AZR AMERICAN ZINC RECYCLING
Delivering a Sustainable Future

Stormwater Pollution Prevention Plan (SWPPP)

AMERICAN ZINC RECYCLING CORP.
900 Delaware Avenue
Palmerton, PA 18071
NPDES Permit ID No.: PA0064378

SWPPP Contact:

Joseph Falko
900 Delaware Avenue
Palmerton, PA 18071
(610) 826-8714

Contents

SECTION 1: FACILITY DESCRIPTION AND CONTACT INFORMATION

1.1 Facility Information

Facility Information

Name of Facility: **American Zinc Recycling Corp.**

Street: **900 Delaware Avenue**

City: **Palmerton** State: **PA** ZIP Code: **18071**

County or Similar Subdivision: **Carbon**

Permit Tracking Number: **PA0064378**

Latitude/Longitude – Obtained from GoogleEarth

LATITUDE 40.782

LONGITUDE -73.854

Method for determining latitude/longitude (check one):

☐ USGS topographic map (specify scale:_____) ☐ EPA Web site ☐ GPS

☒ Other (please specify): GoogleEarth

Is this facility considered a Federal Facility? ☐ Yes ☒ No

Estimated area of industrial activity at site exposed to stormwater: **115-acres**

Discharge Information

Name(s) of water(s) that receive stormwater from your facility **Aquashicola Creek**

Are any of your discharges directly into any segment of an "impaired" water? ☐ Yes ☒ No

If Yes, identify name of the impaired water (and segment, if applicable): **None**

Identify the pollutant(s) causing the impairment: **None**

For pollutants identified, which do you have reason to believe will be present in your discharge? **Although AZR does not expect any of the pollutants to be present in the discharge, best management practices are employed to minimize the potential for sediments and other debris to enter Aquashicola Creek.**

For pollutants identified, which have a completed TMDL? **Not applicable**

Are any of your stormwater discharges subject to effluent guidelines? ☐ Yes ☒ No

If Yes, which guidelines apply? **Not applicable**

1.2 Contact Information/Responsible Parties/SWPPP TEAM

Facility Owner/Operator:
Name: American Zinc Recycling Corp.
City, State, Zip Code: Palmerton, PA 18071
Telephone Number: (610) 826-2111

Responsible Corporate Officer:
Name: Michael Foster
Title: Plant Manager
Name: American Zinc Recycling Corp.
City, State, Zip Code: Palmerton, PA 18071
Telephone Number: (610) 826-8692
Email address: mfoster@azr.com

SWPPP Team Leader:
Name: Joseph Falko
Title: Environmental Manager
Name: American Zinc Recycling Corp.
City, State, Zip Code: Palmerton, PA 18071
Telephone Number: (610) 826-8714
Email address: jfalko@azr.com

1.3 Introduction

The American Zinc Recycling Corp. ("AZR") Palmerton Facility is located at 900 Delaware Avenue in Palmerton, Carbon County, Pennsylvania (the Facility). The Facility is bounded by Aquashicola Creek to the north and Blue Mountain to the south, and industrial activities conducted on the property occur on approximately 115-acres. Site elevations range between 406-feet and 420-feet above mean sea level (msl). The ground surface within the industrial operational areas of the Facility generally slopes toward Aquashicola Creek. Slopes become steeper in the southern portion of the Facility, adjacent to Blue Mountain, with a majority of the stormwater generated at the Facility directed to the north toward the Aquashicola Creek through a combination of sheet flow and direct utility conveyance mechanisms. A general Facility Location Map is provided in Attachment A.

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared in general conformance with the Pennsylvania Department of Environmental Protection *Supplemental Guidance for the Development and Implementation of Preparedness, Prevention, and Contingency (PPC) Plans Under the National Pollutant Discharge Elimination System (NPDES) Stormwater Permitting Program* (*400-2200-001, August 2005)*.

The Facility recycles electric arc furnace (EAF) dust using high-temperature metal recovery technology to produce non-ferrous metal oxide and iron-rich aggregate material. The Facility operates 24-hours per day, seven days per week throughout the year. A description of the significant industrial process areas potentially exposed to stormwater is provided below and is also shown on a Facility Plan in Attachment A.

- EAF dust and carbon-based material (e.g., anthracite coal) are the two primary raw materials delivered to the Site. Carbon sources are delivered in end-dump trucks and unloaded in the Carbon Storage Area. EAF dust is delivered in pressure differential (PD) and hopper railcars and trucks. PD and hopper railcars are offloaded inside the railcar offloading station. PD trucks are offloaded at the PD truck offloading area and end-dump trucks are unloaded inside of Building 608.

- Railcars requiring maintenance are managed on a rail spur located in the westernmost portion of the Facility. Railcars requiring removal of materials before maintenance is performed are offloaded in this area. Material is vacuumed from the railcar (via vacuum trucks) and is transported to Building 608 or the G&H Building

- Within the 608 Building, EAF dust is conditioned, mixed with carbon-based material and pelletized prior to being conveyed via overhead belt conveyor to the Kiln Area. These operations are located within a building or are covered to prevent exposure to precipitation and wind.

- The pelletized material is fed to the Waelz kilns. Low-boiling point, non-ferrous metals are reduced and oxidized in the kiln and recovered as crude zinc oxide (CZO). CZO is captured in product collectors.

- CZO product is accumulated inside the G&H Building before being conveyed to the Calcine kilns. CZO stockpiled in the G&H Building is conditioned with water and conveyed through a covered overhead belt conveyor to the Calcine kilns. These operations are located within a building or are covered to prevent exposure to precipitation and wind.

- CZO is also received in PD railcars from off-site facilities and off-loaded at the CZO offloading station for temporary holding in the G&H Building. These operations are located within a building or are covered to prevent exposure to precipitation and wind.

