Our Children's Earth Foundation v. Cargill, Inc., No. 3:19-cv-01007-LEK-ML

Appendix 1

Best Management Practices ("BMP") Plan, Cargill, Inc. Cayuga Mine, Lansing

Part 1 of 2

Intended for
Cargill, Incorporation
191 Portland Point Road
Lansing, NY 14882

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BEST MANAGEMENT PRACTICES (BMP) PLAN CARGILL, INCORPORATED CAYUGA MINE LANSING, NY

ERRATA SHEET FOR THE JANUARY 2020 REVISION OF THE BEST MANAGEMENT PRACTICES (BMP) PLAN CARGILL, INCORPORATED CAYUGA MINE LANSING, NY

Location(s)	Now Reads (January 2020 Revision)	Future Correction(s) & Change(s)	Basis
Throughout the BMP Plan including attachments and figures.	Outfall 004A	Outfall 016A	NYSDEC instruction to not re-use previous permitted outfall designations that are no longer applicable. Per NYSDEC guidance, sequential and previously unused designations are listed.
	Outfall 004B	Outfall 016B	
	Outfall 005	Outfall 015	

BEST MANAGEMENT PRACTICES (BMP) PLAN CARGILL, INCORPORATED CAYUGA MINE LANSING, NY

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1. INTRODUCTION

1.1 Background

1.1.1 Elements of the BMP Plan

The objectives of this Best Management Practices (BMP) Plan include the following:

- To evaluate and describe the facility's components or systems (including material storage, transfer, and process areas, waste handling areas, and material loading and unloading operations) where industrial pollutants are used, stored or handled;
- To evaluate the potential for the release of significant amounts of industrial pollutants to the waters of the State;
- To assess existing efforts to reduce the potential for significant releases; and,
- To recommend appropriate best management practices (BMPs) to be established and provide an implementation schedule for the BMPs.

The goal of this BMP Plan is to ensure that through the implementation of this plan, Cargill will prevent or minimize the generation and the potential release of pollutants from the facility to waters of the State.

During storm events, stormwater runoff has the potential to become contaminated with dissolved and suspended pollutants when rainfall (or snowfall) and subsequent runoff come in contact with exposed raw materials *(i.e.*, salt) on impervious surfaces, material handling equipment, or machinery. The objective of this BMP plan is to supplement the effluent discharge limitations and monitoring/reporting requirements of the facility's State Pollutant Discharge Elimination System (SPDES) Permit to minimize or reduce the discharge of pollutants into waters of the State.

This plan includes, at a minimum, the 13 Minimum BMPs required by the facility's SPDES Permit (See Appendix 1 for a cross-reference between the 13 Minimum BMPs listed in Cargill's SPDES permit and the locations in this plan where those BMPs are addressed). In addition, a reference to each of the 13 Minimum BMPs is also provided next to corresponding sections within this plan and can be quickly referenced in the Table of Contents.

1.1.2 SPDES Permit Requirements

This BMP Plan was prepared on behalf of Cargill for its Cayuga Mine facility located in Lansing, New York. Development of the BMP Plan is required under the Special Conditions section of the facility's SPDES Permit No.: NY-0101290 (Appendix 2).

This BMP Plan has been prepared in accordance with the New York State Department of Environmental Conservation (NYSDEC) requirements for the preparation of BMP plans as well as the guidance provided in the United States Environmental Protection Agency's (EPA) Guidance Manual for Developing Best Management Practice (BMP) Plans [EPA 833-B-93-004, October 1993]. It identifies the measures and controls, commonly termed BMPs, which will be implemented at the facility to control the discharge of potential pollutants in regulated stormwater discharges.

The NYSDEC requires facilities to develop and implement a BMP plan to "prevent or minimize the potential for, release of significant amounts of toxic or hazardous [substances] to the waters of New York State (the State) through plant site runoff, spillage and leaks [from material containment vessels], sludge or waste disposal, or drainage from raw material [use, handling, or storage areas]." In accordance with the NYSDEC requirements, toxic or hazardous substances are defined as materials, which contain one, or more of the substances included in the lists below:

- Toxic substances listed under Section 307(a)(1) of the Clean Water Act; and
- Hazardous substances listed under Section 311 of the Clean Water Act.

The listings of toxic or hazardous substances is contained in the Code of Federal Regulations (CFR) Title 40 Part 117 and the NYSDEC's Hazardous Substances identified in New York State's Chemical Bulk Storage Tank Regulations (6 NYCRR 596-599).

Site inspections of the facility identified that the primary substances of concern at the Cayuga Mine include sodium and magnesium salts (NaCl and MgCl2, respectively) and Yellow Prussiate of Soda or "YPS" (sodium ferrocyanide). YPS is an anti-caking additive that inhibits the caking tendencies of salt when exposed to moisture. The complex ion in YPS does not readily dissociate, but the presence of YPS in spilled salt products creates the possibility for detectable levels of free cyanide in stormwater runoff. Based on the large quantities of salt handled at the facility, and the potential for exposure to stormwater runoff, there is the possibility of elevated levels of chlorides and free cyanide in stormwater discharges.

A special salt solution is used to produce ClearLane® Enhanced Deicer (CLED). Magnesium chloride and other minor additives are blended with rock salt (sodium chloride) to produce the CLED product.

Lsted hazardous substances handled at the facility (surface operations) are hydrochloric and sulfuric acid, zinc sulfate, sodium hydroxide and sodium hypochlorite. These substances are located within the Microfiltration (MF) and Electrodialysis (ED) Plant ("MF and ED Plant") and are not considered primary substances of concern at the facility for the purposes of this BMP plan.

Other potential sources of stormwater pollution can be attributed to petroleum products and other oils. Oil and petroleum products are used at the facility for lubrication of equipment and for fueling purposes. The pollution prevention of oil and petroleum products is covered in the facility's Spill Prevention Control and Countermeasure (SPCC) Plan and therefore has not been included in this BMP Plan.

In the event of an oil spill, please refer to the facility's SPCC Plan, which describes the procedures, methods, and equipment to prevent and initiate the cleanup of spilled oil products. A copy of the current SPCC plan is maintained in the Environmental Health and Safety (EHS) office.

1.2 Facility Description

Cargill's Mine (facility) is located along Portland Point Road in the Town of Lansing, Tompkins County, New York. The surface operations of the facility consist of approximately 69 acres.

The facility is bounded by a stone quarry to the east, Cayuga Lake to the west, and undeveloped (wooded) properties to the north and south. Cargill leases space from the adjacent quarry for additional salt storage. Based on the topography of the area (as shown on the figures), a significant portion of the facility is located on a hillside above the eastern shores of Cayuga Lake. Appendix 3 includes the 2019 facility survey drawings and can be referenced for additional topographic information of the site.

A site location map is presented as Figure 1. A site map, including stormwater discharge (outfall) locations at the facility, is provided as Figure 2. Table 1 provides general facility information.

Table 1. General Facility Information

Item	BMP Plan Location
Facility Name	Cargill Salt – Cayuga Mine
Facility Operator	Cargill, Incorporated
SIC Code	1479 – Nonmetallic Mineral Mining
Location	Cargill Salt Cayuga Mine 191 Portland Point Road Lansing, NY 14882
Site Latitude and Longitude	42º 32' 26" , 75º 54' 10"
Phone	(607) 533-3738

The facility mines rock salt and packages salt for various applications including ice control and industrial use. The facility began salt mining operations in the early 1920's. The primary facility operations consist of mining, screening, bulk-loading, salt-bagging, and transfer operation (such as conveyor belts).

The Cargill facility consists of above and below-ground operations. Subsurface operations include rock salt mining, crushing, and screening which is then hoisted to the surface. Surface operations include bulk loading, bulk storage, salt bagging, transfer, and loading operations including conveyor systems and truck transport. Loaded trucks are driven to the weigh station on Portland Point Road approximately 0.7 miles north of the main office building where they are approved for delivery or returned to the site for additional loading or unloading. In addition, the facility manages two offsite storage pads.

Other auxiliary operations include treatment of onsite generated sanitary wastewater and treatment of select wastewater and stormwater by the MF and ED Plant.

1.3 Security (BMP #6)

This facility is located in a rural/industrial area and is operated 24-hours a day, 7 days a week. Cargill takes the following security measures to prevent spills resulting from acts of vandalism or accidents caused by unauthorized persons trespassing on the property.

- During evenings and weekends when facility activities decrease, on-site security guards perform hourly rounds that are documented by a punch clock system.
- The Maintenance Shop Oil Room is locked when personnel are not present. The nozzle for the 2,000-gallon diesel AST is also locked.
- Tanks and secondary containment areas are secured from tampering by the following measures:
  - Piping connections at the facility are hard piped
  - Valve and pipe connections are capped or blank flanged when oil piping is not in service for six months or more.
- Lighting is provided in the parking lot and at oil transfer areas. Additional lighting (*e.g.*, flashlights) would be provided as needed in case of a spill during night hours.

1.4 Site Drainage

Figures 2-5 present the overall drainage of the facility showing the following features:

- Location of stormwater catch basins contributing to each outfall;
- Existing structural control measures to reduce pollutants;
- Locations where significant materials are exposed to precipitation;
- Locations of permitted discharges; and,
- Locations of the following activities (where such activities are exposed to precipitation):
  - Loading/unloading areas;
  - Locations used for the treatment, storage or disposal of wastes; and,
  - Storage areas.

The Cargill facility is currently authorized for discharge to eight onsite outfalls under the facility's SPDES Permit. Cargill anticipates the addition of three stormwater outfalls to the SPDES Permit and has included these additional outfalls (Outfalls 004A, 004B, and 005) in this Revision of the BMP Plan (January 2020). Cargill anticipates that Outfalls 004A and 005 will be monitored similarly to Outfalls 002, 003, 006, 007, and 012. Outfall 004A has been selected as the monitoring location in lieu of Outfall 004B based on substantially identical outfall analysis, as described in Section 1.4.1. Once the Permit is updated, Cargill will update Tables 7 and 8 with required parameters and monitoring limits for Outfalls 004A and 005. Stormwater discharges at the Cargill facility account for nine of the permitted outfalls, while non-stormwater discharges account for two. All outfalls ultimately discharge to Cayuga Lake.

The coordinates of the facility's eight permitted outfalls and the proposed outfalls are outlined in Table 2 below.

Table 2. Outall Coordinates

Outall	Discharge Type	Latitude	Longitude
001	Stormwater	42.5340	-76.5330
002	Stormwater	42.5325	-76.5322

Outall	Discharge Type	Latitude	Longitude
003	Stormwater	42.5321	-76.5318
004A	Stormwater	42.5320	-76.5318
004B	Stormwater	42.5317	-76.5314
005	Stormwater	42.5343	-76.5345
006	Stormwater	42.5302	-76.5296
007	Stormwater	42.5297	-76.5288
009	Sanitary Wastewater	42.5327	-76.5303
012	Stormwater	42.5308	-76.5306
014	Cooling Water	42.5309	-76.5306

1.4.1 Permitted Stormwater Outfalls

Most of the surface water drainage at the Cargill facility is conveyed into an extensive subsurface storm drain system via catch basins, drainage troughs, and a combination of manmade and naturally occurring swales.

Aside from Outfalls 004A, 004B, 005, and 012, all stormwater outfalls receive run-on from the east, Portland Point Road (Tompkins County Roadway), and from upstream (off-site) properties.

The following describes the stormwater drainage areas and associated outfalls at the facility:

Drainage Area 001

Drainage Area 001, the largest drainage area of the facility (approximately 28.4 acres), includes facility access roads, the Upper, Middle, Lower, and Off-Site Bulk Storage Pads and transfer areas, the MF and ED Plant, a portion of the T-4 Bulk Salt Storage Building, and the Brine Storage Tanks.

Stormwater runoff from the Upper, Middle, and Lower Bulk Storage Pads flows to catch basins located in the southwest corners of each pad. For each pad, the stormwater then travels by gravity to a distribution tank, where a conductivity meter measures the stormwater's conductivity level. Based on the conductivity measured, a flow valve responds to route the stormwater to be discharged directly through SPDES Outfall 001 or to the MF and ED Plant for treatment prior discharge to SPDES Outfall 001. Conductivity is used as an indicator that water quality does not meet permit limits. Measured levels of conductivity are electronically compared with the set point conservatively determined by the facility and stormwater is managed as follows:

- If conductivity is below the set point stormwater is routed to a clean runoff collection manhole and discharged directly into Cayuga Lake via Outfall 001.
- In the situation where conductivity is above the set point, stormwater is managed as follows:
  - Under normal conditions, stormwater is conveyed to the Brine Collection Tanks for treatment at the facility's MF and ED Plant (prior to discharging into Cayuga Lake at Outfall 001 acceptable concentrations).
    - MF and ED Plant reject water generated from the treatment systems not acceptable for discharge to an outfall is discharged into Mine Shaft #1 via a concentrate line. The facility maintains piping directly to Mine Shaft #2 from the MF and ED Plant as a backup to Mine Shaft #1.

- In instances where the Brine Collection Tanks are unable to accept additional water volume, stormwater is sent directly to Mine Shaft #2. This determination is made by automatic level sensors installed in the Brine Collection Tanks.

The draft documents "Pad Sump Sondes Conductivity Calibration Procedure" and "Pad Water Collection System Inspection" provide added details related to stormwater control from the bulk salt pads and are provided in Appendix 7. These documents will be updated as a proposed near-term BMP as described in Section 5.3.

Stormwater which enters the concrete containment drainage troughs, which surround the perimeter of the Upper, Middle, and Lower Bulk Storage Pads, discharges directly to Outfall 001. The Upper and Middle Bulk Storage Pad troughs drain directly to catch basins and associated Outfall 001 piping, whereas the Lower Bulk Storage Pad trough flows as surface flow before entering Outfall 001 piping.

Stormwater runoff from the two Off-Site Bulk Storage Pads is captured in lined ponds (one for each pad) and is pumped to the distribution tank of the Upper Bulk Storage Pad, at which point it is handled in the same manner as the Upper Bulk Storage Pad stormwater described above.

Stormwater runoff from the T-4 Bulk Salt Storage Building (T-4 is located in both Drainage Area 001 and 002) is directed to roof drain collection troughs on the east and west sides of the building. The collection troughs are sloped to the south toward four vertical drain pipes which tie into the stormwater conveyance system at different locations. Stormwater which enters the two vertical pipes along the northern extent of the building is directed to the stormwater conveyance system and discharges southwest to Outfall 001.

A Flow Diagram shows the stormwater pathways described above and is presented in Appendix 4.

Drainage Area 002

Drainage Area 002, spanning roughly 11.6 acres, contains facility access roads, two Equipment Storage Areas, the T-4 Salt Transfer Area, Mine Shaft #2, Conveyors M-14C and M-16, a portion of the T-3 Bag Production/Storage Building, and the majority of the T-4 Bulk Salt Storage Building.

Stormwater runoff which runs down the facility access road (at the eastern property border) travels southwest as surface flow to tie into a variety of Outfall 002 storm system catch basins. Stormwater runoff to the south of the facility access road flows southwest as surface flow to a drainage swale which connects to the Outfall 002 storm system piping adjacent to Conveyor M-14B. All Outfall 002 catch basins and associated piping discharge directly to Outfall 002.

Stormwater which enters the two southernmost vertical drain pipes of the T-4 Bulk Salt Storage Building is discharged southeast to Outfall 002 via storm system piping. See Drainage Area 001 above for additional T-4 Bulk Salt Storage Building drainage details.

Stormwater which contacts the north half of the T-3 Bag Production/Storage Building (except for a small portion which enters the building's west side gutter) flows into Drainage Area 002 and travels southwest via storm piping to discharge at Outfall 002.

Drainage Area 003
Drainage Area 003, which is approximately 5.9 acres, encompasses much of the T-3 Bag Production/Storage Building, Conveyors M-14A and M-15, the Sewage Treatment Plant, Hoist House, #3 Dry and Washroom, and the Storage Shed.

Much of the stormwater which flows from the eastern property border of Drainage Area 003 enters a drainage swale and is directed to the pipe culvert located north of the Sewage Treatment Plant, at which point it is piped directly to Outfall 003. All other stormwater runoff from the eastern property border is directed as surface flow toward the #3 Dry and Washroom, Hoist House, Sewage Treatment Plant, and Storage Shed area. From there, stormwater flows south along Conveyor M-14A and is redirected toward the south end of the T-3 Bag Production/Storage Building where it flows to catch basins linked directly to Outfall 003.

Stormwater which contacts the south half of the T-3 Bag Production/Storage Building (including flow from the entire west gutter) is either piped directly to Outfall 003 or flows into Drainage Area 003 to enter catch basins connected to Outfall 003.

Drainage Area 004
Drainage Area 004 is 0.88 acres and contains a facility access road, industrial activity adjacent to the Bulk Loading Tower and rail tracks.

