

**"RMU-1 TO RMU-2 TRANSITION PLAN"**



**TRANSITION PLAN  
DEVELOPMENT OF  
RESIDUALS MANAGEMENT UNIT NO. 2**

**CWM CHEMICAL SERVICES, LLC  
MODEL CITY, NEW YORK**

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ATTACHMENT 1: RMU-2 Conceptual Construction Schedule

## **1.0 INTRODUCTION**

CWM Chemical Services, LLC (CWM) proposes to construct and operate a residuals management unit for the permanent disposal of hazardous and industrial non-hazardous wastes at the CWM Chemical Services, LLC (CWM), Model City Hazardous Waste Management Facility (Model City Facility).

Prior to and during development of Residuals Management Unit No. 2 (RMU-2), operations at the facility will be modified both temporarily and permanently. This includes the closure, removal/demolition, and/or replacement of Part 373 permitted units and supporting operations that do not require inclusion in the Part 373 permit.

This plan will be used as guide for transition of the facility during the development of RMU-2 and site facilities affected by the development of the landfill.

### **1.1 DESCRIPTION OF PROPOSED RESIDUALS MANAGEMENT UNIT 2**

Proposed RMU-2 incorporates a six (6) cell double-lined fully permittable land burial facility design, in a geologically suitable location, to provide a safe approach to addressing part of the state's hazardous and industrial non-hazardous waste disposal capacity needs over the next 10 to 20 years. RMU-2 will accommodate approximately 4,030,700 cubic yards of waste and will be situated on approximately 43.5 acres of land in the location indicated on Permit Drawing No. 2 of the Part 373 Permit Modification Application. The unit will be constructed in accordance with the requirements of 6 NYCRR 373-2.14. As provided in 6 NYCRR 360-1.1(b), non-hazardous industrial wastes disposed in RMU-2 will be managed in accordance with 6 NYCRR Part 373.

The RMU-2 development area includes current RCRA permitted units, existing supporting facilities not requiring RCRA permit, former RCRA Solid Waste Management Units (SWMUs), RCRA investigation/corrective action areas, underground and above ground utilities, and third-party SWMUs/investigation areas.

### **1.2 EXISTING FACILITIES IN THE RMU-2 LOCATION**

The proposed location for RMU-2 is within an existing developed portion of the Model City Facility currently occupied by the following structures, buildings and operational areas:

1. Drum Management Building (Part 373 Container Storage);
  2. Empty Trailer Parking Area;
  3. South Trailer Parking Area (Part 373 Container Storage);
  4. Emergency Response Garage;
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5. Heavy Equipment Maintenance Building;
  6. McArthur and “M” Streets;
  7. Various aboveground and belowground utilities and communications services;
  8. Facultative (Fac) Pond 8 (Part 373 Surface Impoundment);
  9. Fac Pond 3 (Part 373 Surface Impoundment);
  10. Stabilization Facility Trailer Parking Area (Part 373 Container Storage);
  11. Secure landfill- (SLF-) 10 Leachate Building Unloading Ramp (Part 373 Container Storage); and
  12. SLF 1-11 Oil/Water Separator Building Unloading Ramp (Part 373 Container Storage).
  13. RMU-1 Lift Station (Part 373 Tank)
  14. RMU-1 Leachate Forcemain to the Oil Water Separator Building (Part 373 Tank Ancillary Equipment)

RMU-2 development will occur in phases. The initial phase of development will occur over multiple years due to the number of site facilities that will be affected. Multiple facilities will be closed, demolished, and constructed during the first phase of RMU-2 development.

Attachment A presents a conceptual construction/closure sequencing schedule for the first phases of development of RMU-2. The RMU-2 development area includes current RCRA permitted units, existing support facilities not requiring RCRA permits, former RCRA Solid Waste Management Units (SWMUs), RCRA investigation/corrective action areas, underground and above ground utilities, and third-party SWMUs/investigation areas.

As required by CWM’s Sitewide 6 NYCRR Part 373 Permit, a Project Specific Soil Excavation Monitoring and Management Plan (SEMMP) is required for all excavations/soil disturbances exceeding 1,000 square meters (m<sup>2</sup>) or 150 cubic meters (m<sup>3</sup>). RMU-2 development will exceed these thresholds. A Project Specific SEMMP has been submitted to the NYSDEC for the development of RMU-2 (April, 2013). The SEMMP also includes the procedures to be employed during the excavation and closure of RCRA SWMUs, RCRA investigation/corrective action areas, and third-party SWMUs/investigation areas. RCRA permitted units will be closed in accordance with the Sitewide Closure Plan in CWM’s Part 373 Permit.

The following sections describe the affect on existing operations during the construction of RMU-2 for the initial and subsequent phases.

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## **2.0 RMU-2 PHASED CONSTRUCTION**

### **2.1 GENERAL**

The initial phases of construction for Cells 20 and 18 will include the closure, demolition, and/or removal of the following facilities:

1. Closure of Fac Pond 8
2. Closure & demolition of South Trailer Parking Area
3. Remove/close Empty Trailer Parking Area
4. Demolition of SLF-10 Loading/Unloading Ramp
5. Closure of Fac Pond 3

The initial phases of construction for Cells 20 and 18 will include the construction of the following facilities:

1. Fac Pond 5
2. Fac Pond 5 Transfer Line
3. New Full Trailer Parking Area and Utilization of Empty Trailer Parking Area Northwest of SLF-12
4. New SLF-10 Loading/Unloading Ramp
5. Upgrade Tank T-150 Lift Station
6. New Tank T-150 Transfer Line
7. West Leachate Forcemain Transfer Line
8. Cells 20 and 18 including Cut-off-Wall, MSE Wall, Subgrade excavation, baseliner installation
9. Wetlands Mitigation Area

Subsequent phases of development of RMU-2 will include construction of Cells 19, 17, 16, and 15 and will include the closure/demolition and the construction of the following:

1. Relocation of Site Water Lines and Site Electric
  2. Construction of New Drum Management Building
  3. Closure & Demolition of Existing Drum Building & Water Tank Demolition
  4. Closure & Demolition of Existing Stabilization Full Trailer Parking Areas I & II
  5. Construction of New Stabilization Full Trailer Parking Area
  6. Closure & Demolition of Existing Stabilization Full Trailer Parking Areas III & IV
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7. Demolition of RMU-1 Lift Station and Force Main
  6. Relocation of Meteorological Tower
  7. Demolition of existing Heavy Equipment Maintenance Building. Construction of new Heavy Equipment Maintenance Building
  8. Demolition Emergency Response Garage and Relocate to the Former Transportation Building
  9. Construction of new SLF 1-11 Oil/Water Separator Loading/Unloading Ramp. Closure & Demolition of existing SLF 1-11 Oil/Water Separator Loading/Unloading Ramp.
  10. MacArthur/M Streets - Removal of old Underground Leachate/Water/Sewer Lines
  11. Demolition of leachate transfer lines
  12. Closure of Former Railroad Bed Area
  13. Closure/Removal of DOD Trash Pit
  14. Cells 19, 17, 16 and 15 Construction including Cut-off-Wall, MSE Wall, Subgrade excavation, baseliner installation

The following sections describe the phases of development of RMU-2 and how these phases will affect the operation of the facility.

## **2.2 FACULTATIVE PONDS**

The proposed RMU-2 footprint includes land currently occupied by two fac ponds designated as Fac Pond 3 and Fac Pond 8. Fac Pond 8, located immediately west of RMU-1, is permitted for storage of treated wastewater from the facility's Aqueous Wastewater Treatment System (AWTS). Fac Pond 8 is currently out of service and undergoing closure. Fac Pond 3, located west of Fac Pond 8, is currently being used for storage of treated wastewater. Wastewater stored in Fac Pond 3 is discharged to the Niagara River following approval of the pre-qualification testing requirements included in CWM's State Pollutant Discharge Elimination System (SPDES) Permit. Fac Pond 3 will also be closed as a result of RMU-2 development. The closure of Fac Pond 3 will be performed in accordance with the Site-Wide Part 373 Permit requirements, and is described in greater depth below.

In order to compensate for the treated wastewater volume reduction due to the removal of Fac Ponds 3 and 8, new Fac Pond 5 will be constructed between SLF-12 and SLF-7. The construction of Fac Pond 5 will include the construction of Part 373-compliant baseliner system as indicated in the RMU-2 Engineering Report.

Standard operations following construction would include the periodic transfer of treated wastewater from Fac Ponds 1/2 to new Fac Pond 5, which would be installed to replace Fac Pond 3 as the final qualification pond prior to discharge to the Niagara River.

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It is anticipated that Fac Pond 5 will be constructed in the first year of site development for RMU-2. Fac Pond 3 will be used during the construction of Fac Pond 5 and will be closed prior to construction of Cell 18 of RMU-2. Included in the construction of Fac Pond 5 is the installation of two double contained underground transfer pipes for the transfer of the treated wastewater between the Fac Ponds 1/2 and Fac Pond 5 and/or to discharge to the Niagara River upon pre-qualification. The existing influent and effluent piping at Fac Ponds 1/2 and Fac Pond 3 will be modified, as necessary, to accommodate the fac pond reconstruction.

Upon construction of Fac Pond 5, Fac Pond 3 will be closed in accordance with the procedures in the Site-Wide Closure Plan with the exception that the pond area will not be backfilled to grade. The Site-Wide Closure Plan will be modified to allow for only backfilling the Fac Pond 3 to offset hydrostatic uplift.

The closure of Fac Pond 3, as described in the Model City Facility's Site-Wide Closure Plan, consists of discharging treated effluent from the fac pond following approval of the pre-qualification testing requirements included in CWM's SPDES Permit. Following discharge of treated effluent, residual water may be transferred to Fac Ponds 1/2 or Fac Pond 5, and the soils at the base of Fac Pond 3 will then be sampled in accordance the Site-Wide Closure Plan.

It will then be determined if removal of the soils and sediments from the bottom of Fac Pond 3 is needed based on the results of the initial sampling described above. If concentrations of hazardous constituents do not exceed Industrial Soil Cleanup Objectives provided in 6 NYCRR Part 375-6.8(b), the soils and sediments from the pond areas will be excavated to achieve design grades for RMU-2. In the event concentrations of hazardous constituents exceed Industrial Soil Cleanup Objectives provided in 6 NYCRR Part 375-6.8(b) in the surface samples, but not in the samples collected at the 6-inch depth, a minimum of 6 inches of soil/sediment will be removed from the base of the pond and properly disposed. The remaining soils will be excavated to achieve design grades for RMU-2.

If concentrations of hazardous constituents exceed the criteria indicated 6 NYCRR Part 375-6.8(b) in the subsurface samples, but not in the surface samples, the upper twelve inches of material will be removed from the bottom of the facultative pond and disposed of properly. In the event that materials are removed, post-removal sampling will be conducted to confirm that the indicated criteria above have been achieved. The sampling and analysis program described in the Site-Wide Closure Plan will be repeated (including sampling locations and analytical parameters) except that only the one inch surface samples will be collected. The results of the post-removal sampling will be used to demonstrate clean closure.

Excavation and disturbance of soils associated with construction of Fac Pond 5 and closure of Fac Pond 3 will be performed in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan.

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### **2.3 SOUTH TRAILER PARKING AREA**

The existing South Trailer Parking Area, located south of the existing Empty Trailer Parking Area, is used for the storage of liquid and solid, RCRA regulated, TSCA regulated and non-hazardous containers. These containers consist of the following:

- Box trailers holding hazardous and non-hazardous, New York State Department of Transportation- (NYSDOT-) approved containers;
- Bulk tanker trailers, vacuum trailers or other bulk containers holding liquids;
- Covered roll-off trailers, covered dump trailers or other bulk containers holding solid materials; and
- Flatbed or lowboy trailers holding transformers or containers of contaminated solid materials.

A portion of the existing South Trailer Parking Area is located within the footprint of RMU-2 and the West Leachate Forcemain. As such, the existing South Trailer Parking Area will be removed and a new area will be constructed along the western edge of RMU-2. The new Full Trailer Parking Area would include a reinforced concrete base with concrete curbing on three sides. Prior to construction of the new Full Trailer Parking Area, the existing South Trailer Parking Area will be closed in accordance the closure requirements included in the Site-Wide Part 373 Permit. In general, closure activities to be implemented for the existing South Trailer Parking Area will include the following:

- An initial inventory of all wastes within the South Trailer Parking Area will be performed to verify accuracy with current records, to confirm the integrity of all waste containers for removal and to identify, by visual observation, any potentially contamination areas.
  - All trailers will be transported to the Stabilization Full Trailer Parking Area.
  - Following removal of all waste containers, the existing South Trailer Parking Area will be decontaminated by sweeping or vacuuming the floors, followed by washing the floors. Any wastewater generated by the washing will be treated on site at the AWT facility.
  - Once the cleaning process has concluded, the structure will be demolished. The containment demolition debris will be landfilled on site or shipped to an appropriate waste management facility.
  - Once the concrete is removed, the soil will be inspected for signs of contamination. Any soil showing contamination will be sampled in in accordance with the Sitewide Closure Plan. Depending on the characterization results, the soils will either be removed and disposed of in a RCRA and/or TSCA permitted landfill on-site or off-site or disposed of in a solid waste permitted landfill off-site.
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- Soils underlying the South Trailer Parking Area will be excavated as part of RMU-2 construction, in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan.

During the closure of the existing South Trailer Parking area and construction of a new containment area the total site capacity for the storage of roll-offs and trailers will be temporarily reduced until the replacement parking area is constructed. The total site capacity will be temporarily reduced by 58 roll-offs or 29 tankers from the existing South Trailer Parking Area. During the closure of the South Trailer Parking area and the construction of the New Full Trailer Parking Area, the Stabilization Full Trailer Parking Area will have sufficient capacity to store the containers from the South Trailer Parking area. The following table provides a summary containment capacities of the South Trailer Parking area and the New Full Trailer Parking Area.

LOCATION	WASTE TYPE	CONTAINER TYPE	STORAGE CAPACITY	AVAILABLE SECONDARY CONTAINMENT (gallons)	REQUIRED SECONDARY CONTAINMENT (gallons)
<b>Existing South Trailer Parking Area</b>	Liquid/Solid	tankers/roll-offs	58 roll-offs or 29 tankers	82,481	68,521
<b>New Full Trailer Parking Area</b>	Liquid/Solid	tankers/roll-offs	48 roll-offs or 24 tankers	66,583	47,449

Note: A maximum of 55,000 gallons of incinerable liquids in tankers will be stored in the New Full Trailer Parking Area and the Stabilization Trailer Parking Area.

## 2.4 EMPTY TRAILER PARKING AREA

The Empty Trailer Parking Area is used to stage trailers following the off-loading of wastes. The existing Empty Trailer Parking area, currently located southeast of the Leachate Tank Farm (LTF), will be removed. Empty trailers will continue to be stored in an existing area northwest of SLF-12.

