT) – Southbow South Section Phase 2**
  This project includes the second two lanes of James Walker Trail through Southbow south section. Construction of the first two lanes along this stretch of JWT is the responsibility of the adjacent landowner(s).

Project Costs

Table 11 provides the list of Off-Site Transportation Projects.

Table 11: Off-Site Transportation Projects

Project	Estimated Project Cost ($2020) Remaining / Future	Anticipated Year for Construction Completion	Allocation of Benefit to New Development
T1 - Horse Creek CPR Crossing Phase 1	$365,301	2020	68%
T1 - Horse Creek CPR Crossing Phase 2	$2,148,946	2024	68%
T2 - Centre Avenue – Hwy 1A to Railway Street	$7,670,000	2022	80%
T3 - Griffin Road Phase 2	$600,000	2023	68%
T4 – James Walker Trail (JWT) Bridge to Riviera Way	$6,109,655	2020	68%
T5 – James Walker Trail (JWT) Phase 1	$1,213,400	2021	68%
T5 – James Walker Trail (JWT) Phase 2	$8,166,600	2025	68%

T6 – Griffin Road – Arena Intersection to Jack Tennant Memorial Bridge Phase 1	$1,078,174	2020	68%
T6 – Griffin Road – Arena Intersection to Jack Tennant Memorial Bridge Phase 2	$720,000	2035-2040	100%
T7 – Jack Tennant Memorial Bridge Phase 1	$2,400,417	2020	68%
T7 – Jack Tennant Memorial Bridge Phase 2	$21,190,000	2035-2040	100%
T8 – Griffin Road – Centre Ave to North Arterial	$5,223,877	2035-2040	68%
T9 - James Walker Trail – Southbow South Section Phase 2	$7,070,247	2035-2040	100%
Total	**$89,850,835**		

Project Beneficiaries

For the bulk of the off-site transportation projects, levies have been collected since 2005. The population in 2005 was utilized to determine the allocation of benefit for new development for these projects. The allocated benefit to existing residents for these off-site transportation projects (T1, T3, T4, T5, T6, T7 Phase 1 and T6 Phase 1) is based on the ratio of the 2005 population (13,400), to the estimated population at the end of the levy recovery window in 2035 (42,474). Therefore, the contribution to the project for existing population in the Town is 32% of the project cost and 68% for new development.

Arterial widening projects T2 and T8 are upgrades to existing Town roadways to provide increased capacity through the addition of two lanes of roadway. These projects require that overhead power lines be put underground to permit the widening. As such, the Town will contribute to this portion of the projects which equates to approximately 20%.

T6 (Phase 2) and T7 (Phase 2) represents the addition of two more lanes to Griffin Road (north connection to Jack Tennant Memorial Bridge) and Jack Tennant Memorial Bridge to accommodate increased capacity from growth. The initial phases of these projects were split with existing to reflect an improved level of service. Future improvements are allocated 100% to growth as they are purely capacity improvements.

T9 represents the addition of two more lanes to James Walker Trail. The first two lanes are to be built by boundary development. The need for the additional two lanes is attributed 100% to growth as it adds capacity to the existing two lanes.

Improving the Town's overall transportation network is a benefit to all development and therefore this levy is charged to all development zones.

Levy Calculation

The levy fund balance as of December 31, 2019, is $5,948,850. The levy for Off-Site Transportation projects is calculated based on a 20-year recovery model. The resulting levy calculation from the model is $129,463 per hectare.

7.4. HIGHWAY INTERSECTION PROJECTS

7.4.1. HIGHWAY 1A CENTRE AVE TO 5TH AVE INTERSECTIONS

The Highway 1A intersections improvements have been determined in the below reports with cost estimates and project needs updated from time to time through further review and study.

- Connecting Cochrane, March 2017
- Alberta Transportation - Highway 1A Twinning Functional Design, 2012

The projects are shown on **Figure 7**.

Project Description

- INT 1 – HWY 1 – Centre Ave to 5th Ave
  Improvements include upgrades to intersections along Highway 1A between Centre Avenue and 5th Avenue.to align with the twinning of Highway 1A. An overview of these projects is in **Appendix C**.

Project Cost

Table 12 provides an overview of the Highway 1A Intersections' project costs.

Table 12: Highway 1A Intersections Improvements Project Costs

Project	Estimated Project Cost ($2020) Remaining / Future	Anticipated Year for Construction Completion	Allocation of Benefit to New Development
INT 1 – HWY 1A – Centre Ave to 5th Ave	$17,470,588	2022-2023	54%

Project Beneficiaries

Highway 1A intersections located within Downtown Cochrane provide a regional benefit through improvement to the overall transportation network, access to the Town's central business area and access the region. As such, improvement of these Highway 1A intersections provide benefit to all development (existing and future) and will be charged to all development zones. The Highway 1A intersections (INT 1) within Downtown Cochrane also provide a benefit to regional users. This benefit has been determined to be approximately 10% based on anticipated usage of the intersections by non-Cochrane, regional users.

Collection for the Highway 1A improvement commenced through the 2018 Off-Site Levy Bylaw Update. Allocation of benefit was set through that update. Allocation of benefit to existing residents for these Highway 1A intersection improvements is based on the ratio of the 2016 population (25,800) to the estimated population when additional improvements (6-laned highway) have been identified

(population of 65,000). Therefore, contribution to the project for the existing population in the Town and regional users is 46% of the project cost, while 54% is allocated to future growth. Improving the Town's overall transportation network is a benefit to all development and therefore this levy is charged to all development zones.

Levy Calculation

The levy fund balance as of December 31, 2019, is $411,664. The levy for Highway 1A Intersections is calculated on a 20-yr development window (+/- 460Ha). This horizon aligns with master planning horizons, typical community build-out timeframes and is consistent with the calculation time horizon from other highway projects included in the Off-Site Levy Bylaw.

The resulting levy calculation from the model is $22,257 per hectare.

7.4.2. OTHER HIGHWAY INTERSECTIONS

Historically, developers have constructed highway intersections benefitting adjacent development areas. Other Highway Intersections are intended to be financed by Industry through the off-site levy program. Through consultation with Industry, the 2021 Off-Site Levy Bylaw includes these intersections. If a developer has entered into an agreement with the Town to finance and/or construct these intersections, the off-site levy program will assist developer(s) in the recovery of costs to frontend infrastructure for other developer(s). These highways reflect local roads connecting to a highway within the Town's boundary. The intersections have certainty around timing, project scope and costs and are required within the development window (20yrs).

- Connecting Cochrane, March 2017
- Class D cost estimates provided by Developers are included in **Appendix C**.

Project Description

- **INT 2 – Sunset North - HWY 22 and View Ridge Place**
  Project scope includes widening Highway 22 through intersection (building new road structure and constructing new ditch), installation of traffic signals, and streetlights at intersection.
- **INT 3 – Sunset South – HWY 22 and Sunset Blvd**
  Project scope includes widening Highway 22 through the intersection, installation of streetlights, and adjusting the westbound left to dual left turn lanes. Widening includes relocation of existing traffic signals, new road structure and reinstallation of guardrails along west side.
- **INT 4 – HWY 22 and James Walker Trail**
  Project scope includes widening Highway 22 through the intersection, and the addition of dual left turns lanes from Highway 22 to James Walker Trail. Widening includes new road structure, relocation of existing traffic signals and streetlighting, and installation of high-tension cable barrier. Widening will also require environmental and shallow utility work.

Project Cost

Table 13 provides the list of Highway Intersections to be financed by Industry and recovered through the Off-Site Levy Bylaw. The projects are shown on **Figure 7**.

Table 13: Other Highway Intersection Projects

Project	Estimated Project Cost ($2020) Remaining / Future	Anticipated Year for Construction Completion	Allocation of Benefit to New Development
INT 2 – Sunset North - HWY 22 and View Ridge Place	$2,192,181	2022-2024	100%
INT 3 – Sunset South – HWY 22 and Sunset Blvd	$3,416,144	2022-2024	100%
INT 4 – HWY 22 and James Walker Trail	$3,718,626	2022-2024	100%

Project Beneficiaries

These highway intersections provide direct access to specific development areas as well as providing a town-wide benefit through access to the Highways. These intersection improvements have historically been funded and financed by benefitting adjacent development areas. Through consultation with Industry, the 2021 Off-Site Levy Bylaw includes these new highway intersections. If a developer has entered into an agreement with the Town to construct this infrastructure, the off-site levy program will assist developer(s) in the recovery of the costs to frontend infrastructure for other developers. The intersections provide access and conditional capacity to the road network and therefore 100% of the benefit is provided to new development. Improving access to highways for new development is a benefit to all development and therefore this levy is charged on a town-wide basis to all development zones.

Levy Calculation

Levies for these Other highway intersections have not been collected in the past. As such, the starting fund balance for these intersections is $0.

The levy for Other Highway Intersections is calculated on a 20-year development window (+/- 460 Ha). This horizon aligns with master planning horizons and typical community build-out. Of course, repayment timing will vary over time depending on the rate of growth.

Given the uniqueness of each intersection (scope, cost, timing, etc.) and the possibility that developers may want to enter into agreements with the Town to front-end this infrastructure, each highway intersection levy is calculated and tracked separately.

The resulting levy rate from the model are:

Table 14: Other Highway Intersection Levy Rates

Project	Levy Rate per Hectare
INT 2 – Sunset North - HWY 22 and View Ridge Place	$6,000
INT 3 – Sunset South – HWY 22 and Sunset Blvd	$9,350
INT 4 – HWY 22 and James Walker Trail	$10,178

7.5. POLICE STATION FACILITIES

Project Description

The project consists of land acquisition and construction costs for new police station facilities, being a Protective Services Building. The new detachment will replace the current detachment within Downtown Cochrane.

The project location is shown in **Figure 8**.

Project Cost

The project cost estimate including land acquisition and construction costs is $27,700,000 ($2021). Land acquisition and preparation of the lands for construction of the building reflect approximately 17% ($4,700,000) of the total costs, while building construction is estimated at 83% ($23,000,000) of the total costs. The Province only contributes to costs related to the construction of the building (i.e., no Provincial contributions for land acquisition and preparation).

