BYLAW 2020-27

Office Consolidation current as of March 6, 2024

A BYLAW OF THE TOWN OF CANMORE, IN THE PROVINCE OF ALBERTA, TO IMPOSE OFF-SITE LEVIES IN RESPECT OF LAND OR BUILDINGS THAT ARE TO BE SUBDIVIDED, DEVELOPED OR ARE TO UNDERGO A CHANGE IN USE OR INTENSITY OF USE

WHEREAS Part 17, Division 6 of the Municipal Government Act, R.S.A. 2000 Chapter M-26, provides that the council of a municipality may pass a bylaw establishing an Off-Site levy;

WHEREAS the council for the Town of Canmore deems it desirable to establish an Off-Site levy for the purposes described in the Act;

NOW THEREFORE the Council for the Town of Canmore in the Province of Alberta, duly assembled, enacts as follows:

TITLE

1 This bylaw shall be known as Off-Site Levy Bylaw 2020-27.

PURPOSE AND INTENT

2 This bylaw is intended to:

a) impose and provide for the payment of a levy to be known as an Off-Site Levy in respect of Applicable Land; and

b) authorize agreements to be entered into in respect to payment of Off-Site Levies to ensure that the developer of each parcel of Applicable Land pays a proportionate share of the costs to provide new or expanded infrastructure required for the zone in which the Applicable Land is located.

DEFINITIONS

3 In this bylaw:

a) "Act" shall mean the Municipal Government Act, R.S.A. 2000, Chapter M-26.

b) "Applicable Land" shall mean land that is to be subdivided or developed.

c) Repealed 2024-01

d) "Off-Site levies" mean the levies imposed by this bylaw.

e) "Off-Site levy model" means the independent, third-party model employed by the Town to calculate Off-Site levies as further referenced in section 10.

f) "Service Demand Factor(s)" and "SDF(s)" means the relative demand for infrastructure services that result from different development types, with low density residential infrastructure having a baseline factor of one (1.0) with other development types scaled accordingly, as further described in section 7 and Schedule 8.

g) "development" has the same meaning as provided for in Part 17 of the Act.

h) "commercial unit" is set multiple of hectares of commercial development, with one (1) commercial hectare of development equal to 37commercial units of development.

i) "commercial development" means all non-residential and non-hotel development.

j) "hotel unit" means a unit where sleeping facilities are provided for visitors for periods of up to 30 days and where the total floor area of the unit is 75 square meters or less.

k) "hotel development" means any development, or relative portion of a development, that is visitor accommodation or other use that provides short-term accommodation to visitors. Tourist homes, as a sub class of residential use, are not considered as hotel or a visitor accommodation use.

l) "residential unit" means a self-contained room or suite of rooms which normally provide sleeping, washing, sanitary and kitchen facilities, and which is intended for domestic use and includes residential units operated as tourist homes and/or visitor accommodation units that are larger than 75 square meters in size.

m) "residential development" means development of a dwelling unit, or units, for residential purposes at a range of densities (and may or may not include accessory uses such as home occupations or live work studios):

    i. Residential - Low Density: <35 units per hectare,

    ii. Residential - Medium / High Density: 35 and greater units per hectare,

n) "existing residential unit" means a residential unit that is existent on a parcel at the time of application for redevelopment or that had existed on the parcel within the previous 5 years from the date of application but has been demolished.

o) "tourist home", "live work studio", "secondary suite" and "home occupation" have the same meaning as the definitions contained in the Town's Land Use Bylaw (2018-22 or current version as updated).

2024-01

ADMINISTRATION AND ENFORCEMENT

4 Council hereby delegates to the chief administrative officer the duty and authority to enforce and administer this bylaw and to execute on behalf of the Town, written agreements with owners of Applicable Land providing for the payment of Off-Site levies imposed by this bylaw.

2024-01

DIVISION INTO AREAS

5 The Town is hereby divided into fifteen Off-Site Levy Cost Recovery Zones which are indicated in Table 1 below and demonstrated in Schedule 1 of this bylaw. Two additional zones are attributed to the Municipal District of Bighorn (MD).

Table 1

Zone	Description
1	Silvertip and Cougar Point
2	Palliser
3	Cougar Creek and Eagle Terrace
4	Elk Run Industrial
5	Larch
6	BVT North, Railway Avenue, Spring Creek North
7	Teepee Town
8	Industrial Triangle
9	BVT South and Spring Creek Mountain Village
10	Fairholme, Town Centre, South Canmore
11	Three Sisters Dr, Rundle Dr, Rundleview, Peaks of Grassi
12	Quarry Pines
13	Three Sisters Village
14	Smith Creek and Stewart Creek
15	Dead Man's Flats (MD)
16	Harvie Heights (MD)
17	William Street

2024-01

6 The MD benefits from infrastructure and services provided by the Town of Canmore but does not pay Off-Site Levies to the Town. Fees for Fire, Water and Sanitary infrastructure payable by the MD to the Town, are calculated in separate servicing agreements based on various infrastructure master plans such the 2022 Utility Master Plan. These agreements are factored into the determination of Off-Site levies payable to the Town by the development community, by excluding the relevant project costs in the Off-Site Levy model which are attributable to the MD.

2024-01

IMPOSITION OF OFF-SITE LEVIES

7 The Town shall distinguish the differential benefit of offsite infrastructure according to four land use development types (Commercial, Hotels, Residential Low Density and Residential Medium/High Density) using SDFs. SDFs are presented as relative to Residential Low Density Development having an SDF of 1.0. SDFs for water and sanitary infrastructure are informed by utility design rates from the 2022 Utility Master Plan (UMP) as indicated in Schedule 8 and Table 2 below.

Table 2

Development Type	Service Demand Factors per Infrastructure Type				
	Transportation	Water	Sanitary	Storm	Fire
Commercial	2.0	1.3	1.3	2.0	2.0
Hotels	0.67	1.1	1.1	0.67	0.67
Residential - Low Density	1.0	1.0	1.0	1.0	1.0
Residential - Med / High Density	0.75	1.0	1.0	0.75	0.75

2024-01

8 The following Off-Site levy rates are imposed for each Zone for each type of development, with each Zone number from Table 1 being identified with the four possible types of development as follows:

a) Type 1 for Commercial,

b) Type 2 for Hotel,

c) Type 3 for Residential Low Density

d) Type 4 for Residential Med / High Density.

2024-01

9 The resulting infrastructure contributions to the total Off-Site levy rates / unit for each Zone and development type is listed in Table 3 below.

Table 3

Zone & Dev Type	Transportation ($/Unit)	Water ($/Unit)	Sanitary ($/Unit)	Storm ($/Unit)	Fire ($/Unit)	Total ($/Unit)
1.1	1,333	2,290	8,018	-	2,309	13,950
1.2	446	1,938	6,785	-	774	9,942
1.3	666	1,761	6,168	-	1,155	9,750
1.4	500	1,761	6,168	-	866	9,295
2.1	1,333	2,724	8,075	1,017	2,309	15,457
2.2	446	2,305	6,832	341	774	10,697
2.3	666	2,095	6,211	508	1,155	10,635
2.4	500	2,095	6,211	381	866	10,053
3.1	1,333	2,005	8,018	-	2,309	13,665
3.2	446	1,697	6,785	-	774	9,701

3.3	666	1,543	6,168	-	1,155	9,531
3.4	500	1,543	6,168	-	866	9,076
4.1	1,333	2,005	8,018	-	2,309	13,665
4.2	446	1,697	6,785	-	774	9,701
4.3	666	1,543	6,168	-	1,155	9,531
4.4	500	1,543	6,168	-	866	9,076
5.1	1,333	2,005	8,387	-	2,309	14,035
5.2	446	1,697	7,097	-	774	10,014
5.3	666	1,543	6,452	-	1,155	9,815
5.4	500	1,543	6,452	-	866	9,360
6.1	1,333	3,956	14,818	849	2,309	23,265
6.2	446	3,348	12,538	285	774	17,390
6.3	666	3,043	11,398	425	1,155	16,687
6.4	500	3,043	11,398	319	866	16,126
7.1	1,333	7,605	12,189	22,936	2,309	46,372
7.2	446	6,435	10,314	7,684	774	25,652
7.3	666	5,850	9,376	11,468	1,155	28,515
7.4	500	5,850	9,376	8,601	866	25,193
8.1	1,333	2,005	8,387	-	2,309	14,035
8.2	446	1,697	7,097	-	774	10,014
8.3	666	1,543	6,452	-	1,155	9,815
8.4	500	1,543	6,452	-	866	9,360
9.1	1,333	4,123	10,660	849	2,309	19,274
9.2	446	3,488	9,020	285	774	14,013
9.3	666	3,171	8,200	425	1,155	13,617
9.4	500	3,171	8,200	319	866	13,056
10.1	1,333	2,724	9,501	-	2,309	15,866
10.2	446	2,305	8,039	-	774	11,563
10.3	666	2,095	7,308	-	1,155	11,224
10.4	500	2,095	7,308	-	866	10,769
11.1	1,333	1,839	8,181	-	2,309	13,662
11.2	446	1,556	6,922	-	774	9,699
11.3	666	1,415	6,293	-	1,155	9,529
11.4	500	1,415	6,293	-	866	9,074
12.1	1,333	1,839	8,181	-	2,309	13,662
12.2	446	1,556	6,922	-	774	9,699
12.3	666	1,415	6,293	-	1,155	9,529
12.4	500	1,415	6,293	-	866	9,074
13.1	1,333	2,531	8,181	-	2,309	14,353
13.2	446	2,141	6,922	-	774	10,284
13.3	666	1,947	6,293	-	1,155	10,061

13.4	500	1,947	6,293	-	866	9,605
14.1	1,333	14,560	11,510	-	2,309	29,711
14.2	446	12,320	9,739	-	774	23,279
14.3	666	11,200	8,854	-	1,155	21,874
14.4	500	11,200	8,854	-	866	21,419
15.1	MD Bighorn: Subject to Separate Servicing Agreements					
15.2						
15.3						
15.4						
16.1	MD Bighorn: Subject to Separate Servicing Agreements					
16.2						
16.3						
16.4						
17.1	1,333	3,956	12,672	849	2,309	21,119
17.2	446	3,348	10,723	285	774	15,575
17.3	666	3,043	9,748	425	1,155	15,036
17.4	500	3,043	9,748	319	866	14,475

2024-01

DETERMINATION OF OFF-SITE LEVIES

10 The rates contained in Table 3 were determined in accordance with an independent, third-party Off-Site levy model developed by CORVUS Inc. This model ensures Off-Site Levy rates are based on current infrastructure cost estimates, consistent with legislative and regulatory requirements, and include the full impact of infrastructure staging, land development staging, financing costs, inflation, and reserve interest impacts.

