

2025 Landfill Annual Report (ME-15273)

Town of Osoyoos



Feb 2026

Project No. 302-708-013

ENGINEERING ■ PLANNING ■ URBAN DESIGN ■ LAND SURVEYING

Distribution List

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Revision Log

Revision #	Revised by	Date	Issue / Revision Description

Report Submission

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List of Acronyms

AO	Aesthetic Objective
DOCP	Design, Operations and Closure Plan
DLC	Demolition, land clearing and construction Waste
EPO	Environmental Protection Officer
GCDWQ	Guidelines for Canadian Drinking Water Quality
HDPE	High density polyethylene
LFG	Landfill gas
MAC	Maximum Allowable Concentration
MOE	Ministry of Environment and Climate Change Strategy
OMRR	Organic Matter Recycling Regulation
OC	Operational Certificate
RDOS	Regional District of Okanagan Similkameen
TRUE	TRUE Consulting

Units of Measure

ft	feet
lgpm	Imperial gallons per minute
km	kilometre
L/d	Litres per day
L/m	Litres per minute
L/s	Litres per second
lpcd	Litres per capita per day
m	metre
mg/L	milligrams per Litre
mm	millimetre
NTU	Nephelometric Turbidity Units
psi	pounds per square inch
USgpm	US gallon per minute

Referenced Reports

BC MoE	"Landfill Criteria for Municipal Solid Waste," June 2016
TRUE Consulting	Town of Osoyoos, "Landfill Design/Operation/Closure Plan," August 2018
TRUE Consulting	Town of Osoyoos, "Landfill Gas Generation Assessment Report for the Town of Osoyoos Landfill," April 2019
Dillon Consulting	Town of Osoyoos, "2023 District Sanitary Landfill Annual Report" May 2023

1.0 Description and General Operation

The Town of Osoyoos Landfill is located approximately 3 km north of the municipal boundary and 1.5 km west of Highway 97. This area is locally described as the Osoyoos West Bench and is located within the Regional District of the Okanagan-Similkameen. The Osoyoos landfill has been in operation for more than 60 years at this location.

During the 1950's and 1960's, the northwest corner of the landfill site was used for landfilling. The Town employed the trench and cover method for landfilling operations. Through the 1970's, 1980's and 1990's, landfilling was undertaken in the area legally described as DL829, extending east to the designated Stage 1 area. The landfill site plan can be seen in Figure 1-1.

In December 2010, the starter berm for Stage 2 was constructed along the eastern property line (see Figure 1-1). Five groundwater monitoring wells were constructed at the landfill site to enable more comprehensive groundwater analysis. Three of the five monitoring wells are placed down gradient of the Stage 2 landfill area (see Figure 1-1). In January of 2011, the Stage 1 area reached airspace capacity and the active landfilling area moved to Stage 2 where it has been since.

Figure 1-1 illustrates four receiving basins for hauled liquid waste located in the southeast corner of the landfill site. Waste quantities discharged to the hauled liquid waste basins are measured at the landfill scale and are presented on the waste summaries herein. The hauled liquid waste system is authorized by a separate waste management permit (Permit 14804) and described in a separate annual report.

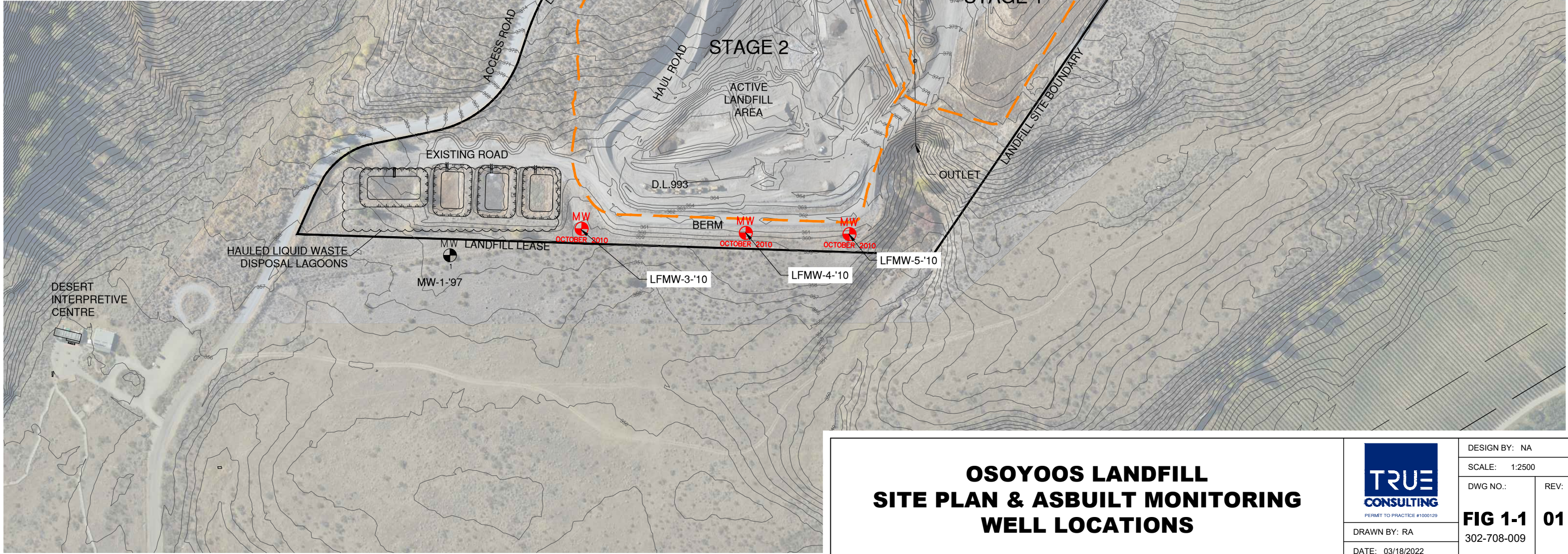
In 2008, a 100 mm diameter water service was constructed to the landfill site from Irrigation System No. 8. The water service is approximately 2 km in length, is designated as non-potable and is protected by a backflow prevention device approved by the Interior Health Authority. Since construction of the water service, organic wastes have been composted by the landfill operations contractor.

The operation of the landfill is contracted to the private sector by the Town of Osoyoos. B and B Wood Grinding Services had the operation and maintenance contract from 2005-2020. Whissell Waste Solutions (now Environmental 360 Solutions) was awarded this contract in January 2021. This operations contract includes overall management of the landfill aside from the scale and tip fee collection which is conducted by Town staff. The 40ft landfill scale is operated by Town staff using Autoscale data management software.

MONITORING WELLS
MW-1-'97: T.O.C.=359.577; GROUND=359.800
LFMW-3-'10: T.O.C.=359.859; GROUND=359.270
FMW-4-'10: T.O.C.=361.748; GROUND=361.100
LFMW-5-'10: T.O.C.=361.098; GROUND=360.408
LFMW-6-'10: T.O.C.=382.273; GROUND=381.563
LFMW-7-'10: T.O.C.=383.189; GROUND=382.600
NOTE: T.O.C.=TOP OF EXTERIOR COVER

UTM COORDINATES
MW-1-'97: N 5436715.552 E 315818.076
LFMW-3-'10: N 5436801.491 E 315800.68
LFMW-4-'10: N 5436908.687 E 315802.288
LFMW-5-'10: N 5436976.356 E 315804.245
LFMW-6-'10: N 5437174.161 E 315586.691
LFMW-7-'10: N 5436935.496 E 315464.741

NOTES
1) BACKGROUND IMAGERY WITHIN LANDFILL
SITE BOUNDARY FROM OCTOBER 27, 2017.
BACKGROUND IMAGERY OUTSIDE LANDFILL
SITE BOUNDARY FROM OCTOBER 23, 2015



**OSOYOOS LANDFILL
SITE PLAN & ASBUILT MONITORING
WELL LOCATIONS**



PERMIT TO PRACTICE #1000129
DRAWN BY: RA
DATE: 03/18/2022

DESIGN BY: NA
SCALE: 1:2500

DWG NO.: REV:

FIG 1-1 01
302-708-009

2.0 Operational Certificate Authorization

The operation of the Osoyoos Landfill is authorized by Operational Certificate (OC) No. MR 15273, dated March 26, 2002 (see Appendix A). The OC describes general operational requirements as well as requirements for the landfill's Operations and Closure Plan.

The Design, Operation, and Closure Plan (DOCP) for the Osoyoos Landfill was completed in August 2018. Referring to Figure 1-1, the DOCP envisions development of two separate stages:

- Stage 1 represents the northern half of the landfill site. Landfilling in this area was discontinued in December 2011. Final cover is in place on Stage 1.
- Stage 2 represents the southern half of the landfill site. The Stage 2 area was surveyed in 2022 to update the remaining airspace capacity calculation. The remaining airspace available at the end of 2025 was derived from the 2022 survey, less the recorded tonnage landfilled from 2022 (post survey) – 2025.

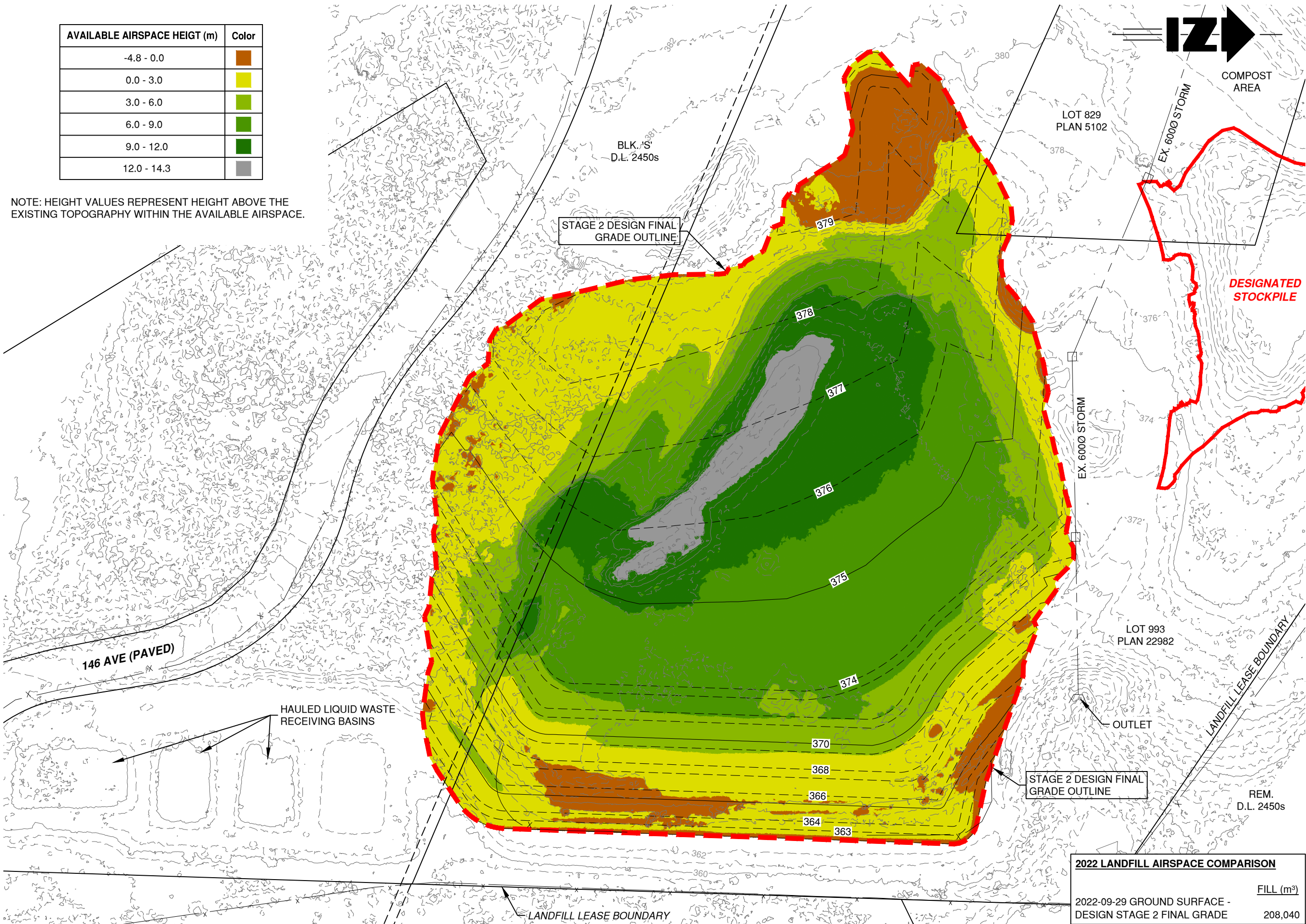
The airspace remaining is noted in the volumetric analysis. This will be updated utilizing the topographic survey undertaken as part of the 2025 Design, Operations and Closure Plan Update, currently under review. Landfilling in the Stage 2 area was initiated in January 2011.

Final cover placement for Stage 1 proceeded on a phased basis, beginning in 2010. Completion of the cover occurred in 2013. The final cover is comprised of silt and clay, derived from a borrow area within the Stage 2 footprint area, and includes a 150 mm thick top cover of existing Class 'B' compost material available at the landfill. A site plan of the landfill is presented in Figure 2-2.

In 2016, removal of cover material from Stage 2 was initiated and stockpiled on Stage 1. This material will be used as future cover material for Stage 2. In 2016, approximately 5,000 m³ of material was removed from Stage 2. In 2017, an additional 20,000 m³ of material was removed and stockpiled on Stage 1.

AVAILABLE AIRSPACE HEIGHT (m)	Color
-4.8 - 0.0	
0.0 - 3.0	
3.0 - 6.0	
6.0 - 9.0	
9.0 - 12.0	
12.0 - 14.3	

NOTE: HEIGHT VALUES REPRESENT HEIGHT ABOVE THE EXISTING TOPOGRAPHY WITHIN THE AVAILABLE AIRSPACE.



2022 LANDFILL AIRSPACE COMPARISON	
2022-09-29 GROUND SURFACE -	FILL (m³)
DESIGN STAGE 2 FINAL GRADE	208,040

2022 GROUND SURFACE
TELEMETRY CAPTURED BY
TRUE CONSULTING ON
SEPTEMBER 29, 2022

CONTOUR INTERVAL= 1.0m

CONSULTANT SEAL




TOWN OF
OSOYOOS
LANDFILL

2022 AIR SPACE
CAPACITY
SUMMARY

SCALE	1:1250
DESIGN BY	
DRAWN BY	DF
DATE	SEPTEMBER 2022
PROJECT REFERENCE No.	302-7010
DRAWING No.	302-712-001
SHEET	1 OF 1
ISSUE/REV.	-

FIG 2-1

FILE: F:\clients\300-389\302-712\03 drawings\caat\2 design drawings\302-712 am.dwg

3.0 Landfill Quantities (OC 4.6a)

3.1 Current and Historical Landfill Quantities

Quantity summaries for materials accepted at the Town of Osoyoos Landfill for the last ten years (2015-2025) are summarized in Table 3-1. It is noted that the 2023 annual report was completed by Dillion Consulting with the 2023 material quantities referenced from that report. A complete historical record of quantities dating from 1996 - 2025 may be found in Appendix B. The classification of material is to some extent subjective and based on the judgement of the scale operator.

From the perspective of the landfill lifespan and expansion phasing, the important quantity is the actual total volume of material landfilled. This volume is referred to as consumed airspace in the solid waste management industry. Material streams which contribute to airspace include materials for operations and closure, and solid waste. Some examples of operations and closure materials include cover soils, fire breaks, containment berms, temporary roads, leachate management, and landfill gas (LFG) and cover system infrastructure. Whereas solid waste is limited to regulated materials as defined in the OC. For the Osoyoos landfill, solid waste materials are categorized in Table 3-1. The quantity of landfilled material derived from recorded data has the following sources of variation:

- The waste categories change from year to year as determined by the scale operator. The landfilled material quantity is a summation of these discrete categories and accounts for any operational changes to waste diversion streams.
- In 2007, the Town initiated composting. Since this time, the volume of wastes landfilled has decreased significantly.
- Recycled materials are not included in monthly totals as shown in Table 3-2. These materials include recycled demolition, land clearing, and construction waste (DLC), recycled metals and plastics, tires, white goods, clean wood, yard and garden waste, and compostable organics.
- There is uncertainty whether the category “Clean Cover Material” is recycled or landfilled. As of 2012, Clean Cover Material is not included in the actual total quantity of material landfilled but instead listed as a separate line item.
- The hauled liquid waste system is authorized by a separate Permit (PE 14804) under the provisions of Section 11 of the Environmental Management Act and described in a separate annual report. Therefore, hauled liquid waste is reported separate from actual total quantities.

- In 2025, new material categories were included as follows:
 - Ozone depleting (ODS) and non-ozone depleting (NON-ODS) were included in recycling quantities for refrigerators.
 - The following materials were included in the landfilled waste category
 - Invasive Insect (INV)
 - Special Risk Material (SRM)
 - Unsorted Load (UNSRT)

A summary of the total and monthly quantities generated within each 2025 waste stream is presented in Table 3-2. In 2025, a total of 6,246 tonnes of material was weighed at the landfill facility. Of this quantity, 4,503 tonnes was solid waste and landfilled. The remaining 1,743 tonnes was diverted. These quantities are similar to those in the previous year. Of the total waste accepted at the landfill in 2025, 28% of weighed materials were diverted.

As seen in Table 3-3 capital projects produced a total of 139 tonnes of construction waste (e.g., concrete, rubble, asphalt, etc.) in 2025. The Town of Osoyoos implements a strict segregation policy for waste streams generated from construction to allow for recycling of materials such as clean wood, concrete, asphalt and clean soils. Corresponding waste categories are diverted from the landfill and recycled. For this reason, these materials are not included in the actual quantity of material landfilled.

In minor cases, recycled materials such as crushed concrete and asphalt millings are used as operational materials to maintain landfill roads. Impacts to airspace consumption from these materials are considered in the lifespan analysis during topographic survey analysis, typically completed every 2 years in the fall. This analysis will be updated with the actual remaining air space, determined by volumetric analysis, produced by aerial topographic survey of existing ground later this year for the 2025 DOCP Update by Dillion Consulting (currently under review). Based on this, it will be determined if the projection is being significantly impacted. Historically this has not been the case with past surveys.

TABLE 3-1: ANNUAL LANDFILL WASTE QUANTITIES FROM 2015-2025 (TONNES)

WASTE CATEGORY	Total 2015	Total 2016	Total 2017	Total 2018	Total 2019	Total 2020	Total 2021	Total 2022	Total 2023	Total 2024	Total 2025
Batteries	0	0	0	0	0	0	0	0	0	0	0
Const Waste A (conc, asphalt, etc.)	239	595	3,199	4,635	582	1,757	1,143	489	255	232	195
Const Waste B (demolition)	357	67	43	55	29	48	58	50	97	128	109
Const Waste C (compostable)	190	193	226	169	214	256	128	72	115	138	124
Const Waste - Mixed	34	15	1	85	14	22	6	0	0	23	0
Metals - Type A (white goods)	25	27	27	33	31	33	26	16	18	74	15
Metals - Type B (scrap metal)	0	0	0	0	0	0	0	0		0	0
Tires	5	4	5	6	5	5	3	6	13	9	10
Commercial Waste	1,966	2,075	2,037	1,949	2,181	1,961	2,107	1,638	1,870	2,077	2,168
Municipal Waste	1,736	1,897	1,976	2,809	2,008	2,136	2,424	2,357	2,139	2,302	2,072
Yard Waste A (compostable garden)	866	1,058	1,043	969	916	928	1,090	1,062	1,392	1,257	1,301
Yard Waste B (chippable limbs, compost, etc.)	16	2	2	1	6	4	6	0	0	3	2
Yard Waste C	0	0	0	0	0	0	0	0	0	0	0
Refrigerators	19	23	23	26	29	26	28	17	25	0	29
Propane Tanks											
Agricultural Plastics- Recycled	0	0	0	0	0	0	0	0		0	0
Recycled DLC	16	57	36	88	73	105	134	56		53	67
Biosolids	0	0	0	0	0	0	2	0		0	0
Invasive Insects											124
Special Risk Materials											0
Unsorted Loads											31
ANNUAL TOTALS	5,469	6,013	8,618	10,825	6,087	7,280	7,156	5,763	5,924	6,295	6,246

SUMMARY OF PROCESSING											
ORGANICS COMPOSTED	1,072	1,253	1,272	1,139	1,136	1,188	1,223	1,135	1,507	1,397	1,427
RECYCLED	65	112	91	153	138	168	192	94	55	314	249
CONSTRUCTION	239	595	3,199	4,635	582	1,757	1,143	489	255	53	67
LANDFILLED	4,093	4,054	4,056	4,898	4,231	4,167	4,598	4,045	4,118	4,531	4,503
ANNUAL TOTALS	5,469	6,013	8,618	10,825	6,087	7,280	7,156	5,763	5,935	6,295	6,246

CATEGORIES NOT INCLUDED IN SUMMARY											
HAULED LIQUID WASTE	1,920	2,021	2,352	2,119	2,680	3,160	4,579	5,108	2,802	2,042	2,280
COMPOST SALES						321	181	204	158	176	140
CLEAN COVER MATERIAL (CCMT & CGC)	175	1,430	1,718	8,116	2,040	3,451	836	1,096	1,415	1,620	832
ANNUAL TOTALS	2,095	3,451	4,070	10,235	4,720	6,932	5,597	6,409	4,375	3,839	3,251

- (1) Annual totals account for all waste brought to the landfill but do not include the hauled liquid waste and clean cover material.
Note that Annual Totals are equivalent to the summation of: Landfilled, Construction, Recycled, and Organics Composted.
- (2) Landfilled category refers to the materials deposited in active landfill face.
- (3) Recycled category refers to materials stored within the limits of the landfill site until such time that these materials are salvaged and/or recycled by others (Batteries, Type 'A' & 'B' Metals, Tires, Refrigerators, Propane Tanks and Agricultural Plastics).
- (4) Organic are materials which biodegrade naturally (Yard Waste 'A', 'B', and 'C').
- (5) Demolition materials may be salvageable and are kept separate from active landfill face (Construction Waste 'A' and 'C').
- (6) Refrigerators are counted by piece (of freon removal). An average mass of 75kg per piece is applied.
- (7) Propoane tanks are recycled and not included in annual totals.