In Drainage Area 004, stormwater runoff from the facility access road and rail tracks travels as surface runoff through swale or by storm system piping to discharge southwest at either Outfall 004A or 004B. The 15-inch storm system pipe splits the storm flow to both Outfall 004A and 004B. Visual observations and the results of a pipe camera study indicate the majority of stormwater appears to discharge from Outfall 004A. Outfalls 004 A and 004B are considered substantially identical outfalls since they carry stormwater from a common source (15" storm system pipe). Since the majority of storm flow appears to discharge into Outfall 004A, this outfall was selected for representative sampling for Drainage Area 004.

Drainage Area 005
Drainage Area 005 is approximately 3.7 acres and contains an Equipment Storage Area and facility access roads.

Beginning at the western border of the Lower Bulk Storage Pad, Drainage Area 005 stormwater runoff travels southwest as surface flow toward Outfall 005. A portion of the stormwater runoff from the Brine Storage Tank area is conveyed northwest via storm system piping under a facility access road toward the Equipment Storage Area, where it exits the piping and is redirected southwest as surface runoff to Outfall 005.

Drainage Area 006
Drainage Area 006 includes rail tracks, the Fuel Storage Building, the 200-ton Storage Bin, the Bulk Loading Tower and Salt Loading Area, Conveyors M-11 and M-13, a Maintenance Building, a

portion of the Old Hoist House, Mine Shaft #1, and the Old Storage Dome/Equipment Storage Area. Drainage Area 006 is approximately 7.8 acres.

From the eastern property border, stormwater runoff in Drainage Area 006 flows southwest as surface runoff through rip rap, gravel, and swales to enter a trench drain (located on the west side of the Mechanic Shop) or a catch basin (located to the south of the Mechanic Shop), which discharge to Outfall 006 via associated stormwater piping. Stormwater runoff beginning on the north side of the Bulk Loading Tower travels south to an Outfall 006 pipe culvert. Runoff from the southernmost end of the upper railroad tracks flows northwest as surface flow to a pipe culvert which connects directly to Outfall 006.

Drainage Area 007
Drainage Area 007, which covers 1.1 acres of the Site, was historically used as a bulk salt storage/handling area.

Stormwater runoff travels southwest from the eastern property border into a drainage swale and enters a storm system pipe which crosses and resurfaces on the opposite side of 4 sets of railroad tracks. From this point, the stormwater is conveyed a short distance as surface flow before entering a second storm pipe and discharging directly to Outfall 007.

Drainage Area 012
Drainage Area 012 is roughly 0.65 acres and contains facility access roads and a portion of a Maintenance Building and Old Hoist House.

Stormwater runoff in Drainage Area 012 is conveyed northwest as surface flow to catch basins located between the Old Hoist House and Maintenance Building. All Drainage Area 012 catch basins pipe directly to Outfall 012.

Mine Shaft #2 Drainage Area
The Mine Shaft #2 Drainage Area, located at the south end of the Lower Bulk Storage Pad, is approximately 0.2 acres and includes the Conveyor 14 Salt Unloading and Transfer Area.

Stormwater runoff in the Mine Shaft #2 Drainage Area travels southwest into a pipe culvert which connects directly to Mine Shaft #2.

The discharge in this drainage area is regulated under Mine ID 70052.

1.4.2 Permitted Non-Stormwater Outfalls

The facility currently provides treatment for facility-generated sanitary wastewater from the Office, Hoist House, and #3 Dry Locker Rooms. Following treatment, the sanitary wastewater is discharged via Outfall 009 into stormwater piping which discharges at Outfall 003 into Cayuga Lake.

Cooling water is taken from Cayuga Lake and passed through the non-contact Lake Water Pump House heat exchanger before discharging to Outfall 014. The process cooling system is a closed loop system, which keeps it separated from the Lake water.

2. STORMWATER POLLUTION PREVENTION TEAM

2.1 BMP Team (BMP #1)

As part of developing and implementing this BMP Plan, a BMP team has been designated to coordinate the development, implementation, retention and future revisions of the BMP Plan. The BMP Team Primary Coordinator is the EHS Sr. Professional. The Surface Plant Superintendent and Facility Manager also have the authority to delegate duties and responsibilities to qualified personnel, as appropriate, to execute this BMP Plan.

The Primary Coordinator has been designated based on their familiarity with the facility and its operations. The Coordinator will be responsible for the following:

- Making recommendations to management in support of the facility's BMP policy;
- Identify areas with the potential for release to the environment;
- Identify potential pollution sources;
- Conduct assessments to prioritize substances and areas of concern;
- Determine and select appropriate BMPs;
- Establish procedures for recordkeeping and reporting;
- Coordinate facility environmental release response, cleanup, and regulatory agency notification procedures;
- Establish and conduct BMP training for appropriate plant personnel;
- Evaluate the effectiveness of the BMP Plan in preventing and mitigating releases of potential pollutants; and,
- Periodically review the BMP Plan to evaluate the need to update and/or modify the BMP plan.

In addition, the Primary Coordinator will establish goals for the facility's BMP program, evaluate potential impacts of operational changes to the BMP Plan, and communicate the status of the BMP implementation activities to Cargill's corporate environmental management.

The Surface Production Supervisors' responsibilities include:

- Conducting annual policy and procedure review for facility personnel addressing actions to be taken in the event of a spill;
- Performing all required inspections (*e.g.*, daily, weekly, monthly); and,
- Maintaining inventory of spill absorbent supplies (*i.e.* absorbent materials, including booms).

The Engineering Technician is responsible for the MF and ED operations.

The Primary Coordinator is responsible for reporting and coordination with regulators, plan updates, and assisting and other team members with compliance questions. The EHS professional responsible for performing a weekly walkthrough of the lakeshore or appoint a qualified person to perform this inspection.

Table 3 lists the members and corresponding roles and responsibilities of Cargill's BMP Pollution Prevention Team:

Table 3. BMP Pollution Prevention Team

Name	Position	Contact Number	Responsibilities
Primary Coordinator			
Marty Christofferson	EHS Senior Professional	(607) 533-3815 (o) (607) 591-5961 (c)	• Overall implementation of BMP Plan.
Alternate Coordinators			
Shawn Wilczynski	Mine Manager (Management Authority)	(607) 533-3700 (o) (337) 321-1049 (c)	• Support Primary Coordinator with implementation of BMP Plan.
Dave Sheppeck	Surface Plant Superintendent	(607) 533-3766 (o) (570) 867-3877	
Other Team Members			
Joshua Smith	Surface Production Supervisor	(607) 533-3743	• Conducting annual training for facility personnel addressing actions to be taken in the event of a spill; • Monthly and quarterly inspections; and, • Maintaining inventory of spill absorbent supplies (*i.e.* absorbent materials, including booms).
Vinnie Pool	Surface Production Supervisor	(607) 533-3717	
Kevin Bryant	Surface Production Supervisor	(607) 533-3704	
Mike Cullen	Surface Production Supervisor	(607) 533-3743	
Paul Evanek	EHS Professional	(607) 533-3721	
Nelson Golden	Engineering Technician	(607) 533-3828	

2.2 Reporting of BMP Incidents (BMP #2)

BMP incidents are items requiring corrective actions (*e.g.*, an inadequate BMP, analyte exceedance, etc.). Cargill documents all BMP incidents, as they are observed, in the inspection forms included in Appendix 5 and submits summaries of these observations and corrective actions annually with the submittal of the Annual Report, described in Section 6.5. For BMP incidents requiring additional reporting, Cargill complies with the notification and reporting requirements included in the Permit both directly and by reference.

3. RISK IDENTIFICATION AND ASSESSMENT (BMP #3)

This section of the BMP plan includes a description of activities and significant materials that may be potential sources of pollutants within the stormwater discharges from the facility. Salts (sodium chloride and magnesium chloride) and YPS (sodium ferrocyanide) are identified as the primary substances of concern for which BMPs are identified herein. The identification of potential petroleum and oil related sources of pollutants, and associated BMPs, are covered by the facility's SPCC plan.

The focus of this description is the identification of materials handled or activities performed at the facility that may potentially become exposed to precipitation. The identification of potential pollutant sources requires the following information:

- A materials inventory to assess potential exposure;
- Identification of materials exposed to precipitation; and,
- Description of BMPs to prevent or minimize the potential for release of pollutants to the waters of the State.

3.1 Industrial Activities

As per Part 3 of "Special Conditions – Industry Best Management Practices" of Cargill's SPDES Permit, Cargill has evaluated the potential for the following activities and facility areas to contribute pollutants to stormwater discharges:

- Material storage areas;
- In-plant transfer, process, and material handling areas;
- Loading and unloading operations;
- Stormwater, erosion, and sediment control measures;
- Process emergency control systems; and,
- Sludge and waste disposal areas.

Areas of the facility where industrial materials or activities are exposed to stormwater and the potential pollutants associated with these activities are identified in the table below.

Table 4. Industrial Activities

Location	Activities	Potential Pollutants	Pathway	Outfall Affected by Potential Spill/Leak
Overland Conveyors	Conveyor/Unloading of Salt	Salt, Magnesium Chloride, YPS, TSS, and Dust	Runoff Exposure, Spill, Leak	001, 002, 003, and 006
Mine Shaft #1	Salt Transfer to Conveyor	Salt and TSS	Runoff Exposure	006
200-Ton Storage Bin	Salt Transfer to Conveyors for Salt Storage	Salt, TSS	Runoff Exposure, Spill, Leak	006

Location	Activities	Potential Pollutants	Pathway	Outfall Affected by Potential Spill/Leak
Bulk Tower Salt Loading Area	Salt Loading	Salt, Magnesium Chloride, YPS, and TSS	Runoff Exposure, Spill, Leak, Material Tracking	004 and 006
T-4 Salt Transfer Area	Salt Transfer	Salt, Magnesium Chloride, YPS, TSS, and Dust	Runoff Exposure, Spill, Material Tracking	002
Conveyor 14 Salt Transfer Area	Salt Transfer and Unloading	Salt, YPS, TSS, and Dust	Runoff Exposure, Spill, Leak, Material Tracking	001 and 002
On-Site Bulk Storage Pads Salt Transfer Areas	Bulk Salt Transfer	Salt, YPS, TSS, and Dust	Runoff Exposure, Spill, Leak, Material Tracking	001 and 002
Off-Site Bulk Storage Pads Salt Transfer Areas	Bulk Salt Transfer	Salt, YPS, TSS, and Dust	Runoff Exposure, Spill, Leak, Material Tracking	001
On-Site Bulk Storage Pads	Bulk Salt Storage	Salt, Magnesium Chloride, YPS, TSS, and Dust	Runoff Exposure, Spill, Leak	001, 002, and 005
Off-Site Bulk Storage Pads	Bulk Salt Storage	Salt, YPS, TSS, and Dust	Runoff Exposure, Spill, Leak	001
Equipment Storage Areas (4)	Equipment Storage	Salt, Oil & Grease, Metals, and TSS	Runoff Exposure	001, 002, 005, and 006
Site-wide	Transportation of Salt	Salt, Magnesium Chloride, YPS, TSS, Dust, Oil & Grease	Runoff Exposure, Leak, Spill, Material Tracking	001, 002, 003, 004, 006, and 012

The following paragraphs provide additional information about the areas listed above that have significant potential for exposure of materials to stormwater. See Figure 4 for all industrial activities listed in Table 4 above.

Overland Conveyors

The Overland Conveyors transfer the salt coming from the mine (via Mine Shaft #1) to various locations around the plant. The conveyors are fairly well-contained and equipped with covers but contain salt which may potentially spill to the ground. The conveyors are most likely to lose material to the ground surface at the loading and unloading points. The Overland Conveyors include M-11, M-M-12, M-13, M-14A, M-14B, M-14-C, M-15, M-15A, and M-16. Salt is the primary potential pollutant associated with the Overland Conveyor systems.

Mine Shaft #1

Mine Shaft #1 utilizes an open elevator to bring salt from the below-ground mine to the ground surface where it is transported by a conveyor for processing and loading. Salt spillage to the ground surface can potentially occur during transfer, exposing the salt to stormwater. Mine shaft #1 is contained within Drainage Area 006. Salt is the primary potential pollutant linked to Mine Shaft #1 operations.

200-Ton Storage Bin
Salt that is hoisted to the ground surface from Mine Shaft #1 is loaded into a feed hopper and is transported by Overland Conveyor M-11 to the 200-ton Storage Bin. The 200-ton Storage Bin serves as an intermittent storage location before salt is distributed to one of the following locations:

- The Bulk Loading Tower;
- The T-3 Bag Production/Storage Building;
- The T-4 Bulk Salt Storage Building; or,
- The Lower Bulk Storage Pad.

Salt is the primary potential pollutant associated with the 200-ton Storage Bin.

Bulk Tower Salt Loading Area
The Bulk Loading Tower receives salt from the 200-ton Storage Bin via Overland Conveyor M-13. The salt is subsequently bulk-loaded into railcars or trucks for shipment off-site in the Bulk Tower Salt Loading Area. Railcars and bulk haulage trucks are loaded below the tower via a loading spout. A switch triggers the application of YPS to the salt at the loading spout once the salt begins to flow through it and ceases the application once the salt flow is cut off. Other switches activate the mixing of Magnesium Chloride with salt into a screw conveyor and trigger the loading spout once the green salt begins to flow through it. The accumulated salt on the ground surface (around the Bulk Loading Tower) represents a potential source area for stormwater pollution. Salt, Magnesium Chloride, and YPS are the primary potential pollutants associated with the bulk loading tower.

T-4 Salt Transfer Area
The T-4 Bulk Salt Storage Building is an enclosed structure that serves as dry bulk storage for salt. From the 200-ton storage bin, the bulk salt is transferred by a series of conveyors (M-14B, and M-16) to the top of Building T-4. From this point, salt is delivered to a mixing screw and chute, and mixed with magnesium chloride ($MgCl_2$) and other minor additives to make CLED, which is stockpiled inside Building T-4. Haulage trucks are loaded with salt by front-end loader inside the T-4 Bulk Salt Storage Building and within the T-4 Salt Transfer Area. Salt and magnesium chloride are the primary pollutants associated with the T-4 Salt Transfer Area.

Conveyor 14 Salt Transfer Area
Bulk salt is conveyed to the Lower Bulk Salt Storage Pad from the 200-ton Storage Bin by a series of conveyors (M-14B and M-14C). YPS is applied to the bulk salt in the conveyor prior to transferring to the pad. Salt and YPS are the primary potential pollutants associated with this transfer.

On-Site Bulk Storage Pads Salt Transfer Areas
Bulk salt is transferred to the Upper, Middle and Lower Bulk Salt Storage Pads (on-site) by truck and is stockpiled with a front-end loader/stacker combination. Bulk salt is loaded into haulage trucks by a front-end loader in the On-Site Bulk Storage Pads Salt Transfer Areas. Salt and YPS are the primary potential pollutants associated with these transfer areas.

Off-Site Bulk Storage Pads Salt Transfer Areas
Cargill utilizes the Cayuga Crushed Stone off-site storage pad as a bulk salt storage area but has ceased the use of the off-site Quarry Salt Storage Pad. Bulk salt is transferred to the Cayuga Crushed Stone off-site storage pad by truck and is stockpiled with a front-end loader/stacker combination. Bulk salt from the storage pad is loaded into haulage trucks by a front-end loader in the Off-Site Bulk Storage Pad Salt Transfer Area. Salt and YPS are the primary potential pollutants associated with this transfer.

On-Site Bulk Salt Storage Pads
On-Site Bulk Salt Storage Pads consist of the Lower, Middle, and Upper Bulk Salt Storage Pads, each with a capacity of approximately 100,000 tons. Bulk salt is transferred to the three on-site pads and is stockpiled and stored under cover (except during the pile building process). Salt and YPS are the primary potential pollutants associated with the On-Site Bulk Salt Storage Pads.

Off-Site Bulk Salt Storage Pads
Off-Site Bulk Salt Storage Pads consists of the following:

- Quarry Salt Storage Pad (Capacity: ~85, 000 tons)
- Cayuga Crushed Stone Salt Storage Pad (Capacity: ~135, 000 tons)

Bulk salt is transferred to the Cayuga Crushed Stone Salt Storage Pad and is stockpiled and stored under cover (except during the pile building process). The Quarry Salt Storage Pad is no longer used by Cargill for bulk salt storage but is still considered an industrial area due to legacy industrial activity.

Equipment Storage Areas
Equipment storage areas are located at various areas of the facility and contain equipment used in the processing or transportation of salt across the facility. The equipment may contain residual salts or other industrial pollutants and is considered an industrial activity. Equipment may be stored for repair and reuse, maintained for used parts, or past useful life awaiting permanent disposal. Salt, oil and grease, and metals are the primary potential pollutants associated with these areas.