## 2.5 LOADING/UNLOADING RAMPS FOR THE SLF-10 LEACHATE BUILDING AND SLF 1-11 OIL/WATER SEPARATOR BUILDING.

Existing loading/unloading ramps are provided at the SLF-10 Leachate Collection Building west of SLF-10 and the SLF 1-11 Oil/Water Separator Building east of the LTF to provide facilities for vehicle loading/unloading of the tanks within these buildings. Although these buildings and their unloading ramps are not located within the footprint of RMU-2, access to the ramps will be impacted by the RMU-2 project. New ramps will be installed south of the SLF-10 Leachate Collection Building and east of the SLF 1-11 Oil/Water Separator Building and will generally be the same dimensions as the existing ramps. Therefore, the secondary containment capacities will only change slightly. Following construction of the new ramps, the existing ramps will be closed in accordance the closure requirements included in the Site-Wide Part 373 Permit. In general, closure activities to be implemented for the existing ramps will include the following:

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- Following construction of the new ramps, the existing ramps will be decontaminated by sweeping or vacuuming the floors, followed by washing the floors. Any wastewater generated by the washing will be treated on site at the AWT facility.
  - Once the cleaning process has concluded, the ramp structures will be demolished. The containment demolition debris will be landfilled on site or shipped to an appropriate waste management facility.
  - Once the concrete is removed, the soil will be inspected for signs of contamination. Any soil showing contamination will be sampled in accordance with the Sitewide Closure Plan. Depending on the characterization results, the soils will either be removed and disposed of in a RCRA and/or TSCA permitted landfill on-site or off-site or disposed of in a solid waste permitted landfill off-site.
  - Soils underlying the ramps will be excavated as part of RMU-2 construction, in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan.

It is anticipated that the ramp at the SLF-10 Lift Station will be replaced for the construction of Cell 20 of RMU-2 and the ramp at the SLF 1-11 Oil/Water Separator Building will be replaced for the construction of Cell 15.

## **2.6 UPGRADE T-150 LIFT STATION AND NEW TRANSFER LINE**

Leachate collected from both RMU-1 and RMU-2 will be pumped to the existing SLF-12 lift station (tank T-150), which will be upgraded to accommodate the anticipated flow rates. To manage this peak flow rate, the existing SLF-12 lift station pump will be replaced with two Godwin GSP300HV or equivalent submersible pumps.

Leachate pumped from the SLF-12 lift station will discharge to the three existing storage tanks located in the LTF for temporary storage prior to treatment at the aqueous wastewater treatment system (AWTS) facility. Two new double-walled HDPE leachate underground transfer lines will be installed from the SLF-12 Lift Station to the LTF during construction of Cell 18. Based on the results of the LTF storage capacity analysis presented in Appendix F of the Engineering Report (February 2013), the temporary storage and treatment capacities of the LTF and AWTS, respectively, are sufficient to manage the anticipated leachate volumes collected from RMU-2.

## **2.7 REPLACEMENT OF DRUM MANAGEMENT BUILDING**

The existing Drum Management Building, located west of RMU-1, is located within the footprint of RMU-2. The new DMB will be constructed prior to closure of the existing DMB and is to be located east of RMU-1. Drum management capacities and procedures in the current Part 373 Permit will be utilized until the New DMB is constructed and certified. Storage capacities and operations will not be affected during construction of the new DMB. The new Drum Management Building will include facilities for storage of drums and other containers, offices, a laboratory and mechanical room. Provisions will also be included for fuels bulking (as is

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currently performed in the existing Drum Management Building) and transformer decommissioning (to be relocated from the existing T.O. Building). The new DMB will be operated according to the operating procedures for the existing DMB. Following construction of the new Drum Management Building, the existing Drum Management Building will be closed in accordance with the closure requirements included in the Site-Wide Part 373 Permit. In general, closure activities to be implemented for the existing Drum Management Building will include the following:

- An initial inventory of all wastes within the building will be performed to verify accuracy with current records, to confirm the integrity of all waste containers for removal and to identify, by visual observation, any potentially contamination areas.
- All wastes will then be removed from the building and either relocated to the new Drum Management Building, disposed on site or transported off site to an approved hazardous waste management facility.
- Following removal of all waste containers, the Drum Management Building will be decontaminated by sweeping or vacuuming the floors, followed by washing the floors. Any wastewater generated by the washing will be treated on site at the aqueous wastewater treatment (AWT) facility. Once the cleaning process has concluded, the area will be inspected to verify no staining, PCB wipe testing will be performed to confirm PCB decontamination, the the building will be demolished. The building demolition debris will be landfilled on site or shipped to an appropriate waste management facility.
- Once the concrete is removed, the soil will be inspected for signs of contamination. Any soil showing contamination will be sampled in in accordance with the Sitewide Closure Plan. Depending on the characterization results, the soils will either be removed and disposed of in a RCRA and/or TSCA permitted landfill on-site or off-site or disposed of in a solid waste permitted landfill off-site.
- The soils underlying the Drum Management Building will be excavated as part of RMU-2 construction, in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan. Following completion of the closure activities, CWM will submit to the NYSDEC a certification that the Drum Management Building has been closed in accordance with the specifications in the Site-Wide Part 373 Permit within 60 days of final closure. Because existing operations will continue at the new Drum Management Building, it is anticipated that most mobile and stationary equipment utilized in the existing Drum Management Building will be transferred to the new building for continued use. Any equipment not planned for reuse will be cleaned, tested for alternate use or managed in accordance with the Site-Wide Part 373 Permit requirements.

The capacity of the existing Drum Management Building is provided in the following table. These capacities will be maintained during the construction of the new Drum Management Building. The capacity of the new Drum Management Building upon completion is also provided below and is included in proposed modifications to Appendix D-1, Attachment D of the

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Sitewide Part 373 Permit include in the Permit Modification Application for RMU-2 (February 2013).

### Current Permitted Capacity of Drum Management Building

LOCATION	WASTE TYPE	CONTAINER TYPE	STORAGE CAPACITY	AVAILABLE SECONDARY CONTAINMENT (gallons)	REQUIRED SECONDARY CONTAINMENT (gallons)
Area I	Liquid/Solid	drums	688 55-gal drums	4,675	3,784
Area II	Liquid/Solid	drums	320 55-gal drums	1,989	1,760
Area III	Liquid/Solid	drums	36 55-gal drums	251	198
Area IV	Liquid/Solid	drums	36 55-gal drums	251	198
Area V (Floor Trench System)	Liquid	drums	117 55-gal drums	648	644
	Solid	drums	1,376 55-gal drums	NA	NA
Drum Building West Ramp	Liquid	tankers	2-5,500-gal tankers	22,118	10,104
Truck Loading/Unloading Area & Ramp	Solid	drums	1,040 55-gal drums	NA	NA
Area VI, Sections 1, 2 & 3	Solid	drums	956 55-gal drums	NA	NA

### Proposed Capacity for New Drum Management Building

LOCATION	WASTE TYPE	CONTAINER TYPE	STORAGE CAPACITY	AVAILABLE SECONDARY CONTAINMENT (gallons)	REQUIRED SECONDARY CONTAINMENT (gallons)
Area 1	Liquid/Solid	drums	504 55-gal drums	9,011	2,772
Area 2	Liquid/Solid	drums	1008 55-gal drums	6,667	5,544
Area 3	Liquid/Solid	drums	1008 55-gal drums	6,914.6	5,544
Area 4	Liquid/Solid	drums	96 55-gal drums	1,244.7	528
Area 5	Liquid/Solid	drums	96 55-gal drums	765.2	528
Area 6	Liquid/Solid	drums	336 55-gal drums	3,768	1,848
Area 7 Fuels Transfer Ramp	Liquid	tankers	2-5,500-gal tankers	21,392	10,681
Area 8 Transformer Flush	Liquid	Drums/transformers	2,065 gallons	2,065.2	2,065
Area 9 Truck Loading/Unloading Area & Ramp	Liquid/Solid	drums	1,040 55-gal drums	95,681	5,720

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## 2.8 STABILIZATION TRAILER PARKING AREA

The existing Stabilization Trailer Parking Area consists of three separate concrete secondary containment areas, which are located west of the Stabilization Building. The south and west areas (also known as Areas III and IV) are currently permitted for bulk container storage similar to the Full Trailer Parking Area. The north area (also known as Areas I and II) is currently used for storage of non-hazardous materials. The south and west areas are located within the footprint of RMU-2. Prior to RMU-2 construction, the existing north area will be closed in accordance with the Site-Wide Part 373 Permit and removed and a new longer concrete secondary containment will be installed in that location, designed similar to the existing areas.

Following construction of the new Stabilization Trailer Parking Area, the existing west and south Stabilization Trailer Parking Areas will be closed in accordance with the closure requirements included in the Site-Wide Part 373 Permit. In general, closure activities to be implemented for the Stabilization Trailer Parking Areas will include the following:

- An initial inventory of all wastes within the west and south Stabilization Trailer Parking Areas will be performed to verify accuracy with current records, to confirm the integrity of all waste containers for removal and to identify, by visual observation, any potentially contamination areas.
- All trailers will be transported to the new Stabilization Trailer Parking Area or alternative area.
- Following removal of all waste containers, the existing west and south Stabilization Trailer Parking Areas will be decontaminated by sweeping or vacuuming the floors, followed by washing the floors. Any wastewater generated by the washing will be treated on site at the AWT facility.
- Once the cleaning process has concluded, the structures will be demolished. The containment demolition debris will be landfilled on site or shipped to an appropriate waste management facility.
- Once the concrete is removed, the soil will be inspected for signs of contamination. Any soil showing contamination will be sampled in accordance with the Sitewide Closure Plan. Depending on the characterization results, the soils will either be removed and disposed of in a RCRA and/or TSCA permitted landfill on-site or off-site or disposed of in a solid waste permitted landfill off-site.
- Soils underlying the west and east Stabilization Trailer Parking Areas will be excavated as part of RMU-2 construction, in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan.

During the closure of the north Stabilization Trailer Parking area and construction of a new containment area the total site capacity for the storage of roll-offs will be temporarily reduced until the replacement parking area is constructed. The total site capacity will be temporarily reduced by 20 roll-offs from the north Stabilization Trailer Parking area. The south and west Stabilization Trailer Parking Areas (Areas III and IV) will continue to be utilized until the new

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Stabilization Full Trailer Parking Area is complete. Following completion of the New Stabilization Full Trailer Parking Area, Trailer Parking Areas III and IV will be closed in accordance with the Site-Wide Closure Plan and demolished. The following table provides a summary of the existing Stabilization Trailer Parking area containment capacity and containment capacity upon demolition of the existing containment areas and construction of the New Stabilization Trailer Parking Area.

LOCATION	WASTE TYPE	CONTAINER TYPE	STORAGE CAPACITY	AVAILABLE SECONDARY CONTAINMENT (gallons)	REQUIRED SECONDARY CONTAINMENT (gallons)
<b>Stabilization Facility</b>					
Existing Trailer Parking (north) Area I	Solid	Roll-offs	6 roll-offs	NA	NA
Existing Trailer Parking (north) Area II	Solid	Roll-offs	14 roll-offs	NA	NA
Existing Trailer Parking (west) Area III	Liquid/Solid	Roll-offs	19 roll-offs	39,273	27,887
Existing Trailer Parking (south) Area IV	Liquid/Solid	Roll-offs	9 roll-offs	19,636	13,668
<b>New Stabilization Full Trailer Parking Area</b>	Liquid/Solid	tankers/roll-offs	37 roll-offs or 26 rolloffs and 11 tankers (2,500 gal)	56,106	41,977

Note: A maximum of 55,000 gallons of incinerable liquids in tankers will be stored in the New Full Trailer Parking Area and the Stabilization Trailer Parking Area.

## 2.9 RMU-1 LIFT STATION AND FORCEMAINS

Construction of RMU-2 will require the closure and demolition of the RMU-1 lift station, including tank T-160, and removal of an underground pipeline currently used to transfer leachate from the RMU-1 lift station to the leachate tank farm. The RMU-1 lift station and tank T-160 will be closed in accordance with the Site-Wide Closure Plan in CWM's Site-Wide Permit.

Once the closure process for the lift station and tank T-160 is complete, the tank and building will be demolished. The demolition debris will be landfilled on site or shipped to an appropriate waste management facility. Once the concrete is removed, the soil will be inspected for signs of contamination. Any soil showing contamination will be sampled in accordance with the Sitewide Closure Plan. Depending on the characterization results, the soils will either be removed and disposed of in a RCRA and/or TSCA permitted landfill on-site or off-site or disposed of in a solid waste permitted landfill off-site.

The existing RMU-1 underground leachate forcemains in the RMU-2 footprint will be removed by excavation following the RMU-2 Project Specific Soil Excavation Monitoring and Management Plan.

The RMU-1 lift station is located at a low point along the RMU-1 leachate forcemains. A new leachate transfer manhole will, therefore, be installed at this low point and to the east of the RMU-1 lift station. The purpose of the new manhole is to provide a means for leak detection at the forcemain low point. This will allow the majority of the RMU-1 forcemains to remain in service without modification. Two new, identical underground forcemains will be installed from an existing manhole at the northwest corner of RMU-1 to a junction manhole north of RMU-2 Cells 15 and 16. At this junction manhole, flow from the RMU-1 leachate forcemains will combine with flow from RMU-2 Cells 15 and 16 and then continue flowing to the west to the SLF 12 lift station. The proposed layout for the RMU-2 leachate forcemains, as well as modifications to the RMU-1 leachate forcemains are shown on Permit Drawing No. 26.

## **2.10 HEAVY EQUIPMENT MAINTENANCE BUILDING**

The existing Heavy Equipment Maintenance Building, located approximately 250 feet west of RMU-1, would be relocated to the area north of Fac Ponds 1/2. The existing structure, foundation and all existing utilities would be removed to facilitate construction of RMU-2. The new Heavy Equipment Maintenance Building would include a truck bay and office area, and space for maintenance repair equipment. Operations associated with the existing Heavy Equipment Maintenance Building would be maintained at the new location. Soils underlying the building will be excavated as part of RMU-2 construction, in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan.

## **2.11 EMERGENCY RESPONSE GARAGE**

The existing Emergency Response Garage, located west of RMU-1, would be relocated to an existing building west of RMU-2 (i.e. Truck Wash Building). The existing structure, foundation and all existing utilities would be removed to facilitate construction of RMU-2. Operations associated with the existing Emergency Response Garage would be moved and maintained at the new location. Soils underlying the garage will be excavated as part of RMU-2 construction, in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan.

