

# Emissions Minimization Plan

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Regulation 12, Miscellaneous Standards of Performance, Rule 13  
Foundry and Forging Operations

AB&I Foundry  
District Site #62  
7825 San Leandro Street  
Oakland, California 94621  
May 28, 2021

- Public Copy  
 Confidential Copy

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The numbers above reflect the BAAQMD rule that requires the reporting - e.g., 404.1 references BAAQMD Rule 12-13-404.1.



# Responsible Manager Certification

12-13-404.1

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*I, as the Responsible Manager of this facility, hereby certify that as of this date, this Emissions Minimization Plan contains all elements and information required of a complete EMP pursuant to District Regulation Section 12-13-403 and that the information contained in this EMP is accurate.*

Certified by:



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Michael Lowe, General Manager

Dated: 5/28/21

*Responsible Manager*

# Designation of Confidential Business Information

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Describe the information you designate as “CONFIDENTIAL” that is trade secret or otherwise exempt under law from public disclosure. Specify what is “CONFIDENTIAL” and include specific section(s) and corresponding page number(s).

<b>Name of Section / Page Number(s)</b>	<b>Description of Confidential Information</b>

## Company Description

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AB&I Foundry has been producing quality cast iron products for over a hundred years. AB&I was born in the shadows of the Great San Francisco Earthquake of 1906. At that time, the foundry's primary products were decorative light poles and iron & brass statuary. As the company evolved through time, so did our product offering. AB&I Foundry led the West Coast as the dominant producer of cast iron drain, waste and vent systems for decades. AB&I has also become a modern, highly-technological full-service provider of custom OEM gray iron castings for companies nationwide.

AB&I has long taken its social and environmental responsibilities very seriously and led the way in safety enhancements long before governmental regulations made them a requirement. Staying ahead of the curve is a strategy of ours and we continue to make an investment in new technologies that will continue to make the foundry cleaner and greener than ever – that's why our pipe and fittings are made from ~100% post-consumer recycled scrap iron.

We've had a strong foundation as a premier manufacturer of cast iron products for well over a century. Through a comprehensive program of water treatment, air pollution reduction, recycling, and solid-waste management, AB&I has set the standard for responsible foundry practices and policies.



# Company Organizational Chart and Schedule of Management Operators

## 12-13-403.1.3

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- A. Company Organizational Chart- Attach a copy of the organizational chart of the company, which describes the business structure and includes the name of the facility's Responsible Official. Label the attachment with the corresponding Attachment #.

**Attachment # A**

- B. Schedule of Management Operators - Provide the names and contact information of the Onsite Responsible Manager(s) and Onsite Alternate Contact(s) and their duty schedule.

**Onsite Responsible Manager(s)**

Name: Michael Lowe  
Title: General Manager  
Phone: 510-632-3467  
Email: michael.lowe@abifoundry.com  
Schedule/Shift: Mon - Fri 9am - 4pm, DAY

Name: Melisa Cohen  
Title: Environmental Manager  
Phone: 510-633-5224  
Email: melisa.cohen@abifoundry.com  
Schedule/Shift: Mon - Fri 8am - 5pm, DAY

**Onsite Alternate Contact(s)**

Name: Rich Watson  
Title: Plant Manager  
Phone: 510-632-3467  
Email: richard.watson@abifoundry.com  
Schedule/Shift: Mon - Thurs 5:30am - 4:30pm, DAY

Name: Dale Darling  
Title: Assistant Plant Manager  
Phone: 510-632-3467  
Email: dale.darling@abifoundry.com  
Schedule/Shift: Mon-Fri 4 am - 2pm , DAY



# Contents of the EMP

## 12-13-403

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The owner or operator of the foundry or forge subject to Section 12-13-401 shall prepare a complete and accurate EMP that details the management practices, measures, equipment and procedures that are employed or scheduled to be implemented to minimize fugitive emissions of particulate matter and odorous substances for the operations subject to the EMP.

**A. *Operations Subject to EMP and Schedule of Operations***

**B. *Description of Operations*** - Facilities with operations under 12-13-402 must list and provide description of all process equipment, material usages, abatement and control equipment and monitoring parameters to reduce fugitive emissions of particulates and odors. Please provide information for all the following operations that apply.

**C. *Management Practices to Reduce Fugitive Emissions***- Facilities with operations under 12-13-402 must list and provide descriptions of all preventative maintenance activities, pollution prevention and source reduction measures to reduce fugitive emissions of particulates and odors. Provide schedules of activities conducted.

**D. *Description of Abatement and Control Equipment***- Facilities must provide a comprehensive list of all abatement and control equipment for operations subject to 12-13-402 and name the source(s) of operation it abates.

**A. Operations Subject to EMP and Schedule of Operations**

The EMP shall address all of the following operations that are conducted at a foundry or forge per 12-13-402.

Please check all facility operations that apply and provide the schedule of operation.

Operation		Schedule of Operations
<input checked="" type="checkbox"/>	402.1 Mold and Core Making Operations	Molding: Monday - Thursday: (Day: 5am - 4pm), (Swing: 9pm - 5am) Core Room: Monday - Friday: (Day: 5am- 3:30pm), (Swing: 3:30 pm - 2am)
<input checked="" type="checkbox"/>	402.2 Metal Management	Monday - Friday: (Day: 5am - 4pm)
<input checked="" type="checkbox"/>	402.3 Furnace Operations, including tapping and pouring	Monday - Thursday: (Day: 5am - 4pm), (Swing: 4pm - 2am)
<input type="checkbox"/>	402.4 Forging Operations	N/A
<input checked="" type="checkbox"/>	402.5 Casting and Cooling Operation	Monday - Friday: (Day: 5am - 4pm), (Swing: 4pm - 2am)
<input checked="" type="checkbox"/>	402.6 Shake Out Operations	Monday - Thursday: (Day: 5am - 4pm)
<input checked="" type="checkbox"/>	402.7 Finishing Operations	Monday - Thursday, (Day: 5am-4pm)
<input checked="" type="checkbox"/>	402.8 Sand Reclamation	Monday - Thursday: (Swing 9pm - 5am)
<input checked="" type="checkbox"/>	402.9 Dross and Slag Management	Monday - Friday: (Day: 5am - 4pm)

## **402.1 Mold and Core Making Operations**

B. Description of Operations - MOLD AND CORE MAKING OPERATIONS													
Section #	Equipment Name and Manufacturer /Model #	District S# and Applicable NESHAPs Section	NAME OF MATERIALS USED IN MOLDING OPERATIONS					ABATEMENT					
			Binders	Coatings	Adhesives	Mold Release Agents	Other	Source Abated	Abatement Required by Permit	A#	Type of Abatement and Purpose of Abatement	Abatement Monitored	Monitoring Parameters
1	Disa 270	58 63.7690(a)(7)				Kwik Draw Hi Flash		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	N/A	Building Capture, Cyclone Particulate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Visible Emissions - Opacity
2	Disa 2013	59 63.7690(a)				Kwik Draw Hi Flash		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	N/A	Building Capture, Cyclone Particulate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Visible Emissions - Opacity
3	Shalco machines U180	N/A	HA Int'l E series ABI 60-3.0 Porter Warner Bet'r Shell EF	Satin Kote		Zip-slip 109W		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	N/A	Air dispersion through the use of 4 powered roof fans with Ecosorb vapor system routed to fans and core machines for odor neutralization	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Visible Emissions - Opacity
								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	



**B. Description of Operations – MOLD AND CORE MAKING OPERATIONS**

Provide information on binders used in mold and core making operations.

Section #	Name of Binder	Binder Mix Ratio	Name of Source(s) and/or District S# Where Binder Is Used	Product Specification per MSDS
1	HA International CC E-Series AB&I 60-3.0 Resin Coated Sand	100%: Sand comes in premixed - Phenol- Formaldehyde Resin Coating Component 3 - < 5 %	Core room	VOC CONTENT (%): Not specified  PHENOL CONTENT (%): Not specified
2	Porter Warner BET'R SHELL EF Resin Coated Core Sand	100% Sand comes in premixed - Phenol-Formaldehyde Resin Coating Component 0.5 - 4.5 %, by weight	Core room	VOC CONTENT (%): Not specified  PHENOL CONTENT (%): Below minimum reporting threshold
				VOC CONTENT (%):  PHENOL CONTENT (%):
				VOC CONTENT (%):  PHENOL CONTENT (%):
				VOC CONTENT (%):  PHENOL CONTENT (%):
				VOC CONTENT (%):  PHENOL CONTENT (%):

**C. Management Practices to Reduce Fugitive Emissions – MOLD AND CORE MAKING OPERATIONS**

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for core and mold making operations.

