Section D
Process Information

Section D — Process Information

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Section D — Process Information
WAC 173-303-110; 630; 690; 691; 692;[806 (4) (b) (c)(i) (j)& (k)]

1. Introduction

1.1. This section provides a description of the processes and procedures used for the handling and storage of dangerous waste, as well as technical information regarding the design and construction of the existing Permitted Unit at the Ross Complex. All waste management and handling activities at the Permitted Unit are performed by the Material Handler Foreman and Material Handlers.

1.2. All figures (1–28) are grouped at the end of the section, following the tables. Figure D-1 provides an index to the General, Civil, Architectural, Structural, and Mechanical Drawings. Figure D-2 lists the abbreviations used in these drawings.

2. Containers [-630; [806(4)(b) & (c)]

2.1. This portion of the application covers management of containers used to store hazardous and dangerous waste.

2.1.1. General Description of Containers

2.1.1.1. U.S. Department of Transportation (DOT)-approved containers filled with dangerous waste as specified in Part A of this application are accepted at the Permitted Unit for storage prior to shipment to a permitted off-site Treatment, Storage, or Disposal Facility (TSDF).

2.1.1.2. Treatment of dangerous waste in containers does not occur at the Permitted Unit. To consolidate partially filled containers and to facilitate off-site shipments, some repackaging of containerized waste is performed by HMB personnel. Only wastes with the same or compatible waste codes are repackaged together.

2.1.2. Container Types [-630; [806(4)(b) & (c)]

2.1.2.1. BPA (and its contractors) use only new DOT-approved containers that meet the detailed design specifications in 49 CFR 172, 173, and 178 for the specific waste in the container. Steel, composite, and plastic containers are used, as required by individual waste streams. If available at the time of waste generation, BPA facilities will also package waste in the original DOT-approved product container in which it was received from the vendor (for example, solvents).

2.1.2.2. As individual wastes are generated, BPA personnel use the guidelines outlined in Table D-1 to initially select the container type for accumulating waste.

2.1.2.3. If the waste is not one of the routinely generated and characterized wastes identified in the BPA Identified Waste Stream Handbook, BPA field personnel use their best judgment, consult with the BPA Chemistry Laboratory, or consult with HMB personnel to select an appropriate container while waste profiling is completed. Upon completion of necessary waste analysis, the BPA Chemistry Laboratory assigns appropriate waste codes, and DOT shipping description and labeling requirements before the container is transported to the Permitted Unit.

2.1.2.4. Upon receipt of the container at the Permitted Unit, the BPA Material Handler verifies that the waste is compatible with the container by reviewing shipping papers and the container type to verify the waste is in a container that meets the requirements specified in 49 CFR 173 and 178.

2.1.3. Container Supply

2.1.3.1. DOT-approved containers are stocked in the BPA Warehouse at the Ross Complex and supplied to all generator locations. Restocking the container supply is performed by BPA's Commodity Managers using the guidelines in Table D-1 for reference and evaluation of recent operating information. The Permitted Unit maintains a nominal supply of containers for routine waste handling or overpacking, and replenishes the inventory from the BPA Warehouse as needed. A list of specific sizes and numbers of containers kept on hand at the Permitted Unit is provided in Section G, Contingency Plan, of this permit application.

2.1.4. Container Management Practices [-630 (5)]

2.1.4.1. Container Storage Areas

2.1.4.1.1. Containerized dangerous wastes received at the Permitted Unit are managed in four areas, as described below.

2.1.4.2. Covered Loading and Unloading Area [-395(4); 806(4)(a)(viii)]

2.1.4.2.1. This covered area is used for loading and unloading transport vehicles. Dangerous wastes are not stored in this area, except for loading and unloading of transport vehicles. Incoming waste containers are immediately moved into the Shipping and Receiving Area. Flatbed trucks are used for transporting waste. The trucks have a capacity of 60, 85-gallon drums or 80, 55-gallon drums. The covered Loading and Unloading Area is constructed of a sealed, reinforced-concrete floor and a chemical-resistant, reinforced-concrete containment trench

that runs along the exterior perimeter. The area surrounding the Loading and Unloading Area is asphalt-paved.

2.1.4.3. Shipping and Receiving Area (Room 103)

2.1.4.3.1. The Shipping and Receiving Area is used for initial in-processing of dangerous wastes once the containers are unloaded from the transport vehicles, and for pre-transport processing of outgoing waste shipments. For incoming wastes, BPA Material Handlers confirm and process shipping papers, weigh each container, apply individual tracking labels to each container, and transfer the containers to the appropriate room in the Dangerous Waste Storage Area. Similarly, when waste is shipped, the area functions as a staging area during movement of containerized wastes from the storage area to transport vehicles.

2.1.4.3.2. The Shipping and Receiving Area is located immediately inside the Loading and Unloading Area and immediately adjacent to the Dangerous Waste Storage Area. The area has a non-skid, welded-seam, check-plate aluminum covering over the reinforced-concrete building floor, and a chemical-resistant, reinforced-concrete containment trench that runs along the exterior perimeter of the room. The floor in the area is gently sloped to the north to provide drainage toward the containment trenches should a release or minor spill occur. An additional description of the containment system is provided in Section 2.1.6.

2.1.4.3.3. BPA Permitted Unit personnel move all containers of dangerous waste into the appropriate storage room each day; therefore, no storage occurs in this area. Permitted Unit personnel may temporarily (up to 24 hours) stage incoming and outgoing shipments in the Shipping and Receiving Area (up to 32, 55-gallon containers, or 1,760 gallons) while preparing a load for shipment or receiving incoming waste. Liquid waste containers are stored on containment pallets, with incompatible wastes stored on separate pallets.

2.1.4.3.4. Incoming or outgoing loads may contain more than 32, 55-gallon containers. For outgoing loads, waste will be stored in the respective storage rooms and moved to the shipping/ receiving area as space allows. For incoming loads up to 32, 55-gallon drums will be moved into the shipping/receiving area and the remainder will remain on the transport truck in the unloading area. Containers will be moved to the shipping/receiving area as space allows. If the entire incoming

shipment cannot be administratively processed the same day it was received and the capacity exceeds the shipping/ receiving maximum capacity, the containers will be left on the transport truck in the unloading area until they can be administratively processed through the shipping/receiving area. All containers will be administratively processed and placed into designated storage areas within 24 hours from time of arrival.

2.1.4.4. Dangerous Waste Storage Area (Rooms 100 and 102)

2.1.4.4.1. The Dangerous Waste Storage Area is located in the southeast section of the building and is used for storage of containerized dangerous wastes. The area is divided into the following separate storage rooms:

- Room 100 – Ignitable/Flammable Waste
- Room 102A – Corrosives (pH ≤ 2, acid waste storage)
- Room 102B – Corrosives (pH ≥ 12.5, bases/caustic waste storage)
- Room 102C – Pending Analysis Results
- Room 102D – Noncorrosive/nonflammable waste such as state-only dangerous waste, reactive waste, and toxicity characteristic leaching procedure (TCLP) (EPA SW-846 Method 1311) waste

2.1.4.4.2. The total capacity of the permitted Dangerous Waste Storage area is 31,240 gallons of dangerous waste (approximately 568, 55-gallon containers).

2.1.4.5. Bulking Room (Room 104)

2.1.4.5.1. The Bulking Room is used to consolidate and repackage wastes that are contained in partially filled containers into fewer drums, or when a number of small containers can be conveniently packaged into a single, larger container (for example, lab packs). Only wastes with the same waste codes, or with compatible wastes, are repackaged together. Only one compatibility class of waste is allowed in the Bulking Room at a time. Containers must be kept closed, unless waste is being added or removed, to comply with the air emission control requirements specified in Section 9. A mechanical drum manipulator is used by BPA Material Handlers to facilitate handling containers during consolidation and repackaging activities. The drum manipulator has a rated capacity of 1,200 pounds and is mounted on overhead rails. The Bulking Room also includes a drum crusher/compactor that is used to

compact non-hazardous waste solids and to crush empty drums.

2.1.4.5.2. Though containers of dangerous waste are not stored in the Bulking Room, up to 32, 55-gallon containers (1,760 gallons) could be staged during waste consolidation and bulking operations in the Bulking Room and the Shipping and Receiving Area (Room 103). Waste will be staged in the Bulking Room during consolidation for a maximum time of 24 hours (overnight) in the event that consolidation cannot be completed the first day. When bulking is finished, the waste containers must be returned to their respective storage rooms or staged in the Shipping and Receiving Area for off-site shipment.

2.1.4.6. Container Handling Equipment

2.1.4.6.1. Unloading, loading, and transport of containers in the outside covered Loading and Unloading Area and inside the Permitted Unit are performed either with lift trucks equipped with a drum handler attachment or manually with hand dollies.

2.1.4.6.2. Lift trucks are used outside in the Loading and Unloading Area. Various lift trucks equipped with standard forks are used to remove dangerous wastes received on pallets from the transport trucks. A lift truck equipped with a specially designed drum lift attachment may be used to unload drums from transport trucks.

2.1.4.6.3. Lift trucks are used inside the Permitted Unit for moving containers within the building. One lift truck is equipped with standard forks. Another lift truck is equipped with a specially designed drum lift attachment. Containers smaller than 5 gallons are normally transported within the building using a hand dolly or are placed on pallets and moved with the lift truck.

2.1.4.6.4. As recommended by the manufacturer of the truck-mounted barrel lift, drums are lifted between the upper and lower reinforcing rings (approximately mid-height). The drum is visually observed while positioning the barrel clamp to avoid pinching the rings or applying undue pressure to the drums.

2.1.4.6.5. The floor surface within the Permitted Unit is either a non-skid, welded-seam, check-plate aluminum covering over the reinforced-concrete or reinforced concrete with a chemical-resistant coating. The pathways used for transporting the waste from the Shipping and Receiving Area (Room 103),

Bulking Room (Room 104), and Dangerous Waste Storage Area (Rooms 100 and 102) are free of bumps or other obstructions that could cause movement problems.

2.1.4.7. Dangerous Waste Process Flow

2.1.4.7.1. Figure D-3 provides a schematic overview of the flow of dangerous waste, verification of shipping papers, and record keeping that occurs at the Permitted Unit as containers are processed into the facility. The term "processed" as used here means administratively processed—that is, completing paperwork, weighing, and labeling, and performing waste verification. Waste received from off-site areas will be transported with a Uniform Hazardous Waste Manifest (manifest), Transportation Request, or Bill of Lading. It will have proper shipping labels attached by the shipper.

2.1.4.7.2. Waste received from the Ross Complex is typically transported to the Permitted Unit using a waste delivery record. The waste delivery record provides the Permitted Unit with waste details. Attachment D-1 includes a copy of the waste delivery record. Once the waste is received at the Permitted Unit, the Material Handlers complete a log sheet and attach the proper shipping labels if they are not already attached. This difference in processing is explained in the following sections, where applicable.

2.1.4.7.2.1. Initial Waste Inspection/Verification: This process is described in detail in Section 8 of Section C, Waste Analysis.

2.1.4.7.2.2. Unloading and Receiving

- The containers are unloaded from the trucks in the covered unloading area, which is equipped with sufficient secondary containment to capture an unexpected release from a full load containing up to 60, 85-gallon drums (as noted in Table D-2). The containers are placed inside the Shipping and Receiving Area (Room 103) before the end of the operating day.
- Overpack drums and spill response kits (containing shovels, absorbents, personal protective equipment, plugs, and tools) are located near the unloading operation in the event that a spill or release occurs.
- Dangerous waste generated on site at the Ross Complex is typically transported to the Permitted Unit using a lift truck. Dangerous waste containers are secured on a pallet

with metal or plastic strapping, ropes, or other load-securing means.

2.1.4.7.2.3. Waste In-Processing

- After the off-site-dangerous waste containers are placed in the Shipping and Receiving Area (Room 103), each container is matched with the shipping papers or waste delivery record and a storage label is then affixed to the corresponding container. The Material Handler confirms that the quantities and description match and that a Land Disposal Restriction (LDR) Notification is attached, when appropriate.
- The Shipping and Receiving Area is completely enclosed by the Permitted Unit structure. The total floor area is approximately 618 square feet; 32, 55-gallon containers can be temporarily placed there while the containers are processed. The floor of the Shipping and Receiving Area is constructed of reinforced concrete, covered with welded-seam, check-plate aluminum that covers the reinforced-concrete floor. The room is equipped with secondary containment trenches along the north side (exterior wall). The concrete also has a chemical-resistant coating material.
- The shipping paper associated with off-site waste is signed and the transporter is given the transporter's copy. For Ross Complex-generated waste, a waste delivery record information and accompanying lab report or IWS Handbook documentation is used to complete a log sheet. All the documents are filed together with a waste tracking sheet and kept in the operating record.

2.1.4.7.2.4. Container Handling

- Following receipt and storage at the Permitted Unit, the designated storage location for the material is noted on the shipping paper. Processing of wastes into the facility (even administrative) is completed within 24 hours, with one exception. As long as verification is completed and the wastes are placed into storage within 24 hours, physically entering the final information into the operating record can be extended to 3 days. A separate log/tracking sheet is prepared for each container of hazardous waste handled, even if there are two drums containing exactly the same waste.

- The Material Handler weighs the incoming waste and initiates a hazardous and dangerous waste log/tracking sheet for each incoming container. Specifically, if two containers are received with identical waste streams, a drum tracking sheet will be completed for each container. A copy of a drum tracking sheet is provided in Attachment D-1. Weighing is done with a Weigh Tronix brand scale, or equivalent, that is periodically calibrated per manufacturer recommendations. All wastes are processed, inspected, weighed and placed into storage within 24 hours, and recorded in the operational record within 3 business days of receipt of the waste.
- The Material Handler replaces the incoming hazardous waste label with a new label, as described in Section 2.1.5. The shipping paper and new waste log/tracking sheet are forwarded to the Hazardous Materials Building (HMB) office where the Property Disposal Specialist, Foreman, or Environmental Specialist completes additional processing and record keeping.
- With the use of the appropriate handling tools, the waste is either transported to a designated storage room, depending upon its chemical composition, or to the Bulking Room for repackaging with similar waste.
- Physical combining or "bulking" is done with a Positech TPA-15 hydraulic drum manipulator with a 1,200-pound capacity. The Positech is manually operated by way of a control panel on the machine. The drum clamp is padded to reduce the risk of denting, pinching, or tearing the drums. Funnels compatible with the waste are used for pouring into closed top drums. The funnels are stainless steel, galvanized steel, or polyethylene. Prior to pouring, absorbent pads are spread on the floor to catch drips or unplanned releases. Drums are picked up between the middle and lower rings to reduce the potential for denting or crushing the drums. RCRA empty drums are crushed in the Bulking Room.

2.1.4.7.2.5. Container Inspections [-630(6)]

- Container inspections are performed each operating day in the Permitted Unit Dangerous Waste Storage Area, Shipping and Receiving Area, Loading and Unloading Area, and the Bulking Room. The inspections focus on verifying the condition of containers—specifically, looking for leaks,

deterioration, tight lids, labeling, and aisle spacing, as well as visual inspection of the containment system.

- Incoming containers are visually inspected for tight bungs and lids while they are on the truck, or immediately after unloading. Lids may be removed to inspect waste or to combine waste in the Bulking Room.

2.1.4.8. Dangerous Waste Storage

2.1.4.8.1. The Dangerous Waste Storage Area was designed to stack palletized containers a maximum of two pallets high; on occasion, Permitted Unit personnel must stack containers two pallets high. Containers with a capacity less than 55 gallons are stacked up to six per pallet. Drums with 55-gallon capacity are stacked four to a pallet. Drums with 85-gallon capacity are stacked three to a pallet. Drums are always stacked with the largest container size placed on the bottom. For example, 85-gallon containers are on the bottom, 55-gallon containers are on top of them, 30-gallon containers are on top of 55-gallon containers, and so forth. Drums are always stacked to show the label, regardless of the container size. Dangerous Waste containers may be stored in these areas for up to one year.

2.1.4.8.2. Figure D-11 depicts how containers can be arranged in the storage areas to allow for required aisle space. The figure shows the maximum capacity of the storage areas, assuming all 55-gallon capacity containers and pallets are stacked two high (that is, in sets of two: pallet–four containers side by side; pallet–four containers side by side). The figure is provided for information purposes only. Container locations and numbers in Figure D-11 may vary.

2.1.4.8.3. After weighing and, if necessary, bulking, the waste is transported to the particular Dangerous Waste Storage room designated for that waste type. The wastes are stored as described below.

2.1.4.8.3.1. Covered Loading and Unloading Area

Permanent storage does not occur in the Loading and Unloading Area. However, for the purpose of demonstrating that adequate secondary containment is provided in this area, the loading and unloading area is designed for a flatbed truck that holds up to 60, 85-gallon drums or 80, 55-gallon drums, as shown in Table D-2.

2.1.4.8.3.2. Room 100 – Ignitable/Flammable Waste

This area is used to store 5- to 85-gallon containers on pallets or in flammable storage cabinets. All containers are stored on pallets, with drums stored no more than two drums wide (one pallet), with labels facing out, visible for inspection. At least half the drum will be visible when stored. A minimum aisle spacing of 30 inches is maintained to allow for inspection of containers, unobstructed movement of personnel, and emergency response equipment. Small containers (5 gallons or less when space is available), are stored in National Fire Protection Association (NFPA)-approved flammable liquid storage cabinets with 60-gallon capacity, or equivalent. There are four flammable storage cabinets located in this room. Frequently, 5-gallon containers are stored with larger containers on pallets, if it can be done with the labels facing out, when they contain the same or similar compatible wastes. This storage area is capable of holding 280, 55-gallon containers, or 15,400 gallons of flammable waste. The total capacity includes waste that would be stored in the flammable storage cabinets.

2.1.4.8.3.3. Room 102A – Corrosives (pH ≤ 2, acid waste)

This area is used to store 5- to 85-gallon containers on pallets with drums no more than two drums wide (one pallet) with labels facing out, visible for inspection. At least half the drum will be visible when stored. A minimum aisle spacing of 30 inches is maintained to allow for inspection of containers, unobstructed movement of personnel, and emergency response equipment. The storage area is capable of holding 24, 55-gallon containers, or 1,320 gallons of corrosive waste.

2.1.4.8.3.4. Room 102B – Corrosives (pH ≥ 12.5, bases/ caustic waste)

This area is used for storage of 5- to 85-gallon containers on pallets. Containers are stored no more than two drums wide (one pallet) with labels facing out, visible for inspection. At least half the drum will be visible when stored. A minimum aisle spacing of 30 inches is maintained to allow for inspection of containers, unobstructed movement of personnel, and emergency response equipment. The storage area is capable of holding 32, 55-gallon containers, or 1,760 gallons of corrosives waste.

2.1.4.8.3.5. Room 102C – Pending Analysis Results

Containers in this area are placed in rows of two (one pallet), with labels facing out, visible for inspection, leaving a minimum aisle spacing of 30 inches between rows. Small containers (5 gallons or less when space is available) are stored in NFPA-approved flammable liquid storage cabinets with 60-gallon capacity, or equivalent. There are two flammable storage cabinets located in this room.

Once analysis is received, the containers are processed and placed in an appropriate designated storage area determined by the characteristics of the waste stream. This storage area is capable of holding 32, 55-gallon containers, or 1,760 gallons of waste that is pending analysis. The total capacity includes waste stored in flammable storage cabinets.

All wastes in this room are stored in/on secondary containment pallets.[1] If BPA has sufficient information to make a waste compatibility determination from the shipping papers and waste stream profile, then compatible wastes may be stored in/on the same secondary containment pallet in Room 102C. If a waste compatibility determination cannot be made with the available information, the waste will be treated as unknown and stored on individual secondary containment pallets.

2.1.4.8.3.6. Room 102D – State-Only Dangerous Waste and RCRA Toxicity Characteristic Waste

- This area is used for storage of 5- to 85-gallon containers on pallets with each row stored no more than two drums (one pallet) wide, with labels facing out, visible for inspection. At least half the drum will be visible when stored. A minimum aisle spacing of 30 inches is maintained to allow for inspection of containers, unobstructed movement of personnel, and emergency response equipment. The storage area can hold 200, 55-gallon containers, or 11,000 gallons of state-only dangerous waste or RCRA toxicity characteristic waste. Wastes with similar waste designations, that are potentially

[1] Secondary containment pallets in use at the Permitted Unit are New Pig© PAK341 and ENPAC Corp© Poly Spillpallet 6000 (or equivalent). Both types are low-density polyethylene (LDPE), and copies of chemical compatibilities are available at the HMB.

incompatible (reference Section C, Table C-2) with other wastes in this room, are stored on secondary containment pallets.

- Periodically, limited types of D003 reactive waste are stored in this room and placed in secondary containment pallets. D003 wastes are limited to water-reactive and cyanide-bearing solutions. Section F, Procedures to Prevent Hazards, identifies the storage procedures that will be implemented when D003 wastes are present.
- The following D003 reactive materials defined in 173-303-090(7)(a)(vi through viii) are not accepted at the Permitted Unit:
  - Materials capable of detonation or explosive reaction if subjected to a strong initiating source or if heated under confinement
  - Materials capable of detonation or explosive decomposition or reaction at standard temperature and pressure
  - A forbidden explosive (defined in 49 CFR 173.54), a Class 1 explosive Division 1.1, 1.2, 1.3, or 1.5 as defined in 49 CFR 173.50

2.1.4.8.3.7. Room 103 – Shipping and Receiving Area

- This room has a total temporary storage capacity of 32, 55-gallon drums, or 1,760 gallons. The drums are stored on pallets with labels facing out, and other standard storage stacking and management protocols are employed in the storage areas. This room is used only for drum staging and waste verification.

2.1.4.8.3.8. Room 104 – Bulking Room

- No storage occurs in the Bulking Room. The room is capable of holding up to eight 55-gallon drums while waste consolidation is performed.

2.1.5. Container Labeling [630(3)]

Applicable federal, state, and DOT labels with graphic symbols are used to identify the hazards of the dangerous wastes stored at the Permitted Unit. The labels listed below are used to satisfy federal and state marking requirements:

- Federal labels/markings
  - Hazardous Waste Label

  - DOT hazard (warning) labels
- State labels/markings
  - Washington State Toxic Label

2.1.5.1. Figures D-4 and D-5 show examples of federal, state-only, and DOT labels commonly used by BPA, and illustrate how they are affixed to a container. The selection of the DOT label is based on the characteristics of the waste and an assessment of the requirements of 49 CFR 173. As shown in Figure D-4, the labels are placed above the lower reinforcing ring of the drum at the time of processing.

2.1.5.2. At the time of in-processing, a new hazardous waste label is completed and affixed to each drum, denoting the BPA Ross Complex as generator and including the Environmental Protection Agency (EPA) ID number, waste information, and DOT information. To eliminate confusion to third-party transporters and permitted disposal facilities, the label on the container (placed there by the original BPA generator location) is painted over with black spray paint or the label is removed. BPA HMB personnel log and record the original generator information prior to removal of the original labeling. This information is entered into the operating record. Based on the characteristics of the waste, the designated DOT Hazard Class Label and state-only green Characteristic Label (with appropriate boxes checked) are affixed to the drum. Labels are affixed as shown in Figure D-4.

2.1.6. Containment Requirements for Storing Containers [-630(7)]

2.1.6.1. Free liquids are managed in the Dangerous Waste Storage Area (Rooms 100, 102A, 102B, 102C, and 102D). The Shipping and Receiving Area (Room 103) and the Bulking Room (Room 104) are only used for temporary storage drum staging or drum repackaging, respectively.

2.1.6.1.1. Secondary Containment System Design

2.1.6.1.1.1. The elements of the Permitted Unit's secondary containment systems are briefly summarized below and are described in additional detail in Sections 2.1.6.1.1.2 through 2.1.6.1.1.5.

- All containment systems were designed and certified by a licensed Professional Engineer.
- Each dangerous waste handling or storage area floor is either a non-skid, welded-seam, check-plate aluminum cover over the reinforced concrete or a reinforced-concrete floor, and is free of cracks and gaps. The concrete floors have a chemical-resistant coating, and the floors gently slope in the direction of the secondary containment sumps and trenches.

- Each permitted area of the Permitted Unit has a secondary containment system that is isolated from other storage areas by use of a weir to eliminate potential chemical incompatibilities in the event of an unplanned release. The weirs are between 4.25 and 4.75 feet tall and are located at the same locations as the walls that separate the storage areas. The weirs are located between Rooms 100 and 102D, between Rooms 102B and 102C, between Rooms 102C and 102D. There is no weir between containment in Room 103 (Shipping and Receiving Area) and Room 101 (Electricians Shop). Figure D-20, detail 32/26, depicts the weir located between Room 102D and Room 100. Typical design of the weirs between Room 102B, 102C, and 102D, are provided in Figures D-15 and D-23, detail M-M.
- All secondary containment sumps and trenches are constructed with cast-in-place, reinforced concrete that is integral to the construction of the building floor and foundation.
- All cast-in-place concrete construction and expansion joints are constructed with polyvinyl chloride (PVC), chemical-resistant water stops.
- All sumps and trenches have been lined with a chemical-resistant, waterproof coating.

2.1.6.1.1.2. System Design

- Design drawings of the Dangerous Waste Storage Area (Rooms 100 and 102) and the Shipping and Receiving Area (Room 103) that show the secondary containment system are provided in Figures D-11 through D-26. The dimensions and locations of the secondary containment system are shown on the drawings.
- The floor and containment system of the Permitted Unit have been constructed to be impervious, to be free of cracks or gaps, and to contain leaks and spills of waste. The roof is 15 to 16 feet high throughout the entire shipping, receiving, and storage areas and allows ample clearance for the operation of the lift trucks and stacking of containers. Overhead doors between functional areas are 8 feet high when fully opened.
- The Shipping and Receiving Area (Room 103, staging area) has approximately 3,000 square feet of floor space and is oriented in an “L” shape to allow for drum staging near the

shipping roll-up doors and for processing in other areas. The Bulking Room (Room 104) is 352 square feet.

- Total measurement of the Dangerous Waste Storage Area (Rooms 100 and 102, including access aisleways and usable storage area) is approximately 5,360 square feet. The usable floor space of each container storage area is as follows:
  - Room 100 – Ignitable/Flammable waste storage: 1,995 square feet
  - Room 102A – Corrosives pH ≤ 2, acid waste storage: 162 square feet
  - Room 102B – Corrosives pH ≥ 12.5, bases/caustic waste storage: 216 square feet
  - Room 102C – Pending Analysis Results: 221 square feet
  - Room 102D – Storage of state-only dangerous waste and RCRA toxicity characteristic waste: 1,015 square feet
- All areas of the HMB where handling, processing, and storage of dangerous wastes occur are located inside the Permitted Unit or under covered areas outside the building. As shown in Figure D-8, precipitation is collected in a roof drain system. Precipitation from the roof is conveyed through downspouts to the yard stormwater piping that flows away from the HMB to the stormwater treatment system. The stormwater treatment system discharges to the Cold Creek culvert north of the HMB.
- The only outdoor area is the covered loading and unloading area, which is equipped with secondary containment trenches and sumps. This area is protected from precipitation run-on through the roof drainage system and the slope design of the access roadways/ aprons leading into the area (that is, all surrounding areas are graded to drain away from the HMB).
- Figures D-6, D-7, and D-28 provide details on site grading and drainage.
- Figures D-12 through D-27, detail drawings 1 and 2, show the construction of the base and concrete floor slab. The reinforced-concrete floor slab is 10 inches thick. Expansion

joints are installed in various configurations and at various locations to control cracking. The expansion joints are constructed with ¾-inch, pre-molded, bituminous-type joint filler embedded in the concrete. Each expansion joint contains ¾-inch by 6-inch (chemical resistant) water stops with joint filler poured to the top of the slab. Beneath each expansion joint there are two layers of No. 30 felt paper and a 6-inch-thick unreinforced, concrete pad.

- Check-plate aluminum (4-feet by 8-feet by ¼-inch-thick plates) has been installed in the Shipping and Receiving Area (Room 103) and Bulking Room (Room 104) to minimize wear on the concrete floor and to make routine maintenance and housekeeping easier. Figure D-26 provides details on the check plate installation. Each plate is butt-welded together and is anchored to plates cast in the concrete or attached by screws anchor-drilled and epoxy-sealed into the concrete.
- All Dangerous Waste Storage Area floors, trenches, and secondary containment sumps are coated with chemical-resistant industrial coatings. The coatings have been tested and proven to be effective on concrete and metal substrates to maintain integrity when exposed to high temperatures and the wide variety of chemicals listed in the product specification sheets (Attachment D2). These coatings are resistant to the wastes managed in the Permitted Unit.
- Each Dangerous Waste Storage room is constructed with positive drainage control and is sloped at a minimum of 0.2 percent to promote drainage to blind containment trenches and sumps. The containment sump openings are at the lowest elevation in the rooms to promote collection of spilled fluids. For example, the fronts of storage rooms 100 and 102A, B, C, and D are at a higher elevation than the backs of the rooms where the sump openings are located (Figure D-25). A floor slope of 1 percent is provided in the Bulking Room (Room 104) to promote drainage to containment trenches/sumps. All containers are stored on secondary containment pans or pallets in each of the Dangerous Waste Storage rooms (100 and 102A, B, C, and D) to prevent contact of stored containers with waste in case of an unexpected release.

- Secondary containment trenches are 1-foot by 1-foot reinforced concrete with galvanized steel grating (flush with floor elevation). Trenches run the length of the Shipping and Receiving Area and in each Dangerous Waste Storage room. The downslope terminus of the containment trench in Room 103 is equipped with an outlet that drains into the reinforced concrete sump to facilitate collection and removal of accumulated liquids in the event of a spill.
- Secondary containment sumps are constructed of reinforced concrete and vary in size, depending on their location (see Section 2.1.6.1.1.4, Containment System Capacity, for containment capacities). All sumps are equipped with galvanized-steel grating that is flush with the finished floor elevation.

2.1.6.1.1.3. Structural Integrity of Base

- Figures D-12 through D-26, detail drawings 1 and 2, show the construction of the base and concrete slab. The reinforced-concrete floor slab is 10 inches thick. All cast-in-place, reinforced-concrete slabs met a minimum 28-day compressive strength of 4,000 pounds per square inch (psi) at the time of construction. Structural reinforcing varies, depending on the location. All areas were engineered to support the structural loading, as well as loading produced by equipment traffic, and the static loading for storing wastes. Expansion joints are installed in various configurations and at various locations to control cracking. The expansion joints are constructed with ¾-inch, pre-molded, bituminous-type joint filler embedded in the concrete. Each expansion joint contains a ¾-inch by 6-inch PVC (chemical resistant) water stop with joint filler poured to the top of the slab. Beneath each expansion joint are two layers of No. 30 felt paper and a 6-inch-thick, unreinforced-concrete pad (minimum 28-day compressive strength of 2,500 psi).
- The reinforced-concrete floor slab and base design was certified by a registered State of Washington Professional Engineer.

2.1.6.1.1.4. Containment System Capacity

- The containment system at the Permitted Unit is designed to hold 10 percent of the total volume of waste being stored, plus 20 minutes of fire suppression water (Figures

D-12 through D-27). Table D-2 outlines the maximum waste inventory for each area at the Permitted Unit. The far right column in Table D-2 lists the maximum containment available before the weirs are breached.

- Table D-3 lists the volume of fire suppression water that would be generated in 20 minutes of operation, the total required waste containment, and the available containment capacities in the individual Permitted Unit storage areas. Each zone of the Permitted Unit has a separate fire suppression loop; for example, a fire in Zone 4 (Rooms 100, 102, and 104) would not necessarily trip the fire suppression system in Zone 6 (Room 103). Zone 6 includes all of Room 103 and the PCB storage area. This makes it difficult to show in a table the containment capacity for just the shipping and receiving room. However, as indicated in Table D-3, adequate containment is available with inclusion of the connected PCB storage room containment.
- The containment sumps run the entire length of the south wall of the storage area, but each individual storage area is separated by weirs. In addition, a containment sump runs from the shipping and receiving door east along the north wall of the Electricians Shop. The Shipping and Receiving Area and the Electricians Shop have continuous containment capacity that runs through the wall separating the two rooms that provides greater than 10 percent of the total volume plus 20 minutes of fire suppression water. The calculation used to estimate the containment capacities are shown in Attachment D-3 and summarized below:

  Each containment sump is 6 feet by 5 feet 9 inches in size.

  6 x 5.75 = 34.5 square foot cross section

  34.5 square feet x linear feet of sump x 7.48 gallon/ cubic foot = total volume of sump

  The total capacity per linear foot is 259 gallons. To calculate the maximum containment before the weirs are breached, the total capacity is calculated based on the weir height of between 120 and 191 gallons per linear foot (Attachment D-3).

- The Bulking Room (Room 104) is equipped with one 120-gallon containment sump in the southwest corner of the room. The room itself is also stepped down from the floor level of the rest of the building, and this provides an additional 688 gallons of containment capacity, for a total capacity of 801 gallons (Figure D-17).
- The outside covered Loading and Unloading Area is equipped with a 12,615-gallon, reinforced-concrete, trench-style containment sump that runs along the entire north side of the area. The area is constructed with 1 percent sloped, reinforced-concrete floors that contain two blind sumps, each measuring 2 feet by 2 feet. The floor slopes down toward the middle so that it is approximately 1 foot lower in elevation than the trench sump that runs along the entire north side of the area. The containment capacity of the floor is approximately 3,676 gallons. The total containment capacity of the Loading and Unloading Area is approximately 16,290 gallons.

2.1.6.1.1.5. Control of Run-on

- As shown in Figures D-6 through D-8, all areas of the Permitted Unit where dangerous wastes are handled are inside the building or outdoor areas under a roof. Roof drainage is piped into the yard storm drain system that discharges to the north of the HMB. The access roadways and apron to the outdoor Loading and Unloading Area are all sloped away from the HMB to facilitate drainage away from the area.
- On occasion, during severe rain events, some precipitation blows into the unloading area and accumulates in the containment trench along the north side of the area. During rain events, the Loading and Unloading Area is visually inspected to verify if fluids are accumulating in the trench. When the trench is approximately 25 percent full, accumulated liquids are manually pumped from the trench into a steel drum and are characterized using process knowledge and chemical analysis in accordance with WAC 173-303-100 and 40 CFR 261.20. Results of the characterization dictate the management of the material.

2.1.6.2. Removal of Liquids from Containment System

2.1.6.2.1. Secondary containment trenches are visually inspected daily during routine container storage area inspections to detect

spills, releases, or accumulation of fluids into the secondary containment system. If liquids are detected in the containment system, the source of the fluids is evaluated and controlled first. Once the source is controlled, the accumulated fluids are pumped or otherwise removed from the containment trenches into containers (for example, 55-gallon drums) and are characterized. Section F, Procedures to Identify Hazards specifies the timelines for corrective actions. The exception to this procedure is noted in Section 2.1.6.1.1.5, Control of Run-on, for the containment sump in the Loading and Unloading Area. This containment sump will be monitored daily during rain events and pumped out when it is 25 percent full of precipitation, or once per week, whichever occurs first. The Permitted Unit will maintain a 25 percent full demarcation on the sump wall or a measuring stick. Any containerized waste materials generated from removal of liquids from the containment system are stored in the designated storage room where the released liquids originated.

2.1.7. Demonstration that Containment Is Not Required

2.1.7.1. Because containers do not contain free liquids, wastes that exhibit ignitability or reactivity, or wastes designated F020, F023, F026, or F027, do not require containment.

2.1.7.2. The Permitted Unit is used to manage and store dangerous waste containing free liquids. Therefore, a demonstration that containment is not required is not applicable.

2.1.8. Prevention of Reaction of Ignitable, Reactive, and Incompatible Wastes in Containers [630(8) & (9), -395(1), -806(4)(a)(ix)]

2.1.8.1. Management of Certain Reactive Wastes in Containers

2.1.8.1.1. Explosive reactive wastes are not received or stored at the Permitted Unit. Therefore, this section is not applicable.

2.1.8.2. Management of Ignitable and Certain Other Reactive Wastes in Containers

2.1.8.2.1. Container storage areas are designed to meet the International Fire Code (IFC). Reinforced concrete fire separation walls are provided as barriers between Room 100 and Room 102. For small containers of ignitable wastes, NFPA-approved storage cabinets are used to meet IFC requirements. Reactive waste (D003) is stored in containers designed to hold the waste in Room 102D on secondary containment pallets.

2.1.8.2.2. BPA complies with all requirements outlined by the International Fire Code. This dictates the fire flow requirements and includes an annual Fire Risk Inspection by a fire protection engineering contractor.

2.1.8.3. Design of Area to Manage Incompatible Wastes

2.1.8.3.1. Three design features have been installed at the Permitted Unit to manage and provide separation for incompatible waste. DOT classification is used to determine compatibility. These features include the following:

- Waste types are separated and stored in designated areas as indicated in Section 2.1.6, Containment Requirements for Storing Containers.
- Containment trenches that run the full length of the room openings separate each waste type in case of a spill. Each containment trench and sump is separated from other containment devices to prevent potential commingling of spilled wastes.
- Each storage room/area is separated with full-height, reinforced-concrete walls.

3. Tank Systems [-640; 806(4)(c)]

3.1. There are no tank systems at the Permitted Unit used for the management of dangerous wastes; therefore, this requirement is not applicable.

4. Waste Piles [-806(4)(e)]

4.1. There are no waste piles at the Permitted Unit used for the management of dangerous hazardous and dangerous wastes; therefore, this requirement is not applicable.

5. Surface Impoundments [-806(4)(d)]

5.1. There are no surface impoundments at the Permitted Unit used for the management of dangerous wastes; therefore, this requirement is not applicable.

6. Incinerators [-806(4)(f)]

6.1. There are no incinerators at the Permitted Unit used for the management of dangerous wastes; therefore, this requirement is not applicable.

7. Landfills [-806(4)(h)]

7.1. There are no landfills at the Permitted Unit used for the management of dangerous wastes; therefore, this requirement is not applicable.

8. Land Treatment [-806(4)(g)]

8.1. Land treatment of dangerous wastes does not occur at the Permitted Unit; therefore, this requirement is not applicable.

9. Air Emissions Control [-110, -630, -690, -691, -692; -806(4)(j) & (k)]

9.1. Containers of dangerous waste are accepted at the permitted unit that are subject to 40 CFR Part 264 Subpart CC. No dangerous waste management practices are performed at the Permitted Unit that are subject to the air emission control regulations under 40 CFR Part 264, Subparts AA or BB.

9.1.1. Process Vents [-806(4)j); -690]

9.1.1.1. There are no dangerous waste process vents at the Permitted Unit or the Ross Complex, therefore this requirement is not applicable.

9.1.2. Equipment Leaks [806(4)(k); -691]

9.1.2.1. Applicability of Subpart BB Standards

9.1.2.1.1. Equipment Subject to Subpart BB

9.1.2.1.1.1. There is no dangerous waste process equipment at the Permitted Unit or the Ross Complex, therefore this requirement is not applicable.

9.1.2.1.1.2. During bulking or repackaging of dangerous wastes in the Bulking Room (Room 104), dangerous wastes potentially containing organics greater than 10 percent by weight are transferred to and from containers by the simple practice of pouring. No mechanical transfer equipment, such as pumps, is used in the Bulking Room or elsewhere in the Permitted Unit.

9.1.3. Air Emission Standards for Tanks and Containers [-630(11); -692]

9.1.3.1. Applicability of Subpart CC Standards

9.1.3.1.1. No tank systems at the Permitted Unit fall under Subpart CC Standards. Numerous dangerous wastes are permitted to be received at the Permitted Unit that are contained in containers greater than 26 gallons in capacity and that contain an average volatile organic compound (VOC) concentration equal to or greater than 500 ppmw. These waste streams are generated either at off-site BPA generator locations or from generator-only activities at the Ross Complex. Areas of the Permitted Unit that may be used to handle or store these waste streams include:

- Room 100 – Ignitable/Flammable Waste

- Room 102C – Pending Analysis Results and limited reactive waste
- Room 102D – State-only dangerous waste and RCRA toxicity characteristic waste (D004-D043)
- Room 103 – Shipping and Receiving
- Room 104 – Bulking Room

9.1.3.2. Tank Systems and Container Areas – Demonstrating Compliance [WAC 173-303-630, 640 & 692]

9.1.3.2.1. No tank systems at the Permitted Unit fall under Subpart CC Standards. Therefore, the requirements of 173-303-640 (Tank Standards) are not applicable.

