

Section D. Process Information

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WASTE MANAGEMENT FACILITY

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TSDF Operating Permit Renewal Application

World Resources Company

D-1 Containers

The majority of incoming shipments to World Resources Company (WRC) are unloaded and processed within twenty four (24) hours of their delivery. In the event that containers must be stored for a period of time prior to processing, these containers are stored within the enclosed Containment Building as described in this section.

D-1a Containers with Free Liquids

D-1a(1) Description of Containers

Generators that ship material to WRC for recycling utilize many different types of containers. Generators select a container which is economical, easily used with their process, easily stored in the space available to the generator, and suitable to handle the waste generated.

Regulations and WRC policy require generators to use one of the suitable containers listed in 49 CFR § 173.241 (d) Intermediate Bulk Containers, 49 CFR § 178.504 Steel Drums or 49 CFR § 178.509 Plastic Drums. WRC's process allows for the handling of any of these different types of containers.

Container capacity and dimensions vary by generator due to variations in the container supplier used by each generator. All containers fall into either the intermediate bulk container or non-bulk container classification.

DOT container specification numbers include, but are not limited to, the following:

Table 1 - Containers - DOT Specification Numbers

Liquids or Solids	Composite	31HZ1 or 31HZ2
	Metal	31A, 31B, or 31N
	Rigid Plastic	31H1 or 31H2
	Steel Drums	1A1 or 1A2
	Plastic Drums	1H1 or 1H2
Solids Only	Composite	11HZ1, 11HZ2, 21HZ1 OR 21HZ2
	Fiberboard	11G
	Metal	11A, 11B, 11N, 21A, 21B or 21N
	Rigid Plastic	11H1, 11H2, 21H1 or 21H2

D-1a(2) Container Management Practices

Containers holding waste received from generators are kept closed during storage until such time as the waste is to be removed from the container and placed into process. Containers are not opened, handled or stored in a manner which may rupture the container or cause it to leak. Any labels, markings or placards affixed to the container by the generator are left in place until the contents of the container is placed into process.

Intermediate bulk containers will be arranged in single rows with adequate space maintained between containers in an individual row to allow for proper inspection and remedial actions. Individual rows will be maintained at heights of less than nine feet.

Drums will be arranged four drums to a pallet in single pallet wide rows with adequate space maintained between pallets in an individual row to allow for proper inspection and remedial actions. Individual rows will be maintained at heights of less than nine feet.

The configuration of stored containers will maintain at least a three foot wide aisle space between each row of intermediate bulk containers or pallets of drums.

D-1a(3) Secondary Containment System Design and Operation

All containers are stored within the enclosed Containment Building. Containment Building design and specifications, including containment capacity, is detailed in section D-10 below.

The enclosed facility containment building prevents run-on from external meteorological events from coming into contact with the containers. Containers will be maintained on the pallets used for transport which minimizes the potential for contact with liquids in the containment. Any liquid material which may result from spills or leaks would be immediately removed by the use of a wet/dry vacuum or absorbent material. Any liquids collected would be entered into the facility hydrometallurgical process for recycling. Any solid absorbent material collected would be entered into the recycling process.

D-1b Containers without Free Liquids**D-1b(1) Test for Free Liquids**

Procedures used for testing for free liquids are described in the facility Waste Analysis Plan. Reference Section C of this application.

All containers will be stored and handled in accordance with the procedures utilized for containers with free liquids described in described in section D-1a above.

D-1b(2) Description of Containers

See section D-1a(1) above

D-1b(3) Container Management Practices

All containers will be stored and handled in accordance with the procedures utilized for containers with free liquids described in described in section D-1a above.

D-1b(4) Container Storage Area Drainage

All containers will be stored and handled in accordance with the procedures utilized for containers with free liquids described in described in section D-1a above.

D-1b(5) Weighing or Measuring Facilities

World Resources Company utilizes two large capacity 4' x 4' platform model floor scales to determine the weight of individual incoming containers. These scales are each equipped with digital readout displays and printers. The scales are tested regularly using a known weight, calibrated quarterly by a manufacturer representative and certified by the Department of Agriculture Bureau of Standard Weights and Measures.

D-2 Tank Systems**D-2a Tank System Descriptions**

The Hydrometallurgical Process System consists of aboveground storage tanks all of which are located within the enclosed Containment Building. Reference Attachment 1 of this section, Facility Floorplan, for location and orientation of each tank.

D-2a(1) Dimensions and Capacity of Each Tank

Reference Attachment 2 of this section, Tank Dimensions and Capacity, for a description of each tank.

D-2a(2) Description of Feed Systems, Safety Cutoff, Bypass Systems and Pressure Controls

The Hydrometallurgical Process System is maintained and operated as a flow through batch process system within the facility Containment Building. The Hydrometallurgical Process utilizes a manual feed system with no automated addition of liquids to the process tanks. Tanks are sized to adequately contain the initial liquid volume entered into the process. As the liquids are processed on a batch basis the potential for overflowing during progression through the process is eliminated. All tanks are equipped with an audible and visual high level alarm to further mitigate this potential. No pressurized tanks are utilized as part of the process.

Reference Attachment 2 of this section, Tank Dimensions and Capacity and Attachment 3 of this section, Hydrometallurgical Process Diagram

D-2a(3) Diagram of Piping, Instrumentation and Process Flow

Reference Attachment 3 of this section, Hydrometallurgical Process Diagram.

D-2a(4) Ignitable, Reactive and Incompatible Wastes

WRC does not accept into the facility any wastes which demonstrate the potential to be ignitable, reactive or incompatible with facility equipment or processes.

Reference Waste Analysis Plan included as Attachment 1 of Section C.

D-2b Existing Tank Systems**D-2b(1) Assessment of Existing Tank System Integrity**

The Hydrometallurgical Process System is maintained and operated within the facility Containment Building and is provided with secondary containment meeting the requirements of 40 CFR§264.193 as described in section D-2d below.

This section is not applicable to WRC operations.

D-2c New Tank Systems

The Hydrometallurgical Process System utilized by WRC has been constructed, maintained and in operation since 1983 and was included as part of TSDF Operating Permit # PAD981038227 issued by the Pennsylvania Department of Environmental Protection (PADEP) on October 1, 2001.

This section is not applicable to WRC operations.

D-2d Containment and Detection of Releases**D-2d(1) Plans and Descriptions of the Design, Construction and Operation of the Secondary Containment System****D-2d(1)(a) Tank Age Determination**

The Hydrometallurgical Process System utilized by WRC has been constructed, maintained and in operation since 1983, all tanks maintained as part of the system have surpassed 15 years in age. Secondary containment is provided for all tanks maintained at the facility.

D-2d(1)(b) Requirements for Secondary Containment and Leak Detection

Secondary containment systems are designed, installed and operated to prevent any migration of liquids to the soil, groundwater or surface water at any time during the use of the Hydrometallurgical Process System. Containment areas are inspected at least daily during system operation and any collected liquid will be removed immediately upon detection.

Containment for the facility is designed to provide not only secondary containment but in most instances tertiary and even quaternary containment. Secondary containment is constructed and maintained which fully incorporates all tanks maintained at the facility. The secondary

containment areas are each constructed by outlining the specific area with a masonry or cement wall of sufficient height to provide the required volume for the largest tank in the area. The contained area is then lined with a chemically resistant membrane (Seaman's XR-5 geomembrane or fiber reinforced epoxy). The sub-base for the containment areas is the facility Containment Building's sealed concrete floor.

D-2d(1)(c) Requirements for External Liner, Vault, Double Walled Tank or Equivalent Device

All tanks are located within the enclosed Containment Building of the facility and therefore are not subject to rain water run-on, ground water infiltration, or wind caused wave actions.

Each containment area has been designed to hold more than the capacity of the largest tank within that area.

Reference Attachment 4 of this section, Facility Containment Capacity

D-2d(1)(d) Secondary Containment and Leak Detection Requirements for Ancillary Equipment

All ancillary equipment and piping associated with the Hydrometallurgical Process System is maintained within the secondary containment and/or the facility Containment Building. This configuration provides complete containment for all portions of the system.

D-2d(1)(e) Containment Building Used as Secondary Containment for Tank System

The facility Containment Building is designed and constructed to meet the requirements of 40 CFR §264.1101(b)(3)(iii) and is utilized as tertiary containment for the Hydrometallurgical Process System.

Reference Section D-10.

D-2d(2) Requirements for Tank Systems until Secondary Containment is Implemented

WRC maintains secondary containment for the Hydrometallurgical Process System tanks.

This section is not applicable to WRC operations.

D-2d(3) Variance from Secondary Containment Requirements

WRC maintains secondary containment for the Hydrometallurgical Process System tanks and is not seeking a variance from these requirements.

This section is not applicable to WRC operations.

D-2e Controls and Practices to Prevent Spills and Overflows

See Section D-2(a)(2) above.

WRC has instituted and maintains inspections of the Hydrometallurgical Process System. A full description of these inspections are provided in section F-2(b)(2) of this application and the facility Inspection Report is included as Attachment 1 of Section F.

D-3 Waste Piles

WRC operates within an enclosed Containment Building and does not maintain or operate any Waste Piles at the facility. This section is not applicable to WRC operations.

D-4 Surface Impoundments

WRC operates within an enclosed Containment Building and does not maintain or operate any Surface Impoundments at the facility. This section is not applicable to WRC operations.

D-5 Incinerators

WRC operates within an enclosed Containment Building and does not maintain or operate any Incinerators at the facility. This section is not applicable to WRC operations.

D-6 Landfills

WRC operates within an enclosed Containment Building and does not maintain or operate any Landfills at the facility. This section is not applicable to WRC operations.