TABLE 3-2: SUMMARY OF MONTHLY LANDFILL QUANTITIES FOR 2025 (TONNES)

2025 WASTE CATEGORY	2025 January	2025 February	2025 March	2025 April	2025 May	2025 June	2025 July	2025 August	2025 September	2025 October	2025 November	2025 December	Total to Date
Const Waste A (conc, rubble, asphalt, etc.)	1	8	15	34	17	5	36	52	2	14	-	11	195
Const Waste B (drywall or asphalt shingles)	18	9	4	7	9	10	5	9	14	16	6	4	109
Const Waste C (white wood, lumber, stump, compost, etc.)	8	6	4	7	21	9	17	10	17	17	4	4	124
Mixed Load Construction Waste	-	-	-	-	-	-	-	-	-	-	-	-	-
Mixed Load Commercial Waste	30.9	31.0	35.6	23.9	86.0	80.5	43.3	43.8	66.6	73.4	31.7	27.0	574
Mixed Load Residential Waste	22	25	51	54	82	64	61	47	59	71	47	23	607
Metals - (white goods, 80% metal or more)	1	1	1	1	2	1	1	0	4	1	2	0	15
Tires	1	1	1	0	1	1	1	2	1	3	2	1	10
Commercial Waste	74	79	83	110	136	138	224	217	171	149	115	98	1,594
Municipal Waste (Town & WSI pickup)	71	70	84	98	104	102	126	167	134	98	91	100	1,245
Gravel from Road Construction													-
Residential Waste	38	5	13	31	14	12	19	16	20	20	14	8	209
Yard Waste A (all green wood less than 5", compost)	1	-	1	3	4	3	6	0	6	4	4	-	32
Yard Waste B (white wood, lumber, compost, etc.) - PW	-	-	-	-	-	-	-	-	-	-	-	-	-
WSI Yard & Garden Waste - Curbside p/u (compost)	-	-	18	37	39	34	41	37	59	44	49	6	365
Free Chippable & Compostable	11	3	78	61	81	69	82	64	88	89	100	19	745
Free Compostable (fruit or vegetables)	-	0	-	-	0	0	11	1	19	26	42	61	159
Demolition and Land Clearing	0	4	-	-	-	-	-	-	-	-	-	-	4
Recycled DLC	2	3	7	6	10	8	8	4	5	4	5	5	67
Asbestos	0	4	1	0	-	-	-	-	0	2	-	-	7
Puncture Vine	-	-	-	0	-	-	0	1	1	0	0	-	2
Agricultural Plastics	-	-	-	-	-	-	-	-	-	-	-	-	-
Agricultural Plastics - Recycled	-	-	-	-	-	-	-	-	-	-	-	-	-
Refrigerators and White Goods**	1	1	2	2	3	3	4	3	2	3	2	1	29
Bio Solids	-	-	-	-	-	-	-	-	-	-	-	-	-
Invasive Insects	-	-	5	9	20	22	28	19	19	3	-	-	124
Special Risk Materials	0.12	-	-	-	-	-	-	-	-	-	-	-	0
Unsorted Loads	-	-	-	5	4	3	0	1	4	2	5	5	31
TOTALS	280	250	403	490	631	566	714	695	689	641	514	374	6,246

** Refrigerators and White Goods were counted by pieces therefore an average mass of 75kg per piece has been assumed

SUMMARY OF PROCESSING

Recycled and Composted													
- Organics, incl. White Wood, Yard & Garden Wastes, Compost	20	9	101	107	145	116	158	113	190	181	198	90	1,427
- Recycled Metals, Tires, Const. Waste 'A', Ag. Plastic, Refrigerators	4	11	19	38	23	9	43	57	9	21	2	14	249
- Recycled DLC	2	3	7	6	10	8	8	4	5	4	5	5	67
Landfilled	254	227	277	338	454	432	506	521	485	434	310	266	4,503
TOTALS	280	250	403	490	631	566	714	695	689	641	514	374	6,246

CATEGORIES NOT INCLUDED IN SUMMARY

Hauled Liquid Waste	72	101	63	144	279	247	240	410	225	219	193	87	2,280
Compost Sales	-	-	15	31	31	13	6	38	4	2	0	-	140
Clean Cover Material (CCMT & CGC)	-	-	80	247	268	37	16	33	42	94	12	3	832
TOTALS	72	101	157	422	578	296	261	481	271	316	206	90	3,251

*Tire rims are taken by the tire recyclers and not included in metal recycling. They are not included in the landfill summary.

**TABLE 3-3: LANDFILL QUANTITIES FOR 2025 WITH TABULATION OF TOWN PROJECTS
(TONNES)**

2024 WASTE CATEGORY	Gross at Scale	Town Waste Capital Projects	Net Waste Without Town Capital Projects
Const Waste A (conc, rubble, asphalt, etc.)	195	127	68
Const Waste B (drywall or asphalt shingles)	109	1	108
Const Waste C (white wood, lumber, stump, compost, etc.)	124	10	114
Mixed Load Construction Waste	-	-	-
Mixed Load Commercial Waste	574	-	574
Mixed Load Residential Waste	607	-	607
Metals - (White goods, 80% metal or more)	15	-	15
Tires	10	0	9
Commercial Waste	1,594	-	1,594
Municipal Waste (Town & Curbside pickup)	1,245	-	1,245
Gravel from Road Construction	-	-	-
Residential Waste	209	-	209
Yard Waste A (All green wood less than 5", compost)	32	-	32
Yard Waste B (white wood, lumber, compost, etc.) - PW	-	-	-
WSI Yard & Garden Waste - Curbside p/u (compost)	365	-	365
Free Chippable & Compostable	745	-	745
Free Compostable (Fruit or Vegetables)	159	-	159
Demolition and Land Clearing	4	-	4
Recycled DLC (subtract from the totals)	67	-	67
Asbestos	7	-	7
Puncture Vine	2	-	2
Agricultural Plastics	-	-	-
Agricultural Plastics - Recycled	-	-	-
Refrigerators**	29	-	29
Bio Solids	-	-	-
Invasive Insects	124	-	124
Special Risk Materials	0	-	0
Unsorted Loads	31	-	31
TOTALS	6,246	139	6,108

** Refrigerators were counted by pieces therefore an average mass of 75Kg per piece has been assumed.

SUMMARY OF PROCESSING

Recycled and Composted			
- Organics, incl. White Wood, Yard & Garden Wastes, Compost	1,427	10	1,417
- Recycled Metals, Tires, Const. Waste 'A', Ag. Plastic, Refrigerators	249	128	121
- Recycled DLC	67	-	67
Landfilled	4,503	1	4,503
TOTALS	6,246	139	6,108

CATEGORIES NOT INCLUDED IN SUMMARY

Hauled Liquid Waste (sludge)	2,280	77.30	2,202
Compost Sales	140	-	140
Clean Cover Material (CCMT & CGC)	832	377	455
TOTALS	3,251	454	2,797

With respect to long-term planning for the landfill site, the quantity actually landfilled is the most significant. The total quantity actually landfilled, and the total quantity recycled or composted for the last eight years is summarized in Table 3-4.

TABLE 3-4: TOWN OF OSOYOOS LANDFILL QUANTITIES

YEAR	LANDFILLED (TONNES)	RECYCLED AND COMPOSTED (TONNES)	TOTAL QUANTITY (TONNES)
2018	4,898	5,927	10,825
2019	4,231	1,856	6,087
2020	4,167	3,113	7,280
2021	4,598	2,558	7,156
2022	4,045	1,717	5,763
2023	4,118	1,817	5,935
2024	4,531	1,765	6,295
2025	4,503	1,743	6,246

3.1.1 [Prohibited Wastes \(OC 3.2\)](#)

In compliance with OC Section 3.2 Prohibited Wastes, the Town of Osoyoos does not accept Hazardous Waste. These types of waste include:

- Special Wastes other than those specifically authorized in the *Special Waste Regulation*,
- Biomedical waste as defined in the document *Guidelines for the Management of Biomedical Waste in Canada* (CCME, February 1992), and
- Liquids or semisolid wastes which contain free liquid, except as otherwise authorized by the Waste Management Act Permit PE-14804.

In addition to these prohibited wastes, the following wastes are also prohibited unless specifically authorized by the Regional Waste Manager:

- Automobiles, white goods, other large metallic objects (now diverted through recycling programs), and tires,
- Dead animals and slaughter house, fish hatchery and farming wastes or cannery wastes and by products.

3.2 Composting Operations

Per Table 3-2, composting operations accept Construction Waste C, Yard Waste A and B, and WSI Yard & Garden Waste to generate Class A compost which is sold to the public. The composting area of the landfill is comprised of a 3,800 m² compost pad. The pad includes a 150 mm subgrade layer of pit run sand, overlain by a 60 mil high density polyethylene (HDPE) geomembrane, 150 mm pitrun sand, filter fabric and 200 mm gravel travel surface. The site is serviced with a non-potable irrigation service and is graded so any leachate generated will collect in a sump located on the southwest corner of the pad. Leachate generation is minimal at the landfill site due to the arid climate. Any leachate generated is recycled back onto the compost pile, preventing seepage into the ground and solid waste under the compost pad area. The compost pad plan and details can be found in Appendix C.

In accordance with the Organic Matter Recycling Regulation (OMRR), the Town of Osoyoos submitted notification of composting operations at the municipal landfill. An Acknowledgment Letter was received from the Ministry of Environment and Climate Change Strategy (MOE) on December 10, 2018 (see Appendix C). The effective date of notification for the form submission was November 21, 2018. The Authorization Number for this facility is 109610.

4.0 Service Population and Per Capita Generation Rates (OC 4.6b)

Section 4.6 (b) of the OC requires reporting of the service population and waste discharge rates with a comparison and trend analysis in relation to the 1996 baseline rate of 1.20 tonnes per capita. Table 4-1 is a summary of the estimated landfill service population, with the Regional District of Okanagan Similkameen (“RDOS”) Electoral Area A and the Town of Osoyoos listed separately. The total quantity of solid waste, and per capita contributions are summarized from 1996-2025. This total does not include materials recycled, composted, clean cover material and hauled liquid waste.

TABLE 4-1: SERVICE POPULATION AND LANDFILL QUANTITY SUMMARY

YEAR	SERVICE POPULATION		TOTAL POPULATION	LANDFILLED QUANTITY (TONNES)	LANDFILLED QUANTITY (ANNUAL TONNES/CAPITA)
	TOWN	ELECTORAL AREA A			
1996	4,021	1,968	5,989	4,614	0.77
1997	4,076	1,954	6,030	4,311	0.71
1998	4,131	1,940	6,071	3,679	0.61
1999	4,188	1,926	6,113	3,306	0.54
2000	4,245	1,912	6,157	3,430	0.56
2001	4,295	1,897	6,192	3,980	0.64
2002	4,353	1,902	6,255	5,785	0.92
2003	4,466	1,907	6,373	4,799	0.75
2004	4,441	1,911	6,352	5,587	0.88
2005	4,623	1,916	6,539	5,285	0.81
2006	4,752	1,921	6,673	6,563	0.98
2007	4,848	1,915	6,763	6,049	0.89
2008	4,889	1,909	6,798	6,854	1.01
2009	4,965	1,904	6,869	6,616	0.96
2010	4,896	1,898	6,794	6,872	1.01
2011	4,845	1,892	6,737	6,538	0.97
2012	4,886	1,885	6,771	5,201	0.77
2013	4,927	1,878	6,805	4,293	0.63
2014	4,968	1,872	6,840	4,305	0.63
2015	5,009	1,865	6,874	4,093	0.60
2016	5,050	1,858	6,908	4,054	0.59
2017	5,151	1,914	7,065	4,056	0.57
2018	5,252	1,970	7,223	4,898	0.68
2019	5,354	2,027	7,380	4,231	0.57
2020	5,455	2,083	7,538	4,167	0.55
2021	5,556	2,139	7,695	4,598	0.60
2022	5,667	2,195	7,862	4,045	0.51
2023	5,780	2,251	8,032	4,118	0.51
2024	5,896	2,308	8,204	4,531	0.55
2025	6,014	2,364	8,378	4,503	0.54

Source: BC Stats, Government of B.C.

Source: Statistics Canada Census Profile

Interpolated Values Between Know Years

Referring to Table 4-1:

- The service populations reflect population information as provided by BC Stats and Statistics Canada Census Profile. Sources for annual populations have been identified.
- The service populations listed for RDOS Electoral Area A are generated from census data for 1996, 2001, 2006, 2011, 2016, and 2021. Between census years, populations are extrapolated estimates.

- The annual per capita waste generation rate ranges between 0.52 tonnes/capita to a maximum value of 1.01 tonnes/capita. Since 2010, the landfilled quantity has decreased annually from 1.01 annual tonnes/capita in 2010, to 0.54 annual tonnes/capita in 2025.
- With respect to the 1996 baseline of 1.2 tonnes per capita, referenced in the Operational Certificate, the per capita generation rate for the Osoyoos Landfill has been consistently less than this value. In 2025, the per capita rate was approximately 45% of the 1996 baseline value.

A summary of the waste generation by source is provided in Figure 4-1. The landfilled material has been grouped into four sub-categories: municipal waste excluding municipal projects, municipal projects, commercial waste (including special risk materials and invasive insects), and other. The subcategory “other” consists of Construction Waste B (un-burnable demolition), Mixed Load Construction Waste, Unsorted Loads and Bio Solids. Figure 4-1 shows the relative contributions of different waste generation sectors. This summary quantifies the total quantity of solid waste that is actually landfilled (approximately 4,503 tonnes).

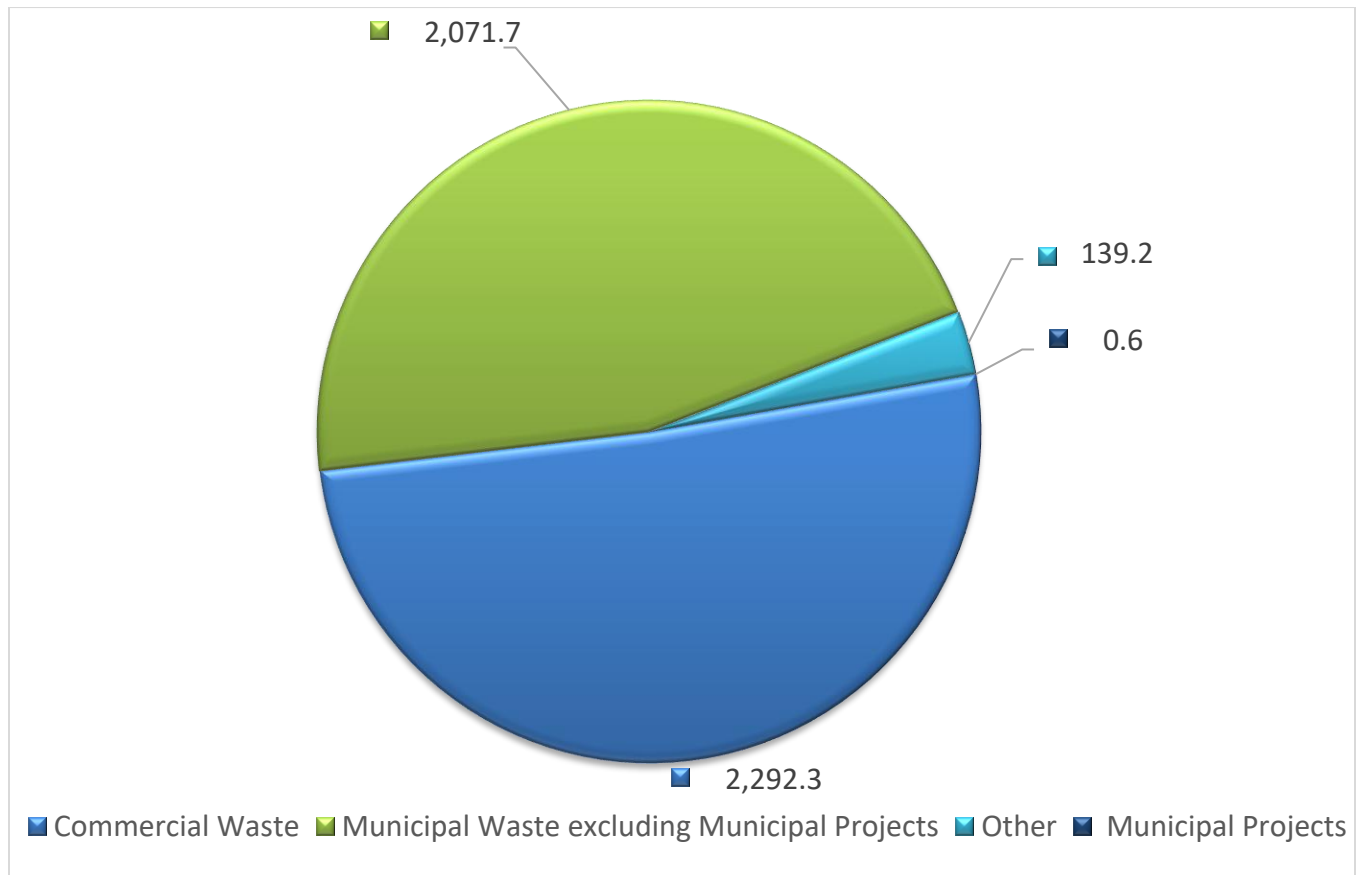


FIGURE 4-1: SOURCE BREAKDOWN OF LANDFILLED WASTE BY TONNAGE IN 2025

5.0 Remaining Site Life and Capacity (OC 4.6c)

The remaining lifetime of the Town's landfill is represented by the designated Stage 2 area as shown in Table 5-1. The total airspace available in the Stage 2 area was estimated by using an aerial survey completed by TRUE in 2022 and the total landfilled quantity from 2023, 2024 and 2025 to calculate the approximate total air space available of 190,826 m³ (see Table 5-1).

Generation Rate 0.6 tonnes/capita:

The estimated usable life of the landfill assuming a 0.6 tonnes/capita waste generation rate is approximately 21 years. This value is generated based on the following assumptions:

- The per capita waste generation rate will remain constant at approximately 0.6 tonnes/capita in the future.
- The annual growth rate of the contributing population to the landfill will be approximately 2% (combined Town and Electoral Area A growth rate).
- A solid waste in place compacted density of 650 kg/m³ and an assumed long-term settlement rate of 15% (in situ densification).

Generation Rate 0.8 tonnes/capita:

The estimated usable life of the landfill assuming a 0.8 tonnes/capita waste generation rate is approximately 17 years. This value is generated based on the following assumptions:

- The per capita waste generation rate will remain constant at approximately 0.8 tonnes/capita in the future.
- The annual growth rate of the contributing population to the landfill will be approximately 2% (combined Town and Electoral Area A growth rate).
- A solid waste in place compacted density of 650 kg/m³ and an assumed long-term settlement rate of 15% (in situ densification).

While the annual per capita generation rate has steadily decreased since 2012, the annual tonnes per capita has varied from 0.52 to 0.77 during this time. Therefore, two generation rate scenarios are displayed. As recycling and compost practices become more refined, the lifetime of the landfill can be increased.

Please note that from 2011-2022, the compacted density was calculated as 0.6 tonnes/m³. In 2023, Dillion Consulting utilized a compacted density of 0.7 tonnes/m³. The compacted density from 2024 – 2025 was averaged as 0.65 tonnes/m³.

TABLE 5-1: PRELIMINARY STAGE 2 AREA LIFESPAN CALCULATION

Year at Dec. 31st	0.6 Generation Rate					0.8 Generation Rate				
	Pop.	Total Landfilled		Settlement Reduction of 15% m³	Airspace Available m³	Pop.	Total Landfilled		Settlement Reduction of 15% m³	Current Residual Airspace m³
		tonnes/year	m³/year				tonnes/year	m³/year		
2011	6,737	6,538	10,897	1,635	-	6,737	6,538	10,897	1,635	-
2012	6,771	5,201	8,668	1,300	-	6,771	5,201	8,668	1,300	-
2013	6,805	4,293	7,155	1,073	-	6,805	4,293	7,155	1,073	-
2014	6,840	4,305	7,175	1,076	-	6,840	4,305	7,175	1,076	-
2015	6,874	4,093	6,822	1,023	-	6,874	4,093	6,822	1,023	-
2016	6,908	4,054	6,757	1,014	-	6,908	4,054	6,757	1,014	-
2017	7,065	4,056	6,760	1,014	-	7,065	4,056	6,760	1,014	-
2018	7,223	4,898	8,163	1,225	-	7,223	4,898	8,163	1,225	-
2019	7,380	4,231	7,052	1,058	-	7,380	4,231	7,052	1,058	-
2020	7,108	4,167	6,945	1,042	-	7,108	4,167	6,945	1,042	-
2021	7,695	4,598	7,664	1,150	-	7,695	4,598	7,664	1,150	-
2022	7,849	4,045	6,742	1,011	207,641	7,849	4,045	6,742	1,011	207,641
2023	8,006	4,118	5,883	882	202,640	8,006	4,118	5,883	882	202,640
2024	8,166	4,531	6,970	1,046	196,715	8,166	4,531	6,970	1,046	196,715
2025	8,329	4,503	6,928	1,039	190,826	8,329	4,504	6,929	1,039	190,826
2026	8,496	5,098	7,842	1,176	184,160	8,496	6,797	10,456	1,568	181,938
2027	8,666	5,199	7,999	1,200	177,361	8,666	6,933	10,666	1,600	172,872
2028	8,839	5,303	8,159	1,224	170,426	8,839	7,071	10,879	1,632	163,625
2029	9,016	5,410	8,322	1,248	163,352	9,016	7,213	11,097	1,664	154,193
2030	9,196	5,518	8,489	1,273	156,136	9,196	7,357	11,318	1,698	144,572
2031	9,380	5,628	8,659	1,299	148,776	9,380	7,504	11,545	1,732	134,759
2032	9,568	5,741	8,832	1,325	141,269	9,568	7,654	11,776	1,766	124,750
2033	9,759	5,855	9,008	1,351	133,612	9,759	7,807	12,011	1,802	114,540
2034	9,954	5,973	9,189	1,378	125,802	9,954	7,963	12,251	1,838	104,126
2035	10,153	6,092	9,372	1,406	117,835	10,153	8,123	12,496	1,874	93,504
2036	10,356	6,214	9,560	1,434	109,710	10,356	8,285	12,746	1,912	82,670
2037	10,564	6,338	9,751	1,463	101,421	10,564	8,451	13,001	1,950	71,619
2038	10,775	6,465	9,946	1,492	92,967	10,775	8,620	13,261	1,989	60,347
2039	10,990	6,594	10,145	1,522	84,344	10,990	8,792	13,527	2,029	48,849
2040	11,210	6,726	10,348	1,552	75,548	11,210	8,968	13,797	2,070	37,121
2041	11,434	6,861	10,555	1,583	66,577	11,434	9,147	14,073	2,111	25,159
2042	11,663	6,998	10,766	1,615	57,426	11,663	9,330	14,355	2,153	12,958
2043	11,896	7,138	10,981	1,647	48,092	11,896	9,517	14,642	2,196	513
2044	12,134	7,281	11,201	1,680	38,571	12,134	9,707	14,934	2,240	-12,182
2045	12,377	7,426	11,425	1,714	28,860					
2046	12,624	7,575	11,653	1,748	18,954					
2047	12,877	7,726	11,886	1,783	8,851					
2048	13,134	7,881	12,124	1,819	-1,455					
2049	13,397	8,038	12,367	1,855	-11,966					

This landfill lifetime projection assumes the following:

- Annual population growth of 2%.
- Constant landfilled waste contribution of 0.8 tonnes per capita.
- Compacted landfill density of 0.65 tonnes per m³.
- 15% settlement reduction.
- 2018 air space includes 25,000m3 of excavation to stockpile.
- -Aerial survey completed on October 22, 2022. Remaining airspace surveyed 208,040 m³. November and December 2020 landfill volume subtracted from this airspace remaining with a 15% settlement reduction applied.

From 2011-2022 compacted landfill density was calculated as 0.6 tonnes per m³.

In 2023, Dillion Consulting calculated the compacted landfill density as 0.7 tonnes per m³.

From 2024 onward a compacted landfill density of 0.65 tonnes per m³ is calculated.

6.0 Operation Plan for Next 12 Months (OC 4.6d)

The Operational Certificate requires that the annual report describes the operation plan for the next 12-month period. Operation plans for 2025 included:

- i. Hydrogeological Review of the Town of Osoyoos Landfill Groundwater Monitoring Programme

A Hydrogeology and Hydrology Characterization Report will be undertaken in 2026. The Report will be conducted as per Section 10.1 of the BC Landfill Criteria. The work programme will include compilation and interpretation of existing background information and water level/water quality data, assessment of the adequacy of the current groundwater monitoring programme, and assessment the effect the landfill activity is having on groundwater. The assessment will also include a preliminary assessment of the impacts from the hauled liquid waste disposal and composting operations that occur on the property.

- ii. Design, Operations and Closure Plan (“DOCP”):

As per requirements in Section 10.3 of the BC Ministry of Environment Landfill Criteria for Municipal Solid Waste (June, 2016), it is recommended that the Landfill’s DOCP shall be reviewed and updated as needed at least once every five years. The last DOCP was completed in 2018 and an update has been completed in 2025 which is currently under review. As part of the update, the 2018 landfill closure cost estimates will be reviewed for the purpose of establishing a closure and post-closure fund as per Section 8 of the BC Landfill Criteria.

- iii. Updated Site Topographic Survey

An updated topographic survey was completed for the 2025 DOCP update. The DOCP will provide updated contour data for the upcoming site designs and fill planning.