9.1.3.2.2. No control devices such as closed vent systems (WAC 173-303-692 and 40 CFR §264.1087) or container enclosures (40 CFR §264.1086(e)(1)(ii)) are used at the Permitted Unit for the management of dangerous wastes. Therefore, the requirements of 40 CFR §270.27(a)(1), (a)(3), (a)(5), and (a)(6) are not applicable.

9.1.3.2.3. BPA complies with the Subpart CC regulations as they pertain to container management at the Permitted Unit and the Ross Complex by following the "Level 1" container standard [40 CFR §264.1086(c)(1)]. Compliance is demonstrated by:

- Using and accepting only containers with a volume less than 119 gallons;
- Using and accepting only DOT-approved containers suitable for the waste;
- Performing, within 24 hours of receipt at the Permitted Unit, a visual inspection by HMB personnel of each container to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure are secured in the closed position;
- Recording the container size, DOT packaging verification, and results of visual inspections on the container tracking logs prepared for each container;
- Repairing the container if defects are noted during the initial inspection or overpacking the container or the container contents into a new container within 24 hours of discovery of the defect;

- Keeping the containers closed during storage, except when adding or removing waste from the container or when sampling the container;
- Promptly securing the cover of the container, and securing all closure devices upon completion of the sampling operation;
- Promptly securing the cover of the receiving container, and securing all closure devices upon completion of bulking or consolidating wastes;
- Verifying that the container being emptied meets the definition of empty, or by promptly replacing and securing the cover until such time as the bulking, consolidating, or emptying operation can be completed.

10. Waste Minimization

10.1. A Pollution Prevention Plan for the Ross Complex is prepared and submitted annually by BPA in accordance with Chapter 70.95C RCW, and Chapter 173-303 WAC independently of the Resource Conservation and Recovery Act permitting process for the Permitted Unit.

11. Groundwater Monitoring for Land-based Units

11.1. There are no Land-based Units at the Permitted Unit; therefore, this requirement is not applicable.

Tables – Section D

Table D-1 [a] DOT-Approved Containers and Covers – Use and Description	
BPA Class and Item No.[b]	**Description of Container and Typical Use**
82-4645	8-gal., open head. UN1A2/X100/S USA 4035. Approved for non-liquid PCB, capacitor cells, contaminated rags and soils, hazardous waste solids, mercury contaminated rags, etc.
82-4650	55-gal., open head. UN1A2/Y 1.7/150. Same as above.
82-4651	30-gal., open head. UN1A2/Y 1.5/100/95. Same as above.
82-4653	30-gal., bung head. UN1A1/Y 1.4/330. Approved for transformer oil, lube oils, solvents, liquid PCBs, hazardous waste liquids except acids/corrosives.
82-4655	55-gal., bung head. UN1A1/Y 1.8/330/93. Same as above.
82-4660	85-gal., open head salvage drum. UN1A2/Y/435/5/96. Marked "Salvage Drum" per Code of Federal Regulations 49 (CFR) 173.3. Approved for non-liquid PCB, large capacitor cells, PCB transformers, as a recovery container (overpack) for damaged or leaking 55-gal. drums containing PCB or hazardous wastes.
82-4665	55-gal., composite, plastic container (plastic-lined steel overpack container). UN6HA1/Y 1.8/100. Approved for shipping and storage of oils and acids, except nitric acid and fuming sulfuric acid, and corrosives. Can be reused for most BPA-identified waste streams. (UN1A1/Y 1.8/330/93 should be used for oils and solvents when possible.)
82-4670	Composite, plastic container that fits into a 5-gal. container. UN 6HA1/Y 1.8/100/91/USA. Approved for shipping and storage of oils, acids, except nitric acid, fuming sulfuric acid, and corrosives.
82-4675	5-gal., bung head, with screw cap and spout. UN1A1/Y 2.4/300/95. Approved for transformer oil, lube oils, solvents, liquid PCBs, and hazardous waste liquids except acids/corrosives.
	Container Covers
82-4600	Drum cover, galvanized steel. Cover used for outside drum storage to prevent water and dust from standing on top of drum . Drums may be stacked with steel covers. 55-gal. drum.
82-4610	Drum cover, plastic. For single barrel used outdoors, or in dusty, dirty areas. Can be issued with full barrel by request if needed. 55-gal. drum.

[a]This table is provided for informational purposes only and is intended to illustrate BPA's methodology for selecting containers used for dangerous wastes. The form and content of this table may change as BPA reviews and updates waste generator information. For each waste generated by BPA's operations, a waste-specific determination is made by the generating facility, the BPA Laboratory, and Permitted Unit personnel to select the proper DOT-approved container type.

[b]This numbering system is unique and pertains only to internal BPA material specifications. It has no bearing or relationship to DOT classifications.

Table D-2
Total Volume of Waste and Containment Capacity
HMB Permitted Unit Area

Room/ Area	Maximum Waste Volume (gal.)	10% of Maximum Waste Volume (gal.)	Containment Capacity Before Weirs Are Breached (gal.)	Total Sump Containment Capacity (gal.)	Collection Trench Capacity (gal.)	Total Containment Capacity Before Weirs are Breached (gal.)
100	15,400	1,540	12,364	14,967	434	12,798
102A	1,320	132	2,274	3,127	142	2,416
102B	1,760	176	3,624	4,903	142	3,766
102C	1,760	176	3,624	4,903	142	3,766
102D	11,000	1,100	7,248	9,806	284	7,532
103	1,760[a]	176	N/A	20,600[b]	1,334	20,600[b]
104	440[a]	40	N/A	801	N/A	801
Loading/ Unloading	5,100[c]	510	N/A	12,615	3,676	16,290
Total Capacity	31,240	3,850	29,134	71,722		67,969

[a] This number is not included in the maximum storage capacity calculations of the Permitted Unit because storage does not occur in this room. This is provided to demonstrate that, in the event of a spill, the room has available containment capacity for maximum operation.

[b] This number includes the capacity of Room 103 (Shipping and Receiving) and Room 101 (Electricians Shop) since the containment is continuous between these two rooms with no weir separation.

[c] This area was designed to contain the quantity of one flatbed truck containing 60, 85-gallon drums. This number is not included in the maximum storage capacity calculations of the Permitted Unit because neither staging nor storage occurs in the Loading and Unloading Area. This is provided to demonstrate that, in the event of a spill, the Loading and Unloading Area has available containment capacity for maximum operation.

Table D-3
20-Minute Fire Suppression Flows and Total Containment Calculations
HMB Permitted Unit Area

Fire Zone	Area/Room	Fire Flow Design Criteria (gpm/sq ft)	Square Footage (sq ft)	20-minute Volume (gal.)	10% Total Waste Volume (gal.)	Total Required Containment (gal.)	Total Available Containment Before Breach of Weirs (gal.)	Total Available Containment Capacity if Weirs Are Breached (gal.)
4	Dangerous Waste Storage Area (Rooms 100 and 102)	0.25	5,360	26,800	3,300	30,100	30,279	38,850
4	Bulking Room (Room 104)	0.25	352	1,760	40	1,800	N/A	801
5	Outside Loading/Unloading	0.25	1,680	8,400	2,420	10,820	N/A	16,290
6	Shipping/Receiving (Room 103) and Electricians Shop (Room 101)	0.25	~3,000	15,000[a]	176	15,176	N/A	21,934[a]

[a]As noted in the table, the Shipping and Receiving Area and Electricians Shop area are on the same fire suppression loop and containment sump. In the event of a fire, fire suppression water will flow into the entire length of the containment sump in Room 103 and Room 101. For the purpose of calculating adequate capacity, both rooms must be considered.

Figures – Section D

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4	CONTAINER LABELING FORMAT
5	CONTAINER LABELS
	CIVIL
6	GRADING AND PAVING PLAN
7	EXTERNAL CONTOURS
8	DRAINAGE PLAN
9	GRADING, PAVING AND YARD PIPING DETAILS
	ARCHITECTURAL
10	LEGEND AND NOTES
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SHEET NO.	DRAWING TITLE
	MECHANICAL
27	FIRE PROTECTION PLAN AND DETAILS

NO.	PC-4	COMPUTER REVISION ONLY	BY	DATE	APPROVED
		CONTRACT CONSTRUCTION FA-FORCE ACCOUNT CONSTRUCTION AS-RECORD			

D-com CHERRILL
Engr
Chkd
Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

FIGURE D-1
HAZMAT BUILDING
RCRA PERMITTED UNIT
INDEX TO DRAWINGS

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	1	0

Official Use Only

ABBREVIATIONS

@	AT
AB	ANCHOR BOLT
ABS	ACRYLONITRILE-BUTADIENE- STYRENE
AC	ASPHALT CONCRETE
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADJ	ADJUSTABLE
AGGR	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AL	ALUMINUM
ALTN	ALTERNATE
ANOZ	ANODIZE
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
AUTO	AUTOMATIC
AUX	AUXILIARY
BC	BOTTOM OF CURB
BD	BOARD
BF	BLIND FLANGE
BLDG	BUILDING
BM	BENCH MARK, BEAM
BOD	BOTTOM OF DUCT
BOT	BOTTOM
BSP-40	BLACK STEEL PIPE, SCHEDULE 40
BSP-80	BLACK STEEL PIPE, SCHEDULE 80
BV	BALL VALVE, BUTTERFLY VALVE
C	CHANNEL (BEAM)
CAB.	CABINET
CB	CATCH BASIN
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CH	COAT HOOK
CHEM	CHEMICAL
CHK PL	CHECKERED PLATE
CIMJ	CAST IRON MECHANICAL JOINT
CIP	CAST IRON PIPE
CIPC	CAST IN PLACE CONCRETE
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CLG	CEILING
CLO	CLOSET
CLR	CLEAR
℄, CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONARY UNIT
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUOUS
COORD	COORDINATE
COP.	COPPER
CPLG	COUPLING
CPVC	CHLORINATED POLYVINYL CHLORIDE
CRS	COLD ROLLED STEEL
CSP	CONCRETE SEWER PIPE
CTD	CENTERED
CU	CUBIC
CU FT	CUBIC FOOT
CU IN.	CUBIC INCH
CU YD	CUBIC YARD
CV	CHECK VALVE
CW	COLD WATER (POTABLE)
° C	DEGREE CELSIUS
Δ	CENTRAL ANGLE
d	PENNY (NAIL SIZE)
DB	DISTRIBUTION BOX
DBL	DOUBLE
DCO	DECK CLEANOUT
DET	DETAIL
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIMJ	DUCTILE IRON MECHANICAL JOINT
DIMJGL	DUCTILE IRON MECHANICAL JOINT, GLASS LINED
DI	DUCTILE IRON PIPE
DIPGL	DUCTILE IRON PIPE, FLANGED, GLASS LINED
DN	DOWN
DR	DRAIN
DWG	DRAWING
EA	EACH
ECC	ECCENTRIC
EDH	ELECTRIC DUCT HEATER
EL	ELEVATION
ELB	ELBOW
ELC	ELECTRICAL LOAD CENTER
ELEC	ELECTRIC, ELECTRICAL
ENGR	ENGINEER
EQ	EQUAL
EQPT	EQUIPMENT
EVC	END OF VERTICAL CURVE
EW	EACH WAY
EXH	EXHAUST
EXP	EXPOSED
EXP JT	EXPANSION JOINT
EXST	EXISTING
FC	FLEXIBLE COUPLING
FCA	FLANGED COUPLING ADAPTER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDA	FLOOR DRAIN W/INTEGRAL TRAP
FDN	FOUNDATION
FEXT	FIRE EXTINGUISHER
FF	FINISH FLOOR
FG	FINISH GRADE
FHY	FIRE HYDRANT
FIG.	FIGURE
FL	FLOOR
FLG	FLANGE
FLH	FLAT HEAD
FLL	FLOW LINE
FLTR	FILTER
FNSH	FINISH
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FR	FIRE RETARDANT
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FOOT OR FEET
FTG	FOOTING
FWD	FORWARD
° F	DEGREE FAHRENHEIT
GA	GAGE
GAL	GALLON
GALV	GALVANIZED
GALVI	GALVANIZED IRON
GB	GRAB BAR
GC	GROOVED COUPLING
GCF	GROOVED COUPLING FITTING
GL	GLASS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GSP	GALVANIZED STEEL PIPE
GTV	GATE VALVE
GWB	GYPSUM WALLBOARD
GYP	GYPSUM
HD	HUB DRAIN
HDW	HARDWARE
HGT	HEIGHT
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HORSEPOWER
HR	HOSE RACK
HV	HOSE VALVE
HVAC	HEAT,VENTILATION & AIR CONDITIONING
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
ID	INSIDE DIAMETER
IN.	INCH
INFL	INFLUENT
INSTM	INSTRUMENTATION
INSUL	INSULATE
INVT	INVERT
JAN	JANITOR
JT	JOINT
KIP	THOUSAND POUNDS
KW	KILOWATT
L	ANGLE
LAB	LABORATORY
LAV	LAVATORY
LB	POUNDS
LB/CU FT	POUNDS PER CUBIC FOOT
Lc	LENGTH OF CURVE
LF	LINEAR FEET
LH	LEFT HAND
LR	LONG RADIUS
MATL	MATERIAL
MAX	MAXIMUM
M&BH	MOP & BROOM HOLDER
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MO	MASONARY OPENING
MTL	METAL
MTS	MILL TYPE STEEL PIPE
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO.	NUMBER
N.O.	NORMALLY OPEN
NP	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
ODL	OVERFLOW DRAIN LEADER
OSD	OPEN SITE DRAIN
OVFL	OVERFLOW
OZ	OUNCE
PCC	PORTLAND CEMENT CONCRETE
PE	PLAIN END
PEN.	PENETRATION
PJF	PREMOLDED JOINT FILLER
PL.	PLATE (STEEL)
P-LAM	PLASTIC LAMINATE
PLYWD	PLYWOOD
PPL	POLYPROPYLENE LINED
PREFAB	PREFABRICATED
PRESS.	PRESSURE
PRI	PRIMARY
PROP.	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
PTO/WR	PAPER TOWEL DISPENSER WITH WASTE RECEPTICLE
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE PLASTIC
PVMT	PAVEMENT
RA	RETURN AIR
RAD	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RDCR	REDUCER
RDL	ROOF DRAIN LEADER
RDW	REDWOOD
REF	REFER OR REFERENCE
REFR	REFRIGERATOR
REINF	REINFORCED, REINFORCING, REINFORCE
RESIL	RESILIANT
REQD	REQUIRED
RH	RODHOLE
RL	RAIN LEADER
RLS	RUBBER LINED STEEL
RM	ROOM
RO	ROUGH OPENING
RR	RAILROAD
RST	REINFORCING STEEL
RTN	RETURN
RV	ROOF VENT
R/W	RIGHT-OF-WAY
S	I-BEAM
SC	SOLID CORE
SCD	SEAT COVER DISPENSER
SCFM	STANDARD CUBIC FEET PER MINUTE
SCHED	SCHEDULE
SD	SOAP DISPENSER
SECT	SECTION
SHT.	SHEET
SIM	SIMILAR
SLP	SLOPE
SP	SPACE OR SPACES
SPEC	SPECIFICATIONS
SPLY	SUPPLY
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
ST (50)	STEAM W/INDICATED PRESSURE (PSI)
STG	STORAGE
STL	STEEL
STRL	STRUCTURAL
STRUCT	STRUCTURE
SUSP	SUSPEND
SW	SURFACE WASH
SYMM	SYMMETRICAL
T	TANGENT LENGTH
TAN	TANGENT
TBG	TUBING
T&B	TOP AND BOTTOM
TC	TOP OF CURB
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPERATURE
TF	TOP OF FOOTING
T&G	TONGUE AND GROOVE
THD	THREAD
T.O.	TOP OF
TP	TURNING POINT
TPD	TOILET PAPER DISPENSER
TT	THRUST TIE
TW	TOP OF WALL
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UH	UNIT HEATER
V	VENT, VOLT
VAC	VACUUM
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VR	VAPOR RETARDER
VTR	VENT THRU ROOF
W/	WITH
W	WIDE FLANGE (BEAM)
WC	WATER CLOSET
WH	WATER HEATER
WP	WATERPROOF
WS	WATER SURFACE, WATER STOP
W SH ST	WEATHERING SHEET STEEL
WSP	WELDED STEEL PIPE
WTR	WATER
YD	YARD

NOTES:

1. CONTACT THE ENGINEER FOR ABBREVIATIONS NOT LISTED.
2. THIS IS A STANDARD LEGEND SHEET, THEREFORE, SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE PLANS.

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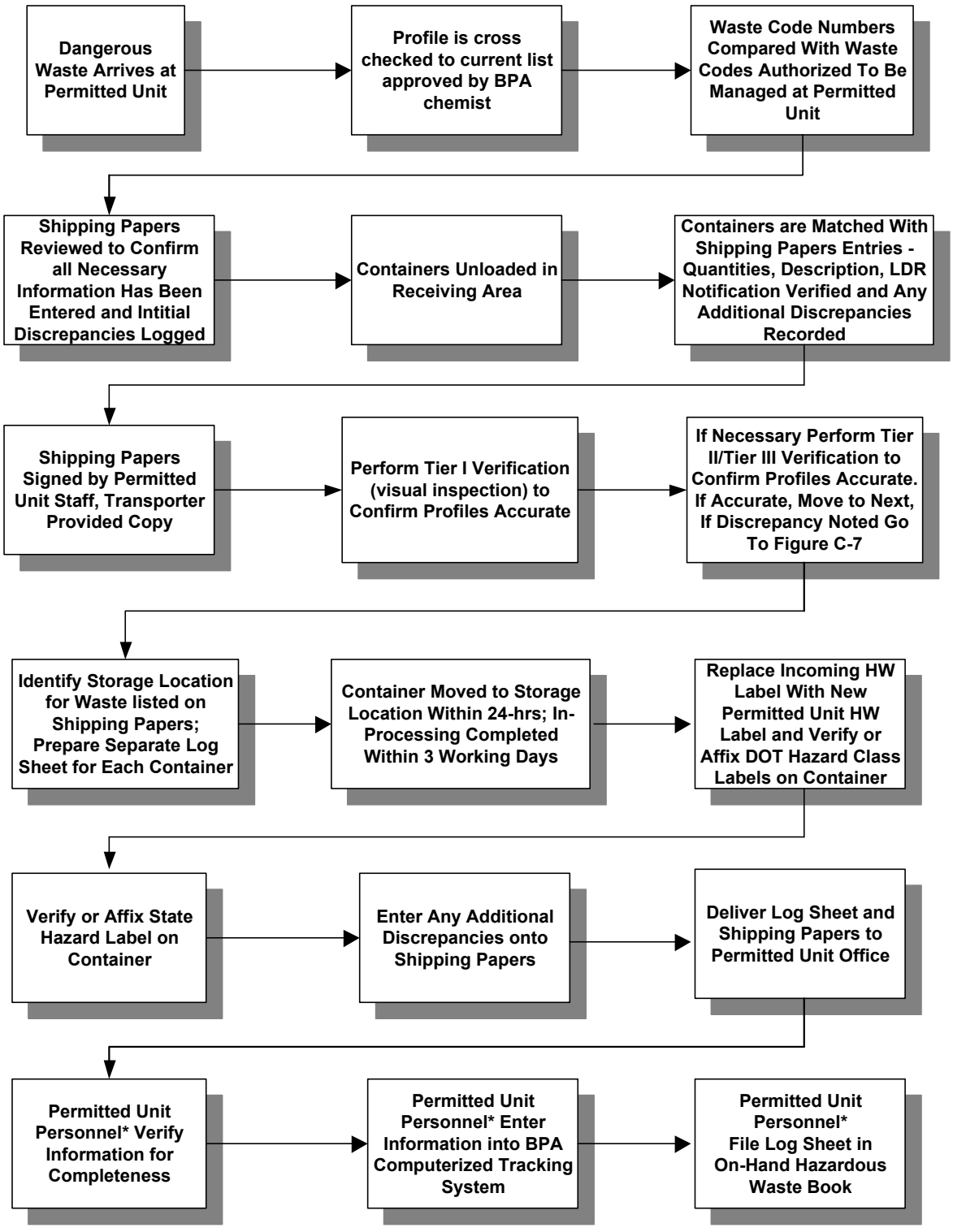
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FIGURE D-2
HAZMAT BUILDING
RCRA PERMITTED UNIT
ABBREVIATIONS

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	2	0



*Performed by HazMat Data Analyst, Electric Utility Foreman, Manager, or District Field Environmental Lead

Figure D-3
Dangerous Waste Process Flow Schematic

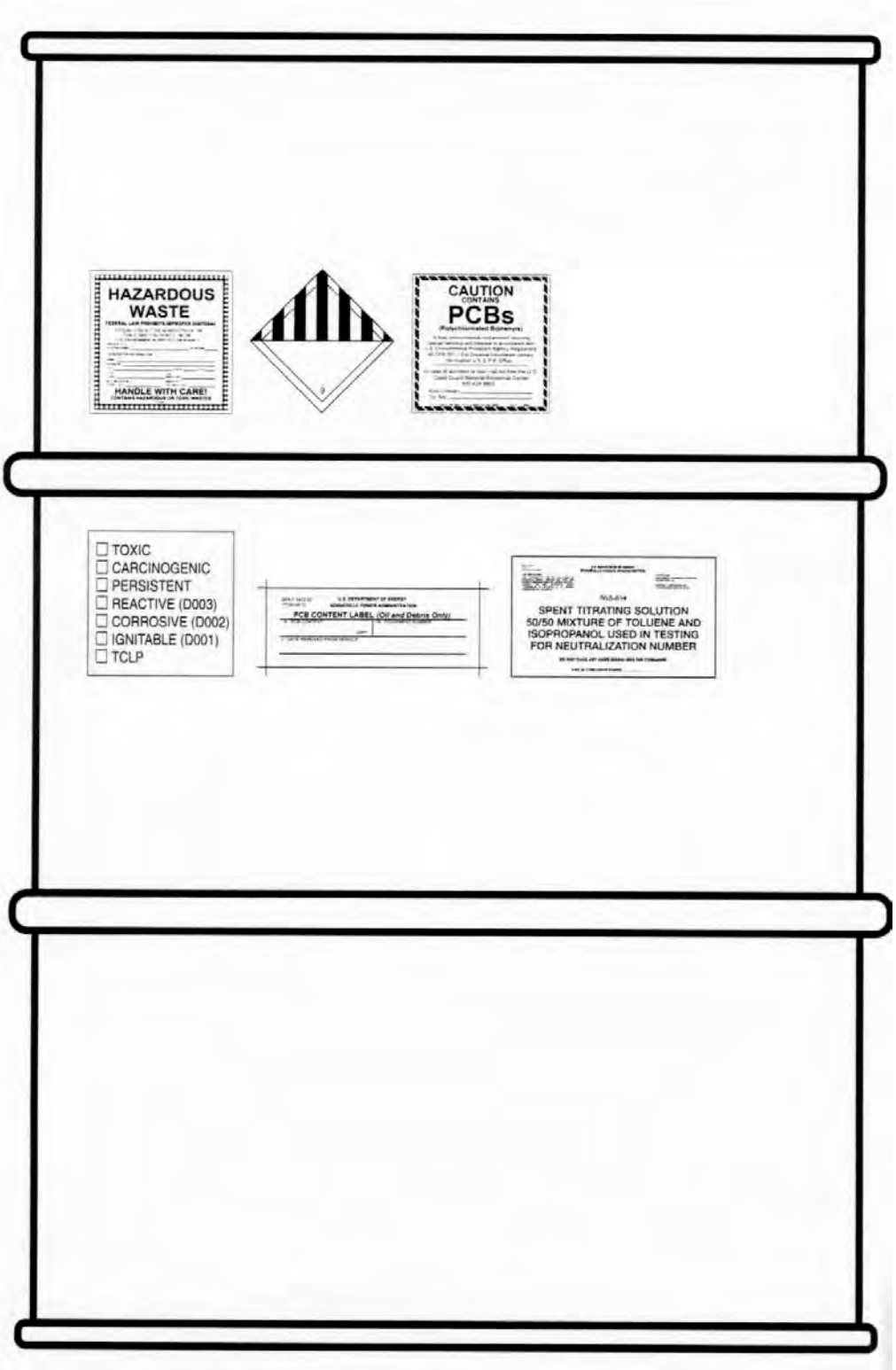


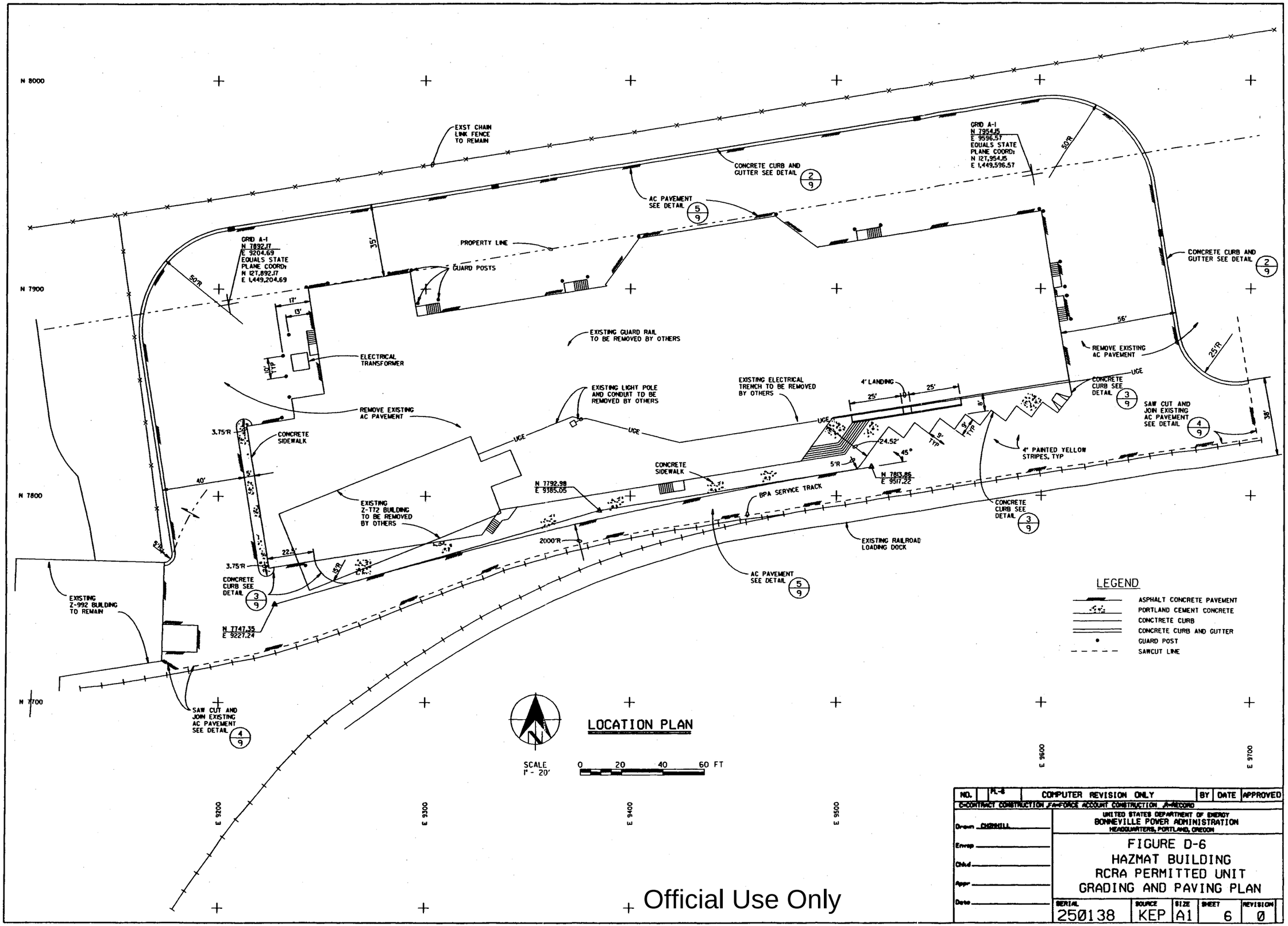
Figure D-4
Example Container Labeling Format*

*This figure is provided for illustration purposes only to demonstrate the general procedure for affixing labels to containers of regulated waste. Actual labeling varies from waste to waste depending on the type of waste contained in the container.



Figure D-5
Example Federal, State, and DOT Container Labels**

**This figure is provided for illustration purposes only to demonstrate the general types of labels affixed to containers of regulated waste. Actual labeling varies from waste to waste depending on the type of waste contained in the container.



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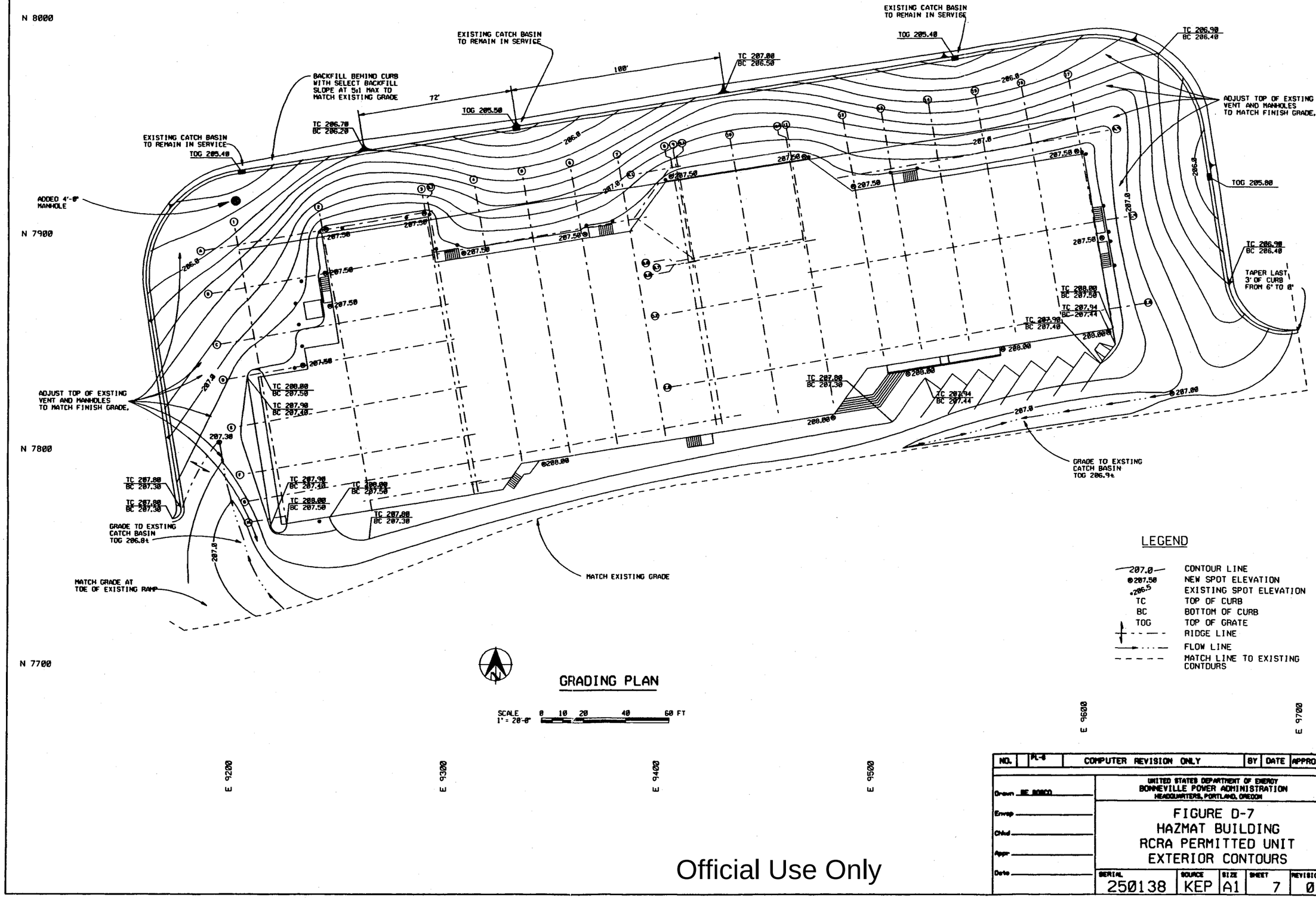
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FIGURE D-6
HAZMAT BUILDING
RCRA PERMITTED UNIT
GRADING AND PAVING PLAN

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	6	0



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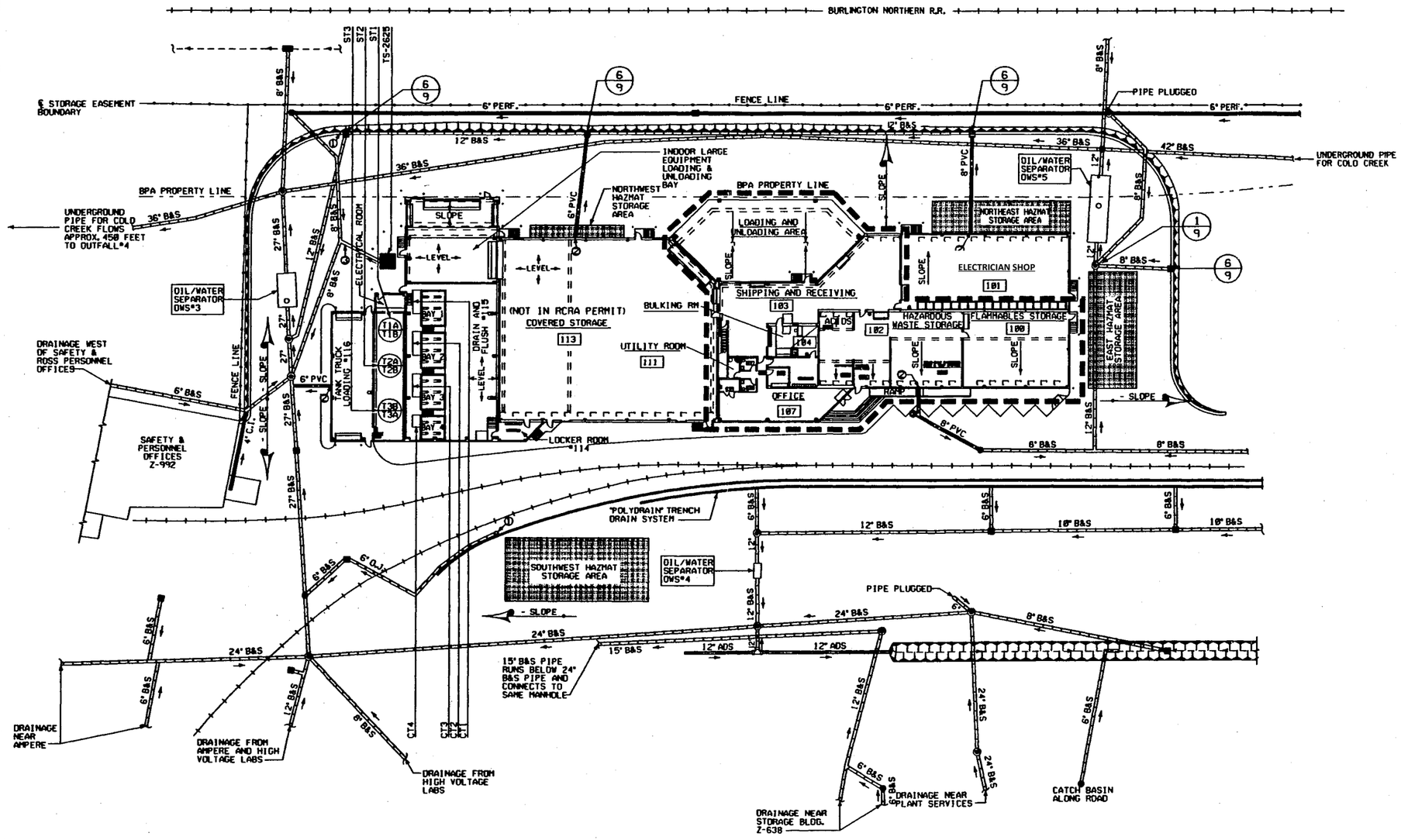
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FIGURE D-7
HAZMAT BUILDING
RCRA PERMITTED UNIT
EXTERIOR CONTOURS

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	7	0

DATE



LEGEND

- DRAINAGE CATCH BASIN
- DRAINAGE INLET
- DRAINAGE MANHOLE
- DRAINAGE CLEANOUT
- MANHOLE WITH OIL STOP VALVE
- OPEN JOINT CONCRETE PIPE
- PERFORATED B & S CONCRETE PIPE
- SOLID B & S CONCRETE PIPE
- CAST IRON PIPE
- SOLID PVC PLASTIC PIPE
- ADVANCED DRAINAGE SYSTEM INC. PIPE
- DITCH FLOW
- COLLECTOR TRENCH OR SUMP
- FOOTINGS
- PORTION OF HAZMAT BUILDING INCLUDED IN RCRA PERMIT (ie, PERMITTED UNIT)

NOTES:

1. END OF PIPE PLUGGED.
2. NOT CONTAINMENT DRAIN PIPE. ROOF DRAINAGE PIPE PASSES THROUGH FLOOR OF CONTAINMENT. PIPE IS GASKETED & SEALED.
3. SIZE AND TYPE OF PIPE UNKNOWN.

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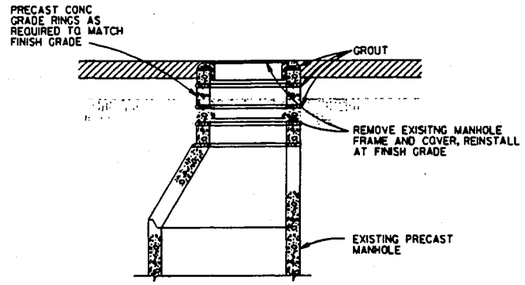
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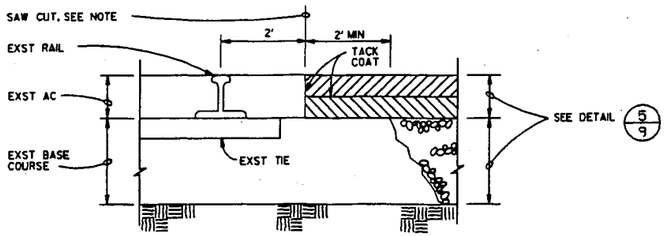
FIGURE D-8
HAZMAT FACILITY DRAINAGE PLAN

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	8	0

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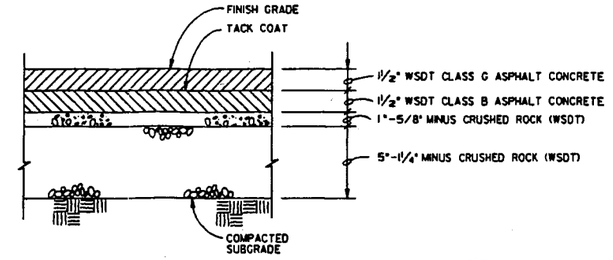


UTILITY GRADE ADJUSTMENT DETAIL 1/8
NTS

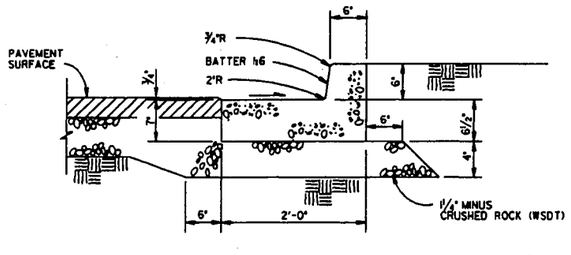


NOTE:
SAW CUT EXST AC JUST PRIOR TO PLACING NEW PAVEMENT. MAKE SAW CUT 4' BACK FROM EDGE OF EXCAVATION SO AS TO REVEAL A MIN OF 2 FEET UNDISTURBED EXST BASE COURSE.