Site-Wide
Site-Wide industrial activities with the potential of affecting stormwater discharges occur within facility roadways and access roads, including the transport of salt by haulage trucks and the relocation/transport of salt transfer equipment. Primary potential pollutants include salt, magnesium chloride, and YPS. Tracking and spillage are the main pathways that pollutants may travel.

3.1.1 Supporting Operations and Associated Structures

Industrial activity areas that are not exposed to stormwater but are important in understanding the materials handling sequence at the facility, are described below.

Mine
The Mine is located below-ground and includes ammonium nitrate/fuel oil (ANFO)-induced explosive operations and a salt crushing and screening operation. Rock salt is mined through the

use of ANFO-induced explosions at strategically placed points within the mine. Using front-end loaders, the salt is loaded into the feed hopper of the crushing and screening operation. Following the crushing and screening operations, the salt is subsequently hoisted to the surface through the mine shaft by using a hoist system.

T-3 Bag Production/Storage Building

Salt is fed by conveyor into the T-3 Bag Production/Storage Building. The salt is screened and conveyed using an elevator to either Silo #1 (coarse bin), or Silo #2 (fine bin). The salt from Silo #1 is subsequently conveyed and bulk-loaded into a concrete salt bunker or the bagging operation. The fine salt from Silo #2 is conveyed and loaded into trucks located at Dock #1.

The YPS Mixing Room is located within the T-3 Bag Production/Storage Building. Raw YPS bags are stored in the mixing room alongside a 2,000-gal AST, which holds the YPS solution. From the mixing room, the YPS solution is transferred to the Bulk Loading Tower and to the end of Overland Conveyor 14C, where it is added to the salt prior to staging on the Lower Bulk Storage Pad.

T-4 Bulk Salt Storage Building

The T-4 Bulk Salt Storage Building is currently used for dry storage of CLED. Untreated salt is conveyed through the roof of the building into a mixing screw, where a magnesium chloride solution is added to produce CLED. Once inside, the salt is formed into piles using front-end loaders and a portable stacker.

Fuel Storage Building

The Fuel Storage Building, which is a wood-framed structure (measuring 28 ft x 26 ft), contains a 2,000-gallon AST with secondary containment. The structure became operational in December of 1993 and provides an unloading/loading fueling station for the surface and underground salt facilities.

Maintenance Building

Equipment maintenance (*i.e.*, front-end loaders) and other service-related functions occur in the Maintenance Building, which also contains the Maintenance Shop Oil Room. The drain within the Maintenance Building flows through an oil/water separator, the remaining water then flows to the wastewater treatment plant.

Micro-Filtration and Electrodialysis Plant

As described in previous sections, stormwater runoff collected from the bulk salt storage pads can be conveyed to the MF and ED Plant, whereby the concentration of free cyanides and chlorides present in the collected stormwater runoff is reduced to SPDES permit limits prior to discharging to Outfall 001. The MF and ED plant is a closed system where the floor drains act as secondary containment. When spills occur, the overflow is pumped to the Brine Storage Tanks. The following presents an overview of the treatment processes:

Micro-filtration system – following the introduction of zinc sulfate to the feed stream (inlet) of the micro-filtration system to precipitate out YPS, the YPS is then filtered prior to the introduction into the electrodialysis system.

Electrodialysis system – following micro-filtration treatment to reduce YPS concentration levels in the stormwater runoff, chloride concentrations are reduced to acceptable SPDES permit levels by the electrodialysis system.

Magnesium Chloride Handling Facilities
CLED is sodium chloride salt blended with magnesium chloride and other minor additives. The additives are premixed and delivered to the mine in bulk via rail tank car. The MgCl2 is pumped from the railcars to one of the 6 storage tanks located on the north side of the T-4 Bulk Salt Storage Building, then to the 2 storage tanks East of the T-4 Building, and finally to the CLED mixing system inside of the T-4 Building.

From the six storage tanks, MgCl2 can also be pumped to the dual lined surge tank near the Bulk Loading Tower before being pumped to the MgCl2 mixing system at the Bulk Loading Tower to create CLED.

Brine Storage Tanks
In order to collect and control the volume of collected stormwater runoff from the salt storage pads, stormwater with elevated levels of chlorides (known as brine) is collected in 16, 20,000-gallon Brine Storage Tanks prior to treatment provided by the MF and ED Plant. The Brine Storage Tanks are currently positioned within a secondary containment area (with no outlet). The secondary containment is capable of holding greater than 1 tank's full capacity. As-needed, the facility pumps water (*e.g.*, stormwater runoff, snowmelt) which fills the containment area into the Brine Storage Tanks for treatment.

Old Hoist House
The Old Hoist House is utilized by the facility as an equipment storage location. The North end of this building is a small vehicle maintenance bay.

Hoist House
The Hoist House houses hoist equipment used for mining operations.

Rail Storage Building
On the North end of the property along the railroad tracks is the rail storage building, this building is used to store various equipment.

Trackmobile Building
The trackmobile building is used to store the trackmobile.

Lake Water Pump House
The Lake Water Pump House contains pumping equipment, a heat exchanger, and controls, which operate together to function as a cooling system. The cooling system includes a closed-loop pipe system to and from the ED plant. The loop carries water between the heat exchanger at the pump house and at the ED plant. The heat exchanger in the pump house is cooled with water from the lake. A lake intake pipe feeds the sump under the building. The lake water is then pumped through the heat exchanger and discharged through the cooling water outfall and diffuser back into the lake. There are no additives used in the cooling water system.

DOT Storage Shed
The Storage Shed serves as a space for the facility to store spill cleanup supplies, universal waste, and drums of petroleum products.

Sewage Treatment Plant (WWTP)
The facility provides on-site treatment at the Sewage Treatment Plant (WWTP) for facility generated sanitary wastewaters from the Office, Hoist House, and #3 Dry and Washroom.

3.1.2 Weigh Scale/Scale House

Cargill owns and operates a weigh scale/scale house, which is utilized to weigh incoming and outgoing salt product. The weigh scale/scale house area is located off-site on a non-contiguous parcel and is utilized and operated as a different industrial activity than the main facility. Cargill intends on evaluating the operations conducted in this area and associated stormwater permitting options as a near-term BMP in 2020. See Appendix 6 for a figure depicting the weigh scale/scale house location as well as projected discharge location and receiving water.

3.2 Pollutants

Pollutants with the potential to impact stormwater discharges are identified as "Potential Pollutants" in the third column of Table 4 above. The potential pollutants at the facility are salt, magnesium chloride, YPS, dust, total suspended solids (TSS), and oil and grease.

Airborne bulk salt dust and salt additive products are the two groups of pollutants that pose the largest threat to facility stormwater discharges. The following descriptions provide details regarding the generation and transport of these two pollutant groups.

Airborne Bulk Salt Dust
Bulk salt dust is primarily generated at the bulk salt storage pads, #1 shaft, and the bulk loading tower. Salt dust can become airborne during the loading of haulage trucks by front-end loaders and during stockpiling activities using the stackers. Additionally, salt can become airborne during the loading of railcars and haulage trucks at the bulk loading tower and during loading of haulage trucks at the lower storage pad. The quantity of generated airborne salt dust depends on a number of variables, including wind direction, wind speed, humidity, and frequency of precipitation occurring during salt handling activities.

Salt Additive Products
The ClearLane® Enhanced Deicer or CLED consists primarily of sodium chloride, and magnesium chloride with other additives.

$MgCl_2$ additive is a premixed additive delivered to the facility via rail cars. A rail car unloading station is located at the north end of the site just west of the ED plant. The $MgCl_2$ additive is pumped from the railcars to storage tanks (2) on the north side of Building T4 or storage tanks (2) near the west side of the Lower Pad. The pump equipment has containment for leakage and shelter to protect from stormwater exposure. A secondary containment vault has been installed around the pump to ensure the $MgCl_2$ additive does not back flow toward the rail line. Shutoff switches are located on the pump and at the tank. See Appendix 7 for Cargill's CLED (Magnesium Chloride) Operating Procedures, developed by Cargill and Stantec in the previous BMP Plan,

which specifically address transfer activities. Storage tanks are equipped with impermeable lined containment structures.

The $MgCl_2$ additive is pumped from storage via underground pipe to mixing stations at Building T4. There it is metered and mixed with sodium chloride salt to create CLED. The tanks for this process have secondary containment to minimize additional chloride runoff. Equipment is also in place to mix additives on-site if necessary.

3.3 Spills and Leaks

The potential route and endpoint of a release affect the impact of a spill once it occurs. Potential release routes at the Cargill facility include accidental spills or leaks of salt into the stormwater drainage system; spills onto the ground which infiltrate into the subsurface; air emissions and subsequent fallout of airborne substances onto ground surfaces or directly into stormwater catch basins. Release endpoints include the drainage ditches throughout the facility, catch basins, ground water, and surface water.

Approximate directions of flow of potential spills and discharges to the pavement or ground based on site topography and catch basin locations are presented in Figure 2.

4. DESCRIPTION OF STORMWATER CONTROL MEASURES

Cargill has implemented control measures including Best Management Practices (BMPs) to address the pollutants with potential for stormwater exposure. During selection and design of these control measures, Cargill considered several types of BMPs and implemented the following BMPs as most appropriate for the facility. If the control measures are found to be ineffective, Cargill performs corrective action responses as identified in the Permit.

Cargill considered the following when selecting and designing control measures:

- Preventing stormwater from coming into contact with polluting materials is generally more effective, and less costly, than trying to remove pollutants from stormwater;
- Using control measures in combination may be more effective than using control measures in isolation for minimizing pollutants in your stormwater discharge; and,
- Assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in the permit.

4.1 Minimization of Exposure

Cargill has minimized the exposure of manufacturing, processing, and materials storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by locating these industrial materials and activities inside or protecting them with storm resistant coverings.

To minimize exposure as described above, Cargill:

- Uses grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas;
- Locates materials, equipment, and activities so that potential leaks and spills are contained or able to be contained or diverted before discharge;
- Cleans up spills and leaks promptly using dry methods (*e.g.*, absorbents) to prevent the discharge of pollutants;
- Conducts the handling, storage and production of bagged salt and YPS solution within the confines of the T-3 building;
- Stores salt products either indoors or otherwise covered when possible to prevent direct exposure to stormwater;
- Covers overland conveyors to keep salt dry and to minimize exposure to precipitation or winds and,
- Performs salt storage, stacking, and loading of haulage trucks within the T-4 Building whenever possible.

In addition, Cargill conducts rinsing of equipment and trucks involved in salt operations on the Lower Bulk Storage Pad. Wash water is directed to the MF and ED Plant for Treatment.

4.2 Good Housekeeping (BMP #8)

Good housekeeping practices are designed to maintain a clean and orderly work environment. A clean and orderly work environment reduces the possibility of accidental spills caused by the mishandling of chemicals or equipment and also reduces safety hazards to facility personnel. Facility good housekeeping policies and procedures are an integral part of this plan. Good housekeeping practices are inspected routinely and are included in the inspection forms located in Appendix 5.

Good housekeeping requires areas that may contribute pollutants to stormwater discharges are kept in a clean and orderly manner. The following practices are followed:

- Clean up all spills, including liquid and solid salt, promptly;
- Schedule routine clean-up efforts (*e.g.*, sweeping, trash removal, etc.);
- Maintain good storage and material inventory practices;
- Label all containers;
- Keep all sanitary dumpster lids closed when not in use;
- Minimize the potential for waste, garbage and floatable debris to be discharged by keeping exposed areas free of such materials, or by intercepting them before they are discharged;
- Discuss and promote good housekeeping practices with employees;
- When possible, keep building hatches and doors closed during rain events;
- Clean loading and unloading docks on a regular basis;
- Place Floor sweepings from T-3 and the YPS mixing room and the emptied YPS product bags into trash bags and dispose in covered dumpsters; and,
- Inspect catch basins on a quarterly basis and clean as needed.

4.3 Preventive Maintenance (BMP #7)

The equipment at the Cargill facility needs to be maintained in good working condition. The preventive maintenance program at the facility involves regular inspections and testing of facility equipment. A preventive maintenance (PM) program is an effective means for preventing surface and groundwater pollution. The preventive maintenance program and BMPs include:

- All bins and conveyors are visually inspected monthly and preventive maintenance is performed as necessary;
- Preventative maintenance is performed on all stormwater management systems (*e.g.*, channels, swales, culverts, catch basins) as needed;
- Performing inspection and testing of facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters and ground waters;
- Maintaining non-structural control measures, such as spill response supplies and employee training programs;
- Maintaining facility equipment, systems, and infrastructure with focus on those that impact industrial stormwater quality (*e.g.*, salt storage pads, brine pump station, brine wastewater valves, conductivity meter, MF and ED Plant, etc.);
- Equipment operated according to manufacturer's recommendations;
- All preventative maintenance records are readily available including those for the brine system;
- Outdoor processing area equipment will be cleaned (removing salt dust buildup) as needed;

- The bulk salt storage pad surfaces are resealed approximately every three (3) years or sooner if damage or deterioration is observed during inspection; and,
- Retaining records of maintenance of facility equipment.

Standard Operating Procedures (SOPs), including SOPs developed by Stantec and Cargill from the previous BMP Plan, are included in Appendix 7. In addition, a weekly preventative maintenance work order that requires mechanics to perform a pressure test of the YPS pipelines. This is accomplished through pressurizing the line with compressed air and verifying the PSI on the pressure gauge. The SOP for the YPS pipeline pressure testing is located in Appendix 7.

4.4 Materials/Waste Handling, Storage, and Compatibility (BMP #9)

The handling of handling, storage, and compatibility of materials and waste is generally managed under the Exposure Minimization, Good Housekeeping, and Spill Prevention and Response BMPS.

In addition, a materials inventory for the facility is presented in Table 8.1 of Appendix 8.1. This table presents the materials that are currently used on-site and assesses the potential exposure to stormwater. Table 8.2 in Appendix 8.2 presents significant materials exposed to stormwater, the method of storage or disposal, and a description of material management practices. Tables 9.1 and 9.2 are updated on an annual basis.

4.5 Spill Prevention and Response (BMP #10)

The potential for leaks, spills, and other releases that may be exposed to stormwater must be minimized. Cargill adheres to the following spill prevention and response procedures:

- Plainly label containers (*e.g.*, "Used Oil," "Spent Solvents," "Fertilizers and Pesticides") that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;
- Implement procedures for material storage and handling, including the use of secondary containment and barriers between material storage and traffic areas, or a similarly effective means designed to prevent the discharge of pollutants from these areas;
- Develop training on the procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. As appropriate, execute such procedures as soon as possible;
- Keep spill kits on-site, located near areas where spills may occur or where a rapid response can be made; and,
- Notify appropriate facility personnel when a leak, spill, or other release occurs.

Spill response will generally follow the procedures for petroleum products provided in the facility Spill Prevention, Control and Countermeasures (SPCC) plan. Reporting procedures for petroleum and hazardous chemical are also provided in the SPCC plan. Procedures for responding to and reporting exceedances of discharge limits are provided in the SPDES permit. Requirements for reporting other spills that may occur (*e.g.*, brine spills) will be identified on a case-by-case basis by the BMP coordinator, in consultation with the EHS Professional.

All reportable quantities of spilled toxic or hazardous materials that have occurred in exposed areas or drained to a stormwater conveyance in the past 3 years are included as Appendix 9.

In addition to site wide practices for spill prevention and response, Cargill implements specific procedures related to spills at specific locations throughout the facility:

- At the bulk loading tower, salt spills are cleaned up as soon as possible and mixed back in with bulk salt;
- Leaks occurring with the YPS or Magnesium Chloride transfer pipe are contained and repaired immediately;
- Bulk salt spilled from the overland conveyors is cleaned up on a regular basis and transported to the salt storage pads;
- Spills involving bulk salt or YPS (dry) during unloading and loading operations are cleaned up and disposed in plastic trash bags and placed into a covered dumpster;
- Curbing around the floor of the YPS mixing room is provided to contain spilled YPS solution and a manual shutoff system is installed to shut down the system in the event of a malfunction or liquid spill;
- The YPS storage tank and containment have redundant float valves that will shut the system down in the event of an overfill situation;
- Redundant solenoid diaphragm valves are installed at the YPS discharge points (14C conveyor & bulk loading tower) to stop flow in the event of leaks due to an improper seal of the discharge points;
- Concrete drainage systems are installed below specific Overland Conveyors to catch spilled salt and associated brine. The concrete drainage system conveys salt/brine to one of the designated brine storage tanks. These tanks are fed into the brine handling system via a pipeline system; and,
- Floor drains are installed on the interior perimeter of the T-4 building. Any liquid brine that drains from the storage piles is collected in a sump and returned to the mine via #2 shaft.