- High temperature metal recovery residue, also known as iron-rich material (IRM), is discharged from the bottom of the kiln to a quench pit for cooling. IRM is removed from the quench pit by a drag conveyor and stockpiled south of the Kiln Building. IRM is transported via front-end loaders to the IRM Dome, where it is sampled and analyzed before being transported to the IRM Pad. IRM is then loaded into trucks and transported off-site to customers for beneficial re-use.

- Lead concentrate product from the Calcining operation is collected in product collectors and loaded into supersacks for shipment off-site to customers. Lead concentrate operations are located within a building or are covered to prevent exposure to precipitation and wind.

- The product from the Calcine kilns, Calcine, is cooled in a quench pit. Calcine is removed from the quench pit via a drag conveyor and temporarily stockpiled before being moved to the Calcine product storage building. From the Calcine product storage building, Calcine is loaded into trucks for shipment to customers.

1.4 Drainage Area Description

Discharge to two Outfalls 004 and 005 from the Facility are regulated under NPDES permit number PA0064378 (the Permit). A copy of the Permit and Permit application are included in Attachment B. The Permit regulates discharge of non-contact cooling water and stormwater to Aquashicola Creek. Both outfalls are monitored on a monthly basis for total suspended solids (TSS), oil and grease (O&G), and total cadmium, lead, and zinc and daily for flow, and pH.

Discharge at Outfall 004 is subject to effluent limitations for the parameters listed above, except flow. Discharge at Outfall 005 is subject to an effluent limitation for pH. In addition to stormwater runoff from the western-central portion of the AZR Facility, Outfall 005 receives stormwater flow from the cinder pile along the base of the mountain which originates from the adjacent Palmerton Zinc Superfund Site.

Drainage Area 004

Drainage Area 004 encompasses approximately 26 acres located in the central portion of the Facility. Surface water in the area generally drains from south to north toward Outfall 004 and Aquashicola Creek. AZR operations in this drainage area include material storage, kiln operations, air pollution control equipment, material conveyors and product collectors. A network of surface drains and underground stormwater conveyance lines traverse this area, extending from the kiln area to Aquashicola Creek at Outfall 004. The NPDES permit compliance monitoring point for this drainage area is located at a weir box approximately 350 feet upstream of the drainage pipe where discharge occurs to Aquashicola Creek at Outfall 004. AZR operations within Drainage Area 004 are discussed below.

Kiln Area

Non-potable water is used in the Kiln Area for non-contact cooling and product quenching purposes. Non-contact cooling water is used to prevent the kiln bearings from overheating. After cooling the kiln bearings, the non-contact cooling water is: 1) discharged to the pump pit; 2) conveyed from the pump pit to the settling basins for solids removal and pH adjustment (except under high-flow bypass conditions); and then 3) discharged through Outfall 004.

Water used for quenching IRM and Calcine products from the Waelzing and Calcining kilns, respectively, is primarily recirculated via a series of surface drainage features and sumps that recirculate the water back to the quench pits. Stormwater runoff beneath and immediately surrounding the kilns (Kiln Area), is generally captured in: 1) surface drains; 2) sub-surface drainage features; and 3) low-lying areas where it ponds. A portion of the stormwater runoff proximate to the kilns is conveyed to a pump pit. Under intended operating conditions, water enters the pump pit and is routed to the settling basins for solids removal and pH adjustment (using sulfuric acid) prior to discharge through Outfall 004.

CZO Unloading Area

Stormwater drainage in the CZO Unloading Area generally flows overland and ponds in localized lower lying areas. One catch basin located southeast of the CZO Unloading Area is located to receive some runoff from the CZO Unloading Area. Non-potable water is used to condition CZO in the G&H Building prior to being fed into the Calcining kilns. This water is used only in the process and is not exposed to or otherwise combined with stormwater runoff.

Area North of G&H Building

The northern portion of the Drainage Area for Outfall 004 includes an undeveloped grassy field. No storage of raw or finished materials nor processing operations occur in this area. AZR has not identified any drainage system features in this area, and surface water is conveyed via sheet flow toward Aquashicola Creek and accumulates in low areas as dictated by topography.

Drainage Area 005

The Outfall 005 drainage area encompasses approximately 34 acres of the western portion of the Facility. Stormwater runoff is directed over a large portion of the paved area to a series of catch basins along five lateral drainage pipes that flow from east to west. The laterals convey stormwater to a main trunk line that discharges at Outfall 005. Structures and operations located within this drainage area include buildings and operations for raw material unloading, indoor storage, mixing and conveyance of materials, and indoor storage of finished products. The compliance monitoring point for this drainage area is located at a weir box located within an isolated drainage swale that discharges to Aquashicola Creek. The monitoring point is located at an elevation above the floodplain, and approximately 150-feet from the discharge point to Aquashicola Creek during low flow. Operations and stormwater considerations within Drainage Area 005 are discussed below.

Palmerton Zinc Superfund Site Water Run-on

Stormwater runoff from the Palmerton Superfund Site, specifically the cinder bank, is captured and conveyed by surface swales and underground piping, and ultimately enters the trunk line that discharges at Outfall 005. Stormwater from the mountain commingles with stormwater runoff conveyed to the trunk line via surface drains and underground lateral pipes from the Facility, and discharges through Outfall 005. AZR has observed a continuous base-flow from the Palmerton Superfund to Outfall 005.

Carbon Storage and EAF PD Unloading

Carbon-based material delivered to the Site is staged in a 3.5-acre area located in the southwestern portion of the drainage area that discharges to Outfall 005. This area is located adjacent to the PD unloading structure for trucks and railcars that deliver EAF dust. The truck unloading area is covered with a roof and surrounded by walls on three sides. Stormwater runoff in this area is conveyed to a swale along a road defining the southern boundary of the drainage area. The swale conveys the stormwater into a catch basin and is then routed to the main trunk line to Outfall 005.