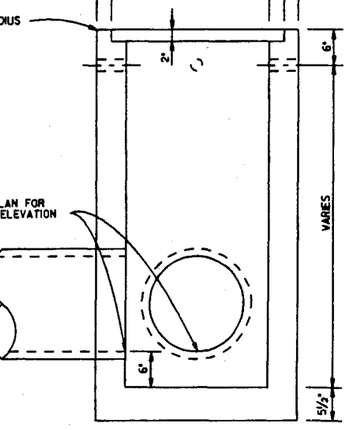
NEW-EXISTING AC PAVEMENT TRANSITION DETAIL 4/6
NTS

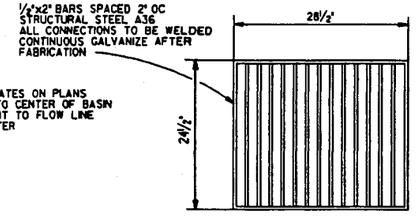


ASPHALT CONRETE PAVEMENT DETAIL 5/6
NTS



CURB AND GUTTER DETAIL 2/6
NTS

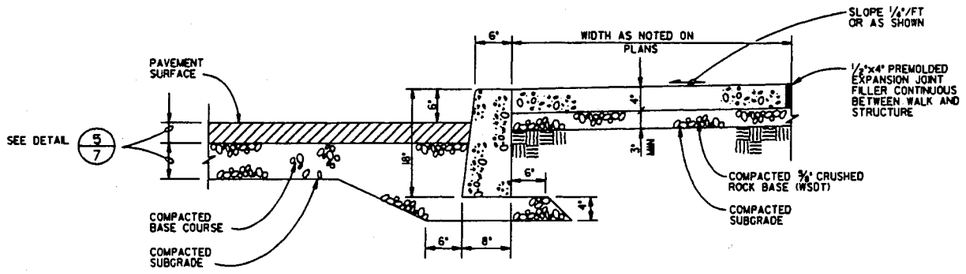




GRATE DETAIL

NOTE:
FOR REINFORCING STEEL SEE SHEET 36

CATCH BASIN DETAIL 6/8
NTS



CURB AND SIDEWALK DETAIL 3/6
NTS

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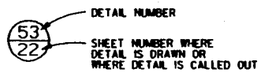
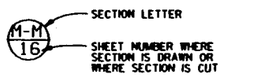
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FIGURE D-9
HAZMAT BUILDING
GRADING, PAVING AND
YARD PIPING DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	9	Ø

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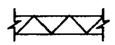
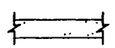
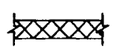
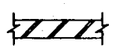
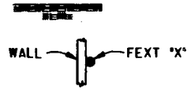
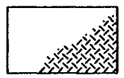
ARCHITECTURAL LEGEND

SYMBOL	LEGEND
	INDICATES PAIR OF DOORS
	INTERIOR WALL ELEVATION
	WINDOW NUMBER, LOUVER NUMBER
	ROOM NUMBER
	DOOR NUMBER
	WALL TYPE
	DETAIL BUBBLE
	SECTION BUBBLE

GENERAL NOTES

1. UNLESS OTHERWISE NOTED, PLAN DIMENSIONS ARE TO COLUMN GRID ON CENTERLINES, NOMINAL SURFACE OF MASONRY, FACE OF STUDS AND FACE OF CONCRETE WALLS.
2. REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
3. WHERE DOOR IS LOCATED NEAR CORNER OF ROOM AND IS NOT LOCATED BY DIMENSION ON PLAN OR DETAILS, DIMENSION SHALL BE 4-INCHES FROM FACE OF STUD (WALL) TO FACE OF ROUGH OPENING.
4. AT SOUND INSULATED WALLS, FULL HEIGHT PARTITIONS SHALL BE SEALED BOTH SIDES WITH ACOUSTIC SEALANT; TOP, BOTTOM, INTERSECTIONS, DOOR FRAMES, GLAZED OPENING FRAMES, AND OTHER PENETRATIONS.
5. LINE OF EXISTING GRADES, AS SHOWN ON THE BUILDING ELEVATIONS AND SECTIONS ARE APPROXIMATE. THEY ARE AT THE BUILDING FACE, OR ON THE SECTION END EXCEPT AS NOTED.
6. VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.
7. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES OF DRAWINGS FOR ADDITIONAL NOTES.
8. VERIFY SIZE AND LOCATION OF, AND PROVIDE: ALL OPENINGS THROUGH FLOORS AND WALLS, ACCESS DOORS, FURRING, CURBS, ANCHORS AND INSERTS. PROVIDE ALL BASES, BLOCKING REQUIRED FOR ACCESSORIES, MECHANICAL, ELECTRICAL AND OTHER EQUIPMENT.

MATERIAL LEGEND

SYMBOL	LEGEND
	CONCRETE
	STEEL STUD PLAN
	GYPSUM WALLBOARD OR VENEER PLASTER IN SECTION
	RIGID INSULATION
	BATT INSULATION
	STEEL
	WOOD, ROUGH CONTINUOUS
	WOOD, ROUGH NON-CONTINUOUS
	GROUND SURFACE
	FIRE EXTINGUISHER "X" = NO. IN SPECS
	CHECKERED PLATE
	EMERGENCY EYEWASH & SHOWER
	PALLET OF CONTAINIERS (55-GAL. DRUMS, TYP) CONTAINERS MAY BE STORED 2 PALLETS HIGH
	SECONDARY CONTAINMENT SUMP
	SECONDARY CONTAINMENT TRENCH

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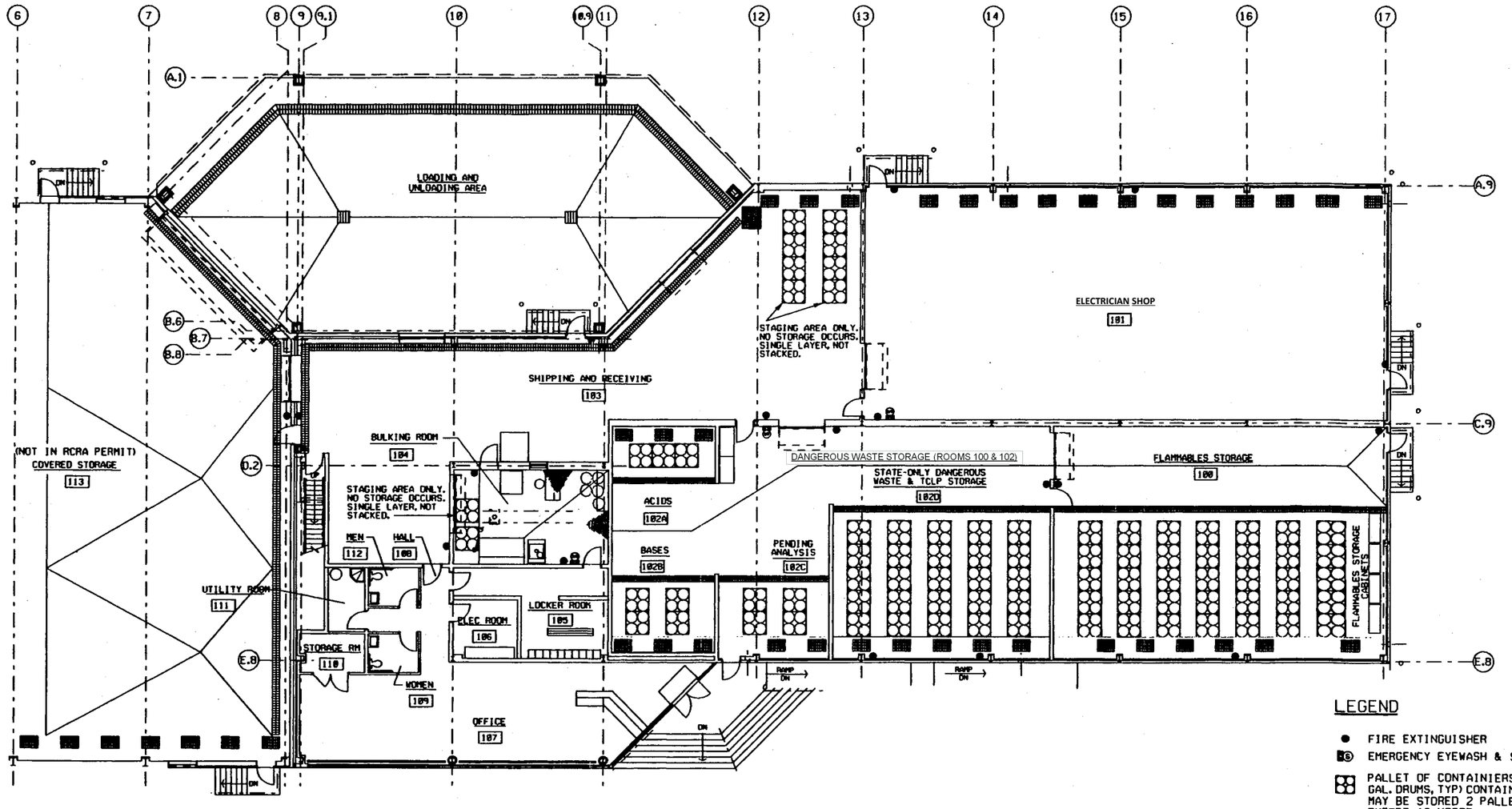
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FIGURE D-10
HAZMAT BUILDING
RCRA PERMITTED UNIT
ARCH. LEGEND & NOTES

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	10	0

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FLOOR PLAN

Note:
Drum sizes, numbers, and locations may not be exact. This figure is provided for informational purposes only on typical drum staging and storage locations around the permitted unit.

SCALE 1" = 10'-0" 0 5 10 20 30 FT

LEGEND

- FIRE EXTINGUISHER
- EMERGENCY EYEWASH & SHOWER
- PALLET OF CONTAINIERS (55-GAL. DRUMS, TYP) CONTAINERS MAY BE STORED 2 PALLETS HIGH EXCEPT AS NOTED
- SECONDARY CONTAINMENT SUMP
- SECONDARY CONTAINMENT TRENCH
- ALUMINUM CHECK PLATE

NOTE:
DRUM SIZES, NUMBERS, AND LOCATIONS MAY NOT BE EXACT. THIS FIGURE IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY ON TYPICAL DRUM STAGING AND STORAGE LOCATIONS AROUND THE PERMITTED UNIT.

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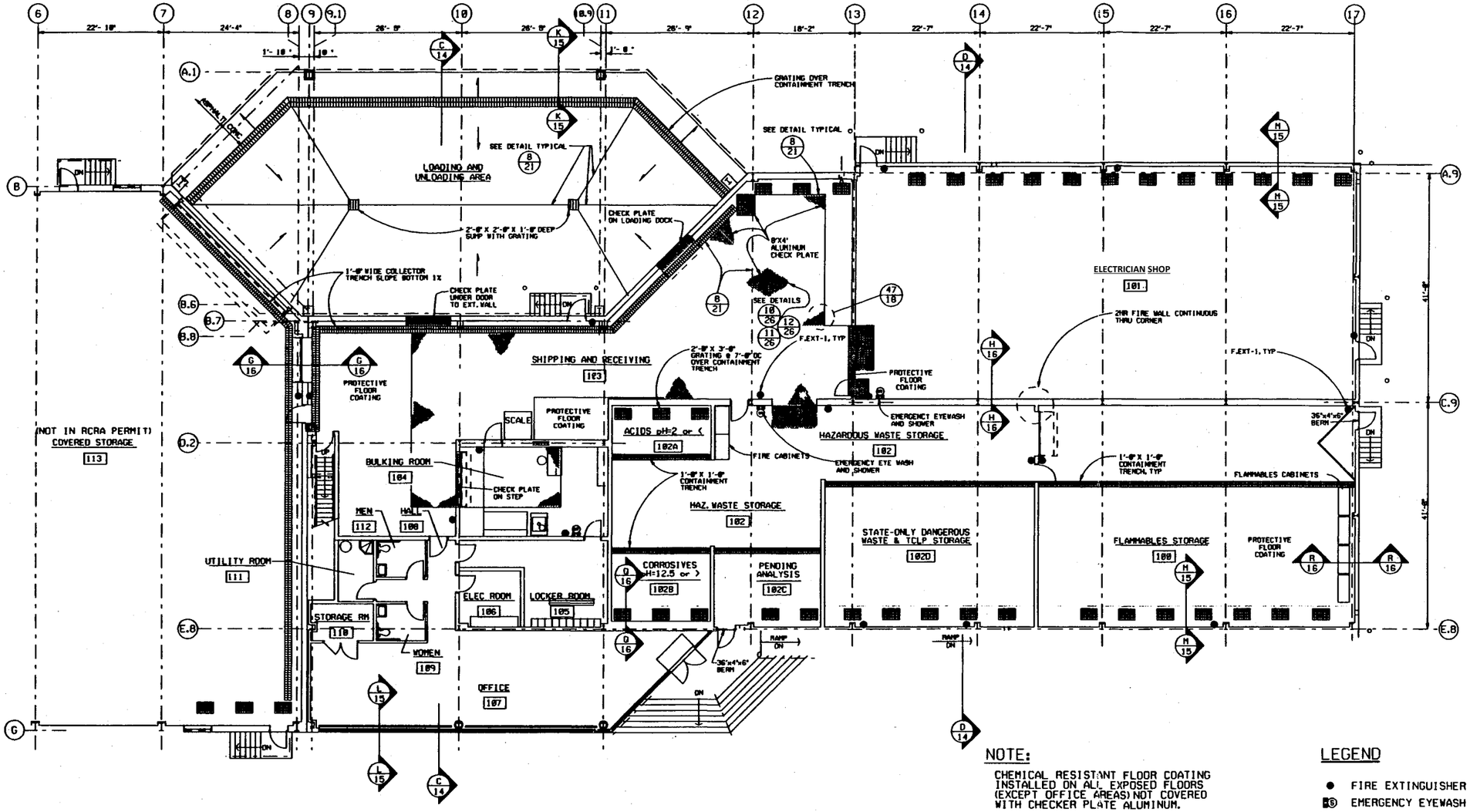
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FIGURE D-11
HAZMAT BUILDING
RCRA PERMITTED UNIT
FLOOR PLAN/CONTAINER STORE

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	11	0



FLOOR PLAN

NOTE:

CHEMICAL RESISTANT FLOOR COATING INSTALLED ON ALL EXPOSED FLOORS (EXCEPT OFFICE AREAS) NOT COVERED WITH CHECKER PLATE ALUMINUM.

LEGEND

- FIRE EXTINGUISHER
- EMERGENCY EYEWASH & SHOWER
- SECONDARY CONTAINMENT SUMP
- SECONDARY CONTAINMENT TRENCH
- ALUMINUM CHECK PLATE

SCALE 1" = 10'-0" 0 5 10 20 30 FT

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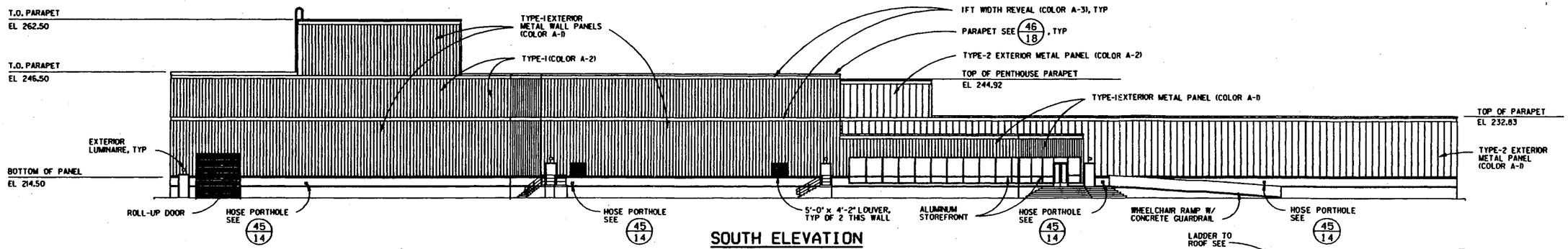
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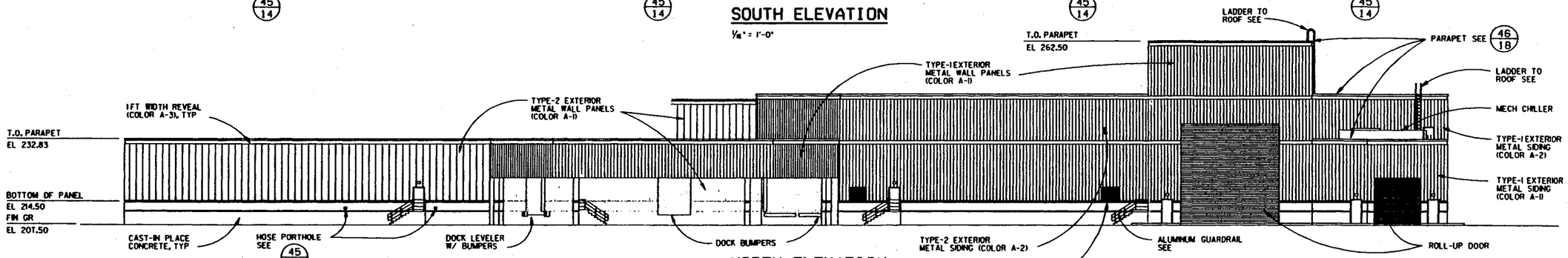
FIGURE D-12
HAZMAT BUILDING
RCRA PERMITTED UNIT
FLOOR PLAN

SERIAL	SOURCE	SIZE	SHEET	REVISION
280138	KEP	A1	12	0



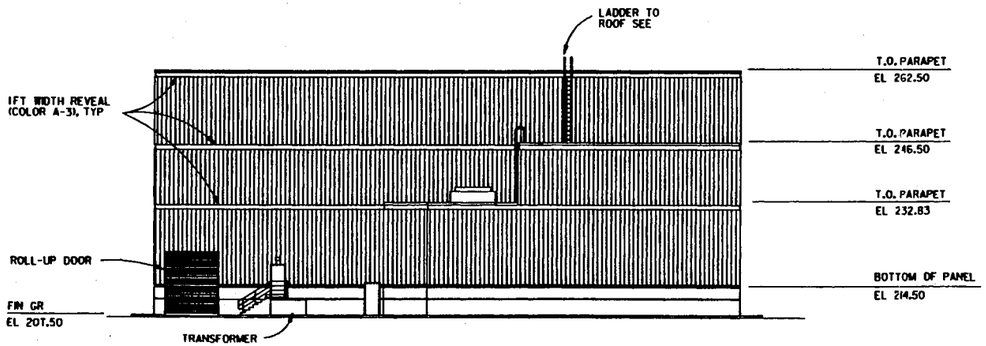
SOUTH ELEVATION

1/16" = 1'-0"



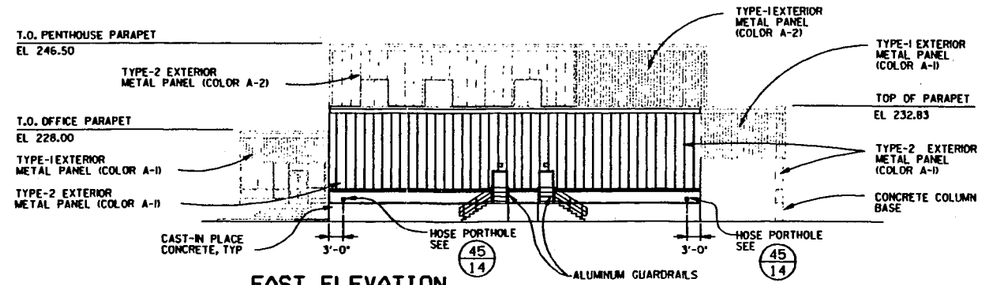
NORTH ELEVATION

1/16" = 1'-0"



WEST ELEVATION

1/16" = 1'-0"



EAST ELEVATION

1/16" = 1'-0"

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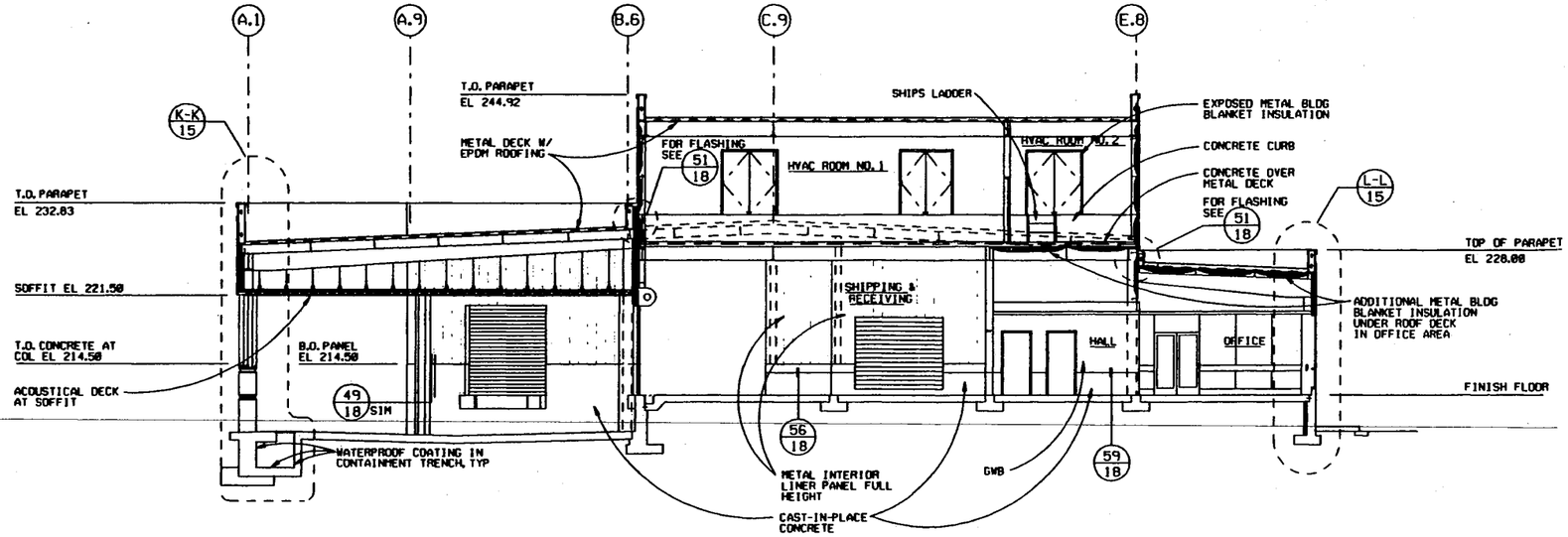
Drawn CHENHILL
Envap
Chkd
Appr
Date

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BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

FIGURE D-13
HAZMAT BUILDING
RCRA PERMITTED UNIT
BUILOING ELEVATIONS

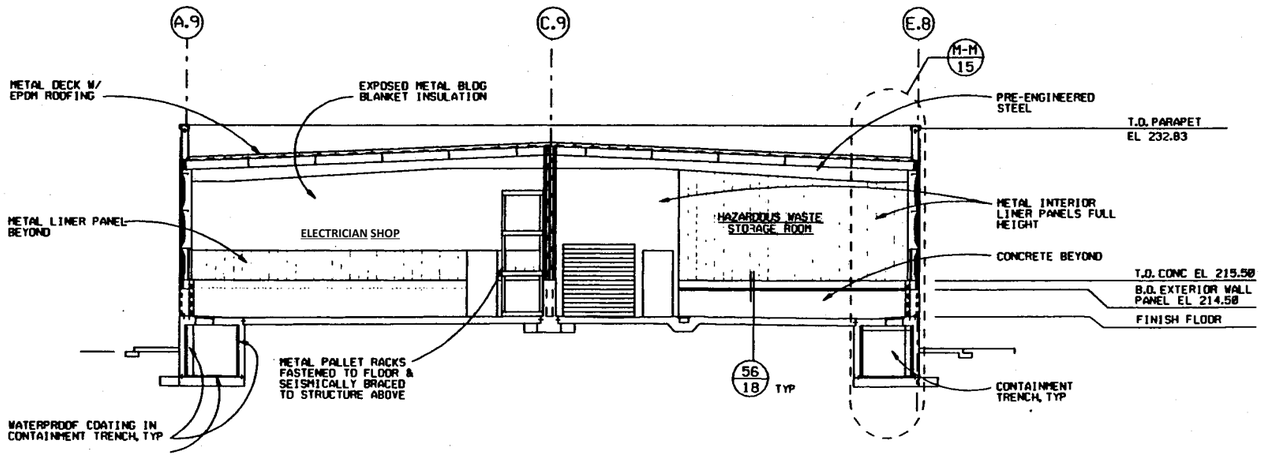
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250138	KEP	A1	13	0

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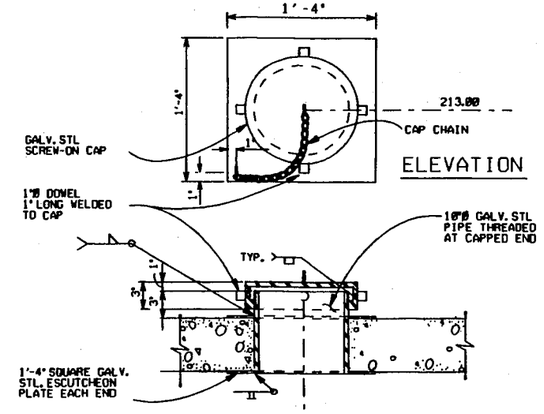
BUILDING SECTION C-C 12/23

⅛" = 1'-0"



BUILDING SECTION D-D 12

⅛" = 1'-0"



HOSE PORTHOLE 45/13

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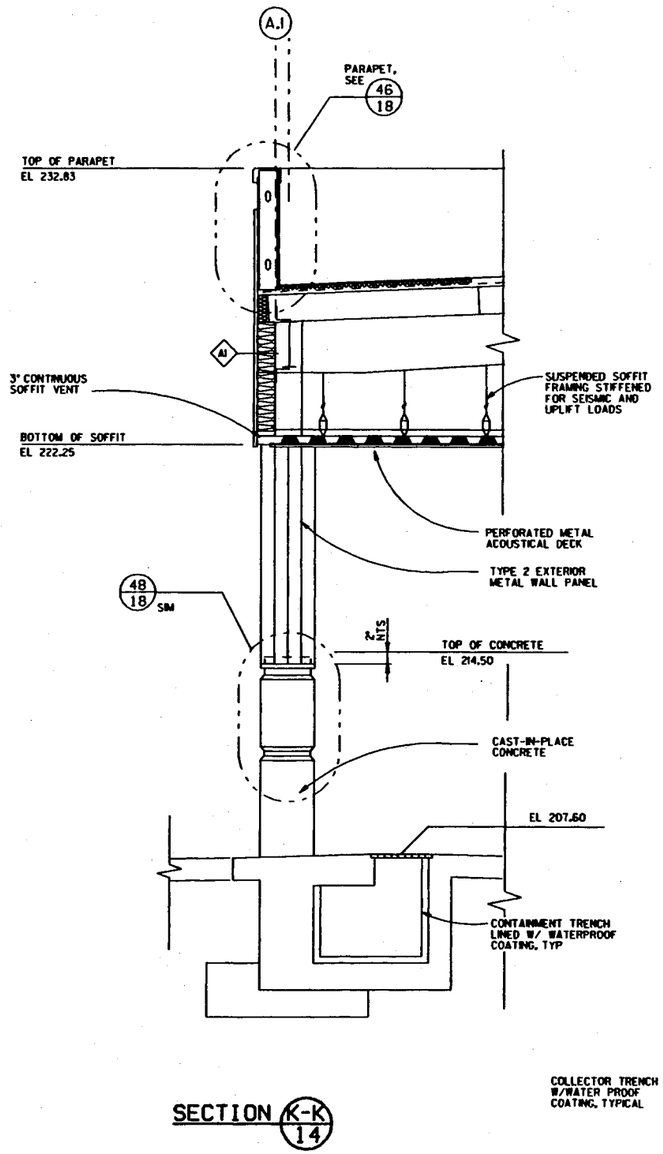
C-CONTRACT CONSTRUCTION FA-FORCE ACCOUNT CONSTRUCTION A-RECORD

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Chkd
Appr
Date

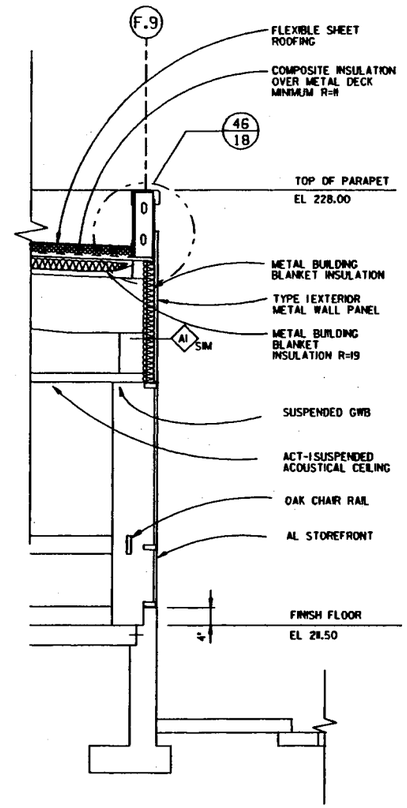
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HEADQUARTERS, PORTLAND, OREGON

FIGURE D-14
HAZMAT BUILDING
RCRA PERMITTED UNIT
BUILDING SECTIONS

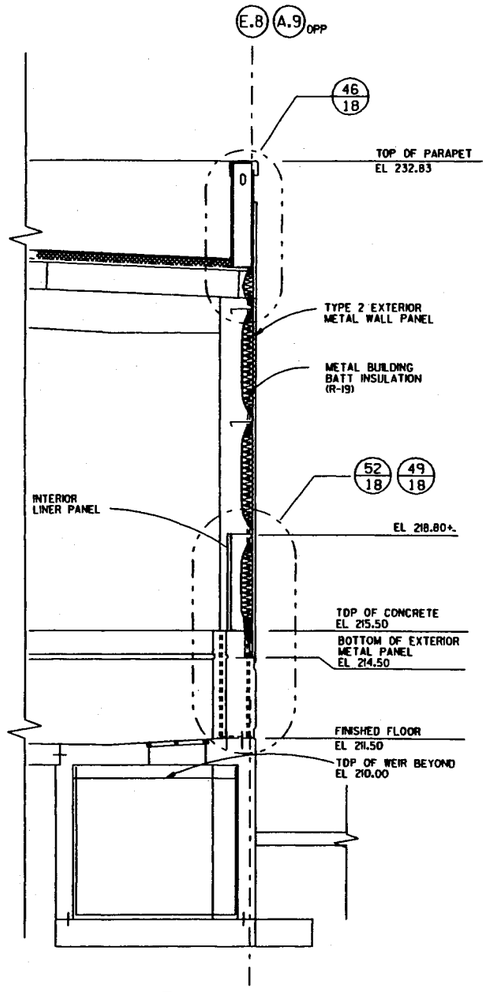
SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	14	Ø



SECTION K-K 14



SECTION L-L 14



SECTION M-M 14

SCALE 3/8" = 1'-0" 0 2 4 8 FT

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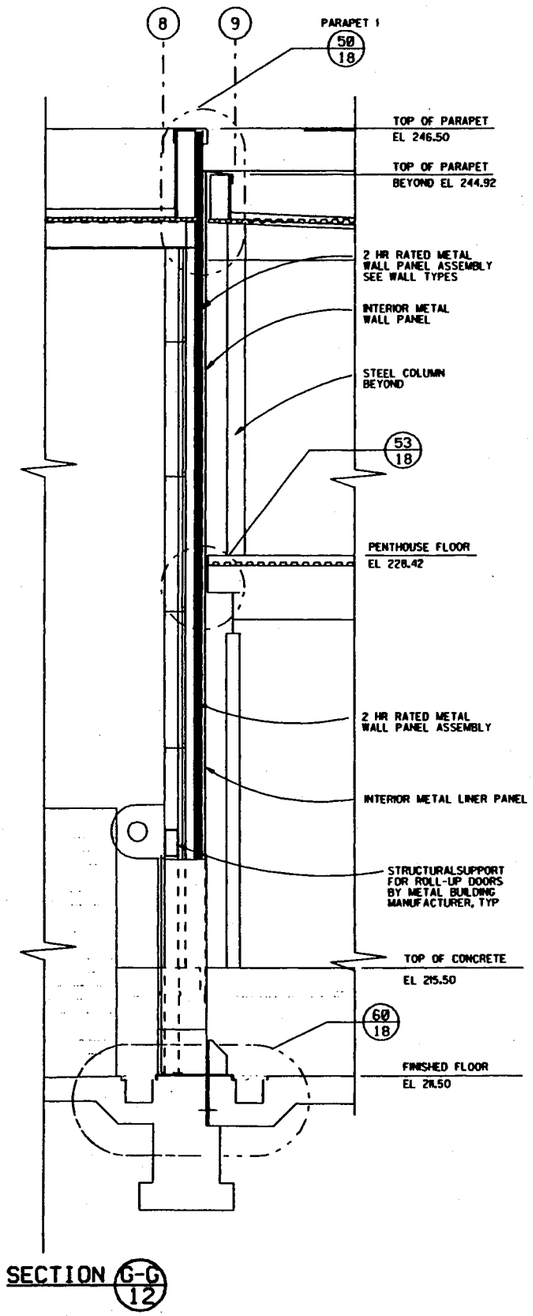
C-CONTRACT CONSTRUCTION F/A-FORCE ACCOUNT CONSTRUCTION A-RECORD

Drawn CHERRILL
Envrsp
Chkd
Appr
Date

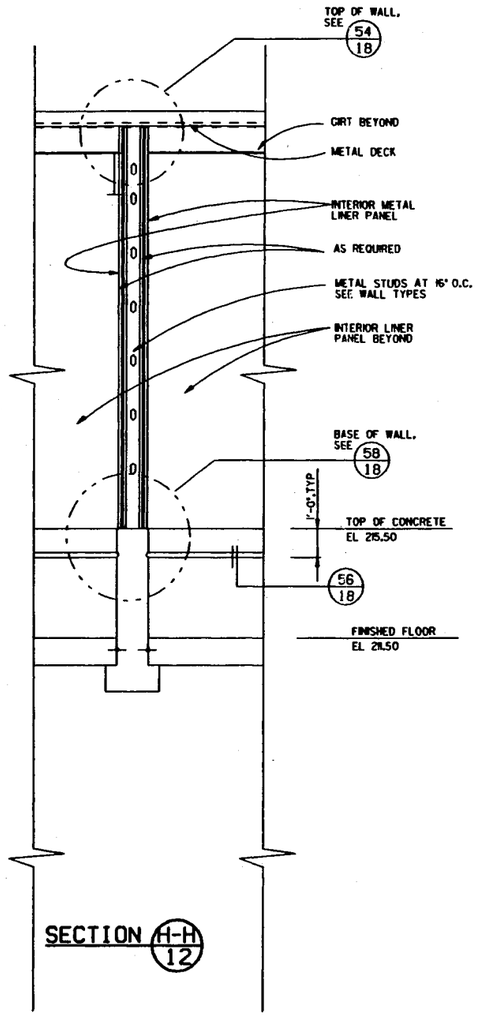
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FIGURE D-15
HAZMAT BUILDING
RCRA PERMITTED UNIT
WALL SECTIONS

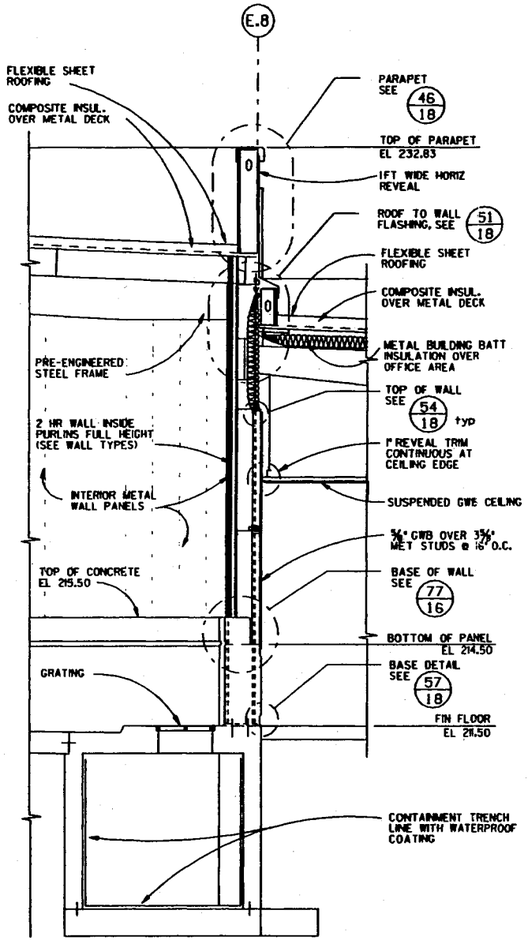
SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	15	0



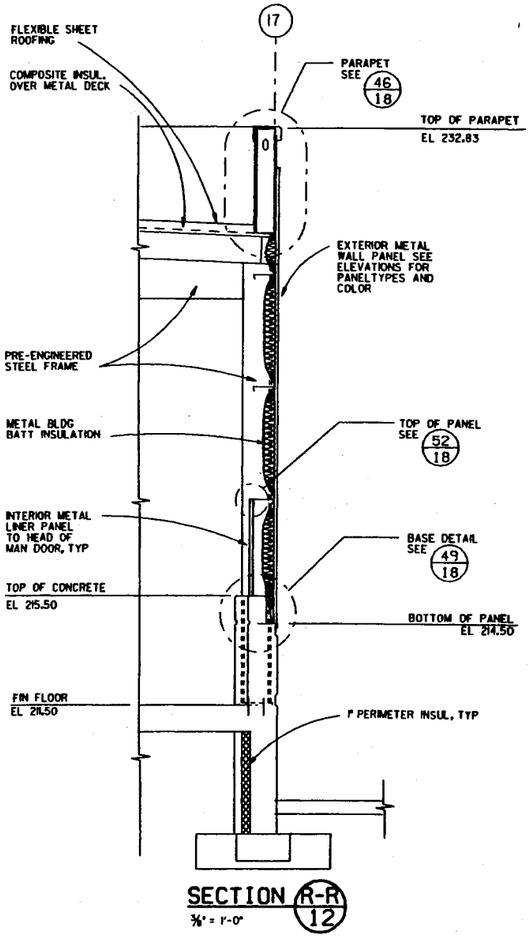
SECTION G-G
12



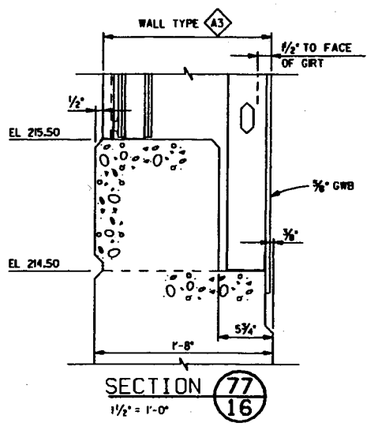
SECTION H-H
12



SECTION Q-Q
12
3/8" = 1'-0"



SECTION R-R
12
3/8" = 1'-0"



SECTION 77
16
1 1/2" = 1'-0"

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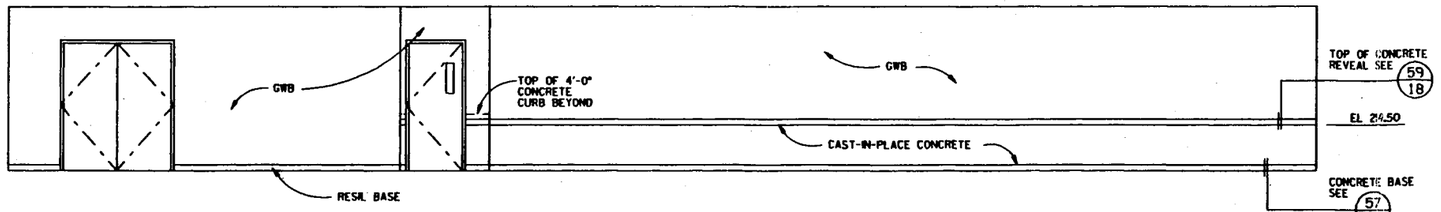
C-CONTRACT CONSTRUCTION FA-FORCE ACCOUNT CONSTRUCTION AS-RECORD

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Chkd
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Date

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HEADQUARTERS, PORTLAND, OREGON

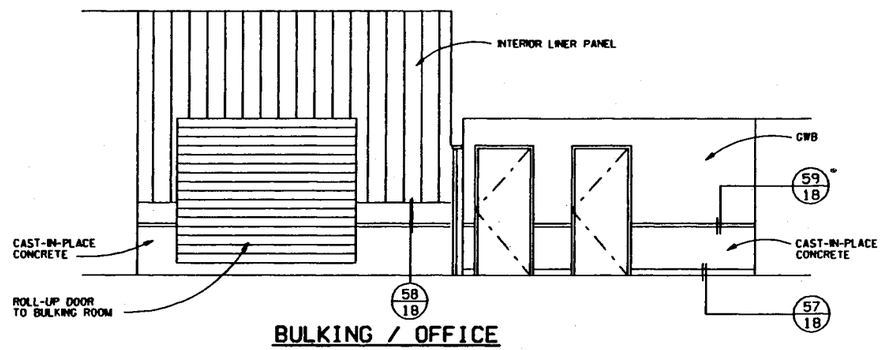
FIGURE D-16
HAZMAT BUILDING
RCRA PERMITTED UNIT
WALL SECTIONS

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	16	0



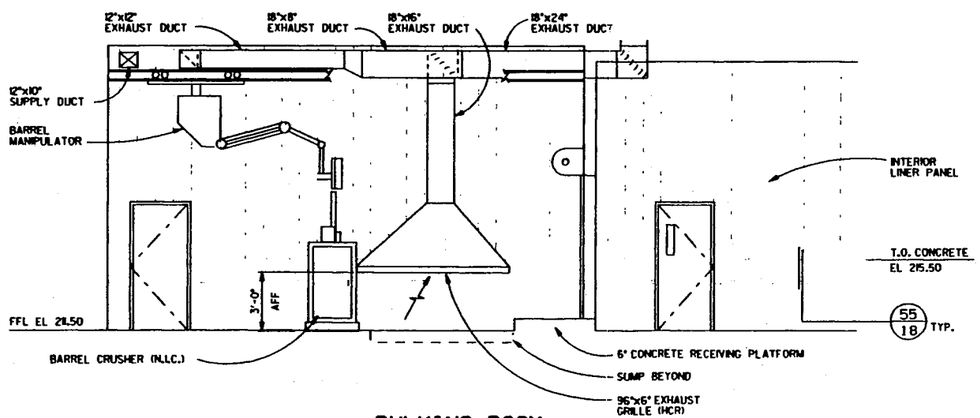
OFFICE

1/4" = 1'-0"



BULKING / OFFICE

1/4" = 1'-0"



BULKING ROOM

1/4" = 1'-0"

NOTE: FOR HVAC DUCTWORK PLAN SEE SHEET 75.