Project Beneficiaries

The new detachment will serve existing and future urban (Cochrane) and rural catchments. The RCMP utilize staff complements to determine the Provincial financial contribution to the overall facility, while population equivalents are utilized to determine benefit to existing residents and new development within the Town.

Based on current estimates, the Provincial capital contribution to the construction of the building is 39%. The estimated contribution from the Town towards the capital contribution for the construction of the building is 61%. The Town is to contribute 100% towards land acquisition and site preparation. Based on the current allocation of costs between the Town and Province, the Town is to contribute $18,708,775 towards the overall project.

Costs to the Town are to be split between existing residents and new development based on population. It is anticipated that the new building will service a Town population of +/- 57,000. The allocation of benefit to existing residents is based on the ratio of the 2021 population (31,252) to the anticipated capacity population for the new detachment (57,000). As such, the new detachment will provide benefit to a future population of 25,748 resulting in a benefit allocation of 45% to new development. The allocation of benefit to new development is only applied to the proportion of the overall costs attributed to the Town.

Levy Calculation

The levy fund balance as of December 31, 2019, is $(1,903,035). The levy for Police Station Facilities is calculated based on a build-out (capacity) model. The resulting levy calculation from the model is $15,377 per hectare.

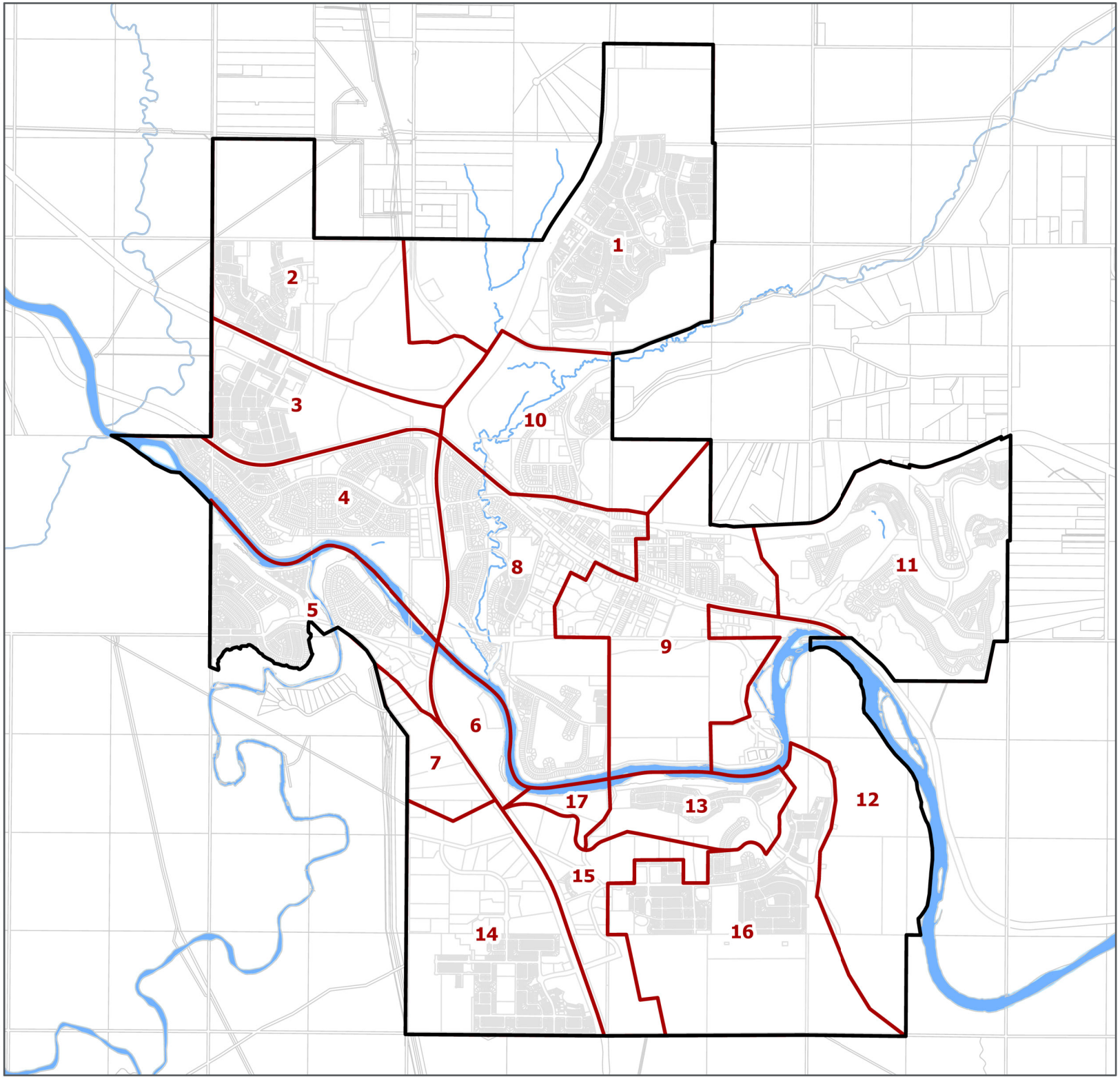
8. OFF-SITE LEVY

This section provides levy calculation based on assumptions provided in this report. **Table 14** provides the levies by development zone that will be effective as of the passing of the 2021 Bylaw. Every year (effective January 1) the levies shall increase by an inflation factor of 2% or as amended from time to time. The three-year horizons shown in **Table 14** are for quick reference. The levies **shall continue to inflate** at the noted rate until such time as the Bylaw is updated and new rates are established.

Table 14: Off-Site Levy Summary

Area	Sanitary Collection				Sanitary Disposal	Water Supply	Water Distribution	Water Storage		Transportation Off-Site	HWY Intersections				Police Station Facilities	Effective Until December 31, 2021	Effective Starting January 1, 2022	Effective Starting January 1, 2023
	Project SC1	Project SC2	Project SC3	Project SC4				Main Pressure Zone	River Heights Reservoir		HWY 22 - Sunset North	HWY 22 - Sunset South	HWY 22 - James Walker Trail	Hwy 1A - 5 Ave to Centre Ave				
1	$502	$2,650	$5,626	$12,672	$60,253	$13,669	$4,226			$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$292,223	$298,067	$304,028
2	$502	$2,650	$5,626	$12,672	$60,253	$13,669	$4,226			$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$292,223	$298,067	$304,028
3	$502	$2,650	$5,626	$12,672	$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$307,251	$313,396	$319,664
4	$502	$2,650		$12,672	$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$301,624	$307,657	$313,810
5	$502	$2,650		$12,672	$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$301,624	$307,657	$313,810
6	$502	$2,650		$12,672	$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$301,624	$307,657	$313,810
7	$502	$2,650		$12,672	$60,253	$13,669	$4,226		$36,889	$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$323,485	$329,955	$336,554
8	$502	$2,650			$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$288,952	$294,731	$300,625
9	$502				$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$286,302	$292,028	$297,869
10	$502	$2,650			$60,253	$13,669	$4,226			$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$273,924	$279,402	$284,990
11					$60,253	$13,669	$4,226			$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$270,772	$276,187	$281,711
12					$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$285,800	$291,516	$297,346
13					$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$285,800	$291,516	$297,346
14	$502				$60,253	$13,669	$4,226		$36,889	$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$308,163	$314,326	$320,613
15	$502				$60,253	$13,669	$4,226		$36,889	$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$308,163	$314,326	$320,613
16					$60,253	$13,669	$4,226		$36,889	$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$307,661	$313,814	$320,090
17	$502				$60,253	$13,669	$4,226	$15,028		$129,463	$6,000	$9,350	$10,178	$22,257	$15,377	$286,302	$292,028	$297,869

APPENDIX A: FIGURES



cochrane
HOW THE WEST IS NOW

Town of Cochrane

Offsite Levies - 2021

Development Zones

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

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Meters

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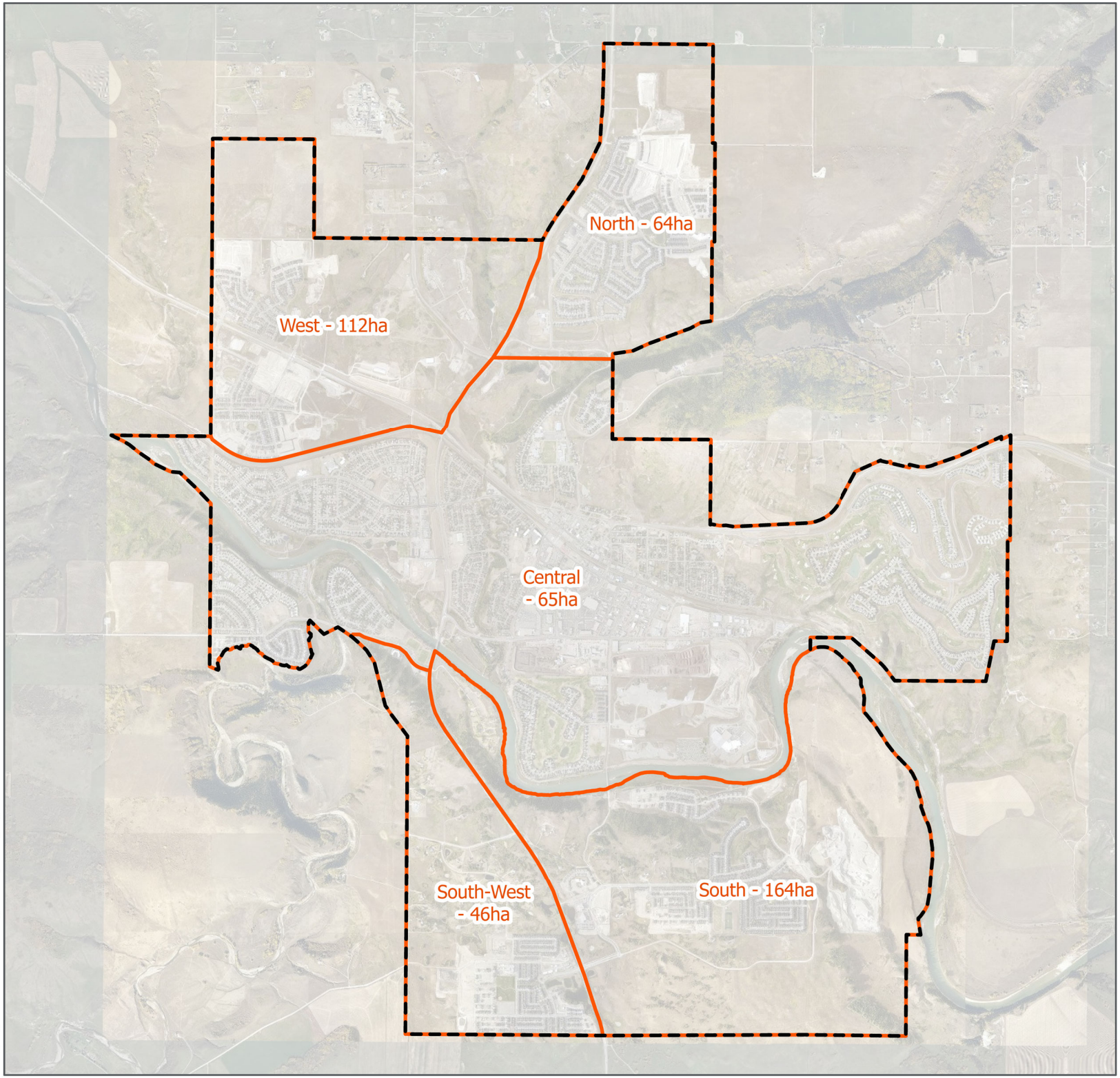
(When plotted at 8.5"x11")