D-7 Land Treatment

WRC operates within an enclosed Containment Building and does not conduct any Land Treatment operations at the facility. This section is not applicable to WRC operations.

D-8 Miscellaneous Units

WRC operates within an enclosed Containment Building and does not maintain or operate any Miscellaneous Units at the facility. This section is not applicable to WRC operations.

D-9 Boilers and Industrial Furnaces

WRC operates within an enclosed Containment Building and does not maintain or operate any Boilers or Industrial Furnaces at the facility. This section is not applicable to WRC operations.

D-10 Containment Building

The Containment Building utilized by WRC encompasses all aspects of the facility process. This arrangement provides for excellent mitigation of the effects of most external factors on the recycling process.

As described in this section, the Containment Building is utilized for the management of containers of recyclable material (reference section D-1) and as enclosure and tertiary containment for the Hydrometallurgical Process system and associated secondary containment systems (reference section D-2).

WRC also utilizes the facility Containment Building to house all stages of the physical treatment process. The Containment Building fully encloses the following process systems:

- Receiving, Inspection and Sampling Receptacle (1) used for the unloading of recyclable materials from shipping containers and the physical and analytical inspection and sampling described in the facility Waste Analysis Plan;
- Concentrating Units (2) used for the reduction of the moisture content of recyclable materials;
- Compounding Unit (1) used for the formulation and homogenization of concentrate products;
- Filter Presses (3) associated with the Hydrometallurgical Process System and
- Shredding/Size Reduction Unit (1) used for physical resizing of recyclable materials.

This configuration provides protection from meteorological events which may cause wind dispersion or run-off of recyclable materials and virtually eliminates the potential for migration of recyclable materials by external factors.

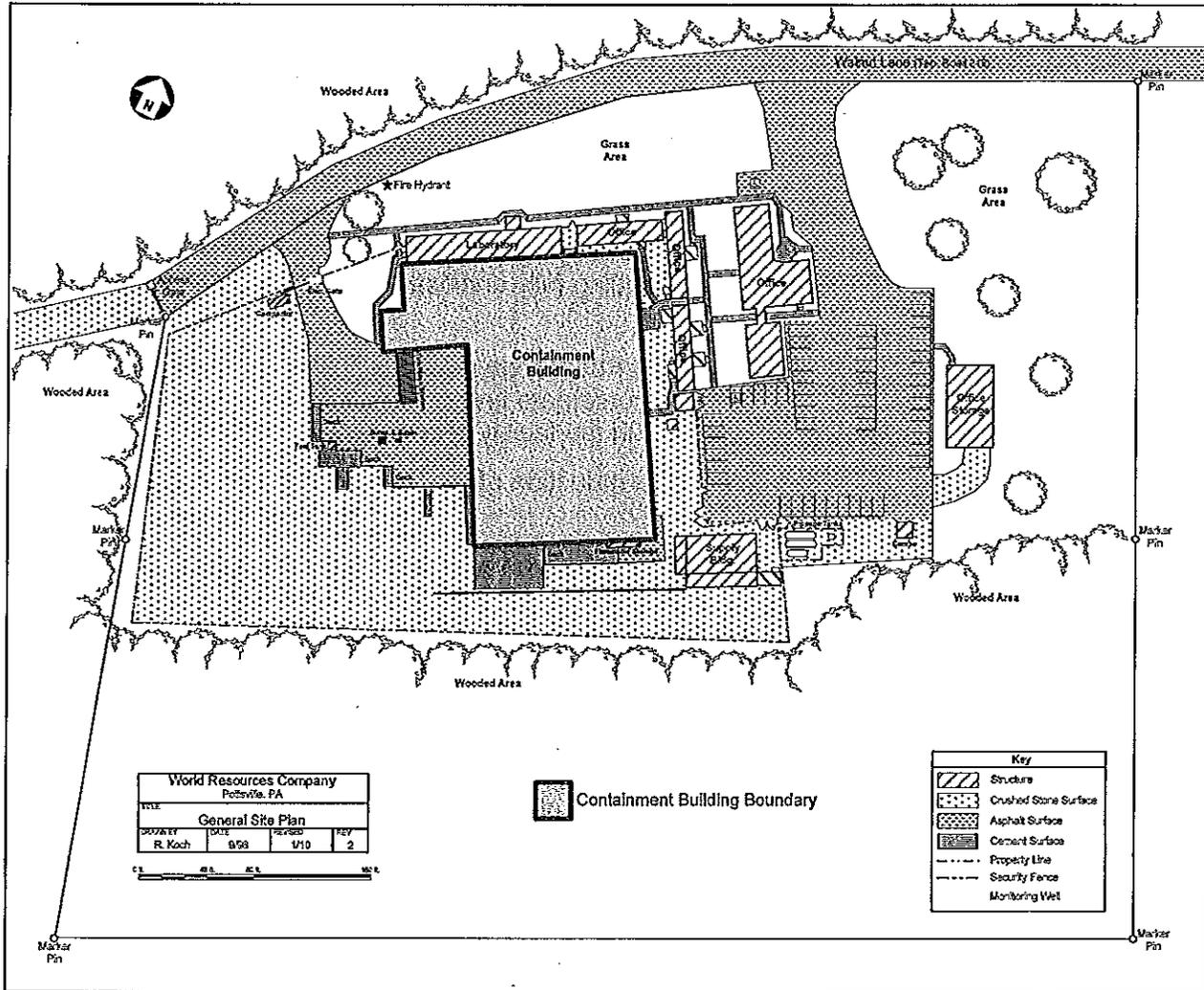
The containment building is also used to house the facility product staging and loading areas. This arrangement provides a weather free environment for the staging and loading of outgoing product shipments.

The boundary area is shown in Figure 3 - Containment Building Boundary below.

D-10a Containment Building Description

The facility Containment Building is a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls.

Figure 1 - Containment Building Boundary



D-10a(1) Construction

World Resources Company utilizes an approximately 24,900 sq. ft. Containment Building. This structure as it currently stands consists of four (4) interconnected stages of construction; the original structure purchased by World Resources Company in 1988, an addition to the southern end of the original structure in 1991 – 1992, a further addition to the south in 1996 – 1997 and an addition to the western end of the original structure in 2005.

All stages of the Containment Building are constructed of a structural steel frame with beams and columns, 1½" metal siding, steel bar joist roof structure with metal

decking and a rubber roof membrane. The structure is supported by a reinforced concrete foundation and spread footings. The underlying floor is constructed of reinforced concrete approximately 6" thick.

The structure of each stage of construction has been reviewed and verified to meet the requirements of Subpart DD – Containment Buildings.

Reference Attachment 5 of this section, Containment Building Certifications.

D-10a(2) Strength Requirements

The structure of each stage of construction has been reviewed and verified to meet the requirements of Subpart DD – Containment Buildings.

Reference Attachment 5 of this section, Containment Building Certifications.

D-10a(3) Design Requirements for Units Not Managing Liquids

WRC utilizes the Hydrometallurgical Process System for the management and treatment of liquid recyclable materials and process wastewaters. This system is located within the facility Containment Building and is provided with dedicated secondary containment. The Containment Building acts a tertiary containment for this area. Reference Section D-2 above.

The remaining facility areas and process systems are used for the management and treatment of wastes which do not contain free liquids. The determination of the presence of free liquids is made in accordance with the procedures listed in the facility Waste Analysis Plan (reference Section C, Attachment 1).

D-10a(3)(a) Primary Barrier

WRC utilizes the facility's structurally sound, eight (8) to twelve (12) inch thick (dependant on intended usage) reinforced concrete floor as the primary containment barrier. The facility floor is maintained free of cracks and gaps through routine maintenance and sealed to prevent migration of recyclable materials into the barrier.

The Containment Building encloses the facility Receiving, Inspection, and Sampling Receptacles (RISR). The RISR utilizes a 3" to 4" layer of high strength fiber reinforced concrete as the primary containment barrier. This area also employs a secondary containment system which incorporates a triple geomembrane liner system and leak detection.

Reference Attachment 6 of this section, RISR Design Cross Section.

D-10a(4) Design Requirements for Units Managing Liquids

A portion of the Containment Building is used to house the facility Hydrometallurgical Processing System. The Hydrometallurgical Processing System is completely enclosed within the Containment Building and is equipped with a dedicated secondary containment system. A more detailed description of the Hydrometallurgical Processing System is provided in Section D-2 above.

D-10a(4)(a) Primary Barrier

The Hydrometallurgical Process Area utilized the tank system as the primary containment barrier. This area of the facility also employs a bermed and lined secondary containment system for the collection of any released liquids. Further description of the Hydrometallurgical Process Area tank system is provided in Section D-2 above.

D-10a(4)(b) Liquid Collection System

WRC's Hydrometallurgical Process System secondary containment contains four collection sumps and pumps for the collection and removal of liquids which may enter the secondary containment area. Reference Figure 6 - Sump Location Plan below.

D-10a(4)(c) Secondary Containment System

The Hydrometallurgical Processing System is completely enclosed within the Containment Building and is equipped with a dedicated secondary containment system. A more detailed description of the Hydrometallurgical Processing System is provided in Section D-2 above.

D-10a(4)(d) Temporary Variance from Secondary Containment Requirements

WRC maintains secondary containment for the Hydrometallurgical Process System tanks and is not seeking a variance from these requirements.

This section is not applicable to WRC operations.

D-10a(4)(e) Waiver of Secondary Containment Requirements

WRC maintains secondary containment for the Hydrometallurgical Process System tanks and is not seeking a waiver from these requirements.

This section is not applicable to WRC operations.