NO.		PC-8	COMPUTER REVISION ONLY	BY	DATE	APPROVED

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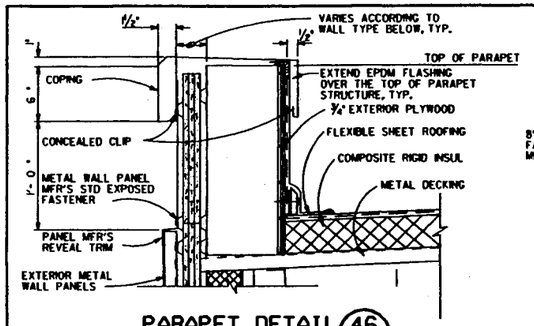
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HEADQUARTERS, PORTLAND, OREGON

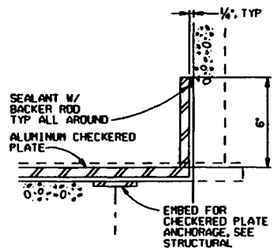
FIGURE D-17
HAZMAT BUILDING
RCRA PERMITTED UNIT
INTERIOR ELEVATIONS

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	17	0

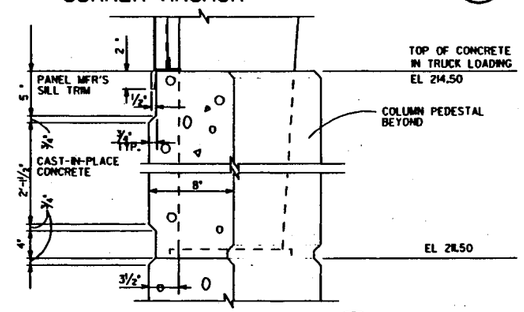
Official Use Only



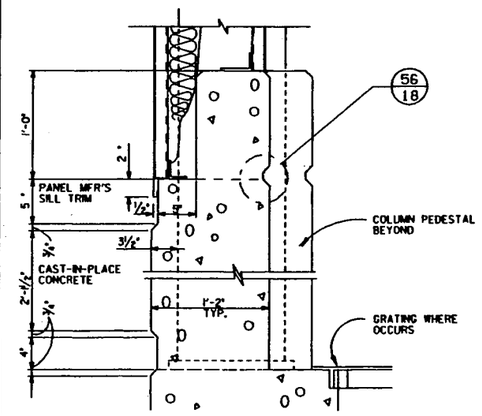
PARAPET DETAIL 46/13 15,16
1/2" = 1'-0"



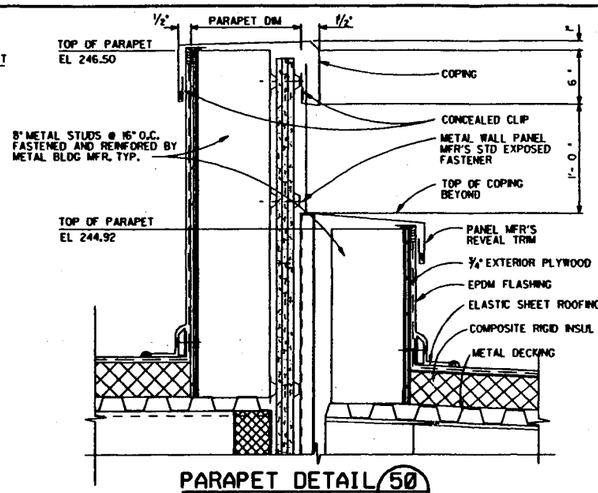
ALUMINUM CHECKERED PLATE CORNER ANCHOR 47/12
NTS



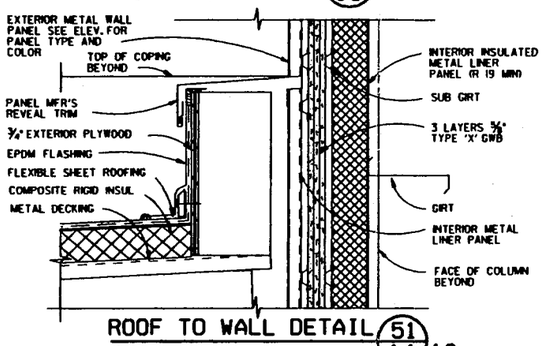
BASE OF WALL DETAIL 48/15
1/2" = 1'-0"



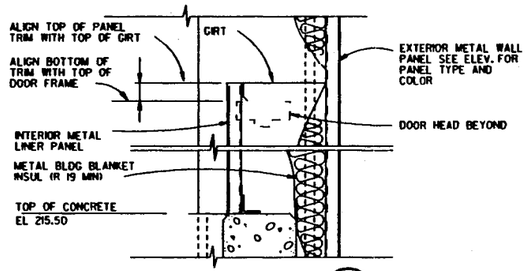
BASE OF WALL DETAIL 49/14 ,15,16
1/2" = 1'-0"



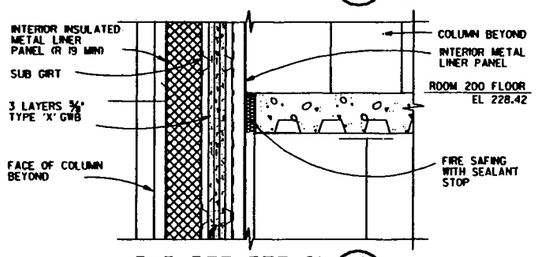
PARAPET DETAIL 50/16
1/2" = 1'-0"



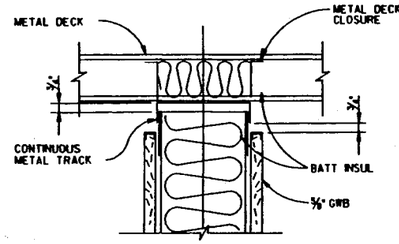
ROOF TO WALL DETAIL 51/14 16
1/2" = 1'-0"



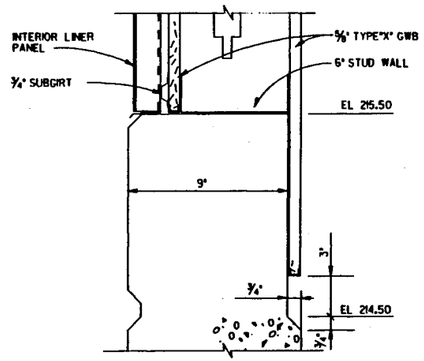
WALL DETAIL 52/15 16
1/2" = 1'-0"



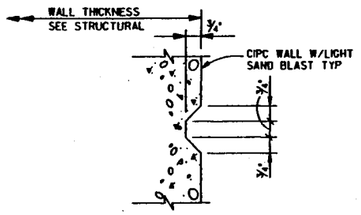
PARAPET DETAIL 53/16
1/2" = 1'-0"



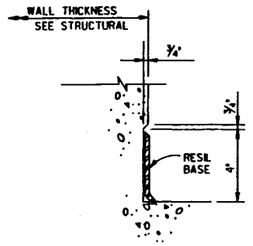
TOP OF WALL DETAIL 54/16
3" = 1'-0"



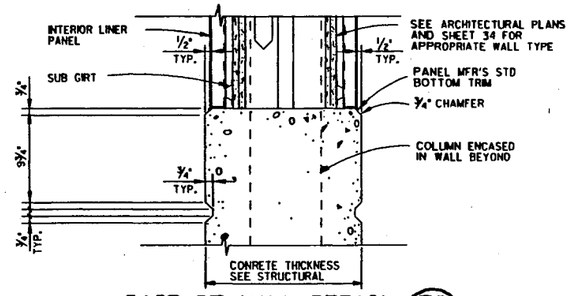
BASE OF WALL DETAIL 55/17
3" = 1'-0"



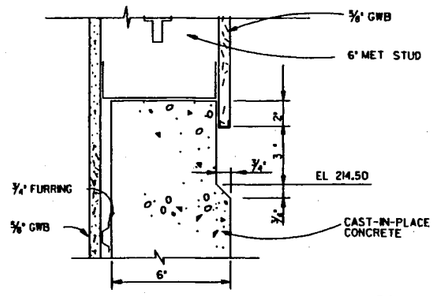
CIPC DETAIL 56/14 16
3" = 1'-0"



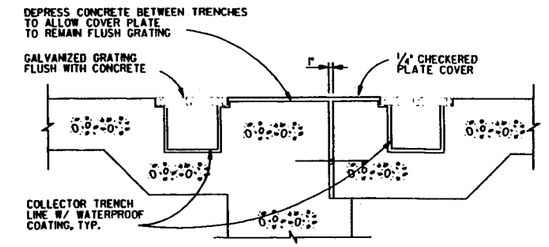
CIPC DETAIL 57/16 ,17
3" = 1'-0"



BASE OF WALL DETAIL 58/16 17
1/2" = 1'-0"



BASE OF WALL DETAIL 59/14 17
3" = 1'-0"



EXPANSION JOINT DETAIL 60/16
NTS

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UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

FIGURE D-18
HAZMAT BUILDING
RCRA PERMITTED UNIT
DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	18	0

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GENERAL STRUCTURAL NOTES

BUILDING LIVE LOADS

1. ROOF LIVE LOAD = 25 PSF + DRIFTING. SEE SEA SNOW LOADS FOR THE STATE OF WASHINGTON
2. FLOOR LIVE LOAD:
   a. MECHANICAL ROOM 150 PSF OR EQUIPMENT WEIGHT, 6" CONCRETE EQUIPMENT PAD, PLUS 100 PSF LIVE LOAD ON AREA NOT OCCUPIED BY THE EQUIPMENT. SEE PLAN FOR LOADS.
   b. SLAB ON GRADE = 300 PSF OR 8000lb FORKLIFT
   c. GENERAL LOAD = 100 PSF
3. WIND, UBC 90 MPH EXPOSURE B.
4. SEISMIC UBC ZONE 3, IMPORTANCE FACTOR 1.25.
5. DESIGN FOR CRANE LOADS AS FOLLOWS:
   a. 10 TON BRIDGE CRANE IN BAY BETWEEN GRID LINES (2) & (3), INCLUDE 42K DL.
   b. 3 TON JIB CRANES LOCATED ON COLUMNS D-2 & F-2.
   c. 2 TON BARREL MANIPULATOR LOADS BETWEEN GRID LINES (D.2) & (E) & (10) & (11)
   d. DESIGN LOADS TO INCLUDE BRIDGE ON JIB CRANE DEAD LOAD, LIVE LOAD & IMPACT LOADINGS IN CONFORMANCE WITH THE AISC STEEL CONSTRUCTION MANUAL.
   e. FOR CRANE INFORMATION, SEE SPECIFICATIONS.
6. FOUNDATIONS, SEE CH2M HILL SOILS INVESTIGATION, DATED JUNE 1992.
7. FOUNDATION SIZES AT FRAMES ARE DEPENDENT ON FINAL BRACE LOCATIONS. BRACING SHALL BE LOCATED BY THE METAL BUILDING MANUFACTURER, SO THAT FOUNDATIONS AS SHOWN WILL RESIST ALL UPLIFT FORCES.
8. FABRICATED METAL BASE FOR STACK GUYWIRE CONNECTION SHALL BE DESIGNED AND MOUNTED TO COMPLY WITH LATERAL FORCE CALCULATIONS IN THE UBC.

REINFORCING DETAILS

1. THE MINIMUM REINFORCING FOR ALL CONCRETE WALLS AND SLABS SHALL BE AS FOLLOWS:

WALL THICKNESS	REINF EACH WAY	LOCATION
6"	#4@12"	CENTERED
8"	#5@12"	CENTERED
10"	#4@12"	EACH FACE
12"+	#5@12"	EACH FACE

   PROVIDE LARGER SIZES AND MORE REINFORCING IN ALL SECTIONS OF CONCRETE WHERE REQUIRED BY THE DETAILS ON THE DRAWINGS OR BY THE SPECIFICATIONS.
2. CLEARANCE FOR REINFORCEMENT BARS, UNLESS SHOWN OTHERWISE, SHALL BE:
   - WHEN PLACED ON GROUND: ——— 3"
   - ALL OTHER CONCRETE SURFACES:
     - #5 BAR OR SMALLER ——— 1½"
     - #6 BAR OR LARGER ——— 2"
3. REFER TO WALL CORNER AND WALL INTERSECTION REINFORCING DETAIL. IN GENERAL, THE WALL CORNER REINFORCING SIZES AND SPACINGS SHALL BE CALLED OUT ON THE PLANS AND REFERENCED TO THESE DETAILS AND THE TYPICAL HORIZONTAL WALL REINFORCING SHALL LAP WITH THE HORIZONTAL REINFORCING.
4. ALL BENDS, UNLESS OTHERWISE SHOWN, SHALL BE A 90 DEGREE STANDARD HOOK AS DEFINED IN LATEST EDITION OF ACI 318.
5. ALL WALL CORNER AND WALL INTERSECTION REINFORCEMENT BARS SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH COLUMNS OR PILASTERS. REINFORCEMENT SHALL BE EXTENDED INTO CONNECTING WALLS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING WALLS, AS INDICATED ELSEWHERE ON THIS SHEET.
6. VERTICAL WALL BARS SHALL BE LAPPED WITH DOWELS FROM BASE SLABS AND EXTENDED INTO THE TOP FACE OF ROOF SLABS AND LAPPED WITH TOP SLAB REINFORCEMENT. PROVIDE A MINIMUM OF TWO FULL HEIGHT VERTICAL BARS WITH MATCHING DOWELS AT WALL ENDS, CORNERS AND INTERSECTIONS WITH SIZE TO MATCH TYPICAL VERTICAL REINFORCING STEEL SHOWN OR REQUIRED BY NOTES ABOVE.
7. UNLESS INDICATED OTHERWISE, CONTRACTOR MAY SPLICE CONTINUOUS SLAB OR LONGITUDINAL BEAM BARS AT LOCATIONS OF HIS CHOOSING, EXCEPT THAT TOP BAR SPLICES SHALL BE LOCATED AT MIDSPAN AND BOTTOM BAR SPLICES SHALL BE LOCATED AT SUPPORTS. ALL REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENT:

DETAIL OF REINFORCEMENT - LAP LENGTHS

BAR SIZE		#6 OR SMALLER	#7	#8	#9	#10	#11
CONC DESIGN STRENGTH		4000 PSI					
GR 60	TOP BAR *	45 DIA, MIN 2'-0"	3'-8"	4'-9"	6'-0"	7'-8"	9'-6"
	OTHER BAR	32 DIA, MIN 1'-6"	2'-8"	3'-6"	4'-4"	5'-6"	6'-9"

* TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR, IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.

8. CONTINUOUS WATERSTOP AS SPECIFIED, SHALL BE INSTALLED IN ALL CONSTRUCTION JOINTS IN WALLS OF WATER HOLDING BASINS AND CHANNELS, EXCEPT WHERE INDICATED OTHERWISE.
9. PROVIDE AND INSTALL SELECT GRANULAR MATERIAL AS SPECIFIED UNDER ALL SLABS AND FOOTINGS TO UNDISTURBED EARTH WITH MINIMUM THICKNESS, EQUAL TO 6", UNLESS OTHERWISE NOTED.
10. INCREASE LAP LENGTHS SHOWN ABOVE FOR NON-COATED BARS BY 25% WHERE BARS ARE SPACED CLOSER THAN 6" O.C. OR LESS THAN 3" FROM FACE OF MEMBER TO EDGE BAR MEASURED IN DIRECTION OF SPACING.

GENERAL STRUCTURAL NOTES

CORNER AND INTERSECTION REINFORCING DETAILS

1. TYPICAL HORIZONTAL WALL CORNER AND INTERSECTION REINFORCING LAYOUT IS SHOWN TO AVOID CONGESTION AND PERMIT PROPER PLACEMENT, FOR SIZE AND SPACING SEE PLANS. ALL HORIZONTAL REINFORCING AT CORNERS AND INTERSECTIONS SHALL BE FABRICATED AND INSTALLED WITH SPLICES LOCATED WHERE SHOWN REGARDLESS OF BAR SIZE AND SPACING.
2. WHERE THE CORNER OR INTERSECTION REINFORCING SIZE AND SPACING IS NOT SHOWN, NOTED OR TABULATED ON THE PLANS, THE SIZE AND SPACING SHALL BE THE SAME AS THE WALL HORIZONTAL REINFORCING SHOWN ON THE WALL SECTIONS OR AS NOTED FOR THE REINFORCING BETWEEN THE CORNERS OR INTERSECTIONS.
3. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 3" SHALL BE THE LESSER OF D/4, 10 FEET, OR 1.0 TIMES THE HEIGHT OF THE WALL, EXCEPT THAT IN NO CASE SHALL IT BE LESS THAN 2.0 FEET.
4. D = LENGTH OF WALL PARALLEL TO THE BAR LENGTH IN QUESTION.
5. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 5" SHALL BE EQUAL TO ONE "LAP LENGTH" AS REQUIRED BY THE GENERAL STRUCTURAL NOTES. USE THE LAP LENGTH AS REQUIRED FOR THE SMALLER OF THE TWO REINFORCING BARS BEING SPLICED.

STRUCTURAL ABBREVIATIONS

AB	ANCHOR BOLT
AHR	ANCHOR
AL	ALUMINUM
ALTN	ALTERNATE
APVD	APPROVED
BOT	BOTTOM
BF	BOTTOM FACE
BM	BEAM
BRG	BEARING
C TO C	CENTER TO CENTER
CJ	CONSTRUCTION JOINT
℄, CL	CENTER LINE
CLR	CLEARANCE
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CTR	CENTER
DBA	DEFORMED BAR ANCHOR
DIA	DIAMETER
DIR	DIRECTION
DWG	DRAWING
EA	EACH
EF	EACH FACE
EL	ELEVATION
EQL SP	EQUALLY SPACED
EW	EACH WAY
EXP JT	EXPANSION JOINT
EXST	EXISTING
FD	FLOOR DRAIN
FDN	FOUNDATION
FG	FINISHED GRADE
FTG	FOOTING
GALV	GALVANIZE (HOT DIP)
GVL	GRAVEL
HAS.	HEADED ANCHOR STUD
HDR	HEADER
HORIZ	HORIZONTAL
IF.	INSIDE FACE
LNTL	LINTEL
LONG.	LONGITUDINAL
MAX	MAXIMUM
MB	MACHINE BOLTS
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OF.	OUTSIDE FACE
O TO O	OUT TO OUT
OPNG	OPENING
PJF	PREMOLDED JOINT FILLER
PLYWD	PLYWOOD
PRCST	PRECAST
P	PILASTER
RC	REINFORCED CONCRETE
REINF	REINFORCE
RST	REINFORCING STEEL
SIM	SIMILIAR
SPECS	SPECIFICATIONS
SQ	SQUARE
STD	STANDARD
STIF	STIFFENER
STL	STEEL
STR	STRAIGHT
STRUCT	STRUCTURES
SYMM	SYMMETRICAL
T&B	TOP AND BOTTOM
TC	TOP OF CONCRETE
TF	TOP FACE
THK	THICK
TRANSV	TRANSVERSE
TST	TOP OF STEEL
TW	TOP OF WALL
TYP	TYPICAL
VERT	VERTICAL
WS	WATERSTOP OR WATER SURFACE
WWF	WELDED WIRE FABRIC

NOTE:

FOR ABBREVIATIONS NOT LISTED, SEE "ABBREVIATIONS FOR USE ON DRAWINGS AND TEXT", PUBLISHED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE INC. (ANSI)

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NO.	PL-6	COMPUTER REVISION ONLY	BY	DATE	APPROVED

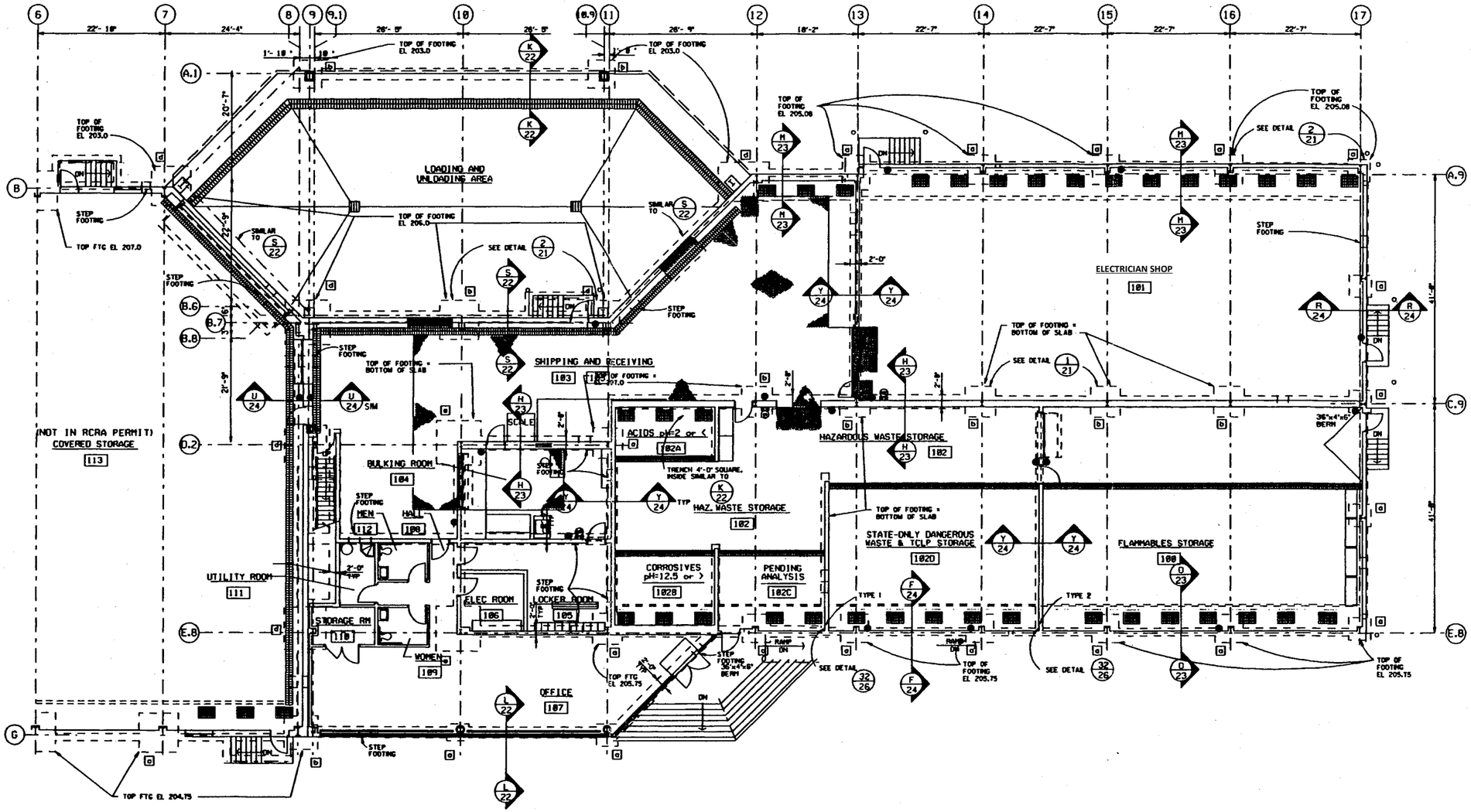
C-CONTRACT CONSTRUCTION FA-FORCE ACCOUNT CONSTRUCTION R-RECORD

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FIGURE D-19
HAZMAT BUILDING
RCRA PERMITTED UNIT
STRUCTURAL GENERAL NOTES

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	19	0



FLOOR PLAN

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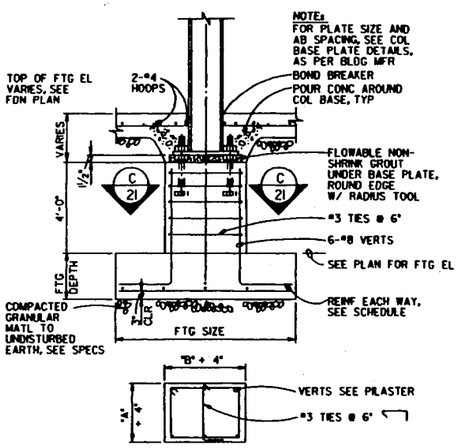
NO.	PL-6	COMPUTER REVISION ONLY	BY	DATE	APPROVED

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Chkd
Appr
Date

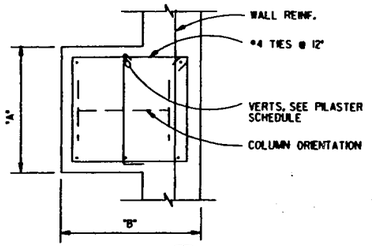
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HEADQUARTERS, PORTLAND, OREGON

FIGURE D-20
HAZMAT BUILDING
RCRA PERMITTED UNIT
FOUNDATION PLAN

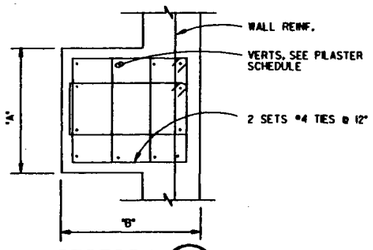
SERIAL	SOURCE	SIZE	SHEET	REVISION
280138	KEP	A1	20	0



SECTION C-C 21



SECTION D-D 21
NTS



SECTION E-E 21
NTS

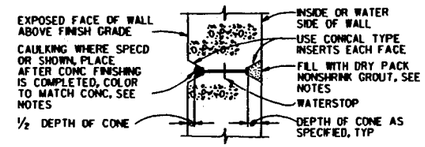
TYPICAL COLUMN FTG 1/20 ,21,23
NTS

COLUMN FOOTING SCHEDULE

FOOTING TYPE	FOOTING SIZE (SQ)	FOOTING DEPTH	REINFORCING (EACH WAY)	CAPACITY KIPS
a	5'-0"	12"	6-#6	50
b	6'-0"	12"	6-#7	72
c	7'-0"	14"	6-#8	98
d	8'-6"	18"	8-#8	145
e	9'-0"	19"	7-#9	162
f	10'-0"	21"	9-#9	200
g	12'-0"	25"	10-#10	288

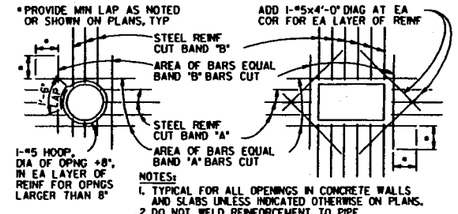
PILASTER SCHEDULE

COLUMN MARK	DIMENSIONS "A"	DIMENSIONS "B"	VERTICAL REINFORCING ABOVE PL	VERTICAL REINFORCING BELOW PL	ELEVATION TOP PIER
D-L, H-1	18.5"	16"	6-#6	6-#6	215.5
E-L, F-1	12"	16"	6-#6	6-#6	215.5
D-L5, H-L5	12"	16"	6-#6	6-#6	215.5
A-2, H-2	26"	34"	6-#8	10-#8	207.0
CJ-L6	16"	12"	6-#6	6-#6	215.5
B-2 THRU F-2	16"	34"	6-#8	10-#8	215.5
A-3, H-3	26"	36"	6-#8	10-#8	215.5
B-3 THRU F-3	16"	36"	6-#8	10-#8	215.5
B.3-L, G.3-1	12"	22"	6-#7	8-#7	215.5
B-4THRU B-7, G-4 THRU G-7	12"	22"	6-#7	8-#7	215.5
B.8-8, G-8	26"	24"	6-#8	10-#8	215.5
B.8-9, B.8-10 B.8-11	12"	20"	6-#6	6-#6	215.5
F.9-9, F.9-10 F.9-11	12"	23"	---	6-#6	210.5
D.2-9, D.2-10, D.2-11, E.8-9, E.8-10, E.8-11	12"	16"	---	6-#6	210.5
A.9-7.L AJ-8.9, B.6-8.9, AJ-10.9, B.6-10.9, A.9-11.9	20"	20"	8-#7	8-#7	214.5
F.9-8, F.9-10 F.9-11	12"	20"	---	6-#6	210.5
A.9-12 THRU A.9-16, E.8-12 THRU E.8-16	18"	18½"	6-#6	6-#6	214.5
C.9-12 THRU C.9-16	12"	14"	---	6-#6	210.5
B.6-17, C.9-17 AND E.2-17	12"	20½"	6-#6	6-#6	210.5



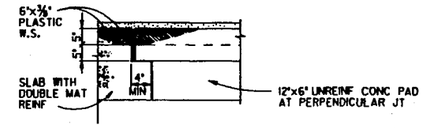
NOTES:
1. FOR FORM TIE HOLES ON OUTSIDE FACE OF WALL BELOW GRADE, FILL WITH NONSHRINK GROUT, (DRY PACK)
2. THE SPACING OF FORM TIES ON EXPOSED PORTIONS OF WALLS SHALL BE APPROXIMATELY EQUAL HORIZONTALLY AND VERTICALLY AND SHALL BE UNIFORM IN EACH DIRECTION.
3. WHERE CAULKING IS NOT SPECIFIED OR SHOWN, DRY PACK EXTERIOR TIE HOLES WITH NONSHRINK GROUT WITH COLOR OF GROUT TO MATCH COLOR OF CONCRETE AS CLOSE AS POSSIBLE.
4. DRY PACK METHOD SHALL BE AS SPECIFIED USING STEEL TOOLS.

FORM SNAP-TIE HOLE 5
NTS

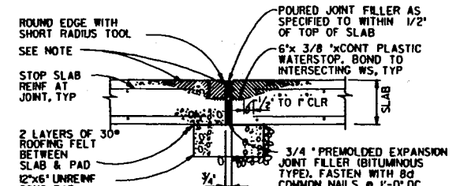


NOTES:
1. TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS UNLESS INDICATED OTHERWISE ON PLANS.
2. DO NOT WELD REINFORCEMENT TO PIPE SLEEVES AND INSERTS.

OPENING REINFORCING 6
NTS



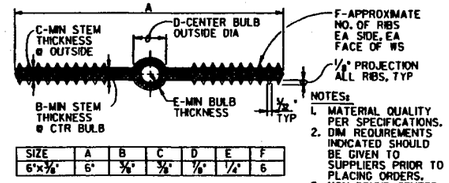
SINGLE/DOUBLE MAT SLAB EXPANSION JOINT INTERSECTION



NOTE:
PLACE CONCRETE UNDER THE WATERSTOP & VERIFY THERE ARE NO VOIDS PRIOR TO PLACING CONCRETE OVER THE TOP OF THE WATERSTOP.

SLAB WITH SINGLE/DOUBLE MAT REINFORCING

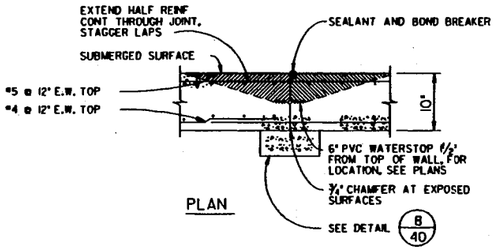
BASE SLAB EXPANSION JOINT 8/12,22,23,24 ,25
NTS



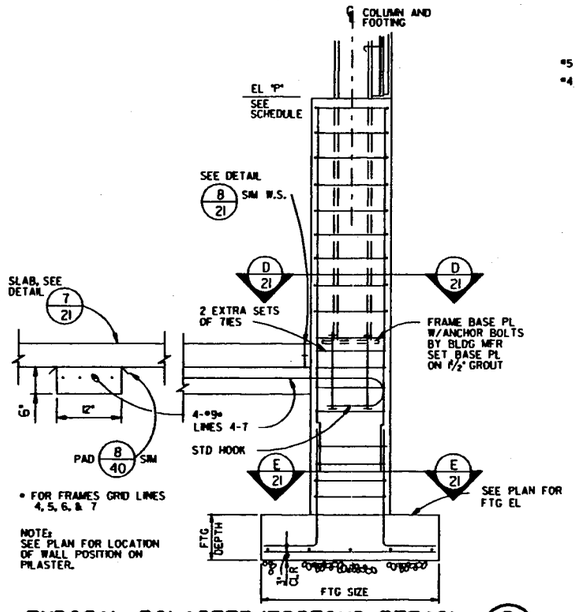
SIZE	A	B	C	D	E	F
6"x¾"	6"	¾"	¾"	⅞"	¼"	6

NOTES:
1. MATERIAL QUALITY PER SPECIFICATIONS.
2. DIM REQUIREMENTS INDICATED SHOULD BE GIVEN TO SUPPLIERS PRIOR TO PLACING ORDERS.
3. NON-ROUND CENTER BULBS SHALL HAVE A MIN OUTSIDE DIM OF "D".

PLASTIC WATERSTOP 9/22 23
NTS



SLAB CONSTRUCTION JOINT 7/12,22,23,24 ,25
NTS



* FOR FRAMES GRID LINES 4, 5, 6, & 7

NOTE:
SEE PLAN FOR LOCATION OF WALL POSITION ON PILASTER.