## **2.12 MCARTHUR AND “M” STREETS**

To facilitate construction of RMU-2, approximately 2,000 linear feet of site roadway (portions of McArthur Street and “M” Streets) would be removed. Although portions of the roads may remain in service for use by waste trucks going to RMU-1 during the initial phase of development and by construction vehicles, the road surface material, road base and all above and belowground utilities along the portions of the roads impacted by RMU-2 would be removed. Removal and excavations in this area will be performed in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan.

## **2.13 EXISTING UTILITIES AND COMMUNICATIONS SERVICES**

In November 2002, Blasland, Bouck & Lee, Inc. (BBL) performed a utilities investigation to identify all existing above and belowground utilities impacted by the construction of RMU-2.

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There are several underground water supply pipelines and electrical service lines within the proposed RMU-2 footprint. All existing utilities would be removed during either relocation of existing facilities or prior to construction of RMU-2. Excavation would be carefully conducted so that the presence of any previously unidentified utilities can be addressed. Since no underground utilities would be left beneath the RMU-2 landfill, landfill stability would not be affected and the potential for contamination migration along pipelines would not exist. Underground utilities will be excavated as part of RMU-2 construction, in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan. Replacements for the current active utilities will be installed prior to removal of the existing utilities; therefore, site operations will not be affected.

#### **2.14 METEOROLOGICAL TOWER**

The existing MET tower, located north of SLF-1 through SLF-6, would be relocated during construction of subsequent phases of RMU-2 so that its operation would not be affected by the height of RMU-2. The new location would be determined by CWM, based on approval from the NYSDEC and the DOH.

#### **2.15 RAILROAD BED AREA**

In April 1994, a routine surface-water sampling event near the intersection of “M” Street and MacArthur Street at the Model City Facility identified the presence of elevated concentrations of VOCs. A surface-water sampling investigation was performed by CWM both upstream and downstream of the intersection to identify the source and extent of the contamination. The investigation determined that the probable source of the contamination was an abandoned railroad bed located west of the intersection. A supplemental investigation of the abandoned railroad bed was performed in 1997. The supplemental investigation determined that low level VOC contamination (less than 100 ppm) is confined to the Glacial Till layer immediately below the abandoned railroad bed, approximately 25 feet north and south of the railroad bed, extending east to the edge of MacArthur Street and west to the location of former Tank Farm E. Excavations in this area within the RMU-2 footprint will follow the RMU-2 Project Specific Soil Excavation Monitoring and Management.

#### **2.16 CLOSURE/REMOVAL OF DOD TRASH PIT**

A burn pit/trash pit was discovered by CWM during an excavation to install leachate lines for the leachate hydraulics controls upgrade (LHCU). Three drums, old batteries, and other debris were found in the pit. CWM excavated through the burn pit but did not remove all of the material. The pit is located near the Fire Water Storage Tank.

The Department of Energy (DOE) investigated the Trash Pit by geophysical investigation, test trenches, direct-push borings, soil, and groundwater sampling. Impacts include lithium, boron, and VOCs. DOE indicated in a Remedial Investigation Report/Management Plan that the preferred remedy is removal with confirmatory soil sampling. Excavations in this area within the RMU-2 footprint will follow the RMU-2 Project Specific Soil Excavation Monitoring and Management Plan.

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## **2.17 SITE CLEARING ACTIVITIES**

Prior to construction of RMU-2 and the aforementioned relocated facilities, the limits of work will be surveyed and staked. Erosion control measures will be established prior to any soil disturbance. The areas within the limits of work will then be cleared and grubbed to remove and dispose all objectionable material, such as trees, stumps, stones, brush, shrubs, roots, rubbish and other debris. Trees and other large woody debris will be chipped. Trees and stumps too large to be chipped will be properly disposed. Any existing groundwater monitoring wells or piezometers in the proposed areas for construction will either be marked for protection or abandoned in accordance with applicable regulations.

## **2.18 EXCAVATION AND LANDFILL SUBBASE**

After site preparation has been completed, excavation for RMU-2 would proceed to the subbase grade. The average depth of excavation is approximately 12 feet. On-site visual inspection would confirm the suitability of the subbase and any need for over-excavation of unsuitable material. Compacted clay (that may be taken from approved on-site stockpiles or off-site sources) would be placed in over-excavated areas. A rigid Construction Quality Assurance (CQA) Plan, meeting the requirements of the USEPA and NYSDEC, would be implemented during preparation of the subbase and all aspects of landfill construction.

Hydrostatic uplift calculations in the RMU-2 Engineering Report were based on current available data. Prior to construction, water levels would be confirmed to verify hydrostatic uplift assumptions by the design engineer or qualified geotechnical engineer. Piezometers would be monitored prior to sump excavation to determine if the water level is the same or lower than the design water table. If the same or lower, construction would proceed to design grades, otherwise further evaluation would be conducted before proceeding with construction.

Excavated material would be segregated and stockpiled on site at the Model City Facility for future appropriate uses, including construction of the exterior berms, the compacted clay secondary liner system and the final cover. Additional clay for use in the liner system (described below) would be obtained from existing on-site stockpiles or off-site sources. The exact sources of this clay are not currently known, but would be obtained on a contract basis from appropriately permitted or exempt sources.

During excavation activities to achieve RMU-2 design subgrade elevations, the possibility of encountering contaminated soils within the Glacial Till layer exists. This contamination may be chemical (i.e., volatile organic compounds [VOCs]) or radiological. All excavated contaminated soils would be segregated from soils that would potentially be used in construction of RMU-2. Excavated contaminated soils would be disposed in accordance with all applicable requirements. All excavation and soil disturbance performed as part of construction for RMU-2, relocated facilities or other associated activities, shall be completed in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan.

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### **3.0 SURFACEWATER AND LEACHATE MANAGMENT**

#### **3.1 SURFACEWATER MANAGEMENT**

A Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the development of RMU-2 and related facilities. Surface-water management measures during construction of individual cells (i.e., before placement of wastes into the cells) would involve sediment control barriers consisting of rock check dams, silt fences and/or hay bales. The number and location of these would be determined by the progress of construction operations. All silt fences and hay bales would be removed following re-vegetation of areas that have been disturbed as a result of construction operations. During construction, surface water would be directed to the Model City Facility's existing surface-water collection system. The existing surface-water collection system is monitored for hazardous constituents according to the Model City Facility's *Surface Water Sampling and Analysis Plan*. During operation of RMU-2, precipitation entering the cells would be collected in the leachate collection system and treated as leachate.

Water from the final cover system would be treated as surface water. All surfacewater runoff from the final cover system would be directed to the existing stormwater management system and retention basins. The proposed grading for RMU-2 would cause a portion of the perimeter ditch along the western edge of RMU-1 to be unable to gravity drain along the surface to any stormwater basin. Consequently, a storm sewer system would be installed between RMU-1 and RMU-2 to convey runoff that enters this segment of the perimeter ditch to the existing V01 basin. The storm sewer system would consist of a single drop inlet (consisting of pre-cast concrete catch basin structure and a frame and inlet grate) and a series of pre-cast concrete manholes interconnected by smooth-bore corrugated HDPE piping. The storm sewer system would convey flow along the existing RMU-1 perimeter berm and would daylight at the northwest corner of RMU-1. The storm sewer system has been designed to convey the 25-year, 24-hour storm event estimated peak discharge under newly graded conditions.

Ground surfaces surrounding all other areas that will be disturbed as part of the RMU-2 project (e.g., relocated facilities and Fac ponds) will be regraded as necessary to promote drainage to the existing stormwater management system and appropriate stormwater basins. Provisions for increasing the capacity of the stormwater retention areas will be completed as needed based on the 25-year, 24-hour storm event.

#### **3.2 LEACHATE MANAGEMENT**

During the transition of landfill operations from RMU-1 to RMU-2 the amount of leachate generated and subsequently treated at the AWT facility will decrease. As of the end of 2012, approximately 10.5 acres of RMU-1 are still open and actively receiving waste. The volume of leachate generated from RMU-1 during 2012 (10.5 acres active area) was approximately 10.3 million gallons, while the average amount of leachate generated by RMU-1 the previous five years (21.8 acres active area) was approximately 15.6 million gallons. Preliminary plans are that

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approximately 4.5 acres of final cover will be constructed in 2013 with the remaining 5.5 acres constructed in subsequent years depending on waste receipts. Therefore, leachate and contact water generated from the open areas of RMU-1 will be significantly reduced during development of RMU-2.

RMU-2 will be developed in phases over a number of years as landfill airspace is needed. Cell 20 (approximately 6.1) will be constructed during the first phase of landfill development, followed by construction of Cells 18, 19, 17, 16 and 15. Leachate from Cell 20 will be conveyed by double contained forcemain to the primary leachate vault for RMU-1 Cell 2 and tie into the forcemain for RMU-1 Cells 2, 4, 6, 9/10, 11/13, and 12/14. The existing RMU-1 lift station and forcemains have adequate capacity to manage leachate generated from Cell 20. The RMU-1 lift station and forcemain to the leachate tank farm will remain in use until construction of Cell 17. A Leachate Level Compliance Plan (LLCP) for RMU-2 Cell 20 will be prepared, submitted, and approved prior to acceptance of waste in Cell 20. The LLCP for Cell 20 will show that the existing RMU-1 leachate management system and the facility's Aqueous Wastewater Treatment System are adequate to manage leachate from the addition of Cell 20.

New forcemains (West Leachate Forcemain Transfer Line) to manage leachate from Cells 17, 18, and 19 of RMU-2 will be constructed during construction of Cell 18. The new RMU-2 forcemains will convey leachate to the SLF-12 lift station which will be upgraded during construction of Cell 18. The existing above ground leachate forcemains from the SLF-12 lift station to the leachate tank farm will be replaced with new underground forcemains during the Cell 18 construction season.

For construction of Cell 17, the RMU-1 lift station will be closed and demolished and new leachate forcemains (North Leachate Forcemain Transfer Line) will be constructed along the north perimeter berm of RMU-2 to replace the existing forcemains from the RMU-1 lift to the leachate tank farm. The new forcemains will convey leachate to the upgraded SLF-12 lift station.

LLCPs for RMU-2 will be prepared, submitted, and approved for each phase of landfill development prior to acceptance of waste in each new phase.

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**ATTACHMENT 1**

**RMU-2 CONCEPTUAL CONSTRUCTION SCHEDULE**

CWM Chemical Services, LLC.  
Model City Facility  
Niagara County, New York

### RMU-2 Conceptual Construction Schedule (Initial Phases)

[illegible]

### Treated Wastewater Management

- Filling of Fac Ponds 1/2 from Aqueous Wastewater Treatment System (AWTS) is continuous throughout construction of Fac Pond 5 and Closure of Fac Pond 3
- Fill Fac Pond 3 from Fac Ponds 1/2
- Discharge from Fac Pond 3 to SPDES Outfall 001
- Fill Fac Pond 5 from Fac Ponds 1/2
- Discharge Fac Pond 5 to SPDES Outfall 001

Notes: The above schedule is a conceptual schedule based on the anticipated sequencing of construction and closure of permitted units and may change based on the timing of the modification to the Sitewide Part 373 Permit.



**6 NYCRR PART 373  
MODIFICATION REQUEST TO  
SITEWIDE PART 373 PERMIT  
PERMIT ID 9-2934-00022/00097**

**ADDITIONAL DOCUMENTS**

**CWM CHEMICAL SERVICES, LLC.  
MODEL CITY FACILITY**

**August 2013**

*Prepared By: CWM Chemical Services, LLC.  
1550 Balmer Road  
Model City New York, 14107*

**ADDITIONAL DOCUMENTS**  
**DEVELOPMENT OF RESIDUALS MANAGEMENT UNIT NO. 2**

- RMU-2 Description, November 2013
- Facultative Pond Tank Assessment, November 2013
- Part 361 Siting Certificate Application, November 2013 (under separate cover)
- Part 617 Draft Environmental Impact Statement (DEIS), November 2013 (under separate cover)



**“SECTION B” RMU-2 DESCRIPTION**

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## SECTION B

### FACILITY DESCRIPTION

This section provides a brief overview of the existing treatment, storage, disposal and recovery (TSDR) facility located at CWM Chemical Services, LLC (CWM) Model City, New York. It also provides a general description of the proposed residuals management unit to be located at the existing facility that shall be referred to as Residuals Management Unit 2 (RMU-2). In addition, a general description of existing facilities to be relocated within the site is presented for those facilities affected by the proposed RMU-2 development. The NYSDEC has indicated that they will be treating the RMU-2 Permit Application as a major permit modification to the existing Sitewide 6 NYCRR Part 373 Permit #9-2934-00022/00097 (RMU-2 Modification Application). CWM submitted an updated RMU-2 Permit Application as a Sitewide Permit Modification Application on February 27, 2013 and a revised Permit Modification Application on August 28, 2013. The New York State Part 373 Permit Modification Application covers the proposed RMU-2 facility and those existing facilities to be relocated, as described herein, only. This section contains only descriptions of the proposed unit and the elements of the existing permitted facility that will interact with the operation of this unit.

#### B-1 GENERAL DESCRIPTION [6 NYCRR 373-1.5(a)(2)(i)]

##### B-1a Description of Existing Facility

The Model City Facility is located within the Erie-Niagara Region in the western section of New York State. The Model City Facility is situated on the boundary between the Towns of Lewiston and Porter in Niagara County. All hazardous waste management units are located within the Town of Porter. The regional location of the Model City Facility, the facility location relative to local areas immediately surrounding the facility and the facility site layout are shown on Figures B-1, B-2 and B-3, respectively. The existing active waste management units at the Model City Facility (United States Environmental Protection Agency [USEPA] ID No. NYD049836679) are fully permitted as part of the Model City TSDR Facility. It utilizes fully permitted, state-of-the-art technologies for the proper storage, treatment and disposal of a variety of liquid, solid and semisolid organic and inorganic hazardous waste and industrial non-hazardous waste. Storage, treatment and disposal capabilities include an aqueous waste treatment system that utilizes phase separation, waste-on-waste reactions, neutralization, solids precipitation and filtration, biological action and carbon filtration, ultimately resulting in the return of the treated effluent to the environment pursuant to the CWM's State Pollutant Discharge Elimination System (SPDES) Permit. Other operations include waste stabilization; secure landfilling of approved waste solids and semisolids, including polychlorinated biphenyls (PCBs); solvent and fuel blending processes and Resource Conservation and Recovery Act (RCRA) and Toxic Substances Control Act (TSCA) storage and disposal.

The Model City Facility began operations in 1971 as Chem-Trol Pollution Services, Inc (Chem-Trol). Activities included reclamation of waste oils, distillation of spent solvents, aqueous waste treatment and land disposal. In 1973, the stock of Chem-Trol was purchased by SCA Services, Inc. The Chem-Trol name was retained until late 1978, at which time, the corporate name changed to SCA Chemical Waste Services, Inc. In 1981, the name was changed SCA Chemical Services, Inc.