D-10a(5) Design of Units Managing Both Liquids and Non-Liquids in the Same Unit

All areas of the Containment Building are designed, operated and maintained to act as either secondary or tertiary containment for the Hydrometallurgical Process System. Reference Section D-2 above.

D-10a(6) Compatibility of Structure with Wastes

World Resources Company determines the process compatibility of all shipments of recyclable material received. Incompatible materials are not accepted. A complete description of WRC's acceptance criteria can be found in the Waste Analysis Plan, included as Attachment 1 of Section C.

D-10a(7) Fugitive Dust Emissions

WRC utilizes two methods of controlling fugitive particulate emissions: The facility particulate collection systems and facility housekeeping.

WRC utilizes particulate collection technologies as part of all of the physical processing systems. Concentrating unit discharges, compounding units, and the RISR all have particulate collection systems in place to control fugitive emissions. (Reference Attachment 1 of this section, Facility Floorplan) Any particulate collected by these units is returned to the recycling process.

WRC also employs Building and Grounds Maintenance staff responsible for maintaining the cleanliness and housekeeping of the facility. Through the use of the facility central vacuum units, sweepers, and floor scrubbers this staff can control the dispersion of particulate through the facility which in turn controls the potential for fugitive emissions.

D-10a(8) Structural Integrity Requirements

The structure of each stage of construction has been reviewed and verified to meet the requirements of Subpart DD – Containment Buildings.

Reference Attachment 2 of this section, Containment Building Certifications.

D-10a(9) Certification of Design

The stage of construction has been reviewed by a professional engineer registered in the State of Pennsylvania and verified to meet the requirements of Subpart DD – Containment Buildings.

Reference Attachment 2 of this section, Containment Building Certifications.

D-10b Containment Building Operations

All facility operations within the Containment building are conducted in accordance with the Operations Flowsheet provided in Attachment 7 of this section.

D-10b(1) Primary Barrier Integrity

WRC maintains a rigorous inspection and maintenance program designed to insure proper operation of facility equipment and safety features and to assure the facility is structurally sound with no sources of potential fugitive emissions of recyclable hazardous materials. A detailed description of WRC's inspection and monitoring program is provided in Section F of this application.

D-10b(2) Volume of Waste

Materials to be recycled which are received into WRC's facility and placed onto the Receiving, Inspection, and Sampling Receptacles (RISR) are carefully scheduled to assure there is adequate time for processing. Each shipment of material is completely transferred into the next stage of the recycling process before the next shipment of material is unloaded onto the RISRs. The containment walls and pad are designed to easily contain the volume of the largest single shipment capable of being transported to the facility.

D-10b(3) Tracking of Waste Out of Unit

WRC employs strict decontamination procedures to prevent the tracking of recyclable materials outside on the Containment Building and associated containment areas. Any equipment, including mobile equipment and transport vehicles, entering the containment areas is thoroughly decontaminated using high pressure water spray prior to exiting the containment area.

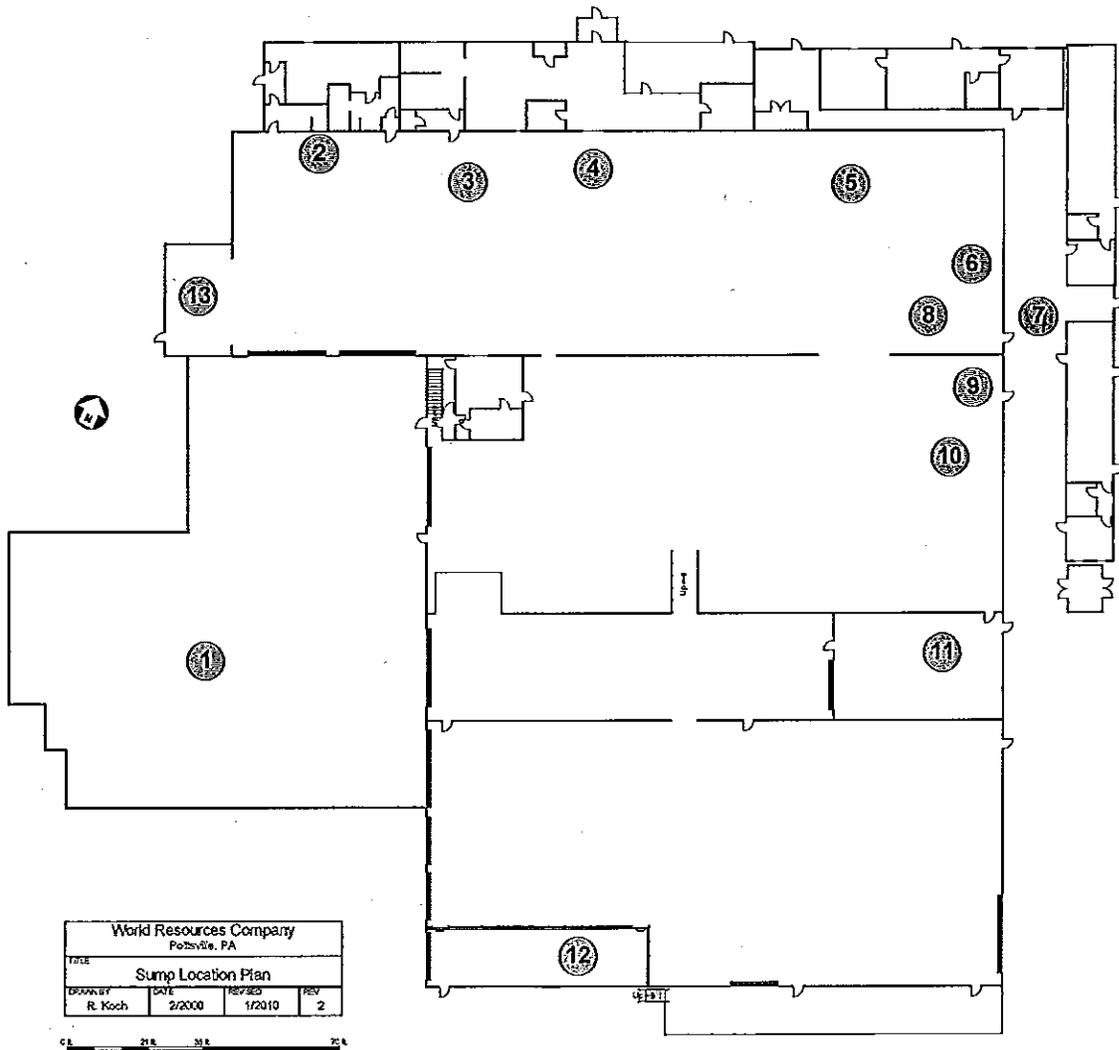
D-10b(4) Liquids Removal

WRC's Hydrometallurgical Process System secondary containment contains four geomembrane lined collection sumps and pumps for the collection and removal of liquids which may enter the secondary containment area. The facility is also equipped with nine additional geomembrane lined sumps and pumps located throughout the facility for the collection of any liquids which may be present. All liquids collected are processed in the Hydrometallurgical Process System. Reference Figure 2 - Sump Location Plan below.

D-10b(5) Management of Incompatible Waste

World Resources Company determines the process compatibility of all shipments of recyclable material received. Incompatible materials are not accepted. A complete description of WRC's acceptance criteria can be found in the Waste Analysis Plan, included as Attachment 1 of Section C.

Figure 2 - Sump Location Plan



World Resources Company Pottsville, PA			
TITLE Sump Location Plan			
DESIGNED BY R. Koch	DATE 2/2000	REVISED 1/2010	REV 2

0 5 10 20 30 40

D-10b(6) Management of Liquids and Non-liquids in the Same Unit

All areas of the Containment Building are designed, operated and maintained to act as either secondary or tertiary containment for the Hydrometallurgical Process System. Reference Section D-2 above.

D-10b(7) Fugitive Dust Emissions

Reference Section D-10a(7) above.

D-10b(8) Treatment of Wastes

All liquid recyclable materials are handled in the tanks associated with the Hydrometallurgical Process System. Reference Section D-2 above.

D-10b(9) Equipment Decontamination

WRC maintains a tire wash station located adjacent to the RISR. This station is constructed of a steel grate overlying a drainage trough. The station has an integrated high pressure, hot water washer to provide sufficient volumes of pressurized spray for the decontamination of vehicles and equipment which may have come into contact with recyclable hazardous material.

All decontamination rinsate drains into a sump located in the external containment area of the facility. This sump transports the liquids into the facility hydrometallurgical processing area for recycling.

D-10c Containment Building as Tank Secondary Containment

The facility Containment Building is designed and constructed to meet the requirements of 40 CFR §264.1101(b)(3)(iii) and is utilized as tertiary containment for the Hydrometallurgical Process System.

Reference Section D-2.

D-11 Drip Pads

WRC operates within an enclosed Containment Building and does not maintain or operate any Drip Pads at the facility. This section is not applicable to WRC operations.