7.0 Environmental Monitoring Data (OC 4.6e)

The Osoyoos Landfill has six groundwater monitoring wells located both up and down gradient of the landfill. This allows for determination of ambient water quality characteristics versus those which can be impacted from landfill operations. Dillon Consulting developed an Environmental Management Plan (EMP) for the Osoyoos Landfill in 2022. The EMP specifies the following monitoring requirements for the landfill:

- I. Annual vegetation monitoring.
- II. Monthly water level monitoring for the six on-site groundwater wells.
- III. Groundwater quality sampling to be completed in April and September for the following parameters.
 - General parameters:
 - Chloride
 - Sulfate
 - Nitrogen (as N)
 - Nitrate (as N)
 - Nitrite (as N)
 - Nitrate + Nitrite (as N)
 - Dissolved Organic Carbon (DOC)
 - Total Kjeldahl Nitrogen (TKN)
 - Total Dissolved Solids (TDS)
 - Dissolved Metals
 - Aluminum (Al)
 - Arsenic (As)
 - Boron (B)
 - Cadmium (Cd)
 - Chromium (Cr)
 - Cobalt (Co)
 - Iron (Fe)
 - Lead (Pb)
 - Manganese (Mn)
 - Mercury (Hg)
 - Molybdenum (Mo)
 - Potassium (K)
 - Selenium (Se)
 - Sodium (Na)
 - Zinc (Zn)
- IV. Data quality assurance in accordance with the terms and conditions of the *Environmental Data Quality Regulation* (EDQA).
- V. Comparison of groundwater results to the BC Approved and Working Water Quality Guidelines (BCWQG) and Guidelines for Canadian Drinking Water Quality (GCDWQ).
- VI. Annual reporting including compilation, interpretation and trend analysis of the receiving environmental monitoring data prepared by a qualified professional.

Items II, III, V, and VI are consistent with monitoring requirements in previous years. It is noted that the EMP states that the Landfill EMP is sufficient for monitoring compost operations.

The Town's public works staff measured the depth to groundwater for measurable wells monthly, as seen in Figure 7-1.

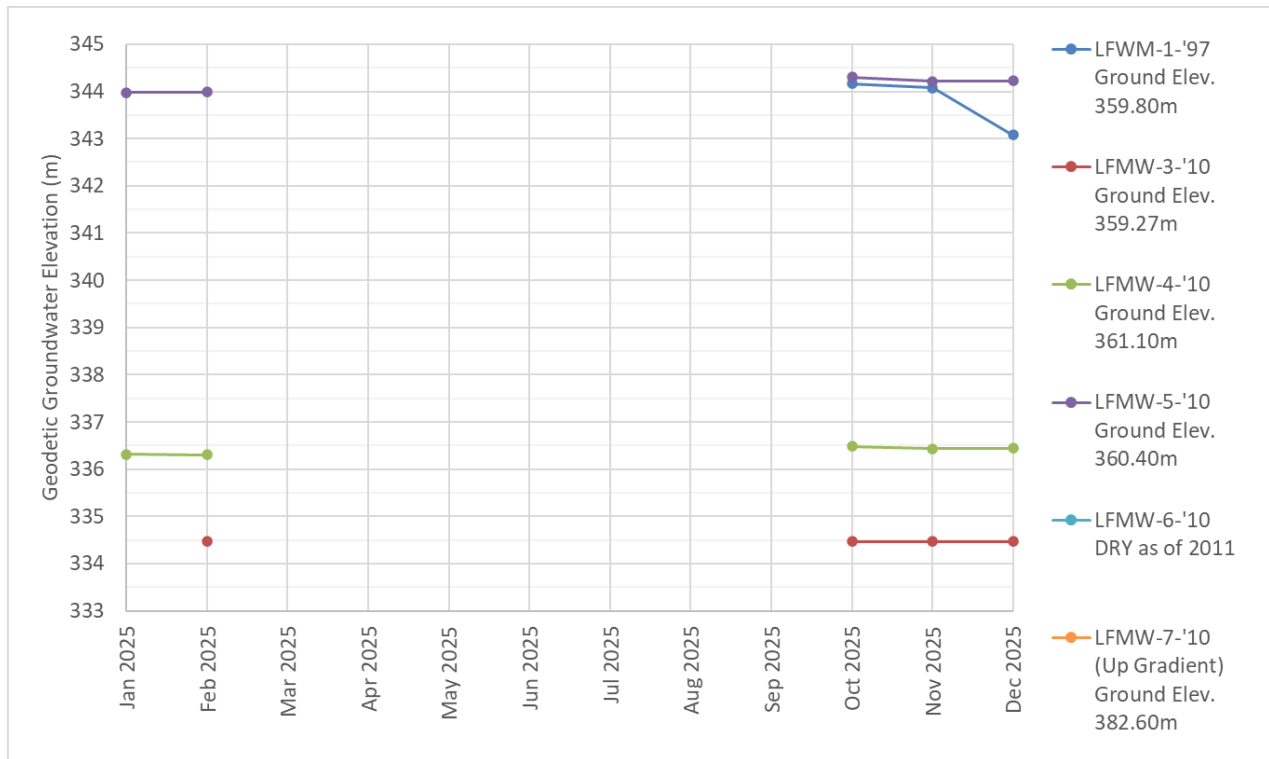


FIGURE 7-1: MONITORING WELL GROUNDWATER TABLE ELEVATIONS

The following is a summary of observed trends and site observations from Town staff in 2025:

- Monitoring wells were not monitored from March to September.
- The monitoring well water levels for those measured in 2025 remained relatively unchanged throughout the year.
- LFMW-6-'10 has been dry since 2011.
- LFMW-7-'10 was damaged in May 2022 and has not been accessible since then. It is recommended that the Town work with a hydrogeologist to discuss replacement of the well.

The average groundwater table elevations from 2013 to 2025 are summarized in Table 7-1. It should be noted that the 2023 values were obtained from Dillon Consulting's Town of Osoyoos 2023 District Sanitary Landfill Annual Report.

TABLE 7-1: AVERAGE GROUNDWATER TABLE ELEVATIONS FOR LANDFILL MONITORING WELLS

Well No.	Average Groundwater Table Elevation (m)										
	2015	2016	2017	2018*	2019	2020	2021	2022	2023	2024	2025
MW-1-'97	343.4	343.3	343.9	344.5	343.9	343.9	343.3	343.1	DRY	DRY	343.8
LFMW-3-'10	337.7	338.2	340.7	345.7	344.8	343.4	341.5	338.4	335.0	DRY	334.5
LFMW-4-'10	336.2	336.3	337.8	341.6	341.1	340.1	338.1	336.3	339.6	336.4	336.4
LFMW-5-'10	344.3	344.2	344.8	345.5	345.1	344.7	344.3	344.1	341.7	344.0	344.1
LFMW-6-'10	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
LFMW-7-'10	377.8	377.9	379.8	380.0	378.4	377.6	378.6	377.7	NO ACCESS	NO ACCESS	NO ACCESS

Groundwater quality was not sampled in 2025. The exclusion of analytical results for general parameters and dissolved metals, as specified by the EMP, is not in compliance with Section 4.1, 4.3, 4.5, and 4.6 (e) of the OC. It is recommended that the Town engage in groundwater sampling in both the spring and fall 2026 to be compliant with the OC and with the Environmental Monitoring Plan in Appendix D.

8.0 Review of Closure Plan (OC 4.6f)

A Landfill Design, Operation, Closure Plan Update (DOCP) was prepared for the Osoyoos Landfill in August 2018. This document is an update to the previous plan that was approved in 1996 and presents the programs, services, infrastructure, and policies that will be implemented in future years. The DOCP includes the following:

- Location and Site Description
- Topography and Natural Drainage
- Subsurface Conditions
- Climate
- Adjacent Land Use
- Historical Use
- Regulatory Agency Authorization
- Historical Landfill Data and Future Projections
- Landfill Design, Filling Plan and Closure Plan
- Post Closure Operation and Maintenance
- Hauled Liquid Waste

Within the DOCP, a capital cost estimate for closure and post-closure operation and maintenance costs are provided. This includes suggested post-closure uses for the site. Currently, the Town of Osoyoos regularly contributes to a closure fund in compliance with Section 4.8 of the OC. 2021 Financial statements for the closure fund are presented in Appendix E.

As per the requirements of the BC Ministry of Environment's 2016 Landfill Criteria for Municipal Solid Waste, the DOCP demonstrates the planning, design, construction, operation, monitoring and closure plans in accordance with the criteria outlined. The plan shall be updated as needed at least once every five years. The last DOCP was completed in August 2018. The Town has completed an update in 2025 which is currently under review.

9.0 Landfill Gas Management (OC 4.6g)

A Landfill Gas Generation Assessment Report for the Town of Osoyoos Landfill was prepared by TRUE in March 2011 in accordance with the Landfill Gas Generation Assessment Procedure Guidance Report (the Guidelines), prepared for the Ministry of Environment by Conestoga-Rovers & Associates (CRA) and in accordance with the requirements of the British Columbia Ministry of Environment's Landfill Gas Generation Management Regulation (the Regulation).

Subsequent updates to this report were prepared in March 2014, April 2019 and mostly recently May 2024 in accordance with the Guidelines and Regulation. The updated reports re-characterized the waste summaries to be more representative of the solid waste composition. The 2024 Landfill Gas Generation Assessment Report is included in Appendix F of this report. As per section 15(4) of the Regulation, a supplementary report is required by March 31st on the fifth calendar year (or March 31st of 2029).

As per section 12(3) of the Regulation, records for the quantity and sources for municipal solid waste received at the landfill are retained for a period of at least 10 years as seen in Table 3-1 of this report.

APPENDIX A

Certificate MR15273



MINISTRY OF WATER, LAND AND
AIR PROTECTION

**OPERATIONAL CERTIFICATE
MR 15273**

*Under the provisions of the Waste Management Act and in accordance with the Approved
Regional District of Okanagan-Similkameen Solid Waste Management Plan,*

Town of Osoyoos

PO Box 3010

Osoyoos, British Columbia

VOH 1VO

is authorized to manage municipal solid waste and to discharge residual solid waste to the ground at a sanitary landfill facility located on 146th Avenue, Osoyoos, approximately 7 km northwest of Osoyoos, British Columbia, subject to the conditions listed below. Contravention of any of these conditions is a violation of the **Waste Management Act** and may result in prosecution.

This Operational Certificate does not authorise entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorised by the owner of such lands or works. The responsibility for obtaining such authority shall rest with the Operational Certificate holder. This Operational Certificate is issued pursuant to the provisions of the *Waste Management Act* to ensure compliance with Section 54 of that statute, which makes it an offence to discharge waste without proper authorisation. It is also the responsibility of the Operational Certificate holder to ensure that all activities conducted under this authorisation are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

This Operational Certificate supersedes all previous authorizations issued under the authority of the Waste Management Act.

T.R. Forty, P.Eng.
Assistant Regional Waste Manager

1. AUTHORIZED DISCHARGES

1.1 This authorization applies to the discharge of solid waste to a sanitary landfill known as the Osoyoos Landfill. The Environmental Monitoring System (EMS) reference number for this discharge is **E212323**.

1.1.1 The authorized discharge is municipal solid waste and other wastes as allowed by the Regional Waste Manager.

1.1.2 The works authorized are a sanitary landfill and related appurtenances located approximately as shown on the attached Site Plan A.

1.1.3 The discharge originates generally from the Osoyoos area of the Regional District of Okanagan-Similkameen.

1.1.4 The legal description of the location of the authorized landfill facility is Lot 993 Plan 22982 and Lot 829 Plan 5102, both in District Lot 2450s, and that portion of District Lot 2450s lying south of Lot 993 Plan 2298 to the Old Richter Pass Road, Similkameen Division of Yale District, as shown on Site Plan A.

1.2 The discharge of emissions to the air to which this Sub-Section is applicable is the burning of wood residues. The EMS reference number for this discharge is **E212325**.

The authorization to open burn shall expire on December 31, 2002, after which time open burning shall be strictly prohibited.

Prior to the expiration of the authorization to open burn, the following shall apply.

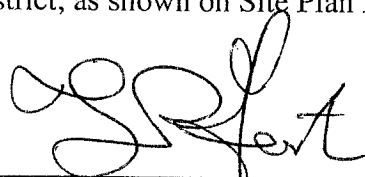
1.2.1 The type of wood residues which may be burned shall be from municipal sources and is restricted to brush and untreated wood, but excluding stumps.

1.2.2 The maximum duration of each open burn shall be limited to the period between dawn and dusk of a single day.

1.2.3 The maximum authorized volume of wood residues to be burned is that which can successfully be burned in a single dawn to dusk time period in any number of separate piles.

1.2.4 The location from which the wood residues discharge originates is generally the Osoyoos area.

1.2.5 The location of the source of discharge is legally described as Lot 993 Plan 22982 and Lot 829 Plan 5102, both in District Lot 2450s, and that portion of District Lot 2450s lying south of Lot 993 Plan 2298 to the Old Richter Pass Road, Similkameen Division of Yale District, as shown on Site Plan A.



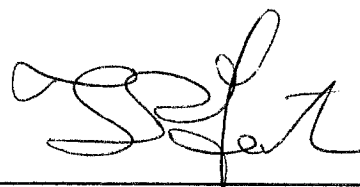
T.R. Forty, P.Eng.
Assistant Regional Waste Manager

2. DESIGN AND PERFORMANCE REQUIREMENTS

2.1 Operations and Closure Plan

An *Operations and Closure Plan* shall be submitted to the Regional Waste Manager. The *Operations and Closure Plan* shall be prepared by a qualified professional, knowledgeable in the field of landfill design, operation and closure and licensed to practice in British Columbia. The *Operations and Closure Plan* shall include at least the following:

- (a) Anticipated total waste volumes and tonnage and the estimated life of the landfill;
- (b) A landfill cell development and filling plan, outlining procedures for the placement, compaction and covering of wastes
- (c) Litter, odour, dust, rodent and nuisance wildlife control measures;
- (d) A screening plan, e.g.: vegetative or berm;
- (e) A perimeter fencing plan to control access;
- (f) Contingency plans & notification procedures in the event of an emergency;
- (g) Training procedures for operators
- (h) A final cover design including the thickness and permeability of barrier layers and drainage layers, topsoil requirements, vegetative cover and erosion prevention controls;
- (i) A topographic plan showing the final elevation contours of the landfill and surface water diversion and drainage controls;
- (j) A plan and implementation schedule for monitoring the receiving environment groundwater, surface water, landfill gas, erosion and settlement throughout the remaining life of the landfill and for a minimum post-closure period of 25 years;
- (k) A plan and implementation schedule for operation of any required pollution abatement engineering such as landfill gas or leachate collection, management and treatment works for the remaining life of the landfill and a minimum post-closure period of 25 years;
- (l) A forecast of the cost of completed closure and post-closure activities, plus a reasonable contingency, for the purposes of determining a schedule of reserve funds or security to be collected each year until landfill closure;
- (m) A proposed end use of the property after closure;
- (n) Procedures for notifying the public about the closure and about alternative waste disposal facilities; and
- (o) Any other site specific concerns as identified by the Regional Waste Manager.



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Operation of this landfill is to be in substantial accordance with the *Operations and Closure Plan*. If there should be any inconsistency between this Operational Certificate and the *Operations and Closure Plan*, this Operational Certificate shall take precedence.

Written notification shall be provided to the Regional Waste Manager prior to implementing any changes to the *Operations and Closure Plan*. Should circumstances warrant, a revision or addition to the *Operations and Closure Plan* may be required by the Regional Waste Manager.

2.2 Maintenance of Works, Emergency Procedures and Non-Compliance Reporting

2.2.1 The Operational Certificate holder shall regularly inspect the landfill and related pollution control works, designated areas for managing recyclable materials or controlled substances and maintain them in good working order.

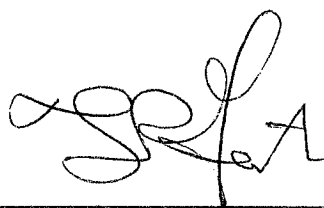
2.2.2 In the event of an emergency or condition beyond the control of the Operational Certificate holder that prevents the continued operation of the authorized works and/or continued performance of the prescribed methods of operation, the Operational Certificate holder shall immediately notify the Regional Waste Manager and take appropriate action.

Specific requirements of the Operational Certificate may be suspended for such time as the emergency exists or as otherwise directed by the Regional Waste Manager provided that:

- (a) The Operational Certificate holder can demonstrate the exercise of due diligence in relation to the process, operation or event which has caused the emergency, and that the emergency has occurred notwithstanding this exercise of due diligence;
- (b) The Regional Waste Manager has been immediately notified of the emergency; and
- (c) The Operational Certificate holder is proceeding with due diligence to correct the emergency condition.

2.3 Public Health Safety and Nuisance

The landfill shall be operated in a manner such that it will not become a significant threat to public health or safety, or a public nuisance is created with respect to, landfill gas, unauthorized access, roads, traffic, noise, dust, litter, vectors, or wildlife attraction.



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2.4 Surface Water Diversion

Discharge of municipal solid waste into water is prohibited. The Operational Certificate holder shall construct and maintain adequate surface water and groundwater diversion works to minimize surface water run-off and groundwater seepage from entering the landfill.

2.5 Property Boundary

The buffer zone between any municipal solid waste discharged and the property boundary is to be at least 50 metres, of which the 15 metres closest to the property boundary must be reserved for natural or landscaped screening (berms or vegetative screens). Depending on adjacent land use and environmental factors, buffer zones of less than 50 metres, but not less than 15 metres, may be authorised by the Regional Waste Manager.

2.6 Setbacks

The distance between the discharged municipal solid waste and the nearest surface water is to be a minimum of 100m. The distance between the discharged municipal solid waste and the nearest residence, water supply intake, hotel, restaurant, food-processing facility, school, church or public park is to be a minimum of 300 metres. Greater or lesser separation distances may be authorised by the Regional Waste Manager where justified.

Accordingly, the Operational Certificate holder shall initiate action immediately to obtain or reserve those lands within the buffer area, or otherwise negotiate an agreement with adjacent property owners, to ensure the buffer lands are adequately protected and reserved for the future.

2.7 Ground and Surface Water Quality Impairment

The landfill must be operated in a manner such that ground or surface water quality does not decrease beyond that specified by the British Columbia Water Quality Guidelines, or other appropriate criteria as may be specified by the Regional Waste Manager, at or beyond the landfill property boundary.

If excursions result to the specified water quality criteria, the Regional Waste Manager may require that leachate management control measures or works be undertaken. Terms of reference for any leachate management study and/or design work shall be subject to the authorization of the Regional Waste Manager.



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2.8 Landfill Gas Management

Combustible gas concentrations shall not exceed the lower explosive limit in soils at the property boundary or 25% of the lower explosive limit at or in on-site or off-site structures.

In accordance with the Provincial Landfill Criteria for Municipal Solid Waste, an assessment of the emissions of non-methane organic compounds (NMOCs) is required for landfills exceeding a total capacity of 100,000 tonnes. If NMOCs are determined to exceed 150 tonnes/year, landfill gas recovery and management systems will be required and shall be designed, installed and operational within 3 years. If NMOCs are projected to be less than 150 tonnes/year for the operating life of the landfill, an assessment for the need of passive gas venting will be required.

Accordingly, the Operational Certificate holder is directed to submit to the Regional Waste Manager a Landfill Gas Management Plan on or before October 1, 2003. The Landfill Gas Management Plan may consider actual site-specific measurements for determining the actual rate of NMOCs emissions. In the event that active gas recovery systems are not required, the Landfill Gas Management Plan shall evaluate the need for passive gas venting. The Landfill Gas Management Plan shall provide a design and an implementation schedule for any required works and measures for the management and recovery of landfill gas.

The Landfill Gas Management Plan is subject to the approval of the Regional Waste Manager. The Regional Waste Manager may require revisions to the Landfill Gas Management Plan where warranted.

2.9 Final Cover

Final cover for landfill sites is to consist of a minimum of 1 metre of low permeability ($<1 \times 10^{-5}$ cm/s) compacted soil plus a minimum of 0.15 metre of topsoil with suitable vegetation established. The depth of the topsoil layer should be related to the type of vegetation proposed (i.e. rooting depth). Soils of higher permeability may be authorized based on leachate generation potential at the landfill site. Final cover is to be constructed with slopes between 4% and 33% with appropriate run-on/run-off drainage controls and erosion controls. Additional design elements may be necessary due to site specific conditions and the presence of management systems for leachate and landfill gas. Completed portions of the landfill are to progressively receive final cover during the active life of the landfill.



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3. OPERATIONAL REQUIREMENTS

3.1 Landfill Supervision and Access

A suitably trained landfill operator shall be present on-site at all times during operating hours. The operator shall be familiar with the requirements of the Operational Certificate and the specifications of the approved *Operations and Closure Plan*.

Perimeter fencing, gates and/or barriers shall be installed where necessary to prevent unauthorized access to the site by vehicles. All access points are to have locking gates, and all gates are to be locked during non-operating hours to prevent unauthorized access. Properly designed and maintained public waste disposal and/or recyclable material bins situated outside the main gate may be provided for after hours use.

3.2 Prohibited Wastes

3.2.1 The disposal of the following types of wastes is strictly prohibited:

- a) Special Wastes other than those specifically authorized in the *Special Waste Regulation*
- b) Biomedical waste as defined in the document *Guidelines for the Management of Biomedical Waste in Canada* (CCME, February 1992)
- c) Liquids or semisolid wastes which contain free liquid, except as otherwise authorized by the Waste Management Act Permit PE-14804



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3.2.2 The disposal of the following wastes is prohibited unless specifically authorized by the Regional Waste Manager:

- a) Automobiles, white goods, other large metallic objects and tires
- b) Dead animals and slaughter house, fish hatchery and farming wastes or cannery wastes and by-products

Burial of these wastes in dedicated locations (i.e. avoiding co-disposal) at a landfill site may be authorized by the Regional Waste Manager only if there is no other viable alternative such as treatment/disposal, recycling, reprocessing or composting. The specific location of the disposal shall be recorded to allow ready access to the waste should corrective or further action pertaining to the management of these wastes be required by the Ministry at some time in the future.

3.3 Hydrocarbon Contaminated Soils

The deposit of hydrocarbon contaminated soils below the *Special Waste Regulation* criteria is authorized at this landfill subject to the following conditions:

- 3.3.1** Soil contaminated with hydrocarbons shall be deposited in layers less than 0.3 meters; and
- 3.3.2** Soil contaminated with hydrocarbons shall be deposited a minimum of 1.2 meters above the seasonal high groundwater level and a minimum of 2.0 meters below the final grade of the landfill to prevent the impact on groundwater and any future vegetation on the site.

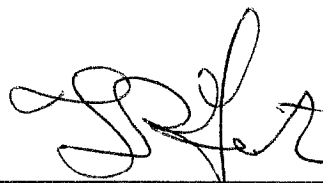
3.4 Ozone Depleting Substances

Release of ozone depleting substances from the storage, handling and disposal of used appliances, equipment, or any material containing ozone depleting substances is strictly prohibited in accordance with the requirements of the *Ozone Depleting Substances Regulation*.

3.5 Designated Areas

Maintain areas for the separation, handling and storage of recyclable or reusable materials where applicable.

When a separated recyclable material is a special waste it is to be stored and managed in accordance with the *Special Waste Regulation*.



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3.6 Scavenging

Scavenging of waste is to be prevented. The salvaging of wastes should be encouraged by providing areas and facilities for separation of recyclable or reusable materials.

3.7 Dust Control

Dust created within the landfill property is to be controlled, using methods and materials acceptable to the Regional Waste Manager, such that it does not cause a public nuisance.

3.8 Waste Compaction and Covering

Wastes are to be spread in thin layers (0.6 m or less) on the working face and compacted. The working face area should be minimized as much as possible. A compacted layer of cover material of at least 0.15 metre of soil or functionally equivalent depth of other cover material, as authorized by the Regional Waste Manager, is to be placed on all exposed solid waste at the end of each day of operation. If the landfill should operate continuously 24 hours per day, 0.15 m of cover material is to be applied at a frequency authorized by the Regional Waste Manager. Under specific circumstances, such as during bear season, the Regional Waste Manager may specify more stringent cover requirements. During periods of extreme weather conditions, such as those that cause the ground to freeze, an exemption to the normal cover requirements may be authorized by the Regional Waste Manager.