TYPICAL PILASTER/FOOTING DETAIL 2/20 ,22,24
NTS

NO.	PL-6	COMPUTER REVISION ONLY	BY	DATE	APPROVED

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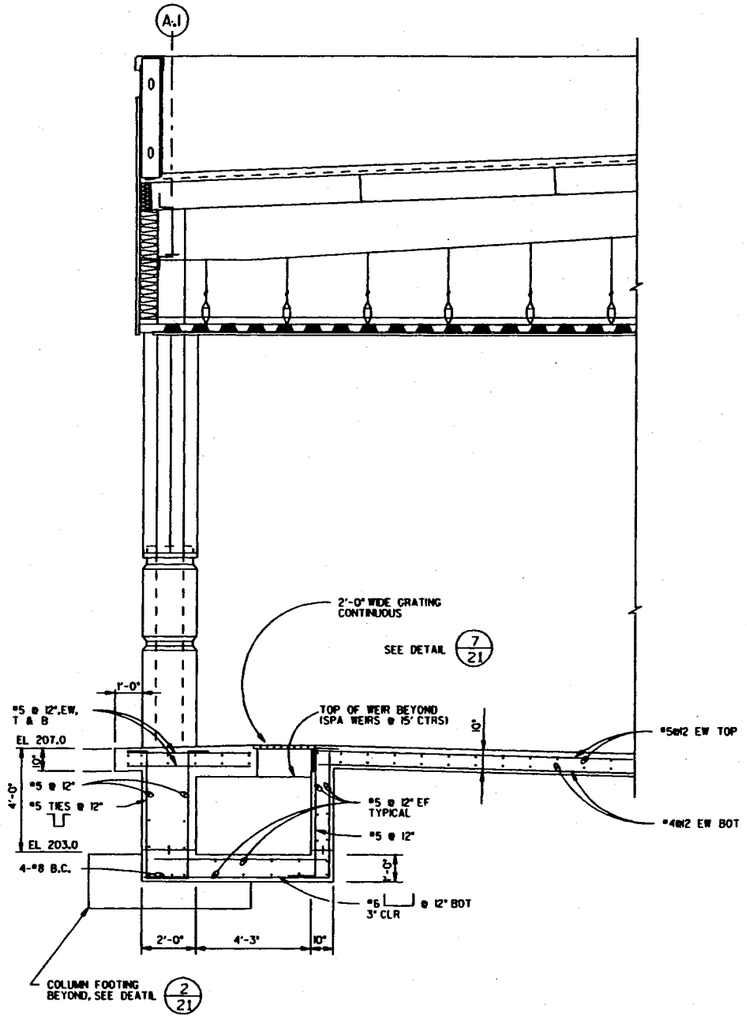
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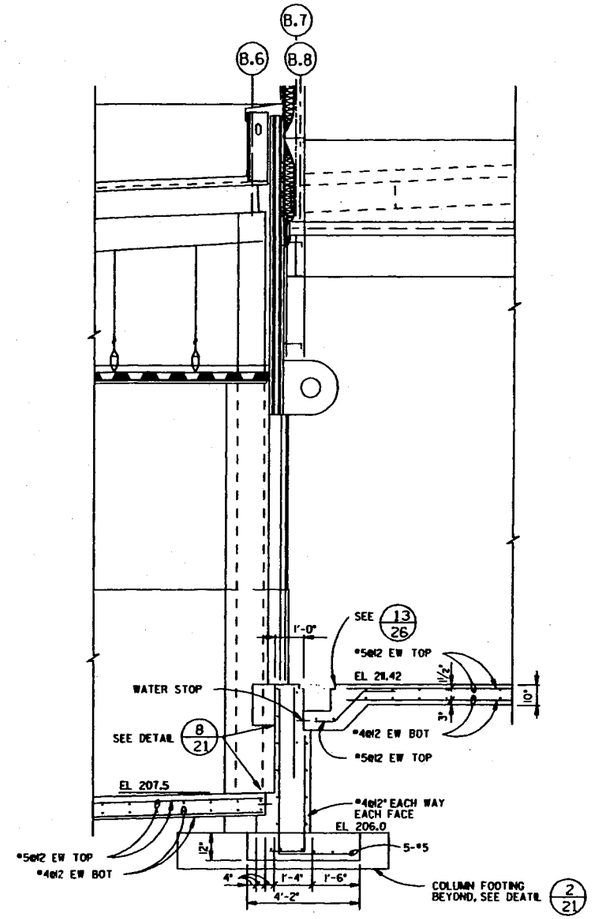
FIGURE D-21
HAZMAT BUILDING
FOUNDATION SECTIONS AND DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	21	0

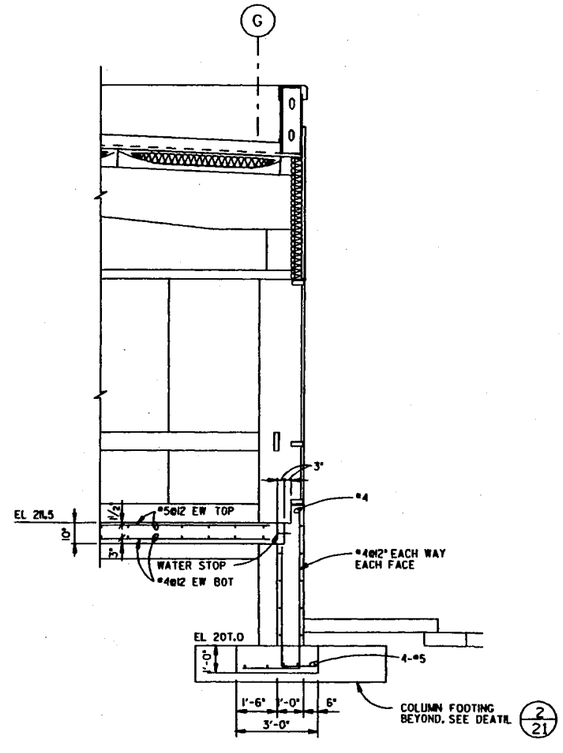
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SECTION K-K 20
3/8" = 1'-0"



SECTION S-S 20
3/8" = 1'-0"



SECTION L-L 20
3/8" = 1'-0"

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NO.	PL-6	COMPUTER REVISION ONLY	BY	DATE	APPROVED

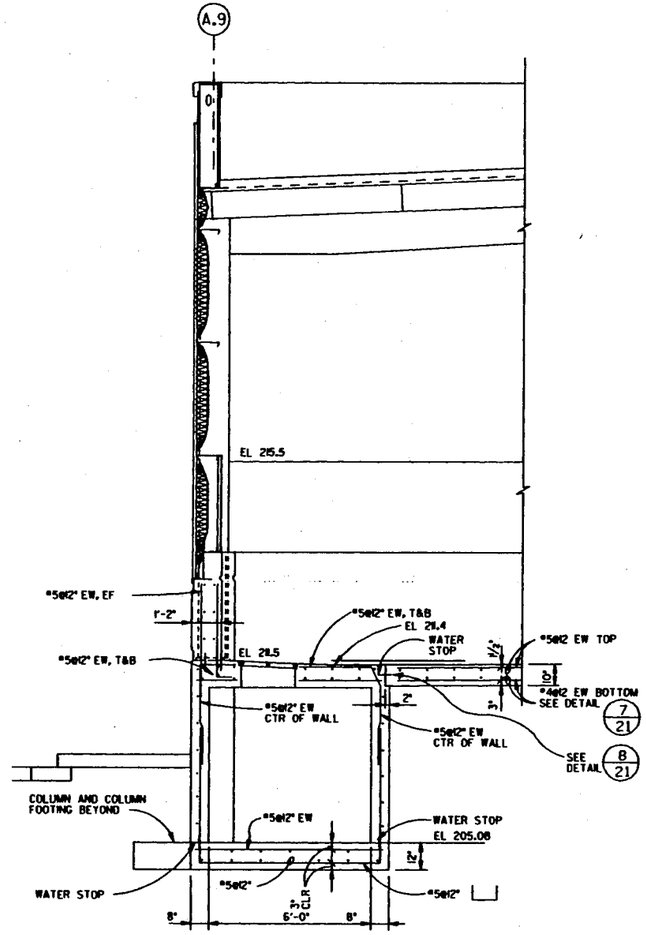
C-CONTRACT CONSTRUCTION F-FORCE ACCOUNT CONSTRUCTION A-RECORD

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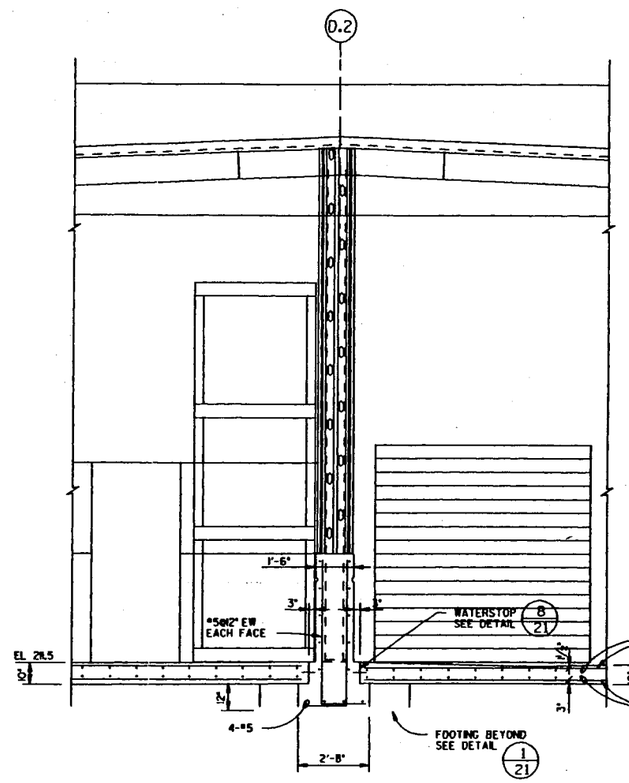
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FIGURE D-22
HAZMAT ABUILDING FOUNDATION SECTIONS AND DETAILS

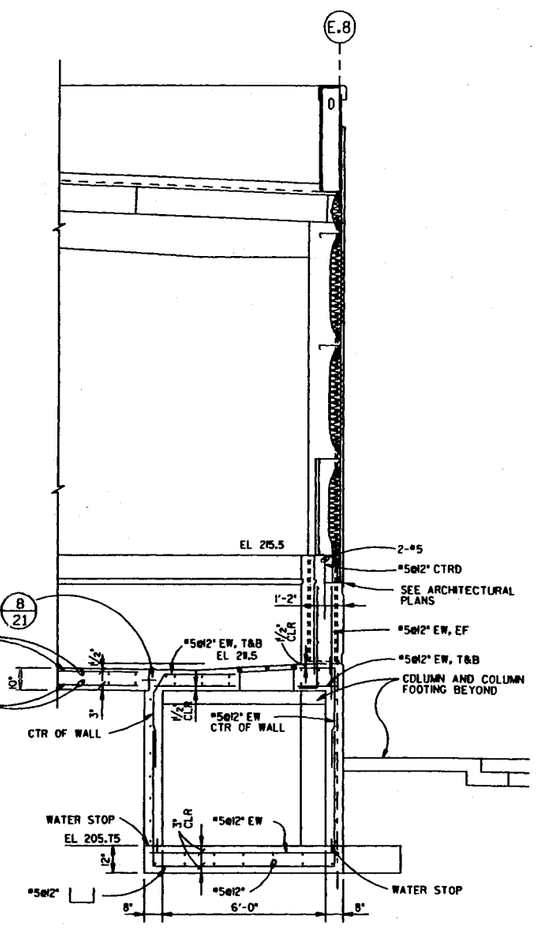
SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	22	0



SECTION M-M 20
3/8" = 1'-0"



SECTION H-H 20
3/8" = 1'-0"



SECTION O-O 20
3/8" = 1'-0"

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NO.	PC-6	COMPUTER REVISION ONLY	BY	DATE	APPROVED

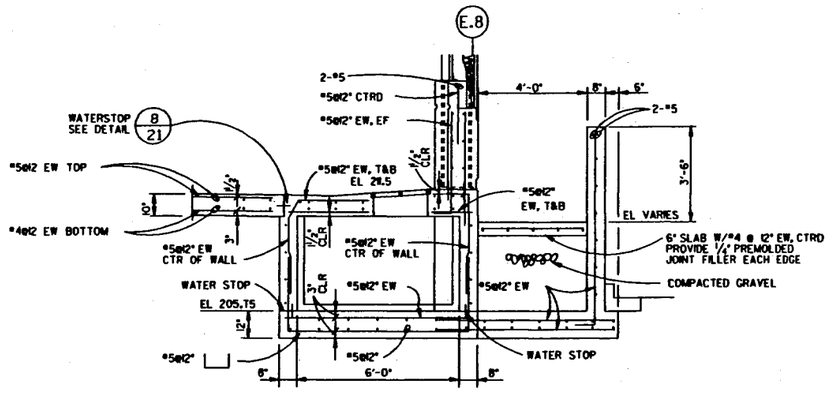
C-CONTRACT CONSTRUCTION F/A-FORCE ACCOUNT CONSTRUCTION A-RECORD

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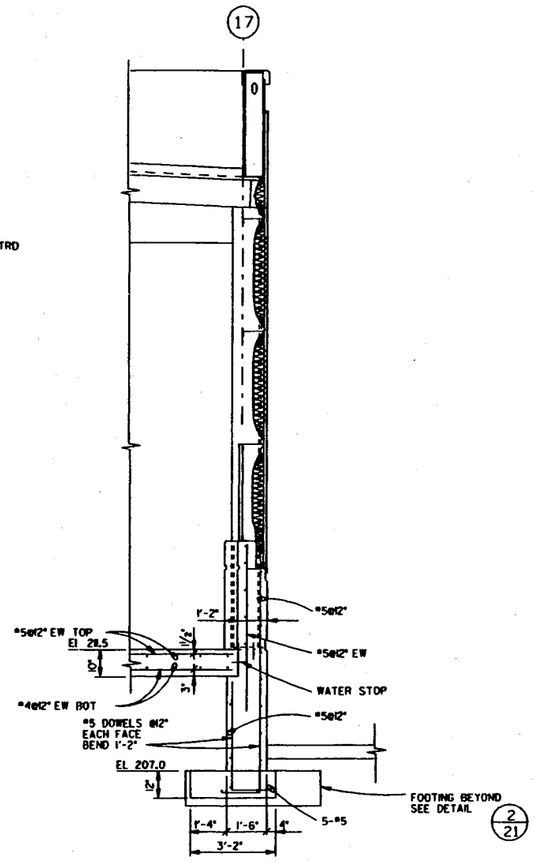
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FIGURE D-23
HAZMAT BUILDING
FOUNDATION SECTIONS AND DETAILS

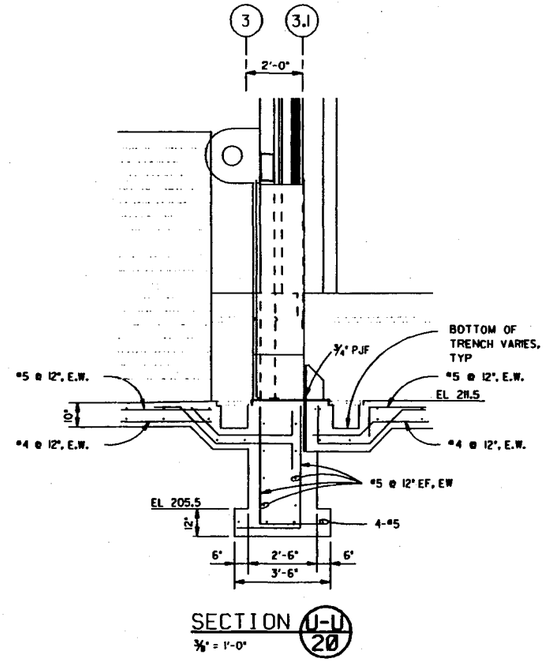
SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	23	0



SECTION F-F 20
3/8" = 1'-0"



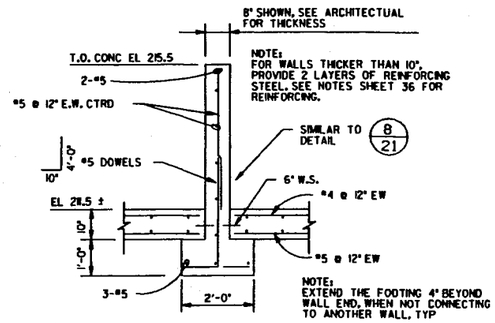
SECTION R-R 20
3/8" = 1'-0"



SECTION U-U 20
3/8" = 1'-0"

NOTES:
1. SEE FOOTING DETAILS, SHEET 40.
2. TOP OF FOOTING ELEVATION 207.0 UNLESS OTHERWISE NOTED.
3. FOUNDATION DESIGN MAY CHANGE BECAUSE OF BUILDING MANUFACTURERS DESIGN. THE CONTRACTOR SHALL COORDINATE AND CONSTRUCT BUILDING DESIGN AND FOUNDATION
4. [N] NO ADDITIONAL COST TO B.P.A.

[N] INDICATES FOOTING MARK, SEE SHEET 40 FOR SCHEDULE & DETAILS.



NOTE: TOP FOOTING ELEVATION 210.17, TYPICAL UNLESS OTHERWISE NOTED

SECTION Y-Y 20
1/2" = 1'-0"

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C-CONTRACT CONSTRUCTION F-FORCE ACCOUNT CONSTRUCTION A-RECORD

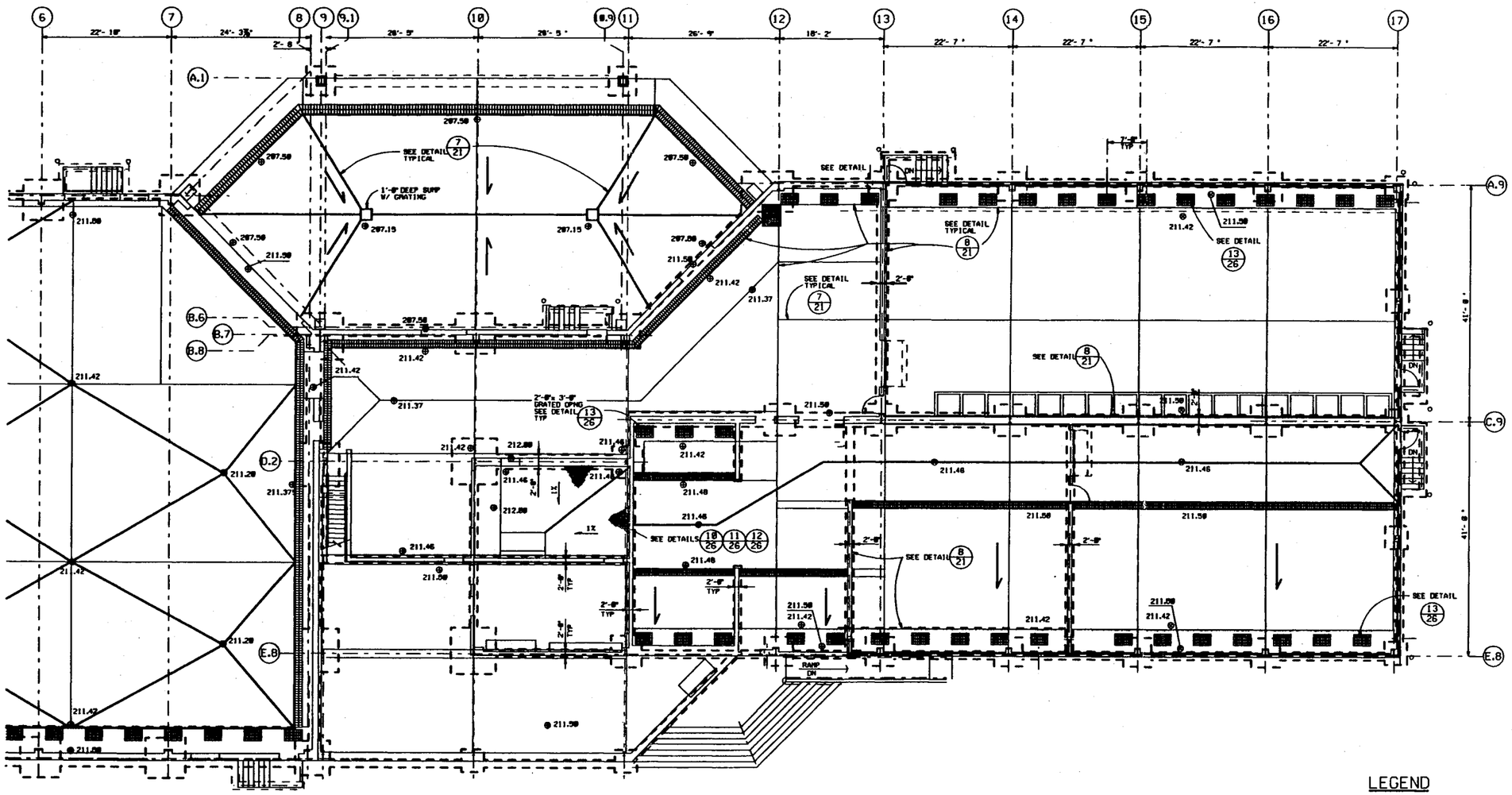
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FIGURE D-24
HAZMAT BUILDING
FOUNDATION SECTIONS
AND DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	24	0

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FLOOR SLAB PLAN

LEGEND

- FLOOR ELEVATIONS
- SECONDARY CONTAINMENT SUMP
- SECONDARY CONTAINMENT TRENCH

SCALE 1" = 10'-0" 0 5 10 20 30 FT

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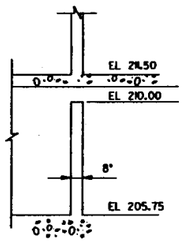
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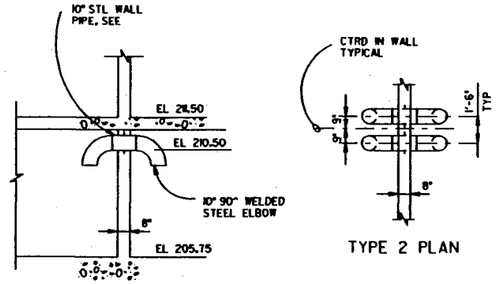
FIGURE D-25
HAZMAT BUILDING
RCRA PERMITTED UNIT
FLOOR SLAB PLAN

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	25	Ø

NOTES:
1. SEE FOOTING DETAILS, SHEET 40.
2. TOP OF FOOTING ELEVATION 207.0 UNLESS OTHERWISE NOTED.
3. FOUNDATION DESIGN MAY CHANGE BECAUSE OF BUILDING MANUFACTURERS DESIGN. THE CONTRACTOR SHALL COORDINATE AND CONSTRUCT BUILDING DESIGN AND FOUNDATION AT NO ADDITIONAL COST TO B.P.A.
4. [a] INDICATES FOOTING MARK, SEE SHEET 40 FOR SCHEDULE AND DETAILS



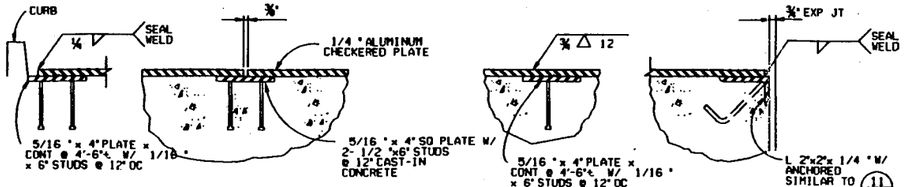
TYPE I



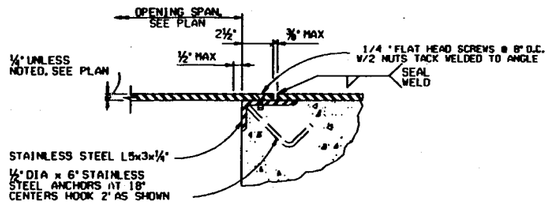
TYPE 2 ELEVATION

TYPE 2 PLAN

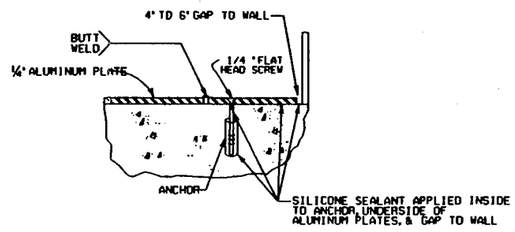
DETAIL 32/20
½" = 1'-0"



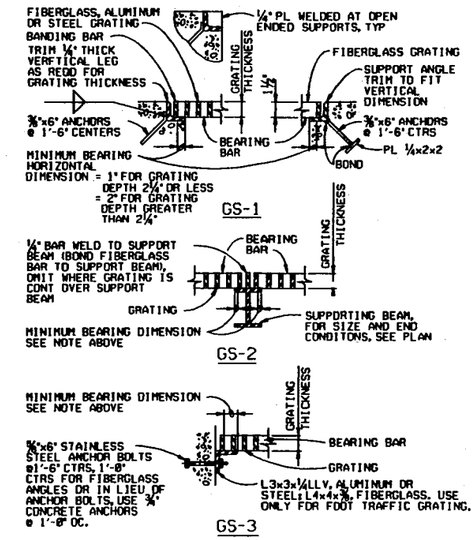
ALUMINUM CHECKERED PLATE FLOOR ANCHOR NTS 10/12,25



ALUMINUM CHECKERED PLATE FLOOR ANCHOR NTS 11/12,25,26



ALUMINUM CHECKERED PLATE FLOOR ANCHOR NTS 12/12,25



GRATING SUPPORT NTS 13/22,25

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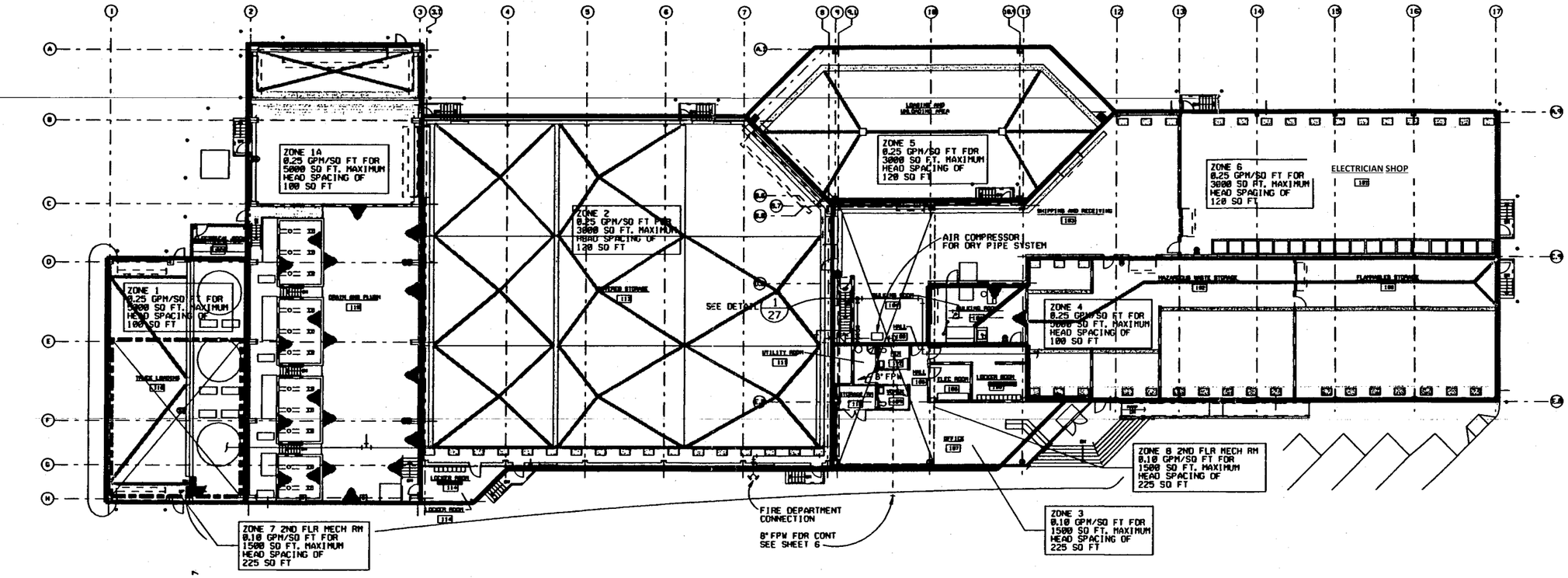
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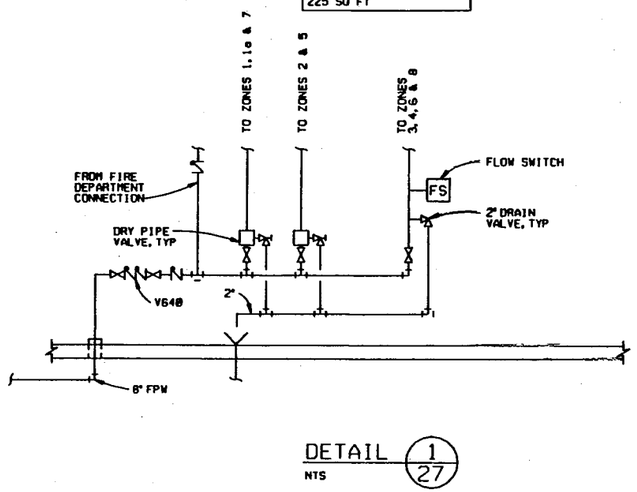
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FIGURE D-26
HAZMAT BUILDING
RCRA PERMITTED UNIT
FLOOR DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
250138	KEP	A1	26	0

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DETAIL 1/27
NTS

FIRE PROTECTION PLAN

SCALE 1/16" = 1'-0" 0 4 8 16 32 48 FT

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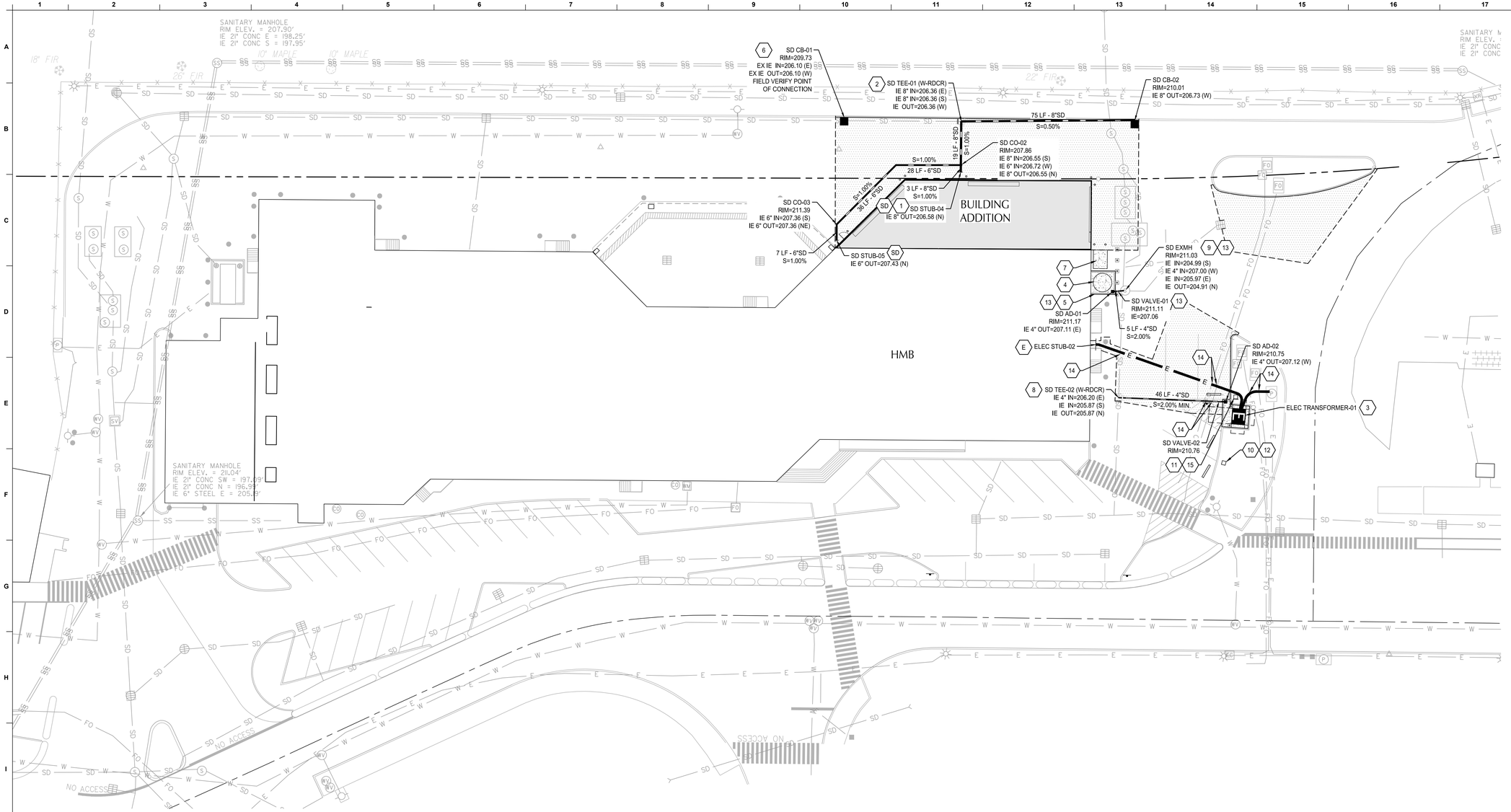
NO.		COMPUTER REVISION ONLY	BY	DATE	APPROVED
C=CONTRACT CONSTRUCTION F=FORCE ACCOUNT CONSTRUCTION A=RECORD					

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FIGURE D-27
HAZMAT BUILDING
FIRE PROTECTION PLAN
AND DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
280138	KEP	A1	27	0



SHEET NOTES

1. PIPE BEDDING AND BACKFILL FOR ALL UTILITIES SHALL BE DONE PER DETAIL 4/C7.00.
2. STATIONS AND OFFSETS SHOWN ON STRUCTURES ARE SHOWN AT CENTER OF STRUCTURE.
3. ALL FUEL PIPING TO ABOVE GRADE. REFERENCE MECHANICAL PLANS FOR PIPE TYPE AND CONNECTIONS.

X UTILITY KEY NOTES

NOTE	DESCRIPTION	DETAIL REF.
1	REROUTE EXISTING STORM LATERAL TO NEW DOWN SPOUT FROM BUILDING ADDITION. SEE PLUMBING PLANS FOR CONTINUATION, SIZE AND IE AS NOTED.	
2	INSTALL TEE AT LOCATION OF REMOVED CATCH BASIN	
3	INSTALL ELECTRICAL TRANSFORMER ON CONCRETE PEDESTAL. REFERENCE ELECTRICAL PLANS.	
4	INSTALL 4,000 GALLON, 8 FOOT DIAMETER ABOVE GRADE OIL TANK. OIL LINE SERVICE TO BUILDING TO BE ROUTED ABOVE GRADE IN DUAL CONTAINMENT PIPE. SEE MECHANICAL PLANS FOR MORE INFORMATION.	
5	DUAL EXPOSED CURB FOR HYDRAULIC ISOLATION OF THE OIL TANK. SEE GRADING PLAN.	
6	INSTALL CATCH BASIN OVER EXISTING STORM LINE.	7/C7.00
7	NEW CONCRETE PEDESTAL FOR VACUUM PUMP ENCLOSURE. SEE MECHANICAL PLANS FOR MORE INFORMATION. PUMP PIPE CONNECTIONS TO BE ROUTED FROM THE ENCLOSURE TO THE BUILDING ABOVE GRADE.	
8	CONNECT TO EXISTING STORM PIPE WITH TEE. FIELD VERIFY CONNECTION IE, SIZE, AND LOCATION PRIOR TO CONSTRUCTION	
9	CONNECT TO EXISTING MANHOLE	
10	EV CHARGING STATION. SEE ELECTRICAL PLANS.	
11	BID OPTION DEL 107	
12	BID OPTION DEL 114	
13	BID OPTION DEL 009.1	
14	UTILITY CROSSING. PROVIDE 12" MIN. VERTICAL CLEARANCE, U.N.O.	
15	OUTLET FOR BUCKET TRUCK TRICKLE CHARGING. SEE ELECTRICAL PLANS.	
E	CONNECT TO ELECTRICAL CONDUIT. SEE ELECTRICAL PLANS FOR CONTINUATION. SIZE AND IE AS NOTED.	
SD	CONNECT TO STORM DRAIN/ROOF DRAIN. SEE PLUMBING PLANS FOR CONTINUATION. SIZE AND IE AS NOTED.	

UTILITY LABEL LEGEND

STRUCTURE LABEL

UTILITY TYPE (SD=STORM DRAINAGE)
STRUCTURE TYPE CALLOUT
ID NUMBER (WHERE APPLICABLE)

XX.XX-XX
X+XX.X RT X.X' — LOCATION (WHERE APPLICABLE)
RIM=
IE IN = XX.X
IE OUT = XX.X — STRUCTURE INFO (WHERE APPLICABLE)

PIPE LABEL

UTILITY LENGTH
UTILITY SIZE
UTILITY TYPE

XXLF - XX" XX
S=X.XX%
SLOPE (WHERE APPLICABLE)

STRUCTURE TYPE

CALLOUT	DESCRIPTION	DETAIL REF.
CB	CATCH BASIN	7/C7.00
CO	CLEANOUT TO GRADE	11/C7.00
STUB	STUB	
AD	TRAPPED AREA DRAIN	5/C7.00
VALVE	VALVE	13/C7.00

SD STRUCTURE TABLE

STRUCTURE ID	NORTHING	EASTING
AD-01	127869.85	1089735.63
AD-02	127830.98	1089791.38
CB-01	127925.01	1089609.30
CB-02	127944.27	1089733.02
CO-02	127912.90	1089662.25
CO-03	127878.97	1089613.69
STUB-04	127909.93	1089662.72
STUB-05	127872.23	1089614.81
TEE-01 (W-RDCR)	127931.50	1089659.36
TEE-02 (W-RDCR)	127825.22	1089745.64
VALVE-01	127870.39	1089737.78
VALVE-02	127830.63	1089788.60

ELEC STRUCTURE TABLE

STRUCTURE ID	NORTHING	EASTING
STUB-02	127846.19	1089732.23
TRANSFORMER-01	127825.65	1089797.96

SCALE 1 INCH = 20 FEET
20 0 20 40

MARK C. REILAND — STATE OF WASHINGTON — 12/16/22

kpff
111 SW Fifth Ave., Suite 2600
Portland, OR 97204
O: 503.542.3860
F: 503.224.4681
www.kpff.com

NO.	TYPE	WORK ORDER	DESCRIPTION	BY	DATE	REVIEWED
0	C	535821	ISSUE FOR CONSTRUCTION	KPFF/MVB	12/21/2022	KPFF/DD

BONNEVILLE POWER ADMINISTRATION
UNITED STATES DEPARTMENT OF ENERGY

DESIGN BY: KPFF/XX
DESIGN CHECKED BY: KPFF/DD
DRAWN BY: KPFF/XX
CAD CHECK BY: KPFF/DD
FINAL REVIEW BY: KCelvin 12/23/2022

ROSS COMPLEX
Z-1255 HAZARDOUS MATERIALS BUILDING (HMB)
CIVIL
UTILITY PLAN
Figure D-28

C4.00

SOURCE	SIZE	SERIAL	SHEET	REVISION
FFC	BPA D	352177	6	0

File: N:\e\p\2021\3100278-BPA-GB-HMB\CAD\PLOT\2100278-C4.00-HMB-UTIL.dwg TAB:C4.00
Plotted: 12/15/22 at 4:07pm By: scott

Attachments – Section D

Attachment D-1
Waste Delivery Record and
Drum Tracking Sheet

CONTAINER LOCATION (HAZMAT)_____

_____

WASTE DELIVERY RECORD

(MATERIAL FROM ROSS)

DATE RECEIVED: _____
(AT HAZMAT)

IWS#:_____ LR#:_____
(Identified Waste Stream) (laboratory report)

SAMPLE DATE:_____

NUMBER OF CONTAINERS:_____

CONTAINER SIZE:_____ CONTAINER TYPE:_____

UNIQUE CONTAINER ID #s_____

_____

_____

DESCRIPTION OF WASTE_____

_____

_____

_____

Comments or notes:_____

_____

GENERATION SITE:_____

_____

SIGNATURE OF GENERATOR:_____

RECEIVED BY (HAZMAT):_____

GENERATOR: KEEP COPY IN YOUR FILES FOR FIVE YEARS

Example Drum Tracking Sheet

INCOMING MANIFEST DOCUMENT NUMBER:	ACCUMULATION START DATE:	DATE SHIPMENT RECEIVED:	CONTAINER NUMBER:

GENERATOR:

OIL DRUM	OPEN TOP DRUM	COMPOSIT DRUM	OVERPACK DRUM	FIBERBOARD DRUM	OTHER
☐ 5	☐ 8	☐ 5	☐ 8	☐ 10	☐
☐ 30	☐ 30	☐ 55	☐ 30	☐ 20	
☐ 55	☐ 55		☐ 55	☐ 30	TANK TRUCK
	☐ 85		☐ 85	☐ 55	☐

GENERATOR	SOURCE CODE	FORM CODE	ORIGIN CODE	IWS NUMBER
ROSS ☐				
OTHER ☐	A80		IV	

PCB RANGE			WASTE DESIGNATION		AMOUNT OF WASTE		LAB NUMBER
0	2-49	>49	EHW	DW	GALLONS	WEIGHT	

DOT DESCRIPTION:

WASTE DESCRIPTION:

EPA WASTE CODES:

STATE WASTE CODES:

STORAGE LOCATION:

REMARKS:

SITE:	DATE SHIPPED:	MANIFEST OUT:	SYSTEM CODE:

BLANKHW

Attachment D-2
Product Specification Sheets For
Industrial Floor Coatings

ArmorSeal Heavy Duty Floor Coatings

ARMORSEAL® 1000 HS

Last application of this product for all areas of the permitted unit was in 2024. Haze gray was used for the floors and white was used for the trenches and containment areas.

PART B **B67V2002** **SERIES HARDENER**

Revised: August 10, 2021

PRODUCT INFORMATION

8.22

PRODUCT DESCRIPTION

ARMORSEAL 1000 HS is a high solids, heavy duty, two-component, catalyzed, polyamide epoxy coating formulated for demanding marine and industrial requirements. Dries rapidly to a tough, high gloss finish with excellent resistance to alkalies, abrasion, corrosion, and chemical attack.

- Chemical Resistant
- Impact Resistant
- Abrasion Resistant
- Outstanding application properties

PRODUCT CHARACTERISTICS

Finish:	Gloss
Color:	Clear, Haze Gray, Deck Gray, White, Sandstone, Tile Red, Safety Yellow, and a wide range of tinted colors
Volume Solids, mixed:	colors - 65% ± 2% may vary by color clear - 61% ± 2%
Weight Solids, mixed:	74% ± 2%, may vary by color
VOC (EPA Method 24):	Unreduced (mixed): <340 g/L; 2.8 lb/gal
Mix Ratio:	1:1 by volume

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**5.0** (125)	**8.0** (200)
Dry mils (microns)	**3.0** (75)	**5.0** (125)
~Coverage sq ft/gal (m^2/L)	**206** (5.0)	**350** (8.6)
Theoretical coverage **sq ft/gal** (m^2/L) @ 1 mil / 25 microns dft	**1040** (25.5)	

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 6.0 mils (150 microns):

	@ 50°F/10°C	@ 77°F/25°C *50% RH*	@ 120°F/49°C
To touch:	4 hours	2 hours	30 minutes
To recoat:			
minimum:	24 hours	8 hours	4 hours
maximum:	7 days	7 days	7 days
Foot traffic:	48 hours	24 hours	12 hours
Heavy traffic:	4-5 days	48-72 hours	24-36 hours
To cure:	10 days	7 days	4 days

If maximum recoat time is exceeded, abrade surface before topcoating.

Drying time is temperature, humidity, and film thickness dependent.

Pot Life:	6 hours	4 hours	2 hours
Sweat-in-Time:	2 hours	30 minutes	10 minutes

PRODUCT CHARACTERISTICS (CONT'D)

Shelf Life:	36 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C)
Flash Point:	>105°F (41°C), Seta, mixed
Reducer*:	VOC Restricted Areas (≤340 g/L): Not recommended
Clean Up:	Reducer #54 (R7K54)

*In other VOC areas (>340 g/L): use Reducer #54 (R7K54). Confirm compliance with state and local air quality rules before use.