2024-01

10.1 The interest rate methodologies used in the determination of Off-Site Levy rates typically include:

a) annual project and levy escalation rates: Bank of Canada median CPI,
b) interest earned if reserve has a surplus: Bank of Canada prime rate, minus 1.75%,
c) interest charged if reserve has a deficit: Treasury Board of Alberta 25-year lending rate.

2024-01

10.2 The Off-Site Levy rates shall be reviewed following updates to the Utility Master Plan and other master plans for municipal infrastructure, facilities, development, or services intended to be used as inputs into the Offsite Levy model.

2024-01

11 The following Schedules form part of this bylaw and shall be used in the determination of Off-site levies:

a) Schedule 1 - Off Site Levy Cost Recovery Zones,
b) Schedule 2 - Summary of Projects and Cost Recovery,
c) Schedule 3 – Summary of Project Benefitting Areas,
d) Schedule 4 – Summary of Planned Project Staging,

e) Schedule 5 – Rolling 25 Year Development Plan,
f) Schedule 6 – 2022 UMP Project Cost Share Summary,
g) Schedule 7 – 2022 UMP WWTP Project Cost Share Summary,
h) Schedule 8 - Service Demand Factors.

2024-01

12 If a grant specific to the project is utilized by the Town to pay for any eligible expenses relating to a project contained in the Off-Site levy model, then those funds shall be included in the Off-Site levy model and the Off-Site levies adjusted accordingly.

13 A "secondary suite" shall not count as an additional unit for the purposes of calculating off site levies, with the exception of where these additional units are required to be provided by as part of a land use district.

14 Where a mixed use development is proposed, the developer shall pay Off-Site levy rates for the areas where the development occurs as shown in Table 3. The calculation of Off-Site levy rates is based on the percentage distribution between different types of developments and is calculated as the percentage utilization of total building floor area. Note that one (1) commercial hectare of development is equal to 37 units of commercial development. For example:

A new 4,000 m² (0.4 Hectare) development site is proposed in Zone 1 which includes commercial development utilizing 25% of the total building floor area and 20 medium/high density residential units:

Since the residential density is 20 units / 0.4 ha = 50 units / hectare, the medium / high density residential rate is applicable. Using Table 3 for Zone 1 commercial rate (Row 1.1) and medium/high density residential rate (Row 1.4):

Commercial = 0.4 (ha) x 25% Total Floor Area x 37 (Units/ha) x $13,950/Unit = $51,615
Residential = 20 Med-High Density Residential Units x $9,295/Unit = $185,900
Total Off-Site Levy = $51,615+ $185,900= ***$237,515***

2024-01

CHANGE OF USE OR INTENSITY OF USE

15 Repealed 2024-01

16 Where a development is proposed on a site that has previously paid off site levies, additional levies may be collected for infrastructure types that were not previously collected for. For example, a site that paid for water and sanitary levies, will be required to pay for other types of infrastructure that were not previously collected (e.g. road and fire facility) as per current rates in this bylaw.

17 For parcels which have not previously contributed offsite levies but where a unit or units exists on a parcel that is to be redeveloped with one or more units, the total units requiring payment of offsite levies shall be calculated as follows:

Total units requiring offsite levies = # new units **-** # of existing units

For example where a single family home (1) is demolished and replaced with a duplex (2) the total units required to pay offsite levies is one (2-1=1).

18 Credit for existing commercial development measured in hectares rather than units may be considered by Town administration when calculating offsite levies owing for commercial parcels which have not previously contributed offsite levies. The calculation will take into consideration existing and new demand for infrastructure.

2024-01

ENACTMENT/TRANSITION

19 If any clause in this bylaw is found to be invalid, it shall be severed from the remainder of the bylaw and shall not invalidate the whole bylaw.

20 Repealed 2024-01

21 Bylaw 2018-06 is repealed.

22 This bylaw comes into force on the date it is passed.

FIRST READING: December 1, 2020

SECOND READING: January 5, 2021

THIRD READING: January 5, 2021

DATE IN EFFECT: January 7, 2021

OFFICE CONSOLIDATION

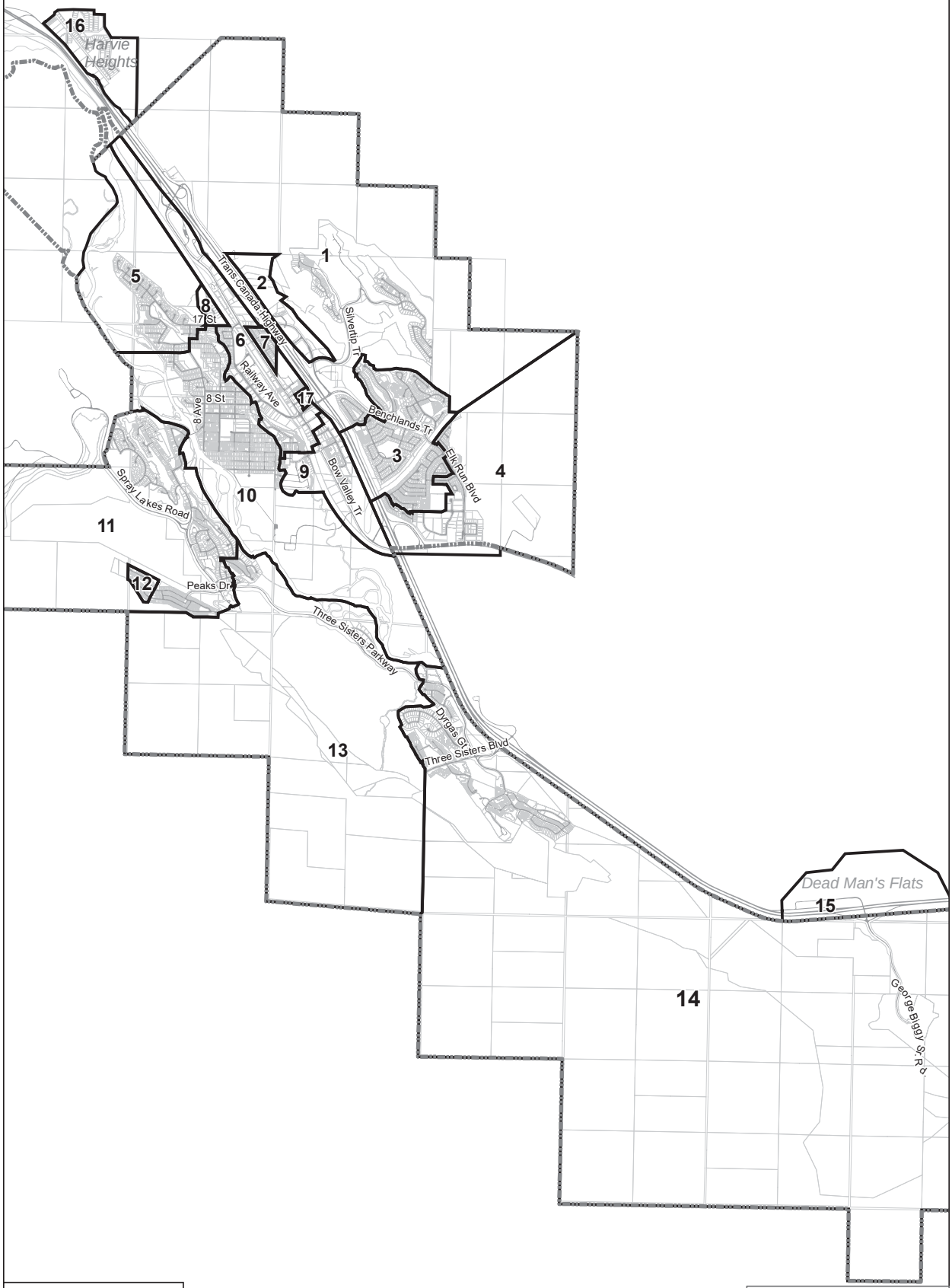
This document is a consolidation of a bylaw with one or more amending bylaws. Anyone making use of this consolidation is reminded that it has no legislative sanction. Amendments have been included for convenience of reference only. The approved bylaws should be consulted for all purposes of interpreting and applying the law.