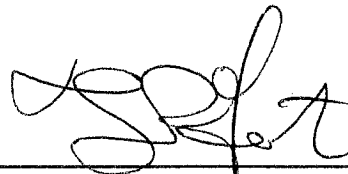
An intermediate cover consisting of a compacted layer of at least 0.30 metre of soil or functionally equivalent depth of other cover material is to be placed where no additional solid waste has been deposited or will be deposited within a period of 30 days.

3.9 Litter Control

Litter is to be controlled by compacting the waste, minimizing the working face area, applying cover, providing litter control fences and instituting a regular litter pickup and general good housekeeping program or any other measures required by the Regional Waste Manager.

3.10 Vectors

Vectors are to be controlled by the application of cover material at a specified frequency or by other control measures as required and authorized by the Regional Waste Manager.



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3.11 Wildlife

The landfill is to be operated so as to minimize the attraction of wildlife such as bears and birds by applying cover at required frequencies and instituting a good housekeeping program. Further control measures, such as bear control fences, and bird control devices, may be specified by the Regional Waste Manager.

3.12 Fire Protection

Adequate fire fighting equipment is to be available to extinguish surface or underground fires. Recyclables and reusable materials are to be stored in such a manner to not constitute a fire hazard.

3.13 Open Burning

The controlled open burning operation is authorized until December 31, 2002, at which time all open burning shall cease. The time limited authorization to open burn is subject to the following conditions:

- 3.13.1 The maximum duration of each open burn event shall be limited to the period between dawn to dusk of a single day, after which time the fire shall be extinguished. In order to limit the smoke that will be created from having to extinguish a fire, the wood residue to be burned shall be stacked in piles of a size that may be consumed by the fire in the dawn to dusk time frame.
- 3.13.2 The open burn shall not be initiated until the Venting Index for the Okanagan Valley is classified as "good". The Venting Index may be obtained from the information line at 250-861-7480.
- 3.13.3 Additional authorizations for open burning may be required from other government agencies. In particular, the Operational Certificate holder shall ensure that the necessary authorizations have been obtained from the British Columbia Forest Service and any applicable municipal authority.
- 3.13.4 The wood residues shall be segregated from the municipal solid waste and sorted to ensure that there are no unacceptable materials in the burn pile(s). Unacceptable materials are those that will produce unacceptable emissions or will not fully incinerate within the dawn to dusk time period of the burn and includes tires, plastics, insulation, asphalt shingles, putrescible waste, stumps, metal hulks, animal carcasses and the like. The wood waste shall be piled in a manner that will promote rapid and hot combustion.



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- 3.13.5** The open burn shall be conducted on ground that has not been previously landfilled, and a minimum 15 meter setback is to be maintained between the discharged municipal solid waste and burn area. A minimum 15 meter combustible free zone or firebreak shall be maintained around the burn area.
- 3.13.6** The Operational Certificate holder shall ensure that full time supervision shall be provided until the open burn is complete, that is, until there is no smoke and no further danger of fire exists). Suitable equipment is to be available to promote rapid and hot combustion of the wood residue pile(s).
- 3.13.7** Suitable equipment shall be available for extinguishing fires to prevent them from spreading to surrounding areas and to extinguish the fire at dusk. Such devices may include a pressurized water supply, chemical type fire extinguishers, or an earth stockpile. If an earth stockpile is used for fire control, earth-moving equipment shall be available at the site during the burning.
- 3.13.8** The residue of combustion shall be monitored to ensure it has cooled to ambient temperature prior to incorporating into the adjacent landfill.



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4. MONITORING AND REPORTING REQUIREMENTS

4.1 Receiving Environment Monitoring

The Operational Certificate holder shall submit for the approval of the Regional Waste Manager a monitoring program design. The monitoring program design shall be prepared by an engineer or geoscientist who is knowledgeable in the field of hydrogeology, experienced in modeling and evaluating the environmental impact from landfill sites, and licensed to practice in the province of BC. The monitoring program design shall recommend the location of monitoring wells and devices and a monitoring program sufficient to determine the environmental impact from the landfill, including groundwater contamination from landfill leachate and potential impacts from the generation of landfill gas.

Upon approval, the monitoring wells and devices specified in the monitoring program design shall be installed under the direction of the design professional and the monitoring program shall be undertaken as specified.

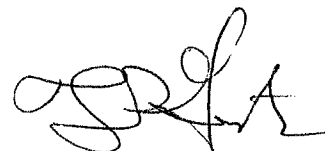
As-constructed drawings, sealed by the design professional, of the monitoring wells and devices shall be submitted to the Regional Waste Manager. The drawings shall include elevations relative to a common datum, and a scaled site location plan indicating the landfill footprint, associated works and all existing monitoring wells and devices.

The receiving environment monitoring devices shall be adequately secured and maintained, including provisions to ensure protection from damage due to vehicles or vandalism.

The Operational Certificate holder shall maintain records of all monitoring program data and analyses available for inspection. Data from monitoring and analyses shall be submitted to the Regional Waste Manager annually as part of the annual report required under **Section 4.6**. The adequacy of the monitoring program shall be reviewed at least annually and any revisions to the monitoring program shall be outlined in the annual report. On the basis of the information submitted in the annual report, routine inspections and any other information related to the effect of the discharge on the receiving environment, the Regional Waste Manager may vary the frequency, location, and/or analyses of any or all components of the receiving environment monitoring program.

4.2 Vegetation Monitoring

Inspect vegetation during the growing season in the vicinity of the landfill at least once per year to determine if any environmental impacts are occurring.



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4.3 Sampling and Analytical Procedures

The receiving environment sampling and monitoring shall be carried out in accordance with the appropriate procedures listed in the table below. Alternative test methods may be used only where authorized by the Regional Waste Manager. Test methods for parameters not listed below are subject to the approval of the Regional Waste Manager.

LIQUID EFFLUENTS, SURFACE WATER, GROUND WATER, SOILS, SEDIMENTS, VEGETATIVE MATTER:		
Parameter	Sampling Procedure	Analytical Procedure
Metals Nutrients Organics Toxicity	British Columbia Field Sampling Manual for Continuous Monitoring plus the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples, 1996 or most recent edition	British Columbia Environmental Laboratory Manual for the Analysis of Water, Wastewater, Sediment and Biological Materials, 1994 or most recent edition and supplements

The above manuals are available from Queen's Printer Publications Centre, P.O. Box 9452, Stn. Prov. Govt, Victoria, BC, V8W 9V7 (1-800-663-6105 or (250)387-4609).

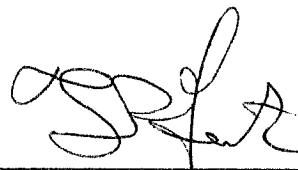
Proper care should be taken in sampling, storing and transporting the samples to adequately control temperature and avoid contamination and breakage.

4.4 Environmental Monitoring System (EMS) Sites

The receiving environment monitoring program will take into consideration existing ground and surface water monitoring sites that were previously established by the Ministry. The Operational Certificate holder shall provide precise latitude and longitude values for each of the EMS sites monitored and for any additional sites that are required.

4.5 Data Quality Assurance

The Operational Certificate holder is required to follow the terms and conditions of the *Environmental Data Quality Assurance Regulation* (EQDA), or other legislation which may be in effect at the time. The EQDA specifies ten percent of the samples collected shall be duplicated to provide data quality assurance. Quality control information generated by the laboratory while analyzing parameters required by this Operational Certificate shall also be provided with the data required to be reported.



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4.6 Annual Report

The Operational Certificate holder shall submit an annual operations and monitoring report to the Regional Waste Manager by **March 1st** of each calendar year. The annual report shall include the following information:

- (a) Total volume and/or weight of waste discharged into the landfill for the year, along with documentation of the method used to quantify the waste discharged;
- (b) Service population and waste discharge rate for the year (in tonnes per capita per year) and a trend analysis with a comparison to the 1996 baseline waste discharge rate of 1.2 tonnes per capita per year;
- (c) Remaining site life and capacity;
- (d) Operational plan for next 12 months including any proposed changes to the ***Operations and Closure Plan***;
- (e) A compilation, interpretation and trend analysis of the receiving environment monitoring data prepared by a suitably qualified professional;
- (f) Review of the closure plan and associated estimated costs, for the purposes of establishing the closure fund required in **Section 4.8**; and
- (g) Any other data relevant to this Operational Certificate.

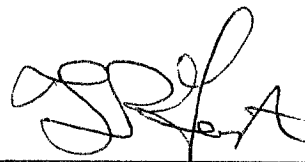
4.7 Format of Submission

Monitoring and/or reporting information shall be submitted in an electronic and/or printed format which is suitable for review by the public and/or other government agencies and is satisfactory to the Regional Waste Manager.

4.8 Closure Fund

The Operational Certificate holder shall provide for the funding of operations at and beyond closure by establishing a closure fund. The ultimate value of the closure fund shall meet or exceed the estimated closure and post-closure costs as outlined in the ***Operations and Closure Plan*** and updated in the annual report, plus a reasonable contingency for any remediation which may be required.

The Operational Certificate holder shall determine and ensure that the closure fund is adequate by preparing annually a financial statement of the fund which shall be made available to the Regional Waste Manager upon request. The financial statement shall report the accrued capital, interest and additions to the fund for the previous year, and shall review the sufficiency of the fund and the rate of accrual in consideration of the projected costs of closure and post-closure obligations.



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4.9 Declaration of Landfill

Landfills sited on titled land must register a covenant that the property was used for the purpose of waste disposal as a charge against the title to the property as provided for under Section 215.1 of the *Land Title Act*. Landfills located on crown land are to have a "notation on file" registered that the property was used for the purpose of waste disposal.

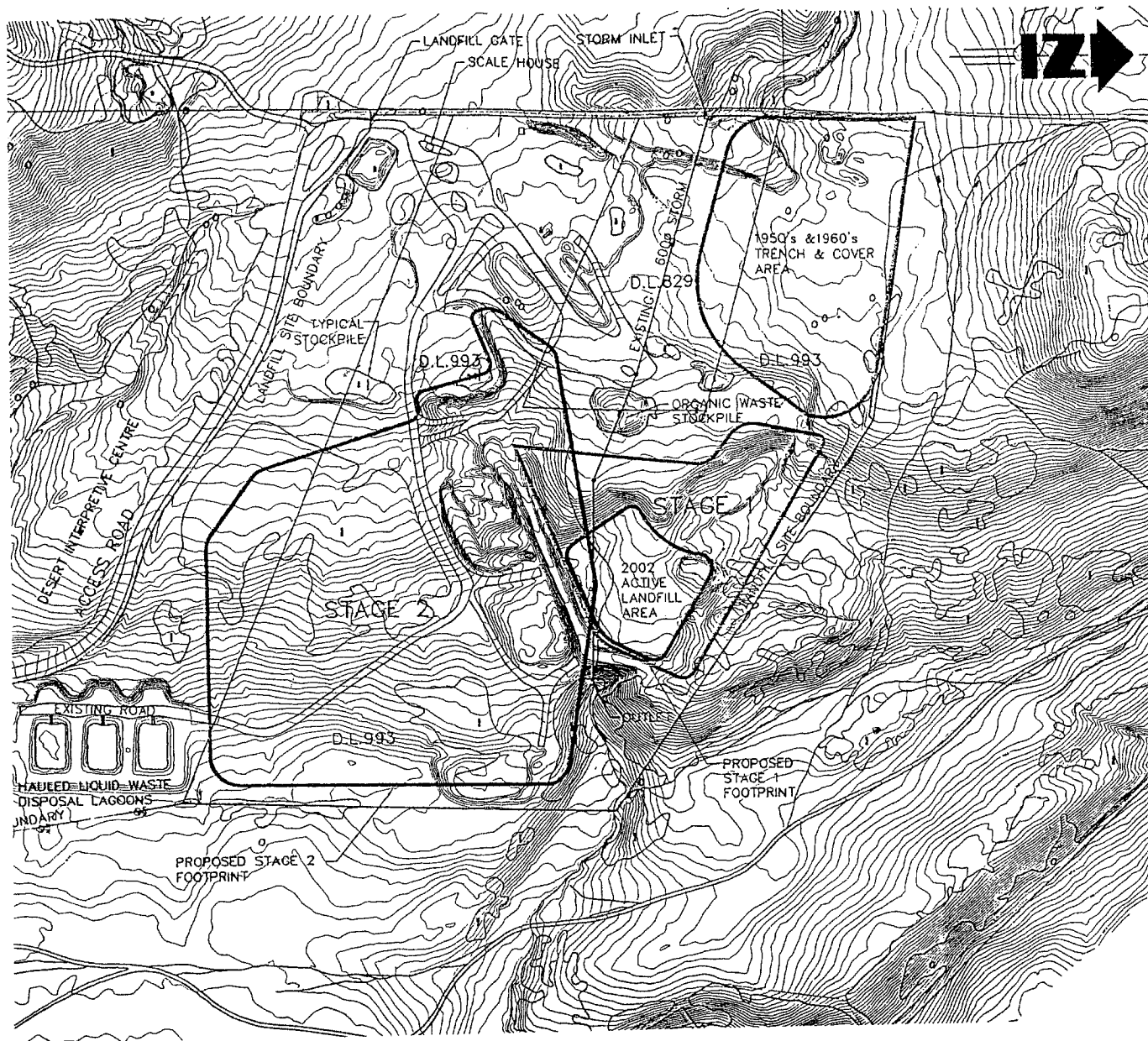
4.10 Buildings and Structures

The construction of buildings and other structures on landfills containing putrescible wastes is not recommended for a minimum period of 25 years after closure due to concerns about combustible gas and excessive settlement. Such activity will only be considered and /or authorized after an investigation and report by qualified persons. The report is to be submitted for authorization to the Regional Waste Manager prior to initiating construction activities.

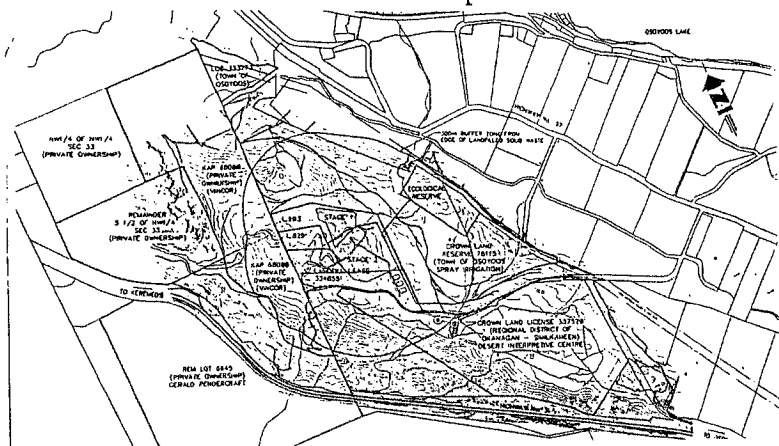


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SITE PLAN A



Location Map



Scale: NTS

Operational Certificate No.: MR-15273

Date:

March 26, 2007

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Assistant Regional Waste Manager

APPENDIX B

Waste Quantity Monthly Summaries 1996 to 2025

APPENDIX B: ANNUAL LANDFILL WASTE QUANTITIES FROM 1996-2025 (TONNES)

WASTE CATEGORY	Total 1996	Total 1997	Total 1998	Total 1999	Total 2000	Total 2001	Total 2002	Total 2003	Total 2004	Total 2005	Total 2006	Total 2007	Total 2009	Total 2010	Total 2011	Total 2012	Total 2013	Total 2014	Total 2015	Total 2016	Total 2017	Total 2018	Total 2019	Total 2020	Total 2021	Total 2022	Total 2023	Total 2024	Total 2025
Batteries	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Const Waste A (conc, asphalt, etc.)	458	282	266	880	26	716	80	131	271	709	169	1,051	894	413	2,888	2,575	2,155	1,037	239	595	3,199	4,635	582	1,757	1,143	195	255	232	195
Const Waste B (demolition)	668	311	94	0	148	199	323	291	366	191	429	387	970	1,886	418	527	194	238	357	67	43	55	29	48	58	109	97	128	109
Const Waste C (compostable)	40	437	179	233	592	517	572	502	620	936	905	312	787	392	455	470	224	159	190	193	226	169	214	256	128	124	115	138	124
Const Waste - Mixed																			34	15	1	85	14	22	6	0	0	23	0
Metals - Type A (white goods)	8	7	9	4	41	37	23	19	0	0	0	0	0	0	0	0	0	21	25	27	27	33	31	33	26	15	18	74	15
Metals - Type B (scrap metal)	84	78	90	67	96	111	75	104	153	149	105	84	103	50	38	47	37	0	0	0	0	0	0	0	0	0	0	0	0
Tires	9	11	8	3	6	13	6	4	9	8	8	2	2	2	3	6	1	0	5	4	5	6	5	5	3	10	13	9	10
Commercial Waste	1,439	1,603	1,578	1,781	1,799	2,166	3,688	2,605	3,102	2,992	3,513	2,966	3,299	3,071	2,335	2,173	1,872	2,177	1,966	2,075	2,037	1,949	2,181	1,961	2,107	2,168	1,870	2,077	2,168
Municipal Waste	1,677	1,441	1,267	1,071	1,376	1,468	1,611	1,748	1,868	1,922	2,021	2,696	2,348	1,915	3,349	2,105	2,228	1,890	1,736	1,897	1,976	2,809	2,008	2,136	2,424	2,072	2,139	2,302	2,072
Yard Waste A (compostable garden)	71	74	120	107	60	102	122	146	210	145	578	634	862	974	762	300	835	849	866	1,058	1,043	969	916	928	1,090	1,301	1,392	1,257	1,301
Yard Waste B (chippable limbs, compost, etc.)	758	623	569	328	0	20	31	9	42	35	22	62	25	41	33	0	0	0	16	2	2	1	6	4	6	2	0	0	0
Yard Waste C		258	52	19	47	24	10	0	0	0	0	0	0	0	0	491	0	0	0	0	0	0	0	0	0	0	0	0	0
Invasive Weeds (puncture vine, tumbleweed, etc.)																											12	3	2
Refrigerators							21	21	24	30	31	21	30	25	24	25	26	26	19	23	23	26	29	26	28	29	25	0	29
Propane Tanks																													
Agricultural Plastics- Recycled													10	9	0	0	0	0	0	0	0	0	0	0	0	0		0	0
Recycled DLC															2,182	0	0	0	16	57	36	88	73	105	134	67		53	67
Biosolids																396	0	0	0	0	0	0	0	0	2	0		0	0
Invasive Insects																													124
Special Risk Materials																													0
Unsorted Loads																													31
ANNUAL TOTALS	5,214	5,126	4,232	4,493	4,191	5,374	6,562	5,580	6,664	7,117	7,780	8,216	9,329	8,777	12,486	9,115	7,572	6,397	5,469	6,013	8,618	10,825	6,087	7,280	7,156	6,091	5,936	6,295	6,246

SUMMARY OF PROCESSING																													
ORGANICS COMPOSTED	0	0	0	0	0	0	0	0	0	0	0	1,008	1,674	1,407	1,250	1,260	1,059	1,007	1,072	1,253	1,272	1,139	1,136	1,188	1,223	1,427	1,519	1,397	1,427
RECYCLED	102	97	108	74	143	161	125	149	186	187	144	108	145	85	2,247	78	64	48	65	112	91	153	138	168	192	121	56	135	249
CONSTRUCTION	498	718	445	1,113	618	1,233	652	633	891	1,645	1,074	1,051	894	413	2,888	2,575	2,155	1,037	239	595	3,199	4,635	582	1,757	1,143	195	255	232	67
LANDFILLED	4,614	4,311	3,679	3,306	3,430	3,980	5,785	4,799	5,587	5,285	6,563	6,049	6,616	6,872	6,102	4,805	4,293	4,305	4,093	4,054	4,056	4,898	4,231	4,167	4,598	4,348	4,106	4,531	4,503
ANNUAL TOTALS	5,214	5,126	4,232	4,493	4,191	5,374	6,562	5,580	6,664	7,117	7,780	8,216	9,329	8,777	12,486	8,719	7,572	6,397	5,469	6,013	8,618	10,825	6,087	7,280	7,156	6,091	5,936	6,295	6,246

CATEGORIES NOT INCLUDED IN SUMMARY																													
HAULED LIQUID WASTE			30	1,393	2,977	3,974	8,810	8,489	6,435	6,399	7,663	9,935	6,129	4,855	5,363	5,225	2,622	2,084	1,920	2,021	2,352	2,119	2,680	3,160	4,579	2,280	2,802	2,042	2,280
COMPOST SALES																								321	181	140	158	176	140
CLEAN COVER MATERIAL (CCMT & CGC)																5,664	320	1,531	175	1,430	1,718	8,116	2,040	3,451	836	832	1,415	1,620	832
ANNUAL TOTALS	0	0	30	1,393	2,977	3,974	8,810	8,489	6,435	6,399	7,663	9,935	6,129	4,855	5,363	10,889	2,942	3,616	2,095	3,451	4,070	10,235	4,720	6,932	5,597	3,251	4,375	3,839	3,251

- (1) Annual totals account for all waste brought to the landfill but do not include the hauled liquid waste and clean cover material.
Note that Annual Totals are equivalent to the summation of: Landfilled, Recycled, Organic, and Demolition.
- (2) Landfilled refers to the materials deposited in active landfill face.
- (3) Recycled refers to materials stored within the limits of the landfill site until such time that these materials are salvaged and/or recycled by others (Batteries, Type 'A' & 'B' Metals, Tires, Refrigerators, Propane Tanks and Agricultural Plastics).
- (4) Organic are materials which biodegrade naturally (Yard Waste 'A', 'B', and 'C').
- (5) Demolition materials may be salvageable and are kept separate from active landfill face (Construction Waste 'A' and 'C').
- (6) Refrigerators are counted by piece (of freon removal). An average mass of 75kg per piece is applied.
- (7) Propoane tanks are recycled and not included in annual totals.