Project #:	1728.0249.04
Author:	JW
Checked:	KN
Status:	Review
Revision:	A
Date:	2021 / 5 / 13

URBAN systems

FIGURE 1



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HOW THE WEST IS NOW

Town of Cochrane

Offsite Levies - 2021

Estimated Distribution of Development to 2039

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

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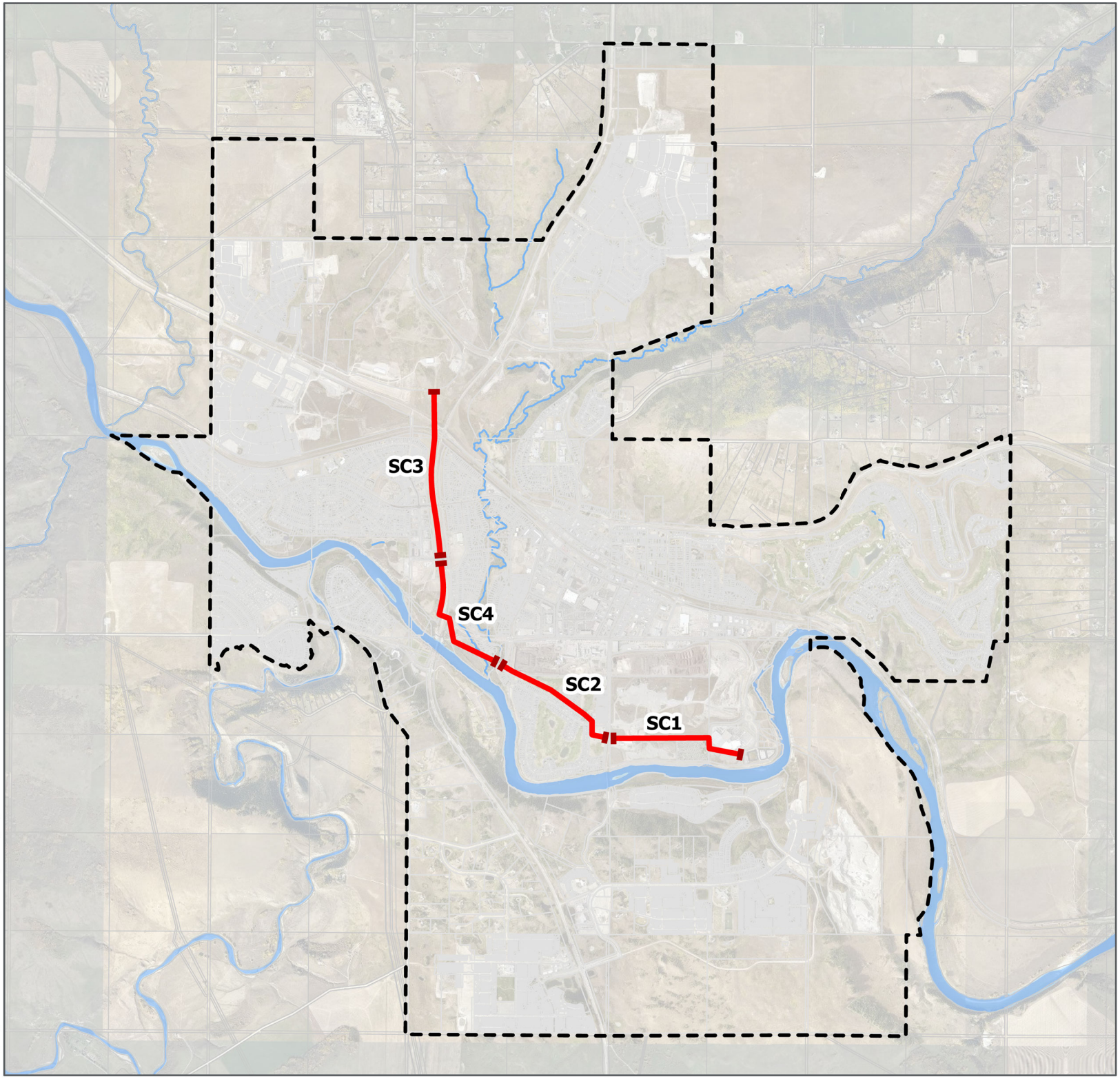
Author:	JW
Checked:	KN
Status:	Review
Revision:	A
Date:	2021 / 5 / 17

URBAN systems

FIGURE 2



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HOW THE WEST IS NOW

Town of Cochrane

Offsite Levies - 2021

Sanitary Collection Projects

Legend

Off-Site Sanitary Collection Projects

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

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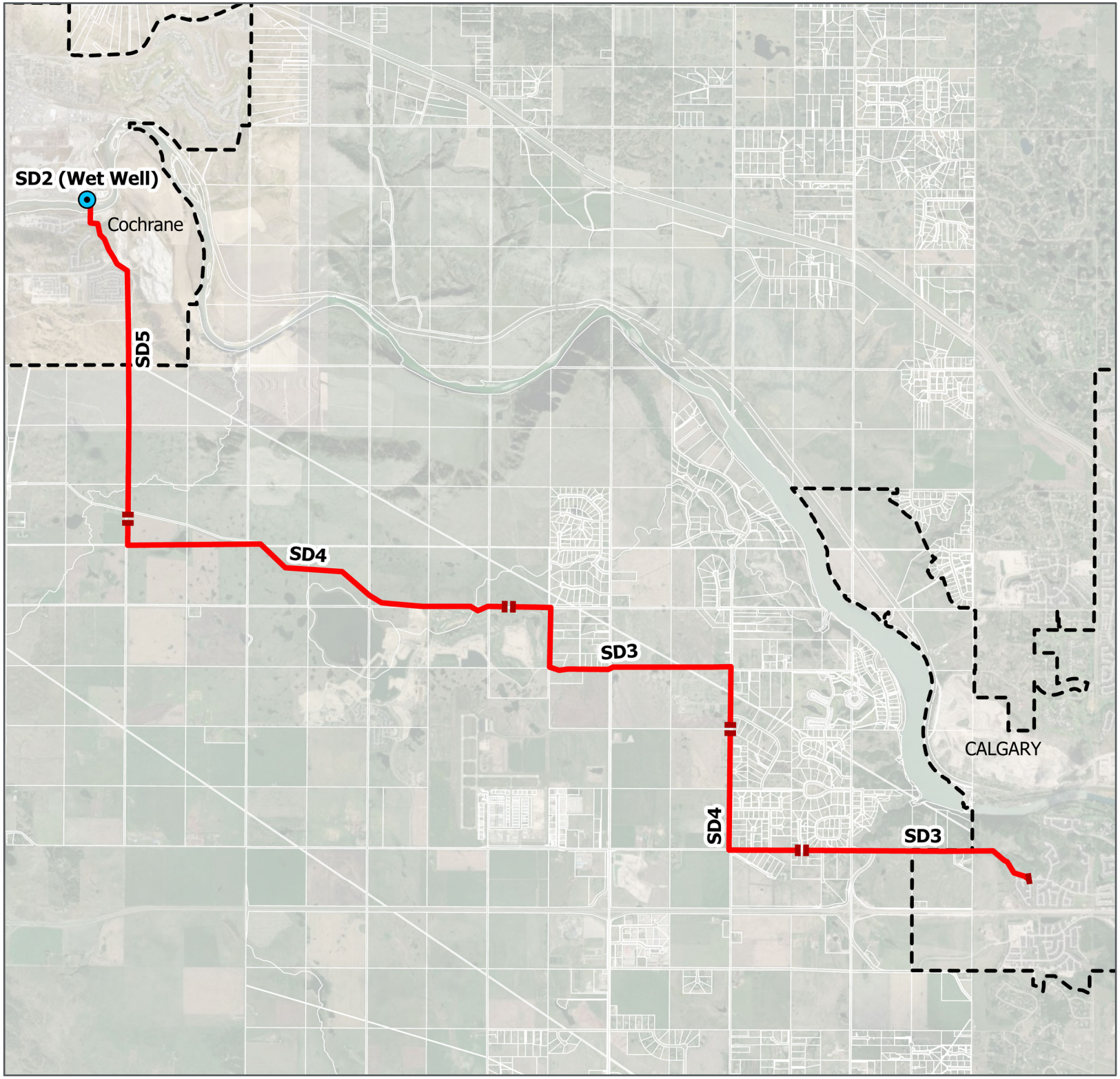
Revision:	A
Date:	2021 / 5 / 17