Building 608

Building 608 is used for storage of EAF dust. Dump trucks are unloaded inside the building, which also contains an indoor truck wash area, and pelletizing operations for EAF dust and carbon. Stormwater runoff from the area around Building 608 flows to a series of catch basins near Building 608 that discharge to lateral underground pipes and to the main trunk line to Outfall 005.

Calcine Storage Building

The Calcine product storage building is also located within the Outfall 005 Drainage Area. Stormwater runoff primarily drains to a series of surface drains that discharge to an underground lateral stormwater pipe along the road north of the Calcine Building. The stormwater collected in the surface drains flows to the trunk line, located along the road, and discharges to Outfall 005.

Support Areas

The central and northern portion of the Outfall 005 Drainage Area includes Facility support buildings for equipment maintenance, employee break rooms, and company offices. Stormwater in this area flows to a series of catch basins along underground lateral stormwater pipes that discharge to the main trunk line to Outfall 005.

1.5 Stormwater Pollution Prevention Team

The Environmental Manager or Designee is responsible for SWPPP implementation as well as oil and regulated substance discharge prevention, control, and response preparedness activities. The Facility has a pollution prevention team that meets annually.

The pollution prevention team is responsible for assisting the plant manager in developing, implementing, maintaining, and revising the Facility's SWPPP. AZR staff individuals who comprise the Facility's stormwater pollution prevention team are as follows:

Team Member	Title	Responsibilities/Activities
Joe Falko	Environmental Manager	SWPPP Team Leader and Inspections/Sampling
Mike Resh	Health and Safety Manager	SWPPP Team Member
Mike Foster	Plant Manager	SWPPP Team Member
Dave Kunkle	Materials & Environmental Controls Supervisor	SWPPP Team Member
Larry Borger	Environmental Technician	SWPPP Team Member
Terry Van Strander	Environmental Technician	SWPPP Team Member

All new Facility personnel in areas that have a reasonable potential for stormwater discharge associated with industrial activities or with oil-handling responsibilities are provided with SWPPP training prior to being involved in the operation of such areas.

Annual discharge prevention briefings are held by the Environmental Manager for all Facility personnel involved in stormwater, oil, and/or relevant material handling operations. The briefings are aimed at ensuring continued understanding and adherence to the discharge prevention procedures presented in this SWPPP. The briefings also highlight and describe known discharge events or failures, malfunctioning components, and recently implemented precautionary measures and best practices.

Facility operators and other personnel will have the opportunity during the briefings to share recommendations concerning health, safety, and environmental issues encountered during Facility operations. Records of the training are maintained with the Facility training records.

SECTION 2: POTENTIAL POLLUTANT SOURCES

2.1 Significant Stored Materials: Raw Materials and Produced Products

Material Description	Method/Location of Storage	Management Practices	Storm Water Controls
Feedstock			
Electric Arc Furnace (EAF) Dust and other zinc-bearing materials	Building 608. Dump trucks and containers are unloaded directly into Building 608. PD trucks and railcars are unloaded at the PD/Trestle unloading area west of Building 608.	Trained personnel perform all unloading activities. Dump trucks are unloaded in the center area of Building 608. Railcars and PD trucks are unloaded west of Building 608 and material is conveyed in an enclosed system to Building 608.	Immediate cleanup by road sweeper or vacuum truck. Fabric filters are installed at all stormwater catch basins. For larger catch basins, filter socks are used.
Carbon	Carbon is stockpiled west of Building 608, in sorted piles by type and vendor.	Daily road sweeping of the black top area adjacent to stockpiles.	Storage area is bordered by a swale to capture any runoff. Surface drains and diversion pipes protected with fabric filters installed at all stormwater catch basins. For larger catch basins, haybales or filter socks are used.
Blended Feed Material	Enclosed within bins and hoppers inside Building 608.	Covered storage and conveyors.	No exposure, inside building.
Product			

Material Description	Method/Location of Storage	Management Practices	Storm Water Controls
Iron-Rich Material (IRM) [Note: IRM is initially hauled from the kilns to the IRM Dome and then tested for the toxicity characteristic (TCLP for metals). On receipt of testing results, if all results are lower than regulatory limits, the IRM is hauled from the IRM Dome to the IRM Pad or Stoney Ridge outdoor areas.]	IRM from the kilns hauled to the IRM Dome. Oversize IRM collected in enclosed bunkers and then transferred to the stockpile area and or Building 608 by mobile equipment.	Housekeeping and established loading/unloading procedures.	Management controls and storage in the IRM Dome. Berms surround stockpiling areas.
Waelz Oxide (WOX)	Product collectors north of Kilns 2 and 5 and east of Kiln 1 collect and discharge material for blending in G&H Building, along with material unloaded from WOX railcars from other facilities. This material then blended to feed the Calcining Kiln 6.	Preventative maintenance of product collectors and daily inspections Housekeeping procedures.	Immediate cleanup by road sweeper or vacuum truck. Surface drains and diversion pipes protected with fabric filters installed at all stormwater catch basins. For larger catch basins, filter socks are used.
Zinc Calcine	Stored in an enclosed area, south of the Kiln 6 discharge.	Trained personnel handle and weigh material for inventory control and storage.	Storage area is bordered by concrete retaining walls and is under a roof. Surface drains and diversion pipes protected with fabric filters installed at all stormwater catch basins. For larger catch basins, filter socks are used.
Lead Concentrate	Collected by a product bag room system, and pneumatically conveyed to a storage bin northeast of Kiln 6.	Packaged in super sacks and transferred with forklifts to Building #719. Trained personnel package and handle the material prior to shipment. Sacks are stored under roof and managed by lot arrangement.	No exposure, inside Building #719, #672, #603, #604, #611, #710, and/or #864 No exposure during pneumatic transfer and storage. Surface drains and diversion pipes protected with fabric filters installed at all stormwater catch basins. For larger catch basins, filter socks are used.

Note: All locations are depicted in Attachment A.