Section #	Name of Abatement Device and Manufacturer/Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
1	Baghouse #5 (A21)  GMD-630-10-6RA	Inspect magnehelic and settings Pulse Valve Inspection Bag break Detectors Response test Screw Conveyor Oil Check Fan Motor Megger Test Screw Conveyor Motor Inspection Fan Motor Grease Check Photohelic Gauge Adjustment Conveyor/ fan Belt Inspection Dust Wetter/Feeder Gauges and manifolds maintenance Fan Vibration Analysis Hy-Vac Vacuum System	Daily Semi-annual Monthly Monthly Quaterly Quarterly Biennial Annual Monthly Monthly and annually Quarterly Quarterly Weekly and monthly
2	Fume Baghouse (A25)  GMD 289-14-6WI	Bag break Detectors Response test Inspection of pressure readings/settings Fume Baghouse Lubrication Fume Baghouse Photohelic Inspection Fan Vibration Analysis	Monthly Daily  Quarterly Quarterly Quarterly
3	Cupola Baghouse (A19)  GMD 289-14-6WI	Inlet and Outlet Dampers Screw Conveyor Bearings Inspection of pressure readings/settings Bag break Detectors Response test Screw Conveyor Oil Check Bucket Elevator Thermocouple Inspection GMD Test Feeder Screw Conveyor Reducer Inspection Airlock and Motor Inspection Fan Motor Megger Test Fan Vibration Analysis Bucket Elevator Flue Gas Cooler Fan Belts Inspection Flue Gas Cooler Fans Lubrication	Semi-Annual Bi-monthly weekly and monthly  Monthly Monthly Monthly Monthly Semi-Annual Semi-Annual Monthly Quarterly Quarterly Quarterly Semi-annual Tri-annual (4 months)

		Flue Gas Cooler Screw Conveyor grease and thermocouple Flue Gas Cooler Rotary Valve Gearbox Flue Gas Cooler Tube Inspection	weekly Quarterly Quarterly
4	Afterburner (A20, A22) Maxon 8 MMBTU/Hr	Inspection of flow rate, gauge readings, thermocouples, and all electrical and mechanical connections Oxygen Shutoff valves Quarterly inspection Afterburner system Oxygen shut off valves	Monthly Semi-annual Quarterly Semi-annual Weekly

### C. Management Practices to Reduce Fugitive Emissions – MOLD AND CORE MAKING OPERATIONS

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

Section #	Description of Housekeeping Measure	Purpose of Activity	Schedule of Activity
1	Disa 270 Cyclone	Remove fugitives from machine exhaust	During all periods of operation
2	Disa 2013 Cyclone	Remove fugitives from machine exhaust	During all periods of operation
3	Core room clean up	Remove excess sand from work area	Daily
4	Building Capture	Core area enclosed on 3 sides, ecosorb used, powered roof vents	During all periods of operation



## 402.2 Metal Management

**B. Description of Operations - METAL MANAGEMENT**

Section #	Name of Non-Exempt Metal or Metal Alloy Used for Production	Metal Type	Method of Verification for Determining Chemical Composition
1	Cast Iron	<input checked="" type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	Visual (Each load), Magnet (ferrous metal), spectrograph (for unknown sources)
2	Steel	<input checked="" type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	Visual (Each load), Magnet (ferrous metal)
3	Pig Iron	<input checked="" type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	Visual (Each load), Magnet (ferrous metal)
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	
		<input type="checkbox"/> Ferrous <input type="checkbox"/> Non-Ferrous	

## B. Description of Operations - METAL MANAGEMENT

Describe the facility's metal inspection program, work practice standards and material acquisition plan/procedures upon receipt of scrap or unprocessed metal. Include any pollution prevention management practices and source reduction measures to ensure the metal received is clean.

SCRAP SELECTION PLAN SOP 63.7700 (b) & 63.7700 (c)(1)(ii) (2) (3)

### INCOMING SCRAP

- 1.1 Inspect incoming scrap to AB&I's Scrap Cast Iron Purchase Requirements.
  - 1.2 Cupola Supervisor or Leadman will inspect incoming scrap.
  - 1.3 Visually inspect EACH scrap load for scrap specifications [Sec. 3] and environmental compliance [Sec.3.3]
    - a. MACT prohibited – lead, mercury, plastics and free liquids. Visually inspect the top surface of load prior to dumping (if accepted) with follow up visual inspection after the load has been dumped. Rejection criteria: >2 mercury switches; or >1 lead acid battery or >50 lead wheel weights, excessive plastics, free liquids other than rain water. If acceptable sign off the weight ticket, if not reject the load.
    - b. If scrap is found to be acceptable, enter car number, and other pertinent information on the Miscellaneous Incoming Materials Railroad book / radiation MACT form located in cupola office.
2. OPTIONS
- 2.1 Several options are available other than a total rejection of the load:
    - a. If the load has a lot of non-acceptable items that cannot be sorted out, or exceeds an acceptance criteria listed in #1, 3 paragraph reject the load. Inform Purchasing Agent and send load back to vendor.
    - b. If the load is by truck and items can be separated, return "Out of Spec" pieces to the truck.
    - c. If the load is by truck and driver has another load to pick up, either weigh or estimate "Out of Spec" pieces, separate, and take "Out of Spec" pieces to rejection pile. Call Purchasing Agent and instruct to deduct weight of "out of Spec" material from payment.
    - d. If the load is by railcar and has "Out of Spec" material in it, DO NOT unload until agreement has been made with shipper. If the load can be separated, estimate weight of "Out of Spec" material, time of unloading and separating, reloading and hauling back to charge yard. Call Purchasing Agent with dollar amount that is needed to unload railcar. If shipper agrees, separate "Out of Spec" pieces and put in rejection box.

3. SCRAP CAST IRON PURCHASE REQUIREMENTS

3.1 Cast scrap purchase for delivery to AB&I shall be clean cast iron, reasonably free of grease and dirt, free from steel and all non-ferrous attachments, and within the following weights and dimensions:

- a. WEIGHT: Not to Exceed 300 pounds
- b. LENGTH: Not to Exceed 24 inches
- c. WIDTH: Not to Exceed 18 inches
- d. THICKNESS: Not to Exceed 3 inches

3.2 Deliveries of straight (all one item) loads must be arranged in advance.

3.3 NON-ACCEPTABLE ITEMS:

The following items are not acceptable:

- |                                  |                                    |
|----------------------------------|------------------------------------|
| Steel and malleable crankshafts  | Car wheels                         |
| Connecting rods                  | Brake shoes                        |
| Transmission and rear end gears  | Cast iron boring and turnings      |
| Loose piston rings               | Locomotive wheels and cylinders    |
| Steam radiators                  | Burnt iron                         |
| Porcelain or enamel coated scrap | Mercury switches                   |
| Disc brake assemblies            | Master cylinders                   |
| Chrome plated items              | Counter weights                    |
| Torque converters                | Unstripped transmission            |
| Valves with stems                | Aluminum and all non-ferrous parts |
| Lead acid battery                | Lead wheel weights                 |
| Lead pipe                        | Plastics                           |
- Malleable hard iron or chilled (white) iron
- Cast iron pipe (not to exceed 25% of any load)

All scrap that arrives at the facility via trucks or rail cars is visually inspected at the scrap yard.

### **C. Management Practices to Reduce Fugitive Emissions – METAL MANAGEMENT**

Describe control measures to minimize fugitive emissions from scrap or unprocessed metal.

Initial and periodic training for the Scrap Selection Plan through Environmental Management System (EMS) and/or Standard Operating Procedures (SOP) to ensure the plan is being followed.

Water hoses are used manually to minimize particulates as needed depending on the quality of the scrap. Every scrap load with excessive dirt and/or particulates typically is wetted during non-rain events.

During scrap unloading to reduce fugitive emissions, operators wet down the scrap, coke, and limestone with reclaimed water during non-storm events.



## **402.3 Furnace Operations**



**B. Description of Operations - FURNACE OPERATIONS**

Section #	Furnace Name and Manufacturer/ Model #	District S# and Applicable NESHAPs Section	Type of Operation	Source Abated	Type of Abatement Device	District A#	Purpose of Abatement	Abatement Monitored	Monitoring Parameters
1	Cupola Wrib 90"	S-1 63.7690(b)(3)	<input checked="" type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Afterburners Cupola Baghouse (Pulse jet baghouse)	A-20 A-22 A-19	Thermal oxidation (VOHAP), particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Temperature > 1,300 F [A-20,A-22] Differential Pressure 2-10 in H2O [A-19]
2	Automatic Pouring Furnace Liquimetrics (P2-P3) 8000	S-7 63.7690(a)(7)	<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Building capture	N/A	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Method 9 Visible Emissions - % opacity
3	Automatic Pouring Furnace Liquimetrics (2013) 8000	S-64 63.7690(a)(7)	<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Baghouse #5 (Pulse jet baghouse)	A-21	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Method 9 Visible Emissions - % opacity
4	Automatic Pouring Furnace Liquimetrics (P5-P6) 10000	S-9 63.7690(a)(7)	<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Building capture	N/A	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Method 9 Visible Emissions - % opacity
5	Automatic Pouring Furnace Liquimetrics (270A) 10000	S-10 63.7690(a)(7)	<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Baghouse #5 (Pulse jet baghouse)	A-21	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Method 9 Visible Emissions - % opacity
6	Holding Furnace Linemelt 60 ton	S-25 63.7690(b)(1)	<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fume Baghouse (Pulse jet baghouse)	A-25	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential Pressure 2-10 in H2O
7	Charge Handling Various	S-45	<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Water Spray System and enclosed "Doghouse"	A-67	Particulates	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	None
			<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
			<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
			<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
			<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	

			<input type="checkbox"/> Melting <input type="checkbox"/> Heat Treating	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
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**C. Management Practices to Reduce Fugitive Emissions - FURNACE OPERATIONS**

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for furnace operations.