Refuse Type Total

From 1/1/2025 to 1/31/2025

MATERIAL ID		Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
ABS	Abestos	3	0	405	405	\$152.50	\$152.50	\$152.50
ASPH	Clean Asphalt	1	0	445	445	\$55.75	\$55.75	\$55.75
ASPHSH	clean asphalt shingles	4	0	8935	8935	\$1,117.00	\$1,117.00	\$1,117.00
BATT	Batteries - Household, vehicle	1	0	-5	-5	\$0.00	\$0.00	\$0.00
BXMAT	Boxsprings & Mattresses for	14	24	-1840	-1840	\$420.26	\$420.26	\$420.26
CNCRT	clean concrete	1	0	55	55	\$10.00	\$10.00	\$10.00
CONTROLW	Controlled Waste	1	0	80	80	\$50.00	\$50.00	\$50.00
CW	Commercial Waste	9	0	74090	74090	\$9,261.50	\$9,261.50	\$9,261.50
CWC	Clean White Wood	9	0	7775	7775	\$977.25	\$977.25	\$977.25
CWCT	Wood Only - Town	1	0	130	130	\$0.00	\$0.00	\$0.00
FYWA	Free Compostable Materials	75	0	10550	10550	\$497.50	\$497.50	\$497.50
GYPSM	Clean Gypsom/Drywall	7	0	8180	8180	\$1,020.25	\$1,020.25	\$1,020.25
GYPSMT	Gypsom/drywall - Town	1	0	610	610	\$0.00	\$0.00	\$0.00
HWL	Hauled Liquid Waste (sludge)	6	0	72380	72380	\$3,076.00	\$3,076.00	\$3,076.00
MB	All Metals	11	0	1345	1345	\$190.75	\$190.75	\$190.75
MIXEDCW	Mixed load commercial	38	0	30910	30910	\$3,876.63	\$3,876.63	\$3,876.63
MIXEDRW	Mixed Load Residential	136	0	21905	21905	\$2,957.13	\$2,957.13	\$2,957.13
MMBCFIBRE	MMBC fibre 40yard	3	0	2145	2145	\$0.00	\$0.00	\$0.00
MW	Municipal Waste Household Gar.	28	0	68165	68165	\$8,522.00	\$8,522.00	\$8,522.00
MWT	Municipal Waste-Town	9	0	2655	2655	\$0.00	\$0.00	\$0.00
NON-ODS	Non Ozone Depleting Recyling	5	5	430	430	\$0.00	\$0.00	\$0.00
ODS	Ozone Depleting Substances Rec.	12	21	1165	1165	\$0.00	\$0.00	\$0.00
OT	Over size tires as per bylaw	1	0	420	420	\$220.50	\$220.50	\$220.50
PT2-3LB	Camping Propane Tank 2 to 3 lb	1	5	0	0	\$0.00	\$0.00	\$0.00
RW	Residential Waste	147	0	37930	37930	\$5,283.19	\$5,283.19	\$5,283.19
SRM	Special Risk Material (As per E360)	0	0	120	120	\$25.23	\$25.23	\$25.23
T	Recyclable Tires	1	4	175	175	\$0.00	\$0.00	\$0.00
TIRERIM	tire with rim	1	2	0	0	\$6.06	\$6.06	\$6.06
TIRET	tires from town	2	10	140	140	\$0.00	\$0.00	\$0.00
YWAT	Compostable Mat. - Town	6	0	1185	1185	\$0.00	\$0.00	\$0.00
		535	72	350480	350480	\$37,719.50	\$37,719.50	\$37,719.50

Void tickets have been excluded from report
Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 2/1/2025 to 2/28/2025

MATERIAL ID		Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
ABS	Abestos	5	0	4145	4145	\$897.25	\$897.25	\$897.25
ASDRC	Assessed DRC	3	0	3505	3505	\$1,840.50	\$1,840.50	\$1,840.50
ASPHSH	clean asphalt shingles	1	0	1620	1620	\$202.50	\$202.50	\$202.50
BATT	Batteries - Household, vehicle	1	0	20	20	\$0.00	\$0.00	\$0.00
BXMAT	Boxsprings & Mattresses for	16	22	-20	-20	\$385.24	\$385.24	\$385.24
CNCRT	clean concrete	2	0	1655	1655	\$207.00	\$207.00	\$207.00
CNCRTT	clean concrete from Town of 0	3	0	6790	6790	\$0.00	\$0.00	\$0.00
COMCARDBRD	commercial fibre	3	0	285	285	\$21.50	\$21.50	\$21.50
CW	Commercial Waste	8	0	79180	79180	\$9,897.75	\$9,897.75	\$9,897.75
CWC	Clean White Wood	8	0	3030	3030	\$382.25	\$382.25	\$382.25
CWCT	Wood Only - Town	5	0	2900	2900	\$0.00	\$0.00	\$0.00
FYWA	Free Compostable Materials	42	1	3315	3315	\$94.50	\$94.50	\$94.50
FYWACW	clean fruit waste	1	0	55	55	\$0.00	\$0.00	\$0.00
GYPSM	Clean Gypsom/Drywall	6	0	7515	7515	\$938.00	\$938.00	\$938.00
HWL	Hauled Liquid Waste (sludge)	10	0	100890	100890	\$4,288.00	\$4,288.00	\$4,288.00
MB	All Metals	5	0	515	515	\$78.25	\$78.25	\$78.25
MIXEDCW	Mixed load commercial	42	1	31040	31040	\$3,833.44	\$3,833.44	\$3,833.44
MIXEDRW	Mixed Load Residential	165	0	25495	25495	\$3,425.82	\$3,425.82	\$3,425.82
MMBCFIBRE	MMBC fibre 40yard	4	0	2960	2960	\$0.00	\$0.00	\$0.00
MW	Municipal Waste Household Gar.	32	0	68550	68550	\$8,570.75	\$8,570.75	\$8,570.75
MWT	Municipal Waste-Town	4	0	1150	1150	\$0.00	\$0.00	\$0.00
NON-ODS	Non Ozone Depleting Recyling	5	6	240	240	\$0.00	\$0.00	\$0.00
ODS	Ozone Depleting Substances Rec.	11	25	2235	2235	\$0.00	\$0.00	\$0.00
PT2-3LB	Camping Propane Tank 2 to 3 lb	1	4	0	0	\$0.00	\$0.00	\$0.00
RW	Residential Waste	68	0	4760	4760	\$858.25	\$858.25	\$858.25
T	Recyclable Tires	6	30	605	605	\$0.00	\$0.00	\$0.00
TIRERIM	tire with rim	1	1	0	0	\$3.00	\$3.00	\$3.00
TIRET	tires from town	1	4	35	35	\$0.00	\$0.00	\$0.00
		459	95	352470	352470	\$35,924.00	\$35,924.00	\$35,924.00

Void tickets have been excluded from report
Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 3/1/2025 to 3/31/2025

MATERIAL ID		Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
ABS	Abestos	2	0	545	545	\$145.50	\$145.50	\$145.50
BATT	Batteries - Household, vehicle	45	0	45	45	\$0.00	\$0.00	\$0.00
BXMAT	Boxsprings & Mattresses for	21	25	-80	-80	\$437.80	\$437.80	\$437.80
CCM	Clean Cover Material	6	3	37850	37850	\$0.00	\$0.00	\$0.00
CCMT	clean cover material - Town	5	0	42130	42130	\$0.00	\$0.00	\$0.00
CNCRT	clean concrete	5	0	14890	14890	\$1,861.50	\$1,861.50	\$1,861.50
COMCARDBRD	commercial fibre	2	0	435	435	\$28.75	\$28.75	\$28.75
CRBPUFYWA	yard and garden curbside pick up	2	0	18325	18325	\$0.00	\$0.00	\$0.00
CW	Commercial Waste	9	0	83290	83290	\$10,416.50	\$10,416.50	\$10,416.50
CWC	Clean White Wood	11	0	3835	3835	\$480.00	\$480.00	\$480.00
FYWA	Free Compostable Materials	485	4	78060	78060	\$2,231.00	\$2,231.00	\$2,231.00
GYPSM	Clean Gypsom/Drywall	5	0	3760	3760	\$475.50	\$475.50	\$475.50
HWL	Hauled Liquid Waste (sludge)	5	0	58150	58150	\$2,471.50	\$2,471.50	\$2,471.50
HWLT	Hauled Sewage Waste for Town	1	0	4480	4480	\$0.00	\$0.00	\$0.00
INV	Invasive Insects	1	0	5190	5190	\$648.75	\$648.75	\$648.75
MB	All Metals	13	0	715	715	\$155.25	\$155.25	\$155.25
MIXEDCW	Mixed load commercial	51	2	35560	35560	\$4,351.00	\$4,351.00	\$4,351.00
MIXEDRW	Mixed Load Residential	327	1	51360	51360	\$6,904.26	\$6,904.26	\$6,904.26
MMBCFIBRE	MMBC fibre 40yard	4	0	6520	6520	\$0.00	\$0.00	\$0.00
MW	Municipal Waste Household Gar.	33	0	77955	77955	\$9,746.25	\$9,746.25	\$9,746.25
MWT	Municipal Waste-Town	9	0	6305	6305	\$0.00	\$0.00	\$0.00
NON-ODS	Non Ozone Depleting Recyling	10	16	885	885	\$0.00	\$0.00	\$0.00
ODS	Ozone Depleting Substances Rec.	19	22	1500	1500	\$0.00	\$0.00	\$0.00
OT	Over size tires as per bylaw	1	0	25	25	\$13.19	\$13.19	\$13.19
RW	Residential Waste	159	1	12970	12970	\$2,181.25	\$2,181.25	\$2,181.25
SOILAMND5	less than 5 tonnes	26	0	14760	14760	\$1,120.75	\$1,120.75	\$1,120.75
T	Recyclable Tires	11	42	730	730	\$0.00	\$0.00	\$0.00
TIRET	tires from town	1	6	115	115	\$0.00	\$0.00	\$0.00
YWAT	Compostable Mat. - Town	4	0	675	675	\$0.00	\$0.00	\$0.00
		1,240	126	560980	560980	\$43,668.75	\$43,668.75	\$43,668.75

Void tickets have been excluded from report
Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 4/8/2025 to 4/30/2025

MATERIAL ID		Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
ABS	Abestos	1	0	5	5	\$50.00	\$50.00	\$50.00
ASPHSH	clean asphalt shingles	2	0	4705	4705	\$588.25	\$588.25	\$588.25
ASPH	clean asphalt from Town of 0	3	0	19500	19500	\$0.00	\$0.00	\$0.00
BITEMT	Bulky Item Pick up for Town	7	0	11890	11890	\$0.00	\$0.00	\$0.00
BLKITMMAT	Bulky item resi pick up mattres	8	45	0	0	\$562.51	\$562.51	\$562.51
BXMAT	Boxsprings & Mattresses for	22	49	-25	-25	\$857.81	\$857.81	\$857.81
CCM	Clean Cover Material	37	0	137030	137030	\$0.00	\$0.00	\$0.00
CCMT	clean cover material - Town	10	0	109965	109965	\$0.00	\$0.00	\$0.00
CNCRT	clean concrete	8	0	4435	4435	\$556.25	\$556.25	\$556.25
CNCRTT	clean concrete from Town of 0	1	0	10445	10445	\$0.00	\$0.00	\$0.00
COMCARDBRD	commercial fibre	2	0	300	300	\$22.50	\$22.50	\$22.50
CRBPUFYWA	yard and garden curbside pick up	3	0	36920	36920	\$0.00	\$0.00	\$0.00
CW	Commercial Waste	13	0	110150	110150	\$13,769.00	\$13,769.00	\$13,769.00
CWC	Clean White Wood	13	0	6710	6710	\$840.00	\$840.00	\$840.00
CWCT	Wood Only - Town	1	0	185	185	\$0.00	\$0.00	\$0.00
FYWA	Free Compostable Materials	461	1	60895	60895	\$2,480.69	\$2,480.69	\$2,480.69
GYPSM	Clean Gypsom/Drywall	8	0	2605	2605	\$323.00	\$323.00	\$323.00
HWL	Hauled Liquid Waste (sludge)	13	0	143795	143795	\$6,111.75	\$6,111.75	\$6,111.75
INV	Invasive Insects	3	0	9265	9265	\$1,158.25	\$1,158.25	\$1,158.25
MB	All Metals	17	0	1020	1020	\$207.50	\$207.50	\$207.50
MIXEDCW	Mixed load commercial	53	0	23895	23895	\$2,993.19	\$2,993.19	\$2,993.19
MIXEDRW	Mixed Load Residential	306	0	54190	54190	\$7,266.63	\$7,266.63	\$7,266.63
MMBCFIBRE	MMBC fibre 40yard	4	0	5585	5585	\$0.00	\$0.00	\$0.00
MW	Municipal Waste Household Gar.	32	0	89015	89015	\$11,128.75	\$11,128.75	\$11,128.75
MWT	Municipal Waste-Town	10	0	8680	8680	\$0.00	\$0.00	\$0.00
NON-ODS	Non Ozone Depleting Recyling	7	8	715	715	\$0.00	\$0.00	\$0.00
ODS	Ozone Depleting Substances Rec.	23	41	1260	1260	\$0.00	\$0.00	\$0.00
PTVIN	Puncture Vine - Noxious weeds	1	0	30	30	\$0.00	\$0.00	\$0.00
RDOSBKYITM	bulky item pick up Area A	3	0	7105	7105	\$817.04	\$817.04	\$817.04
RW	Residential Waste	169	0	11720	11720	\$2,091.01	\$2,091.01	\$2,091.01
SOILAMND5	less than 5 tonnes	57	0	31225	31225	\$2,375.25	\$2,375.25	\$2,375.25
T	Recyclable Tires	11	30	385	385	\$0.00	\$0.00	\$0.00
TIRERIM	tire with rim	3	6	0	0	\$18.12	\$18.12	\$18.12
UNSR	Unsorted Load	4	0	5000	5000	\$1,250.00	\$1,250.00	\$1,250.00
YWAT	Compostable Mat. - Town	4	0	2700	2700	\$0.00	\$0.00	\$0.00
		1,330	180	911300	911300	\$55,467.50	\$55,467.50	\$55,467.50

Void tickets have been excluded from report
Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 5/1/2025 to 5/31/2025

MATERIAL ID		Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
ASPHSH	clean asphalt shingles	3	0	4435	4435	\$554.50	\$554.50	\$554.50
BXMAT	Boxsprings & Mattresses for	30	44	55	55	\$770.42	\$770.42	\$770.42
CCM	Clean Cover Material	36	0	142420	142420	\$0.00	\$0.00	\$0.00
CCMT	clean cover material - Town	13	0	121315	121315	\$0.00	\$0.00	\$0.00
CGC	clean gravel cover	1	0	4030	4030	\$0.00	\$0.00	\$0.00
CNCRT	clean concrete	5	0	2320	2320	\$290.25	\$290.25	\$290.25
CNCRTT	clean concrete from Town of 0	3	0	14540	14540	\$0.00	\$0.00	\$0.00
COMCARDBRD	commercial fibre	3	0	815	815	\$54.00	\$54.00	\$54.00
CRBPUFYWA	yard and garden curbside pick up	3	0	39445	39445	\$0.00	\$0.00	\$0.00
CW	Commercial Waste	19	0	135750	135750	\$16,969.75	\$16,969.75	\$16,969.75
CWC	Clean White Wood	28	3	19700	19700	\$2,316.00	\$2,316.00	\$2,316.00
CWCT	Wood Only - Town	1	0	1005	1005	\$0.00	\$0.00	\$0.00
FYWA	Free Compostable Materials	584	2	81430	81430	\$3,598.50	\$3,598.50	\$3,598.50
FYWACW	clean fruit waste	1	0	40	40	\$0.00	\$0.00	\$0.00
GYPSM	Clean Gypsom/Drywall	9	0	4235	4235	\$539.50	\$539.50	\$539.50
HWL	Hauled Liquid Waste (sludge)	26	0	278585	278585	\$11,840.25	\$11,840.25	\$11,840.25
INV	Invasive Insects	4	0	19550	19550	\$2,444.25	\$2,444.25	\$2,444.25
MB	All Metals	22	0	1560	1560	\$279.00	\$279.00	\$279.00
MIXEDCW	Mixed load commercial	78	0	86040	86040	\$10,768.94	\$10,768.94	\$10,768.94
MIXEDRW	Mixed Load Residential	533	0	81684	81684	\$11,039.33	\$11,039.33	\$11,039.33
MMBCFIBRE	MMBC fibre 40yard	4	0	8740	8740	\$0.00	\$0.00	\$0.00
MW	Municipal Waste Household Gar.	33	0	92915	92915	\$11,616.00	\$11,616.00	\$11,616.00
MWT	Municipal Waste-Town	13	0	11090	11090	\$0.00	\$0.00	\$0.00
NON-ODS	Non Ozone Depleting Recyling	16	17	1315	1315	\$0.00	\$0.00	\$0.00
ODS	Ozone Depleting Substances Rec.	30	48	3506	3506	\$0.00	\$0.00	\$0.00
PT30-40LB	Large Propane Tanks 30 to 40 lb	1	2	0	0	\$0.00	\$0.00	\$0.00
RW	Residential Waste	212	1	13555	13555	\$2,526.94	\$2,526.94	\$2,526.94
SOILAMMEND	greater than 5 tonnes	2	0	2360	2360	\$82.50	\$82.50	\$82.50
SOILAMND5	less than 5 tonnes	54	0	29105	29105	\$2,207.00	\$2,207.00	\$2,207.00
T	Recyclable Tires	12	59	705	705	\$0.00	\$0.00	\$0.00
TIRERIM	tire with rim	5	17	0	0	\$51.12	\$51.12	\$51.12
UNSR	Unsorted Load	10	0	4325	4325	\$1,081.25	\$1,081.25	\$1,081.25
YWAT	Compostable Mat. - Town	9	0	3580	3580	\$0.00	\$0.00	\$0.00
		1,813	193	1210150	1210150	\$79,029.50	\$79,029.50	\$79,029.50

Void tickets have been excluded from report
Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 6/1/2025 to 6/30/2025

MATERIAL ID		Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
ASPHSH	clean asphalt shingles	1	0	70	70	\$10.00	\$10.00	\$10.00
BATT	Batteries - Household, vehicle	5	55	55	55	\$0.00	\$0.00	\$0.00
BXMAT	Boxsprings & Mattresses for	26	37	-105	-105	\$647.92	\$647.92	\$647.92
CCM	Clean Cover Material	15	0	24865	24865	\$0.00	\$0.00	\$0.00
CCMT	clean cover material - Town	2	0	11840	11840	\$0.00	\$0.00	\$0.00
CNCRT	clean concrete	9	0	4680	4680	\$585.75	\$585.75	\$585.75
COMCARDBRD	commercial fibre	8	0	965	965	\$70.75	\$70.75	\$70.75
CRBPUFYWA	yard and garden curbside pick up	2	0	33960	33960	\$0.00	\$0.00	\$0.00
CW	Commercial Waste	28	0	138245	138245	\$17,282.50	\$17,282.50	\$17,282.50
CWC	Clean White Wood	21	0	8845	8845	\$1,124.50	\$1,124.50	\$1,124.50
CWCT	Wood Only - Town	2	0	405	405	\$0.00	\$0.00	\$0.00
FREON	Freon Removal - Non M.A.R.R Item	1	1	-20	-20	\$17.50	\$17.50	\$17.50
FYWA	Free Compostable Materials	503	0	69095	69095	\$3,079.12	\$3,079.12	\$3,079.12
FYWACW	clean fruit waste	2	0	250	250	\$8.75	\$8.75	\$8.75
GYPSM	Clean Gypsum/Drywall	12	0	9735	9735	\$1,228.25	\$1,228.25	\$1,228.25
HWL	Hauled Liquid Waste (sludge)	21	0	213745	213745	\$9,084.00	\$9,084.00	\$9,084.00
HWLT	Hauled Sewage Waste for Town	3	0	33160	33160	\$0.00	\$0.00	\$0.00
INV	Invasive Insects	5	0	21600	21600	\$2,700.50	\$2,700.50	\$2,700.50
MB	All Metals	12	0	1185	1185	\$183.25	\$183.25	\$183.25
MIXEDCW	Mixed load commercial	75	0	80460	80460	\$10,108.57	\$10,108.57	\$10,108.57
MIXEDRW	Mixed Load Residential	430	0	64405	64405	\$8,656.14	\$8,656.14	\$8,656.14
MMBCFIBRE	MMBC fibre 40yard	4	0	7030	7030	\$0.00	\$0.00	\$0.00
MW	Municipal Waste Household Gar.	30	0	92990	92990	\$11,625.50	\$11,625.50	\$11,625.50
MWT	Municipal Waste-Town	25	0	9220	9220	\$0.00	\$0.00	\$0.00
NON-ODS	Non Ozone Depleting Recyling	9	11	750	750	\$0.00	\$0.00	\$0.00
ODS	Ozone Depleting Substances Rec.	26	26	1745	1745	\$0.00	\$0.00	\$0.00
PT20-25LB	Regular Propane Tanks 20 to 25 lbs	4	4	105	105	\$0.00	\$0.00	\$0.00
PT30-40LB	Large Propane Tanks 30 to 40 lbs	1	1	0	0	\$0.00	\$0.00	\$0.00
RW	Residential Waste	201	0	12450	12450	\$2,400.75	\$2,400.75	\$2,400.75
SOILAMMEND	greater than 5 tonnes	4	0	4480	4480	\$156.75	\$156.75	\$156.75
SOILAMND5	less than 5 tonnes	14	0	8275	8275	\$624.75	\$624.75	\$624.75
T	Recyclable Tires	12	54	810	810	\$0.00	\$0.00	\$0.00
TIRERIM	tire with rim	2	11	0	0	\$33.00	\$33.00	\$33.00
UNSORT	Unsorted Load	4	0	3045	3045	\$761.25	\$761.25	\$761.25
YWAT	Compostable Mat. - Town	5	0	3485	3485	\$0.00	\$0.00	\$0.00
		1,529	150	861825	861825	\$70,389.50	\$70,389.50	\$70,389.50

Void tickets have been excluded from report

Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 7/1/2025 to 7/31/2025

MATERIAL ID		Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
ASPH	clean Asphalt	1	0	425	425	\$53.25	\$53.25	\$53.25
ASPHSH	clean asphalt shingles	3	0	785	785	\$98.25	\$98.25	\$98.25
ASPH	clean asphalt from Town of 0	3	0	25480	25480	\$0.00	\$0.00	\$0.00
BATT	Batteries - Household, vehicle	1	0	55	55	\$0.00	\$0.00	\$0.00
BXMAT	Boxsprings & Mattresses for	31	51	45	45	\$893.10	\$893.10	\$893.10
CCM	Clean Cover Material	16	0	9715	9715	\$0.00	\$0.00	\$0.00
CCMT	clean cover material - Town	1	0	5900	5900	\$0.00	\$0.00	\$0.00
CNCRT	clean concrete	3	0	10330	10330	\$1,295.25	\$1,295.25	\$1,295.25
COMCARD	commercial fibre	7	0	320	320	\$37.93	\$37.93	\$37.93
CRBPUFYWA	yard and garden curbside pick up	1	0	40780	40780	\$0.00	\$0.00	\$0.00
CW	Commercial Waste	35	0	223615	223615	\$27,953.50	\$27,953.50	\$27,953.50
CWC	Clean White Wood	21	0	16000	16000	\$2,008.50	\$2,008.50	\$2,008.50
CWCT	Wood Only - Town	2	0	1020	1020	\$0.00	\$0.00	\$0.00
FREON	Freon Removal - Non M.A.R.R Item	1	1	-15	-15	\$17.56	\$17.56	\$17.56
FYWA	Free Compostable Materials	593	2	82250	82250	\$3,687.06	\$3,687.06	\$3,687.06
FYWACW	clean fruit waste	17	0	10740	10740	\$742.25	\$742.25	\$742.25
FYWARW	Yard & Garden waste w Fruit or	1	0	55	55	\$0.00	\$0.00	\$0.00
GYPSM	Clean Gypsum/Drywall	4	0	3820	3820	\$476.25	\$476.25	\$476.25
HWL	Hauled Liquid Waste (sludge)	26	0	235295	235295	\$10,000.75	\$10,000.75	\$10,000.75
HWLT	Hauled Sewage Waste for Town	1	0	4680	4680	\$0.00	\$0.00	\$0.00
INV	Invasive Insects	6	0	28095	28095	\$3,512.25	\$3,512.25	\$3,512.25
MB	All Metals	18	0	890	890	\$187.63	\$187.63	\$187.63
MBT	All Metals - Town	1	0	150	150	\$0.00	\$0.00	\$0.00
MIXEDCW	Mixed load commercial	66	0	43315	43315	\$5,441.88	\$5,441.88	\$5,441.88
MIXEDRW	Mixed Load Residential	425	0	61375	61375	\$8,383.59	\$8,383.59	\$8,383.59
MMBCFIBRE	MMBC fibre 40yard	5	0	7365	7365	\$0.00	\$0.00	\$0.00
MW	Municipal Waste Household Gar.	25	0	116630	116630	\$14,580.00	\$14,580.00	\$14,580.00
MWT	Municipal Waste-Town	38	0	9180	9180	\$0.00	\$0.00	\$0.00
NON-ODS	Non Ozone Depleting Recyling	15	20	1115	1115	\$0.00	\$0.00	\$0.00
ODS	Ozone Depleting Substances Rec.	40	58	3970	3970	\$0.00	\$0.00	\$0.00
OT	Over size tires as per bylaw	1	0	90	90	\$47.25	\$47.25	\$47.25
PT100LB	Commercial Propane Tanks 100lbs	1	1	0	0	\$0.00	\$0.00	\$0.00
PT2-3LB	Camping Propane Tank 2 to 3 lb	4	36	0	0	\$0.00	\$0.00	\$0.00
PT30-40LB	Large Propane Tanks 30 to 40 lbs	1	1	0	0	\$0.00	\$0.00	\$0.00
PTVIN	Puncture Vine - Noxious weeds	7	0	410	410	\$0.00	\$0.00	\$0.00
PTVNW	Puncture Vine from Weed Lady	1	0	15	15	\$0.00	\$0.00	\$0.00
RW	Residential Waste	272	0	18735	18735	\$3,385.19	\$3,385.19	\$3,385.19
SOILAMMEND	greater than 5 tonnes	2	0	4705	4705	\$164.50	\$164.50	\$164.50
SOILAMND5	less than 5 tonnes	3	0	845	845	\$68.25	\$68.25	\$68.25