Attachments

Attachment 1 – Facility Floorplan

CONFIDENTIAL BUSINESS INFORMATION

Attachments

Attachment 2 – Tank Dimensions and Capacity

CONFIDENTIAL BUSINESS INFORMATION

Attachments

**Attachment 3 – Hydrometallurgical Process
Diagram**

CONFIDENTIAL BUSINESS INFORMATION

Attachments

Attachment 4 – Facility Containment Capacity

CONFIDENTIAL BUSINESS INFORMATION

Attachments

**Attachment 5 – Containment Building
Certifications**

6 Laurel Boulevard, Pottsville, PA 17901

FAX (570) 628-4445

February 15, 1999

Mr. Ray Koch
World Resources Company
Walnut Lane
R.D. #5, Box 5553
Pottsville, PA 17901

Re: World Resources Company
Certification of Containment Building Structure

Dear Ray:

World Resources Company utilizes an approximately 24,500 sq. ft. containment building structure for their recycling process. This structure, as it currently stands, consists of three interconnected stages of construction: the original structure purchased by World Resources Company in 1988 which currently houses the facility processing areas; an addition to the southern end of the original structure in 1991-1992, (construction observed by this office), which currently houses the facility thaw shed, maintenance area and boiler room; and a further addition to the south in 1996-1997, (construction observed by this office), which currently houses the facility product staging and loading area. (Reference Attachment 1)

Processing Area (Original Structure)

The Processing Area of the facility is constructed of a structural steel frame with beams and columns, 1½" metal siding, steel bar joist roof structure with metal decking and a rubber roof membrane. Design plans indicate a reinforced concrete foundation and spread footings.

The floor is constructed of reinforced concrete approximately 6" thick; the floor is structurally sound.

The structure meets the requirements of Subpart DD - Containment Buildings, Section 264.1101 Design and Operating Standards, Paragraphs (a) through (c), as set forth by federal regulation. (Reference Attachment 2)

Thaw Shed and Boiler Room (First Addition)

The Thaw Shed and Boiler Room area of the facility is constructed of a structural steel frame with beams and columns, 1½" metal siding, structural steel framed roof with metal decking and a rubber roof membrane. The foundation is a reinforced concrete foundation with spread footings.

Mr. Ray Koch
Certification of Containment Building Structure
February 15, 1999
Page 2.

The floor is constructed of concrete 6" thick, reinforced with welded wire mesh.

This structure meets the requirements of Subpart DD - Containment Buildings, Section 264.1101 Design and Operating Standards, Paragraphs (a) through (c), as set forth by federal regulation. (Reference Attachment 2)

Product Staging and Loading Area (Second Addition)

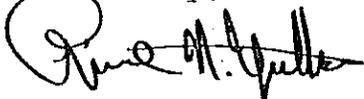
This area of the facility was constructed under the observation of this office. A previously prepared statement on the compliance of this structure with the requirements of Subpart DD - Containment Buildings, Section 264.1101 Design and Operating Standards, Paragraphs (a) through (c), as set forth by federal regulation is included as Attachment 3. This structure was designed and built in accordance with these regulations.

World Resources Company Recycling Facility

The World Resources Company Recycling Facility as a whole, as it currently stands, meets the requirements of Subpart DD - Containment Buildings, Section 264.1101 Design and Operating Standards, Paragraphs (a) through (c), as set forth by federal regulation. (Reference Attachment 2)

If you have any questions or comments, please feel free to call our office.

Sincerely,



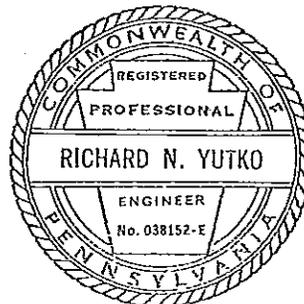
Richard N. Yutko, P.E.

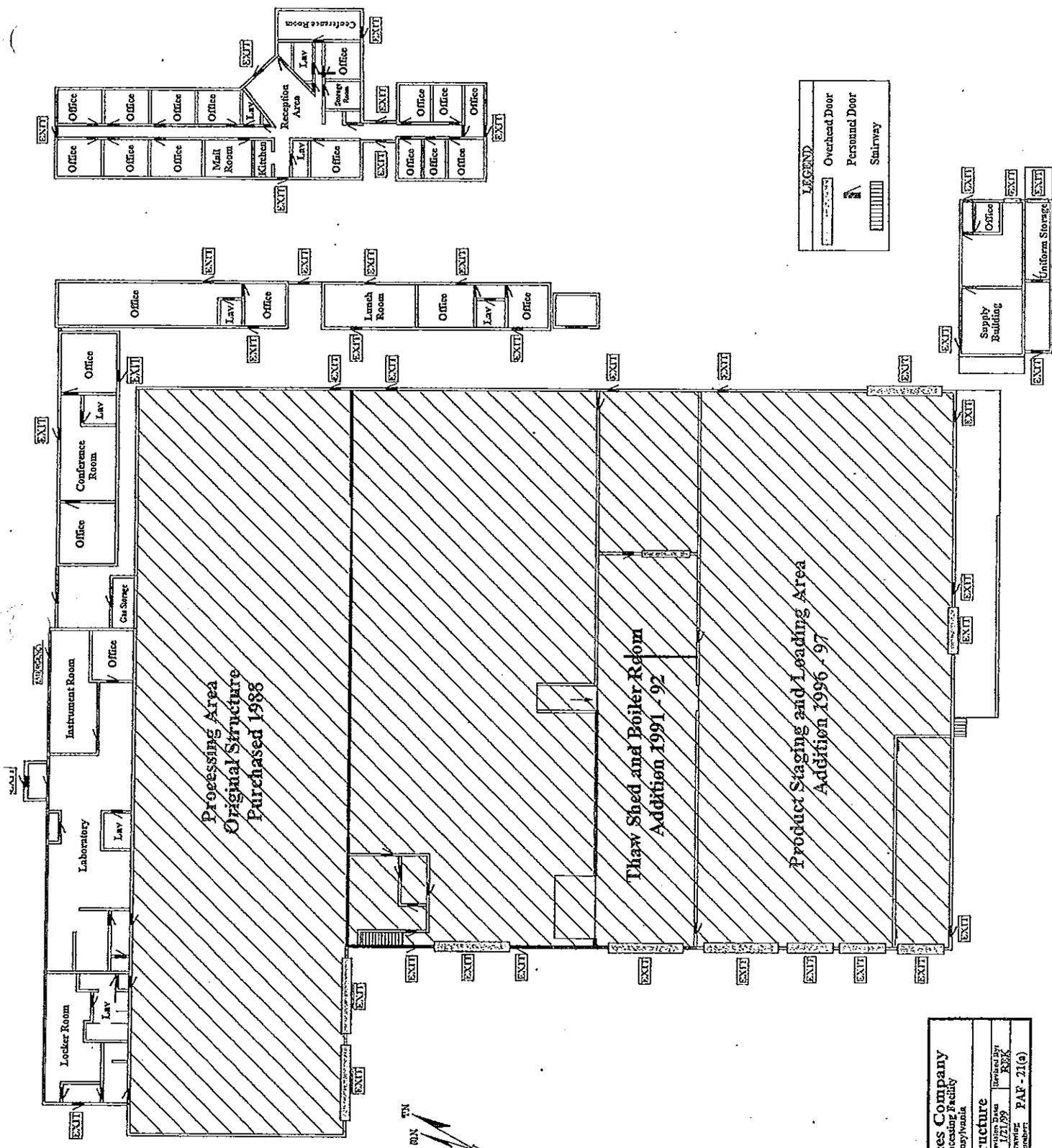
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Enclosures

cc: 95104-5

(Reference WRC P.O. 7614)