URBAN systems

FIGURE 3



cochrane
HOW THE WEST IS NOW

Town of Cochrane

Offsite Levies - 2021

Sanitary Disposal Projects

Legend

Off-Site Sanitary Disposal Projects

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Status:	Review
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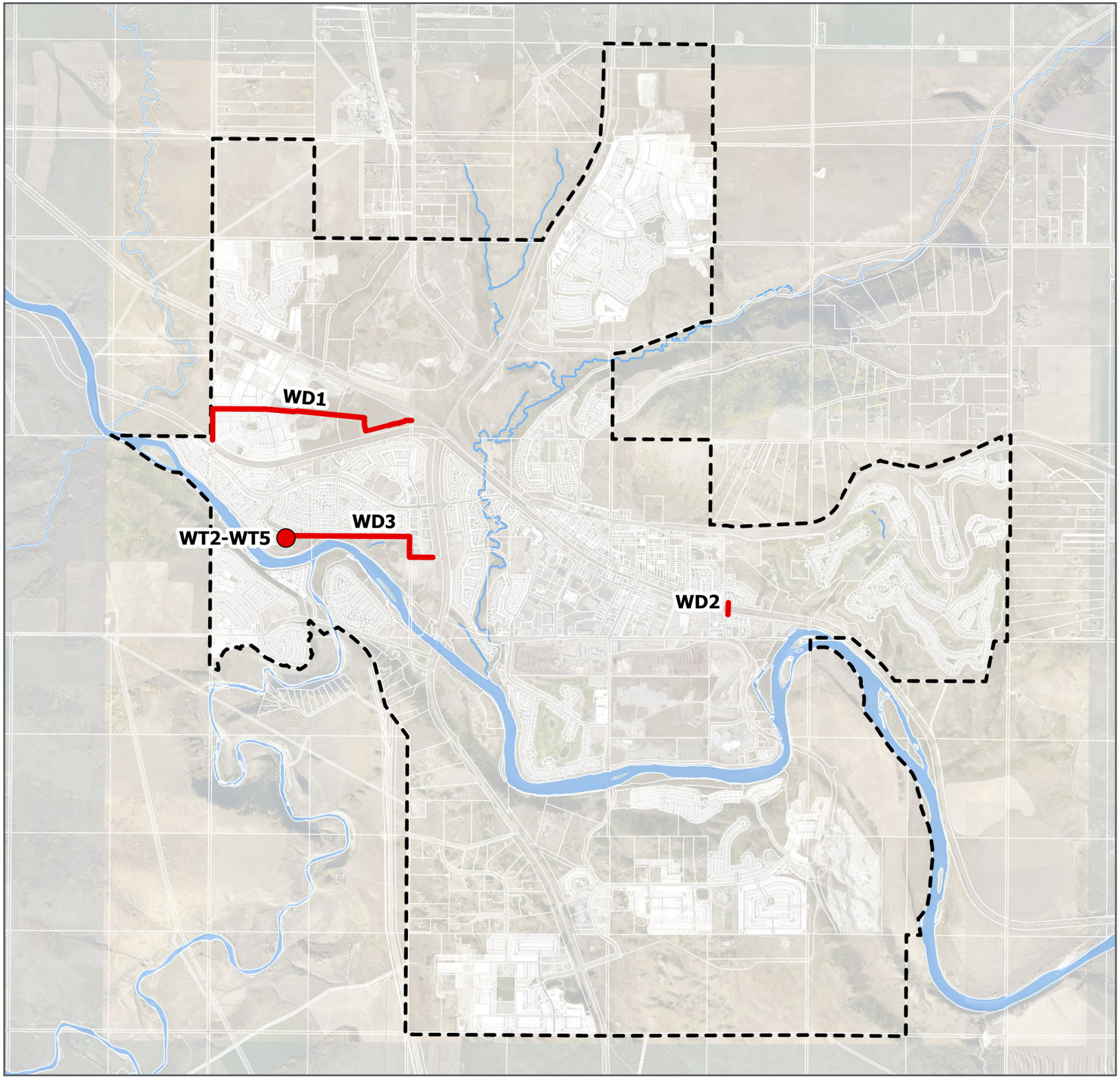
Date:	2021 / 5 / 17

URBAN systems

FIGURE 4



cochrane
HOW THE WEST IS NOW

Town of Cochrane

Offsite Levies - 2021

Water Treatment & Distribution

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

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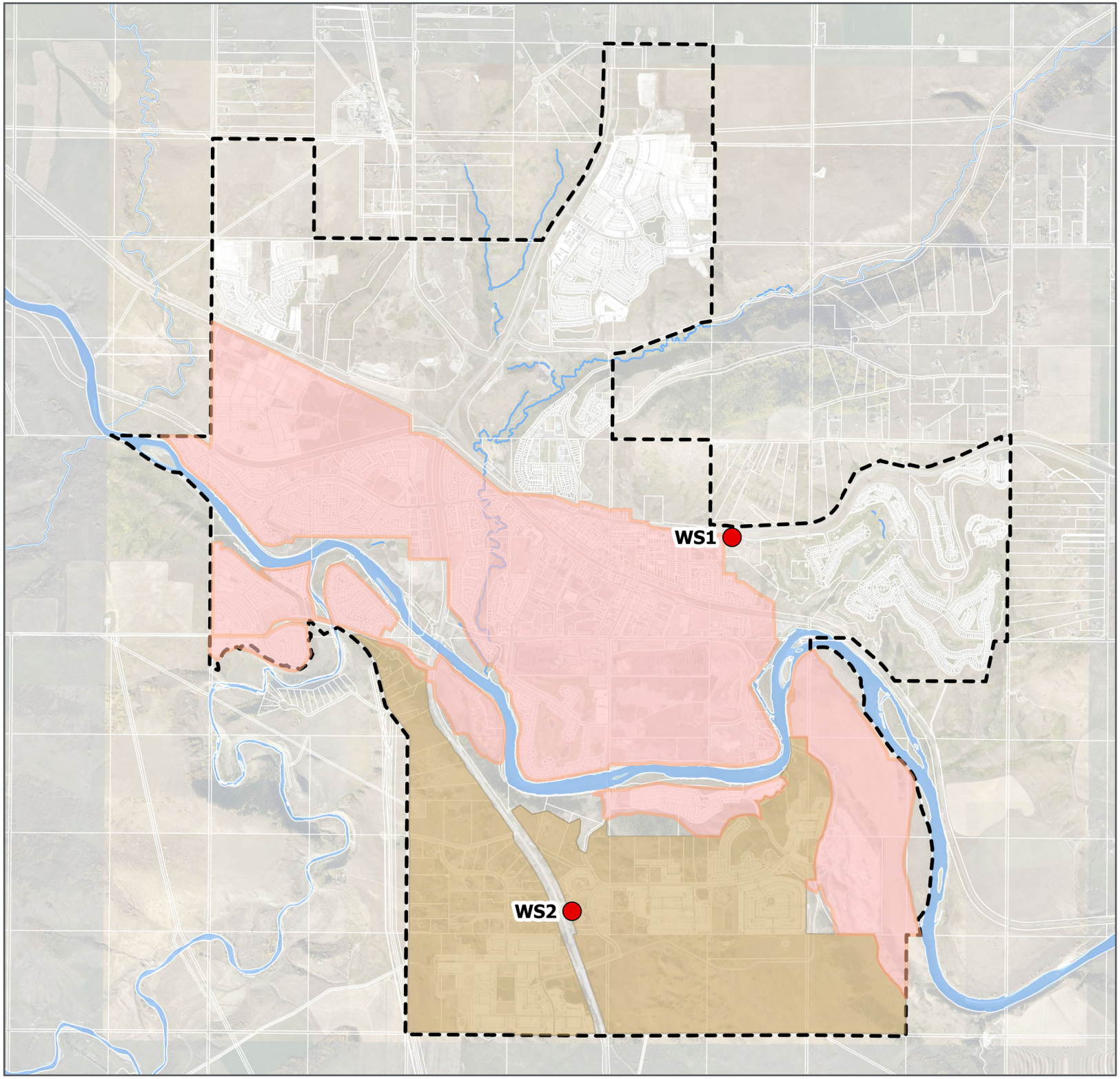
Author:	JW
Checked:	KN
Status:	Review
Revision:	A
Date:	2021 / 5 / 17

