

# C.1 Containers

MICHIGAN DISPOSAL WASTE TREATMENT PLANT (MDWTP)

MID 000 724 831

JANUARY 18, 2019 ATTACHMENT REVISIONS

Replaces Previous Attachment C.1 Containers

FORM EQP 5111 ATTACHMENT TEMPLATE C1  
USE AND MANAGEMENT OF CONTAINERS

This document is an attachment to the Michigan Department of Environmental Quality's *Instructions for Completing Form EQP 5111, Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities*. See Form EQP 5111 for details on how to use this attachment.

R 299.9614 of the administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); R 29.4101 to R 29.4505 promulgated pursuant to the provisions of the Michigan Fire Protection Act, PA 207, as amended (Act 207); and Title 40 of the Code of Federal Regulations (CFR) §§270.14(d), 270.15, and Part 264, Subpart I, establish requirements for the use and management of containers. All references to 40 CFR citations specified herein are adopted by reference in R 299.11003.

This license application template addresses requirements for the use and management of containers at the Michigan Disposal Waste Treatment Plant facility in *Belleville*, Michigan. This template addresses the condition of containers, compatibility of waste with containers, management of containers, inspections, containment, special requirements for ignitable or reactive waste, special requirements for incompatible wastes, and closure.

(Check as appropriate)

Applicant for Operating License for Existing Facility:

R 299.9614 use and management of containers

Applicant for Operating License for New, Altered, Enlarged, or Expanded Facility:

R 299.9614 use and management of containers

Table of Contents

INTRODUCTION .....	3
C1.A DESCRIPTION OF CONTAINERS .....	3
C1.B CONDITION OF CONTAINERS .....	4
C1.C COMPATIBILITY OF WASTE WITH CONTAINERS .....	4
C1.D MANAGEMENT OF CONTAINERS .....	4
C1.E INSPECTIONS .....	4
C1.F CONTAINMENT .....	5
C1.F.1 Secondary Containment System Design and Operation for Containers with Free Liquids .....	5
C1.F.1(a) Requirement for Base or Liner .....	5
C1.F.1(b) Containment System Drainage .....	5
C1.F.1(c) Containment System Capacity .....	5
C1.F.1(e) Removal of Liquids from Containment System .....	6
C1.F.2 Secondary Containment System Design and Operation for Containers with No Free Liquids .....	7
C1.F.2(a) Containment System Drainage .....	7
C1.F.2(b) Container Management .....	7
C1.G SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTE .....	7
C1.H SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES .....	7
C1.I CLOSURE .....	8

## INTRODUCTION

MDWTP has three container storage locations and can temporarily store containers in the East and West Treatment Buildings while operating. All points of the container storage areas are more than 50 feet from the property line allowing for the storage of ignitable waste. Dimensions of the container storage areas along with secondary containment calculations are provided in the engineering drawings.

### C1.A DESCRIPTION OF CONTAINERS

[R 299.9614 and 40 CFR §264.171]

#### *North Container Storage Area (NCSA) and East Container Storage Area (ECSA)*

The North Container Storage Area (NCSA) is enclosed by a roof, surrounding walls and both bay and man door(s) on each end. The East Container Storage Area (ECSA) is located directly east of the waste treatment plant and immediately west of the east retaining wall. The historic permit conditions restrict the combined NCSA/ECSA capacity to 82,500 gallons of waste. However, the design capacity is 282,040 gallons of liquid and/or solid waste. MDWTP is proposing to alter the permitted capacity in order to match the design capacity.

#### *Southeast Container Storage Area (SECSA)*

The Southeast Container Storage area (SECSA) is located approximately 250 feet southeast of the treatment plant. The design capacity within the existing limits of the SECSA is 896,822 gallons of solid waste in the asphalt area and 192,720 gallons of liquid waste on the concrete liquid storage pad. However, historical permit limits have restricted the area to 181,800 gallons. MDWTP is proposing to alter the permitted capacity in order to match the design capacity.

MDWTP is also proposing to extend the permitted boundary of the SECSA in order to capture concrete and asphalt areas immediately adjacent to the current western boundary of the SECSA. The proposed extension encompasses an existing enclosed structure and the asphalt and concrete area surrounding the structure. Additionally, an existing concrete area will be extended east, replacing an asphalt area within the current SECSA footprint, in order to provide additional secondary containment for liquid waste containers as well as drum trailers (“drum trailers” meaning vehicles that deliver drums and other non-bulk containers) that are received but not immediately off-loaded. Drum trailers stored in this new concrete area will be offloaded within 72 hours of being placed into storage.

With the proposed changes, the SECSA will be designed for 240,240 gallons of liquid or solid waste in secondary contained concrete areas and 896,822 gallons (4440 cubic yards) of solid-only waste that may be stored in the asphalt area.

#### *East and West Treatment Bays*

The East and West Treatment Bays are located inside the waste treatment buildings south of the treatment tanks. This space may be used for temporary storage of containers. Containers are removed from this area within a 24 hour period.