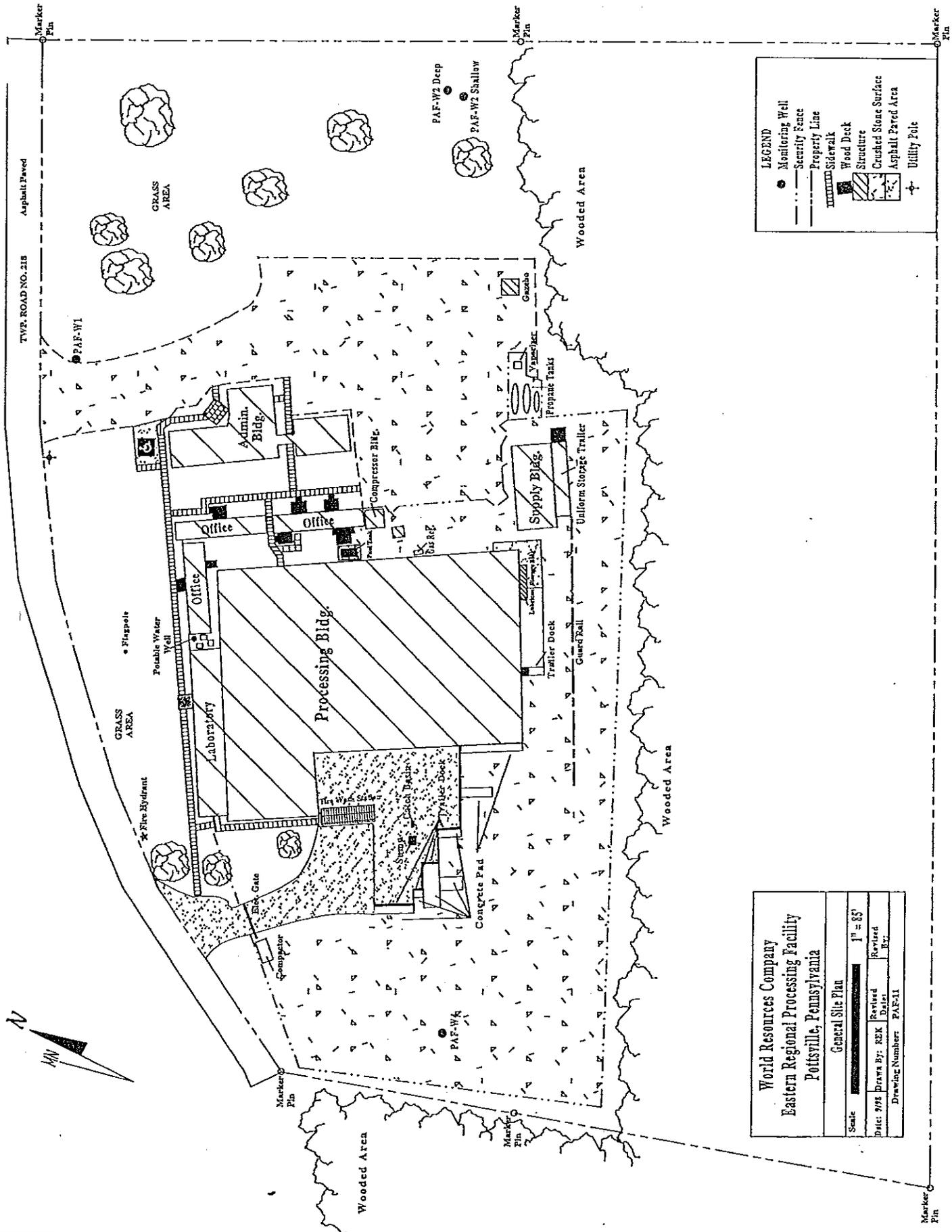


LEGEND

- Overhead Door
- Personnel Door
- Stairway



World Resources Company			
Eastern Regional Processing Facility			
Pottsville, Pennsylvania			
Facility Structure			
SCALE: 1 in. = 35 ft.	Issued By:	RJK	
Date: 3/87	Drawn By:	RJK	
	Checked By:	PAF - 21(6)	
	Designed By:	URS&C	
	Number:	None	



LEGEND

- Monitoring Well
- - - Security Fence
- - - Property Line
- ▬ Sidewalk
- ▨ Wood Deck
- ▧ Structure
- ▩ Crushed Stone Surface
- ▧ Asphalt Paved Area
- ⊕ Utility Pole

World Resources Company	
Eastern Regional Processing Facility	
Pottsville, Pennsylvania	
General Site Plan	
Scale	1" = 85'
Drawn By: REX	Revised
Dated	By
Drawing Number: PAF-11	

§ 264.1101 Design and () ting stand-

earlier time. The owner of operator is not subject to the definition of land disposal in RCRA section 3004(k) provided that the unit:

(a) Is a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls;

(1) The containment building must be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.

(b) Has a primary barrier that is designed to be sufficiently durable to withstand the movement of personnel, wastes, and handling equipment within the unit;

(c) The owner or operator shall record the following information in the operating record in accordance with the requirements of § 264.1089(a)(1) and (a)(11) of this subpart:

(2) The floor and containment walls of the unit, including the secondary containment system if required under paragraph (b) of this section, must be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls.

(c) If the unit is used to manage liquids, has:

(1) For a tank equipped with a fixed roof and internal floating roof in accordance with the requirements of paragraph (a)(1) of this section, the owner or operator shall perform the inspection and monitoring requirements specified in 40 CFR 265.1091(b)(1).

(3) The floor and containment walls of the unit, including the secondary containment system if required under paragraph (b) of this section, must be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls.

(2) A liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier; and

(2) For a tank equipped with an external floating roof in accordance with the requirements of paragraph (a)(1) of this section, the owner or operator shall record the information listed in 40 CFR 265.1091(c)(1).

(4) The containment building must be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.

(3) A secondary containment system designed and constructed of materials to prevent migration of hazardous constituents into the barrier, with a leak detection and liquid collection system capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time, unless the unit has been granted a variance from the secondary containment system requirements under § 264.1101(b)(4);

(2) For a tank equipped with an external floating roof in accordance with the requirements of paragraph (a)(1) of this section, the owner or operator shall record the information listed in 40 CFR 265.1091(c)(2).

§ 264.1100 Applicability.

The requirements of this subpart apply to owners or operators who store or treat hazardous waste in units designed and operated under § 264.1101 of this subpart. These provisions will become effective on February 18, 1993, although owner or operator may notify the Regional Administrator of his intent to be bound by this subpart at an

§ 264.1091 Alternative control requirements for tanks.

(1) This section applies to owners and operators of tanks electing to comply with § 264.1084(h)(2) or § 264.1084(h)(3) of this subpart.

(a) This section applies to owners and operators of tanks electing to comply with § 264.1084(h)(2) or § 264.1084(h)(3) of this subpart.

(1) The owner or operator electing to comply with § 264.1084(b)(2) of this subpart shall design, install, operate, and maintain a fixed roof and internal floating roof that meet the requirements specified in 40 CFR 265.1091(a)(1)(i) through (a)(1)(ix).

(2) The floor and containment walls of the unit, including the secondary containment system if required under paragraph (b) of this section, must be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls.

(1) The owner or operator shall record the following information in the operating record in accordance with the requirements of § 264.1089(a)(1) and (a)(11) of this subpart:

(1) The owner or operator shall record the following information in the operating record in accordance with the requirements of § 264.1089(a)(1) and (a)(11) of this subpart:

ment sys... If they could cause the unit or secondary containment system to leak, corrode, or otherwise fail.

(4) A containment building must have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the unit during the operating life of the unit and appropriate for the physical and chemical characteristics of the waste to be managed.

(b) For a containment building used to manage hazardous wastes containing free liquids or treated with free liquids (the presence of which is determined by the paint filter test, a visual examination, or other appropriate means), the owner or operator must include:

(1) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier (e.g., a geomembrane covered by a concrete wear surface).

(2) A liquid collection and removal system to minimize the accumulation of liquid on the primary barrier of the containment building:

(i) The primary barrier must be sloped to drain liquids to the associated collection system; and

(ii) Liquids and waste must be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time.

(3) A secondary containment system including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that is capable of detecting failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

(i) The requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum:

(A) Constructed with a bottom slope of 1 percent or more; and

(B) Constructed of a granular drainage material with a hydraulic conductivity of 1×10^{-3} cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-3} m²/sec or more.

(1) Respond to any comments from the Regional Administrator on these plans within 30 days; and

(iii) Fulfill the terms of the revised plans, if such plans are approved by the Regional Administrator.

(c) Owners or operators of all containment buildings must:

(1) Use controls and practices to ensure containment of the hazardous waste within the unit; and, at a minimum:

(i) Maintain the primary barrier to be free of significant cracks, gaps, corrosion...

(ii) If treatment is to be conducted in the building, an area in which such treatment will be conducted must be designed to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.

(iii) The secondary containment system must be constructed of materials that are chemically resistant to the waste and liquids managed in the containment building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlying materials and by any equipment used in the containment building.

(Containment buildings can serve as secondary containment systems for tanks placed within the building under certain conditions. A containment building can serve as an external liner system for a tank, provided it meets the requirements of §264.193(d)(1). In addition, the containment building must meet the requirements of §264.193(b) and §264.193(c)(1) and (2) to be considered an acceptable secondary containment system for a tank.)

(4) For existing units other than 90-day generator units, the Regional Administrator may delay the secondary containment requirement for up to two years, based on a demonstration by the owner or operator that the unit substantially meets the standards of this subpart. In making this demonstration, the owner or operator must:

(i) Provide written notice to the Regional Administrator of their request by November 16, 1992. This notification must describe the unit and its operating practices with specific reference to the performance of existing containment systems, and specific plans for retrofitting the unit with secondary containment;

(ii) Respond to any comments from the Regional Administrator on these plans within 30 days; and

(iii) Fulfill the terms of the revised plans, if such plans are approved by the Regional Administrator.

(3) Throughout the active life of the containment building, if the owner or operator detects a condition that could lead to or has caused a release of hazardous waste, must repair the condition promptly, in accordance with the following procedures.

(i) Upon detection of a condition that has lead to a release of hazardous waste...

(1) Obtain certification by a qualified registered professional engineer that the containment building design meets the requirements of paragraphs (a) through (c) of this section. For units placed into operation prior to February 18, 1993, this certification must be placed in the facility's operating record (on-site files for generators who are not formally required to have operating records) no later than 60 days after the date of initial operation of the unit. After February 18, 1993, PE certification will be required prior to operation of the unit.

colson. Of other deterioration that could cause hazardous waste to be released from the primary barrier.

(ii) Maintain the level of the stored/ treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded;

(iii) Take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area must be designated to decontaminate equipment and any rinseate must be collected and properly managed; and

(iv) Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions (see 40 CFR part 60, appendix A, Method 22—Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares). In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) must be operated and maintained with sound air pollution control practices (see 40 CFR part 60 subpart 292 for guidance). This state of no visible emissions must be maintained effectively at all times during routine operating and maintenance conditions, including when vehicles and personnel are entering and exiting the unit.

(ii) The Regional Administrator will review the information submitted, make a determination regarding whether the containment building must be removed from service completely or partially, until repairs and cleanup are complete, and notify the owner or operator of the determination and the underlying rationale in writing.

(iii) Upon completing all repairs and cleanup the owner or operator must notify the Regional Administrator in writing and provide a verification, signed by a qualified, registered professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with paragraph (c)(3)(i)(D) of this section.

(4) Inspect and record in the facility's operating record, at least once every seven days, data gathered from monitoring equipment and leak detection equipment as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

(d) For containment buildings that contain areas both with and without secondary containment, the owner or operator must:

(1) Design and operate each area in accordance with the requirements enu...

(i) Upon completing all repairs and cleanup the owner or operator must notify the Regional Administrator in writing and provide a verification, signed by a qualified, registered professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with paragraph (c)(3)(i)(D) of this section.

(4) Inspect and record in the facility's operating record, at least once every seven days, data gathered from monitoring equipment and leak detection equipment as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

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(3) Throughout the active life of the containment building, if the owner or operator detects a condition that could lead to or has caused a release of hazardous waste, must repair the condition promptly, in accordance with the following procedures.