4.6 Erosion and Sediment Control (BMP #11)

Cargill engages in the following erosion and sediment control practices:

- Pavement is currently maintained, or in future plans, in all outdoor areas where industrial activities occur;
- Areas of exposed dirt minimized;
- Entrances and exits are paved to prevent erosion and track out; and
- Inspection and cleanup of structural controls.

If soil disturbances occur onsite, appropriate erosion and sediment control measures will be implemented, including implementation of a Construction Stormwater Pollution Prevention Plan if required (*i.e.* for disturbances of one acre or more).

4.7 Street Sweeping (BMP #13)

Cargill conducts sweeping of pavement in areas as needed, including onsite roadways, where salt is likely to accumulate on pavement/ground. Priority areas include:

- On-Site Bulk Storage Pads;
- On-Site Pads Salt Transfer Areas;
- Conveyor 14 Salt Transfer Area;
- Off-Site Bulk Storage Pads;

- Off-Site Pads Salt Transfer Areas;
- Bulk Tower Salt Loading Area; and,
- Overland Conveyors.

4.8 Management of Runoff (BMP #12)

Management of runoff includes practices such as diversion, infiltration, reuse, or otherwise containment of stormwater onsite. Infiltration of industrial stormwater at this site is not employed due to some degree of dissolved salt present in some of the stormwater. Similarly, reuse is not available. The size and configuration of the site, the need for vehicle maneuvering room, including rail cars, and land features do not provide practicable opportunities for containment. Due to the facility operations and configuration, stormwater volume reduction is not possible at this site, except through incidental infiltration in non-industrial permeable areas of the site.

4.9 Employee Training (BMP #4)

An employee training program has been implemented to inform employees of the components and goals of the BMP plan. Open discussion is encouraged to further the understanding of and enhance the program. In addition, the effectiveness of the training program will be evaluated routinely to confirm that information has been communicated effectively to Cargill facility employees. Training is provided at start of job duties and refresher training is provided annually. The training program consists of both formal and informal training. Training tools that have been used for the facility's training program include:

- Review of BMP highlights/specifics with Surface employees during MSHA annual refresher;
- Annual Policy/Procedure Reviews
- New Hire PowerPoint presentations;
- Drills;
- Routine employee meetings;
- Bulletin board postings; and,
- Environmental incentive programs.

Cargill trains all employees who work in areas where industrial materials or activities are exposed to stormwater as well as employees who are responsible for implementing activities necessary to meet the conditions of the Permit, including all members of the SWPPP Team. Cargill must ensure the SWPPP Team personnel understand the requirements of the Permit and their specific responsibilities with respect to those requirements. This includes personnel responsible for:

- The design, installation, maintenance, and/or repair of controls (including pollution prevention measures);
- The storage and handling of chemicals and materials that could become contaminants in stormwater discharges;
- Conducting and documenting monitoring and inspections; and,
- Taking and documenting corrective actions.

The training includes the following topics:

- An overview of what is contained in this plan;
- Description of why BMPs are required by state and federal regulatory agencies;
- Description of potential sources of pollutants;
- Description of existing and proposed preventive maintenance/BMPs to minimize stormwater impacts, including employee responsibilities;
- Requirements for prompt reporting and response to spills that may come in contact with precipitation;
- Spill response procedures, good housekeeping practices, preventive maintenance activities, and material management practices;
- The location of all controls on the facility required by the Permit, and how they are to be maintained;
- The proper procedures to follow with respect to the Permit's pollution prevention requirements; and,
- When and how to conduct inspections, record applicable findings, and take corrective actions; and,
- Opportunity for employees to suggest alternate methods for pollution prevention.

Records of employee training will be maintained with the facility Mine Safety and Health Administration (MSHA) personnel files in the EHS Office. An Employee Policy & Procedure Training Log is kept for all employee policy reviews as well.

4.10 Wet Weather Operating Plan

The BMP Plan at the Cargill facility is written and followed in such a manner that the facility is assumed to always be operating under wet weather conditions. As such, there is no separate Wet Weather Operating Plan or set of procedures; the BMP Plan itself serves as this document. BMPs which are often increased or timed before/after rain events in Wet Weather Operating Plans typically include: covering of materials, inspections of high product areas, prompt cleanup of spills, street sweeping, etc. Cargill implements these, and all of its BMPs, at sufficiently frequent intervals negating the need to independently implement BMPs based on weather events. For example, Cargill inspects truck and railcar loading areas as well as the bulk loading tower area and conveyors daily (discussed in detail in Section 6).

5. ADVANCED BMPS

The following BMPs are implemented in addition to the sitewide BMPs discussed previously. The Advanced BMPs are targeted at specific areas or activities at the facility with the potential for stormwater pollution and require additional BMPs.

5.1 On-Site Bulk Storage Pads and Transfer Areas

The Upper and Middle Bulk Storage Pads typically remain covered, except during the pile building process. In addition, small access areas are left uncovered at the "working face" of the salt pile. This procedure minimizes the duration that salt is exposed to both rainwater and wind.

The following BMPs are currently in place at the Bulk Storage Pads to minimize the potential for stormwater pollution:

- Haulage trucks are loaded directly on the pads to contain salt spills during the loading operations.
- Stormwater runoff from the Upper, Middle, and Lower Bulk Storage Pads flows to catch basins located in the southwest corners of each pad. For each pad, the stormwater then travels by gravity to a distribution tank, where a conductivity meter measures the stormwater's conductivity level. Conductivity is used as an indicator that water quality does not meet permit limits.
- Measured levels of conductivity are electronically compared to setpoints and stormwater is managed per the process outlined in Drainage Area 001, Section 1.4.1.
- Concrete containment drainage troughs are installed around the perimeter of the Upper, Middle, and Lower Bulk Storage Pads to prevent stormwater run-on and minimize spillage of salt beyond the limits of each pad. Stormwater which enters the drainage troughs discharges directly to Outfall 001. The Upper and Middle Bulk Storage Pad troughs drain directly to catch basins and associated Outfall 001 piping, whereas the Lower Bulk Storage Pad trough flows as surface flow before entering Outfall 001 piping.
- In order to minimize salt piles from overflowing into the concrete channels, stacking practices include leaving a 6-12-inch buffer between the stacked salt and the inner curbing.
- Each on-site storage pad has an asphalt surface that is inspected monthly and resealed when damage or deterioration is observed.
- The Upper Bulk Storage Pad is underlain by an 80-millimeter HDPE liner.
- Salt spills that occur beyond the perimeter curbing/berms or on the pad access roads are cleaned up as soon as possible and mixed back in with bulk salt.
- Salt storage piles are covered with a poly-canvas cover that is anchored and covered with weights to further aid in holding the large covers on the salt piles.
- The Upper and Middle Bulk Storage Pads typically remain covered. The Lower Pad is covered using a phased approach; when approximately 2/3's of the pad is covered with salt, 1/2 of the salt pile will be covered; when the entire pad is covered with salt, the remaining portion of the salt will then be covered and anchored. Tarping practices for the on-site pads ensure the tarp end is left directly into the concrete channels around each Bulk Storage Pad. The tarp length is adjusted to ensure it ends up in the concrete channels (between the inner and outer sections).

5.2 Off-Site Bulk Storage Pads and Transfer Areas

Cargill currently utilizes the Cayuga Crushed Stone Pad (CCS) as a bulk salt storage area but has taken the Quarry Pad out of service. Although industrial activities no longer occur at the Quarry Pad, the area is still treated as industrial due to the presence of historical and residual pollutants. Cargill employs the following BMPs for the Cayuga Crushed Stone Pad:

- Haulage trucks are loaded directly on the pads to contain salt spills during loading operations;
- Salt spills that occur beyond the perimeter curbing or berms or on the pad access roads are cleaned up as soon as possible and mixed back in with bulk salt;
- Salt storage piles are covered with a poly-canvas cover that is anchored and covered with weights to further aid in holding the large covers on the salt piles. Due to the very large size of the piles, the piles are covered using a phased approach; when approximately 2/3's of the pad is covered with salt, 1/2 of the salt pile will be covered; when the entire pad is covered with salt, the remaining portion of the salt will then be covered and anchored.;
- All of the stormwater which contacts the pad is collected in a lined stormwater retention pond and is hard-piped to the Upper Bulk Storage Pad distribution tank, where it is handled in the same manner as the Upper Bulk Storage Pad, which is described in Drainage Area 001, Section 1.4.1.; and,
- The stormwater pond is lined with a high-density polyethylene (HDPE) liner and the pond is protected by fencing.
- The pad is made of asphalt and is resealed every 3 years or as needed.

The following BMPs remain in place for the Quarry Pad to minimize the potential for ongoing stormwater pollution:

- All of the stormwater which contacts the pad is collected in a lined stormwater retention pond and is hard-piped to the Upper Bulk Storage Pad distribution tank, where it is handled in the same manner as the Upper Bulk Storage Pad, which is described in Drainage Area 001, Section 1.4.1; and,
- The pad and stormwater pond are lined with bentonite and the pond is protected by fencing.

5.3 Near-Term and Far-Term BMPs

In addition to the existing BMPs highlighted above, this BMP Plan also addresses BMPs that are in the process of being implemented. The following table outlines all of Cargill's near- and far-term BMPs and corresponding implementation schedules.

Table 5. Near-Term and Far-Terms BMPs

BMP	Implementation Schedule
Near-Term BMPs	December 31, 2020
1. Finalize and implement the draft Pad Sump Sondes Conductivity Calibration Procedure. Update and implement a revised version of the Pad Water Collection System Inspection.	
2. Review the current notifications and alarms associated with the operation of the bulk salt pad stormwater distribution system and the MF and ED plant. As needed, update and supplement current procedures.	

BMP	Implementation Schedule
3. Install a chute where salt exits the conveyor belt in the vicinity of the Lower On-Site Storage Pad, modeled to achieve better dust emission control than current practice.	
4. Designate the best location to store trucks and equipment to minimize any contribution of pollutants to stormwater.	
5. Build only one salt pile at a time with the Upper and Middle On-Site Storage Pads in order to minimize the duration when salt exposed to rainwater and wind.	
6. Perform hydrostatic testing of the pipe from the Off-Site Storage Pads to the Upper On-Site Storage Pad.	
7. Perform leak testing on the HDPE liner	
8. Decommission or reroute Lower On-Site Storage Pad underdrain piping discharge to Drainage Area 1.	
9. Increase sweeping of paved areas from as-needed to weekly or as-needed.	
10. Improvement the of the outer curbing of the drainage trough for the Lower Bulk Storage Pad.	
11. Investigate Weigh Scale/Scale House stormwater permitting options.	
Far-Term BMPs	December 31, 2025
1. Investigate further dust emissions control at Bulk Loading Tower.	
2. Pave all major roads on the facility.	
3. Design and construct permanent cover of the Lower On-Site Storage Pad and conveyor unloading area adjacent to the Lower On-Site Storage Pad.	

The purpose of the projects will be to limit exposure of salt product to precipitation and wind.

Cargill is currently planning six (9) near-term BMPs as described below.

1. In order to standardize and document key preventive maintenance associated with the brine system, Cargill will finalize and implement the Bulk Salt Pad Stormwater Distribution System Operability Check Procedures. This document and associated record templates address procedures and records for sonde calibration and conductivity sonde calibration checks. In addition, the current Pad Water Collection System Inspection protocol will be revised and implemented. This focuses on weekly system operability checks. Draft versions of these procedures are included as part of Appendix 7.
2. Cargill will review the current notifications and alarms associated with the operation of the bulk salt pad stormwater distribution system and the MF and ED plant. As needed, new notifications and alarms may be programed into the PI reporting system. Examples may include new visual indicators for flow routing valves and conductivity levels.
3. In order to reduce dust from the drop zone on the lower storage pad, Cargill will install a chute where salt exits the conveyor belt in the vicinity of the Lower On-Site Storage Pad. The installation of the chute technology will be dependent on best design and engineering practices and the site will utilize a different technology if it proves more suitable.
4. Cargill will designate the best location to store trucks and equipment, used to load and haul salt, to minimize any contribution of pollutants to stormwater.

5. Cargill will build only one salt pile at a time with the Upper and Middle On-Site Storage Pads in order to minimize the duration when salt is exposed to rainwater and wind. The facility will follow standard tarping and loading unloading procedures. The salt pile on the pad which is not being worked on will be fully tarped to reduce pollutants in the stormwater.
6. Cargill will perform hydrostatic testing of the two HDPE pipes from the Off-Site Storage Pads to the Upper On-Site Storage Pad to verify the structural integrity of the pipe. Cargill proposes to perform hydrostatic testing of these lines every three years as long as they are in use. If the testing shows a line which may be compromised Cargill will develop a corrective action plan.
7. Cargill will perform leak testing on the HDPE liner in the stormwater pond which collects water from the Cayuga Crushed Stone Pad. If the testing shows the liner may be compromised Cargill will develop a corrective action plan. Cargill proposes to perform leak testing on the HDPE liner every three years as long as they are in use.
8. During the survey an underdrain pipe from the Lower On-Site Storage Pad which discharges to ground surface and ultimately to Outfall 001 was discovered. Cargill proposes to reroute this underdrain piping to prevent discharge to Outfall 001. If the piping is rerouted it will be directed to the ED plant for treatment.
9. Currently the facility sweeps paved areas as-needed as described in Section 4.7. Cargill proposed to sweep at least weekly or as-needed in these paved areas.
10. Cargill has plans to improve the outer curbing of the drainage trough for the Lower Bulk Storage Pad in 2020.
11. The Weigh Scale/Scale House area is utilized by the Cargill facility, but it is a separate parcel and conducts different industrial activities than the facility. This area was discussed in the previous BMP Plan. Cargill will evaluate the Weigh Scale/Scale House stormwater permitting options and requirements in 2020.

Additionally, Cargill is currently planning three (3) far-term BMPs as described below.

1. Cargill will continue to investigate management and capital-focused approaches associated with reducing dust emissions at the Bulk-Loading Tower.
2. Cargill has future plans to pave all major roads on the facility. The facility will perform regenerative or vacuum assisted sweeping on all facility paved roads and will extend the sweeping to the newly paved roads as they are completed.
3. Cargill will design and construct permanent cover of the Lower On-Site Storage Pad and conveyor unloading area adjacent to the Lower On-Site Storage Pad. Once these areas are under permanent cover the stormwater and wind exposure to pollutants will be significantly reduced.

Once any future or planned BMPs are implemented Cargill will update the BMP Plan to include the details associated (*e.g.*, descriptions, inspections, maintenance, etc.).

6. INSPECTIONS (BMP #5)

Designated Cargill personnel conduct visual inspections of areas throughout the facility that have a potential to impact stormwater. Several types of visual inspections are conducted, and they differ in frequency, items assessed, and documentation. A summary schedule of the various inspections that are performed at the facility is provided as follows:

Table 6. BMP Inspection Schedule

Description of Inspection	Minimum Frequency
Visually inspect all truck and railcar loading areas.	Daily
Visually inspect bulk loading tower area for accumulation of airborne salt from loading activities.	Daily
Visually inspect T-3, 200-ton bin, and below all overland conveyors to check for signs of spilled salt.	Daily
Visually inspect outdoor equipment for signs of leaks or spills.	Weekly
Visually inspect the lake shore for signs of leaks, spills, or other stormwater issues.	Weekly
Visually inspect the condition and functionality of the bulk salt storage pads	Weekly
Housekeeping inspections by process area.	Monthly
Visual inspection of outfall drainage areas.	Quarterly
Annual compliance evaluation.	Annually

Each of the inspections is discussed in detail below.

6.1 Daily Facility Inspections

As part of routine operations Cargill inspects certain areas of the facility daily to ensure compliance with the Permit, to confirm BMPs are adequate, and to prevent pollutants from entering stormwater. Cargill inspects daily all truck and railcar loading areas for evidence of any spills or leaks. Additionally, Cargill inspects the bulk loading tower area for accumulation of airborne salt from loading activities. Cargill also visually inspects the T-3, 200-ton bin, and below all overland conveyors to check for signs of spilled salt. Documentation of daily visual inspections is required only if a problem (*e.g.*, condition that may result in a SPDES permit exceedance) is identified. However, the facility does indicate on the weekly inspection form whether daily inspections have been completed and if any conditions were noted. Weekly inspection forms are included in Appendix 5.

6.2 Weekly Facility Inspections

Cargill conducts Weekly Facility Inspections of the outdoor equipment and lake shore. Outdoor equipment is inspected for signs of leaks or spills. Cargill inspects the condition and functionality of the bulk salt storage pads weekly. Additionally, equipment is properly maintained based on the facility preventative maintenance program discussed in Section 4.3. As part of the Weekly Facility Inspections, Cargill also inspects the lake shore for evidence of leaks, spills, or other stormwater concerns.