Significant Stored Materials: Containerized Stored Materials

Tank/ Container #	Description/ Contents	Capacity (gallons)	Containment	Overfill/Overflow Method	Storm Water Exposure/Controls
001A	Diesel fuel, storage	20,000	Full clay dike secondary containment (38' x 56' x 3' = 6,384 CF x 7.481= 47,759 gallons)	Manual level readings, direct observation when filling.	Exposed. Storm water collected in the diked area is inspected and drained to ground, or if oil is present it is removed with absorbent or a vacuum truck.
002A	Fuel oil, storage	20,000	Full clay dike secondary containment (38' x 56' x 3'= 6,384 CF x 7.481 = 47,759 gallons)	Manual level readings, direct observation when filling.	Exposed. Storm water collected in the diked area is inspected and drained to ground, or if oil is present it is removed with absorbent or a vacuum truck.
011A	Waste oil, storage	1,000	Full steel secondary containment (13' x 6' x 2' =156 CF x 7.481 = 1,167 gallons)	Level indicator, direct observation when filling.	Exposed. Storm water collected in the diked area is inspected and drained to ground, or if oil is present it is removed with absorbent or a vacuum truck.
Stoney Ridge	Diesel fuel, storage	1,000	Full steel secondary containment (11" 3'' x 6' x 2' 3''= 151.9 CF x 7.481 = 1136 gallons)	Level indicator, direct observation when filling.	Exposed. Storm water collected in the diked area is inspected and drained to ground, or if oil is present it is removed with absorbent or a vacuum truck.
Stoney Ridge	Kerosene	250	Full steel secondary containment (2.5 ' x 5.5' x 2.75' = 37.8 CF x 7.481= 282.8 gallons)	Level indicator, direct observation when filling.	Exposed. Storm water collected in the diked area is inspected and drained to ground, or if oil is present it is removed with absorbent or a vacuum truck.
#1 Kiln emergency generator	Fuel oil, storage	2,005	Double-wall tank system.	Direct observation of gauge when filling.	No exposure located under generator unit.
Underground Storage Tank #002	Gasoline, storage	4,000	Single-wall tank system with monitoring system and cathodic/ galvanic protection.	Level indicator, direct observation when filling.	Not exposed, underground.
#1 Kiln drive	Gear box, oil-filled operating equipment	70	Active response.	Direct observation when filling.	Minimum exposure. Frequent formal and informal inspections, and cleanup.
#2 Kiln drive	Gear box, oil-filled operating equipment	70	Active response.	Direct observation when filling.	Minimum exposure. Frequent formal and informal inspections, and cleanup.
#5 Kiln drive	Gear box, oil-filled operating equipment	70	Active response.	Direct observation when filling.	Minimum exposure. Frequent formal and informal inspections, and cleanup.

Tank/ Container #	Description/ Contents	Capacity (gallons)	Containment	Overfill/Overflow Method	Storm Water Exposure/Controls
#6 Kiln drive	Gear box, oil-filled operating equipment	70	Active response.	Direct observation when filling.	Minimum exposure. Frequent formal and informal inspections, and cleanup.
South pelletizer	Gear box, oil-filled operating equipment	70	Active response.	Direct observation when filling.	No exposure, inside building 608.
North pelletizer	Gear box, oil-filled operating equipment	70	Active response.	Direct observation when filling.	No exposure, inside building 608.
Substation #29	Transformer, oil-filled operating equipment Mineral oil PCB content <1 ppm	500	Active response.	Sealed transformer, typically no filling on-site. Any on-site filling would be by direct observation.	Exposed. Frequent formal and informal inspections, and cleanup.
Substation #30	Transformers, oil-filled operating equipment Transformer #1: Mineral oil, PCB content <1 ppm Transformer #4: Mineral oil, PCB content 13.0 ppm	Transformer #4: 1700 gallons Transformer #1: 3280 gallons	Active response.	Sealed transformer, typically no filling on-site. Any on-site filling would be by direct observation.	Exposed. Frequent formal and informal inspections, and cleanup.
Substation #36	Transformer, oil-filled operating equipment Mineral oil PCB content 27 ppm	215	Active response.	Sealed transformer, typically no filling on-site. Any on-site filling would be by direct observation.	Exposed. Frequent formal and informal inspections, and cleanup.
Substation #37	Transformer, oil-filled operating equipment Mineral oil PCB content <1 ppm	211	Active response.	Sealed transformer, typically no filling on-site. Any on-site filling would be by direct observation.	Exposed. Frequent formal and informal inspections, and cleanup.
Substation #42	Transformer, oil-filled operating equipment Mineral oil PCB content <1 ppm	378	Active response.	Sealed transformer, typically no filling on-site. Any on-site filling would be by direct observation.	Exposed. Frequent formal and informal inspections, and cleanup.
Substation #43	Transformer, oil-filled operating equipment Mineral oil PCB content <1 ppm	> 55	Active response.	Sealed transformer, typically no filling on-site. Any on-site filling would be by direct observation.	Exposed. Frequent formal and informal inspections, and cleanup.
#12 Storage area	Transformer, oil-filled operating equipment	3 @ > 55 gallons	Active response.	Sealed transformer, typically no filling on-site. Any on-site filling would be by direct observation.	No exposure, inside a building.
Mobile equipment shop	Oils/lubricants, storage	Typically 15 drums @ 55 gallons each.	Contained by the building structure.	Vendor-supplied drums, no filling on-site.	No exposure, inside a building.
#11 storage	Oils/lubricants, storage	Typically 50 drums @ 55 gallons each.	Contained by the building structure.	Vendor-supplied drums, no filling on-site.	No exposure, inside a building.