Section #	Abatement Device and Manufacturer/Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
1	<p>A-19, Cupola Baghouse (abates S-1, A-20 and A-22)</p> <p>GMD 289-14-6WI</p>	<p>Cupola Baghouse Inlet and Outlet Dampers</p> <p>Cupola Baghouse Screw Conveyor Bearings</p> <p>MACT Cupola Baghouse Inspections</p> <p>MACT Cupola and Fume Bag Leak Detector Response Tests</p> <p>MACT Cupola Baghouse Screw Conveyor Oil Check</p> <p>Cupola Baghouse Bucket Elevator</p> <p>MACT Cupola Baghouse Thermocouple Inspection</p> <p>Cupola GMD TETS Feeder</p> <p>MACT Cupola Baghouse Screw Conveyor Reducer Inspection</p> <p>MACT Cupola Baghouse Airlock and Motor Inspection</p> <p>MACT Cupola Baghouse Screw Conveyor Motor Inspection</p> <p>MACT Cupola BH Fan Motor Megger Test</p> <p>MACT Quarterly Fan Vibration Analysis</p> <p>Cupola Baghouse Bucket Elevator</p> <p>MACT Cupola Flue Gas Cooler Tube Inspection</p> <p>MACT Cupola Flue Gas Cooler Screw Conv</p> <p>MACT Cupola Flue Gas Cooler Thermocouple</p> <p>MACT Flue Gas Cooler Rotary Valve Gearbox Inspection</p> <p>MACT Cupola Flue Gas Cooler Tube Inspection</p> <p>Cupola Draft Pressure Tube Inspection</p>	<p>Semi-annually</p> <p>Bi-monthly</p> <p>Weekly and monthly</p> <p>Monthly</p> <p>Monthly</p> <p>Monthly</p> <p>Monthly</p> <p>Semi-annually</p> <p>Semi-annually</p> <p>Monthly</p> <p>Quarterly</p> <p>Quarterly</p> <p>Quarterly</p> <p>Quarterly</p> <p>Quarterly</p> <p>Tri-annually (4 months)</p> <p>Weekly</p> <p>Weekly</p> <p>Quarterly</p> <p>Quarterly</p> <p>Weekly</p>

		<p>MACT Cupola Draft Pressure Tap Inspection</p> <p>MACT Cupola Draft Pressure Gauge ReZero</p> <p>Cupola Baghouse Draft Pressure Tube Inspection</p> <p>MACT Cupola Draft Pressure Gauge Inspection</p> <p>MACT Cupola ID Fan Bearing Grease</p> <p>MACT Cupola ID Fan Bearing Grease</p> <p>Cupola Baghouse Inspection</p> <p>Cupola Baghouse Maintenance</p>	<p>Weekly</p> <p>Semi-annually</p> <p>Weekly</p> <p>Monthly</p> <p>Bi-Weekly</p> <p>Annually</p> <p>Quarterly</p> <p>Quarterly</p>
2	<p>A-20, A-22, Afterburners (abates S-1)</p> <p>Maxon 8 MMBTU/Hr</p>	<p>Inspection of flow rate, gauge readings, and all electrical and mechanical connections</p> <p>Thermocouple Inspection Upper Stack</p> <p>Oxygen Shutoff valves</p> <p>Quarterly inspection</p> <p>Afterburner system</p>	<p>Monthly</p> <p>Monthly</p> <p>Weekly, Semi-annually</p> <p>Quarterly</p> <p>Semi-annually</p>
3	<p>A-25, Fume Baghouse (abates S-25)</p> <p>GMD 480-10-6R8</p>	<p>MACT Cupola and Fume Bag Leak Detector Response Tests</p> <p>MACT Cupola Fume Baghouse Inspections</p> <p>Fume Baghouse Lubrication</p> <p>MACT Cupola and Fume Bag Leak Detector Response Tests</p> <p>MACT Quarterly Fan Vibration Analysis</p> <p>Fume Baghouse Pulse Valve Inspection</p> <p>MACT Cupola Fume Baghouse Inspections</p> <p>Fume Baghouse Fan Belt Inspection</p> <p>Fume Baghouse Gearbox Oil Change</p> <p>Fume Baghouse Screw Conveyor Inspection</p>	<p>Monthly</p> <p>Daily</p> <p>Quarterly</p> <p>Quarterly</p> <p>Quarterly</p> <p>Annually</p> <p>Weekly</p> <p>Semi-annual</p> <p>Semi-annual</p> <p>Monthly</p>


**C. Management Practices to Reduce Fugitive Emissions - FURNACE OPERATIONS**

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

<b>Section #</b>	<b>Description of Housekeeping Measure</b>	<b>Purpose of Activity</b>	<b>Schedule of Activity</b>
1	Cleaning	General clean up of spilled iron and sand to reduce tracking	Daily
2	Inside furnace repair	Open and repair inside of furnace to assist in sealing.	Quarterly
3	Ecosorb used in conjunction with perimeter fans	To minimize/neutralize fugitive emissions of odors	During operations

## **402.4 Forging Operations**

**B. Description of Operations - FORGING OPERATIONS**

Section #	Equipment Name and Manufacturer/ Model #	District S# and Applicable NESHAPs Section	Description of Use	Name of Lubricants and/or Oils	Other Materials Used	Source Abated	Type of Abatement Device	Purpose of Abatement	Abatement Monitored	Monitoring Parameters
	N/A					<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
						<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	



**C. Management Practices to Reduce Fugitive Emissions - FORGING OPERATIONS**

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for forging operations.

<b>Section #</b>	<b>Abatement Device and Manufacturer/Model #</b>	<b>Description of Preventative Maintenance Activity and Work Practice Standards</b>	<b>Schedule of PM</b>
	N/A		

**C. Management Practices to Reduce Fugitive Emissions - FORGING OPERATIONS**

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

Section #	Description of Housekeeping Measure	Purpose of Activity	Schedule of Activity
	N/A		

## **402.5 Casting and Cooling Operations**

**B. Description of Operations - CASTING AND COOLING OPERATIONS**

Section #	Name of Pouring and Cooling Operations and Manufacturer/ Model #	District S# and Applicable NESHAPs Section	Cooling Time of Product or Source	Designated Locations of Cooling Operation	Source Abated	Type of Abatement Device	Purpose of Abatement	Abatement Monitored	Monitoring Parameters
1	Pouring cooling shakeout Moldmaking Disamatic 270	S-58, S-2 63.7690(a)(7)	20 minutes	PM Conveyor	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pulse-jet baghouses, Building capture, Ecosorb	Particulates, odors	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential pressure 2-10 in H2O Broken bag detector 0.01 mg/m3 Visible Emissions - Opacity
2	Pouring cooling shakeout Moldmaking Disamatic 2013	S-59, S-2 63.7690(a)(7)	15 minutes	AM Conveyor	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pulse-jet baghouses, Building capture, Ecosorb	Particulates, odors	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential pressure 2-10 in H2O Broken bag detector 0.01 mg/m3 Visible Emissions - Opacity
3	Pipe Machines AB&I	S-53,S-54, S-55, S-56, S-57 N/A	10-20 seconds	Pipe Department	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Building Capture Ecosorb with fans	Particulates, odors	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Visible Emissions - Opacity
					<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	
					<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No	

### C. Management Practices to Reduce Fugitive Emissions - CASTING AND COOLING OPERATIONS

Describe the method to verify adequate cooling times are achieved to ensure minimization of fugitive emissions of particulates and odors prior to commencing shake out operations.

Per §63.7710(b)(6), AB&I is required to document the autoignitability determination of mold vents of sand mold systems in the Disa 2013 and Disa 270 pouring stations. Molds and sand/binder ratios are not typically modified on these pouring lines. The molds move on a conveyor through each pouring station. Molten iron is poured into the molds and the molds move down the conveyor line for cooling. Immediately after the molten iron is poured into the molds, 100 percent of the mold vents ignite automatically. The flame remains lit for at least 15 seconds.

Organic HAP are emitted from pouring areas and pouring, cooling, and shakeout lines when chemicals in sand molds and cores are vaporized or pyrolyzed by the heat of the molten metal. The most common control for organic HAP is ignition of mold offgas. After several minutes (roughly 5 to 10 minutes depending on the size of the mold and castings), the rate of gaseous release from the molds eventually subsides to the point that a flame cannot be supported by the mold vents. At this point, the flame goes out but the molds can continue to smolder and emit organic HAP as they continue to cool. Ignition of mold vents is believed to effectively reduce organic emissions immediately after pouring when the release of organic vapor from the molds is the highest.

To reduce tracking of molding sand:

Weekly:

Casting line (Disa 270) is emptied and cleaned weekly.

Daily (production):

Casting line (Disa 2013) is cleaned.

Pipe casting line is rinsed down.

**C. Management Practices to Reduce Fugitive Emissions - CASTING AND COOLING OPERATIONS**

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for casting and cooling operations.