Weekly Facility Inspection Forms are located in Appendix 5. Other means to document and record inspection results may include field notes, dated photographs, and drawings/maps. Completed

forms and associated documents are filed in the EHS office. Cargill retains records for a minimum of three years.

6.3 Monthly Facility Inspections

Monthly, at a minimum, Cargill reviews all facility components or systems where materials or pollutants are used, manufactured, stored or handled to evaluate the potential for the release of pollutants to the waters of the State. These components/systems include, but are not limited to:

- Material storage areas;
- In-plant transfer, process, and material handling areas;
- Loading and unloading operations;
- Stormwater, erosion, and sediment control measures;
- Process emergency control systems; and,
- Sludge and waste disposal areas.

In performing such an evaluation, Cargill considers such factors as the probability of equipment failure of improper operation, cross-contamination of stormwater by process materials, settlement of facility air emissions, the effects of natural phenomena such as freezing temperatures and precipitation, fires, and the facility's history of spills and leaks. The relative toxicity of the pollutant is considered in determining the significance of potential releases.

The review shall address all substances present at the facility that are identified in Tables 6-10 of SPDES application Form NY-2C or that are required to be monitored for by the SPDES permit. These include:

- Chlorides;
- Cyanides (Free);
- Sodium ferrocyanide decahydrate (YPS);
- Ferrocyanide;
- Total Dissolved Solids; and,
- Zinc;

Monthly Facility Inspection Forms are located in Appendix 5. Other means to document and record inspection results may include field notes, dated photographs, and drawings/maps. Completed forms and associated documents are filed in the EHS office. Cargill retains records for a minimum of three years.

6.4 Quarterly Facility Inspections

Cargill conducts Quarterly Facility Inspections of the stormwater drainage areas and outfalls. The quarterly inspections include assessing both the current operations for pollutant potential as well as any evidence of historical pollutants which can affect stormwater quality. Additionally, Cargill inspects all catch basins for their integrity and any evidence of solids, salt, or oil buildup.

Quarterly Facility Inspection Forms are located in Appendix 5. Other means to document and record inspection results may include field notes, dated photographs, and drawings/maps. Completed forms and associated documents are filed in the EHS office. Cargill retains records for a minimum of three years.

6.5 Comprehensive Annual Facility Evaluation and Annual Report

Cargill conducts a Comprehensive Facility Evaluation annually and certifies in writing, as an attachment to the December Discharge Monitoring Report (DMR), that the annual review has been completed.

The inspection must cover all areas of the facility affected by the requirements of the Permit, including areas with:

- Potential pollution sources where industrial materials or activities are exposed to stormwater;
- Areas where control measures are used;
- Areas where spills and leaks have occurred in the past three (3) years;
- A review of the monitoring data collected; and,
- Issues noted during the past calendar year's inspections and/or analytical monitoring.

The inspection includes the following elements:

- Identification of industrial materials, residue, or trash that may, or could, have been exposed to stormwater;
- Identification of leaks or spills from industrial equipment, drums, tanks, and other containers;
- Identification of offsite tracking of industrial or waste materials or sediment where vehicles enter or exit the facility;
- Identification of tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas;
- Inspection of stormwater drainage areas for evidence of pollutants entering the drainage system;
- Evaluation of the effectiveness of measures to reduce pollutant loading and determine whether additional measures are needed;
- Identification of any measures (*e.g.*, structural measures, sediment controls, and other stormwater BMPs to ensure proper operation) needing replacement, maintenance, or repair;
- Inspection and/or have a responsible individual inspect to assure that any equipment needed to implement this Plan (*e.g.*, spill response equipment) is available as needed and is in good working order; and,
- Elimination of non-stormwater discharges.

Based on the results of the evaluation, the list of potential pollutant sources and measures and controls described in this Plan will be revised where appropriate.

An Annual Report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the Plan, and any actions taken shall be made and retained as part of the Plan. Additionally, the Annual Report must be submitted to NYDEC as a Water report by February 1 each year and must summarize information for January to December of the previous year including the daily, weekly, monthly, and quarterly inspections.

The Annual Report forms are located in Appendix 5. Other means to document and record inspection results may include field notes, dated photographs, and drawings/maps. Completed forms and associated documents are filed in the EHS office. Cargill retains records for a minimum of three years.

6.6 Corrective Action Form

In the event one of the inspections as described above identifies an issue with a BMP, the facility will note on the inspection form a brief discussion of the issue, then describe in detail on the Corrective Action Form the issue with the BMP, the corrective action needed, a schedule for the corrective action to be completed, and the documentation the corrective action has been implemented. The Corrective Action Form is provided in Appendix 5.

7. MONITORING

7.1 Permitted Discharge Monitoring with Numeric Limits

Cargill is required to perform stormwater outfall sampling in accordance with SPDES Permit NY0101290 and the New York State Department of Environmental Conservation's (NYSDEC) Discharge Monitoring Report (DMR) Manual. Per the Permit, sampling of outfalls is required on a monthly basis based upon availability of a suitable stormwater event. Monitoring information is summarized and reported by submitting a completed and signed DMR form for each one month reporting period. The first reporting period begins on the effective date of the Permit and the reports are due no later than the 28th day of the month following the end of each reporting period.

Table 7. Stormwater Monitoring Locations and Required Parameters

Outfall	Flow	Chlorides	Cyanides (Free)	Total Dissolved Solids (TDS)	Total Zinc
001	X	X	X	X	X
002, 003, 006, 007, 012	X	X	X	X	

Table 8 summarizes the stormwater outfall monitoring limits that apply to the facility. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless otherwise specified in the Permit.

Table 8. Stormwater Outfall Monitoring Limits

Outfall	Flow	Chlorides	Cyanides (Free)	Total Dissolved Solids (TDS)	Total Zinc
Outfall 001 – Bulk Salt Storage/Handling Area Runoff					
Flow[1]	N/A	Monitor	GPD	Monthly	Instantaneous
Chlorides[5]	N/A	40,000	mg/L	Monthly	Grab
Cyanides (Free)[5,2]	N/A	1.1	mg/L	Monthly	Grab
Total Dissolved Solids[5]	N/A	80,000	mg/L	Monthly	Grab
Zinc, Total[5,3]	N/A	20	mg/L	Monthly	Grab
Outfalls 002 and 003 – Bulk Salt Storage/Handling Area Runoff					
Flow	N/A	Monitor	GPD	Monthly	Grab
Chlorides	10,000	Monitor	mg/L	Monthly	Grab
Cyanides (Free)[6]	0.1	Monitor	mg/L	Monthly	Grab
Total Dissolved Solids	40,000	Monitor	mg/L	Monthly	Grab
Outfalls 006, 007, and 012 – Bulk Salt Storage/Handling Area Runoff					
Flow	N/A	Monitor	GPD	Monthly	Grab
Chlorides	5,000	N/A	mg/L	Monthly	Grab
Cyanides (Free)[6]	0.1	N/A	mg/L	Monthly	Grab
Total Dissolved Solids	10,000	N/A	mg/L	Monthly	Grab

[1] Upper, Middle and Lower Salt Storage Pad Discharges must comply with Drainage Operations Manual – November 1994.
[2] Standard Methods 16th Edition #412 "weak and dissociable cyanide."
[3] From Electro Dialysis (ED) Plant.

If outfall parameters exceed any of the permit limits outlined in Table 8 above, designated personnel must consider whether the results are representative of the outfall conditions and what is the source of the pollutants. The following questions can help with this evaluation:

- Was sampling performed correctly?
- Were sample collection jars clean and was the sample preserved and submitted to the lab within the allotted timeframe?
- Was anything atypical going on at the site prior to or during sampling? Atypical activities could include:
  - A leak or spill was not adequately cleaned up;
  - Construction, painting, or paving activities; or,
  - Having a large amount of material (raw materials, wastes or products) recently delivered or being prepared for shipment.

In addition, if an exceedance occurs Cargill will perform sampling for "hot spot" identification in the drainage area of the exceedance as described in the permit. The permit describes "hot spot" as a segment of an industrial facility (including but not limited to soil, equipment, material storage areas, sewer lines, etc.) which contributes elevated levels of problem pollutants to the wastewater and/or stormwater collection system of the facility. If an exceedance occurs, Cargill will perform sampling at potential pollutant sources located in the same drainage area as the exceedance and will sample for each parameter for which an exceedance occurs. For example, if Outfall 1 sample results show an exceedance for total dissolved solids but is below the limits for chlorides, cyanides, and zinc, Cargill will select three locations (*e.g.*, upper pad salt transfer area, equipment storage, conveyor unloading area, etc.) in Drainage Area 1 to sample for total dissolved solids to help target the source of the pollutants causing the exceedance. Hot spot sampling will not be performed at permitted outfalls; therefore, results will not be reported on DMRs but will be included in inspection forms and the annual report.

All sampling performed at permitted outfalls is reported to the Environmental Protection Agency's (EPA) NetDMR online system prior to the 28th day of the month following the end of the monitoring period month (*e.g.*, data for the January monitoring period are due by February 28th). If Cargill monitors any pollutants more frequently than required by the Permit, the results of this monitoring are included in the calculations and reporting of the data on the DMR (*e.g.*, all results are averaged when reporting the monthly average, and the maximum of all results is reported as the maximum value). Appendix 10 can be referenced for more specific details regarding Permit sampling and reporting procedures. This document describes sample timing, pre-sampling preparations, sample collection methodology, post-collection procedures, quality control considerations, monitoring results evaluation, reporting procedures, and recordkeeping/data retention. Stormwater sampling data from the previous 3 years is stored in Appendix 11 with this BMP Plan.

8. PLAN AVAILABILITY AND RECORDS RETENTION (BMP #5)

Copies of this BMP plan will be maintained in the EHS office. The BMP plan will also be made available to NYSDEC personnel for their information and use. Authorized facility personnel, federal, state, and/or local authorities will also be able to access this plan for on-site review during normal business hours. Requests to review the BMP plan should be directed to the Mine Manager.

Cargill will retain this BMP plan and associated records for at least three years following expiration of the current SPDES permit.

9. SIGNATURE REQUIREMENTS

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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."

This BMP Plan will be implemented as described herein and has the full approval of Management at a level with authority to commit the necessary resources.

Signature:	
Name:	
Title:	
Date:	

10. PLAN AMENDMENTS AND UPDATE

As conditions and practices at the Cargill facility change, sections of this document should be revised accordingly. If the BMP plan is ineffective in eliminating or minimizing the identified potential pollution sources, the plan should also be amended. The format of this BMP plan is designed to easily accommodate these changes.

Cargill has the right to revise this BMP plan in any manner and at such times that it judges to be appropriate to meet the objectives of the BMP plan (see Section 1.7), conform to company policies, or comply with NYSDEC regulatory requirements.

Cargill will amend the BMP plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of the state or if the BMP plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified (in this plan), or in otherwise achieving the general objectives of controlling pollutants in stormwater discharges.

Revisions to this BMP plan will be conducted in a timely manner, which will occur within twelve weeks from the discovery of the occurrence of the above. The revision log used for documenting BMP Plan changes can be referenced below.

Additionally, Cargill will conduct a comprehensive site evaluation annually to evaluate the effectiveness of the implementation of this BMP plan. This time-dated approach allows for the consideration of new perspectives gained through implementation of the BMP plan, as well as the reflection of new directives, emerging technologies, and other such factors. However, plan revisions should not be limited to periodic modifications. Cargill will evaluate the BMP plan whenever the following conditions change:

- Restructuring of facility management;
- Substantial growth;
- Significant changes in the nature or quantities of potential pollutants discharged;
- Process or treatment modifications;
- New permit requirements;
- Exceedance of SPDES permit discharge limitations; or,
- Notice is received from NYSDEC of inadequacies in the Plan.

Based upon this comprehensive site evaluation, Cargill will determine if components of the BMP plan need to be modified. If BMP plan modifications are considered necessary, the revisions should be completed within four weeks of completion of the comprehensive site evaluation.

Facility actions required as a consequence of changes to the BMP plan will be implemented in a timely manner, but in no case more than twelve weeks after the inspection.

Documentation of the amendments to the BMP plan is to be completed by using the information table provided in the plan revision section.

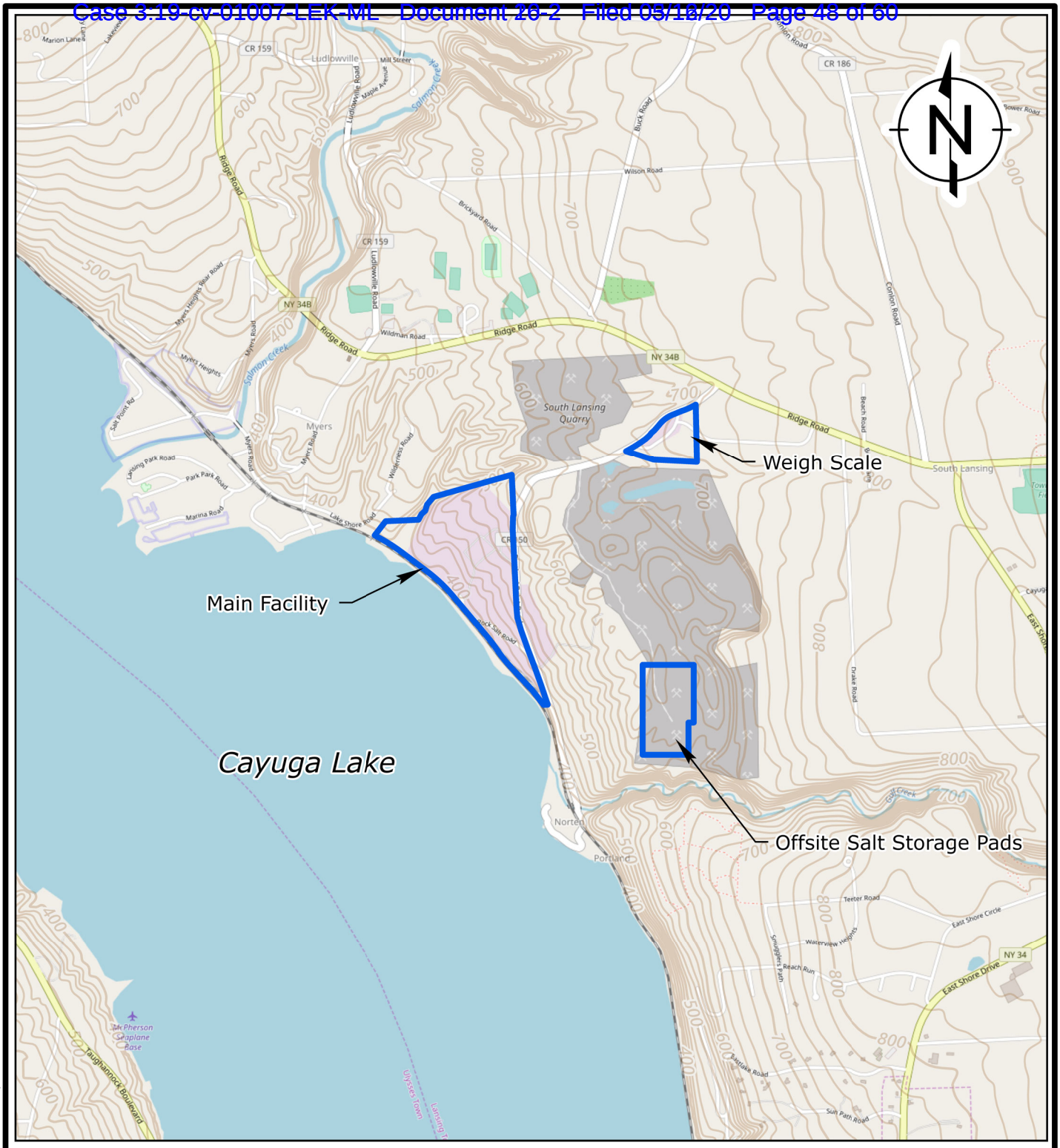
Revised BMP plans will be submitted to the NYSDEC Regional Water Engineer within 30 days. However, Cargill is not required to receive NYSDEC approval of the BMP plan unless notified otherwise.