Void tickets have been excluded from report

Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 7/1/2025 to 7/31/2025

MATERIAL ID		Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
T	Recyclable Tires	22	80	935	935	\$0.00	\$0.00	\$0.00
TIRERIM	tire with rim	3	10	0	0	\$30.06	\$30.06	\$30.06
UNSRT	Unsorted Load	1	0	340	340	\$85.00	\$85.00	\$85.00
YWAT	Compostable Mat. - Town	15	0	6275	6275	\$0.00	\$0.00	\$0.00
		1,751	263	975730	975730	\$83,149.25	\$83,149.25	\$83,149.25

Void tickets have been excluded from report
Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 8/1/2025 to 8/31/2025

MATERIAL ID		Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
ASPH	clean Asphalt	1	0	115	115	\$14.50	\$14.50	\$14.50
ASPHSH	clean asphalt shingles	3	0	5750	5750	\$718.75	\$718.75	\$718.75
ASPH	clean asphalt from Town of 0	5	0	38805	38805	\$0.00	\$0.00	\$0.00
BATT	Batteries - Household, vehicle	30	0	30	30	\$0.00	\$0.00	\$0.00
BXMAT	Boxsprings & Mattresses for	29	50	65	65	\$875.36	\$875.36	\$875.36
CCM	Clean Cover Material	16	0	25270	25270	\$0.00	\$0.00	\$0.00
CCMT	clean cover material - Town	1	0	7605	7605	\$0.00	\$0.00	\$0.00
CNCRT	clean concrete	5	0	2235	2235	\$279.50	\$279.50	\$279.50
CNCRTT	clean concrete from Town of 0	2	0	10625	10625	\$0.00	\$0.00	\$0.00
COMCARDBRD	commercial fibre	8	0	685	685	\$52.50	\$52.50	\$52.50
CRBPUFYWA	yard and garden curbside pick up	0	0	37425	37425	\$0.00	\$0.00	\$0.00
CW	Commercial Waste	31	0	217295	217295	\$27,169.00	\$27,169.00	\$27,169.00
CWC	Clean White Wood	24	0	9295	9295	\$1,182.75	\$1,182.75	\$1,182.75
WCCT	Wood Only - Town	1	0	270	270	\$0.00	\$0.00	\$0.00
FYWA	Free Compostable Materials	561	0	64440	64440	\$2,542.31	\$2,542.31	\$2,542.31
FYWACW	clean fruit waste	12	0	500	500	\$0.00	\$0.00	\$0.00
FYWARW	Yard & Garden waste w Fruit or	2	0	110	110	\$0.00	\$0.00	\$0.00
GYPSM	Clean Gypsum/Drywall	3	0	2955	2955	\$368.50	\$368.50	\$368.50
HWL	Hauled Liquid Waste (sludge)	42	0	405660	405660	\$17,241.25	\$17,241.25	\$17,241.25
HWLT	Hauled Sewage Waste for Town	1	0	4675	4675	\$0.00	\$0.00	\$0.00
INV	Invasive Insects	4	0	18630	18630	\$2,329.00	\$2,329.00	\$2,329.00
MB	All Metals	8	0	405	405	\$85.75	\$85.75	\$85.75
MIXEDCW	Mixed load commercial	52	0	43820	43820	\$5,494.25	\$5,494.25	\$5,494.25
MIXEDRW	Mixed Load Residential	347	0	47440	47440	\$6,562.96	\$6,562.96	\$6,562.96
MMBCFIBRE	MMBC fibre 40yard	4	0	3670	3670	\$0.00	\$0.00	\$0.00
MW	Municipal Waste Household Gar.	30	0	115690	115690	\$14,463.00	\$14,463.00	\$14,463.00
MWT	Municipal Waste-Town	40	0	51765	51765	\$0.00	\$0.00	\$0.00
NON-ODS	Non Ozone Depleting Recyling	16	19	1370	1370	\$0.00	\$0.00	\$0.00
ODS	Ozone Depleting Substances Rec.	25	28	1205	1205	\$0.00	\$0.00	\$0.00
PT2-3LB	Camping Propane Tank 2 to 3 lb	3	11	0	0	\$0.00	\$0.00	\$0.00
PT20-25LB	Regular Propane Tanks 20 to 25 lbs	5	5	55	55	\$0.00	\$0.00	\$0.00
PT30-40LB	Large Propane Tanks 30 to 40 lbs	6	6	0	0	\$0.00	\$0.00	\$0.00
PT5-10LB	Small Propane Tanks 5 to 10 lb	1	1	0	0	\$0.00	\$0.00	\$0.00
PTVIN	Puncture Vine - Noxious weeds	7	0	595	595	\$0.00	\$0.00	\$0.00
RW	Residential Waste	243	0	16250	16250	\$3,019.25	\$3,019.25	\$3,019.25
SOILAMMEND	greater than 5 tonnes	7	0	32680	32680	\$1,144.00	\$1,144.00	\$1,144.00
SOILAMND5	less than 5 tonnes	5	0	5265	5265	\$402.25	\$402.25	\$402.25
T	Recyclable Tires	15	53	1705	1705	\$0.00	\$0.00	\$0.00
TIRERIM	tire with rim	5	10	0	0	\$30.12	\$30.12	\$30.12

Void tickets have been excluded from report

Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 8/1/2025 to 8/31/2025

MATERIAL ID		Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
TIRET	tires from town	1	1	-20	-20	\$0.00	\$0.00	\$0.00
UNSRT	Unsorted Load	2	0	975	975	\$243.75	\$243.75	\$243.75
YWAT	Compostable Mat. - Town	1	0	85	85	\$0.00	\$0.00	\$0.00
		1,578	185	1175395	1175395	\$84,218.75	\$84,218.75	\$84,218.75

Void tickets have been excluded from report
Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 9/1/2025 to 9/30/2025

MATERIAL ID	Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
ABS Abestos	1	0	60	60	\$50.00	\$50.00	\$50.00
ASPHSH clean asphalt shingles	5	0	6670	6670	\$840.25	\$840.25	\$840.25
BXMAT Boxsprings & Mattresses for	34	53	-20	-20	\$928.10	\$928.10	\$928.10
CCM Clean Cover Material	11	0	13680	13680	\$0.00	\$0.00	\$0.00
CCMT clean cover material - Town	3	0	28520	28520	\$0.00	\$0.00	\$0.00
CNCRT clean concrete	3	0	2020	2020	\$252.75	\$252.75	\$252.75
COMCARDBRD commercial fibre	6	0	305	305	\$30.75	\$30.75	\$30.75
CRBPUFYWA yard and garden curbside pick up	8	0	59350	59350	\$0.00	\$0.00	\$0.00
CW Commercial Waste	39	0	170530	170530	\$21,321.25	\$21,321.25	\$21,321.25
CWC Clean White Wood	20	0	13540	13540	\$1,710.75	\$1,710.75	\$1,710.75
CWCT Wood Only - Town	4	0	3910	3910	\$0.00	\$0.00	\$0.00
FYWA Free Compostable Materials	612	2	87625	87625	\$3,902.75	\$3,902.75	\$3,902.75
FYWACW clean fruit waste	11	0	19025	19025	\$1,375.50	\$1,375.50	\$1,375.50
FYWARW Yard & Garden waste w Fruit or	2	0	95	95	\$0.00	\$0.00	\$0.00
GYPSM Clean Gypsom/Drywall	12	2	6900	6900	\$804.50	\$804.50	\$804.50
HWL Hauled Liquid Waste (sludge)	24	0	212420	212420	\$9,028.00	\$9,028.00	\$9,028.00
HWLT Hauled Sewage Waste for Town	3	0	12320	12320	\$0.00	\$0.00	\$0.00
INV Invasive Insects	4	0	18605	18605	\$2,325.75	\$2,325.75	\$2,325.75
MB All Metals	11	0	3840	3840	\$517.75	\$517.75	\$517.75
MIXEDCW Mixed load commercial	73	1	66645	66645	\$8,334.88	\$8,334.88	\$8,334.88
MIXEDRW Mixed Load Residential	354	0	58525	58525	\$7,937.27	\$7,937.27	\$7,937.27
MMBCFIBRE MMBC fibre 40yard	4	0	4770	4770	\$0.00	\$0.00	\$0.00
MW Municipal Waste Household Gar.	34	0	116760	116760	\$14,597.75	\$14,597.75	\$14,597.75
MWT Municipal Waste-Town	22	0	16765	16765	\$0.00	\$0.00	\$0.00
NON-ODS Non Ozone Depleting Recyling	11	12	515	515	\$0.00	\$0.00	\$0.00
ODS Ozone Depleting Substances Rec.	20	31	2655	2655	\$0.00	\$0.00	\$0.00
PT2-3LB Camping Propane Tank 2 to 3 lb	1	3	0	0	\$0.00	\$0.00	\$0.00
PT5-10LB Small Propane Tanks 5 to 10 lb	1	57	0	0	\$0.00	\$0.00	\$0.00
PTVIN Puncture Vine - Noxious weeds	7	1	685	685	\$0.00	\$0.00	\$0.00
RW Residential Waste	208	0	20050	20050	\$3,245.38	\$3,245.38	\$3,245.38
SOILAMND5 less than 5 tonnes	12	0	4085	4085	\$320.75	\$320.75	\$320.75
T Recyclable Tires	13	57	675	675	\$0.00	\$0.00	\$0.00
TIRERIM tire with rim	6	18	0	0	\$54.12	\$54.12	\$54.12
UNSORT Unsorted Load	4	0	3935	3935	\$983.75	\$983.75	\$983.75
YWAT Compostable Mat. - Town	13	0	5625	5625	\$0.00	\$0.00	\$0.00
	1,606	237	961085	961085	\$78,562.00	\$78,562.00	\$78,562.00

Void tickets have been excluded from report
Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 10/1/2025 to 10/31/2025

MATERIAL ID		Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
ABS	Abestos	2	0	2015	2015	\$423.25	\$423.25	\$423.25
ASPH	clean Asphalt	2	0	1120	1120	\$140.25	\$140.25	\$140.25
ASPHSH	clean asphalt shingles	4	0	6945	6945	\$868.50	\$868.50	\$868.50
BATT	Batteries - Household, vehicle	10	0	100	100	\$0.00	\$0.00	\$0.00
BXMAT	Boxsprings & Mattresses for	32	48	95	95	\$840.36	\$840.36	\$840.36
CCM	Clean Cover Material	21	0	55105	55105	\$0.00	\$0.00	\$0.00
CCMT	clean cover material - Town	6	0	38980	38980	\$0.00	\$0.00	\$0.00
CNCRT	clean concrete	9	0	12975	12975	\$1,622.50	\$1,622.50	\$1,622.50
COMCARDBRD	commercial fibre	3	0	95	95	\$15.00	\$15.00	\$15.00
CRBPUFYWA	yard and garden curbside pick up	2	0	44410	44410	\$0.00	\$0.00	\$0.00
CW	Commercial Waste	37	0	148715	148715	\$18,591.50	\$18,591.50	\$18,591.50
CWC	Clean White Wood	23	6	17015	17015	\$1,749.75	\$1,749.75	\$1,749.75
CWCT	Wood Only - Town	1	0	420	420	\$0.00	\$0.00	\$0.00
FYWA	Free Compostable Materials	592	0	88570	88570	\$4,232.00	\$4,232.00	\$4,232.00
FYWACW	clean fruit waste	14	0	25950	25950	\$1,869.75	\$1,869.75	\$1,869.75
FYWARW	Yard & Garden waste w Fruit or	1	0	15	15	\$0.00	\$0.00	\$0.00
GYPSM	Clean Gypsom/Drywall	17	0	8915	8915	\$1,115.81	\$1,115.81	\$1,115.81
HWL	Hauled Liquid Waste (sludge)	22	0	202510	202510	\$8,607.00	\$8,607.00	\$8,607.00
HWLT	Hauled Sewage Waste for Town	7	0	16775	16775	\$0.00	\$0.00	\$0.00
INV	Invasive Insects	1	0	3150	3150	\$393.75	\$393.75	\$393.75
MB	All Metals	15	0	1195	1195	\$208.25	\$208.25	\$208.25
MIXEDCW	Mixed load commercial	84	1	73385	73385	\$8,919.82	\$8,919.82	\$8,919.82
MIXEDRW	Mixed Load Residential	367	1	70595	70595	\$9,284.76	\$9,284.76	\$9,284.76
MMBCFIBRE	MMBC fibre 40yard	5	0	4340	4340	\$0.00	\$0.00	\$0.00
MW	Municipal Waste Household Gar.	23	0	86030	86030	\$10,755.25	\$10,755.25	\$10,755.25
MWT	Municipal Waste-Town	17	0	11880	11880	\$0.00	\$0.00	\$0.00
NON-ODS	Non Ozone Depleting Recyling	10	13	445	445	\$0.00	\$0.00	\$0.00
ODS	Ozone Depleting Substances Rec.	28	41	2335	2335	\$0.00	\$0.00	\$0.00
PT2-3LB	Camping Propane Tank 2 to 3 lb	2	18	0	0	\$0.00	\$0.00	\$0.00
PT20-25LB	Regular Propane Tanks 20 to 25 lbs	14	14	320	320	\$0.00	\$0.00	\$0.00
PT30-40LB	Large Propane Tanks 30 to 40 lbs	5	5	0	0	\$0.00	\$0.00	\$0.00
PT5-10LB	Small Propane Tanks 5 to 10 lb	2	3	45	45	\$0.00	\$0.00	\$0.00
PTVIN	Puncture Vine - Noxious weeds	2	0	220	220	\$0.00	\$0.00	\$0.00
RW	Residential Waste	250	1	20080	20080	\$3,334.07	\$3,334.07	\$3,334.07
SOILAMND5	less than 5 tonnes	6	0	2205	2205	\$170.00	\$170.00	\$170.00
T	Recyclable Tires	31	199	3215	3215	\$0.00	\$0.00	\$0.00
TIRERIM	tire with rim	5	9	0	0	\$27.18	\$27.18	\$27.18
UNSRT	Unsorted Load	3	0	2390	2390	\$597.50	\$597.50	\$597.50
YWAT	Compostable Mat. - Town	14	0	4220	4220	\$0.00	\$0.00	\$0.00

Void tickets have been excluded from report

Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 10/1/2025 to 10/31/2025

<u>MATERIAL ID</u>	<u>Loads</u>	<u>Pcs In</u>	<u>Total Net Wt</u>	<u>Wt Sales</u>	<u>Ttl Sales</u>	<u>Ext Sale</u>	<u>Mat Ext Sale</u>
	1,678	362	956775	956775	\$73,766.25	\$73,766.25	\$73,766.25

Void tickets have been excluded from report
Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 11/1/2025 to 11/30/2025

MATERIAL ID		Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
ASPHSH	clean asphalt shingles	3	0	795	795	\$103.25	\$103.25	\$103.25
BXMAT	Boxsprings & Mattresses for	25	70	90	90	\$1,225.66	\$1,225.66	\$1,225.66
CCM	Clean Cover Material	5	0	2115	2115	\$0.00	\$0.00	\$0.00
CCMT	clean cover material - Town	1	0	10365	10365	\$0.00	\$0.00	\$0.00
COMCARDBRD	commercial fibre	2	0	85	85	\$10.00	\$10.00	\$10.00
CRBPUFYWA	yard and garden curbside pick up	2	0	48820	48820	\$0.00	\$0.00	\$0.00
CW	Commercial Waste	26	0	115455	115455	\$14,433.25	\$14,433.25	\$14,433.25
CWC	Clean White Wood	10	0	3605	3605	\$457.25	\$457.25	\$457.25
FYWA	Free Compostable Materials	459	0	100060	100060	\$5,338.25	\$5,338.25	\$5,338.25
FYWACW	clean fruit waste	8	0	41580	41580	\$3,059.25	\$3,059.25	\$3,059.25
GYPSM	Clean Gypsom/Drywall	11	0	4840	4840	\$616.00	\$616.00	\$616.00
HWL	Hauled Liquid Waste (sludge)	19	0	192225	192225	\$8,170.25	\$8,170.25	\$8,170.25
HWLT	Hauled Sewage Waste for Town	1	0	1205	1205	\$0.00	\$0.00	\$0.00
MB	All Metals	10	0	2005	2005	\$269.75	\$269.75	\$269.75
MIXEDCW	Mixed load commercial	63	0	31700	31700	\$3,994.44	\$3,994.44	\$3,994.44
MIXEDRW	Mixed Load Residential	270	0	46825	46825	\$6,240.52	\$6,240.52	\$6,240.52
MMBCFIBRE	MMBC fibre 40yard	4	0	4600	4600	\$0.00	\$0.00	\$0.00
MW	Municipal Waste Household Gar.	28	0	88645	88645	\$11,082.75	\$11,082.75	\$11,082.75
MWT	Municipal Waste-Town	10	0	2385	2385	\$0.00	\$0.00	\$0.00
NON-ODS	Non Ozone Depleting Recyling	8	12	490	490	\$0.00	\$0.00	\$0.00
ODS	Ozone Depleting Substances Rec.	17	24	1785	1785	\$0.00	\$0.00	\$0.00
PT20-25LB	Regular Propane Tanks 20 to 25 lbs	3	45	45	45	\$0.00	\$0.00	\$0.00
PTVIN	Puncture Vine - Noxious weeds	2	0	200	200	\$0.00	\$0.00	\$0.00
RW	Residential Waste	161	0	13750	13750	\$2,308.38	\$2,308.38	\$2,308.38
SOILAMND5	less than 5 tonnes	1	0	105	105	\$8.00	\$8.00	\$8.00
T	Recyclable Tires	15	61	-1910	-1910	\$0.00	\$0.00	\$0.00
TIRERIM	tire with rim	4	18	0	0	\$54.00	\$54.00	\$54.00
UNSR	Unsorted Load	2	0	5310	5310	\$1,327.50	\$1,327.50	\$1,327.50
YWAT	Compostable Mat. - Town	9	0	3745	3745	\$0.00	\$0.00	\$0.00
		1,187	188	720920	720920	\$58,698.50	\$58,698.50	\$58,698.50

Void tickets have been excluded from report
Includes all (Invoiced and Uninvoiced)

Refuse Type Total

From 12/1/2025 to 12/31/2025

MATERIAL ID		Loads	Pcs In	Total Net Wt	Wt Sales	Ttl Sales	Ext Sale	Mat Ext Sale
ASPHSH	clean asphalt shingles	3	0	2160	2160	\$270.00	\$270.00	\$270.00
BXMAT	Boxsprings & Mattresses for	21	48	1785	1785	\$840.06	\$840.06	\$840.06
CCM	Clean Cover Material	5	0	2930	2930	\$0.00	\$0.00	\$0.00
CNCRT	clean concrete	3	1	10135	10135	\$329.00	\$329.00	\$329.00
CNCRTT	clean concrete from Town of O	1	0	1295	1295	\$0.00	\$0.00	\$0.00
CRBPUFYWA	yard and garden curbside pick up	4	0	5665	5665	\$0.00	\$0.00	\$0.00
CW	Commercial Waste	17	0	97965	97965	\$12,246.50	\$12,246.50	\$12,246.50
CWC	Clean White Wood	8	0	4365	4365	\$549.62	\$549.62	\$549.62
FYWA	Free Compostable Materials	146	0	19000	19000	\$756.63	\$756.63	\$756.63
FYWACW	clean fruit waste	9	0	60585	60585	\$4,477.75	\$4,477.75	\$4,477.75
GYPSM	Clean Gypsom/Drywall	6	0	1580	1580	\$202.25	\$202.25	\$202.25
HWL	Hauled Liquid Waste (sludge)	11	0	86570	86570	\$3,679.00	\$3,679.00	\$3,679.00
MB	All Metals	4	0	280	280	\$44.50	\$44.50	\$44.50
MIXEDCW	Mixed load commercial	55	0	27035	27035	\$3,438.75	\$3,438.75	\$3,438.75
MIXEDRW	Mixed Load Residential	198	0	22815	22815	\$3,253.69	\$3,253.69	\$3,253.69
MMBCFIBRE	MMBC fibre 40yard	5	0	4980	4980	\$0.00	\$0.00	\$0.00
MW	Municipal Waste Household Gar.	34	0	98690	98690	\$12,338.75	\$12,338.75	\$12,338.75
MWT	Municipal Waste-Town	8	0	1755	1755	\$0.00	\$0.00	\$0.00
NON-ODS	Non Ozone Depleting Recyling	8	9	635	635	\$0.00	\$0.00	\$0.00
ODS	Ozone Depleting Substances Rec.	11	12	720	720	\$0.00	\$0.00	\$0.00
RW	Residential Waste	142	0	8220	8220	\$1,592.25	\$1,592.25	\$1,592.25
T	Recyclable Tires	10	58	875	875	\$0.00	\$0.00	\$0.00
TIRERIM	tire with rim	1	1	0	0	\$3.00	\$3.00	\$3.00
UNSRT	Unsorted Load	3	0	5340	5340	\$1,335.00	\$1,335.00	\$1,335.00
		713	129	465380	465380	\$45,356.75	\$45,356.75	\$45,356.75

Void tickets have been excluded from report
Includes all (Invoiced and Uninvoiced)

APPENDIX C

Composting Operations



December 10, 2018

Tracking Number: 375554
Authorization Number: 109610

TOWN OF OSOYOOS
BOX 3010
OSOYOOS, BC
V0H 1V0

Dear TOWN OF OSOYOOS,

Re: Notification under the Organic Matter Recycling Regulation

Receipt of your completed notification under the Organic Matter Recycling Regulation is acknowledged. The effective date of notification is November 21, 2018. Initial notification was received on August 31, 2018; however, the notification was incomplete in accordance with section 25(2)(b) of the Organic Matter Recycling Regulation. Ninety days following the effective date of notification you are exempt from section 6(2) and 6(3) of the Environmental Management Act so long as compost is produced and used only in accordance with the regulation.

Please indicate the ministry authorization number shown above on all future correspondence with the Ministry regarding this facility.

Please submit the plans and specifications required under section 24(2) of the Organic Matter Recycling Regulation once they have been finalized and before operation of the facility.

Your attention is respectfully directed to the terms and conditions specified in the regulation. Contravention of any of the conditions is a violation of the Environmental Management Act and may result in prosecution. If the regulation does not cover all waste streams at the site, additional authorizations may be required under the Environmental Management Act.

This acknowledgement of your notification should not be construed as a representation that the works are adequately designed or will satisfy the regulation requirements. It is the responsibility of the discharger to ensure that the facility is adequately designed, constructed and operated to ensure compliance.

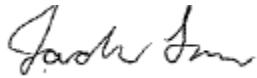
Acknowledgement of your notification under the regulation is without prejudice to any additional requirements that may be specified by the Director. The Director may also issue Orders under the Environmental Management Act.

Acknowledgement of your notification under the regulation does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless

and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the operator. It is also the responsibility of the operator to ensure that all activities conducted under this regulation are carried out with regard to the rights of third parties and comply with other applicable legislation that may be in force. The operator must also obtain any necessary approvals from other agencies.

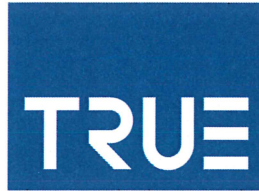
Administration of this regulation will be carried out by Ministry of Environment Compliance staff. Plans, data and reports pertinent to the regulation are to be submitted to the Regional Director, Environmental Protection, in accordance with the electronic data and reporting submissions requirements located at the following website: <http://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions>

Yours truly,



Jordan Tam, P.Ag
Environmental Protection Officer
Authorizations South
Email: Jordan.Tam@gov.bc.ca, Phone: (604) 930-7106

ENCL: None



February 10, 2021

Our File: 302-708-006

Ministry of Environment and Climate Change Strategy
Environmental Protection Division
#200-10470 152nd St.
Surrey, BC
V3R 0Y3

Attn: Regional Director

Dear Sir or Madam:

RE: *Authorization Number 109610 - Osoyoos Landfill Compost Facility Engineering Design*

This letter is to provide confirmation that the Professional Engineer of Record for design and construction of the Town of Osoyoos Compost Facility per TRUE drawing 302-706-01-R3 enclosed herein was Terry Underwood, P.Eng.