RECOMMENDED USES

- For industrial, commercial, or marine applications where a heavy duty epoxy coating is required.
- Superior resistance to chemicals, moisture, abrasion, and impact
- Excellent resistance to alkalies, dilute acids, spillage of solvents, chemicals, jet fuel, grease, etc.
- Clear finish for interior use only
- Suitable for use in USDA inspected facilities

PERFORMANCE CHARACTERISTICS

Substrate*: Concrete

Surface Preparation*: Clean, dry, sound

System Tested*:

1 ct. ArmorSeal 1000 HS (reduced)
1 ct. ArmorSeal 1000 HS @ 3.0-5.0 mils (75-125 microns) dft

*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 Kg load	64.8 mg loss
Adhesion, over concrete	ASTM D4541	350 psi, 100% concrete failure
Direct Impact Resistance (steel)	ASTM D2794	58 in. lbs
Dry Heat Resistance	ASTM D2485	180°F (82°C)
Flexibility (steel)	ASTM D522, 180° bend, 1/8" mandrel	Passes
Pencil Hardness	ASTM D3363	HB
Slip Resistance, Floors	ASTM C1028**, .60 minimum Static Coefficient of Friction	Passes wet and dry, with and without SharkGrip Additive

**Test method withdrawn in 2014 without replacement

Epoxy coatings may darken or yellow following application and curing.

continued on back

ArmorSeal Heavy Duty Floor Coatings

ARMORSEAL® 1000 HS

PART A B67-2000 **SERIES**
PART B B67V2002 **HARDENER**

PRODUCT INFORMATION

Revised: August 10, 2021 8.22

RECOMMENDED SYSTEMS

		Dry Film Thickness / ct. Mils	(Microns)
Concrete/Wood:			
1 ct.	ArmorSeal 1000 HS*	2.5-4.0	(63-100)
1-2 cts.	ArmorSeal 1000 HS (with anti-slip aggregate if required)	3.0-5.0	(75-125)
Concrete:			
1 ct.	ArmorSeal 33 Epoxy Primer/Sealer	8.0	(200)
1-2 cts.	ArmorSeal 1000 HS (with anti-slip aggregate if required)	3.0-5.0	(75-125)
Steel:			
1 ct.	Recoatable Epoxy Primer	4.0-5.0	(100-125)
1-2 cts.	ArmorSeal 1000 HS	3.0-5.0	(75-125)
Painted Surfaces in Sound Condition:			
1-2 cts.	ArmorSeal 1000 HS	3.0-5.0	(75-125)

*In VOC Restricted Areas (≤340 g/L), reduction is not recommended. In other areas (>340 g/L), Reducer #54 (R7K54) may be used as necessary up to 1 pt/gal. Confirm compliance with state and local air quality rules before use.

The systems listed above are representative of the product's use, other systems may be appropriate.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:

* Iron & Steel:	SSPC-SP6/NACE 3
Concrete & Masonry:	SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-3
Wood, interior:	Clean, smooth, dust free
*Primer Required	

Surface Preparation Standards

Condition of Surface		ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE
White Metal		Sa 3	Sa 3	SP 5	1
Near White Metal		Sa 2.5	Sa 2.5	SP 10	2
Commercial Blast		Sa 2	Sa 2	SP 6	3
Brush-Off Blast		Sa 1	Sa 1	SP 7	4
Hand Tool Cleaning	Rusted	C St 2	C St 2	SP 2	-
	Pitted & Rusted	D St 2	D St 2	SP 2	-
Power Tool Cleaning	Rusted	C St 3	C St 3	SP 3	-
	Pitted & Rusted	D St 3	D St 3	SP 3	-

TINTING

White and Ultradeep may be tinted with Maxitoner Colorants at 200% tinting strength into Part A. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

APPLICATION CONDITIONS

Temperature:	50°F (10°C) minimum, 120°F (49°C) maximum (air, surface, and material) At least 5°F (2.8°C) above dew point
Relative humidity:	85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:	
Part A:	1 gallon (3.78L) containers
Part B:	1 gallon (3.78L) containers (clear available in 5 gallon /18.9L containers)
Weight:	12.51 ± 0.2 lb/gal ; 1.5 Kg/L mixed, may vary by color

SAFETY PRECAUTIONS

Refer to the SDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

ArmorSeal Heavy Duty Floor Coatings

ARMORSEAL® 1000 HS

PART A B67-2000
PART B B67V2002
SERIES HARDENER

Revised: August 10, 2021

APPLICATION BULLETIN

8.22

SURFACE PREPARATIONS

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Iron & Steel (atmospheric service)
Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Commercial Blast Cleaning per SSPC-SP6/NACE 3. For better performance, use Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils / 50 microns). Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

Concrete and Masonry
For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-3. Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F (24°C). Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement and hardeners. Fill bug holes, air pockets and other voids with Steel-Seam FT910. Primer required.

Follow the standard methods listed below when applicable:
ASTM D4258 Standard Practice for Cleaning Concrete.
ASTM D4259 Standard Practice for Abrading Concrete.
ASTM D4260 Standard Practice for Etching Concrete.
ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete.
SSPC-SP 13/Nace 6 Surface Preparation of Concrete.
ICRI No. 310.2R Concrete Surface Preparation.

Previously Painted Surfaces
If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, or if this product attacks the previous finish, removal of the previous coating may be necessary. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.

Surface Preparation Standards

	Condition of Surface	ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE
White Metal		Sa 3	Sa 3	SP 5	1
Near White Metal		Sa 2.5	Sa 2.5	SP 10	2
Commercial Blast		Sa 2	Sa 2	SP 6	3
Brush-Off Blast		Sa 1	Sa 1	SP 7	4
Hand Tool Cleaning	Rusted	C St 2	C St 2	SP 2	-
	Pitted & Rusted	D St 2	D St 2	SP 2	-
Power Tool Cleaning	Rusted	C St 3	C St 3	SP 3	-
	Pitted & Rusted	D St 3	D St 3	SP 3	-

APPLICATION CONDITIONS

Temperature:	50°F (10°C) minimum, 120°F (49°C) maximum (air, surface, and material) At least 5°F (2.8°C) above dew point
Relative humidity:	85% maximum

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Reducer* ..... VOC Restricted Areas (≤340 g/L): Not recommended
Clean Up ..... Reducer #54 (R7K54)

Airless Spray
Pressure ..... 2500 psi
Hose ..... 3/8" ID
Tip ..... .015" - .021"
Filter ..... 60 mesh
Reduction* ..... Not recommended

Brush
Nylon/Polyester or Natural Bristle
Reduction* ..... Not recommended

Roller
Cover ..... 3/8" woven with solvent resistant core
Reduction* ..... Not recommended

*In other VOC areas (>340 g/L): Reducer #54 (R7K54) may be used up to 10% by volume. Confirm compliance with state and local air quality rules before use.

If specific application equipment is not listed above, equivalent equipment may be substituted.

continued on back

ArmorSeal Heavy Duty Floor Coatings

ARMORSEAL® 1000 HS

PART A B67-2000
PART B B67V2002
SERIES HARDENER

Revised: August 10, 2021

APPLICATION BULLETIN

8.22

APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mix contents of each component thoroughly with low speed power agitation. Combine one Part A with one Part B by volume and mix for 3 minutes and until uniform. Allow the material to sweat-in as indicated. Re-stir before using.

Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**5.0** (125)	**8.0** (200)
Dry mils (microns)	**3.0** (75)	**5.0** (125)
~Coverage sq ft/gal (m^2/L)	**206** (5.0)	**350** (8.6)
Theoretical coverage **sq ft/gal** (m^2/L) @ 1 mil / 25 microns dft	**1040** (25.5)	

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 6.0 mils (150 microns):

	@ 50°F/10°C	@ 77°F/25°C *50% RH*	@ 120°F/49°C
To touch:	4 hours	2 hours	30 minutes
To recoat:			
minimum:	24 hours	8 hours	4 hours
maximum:	7 days	7 days	7 days
Foot traffic:	48 hours	24 hours	12 hours
Heavy traffic:	4-5 days	48-72 hours	24-36 hours
To cure:	10 days	7 days	4 days
If maximum recoat time is exceeded, abrade surface before topcoating.			
Drying time is temperature, humidity, and film thickness dependent.			
Pot Life:	6 hours	4 hours	2 hours
Sweat-in-Time:	2 hours	30 minutes	10 minutes

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Reducer #54 (R7K54). Clean tools immediately after use with Reducer #54 (R7K54). Follow manufacturer's safety recommendations when using any solvent.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

PERFORMANCE TIPS

Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

No reduction of material is recommended as it can affect film build, appearance, and adhesion.

Do not apply the material beyond recommended pot life.

Do not mix previously catalyzed material with new.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Reducer #54 (R7K54).

Material can not be sprayed if anti-slip aggregate is use.

Anti-slip additives, such as H&C SharkGrip®, may be added to the coating to provide some slip resistance. This product should not be used in place of a non-skid finish.

Anti-slip additive may be mixed into the final coat just prior to application. Exception: if anti-slip is desired with Clear finish, it should be hand broadcast.

In VOC Restricted Areas (≤340 g/L), reduction is not recommended. In other areas (>340 g/L), the prime coat for concrete may be reduced with Reducer #54 (R7K54) up to 1 pt/gal. Confirm compliance with state and local air quality rules before use.

Clear is for interior use only.

Refer to Product Information sheet for additional performance characteristics and properties.

SAFETY PRECAUTIONS

Refer to the SDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Attachment D-3
Hazardous Materials Building Containment Calculations
Part B Permit Application

	weir height, ft	width, ft	cross section factor (sq ft)	gal/cu ft	cross section factor (gal/ft)	length, ft	total gallons at weir head
Room 100 (Flammable Storage)							
sump	4.75	6	28.5	7.48	213	58	12,364
trench	1	1	1	7.48	7.48	58	434
						Total	**12,798**
Room 102a (Acids, isolated containment)							
sump	4	4	16	7.48	120	19	2,274
trench	1	1	1	7.48	7.48	19	142
						Total	**2,416**
Room 102b (Bases)							
sump	4.25	6	25.5	7.48	191	19	3,624
trench	1	1	1	7.48	7.48	19	142
						Total	**3,766**
Room 102c (Pending analysis)							
sump	4.25	6	25.5	7.48	191	19	3,624
trench	1	1	1	7.48	7.48	19	142
						Total	**3,766**
Rom 102d (State-only)							
sump	4.25	6	25.5	7.48	191	38	7,248
trench	1	1	1	7.48	7	38	284
						Total	**7,532**
Room 103 (Shipping and receiving) + Room 101 (Electricians Shop)							
sump	4.25	6	25.5	7.48	191	108	20,600
trench	1.67	1	1.67	7.48	12	107	1,334
						Total	**21,934**
Load/Unload (Covered)							
trench	3.17	4.75	15.1	7.48	113	112	12,615
		width	length	height	cu ft	gal/cu ft	gallons
sloped floor		36	78	0.175	491.4	7.48	3,676
						Total	**16,290**
Bulking Room 104							
		width, ft	length, ft	height, ft	cu ft	gal/cu ft	gallons
Recessed floor		16	23	0.25	92	7.48	688
Bottem sump		4	8	0.42	13.3	8.5	113
						Total	**801**

Attachment D-4
Original Engineer Stamped
Design Drawings

CH2M HILL
CORVALLIS, OREGON

INDEX TO DRAWINGS

SHEET NO.	DRAWING TITLE
	GENERAL
1	INDEX TO DRAWINGS
2	ABBREVIATIONS
	CIVIL
3	OVERALL SITE PLAN
4	LOCATION PLAN
5	GRADING PLAN
6	YARD PIPING PLAN
7	GRADING AND PAVING DETAILS
8	YARD PIPING DETAILS
9	PRELOAD PLAN
10	PRELOAD DETAILS
	ARCHITECTURAL
11	LEGEND AND NOTES
12	GROUND LEVEL KEY PLAN
13	UPPER LEVEL KEY PLAN
14	FLOOR PLAN - AREA A
15	FLOOR PLAN - AREA B
16	FLOOR PLAN - AREA C
17	ROOF PLAN
18	OFFICE / BULKING AREA PLAN & DETAILS
19	HVAC ROOM PLANS
20	REFLECTED CEILING PLANS - OFFICE / LOCKER RM
21	BUILDING ELEVATIONS
22	STAIR PLANS AND SECTIONS
23	BUILDING SECTIONS
24	BUILDING SECTIONS
25	WALL SECTIONS
26	WALL SECTIONS
27	WALL SECTIONS
28	INTERIOR ELEVATIONS
29	DETAILS
30	DETAILS
31	DETAILS
32	DETAILS
33	DOOR AND HARDWARE SCHEDULE
34	INTERIOR FINISH SCHEDULE & WALL TYPES
35	WINDOW, LOUVER, EXTERIOR FINISH & COLOR SCHEDULES

SHEET NO.	DRAWING TITLE
	STRUCTURAL
36	GENERAL NOTES AND DETAILS
37	FOUNDATION PLAN - AREA A
38	FOUNDATION PLAN - AREA B & DETAILS
39	FOUNDATION PLAN - AREA C & DETAILS
40	FOUNDATION SECTIONS AND DETAILS
41	PILASTER DETAILS
42	FLOOR SLAB PLAN - AREA A
43	FLOOR SLAB PLAN - AREA B
44	FLOOR SLAB PLAN - AREA C & DETAILS
45	ROOM FRAMING PLANS, SECTIONS & DETAILS
46	NOT USED
47	SECTIONS AND DETAILS
48	SECTIONS AND DETAILS
49	SECTIONS AND DETAILS
50	SECTIONS AND DETAILS
51	SECTIONS AND DETAILS
52	NOT USED
53	NOT USED
54	NOT USED
55	NOT USED
56	DETAILS
57	DETAILS
58	DETAILS
59	NOT USED
60	NOT USED

SHEET NO.	DRAWING TITLE
	MECHANICAL
61	LEGEND AND NOTES
62	(M) PROCESS FLOW DIAGRAM
63	(M) DRAIN AND FLUSH AREA PLAN
64	(M) TRUCK LOADING AREA PLAN
65	(M) PROCESS MECHANICAL SECTION
66	(M) PROCESS MECHANICAL SECTIONS
67	(M) NOT USED
68	(M) OIL TANKS
69	(M) PROCESS MECHANICAL DETAILS
70	(M) PROCESS MECHANICAL DETAILS
71	(M) PROCESS MECHANICAL DETAILS & PIPE SCHEDULE
72	(H) FLOOR PLAN - AREA A
73	(H) FLOOR PLAN - AREA B
74	(H) FLOOR PLAN - AREA C
75	(H) OFFICE / BULKING AREA PARTIAL PLAN
76	(H) DRAIN AND FLUSH HVAC ROOM 201
77	(H) BULKING AREA HVAC ROOM 200 & 200A
78	(H) HVAC EQUIPMENT SCHEDULES
79	(H) HVAC DETAILS
80	(H) HVAC DETAILS
81	(H) CONTROL PANEL FRONT SCHEMATICS
82	(P) FLOOR PLAN - AREA A
83	(P) FLOOR PLAN - AREA B AND PARTIAL PLANS
84	(P) FLOOR PLAN - AREA C AND DETAILS
85	(P) PARTIAL PLANS HVAC ROOMS
86	(P) FIRE PROTECTION PLAN AND DETAILS
	ELECTRICAL
87	LEGEND AND ABBREVIATIONS
88	SITE PLAN
89	ONE - LINE DIAGRAMS
90	LIGHTING AND FACILITY PLAN - AREA A
91	LIGHTING AND FACILITY PLAN - AREA B
92	LIGHTING, FACILITY AND HVAC PLAN - AREA C
93	PROCESS AND HVAC FLOOR PLAN - AREA A
94	PROCESS AND HVAC FLOOR PLAN - AREA B
95	ELECT ROOM & OFFICE AREA FLOOR PLANS
96	HVAC ROOM FLOOR PLANS
97	SCHEDULE - PANEL AND LUMINAIRE
98	CONTROL DIAGRAMS
99	DETAILS

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

NO.	C	PL-6 MZC106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

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H&TMH FACILITY
GENERAL
INDEX TO DRAWINGS

SERIAL	SOURCE	SIZE	SHEET	REVISION
172945	FCJ	A1	1 OF 99	0

DRAWING NUMBER	SHEET	TITLE
REFERENCE DRAWINGS		

PLOT DATE: 07-07-92 FILE NAME: 17294501.FDJ

CH2M HILL
CORVALLIS, OREGON

ABBREVIATIONS

@	AT
AB	ANCHOR BOLT
ABS	ACRYLONITRILE-BUTADIENE- STYRENE
AC	ASPHALT CONCRETE
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADJ	ADJUSTABLE
AGGR	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AL	ALUMINUM
ALTN	ALTERNATE
ANDZ	ANODIZE
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
AUTO	AUTOMATIC
AUX	AUXILIARY
BC	BOTTOM OF CURB
BD	BOARD
BF	BLIND FLANGE
BLDG	BUILDING
BM	BENCH MARK, BEAM
BOD	BOTTOM OF DUCT
BOT	BOTTOM
BSP-40	BLACK STEEL PIPE, SCHEDULE 40
BSP-80	BLACK STEEL PIPE, SCHEDULE 80
BV	BALL VALVE, BUTTERFLY VALVE
C	CHANNEL (BEAM)
CAB.	CABINET
CB	CATCH BASIN
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CH	COAT HOOK
CHEM	CHEMICAL
CHK PL	CHECKERED PLATE
CIMJ	CAST IRON MECHANICAL JOINT
CIP	CAST IRON PIPE
CIPC	CAST IN PLACE CONCRETE
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CLG	CEILING
CLO	CLOSET
CLR	CLEAR
℄, CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONARY UNIT
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUOUS
COORD	COORDINATE
COP.	COPPER
CPLG	COUPLING
CPVC	CHLORINATED POLYVINYL CHLORIDE
CRS	COLD ROLLED STEEL
CSP	CONCRETE SEWER PIPE
CTD	CENTERED
CU	CUBIC
CU FT	CUBIC FOOT
CU IN.	CUBIC INCH
CU YD	CUBIC YARD
CV	CHECK VALVE
CW	COLD WATER (POTABLE)
° C	DEGREE CELSIUS
△	CENTRAL ANGLE
d	PENNY (NAIL SIZE)
DB	DISTRIBUTION BOX
DBL	DOUBLE
DCO	DECK CLEANOUT
DET	DETAIL
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIMJ	DUCTILE IRON MECHANICAL JOINT
DIMJGL	DUCTILE IRON MECHANICAL JOINT, GLASS LINED
DI	DUCTILE IRON PIPE
DIPGL	DUCTILE IRON PIPE, FLANGED, GLASS LINED
DN	DOWN
DR	DRAIN
DWG	DRAWING
EA	EACH
ECC	ECCENTRIC
EDH	ELECTRIC DUCT HEATER
EL	ELEVATION
ELB	ELBOW
ELC	ELECTRICAL LOAD CENTER
ELEC	ELECTRIC, ELECTRICAL
ENGR	ENGINEER
EQ	EQUAL
EQPT	EQUIPMENT
EVC	END OF VERTICAL CURVE
EW	EACH WAY
EXH	EXHAUST
EXP	EXPOSED
EXP JT	EXPANSION JOINT
EXST	EXISTING
FC	FLEXIBLE COUPLING
FCA	FLANGED COUPLING ADAPTER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDA	FLOOR DRAIN W/INTEGRAL TRAP
FDN	FOUNDATION
FEXT	FIRE EXTINGUISHER
FF	FINISH FLOOR
FG	FINISH GRADE
FHY	FIRE HYDRANT
FIG.	FIGURE
FL	FLOOR
FLG	FLANGE
FLH	FLAT HEAD
FLL	FLOW LINE
FLTR	FILTER
FNSH	FINISH
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FR	FIRE RETARDANT
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FOOT OR FEET
FTG	FOOTING
FWD	FORWARD
° F	DEGREE FAHRENHEIT
FPW	FIRE PROTECTION WATER
GA	GAGE
GAL	GALLON
GALV	GALVANIZED
GALVI	GALVANIZED IRON
GB	GRAB BAR
GC	GROOVED COUPLING
GCF	GROOVED COUPLING FITTING
GL	GLASS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GSP	GALVANIZED STEEL PIPE
GTV	GATE VALVE
GWB	GYPSUM WALLBOARD
GYP	GYPSUM
HD	HUB DRAIN
HDW	HARDWARE
HGT	HEIGHT
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HORSEPOWER
HR	HOSE RACK
HV	HOSE VALVE
HVAC	HEAT,VENTILATION & AIR CONDITIONING
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
ID	INSIDE DIAMETER
IN.	INCH
INFL	INFLUENT
INSTM	INSTRUMENTATION
INSUL	INSULATE
INVT	INVERT
JAN	JANITOR
JT	JOINT
KIP	THOUSAND POUNDS
KW	KILOWATT
L	ANGLE
LAB	LABORATORY
LAV	LAVATORY
LB	POUNDS
LB/CU FT	POUNDS PER CUBIC FOOT
Lc	LENGTH OF CURVE
LF	LINEAR FEET
LH	LEFT HAND
LR	LONG RADIUS
MATL	MATERIAL
MAX	MAXIMUM
M&BH	MOP & BROOM HOLDER
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MO	MASONARY OPENING
MTL	METAL
MTS	MILL TYPE STEEL PIPE
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO.	NUMBER
N.O.	NORMALLY OPEN
NP	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
ODL	OVERFLOW DRAIN LEADER
OSD	OPEN SITE DRAIN
OVFL	OVERFLOW
OZ	OUNCE
PCC	PORTLAND CEMENT CONCRETE
PE	PLAIN END
PEN.	PENETRATION
PJF	PREMOLDED JOINT FILLER
PL	PLATE (STEEL)
P-LAM	PLASTIC LAMINATE
PLYWD	PLYWOOD
PPL	POLYPROPYLENE LINED
PREFAB	PREFABRICATED
PRESS.	PRESSURE
PRI	PRIMARY
PROP.	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
PTD/WR	PAPER TOWEL DISPENSER WITH WASTE RECEPTICLE
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE PLASTIC
PVMT	PAVEMENT
RA	RETURN AIR
RAD	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RDCR	REDUCER
RDL	ROOF DRAIN LEADER
RDW	REDWOOD
REF	REFER OR REFERENCE
REFR	REFRIGERATOR
REINF	REINFORCED, REINFORCING, REINFORCE
RESIL	RESILIANT
REQD	REQUIRED
RH	RODHOLE
RL	RAIN LEADER
RLS	RUBBER LINED STEEL
RM	ROOM
RO	ROUGH OPENING
RR	RAILROAD
RST	REINFORCING STEEL
RTN	RETURN
RV	ROOF VENT
R/W	RIGHT-OF-WAY
S	I-BEAM , SANITARY SEWER
SC	SOLID CORE
SCD	SEAT COVER DISPENSER
SCFM	STANDARD CUBIC FEET PER MINUTE
SCHED	SCHEDULE
SD	SOAP DISPENSER, STORM DRAIN
SECT	SECTION
SHT.	SHEET
SIM	SIMILAR
SLP	SLOPE
SP	SPACE OR SPACES
SPEC	SPECIFICATIONS
SPLY	SUPPLY
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
ST (50)	STEAM W/INDICATED PRESSURE (PSI)
STG	STORAGE
STL	STEEL
STRL	STRUCTURAL
STRUCT	STRUCTURE
SUSP	SUSPEND
SW	SURFACE WASH
SYMM	SYMMETRICAL
T	TANGENT LENGTH
TAN	TANGENT
TBG	TUBING
T&B	TOP AND BOTTOM
TC	TOP OF CURB
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPERATURE
TF	TOP OF FOOTING
T&G	TONGUE AND GROOVE
THD	THREAD
T.O.	TOP OF
TP	TURNING POINT
TPD	TOILET PAPER DISPENSER
TT	THRUST TIE
TW	TOP OF WALL
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UH	UNIT HEATER
UGE	UNDERGROUND ELECTRIC
V	VENT, VOLT
VAC	VACUUM
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VR	VAPOR RETARDER
VTR	VENT THRU ROOF
W/	WITH
W	WIDE FLANGE (BEAM)
WC	WATER CLOSET
WH	WATER HEATER
WP	WATERPROOF
WS	WATER SURFACE, WATER STOP
W SH ST	WEATHERING SHEET STEEL
WSP	WELDED STEEL PIPE
WTR	WATER
YD	YARD

NOTES:

1. CONTACT THE ENGINEER FOR ABBREVIATIONS NOT LISTED.
2. THIS IS A STANDARD LEGEND SHEET, THEREFORE, SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE PLANS.

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H&TMH FACILITY GENERAL ABBREVIATIONS

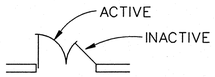
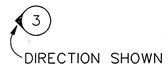
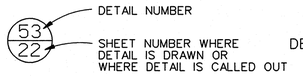
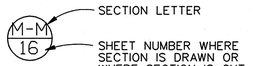
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PLOT DATE: 07-07-92

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CH2M HILL
CORVALLIS, OREGON

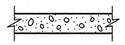
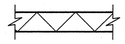
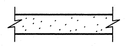
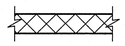
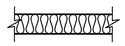
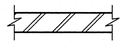
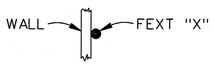
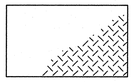
ARCHITECTURAL LEGEND

SYMBOL	LEGEND
	INDICATES PAIR OF DOORS
	INTERIOR WALL ELEVATION
	WINDOW NUMBER, LOUVER NUMBER
	ROOM NUMBER
	DOOR NUMBER
	WALL TYPE
	DETAIL BUBBLE
	SECTION BUBBLE

GENERAL NOTES

1. UNLESS OTHERWISE NOTED, PLAN DIMENSIONS ARE TO COLUMN GRID ON CENTERLINES, NOMINAL SURFACE OF MASONRY, FACE OF STUDS AND FACE OF CONCRETE WALLS.
2. REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
3. WHERE DOOR IS LOCATED NEAR CORNER OF ROOM AND IS NOT LOCATED BY DIMENSION ON PLAN OR DETAILS, DIMENSION SHALL BE 4-INCHES FROM FACE OF STUD (WALL) TO FACE OF ROUGH OPENING.
4. AT SOUND INSULATED WALLS, FULL HEIGHT PARTITIONS SHALL BE SEALED BOTH SIDES WITH ACOUSTIC SEALANT; TOP, BOTTOM, INTERSECTIONS, DOOR FRAMES, GLAZED OPENING FRAMES, AND OTHER PENETRATIONS.
5. LINE OF EXISTING GRADES, AS SHOWN ON THE BUILDING ELEVATIONS AND SECTIONS ARE APPROXIMATE. THEY ARE AT THE BUILDING FACE, OR ON THE SECTION END EXCEPT AS NOTED.
6. VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.
7. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES OF DRAWINGS FOR ADDITIONAL NOTES.
8. VERIFY SIZE AND LOCATION OF, AND PROVIDE: ALL OPENINGS THROUGH FLOORS AND WALLS, ACCESS DOORS, FURRING, CURBS, ANCHORS AND INSERTS. PROVIDE ALL BASES, BLOCKING REQUIRED FOR ACCESSORIES, MECHANICAL, ELECTRICAL AND OTHER EQUIPMENT.

MATERIAL LEGEND

SYMBOL	LEGEND
	CONCRETE
	STEEL STUD PLAN
	GYPSUM WALLBOARD OR VENEER PLASTER IN SECTION
	RIGID INSULATION
	BATT INSULATION
	STEEL
	WOOD, ROUGH CONTINUOUS
	WOOD, ROUGH NON-CONTINUOUS
	GROUND SURFACE
	FIRE EXTINGUISHER "X" = NO. IN SPECS
	CHECKERED PLATE

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H&TMH FACILITY ARCHITECTURAL LEGEND AND NOTES

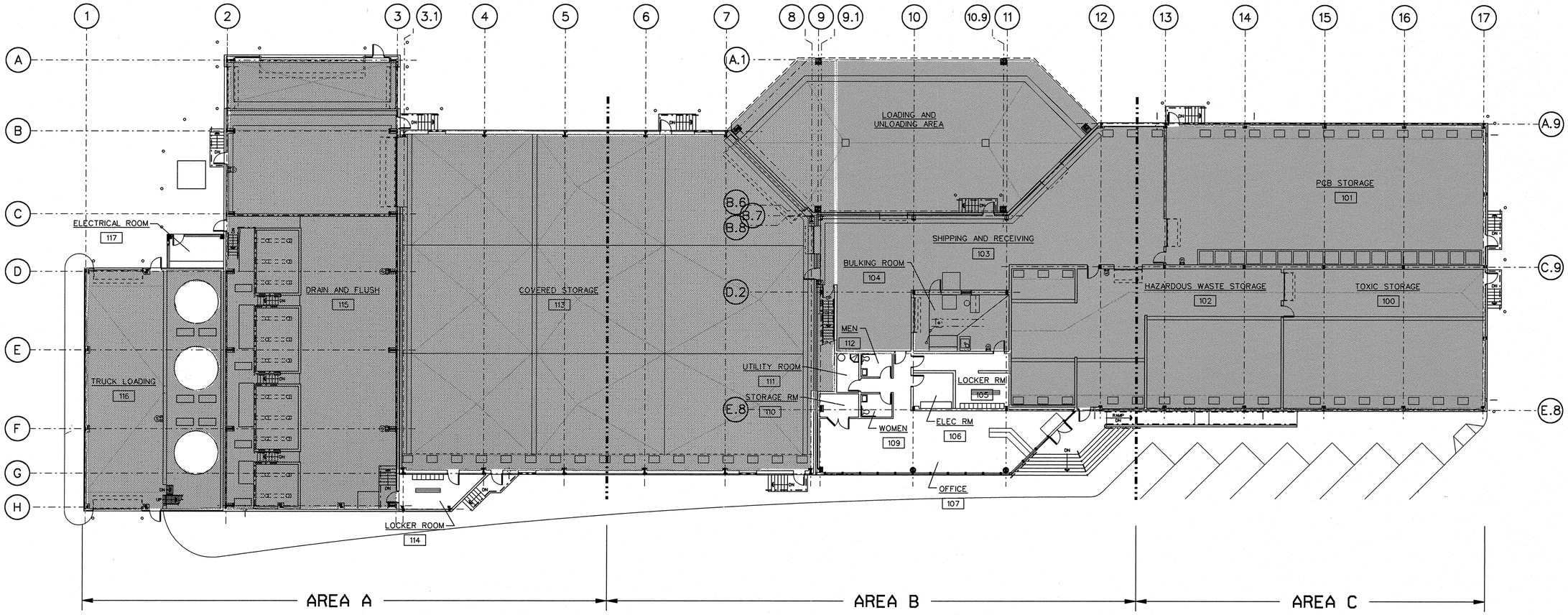
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172945	FCJ	A1	11	0

FILE NAME: 17294503.FDJ
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CH2M HILL
CORVALLIS, OREGON



GROUND LEVEL KEY PLAN

SCALE 1/16" = 1'-0" 0 4 8 16 32 48 FT

Legend

Areas shaded to receive Protective Coatings

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H&TMH FACILITY ARCHITECTURAL GROUND LEVEL KEY PLAN

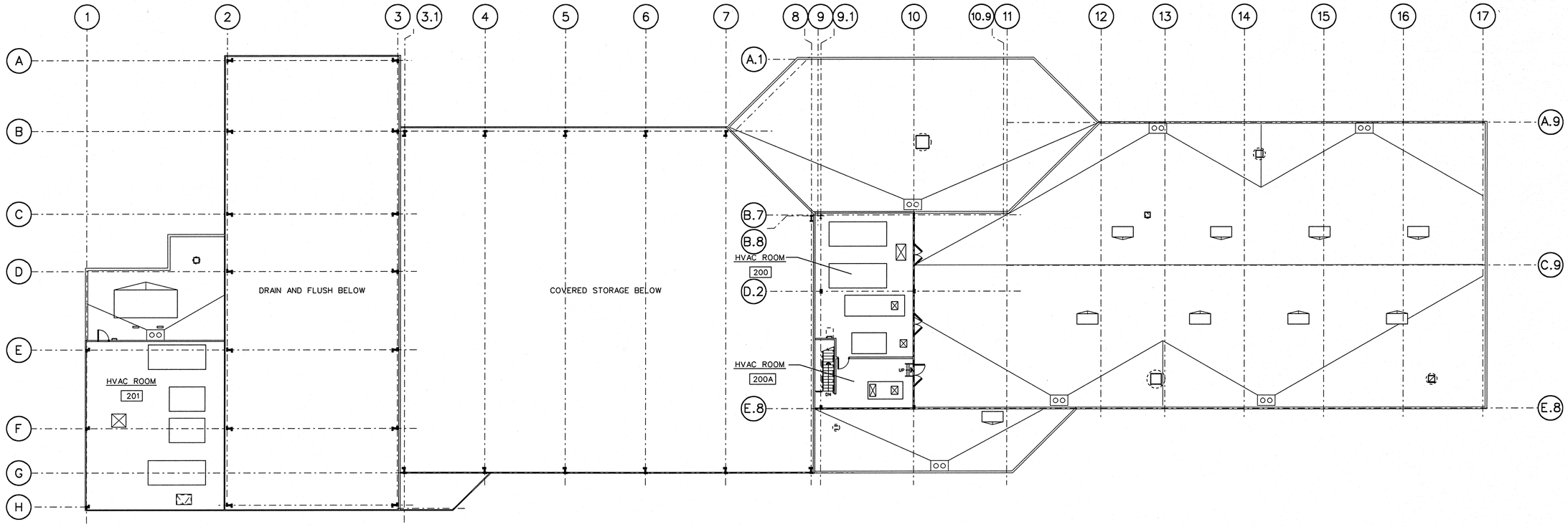
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DRAWING NUMBER	SHEET	TITLE

REFERENCE DRAWINGS

FILE NAME: 17294504.FDJ
PLOT DATE: 07-07-92

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UPPER LEVEL KEY PLAN

SCALE 1/16" = 1'-0" 0 4 8 16 32 48 FT

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H&TMH FACILITY ARCHITECTURAL UPPER LEVEL KEY PLAN

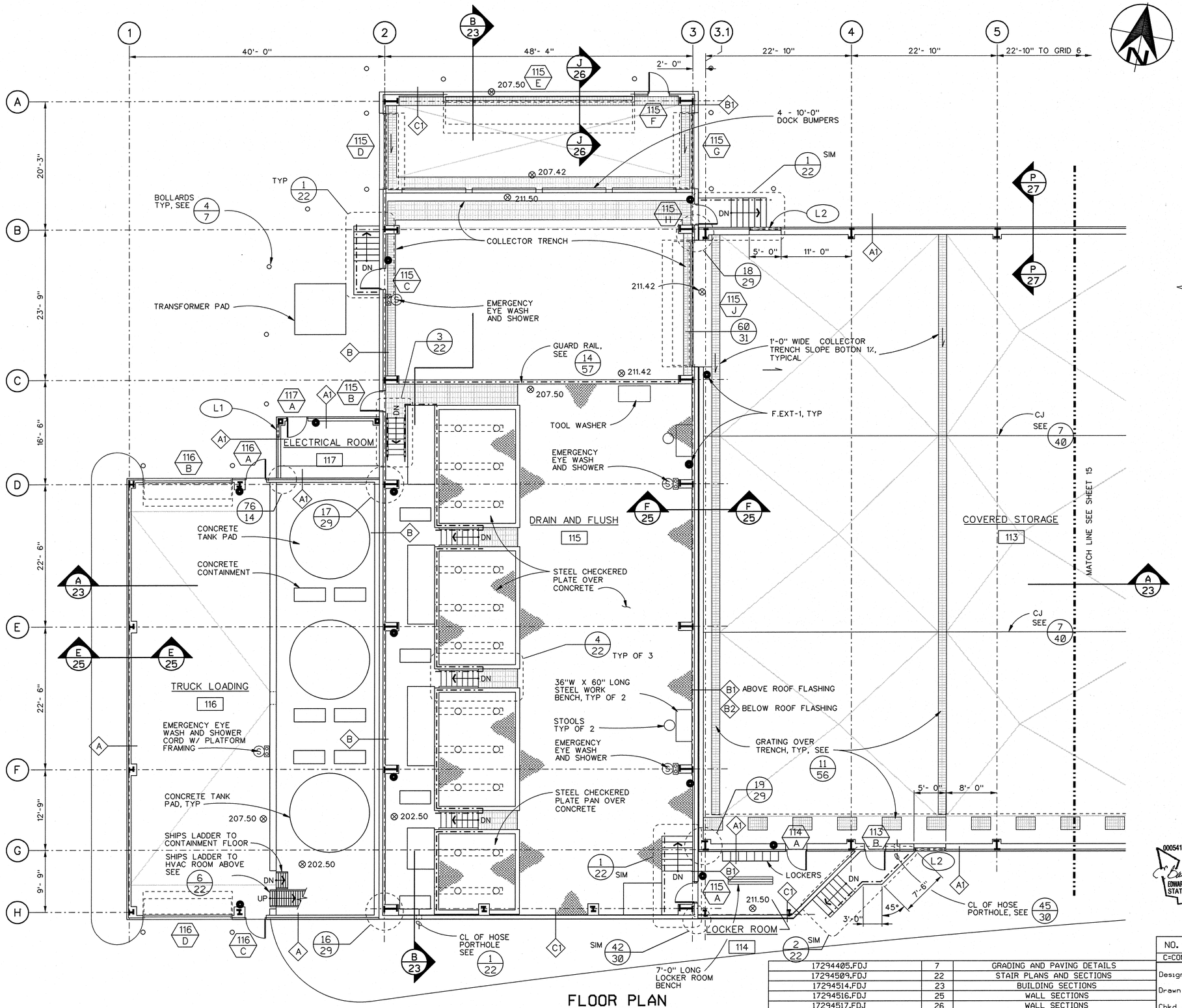
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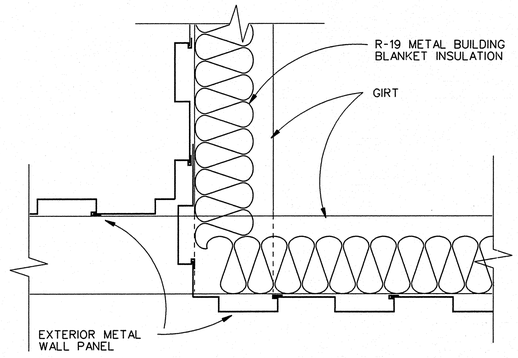
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FLOOR PLAN

SCALE 1/8" = 1'-0" 0 4 8 12 16 20FT



DETAIL 76/14
1½" - 1'-0"

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Chkd JE CAVE
Sub
Rec
Rec
Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL FLOOR PLAN - AREA A