In October 1984, WM Acquiring Corp., owned jointly by Waste Management, Inc. (Waste Management), and Genstar, Inc., acquired SCA Services, Inc., of which, SCA Chemical Services, Inc. was a subsidiary. Through a corporate reorganization in October 1986, SCA Chemical Services, Inc. became a wholly owned subsidiary of CWM, itself majority-owned by Waste Management. In July 1988, the corporate name SCA Chemical Services, Inc. was changed to CWM Chemical Services, Inc. CWM Chemical Services, Inc. became a limited liability company in January 1998 and became CWM Chemical Services, LLC. CWM Chemical Services, LLC is the current owner and operator of the Model City Facility. Waste Management is based in Houston, Texas.

The effluent discharge pipeline for CWM originates at the Model City Facility, which is located in Niagara County near Model City, New York, and terminates at the Lower Niagara River near the Lower River Road entrance to Joseph B. Davis State Park in the Town of Lewiston (see Figures A-1 and A-3).

#### B-1b Description of Proposed Residuals Management Unit 2

CWM (the Applicant) proposes to construct and operate a residuals management unit for the permanent disposal of hazardous wastes (meeting the treatment standards in 40 Code of Federal Regulations [CFR] Part 268) and industrial non-hazardous wastes.

The proposed RMU-2 incorporates a double-lined fully permittable land burial facility design, in a geologically suitable location, to provide a safe approach to addressing part of the state's hazardous and industrial non-hazardous waste disposal capacity needs over the next 10 to 20 years. RMU-2 will accommodate approximately 4,030,700 cubic yards of waste and will be situated on approximately 43.5 acres of land in the location indicated on Figure B-3. The unit will be constructed in accordance with the requirements of 6 NYCRR 373-2.14. As provided in 6 NYCRR 360-1.1(b), non-hazardous industrial wastes disposed in RMU-2 will be managed in accordance with 6 NYCRR Part 373.

#### B-1c Existing Facilities in the RMU-2 Location

The proposed location for RMU-2 is within an existing developed portion of the Model City Facility currently occupied by the following structures, buildings and operational areas:

1. Drum Management Building;
2. Empty Trailer Parking Area;
3. Full Trailer Parking Area;
4. Emergency Response Garage;
5. Heavy Equipment and Facility Maintenance/Rolloff Repair Building;
6. McArthur and "M" Streets;
7. Various aboveground and belowground utilities and communications services;

8. Facultative (Fac) Pond 8;
9. Fac Pond 3;
10. Stabilization Facility Parking Area;
11. Secure landfill- (SLF-) 10 Leachate Building Unloading Ramp; and
12. SLF 1-11 Oil/Water Separator Building Unloading Ramp.

The following sections provide a brief description of each of the aforementioned facilities.

**B-1c(1) Drum Management Building**

The existing Drum Management Building, constructed in 1982, is located approximately 350 feet west of Residuals Management Unit 1 (RMU-1). The Drum Management Building, based on the types/volumes of wastes received by the site, is the focal point for most incoming drums and other small waste containers.

Following construction of the new Drum Management Building, the existing Drum Management Building will be closed in accordance with the closure requirements included in the Site-Wide Part 373 Permit. Closure activities to be implemented for the existing Drum Management Building include the following:

- An initial inventory of all wastes within the building will be performed to verify accuracy with current records, to confirm the integrity of all waste containers for removal and to identify, by visual observation, any potentially contamination areas.
- All wastes will then be removed from the building and either relocated to the new Drum Management Building, disposed on site or transported off site to an approved hazardous waste management facility.
- Following removal of all waste containers, the Drum Management Building will be decontaminated by sweeping or vacuuming the floors, followed by washing the floors. Any wastewater generated by the washing will be treated on site at the aqueous wastewater treatment (AWT) facility. Once the cleaning process has concluded, the building will be demolished. Following demolition of the building, the demolition debris will be properly disposed at an approved waste management facility.
- The soils underlying the Drum Management Building will be excavated as part of RMU-2 construction, in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan. Following completion of the closure activities, CWM will submit to the NYSDEC a certification that the Drum Management Building has been closed in accordance with the specifications in the Site-Wide Part 373 Permit within 60 days of final closure. Because existing operations will continue at the new Drum Management Building, it is anticipated that most mobile and stationary equipment utilized in the existing Drum Management Building will be transferred to the new

building for continued use. Any equipment not planned for reuse will be cleaned, tested and managed in accordance with the Site-Wide Part 373 Permit requirements.

The new Drum Management Building, to be located east of RMU-1, will also include a small laboratory and an area designated for transfer of waste organic liquids (i.e., fuels blending) from drums to bulk containers or vacuum trucks and an area designated for transformer flushing operations.

CWM will provide a more modern structure for container storage and consolidate several existing facility operations. The Secondary Containment Calculations for the new Drum Management Building are provided in Section D-1 of the Permit Modification Application.

#### B-1c(2) Empty Trailer Parking Area

The Empty Trailer Parking Area is used to stage trailers following the off-loading of wastes. The existing Empty Trailer Parking Area is located approximately 400 feet east of the existing Drum Management Building. The existing Empty Trailer Parking Area will be eliminated by the construction of RMU-2. Empty trailers will continue to be staged in an existing storage area northwest of SLF-12.

#### B-1c(3) Full Trailer Parking Area

The existing South Full Trailer Parking Area, located approximately 400 feet east of the existing Drum Management Building (south of the existing Empty Trailer Parking Area) is used for the storage of liquid and solid, RCRA regulated, TSCA regulated and non-hazardous containers. These containers consist of the following:

- Box trailers holding hazardous and non-hazardous, Department of Transportation- (DOT-) approved containers;
- Bulk tanker trailers, vacuum trailers or other bulk containers holding liquids;
- Covered rolloff trailers, covered dump trailers or other bulk containers holding solid materials; and
- Flatbed or lowboy trailers holding transformers or contaminated solid materials.

The existing Full Trailer Parking Area will be eliminated by the construction of RMU-2. A new Full Trailer Parking Area will be constructed immediately west of RMU-2. The Secondary Containment Calculations for the new Full Trailer Parking Area are provided in Section D-1 of the Permit Modification Application.

A portion of the existing South Trailer Parking Area is located within the footprint of RMU-2. As such, the existing South Trailer Parking Area will be removed and a new area will be installed along the western edge of RMU-2. The new Full Trailer Parking Area would include a reinforced concrete base with concrete curbing on three sides. Prior to construction of the new Full Trailer Parking Area, the existing South Trailer Parking Area

will be closed in accordance the closure requirements included in the Site-Wide Part 373 Permit. Closure activities to be implemented for the existing South Trailer Parking Area include the following:

- An initial inventory of all wastes within the South Trailer Parking Area will be performed to verify accuracy with current records, to confirm the integrity of all waste containers for removal and to identify, by visual observation, any potentially contamination areas.
- All trailers will be transported to the new Full Trailer Parking Area.
- Following removal of all waste containers, the existing South Trailer Parking Area will be decontaminated by sweeping or vacuuming the floors, followed by washing the floors. Any wastewater generated by the washing will be treated on site at the AWT facility.
- Once the cleaning process has concluded, the structure will be demolished. Following demolition of the structure, the demolition debris will be properly disposed at an approved waste management facility.
- Soils underlying the South Trailer Parking Area will be excavated as part of RMU-2 construction, in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan.

B-1c(4) Emergency Response Garage

The existing Emergency Response Garage, located along “M” Street will be relocated to the existing truck wash building west of RMU-2 along “M” Street. The existing structure, foundation and all existing utilities will be removed to facilitate construction of RMU-2. Operations associated with the existing Emergency Response Facility will be maintained at the new location.

B-1c(5) Heavy Equipment and Facility Maintenance/Rolloff Repair Building

The existing Heavy Equipment and Facility Maintenance/Rolloff Repair Building, located approximately 250 feet west of RMU-1, will be relocated to the area north of Fac Ponds 1 and 2. The existing structure, foundation and all existing utilities will be removed to facilitate construction of RMU-2. Operations associated with the existing Heavy Equipment and Facility Maintenance/Rolloff Repair Building will be maintained at the new location.

B-1c(6) Removal of Portions of McArthur and “M” Streets

To facilitate construction of RMU-2, approximately 2,000 linear feet of site roadway (portions of McArthur Street and “M” Streets) will be removed. Although portions of the roads may remain in service for use by construction vehicles, the road surface material, road base and all above and belowground utilities along the portions of the roads impacted by RMU-2 will be removed prior to the construction.



#### B-1c(7) Existing Utilities and Communications Services

In November 2002, Blasland, Bouck & Lee, Inc. performed a utilities investigation to identify all existing above and belowground utilities impacted by the construction of RMU-2. All existing utilities will be removed during either relocation of existing facilities or prior to construction of RMU-2.

#### B-1c(8) Fac Pond 8

Fac Pond 8, located immediately west of RMU-1 will be eliminated as part of site preparation for RMU-2 construction. Fac Pond 8 is currently out of service and undergoing closure, which is expected to be completed prior to RMU-2 permitting. A certification of the chemical clean closure of Fac Pond 8, in accordance with the Sitewide Closure Plan, was prepared by Golder Associates and submitted to the NYSDEC on November 9, 2009. Remediation of radiological contamination in Fac Pond 8 is currently in progress.

During 2010, a Radiological Characterization Investigation was performed of Fac Pond 8. During the investigation, Fac Pond 8 was divided into twelve, 2,000-square meter survey units. The investigation included gamma walkover surveys, the installation of 193 soil borings, and the collection of 207 soil samples from the soil borings. Readings above investigation levels were discovered within two of the survey units, and radiological contamination was verified through sampling and laboratory analyses. This effort demonstrated in accordance with MARSSIM guidance that all but two of the survey units are below the remedial standards developed for nearby FUSRAP sites and consistent with background concentrations.

A Remedial Action Plan (RAP) was prepared utilizing the data generated from the previous investigations to calculate the risk associated with various exposure scenarios and to derive an appropriate guideline level that can be used during Fac Pond 8 remedial activities. Remedial activities were performed between September and November 2011 and included the removal of soil with suspected MED material above established cleanup levels and the performance of a Final Status Survey (Completion Report for the Remediation of Facultative Pond 8, CWM Model City [Los Alamos Technical Associates, Inc., January, 2012]). Results of the remediation and FSS indicate that the area may be released for future development without the threat of MED radiological conditions above regulatory criteria.

During the remedial activities, a thin layer of soil (lens) with slightly elevated gamma radiation measurements and corresponding radioisotope concentrations was discovered by CWM's radiological consultant, Los Alamos Technical Associates, Inc (LATA). The layer was found within designated Survey Unit #9 (SU#9), which is the North berm of Fac Pond 8. Approximately 150 feet of the berm was excavated during the remediation, which exposed the approximate 18-inch thick lens of anomalous soil material. A sample was obtained and submitted to an independent off-site laboratory for radiological analysis. The results of the analysis indicated that the soil was different than the Manhattan Engineering District (MED) contaminated soil excavated and packaged during the remediation, and potentially from another

unknown source. However, the levels of radiological material present in the sample were above the cleanup levels established in the Remedial Action Plan (RAP (July 2011)) for Fac Pond 8. The purpose of the Work Plan was to outline the specific procedures to be utilized for performing an additional investigation to delineate the extent of the radiologically elevated soil layer in SU #9 of the fac pond North berm. An investigation of Survey Unit #9 was performed in April 2012. Results of the investigation indicated that the soil was different than the MED contaminated soil excavated and packaged during the remediation, however, the levels of radiological material present in the sample were above the cleanup levels established in the RAP.

The NYSDEC has proposed a compliance schedule for the upcoming Sitewide Permit Renewal. The compliance schedule indicates that Fac Pond 8 must be fully radiologically characterized within one year of the effective date of the permit renewal (EDP) renewal, fully radiologically remediated within two years of the EDP renewal, and fully closed in accordance with the Sitewide Closure Plan within three years of EDP renewal.

After closure of Fac Pond 8, structural (as required) and general soil fill will be added to establish the excavation grades shown on Permit Drawing No. 4, included in the *RMU-2 Engineering Report* (ARCADIS, April 2003, Revised August 2009, January 2012, February & June 2013).

#### B-1c(9) Fac Pond 3

Fac Pond 3, located west of Fac Pond 8, is currently being used for storage of treated wastewater. Wastewater stored in Fac Pond 3 is discharged to the Niagara River following approval of pre-qualification testing. Fac Pond 3 will also be eliminated as part of site preparation for RMU-2 construction. Fac Pond 3 will be closed similar to Fac Pond 8, as described above. Fac Pond 3 lies within the footprint of RMU-2 and will be filled with structural (as required) and general soil fill to the excavation grades shown on Permit Drawing No. 4, included in the *RMU-2 Engineering Report* (ARCADIS, April 2003, Revised August 2009, January 2012, February, June & November 2013).

Fac Pond 3 will be closed in accordance with Model City Facility's Site-Wide Closure Plan. The closure of Fac Pond 3, as described in the Model City Facility's Site-Wide Closure Plan, consists of discharging treated effluent from the Fac pond following approval of the pre-qualification testing requirements included in CWM's SPDES Permit. Following discharge of treated effluent, the soils at the base of Fac Pond 3 will then be sampled in accordance the Site-Wide Closure Plan.

It will then be determined if removal of the soils and sediments from the bottom of Fac Pond 3 is needed based on the results of the initial sampling described above. If concentrations of hazardous constituents do not exceed Industrial Soil Cleanup Objectives provided in 6 NYCRR Part 375-6.8(b), the soils and sediments from the pond areas will be excavated to achieve design grades for RMU-2. In the event concentrations of hazardous constituents exceed Industrial Soil Cleanup Objectives provided in 6 NYCRR Part 375-6.8(b) in the surface

samples, but not in the samples collected at the 6-inch depth, a minimum of 6 inches of soil/sediment will be removed from the base of the pond and properly disposed. The remaining soils will be excavated to achieve design grades for RMU-2.

If concentrations of hazardous constituents exceed Industrial Soil Cleanup Objectives provided in 6 NYCRR Part 375-6.8(b) in the subsurface samples, but not in the surface samples, the upper twelve inches of material will be removed from the bottom of the facultative pond and disposed of properly. In the event that materials are removed, post-removal sampling will be conducted to confirm that the indicated criteria above have been achieved. The sampling and analysis program described in the Sitewide Closure Plan will be repeated (including sampling locations and analytical parameters) except that only the one inch surface samples will be collected.

Excavation and disturbance of soils associated with construction of Fac Pond 5 and closure of Fac Pond 3 will be performed in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan.