This letter also provides verification that the response provided to the Ministry of Environment and Climate Change Strategy on February 28, 2019 titled *Authorization Number 109610-Osoyoos Landfill Compost Facility* was prepared by Natalie Alteen, E.I.T. and reviewed by Terry Underwood, P.Eng. This letter has been amended with Mr. Underwood's seal affixed and is enclosed herein.

Should questions arise or for additional information, please do not hesitate to contact the undersigned.

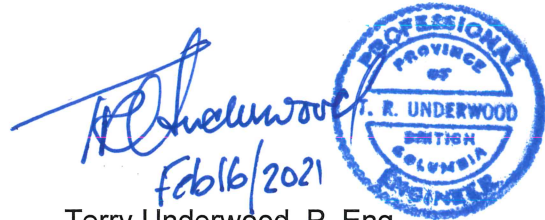
Yours truly,

TRUE CONSULTING



Natalie Alteen, P. Eng.

Feb. 16
2021



Terry Underwood, P. Eng.

NA/tu

Enclosures

cc: Town of Osoyoos

R:\Clients\300-399\302\302-708-006\02 Correspondence\Outgoing\To MoE- Sec24(2) OMRR\15273-Auth. No.109610-Osoyoos Compost Facility Engineering Design-2021 02
10.docx
201-2079 Falcon Road ■ Kamloops BC ■ V2C 4J2 ■ www.true.bc.ca ■ tel 250.828.0881 ■ fax 250.828.0717

ENGINEERING ■ PLANNING ■ URBAN DESIGN ■ LAND SURVEYING



February 28, 2019

Our File: 302-708-006

Ministry of Environment and Climate Change Strategy
Environmental Protection Division
#200-10470 152nd St.
Surrey, BC
V3R 0Y3

Attn: Regional Director

Dear Sir or Madam:

RE: *Authorization Number 109610 - Osoyoos Landfill Compost Facility*

As required under section 24(2) of the Organic Matter Recycling Regulation and noted in the Acknowledgement letter received from the Ministry on December 10, 2018 (enclosed herein), the following subsections regarding construction and operation of a composting facility are addressed as follows:

24(2)(a): The Town of Osoyoos Compost Pad Plan and Detail Drawing (Dwg. No.302-706-01) is enclosed herein. The pad is 3800 m² and includes a pit-run sand base, 60 mil HDPE liner, filter fabric, pitrun gravel surface course and leachate collection sump.

24(2)(b): The design capacity of the compost facility is approximately 7000 m³/annum.

24(2)(c): Leachate generation on the compost pad is directed toward a collection sump. Leachate generation rates are minimal due to the arid climate. Any leachate generated is re-circulated onto the compost pile, preventing seepage into the ground and solid waste under the compost pad area.

24(2)(d): Composting material accepted at the landfill consists of white wood and yard and garden waste. Due to the compost material type, remote location of the compost pad and landfill facility as a whole, odor production is not an issue. As such, a comprehensive odor management plan has not been required.

24(2)(e): Operations of the compost facility will be ongoing. Closure of the composting area will require the Town to find an alternate disposal site for yard and garden waste at the landfill facility.

.../2

Should questions arise or for additional information, please do not hesitate to contact the undersigned.

Yours truly,

TRUE CONSULTING

Prepared By:

Natalie Alteen

Natalie Alteen, E.I.T.

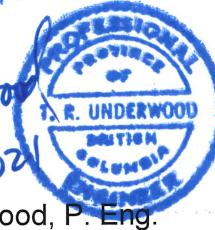
NA/tu

Enclosures

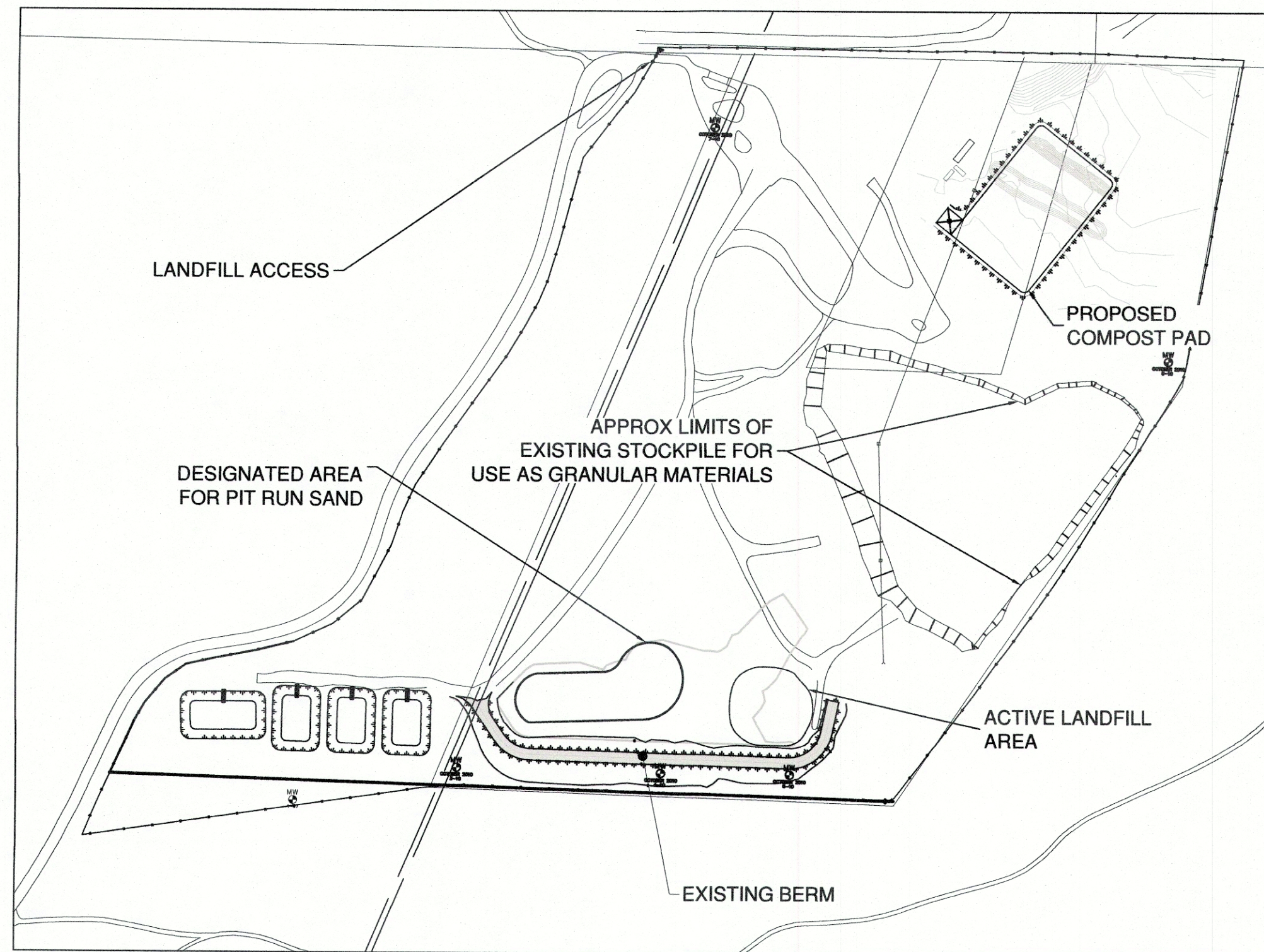
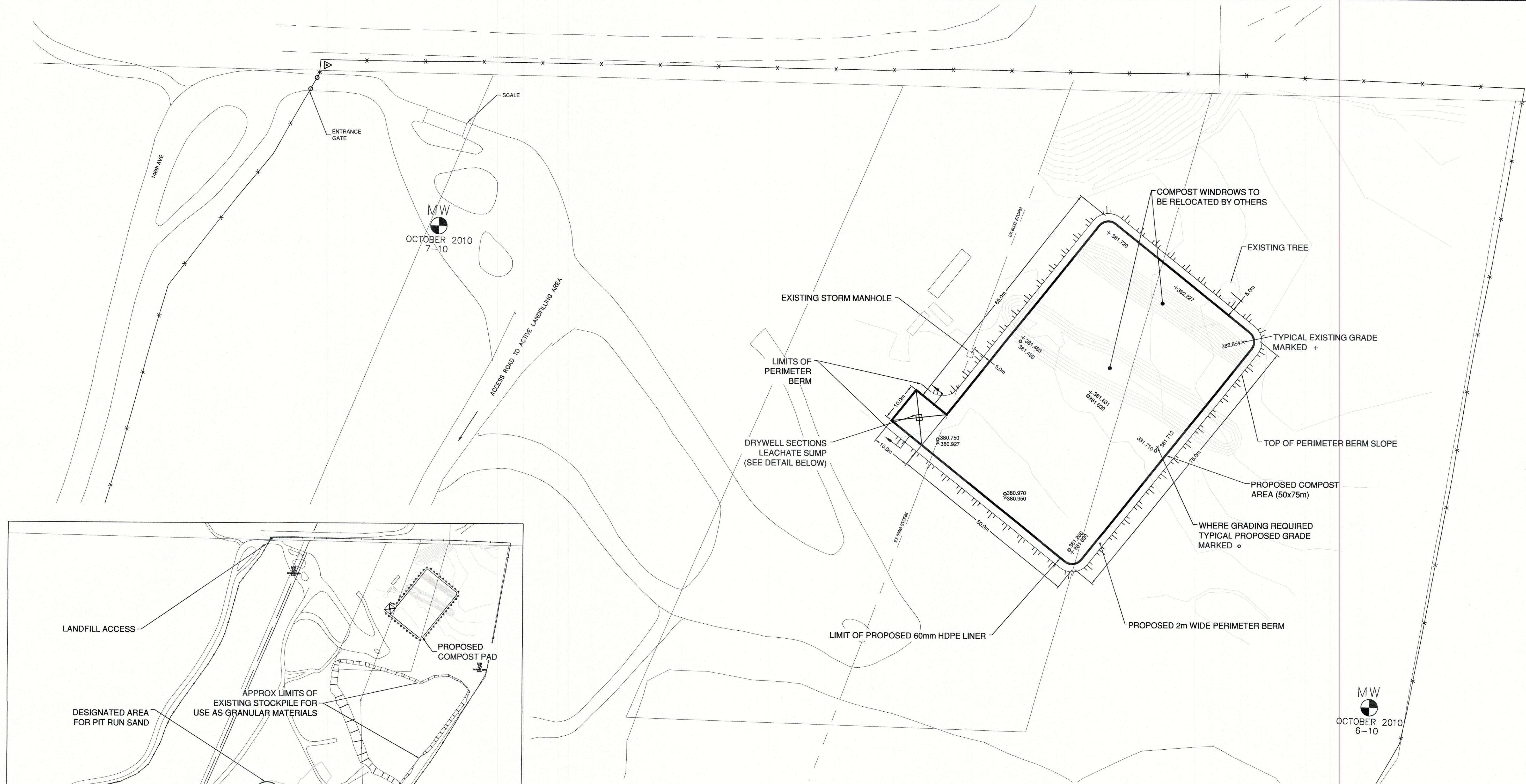
cc: Town of Osoyoos

Reviewed By:

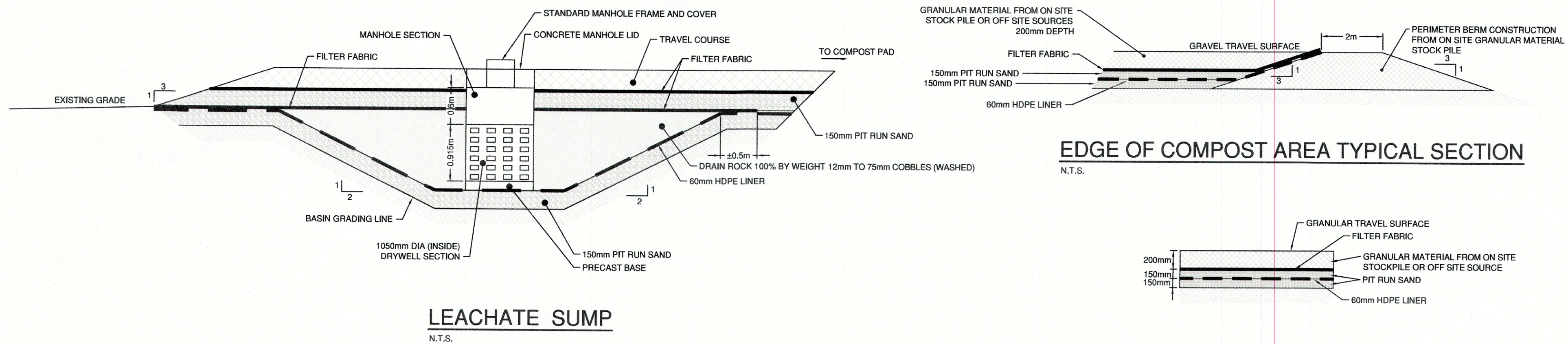
Terry Underwood
Feb 16/2021



Terry Underwood, P. Eng.



LOCATION PLAN FOR BORROW AREA
SCALE 1:2500



LEACHATE SUMP
N.T.S.

COMPOST AREA TYPICAL SECTION
N.T.S.

No.	DATE	DESCRIPTION	BY	APPD
3	OCT 20/11	REISSUED FOR TENDER	CH	TRU
2	OCT 5/11	REVISED PAD LOCATION	CH	TRU
1	JULY 4/11	ISSUED FOR TENDER	CH	TRU

ISSUES / REVISIONS

CONSULTANT SEAL
[Signature]
Feb 16/2021
T. R. UNDERWOOD
REGISTERED PROFESSIONAL ENGINEER

TRUE
CONSULTING
201 - 2079 Falcon Road ■ Kamloops BC ■ V2C 4J2
tel 250.828.0881 ■ fax 250.828.0717
info-kam@TRUE.bc.ca

TOWN OF OSOYOOS

COMPOST PAD PLAN AND DETAILS

SCALE	1:500
DESIGN BY	KK
DRAWN BY	CH
DATE	JULY 2011
PROJECT REFERENCE No.	302-706
DRAWING No.	302-706-01
SHEET	1 OF 1
REVISION	3

APPENDIX D

2022 Environmental Monitoring Plan



TOWN OF OSOYOOS

Environmental Monitoring Plan

Town of Osoyoos & District Sanitary Landfill



November 25, 2022

Town of Osoyoos
8707 Main Street, Box 3010
Osoyoos, British Columbia
V0H 1V0

Attention: Mr. Jared Brounstein
Director of Operations

Town of Osoyoos – Environmental Monitoring Plan

Dillon Consulting Limited (Dillon) is pleased to submit to the Town of Osoyoos (Town) the enclosed Report documenting the Town of Osoyoos Environmental Monitoring Plan to assist the Town in fulfilling their regulatory monitoring and reporting requirements.

The report summarizes the environmental monitoring and reporting requirements for the landfill, hauled liquid waste facility, and compost facility operating at the Site.

If you should have any questions or concerns regarding the contents of this report please direct them to Elisabeth Mance at emance@dillon.ca or by calling 902-450-5015, ext. 5063.

Sincerely,

DILLON CONSULTING LIMITED

Elisabeth Mance, P.Eng.
Environmental Engineer

EM:kk

Our file: 22-4376

3820 Cessna Drive
Suite 510
Richmond
British Columbia
Canada
V7B 0A2
Telephone
604.278.7847
Fax
604.278.7894

**Dillon Consulting
Limited**

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Figure 1: Town of Osoyoos and District Sanitary Landfill

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Table 1: Monitoring Wells

Table 2: Monthly Monitoring Requirements

Appendices

- A Stratigraphic Logs
- B Operational Certificate MR 15273
- C Permit PE 14804

1.0 Introduction

Dillon Consulting Limited (Dillon) was retained by the Town of Osoyoos (the Town) to develop an Environmental Monitoring Plan (EMP) for the Town of Osoyoos and District Sanitary Landfill (Site). The EMP summarizes the environmental monitoring and reporting requirements for the three facilities operating at the Site, as follows:

- Landfill, operating under Operational Certificate MR 15273 (OC);
- Hauled liquid waste facility, operating under Permit 14804; and
- Compost facility, operating under Registration 109610.

The EMP is intended as a tool to assist the Town in fulfilling their regulatory monitoring and reporting requirements for the three facilities by summarizing monitoring protocols, schedule, and details in one reference document.

Any changes to the environmental monitoring programs or infrastructure for the three facilities should prompt an update of this plan.

1.1 Site Overview

The Site is located approximately 3 km north of the municipal boundary and 1.5 km west of Highway 97 in Osoyoos, BC (**Figure 1**). Environmental monitoring infrastructure at the Site comprises six groundwater monitoring wells, as summarized in **Table 1** and as illustrated on **Figure 1**.

Table 1: Monitoring Wells

Monitoring Well	Top of Casing	Base	Northing	Easting
EXMW-1-'97	359.577	359.800	5436715.552	315818.076
LFWM-3-'10	359.871	359.201	5436801.491	315800.680
LFMW-4-'10	358.411	357.741	5436908.687	315802.288
LFWM-5-'10	359.270	358.600	5436976.356	315804.245
LFMW-6-'10	382.419	381.499	5437174.161	315586.691
LFMW-7-'10	383.197	382.557	5436935.496	315464.741

Stratigraphic logs for the monitoring wells are included as **Appendix A**.

2.0

Monitoring Protocols

The following British Columbia Ministry of Environment and Climate Change Strategy (BC MOECCS) documents provide sampling protocols for environmental monitoring:

- “Guidelines for Environmental Monitoring at Municipal Solid Waste Landfills” (1996);
- “British Columbia Field Sampling Manual: 2013 - For Continuous Monitoring and the Collection of Air, Air Emission, Water, Wastewater, Soil, Sediment and Biological Samples” (2013); and
- “British Columbia Environmental Laboratory Manual” (2015).

In order to ensure that representative groundwater samples are obtained from the monitoring wells, the following sampling protocols should be applied:

- Record the static water level of each monitoring well;
- Prior to the collection of the groundwater sample, purge each well of the standing volume of water. The objective of purging is to remove groundwater from the well until a representative sample of the formation groundwater is obtained. This is generally achieved by the removal of three to five times the volume of standing water in the well [United States Environmental Protection Act (USEPA) Convention]. In general, purging is considered complete once sediment-free groundwater is obtained and the specific conductance, temperature, and pH of the groundwater is stabilized;
- Collect groundwater in the appropriate laboratory-supplied sample containers and preserve as required; and
- Samples are to be packed on ice and submitted under a chain of custody to an accredited analytical laboratory certified for environmental analysis by the BC MOECCS, respecting sample hold times.

3.0

Environmental Monitoring

The following section outlines the environmental monitoring requirements for the three on-site facilities: the landfill, the hauled liquid waste facility, and the compost facility. An “at-a-glance” summary of the monthly monitoring requirements is included as **Table 2** following the text.

3.1

Landfill

A monitoring program for the landfill is required under Section 4 of the OC (**Appendix B**). The program includes annual vegetation monitoring, monthly water levels, biannual groundwater sampling, and reporting.

3.1.1

Vegetation Monitoring

Vegetation in the vicinity of the landfill is to be inspected at least once per year to determine if any environmental impacts are occurring.

3.1.2

Water Levels

Water levels in the six on-site monitoring wells are to be recorded on a monthly basis.

3.1.3

Groundwater Quality

Groundwater is to be sampled twice annually, in April and September. The water is to be analysed for the following analytes: chloride, sulfate, nitrate nitrogen, nitrite nitrogen, dissolved organic carbon (DOC), total kjeldahl nitrogen, pH, total dissolved solids, total hardness, nitrogen, nitrate+nitrite as nitrogen, total nitrogen, dissolved metals (aluminum, arsenic, boron, cadmium, chromium, cobalt, iron, lead, manganese, mercury, molybdenum, potassium, selenium, sodium, and zinc).

3.1.4

Data Quality Assurance

As per the OC, monitoring must be undertaken following the terms and conditions of the Environmental Data Quality Assurance Regulation (EQDA), or other legislation which may be in effect at the time. The EQDA specifies ten percent of the samples collected shall be duplicated to provide data quality assurance. Quality control information generated by the laboratory while analyzing parameters required by the OC shall also be provided with the data required to be reported.

3.1.5 Criteria and Compliance

The applicable criteria for groundwater quality are provided in the British Columbia Approved and Working Water Quality Guidelines. The results of the groundwater monitoring program have also historically been compared to the Guidelines for Canadian Drinking Water Quality (GCDWQ).

As per the OC, the landfill must be operated in a manner such that ground or surface water quality does not decrease beyond the applicable criteria at or beyond the landfill property boundary.

3.1.6 Annual Reporting

As per Section 4.6 of the OC, reporting associated with the EMP will be included as part of the Landfill Annual Report, and will include a compilation, interpretation and trend analysis of the receiving environmental monitoring data prepared by a suitable qualified professional.

3.2 Hauled Liquid Waste Facility

As indicated above, the hauled liquid waste facility is operated under Permit PE 14804 (**Appendix C**). A monitoring program for the facility is required under Section 3 of the Permit. The current program includes monthly water levels, biannual wastewater sampling, biannual groundwater sampling, and reporting.

3.2.1 Water Levels

Water levels in monitoring wells MW-1-'97 and LFMW3-'10, as shown on **Figure 1**, are to be recorded on a monthly basis.

3.2.2 Wastewater Quality

The wastewater from the infiltration basins is to be sampled twice annually, in April and September. The water from the grab samples is to be analysed for the following analytes: BOD₅, suspended solids, conductivity, pH, chloride, nitrate nitrogen, ammonia nitrogen, total coliform and fecal coliform.

3.2.3 Groundwater Monitoring

Groundwater in monitoring wells MW-1-'97 and LFMW3-'10 is to be sampled twice annually, in April and September. The water is to be analysed for the following analytes: conductivity, pH, chloride, nitrate nitrogen, nitrite nitrogen, ammonia nitrogen, kjeldahl nitrogen, total nitrogen, total phosphorous, dissolved phosphorous, ortho-phosphate, total coliform and fecal coliform.

3.2.4 Annual Reporting

As per Section 3.8 of the Permit, reporting associated with the EMP will be included as part of the Hauled Liquid Waste Facility Annual Report, and will include a summary of the results of the monitoring programs, data interpretation and trend analyses by a suitable qualified professional.

3.3 Compost Facility

The compost facility operates under Registration 109610. There is no environmental monitoring program specific to the compost facility. The groundwater monitoring undertaken for the landfill, as presented above, also serves to identify impacts (if any) from the on-site composting operations.

Any leachate generated as part of the composting operations is collected in a leachate sump located at the southwest corner of the impermeable compost pad and is recirculated into the compost windrows as needed. Leachate quantities are minimal due to the arid climate of the Site. In the unlikely event that leachate must be removed from the Site for disposal, the volume, dates, analytical data, and end disposal location of the leachate should be recorded and kept on file.

APPENDIX E

2021 Financial Statement

9. Landfill closure and post-closure liability

The provincial Waste Management Act, as well as the B.C. Landfill Criteria for Municipal Solid Waste, sets out the regulatory requirements to properly close and maintain all active and inactive landfill sites. The Town is committed to ensuring that the landfill in its care is managed in a fiscally responsible manner, which has included setting aside funds to pay for landfill closure and post-closure activities in accordance with the Solid Waste Management Plan which was updated in 2018. Landfill closure and post-closure requirements have been defined in accordance with industry standards and remediation activities include final covering of the site, groundwater and surface water monitoring, maintenance of the drainage structure, site inspection and environmental monitoring. Post-closure care is estimated to continue for 30 years after final closure of the landfill site, which is planned for 2042. Based on current estimates, remaining capacity of the landfill is 75.0% (2020 – 77.1%).

This requirement is being provided for based on a number of factors including the percentage of landfill capacity already filled, usage based on tipping fees and consultant estimates, the projected closure dates, the regulated monitoring period, the estimated annual management costs and a present value discount rate. As at December 31, 2021, using the most recent closure plans and updated cost estimates for closure and post-closure care, the Town has estimated its liability for these costs at \$227,710 (2020 - \$210,062). The unspent reserves that were established towards funding the landfill closure and post-closure care costs form part of the accumulated surplus and had a balance of \$322,713 at December 31, 2021 (2020 - \$359,438).