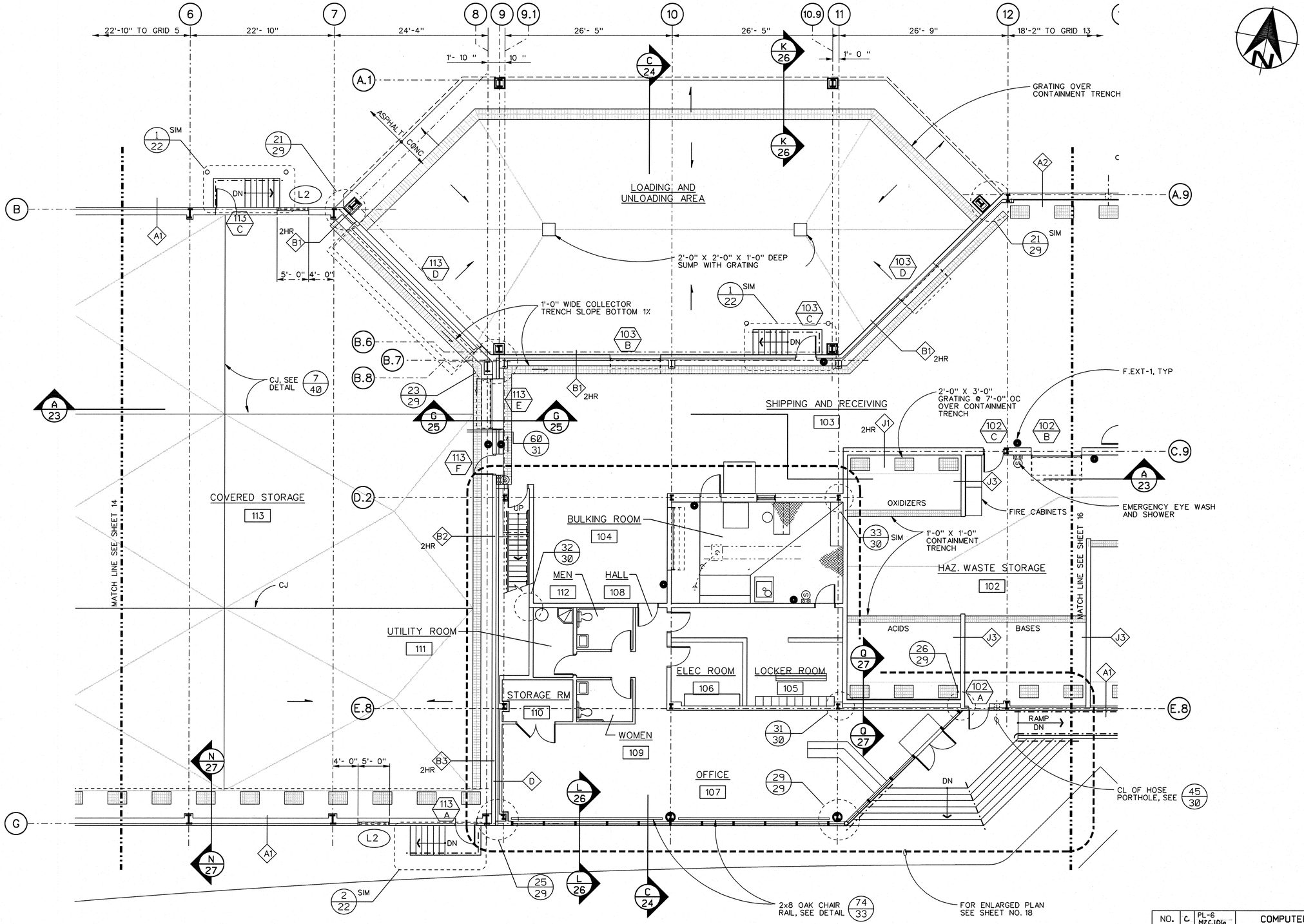
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172945	FCJ	A1	14	0

REFERENCE DRAWINGS

DRAWING NUMBER	SHEET	TITLE
17294405.FDJ	7	GRADING AND PAVING DETAILS
17294509.FDJ	22	STAIR PLANS AND SECTIONS
17294514.FDJ	23	BUILDING SECTIONS
17294516.FDJ	25	WALL SECTIONS
17294517.FDJ	26	WALL SECTIONS
1729426.FDJ	27	WALL SECTIONS
17294519.FDJ	29	DETAILS
17294520.FDJ	30	DETAILS
17294521.FDJ	31	DETAILS
17294605.FDJ	40	FOUNDATION SECTIONS AND DETAILS
17294621.FDJ	56	DETAILS (STRUCT)
17294622.FDJ	57	DETAILS (STRUCT)

FILE NAME: 17294505.FDJ
PLOT DATE: 07-07-92

CH2M HILL
CORVALLIS, OREGON



FLOOR PLAN

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

DRAWING NUMBER	SHEET	TITLE
17294509.FDJ	22	STAIR PLANS AND SECTIONS
17294514.FDJ	23	BUILDING SECTIONS
17294515.FDJ	24	BUILDING SECTIONS
17294516.FDJ	25	WALL SECTIONS
17294517.FDJ	26	WALL SECTIONS
17294526.FDJ	27	WALL SECTIONS
17294519.FDJ	29	DETAILS
17294520.FDJ	30	DETAILS
17294521.FDJ	31	DETAILS
17294605.FDJ	40	FDN SECTIONS AND DETS (STRUCT)

REFERENCE DRAWINGS

NO.	C	PL-6 MZC106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design E BARLOW-PIETERICK
Drawn BD ROUSH
Chkd JE CAVE
Sub
Rec
Rec
Appr
Date

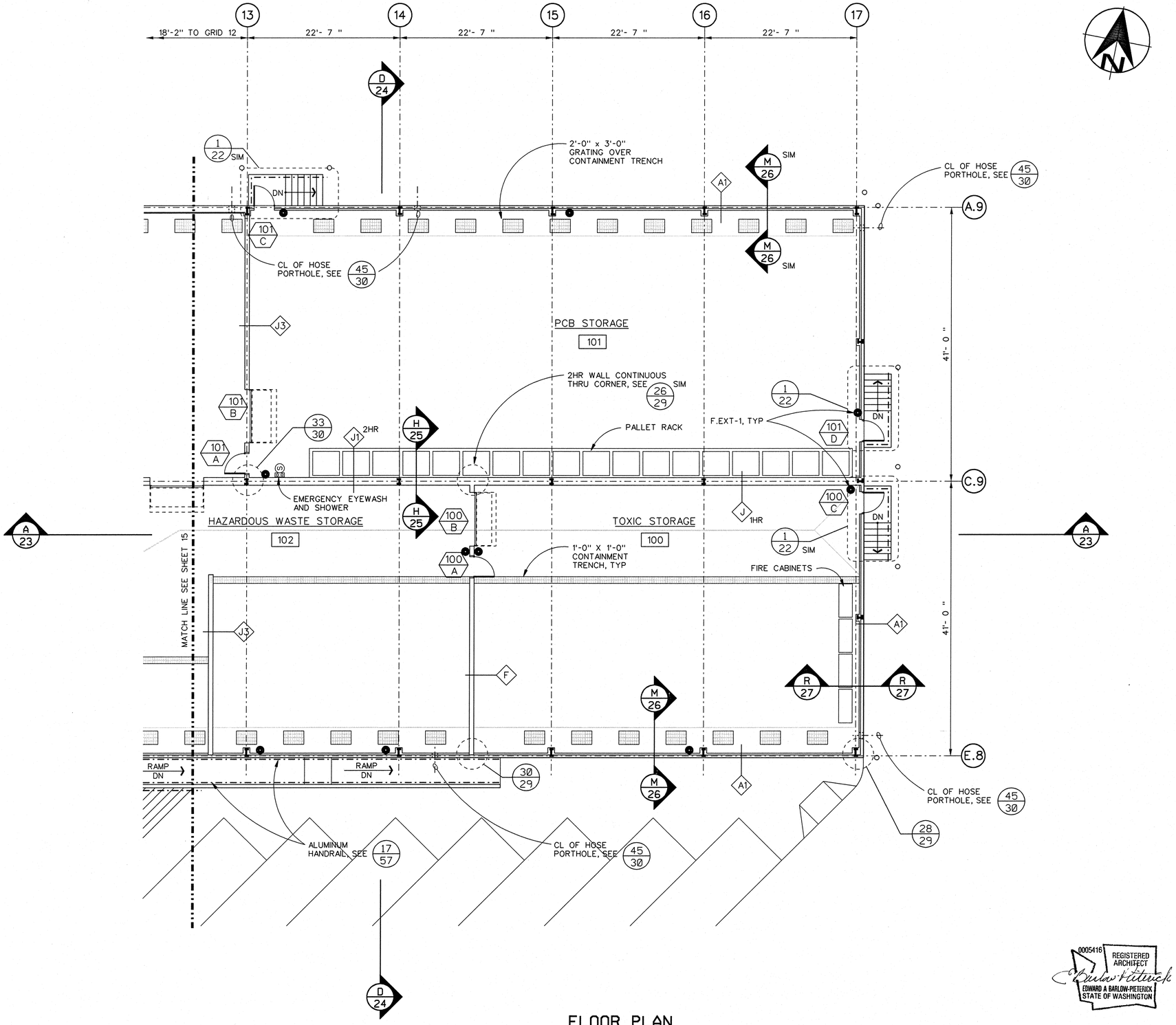
UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL FLOOR PLAN - AREA B

SERIAL	SOURCE	SIZE	SHEET	REVISION
172945	FCJ	A1	15	0

FILE NAME: 17294506.FDJ
PLOT DATE: 07-08-92

CH2M HILL
CORVALLIS, OREGON



FLOOR PLAN

SCALE 1/8" = 1'-0" 0 4 8 12 16 20FT

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

NO.	C	PL-6 M2C106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design E BARLOW-PIETERICK
Drawn BD ROUSH
Chkd JE CAVE
Sub
Rec
Rec
Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL FLOOR PLAN - AREA C

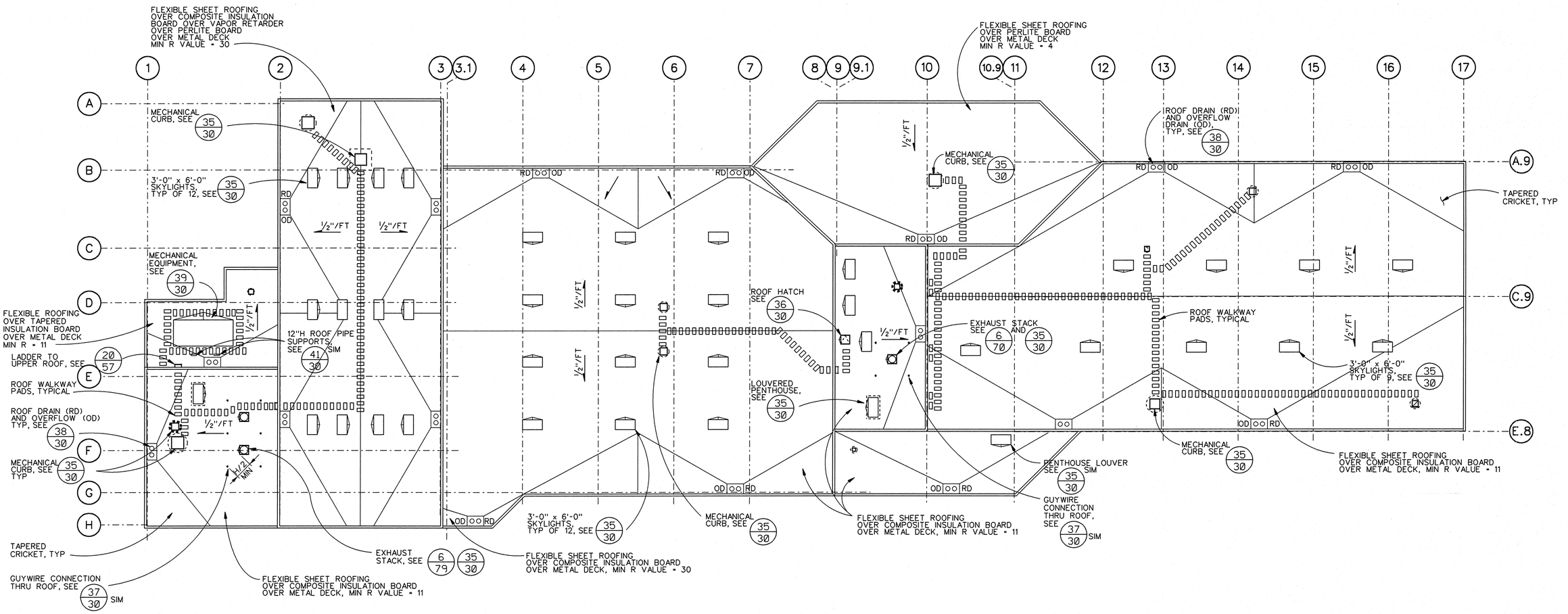
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172945	FCJ	A1	16	0

REFERENCE DRAWINGS

DRAWING NUMBER	SHEET	TITLE
17294509.FDJ	22	STAIR PLANS AND SECTIONS
17294514.FDJ	23	BUILDING SECTIONS
17294515.FDJ	24	BUILDING SECTIONS
17294516.FDJ	25	WALL SECTIONS
17294517.FDJ	26	WALL SECTIONS
17294526.FDJ	27	WALL SECTIONS
17294519.FDJ	29	DETAILS
17294520.FDJ	30	DETAILS
17294622.FDJ	57	DETAILS (STRUCT)

PLOT DATE: 07-08-92 FILE NAME: 17294507.FDJ

CH2M HILL
CORVALLIS, OREGON



ROOF PLAN

SCALE 1/16" = 1'-0" 0 4 8 16 32 48 FT

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

NO.	C	PL-6 MZC106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

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Design E BARLOW-PIETERICK
Drawn BD ROUSH
Chkd JE CAVE
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Rec
Rec
Appr
Date

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HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL ROOF PLAN

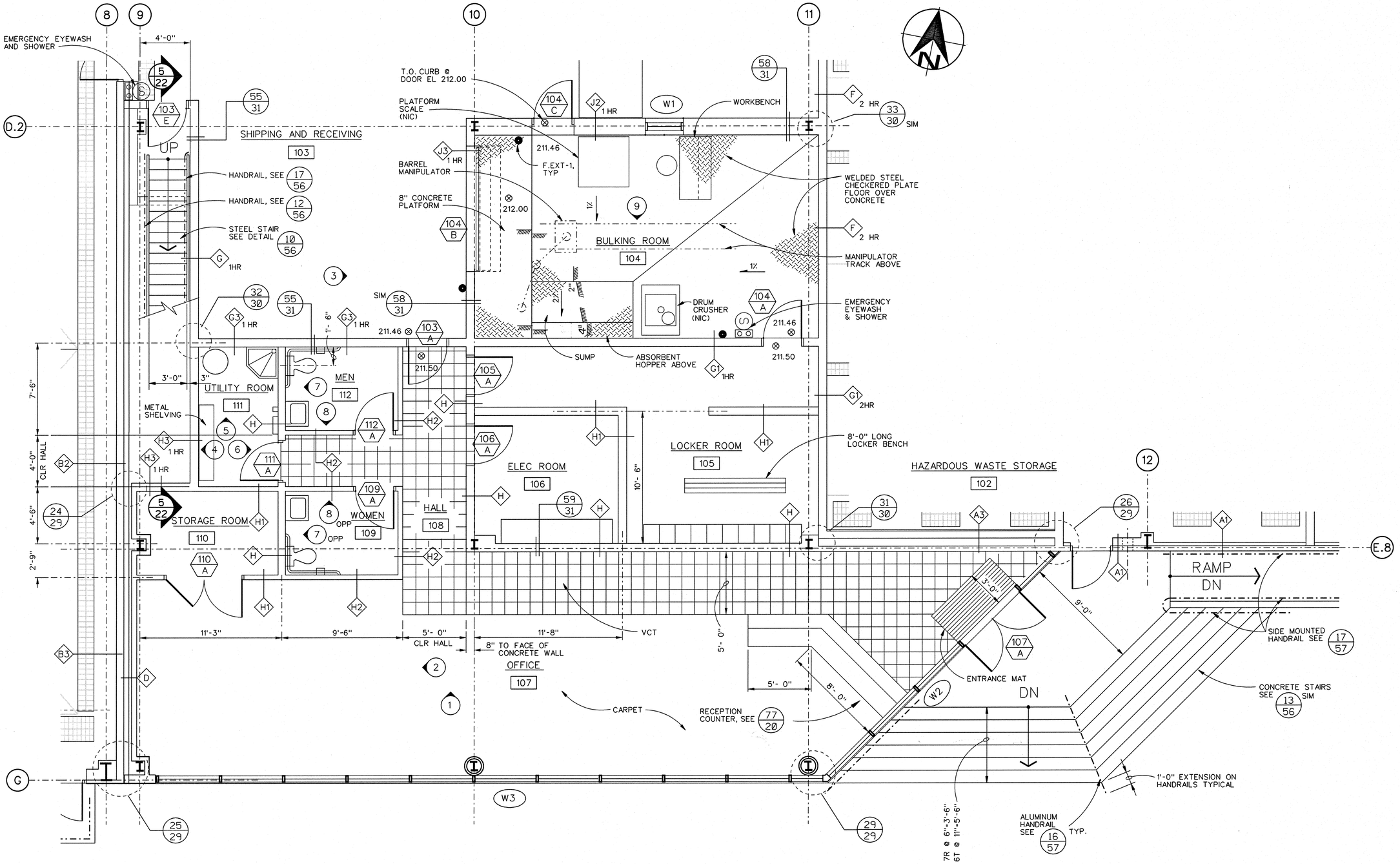
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DRAWING NUMBER	SHEET	TITLE
17294520.FDJ	30	DETAILS
17294622.FDJ	57	STRUCT - DETAILS
17294709.FDJ	70	MECH - PROCESS MECH DETAILS
17294718.FDJ	79	HVAC - DETAILS

REFERENCE DRAWINGS

PLOT DATE: 07-08-92 FILE NAME: 17294508.FDJ

17



NOTE:

1. FOR INTERIOR ELEVATIONS SEE (1) SHEET 28.

OFFICE/BULKING AREA PLAN

SCALE 1/4" = 1'-0" 0 4 8 12 FT

DRAWING NUMBER	SHEET	TITLE
17294512.FDJ	20	REF CEILING PLANS/OFFICE,LOCKER
17294509.FDJ	22	STAIR PLANS AND SECTIONS
17294518.FDJ	28	INTERIOR ELEVATIONS
17294519.FDJ	29	DETAILS
17294520.FDJ	30	DETAILS
17294521.FDJ	31	DETAILS
17294621.FDJ	56	STRUCT - DETAILS
17294622.FDJ	57	STRUCT - DETAILS

REFERENCE DRAWINGS

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

NO.	C.	PL-6 MZ.106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

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Design E BARLOW-PIETERICK
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Rec
Re
Appr
Date

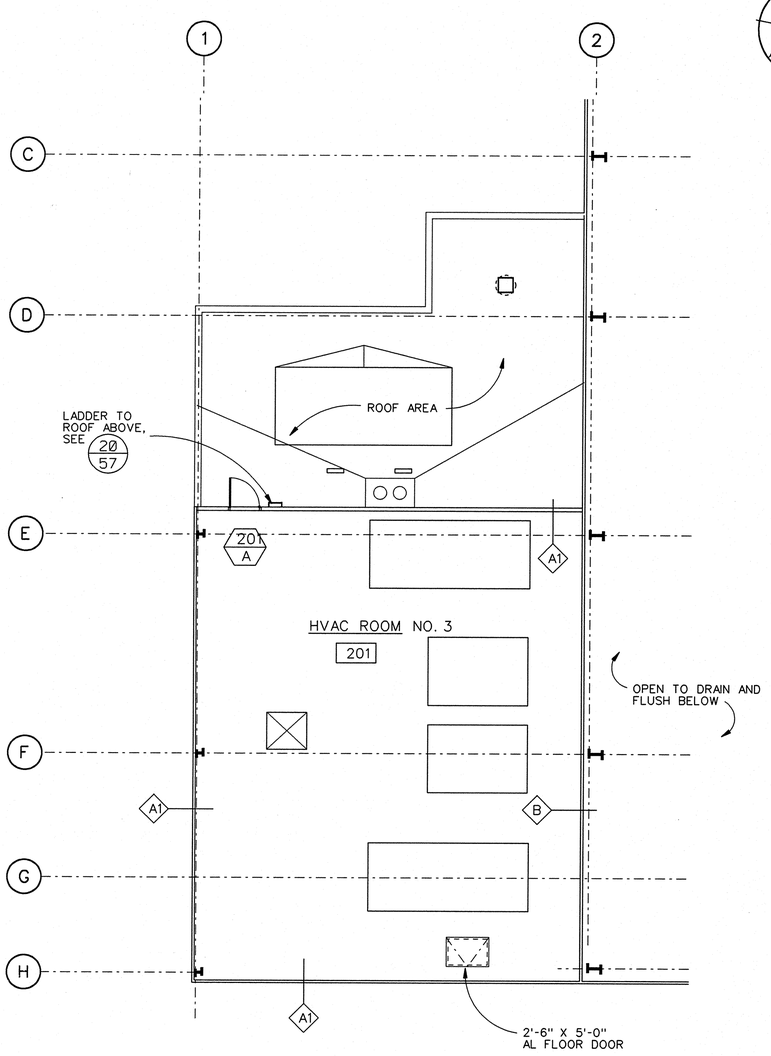
UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL OFFICE / BULKING AREA PLAN

SERIAL	SOURCE	SIZE	SHEET	REVISION
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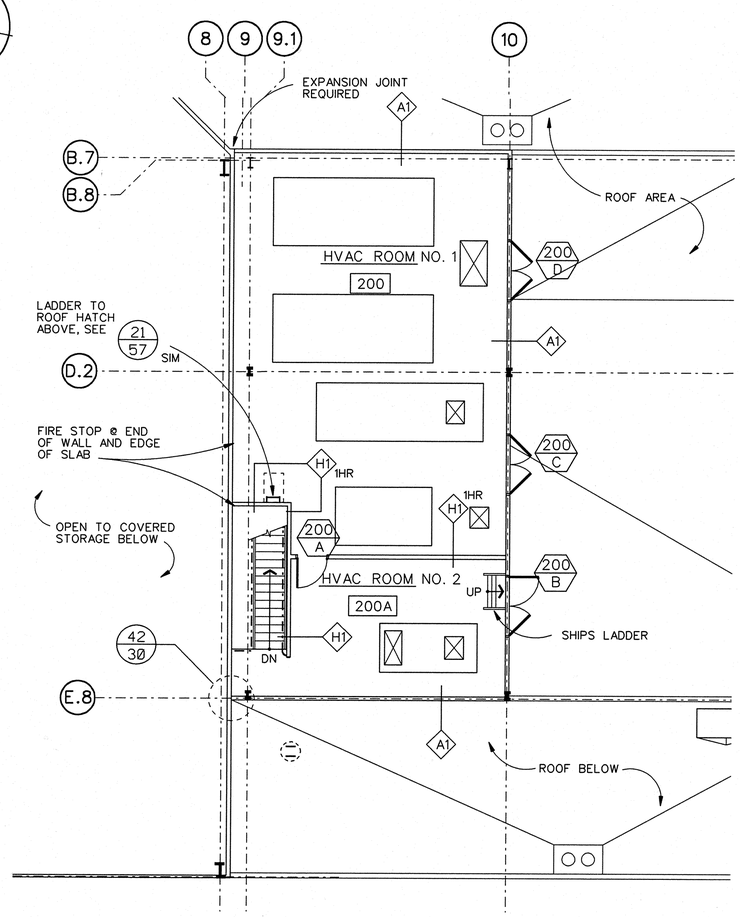
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PLOT DATE: 07-08-92

18



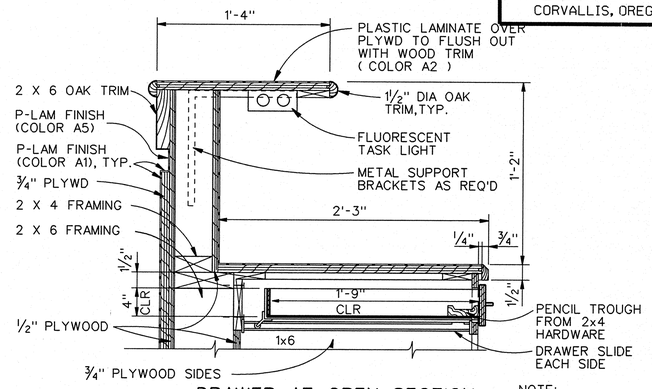
HVAC ROOM 201 PLAN

SCALE 1/8" = 1'-0" 0 4 8 12 16 20FT



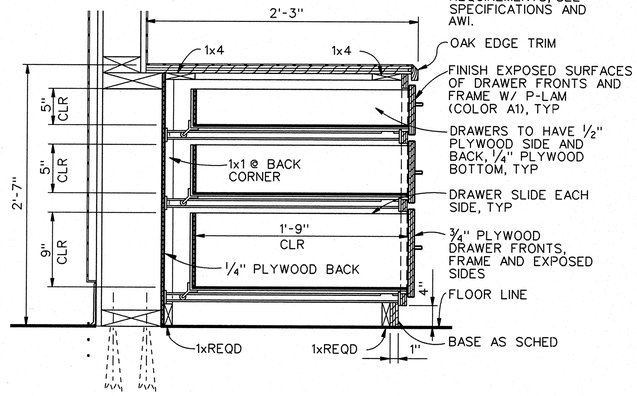
HVAC ROOM 200 PLAN

SCALE 1/8" = 1'-0" 0 4 8 12 16 20FT



DRAWER AT OPEN SECTION

NOTE:
FOR EDGE BANDING REQUIREMENTS, SEE SPECIFICATIONS AND AWI.



SECTION V-V 20
NTS

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

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HEADQUARTERS, PORTLAND, OREGON

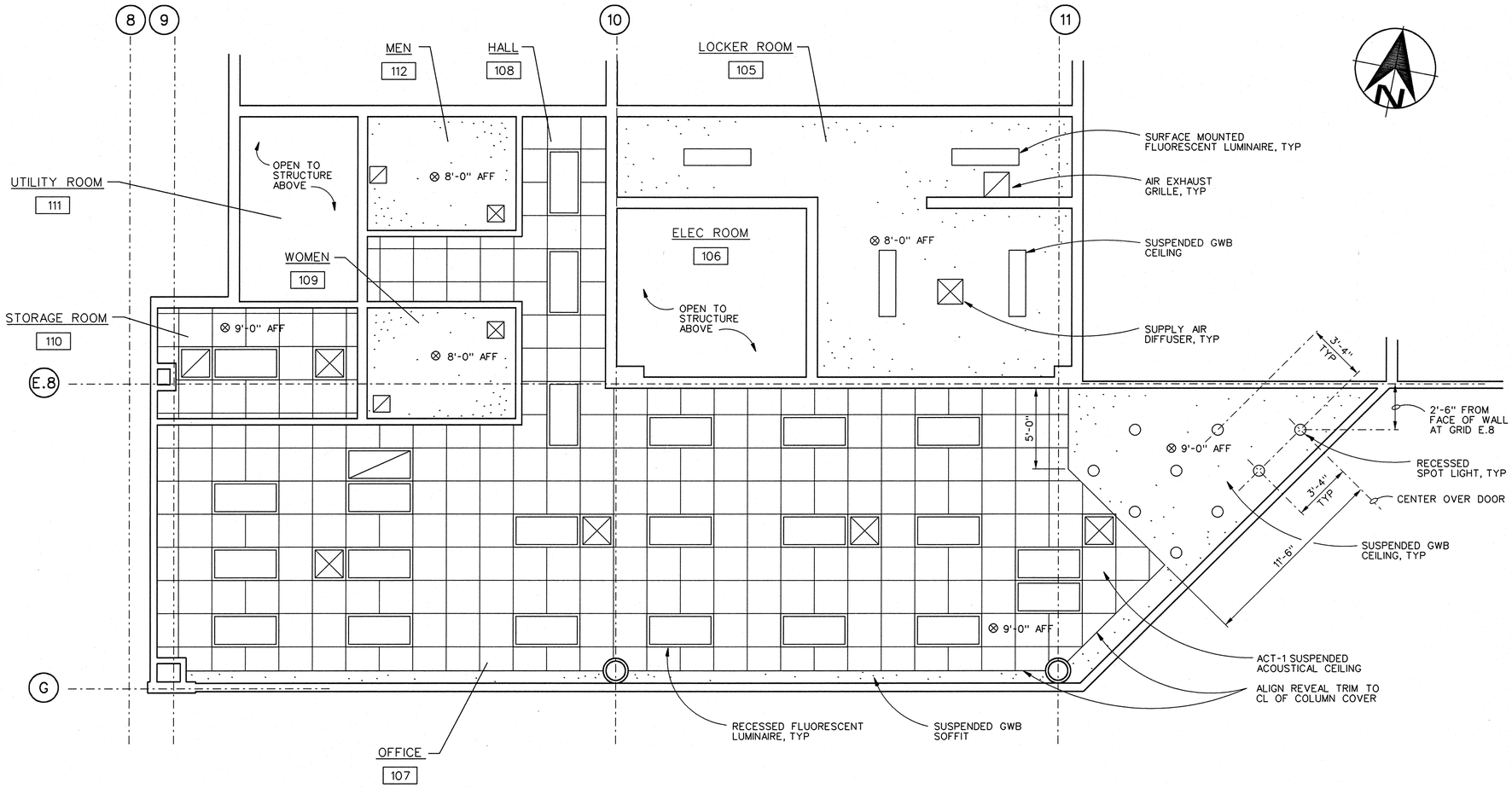
H&TMH FACILITY ARCHITECTURAL HVAC ROOM PLANS

SERIAL	SOURCE	SIZE	SHEET	REVISION
172945	FCJ	A1	19	0

REFERENCE DRAWINGS

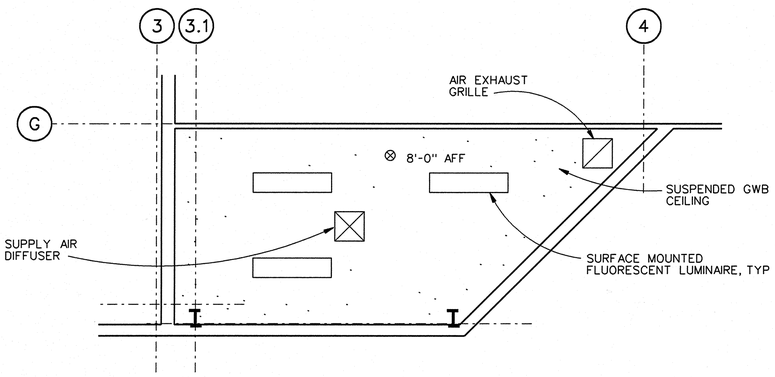
DRAWING NUMBER	SHEET	TITLE
17294512.FDJ	20	REF CEILING PLANS/OFFICE,LOCKER
17294622.FDJ	57	STRUCT - DETAILS

PLOT DATE: 07-08-92 FILE NAME: 17294511.FDJ



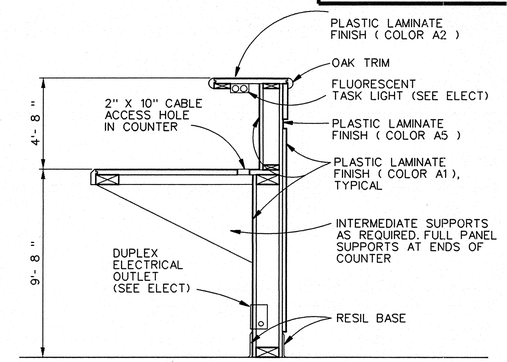
REFLECTED CEILING PLAN-OFFICE AREA

SCALE 1/4" = 1'-0" 0 4 8 12 FT



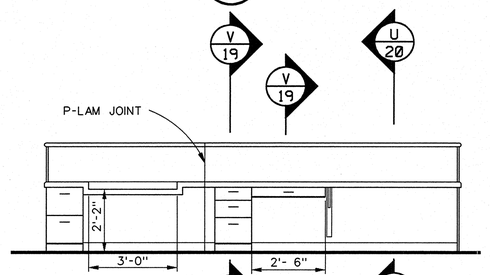
REFLECTED CEILING PLAN-LOCKER ROOM

SCALE 1/4" = 1'-0" 0 4 8 12 FT



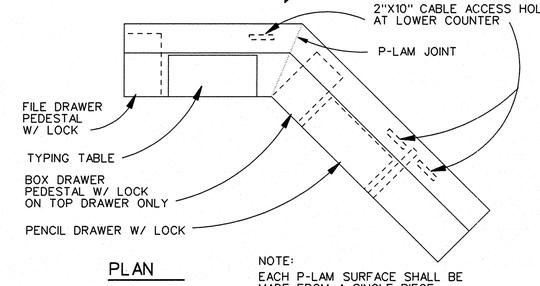
SECTION U-U 20

1" = 1'-0"



ELEVATION

3/8" = 1'-0"



PLAN

NOTE:
EACH P-LAM SURFACE SHALL BE MADE FROM A SINGLE PIECE FREE FROM SPLICES OR JOINTS UNLESS NOTED OTHERWISE

RECEPTION COUNTER 77/18

3/8" = 1'-0"

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

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Chkd JE CAVE
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Rec
Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL REFLECTED CEILING PLANS - OFFICE/LOCKER ROOM

SERIAL	SOURCE	SIZE	SHEET	REVISION
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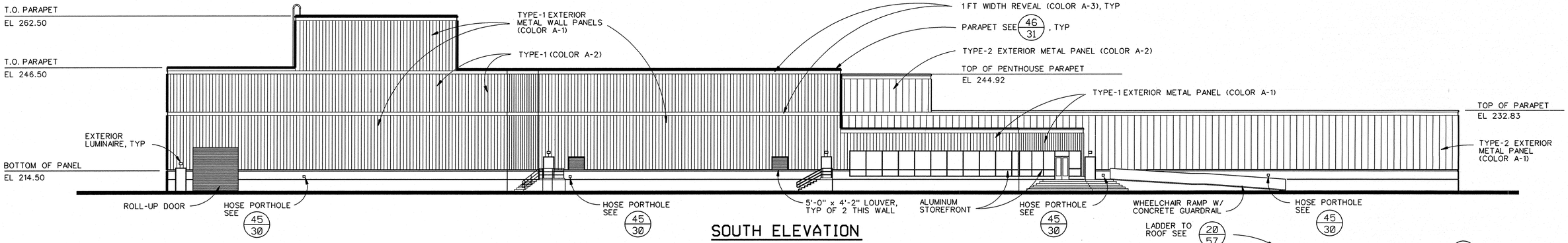
DRAWING NUMBER	SHEET	TITLE
17294510.FDJ	18	OFFICE/BULKING AREA PLANS, DETS
17294511.FDJ	19	HVAC ROOM PLANS

REFERENCE DRAWINGS

PLOT DATE: 07-08-92 FILE NAME: 17294512.FDJ

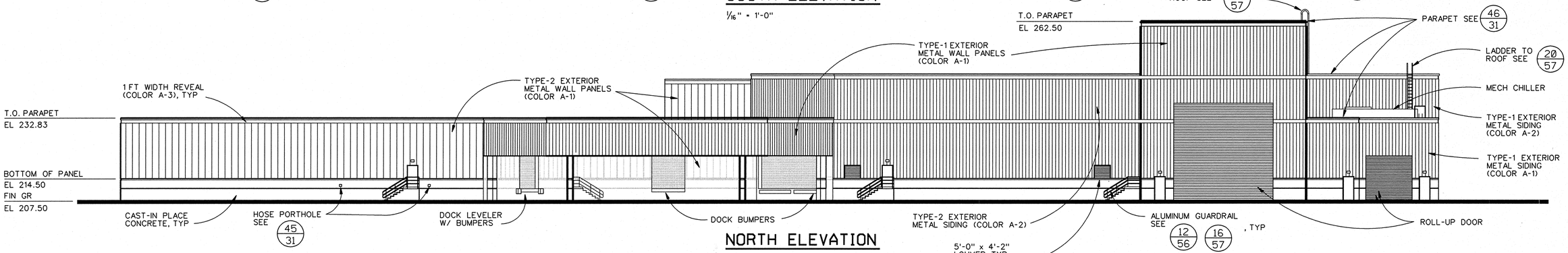
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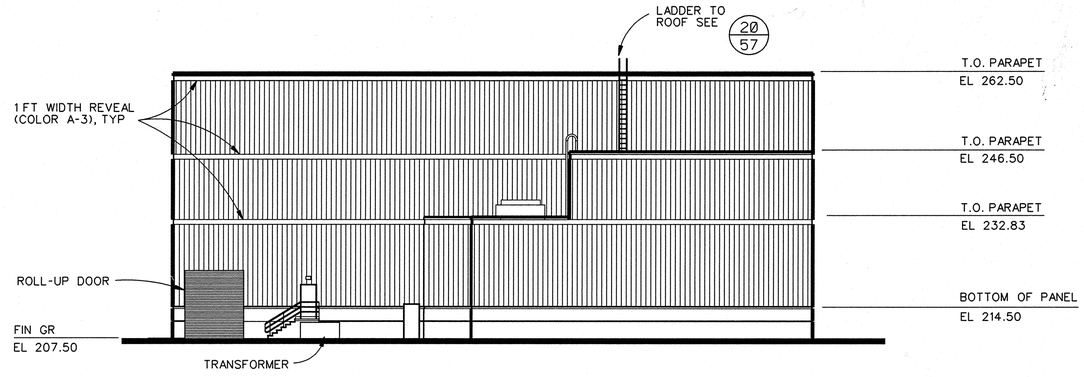
SOUTH ELEVATION

1/16" = 1'-0"



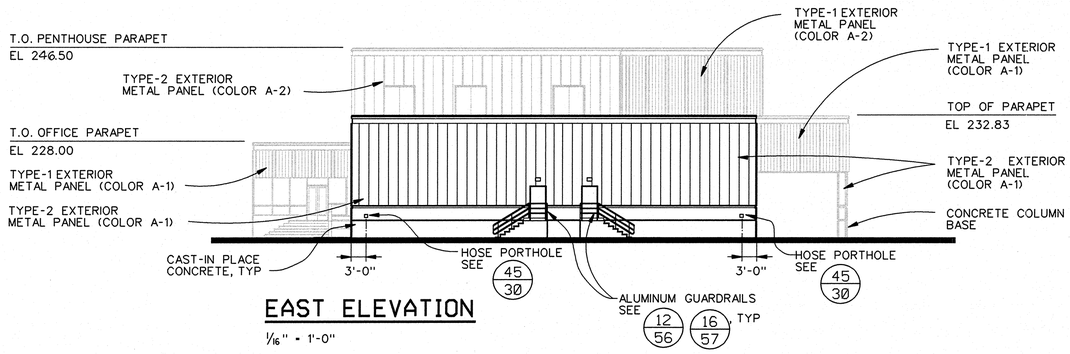
NORTH ELEVATION

1/16" = 1'-0"



WEST ELEVATION

1/16" = 1'-0"



EAST ELEVATION

1/16" = 1'-0"

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

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Drawn BD ROUSH
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Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL BUILDING ELEVATIONS

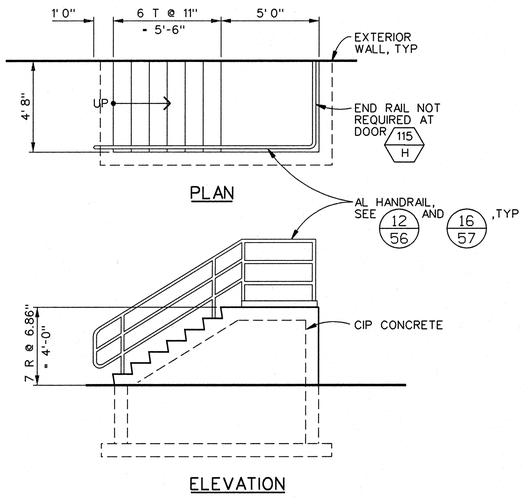
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172945	FCJ	A1	21	0

DRAWING NUMBER	SHEET	TITLE
17294520.FDJ	30	DETAILS
17294521.FDJ	31	DETAILS
17294621.FDJ	56	STRUCT - DETAILS
17294622.FDJ	57	STRUCT - DETAILS

REFERENCE DRAWINGS

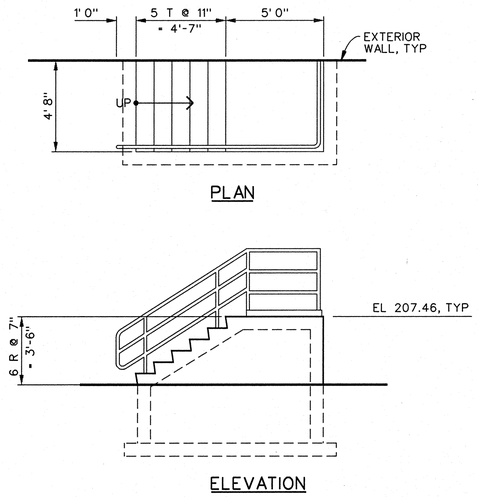
FILE NAME: 17294513.FDJ
PLOT DATE: 07-08-92