Bylaws included in this consolidation:

2020-27	Off-Site Levy Bylaw
2024-01	Off-Site Levy Bylaw Amendment

Off-Site Levy Cost Recovery Zones

Schedule 1



Summary of Projects and Cost Recovery

2023			$8,743,171	$273,812,600		$153,686,892	$31,542,586
Area	**Project**	**Status**	**Grants Received**	**Total Project Cost (Incl Debt Financing)**	**Allocation to Future Development (Off-Site Levy)**	**Developer Cost**	**Total Levies Collected up to Dec 31, 2022**
WATER	05-SECOND AVE. WATERMAIN	COMPLETE	$ -	$ 521,598	100.0%	$521,598	$324,769
WATER	06-REC. CENTER WATERMAIN	COMPLETE	$ -	$ 144,212	100.0%	$144,212	$90,060
WATER	09-WATER RESERVOIR #6	COMPLETE	$ -	$ 786,237	100.0%	$786,237	$488,507
WATER	10-WATER PH#1	COMPLETE	$ -	$ 712,851	100.0%	$712,851	$276,407
WATER	11-WATERLINE UNDER BOW RIVER	COMPLETE	$ -	$ 158,231	100.0%	$158,231	$90,872
WATER	12-WATERLINE ON BVT	COMPLETE	$ 463,267	$ 1,018,658	100.0%	$555,391	$348,021
WATER	14-UTILITY MASTER PLAN	COMPLETE	$ -	$ 175,961	100.0%	$175,961	$175,937
WATER	15-CROSSTOWN FEEDER	COMPLETE	$ -	$ 1,477,258	20.0%	$295,452	$174,114
WATER	16-PH#2 UPGRADE	COMPLETE	$ -	$ 3,312,691	40.0%	$1,325,076	$710,732
WATER	17-RAILWAY AVE WATERMAIN	COMPLETE	$ -	$ 377,850	50.0%	$188,925	$160,082
WATER	24-7TH AVE WATERMAIN	COMPLETE	$ 169,064	$ 298,061	100.0%	$128,997	$125,618
WATER	28-HARVIE HEIGHTS WATER SUPPLY	COMPLETE	$ -	$ 886,332	100.0%	$886,332	$386,857
WATER	39-SOUTH BOW RIVER LOOP (90% Water Dist #1-#10)	COMPLETE	$ -	$ 6,483,978	25.6%	$1,657,017	$1,002,315
WATER	39-SOUTH BOW RIVER LOOP (10% Fire Flow Benefit #9)	COMPLETE	$ -	$ 720,442	100.0%	$720,442	$142,081
WATER	46-PUMP HOUSE #2 - CLEAR WELL CAPACITY UPGRADE	COMPLETE	$ -	$ 2,485,049	100.0%	$2,485,049	$630,366
WATER	BVT Water Upgrade (Ph. 2)	FUTURE	$ -	$ 3,245,000	26.0%	$843,700	$9,359
WATER	Grassi Booster Station Capacity Upgrade (Ph. 1)	FUTURE	$ -	$ 2,310,000	12.3%	$284,130	$0
WATER	Teepee Town Water Line Upgrade	FUTURE	$ -	$ 900,000	28.0%	$252,000	$0
WATER	Smith Creek Reservoir and Booster Station (Ph. 1)	FUTURE	$ -	$ 12,780,000	100.0%	$12,780,000	$0
WATER	Silvertip Trail Waterline Looping	FUTURE	$ -	$ 1,290,000	100.0%	$1,290,000	$0
WATER	Grassi Booster Station Waterline Twinning	FUTURE	$ -	$ 2,980,000	19.6%	$584,080	$0
WATER	Grassi Reservoir Capacity Upgrade (Ph. 3)	FUTURE	$ -	$ 5,360,000	75.0%	$4,020,000	$1,793,703
WATER	Grassi Booster Station Capacity Upgrade (Ph. 2)	FUTURE	$ -	$ 750,000	85.0%	$637,500	$0
WATER	Smith Creek Reservoir and Booster Station (Ph. 2)	FUTURE	$ -	$ 720,000	100.0%	$720,000	$0
WATER	PH2 - Replacement and Upgrade	FUTURE	$ 3,687,170	$ 26,787,745	50.0%	$11,550,288	$1,460,261
TRANSPORTATION	40-TRAFFIC SIGNALS MAIN AND 7TH	COMPLETE	$ -	$ 262,213	100.0%	$262,213	$82,761
TRANSPORTATION	41-BVT UPGRADE WILLIAMS TO MONTANE	COMPLETE	$ -	$ 3,734,700	33.0%	$1,232,451	$769,939
TRANSPORTATION	42-RLWY & MAIN INTERSECTION UPGRADE	FUTURE	$ -	$ 4,312,000	33.0%	$1,422,960	$497,141

Summary of Projects and Cost Recovery

2023			$8,743,171	$273,812,600		$153,686,892	$31,542,586
Area	**Project**	**Status**	**Grants Received**	**Total Project Cost (Incl Debt Financing)**	**Allocation to Future Development (Off-Site Levy)**	**Developer Cost**	**Total Levies Collected up to Dec 31, 2022**
TRANSPORTATION	44-BVT UPGRADE WILLIAMS WEST OF 17TH	FUTURE	$ -	$ 5,492,800	33.0%	$1,812,624	$633,278
TRANSPORTATION	45-RLWY AVENUE 10TH TO 12TH	FUTURE	$ -	$ 7,298,800	33.0%	$2,408,604	$841,496
TRANSPORTATION	54-TRAFFIC SIGNALS MAIN AND 8TH	FUTURE	$ -	$ 275,000	100.0%	$275,000	$96,077
TRANSPORTATION	55-10TH STREET TRAFFIC SIGNALS	FUTURE	$ -	$ 820,000	100.0%	$820,000	$286,484
STORM	29-PALLISER STORMWATER STUDY WESTERN BASIN	COMPLETE	$ -	$ 135,147	100.0%	$135,147	$17,073
STORM	33-STONEWORKS CREEK DRAINAGE DIVERSION	COMPLETE	$ -	$ 1,534,086	100.0%	$1,534,086	$496,186
STORM	37-TEEPEE TOWN STORMWATER MANAGEMENT UPGRADES	FUTURE	$ -	$ 2,775,000	50.0%	$1,387,500	$703,758
SANITARY	01-WASTEWATER TREATMENT PLANT	COMPLETE	$ -	$ 526,627	100.0%	$526,627	$286,408
SANITARY	02-SANITARY UPGRADE #1	COMPLETE	$ -	$ 877,720	100.0%	$877,720	$519,680
SANITARY	03-SANITARY UPGRADE #2	COMPLETE	$ -	$ 162,436	100.0%	$162,436	$96,215
SANITARY	04-SANITARY UPGRADE #3	COMPLETE	$ -	$ 875,909	100.0%	$875,909	$518,229
SANITARY	07-WWTP PH.1	COMPLETE	$ -	$ 2,692,080	50.0%	$1,346,040	$1,336,793
SANITARY	08-WWTP PH.2	COMPLETE	$ -	$ 2,961,152	100.0%	$2,961,152	$2,883,090
SANITARY	13-LIFT STATION #1	COMPLETE	$ -	$ 1,029,525	100.0%	$1,029,525	$910,160
SANITARY	18-BVT TRUNK SANITARY SEWER	COMPLETE	$ -	$ 537,505	100.0%	$537,505	$262,681
SANITARY	19-WWTP INFLUENT PUMP	COMPLETE	$ -	$ 58,925	100.0%	$58,925	$28,806
SANITARY	20-UMP - STORM WATER	COMPLETE	$ -	$ 113,728	100.0%	$113,728	$110,364
SANITARY	21-CENTRAL CANMORE SW MGMT PLAN	COMPLETE	$ -	$ 106,611	100.0%	$106,611	$106,611
SANITARY	22-CATCHMENT AREA 2 SANITARY UPG	COMPLETE	$ -	$ 145,820	100.0%	$145,820	$70,659
SANITARY	23-WWTP EXP PROCESS EVALUATION	COMPLETE	$ -	$ 57,714	100.0%	$57,714	$27,031
SANITARY	25-BVT SEWER UPGRADE	COMPLETE	$ -	$ 251,475	100.0%	$251,475	$99,298
SANITARY	26-NEW LS CATCHMENT AREA 2	COMPLETE	$ -	$ 1,912,662	100.0%	$1,912,662	$978,134
SANITARY	27-FORCEMAIN FROM NEW LS TO WWTP	COMPLETE	$ -	$ 1,235,326	100.0%	$1,235,326	$702,020
SANITARY	30-WWTP EXPANSION PHASE 2	COMPLETE	$ 2,853,141	$ 11,127,075	100.0%	$8,273,934	$4,065,050
SANITARY	31-BVT RELIEF FORCEMAIN	COMPLETE	$ -	$ 2,291,408	100.0%	$2,291,408	$1,013,408
SANITARY	32-PALLISER SANITARY TRUNK LINE	COMPLETE	$ -	$ 580,707	100.0%	$580,707	$499,296
SANITARY	34-LIFT STATION # 10	COMPLETE	$ -	$ 64,020	100.0%	$64,020	$21,583
SANITARY	47a-WWTP SOLIDS HANDLING UPGRADE	COMPLETE	$ -	$ 227,598	100.0%	$227,598	$51,970