Tank/ Container #	Description/ Contents	Capacity (gallons)	Containment	Overfill/Overflow Method	Storm Water Exposure/Controls
Kiln operating floor	Oils/lubricants, storage	Typically, 3 drums @ 55 gallons each.	Contained by the building structure, and secondary containment spill pallet.	Vendor-supplied drums, no filling on-site.	No exposure, inside a building.
Oil shanty under kilns	Lubricant, storage	Typically 4 drums @ 55 gallons each.	Contained by the building structure, and curbing.	Vendor-supplied drums, no filling on-site.	No exposure, inside a building.
Maintenance drum storage	Lubricant, storage	Typically 6 drums @ 55 gallons each.	Contained by the building structure.	Vendor-supplied drums, no filling on-site.	No exposure, inside a building.
#40 Substation	Oil, storage	Typically 1 @ 55 gallons.	Contained by the building structure, and secondary containment spill pallet.	Vendor-supplied drums, no filling on-site.	No exposure, inside a building.
Compressor building	Oil storage	Typically 2 drums @ 55 gallons each.	Contained by the building structure, and secondary containment spill pallet or booms.	Vendor-supplied drums, no filling on-site.	No exposure, inside a building.
Stoney Ridge Aggregates	Oil, storage	Typically 7 drums @ 55 gallons each.	Contained by the building structure, and secondary containment spill pallet.	Vendor-supplied drums, no filling on-site.	No exposure, inside a building.
Chestnut Ridge Railroad	Oil, storage	Typically 3 drums @ 55 gallons each.	Contained by the building structure, and secondary containment spill pallet.	Vendor-supplied drums, no filling on-site.	No exposure, inside a building.
Compressor Building Powders Department	Oil, storage	Typically 6 drums @ 55 gallons each.	Contained by the building structure, and within a boomed area.	Vendor-supplied drums, no filling on-site.	No exposure, inside a building.
West of Kiln, #001A	Sulfuric acid, storage	405	Full plastic secondary containment, tank within a tank. Bricked curbing around tank area.	Any on-site filling would be by direct observation (level indicator).	Not exposed, under a roof with side covering.
Mobile Tank #001	Diesel	300	Full metal secondary containment.	Any on-site filling would be by direct observation.	Stored within a building when not in use.
Mobile Tank #002	Diesel	80	Truck mounted; bed serves as secondary containment.	Any on-site filling would be by direct observation.	Stored (parked) under cover when not in use.

2.2 Potential Spills and Leaks

Areas of Site Where Potential Spills/Leaks Could Occur
Material Storage Areas and Potential Impacts

Source or Area	Potential Event	Direction of Flow	Pollution Prevention Control(s)
Bulk Oil Storage and Fueling Areas			
Diesel, waste oil, kerosene, fuel oil tank, hose or dispenser	Leak from tank, hose or dispenser, or delivery/pickup vehicle.	Tanks are in containment. Hose or dispenser, or delivery/pickup vehicle flow would remain within the adjacent area.	Secondary containment for tanks. Operator or facility personnel are continuously present with equipment when dispensing fuels or transferring oils. Any spillage outside containment would be discovered immediately and contained with response equipment. Any residual material would be removed as soon as possible.
Underground gasoline storage tank	Tank or piping failure, overfill, or leak from hose/dispenser or delivery vehicle leak.	Tank or piping failure underground groundwater flow toward creek, aboveground toward storm water management ditch.	Underground tank system monitoring alert. Operator or facility personnel are continuously present with equipment when dispensing or transferring fuel. Any aboveground spillage outside containment would be discovered immediately and contained with response equipment. Any residual material would be removed as soon as possible.
Drum Storage Areas			
Maintenance shop, kiln areas, etc.	Drum leak, spill, or knocked over.	Contained in building or within other secondary containment.	Any spillage would be discovered immediately and contained with response equipment. Residual contained material would be removed as soon as possible.
Oil-filled Operating Equipment Areas			
Gear boxes and transformers	Equipment reservoir failure.	Material would remain within the adjacent area, or if influenced by rainfall, flow toward storm water management ditch.	Secondary containment. Any spillage would be discovered proximal to the equipment due to the relatively small volumes present within the equipment. Residual contained or released material would be removed as soon as possible.
Solid Materials Areas (EAF, IRM, carbon)	Conveyor or transfer failure.	To ground, some potential for minimal dispersion by wind.	Immediate cleanup with sweeper, vacuum truck, or by hand-held tools.

Note: All potential event flow rates are considered instantaneous, as a worst-case scenario.

Description of Past Spills/Leaks

Date	Description	Outfalls
None	Not applicable – No significant spills	Not applicable

Note: one minor spill occurred at the Facility and was immediately cleaned up through appropriate spill response protocols and procedures. These materials did not impact stormwater at the Facility.

- March 19, 2019: a small volume of gear oil was spilled onto the ground along the south side of Building 608. A drive shaft for one of the front-end loaders malfunctioned and caused minor spillage of oil onto the ground.

2.3 Non-Stormwater Discharge Documentation

The SWPPP includes an evaluation that all outfalls have been tested or evaluated for the presence of non-stormwater discharges. A copy of the evaluation is maintained at the Facility.

Please note that AZR has observed a continuous base-flow from the Facility to Outfall 004 and from the Palmerton Superfund Site to Outfall 005, based on historic dry-weather observations.

2.4 Salt Storage

Salt is stored outdoors in a three-sided building on a paved surface. This storage area is located at the Lime Bunker or within the PD Unloading area as depicted in Attachment A.

2.5 Sampling Data Summary

See Attachments C and D for results of regular outfall monitoring. The results are compiled from the Discharge Monitoring Reporting (“DMR”) and enhanced quarterly stormwater monitoring being implemented by the SWPPP Team.

SECTION 3: STORMWATER CONTROL MEASURES

Stormwater control measures include secondary containment for drums and tanks, good housekeeping practices, and conducting all material transfer activities in a manner to prevent exposire to stormwater. In addition, the Facility has implemented enhanced BMPs including the deployment of fabric filters for all stormwater catch basins as a protective measure to capture sediments that may potentially reach surface drains and conveyance piping in relevant procecessing and material storage areas. For larger catch basins, filter socks or hay bales are currently being used to protect surface inlets and associated catch basins.