(i) Upon detection of a condition that has lead to a release of hazardous waste...

(1) Obtain certification by a qualified registered professional engineer that the containment building design meets the requirements of paragraphs (a) through (c) of this section. For units placed into operation prior to February 18, 1993, this certification must be placed in the facility's operating record (on-site files for generators who are not formally required to have operating records) no later than 60 days after the date of initial operation of the unit. After February 18, 1993, PE certification will be required prior to operation of the unit.

(3) Throughout the active life of the containment building, if the owner or operator detects a condition that could lead to or has caused a release of hazardous waste, must repair the condition promptly, in accordance with the following procedures.

(i) Upon detection of a condition that has lead to a release of hazardous waste...

T34 Other (Specify)
 (c) Physical Treatment—

- (1) Separation of components:
 - T35 Centrifugation
 - T36 Clarification
 - T37 Coagulation
 - T38 Decanting
 - T39 Encapsulation
 - T40 Filtration
 - T41 Flocculation
 - T42 Flotation
 - T43 Foaming
 - T44 Sedimentation
 - T45 Thickening
 - T46 Ultrafiltration
 - T47 Other (specify)

(2) Removal of Specific Components:

- T48 Absorption-molecular sieve
- T49 Activated carbon
- T50 Blending
- T51 Catalysis
- T52 Crystallization
- T53 Dialysis
- T54 Distillation
- T55 Electrodialysis
- T56 Electrolysis
- T57 Evaporation
- T58 High gradient magnetic separation
- T59 Leaching
- T60 Liquid ion exchange
- T61 Liquid-liquid extraction
- T62 Reverse osmosis
- T63 Solvent recovery
- T64 Stripping
- T65 Sand filter
- T66 Other (specify)

(d) Biological Treatment

- T67 Activated sludge
- T68 Aerobic lagoon
- T69 Aerobic tank
- T70 Anaerobic tank
- T71 Composting
- T72 Septic tank
- T73 Spray irrigation
- T74 Thickening filter
- T75 Trickling filter
- T76 Waste stabilization pond
- T77 Other (specify)
- T78 [Reserved]
- T79 [Reserved]

(e) Boilers and Industrial Furnaces

- T80 Boiler
- T81 Cement Kiln
- T82 Lime Kiln
- T83 Aggregate Kiln
- T84 Phosphate Kiln
- T85 Coke Oven
- T86 Blast Furnace
- T87 Smelting, Molting, or Refining Furnace
- T88 Titanium Dioxide Chloride Furnace Oxidation Leach
- T89 Methane Reforming Furnace
- T90 Pulping Liquor Recovery Furnace

TABLE 1—Continued

Unit of measure	Code ¹
Pounds per Hour	J
Kilograms per Hour	R
Cubic Yards	Y
Cubic Meters	C
Acres	B
Acres-foot	A
Hectares	G
Hectares-meter	F
Bits per Hour	I

¹Single digit symbols are used here for data processing purposes.

(3) The method(s) by handling code(s) as specified in Table 2) and date(s) of treatment, storage, or disposal.

Table 2.—Handling Codes for Treatment, Storage and Disposal Methods

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store or dispose of each quantity of hazardous waste received.

1. Storage

- S01 Container (barrel, drum, etc.)
- S02 Tank
- S03 Waste Pile
- S04 Surface Impoundment
- S05 Drip Pad
- S06 Containment Building (Storage)
- S99 Other Storage (Specify)

2. Treatment

- (a) Thermal Treatment—
 - T06 Liquid injection incinerator
 - T07 Rotary kiln incinerator
 - T08 Fluidized bed incinerator
 - T09 Multiple hearth incinerator
 - T10 Infrared furnace incinerator
 - T11 Molten salt destructor
 - T12 Pyrolysis
 - T13 Wet air oxidation
 - T14 Calcination
 - T15 Microwave discharge
 - T18 Other (specify)
- (b) Chemical Treatment—
 - T19 Absorption mound
 - T20 Absorption field
 - T21 Chemical fixation
 - T22 Chemical oxidation
 - T23 Chemical precipitation
 - T24 Chemical reduction
 - T25 Chlorination
 - T26 Chlorinolysis
 - T27 Cyanide destruction
 - T28 Degradation
 - T29 Ion exchange
 - T30 Neutralization
 - T31 Photolysis

lan... and... must meet all of the requirements... landfills specified in subparts G and H of this part.

§264.1103—264.1110 [Reserved]

APPENDICES TO PART 264

APPENDIX I TO PART 264—RECORDKEEPING INSTRUCTIONS

The recordkeeping provisions of §264.73 specify that an owner or operator must keep a written operating record at his facility. This appendix provides additional instructions for keeping portions of the operating record. See §264.73(b) for additional recordkeeping requirements.

The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility in the following manner: Records of each hazardous waste received, treated, stored, or disposed of at the facility which include the following:

(1) A description by its common name and the EPA Hazardous Waste Number(s) from part 261 of this chapter which apply to the waste. The waste description also must include the waste's physical form, i.e., liquid, sludge, solid, or contained gas. If the waste is not listed in part 261, subpart D, of this chapter, the description also must include the process that produced it (for example, solid filter cake from production of... EPA Hazardous Waste Number W051).

Each hazardous waste listed in part 261, subpart D, of this chapter, and each hazardous waste characteristic defined in part 261, subpart C, of this chapter, has a four-digit EPA Hazardous Waste Number assigned to it. This number must be used for recording and reporting purposes. Where a hazardous waste contains more than one listed hazardous waste, or where more than one waste, the waste description applies to the applicable EPA Hazardous Waste Numbers.

(2) The estimated or manifest-reported weight, or volume and density, where applicable, in one of the units of measure specified in Table 1:

TABLE 1

Unit of measure	Code ¹
Gallons per Hour	G
Gallons per Day	U
Liters per Hour	L
Liters per Day	H
Short Tons per Hour	O
Short Tons per Day	N
Metric Tons per Hour	W
Metric Tons per Day	N

(2) measures to prevent the release of liquids or wet materials into areas without secondary containment; and

(3) Maintain in the facility's operating log a written description of the operating procedures used to maintain the integrity of areas without secondary containment.

(e) Notwithstanding any other provision of this subpart the Regional Administrator may waive requirements for secondary containment for a permitted containment building where the owner operator demonstrates that the only free liquids in the unit are limited amounts of dust suppression liquids required to meet occupational health and safety requirements, and where containment of managed wastes and liquids can be assured without a secondary containment system.

§264.1102 Closure and post-closure care.

(a) At closure of a containment building, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.) containing equipment contaminated with waste and leachate, and manage them as hazardous waste unless §261.3(d) of this chapter applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for containment buildings must meet all of the requirements specified in subparts G and H of this part.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, soils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated soils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (§264.310). In addition, for the purposes of closure, post-closure, and financial responsibility, such a non-removable building is then considered to be

WJP Engineers

Telephone (717) 622-4550

406 Laurel Boulevard, Pottsville, PA 17901

FAX (717) 628-4445

October 2, 1997

Mr. Jeff Hedges
World Resources Company
Walnut Lane
R.D. # 5, Box 5553
Pottsville, PA 17901

RE: 60' x 128' Concentrate Building

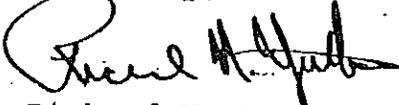
Dear Mr. Hedges:

Please be advised the above referenced concentrate building was constructed per the approved plan and meets the requirements of Subpart DD - Containment Buildings, Section 264.1101 of the Design and Operating Standards, Paragraphs (a) through (c), as set forth in the EPA requirements. The construction was observed by our office and meets the requirements set forth in the plans and specifications.

The building plans were approved by the Pennsylvania Department of Labor and Industry on June 16, 1997 and an Occupancy Permit was issued July 7, 1997.

If you have any questions or comments, please feel free to call our office.