URBAN systems

FIGURE 5



Town of Cochrane

Offsite Levies - 2021

Water Storage

Legend

- Main Pressure Zone Catchment
- River Heights Catchment

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

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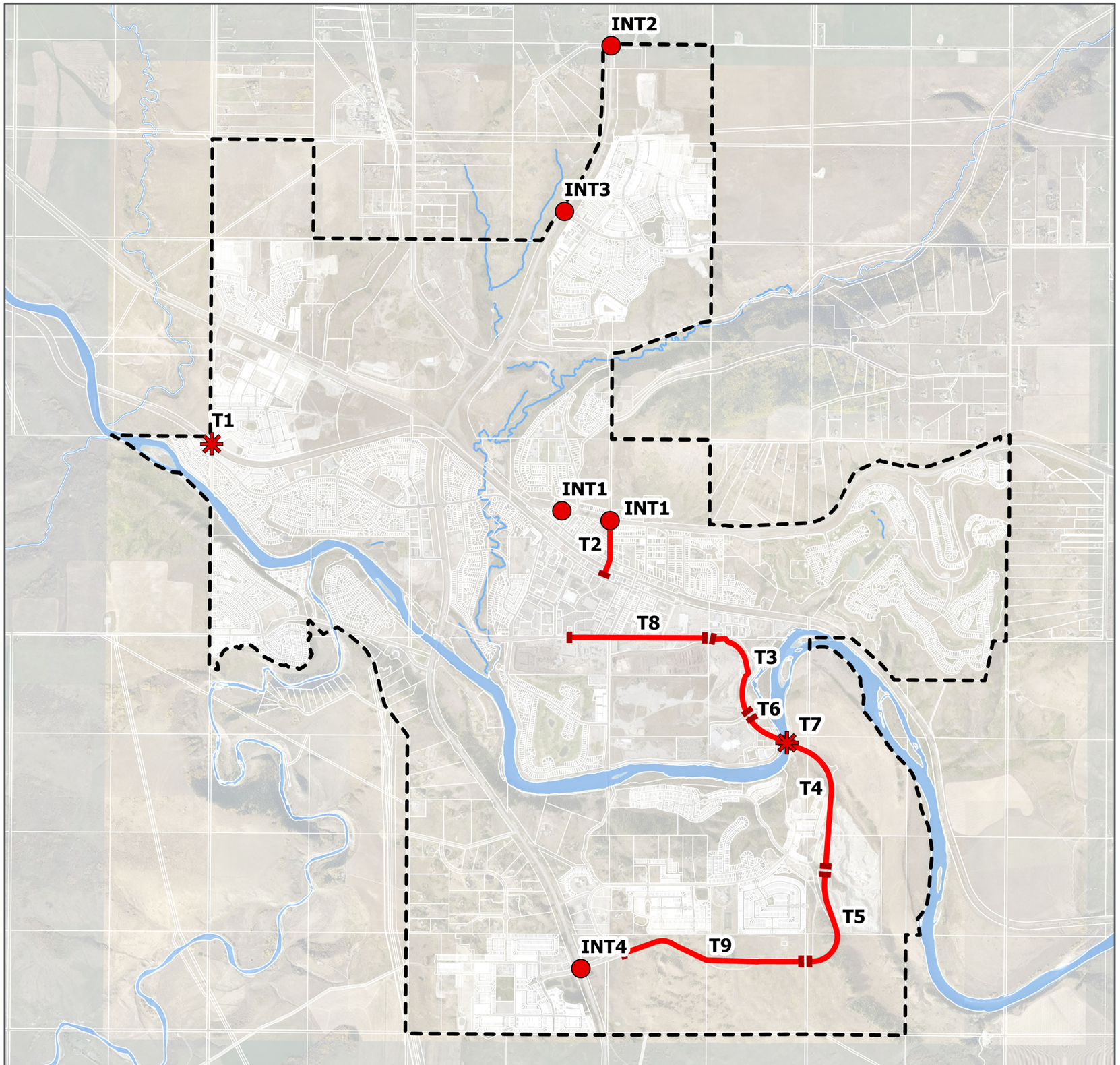
Author:	JW
Checked:	KN
Status:	Review
Revision:	A
Date:	2021 / 5 / 24

URBAN systems

FIGURE 6



cochrane
HOW THE WEST IS NOW

Town of Cochrane

Offsite Levies - 2021

Transportation Projects

Legend

- Highway Intersection Improvements
- Off-Site Transportation Improvements
- Off-Site Transportation Improvments

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

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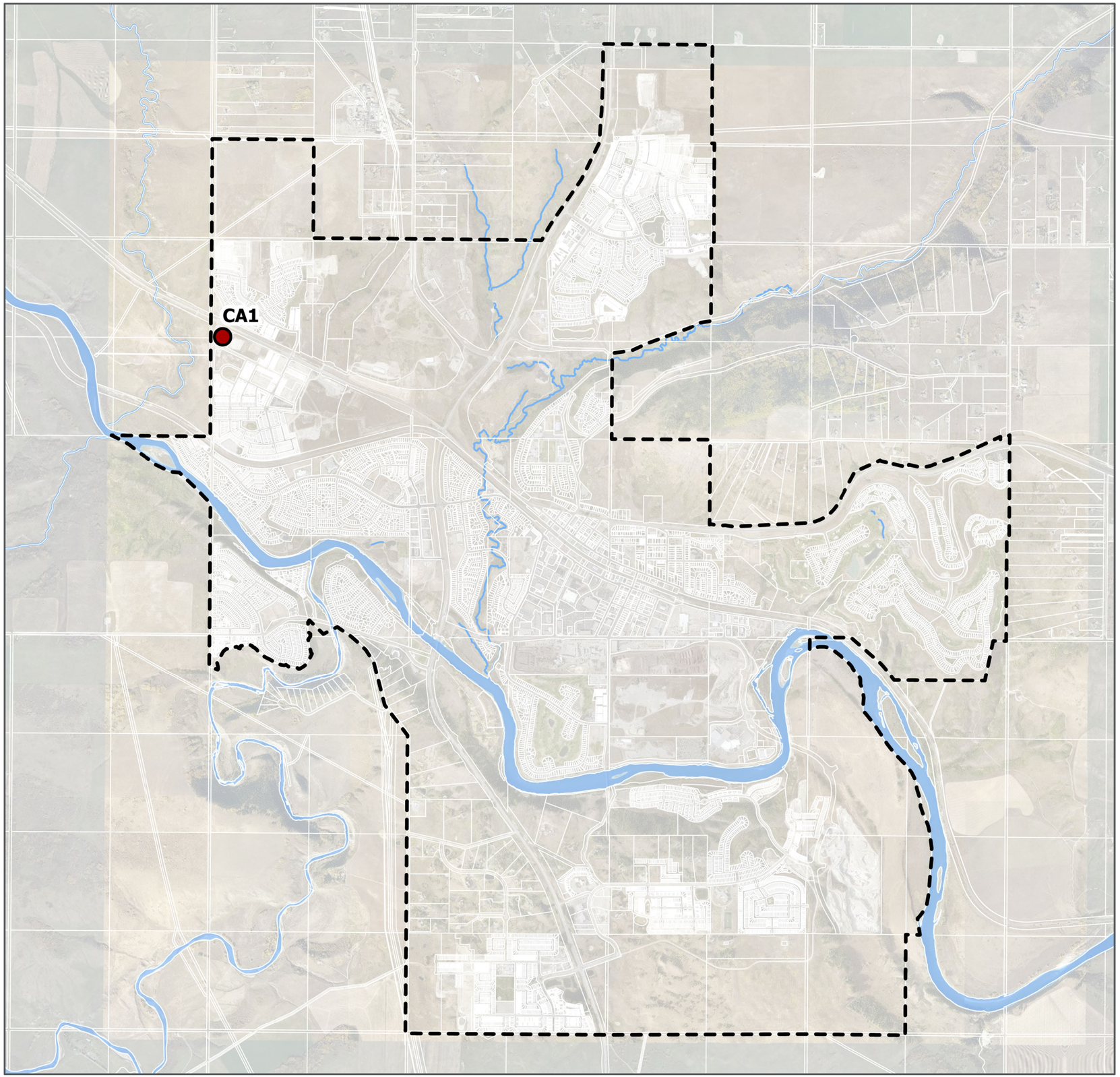
Author: JW
Checked: KN
Status: Review
Revision: A
Date: 2021 / 5 / 19

URBAN systems

FIGURE 7



cochrane
HOW THE WEST IS NOW

Town of Cochrane

Offsite Levies - 2021

Community Amenity Projects

Legend

- CA1 - Protective Services Building

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

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Meters

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Project #:	1728.0249.04
Author:	JW
Checked:	KN
Status:	Review
Revision:	A
Date:	2021 / 5 / 19

URBAN systems

FIGURE 8

APPENDIX B: GRANT CALCULATIONS

Alberta Municipal Water/Wastewater Partnership Grant Calculation

The Alberta Municipal Water/Wastewater Partnership (AMWWP) provides cost-shared funding to eligible municipalities to assist in the construction of municipal water supply and treatment as well as wastewater treatment and disposal facilities. Various initiatives have been included in the program to ensure the needs of Alberta municipalities are met.

Funding is provided as a percentage of eligible approved project costs. For communities over 1,000 and up to 45,000 like Cochrane, grant percentage ratios are calculated by a formula. The percentage ratio declines as the population increases. The following calculations are based on the formula provided by Alberta Transportation. Historically grants are not received in the year of construction. Instead, grants are received when Provincial resources permit allocation. As such, a two-year delay from the completion of construction is applied to reflect when grants are anticipated to be received. Alberta Transportation utilizes population as of grant allocation date to determine the grant amount. The formula for the Town of Cochrane is as follows:

Grant Percentage = 35 - 0.001 (Population - 10,000)

Project	2020 Estimated/Actual Cost	Anticipated Year Grant Received	Estimated Grant Amount
Sanitary Disposal Projects			
SD2 – Wet Well Phase 0	$6,253,329	2021	$1,461,910
Pipeline Phase 1	$14,705,000	2027	$1,198,016
Pipeline Phase 2	$13,095,307	2032	$365,438
Pipeline Phase 3 and 4	$22,911,481		$0
Water Supply and Treatment Projects			
WT3 – Addition of High Lift Pump & Strainers	$345,529	2025	$37,491
WT4 – Treatment Upgrades	$4,639,601	2029	$304,548
WT5 – Pump Replacement & Upgrades	$98,000	2035	$0

APPENDIX C: COST ESTIMATE UPDATES

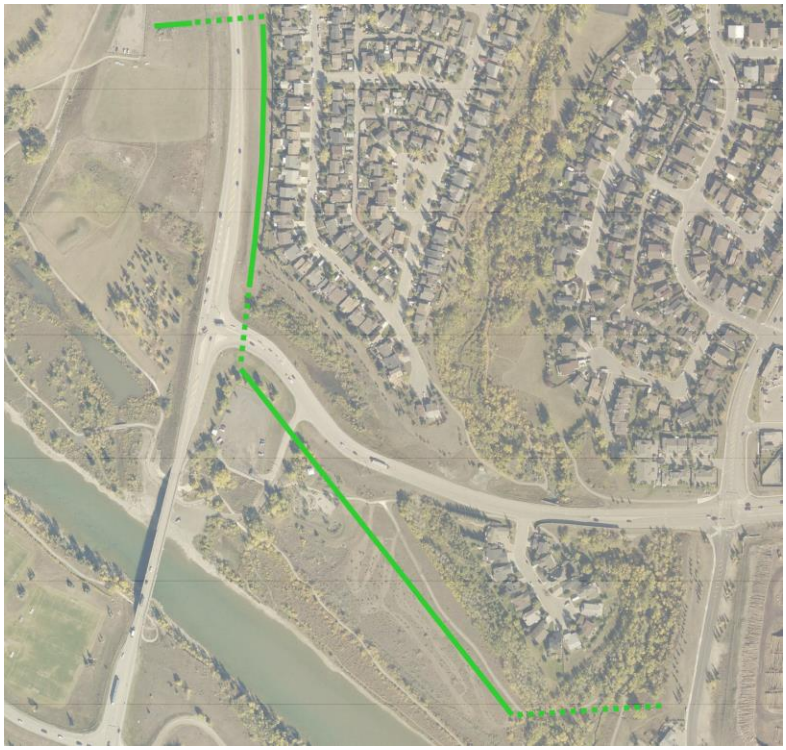


Figure 1. HWY 22 to Riverview Syphon Twinning

Improvements for the twinning of the syphon between HWY 22 and Riverview is based on the "West Valley Syphon Preliminary Design Report" by Urban Systems Ltd. in 2021. The twinning will include a full new pipe alignment from the west side of HWY 22 into the existing system on Riverview Dr. The proposed project includes new inlet and outlet control structures and three trenchless installations located under HWY 22, Griffin Rd, and the Big Hills Springs Creek.