Section #	Abatement Device and Manufacturer/Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
1	A-14, Baghouse #2  4614-PT-120-6	Baghouse 1-5 Conveyor Belt Inspection MACT Baghouse 1-5 Inspections MACT Baghouse 1-5 Maintenance Inspect magnehelic and settings Dust Wetter & Feeder Winch Gauges and manifolds maintenance MACT Quarterly Fan Vibration Analysis Hy-Vac Vacuum System Lubrication of Bearings and Gearbox Method 22	Monthly Weekly Quarterly Daily Monthly, Annually Quarterly Quarterly Weekly, Monthly Monthly Weekly
2	A-18, Baghouse #4  CV-561-10-6RA	Baghouse 1-5 Conveyor Belt Inspection Baghouse 1-5 Fan Belt Inspection MACT Baghouse 1-5 Inspections	Monthly Daily Daily

		<p>MACT Baghouse 1-5 Maintenance  Dust Wetter &amp; Feeder Winch  MACT Quarterly Fan Vibration Analysis  Hy-Vac Vacuum System  Lubrication of Bearings and Gearbox  Method 22</p>	<p>Daily  Monthly, Annually  Quarterly  Weekly, Monthly  Monthly  Weekly</p>
3	<p>A-20 &amp; A-22, Afterburners    Maxon 8 MMBTU/Hr</p>	<p>Inspection of flow rate, gauge readings,  thermocouples, and all electrical and  mechanical connections  Oxygen Shutoff valves  Quarterly inspection  Afterburner system  Oxygen shut off valves</p>	<p>Monthly    Semi-annually  Quarterly  Semi-annually  Weekly</p>
4	<p>A-21, Baghouse #5    GMD-630-10-6RA</p>	<p>MACT Baghouse 1-5 Inspections  MACT Baghouse 1-5 Maintenance  MACT BH 5 Pulse Valve Inspection  MACT BH 5 Bag-Leak Detector Response  Test  MACT BH 5 Screw Conveyor Oil Check  MACT BH 5 Fan Motor Megger Test  MACT BH 5 Screw Conveyor Motor  Inspection  MACT BH 5 Photohelic Gauge Adjustment  Baghouse 1-5 Conveyor Belt Inspection  Baghouse 1-5 Fan Belt Inspection  Dust Wetter &amp; Feeder Winch  MACT Quarterly Fan Vibration Analysis  Hy-Vac Vacuum System  MACT BH 5 Screw Conveyor Reducer  Inspection  MACT BH 5 Motor Inspection</p>	<p>Daily  Quarterly  Semi-annually  Monthly    Monthly  Quarterly  Quarterly    Annually  Monthly  Monthly  Monthly, Annually  Quarterly  Weekly and Monthly  Semi-annually    Monthly</p>
5	<p>A-68, Baghouse #6    BHM-459-1--6RA</p>	<p>Inspect magnehelic and settings  Method 22</p>	<p>Daily  Weekly</p>

### C. Management Practices to Reduce Fugitive Emissions - CASTING AND COOLING OPERATIONS

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

Section #	Description of Housekeeping Measure	Purpose of Activity	Schedule of Activity
1	Cleaning	Disa 270 line - emptied and cleaned to reduce tracking of sand	Weekly
2	Cleaning	Disa 2013 line - emptied and cleaned to reduce tracking of sand	After every operational run
3	Washing/Cleaning	Pipe - Rinse down machines and area to reduce fugitives.	After every operational run
4	Empty/Clean	Empty and clean casting line (Disa 270).	Weekly
5	Ecosorb used in conjunction with perimeter fans	To minimize/neutralize fugitive emissions of odors	During operations



## 402.6 Shake Out Operations

B. Description of Operations - SHAKE OUT OPERATIONS									
Section #	Name of Shakeout Operations and Manufacturer/ Model #	District S# and Applicable NESHAPs Section	Describe Location of Shake Out Operation	Source Abated	A#	Type of Abatement Device	Purpose of Abatement	Abatement Monitored	Monitoring Parameters
1	Didion MD 300	S-2 N/A	Molding Department	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-18	Pulse-Jet baghouse	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential Pressure 2-10 in H2O
2	Didion MD 100	S-2 N/A	Molding Department	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-21	Pulse-Jet baghouse	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential Pressure 2-10 in H2O Bagbreak detector 0.01mg/m3
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	

**C. Management Practices to Reduce Fugitive Emissions - SHAKE OUT OPERATIONS**

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for shake out operations.

Section #	Abatement Device and Manufacturer/Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
1	A-18, Baghouse #4  CV-561-10-6RA	Baghouse 1-5 Conveyor Belt Inspection Baghouse 1-5 Fan Belt Inspection MACT Baghouse 1-5 Inspections MACT Baghouse 1-5 Maintenance Dust Wetter & Feeder Winch MACT Quarterly Fan Vibration Analysis Hy-Vac Vacuum System Lubrication of Bearings and Gearbox Method 22	Monthly Daily Daily Daily Monthly, Annually Quarterly Weekly, Monthly Monthly Weekly
2	A-21, Baghouse #5  GMD 630-10-6R8	MACT Baghouse 1-5 Inspections MACT Baghouse 1-5 Maintenance MACT BH 5 Pulse Valve Inspection MACT BH 5 Bag-Leak Detector Response Test MACT BH 5 Screw Conveyor Oil Check MACT BH 5 Fan Motor Megger Test MACT BH 5 Screw Conveyor Motor Inspection MACT BH 5 Photohelic Gauge Adjustment Baghouse 1-5 Conveyor Belt Inspection Baghouse 1-5 Fan Belt Inspection Dust Wetter & Feeder Winch MACT Quarterly Fan Vibration Analysis Hy-Vac Vacuum System MACT BH 5 Screw Conveyor Reducer Inspection MACT BH 5 Motor Inspection	Daily Quarterly Semi-annually Monthly  Monthly Quarterly Quarterly  Annually Monthly Monthly Monthly, Annually Quarterly Weekly, Monthly Semi-annually  Monthly
3	A-68, Baghouse #6  BHM 459-10-6RA	Inspect magnehelic and settings Method 22	Daily Weekly

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### C. Management Practices to Reduce Fugitive Emissions - SHAKE OUT OPERATIONS

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

<b>Section #</b>	<b>Description of Housekeeping Measure</b>	<b>Purpose of Activity</b>	<b>Schedule of Activity</b>
1	Clean up the sand off the molding line	Remove spilled sand to avoid tracking throughout plant	Weekly
2	Process all sand mold on the molding line	Reduce sand handling during maintenance activities.	Weekly
3	Ecosorb used in conjunction with perimeter fans	To minimize/neutralize fugitive emissions of odors	During operations

## 402.7 Finishing Operations

B. Description of Operations - FINISHING OPERATIONS										
Section #	Type of Operation	District S# and Applicable NESHAPs Section	Describe Location of Finishing Operation	Number of Machines	Abated Source	A#	Type of Abatement Device	Purpose of Abatement	Abatement Monitored	Monitoring Parameters
1	<input checked="" type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:	S-49 N/A	Cast finishing	GRINDERS: 8 WELDERS: OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-14	Pulse-Jet Baghouse	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential Pressure 2-10 in H2O
2	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input checked="" type="checkbox"/> Other: Shotblast	S-4, S-5, S-27, S-30 N/A	Cast finishing	GRINDERS: WELDERS: OTHER: 4	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-17	Pulse-Jet Baghouse	Particulates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential Pressure 2-10 in H2O
3	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input checked="" type="checkbox"/> Other: Coating	S-34, S-35, S-36 N/A	Pipe finishing Asphalt Dip Tanks	GRINDERS: WELDERS: OTHER: 3	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-35, A-36, A-37	Fiber Bed Mist Collector, Mist Eliminators and Flue Gas Condensers Ecosorb	Asphalt Aerosol Emissions, odor abatement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Differential Pressure 2-15 in H2O
	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:			GRINDERS: WELDERS: OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:			GRINDERS: WELDERS: OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:			GRINDERS: WELDERS: OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:			GRINDERS: WELDERS: OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Grinding <input type="checkbox"/> Welding <input type="checkbox"/> Other:			GRINDERS: WELDERS: OTHER:	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	

**C. Management Practices to Reduce Fugitive Emissions - FINISHING OPERATIONS**

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for finishing operations.

Section #	Abatement Device and Manufacturer/Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
1	A-14, Baghouse #2  4614-PT-120-6	Baghouse 1-5 Conveyor Belt Inspection MACT Baghouse 1-5 Inspections MACT Baghouse 1-5 Maintenance Inspect magnehelic and settings Dust Wetter & Feeder Winch Gauges and manifolds maintenance MACT Quarterly Fan Vibration Analysis Hy-Vac Vacuum System Lubrication of Bearings and Gearbox Method 22	Monthly Weekly Quarterly Daily Monthly, Annually Quarterly Quarterly Weekly, Monthly Monthly Weekly
2	A-17, Baghouse #3  2614-PT-120-6	Baghouse 1-5 Conveyor Belt Inspection Baghouse 1-5 Fan Belt Inspection MACT Baghouse 1-5 Inspections Dust Wetter & Feeder Winch Fan Vibration Analysis Hy-Vac Vacuum System Lubrication of Bearings and Gearbox Method 22	Monthly Monthly Daily Monthly, Annually Quarterly Weekly, Monthly Monthly Weekly
3	A-37 (Flue Gas Condenser), A-35 (Fiber Bed Mist Collector)  CECO/CMC-15000-C-F	Inspect Magnehelic and motor amps Grease outboard bearing Grease Inboard bearing, fan wheel inspection, drive alignment, inspect seals and bolts	Daily Bi-Weekly Semi-annual
4	A-36, Mist Eliminator  Blue Smoke Control/6S12C	Inspect Magnehelic and motor amps Grease outboard bearing Grease Inboard bearing, fan wheel inspection, drive alignment, inspect seals and bolts	Daily Bi-Weekly Semi-annual




### C. Management Practices to Reduce Fugitive Emissions - FINISHING OPERATIONS

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

<b>Section #</b>	<b>Description of Housekeeping Measure</b>	<b>Purpose of Activity</b>	<b>Schedule of Activity</b>
1	Clean up shot blast media	Control particulate matter and tracking via mobile equipment	Daily
2	Sweeping Grinding dust	Control particulate matter	Daily
3	Ecosorb used in conjunction with perimeter fans	To minimize/neutralize fugitive emissions of odors	During operations

## 402.7 Sand Reclamation

B. Description of Operations - SAND RECLAMATION									
Section #	Name of Sand Reclamation Equipment and Manufacturer/Model #	District S# and Applicable NESHAPs Section	Describe Type of Sand Reclamation Equipment	Abated Source	A#	Type of Abatement Device	Purpose of Abatement	Abatement Monitored	Monitoring Parameters
1	Muller Machines (2)	S-3	Sand Preparation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A-15	Baghouse #1 (Pulse jet baghouse) with Ecosorb	Pariculates, odors	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Method 9 Visible Emissions - % opacity
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	

### C. Management Practices to Reduce Fugitive Emissions - SAND RECLAMATION

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for sand reclamation operations.