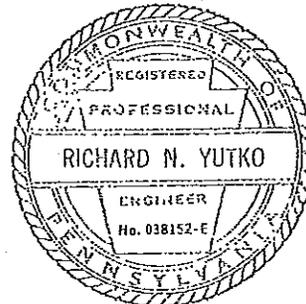
Sincerely,



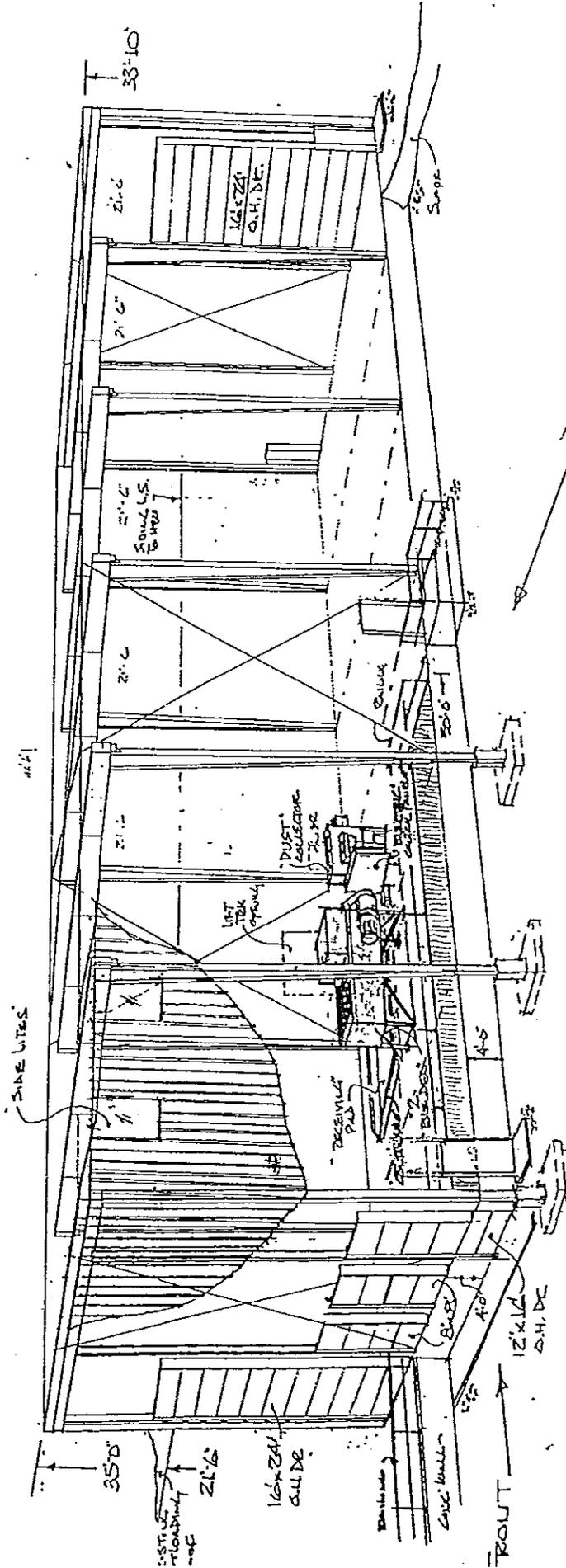
Richard N. Yutko, P.E.

RNY:db

cc: file 95104-3



12'
4'

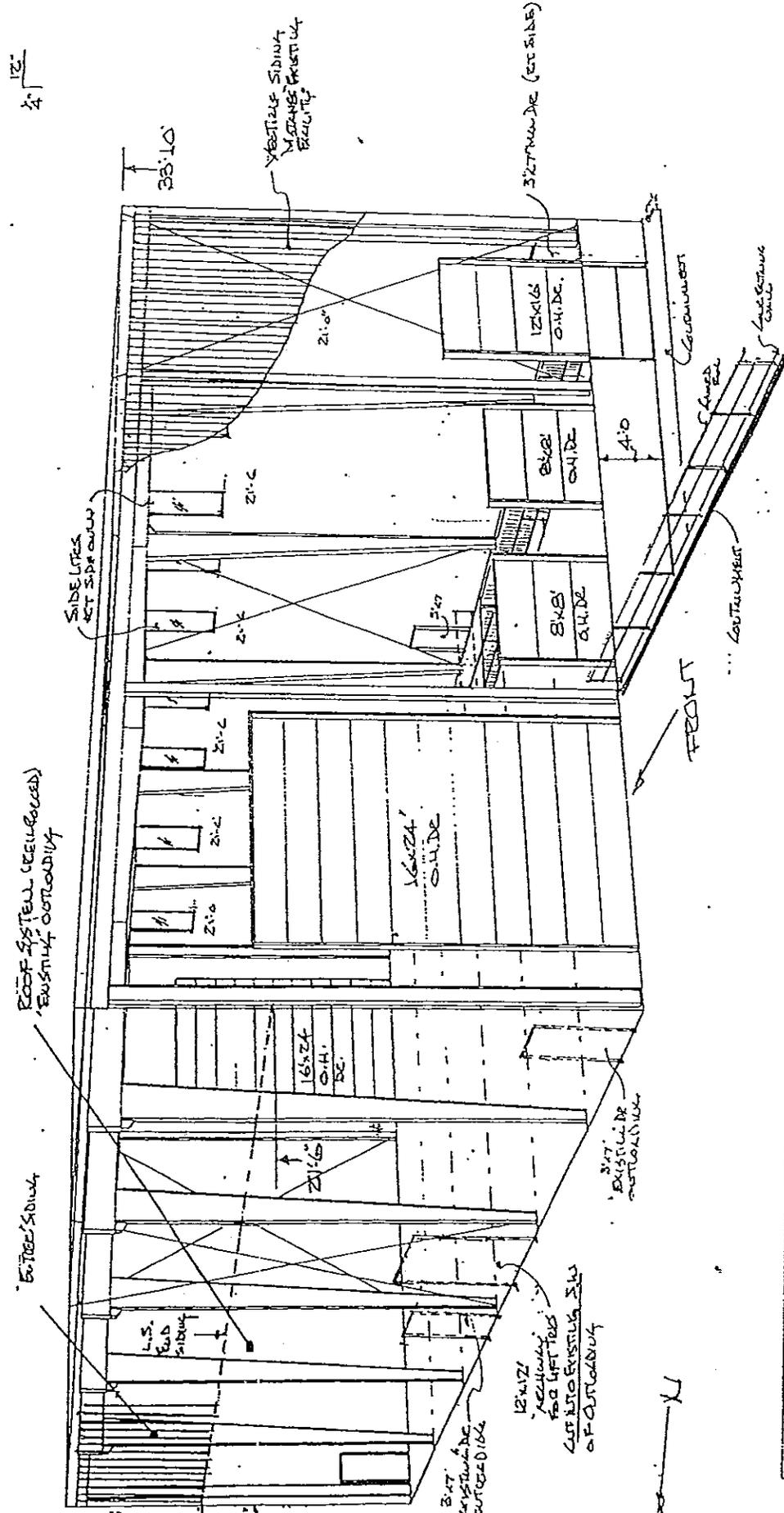


ET. SIDE

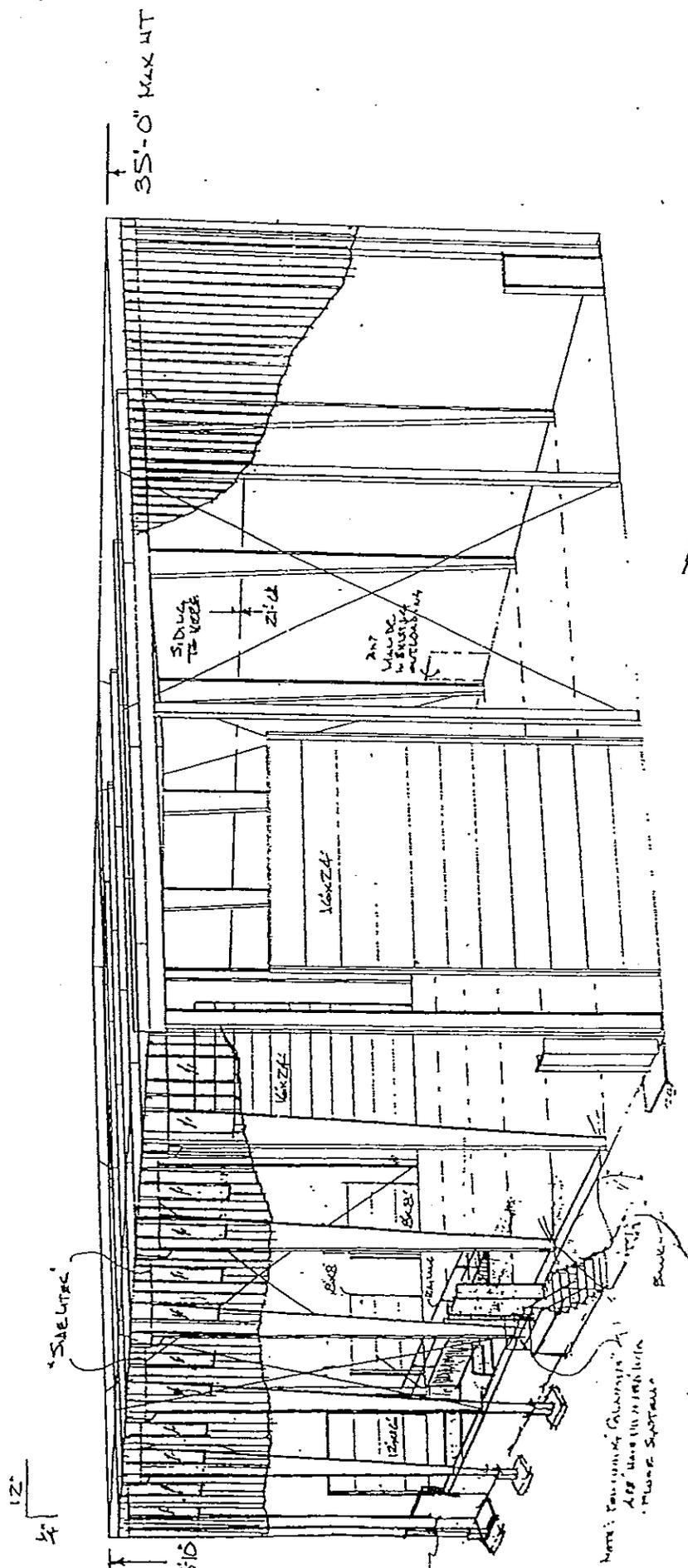
NOTE: NO Z-BARRIER SUGAR W/ REEDS PAD.