Table 1. Summary of estimated cost.

HWY 22 to Riverview Syphon Twinning		
	2021 Dollars	2020 Dollars (Deflated by 2%)
Subtotal	$2,600,000	$2,549,020
35% Contingency	$910,000	$892,157
15% Professional Fees	$520,000	$509,804
Total Cost	$4,030,000	$3,950,980

The contingency assumed aligns with the Town of Cochrane's Capital Project Cost Estimate Development Policy.

Figure 1. Horse Creek Rd concept design.

This project consists of two phases. Phase 1 was constructed in 2020 and includes a 3-meter-wide multi-use pathway on Horse Creek Road that extends from Paint Horse Drive to Quigley Drive. The project incorporates an at-grade railroad crossing where the multi-use pathway intersects the CP railway tracks, approximately 100 meters north from Quigley Dr. The Town of Cochrane anticipates the section will be upgraded to a two-lane undivided roadway (Phase 2) in the future. The anticipated cost estimate for Phase 2 is reflected below in Table 1.

Table 1. Summary of Estimated Costs

Phase 2 - Two-Lane Roadway ($2018)	
Subtotal	$1,350,000
50% Contingency	$675,000
Total Cost	**$2,025,000**

The contingency assumed aligns with the Town of Cochrane's Capital Project Cost Estimate Development Policy. The design of the future roadway are based on topographical information, Canadian Pacific Railway requirements at the crossing, 2014 Transport Canada's Grade Crossings Standards, 2014 City of Calgary's Design Guidelines for Subdivision Servicing and 2015 City of Calgary's Road Construction Standard Specifications, and 2017 TAC Geometric Design Guide for Canadian Roads.

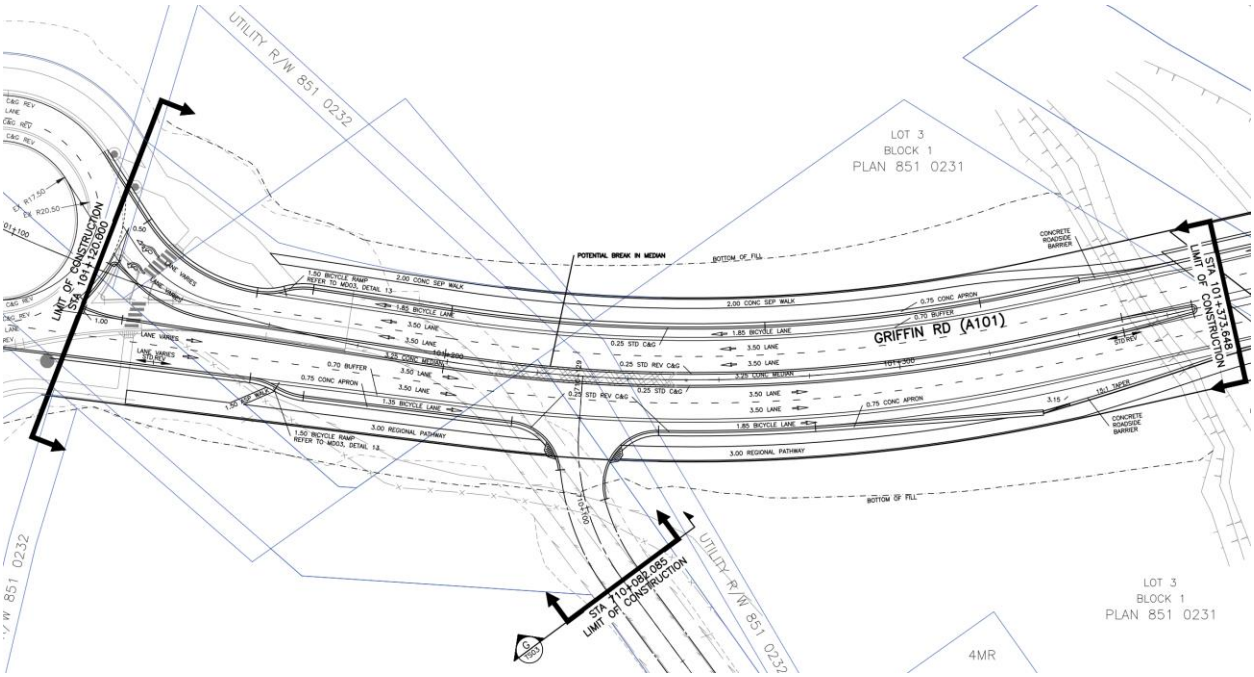


Figure 1. Griffin Road - 4 Lane Widening Arena Rd to Bridge.

Improvements for the widening of Griffin Road from 2 Lanes to 4 Lanes is based on the "James Walker Trial Preliminary Design Report" by Urban Systems Ltd. in 2018. The widening of the corridor will include the construction of additional roadway width north of the existing road as illustrated in Figure 1. The upgrades contemplated include two 3.5m vehicular lanes a 1.5m bike lane and a 2.0m separate sidewalk. The ultimate stormwater and earthworks for the additional two lanes have already been constructed. This project primarily includes surface works to build the two ultimate northbound lanes.

Table 1. Summary of estimated cost.

Griffin Road - 4 Lane Widening Arena Rd to Bridge		
	2021 Dollars	2020 Dollars (Deflated by 2%)
Subtotal	$482,000	$472,549
30% Contingency	$144,000	$141,176
15% Professional Fees	$94,000	$92,157
Total Cost	$720,000	$705,882

The contingency assumed aligns with the Town of Cochrane's Capital Project Cost Estimate Development Policy.

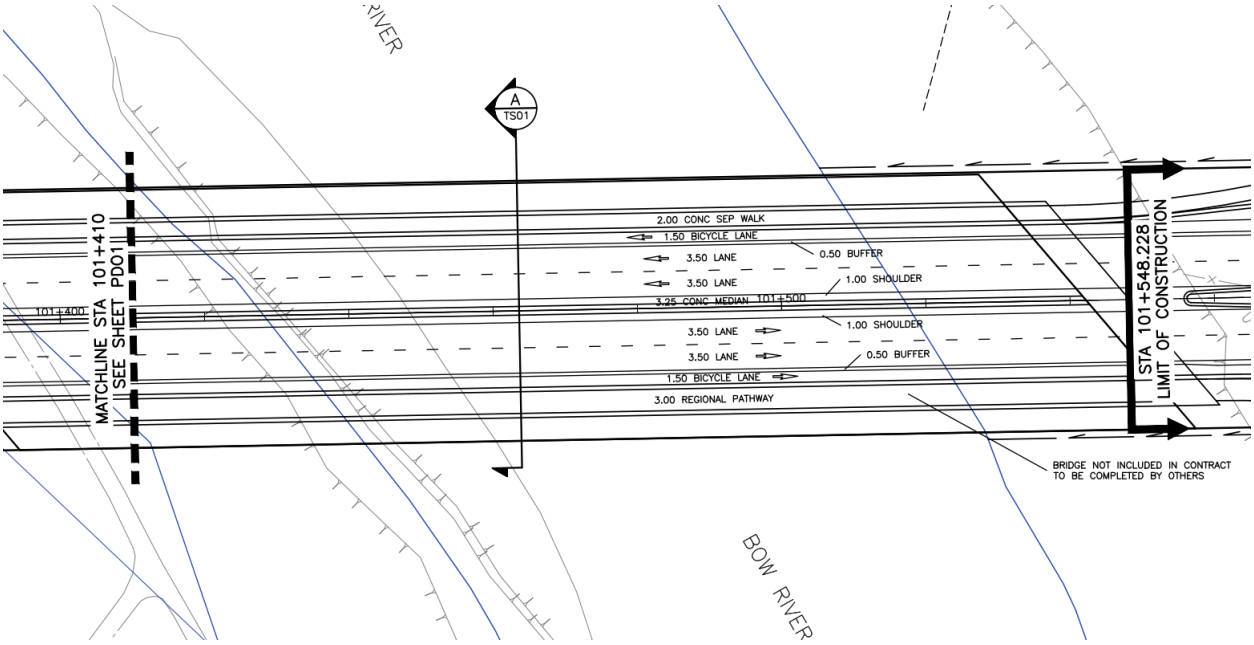


Figure 1. Jack Tennant Memorial Bridge - 4 Lane Widening.

Improvements for the widening of the Jack Tennant Memorial Bridge from 2 Lanes to 4 Lanes is based on the "James Walker Trial Preliminary Design Report" by Urban Systems Ltd. in 2018. The widening of the corridor will include the construction of a second bridge north of the existing bridge illustrated in Figure 1. The upgrades contemplated include a second bridge consisting of two 3.5m vehicular lanes a 1.5m bike lane and a 2.0m separate sidewalk. In addition to the expected cost for design and construction, the estimated cost below includes environmental and public lands compensation expected to achieve regulatory approvals for the instream piers.

Table 1. Summary of estimated cost.

