

INTRADEPARTMENTAL MEMORANDUM

FILE: Larimore Inert Waste Landfill (0178)

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Division of Waste Management 

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SUBJECT: Permit Application Review

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Introduction

The North Dakota Department of Environmental Quality (Department) received a renewal permit application from the City of Larimore for their inert waste landfill.

The City of Larimore currently owns and operates an inert waste landfill, regulated under Permit 0178, on approximately 17 acres located in the N ½ of the NE ¼ of Section 7, Township 151 North, Range 54 West in Grand Forks County, ND. The City of Larimore is proposing to renew their permit to continue operating the inert waste landfill facility and accepting inert waste from areas within a 7-mile radius of the town of Larimore. According to Department records, the City of Larimore operated the site as a sanitary landfill in 1971. The site was first permitted for inert waste disposal in 1997 and accepts inert waste from Larimore and areas in a 7-mile radius from the facility.

Design

The facility is located north and east of the City of Larimore in Grand Forks County and is accessed by 17th Ave NE. The facility has an appropriate sign at the entrance that states the hours of operation, contact information, and prohibited waste and activities. Access to the facility is controlled by a locked gate, natural shelter belts on the north, east, and south sides, and by fencing on the west side of the property. The facility consists of two disposal pits and waste piles for clean wood, tires, scrap metal, and compost.

According to the Custom Soil Resource Report provided in the application, the east half of the facility has soil that consists of Arvilla sandy loam. The west half of the facility has soil that consists of Hecla-Maddock fine sandy loams. Storm water drains to the south of the property through a trench in the center of the landfill and to the east off of a hill in the north and east

section of the facility. The City of Larimore and the facility sit within the Elk Valley aquifer but the depth to the groundwater is more than 80 inches below the landfill.

Each piece of landfill equipment is equipped with fire extinguishers, and the landfill resides within a 9-1-1 service area.

Operation

Access to the facility is controlled and a qualified landfill operator will be present as needed to ensure proper operation and monitoring.

Upon arrival at the facility, the operator or his designated representative will review all contents of the waste load being brought to the facility and direct the hauler on where to dump. Separate areas have been established for stockpiling wood, concrete and asphalt, scrap metal and appliances, compostable materials, and tires. The landfill operator again inspects the off-loaded contents to identify if there is a presence of any restricted waste.

Compostable materials are placed in an on-site compost pile that is elevated compared to the surrounding piles. This ensures that the pile does not sit in standing water or create the potential for leachate runoff. The compost is either given away to patrons or used as cover material for the landfill.

All metal is stockpiled in a designated area along the southern border of the facility for future recycling. Recyclable scrap metal is then hauled to a metal recycling facility in Grand Forks, ND.

A 6-inch to 12-inch-thick layer of cover material will be placed over the waste in the disposal trench at least two times per year, or more often if necessary. All standing water in the disposal trench is pumped out into a separate area, and the facility does not accept any waste until the water is pumped out.

Vectors are controlled at the facility by spraying and treating any standing water on the property.

If blowing debris becomes an issue on windy days, additional soil cover will be placed over the affected area to stop the blowing of waste. To assist with dust control and soil erosion areas of the landfill that are not being used for operation will be planted with native grasses. If windblown debris is identified in the shelterbelts or fence along the property boundary, the city's public works employees will clean up debris and return them to the disposal trench.

The landfill operator will perform monthly inspections following the Department's Inert Waste Landfill Inspection Checklist to ensure compliance with state rules. Completed checklists are placed into a logbook that is stored at the facility. Additionally, the City of Larimore will submit an annual report to the Department showing the volume of and type of waste collected at the facility for the calendar year.

Closure

There are no closed inert disposal cells at this time. According to the information provided, the City of Larimore anticipates operating this facility for at least another 20 years. When closure becomes necessary, the City of Larimore will implement closure procedures including placement of final cover over the landfill that meets the standards outlined by the Department.

The largest projected area for final cover is roughly 8 acres. Currently, the facility has approximately 100,000 cubic yards of cover soil stockpiled for use during closure. The estimated maximum inventory of waste onsite will be roughly 1,700 tons at the time of closure. The final cover of the landfill will consist of 12 inches of compacted clay-rich soil, 6 inches of uncompacted clay-rich soil, and 6 inches of topsoil. The slope of the final cover will not be less than 3 percent or more than 15 percent as stated in the permit application. Once the site has been graded and covered it will be seeded with shallow rooted native grasses. The facility also notes that deep-rooted vegetation such as alfalfa and trees will not be planted in the filled areas. The equipment used to construct the final cover will be the City of Larimore's payloaders, bulldozer, and dump trucks.