In accordance with the Permit's effluent limitations, the Facility minimizes the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff.

3.1 Minimize Exposure

AZR shall minimize exposure of manufacturing, processing, material, and waste storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by either locating industrial materials and activities inside or protecting them with storm resistant coverings wherever feasible. Exposure minimization measures may include at a minimum:

1. Use grading, berming or curbing to prevent runoff of polluted stormwater and divert run-on away from areas that contain polluted stormwater. This minimization measure is also addressed in SWPPP Sections 2.1 and 2.2.
2. Locate materials, equipment, and activities so that potential leaks and spills are contained or able to be contained or diverted before discharge to surface waters. This minimization measure is also addressed in SWPPP Sections 2.1 and 2.2.
3. Clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants to surface waters. This minimization measure is also addressed in SWPPP Sections 2.1 and 2.2.
4. Store leaky vehicles and equipment indoors or, if stored outdoors, use drip pans and absorbents to prevent the release of pollutants to the environment. This minimization measure is also addressed in SWPPP Sections 3.3 and 5.
5. Use spill/overflow protection equipment. This minimization measure is also addressed in SWPPP Sections 2.1 and 2.2.
6. Perform all vehicle and/or equipment cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray. This minimization measure is also addressed in SWPPP Sections 3.3 and 5.
7. Drain fluids from equipment and vehicles that will be decommissioned, and, for any equipment and vehicles that will remain unused for extended periods of time, inspect at least monthly for leaks. This minimization measure is also addressed in SWPPP Sections 3.3 and 5.
8. Keep all dumpster lids closed when not in use. For dumpsters and roll off boxes that do not have lids, securely cover with a tarp or ensure that discharges have a control. This minimization measure is also addressed in SWPPP Section 3.2.
9. Minimize contamination of stormwater runoff from fueling areas by implementing the following BMPs where determined to be feasible: cover fueling areas; install oil/water separators or oil and grease traps in fueling area storm drains; use berms to prevent run-on to and runoff from fueling areas; use spill/overflow protection and cleanup equipment; use dry cleanup methods; and/or treat and/or recycle collected stormwater runoff. This minimization measure is also addressed in SWPPP Sections 2.1, 2.2, 3.3, 3.7, and 5.
10. Train employees routinely (no less than annually) on stormwater pollution prevention practices. This minimization measure is also addressed in SWPPP Sections 1.5, 3.2, 3.3, and 3.7.

3.2 Good Housekeeping

Housekeeping is ongoing and continuous and includes keeping clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and storing materials in appropriate containers. Good housekeeping includes, but is not limited to, the following: sweeping or vacuuming on a regular schedule of all process areas, including but not limited to areas around the quench tanks and IRM/calcine bunkers, storing materials in appropriate containers, performing, as-needed, clean outs at catch basins, coal swales, and settling ponds at a frequency that ensures EAF dust and other materials are removed.

Good housekeeping is implemented by the Facility personnel to reduce the potential for storm water pollution, accidental spills and safety hazards. Housekeeping procedures include orderly material storage and prompt cleanup of any spills or leaks. Housekeeping practices also include ensuring sufficient aisle space is available for the movement of spill or emergency response equipment through the Facility, as needed.

Additional good housekeeping activities at the Facility include the following:

- Employees are instructed and trained on the subject of good housekeeping techniques.
- Periodic safety inspections of all work areas include monitoring of housekeeping.
- Informal, daily visual inspections are conducted by all employees in the area in which they work to ensure that proper good housekeeping procedures are followed.
- No flammable or combustible materials are stored in or around electrical equipment.
- Trash is placed into the trash dumpsters properly to assure that debris is not released outside of the compactor and that it is free of liquids.
- Regular sweeping and water truck dust suppression of paved roadways is conducted to minimize contact of sediments and solid with storm water (see Attachment E).
- Paved roadways and concrete pads are kept clean of diesel oil, hydraulic fluids, raw materials, and IRM.
- Any hydraulic oil and other petroleum products that spill onto the concrete pad are cleaned up with adsorbent, swept and collected, and properly disposed in the waste containers.
- All chemicals, oils, lubricants, and any other items necessary for operations are either stored indoors or otherwise contained. Movement of any liquid materials around the site will be in closed containers.

3.3 Maintenance

The Facility must regularly inspect, test, maintain, and repair all industrial

equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in stormwater discharged to surface waters of the state. All control measures that are used to achieve the requirements of the Permit must be maintained in proper operating condition. Nonstructural control measures must also be diligently maintained (e.g., spill response supplies available, personnel appropriately trained). If an inspection indicates that control measures need to be replaced or repaired, the necessary repairs or modifications shall be made as expeditiously as practicable. In addition, the following have been implemented:

- Performing maintenance activities indoors, to the extent practicable; using drip pans as needed;
- Keeping an organized inventory of estimated materials typically stored in the Maintenance and Repair shops;
- Draining all parts of fluids prior to disposal (including used oil filters);
- Prohibiting wet cleanup practices;
- Using dry cleanup methods (including spill pads, sorbent materials, etc.);
- Minimizing run-on/runoff of stormwater to outdoor areas by conducting operations indoors;
- Inspections of stormwater catch basins, with maintenance of inlets, fabric filters, and filter socks as needed.
- Cleaning of stormwater conveyance pipelines as needed based on the quarterly stormwater control inspection (see section 5)
- Inspections of quench pit leveling devices, and conveyance pumps

3.4 Spill Prevention and Response

The Facility minimizes the potential for leaks, spills and other releases that may be exposed to stormwater and has developed plans for effective response to such spills if or when they occur. These efforts include:

- Procedures for clearly labeling containers in accordance with OSHA guidelines;
- Bollards are located around the hydrants; traffic speed is regulated in all outdoor areas;
- Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases; and
- Procedures for notification of appropriate Facility personnel, emergency response agencies, and regulatory agencies.