Section #	Abatement Device and Manufacturer/Model #	Description of Preventative Maintenance Activity and Work Practice Standards	Schedule of PM
1	A-21, Baghouse #5  GMD 630-10-6R8	MACT Baghouse 1-5 Inspections MACT Baghouse 1-5 Maintenance MACT BH 5 Pulse Valve Inspection MACT BH 5 Bag-Leak Detector Response Test MACT BH 5 Screw Conveyor Oil Check MACT BH 5 Fan Motor Megger Test MACT BH 5 Screw Conveyor Motor Inspection MACT BH 5 Photohelic Gauge Adjustment Baghouse 1-5 Conveyor Belt Inspection Baghouse 1-5 Fan Belt Inspection Dust Wetter & Feeder Winch MACT Quarterly Fan Vibration Analysis Hy-Vac Vacuum System MACT BH 5 Screw Conveyor Reducer Inspection MACT BH 5 Motor Inspection	Daily Quarterly Semi-annually Monthly  Monthly Quarterly Quarterly  Annually Monthly Monthly Monthly, Annually Quarterly Weekly and Monthly Semi-annually  Monthly
2	A-15, Baghouse #1  U.S. Air Filtration 4614-PT-120-6	MACT Baghouse 1-5 Inspections Baghouse 1-5 Conveyor Belt Inspection Baghouse 1-5 Fan Belt Inspection Dust Wetter & Feeder Winch MACT Quarterly Fan Vibration Analysis Hy-Vac Vacuum System MACT Baghouse 1-5 Maintenance	Daily Monthly Monthly Monthly and Annually Quarterly Weekly and Monthly Quarterly
3	A-18, Baghouse #4  CV-561-10-6RA	Baghouse 1-5 Conveyor Belt Inspection Baghouse 1-5 Fan Belt Inspection MACT Baghouse 1-5 Inspections MACT Baghouse 1-5 Maintenance Dust Wetter & Feeder Winch MACT Quarterly Fan Vibration Analysis Hy-Vac Vacuum System Lubrication of Bearings and Gearbox Method 22	Monthly Daily Daily Daily Monthly, Annually Quarterly Weekly, Monthly Monthly Weekly

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### C. Management Practices to Reduce Fugitive Emissions - SAND RECLAMATION

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

<b>Section #</b>	<b>Description of Housekeeping Measure</b>	<b>Purpose of Activity</b>	<b>Schedule of Activity</b>
1	Collect dust accumulated on structural elements (girders, collar ties, etc.)	Control particulate matter	Weekly
2	Clean up sand spills around sand reclamator	Control particulate matter and tracking of sand	Weekly
3	Empty and clean casting lines (Disa 270 and 2013)	Control particulate matter and tracking of sand	Daily
4	Rinse pipe casting line	Control particulate matter and tracking of sand	Daily
5	Ecosorb used in conjunction with perimeter fans	To minimize/neutralize fugitive emissions of odors	During operations

## **402.9 Dross and Slag Management**



B. Description of Operations - DROSS AND SLAG MANAGEMENT									
Section #	Material	Describe Location for Cooling of Material	Abated Source	A#	Type of Abatement Device	Purpose of Abatement	Abatement Monitored	Monitoring Parameters	Material Disposition
1	Dross	N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Offsite Recycling <input type="checkbox"/> Offsite Disposal <input type="checkbox"/> Onsite Reprocessing
2	Slag	Cupola department- Dry slagger air cooled	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Offsite Recycling <input checked="" type="checkbox"/> Offsite Disposal <input type="checkbox"/> Onsite Reprocessing

**C. Management Practices to Reduce Fugitive Emissions - DROSS AND SLAG MANAGEMENT**

Provide description of preventative maintenance (PM) activities including PM schedules and work practice standards for each abatement device for dross and slag operations.

<b>Section #</b>	<b>Abatement Device and Manufacturer/ Model #</b>	<b>Description of Preventative Maintenance Activity and Work Practice Standards</b>	<b>Schedule of PM</b>
	N/A		

**C. Management Practices to Reduce Fugitive Emissions - DROSS AND SLAG MANAGEMENT**

Provide description of other housekeeping measures to abate and/or minimize fugitive emissions of odors and/or particulate matter at sources or source areas.

<b>Section #</b>	<b>Description of Housekeeping Measure</b>	<b>Purpose of Activity</b>	<b>Schedule of Activity</b>
1	Transport slag to storage building	Storage of slag in covered building	Twice a week

**D. Description of Abatement and Control Equipment**

Provide a comprehensive list of all abatement and control equipment for operations subject to 12-13-402 and identify the source(s) of operation in which it abates. If the abatement equipment abates multiple sources, provide a detailed description of how the abatement is designated to those sources.

Section #	Name of Abatement Equipment	District A#	Names of Source(s) Abated	District S#	Description of Abatement
1	Baghouse #2	A-14	Grinding, BH 1-5 dust bin	S-2	Pulse jet baghouse
2	Baghouse #3	A-17	Shotblast (Wheelabrators), Oscillators	S-4, S-5, S-27, S-30, S-2	Pulse jet baghouse
3	Baghouse #4	A-63	Shakeout, Didion	S-2	Pulse jet baghouse
4	Baghouse #5	A-21	Pouring and cooling, shakeout	S-2	Pulse jet baghouse
5	Cupola Baghouse	A-19	Cupola, Afterburners	S-1	Pulse jet baghouse
6	Fume Baghouse	A-25	Holding furnace	S-25	Pulse jet baghouse
7	Afterburners	A-20, A-22	Cupola	S-1	Thermal-oxidizers
8	Mist Eliminators (Fiber Bed Mist Collector and Mist Eliminator)	A-35, A-36	Pipe Finishing Dip Tanks	S-34, S-35, S-36	Asphalt Aerosol
9	Flue Gas Condenser	A-37	Pipe Finishing Dip Tanks	S-34, S-35, S-36	Asphalt Aerosol
10	Baghouse #6	A-68	Shakeout	S-2	Pulse jet baghouses
11	Baghouse #1	A-15	Sand Preparation	S-3	Pulse jet baghouse
12	Water Spray System and Enclosed Doghouse	A-67	Cupola Charge Handling	S-45	Water Spray System

# Technical Data

## 12-13-403.1

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- A. *Process Flow Diagram* – Facilities must indicate all operations in Section 12-13-402, the flow of materials used and identify all monitoring of processes, abatement and controls to minimize emissions beginning from material receipt to achievement of final product. Identify all abatement and control devices by District source numbers according to District Permit or as exempt from District Permit. Label the attachment with the corresponding Attachment #.

### **Attachment # B**

- B. *Facility Layout / Floor Plan* - Facilities must indicate all relative locations of processing equipment and monitoring and controls, all permitted and exempt sources identified in the process flow diagram per Section 12-13-403.1.1 and any other source(s) that may contribute to particulates and odors. Include all building walls, partitions, doors, windows, vents and openings and indicate all areas that have abatement for particulates and odors. Identify all metal melting and processing equipment by District source numbers according to District Permit or as exempt from District Permit. Label the attachment with the corresponding Attachment #.

### **Attachment # C**

- C. Organization Chart

### **Attachment # A**

## Five-Year Review of the EMP: Schedule for Implementation of the EMP Elements and Fugitive Emissions Reductions

### 12-13-410

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- A. Provide a list of existing or current EMP elements in place during the 5-year review period (March 1, 2016 – February 28, 2021). Include a list of equipment, processes and procedures installed or implemented to reduce fugitive emissions and indicate the permit status if applicable. Specify the purpose for implementation and detail any employee training that was conducted. Any associated training materials shall be made available for Air District review upon request.
  
- B. Provide a list of new or future EMP elements to be implemented following APCO approval of the EMP. Include a description, the purpose and schedule of the element(s) to be implemented.

**A. 12-13-410 SCHEDULE FOR IMPLEMENTATION OF THE EMP ELEMENTS AND FUGITIVE EMISSIONS REDUCTIONS REALIZED WITHIN THE LAST 5 YEARS (MARCH 1, 2016 – FEBRUARY 28, 2021)**