11,000 gallons or 200, 55-gallon container equivalents or 500 cubic yards of treated waste in the West Treatment Bay and East Treatment Bay.

All container storage areas may store the following waste:

- Untreated waste not meeting LDRs

- Consolidated/bulked waste
- Treated waste awaiting analytical results
- Treated or untreated waste meeting LDRs

F020, F021, F022, F023, F026, and F027 waste streams require secondary containment regardless of the presence of free liquids. Therefore MDWTP will only store these waste streams in portions of the container storage areas that are comprised of concrete. This includes all portions of the container storage areas, except for the asphalt portion of the SECSA.

### **C1.B CONDITION OF CONTAINERS**

[R 299.9614 and 40 CFR §264.171]

Containers will be visually inspected to ensure that they are in good condition and not leaking and then are placed in rows within the staging area. If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the hazardous waste will be transferred from the damaged container to a container that is in good condition or the waste will be processed.

### **C1.C COMPATIBILITY OF WASTE WITH CONTAINERS**

[R 299.9614 and 40 CFR §264.172]

In accordance with 40 CFR 262.30 generators must package the waste in accordance with Department of Transportation regulations for packaging. As result it is anticipated that containers received will be properly packaged and therefore made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired. Container compatibility, bulking/consolidation and segregation are completed as outlined in Attachment A2 Chemical and Physical Waste Analysis Plan.

A fork truck may be used to transport non-bulk containers to a treatment or storage tank. Containers destined for the treatment tank are opened by facility personnel and a drum grapppler is used to invert the container and decant the contents. Containerized liquid waste may be pumped or dispensed directly into a permitted tank or into a suitable bulk container that can unload directly into the waste treatment tank or pump into vertical liquid storage tank.

Large containers such as roll-off boxes, vacuum boxes or dump trailers are emptied while still attached to a transport vehicle. To empty, the containers are opened on one end, the other end is raised and the waste slides out into a treatment tank.

### **C1.D MANAGEMENT OF CONTAINERS**

[R 299.9614 and 40 CFR §264.173]

In accordance with 40 CFR 264.173 containers holding hazardous waste will be closed during storage, except when it is necessary to add or remove waste, and they will not be opened, handled, or stored in a manner which may rupture the container or cause it to leak. Waste containers are segregated in accordance with DOT segregation requirements as indicated in A2.C.1(a) of Attachment A2 Chemical and Physical Waste Analysis Plan.

### **C1.E INSPECTIONS**

[R 299.9614 and 40 CFR §264.174]

Inspection procedures are outlined in Attachment A5 Inspection Schedules and comply with the requirements set forth by 40 CFR 264.174. Drum trailers stored on the proposed concrete pad will be inspected as one container.

## **C1.F CONTAINMENT**

[R 299.9614 and 40 CFR §§264.175 and 270.15]

### **C1.F.1 SECONDARY CONTAINMENT SYSTEM DESIGN AND OPERATION FOR CONTAINERS WITH FREE LIQUIDS**

[R 299.9614 and 40 CFR §§264.175(a) and 270.15(a)]

#### **C1.F.1(a) Requirement for Base or Liner**

[R 299.9614 and 40 CFR §§264.175(b)(1) and 270.15(a)(1)]

Containers are stored in a manner that will contain potential leaks/spills within the containment area. Containment systems are comprised of concrete treated with chemical resistant products (Xypex) and water stop is added to the joints in order to render the concrete impervious. In addition to SECSA comprised of asphalt that is used to store waste that contains no free liquids.

#### **C1.F.1(b) Containment System Drainage**

[R 299.9614 and 40 CFR §§264.175(b)(2) and 270.15(a)(2)]

Concrete containment areas are free of cracks and gaps and are sufficiently impervious to contain leaks, spills, and accumulated liquid until the collected material may be removed. Concrete is sloped approximately one percent to allow liquids to flow into the containment trenches. Containment trenches are located along the north wall of the NCSA, east wall of the ECSA, the south berm and east concrete pad of the SECSA and are covered by slotted grates allowing liquids to flow into the trench. An extension to the NCSA trench is located on the north wall of MDWTP between the east entrance of the NCSA and the tank farm. The extension provides overflow containment for the ECSA and concrete between the building and the container storage area

#### **C1.F.1(c) Containment System Capacity**

[R 299.9614 and 40 CFR §§264.175(b)(3) and 270.15(a)(3)]

Container storage areas are designed to contain a 24 hour, 25-year storm and 10 percent of the maximum quantity of containerized liquid waste. The NCSA and ECSA have a combined capacity because of the NCSA extension that provides overflow containment for the ECSA. Provided below are the required capacities to meet this requirement and the actual capacities of the containment systems.