In order to compensate for the treated wastewater volume reduction due to the removal of Fac Pond 3, new Fac Pond 5 will be constructed between SLF-12 and SLF-7. New Fac Pond 5 will serve as the final qualification pond. Details for the construction of new Fac Pond 5 are shown on Permit Drawings No. 1 through 14, included in the *RMU-2 Permit Modification Application* (February 2013, revised August & November 2013).

A new transfer pipeline will be installed between Fac Ponds 1 and 2 and the new Fac Pond 5 to allow for transfer of liquid between the two Fac ponds and to allow Fac Pond 5 to discharge to the existing effluent piping near Fac Ponds 1 and 2. Additionally, the existing influent and effluent piping will be modified, as necessary, and a valve house will be constructed to accommodate the Fac pond transfer line construction.

New Fac Pond 5 will be constructed to the north of RMU-2 and between SLF-12 and SLF-7. The new Fac pond will provide storage lost due to the removal of Fac Ponds 3 and 8. Fac Pond 5 will include the a Part 373-compliant liner system. The perimeter berm of Fac Pond 5 will be established at elevation 335.0 feet amsl. Containment capacity to the top of the perimeter berm of the Fac pond is approximately 24.7 MG. Usable capacity for the Fac pond is approximately 21.9 MG. The usable capacity is based on the need to limit liquid elevation to elevation 333.0 feet amsl to provide 2 feet of freeboard.

Sideslope riser pipes will be installed at Fac Pond 5 that will allow for monitoring of liquid levels in the sump of the leak detection system and for removal of accumulated liquids. A pre-fabricated riser house will be installed near the top of the perimeter berm at the sideslope riser pipe location. The sideslope riser pipe will penetrate the wall of the riser house so that transfer piping from the submersible pumps is sheltered from inclement weather. The riser house will also contain a dual-walled tank for storage of liquids pumped from the leak detection system. A Design Assessment Report for these proposed tanks was submitted to the NYSDEC in April

2013 (Ensol, April 2013, revised August & November 2013). A ramp will be provided up to the perimeter berm to allow tanker truck access to the storage tank in the riser house and for other general maintenance access.

A new transfer line will be installed between Fac Ponds 1 and 2 and Fac Pond 5. The transfer line will include two parallel 6-inch-diameter double-walled HDPE pipes installed at grade or slightly below grade to minimize excavations, and covered with a minimum of 9-inches of soil. As indicated on Permit Modification Application Drawing Nos. 5, 6, and 7, the pipeline will slope to low points in lines where leak detection manholes will be installed. At Fac Pond 5, the pipeline will terminate at the riser house and connective piping will be installed to allow either of the two parallel lines to be used to fill or drain the pond. At Fac Ponds 1 and 2, the pipeline will pass through a new valve house to the north of the Fac pond perimeter berm to allow for discharge to Outfall 001 discharge line or to discharge to the Fac pond. Piping will be installed to allow either of the two parallel lines to be used to transfer liquid from Fac Ponds 1 and 2 to Fac Pond 5 or vice versa, fill Fac Pond 5 with effluent from the site's treatment plant and to discharge liquid from Fac Ponds 1 and 2 or from Fac Pond 5 to the existing discharge piping leading to the Niagara River. The existing discharge filter system will be relocated from its current location at Fac Pond 3 to an area north of Fac Ponds 1 and 2.

#### B-1c(10) Stabilization Facility Parking Area

The existing Stabilization Trailer Parking Area consists of three separate concrete secondary containment areas, which are located west of the Stabilization Building. The south and west areas are currently permitted for bulk container storage similar to the Full Trailer Parking Area. The north area is currently used for storage of non-hazardous materials. The south and west areas are located within the footprint of RMU-2. Prior to RMU-2 construction, the existing north area will be removed and a new longer concrete secondary containment will be installed in that location, designed similar to the existing areas.

Prior to RMU-2 Cells 15 and 16 construction, the existing north area (Areas I & II) will be closed in accordance with the Site-Wide Part 373 Permit and removed and a new longer concrete secondary containment will be installed in that location, designed similar to the existing areas.

Following construction of the new Stabilization Trailer Parking Area, the existing west and south Stabilization Trailer Parking Areas will be closed in accordance with the closure requirements included in the Site-Wide Part 373 Permit. Closure activities to be implemented for the Stabilization Trailer Parking Areas include the following:

- An initial inventory of all wastes within the west and south Stabilization Trailer Parking Areas will be performed to verify accuracy with current records, to confirm the integrity of all waste containers for removal and to identify, by visual observation, any potentially contamination areas.
- All trailers will be transported to the new Stabilization Trailer Parking Area or alternative area.

- Following removal of all waste containers, the existing west and south Stabilization Trailer Parking Areas will be decontaminated by sweeping or vacuuming the floors, followed by washing the floors. Any wastewater generated by the washing will be treated on site at the AWT facility.
- Once the cleaning process has concluded, the structures will be demolished. Following demolition of the structures, the demolition debris will be properly disposed at an approved waste management facility.
- Soils underlying the west and east Stabilization Trailer Parking Areas will be excavated as part of RMU-2 construction, in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan.

The Secondary Containment Calculations for the new Stabilization Facility Parking Area are provided in Section D-1 of this Permit Modification Application.

#### B-1c(11) SLF-10 Leachate Building Unloading Ramp

The existing unloading ramp for the SLF-10 Leachate Building is currently situated on the north side of the building, within the footprint of RMU-2. For this project, the existing unloading ramp will be removed and reconstructed on the south side of the SLF-10 Leachate Building. The new unloading ramp will include a 8-inch-thick reinforced concrete slab, extending approximately 71 feet from the southern edge of the SLF-10 Leachate Building. Additional details for the new unloading ramp for the SLF-10 Leachate Building are provided on Permit Application Drawing No.D-12A, included in the *RMU-2 Permit Modification Application* (February 2013, revised August 2013).. The Secondary Containment Calculations for the new SLF-10 Leachate Building Unloading Ramp are provided in Section D-1 of the Permit Modification Application. Following construction of the new ramp, the existing ramp will be closed in accordance with the closure requirements included in the Site-Wide Part 373 Permit and demolished. Closure activities to be implemented for the SLF-10 Unloading Ramp include the following:

- Following construction of the new ramp, the existing ramp will be decontaminated by sweeping or vacuuming the floor, followed by washing the floor. Any wastewater generated by the washing will be treated on site at the AWT facility.
- Once the cleaning process has concluded, the ramp structure will be demolished. Following demolition of the structure, the demolition debris will be properly disposed at an approved waste management facility.
- Soils underlying the ramp will be excavated as part of RMU-2 construction, in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan.

#### B-1c(12) SLF 1-11 Oil/Water Separator Building Unloading Ramp

The existing unloading ramp for the SLF 1-11 Oil/Water Separator Building is located on the northern side of the building. Due to the construction of new Fac Pond 5, the unloading ramp for this building will be relocated to the east side of the building. The new unloading ramp for the SLF 1-11 Oil/Water Separator Building will include a 8-inch-thick reinforced concrete slab, extending approximately 71 feet along the eastern edge of the building. Additional details for the new

unloading ramp for the SLF 1-11 Oil/Water Separator Building are provided on Permit Drawing No. D-14A38, included in the *RMU-2 Permit Modification Application* (February 2013, revised August 2013).. The Secondary Containment Calculations for the new SLF 1-11 Oil/Water Separator Building Unloading Ramp are provided in Section D-1 of the Permit Modification Application. . Following construction of the new ramp, the existing ramp will be closed in accordance with the closure requirements included in the Site-Wide Part 373 Permit and demolished. Closure activities to be implemented for the SLF1-11 Oil/Water Separator Building Unloading Ramp include the following:

- Following construction of the new ramp, the existing ramp will be decontaminated by sweeping or vacuuming the floor, followed by washing the floor. Any wastewater generated by the washing will be treated on site at the AWT facility.
- Once the cleaning process has concluded, the ramp structure will be demolished. Following demolition of the structure, the demolition debris will be properly disposed at an approved waste management facility.
- Soils underlying the ramp will be excavated as part of RMU-2 construction, in accordance with the requirements of the RMU-2 Soil Excavation Monitoring and Management Plan.

## B-2 TOPOGRAPHIC MAP [6 NYCRR 373-1.5(a)(2)(xix)]

Figure B-3 provides topographic details of the entire site.

### B-2a Local Topography

The Towns of Porter and Lewiston are part of the Ontario Plain. The plain is located north of the Niagara escarpment, the northernmost major topographic feature in Niagara and Erie Counties. Both the elevation and relief of the land surface tend to increase from north to south. The Model City Facility is located on a flat plain forming a portion of the extended Lake Ontario shoreline natural grade. Ground elevations on the Model City Facility vary from 308 feet to 338 feet above mean sea level.

### B-2b Local Geology

The bedrock formation underlying the Model City Facility is the Queenston Shale. The Queenston Shale is approximately 1,200 feet thick, with only the uppermost part exposed in the region. It underlies all of Niagara County north of the Niagara escarpment, including the Towns of Porter and Lewiston, and can be seen in the Lower Gorge of the Niagara River. It is characterized by brick-red shale that varies from argillaceous (high in clay-sized particles) to sandy (high in sand-sized particles). The Queenston Shale is not exploited for economic purposes. Approximately 50 feet of unconsolidated deposits overlie the bedrock formations. This material was deposited during several Pleistocene glacial periods and consists of alluvial glacial till and glaciolacustrine deposits.

The alluvial deposits are the uppermost units where they occur and consist of clay and silt. They are found sporadically across the Model City Facility. Where the alluvial deposits do not occur, the uppermost units are glacial tills and contain a variety of particle sizes, including silts, clays, sands and gravels. The glaciolacustrine deposits underlie the glacial tills and are made up of silts, clays and sands.

Due to past regrading of the Model City Facility, several feet of fill overlie the original surface soils in some areas. This fill is quite similar to the deeper soils in composition and hydrogeologic properties. Also, a relatively thin veneer of alluvial deposits exists over some portions of the site. The alluvial deposits typically consist of laminated clayey silt, silt and fine sand.

There are two original surface soil associations (types) found on the Model City site. The association covering the largest area is the Rhinebeck-Ovid-Madalin association. This consists of deep, somewhat poorly drained to very poorly drained soils having a fine-textured or moderately fine-textured subsoil that is predominantly brown or olive in color. The other soil association, covering a lesser area, is the Appleton-Hilton-Sun association. This consists of deep, moderately well drained to very poorly drained soils having medium-textured subsoil.

Additional information can be found in the *RMU-2 Engineering Report* (ARCADIS, April 2003, Revised August 2009, January 2012, February & June 2013).

## B-2c Hydrology

Groundwater conditions at the Model City Facility have been investigated and are discussed in detail in the *1993 Ground Water Level Interpretation Report* (RUST Environment and Infrastructure, February, 1994), *Groundwater Monitoring Program Model City Facility* (Golder Associates, May 1988), the *RMU-1 Groundwater Monitoring Plan* (Golder Associates, February 1991) and in many additional reports, which have all been previously submitted to the New York State Department of Environmental Conservation (NYSDEC). In association with the proposed RMU-2 development, a subsurface investigation was performed in the specific area of proposed RMU-2. The results and findings of this investigation are presented in the reports entitled *Letter Report on Geotechnical Investigation for Proposed Residuals Management Unit Number 2 - Western Expansion Area* (Golder Associates, December 2002) and *Landfill Footprint Analytical Data Study and Western Boundary Relocation Investigation* (Golder, July 2009). Copies of these reports are presented in Appendix A of the *RMU-2 Engineering Report* and are discussed in Section 2.2 therein. In general, the 2002 and 2009 Golder reports confirmed the geologic and hydrogeologic findings presented in the previous 1985, 1988 and 1993 site-wide investigations. The groundwater monitoring program developed by Golder for the proposed RMU-2 Phase I and Fac Pond 5 was submitted January 26, 2010 and an Addendum No. 1 was submitted June 10, 2011.

Within the several documented reports, potentiometric maps were used to estimate the primary groundwater flow direction and rate under the Model City Facility for the Upper Tills unit and the Glaciolacustrine Silt/Sand unit.

Within the Upper Tills unit, groundwater flow is generally directed to the north-northwest, following the topographic surface. A minor flow component to the south can be found in areas of groundwater mounding; however, the overall net flow direction is to the north-northwest. In the proposed RMU-2 area, the Golder reports indicate that lateral flow of shallow groundwater in this unit is predominantly north-northwest.

The general flow direction of the Glaciolacustrine Silt/Sand unit is also north-northwest toward Lake Ontario, with a northwest component influenced by the higher transmissivity in the northwest portion of the site. In the proposed RMU-2 area, the Golder reports indicate that the lateral flow of groundwater in this unit is predominantly north-northwest.

## B-2d Surface Water

The Model City site is located in the Eighteenmile Creek Drainage Subbasin. This subbasin is a portion of the Lake Ontario Drainage Basin, which includes the Eighteenmile Creek Subbasin and other tributaries of Lake Ontario entering the lake between the hamlet of Olcott and the mouth of the Niagara River. The basin drains an area of 233 square miles. Twelvemile Creek drains 45 square miles including a small part of the Model City Facility property, but the major part of the property drains to Fourmile Creek through Sixmile Swale.

Surface drainage and runoff is collected on site in a series of retention basins and drainage channels with control gates. Runoff collected from process areas is directed to the existing wastewater treatment system. Drainage from non-operational areas is collected in the drainage channels and, via a series of manually



controlled gates, is held and tested prior to discharge to nearby surface waters. Discharges from surface-water outfalls are also included in CWM's State Pollutant Discharge Elimination System (SPDES) Permit.

In addition, the Model City Surface-Water Sampling and Analysis Plan covers surface drainage, runoff and stormwater monitoring in detail.

#### B-2e Land Use

##### B-2e(1) Erie and Niagara Counties

The region encompassing Erie and Niagara Counties is bounded by Lake Erie and the Niagara River on the west; by Lake Ontario on the north; by Cattaraugus Creek on the south and Orleans, Genesee and Wyoming Counties on the east. The Erie/Niagara region covers approximately 1,589 square miles with a population in excess of 1.2 million people. The primary use of land in the region is agricultural, comprising approximately 46 percent of the land regionally and approximately 66 percent, or two-thirds, of the land in Niagara County alone.

##### B-2e(2) Town of Lewiston

The Town of Lewiston, occupying a land area of approximately 40 square miles, is located to the south of the Town of Porter. Approximately 75 percent of the land is undeveloped, and overall residential density is very low, with the majority of town land having a maximum density of one person per acre. With no geographical constraints, development has occurred along major arterials in strip fashion. Agriculture is the primary land use, with crops consisting of grapes, peaches and vegetables. Residential land uses in the western part of the county are mostly concentrated adjacent to the Niagara River, above and below the escarpment and in the Village of Lewiston, although both areas have a low population density compared to most urban areas. The Tuscarora Indian Reservation and Power Reservoir dominate the southern half of the town. The few commercial and industrial facilities are located in the northwestern section.