Summary of Projects and Cost Recovery

2023			$8,743,171	$273,812,600		$153,686,892	$31,542,586
Area	**Project**	**Status**	**Grants Received**	**Total Project Cost (Incl Debt Financing)**	**Allocation to Future Development (Off-Site Levy)**	**Developer Cost**	**Total Levies Collected up to Dec 31, 2022**
SANITARY	47b-WWTP SOLIDS HANDLING UPGRADE	COMPLETE	$ -	$ 458,800	100.0%	$458,800	$101,578
SANITARY	47c-WWTP SOLIDS HANDLING UPGRADE	COMPLETE	$ 1,570,529	$ 6,350,013	100.0%	$4,779,484	$1,085,115
SANITARY	48-WWTP INFLUENT PUMP STATION Ph1	COMPLETE	$ -	$ 428,304	50.0%	$214,152	$58,886
SANITARY	49-LIFT STATION #1 PUMP UPGRADE	COMPLETE	$ -	$ 1,238,578	25.0%	$309,644	$116,022
SANITARY	50-WWTP INFLUENT PUMP STATION Ph2	COMPLETE	$ -	$ 840,251	50.0%	$420,126	$104,569
SANITARY	52-WWTP-PROCESS & MECHANICAL UPGRADE	COMPLETE	$ -	$ 545,740	50.0%	$272,870	$72,309
SANITARY	53-WWTP-DEWATERING SYSTEM UPGRADE	COMPLETE	$ -	$ 5,709,618	50.0%	$2,854,809	$729,997
SANITARY	59-LIFT STATION #2 UPGRADE	COMPLETE	$ -	$ 5,258,374	10.0%	$525,837	$150,156
SANITARY	Influent Screen Capacity Upgrade	FUTURE	$ -	$ 900,000	100.0%	$900,000	$599,034
SANITARY	UV Disinfection Capacity Upgrade	FUTURE	$ -	$ 500,000	98.0%	$490,000	$186,441
SANITARY	Intermediate Transfer Pump Capacity Upgrade	FUTURE	$ -	$ 1,000,000	20.0%	$200,000	$171,084
SANITARY	Inlet Lift Station Upgrade (Wetwell)	FUTURE	$ -	$ 2,900,000	98.0%	$2,842,000	$0
SANITARY	BVT Wastewater Upgrade (Ph. 2)	FUTURE	$ -	$ 3,100,000	30.0%	$930,000	$130,746
SANITARY	BVT Wastewater Upgrade (Ph. 3)	FUTURE	$ -	$ 1,800,000	57.0%	$1,026,000	$111,205
SANITARY	LS11 - Upgrade (Ph. 1)	FUTURE	$ -	$ 2,290,000	100.0%	$2,290,000	$0
SANITARY	LS8 - Capacity Upgrade	FUTURE	$ -	$ 600,000	39.0%	$234,000	$136,091
SANITARY	LS10 - Upgrade	FUTURE	$ -	$ 2,290,000	26.0%	$595,400	$6,689
SANITARY	LS11 - Upgrade (Ph. 2)	FUTURE	$ -	$ 570,000	100.0%	$570,000	$0
SANITARY	WWTP Third Clarifier Addition	FUTURE	$ -	$ 10,200,000	98.0%	$9,996,000	$0
SANITARY	WWTP Discharge Limit Upgrade	FUTURE	$ -	$ 71,000,000	50.0%	$35,500,000	$0
FIRE	Fire Hall Palliser	FUTURE	$ -	$ 17,175,000	12.5%	$2,146,875	$60,737
FIRE	Fire Hall Three Sisters	FUTURE	$ -	$ 7,500,000	100.0%	$7,500,000	$320,186
			$ -	$ -		$0	$0

2023		AREAS IMPACTED BY PROJECT																
Area	**Project**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
WATER	05-SECOND AVE. WATERMAIN	1	1	1	1	1	1	1	1	1	1	1	1	1	1	MD Bighorn: Subject to Separate Service Agreements		1
WATER	06-REC. CENTER WATERMAIN	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
WATER	09-WATER RESERVOIR #6	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
WATER	10-WATER PH#1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
WATER	11-WATERLINE UNDER BOW RIVER	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
WATER	12-WATERLINE ON BVT	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
WATER	14-UTILITY MASTER PLAN	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
WATER	15-CROSSTOWN FEEDER	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
WATER	16-PH#2 UPGRADE	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
WATER	17-RAILWAY AVE WATERMAIN	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
WATER	24-7TH AVE WATERMAIN	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
WATER	28-HARVIE HEIGHTS WATER SUPPLY	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
WATER	39-SOUTH BOW RIVER LOOP (90% Water Dist #1-#10)	1	1	1	1	1	1	1	1	1	1							1
WATER	39-SOUTH BOW RIVER LOOP (10% Fire Flow Benefit #9)									1								
WATER	46-PUMP HOUSE #2 - CLEAR WELL CAPACITY UPGRADE	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
WATER	BVT Water Upgrade (Ph. 2)						1	1										1
WATER	Grassi Booster Station Capacity Upgrade (Ph. 1)													1	1			
WATER	Teepee Town Water Line Upgrade							1										
WATER	Smith Creek Reservoir and Booster Station (Ph. 1)														1			
WATER	Silvertip Trail Waterline Looping		1				1	1		1	1							1
WATER	Grassi Booster Station Waterline Twinning													1	1			
WATER	Grassi Reservoir Capacity Upgrade (Ph. 3)	1	1				1	1		1	1			1	1			1
WATER	Grassi Booster Station Capacity Upgrade (Ph. 2)													1	1			
WATER	Smith Creek Reservoir and Booster Station (Ph. 2)														1			
WATER	PH2 - Replacement and Upgrade	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
TRANSPORTATION	40-TRAFFIC SIGNALS MAIN AND 7TH	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
TRANSPORTATION	41-BVT UPGRADE WILLIAMS TO MONTANE	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
TRANSPORTATION	42-RLWY & MAIN INTERSECTION UPGRADE	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
TRANSPORTATION	44-BVT UPGRADE WILLIAMS WEST OF 17TH	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
TRANSPORTATION	45-RLWY AVENUE 10TH TO 12TH	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1

2023		AREAS IMPACTED BY PROJECT																
Area	**Project**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
TRANSPORTATION	54-TRAFFIC SIGNALS MAIN AND 8TH	1	1	1	1	1	1	1	1	1	1	1	1	1	1	MD Bighorn: Subject to Separate Service Agreements		1
TRANSPORTATION	55-10TH STREET TRAFFIC SIGNALS	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
STORM	29-PALLISER STORMWATER STUDY WESTERN BASIN		1															
STORM	33-STONEWORKS CREEK DRAINAGE DIVERSION		1				1			1								1
STORM	37-TEEPEE TOWN STORMWATER MANAGEMENT UPGRADES							1										
SANITARY	01-WASTEWATER TREATMENT PLANT	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	02-SANITARY UPGRADE #1					1	1	1	1	1	1	1	1	1	1			1
SANITARY	03-SANITARY UPGRADE #2					1	1	1	1	1	1	1	1	1	1			1
SANITARY	04-SANITARY UPGRADE #3					1	1	1	1	1	1	1	1	1	1			1
SANITARY	07-WWTP PH.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	08-WWTP PH.2	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	13-LIFT STATION #1					1			1	1	1							
SANITARY	18-BVT TRUNK SANITARY SEWER						1	1										1
SANITARY	19-WWTP INFLUENT PUMP	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	20-UMP - STORM WATER	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	21-CENTRAL CANMORE SW MGMT PLAN					1	1	1	1	1	1							1
SANITARY	22-CATCHMENT AREA 2 SANITARY UPG						1	1		1								1
SANITARY	23-WWTP EXP PROCESS EVALUATION	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	25-BVT SEWER UPGRADE						1	1										1
SANITARY	26-NEW LS CATCHMENT AREA 2						1	1		1								1
SANITARY	27-FORCEMAIN FROM NEW LS TO WWTP						1	1		1								1
SANITARY	30-WWTP EXPANSION PHASE 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	31-BVT RELIEF FORCEMAIN						1	1		1								1
SANITARY	32-PALLISER SANITARY TRUNK LINE		1															
SANITARY	34-LIFT STATION # 10														1			
SANITARY	47a-WWTP SOLIDS HANDLING UPGRADE	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	47b-WWTP SOLIDS HANDLING UPGRADE	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	47c-WWTP SOLIDS HANDLING UPGRADE	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	48-WWTP INFLUENT PUMP STATION Ph1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	49-LIFT STATION #1 PUMP UPGRADE										1							

Summary of Project Benefitting Areas

2023		AREAS IMPACTED BY PROJECT																
Area	**Project**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
SANITARY	50-WWTP INFLUENT PUMP STATION Ph2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	MD Bighorn: Subject to Separate Service Agreements		1
SANITARY	52-WWTP-PROCESS & MECHANICAL UPGRADE	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	53-WWTP-DEWATERING SYSTEM UPGRADE	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	59-LIFT STATION #2 UPGRADE						1											1
SANITARY	Influent Screen Capacity Upgrade	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	UV Disinfection Capacity Upgrade	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	Intermediate Transfer Pump Capacity Upgrade	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	Inlet Lift Station Upgrade (Wetwell)	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	BVT Wastewater Upgrade (Ph. 2)						1	1										1
SANITARY	BVT Wastewater Upgrade (Ph. 3)						1											
SANITARY	LS11 - Upgrade (Ph. 1)														1			
SANITARY	LS8 - Capacity Upgrade														1			
SANITARY	LS10 - Upgrade														1			
SANITARY	LS11 - Upgrade (Ph. 2)														1			
SANITARY	WWTP Third Clarifier Addition	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
SANITARY	WWTP Discharge Limit Upgrade	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
FIRE	Fire Hall Palliser	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1
FIRE	Fire Hall Three Sisters	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1