3.5 Erosion and Sediment Controls

The Facility maintains controlled runoff using structural and/or nonstructural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants.

3.6 Management of Runoff

See Section 3.5.

3.7 Employee Training

The Facility trains employees who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of the Permit (e.g., inspectors, maintenance personnel), including all members of the Stormwater Pollution Prevention Team. Training covers both the specific control measures used to achieve the requirements of the SWPPP and the Permit. Employee training shall take place at least once per calendar year, and will address the following:

- Dust control and cleanup measures;
- Used oil and spent solvent management;
- Fueling procedures;
- General good housekeeping practices;
- Used battery management; and
- Pest control including use of herbicides (*performed by outside vendor*).

3.8 Non-Stormwater Discharges

- See Section 2.3 above.

3.9 Waste, Garbage and Floatable Debris

The Facility ensures that waste, garbage, and floatable debris are not discharged to Aquashicola Creek by keeping exposed areas free of such materials or by intercepting them before they are discharged.

3.10 Dust Generation and Vehicle Tracking of Industrial Materials

The Facility minimizes generation of dust and off-site tracking of raw, final, or waste materials. See Section 3.2 above.

3.11 Stormwater Quality Controls – Sediment Drain Guard Filters

The Facility has evaluated a variety of fit-for-purpose stormwater quality control devices as an enhanced stormwater control measure. Based on that evaluation, the Facility has installed polypropylene geotextile fabric filter systems designed to capture sediments, trash, and related debris at all stormwater surface inlets throughout the Facility. The filters utilize a geotextile fabric such as the New Pig FLT748 (or equivalent), for removing sediment from water. For larger surface inlets where sediment drain filters

are commercially unavailable, the Facility has implemented use of filter socks (or hay bales) surrounding the surface inlet. The use of fabric filter systems and filter socks as a control measure for sediments is consistent with the PADEP's Erosion and Sediment Pollution Control Manual (March 2012). Figures detailing the locations of the installed filters and filter socks are shown in Attachment E.

Drain Guard Inspections, Maintenance and Replacement

The fabric filter drain guards are designed to be used for 3 to 6 months under normal conditions. While the Facility anticipates the frequency of filter change-out will occur quarterly to semi-annually based on manufacturer's recommendations, the filters will be changed where an inspection identifies excess sediment buildup on the filter element or if the filter is damaged or compromised.

The fabric filter drain guards will be visually inspected on a weekly frequency and cleaned and/or replaced as needed based on these inspections. In addition, the Facility will perform inspections of the catch basins on a weekly frequency. If the inspection reveals accumulated sediment or debris, the Facility will clean out the catch basin as necessary to maintain a six-inch clearance of debris below the lowest outlet pipe.

Further installation and maintenance instructions can be found in Attachment F.

3.12 Contact Cooling Water Quality Controls

For each kiln, non-potable contact cooling water is measured by a pressure leveling device called a bubbler. The bubbler is intended to prevent contact cooling water inside the quench pits from overflowing its containment structure. In addition, IRM and calcine which are saturated with cooling water are temporarily stockpiled in three sided bunkers; cooling water that seeps from these piles is routed via a swale to a sump pump. The sump pump recycles the cooling water back into the quench pit.

Inspections, Maintenance and Replacement

The bubbler systems for each kiln is inspected four times a shift. If the bubbler system is not working, the maintenance department is notified, and the system is repaired and/or replaced. On a weekly basis, swales are inspected to verify that they are free of obstructions. Sump pumps are also inspected on a weekly basis to confirm they are working properly.

SECTION 4: SCHEDULES AND PROCEDURES FOR MONITORING

In accordance with the Permit, process wastewater is sampled and analyzed for pollutants of concern on a daily and twice-per-month basis. Although not currently addressed by the current Permit, AZR collects and analyzes stormwater discharges from

existing Outfalls 004 and 005 during appropriate wet weather events, in addition to standard monitoring being conducted pursuant to the Permit.

Numeric effluent limitations and monitoring requirements apply to discharges from Outfall 004 as they pertain to process wastewater/stormwater discharges from Outfall 004 in accordance with the Permit. The Permit also provides for monitoring of parameters and an effluent limitation for pH for the discharge from Outfall 005 .

The Facility will collect and perform quarterly analyses on stormwater samples and document monitoring activities consistent with the methods described in this Procedure. All monitoring is to be conducted in accordance with the relevant sampling and analysis requirements at 40 C.F.R. Part 136.

Quarterly Monitoring of Outfalls 004 and 005

Pollutant Parameters to be sampled.
pH, oil and grease (O&G), Total Suspended Solids (TSS), total cadmium, total lead, and total zinc shall be sampled and analyzed quarterly.

Monitoring Schedules.
Discharges should be sampled quarterly for all pollutant parameters.

Outfall 004 Benchmark Values

Parameter	Effluent Limitations			
	Daily Minimum	Monthly Average	Daily Maximum	Instant. Maximum
pH (S.U.)	6.0	X	9.0	X
Total Suspended Solids (mg/L)	X	20.0	30.0	X
Oil and Grease (mg/L)	X	15.0	X	30.0
Total Cadmium (mg/L)	X	0.10	0.20	X
Total Lead (mg/L)	X	0.35	0.70	X
Total Zinc (mg/L)	X	1.20	2.40	X

Outfall 005 Benchmark Values

Parameter	Effluent Limitations	
	Daily Minimum	Daily Maximum
pH (S.U.)	6.0	9.0

Note: If the results of inspections, monitoring and/or analysis reveal an exceedance of a benchmark value listed above, the Facility will contact Corporate Environmental Affairs; additional inspections, monitoring and/or laboratory analysis of stormwater samples may also be required. In the event of an accident or incident causing an unanticipated non-compliance or potential pollution condition, the Facility will report immediately to the PADEP if a toxic substance or another substance would endanger downstream users of the waters of this Commonwealth. Reporting of unanticipated bypasses or exceedances of effluent limitations in the NPDES permit will be reported to the PADEP within 24-hours.