No regulated units are located in the Town of Lewiston, and no portion of the proposed RMU-2 unit will be located in the Town of Lewiston.

##### B-2e(3) Town of Porter

The Town of Porter is located in the northwest corner of Niagara County, with a total land area of 33 square miles. Primarily an agricultural town with some industrial land uses, Porter is developing as a residential suburb of Niagara Falls. Public/semipublic land uses in this area include 102 acres used for the Lewiston-Porter School District, located 1.9 miles west of the Model City Facility.

The Town of Porter has zoned the portion of the Model City Facility situated in the town to permit heavy industrial use surrounded by medium industrial and light industrial zones. In these areas, residential uses are not permitted. This land-use designation allows hazardous waste disposal operations. To the southwest and east, the land is zoned with a "one family residential-large lot" requirement interspersed with agricultural districts.

#### B-2e(4) Site History

CWM's facility in Model City, New York has operated as a hazardous waste treatment, storage and disposal site since 1971. Over that period of time, the corporation has been known by several names, as described in Section B-1a.

The Model City Facility is permitted as a TSDR facility for hazardous and industrial non-hazardous wastes (USEPA ID NYD04983679). The Model City Facility accepts a variety of liquid, solid and semisolid organic and inorganic hazardous wastes and a variety of industrial non-hazardous wastes. In addition, the Model City Facility is approved by the USEPA to store and dispose PCBs.

The Model City Facility serves a market primarily located within approximately a 500-mile radius of the facility. A significant portion of the wastes handled at the Model City Facility is generated in New York State, particularly in the western New York area. Additional wastes from other surrounding states, primarily the northeastern United States, and Canada are also accepted.

Prior to operation as a commercial waste facility, the site was owned by the United States Government (early 1940s through the mid 1960s) and was part of the Lake Ontario Ordnance Works. United States Government activities at and in the vicinity of the site included:

- Explosives and solid/liquid fuel propellant research, development and production;
- Research and development and waste storage related to the Manhattan Project; and
- Detonation of outdated or off-specification explosives.

Some of these activities resulted in the contamination of certain areas of the site with organic and inorganic chemicals and low-level radioactive wastes. However, during the 1960s, initial efforts were made by the Atomic Energy Commission (AEC) to decontaminate these areas, and in the early to mid-1980s, additional areas on the site were remediated by the Department of Energy (DOE). The New York State Department of Health and the NYSDEC oversaw these remedial efforts by the AEC and DOE.

#### B-2f Wind Rose

Meteorological data collected from 1948 to 1978 at the Buffalo, New York weather station were utilized in preparation of the wind rose, illustrated on Figure B-4. A wind rose prepared from on-site data taken between January 1, 1994 and December 31, 1994 is shown on Figure B-5.

### B-3 LOCATION INFORMATION [6 NYCRR 373-1.5(a)(2)(xi) and 373-2.2(8)]

As noted in Section B-1a, the Model City Facility is located near Model City in the Towns of Lewiston and Porter in Niagara County, New York. It is situated along Balmer Road, 1.9 miles east of its intersection with New York Route 18 (Creek Road). The Model City Facility's regional and local positions are illustrated on Figures B-1 and B-2, respectively.

The Model City site encompasses approximately 710 acres of rural land, of which, 630 acres have been permitted for hazardous waste management activities. The site was a part of a United States Government Department of Defense installation, formerly known as the Lake Ontario Ordnance Works. General use of surrounding land includes government-related industrial and military activities and some agriculture.

#### B-3a Seismic Considerations

The Model City Facility is located in the Towns of Lewiston and Porter, Niagara County, New York. As such, this facility is not located in an area listed in Appendix VI of 40 CFR 264. Facilities that are located in political jurisdictions other than those listed in 40 CFR 264, Appendix VI, are not required to demonstrate compliance with 40 CFR 264.18(a). However, seismic analyses were performed for RMU-2 and Facultative Pond 5 according to 6 NYCRR Part 360-2.7(b)(7). These analyses are included in the Engineering Report for RMU-2.

#### B-3b Floodplain Standard [6 NYCRR 373-1.5(a)(2)(xi)(a)] and [6 NYCRR 373-2.2(i)]

Based on operational experience at the Model City Facility, no history of on-site flooding and flood-related problems have been identified since the facility began operations in 1971 as Chem-Trol.

Additionally, Federal Emergency Management Agency Flood Insurance Rate Maps for the facility have not been printed due to the fact that the area has been considered an area of minimal flooding.

However, during development of the design for RMU-1, CWM became aware of a flood study conducted for Twelvemile Creek by Wehran-Envirotech (Wehran) on behalf of the Modern Landfill Facility, which borders the Model City Facility to the south. Results of the Wehran study suggested that the proposed location of RMU-1 might include a portion of the 100-year floodplain of Twelvemile Creek. Consequently, CWM contracted Wehran to perform a detailed floodplain study of Twelvemile Creek, specifically with respect to RMU-1. The conclusions of the resultant Wehran report, dated February 16, 1993, are summarized below.

Wehran used the United States Army Corps of Engineers' (USACE's) Hydrologic Engineering Center computer program titled HEC-2, coupled with site-specific information, to perform the floodplain analyses. In the report, Wehran concluded that the 100-year floodwater surface elevations, flow velocities and floodplain boundaries demonstrate that the Model City Facility, as required by regulation, has been designed to prevent encroachment of floodwaters and will not result in the washout of waste. However, the analyses confirmed that the southeast corner of the RMU-1 site is included in the fringe area of the 100-year floodplain of Twelvemile Creek. The floodplain "fringe" is defined as that area

between the limits of the 100-year floodplain and floodway. Wehran also determined that the area impinged by RMU-1 constitutes an area of “ineffective flow” (i.e., an area that provided some level of floodwater storage capacity, but does not provide an effective downstream route for floodwater flow). Thus, while RMU-1 would remove approximately 15.9-acre-feet of temporary floodwater storage capacity, the unit is not located in the floodway and does not result in an increase in the 100-year floodwater surface elevation. The floodplain and floodway limits that will exist after full development of RMU-1 are nearly identical to the prior conditions. In 2000, CWM constructed a 16.7-acre-feet Compensatory Flood Storage Area within the 100-year floodplain of Twelvemile Creek to mitigate the loss of storage capacity attributable to RMU-1.

The proposed location of RMU-2 does not fall within the 100-year floodplain of Twelvemile Creek. As such, floodplain mitigation will not be required for the construction of RMU-2.

#### B-3c State and Federal Delineated Freshwater Wetlands

In November 2002, a Wetlands Investigation was performed by Environmental Design & Research, P.C. (EDR) at the Model City Facility in the area of the proposed RMU-2 site and at the proposed locations for new and relocated facilities. During this investigation, EDR determined that RMU-2 and the new and relocated facilities would have no impact to state regulated wetlands, as verified by the NYSDEC. EDR also concluded that RMU-2 and the new and proposed locations for relocated facilities would impact less than 2 acres of jurisdictional federal wetlands (comprised of manmade ditches and isolated pockets of wetland areas).

EDR updated the RMU-2 wetlands delineation in April 2009. The investigation areas were redefined based on the current scope of the RMU-2 project (i.e., slightly redesigned landfill footprint and new locations of relocated facilities) as compared to the 2002 investigation. Results of this investigation are described in the *Wetland Delineation Report, RMU-2 Landfill Expansion Area, dated June 2009*. Again, EDR concluded that the RMU-2 project would have no impact to state wetlands and impact less than 2 acres of federal wetlands, pending confirmation by the USACE. EDR again updated the RMU-2 wetlands delineation in April 2011 to include an area within the RMU-2 development area that was not included in the previous delineations. Results of this supplemental delineation are described in the *Supplemental Wetland Delineation Report, RMU-2 Landfill Expansion Area, dated April 2011*. Again, EDR concluded that the RMU-2 project would have no impact to state wetlands and impact less than 2 acres of federal wetlands, pending confirmation by the USACE.

The less than 2 acres of wetlands delineated by EDR consist of man-made roadside ditches and isolated pockets of wetland areas, which provide limited function and value (primarily stormwater detention and flood storage). The limited function and value is due to the small size, shallow depth and seasonal inundation/saturation of these delineated wetlands. The wetlands on site provide no aesthetic, recreational or educational value and appear to have little, if any, groundwater recharge or discharge function. The wetlands have little beneficial effect on water quality and do not provide spawning areas for fish, waterfowl habitat or shoreline erosion control. The wetlands also provide limited value for wildlife due to the lack of habitat diversity, water level fluctuations and adjacent disturbance.

A jurisdictional determination was received from the USACE on September 13, 2011. Approximately 2.5 acres of jurisdictional wetlands, as determined by the USACE, are located within the RMU-2 development area.

During the detailed design of the site grading plan for the New Drum Management Building, a supplemental wetlands delineation was performed in the proposed area by EDR in July 2012. The supplemental delineation indicated that a wetland on the north side of the development area extends beyond the delineated area and outside of the study area into an NYSDEC-protected wetland (RV-8).

On November 7, 2012, CWM subsequently requested a jurisdictional determination from the NYSDEC that no state freshwater wetlands would be impacted by the construction of RMU-2, including the New Drum Management Building area. Based on a field delineation by an NYSDEC wetlands biologist, the NYSDEC determined that a portion of the new Drum Management Building Development will be in the 100-adjacent area of a state freshwater wetland (RV-8). Additionally, the NYSDEC issued a determination on February 4, 2013 that no other state freshwater wetlands or 100-adjacent areas are in the RMU-2 development area. The EDR supplemental wetlands delineation and the jurisdictional determinations from the NYSDEC are also included in Appendix D of the DEIS.

Based on the information contained in the EDR Reports (Appendix D of the DEIS), the construction of RMU-2, Fac Pond 5 and the proposed relocation of existing structures, buildings and operational areas would impact the 100-foot adjacent area of an NYSDEC wetland and approximately 2.5 acres of federal wetlands. The USACE has indicated that mitigation measures will be necessary for impacts to wetlands in the RMU-2 development area. The NYSDEC has indicated that a vegetative buffer will be constructed and maintained between the new Drum Management Building operational area and the state freshwater wetland. A revised application for a permit in accordance with Section 404 of the CWA was submitted to the USACE on July 8, 2013 for project impacts to jurisdictional wetlands. Compensatory mitigation may be accomplished through one of the following three ways: Mitigation Banks, In-Lieu Fee Mitigation or Permittee-Responsible Mitigation. CWM will pursue a permittee-responsible mitigation through construction of replacement wetlands at an on-site location. The revised Section 404 application will be a joint application with a request for NYSDEC Section 401 water quality certification and a State Article 24 application for impacts to NYSDEC freshwater wetlands (100-foot adjacent area).

To mitigate for the unavoidable permanent loss of wetlands within the Project area, CWM is proposing the creation of a 4.3-acre successional wetland on a 21-acre parcel of land owned by CWM immediately west of the Fac Ponds 1 & 2. This parcel is currently dominated by successional deciduous forest, but also includes areas of disturbed land used for topsoil stockpiles, successional old field, and approximately 5 acres of forested and emergent wetland communities. The successional wetlands to be created on-site will be designed to succeed from scrub-shrub into forested wetlands. This represents a mitigation ratio of approximately 1.7 to 1 (mitigation to impact) for direct impacts to wetlands/streams.

CWM shall place a perpetual deed restriction, in the form of a conservation easement, on the mitigation site to protect the compensatory wetland mitigation area and adjacent uplands in perpetuity and guarantee its preservation. The conservation easement will protect a total of 15.94 acres.

The mitigation of impacts to the 100-foot adjacent area for development of the New Drum Management Building will be accomplished by the construction and maintenance of a vegetated buffer between the buildings operational area and the New York State Freshwater Wetland RV-8.

#### B-4 TRAFFIC INFORMATION [6 NYCRR 373-1.5(a)(2)(x)]

At present, all incoming and outgoing shipments are handled by truck. All waste-hauling vehicles are independently owned and operated.

The primary access routes for waste shipments to the Model City Facility include the New York State Thruway (I-90), I-290, I-190, New York Route 104, New York Route 18 and Balmer Road. As a condition of accepting hazardous wastes transported to the Model City Facility, CWM requires all waste transporters to use one designated route to the Model City Facility. Transporters of non-waste may use alternate routes to the facility. Approximately 90% of all shipments (including all waste shipments) to the site use these routes; the remainder use local roads to reach the site. The New York State Thruway (I-90) provides Niagara County with access to the New England states to the east and to the central states to the west. Four regionally located bridges provide direct connections to Canada over the Niagara River.

Shipment vehicles include box-type trailers carrying 55-gallon containers and other approved containers. Bulk solids shipments are generally received in rolloff boxes and dump trailers. Bulk liquid trailers are used for large quantities of liquids.

The roads inside the plant are of stone and asphalt construction. These have been subject to heavy loadings for several years and are in excellent condition. The speed limit is 10 miles per hour (mph). Signs are posted on Marshall Street, J Street, M Street and on the Balmer Road entrance to the Model City Facility. Landfill access roads generally consist of stone and on-site soils and are constructed to embankment specifications, generally 6- to 9-inch lifts compacted to 90 percent or greater density. The roads are designed for a load-bearing capacity equivalent to DOT H 20 loading.

The construction of RMU-2 will require the removal of portions of M Street and McArthur Street; however, removal of these roads will not impact facility operations.

All incoming waste shipments enter the Model City Facility at the main entrance at 1550 Balmer Road. The security guard performs an initial inspection of each load that includes an inspection of the truck exterior for leaks, confirmation that the driver has the proper safety gear for entrance to the Model City Facility and the proper paperwork (e.g., manifests, work orders) accompany the shipment. Trucks are not scheduled to arrive after normal operating hours and drivers are so informed. Waste-hauling vehicles entering and leaving the Model City Facility are not allowed to stage on Balmer Road or other roads in Niagara County.

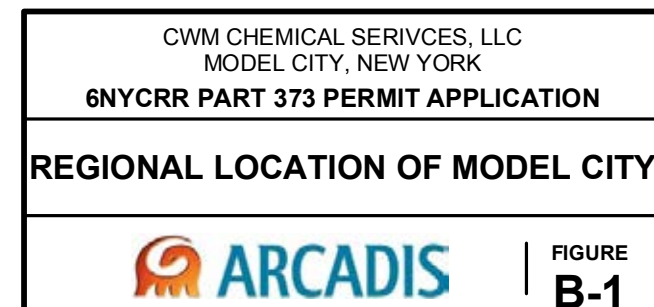
Once admitted at the front gate, vehicles proceed to the scale and quality control (QC) station. After having their paperwork verified and logged in, and being sampled for QC purposes, vehicles containing waste for landfill disposal within the active landfill are directed to the entrance ramp for access to the operating cells within the unit. If QC tests or the manifest indicates that in-plant stabilization is required to meet landfill restrictions, the truck proceeds to the Stabilization Building, rather than directly to the landfill. After stabilization of the load, the truck proceeds to its final disposal location within the active landfill or to a designated short-term storage area until tests to determine the adequacy of the stabilization operation can be completed.