The facility will conduct post-closure care for 5 years after closure of the inert landfill to ensure the integrity and effectiveness of the final cover. If there is any kind of deficiency in the final cover, the City of Larimore will make the necessary repairs to protect the integrity of the final cover. When inspecting the landfill in this 5-year period, the facility will follow the Department's Landfill Post-Closure Inspection Checklist.

Compliance History

The following items of noncompliance have been noted since 2014:

- Access was not controlled
- Lack of compaction
- Lack of cover over the disposal area
- No attendant on duty when the facility was open
- Prohibited items in the burn pile
- Prohibited waste in the disposal pit
- Too much open area
- Windblown debris
- Access was not controlled, no attendant on duty when the facility was open and prohibited waste in the disposal pit
- Prohibited items in the burn pile and prohibited waste in the disposal pit.
- 2020 and 2021 Annual Reports not received on time

According to Department files, the facility has addressed any issues of noncompliance, and no formal notice of violations have been issued to the facility.

Solid Waste Management Rules (NDAC Article 33.1-20)

NDAC Section 33.1-20-02.1-05. Record of notice.

A record of notice was included in the permit application.

NDAC Section 33.1-20-02.1-06. Property rights.

The facility submitted a copy of the property deed and surveyed land description of the property.

NDAC Section 33.1-20-03.1-01. Preapplication procedures.

A preapplication is not required for an inert waste landfill.

NDAC Section 33.1-20-03.1-02. Permit application procedures.

NDAC Subsections 33.1-20-03.1-02(1) – (3)

An application form was submitted along with supporting documentation. The application was signed by City Auditor, Mikki Behm, and Public Works Supervisor, Jeremy Nasdahl.

NDAC Subsection 33.1-20-03.1-02(4)

A public notice by the facility is not required for a permit renewal and no major modifications are being proposed.

NDAC Subsection 33.1-20-03.1-02(5)

Notification to the North Dakota Public Service Commission is not required as the facility is not proposing to dispose of coal processing wastes in a mining permit area.

NDAC Subsection 33.1-20-03.1-02(6)

Applications for a solid waste management unit or facility permit must include the following information where applicable:

a. A completed application form, subsection 1;

An application form was submitted along with supporting documentation. The application was signed by City Auditor, Mikki Behm, and Public Works Supervisor, Jeremy Nasdahl.

b. A description of the anticipated physical and chemical characteristics, estimated amounts, and sources of solid waste to be accepted, including the demonstration required by North Dakota Century Code section 23.1-08-14.

It is estimated that annually the site receives 32 tons of clean burning wood waste, 15 tons of painted/treated wood, 40 tons of concrete/asphalt, 35 tons of inert waste, 35 tons of metal waste, 55 cubic yards of yard waste and 45 units of scrap tires. Yard waste consisting of grass, leaves and smaller branches are composted on site. Tires and scrap metal are stored on site and periodically hauled to Grand Forks to be recycled.

The facility serves residents and area contractors within a 7-mile radius of Larimore's city limits.

c. The site characterization of section 33.1-20-13-01 and a demonstration that the site fulfills the location standards of section 33.1-20-04.1-01;

The application states that the facility is not located within one mile of lakes, streams, springs, or wetlands. The site boundary is not located within one mile of any domestic or livestock well and it is not located within the boundaries of a 100-year floodplain. The site resides over the Elk Valley aquifer; however, the aquifer is over 80 inches deep and inert waste does not

form a contaminated leachate and is not anticipated to contaminate groundwater.

d. Soil survey and segregation of suitable plant growth material;

A soil survey was included within the application. The soils on the east half of the facility consist of Arvilla sandy loam while the soils on the west half of the facility consist of Hecla-Maddock fine sandy loam. A map was included that shows the soil types within the area of interest. The facility currently has approximately 100,000 cubic yards of cover soil available for closure.

e. Demonstrations of capability to fulfill the general facility standards of section 33.1-20-04.1-02;