Revision Log

This Plan will be revised as appropriate and necessary in a timely manner. Revisions to the Plan are summarized in the following table:

Date	Revision
2009	BMP Plan development
April 2019	Updated BMPs
July 2019	Updated Industrial Activities and BMPs
January 2020	Comprehensive BMP Plan review and update

FIGURES



0 0.5 1

SCALE IN MILES

0 2,000 4,000

SCALE IN FEET

SOURCE:
contours: USGS The National Map: 3D Elevation Program. Data Refreshed October, 2019.
OpenStreetMap: © OpenStreetMap (and) contributors, CC-BY-SA
www.openstreetmap.org/key

Map Scale 1:24,000
Spatial Reference: NAD 1983 StatePlane New York Central FIPS 3102 Feet; Map Center: 75°49'W 42°47'50"N

Key Map

SITE LOCATION MAP

CARGILL, INC.
191 PORTLAND POINT ROAD
LANSING, NEW YORK

RAMBOLL

FIGURE 1

DRAFTED BY: KPM | DATE: 12/16/2019 | PROJECT: 1690015568

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LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- DRAINAGE AREA 001
- DRAINAGE AREA 002
- DRAINAGE AREA 003
- DRAINAGE AREA 004
- DRAINAGE AREA 005
- DRAINAGE AREA 006
- DRAINAGE AREA 007
- DRAINAGE AREA 012
- DRAINAGE AREA MINE SHAFT #2
- NON-INDUSTRIAL DRAINAGE AREAS
- FLOW ARROWS
- SUBSURFACE PIPING
- SUBSURFACE PIPE INFERRED
- SURFACE DRAINAGE FLOW PATHWAYS

OFF SITE PADS

NOTES:

1. THIS FIGURE WAS GENERATED FROM A FIELD SURVEY PLAN ENTITLED, "ALTA/NSPS LAND TITLE SURVEY," DATED SEPTEMBER 23, 2019 AND STAMPED NOVEMBER 8, 2019.

BAR SCALE
150 0 75 150 300
1 inch = 150ft.

REV.	DATE	DR.	CK.	REVISION
A	07JAN2020	LTE	ENR	FOR SUBMISSION

INDUSTRIAL & NON-INDUSTRIAL DRAINAGE AREAS

CARGILL INCORPORATED - CAYUGA MINE
191 PORTLAND POINT ROAD
LANSING, NY 14882

RAMSOIL

PREPARED BY: ENR | DATE: 25NOV19
DRAFTED BY: LTE | SCALE: 1" = 150'
APPROVED BY: RBP | PROJECT: 1690015568

FIGURE 2

LEVEL: 17/20
L:\ACTIVE PROJECTS\CARGILL\LANSING, NY\SUPPORTING DOCUMENTS\CAD < FIGURES 2-13_CARGILL LANSING_1690013163 >

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- DRAINAGE AREA 001
- DRAINAGE AREA 002
- DRAINAGE AREA 003
- DRAINAGE AREA 004
- DRAINAGE AREA 005
- DRAINAGE AREA 006
- DRAINAGE AREA 007
- DRAINAGE AREA 012
- DRAINAGE AREA MINE SHAFT #2
- NON-INDUSTRIAL DRAINAGE AREAS
- IMPERVIOUS AREAS
- WATER BODIES

OFF SITE PADS

NOTES:

1. THIS FIGURE WAS GENERATED FROM A FIELD SURVEY PLAN ENTITLED, "ALTA/NSPS LAND TITLE SURVEY," DATED SEPTEMBER 23, 2019 AND STAMPED NOVEMBER 8, 2019.
2. ALL FACILITY ROADS ARE COMPACTED PROCESS MATERIAL AND ARE CONSIDERED IMPERMEABLE (UNLESS INDICATED OTHERWISE).

BAR SCALE
150 0 75 150 300
1 inch = 150ft.

REV.	DATE	DR.	CK.	REVISION
A	07JAN2020	LTE	ENR	FOR SUBMISSION

PERMEABLE AND IMPERMEABLE AREAS

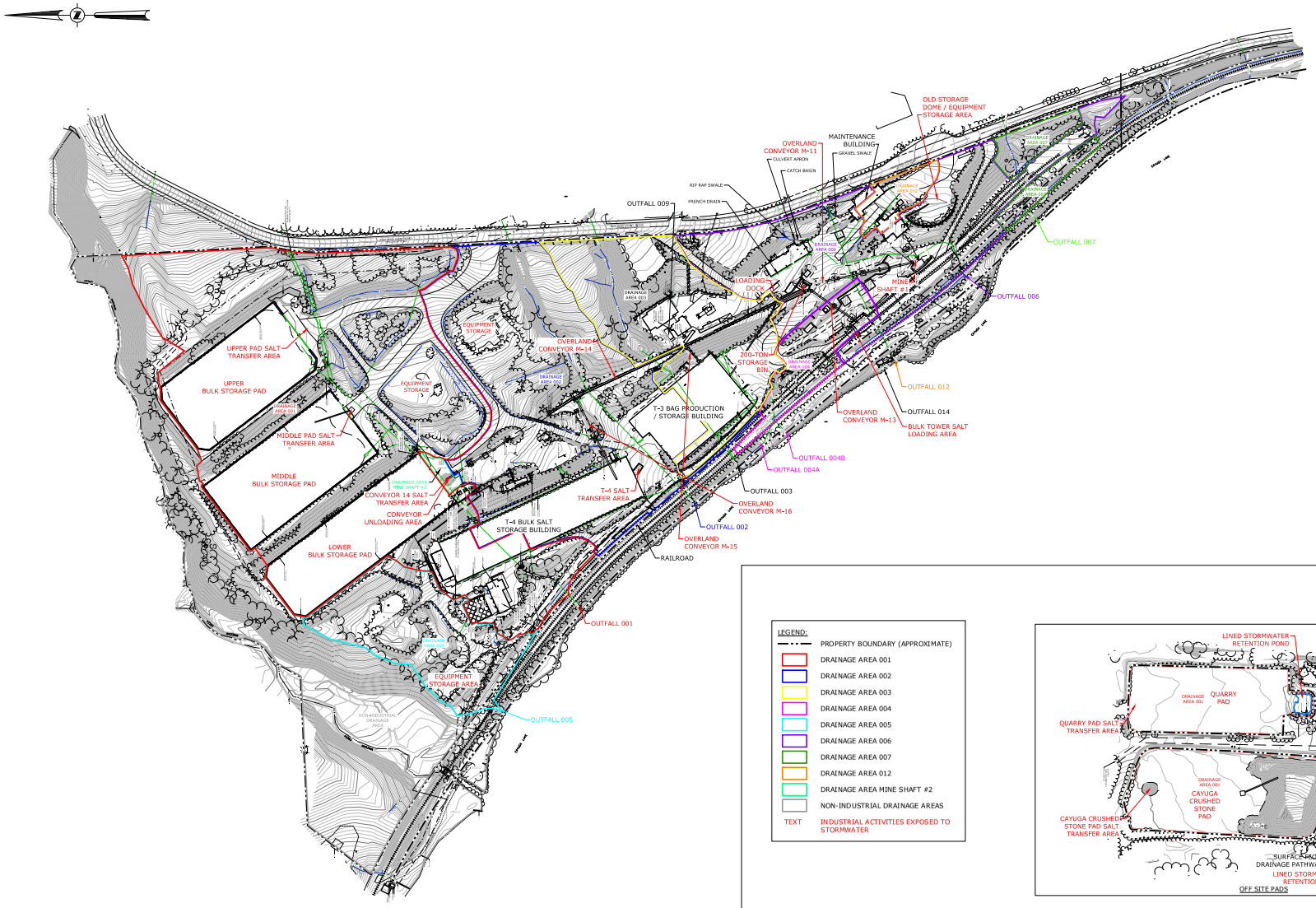
CARGILL INCORPORATED - CAYUGA MINE
191 PORTLAND POINT ROAD
LANSING, NY 14882

RAMBOLL

PREPARED BY: ENR | DATE: 25NOV19
DRAFTED BY: LTE | SCALE: 1" = 150'
APPROVED BY: RBP | PROJECT: 1690015568

FIGURE 3

LEVELS: 1 TO 20
L:\ACTIVE PROJECTS\CARGILL\LANSING, NY\SUPPORTING DOCUMENTS\CAD < FIGURES 2-13_CARGILL LANSING, 1690013163 >



LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- DRAINAGE AREA 001
- DRAINAGE AREA 002
- DRAINAGE AREA 003
- DRAINAGE AREA 004
- DRAINAGE AREA 005
- DRAINAGE AREA 006
- DRAINAGE AREA 007
- DRAINAGE AREA 012
- DRAINAGE AREA MINE SHAFT #2
- NON-INDUSTRIAL DRAINAGE AREAS
- TEXT — INDUSTRIAL ACTIVITIES EXPOSED TO STORMWATER

OFF SITE PADS

NOTES:

1. THIS FIGURE WAS GENERATED FROM A FIELD SURVEY PLAN ENTITLED, "ALTA/NSPS LAND TITLE SURVEY," DATED SEPTEMBER 23, 2019 AND STAMPED NOVEMBER 8, 2019.

BAR SCALE
150 0 75 150 300
1 inch = 150ft.

REV.	DATE	DR.	CK.	REVISION
A	07JAN2020	LTE	ENR	FOR SUBMISSION

INDUSTRIAL ACTIVITIES EXPOSED TO STORMWATER

CARGILL INCORPORATED - CAYUGA MINE
191 PORTLAND POINT ROAD
LANSING, NY 14882

RAMSOIL

PREPARED BY: ENR | DATE: 25NOV19
DRAFTED BY: LTE | SCALE: 1" = 150'
APPROVED BY: RBP | PROJECT: 1690015568

FIGURE 4

LEVELS: 1 XREFS:
L:\ACTIVE PROJECTS\CARGILL\LANSING, NY\SUPPORTING DOCUMENTS\CAD < FIGURES 2-13_CARGILL LANSING, 1690013163 >

NOTES:

1. THIS FIGURE WAS GENERATED FROM A FIELD SURVEY PLAN ENTITLED, "ALTA/NSPS LAND TITLE SURVEY," DATED SEPTEMBER 23, 2019 AND STAMPED NOVEMBER 8, 2019.

REV.	DATE	DR.	CK.	REVISION
A	07JAN2020	LTE	ENR	FOR SUBMISSION

AREA PLAN

CARGILL INCORPORATED - CAYUGA MINE
191 PORTLAND POINT ROAD
LANSING, NY 14882

RAMSOIL

PREPARED BY: ENR	DATE: 25NOV19
DRAFTED BY: LTE	SCALE: 1" = 150'
APPROVED BY: RBP	PROJECT: 1690015568

FIGURE 5

LEVELS: 10,20
L:\ACTIVE PROJECTS\CARGILL\LANSING, NY\SUPPORTING DOCUMENTS\CAD < FIGURES 2-13_CARGILL LANSING, 1690013163 >

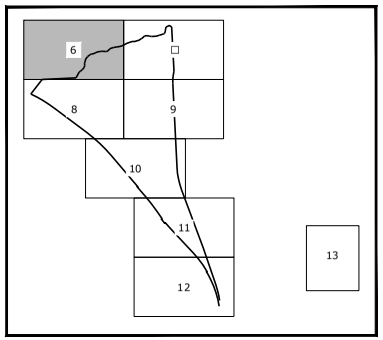
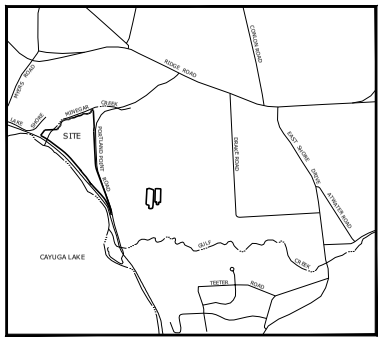


FIGURE KEY



SITE LOCATION MAP

MATCH LINE SEE FIGURE 8

MATCH LINE SEE FIGURE 8

MATCH LINE SEE FIGURE 8

MATCH LINE SEE FIGURE 8

N87°11'11"E 462.73'

N64 23 26"E 32.52□
N 3 43 06"E 33.10□
N80 04 0 "E 40.18□
N80 42 13"E 48.20□
N 2 2 06"E 50.45□
N40 44 02"E 42.82□
N66 56 34"E 16.□□
N83 43 58"E 15.3□□
N53 44 40"E 24.62□
N89 15 1 "E 28.□□□
N85 41 28"E 20.58□
N 8 58 33"E 39.□□
S86 35 10"E 32.15□
N 3 32 45"E 35.20□
N83 19 31"E 19.18□
N61 12 25"E 25.95□
N50 53 05"E 38.83□
N3 22 5 "E 43.14□
N11 56 31"E 43.02□
N33 40 34"E 14.40□
N08 06 3 "W 31.21□
N20 29 59"E 33.89□
N3 14 21"E 34.04□
N51 5 13"E 30.33□
N55 40 35"E 22.61□
N29 05 4 "E 90.94□

CREEK
MINEGAR
NON-INDUSTRIAL DRAINAGE AREA
DRAINAGE AREA 001
MIDDLE BULK STORAGE PAD
LOWER BULK STORAGE PAD
CONCRETE CONTAINMENT DRAINAGE TROUGH
BLACKTOP REMAINS
ROCK OUTCROP
MAGNAIL FOUND
SHED

LEGEND:
- PROPERTY BOUNDARY (APPROXIMATE)
- DRAINAGE AREA 001
- DRAINAGE AREA 002
- DRAINAGE AREA 003
- DRAINAGE AREA 004
- DRAINAGE AREA 005

LEGEND CONT.:
- DRAINAGE AREA 006
- DRAINAGE AREA 00□
- DRAINAGE AREA 012
- DRAINAGE AREA MINE SHAFT □2
- NON-INDUSTRIAL DRAINAGE AREAS
- IMPERVIOUS AREAS

LEGEND CONT.:
- WATER BODIES
- TEXT INDUSTRIAL ACTIVITIES EXPOSED TO STORMWATER
- FLOW ARROWS
- SUBSURFACE PIPING
- SUBSURFACE PIPE INFERRED
- SURFACE DRAINAGE FLOW PATHWAYS

BAR SCALE
40 0 20 40 80
1 □□□ 40 □□

NOTES:

1. THIS FIGURE WAS GENERATED FROM A FIELD SURVEY PLAN ENTITLED, "ALTA/NSPS LAND TITLE SURVEY," DATED SEPTEMBER 23, 2019 AND STAMPED NOVEMBER 8, 2019.

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ENLARGED PLAN

CARGILL INCORPORATED - CAYUGA MINE
191 PORTLAND POINT ROAD
LANSING, NY 14882

RAMSOIL

PREPARED BY: ENR	DATE: 25NOV19
DRAFTED BY: LTE	SCALE: 1" □150□
APPROVED BY: RBP	PROJECT: 1690015568

FIGURE 6

LEDGE 1.0GD
L:\ACTIVE PROJECTS\CARGILL\LANSING, NY\SUPPORTING DOCUMENTS\CAD < FIGURES 2-13_CARGILL LANSING_1690013163 >

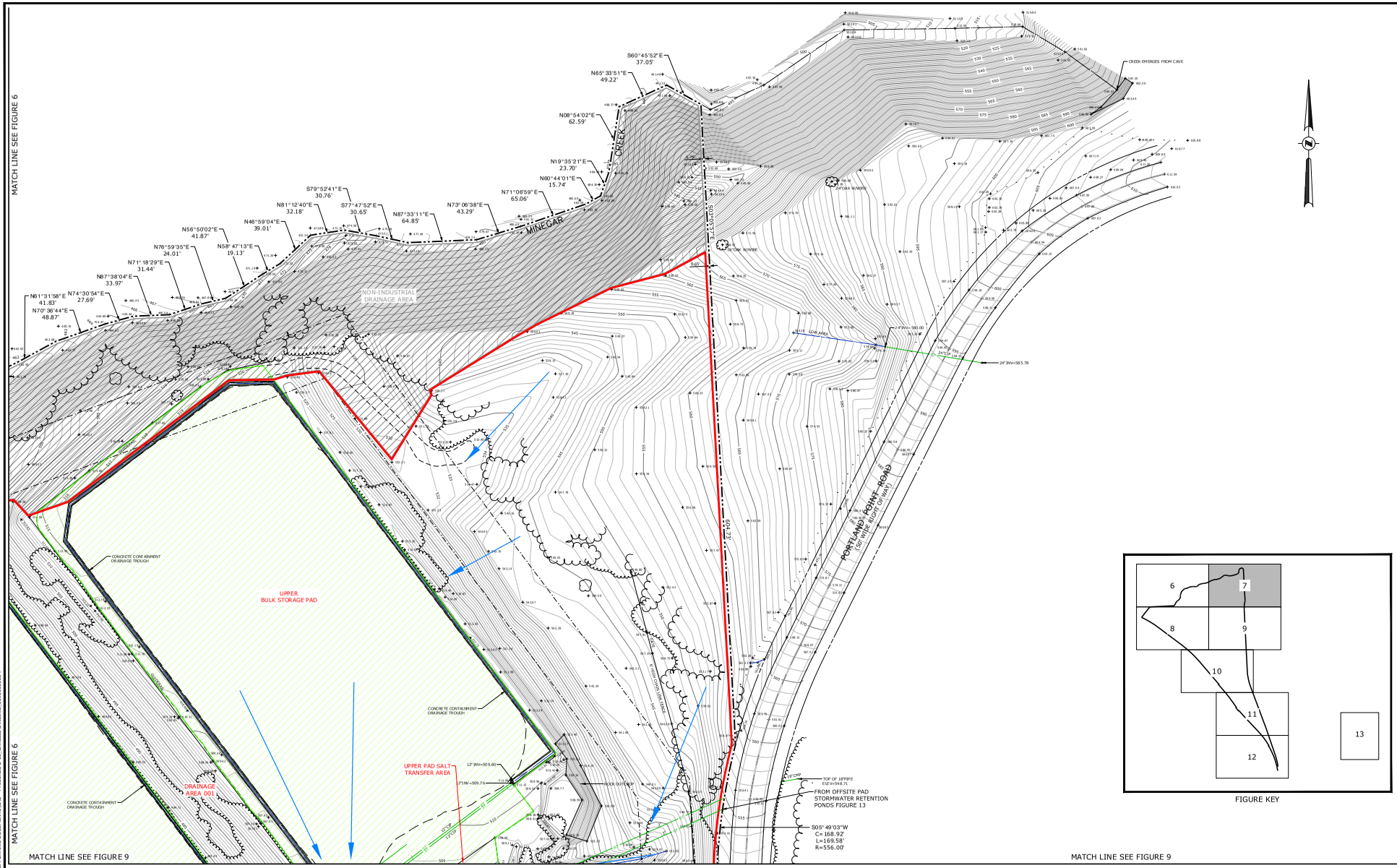

FIGURE KEY

LEGEND:
- PROPERTY BOUNDARY (APPROXIMATE)
- DRAINAGE AREA 001
- DRAINAGE AREA 002
- DRAINAGE AREA 003
- DRAINAGE AREA 004
- DRAINAGE AREA 005