Sampling Procedures.

This section describes sampling procedures for stormwater monitoring events only and does not include routine sampling in conformance with the current NPDES permit.

Samples must be collected using the grab technique, at the monitoring locations for Outfalls 004 and 005 (composite sampling techniques will not be utilized).

Samples will be collected from discharges resulting from a **qualifying** storm event. A qualifying storm event is a storm event with at least 0.1 inch of precipitation (defined as a "measurable" event), provided that the interval from the preceding measurable storm event is at least 72-hours. The 72-hour storm interval is waived if the preceding measurable storm event did not result in a stormwater discharge, or if AZR is able to document that less than a 72-hour interval is representative for local storm events during the sampling period.

All grab samples shall be taken within the first 30 minutes of a discharge resulting from a qualifying storm event, unless the Facility determines that this is not practicable (e.g., safety reasons, flooding, etc.), in which case grab samples must be collected as soon as practicable after the first 30 minutes of any discharge resulting from a qualifying storm event.

During the quarterly sampling event, measurements for pH will be collected in the field utilizing AZR's portable pH probe.

Quarterly Visual Inspection of all Outfalls

Visual Inspection

During quarterly sampling activities referenced above, a grab sample will be collected from each monitoring location in a clean, colorless glass or plastic container, and examined in a well-lit area. The visual inspection of each sample will include an

observation for the following water quality characteristics: Color, Odor, Clarity (diminished), Floating Solids, Settled Solids, Foam, Oil Sheen, and other obvious indicators of stormwater pollution.

Records of the visual inspection will be recorded on the Stormwater Sample Event Record Log (SW-002-F01). See Attachment G for Periodic Inspection documentation and templates.

The Facility collects and analyzes stormwater samples and documents monitoring activities consistent with the procedures described in the Permit. All monitoring is conducted in accordance with the relevant sampling and analysis requirements at 40 C.F.R. Part 136. A summary of the data to be collected during the term of the Permit is included in Attachments C and D.

SECTION 5: INSPECTIONS

The Facility will perform the following inspection and monitoring activities, as described in this section:

- Periodic AZR BMP Implementation Inspections
- Annual Comprehensive Site Inspection
- Quarterly visual monitoring
- Quarterly Stormwater Control Inspections

Periodic AZR BMP Implementation Inspections
Performed by SWPPP Team Leader or Member

The Facility implements periodic BMP and good housekeeping inspections. The inspections are completed on a periodic basis and have been assigned to relevant personnel in each operating area. The object of the periodic inspections is to facilitate the implementation of BMPs as well as compliance with the non-numeric effluent limitation inspection requirements listed above. The periodic inspections must be documented and maintained on-site with the SWPPP. Examples of the periodic inspections can be found in Attachment G.

The following areas/activities shall be included in all inspections and shall be conducted according to the specified frequency:

- Storage area for vehicles /equipment awaiting maintenance;
- Indoor and outdoor vehicle/equipment maintenance areas;
- Material storage areas (e.g., carbon storage area);
- Vehicle/equipment cleaning areas;
- Loading/unloading areas;
- Waste management units;

- Weekly fabric filter Drain Guard Filters (locations identified in Attachment E);
- Weekly inspection of Building 608 and PD Unloading areas;
- Weekly inspections of hazardous waste container areas;
- Weekly inspections of catch basins;
- Quarterly stormwater inspections (comprehensive).

Annual Comprehensive Site Compliance Inspection and Evaluation
Performed by SWPPP Team Leader

The Facility will conduct inspections (site compliance inspection) at least once per year. The inspections shall be performed by qualified personnel or outside consultants hired by the Facility. The inspectors must be familiar with the industrial activity, the BMPs, the SWPPP, and must possess the skills to assess conditions at the Facility that could impact stormwater quality and assess the effectiveness of the BMPs that have been chosen to control the quality of the stormwater discharges. The PADEP's Annual Comprehensive Compliance Evaluation Form should be used to document the annual comprehensive inspection. The Comprehensive Site Compliance Inspection and Evaluation is expected to be completed during the 3rd Quarter of each year (typically in conjunction with the 3rd Quarter Visual Monitoring event).

Quarterly Visual Monitoring
Performed by SWPPP Team Leader or Member

The Facility will perform and document a quarterly visual examination of a stormwater discharge event associated with industrial activity from each outfall. The visual examination will be documented and maintained on-site with the SWPPP.

Quarterly Stormwater Control Inspections
Performed by SWPPP Team Leader or Member

The Facility will conduct formal quarterly stormwater inspections. Quarterly stormwater inspection reports shall include the following:

- The inspection date and time;
- The name(s) and signature(s) of the inspector(s);
- Weather information;
- Monitoring sump conditions;
- Outfalls 004 and 005 collection system conditions;
- Evidence of spills or materials accumulation; and
- Evaluation of lateral drainage systems contributing to Outfalls 004 and 005.

All observations relating to the implementation of control measures at the Facility (pursuant to Section 3.8 of the SWPPP), including: a description of any discharges occurring at the time of the inspection; any previously unidentified discharges from and/or pollutants at the site; any evidence of, or the potential for, pollutants entering the

drainage system; observations regarding the physical condition of and around all outfalls, including any flow dissipation devices; and evidence of pollutants in discharges and/or the receiving water and any control measures needing maintenance, repairs, or replacement shall be documented in the Quarterly Stormwater Control Inspection Report.

A copy of the Quarterly Stormwater Control Inspection Form is included in Attachment G.

SECTION 6: SWPPP CERTIFICATION

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.

Name: Michael Foster Title: Plant Manager

Signature: _____ Date: _____

SECTION 7: SWPPP MODIFICATIONS

Date	Version
September 2020	Original Version of Current SWPPP

SWPPP ATTACHMENTS