Section #	Identify Type of Operation per Section 12-13-402	Description of Equipment, Processes or Procedures Implemented Between March 1, 2016 and February 28, 2021	Permit Status	Implementation Date	Purpose of Implementation	Description of Employee Training
1	Mold/Core Making (3)	Added Enclosures/Sealed opening N and E sides of Core Room, Added Powered Exhaust Fans with Ecosorb Vapor System for Fans/Core Machines	<input type="checkbox"/> A/C <input type="checkbox"/> P/O <input checked="" type="checkbox"/> N/A	Application # (if applicable): 7/1/2020	Fugitive Emissions Control/ Air Dispersion	N/A
2	Furnace Operations	Redesigned Cupola Charging Door Enclosure (Doghouse), Added Roof Panels over Cupola, Wind Break Enclosure on Cupola Bottom, Improved Hoods/Ducting for Cupola Taphole/Runner	<input type="checkbox"/> A/C <input type="checkbox"/> P/O <input checked="" type="checkbox"/> N/A	Application # (if applicable): 9/1/2020	Fugitive Emissions Control	N/A
3	Furnace Operations	Replacement of Afterburners, Rebuild Holding Furnace, Replaced Hot Blast Expansion Joint, Slip Joint Repair, Improved Hot Blast Insulation, Flue Gas Cooler Overhaul,	<input type="checkbox"/> A/C <input type="checkbox"/> P/O <input checked="" type="checkbox"/> N/A	Application # (if applicable): 2/1/2020	Ensure Proper Performance of Equipment	N/A
4	Furnace Operations	BH Maintenance Projects: Replacement of Clean Air Ducting for Cupola BH, Replacement of Stack Cupola BH, Helixes added to BH-4 and BH-5 to minimize wind impacts, Removed grates from BH-1, BH-2, BH-3, BH-5, Odor Sampling Ports installed on Cupola and Fume and BH-1 - BH -6	<input type="checkbox"/> A/C <input type="checkbox"/> P/O <input checked="" type="checkbox"/> N/A	Application # (if applicable): 4/1/2020	Ensure Proper Performance of Equipment	N/A
5	Furnace Operations	Added 6 Powered Exhaust Fans with Ecosorb Vapor System over Pipe Casting, Ecosorb Vapor System on BH-5, Ecosorb Injection on BH-4, BH-5, DISA 270 and DISA 2013 Ducting, Redesigned DISA 270/2013 Capture system for pouring and added enhanced hooding, Wind Break Enclosures added	<input type="checkbox"/> A/C <input type="checkbox"/> P/O <input checked="" type="checkbox"/> N/A	Application # (if applicable): 6/1/20	Odor Neutralization/ Air Dispersion	Trained Employees on Maintenance of units
6	Shake Out Operations	Added BH-6, New Oscillator #7, Enhanced Hooding on Oscillators, Enhanced Ducting on Wheelabrator 3	<input type="checkbox"/> A/C <input checked="" type="checkbox"/> P/O <input type="checkbox"/> N/A	Application # (if applicable): BH6 App 29219 2/1/20	Fugitive Emissions Control/ Odor Neutralization	Trained Employees on Maintenance of units
7	Finishing Operations	Install Ecosorb Fan Systems over Asphalt Tanks, Mist Eliminators, Cast Finishing Area and Vapor Perimeter system Pipe Finishing	<input type="checkbox"/> A/C <input type="checkbox"/> P/O <input checked="" type="checkbox"/> N/A	Application # (if applicable): 10/1/20	Odor Neutralization	Trained Employees on Maintenance of units
8	Finishing Operations	Installation of wind breaks/partial enclosures/sealing of openings at Pipe Finishing	<input type="checkbox"/> A/C <input type="checkbox"/> P/O <input checked="" type="checkbox"/> N/A	Application # (if applicable): 7/1/20	Fugitive Emissions Control	N/A

9	Sand Reclamation/ Overall Plant	Installation of wind breaks/partial enclosures/sealing of openings at Cast Finishing/Sand Plant, Added to Rotary Turbines Foot Ventilators, Purchased new Sweeper and Hi-Vac Vacuum system equipped with HEPA Filters, Ecosorb Fan Systems at Sand System	<input type="checkbox"/> A/C <input type="checkbox"/> P/O <input checked="" type="checkbox"/> N/A	Application # (if applicable):	2/1/21	Fugitive Emissions Control/ Odor Neutralization	Initial Training of use of New Equipment
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<b>B. 12-13-410 NEW OR FUTURE EMP ELEMENTS TO BE IMPLEMENTED</b>					
<b>Section #</b>	<b>Identify Type of Operation per Section 12-13-402</b>	<b>List Specific Elements to be Implemented Following APCO Approval of the Updated EMP</b>	<b>Projected Implementation Date</b>	<b>Description of Elements to be Implemented</b>	<b>Purpose of Implementation</b>
1	Mold/Core Making	Activated Carbon Injection (ACI) System for BH-5	3/1/2022	Undertake Activated Carbon Injection (ACI) Pilot Study. Inject activated carbon into BH-5 ducting to neutralize odors in duct as well as coat BH bags for further odor abatement. If Pilot Study works, will put in full unit. Submitted Permit Application on May 10, 2021 and are still awaiting approval from BAAQMD to move forward on the Pilot Study.	Pilot Study to determine if ACI can address odors from BH-5
2	Mold/Core Making	Upgrade Fan Motor and add Velocity Tip to BH-5	3/1/2022	Upgrade existing BH-5 fan motor from 125 hp to 200 hp and add a velocity tip/reducer to top of BH-5 stack. Submitted permit application on July 14, 2021 and are still awaiting approval from BAAQMD to move forward with these two projects. Due to the delay in receiving permit approval, the fan motor upgrade may no longer be feasible. The fan motor delivery/installation is expected to take a minimum of three months, by which time the Molding operation shutdown may already be under way.	Air Dispersion to help address odors from BH-5
3	Mold/Core Making	Implement measures that will eliminate odors from Molding Operations	12/1/2022	AB&I has explored various options for eliminating odors from its Molding operations including technological, abatement, process change solutions, and has made the decision to move its Molding Operation to McWane's Texas facility. The construction for the Molding operation in Texas is well under way, and it is likely the move will occur well before the current projected implementation date. Millions of dollars have already been invested in this move. This is strong evidence that the move of AB&I's Molding operations to Texas will occur in 2022. The HRA risk reduction planning process will address the unlikely prospect of continued operation of Molding after 2022.	Take action to eliminate odor complaints
4	Overall Operations	Create and implement a Risk Reduction Plan (RRP) assuming that such a plan is ultimately required by the final HRA evaluation	7/1/2023	AB&I has been proactively evaluating different opportunities to further reduce health risk in case the final HRA requires an Risk Reduction Plan (RRP). The move of Molding will significantly reduce facility health risks. Since additional risk reductions may be required, the facility is considering additional risk reduction measures, including source testing, additional building enclosures and potential pipe abatement.	HRA reduction RRP

**APCO Recommendations to EMP and Determination of Approvability (12-13-405)**

Provide determination of acceptance to APCO recommendations. Include the determination of acceptance by the facility's Responsible Manager and the basis for rejecting any APCO recommendations. If recommendation is accepted, include measures to implement APCO recommendation and the proposed date of implementation.

Section #	(AIR DISTRICT USE ONLY) APCO Recommendation	Acceptance of APCO Recommendation	If NO: Basis for Rejecting APCO Recommendation	If YES: Measures to Implement Recommendation	Proposed Date of Implementation	(AIR DISTRICT USE ONLY) Approval of Response
1	Continue to operate and maintain all abatement equipment in good working order until operations at the facility are shut down and/or decommissioned.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<ul style="list-style-type: none"> <li>AB&amp;I will continue to operate its abatement devices in full compliance with its Title V permit until after the associated emissions units are shut down and/or decommissioned.</li> <li>AB&amp;I will continue to complete periodic and continuous monitoring, preventive maintenance and recordkeeping as required by its Title V permit.</li> </ul>	Immediate and ongoing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Ensure staff are properly trained to exercise good housekeeping measures and use best practices to minimize fugitive emissions. Continue maintaining staff's awareness of odors and visible emissions from onsite sources and operations.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<ul style="list-style-type: none"> <li>AB&amp;I staff will continue to complete periodic and continuous monitoring, preventive maintenance and recordkeeping as required by its Title V permit.</li> <li>AB&amp;I will continue to use all-hands "Information and Exchange" meetings to emphasize the importance of full compliance.</li> <li>AB&amp;I will ensure that staff continue to share a common understanding of all applicable compliance requirements.</li> <li>AB&amp;I environmental management will continue to review all compliance activities in accordance with the McWane's environmental management system.</li> <li>Where additional training is warranted, AB&amp;I environmental management will promptly prepare and present daily briefings for appropriate AB&amp;I staff.</li> </ul>	Immediate and ongoing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

3	Continue to obtain visible emissions evaluation (VEE) certification(s) through California Air Resource Board in accordance with US EPA Method 9.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<ul style="list-style-type: none"> <li>AB&amp;I will continue to maintain a VEE-certified Team Member on site. AB&amp;I also has available a VEE certified source test group as a backup.</li> </ul>	Immediate and ongoing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Submit a plan for decommissioning sources of operations and abatement equipment that would ensure fugitive emissions are minimized throughout the facility decommissioning process. Includes a schedule and timeline for which sources and equipment are to be decommissioned.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<ul style="list-style-type: none"> <li>AB&amp;I will prepare and submit a plan for decommissioning permitted sources and abatement equipment that ensures, as long as production continues, that fugitive emissions during the decommissioning process are minimized.</li> <li>The Plan will include a very general schedule and timeline for the staged decommissioning of the facility.</li> </ul>	6/3/2022	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5		<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No
6		<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No
7		<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No
8		<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No

# Appendix

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Insert any attachments and supplemental information within the corresponding sections of the EMP or at the end of this document. Label each attachment with the corresponding Attachment #.