The estimate for closure and post-closure liability in these financial statements has been calculated based on consultants' estimates in their preparation of the closure plans for the landfill and estimated timing of closure projects. The 2021 increase in closure and post-closure costs of \$17,648 (2020 - \$nil) has been included in the environmental health services repairs and maintenance expenses.

APPENDIX F

2024 Landfill Gas Generation Assessment Report



May 2, 2024

Town of Osoyoos
11500 115th St, Box 3010
Osoyoos, BC
V0H 1V0

Attention: Jared Brounstein
Director of Operations

Town of Osoyoos Landfill – 2024 Landfill Gas Assessment Report

Dear First Mr. Brounstein:

Dillon Consulting Limited (Dillon) is pleased to provide the Town of Osoyoos (Town) with a 2024 Landfill Gas Assessment Report for the Osoyoos Landfill (Landfill).

The 2024 Landfill Gas Assessment Report has been prepared in accordance with the BC Landfill Gas Management Regulation BC Reg. 391/2008, BC Landfill Criteria for Municipal Solid Waste (June 2016), Ministry of Environment Landfill Gas Generation Assessment, Procedure Guidelines, and the Landfill's Operational Certificate MR 15273.

Sincerely,

DILLON CONSULTING LIMITED

A handwritten signature in black ink that reads "Alyssa Hooge".

Alyssa Hooge, B.Sc.
Project Manager

Our file: 24-7727



Phillip Auclair, P.Eng.
Senior Review

EGBC Permit to Practice
1003422

555 Burrard Street
Suite 1055
Box 246
Vancouver
British Columbia
Canada
V7X 1M7
Telephone
604.278.7847
Fax
604.278.7894

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Table 5: T1 Summary Results – 2024 to 2028 Future Methane Generation 8

Table 6: Methane Generation Results..... 9

Appendices

A Historical Waste Quantities

B Waste Characterization



1.0 Introduction

Dillon Consulting Limited (Dillon) has prepared a Landfill Gas (LFG) Generation Assessment Report (Report) for the Osoyoos Landfill (Landfill or Site) on behalf of the Town of Osoyoos (Town). This report has been prepared in accordance with Landfill Gas Generation Assessment Procedure Guidance Report prepared for the British Columbia (BC) Ministry of Environment by Conestoga-Rovers & Associates (CRA), dated March 2009 (LFG Guidelines), and in accordance with the requirements of the BC Ministry of Environment's Landfill Gas Management Regulation (the Regulation), approved and ordered on December 8, 2008.

The last LFG Generation Assessment Report was completed in 2019. As per Section 15(1)(ii) of the LFG Regulation, a 5-year LFG assessment renewal was required to be completed between January 1 and March 31, 2024. This Report fulfils the requirements of the Section 15 of the LFG Regulation.

1.1 LFG Assessment Requirements

In 2010, the cumulative waste in place at the Landfill was estimated be approximately 129,000 tonnages with an annual tonnage of 6,872 tonnes. As required by the Section 4(5) of the Regulation, the Landfill was required to submit an initial LFG generation assessment and report of the Site in accordance with Section 4(2).

The Report is a supplementary assessment to estimate annual methane generated at the Site and presents the information required by Section 15 and Section 4(3)(b) to (e) of the LFG Regulation.

1.2 Previous LFG Generation Assessment

An initial LFG Generation Assessment Report for the Town of Osoyoos Landfill was submitted to the Ministry of Environment in March 2011. The LFG generation assessment report was updated and submitted in March 2014 to reflect recommendations from the Ministry, which included re-categorizing waste, as the previous estimates were overly conservative. The Landfill's last LFG Generation Assessment was prepared by TRUE Consulting and submitted to the BC Ministry of Environment and Climate Change (MOECC) in April 2019.

A 5-year LFG assessment renewal is required to be completed in 2024 as per Section 15(1)(ii) of the LFG Regulation. The 2019 LFG Generation Assessment estimated a peak methane tonnage of 262 tonnages of annual methane for year 2023. This is less than 1,000 tonnes of annual methane production that requires a LFG Management Design Plan.

Data from the past LFG assessment has been reviewed and utilized in the updated 2024 assessment to provide historical continuity.

2.0

LFG Generation Assessment

2.1

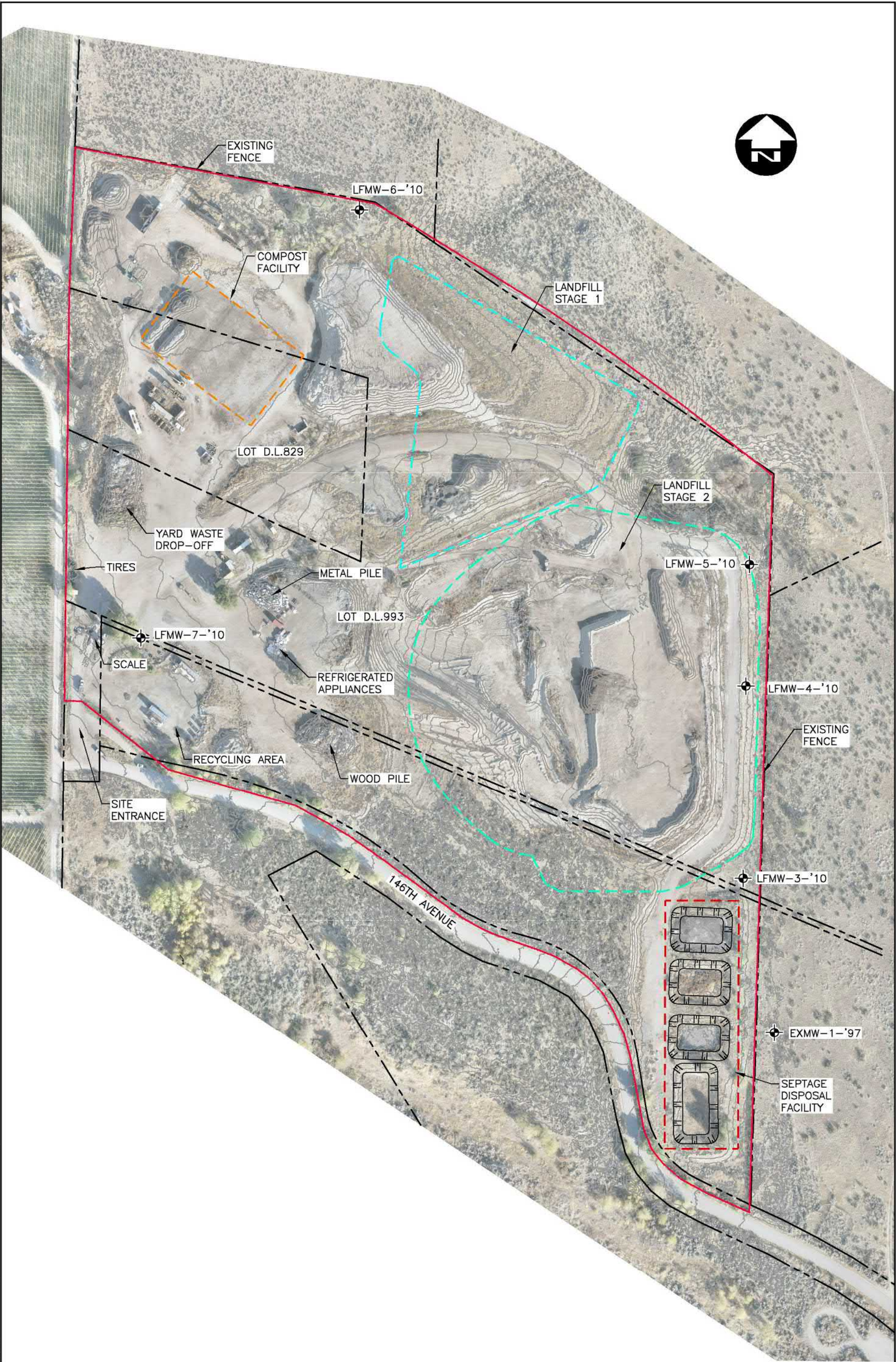
Landfill Information

The Landfill is owned by the Town and operated by a private contractor. The Site is located at 17250 146 Avenue, approximately 3 km north of the municipal boundary and 1.5 km west of Highway 97 in Osoyoos, BC. The Site is in the Regional District of the South Okanagan (RDOS).

The Site is comprised of a municipal solid waste (MSW) landfill and a hauled liquid waste facility. The hauled liquid waste facility is authorized under separate permit issued by the MOECC permit under the provisions of the *Environmental Management Act*.

The Landfill is situated on two parcels of land, Lot 993 Plan 22982 and Lot 829 Plan 5102, both located within District Lot 2450s. The Landfill has been in operation since the 1950's, at which time the landfilling area was restricted to land parcel DL829. In 1972, Lot 993 was leased from the Province for additional municipal waste landfilling services. The Landfill has an operational footprint of roughly 14 hectares. Since 2001, the Landfill has comprised of two stages. Stage 1 covers the northeast area of the Site and Stage 2 covers the southeast area of the Site. The Stage 1 filling area's airspace was completely utilized by December 2010 and Stage 2 was started the following month. Stage 2 has remained the active filling zone for the past 13 years. The existing site conditions are shown in Figure 1.

File Name: c:\pw working directory\projects 2024\dillon_33\ksidms\10193\247727-02-site-con.dwg



TOPOGRAPHIC AERIAL SURVEY
AS OF SEPTEMBER 2021



DATE
APRIL 2024

PROJECT
TOWN OF OSOYOOS 2023 ANNUAL REPORT

TITLE
SITE MAP

PROJECT NO.
24-7727

FIGURE NO.
1

2.1.1 Waste Generation

As per Section 5.1 of the LFG Guidance Report, this Report includes a table summarizing historical waste mass from the beginning of filling operations and 5-year projections (2024 to 2028).

A scale was constructed at the Osoyoos Landfill in 1995. Scale data was recorded from 1996 onwards. Prior to installation of the scale, waste quantities accepted at the landfill were not documented and waste quantities were estimated based on a per capita generation rate of 0.76 tonnes/capita. Scale data was used to determine landfill disposal quantities for years 1996 to 2023.

For years 2024 to 2028, estimated population growth rates from the BC Statistics Population Estimates & Projections for British Columbia were used to estimate the population¹. A 5-year average (2019 to 2023) was calculated to estimate waste disposal tonnages for years 2024 to 2028. The average per capita disposal rate was estimated to be 550 kg per capita (0.55 tonnes/capita).

Historic waste generation values dating back until 1981 were used to calculate the methane totals and are presented in Appendix A.

2.2 Model Input Parameters Used and Justification

2.2.1 Climate

Water infiltration is a critical factor in the production of methane gas within sanitary landfill. Moisture content assists with the anerobic breakdown of buried organic matter into LFG. The Town is located in a semi-arid climatic zone and experiences low precipitation rates.

Average precipitation data from Environment Canada's historic climate database for weather station 'Osoyoos West'² (Climate ID 1125865) recorded an average annual precipitation recorded of 322.2 mm per year for years 1981 to 2010. This value was used to determine the methane generation rate values as per Section 4.4 of the LFG Guidelines. Monthly historical average precipitation values are provided in Table 1.

¹ BC Stats. Population Estimates and Projections for British Columbia BC(<https://www2.gov.bc.ca/gov/content/data/statistics/people-population-community/population/population-estimates>) Accessed on February 21, 2024.

² Data was sourced from:

(https://climate.weather.gc.ca/climate_normals/results_1981_2010_e.html?searchType=stnName&txtStationName=osoyoos&searchMethod=contains&txtCentralLatMin=0&txtCentralLatSec=0&txtCentralLongMin=0&txtCentralLongSec=0&stnID=1043&disppBack=0)

Table 1: Environment Canada Historic Climate Data

1981 to 2010 Canadian Climate Normals Station Data - Osoyoos West													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
Rainfall (mm)	14.3	17.7	22.3	24.1	37.1	41.7	24.6	17.3	14.9	18.5	28.2	18.8	279.4
Snowfall (cm)	14.6	4.6	1.7	0.1	0	0	0	0	0	0.1	5.7	17	43.8
Precipitation (mm)	28.8	22.3	24	24.2	37.1	41.7	24.6	17.3	14.9	18.6	33.8	35.8	323.2

2.2.2 Waste Characterization

As per Section 5.1 of the LFG Guidelines, landfilled waste was categorized into the following three categories based on the decomposability of the materials:

- Relatively inert (RI);
- Moderately decomposable (MD); and
- Decomposable (D).

The Landfill does not have a historic waste composition data for landfilled waste to reference for categorization of the Landfill's waste. For years 2019 to 2023, proxy waste disposal composition data was used to approximate the landfilled waste composition for municipal waste and commercial waste. Commercial waste was assumed to have a similar waste composition to municipal waste for conservative methane generation estimates. Comparable landfills with a similar tonnage received and population serviced were selected. These comparable landfill sites were also identified to not have an active municipal organics collection program in alignment with the Town's current collections program.

Comparable neighboring municipalities included the Town of Golden, the Town of Oliver (RDOS) and the City of Kelowna (RDOS). These municipalities are comparable in municipal waste collections program, region, climatic zone, and population size (with the exception of Kelowna). The waste characterization studies from these comparable landfills were averaged to estimate the relative breakdown of decomposable waste within the Landfill. The waste categorization for municipal and commercial waste for are provided in Appendix B. Categorization of the remaining landfilled waste includes construction waste and biosolids. A summary of the waste categorization years 2019 to 2023 are provided in Appendix B.

For a conservative estimate, methane generation values for future years 2024 to 2028 were calculated assuming all waste was municipal waste. For years 1981 to 2018, waste quantities and decomposability

categorization were referenced from the 2019 Landfill Gas Generation Assessment Report for the Town of Osoyoos Landfill prepared by TRUE Consulting.

2.2.3 Methane Potential

The methane generation potential (L_0) projects the total amount of methane capable of being produced by a select volume of waste based on the inherent composition of organic matter. The L_0 for the waste characterization categories were assigned as per Table 5.1 in the LFG Guidelines and presented in Table 2. The L_0 values were applied to the waste characterization data.

Table 2: Waste Characterization and Methane Potential

Waste Characterization	Methane Generation Potential L_0 (m ³ methane/tonne)
Relatively Inert	20
Moderately Decomposable	120
Decomposable	160

2.2.4 Methane Generation Rate

The methane generation rate, k , represents the first-order biodegradation rate at which methane is generated following waste placement. This constant is influenced by moisture content, the availability of nutrients, pH, and temperature. The methane generation rate (k) value was selected using the table in Section 5.3 of the LFG Guidelines. Using an annual precipitation of 323.2 mm, methane generation rates were input into the MOECC LFG Calculation Tool as per Table 3.

The water addition factor accounts for outside moisture infiltration into a landfill cell from stormwater, leachate recirculation, or a “bioreactor” style landfill management model. The Landfill maintains a small active face with the remainder of the landfill area having received intermediate or final cover. A water addition factor of 1.0 was selected using Table 5.4 of the LFG Guidelines for a Site that has:

- Partially implemented stormwater management best practices;
- Sloped low permeability cover; and
- Absence of leachate recirculation and/or storm water injection.

All values generated from the Methane Generation Rate Selection Matrix (Table 5.2) in the LFG Guidelines were adjusted by the Water Addition Factor (Table 5.3) from the LFG Guidelines. The modified methane generation rate generated using these tables is presented in Table 3.

Table 3: Methane Generation Rate – Moisture Content Matrix

Waste Characterization	Methane Generation Rate (k) Value	Water Addition Factor	Modified Generation Rate (k)
Relatively Inert	0.01	1.0	0.01
Moderately Decomposable	0.02	1.0	0.02
Decomposable	0.05	1.0	0.05

3.0

LFG Generation Model Results

3.1

LFG Tool Parameters

The parameters set for the landfill gas calculator tool are provided in Table 4. These parameters include the standard densities for carbon dioxide and methane gas as typically found in landfill gas. The Landfill is operated under the dry anaerobic tomb sanitary landfill model. A landfill gas relative composition of 50% CO₂ and 50% CH₄ has been assumed. It is expected that passive methane release from the covered landfill cell would be composed of approximately 50% methane based on the pre-set values provided in the MOECC LFG tool.

Table 4: T2-Calculator Landfill Gas Tool Calculation Parameters

	Relatively Inert (RI)	Moderately Decomposable (MD)	Decomposable (D)
Gas Production potential, Lo =	20	120	160
lag time before start of gas production, lag	1 year		
Historical Data Used (years)	43		
1st Year of Historical Data Used	1981		
4 Years after Reporting Year	2028		
Methane (by volume)	50%		
Carbon dioxide (by volume)	50%		
Methane (density) - 1atm, 25C	0.6557 kg/m ³ (25C,SP)		
Carbon dioxide (density)	1.7988 kg/m ³ (25C,SP)		

3.2

Model Results

The calculated results for the Landfill's future methane generation have been included in Table 5 and Table 6 Results were calculated using the MOECC provided tool.

Table 5: T1 Summary Results – 2024 to 2028 Future Methane Generation

	Year of Estimate	Mass of Methane Produced (tonnes)
Estimated Quantity of Methane Produced in Year Preceding the Assessment	2023	244
Estimated Quantity of Methane Produced in Year of the Assessment	2024	243
Estimated Quantity of Methane Produced One Year after the Assessment	2025	244
Estimated Quantity of Methane Produced Two Years after the Assessment	2026	244
Estimated Quantity of Methane Produced Three Years after the Assessment	2027	245
Estimated Quantity of Methane Produced Four Years after the Assessment	2028	246

Gas Production potential, Lo =
lag time before start of gas production, lag =
Historical Data Used (years)
1st Year of Historical Data Used
4 Years after Reporting Year
methane (by volume)
carbon dioxide (by volume)
methane (density) - 1atm, 25C
carbon dioxide (density)

Relatively Inert
20
Moderately Decomposable
120
Decomposable
160
m³ CH₄/tonne
1 years
43
1981
2028
50%
50%
0.6557 kg / m³
1.7988 kg / m³
(25C,SP)
(25C,SP)

Year	Year Number	Annual Tonnage (tonnes)	Cumulative Waste-in-place (tonnes)	Waste Tonnage			Methane Generation Rate, k			Annual Methane Production (tonnes/yr)	Annual Landfill Gas Production (m ³ / hr)
				Relatively Inert (tonnes)	Moderately Decomposable (tonnes)	Decomposable (tonnes)	Relatively Inert (year ⁻¹)	Moderately Decomposable (year ⁻¹)	Decomposable (year ⁻¹)		
1981	1	2,672	2,671	534	1,069	1,069	0.01	0.02	0.05	0	0.0
1982	2	2,770	5,441	554	1,108	1,108	0.01	0.02	0.05	7	2.6
1983	3	2,852	8,293	570	1,141	1,141	0.01	0.02	0.05	15	5.1
1984	4	2,938	11,231	588	1,175	1,175	0.01	0.02	0.05	22	7.6
1985	5	3,025	14,256	605	1,210	1,210	0.01	0.02	0.05	29	10.1
1986	6	3,115	17,371	623	1,246	1,246	0.01	0.02	0.05	36	12.6
1987	7	3,235	20,606	647	1,294	1,294	0.01	0.02	0.05	43	15.1
1988	8	3,355	23,961	671	1,342	1,342	0.01	0.02	0.05	50	17.6
1989	9	3,483	27,444	697	1,393	1,393	0.01	0.02	0.05	58	20.0
1990	10	3,615	31,059	723	1,446	1,446	0.01	0.02	0.05	65	22.6
1991	11	3,752	34,811	750	1,501	1,501	0.01	0.02	0.05	72	25.1
1992	12	3,895	38,706	779	1,558	1,558	0.01	0.02	0.05	79	27.7
1993	13	4,042	42,748	808	1,617	1,617	0.01	0.02	0.05	87	30.3
1994	14	4,195	46,943	839	1,678	1,678	0.01	0.02	0.05	94	32.9
1995	15	4,353	51,296	871	1,741	1,741	0.01	0.02	0.05	102	35.6
1996	16	4,614	55,910	1,292	1,246	2,076	0.01	0.02	0.05	110	38.3
1997	17	4,311	60,221	920	1,218	2,173	0.01	0.02	0.05	119	41.3
1998	18	3,679	63,900	662	1,138	1,879	0.01	0.02	0.05	127	44.3
1999	19	3,306	67,206	570	1,141	1,595	0.01	0.02	0.05	134	46.5
2000	20	3,430	70,636	783	1,270	1,377	0.01	0.02	0.05	138	48.2
2001	21	3,980	74,616	926	1,454	1,600	0.01	0.02	0.05	142	49.4
2002	22	5,785	80,401	1,382	2,120	2,283	0.01	0.02	0.05	147	51.1
2003	23	4,800	85,201	1,162	1,741	1,897	0.01	0.02	0.05	156	54.4
2004	24	5,587	90,788	1,360	1,988	2,239	0.01	0.02	0.05	163	56.7
2005	25	5,286	96,074	1,174	1,966	2,146	0.01	0.02	0.05	171	59.6
2006	26	6,562	102,636	1,536	2,213	2,813	0.01	0.02	0.05	179	62.2
2007	27	6,049	108,685	1,519	2,265	2,265	0.01	0.02	0.05	190	66.1
2008	28	6,853	115,538	1,431	3,103	2,319	0.01	0.02	0.05	198	68.8
2009	29	6,616	122,154	1,512	2,848	2,256	0.01	0.02	0.05	207	72.0
2010	30	6,871	129,025	2,312	2,559	2,000	0.01	0.02	0.05	215	74.9
2011	31	6,103	135,128	1,137	2,692	2,274	0.01	0.02	0.05	221	77.0
2012	32	5,200	140,328	923	2,163	2,114	0.01	0.02	0.05	229	79.6
2013	33	4,292	144,620	910	1,737	1,645	0.01	0.02	0.05	234	81.5
2014	34	4,305	148,925	996	1,725	1,584	0.01	0.02	0.05	236	82.2
2015	35	4,094	153,019	833	1,807	1,454	0.01	0.02	0.05	238	82.8
2016	36	4,054	157,073	834	1,703	1,517	0.01	0.02	0.05	239	83.2
2017	37	4,056	161,129	807	1,733	1,516	0.01	0.02	0.05	240	83.7
2018	38	4,898	166,027	1,001	2,043	1,854	0.01	0.02	0.05	242	84.1
2019	39	4,232	170,259	1,415	1,571	1,246	0.01	0.02	0.05	245	85.4
2020	40	4,167	174,426	1,412	1,536	1,219	0.01	0.02	0.05	245	85.2
2021	41	4,597	179,023	1,548	1,699	1,350	0.01	0.02	0.05	244	85.0
2022	42	4,045	183,068	1,358	1,498	1,189	0.01	0.02	0.05	245	85.2
2023	43	4,118	187,186	1,413	1,507	1,198	0.01	0.02	0.05	244	84.9
2024	44	4,480	191,666	1,467	1,680	1,333	0.01	0.02	0.05	243	84.7
2025	45	4,538	196,204	1,486	1,702	1,350	0.01	0.02	0.05	244	84.9
2026	46	4,593	200,797	1,504	1,722	1,366	0.01	0.02	0.05	244	85.1
2027	47	4,657	205,454	1,525	1,746	1,385	0.01	0.02	0.05	245	85.3
2028	48	4,699	210,152	1,539	1,762	1,398	0.01	0.02	0.05	246	85.6

4.0

Next Steps

Section 7 of the LFG Regulation requires a landfill generating 1,000 tonnes or more of methane generated in the calendar year immediately preceding the calendar year of the assessment to prepare a landfill gas management facilities design plan. The Landfill's methane production tonnage for 2024 is estimated at 243 tonnes CH₄, below the LFG Regulation threshold. The Town will provide subsequent landfill gas assessment reports every 5-years as outlined in the LFG Regulations or earlier if requested by the MOECC. The next scheduled LFG generation assessment is due by March 31 of 2029.

It is recommended that a multi-season waste composition study be completed at the Landfill to determine actual disposal composition and methane generation rates.

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