A permanent sign with appropriate information is clearly posted at the entrance to the facility. Site operations are detailed in the application, and loads are monitored by the landfill operator, and the operator will reject any prohibited waste. The application states that all new landfill operators will be overseen by a certified landfill operator until the operator becomes certified by the Department. Windblown litter is combated by covering the disposal trench with suitable cover material. Monthly inspections are performed by landfill operators and records are kept on file at the facility. Stormwater is directed away from waste piles and disposal is paused whenever water begins to pool in the disposal pit until it can be pumped out. Fugitive dust is managed with water trucks, and the facility will not discharge pollutants into waters of the state.

f. Facility engineering specifications adequate to demonstrate the capability to fulfill performance, design, and construction criteria provided by this article and enumerated in this subdivision;

1) Transfer stations and drop box facilities, section 33.1-20-04.1-06.

The requirements of this section are not applicable as the facility is not proposing a transfer station or a drop box facility.

2) Waste piles, section 33.1-20-04.1-07.

The application states that the facility has a compost pile and a tire pile on the premises. The compost pile is deposited at a higher elevation compared to surrounding areas to prevent standing water from accumulating in the pile and to prevent leachate runoff. The pile is turned periodically and inspected by landfill operators twice a week to ensure no prohibited waste is mixed in.

Scrap tires are managed by placing them in a pile what will not exceed 20 feet in height with a 50-foot lane around the tire pile for fire access. The scrap tire pile is located on a built-up section of

land within the landfill to ensure water does not settle in or around the pile.

Scrap metal is managed in a separate pile and is periodically hauled to Grand Forks, ND to a metal recycling facility.

3) Resource recovery, section 33.1-20-04.1-08.

The requirements of this section are not applicable as the facility is not proposing any resource recovery activities.

4) Land treatment, section 33.1-20-04.1-09 and chapter 33.1-20-09.

The requirements of this section are not applicable as the facility is not proposing a land treatment facility.

5) Non-CCR surface impoundments, section 33.1-20-04.1-09 and chapter 33.1-20-08.1.

The requirements of this section are not applicable as the facility is not proposing any surface impoundments.

6) Any disposal, section 33.1-20-04.1-09.

The facility has access to heavy equipment to maintain access roads, daily operations, and closure. Approximately 100,00 cubic yards of soil is stockpiled onsite for daily operations including implementing sequential partial closure as needed to keep the active area as small as manageable. All earthen material will remain onsite unless the Department approves its removal to a different location. Recycling and salvaging activities are only allowed under the approval of the landfill operator. Vectors are controlled by spraying and treating any standing water.

Additional information regarding closure is provided in the **Closure** section of this memo.

7) Inert waste landfill, chapter 33.1-20-05.1.

Department inspections show that the facility and its operators are meeting performance and design criteria by controlling access to the facility, controlling prohibited waste, and compacting and covering the disposal area.

The permit application provided information showing the existing roads, fences, property boundaries, elevations, and water drainage directions. The application details a clear closure plan that discusses the landfill's final grade and cover material. The final cover will consist of 12 inches of compacted clay-rich soil, at

least 6 inches of uncompacted clay-rich soil, and at least 6 inches of topsoil.

8) Municipal waste landfill, chapter 33.1-20-06.1.

The requirements of this section are not applicable as the facility is not proposing a municipal waste landfill.

9) Industrial waste landfill, chapters 33.1-20-07.1 or 33.1-20-10.

The requirements of this section are not applicable as the facility is not proposing an industrial waste landfill.

10) TENORM waste landfill, chapters 33.1-20-07.1 or 33.1-20-10 and 33.1-20-11

The requirements of this section are not applicable as the facility is not proposing a TENORM waste landfill.

11) Special waste landfill, chapter 33.1-20-07.1;

The requirements of this section are not applicable as the facility is not proposing a special waste landfill.

12) CCR unit, chapter 33.1-20-08;

The requirements of this section are not applicable as the facility is not proposing a CCR unit.

13) Municipal solid waste ash landfills, chapter 33.1-20-10;

The requirements of this section are not applicable as the facility is not proposing a municipal solid waste ash landfill.