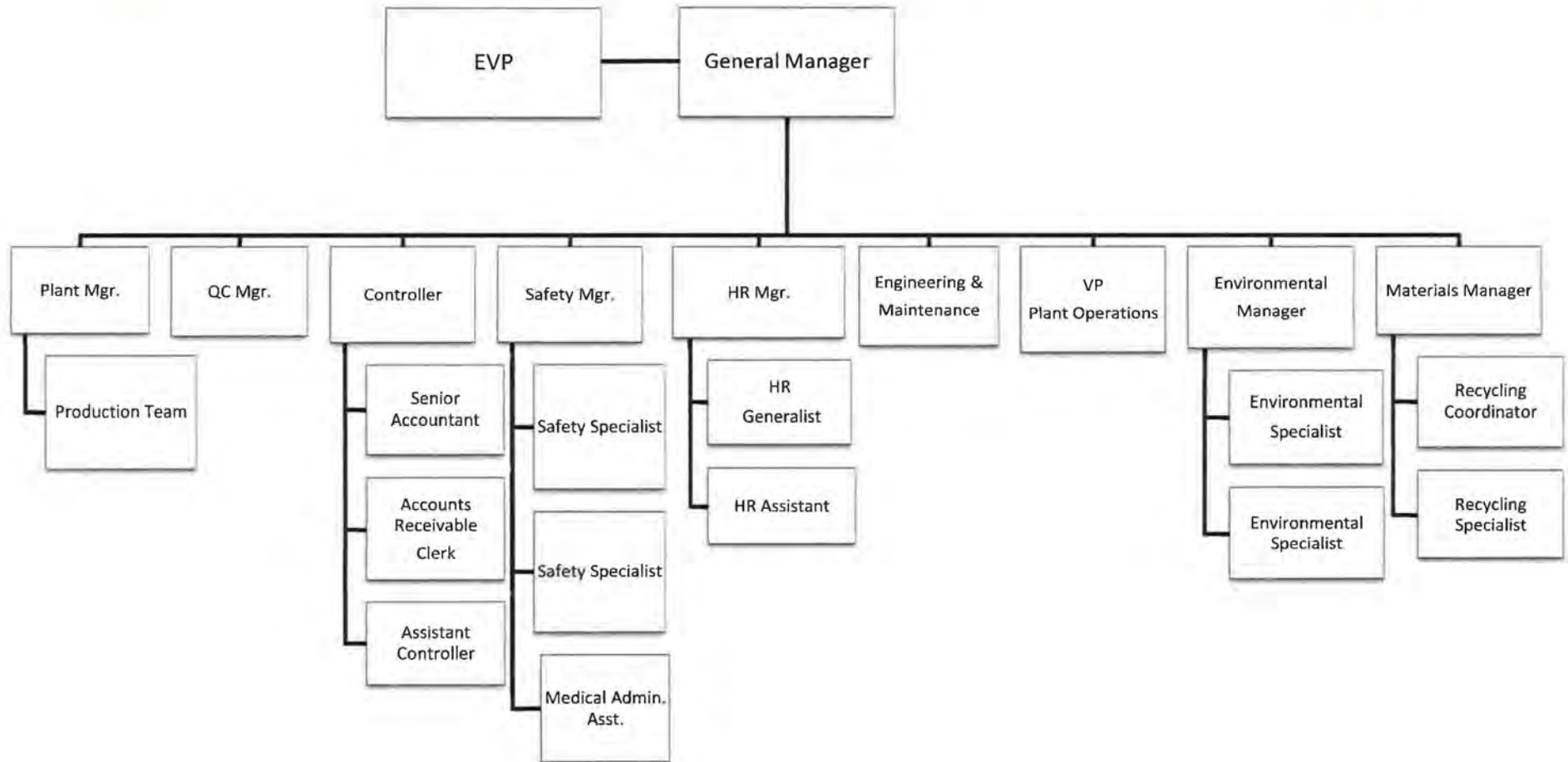
In the table below, list each Attachment # and provide the Page # and Section # (if applicable) of the EMP where the material is referenced.

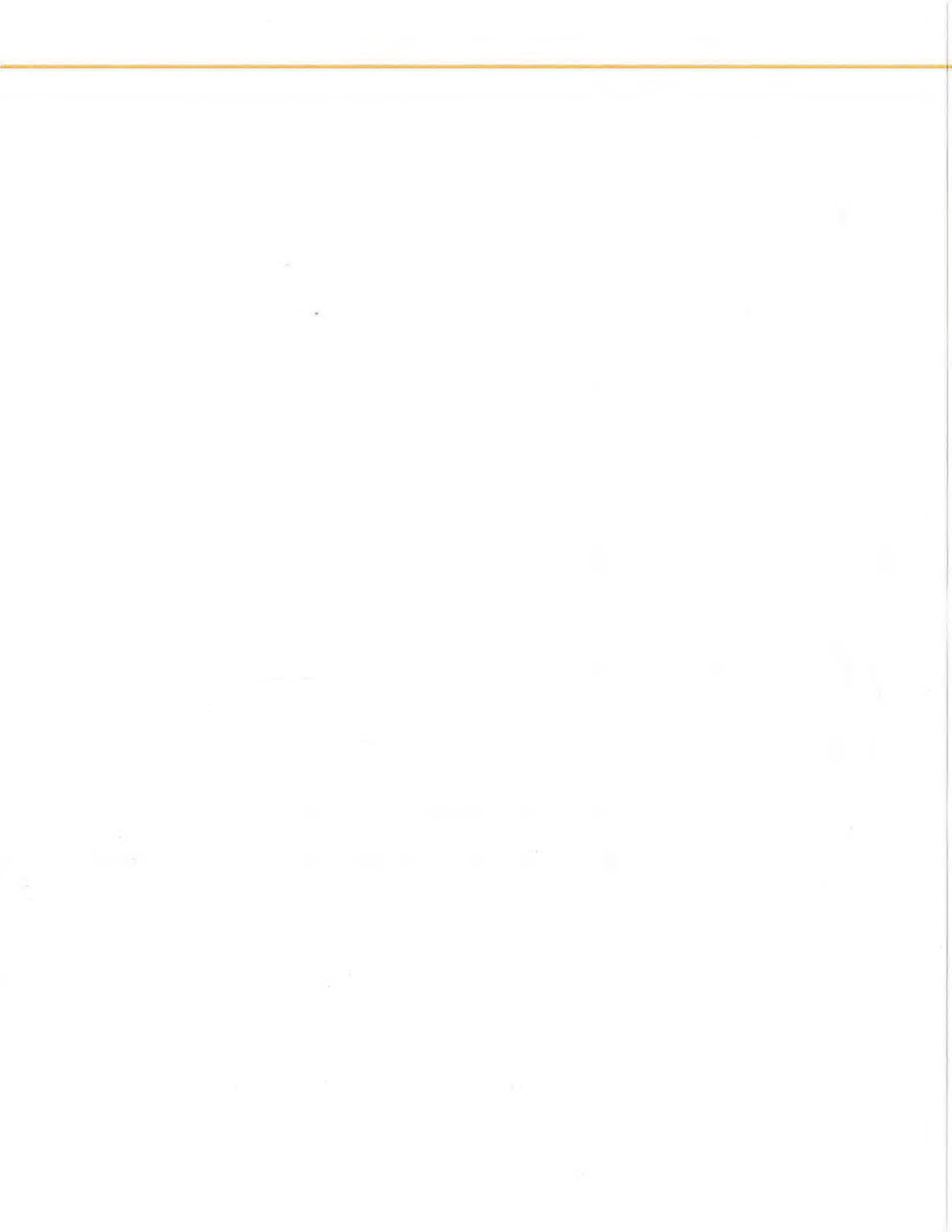
<b>Attachment #</b>	<b>Reference to Page # and Section # of EMP</b>
A. Organizational Chart	Page #8, Section # 403.1.3
B. Process Flow Diagram	Page #61, Section # 403.1
C. Facility Layout	Page #61, Section # 403.1
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
	Page # , Section #
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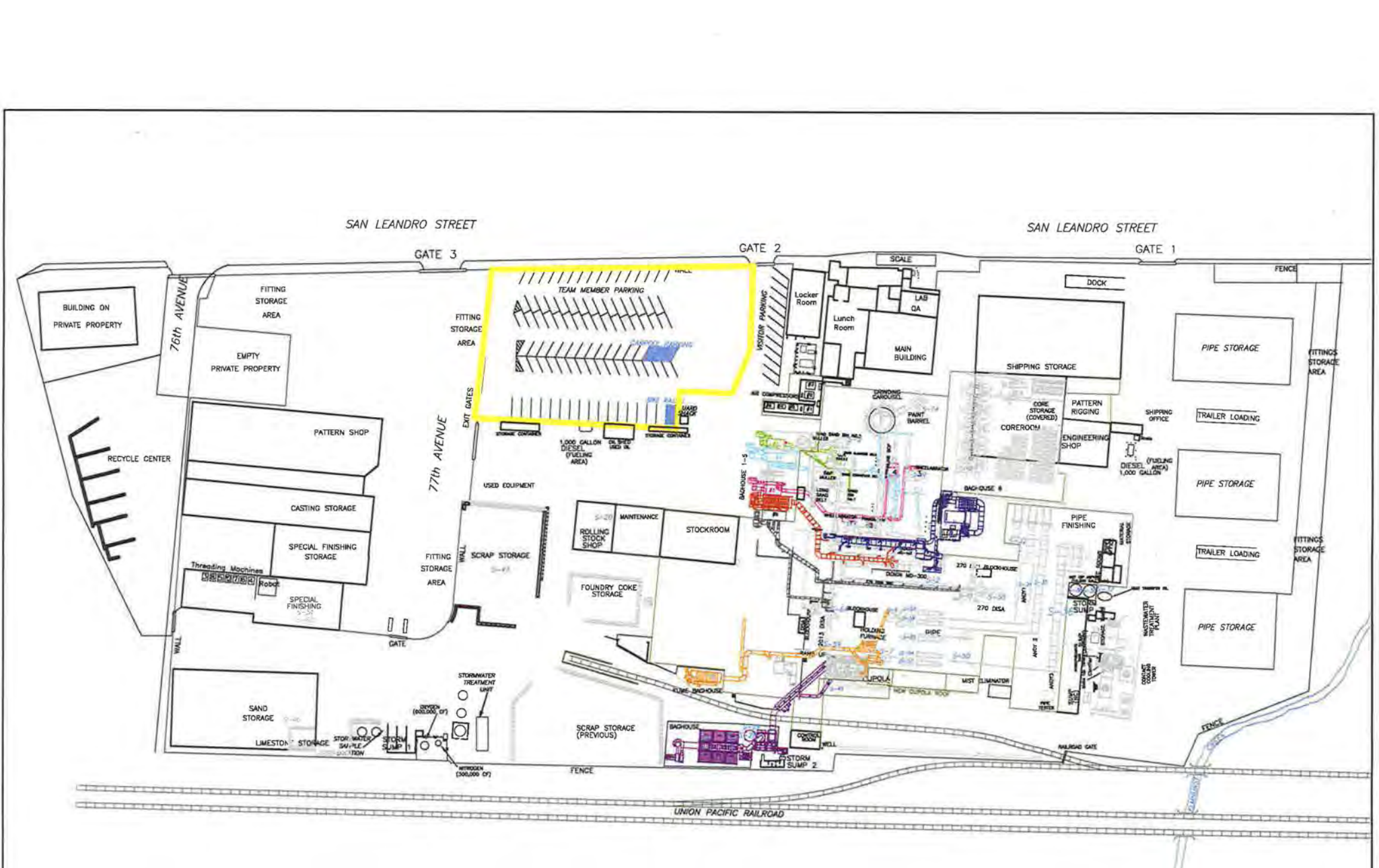