LEGEND CONT.:
- DRAINAGE AREA 006
- DRAINAGE AREA 007
- DRAINAGE AREA 012
- DRAINAGE AREA MINE SHAFT #2
- NON-INDUSTRIAL DRAINAGE AREAS
- IMPERVIOUS AREAS

LEGEND CONT.:
- WATER BODIES
- TEXT INDUSTRIAL ACTIVITIES EXPOSED TO STORMWATER
- FLOW ARROWS
- SUBSURFACE PIPING
- SUBSURFACE PIPE INFERRED
- SURFACE DRAINAGE FLOW PATHWAYS

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

NOTES:
1. THIS FIGURE WAS GENERATED FROM A FIELD SURVEY PLAN ENTITLED, "ALTA/NSPS LAND TITLE SURVEY," DATED SEPTEMBER 23, 2019 AND STAMPED NOVEMBER 8, 2019.

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ENLARGED PLAN

CARGILL INCORPORATED - CAYUGA MINE
191 PORTLAND POINT ROAD
LANSING, NY 14882

RAMBOLL

PREPARED BY: ENR	DATE: 25NOV19
DRAFTED BY: LTE	SCALE: 1" = 150'
APPROVED BY: RBP	PROJECT: 1690015568

FIGURE 7

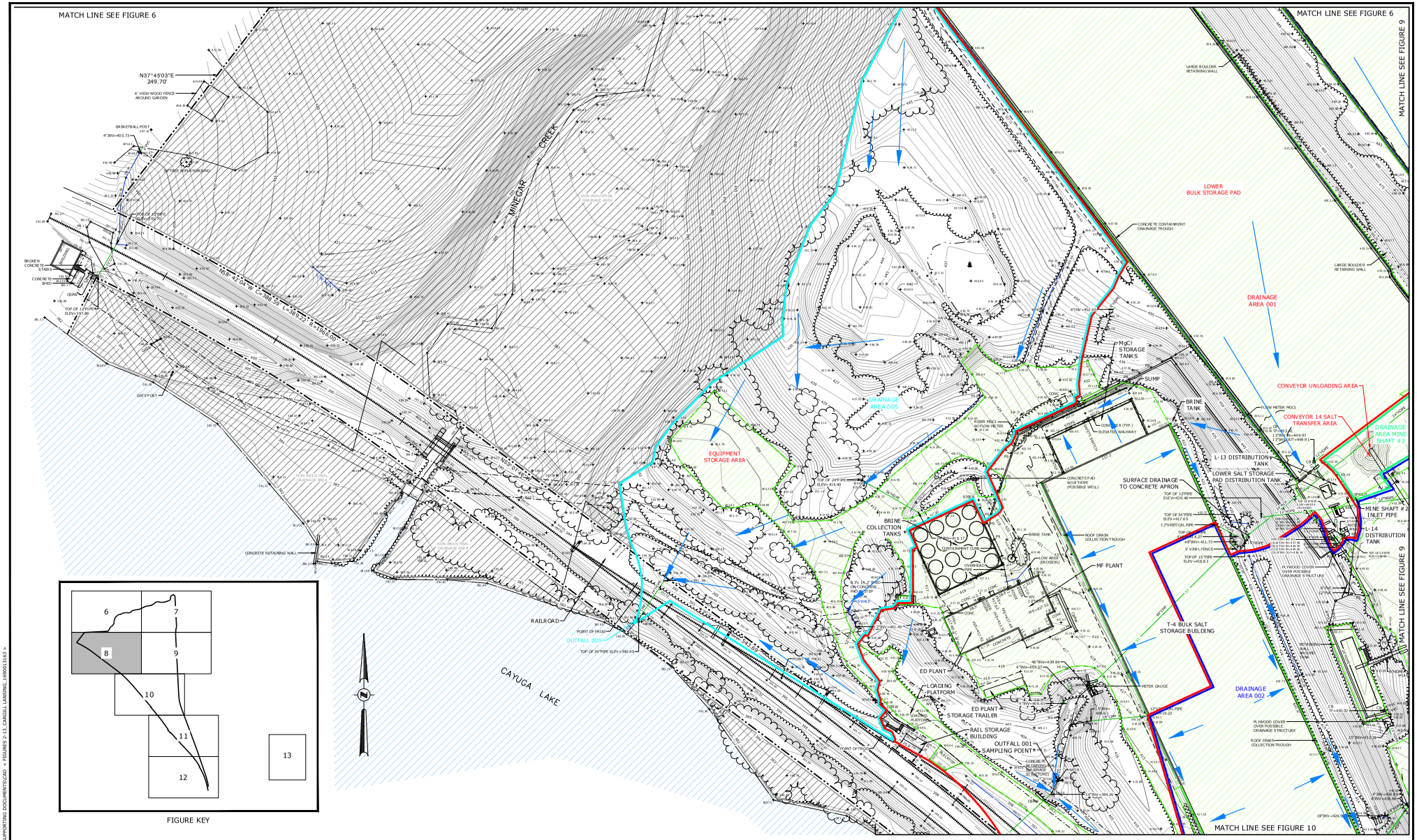

FIGURE KEY

LEGEND:	LEGEND CONT.:	LEGEND CONT.:
PROPERTY BOUNDARY (APPROXIMATE)	DRAINAGE AREA 006	WATER BODIES
DRAINAGE AREA 001	DRAINAGE AREA 007	TEXT INDUSTRIAL ACTIVITIES EXPOSED TO STORMWATER
DRAINAGE AREA 002	DRAINAGE AREA 012	FLOW ARROWS
DRAINAGE AREA 003	DRAINAGE AREA MINE SHAFT #2	SUBSURFACE PIPING
DRAINAGE AREA 004	NON-INDUSTRIAL DRAINAGE AREAS	SUBSURFACE PIPE INFERRED
DRAINAGE AREA 005	IMPERVIOUS AREAS	SURFACE DRAINAGE FLOW PATHWAYS

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

NOTES:

1. THIS FIGURE WAS GENERATED FROM A FIELD SURVEY PLAN ENTITLED, "ALTA/NSPS LAND TITLE SURVEY," DATED SEPTEMBER 23, 2019 AND STAMPED NOVEMBER 8, 2019.

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ENLARGED PLAN

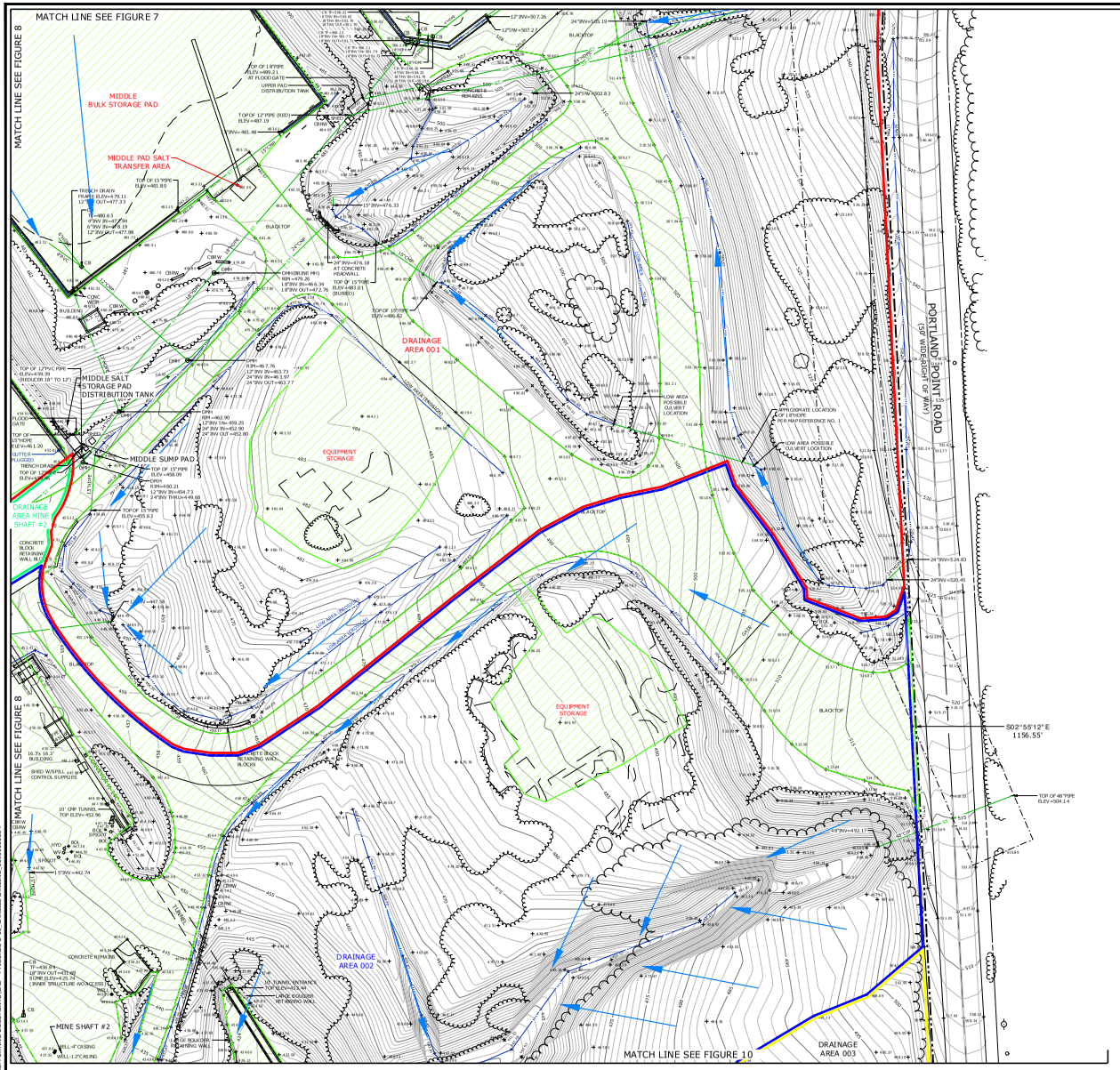
CARGILL INCORPORATED - CAYUGA MINE
191 PORTLAND POINT ROAD
LANSING, NY 14882

RAMSOIL

PREPARED BY: ENR	DATE: 25NOV19
DRAFTED BY: LTE	SCALE: 1" = 150'
APPROVED BY: RBP	PROJECT: 1690015568

FIGURE 8

LEVELS: 1,2,20
L:\ACTIVE PROJECTS\CARGILL\LANSING, NY\SUPPORTING DOCUMENTS\CAD < FIGURES 2-13_CARGILL LANSING_1690013163 >



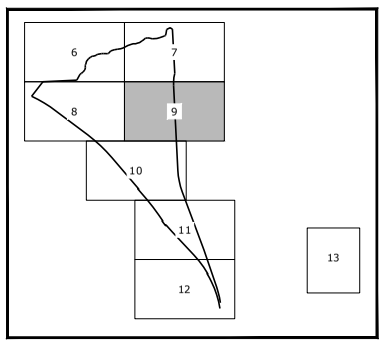


FIGURE KEY

LEGEND:
- PROPERTY BOUNDARY (APPROXIMATE)
- DRAINAGE AREA 001
- DRAINAGE AREA 002
- DRAINAGE AREA 003
- DRAINAGE AREA 004
- DRAINAGE AREA 005

LEGEND CONT.:
- DRAINAGE AREA 006
- DRAINAGE AREA 007
- DRAINAGE AREA 012
- DRAINAGE AREA MINE SHAFT #2
- NON-INDUSTRIAL DRAINAGE AREAS
- IMPERVIOUS AREAS

LEGEND CONT.:
- WATER BODIES
- TEXT INDUSTRIAL ACTIVITIES EXPOSED TO STORMWATER
- FLOW ARROWS
- SUBSURFACE PIPING
- SUBSURFACE PIPE INFERRED
- SURFACE DRAINAGE FLOW PATHWAYS

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

NOTES:
1. THIS FIGURE WAS GENERATED FROM A FIELD SURVEY PLAN ENTITLED, "ALTA/NSPS LAND TITLE SURVEY," DATED SEPTEMBER 23, 2019 AND STAMPED NOVEMBER 8, 2019.

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CARGILL INCORPORATED - CAYUGA MINE
191 PORTLAND POINT ROAD
LANSING, NY 14882

RAMSOIL

PREPARED BY: ENR	DATE: 25NOV19
DRAFTED BY: LTE	SCALE: 1" = 150'
APPROVED BY: RBP	PROJECT: 1690015568

FIGURE 9

LEDGE LIGHT
L:\ACTIVE PROJECTS\CARGILL\LANSING, NY\SUPPORTING DOCUMENTS\CAD < FIGURES 2-13_CARGILL LANSING_1690013163 >

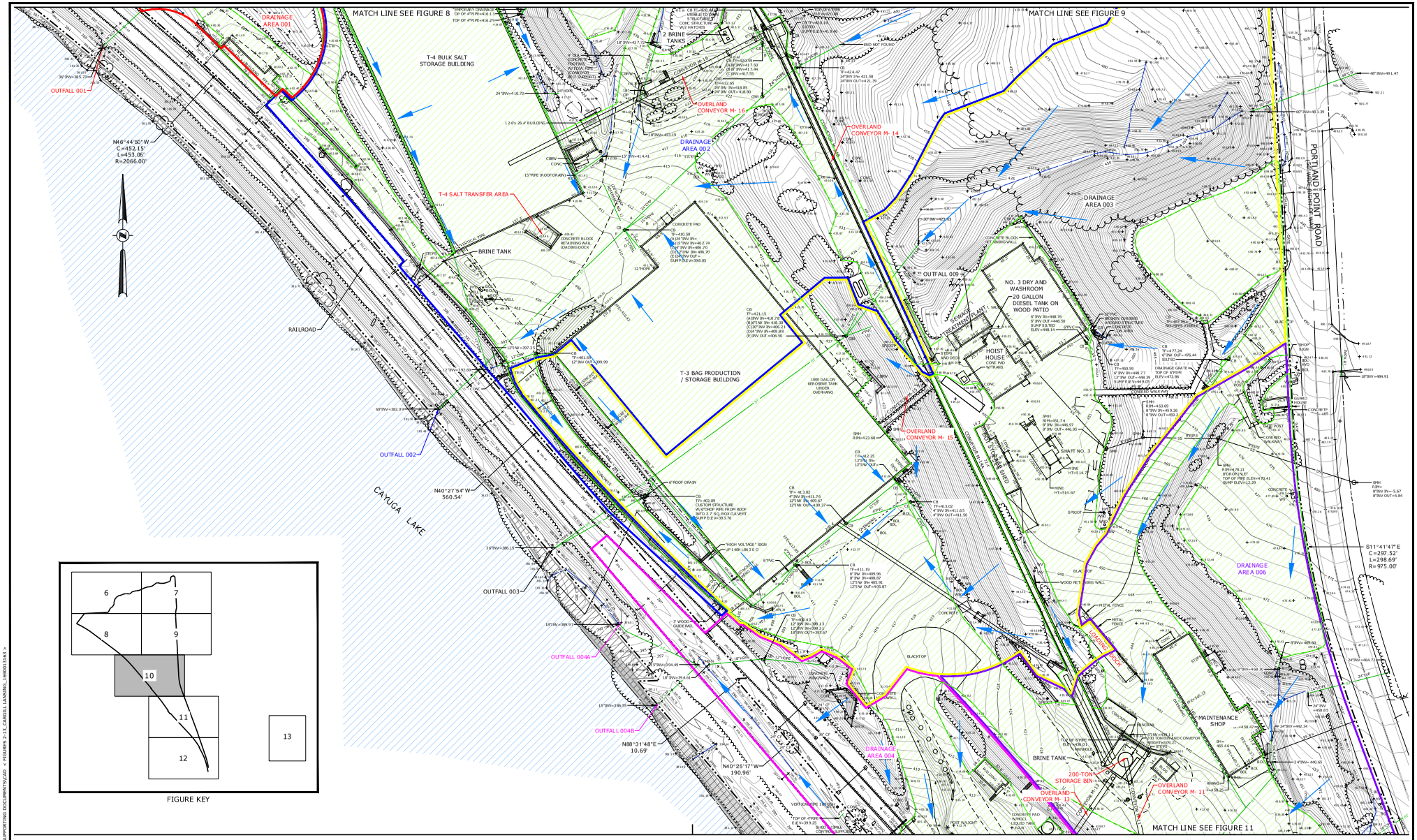

FIGURE KEY

LEGEND:
- PROPERTY BOUNDARY (APPROXIMATE)
- DRAINAGE AREA 001
- DRAINAGE AREA 002
- DRAINAGE AREA 003
- DRAINAGE AREA 004
- DRAINAGE AREA 005