Following completion of the tests, the load is either placed in the landfill or return to the Stabilization Building for further treatment. After making their delivery to the landfill, vehicles are decontaminated, exit the landfill, proceed to the outbound scales and then exit from the Model City Facility via the guardhouse to Balmer Road.

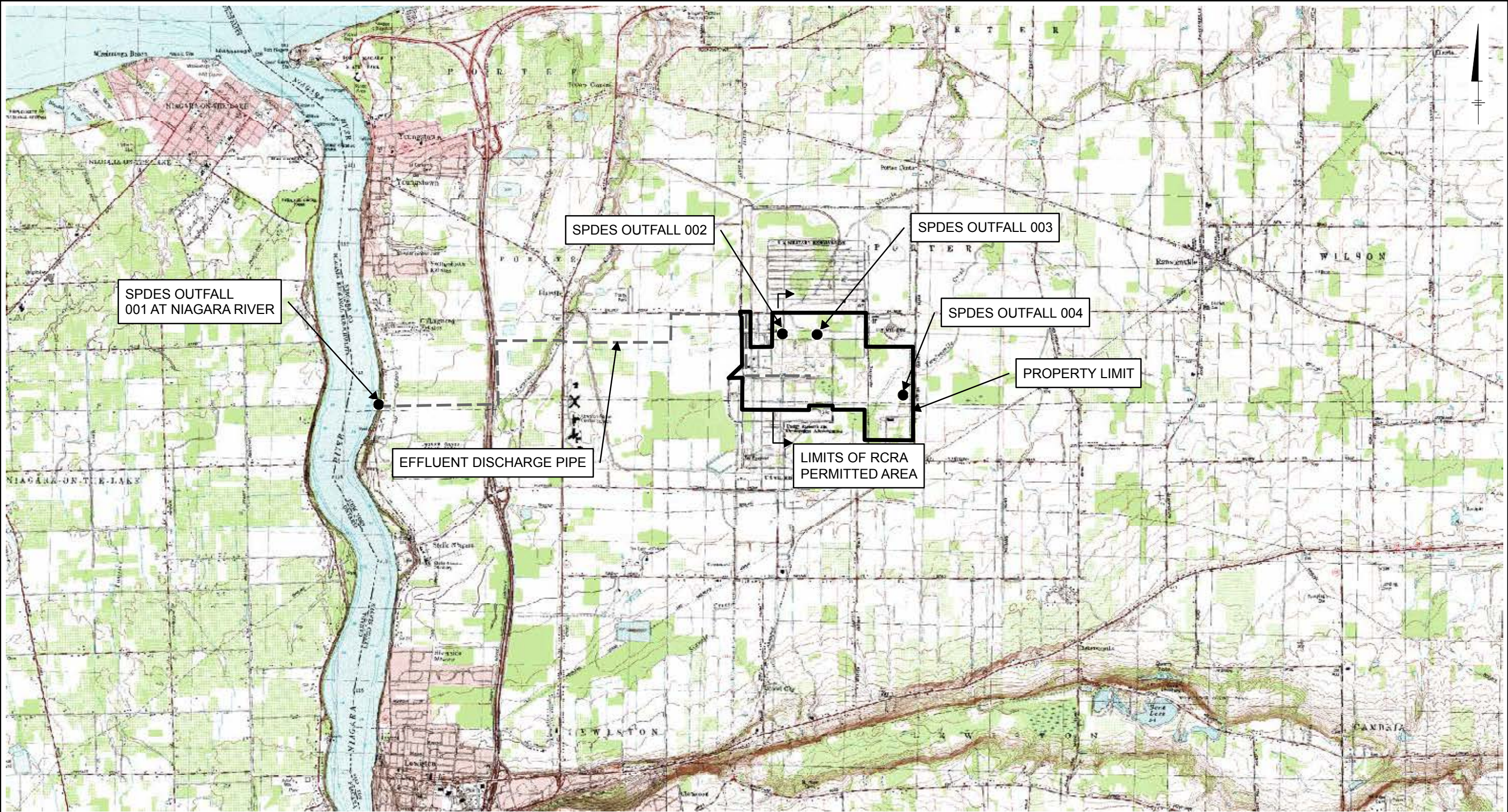
All trucks are decontaminated prior to exiting the landfill. The exterior of trucks that have not come in contact with hazardous waste or have been previously decontaminated may be washed at the Truck Wash Building. The truck access routes to and around the proposed RMU-2 unit are depicted on Figure B-6.

In July 1993, CWM agreed to certain traffic restrictions as part of the Community Advisory Committee (CAC) Agreement. The CAC consists of representatives from the Town of Lewiston, Town of Porter, Niagara County and the Residents Organized for Lewiston-Porter's Environment, Inc.. Traffic routes to and from the Model City Facility, days and hours when trucks may be scheduled for arrival or departure, the maximum number of daily and hourly waste trucks and penalties for violating these restrictions are specified. A copy of the most recent CAC Agreement is available at the Model City Facility.



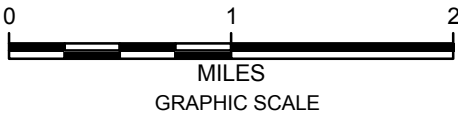






NOTES:

- 1. PROPERTY LINES ARE APPROXIMATE.
- 2. NO DRINKING WATER WELLS EXIST WITHIN 1/4 MILE OF THE FACILITY.
- 3. THE TREATED EFFLUENT DISCHARGE IS LOCATED AT THE NIAGARA RIVER.
- 4. 710 TOTAL ACRES.
- 5. 630 RCRA PERMITTED ACRES.



DATA SOURCE: 24K USGS TOPO QUAD, NRCS Geospatial Data Gateway

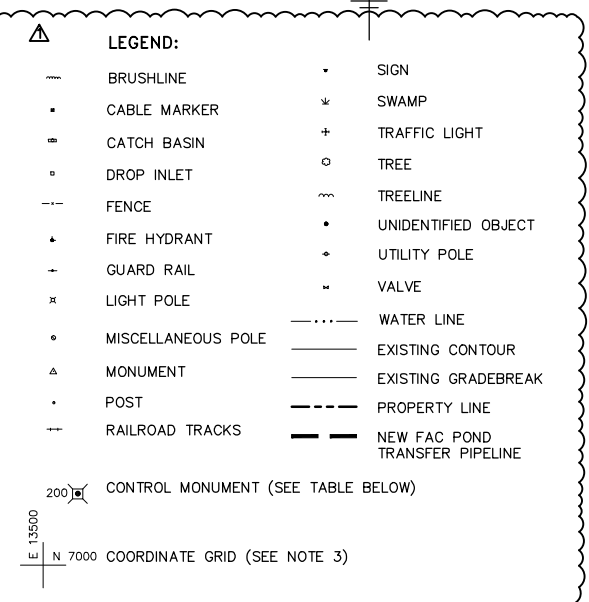
CWM CHEMICAL SERVICES, LLC  
MODEL CITY, NEW YORK  
6NYCRR PART 373 PERMIT APPLICATION

FACILITY LOCATION DETAIL



FIGURE  
B-2





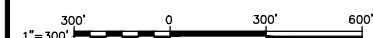
RMU-1/RMU-2 CONTROL MONUMENTS								
MONUMENTS	ELEVATION	CWM PLANT GRID		RMU-1 GRID		NY STATE PLANE COORDINATES (NAD-27)		NGVD-29 ELEVATION
		NORTHING	EASTING	NORTHING	EASTING	NORTHING	EASTING	
102R	319.72	100+94.55	111+87.56	100+94.65	11+87.56	1,175,430.46	396,380.12	319.66
200	318.33	101+89.56	126+13.77	101+89.56	26+13.77	1,175,488.28	397,808.18	318.27
101R	316.01	109+94.28	111+23.09	---	---	1,176,331.436	396,339.034	315.92
201	316.62	110+17.82	126+3.49	---	---	---	---	---

CONTROL MONUMENTS NOTE:

1. RMU-1 EASTING GRID COORDINATES ARE SIMPLIFIED PLANT GRID COORDINATES. SUBTRACTING 10,000 FROM THE CWM PLANT GRID EASTING COORDINATE WILL CONVERT THE CWM PLANT GRID TO THE RMU-1 GRID. NOTE THAT NO CONVERSION IS REQUIRED FOR NORTING COORDINATES.

NOTES:

1. TOPOGRAPHIC BASE MAP CONSISTS OF COMBINATION OF DATA COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 5/31/01 BY AIR SURVEY CORP. (PROJECT NO.71010503), AND AN AUGUST 2008 SURVEY BY ENSOL, INC.
2. VERTICAL DATUM BASED ON NGS MEAN SEA LEVEL.
3. GRID COORDINATES SHOWN ARE CWM PLANT GRID.
4. CONTOUR INTERVAL 2 FT.
5. DASHED CONTOURS INDICATE THAT GROUND IS PARTIALLY OBSCURED BY VEGETATION OR SHADOWS. THESE AREAS MAY NOT MEET STANDARD ACCURACY AND REQUIRE FIELD VERIFICATION.
6. PROPERTY LINE IS APPROXIMATE. EASEMENTS AND RIGHT-OF-WAYS NOT SHOWN.
7. RMU-2 LIMIT REPRESENTS TOE OF PERIMETER MSE WALL.



THIS BAR  
REPRESENTS ONE  
INCH ON THE  
ORIGINAL DRAWING:



USE TO VERIFY  
FIGURE  
REPRODUCTION  
SCALE

[illegible]

ARCADIS OF NEW YORK, INC.

CWM CHEMICAL SERVICES, LLC • MODEL CITY, NEW YORK  
RESIDUALS MANAGEMENT UNIT 2 6NYCRR PART 373 PERMIT APPLICATION

## FACILITY LAYOUT AND PROPOSED RMU-2 LOCATION

## GENERAL

ARCADIS Project No.  
B0023725.2009.00006

Date  
OCTOBER 2009

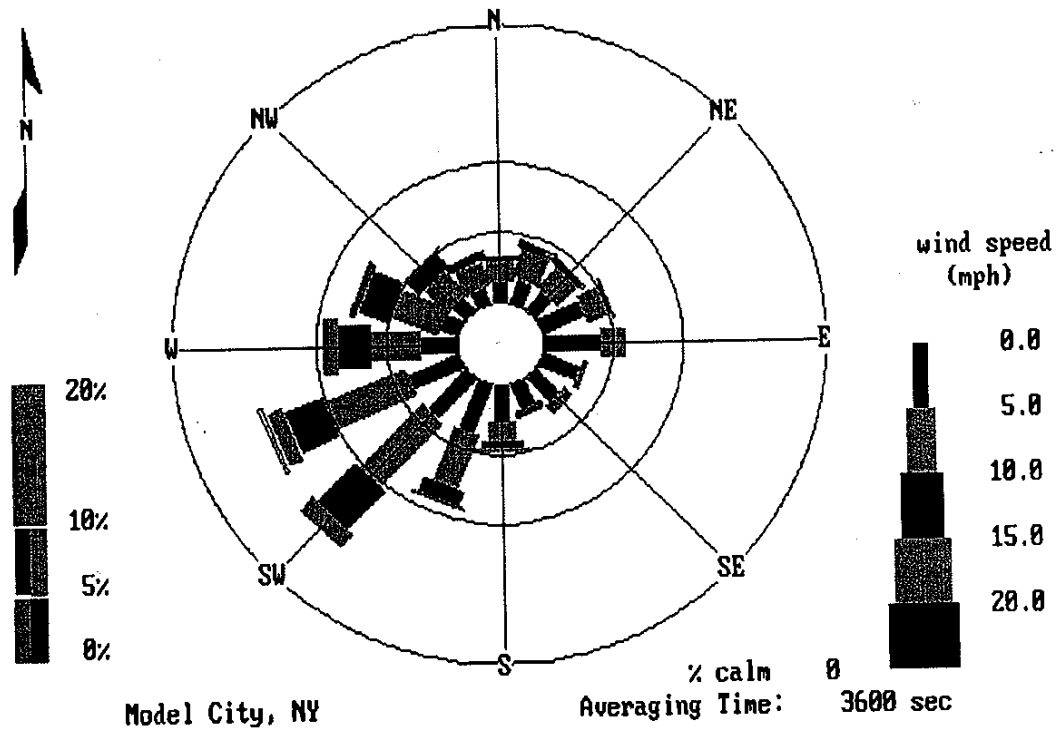
ARCADIS of New York, Inc.  
6723 Towpath Road  
P.O. Box 66  
Syracuse, New York  
TEL 315.446.91220

**B-3**

**FIGURE**  
**B-4**

CWM CHEMICAL SERVICES, INC.  
ANNUAL 1994

WIND ROSE ANALYSIS FOR 01/01/94 TO 12/31/94



CWM CHEMICAL SERVICES, LLC  
MODEL CITY, NEW YORK  
6NYCRR PART 373 PERMIT APPLICATION

WIND ROSE ANALYSIS FOR MODEL CITY  
01/01/94 TO 12/31/94



FIGURE  
B-5

[illegible]

## TRUCK MOVEMENT DIAGRAM

GENERAL

ARCADIS Project No. B0023725.2009.00006
Date OCTOBER 2009
ARCADIS of New York, Inc. 6723 Towpath Road P.O. Box 66 Syracuse, New York TEL. 315.446.91220

**FACULTATIVE POND TANK ASSESSMENT**

**T-9001**

***Tank System Design and  
Assessment Report for  
Fac Pond 5 Tank T-9001***



**CWM Chemical Services, LLC  
Model City, New York**

**April 2013  
(Revised August 2013)  
(Revised November 2013)**

**Prepared by**

**EnSol, Inc.**  
**Environmental Solutions**



**EnSol, Inc.**  
**Environmental Solutions**

**661 Main Street**  
**Niagara Falls, NY 14301**

*Professional Engineering • Business Consulting*

*Ph (716) 285-3920 • Fx (716) 285-3928*  
*E-Mail bshiah@ensolinc.com*

*Transmitted Via Electronic Mail and Hand Delivery*

November 7, 2013

Mr. Stephen Rydzyk  
Maintenance Manager / Engineer  
CWM Chemical Services, LLC  
1550 Balmer Road, P.O. Box 200  
Model City, New York 14107

Re: Tank System Design and Assessment Report for Fac Pond 5  
Tank T-9001  
Model City, New York  
EnSol Project #: 13-7006

Dear Mr. Rydzyk:

Enclosed please find two copies of the Final Report titled, *Tank System Design and Assessment Report for Fac Pond 5 Tank T-9001* dated April 2013 (revised August 2013 and November 2013), as prepared by EnSol, Inc. (EnSol). This report is provided to present applicable design and construction information for the proposed Tank T-9001 system, as described herein, to allow for storage of collected water from the secondary containment system of proposed Fac Pond 5.