2023			PROJECT STAGING PLAN																										
Area	Project	Status	Prior Years	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047
WATER	05-SECOND AVE. WATERMAIN	COMPLETE	100.0%																									
WATER	06-REC. CENTER WATERMAIN	COMPLETE	100.0%																									
WATER	09-WATER RESERVOIR #6	COMPLETE	100.0%																									
WATER	10-WATER PH#1	COMPLETE	100.0%																									
WATER	11-WATERLINE UNDER BOW RIVER	COMPLETE	100.0%																									
WATER	12-WATERLINE ON BVT	COMPLETE	100.0%																									
WATER	14-UTILITY MASTER PLAN	COMPLETE	100.0%																									
WATER	15-CROSSTOWN FEEDER	COMPLETE	100.0%																									
WATER	16-PH#2 UPGRADE	COMPLETE	100.0%																									
WATER	17-RAILWAY AVE WATERMAIN	COMPLETE	100.0%																									
WATER	24-7TH AVE WATERMAIN	COMPLETE	100.0%																									
WATER	28-HARVIE HEIGHTS WATER SUPPLY	COMPLETE	100.0%																									
WATER	39-SOUTH BOW RIVER LOOP (90% Water Dist #1-#10)	COMPLETE	100.0%																									
WATER	39-SOUTH BOW RIVER LOOP (10% Fire Flow Benefit #9)	COMPLETE	100.0%																									
WATER	46-PUMP HOUSE #2 - CLEAR WELL CAPACITY UPGRADE	COMPLETE	100.0%																									
WATER	BVT Water Upgrade (Ph. 2)	FUTURE	21.3%		79%																							
WATER	Grassi Booster Station Capacity Upgrade (Ph. 1)	FUTURE	0.0%			10%	90%																					
WATER	Teepee Town Water Line Upgrade	FUTURE	0.0%				100%																					
WATER	Smith Creek Reservoir and Booster Station (Ph. 1)	FUTURE	0.0%						100%																			
WATER	Silvertip Trail Waterline Looping	FUTURE	0.0%						100%																			
WATER	Grassi Booster Station Waterline Twinning	FUTURE	0.0%																100%									
WATER	Grassi Reservoir Capacity Upgrade (Ph. 3)	FUTURE	0.0%																	11%	89%							
WATER	Grassi Booster Station Capacity Upgrade (Ph. 2)	FUTURE	0.0%																10%	90%								
WATER	Smith Creek Reservoir and Booster Station (Ph. 2)	FUTURE	0.0%															100%										
WATER	PH2 - Replacement and Upgrade	FUTURE	3.8%		96%																							
TRANSPORTATION	40-TRAFFIC SIGNALS MAIN AND 7TH	COMPLETE	100.0%																									
TRANSPORTATION	41-BVT UPGRADE WILLIAMS TO MONTANE	COMPLETE	100.0%																									
TRANSPORTATION	42-RLWY & MAIN INTERSECTION UPGRADE	FUTURE	0.0%		100%																							
TRANSPORTATION	44-BVT UPGRADE WILLIAMS WEST OF 17TH	FUTURE	0.0%								100%																	
TRANSPORTATION	45-RLWY AVENUE 10TH TO 12TH	FUTURE	0.0%		100%																							
TRANSPORTATION	54-TRAFFIC SIGNALS MAIN AND 8TH	FUTURE	0.0%					100%																				
TRANSPORTATION	55-10TH STREET TRAFFIC SIGNALS	FUTURE	0.0%					100%																				
STORM	29-PALLISER STORMWATER STUDY WESTERN BASIN	COMPLETE	100.0%																									
STORM	33-STONEWORKS CREEK DRAINAGE DIVERSION	COMPLETE	100.0%																									
STORM	37-TEEPEE TOWN STORMWATER MANAGEMENT UPGRADES	FUTURE	7.1%	40%	25%					28%																		
SANITARY	01-WASTEWATER TREATMENT PLANT	COMPLETE	100.0%																									
SANITARY	02-SANITARY UPGRADE #1	COMPLETE	100.0%																									
SANITARY	03-SANITARY UPGRADE #2	COMPLETE	100.0%																									
SANITARY	04-SANITARY UPGRADE #3	COMPLETE	100.0%																									
SANITARY	07-WWTP PH.1	COMPLETE	100.0%																									
SANITARY	08-WWTP PH.2	COMPLETE	100.0%																									
SANITARY	13-LIFT STATION #1	COMPLETE	100.0%																									

2023			PROJECT STAGING PLAN																											
Area	Project	Status	Prior Years	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047
SANITARY	18-BVT TRUNK SANITARY SEWER	COMPLETE	100.0%																									
SANITARY	19-WWTP INFLUENT PUMP	COMPLETE	100.0%																									
SANITARY	20-UMP - STORM WATER	COMPLETE	100.0%																									
SANITARY	21-CENTRAL CANMORE SW MGMT PLAN	COMPLETE	100.0%																									
SANITARY	22-CATCHMENT AREA 2 SANITARY UPG	COMPLETE	100.0%																									
SANITARY	23-WWTP EXP PROCESS EVALUATION	COMPLETE	100.0%																									
SANITARY	25-BVT SEWER UPGRADE	COMPLETE	100.0%																									
SANITARY	26-NEW LS CATCHMENT AREA 2	COMPLETE	100.0%																									
SANITARY	27-FORCEMAIN FROM NEW LS TO WWTP	COMPLETE	100.0%																									
SANITARY	30-WWTP EXPANSION PHASE 2	COMPLETE	100.0%																									
SANITARY	31-BVT RELIEF FORCEMAIN	COMPLETE	100.0%																									
SANITARY	32-PALLISER SANITARY TRUNK LINE	COMPLETE	100.0%																									
SANITARY	34-LIFT STATION # 10	COMPLETE	100.0%																									
SANITARY	47a-WWTP SOLIDS HANDLING UPGRADE	COMPLETE	100.0%																									
SANITARY	47b-WWTP SOLIDS HANDLING UPGRADE	COMPLETE	100.0%																									
SANITARY	47c-WWTP SOLIDS HANDLING UPGRADE	COMPLETE	100.0%																									
SANITARY	48-WWTP INFLUENT PUMP STATION Ph1	COMPLETE	100.0%																									
SANITARY	49-LIFT STATION #1 PUMP UPGRADE	COMPLETE	100.0%																									
SANITARY	50-WWTP INFLUENT PUMP STATION Ph2	COMPLETE	100.0%																									
SANITARY	52-WWTP-PROCESS & MECHANICAL UPGRADE	COMPLETE	100.0%																									
SANITARY	53-WWTP-DEWATERING SYSTEM UPGRADE	COMPLETE	100.0%																									
SANITARY	59-LIFT STATION #2 UPGRADE	COMPLETE	100.0%																									
SANITARY	Influent Screen Capacity Upgrade	FUTURE	0.0%		100%																							
SANITARY	UV Disinfection Capacity Upgrade	FUTURE	0.0%	58%					42%																			
SANITARY	Intermediate Transfer Pump Capacity Upgrade	FUTURE	0.0%					100%																				
SANITARY	Inlet Lift Station Upgrade (Wetwell)	FUTURE	0.0%					100%																				
SANITARY	BVT Wastewater Upgrade (Ph. 2)	FUTURE	0.0%	100%																								
SANITARY	BVT Wastewater Upgrade (Ph. 3)	FUTURE	0.0%					100%																				
SANITARY	LS11 - Upgrade (Ph. 1)	FUTURE	0.0%					100%																				
SANITARY	LS8 - Capacity Upgrade	FUTURE	0.0%									100%																
SANITARY	LS10 - Upgrade	FUTURE	0.0%													100%												
SANITARY	LS11 - Upgrade (Ph. 2)	FUTURE	0.0%															100%										
SANITARY	WWTP Third Clarifier Addition	FUTURE	0.0%												100%													
SANITARY	WWTP Discharge Limit Upgrade	FUTURE	0.0%							31%	28%	23%	18%															
FIRE	Fire Hall Palliser	FUTURE	92.6%	7%																								
FIRE	Fire Hall Three Sisters	FUTURE	0.0%									10%	45%	45%														

Schedule 5

Rolling 25 Year Development Plan

Offsite Levy Area #	Land Use Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	Future Development Units
1.1	Commercial	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	71
1.2	Hotels	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	1097
1.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
1.4	Residential - Medium Density	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	300
1.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
2.1	Commercial	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	135
2.2	Hotels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
2.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
2.4	Residential - Medium Density	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	1911
2.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
3.1	Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
3.2	Hotels	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	6
3.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
3.4	Residential - Medium Density	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	15
3.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
4.1	Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
4.2	Hotels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
4.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
4.4	Residential - Medium Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
4.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
5.1	Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
5.2	Hotels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
5.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
5.4	Residential - Medium Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
5.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
6.1	Commercial	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	30
6.2	Hotels	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	479
6.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
6.4	Residential - Medium Density	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	51
6.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
7.1	Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
7.2	Hotels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
7.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
7.4	Residential - Medium Density	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	96
7.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
8.1	Commercial	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	6
8.2	Hotels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
8.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
8.4	Residential - Medium Density	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	2
8.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
9.1	Commercial	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	242
9.2	Hotels	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	24
9.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
9.4	Residential - Medium Density	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	234
9.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0

Schedule 5

Rolling 25 Year Development Plan

Offsite Levy Area #	Land Use Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	Future Development Units
10.1	Commercial	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	39
10.2	Hotels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
10.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
10.4	Residential - Medium Density	20.1	20.1	20.1	20.1	20.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	201
10.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
11.1	Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
11.2	Hotels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
11.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
11.4	Residential - Medium Density	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	27
11.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
12.1	Commercial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
12.2	Hotels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
12.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
12.4	Residential - Medium Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
12.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
13.1	Commercial	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	304
13.2	Hotels	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	1535
13.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
13.4	Residential - Medium Density	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	1500
13.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
14.1	Commercial	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	133
14.2	Hotels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
14.3	Residential - Low Density	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	730
14.4	Residential - Medium Density	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	657
14.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
15.1	Commercial	MD Bighorn: Subject to Separate Service Agreements																									
15.2	Hotels																										
15.3	Residential - Low Density																										
15.4	Residential - Medium Density																										
15.5	Residential - High Density																										
16.1	Commercial																										
16.2	Hotels																										
16.3	Residential - Low Density																										
16.4	Residential - Medium Density																										
16.5	Residential - High Density																										
17.1	Commercial	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	7
17.2	Hotels	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	158
17.3	Residential - Low Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
17.4	Residential - Medium Density	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	45
17.5	Residential - High Density	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0

February 14, 2024

Andreas Comeau
Manager of Public Works
Town of Canmore

Subject: Utility Master Plan Projects Summary

Mr. Comeau,

As per your request, the following is a summary of the recommended projects from the Utility Master Plan. Included in this is a review of how the "percent attributable to growth" was calculated. As discussed, deep utility projects were not included in this review. Also included is the summary table of all recommended projects and their estimated capital costs.