5/26/21

# Attachment A - AB&I Management Team Organization Chart




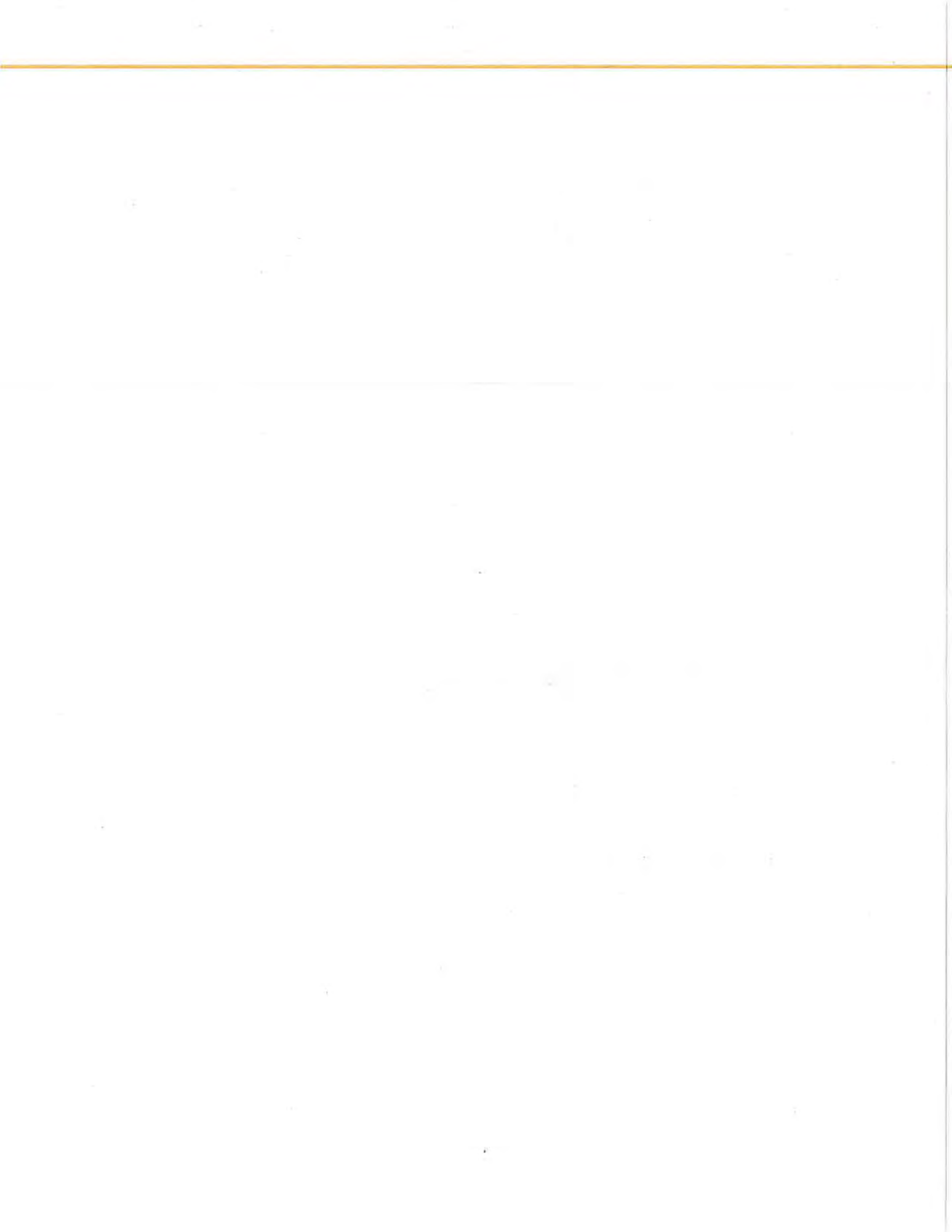




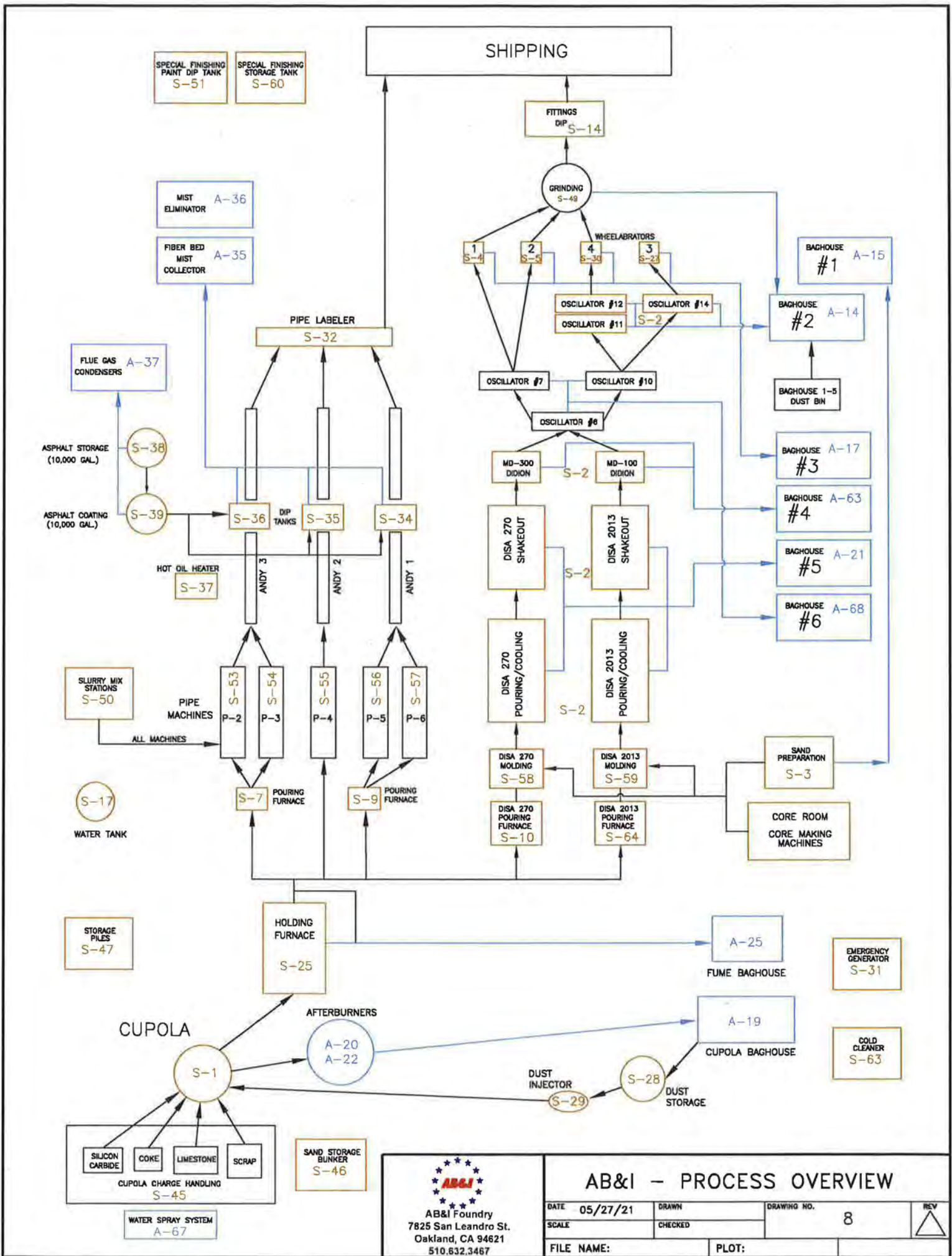
0 35 70  
APPROXIMATE SCALE (feet)



 <b>AB&amp;I Foundry</b> 7825 San Leandro St Oakland, CA 94621 510-632-3467	<b>FACILITY MAP</b>	
	DATE: 05/27/21	DRAWN: HAL
	SCALE: 1 Inch = 70 feet	CHECKED: MO
	FILE NAME: K:\Environmental\Site Map.dwg	







  
**AB&I Foundry**  
 7825 San Leandro St.  
 Oakland, CA 94621  
 510.632.3467

AB&I - PROCESS OVERVIEW			
DATE	05/27/21	DRAWN	DRAWING NO.
SCALE		CHECKED	8
FILE NAME:		PLOT:	