14) Regulated infectious waste unit, chapter 33.1-20-12;

The requirements of this section are not applicable as the facility is not proposing a regulated infectious waste unit.

g. The plan of operation of section 33.1-20-04.1-03;

The facility is open on Wednesdays from 4pm to 8pm and on Saturdays from 9am to 4pm. The facility is locked when not in use and a permanent sign detailing facility name, acceptable waste, unauthorized waste, and contact information is posted by the entrance. The operator present at the facility inspects each load that comes into the facility twice; once when the hauling vehicle enters the facility and again when the waste is offloaded to ensure there is no restricted waste present.

The facility accepts inert waste, construction & demolition debris, pallets, clean wood, scrap metal and appliances, tires, lumber, painted/treated wood,

and compost. Clean wood is stockpiled for firewood give away and is burned, with an approved burn variance from the Department, once the pile grows too large. Lumber, painted/treated, and pallets are stockpiled away from the clean wood pile. These items are available for giveaway, and any unwanted items are disposed of in the pit along with the inert waste. Scrap metal and appliances are stockpiled to later be hauled to the metal recycling facility in Grand Forks, ND. Appliances containing freon are required to be drained before being brought to the landfill. Compostable materials are piled in an area that is slightly sloped to keep water from accumulating and is turned and inspected at least twice a week. Compost is given away or used as cover for the landfill

A 6-inch to 12-inch-thick layer of dirt will be placed over the waste in the disposal trench at least two times per year, or whenever disposal is interrupted for 90 days or more.

The landfill operator will perform monthly inspections following the Department's Inert Waste Landfill Inspection Checklist to ensure compliance with state rules. Completed checklists are placed into a logbook that is stored at the facility. Additionally, the City of Larimore will submit an annual report to the Department showing the volume of and type of waste collected at the facility for the calendar year.

The application outlines a contingency plan for fires, windblown debris, and fugitive dust.

h. Demonstration of the treatment technology of section 33.1-20-01.1-12;

The requirements of this section are not applicable as the facility is not proposing to treat waste.

i. The place where the operating record is or will be kept, section 33.1-20-04.1-04;

The operating record is kept at the Larimore City Hall with the City Auditor.

j. Demonstration of capability to fulfill the groundwater monitoring, sections 33.1-20-08-06 or 33.1-20-13-02;

The requirements of this section are not applicable as the facility is an inert waste landfill and groundwater monitoring is not required.

k. Construction quality assurance and quality control;

The facility plans to follow the Department's Guideline 5 Quality Assurance for Construction of Landfill and Surface Impoundment Liners, Caps, and Leachate Collection Systems for any cell construction and future closure operations.

l. Demonstrations of capability to fulfill the closure standards, section 33.1-20.1-04.1-05 and otherwise provided by this article;

The final cover for the inert landfill will consist of 12 inches of compacted clay-rich soil, 6 inches of uncompacted clay-rich soil, and 6 inches of topsoil. The slope of the final cover will not be less than 3 percent or more than 15 percent as stated in the permit application.

Once the site has been graded and covered, it will be seeded with shallow rooted native grasses. The facility also notes that deep-rooted vegetation such as alfalfa and trees will not be planted in the filled areas.

The largest projected area for final cover is roughly 8 acres. The site currently has approximately 100,000 cubic yards of cover soils adjacent to the landfill that will be available for use at the time of closure.

The equipment used to construct the final cover will be the City of Larimore's payloader, bulldozer, and dump trucks.

m. Demonstrations of capability to fulfill the postclosure standards, section 33.1-20-04.1-09 and otherwise provided by this article; and

The post-closure care period will be the City of Larimore's responsibility. The facility will conduct post-closure care for 5 years after the closure of the landfill to ensure the integrity and effectiveness of the final cover and will make repairs when necessary. Inspections will focus on ensuring final cover integrity, avoiding erosion and directing surface water runoff and run-off.

n. A disclosure statement as required by North Dakota Century Code section 23.1-08-17.

A disclosure statement was submitted with the application.

Conclusion

Based on the submitted application and items discussed above, the City of Larimore has shown that the proposed renewal meets the requirements of the North Dakota Solid Waste Management Rules. It is proposed that the Department grant the City of Larimore a permit with the conditions listed in Permit 0178. The proposed permit length is for a period of 10 years because the facility has a good compliance history and plans to use the site for at least another 20 years.

CRH:DAT:RB