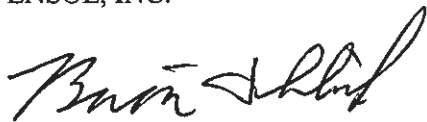
The report includes an assessment and review of the structural integrity of the proposed tank system and compatibility of the materials of construction with the material expected to be handled. This assessment is intended to satisfy the State and Federal Regulations listed under 6 NYCRR Part 373-2.10(c), and 40 CFR 264.192, respectively, with regards to design and installation of new tank systems or components.

The intent of this report is to provide sufficient information to the New York State Department of Environmental Conservation (NYSDEC) for review of the proposed system design and usage, and for subsequent approval to construct and operate the tank system.

If you have any questions or require additional information, please contact me at (716) 285-3920, ext. 212.

Sincerely,

ENSOL, INC.



Brian D. Shiah, P.E.  
President

Enclosures

## **REPORT**

---

# ***Tank System Design and Assessment Report for Fac Pond 5 Tank T-9001***



**CWM Chemical Services, LLC  
Model City, New York**

**April 2013  
(Revised August 2013)  
(Revised November 2013)**

Prepared by  
**EnSol, Inc.**  
661 Main Street  
Niagara Falls, New York 14301

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1. Regional Location Map
2. Facility Location Detail
3. Facility Layout Plan

## Appendices

- A. Proposed Fac Pond 5 Permit Drawings (Arcadis)
- B. Proposed Secondary Containment Storage Tank Information (Snyder)
  - Tank Product Data
  - Snyder Specification #199901
  - Tank Chemical Resistance Chart
  - Fac Pond Water Physical / Chemical Analysis
- C. Proposed Pump, Piping, and Equipment Information
  - Secondary Containment Submersible Pump Data (Goulds)
  - Pump Cart Shop Drawing (CWM)
  - Flex Hose Cut Sheet (Goodyear)
  - Level Transmitter (Viatram)
  - Programmable Limit Alarm (Moore)
  - High Level Switch (Madison)
  - Turbine Flow Sensor and Flow Meter Cut Sheet (Seametrics)
  - HDPE Pipe Data (Phillips Chevron)
  - Ball Valve & Hose Adapter (Grainger)

# 1. Introduction

---

## 1.1 General Site Information

CWM Chemical Services, LLC (CWM) owns and operates a commercial hazardous waste treatment, storage, and disposal facility (TSDF) in Model City, Niagara County, New York. This TSDF began operating in 1972 as ChemTrol Pollution Services, Inc. Due to corporate acquisitions and name changes, CWM, a subsidiary of Waste Management, Inc., is the present owner and operator of the facility. Waste Management, Inc. is based in Houston, Texas.

The facility is located on Balmer Road in Model City, New York, approximately 1.9 miles east of New York State Route 18 (Creek Road), and occupies land in the towns of Lewiston and Porter. A Regional Location Map and Facility Location Detail are presented in Figures 1 and 2, respectively. All existing waste management units on the site are located within the Town of Porter. The contiguous property along Balmer Road is also the location of offices for the Administrative, Sales and Marketing, Data Processing, Accounting, Environmental, and Engineering Departments.

The CWM Model City facility is permitted as a TSDF under the Resource Conservation and Recovery Act (RCRA). Numerous units at the site are used to store, treat, and dispose of a variety of liquid and solid organic and inorganic hazardous wastes. Storage, treatment, and disposal capabilities include an Aqueous Wastewater Treatment System (AWTS) utilizing chemical, physical, and biological treatment processes from which treated wastewater is discharged to the Niagara River in accordance with the facility's State Pollutant Discharge Elimination System (SPDES) Permit; secure landfilling of approved waste solids and semisolids, including polychlorinated biphenyls (PCBs); waste stabilization; container and tank storage; transformer decommissioning; and PCB treatment and storage. Figure 3 presents a Facility Layout Plan.

## 1.2 Project Purpose and Objective

The purpose of this report is to present applicable design and construction information for the proposed Fac Pond 5 secondary containment storage tank (SCS Tank), and to document the results of an assessment conducted by EnSol, Inc. (EnSol) for this tank system. The proposed SCS Tank is a double walled pre-manufactured High Density Linear Polyethylene (HDLPE) storage tank, to be located in the Fac Pond Riser House at Fac Pond 5. Fac Pond 5 will be a newly constructed surface impoundment constructed with a double liner system. This will include leachate collection and removal system between such liners. Any liquids that reach the secondary containment will drain to a low point or sump and be pumped into the proposed SCS Tank. The SCS Tank will be housed within a Riser House at the top of the perimeter embankment of the fac pond. The proposed tank will be known as T-9001. It is intended that this report be used by CWM to aid in obtaining an approval from the New York State Department of Environmental Conservation (NYSDEC) as per 6 NYCRR 373-2.10(c) to install the tank, piping, and appurtenances, and to operate the SCS Tank system for the purpose stated above.

The objective of the assessment is to satisfy the applicable State and Federal Regulations for the installation of new tank systems as required by CWM's Sitewide Part 373 Permit #9-2934-020022/00097. As required by 6 NYCRR 373-2.10(c)(1), the owner or operator of a new tank system must obtain and submit to the NYSDEC a written assessment attesting that the tank system has sufficient structural integrity and is acceptable for storing hazardous waste.

---

The following information is included in this report for the proposed SCS Tank system: location, configuration, design parameters, operating procedures, materials of construction, provisions for secondary containment and leak detection, and the results of EnSol's assessment.

### 1.3 Tank Inspection/Assessment Requirements and Guidelines

An assessment of the subject tank system is required by State and Federal Regulations listed under 6 NYCRR 373-2.10(c) and 40 CFR 264.192, respectively, pertaining to Hazardous Waste Management Facilities. These regulations identify the assessment requirements to be met and associated activities to be performed related to the design and installation of new tank systems or components. The assessment procedure also requires an evaluation of the system design, as it pertains to the containment and detection of releases, in accordance with State and Federal Regulations listed under 6 NYCRR 373-2.10(d) and 40 CFR 264.193, respectively. Additional site-specific permit requirements may also be developed between the owner and the regulatory agencies, such as the CWM Tank and Sump Assessment Schedule included in CWM's Sitewide Permit.

In addition to general regulations and/or site-specific permit requirements, there are several recommended or applicable guidance documents pertaining to tank inspections, assessments, and design. EnSol personnel have used the primary guidance documents referenced below to conduct previous site inspections, assessments, and designs for tank systems, and to aid in the design and assessment contained herein.

- i. *Guide for Inspection of Refinery Equipment, Chapter XIII, Atmospheric and Low Pressure Storage Tanks*, American Petroleum Institute (API) publication, 4<sup>th</sup> edition, 1991.
- ii. *Tank Inspection, Repair, Alteration, and Reconstruction*, API Standard 653, 3rd Edition, December 2001.
- iii. *Requirements for Tank and Container Storage*, NYSDEC, Technical and Administrative Guidance Memorandum No. 3019, April 23, 1991.
- iv. *Concrete Secondary Containment for Tank and Container Storage*, NYSDEC, Technical and Administrative Guidance Memorandum No. 3021, March 11, 1991.
- v. *Chemical Plant and Petroleum Refinery Piping*, American Society of Mechanical Engineers (ASME) Standard B31.3-1990

## ***2. Tank Location and Description***

---

### **2.1 Location**

The SCS Tank will be located in the proposed Fac Pond Riser House located along the perimeter berm of Fac Pond 5. Fac Pond 5 will be constructed new as part of the RMU-2 development project. Fac Pond 5 will be located between closed landfills SLF 12 and SLF 7 to the north of the existing Leachate Tank Farm. The location of the fac pond is shown on the set of design drawings by Arcadis included in Appendix A.

### **2.2 Dimensions and Capacity**

The SCS Tank will be a single chamber, dual walled, cylindrical vessel with a flat bottom and a flat roof, with exterior dimensions of 6 feet - 4 inches diameter x 8 feet - 10 inches high. The design capacity of the tank is 1,100 gallons.

### **2.3 Structural Support and Foundation**

The tank will be a free standing flat bottomed tank which will be supported by a 6-inch thick reinforced concrete slab system within the Riser House. The concrete slab will be underlain with a minimum 6-inch thick layer of compacted stone. The tank will not require additional supports or tie-downs as it will not be subject to any wind, snow, significant seismic, or other external loads, however, as an added measure, tie-downs will be included to anchor the tank to the Riser House floor slab using the manufacturer provided cable restraint system or an or-equal approved system..

### **2.4 Materials of Construction**

The SCS Tank is a 1,100 gallon High Density Linear Polyethylene (HDLPE) tank manufactured by Snyder Industries, Inc. The design shell thickness will be a minimum 0.187 inches (3/16 inch). Refer to Appendix B for additional design and construction specifications and manufacturers information.

### **2.5 Miscellaneous Attachments**

As shown on the reference drawings in Appendix A, the SCS Tank will have one inlet and one outlet on the top of the tank and one top vent opening with breather valve. Nozzle diameters will all be 2-inches. The tank will also include an 18-inch top manway.

### **2.6 Process Description, Piping, and Pumping System**

The proposed use of the SCS Tank will be for the storage of liquid generated from the secondary collection sump in Fac Pond 5. The liquid will be pumped up the 18-inch diameter HDPE sideslope riser pipe from the secondary collection sump via a submersible pump. The pump will be connected to the tank piping using a 2-inch diameter chemical flex hose. The tank will be equipped with a 2-inch diameter HDPE inlet pipe and flow meter to measure any liquid that is pumped into the tank. The tank will store the liquid until it can be pumped out of the tank via vacuum truck utilizing the 2-inch dip tube on the top of the tank. This liquid will then be transferred to the on-site AWTS for processing.

---

## **2.7 Overpressure/Vacuum and Overfill Protection**

Primary overpressure/vacuum protection, under normal operating conditions (i.e., tank filling, content withdrawal, and diurnal breathing), will be provided by a 2-inch diameter pipe vent open to the atmosphere.

Overfill protection for the tank is provided by a high level float switch inside the tank. This switch will inhibit the inlet pump and signal an alarm light on the exterior of the building.

## **2.8 Protective Coatings**

The tank is constructed of HDLPE resin and is inherently resistant to corrosion or chemical degradation by the anticipated liquids (Fac pond water) without the addition of any protective coatings. Chemical analysis of Fac Pond water was provided by CWM and is included in Appendix B. The tank will be housed within the Riser House, which is a heated structure; therefore, the tank will not require any additional external coatings to protect it from UV degradation or other environmental factors. Manufacturer's Specifications, including chemical resistance data and chart are included in Appendix B.

## **2.9 Secondary Containment and Leak Detection**

Secondary containment for the SCS Tank is provided by a double walled tank construction. In the event of a leak from the primary tank, the liquid would be contained within the secondary tank. The tank's double walled design meets all volume requirements for secondary containment and will provide a minimum of 100% of the normal fill capacity of the primary tank.

Leak detection for the SCS Tank will be provided by an electronic moisture sensor placed within the interstitial space of the double walled tank. This sensor will activate a visible alarm (light) on the exterior of the Riser House which will be seen by visual means through daily inspection by CWM personnel. The tank sides, top, nozzles, and system piping are all visible for easy inspection. A drain valve located near the bottom of the secondary containment tank wall will also be available to check for liquids in the secondary containment area as an additional measure.

## 3. Assessment and Certification

---

EnSol conducted an assessment and review of the proposed SCS Tank system components at CWM's Model City facility in order to assess the integrity and to confirm the compatibility of the components with materials that are to be handled.

### 3.1 Design and Record Information

EnSol reviewed available design and record information that were provided by CWM and/or the various equipment and tank manufacturers. Information regarding design standards, materials of construction, structural supports, hazardous characteristics of the waste stream to be handled, and corrosion protection systems (internal and external) was obtained from these sources. EnSol did not perform compatibility studies or materials testing for the proposed system components, however; a close review and comparison of the system's specific materials of construction compared to available manufacturers published chemical compatibility and resistance data, tables, charts, and test results clearly indicates adequate compatibility with the materials expected to be handled and no chemical compatibility issues are expected. It is also noted that EnSol's extensive familiarity and experience with these materials (see Appendix C) in similar applications at CWM and elsewhere, combined with our knowledge of the materials/liquids expected to be handled within the Fac pond allows EnSol to judge the tank materials of construction to be compatible with the waste to be stored.

### 3.2 Summary and Conclusions

The SCS Tank system is to be used by CWM for the storage of liquids generated from the secondary containment sump in proposed Fac Pond 5. Chemical analysis of the Fac pond water typically handled, provided by CWM, does not contain constituents or concentrations harmful to the tank or piping systems. The proposed tank was specified and designed as a chemical-resistant tank that will provide maximum performance, within the specified limits, to contain aggressive chemicals at atmospheric pressures. The tank is expected to meet or exceed the conditions it will be exposed to.

In accordance with the requirements listed under 6 NYCRR 373-2.10(c)(2), the new tank system will be inspected by an independent, qualified, installation inspector or registered New York Professional Engineer prior to placing the system in use. During start up CWM will visually inspect the system components to insure they are free of leaks and any deficiencies immediately addressed.

The assessment for the proposed SCS Tank system, as prepared by EnSol and presented in this report, includes consideration of the proposed tank's foundation, structural supports, secondary containment, leak detection, tank design standards, proposed equipment, and existing conditions. EnSol considers each of these items to be adequately designed and/or constructed for the intended use and, where applicable, to have sufficient structural strength. Proposed materials of construction for the systems appear to be sufficiently compatible with the materials expected to be handled. Considering the proposed use and service, the proposed tank system identified herein were judged by EnSol to be adequate for its intended service, providing the tank system operating temperature and chemical exposure limitations are not exceeded.

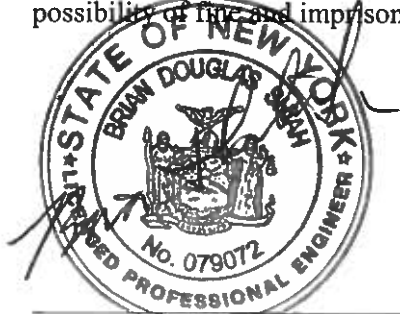


## **TANK SYSTEM DESIGN AND ASSESSMENT REPORT FOR FAC POND 5 TANK T-9001**

**CWM Chemical Services, LLC  
Model City, New York Facility**

### **CERTIFICATION**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Brian D. Shiah, P.E.  
ENSOL, INC.

11/7/13  
Date