EX W1 – Grassi Booster Station Upgrade

The Grassi booster station upgrade was recommended due to both existing conditions and growth related conditions, as the booster station was found to be under capacity for existing max day flows. The upgrade considers both existing flows and a portion of flows from future growth. A replacement of the facility was required to support the upgrades.

As the upgrade is initially triggered through existing conditions, the Town should be responsible for the costs of a full replacement of the facility, and developers should be responsible for additional construction and engineering costs to bring the replacement facility from existing flows to future flows.

- Base Replacement Cost = $1,950,000
- Upgraded Replacement Cost = $2,310,000
- $2,310,000 – $1,950,000 = $360,000 developer cost

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
EX W1	Grassi Booster Station Capacity Upgrade (Phase 1)	**Existing /Growth**	$ 2,310,000.00	84.4%	12.3%	3.3%

OSL Zones 13, 14 and 15 contribute to this project.

300, 6815 – 8 Street NE, Calgary, AB T2E 7H7 CANADA T 403 775-0100 F 403-775-0102
cima.ca

EX W2 – Pumphouse 2 Backwash Water Reuse

The Pumphouse 2 Backwash Water Reuse project was recommended in order to optimize the current raw water usage. This project was to be recommended regardless of growth, and as such was 100% to the Town of Canmore.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
EX W2	Pumphouse 2 Backwash Water Reuse	**Existing**	$ 1,500,000.00	100%	0%	0%

No OSL Zones contribute to this project.

EX W3 - Pumphouse 1 Gas Chlorine to Liquid

The Pumphouse 1 Gas Chlorine to Liquid project was recommended to reduce the risk of handling and storing gas. As this was mitigating risks in the existing system, it would be recommended regardless of growth, and as such was 100% to the Town of Canmore.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
EX W3	Pumphouse 1 Gas Chlorine to Liquid	**Existing**	$ 1,000,000.00	100%	0%	0%

No OSL Zones contribute to this project.

W2 – Smith Creek Reservoir and Booster Station

The Smith Creek Reservoir and Booster Station project was recommended to support development in the Smith Creek area. This project is new construction, and would not be recommended without any future growth, and is necessary solely to support the future development area. As such it is 100% to development.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
W2	Smith Creek Reservoir and Booster Station	**Growth**	$ 12,780,000.00	0%	100%	0%

The Smith Creek portion of OSL Zone 14 contributes to this project.

W3 – Canyon Ridge Booster Station Decommissioning

The Canyon Ridge Booster Station Decommissioning project was recommended to simplify the distribution system in Canmore, by connecting the area currently supported by the booster station to a higher pressure zone. This is an existing improvement that would be recommended regardless of growth, and as such is 100% to the Town of Canmore.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
W3	Canyon Ridge Booster Station Decommissioning	**Existing**	$ 1,200,000.00	100%	0%	0%

No OSL Zones contribute to this project.

W6 – Grassi Storage Reservoir Capacity Upgrade

The Grassi Storage Reservoir Capacity Upgrade project was recommended in order to support future growth. There is no replacement of existing facilities included, it would be new construction in conjunction with the existing reservoir. Without future growth, this project would not be recommended, and as such is 100% to development. Allocation was further split between Canmore developers and Dead Man's Flats using projected flows for each.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
W6	Grassi Storage Reservoir Capacity Upgrade	**Growth**	$ 5,360,000.00	0%	75%	25%

OSL Zones 2, 6, 7, 10, 13, 14, 15, 16 and 17 contribute to this project.

W7 – Grassi Booster Station Capacity Upgrade (Phase 2)

The Grassi Booster Station Phase 2 upgrade was recommended in order to support future growth above and beyond the first phase upgrade. The upgrade primarily consists of installing an additional pump and is not replacing any existing facilities. Without future growth, this upgrade would not be recommended, and as such is 100% to development. Allocation was further split between Canmore developers and Dead Man's Flats using projected flows for each.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
W7	Grassi Booster Station Capacity Upgrade (Phase 2)	**Growth**	$ 750,000.00	0%	85%	15%

OSL Zones 13, 14 and 15 contribute to this project.

W8 – Smith Creek Booster Station Upgrade (Phase 2)

The Smith Creek Reservoir and Booster Station project was recommended to support development in the Smith Creek area. This project would not be recommended without any future growth, and is necessary solely to support the future development area. As such it is 100% to development.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
W8	Smith Creek Booster Station Upgrade (Phase 2)	**Growth**	$ 720,000.00	0%	100%	0%

The Smith Creek portion of OSL Zone 14 contributes to this project.

EX S1 - Lift Station 3 Replacement

The Lift Station 3 Replacement project was recommended due to the deteriorating condition of the existing lift station. It services the existing system, and had no projected growth in its catchment area. This project would be recommended regardless of growth, and as such was 100% to the Town of Canmore.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
EX S1	Lift Station 3 Replacement	**Lifecycle**	$ 1,500,000.00	100%	0%	0%

No OSL Zones contribute to this project.

S2 - Lift Station 11 Upgrade (Phase 1)

The Lift Station 11 Upgrade Phase 1 project was recommended in order to support future growth. There is no replacement of existing facilities included, it would be new construction as part of a planned future phase for the lift station. This project would not be recommended without additional development. As such it is 100% to development.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
S2	Lift Station 11 Upgrade Phase 1	**Growth**	$ 2,290,000.00	0%	100%	0%

OSL Zone 14 contributes to this project.

S3 - Lift Station 8 Upgrade

The Lift Station 8 Upgrade project was recommended in order to support future growth. There is no replacement of existing facilities included, it would be the installation on a new pump which was allowed for in the initial design and construction of the lift station. This project would not be recommended without additional development. As such it is 100% to development. Allocation was further split between Canmore developers and Dead Man's Flats using projected flows for each.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
S3	Lift Station 8 Upgrade	**Growth**	$ 600,000.00	0%	39%	61%

OSL Zones 13, 14 and 15 contribute to this project.

S4 – Lift Station 10 Upgrade

The Lift Station 10 Upgrade project was recommended in order to support future growth. The project consists of replacing existing pumps and electrical equipment in the lift station to accommodate the higher flows, along with some additional modifications. This project would not be recommended without future development. However, due to the replacement of existing infrastructure, the cost sharing calculation was implemented.

Facilities have an estimated life cycle of 50 years. The recorded installation date for the lift station is 2001, resulting in a remaining lifecycle of 30 years. As per the cost allocation methodology, the formula used is as follows:

$$UpgradeCost - \left(1 - \frac{ServiceLifeRemaining}{LifeSpan}\right) * Basecost = DeveloperCost$$

$$\$2{,}290{,}000 - \left(1 - \frac{30}{50}\right) * \$1{,}950{,}000 = \$1{,}510{,}000$$

Allocation was further split between Canmore developers and Dead Man's Flats using projected flows for each.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
S4	Lift Station 10 Upgrade	**Growth**	$ 2,290,000.00	34%	26%	40%

OSL Zones 13, 14 and 15 contribute to this project.

S5 – Lift Station 11 Upgrade (Phase 2)

The Lift Station 11 Upgrade Phase 2 project was recommended in order to support future growth. There is no replacement of existing facilities included, it would be the installation of additional pumps, which the lift station would be designed and constructed to allow. This project would not be recommended without additional development. As such it is 100% to development.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
S5	Lift Station 11 Upgrade Phase 2	**Growth**	$ 570,000.00	0%	100%	0%

OSL Zone 14 contributes to this project.

Regards,

Jamie Purdy, C.E.T

Lead Technologist

Jp/sd

PROFESSIONAL ENGINEER ALBERTA STEVEN P DAWE ID 85297 February 15 2024

PERMIT TO PRACTICE
CIMA CANADA INC.
Signature
Date February 15 2024
PERMIT NUMBER: P 8204
The Association of Professional Engineers and Geoscientists of Alberta

Steven Dawe, P. Eng.