Storage Area	Max. Container Storage Capacity, (gal)	Required Capacity (10% of Storage) (gal)	Required Capacity 25 yr, 24 hr storm (gal)	Total Required Capacity (gal)	Actual Containment Capacity (gal)	Att. B6 Drawing
ECSA	282,040	28,204	35,547	63,751	110,674	A-7
NCSA			Covered			
SECSA - Liquid Pad	192,720	19,272	15,620	34,982	38,879	A-6
SECSA - Trailer Storage	33,000	3,300	8,640	11,940	12,398	A-6
SECSA - Liquid Storage Building	14,520	1,452	Covered	1,452	13,797	A-6
ETB	11,000	1,100	Covered	1,100	4,819	A-2
WTB					5,492	

Aisle space will be maintained to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the operation in an emergency. This spacing has been considered in the capacity determinations. The aisle space designated in the engineering drawings depicts the configuration of the containers when the container storage areas are full providing enough spacing for operating equipment to access containers in the event of an emergency. During normal operations the configuration of the containers in the storage area will be placed in a manner that maintains MDWTP's ability to access the containers in the event of an emergency.

**C1.F.1(d) Control of Run-on**

[R 299.9614 and 40 CFR §§264.175(b)(4) and 270.15(a)(4)]

The NCSA is sloped approximately 1 percent to the north where a drainage trench serves as a collection point preventing run-off from escaping the building. NCSA is enclosed which reduces precipitation and run-on from entering

The ECSA run-on controls include the north and east retaining walls and is sloped to flow east and north. Concrete in the storage area is elevated in comparison to the pavement south of it reducing the run-on potential from the south.

The base slope of the SECSA allows run-on to slope towards two catch basins. Catch basin 1 drains to catch basin 2 and catch basin 2, flows to the lined pond. Alternatively, accumulated liquid may also be collected from the trenches and managed in the storage or treatment tanks at the MDWTP or other appropriately permitted facility. The slope of the liquid storage areas forces run-off to migrate into the trenches located along the southern wall.

The information provided is applicable to the proposed extension of the SECSA.

**C1.F.1(e) Removal of Liquids from Containment System**

[R 299.9614 and 40 CFR §§264.175(b)(5) and 270.15(a)(5)]

Accumulated liquids collected in the containment structure or trench are removed within 24 hours of

detection when weather permits. Solids are removed within 60 days. Liquids may be removed by a vacuum truck or by pumping to the vertical tanks. Liquids collected in the containment system are evaluated using knowledge of the waste or analytical as outlined in Attachment A2 Chemical and Physical Waste Analysis Plan. The source determines if the removed liquids are managed either through the waste treatment plant, through the on-site wastewater pre-treatment plant (storm water) or off-site.

**C1.F.2 SECONDARY CONTAINMENT SYSTEM DESIGN AND OPERATION FOR CONTAINERS WITH NO FREE LIQUIDS**

[R 299.9614 and 40 CFR §§264.175(c) and 270.15(b)(1)]

Containers holding waste without free liquids are exempt from secondary containment requirements if the storage area is sloped or otherwise designed and operated to drain and remove liquids resulting from run on and off precipitation. As described above all of the container storage areas have run on and run off controls in place.

**C1.F.2(a) Containment System Drainage**

[R 299.9614 and 40 CFR §§264.175(c)(1) and 270.15(b)(2)]

As stated in C1.F.1(d) the container storage areas are sloped in a manner that allows run on and off to flow to a collection point.

**C1.F.2(b) Container Management**

[R 299.9614 and 40 CFR §§264.175(c)(2) and 270.15(b)(2)]

In accordance with 40 CFR 264.173 containers holding hazardous waste will be closed during storage, except when it is necessary to add or remove waste, and they will not be opened, handled, or stored in a manner which may rupture the container or cause it to leak. Waste containers are segregated in accordance with DOT segregation requirements as indicated in A2.C.1(a) of Attachment A2 Chemical and Physical Waste Analysis Plan.

**C1.G SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTE**

[R 299.9614 and 40 CFR §§264.176 and 270.15(b)(2)]

Ignitable and reactive waste may be stored in the container storage areas and are segregated by the DOT segregation requirements. All container storage areas are more than 50 feet from the property line.

**C1.H SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES**

[R 299.9614 and 40 CFR §§264.177(c) and 270.15(b)(2)]

As previously indicated waste is segregating according to the DOT segregation requirements. Consistent with PHMSA guidance waste is separated by 4 feet of space in each direction. This may be done by placing other compatible containers in between the containers. MDWTP may also separate the containers into different container storage areas.

Prior to consolidating or bulking waste, containers will be evaluated to ensure waste meet compatibility requirements outlined in A2 Chemical and Physical Waste Analysis Plan. For containers that are to be reused, the next waste to be placed in a reused container will be compatible with the waste that was previously in the container.



**C1.I CLOSURE**

[R 299.9614 and 40 CFR §264.178]

Closure information is provided in A11 Closure Care Plan. Upon closure, all hazardous waste and hazardous waste residues will be removed from the container storage area and containment systems. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues will be decontaminated or removed.