LEGEND CONT.:
- DRAINAGE AREA 006
- DRAINAGE AREA 007
- DRAINAGE AREA 012
- DRAINAGE AREA MINE SHAFT #2
- NON-INDUSTRIAL DRAINAGE AREAS
- IMPERVIOUS AREAS

LEGEND CONT.:
- WATER BODIES
- TEXT — INDUSTRIAL ACTIVITIES EXPOSED TO STORMWATER
- FLOW ARROWS
- SUBSURFACE PIPING
- SUBSURFACE PIPE INFERRED
- SURFACE DRAINAGE FLOW PATHWAYS

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

NOTES:
1. THIS FIGURE WAS GENERATED FROM A FIELD SURVEY PLAN ENTITLED, "ALTA/NSPS LAND TITLE SURVEY," DATED SEPTEMBER 23, 2019 AND STAMPED NOVEMBER 8, 2019.

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191 PORTLAND POINT ROAD
LANSING, NY 14882

RAMSOIL

PREPARED BY: ENR	DATE: 25NOV19
DRAFTED BY: LTE	SCALE: 1" = 150'
APPROVED BY: RBP	PROJECT: 1690015568

FIGURE 10

LEDGE 17720
L:\ACTIVE PROJECTS\CARGILL\LANSING, NY\SUPPORTING DOCUMENTS\CAD < FIGURES 2-13_CARGILL LANSING_1690013163 >

LEGEND:
- PROPERTY BOUNDARY (APPROXIMATE)
- DRAINAGE AREA 001
- DRAINAGE AREA 002
- DRAINAGE AREA 003
- DRAINAGE AREA 004
- DRAINAGE AREA 005

LEGEND CONT.:
- DRAINAGE AREA 006
- DRAINAGE AREA 007
- DRAINAGE AREA 012
- DRAINAGE AREA MINE SHAFT #2
- NON-INDUSTRIAL DRAINAGE AREAS
- IMPERVIOUS AREAS

LEGEND CONT.:
- WATER BODIES
- TEXT — INDUSTRIAL ACTIVITIES EXPOSED TO STORMWATER
- FLOW ARROWS
- SUBSURFACE PIPING
- SUBSURFACE PIPE INFERRED
- SURFACE DRAINAGE FLOW PATHWAYS

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

NOTES:
1. THIS FIGURE WAS GENERATED FROM A FIELD SURVEY PLAN ENTITLED, "ALTA/NSPS LAND TITLE SURVEY," DATED SEPTEMBER 23, 2019 AND STAMPED NOVEMBER 8, 2019.

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CARGILL INCORPORATED - CAYUGA MINE
191 PORTLAND POINT ROAD
LANSING, NY 14882

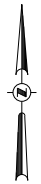
RAMBOLL

PREPARED BY: ENR	DATE: 25NOV19
DRAFTED BY: LTE	SCALE: 1" = 150'
APPROVED BY: RBP	PROJECT: 1690015568

FIGURE 11

LEGEND: L:\20 L:\ACTIVE PROJECTS\CARGILL\LANSING, NY\SUPPORTING DOCUMENTS\CAD < FIGURES 2-13_CARGILL LANSING_1690013163 >

MATCH LINE SEE FIGURE 11



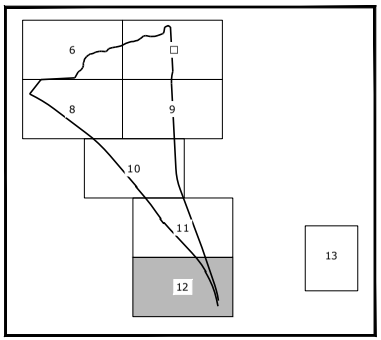
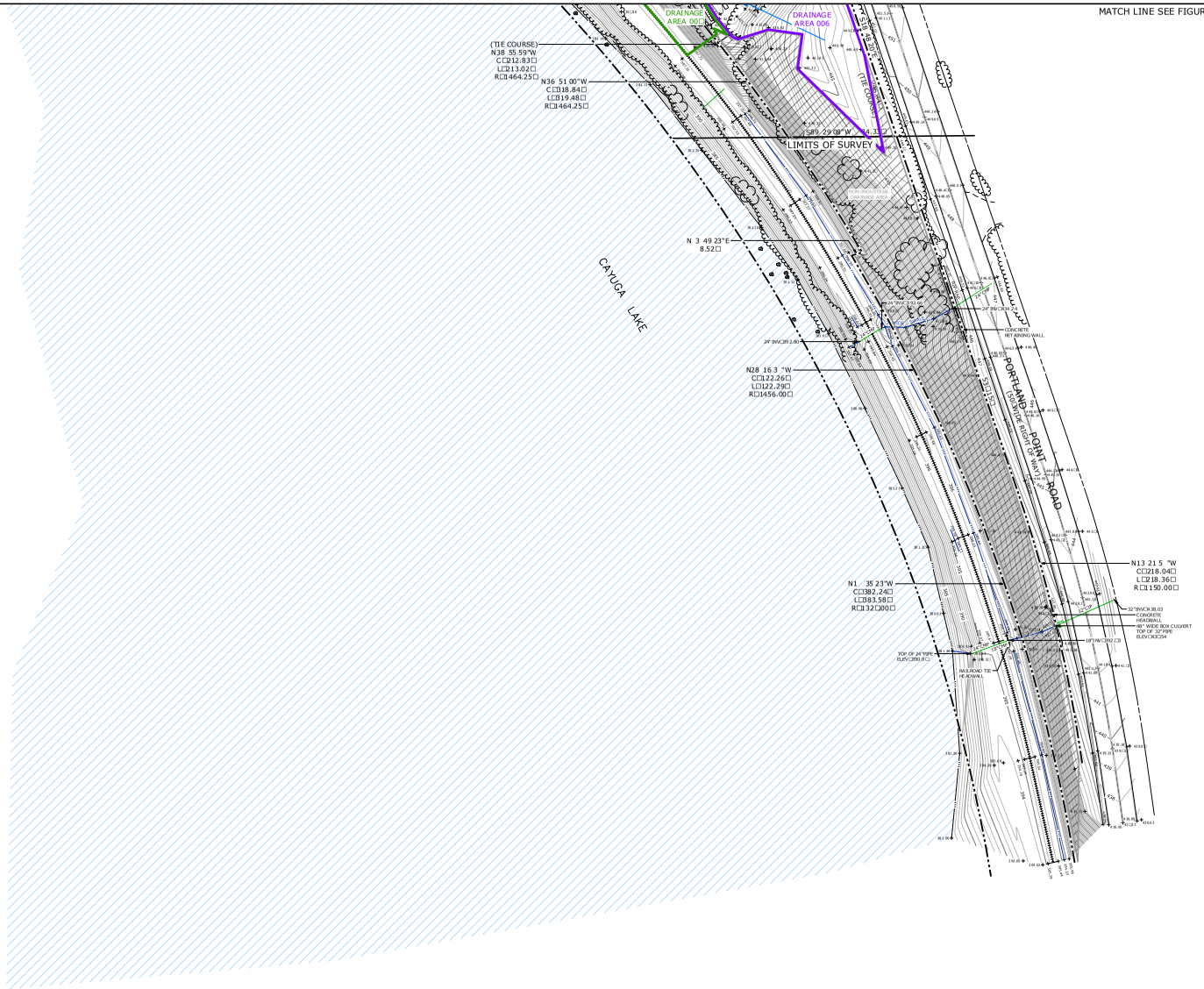


FIGURE KEY



LEGEND:
- PROPERTY BOUNDARY (APPROXIMATE)
- DRAINAGE AREA 001
- DRAINAGE AREA 002
- DRAINAGE AREA 003
- DRAINAGE AREA 004
- DRAINAGE AREA 005

LEGEND CONT.:
- DRAINAGE AREA 006
- DRAINAGE AREA 00
- DRAINAGE AREA 012
- DRAINAGE AREA MINE SHAFT 2
- NON-INDUSTRIAL DRAINAGE AREAS
- IMPERVIOUS AREAS

LEGEND CONT.:
- WATER BODIES
- TEXT INDUSTRIAL ACTIVITIES EXPOSED TO STORMWATER
- FLOW ARROWS
- SUBSURFACE PIPING
- SUBSURFACE PIPE INFERRED
- SURFACE DRAINAGE FLOW PATHWAYS

BAR SCALE
40 0 20 40 80
1 40

NOTES:

1. THIS FIGURE WAS GENERATED FROM A FIELD SURVEY PLAN ENTITLED, "ALTA/NSPS LAND TITLE SURVEY," DATED SEPTEMBER 23, 2019 AND STAMPED NOVEMBER 8, 2019.

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ENLARGED PLAN

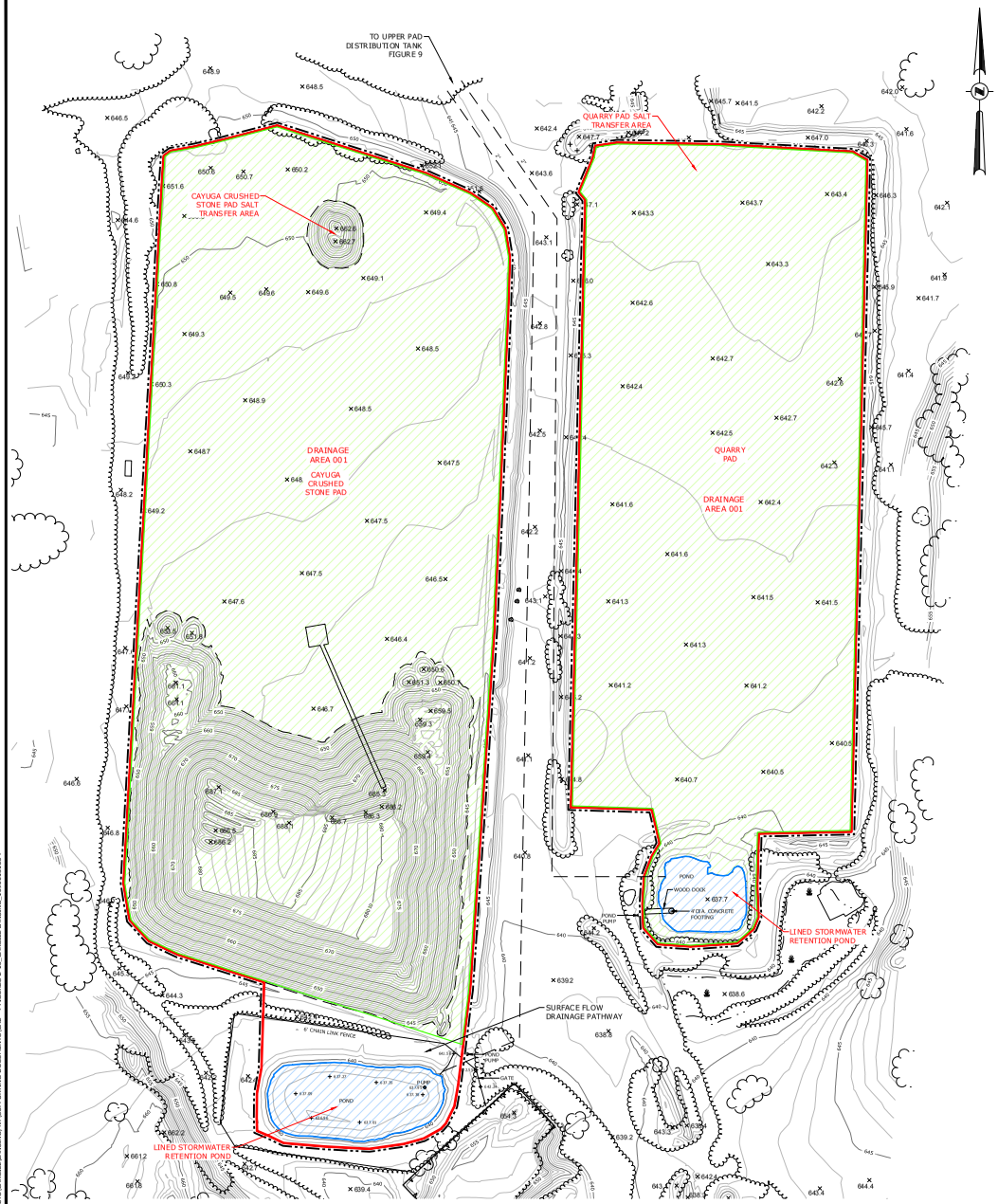
CARGILL INCORPORATED - CAYUGA MINE
191 PORTLAND POINT ROAD
LANSING, NY 14882

RAMBOLL

PREPARED BY: ENR	DATE: 25NOV19
DRAFTED BY: LTE	SCALE: 1" 150
APPROVED BY: RBP	PROJECT: 1690015568

FIGURE 12

LEVELS: 10,20
L:\ACTIVE PROJECTS\CARGILL\LANSING, NY\SUPPORTING DOCUMENTS\CAD < FIGURES 2-13_CARGILL LANSING_1690013163 >



LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- DRAINAGE AREA 001
- DRAINAGE AREA 002
- DRAINAGE AREA 003
- DRAINAGE AREA 004
- DRAINAGE AREA 005
- DRAINAGE AREA 006
- DRAINAGE AREA 007
- DRAINAGE AREA 012
- DRAINAGE AREA MINE SHAFT #2
- NON-INDUSTRIAL DRAINAGE AREAS
- IMPERVIOUS AREAS
- WATER BODIES
- TEXT — INDUSTRIAL ACTIVITIES EXPOSED TO STORMWATER
- FLOW ARROWS
- SUBSURFACE PIPING
- SUBSURFACE PIPE INFERRED
- SURFACE DRAINAGE FLOW PATHWAYS

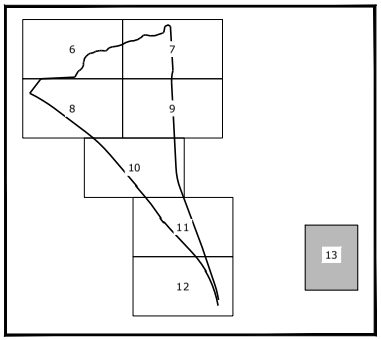


FIGURE KEY

BAR SCALE
40 0 20 40 80
1 inch = 40 ft.

NOTES:

1. THIS FIGURE WAS GENERATED FROM A FIELD SURVEY PLAN ENTITLED, "ALTA/NSPS LAND TITLE SURVEY," DATED SEPTEMBER 23, 2019 AND STAMPED NOVEMBER 8, 2019.

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ENLARGED PLAN

CARGILL INCORPORATED - CAYUGA MINE
191 PORTLAND POINT ROAD
LANSING, NY 14882

RAMSOIL

PREPARED BY: ENR	DATE: 25NOV19
DRAFTED BY: LTE	SCALE: 1" = 150'
APPROVED BY: RBP	PROJECT: 1690015568

FIGURE 13

LEVELS: 1 TO 20
L:\ACTIVE PROJECTS\CARGILL\LANSING, NY\SUPPORTING DOCUMENTS\CAD < FIGURES 2-13_CARGILL LANSING_1690013163 >