Partner / Lead Engineer / Infrastructure

5. Summary of Projects

Project	Name	Timeline	Trigger	Infrastructure	Cost	ToC Share	Dev Share	DMF Share
EX W1	Grassi Booster Station Capacity Upgrade (Phase 1)	2025	Existing /Growth	Facilities	$2,310,000.00	84.4%	12.3%	3.3%
EX W2	Pumphouse 2 Backwash Water Reuse	2035	Existing	Facilities	$1,500,000.00	100%	0%	-
EX W3	Pumphouse 1 Gas Chlorine to Liquid	TBD	Existing	Facilities	$1,000,000.00	100%	0%	-
W1	TeePee Town Waterline Replacement	2024	Growth	Linear	$900,000.00	72%	28%	-
W2	Smith Creek Reservoir and Booster Station	2027	Growth	Facilities	$12,780,000.00	0%	100%	-
W3	Canyon Ridge Booster Station Decommissioning	2027	Existing	Facilities	$1,200,000.00	100%	0%	-
W4	Silvertip Trail Looping	2028	Growth	Linear	$1,290,000.00	0%	100%	-
W5	Grassi Booster Station Waterline Twinning	2038	Growth	Linear	$2,980,000.00	73.1%	19.6%	7.3%
W6	Grassi Storage Reservoir Capacity Upgrade	2039	Growth	Facilities	$5,360,000.00	0%	75%	25%
W7	Grassi Booster Station Capacity Upgrade (Phase 2)	2038	Growth	Facilities	$750,000.00	0%	85%	15%
W8	Smith Creek Booster Station Upgrade (Phase 2)	2037	Growth	Facilities	$720,000.00	0%	100%	-
W9	South Canmore Waterline Replacement	2037	Lifecycle	Linear	$6,010,000.00	100%	0%	-
W10	Downtown Canmore Waterline Replacement	2038	Lifecycle	Linear	$8,830,000.00	100%	0%	-
W11	7th Avenue Waterline Replacement	2039	Lifecycle	Linear	$7,340,000.00	100%	0%	-
W12	Rundle Waterline Replacement	2040	Lifecycle	Linear	$6,010,000.00	100%	0%	-
W13	TeePee Town / Railway Ave Waterline Replacement	2041	Lifecycle	Linear	$4,560,000.00	100%	0%	-
W14	Water Treatment and Supply Study	2025	Growth	Facilities	$200,000.00	100%	0%	-
					$63,740,000.00	**$41,420,000.00**	**$20,570,000.00**	**$1,750,000.00**

Project	Name	Timeline	Trigger	Infrastructure	Cost	ToC Share	Dev Share	DMF Share
EX S1	Lift Station 3 Replacement	2027	**Lifecycle**	Facilities	$1,500,000.00	100%	0%	-
S1	Bow Valley Trail Sewer Upgrade	2024	**Growth**	Linear	$1,800,000.00	43%	57%	-
S2	Lift Station 11 Upgrade Phase 1	2027	**Growth**	Facilities	$2,290,000.00	0%	100%	-
S3	Lift Station 8 Upgrade	2032	**Growth**	Facilities	$600,000.00	0%	39%	61%
S4	Lift Station 10 Upgrade	2035	**Growth**	Facilities	$2,290,000.00	34%	26%	40%
S5	Lift Station 11 Upgrade Phase 2	2037	**Growth**	Facilities	$570,000.00	0%	100%	-
S6	South Canmore Sewer Line Replacement	2037	**Lifecycle**	Linear	$2,730,000.00	100%	0%	-
S7	Downtown Canmore Sewer Line Replacement	2038	**Lifecycle**	Linear	$5,310,000.00	100%	0%	-
S8	7th Avenue Sewer Line Replacement	2039	**Lifecycle**	Linear	$4,700,000.00	100%	0%	-
S9	Rundle Sewer Line Replacement	2040	**Lifecycle**	Linear	$1,250,000.00	100%	0%	-
S10	Railway Ave / Bow Valley Trail Sewer Line Replacement	2041	**Lifecycle**	Linear	$6,290,000.00	100%	0%	-
					$29,330,000.00	**$23,332,600.00**	**$4,715,400.00**	**$1,282,000.00**

December 13, 2023

Andreas Comeau
Manager of Public Works
Town of Canmore

Subject: Utility Master Plan Wastewater Plant Projects Summary

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Mr. Comeau,

As per your request, the following is an updated summary of the recommended projects for the Town's Wastewater Treatment Plant from the "Wastewater Treatment Plant Technology Assessment" issued on April 10th, 2023. This summary will replace Table 7-1 "High Level Project Schedule and Capital Needs (Full Build Out, c.2047)" from the noted report.

The projects are broken down into the following categories

- Lifecycle Replacement (no developer contribution)
- Process Improvements (no developer contribution)
- Growth (developer contribution is required)
- Growth/Regulatory (shared contribution by the Town and the developers)

The share of the developer contribution for "Growth" related projects is determined based on the assumptions ascertained in the Memorandum "Town of Canmore Wastewater Treatment Plant Effluent Discharge Limits" issued on January 20th , 2023. This memorandum discusses a theoretical scenario of providing only regulatory required upgrade (without any population growth), and compares this cost with the full WWTP build out (regulatory upgrade + growth). The established ratio contributes 51% of the allocation to the growth (developers share) and 49% to the regulatory requirements (Town's share).

The projects are shown in two categories.

- Upgrades required prior to the implementation of the new discharge limits
    - The upgrades are presented by year, a short description is provided. The summary table is at the end of this document
- Upgrades required to achieve the new discharge limits
    - The upgrades (by year) are provided in a separate summary table. Since it is a multiyear project, only one description is provided

Upgrades Required Prior to the New Discharge Limits

2024

Inlet Screen Upgrade

Replacement of the existing inlet screen is required to replace existing equipment that is aging and obsolete. New screen will have finer mesh and will provide better solids removal (i.e. will improve downstream processes).

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
Inlet Screen	Inlet Screen Replacement	**Lifecycle**	$ 900,000.00	100%	0%	0%

Odor Control

Project to make improvements to the existing process. Will involve either chemical addition upstream of the treatment process or scrubber of the exhaust air from the Headworks and Sludge Treatment building

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
Odor Control	Odor Control	**Improvements**	$ 2,000,000.00	100%	0%	0%

Note that a study has been recently completed for this project. As part of this study an additional facility recommended to be built for Sludge Treatment building odor removal. This is shown as a separate 2032 project (the timeline can be moved as needed).

2025

Heating/ Make Up Air Units Upgrade

The existing water heating system and make up air units are original. The replacement would be required as a lifecycle upgrade as well as to improve efficiency, reduce GHG emissions.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
Heating/MUA	Heating System. Make Up Air Unit Upgrade	**Lifecycle**	$ 2,200,000.00	100%	0%	0%

2026

Miscellaneous Headworks Upgrades

Process improvements and lifecycle replacement that is not directly connected to each other but combined together to ensure the efficiency of contracting work. The projects included are

- Grit separator replacement. The existing unit is at the end of life.
- Grit separator fan replacement. The existing fan requires different model as it accumulates excessive amount of grease and requires continuous maintenance.
- Headworks isolation valves. Add sluice gate valve at the Clarifier Distribution Channel. Add actuation on Clarifier sluice gates and screen inlet gates
- Scum piping. Replace/modify headworks sludge collection pumps and piping to improve the process (rearrange the piping to the digester instead of the headworks) and replace obsolete equipment

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
Misc. Upgrades	Miscellaneous Headworks Upgrades	**Lifecycle**	$ 2,300,000.00	100%	0%	0%

2027

Influent Piping Replacement

The existing piping between the inlet lift station and the headworks is original and will require lifecycle replacement.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
Influent Piping	Influent Piping Replacement	**Lifecycle**	$ 1,200,000.00	100%	0%	0%

Influent Lift Station Pumps Upgrade

Replacement of existing lower flow pumps and discharge piping

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
Influent LS Pumps	Influent Piping Replacement	**Lifecycle**	$ 1,200,000.00	100%	0%	0%

Note that both Influent Piping Replacement and Influent Lift Station Pumps upgrade projects can be combined in a single project

Influent Lift Station Wetwell Upgrade

The existing influent wetwell is very small, triggers frequent pumps starts and stops and does not have an automated interconnection with the existing equalization (EQ) tank. The project includes to increase the size of the Inlet lift station wetwell and to provide actuated valving between the inlet lift station and the EQ tank.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share*
Influent LS Wetwell	Influent LS Wetwell	**Growth**	$ 2,900,000.00	0%	98%	2%

*Here and below. For the growth driven projects, it is assumed that Dead Man Flats contributes 2% of flows. E.g. existing PWWF for Canmore is 193 L/s and PWWF for DMF is 3.5 L/s. 3.5/193 x100 = 2%.

Stopgap Process Improvements. Intermediate Transfer Pumps Upgrade

The Intermediate transfer pumps (as part of the existing BAF system) will be decommissioned c. 2031. However, the existing pumps may need to be replaced prior to that.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
Influent LS Pumps	Influent Piping Replacement	**Lifecycle**	$ 1,000,000.00	100%	0%	0%

2028

Stopgap Process Improvements. New Primary Clarifier

The existing primary clarifier has been identified as a critical part of the existing treatment process that approaches its capacity. Stress testing of the primary clarifier was recommended to be completed in 2024.

Depending on the results of the stress testing the decision will be made to either construct the additional primary clarifier or rely on the capacity of the existing primary clarifiers until the WWTP regulatory upgrade is completed in 2031.

It should be noted that the additional primary clarifier is not required in order to achieve the new discharge limits. Technically the additional clarifier would be only a stop gap measure to provide sufficient capacity for the existing system until the new treatment system (Membrane Biological Reactors or Activated Granular Sludge) is commissioned. However, the additional clarifier (if built) would slightly reduce the solids loading of the new treatment system.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
New Primary Clarifier	New Primary Clarifier	**Growth**	$ 10,200,000.00	0%	98%	2%

2029

Ultraviolet Disinfection UV3

The existing UV system consisting of two UV channels will reach its capacity and will require the addition of the third UV system in the existing spare channel

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
UV3 Addition	UV3 Addition	**Growth**	$ 500,000.00	0%	98%	2%

2032

Odor Control

Project to make improvements to the existing process. Will involve a scrubber of the exhaust air from the Sludge Treatment building

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
Odor Control	Odor Control	**Improvements**	$ 2,000,000.00	100%	0%	0%

Note that a study has been recently completed for this project. As part of this study a chemical injection at the headworks facility is contemplated. This is shown as a separate 2024 project.