Jack Tennant Memorial Bridge - 4 Lane Widening		
	2021 Dollars	2020 Dollars (Deflated by 2%)
Subtotal	$14,200,000	$13,921,569
30% Contingency	$4,240,000	$4,156,863
15% Professional Fees	$2,750,000	$2,696,078
Total Cost	$21,190,000	$20,774,510

The contingency assumed aligns with the Town of Cochrane's Capital Project Cost Estimate Development Policy.

Figure 1. Highway 1A Intersection Improvements.

Improvements for the intersections of Highway 1A at Centre Avenue and at 5 Avenue are proposed based on the "Highway 1A Twinning Functional Design" by ISL Engineering in 2012 for Alberta Transportation. The extent of the intersection improvements are illustrated in Figure 1. The upgrades contemplated coincide with twinning of Highway 1A, the closure of the existing road north of the intersection of 4 Avenue and Highway 1A, and the realignment of 4 Avenue through 5 Avenue. Access from 3 Street to Highway 1A is proposed to allow westbound movement to Highway 1A. An asphalt pathway will be located on the north side and a sidewalk on the southside of the Highway.

Table 1. Summary of estimated cost.

Intersection Improvements Highway 1A		
	2021 Dollars	2020 Dollars (Deflated by 2%)
Subtotal	$14,600,000	$14,313,725
7.5% Contingency	$1,075,000	$1,053,922
7.5% Construction Management and Testing	$1,075,000	$1,053,922
7.5% Detailed Design	$1,070,000	$1,049,020
Total Cost	$17,820,000	$17,470,588

The contingency assumed aligns with the Town of Cochrane's Capital Project Cost Estimate Development Policy. The estimated cost includes removals, surface works, landscaping, MSE walls, secant pile walls, underground storm sewer, three storm management facilities, shallow and overhead utilities, streetlighting and traffic signal infrastructure, road marking and signage, construction traffic management, and erosion and sediment control.

Title: INT 2, INT3, INT 4 - HWY Intersections – To be Financed by Industry

Date: May 25, 2021

The following highway intersections are to be frontended (financed) by developer(s) and funds recovered through the Off-Site Levy Program. Highway intersections included, but to be financed by developer(s), reflect local roads connecting to a Highway within the Town's boundary. The intersections have certainty around timing, project scope and costs and are required within the development window (20yrs).

Cost estimates have been provided by developers and are attached for reference. Adjustments have been made to the costs estimates provided to align with the Town's Capital Contingency Policy, to ensure consistent application of contingency and design and engineering costs and adjust projects to 2020 dollars. Note, an annual inflation factor of 2% has been utilized. The table below reflects the project costs, as provided, and amended.

Summary of Estimated Costs by Intersection

INT 2 – Sunset North - HWY 22 and View Ridge Place

Project Costs ($2016) – As Provided	$1,304,500
Contingency (35%)	$456,575
Sub Total w/ Contingency	$1,761,075
Engineering (15%)	$264,161
Total Estimate Project Costs ($2016)	$2,025,236
Total Estimated Project Costs ($2020)	**$2,192,181**

INT 3 – Sunset South – HWY 22 and Sunset Blvd

Project Costs ($2017) – As Provided	$2,073,500
Contingency (35%)	$725,725
Sub Total w/ Contingency	$2,799,225
Engineering (15%)	$419,884
Total Estimate Project Costs ($2017)	$3,219,109
Total Estimated Project Costs ($2020)	**$3,416,144**

INT 4 – HWY 22 and James Walker Trail ($2018)

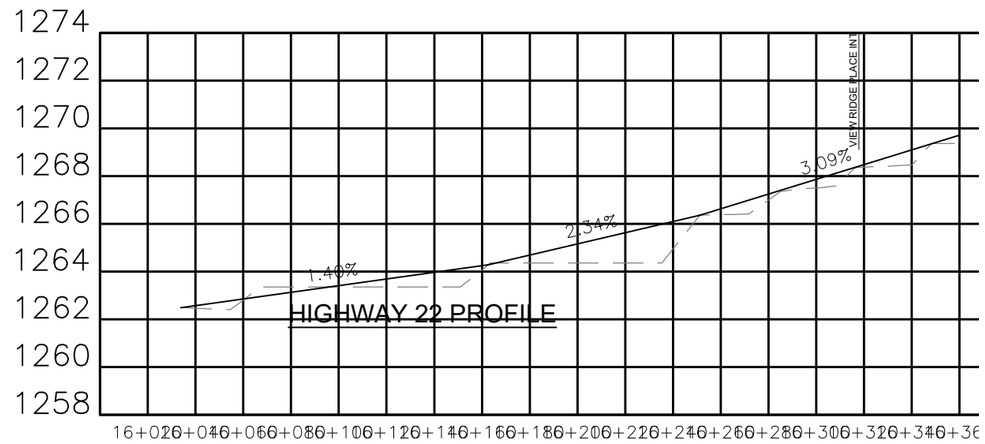
Project Costs ($2018) – As Provided	$2,302,240
Contingency (35%)	$805,784
Sub Total w/ Contingency	$3,108,024
Engineering (15%)	$466,204
Total Estimate Project Costs	$3,574,228
Total Estimated Project Costs ($2020)	**$3,718,626**

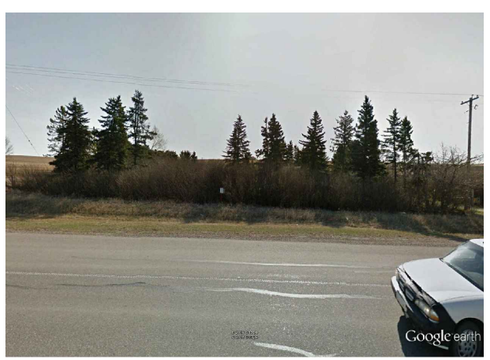
INT 2 - Sunset North - HWY 22 and View Ridge Place
- Provided by Developer

October 2016

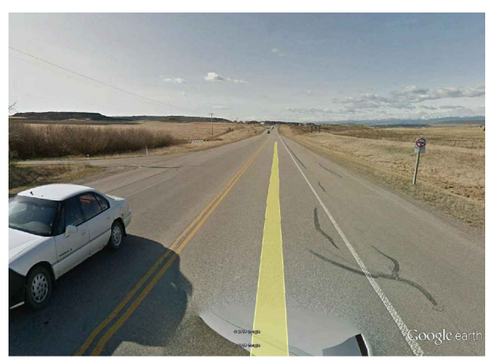
Highway 22 Road Widening

Item	Quantity (Rounded)	Unit		Unit Price		Total
Stripping and grubbing	4700	m^2	$	15	$	70,500.00
Pavement Structure	1800	m^2	$	150	$	270,000.00
Loam and Seed	3600	m^2	$	30	$	108,000.00
Ditch(2m deep x 5m wide)	2500	m^3	$	30	$	75,000.00
Misc						
Traffic Signal	1	LS	$	500,000	$	500,000.00
Street Light	4	LS	$	12,000	$	48,000.00
Detour Allowance	1	LS	$	150,000	$	150,000.00
Erosion and sediment control	1	LS	$	10,000	$	10,000.00
Lane Marking & Signage Allowance	1	LS	$	10,000	$	10,000.00
				Subtotal:	$	1,241,500.00
				Utilities (5%):	$	63,000.00
				Contingency (20%):	$	249,000.00
				Subtotal:	$	1,553,500.00
				Engineering (15%):	$	234,000.00
				Total (Rounded):	$	1,800,000.00

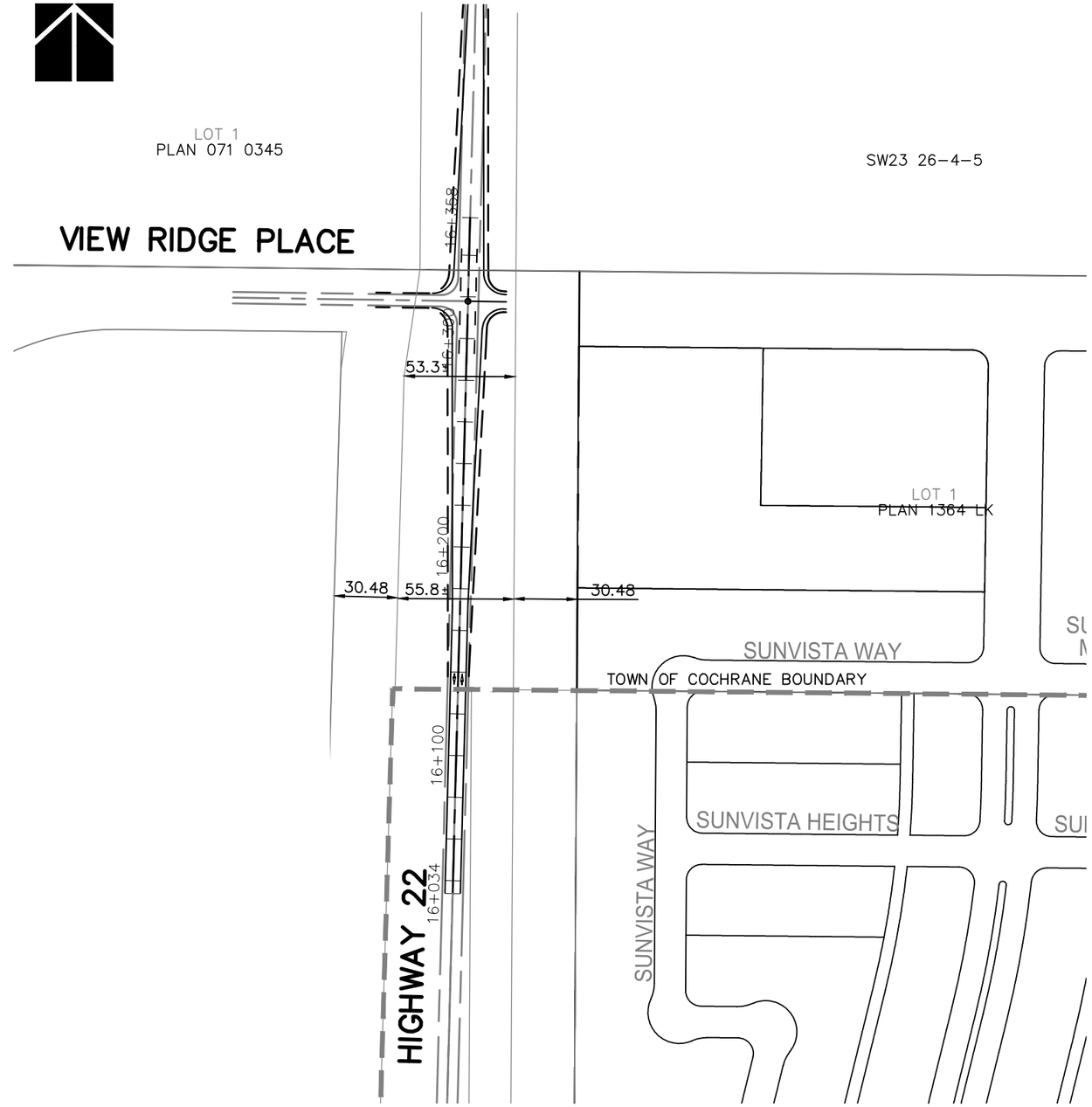




HIGHWAY 22 LOOKING EAST



HIGHWAY 22 LOOKING SOUTH



Legend:

SUNSET RIDGE

NORTH ACCESS

EXHIBIT 1
SCALE: 1:2500

ISL Engineering and Land Services

PRELIMINARY
FOR DISCUSSION ONLY
SUBJECT TO REVISION

Alex Ho / Apr. 2, 19 / \\CGY FS\Projects\26700\26716_Sunset_Ridge_North_Access\02_CAD\20_Drafting\201_Twp_Rd_263_Intersection\26716_PRDY_AUTOTURN_NORTH.dwg

Order of Magnitude Opinion of Cost
Highway 22 / Sunset Boulevard Dual WBL
November 2017

Item #	Description	Unit	Estimated Unit Rate	Estimated Quantity	Estimated Total
				Highway 22 / Sunset Boulevard	Highway 22 / Sunset Boulevard
1	**BREAKOUT AND REMOVAL**				
1.1	Remove Existing Guardrail	m	$30	370	$11,100.00
1.2	Remove Existing Pavement Structure	m^2	$10		
1.3	Supply and Install Existing Guardrail	m	$100	370	$37,000.00
2	**EARTH WORKS**				
2.1	Top Soil Stripping	m^3	$10.0	5,200	$52,000.00
2.2	Common Excavation - Onsite Cut/Fill	m^3	$10.0	9,500	$95,000.00
2.3	Subgrade Preparation	m^2	$2	10,700	$21,400.00
2.4	Waste	m^3	$20	5,000	$100,000.00
2.5	Borrow	m^3	$15	7,200	$108,000.00
3	**GRAVEL**				
3.1	80mm - Crushed Gravel (250mm thick)	t	$25	6,820	$171,000.00
3.2	25mm - Crushed Gravel (200mm thick)	t	$30	5,056	$152,000.00
4	**ASPHALT PAVEMENT**				
4.1	Base Course Asphalt - 110mm thick	t	$95	2,929	$279,000.00
4.2	Surface Course - 110mm thick	t	$100	2,829	$283,000.00
4.3	Tack Coat	m^2	$1	9,700	$10,000.00
4.4	Prime Coat	m^2	$1	9,700	$10,000.00
5	**CONCRETE STRUCTURE**				
5.1	Median and Island Fill (100mmthick)	m^2	$100		
5.2	250mm Std. Curb and Gutter	m	$110		
6	**TRAFFIC CONTROL AND SIGNAGE**				
6.1	Remove Existing Lane Marking	m	$4	1,500	$6,000.00
6.2	Remove Directional Arrows	ea.	$200	5	$1,000.00
6.3	Pavement Marking	m	$10	4,640	$47,000.00
6.4	Directional Arrows	ea.	$400	15	$6,000.00
6.5	Traffic Signage	LS	$5,000	1	$5,000.00
6.6	Traffic Signal (Highway 22)	ea.	$500,000		
6.7	Traffic Signal (Sunset Ridge Internal)	ea.	$500,000		
6.8	Traffic Signal Relocate	ea.	$250,000	1	$250,000.00
6.9	Temp Traffic Control	LS	$10,000	1	$10,000.00
7	**LANDSCAPING AND EROSION CONTROL**				
7.1	Seeding	m^2	$5	3,400	$17,000.00
7.2	Respread Loam (150mm)	m^3	$5	530	$3,000.00
7.3	ESC Measures	LS			$50,000.00
8	**STREETLIGHTING**				
8.1	Supply and Install Streetlight including Base, Pull Box and Ducting	ea.	$12,000	15	$178,000.00
8.2	Remove and Reolcate Existing Streetlight including PreCast Base, Pull Box and Ducting	ea.	$6,000	12	$72,000.00
	SUB-TOTAL CONSTRUCTION COST				**$1,974,500.00**
	SUB-TOTAL CONSTRUCTION COST (ROUNDED)				$1,975,000
	CONTINGENCY	20%			$395,000
	UTILITIES	5%			$99,000
	TOTAL				**$2,469,000**
	ENGINEERING	15%			$371,000
	PROJECT TOTAL (2017 DOLLARS - ROUNDED)				**$2,900,000**

INT 3 - Sunset South - HWY 22 and Sunset Blvd.
- Provided by Developer

Preliminary Estimate Summary Hwy 22:16 and James Walker Trail Intersection
WSP Estimate August 30 2018

Bid Item Description	Unit	Total Estimated Quantity	Projected Unit Price Estimate	Project Cost	Notes
Supply of Aggregate	tonne	14,900	$ 1.50	$ 22,350.00	
Common Excavation	cu.m.	27,500	$ 9.50	$ 261,250.00	
Common and/or Borrow Excavation Loaded to Trucks	cu.m.	5,900	$ 15.00	$ 88,500.00	
Granular Base Course	tonne	9,200	$ 25.00	$ 230,000.00	
Cold Milling Asphalt Pavement	sq.m.	3,000	$ 3.00	$ 9,000.00	
Asphalt Concrete Payment - Mix Type H1	tonne	4,500	$ 73.00	$ 328,500.00	
Asphalt Concrete Payment - Mix Type S3	tonne	1,500	$ 65.00	$ 97,500.00	
Intersection Lines - Supply Paint and Painting	LS	1	$ 30,000.00	$ 30,000.00	
Remove and Dispose of Existing Guardrail	m	443	$ 25.00	$ 11,075.00	
High Tension Cable Barrier	m	450	$ 100.00	$ 45,000.00	
High Tension Cable Barrier End Terminal - Supply and Install	unit	4	$ 7,500.00	$ 30,000.00	
Concrete Swale - Remove and Dispose	m	225	$ 55.00	$ 12,375.00	
Concrete Wheelchair Ramps - Remove and Dispose	unit	1	$ 500.00	$ 500.00	
Concrete Wheelchair Ramps	unit	7	$ 750.00	$ 5,250.00	
Concrete Curb and Gutter - Remove and Dispose	m	140	$ 55.00	$ 7,700.00	
Catch Basin Removal	unit	1	$ 5,000.00	$ 5,000.00	
Catch Basin - Supply and Install (600mm dia x 1.83 m)	unit	1	$ 4,000.00	$ 4,000.00	
Adjust Catch Basins	unit	2	$ 2,500.00	$ 5,000.00	
Curb and Gutter	m	680	$ 150.00	$ 102,000.00	
Solid Concrete Islands	sq.m.	162	$ 200.00	$ 32,400.00	
Solid Concrete Medians	sq.m.	385	$ 200.00	$ 77,000.00	
Median Concrete Surfacing	sq.m.	750	$ 100.00	$ 75,000.00	
Cutting of Pavement	m	1,400	$ 10.00	$ 14,000.00	
Ancillary Work	Ls	1	$ 100,000.00	$ 100,000.00	Signage, ESC, seeding, and other minor work
Illumination Relocation	Ls	1	$ 90,000.00	$ 90,000.00	Relocate existing light standards
Traffic Signals	LS	1	$ 150,000.00	$ 150,000.00	Reconfigure traffic signals
Subtotal				*$ 1,833,400.00*	
Mobilization	LS	10%		$ 183,340.00	
Hard Costs Subtotal				*$ 2,016,740.00*	

Other Costs

Wetland Assessment & Permits				$ 15,000.00	Does not include any requirements should wetlands be classified as permanent
Widelife Survey				$ 10,000.00	Separate budget required should any species at risk be identified
Shallow Utility Work & Relocation				$ 150,000.00	Will need to be explored in detail
Environmental Compensation				$ 110,500.00	
Engineering		10%	10%	$ 201,674.00	
Subtotal				*$ 487,174.00*	

Total Estimated Cost	$ 2,503,914.00
15% Contingency	$ 375,587.10
TOTAL	**$ 2,879,501.10**

INT 4 - HWY 22 and James Walker Trail - Provided by Developer

APPENDIX D: REDEVELOPMENT CALCULATION EXAMPLES

Redevelopment Calculation Examples

Commercial Use to Commercial Use

Overview
Zone: 8
Development Area: 0.5ha
Offsite Levy: $288,952ha
Existing Use: Commercial Use - 145m^2

Proposed Development
Commercial Use: 200m^2
Incremental Intensity: 0.28 [(200m^2 – 145m^2)/200m^2)]

Redevelopment Levy Calculation
$288,952x 0.5ha x 0.28 = $40,453

Residential Use to Mixed Use

Overview
Zone: 8
Development Area: 1ha
Offsite Levy: $288,952ha
Existing Use: Residential Use - 8 units

Proposed Development
Mixed-use Development

- Commercial Use: 1,000m^2
- 120 residential units

Incremental Intensity: 0.93 [(120-8)/120]

Redevelopment Levy Calculation
$288,952 x 1ha x 0.93 = $268,725

Redevelopment Levy Calculation = Off-Site Levy X Development Area X Incremental Intensity

Incremental Intensity accounts for existing uses on the site, which may be reflected through the number of units or total floor area. Incremental Intensity will be determined by the Town of Cochrane utilizing historical development intensity and proposed development plans to establish base line and future intensity of use levels.