<p>7th ADVANTAGETM Butler Manufacturing Company General Offices Kansas City, MO</p>	<p>Builder: MINNIKI CONTRACTING, INC. 16 REEDSVILLE ROAD SCILL HAVEN, PA., USA 17972</p>	<p>Project: WORLD RESOURCES COMPANY</p>	<p>Building Description: WORLD RESOURCES COMPANY 40RS1 / 80MPH / MBMA86 7480 sq. ft.</p>	<p>Drawing Title: NYSW Perspective</p>	<p>W.R.C. ADV Ver-4.50.460 6/30/96 5:00 PM</p>	<p>Drawing Number: PSF 215</p>	<p>Scale:</p>	<p>Rev: 8/29/96</p>
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12
4



ADVANTAGE Butler Manufacturing Company General Offices Kansas City, MO	Builder: MINNICK CONTRACTING, INC. 16 RIVERSVILLE ROAD SCH. HAVEN, PA., USA 17972	Project: WORLD RESOURCES COMPANY 40RS1 / 80MPL / MIMM86 7680#	Building Description: WORLD RESOURCES COMPANY 128' 0" x 128' 0"	Drawing Title: PERSPECTIVE	WRC:ADY Ver-4.50.480 8/30/96 5:18 PM
	Scale: 1/8" = 1'-0"	Drawing Number: PAF 217	Rev: 8-5-96		



← REAR

<p>7L Building ADVANTAGE™ Butler Manufacturing Company General Offices Kansas City, MO</p>	<p>Builder: MINNICH CONTRACTING, INC. 16 REEDSVILLE ROAD SCILIAVEN, PA., USA 17971</p>	<p>Project: WORLD RESOURCES COMPANY 40RS1 / 80M11 / M11M186 7480F</p>	<p>Building Description: WORLD RESOURCES COMPANY 60' 0" x 128' 0" x 35'-0"</p>	<p>Drawing Title: REAR Perspective</p>	<p>WRC-ADV Ver-4.50.460 6/30/96 3:10 PM</p>
	<p>Scale:</p>			<p>Drawing Number: REF 218</p>	<p>Rev: 3.5.92</p>

406 Laurel Boulevard, Pottsville, PA 17901

FAX (570) 628-4445

June 7, 2005

Raymond E. Koch
Environmental Health and Safety Director
World Resources Company
170 Walnut Lane
Pottsville, PA 17901

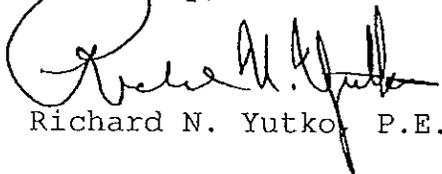
RE: Containment Building Requirements
for Compounding Unit Expansion

Dear Mr. Koch:

I have reviewed the Design and Operating Standards for Containment Buildings as they pertain to World Resources Company's Compounding Unit Expansion. Upon review of design drawings PAF-279, PAF-280 and PAF-6146 relating to the design of the expansion, I can certify that the expansion of the containment building meets the design requirements specified in 40 CFR §264.1101 (a)-(c). (See attached)

Please contact me at your convenience if you require additional information.

Sincerely,

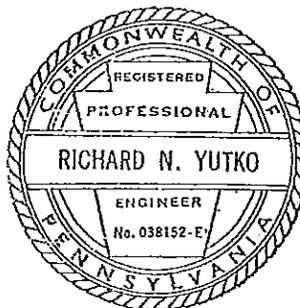


Richard N. Yutko, P.E.

RNY:db

Attachment

cc: file 95104\lt-02.wpd



(1) A primary barrier designed and constructed of materials to prevent migration of hazardous constituents into the barrier;

(2) A liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier; and

(3) A secondary containment system designed and constructed of materials to prevent migration of hazardous constituents into the barrier, with a leak detection and liquid collection system capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time, unless the unit has been granted a variance from the secondary containment system requirements under §264.1101(b)(4);

(d) Has controls sufficient to prevent fugitive dust emissions to meet the no visible emission standard in §264.1101(c)(1)(iv); and

(e) Is designed and operated to ensure containment and prevent the tracking of materials from the unit by personnel or equipment.

§264.1101 Design and operating standards.

(a) All containment buildings must comply with the following design standards:

(1) The containment building must be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.

(2) The floor and containment walls of the unit, including the secondary containment system if required under paragraph (b) of this section, must be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls. The unit must be designed so that it has sufficient structural strength to

prevent collapse or other failure. All surfaces to be in contact with hazardous wastes must be chemically compatible with those wastes. EPA will consider standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirements of this paragraph. If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for light-weight doors and windows that meet these criteria:

(i) They provide an effective barrier against fugitive dust emissions under paragraph (c)(1)(iv); and

(ii) The unit is designed and operated in a fashion that assures that wastes will not actually come in contact with these openings.

(3) Incompatible hazardous wastes or treatment reagents must not be placed in the unit or its secondary containment system if they could cause the unit or secondary containment system to leak, corrode, or otherwise fail.

(4) A containment building must have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the unit during the operating life of the unit and appropriate for the physical and chemical characteristics of the waste to be managed.

(b) For a containment building used to manage hazardous wastes containing free liquids or treated with free liquids (the presence of which is determined by the paint filter test, a visual examination, or other appropriate means), the owner or operator must include:

(1) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier (e.g., a geomembrane covered by a concrete wear surface).

(2) A liquid collection and removal system to minimize the accumulation of liquid on the primary barrier of the containment building:

(i) The primary barrier must be sloped to drain liquids to the associated collection system; and

(ii) Liquids and waste must be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time.

(3) A secondary containment system including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that is capable of detecting failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

(i) The requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum:

(A) Constructed with a bottom slope of 1 percent or more; and

(B) Constructed of a granular drainage material with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m²/sec or more.

(ii) If treatment is to be conducted in the building, an area in which such treatment will be conducted must be designed to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.

(iii) The secondary containment system must be constructed of materials that are chemically resistant to the waste and liquids managed in the containment building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying materials and by any equipment used in the containment building. (Containment buildings can serve as secondary containment systems for tanks placed within the building under certain conditions. A containment building can serve as an external liner system for a tank, provided it meets the requirements of §264.193(d)(1). In addition, the containment building must meet the requirements of §264.193(b) and §§264.193(c) (1) and (2) to be considered an acceptable secondary containment system for a tank.)

(4) For existing units other than 90-day generator units, the Regional Administrator may delay the secondary containment requirement for up to two years, based on a demonstration by the

owner or operator that the unit substantially meets the standards of this subpart. In making this demonstration, the owner or operator must:

(i) Provide written notice to the Regional Administrator of their request by November 16, 1992. This notification must describe the unit and its operating practices with specific reference to the performance of existing containment systems, and specific plans for retrofitting the unit with secondary containment;

(ii) Respond to any comments from the Regional Administrator on these plans within 30 days; and

(iii) Fulfill the terms of the revised plans, if such plans are approved by the Regional Administrator.

(c) Owners or operators of all containment buildings must:

(i) Use controls and practices to ensure containment of the hazardous waste within the unit; and, at a minimum:

(i) Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the primary barrier;

(ii) Maintain the level of the stored/treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded;

(iii) Take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area must be designated to decontaminate equipment and any rinsate must be collected and properly managed; and

(iv) Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions (see 40 CFR part 60, appendix A, Method 22—Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares). In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) must be operated and maintained with sound air pollution control practices (see 40 CFR part 60 subpart 292 for guidance). This state of no visible emissions must be maintained effectively at all times during routine operating and maintenance

conditions, including when vehicles and personnel are entering and exiting the unit.

(2) Obtain certification by a qualified registered professional engineer that the containment building design meets the requirements of paragraphs (a) through (c) of this section. For units placed into operation prior to February 18, 1993, this certification must be placed in the facility's operating record (on-site files for generators who are not formally required to have operating records) no later than 60 days after the date of initial operation of the unit. After February 18, 1993, PE certification will be required prior to operation of the unit.

(3) Throughout the active life of the containment building, if the owner or operator detects a condition that could lead to or has caused a release of hazardous waste, must repair the condition promptly, in accordance with the following procedures.

(i) Upon detection of a condition that has lead to a release of hazardous waste (e.g., upon detection of leakage from the primary barrier) the owner or operator must:

(A) Enter a record of the discovery in the facility operating record;

(B) Immediately remove the portion of the containment building affected by the condition from service;

(C) Determine what steps must be taken to repair the containment building, remove any leakage from the secondary collection system, and establish a schedule for accomplishing the clean-up and repairs; and

(D) Within 7 days after the discovery of the condition, notify the Regional Administrator of the condition, and within 14 working days, provide a written notice to the Regional Administrator with a description of the steps taken to repair the containment building, and the schedule for accomplishing the work.

(i) The Regional Administrator will review the information submitted, make a determination regarding whether the containment building must be removed from service completely or partially until repairs and cleanup are complete, and notify the owner or operator of the determination

and the underlying rationale in writing.

(iii) Upon completing all repairs and cleanup the owner or operator must notify the Regional Administrator in writing and provide a verification, signed by a qualified, registered professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with paragraph (c)(3)(i)(D) of this section.

(4) Inspect and record in the facility's operating record, at least once every seven days, data gathered from monitoring equipment and leak detection equipment as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

(d) For containment buildings that contain areas both with and without secondary containment, the owner or operator must:

(1) Design and operate each area in accordance with the requirements enumerated in paragraphs (a) through (c) of this section;

(2) Take measures to prevent the release of liquids or wet materials into areas without secondary containment; and

(3) Maintain in the facility's operating log a written description of the operating procedures used to maintain the integrity of areas without secondary containment.

(e) Notwithstanding any other provision of this subpart the Regional Administrator may waive requirements for secondary containment for a permitted containment building where the owner operator demonstrates that the only free liquids in the unit are limited amounts of dust suppression liquids required to meet occupational health and safety requirements, and where containment of managed wastes and liquids can be assured without a secondary containment system.

Attachments

Attachment 6 – RISR Design Cross Section

CONFIDENTIAL BUSINESS INFORMATION

Attachments

Attachment 7 – Operations Flowsheet

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