Septage Receiving Station

Septage Receiving Station will provide means to control volume, monitor the water quality of the received septage and reduce the potential for spills and excessive odors.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share
Septage Receiving Station	Septage Receiving	**Improvements**	$ 1,200,000.00	100%	0%	0%

Project Existing WWTP Upgrades**	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Annual Budget	**2,900,000**	**2,000,000**	**2,300,000**	**6,300,000**	**10,200,000**	**500,000**			**3,200,000**	**27,400,000**
Odor Control	2,000,000									
Inlet Screen	900,000									
Heating/Make Up Air Units		2,000,000								
Misc. Sludge Trtm Upgrades: Scum piping, Grit Separator, Grit separator Fan, Headworks Isolation Valves			2,300,000							
Influent Piping Replacement				1,200,000						
Inlet Lift Station Pumps Upgrade				1,200,000						
Inlet Lift Station Expansion				2,900,000						
Intermediate Transfer Pumps Upgrade				1,000,000						
3d Primary Clarifier					10,200,000					
UV 3						500,000				
Odor Control									2,000,000	
Septage Receiving Station									1,200,000	
Grand Total										**27,400,000**

**Existing WWTP Upgrades budget includes both construction and engineering costs. Engineering should be completed in the year prior to the year of construction.

Upgrades Required to Achieve the New Discharge Limits

MBR or AGS Treatment Addition

The new discharge limits that will likely be implemented in 2031/2032 will require to replace the existing biological process (BAF) with the process that will remove ammonia, nitrites and nitrates as well as phosphorous. The lump sum number with the suggested payment share is shown in the table below. The distribution of the expenses by year is provided in the detailed table at the end of this document.

Project	Name	Trigger	Cost	ToC Share	Dev Share	DMF Share*
WWTP	WWTP Upgrade	**Growth/Regulatory**	$ 71,000,000.00	49%	50%	1%

*For the growth/regulatory driven projects, it is assumed that Dead Man Flats contributes 2% of flows. E.g. existing PWWF for Canmore is 193 L/s and PWWF for DMF is 3.5 L/s. 3.5/193 x100 = 2%. Since the Town share of such upgrade is 49%, the DMF share of the overall costs would be 1%.

*Table **Error! No text of specified style in document.**-1 (Rev.1): High Level Project Schedule and Capital Needs (Full Build Out, c.2047)*

AGS or MBR Upgrade	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Annual Construction Budget Secondary & Tertiary Treatment Upgrade				**500,000**		**21,500,000**	**19,800,000**	**17,500,000**	**5,000,000**	**64,300,000**
Pilot Test				500,000						
Civil, Concrete, Buildings						14,500,000				
Equipment Ordering						7,000,000				
Architectural, HVAC							5,000,000	5,000,000		
Process, Electrical, Control							7,000,000	7,500,000		
Equipment Installation							7,800,000	5,000,000		
Commissioning									3,000,000	
BAF Repurposing									1,000,000	
Close Outs (O&M, As-builts, site clean out, etc.)									1,000,000	
Annual Engineering Budget	**600,000**	**600,000**	**850,000**	**850,000**	**800,000**	**850,000**	**750,000**	**900,000**	**500,000**	**6,700,000**
Conceptual Design Options Review Report	300,000									
Environmental and Admin Crown Land, EPA, FN Consult, Landowners Consent	100,000	200,000	150,000	150,000	150,000	150,000	150,000	100,000	50,000	
As Built Drawings (Digitalization)	200,000								50,000	
Preliminary Design Upgrade report, Costs		400,000	400,000							
Pilot Administration			100,000	50,000						
Detailed Design			100,000	650,000	650,000					

AGS or MBR Upgrade	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Tender						100,000				
Construction Admin						500,000	500,000	250,000		
Geotech. Env. Consult			100,000			100,000	100,000	50,000		
SCADA Programming								350,000		
Commissioning								150,000	250,000	
Close Outs BAF Decommissioning									150,000	
AGS or MBR Total										**71,000,000**

Regards,

Pavel Manchinskiy, P.Eng.

Project Engineer

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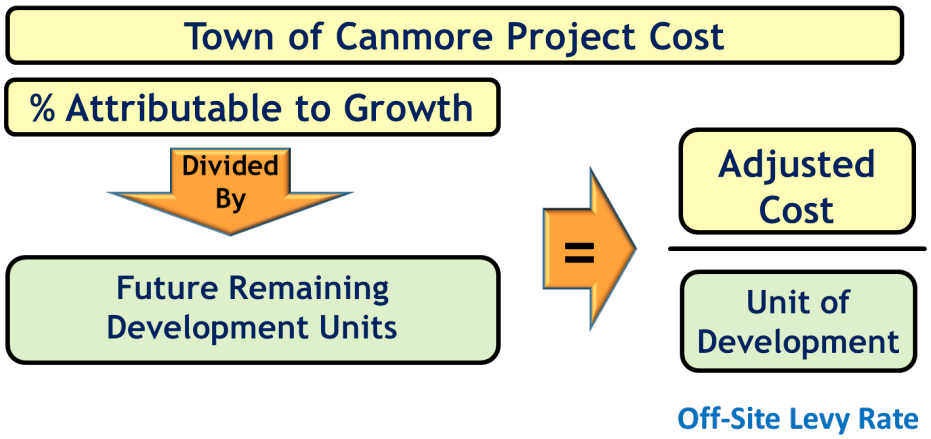
Schedule 8: Service Demand Factors

Overview

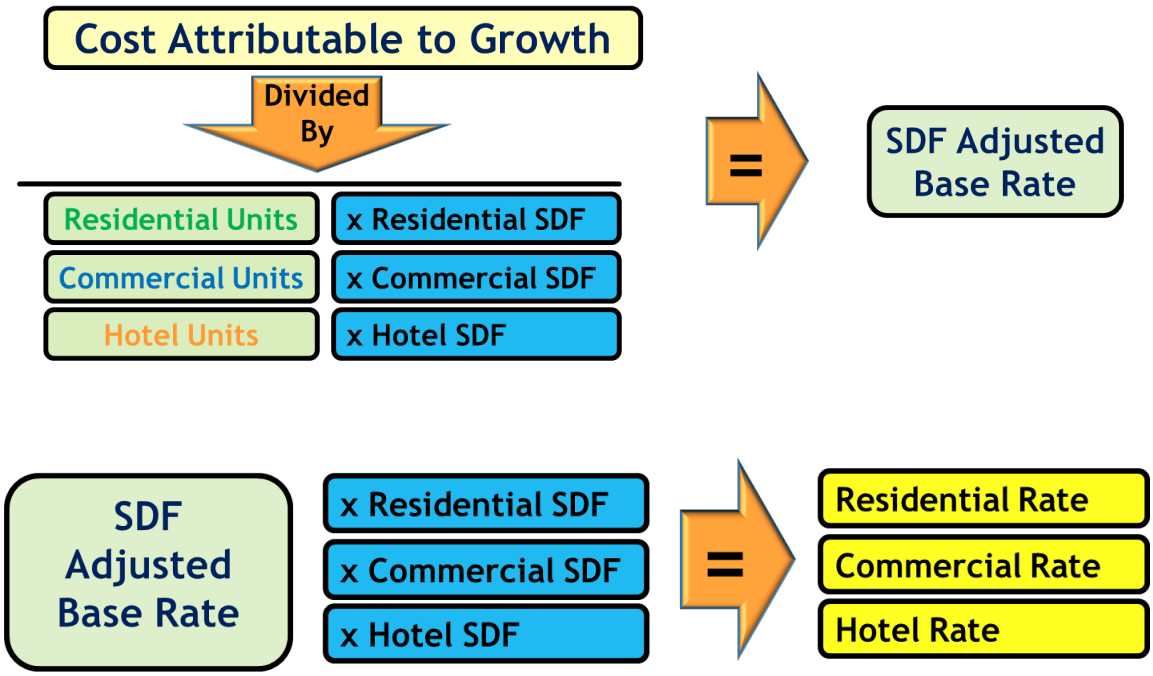
Not all development types (Residential, Hotel, Commercial) place demand on Town infrastructure and facilities to the same extent. Consequently, specific adjustment factors were developed to more fairly recognize and attribute true utility needs for each development type. These adjustments are called Service Demand Factors (SDF's) and form a critical part of setting the off-site levy rates.

A basic representation of how a basic off-site levy rate is calculated is shown below:



However, this basic off-site levy rate does not differentiate across various development types (Commercial, Hotel, Residential) and requires additional detail to fairly allocate project costs attributable to growth for these developments.

When future development projections for the different types of development are combined with weighting factors or Service Demand Factors (SDF), this allows for a more accurate reflection of the intensity that future development places on the Town's infrastructure and facilities:



Utility Service Demand Factors

Utility Service Demand Factors for the impact that Commercial, Hotel and Residential development has on Water and Sanitary infrastructure have been extracted from the 2022 Utility Master Plan (UMP).

The following UMP Table 3-18 identifies the water system unit demands for Residential, Hotel and Commercial (ICI / Industrial Commercial and Institutional) development types:

Table 3-18 Water System Unit Demands

Demand Type	Rate	Units
Water Treatment Plant Production (composite rate)	360	L/c/d
Residential	250	L/c/d
Hotels	700	L/unit/d
ICI	30 810	m^3/ha/d L/unit/day

To evaluate the relative impacts, the units of measurement such as L/c/d (Liters/capita/day) must be first converted to a consistent basis such as L/Unit/d (Liters/Unit/Day). Using a standard consistent with the UMP and previous planning directives, Residential development is assumed to have 2.5 people per unit, as follows:

- Residential development: 250 x 2.5 people per unit = 625 L/unit/day
- Hotel development: = 700 L/unit/day
- Commercial development = 810 L/unit/day

The following Service Demand Factors (SDF) can now be determined Water and Sanitary infrastructure, relative to the Residential development rate of 625 L/unit/day.

- Residential SDF = 625 / 625 = 1.0
- Hotel SDF = 700 / 625 = 1.1
- Commercial SDF = 810 / 625 = 1.3

The Service Demand Factors can be found in Table 2 of the Off-Site Levy Bylaw. For other infrastructure such as Transportation, Storm or Fire facilities, Service Demand Factors have been determined through consultation and agreements with the development community.