21



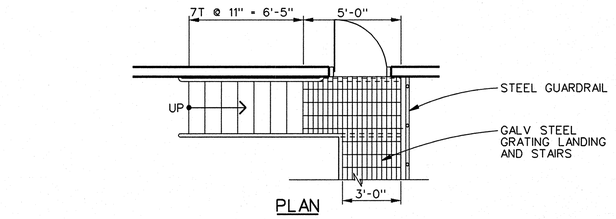
STAIR DETAIL 1/14 15 16

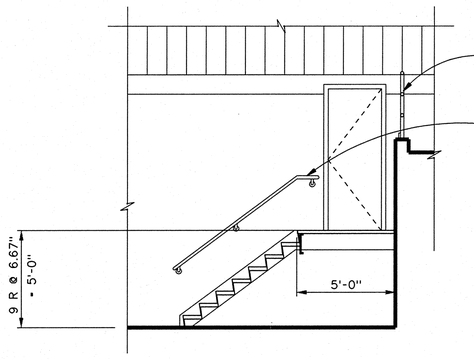
1/4" = 1'-0"



STAIR DETAIL 2/14 15

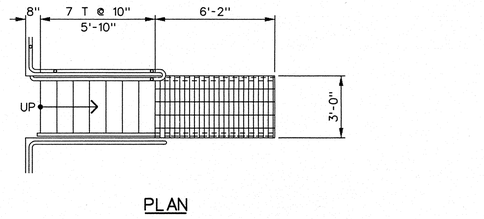
1/4" = 1'-0"

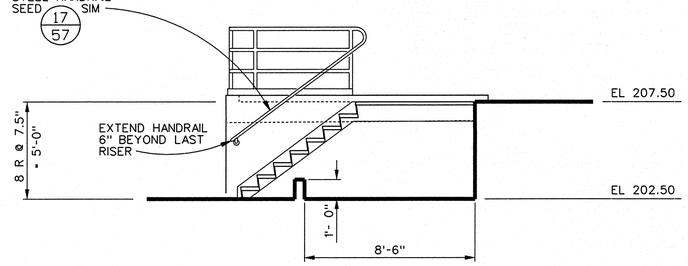




STAIR DETAIL 3/14

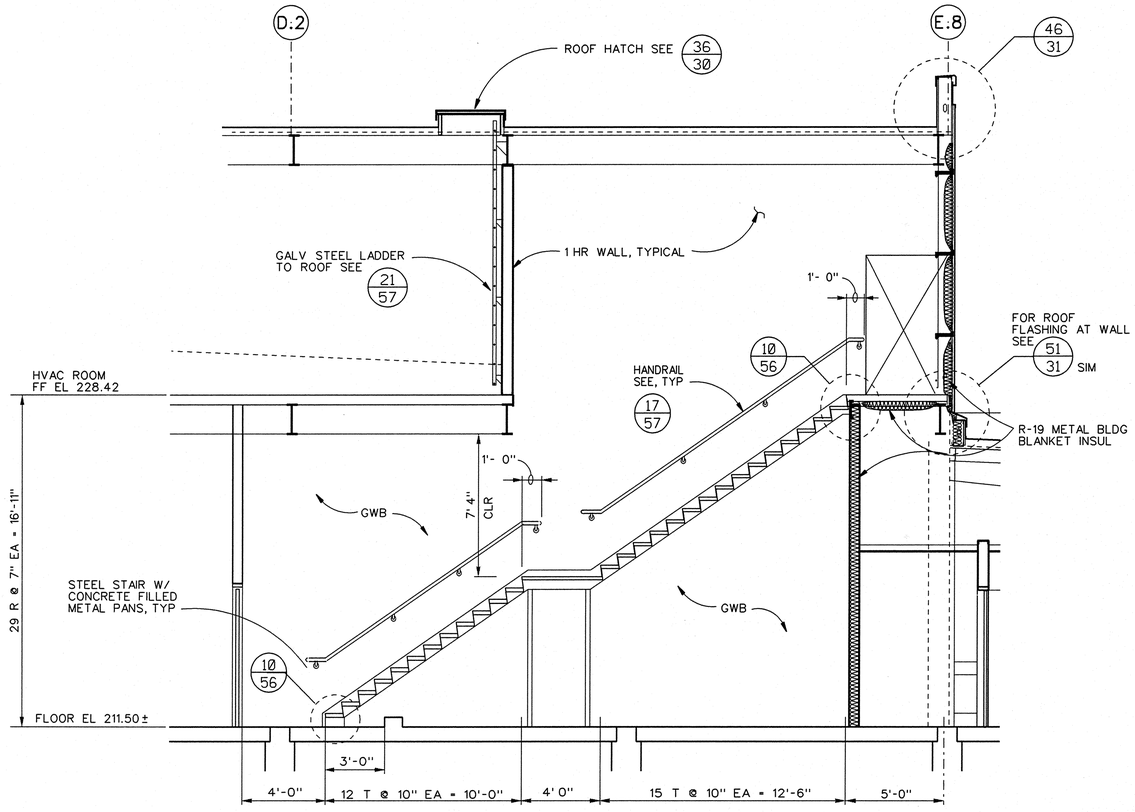
1/4" = 1'-0"





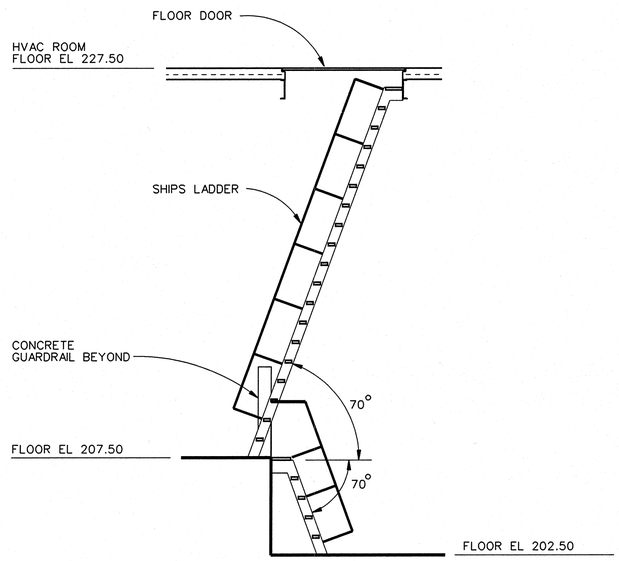
STAIR DETAIL 4/14

1/4" = 1'-0"



SECTION 5/18

1/4" = 1'-0"



SHIPS LADDER DETAIL 6/14

1/4" = 1'-0"

0905416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

DRAWING NUMBER	SHEET	TITLE
17294505.FDJ	14	FLOOR PLAN - AREA A
17294506.FDJ	15	FLOOR PLAN - AREA B
17294507.FDJ	16	FLOOR PLAN - AREA C
17294510.FDJ	18	OFFICE/BULKING AREA PLAN & DETS
17294520.FDJ	30	DETAILS
17294521.FDJ	31	DETAILS
17294621.FDJ	56	STRUCT - DETS
17294622.FDJ	57	STRUCT - DETS

REFERENCE DRAWINGS

NO.	C.	PL-6 M2C106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

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Design E BARLOW-PIETERICK
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CH2M HILL
CORVALLIS, OREGON

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BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

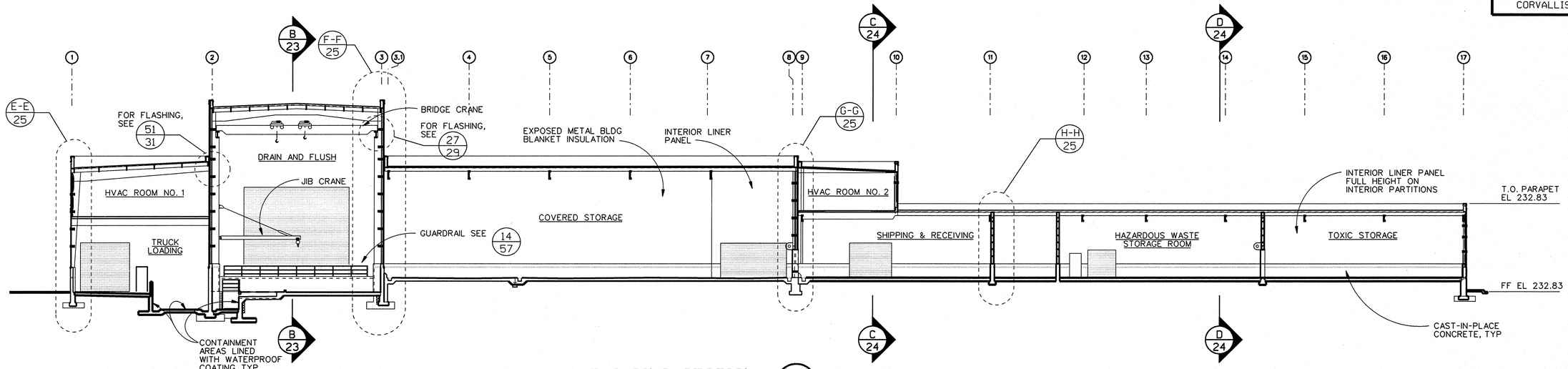
H&TMH FACILITY ARCHITECTURAL STAIR PLANS AND SECTIONS

SERIAL	SOURCE	SIZE	SHEET	REVISION
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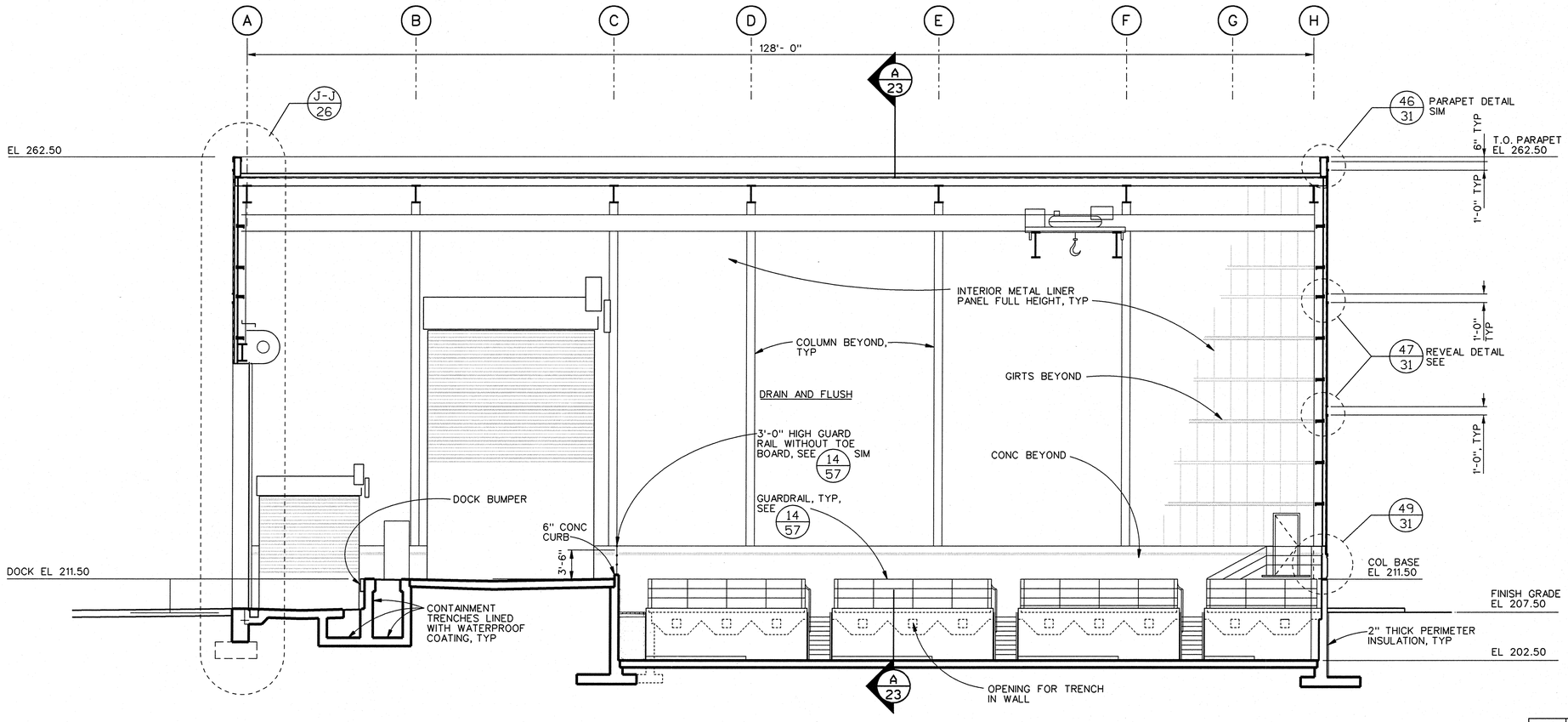
FILE NAME: 17294509.FDJ
PLOT DATE: 07-08-92

22

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CORVALLIS, OREGON



BUILDING SECTION A-A 14 1516
1/16" = 1'-0"



BUILDING SECTION B-B 14 23
1/8" = 1'-0"

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

DRAWING NUMBER	SHEET	TITLE
17294505.FDJ	14	FLOOR PLAN - AREA A
17294506.FDJ	15	FLOOR PLAN - AREA B
17294507.FDJ	16	FLOOR PLAN - AREA C
17294515.FDJ	24	BUILDING SECTIONS
17294516.FDJ	25	WALL SECTIONS
17294517.FDJ	26	WALL SECTIONS
17294519.FDJ	29	DETAILS
17294521.FDJ	31	DETAILS
17294622.FDJ	57	STRUCT - DETAILS

REFERENCE DRAWINGS

NO.	C	PL-6 M2106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

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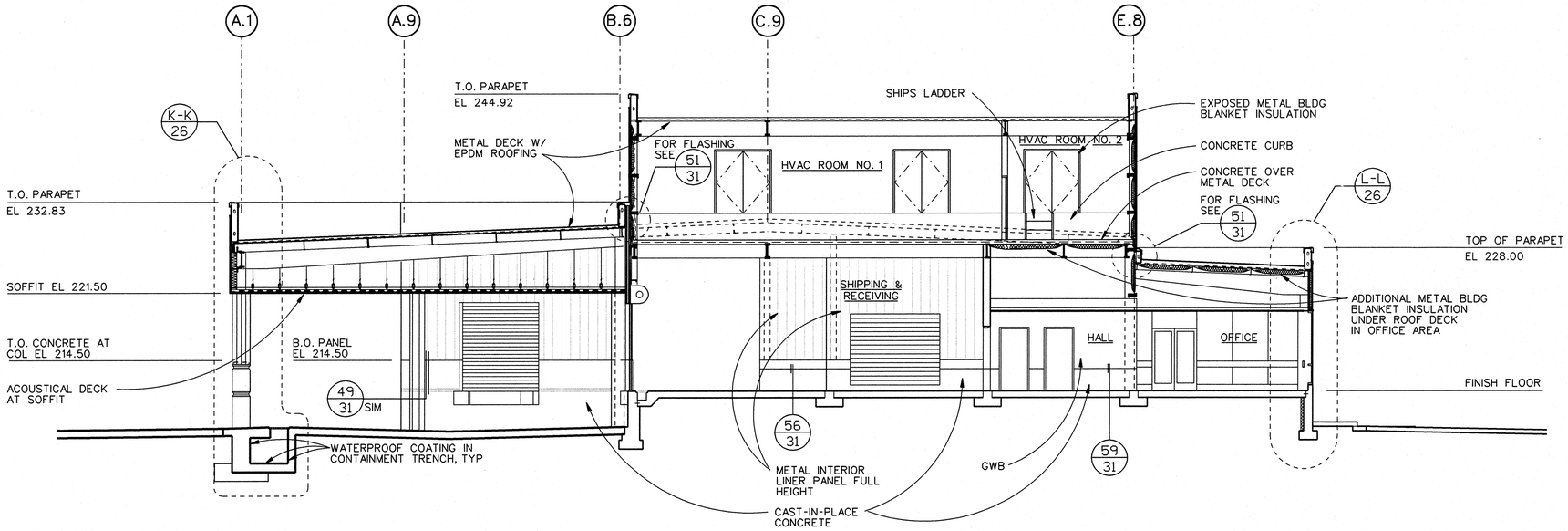
UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL BUILDING SECTIONS

SERIAL	SOURCE	SIZE	SHEET	REVISION
172945	FCJ	A1	23	0

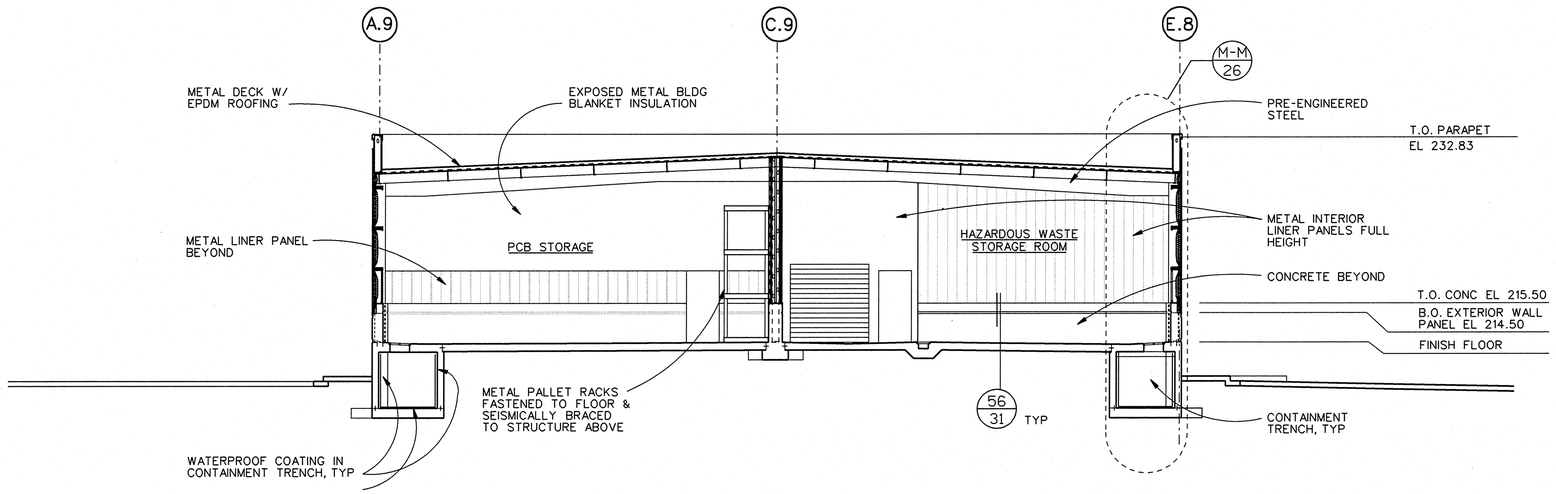
FILE NAME: 17294514.FDJ
PLOT DATE: 07-08-92

23



BUILDING SECTION C-C 15/23

1/8" = 1'-0"



BUILDING SECTION D-D 16

1/8" = 1'-0"

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

DRAWING NUMBER	SHEET	TITLE
17294506.FDJ	15	FLOOR PLAN - AREA B
17294507.FDJ	16	FLOOR PLAN - AREA C
17294514.FDJ	23	BUILDING SECTIONS
17294517.FDJ	26	WALL SECTIONS
17294521.FDJ	31	DETAILS

REFERENCE DRAWINGS

NO.	C.	PL-6 MZC106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design E BARLOW-PIETERICK
Drawn BD ROUSH
Chkd JE CAVE
Sub
Rec
Rec
Appr
Date

CH2M HILL
CORVALLIS, OREGON

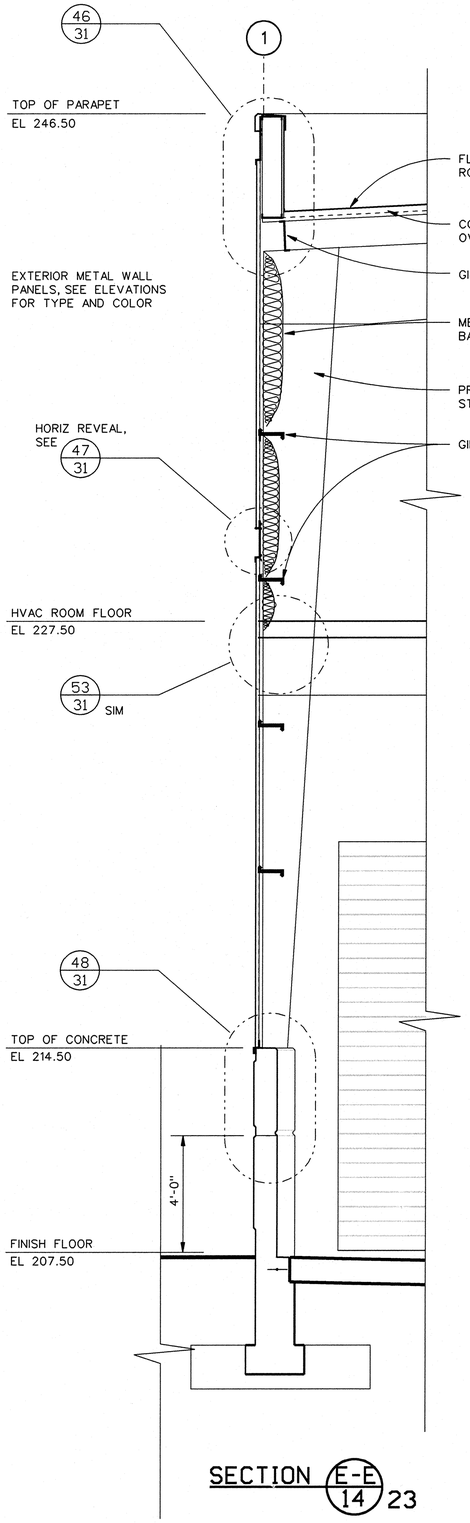
UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL BUILDING SECTIONS

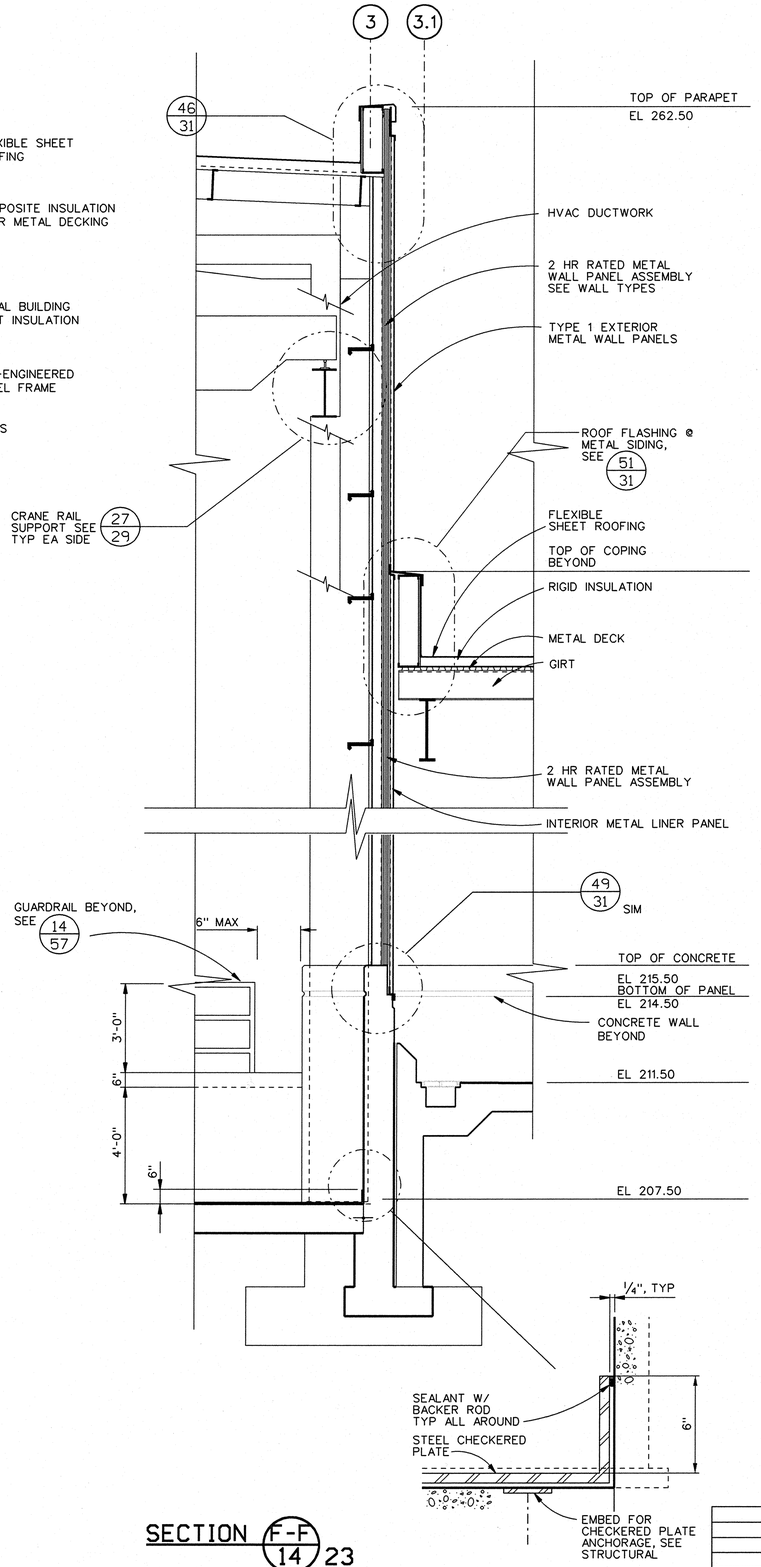
SERIAL	SOURCE	SIZE	SHEET	REVISION
172945	FCJ	A1	24	0

PLOT DATE: 07-08-92 FILE NAME: 17294515.FDJ

CH2M HILL
CORVALLIS, OREGON

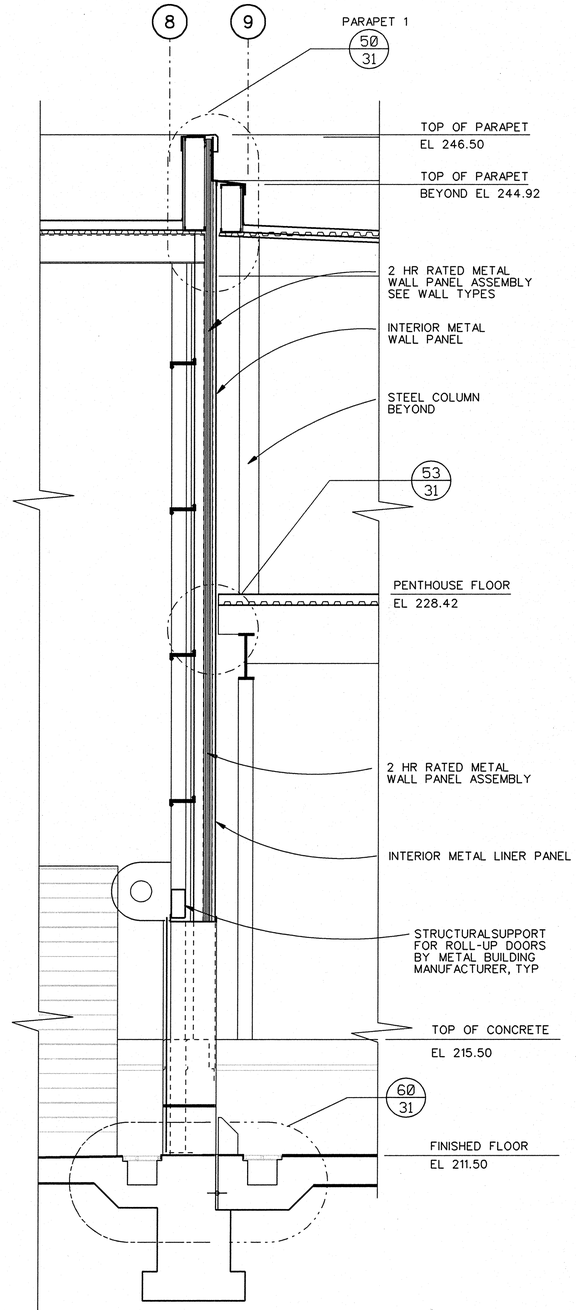


SECTION E-E 14 23

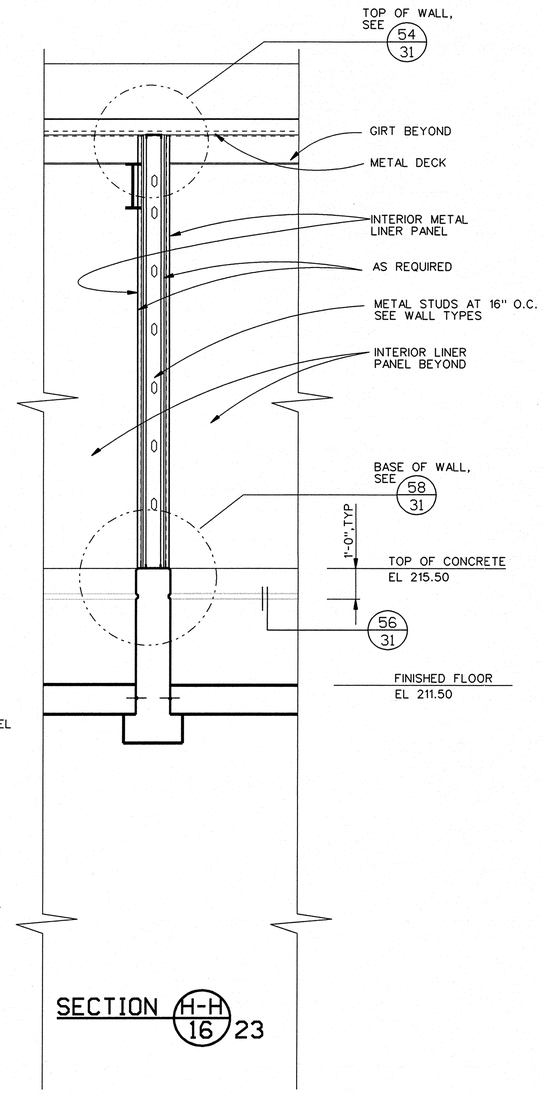


SECTION F-F 14 23

SCALE 3/8" = 1'-0" 0 2 4 8 FT



SECTION C-C 15 23



SECTION H-H 16 23

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

NO.	C	PL-6 MZC106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

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Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL WALL SECTIONS

SERIAL	SOURCE	SIZE	SHEET	REVISION
172945	FCJ	A1	25	0

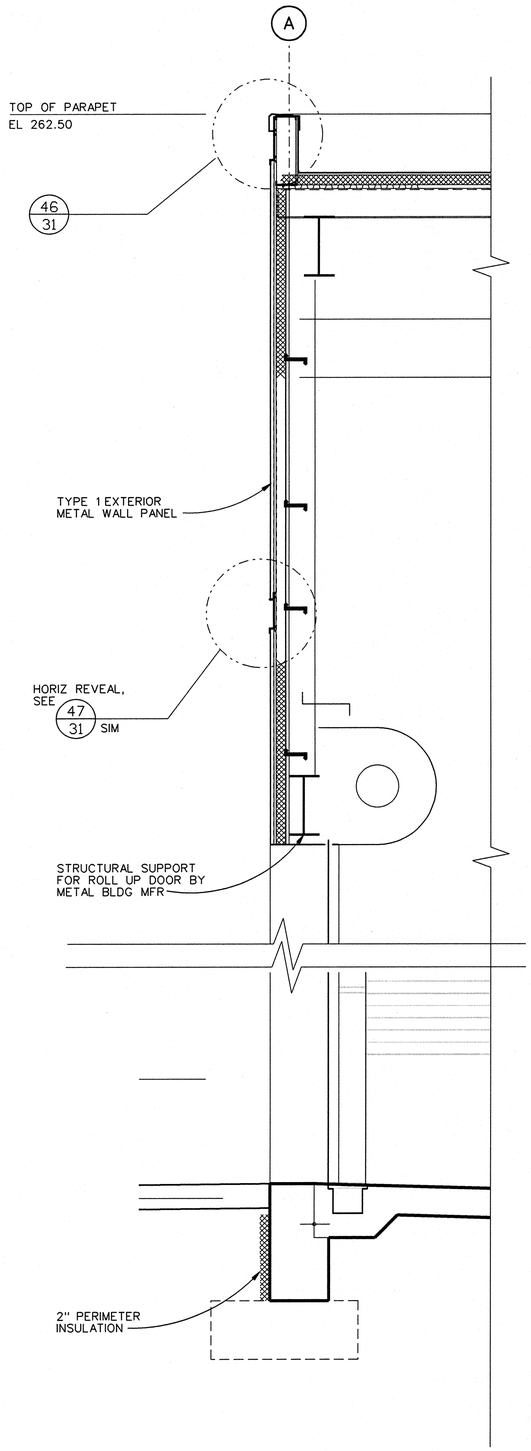
REFERENCE DRAWINGS

DRAWING NUMBER	SHEET	TITLE
17294505.FDJ	14	FLOOR PLAN - AREA A
17294506.FDJ	15	FLOOR PLAN - AREA B
17294507.FDJ	16	FLOOR PLAN - AREA C
17294514.FDJ	23	BUILDING SECTIONS
17294519.FDJ	29	DETAILS
17294521.FDJ	31	DETAILS
17294622.FDJ	57	STRUCT - DETAILS

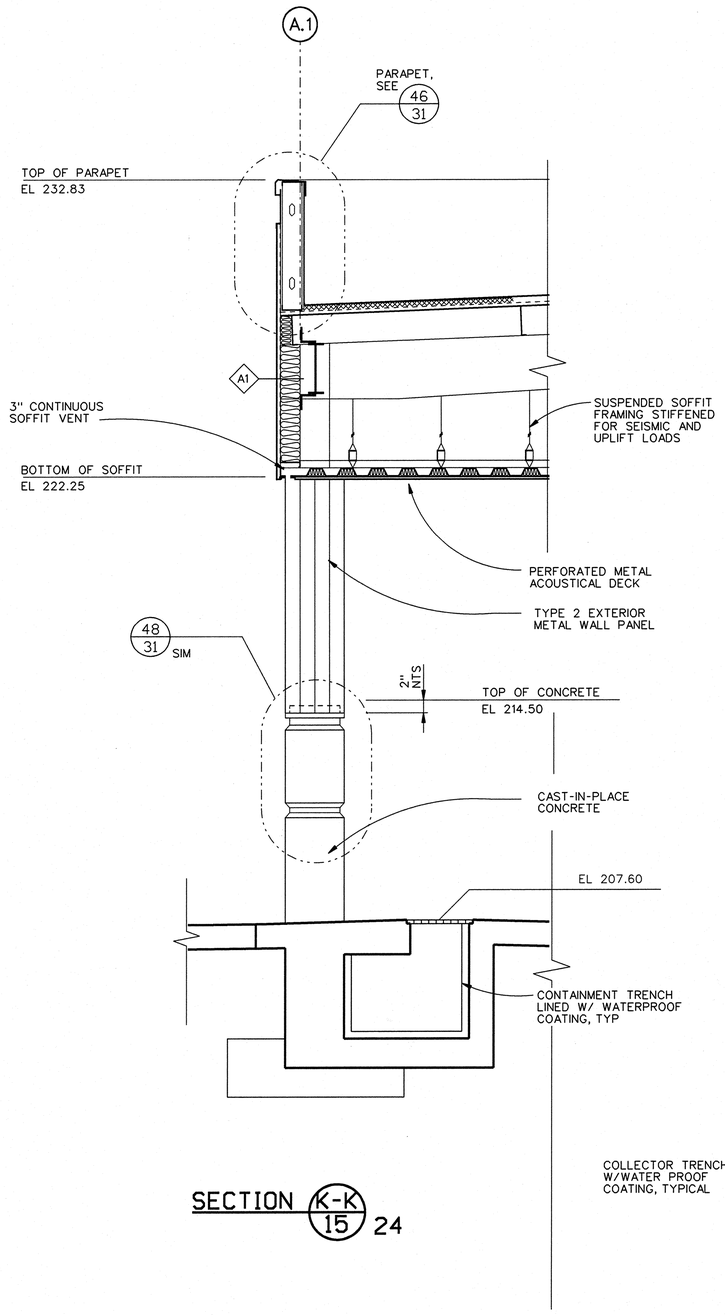
FILE NAME: 17294516.FDJ
PLOT DATE: 07-08-92

25

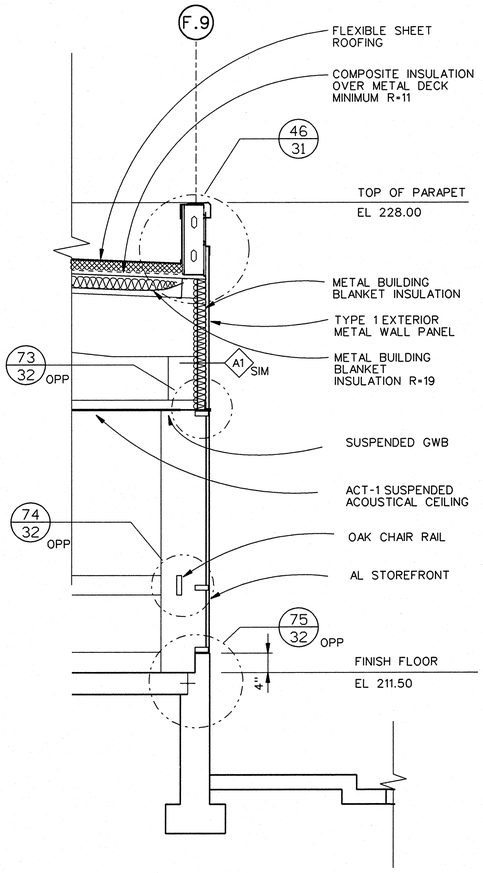
CH2M HILL
CORVALLIS, OREGON



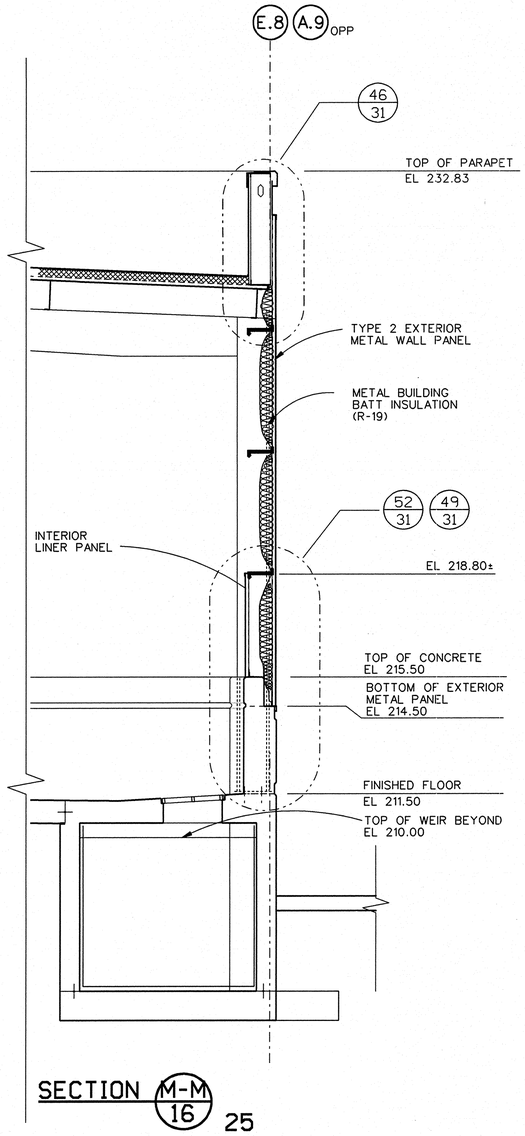
SECTION J-J 14/23



SECTION K-K 15/24



SECTION L-L 15/25



SECTION M-M 16/25

SCALE
3/8" = 1'-0"
0 2 4 8 FT

DRAWING NUMBER	SHEET	TITLE
17294505.FDJ	14	FLOOR PLAN - AREA A
17294506.FDJ	15	FLOOR PLAN - AREA B
17294507.FDJ	16	FLOOR PLAN - AREA C
17294514.FDJ	23	BUILDING SECTIONS
17294515.FDJ	24	BUILDING SECTIONS
17294516.FDJ	25	WALL SECTIONS
17294521.FDJ	31	DETAILS
17294522.FDJ	32	DETAILS

REFERENCE DRAWINGS

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

NO.	C	PL-6 MZC106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

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Appr
Date

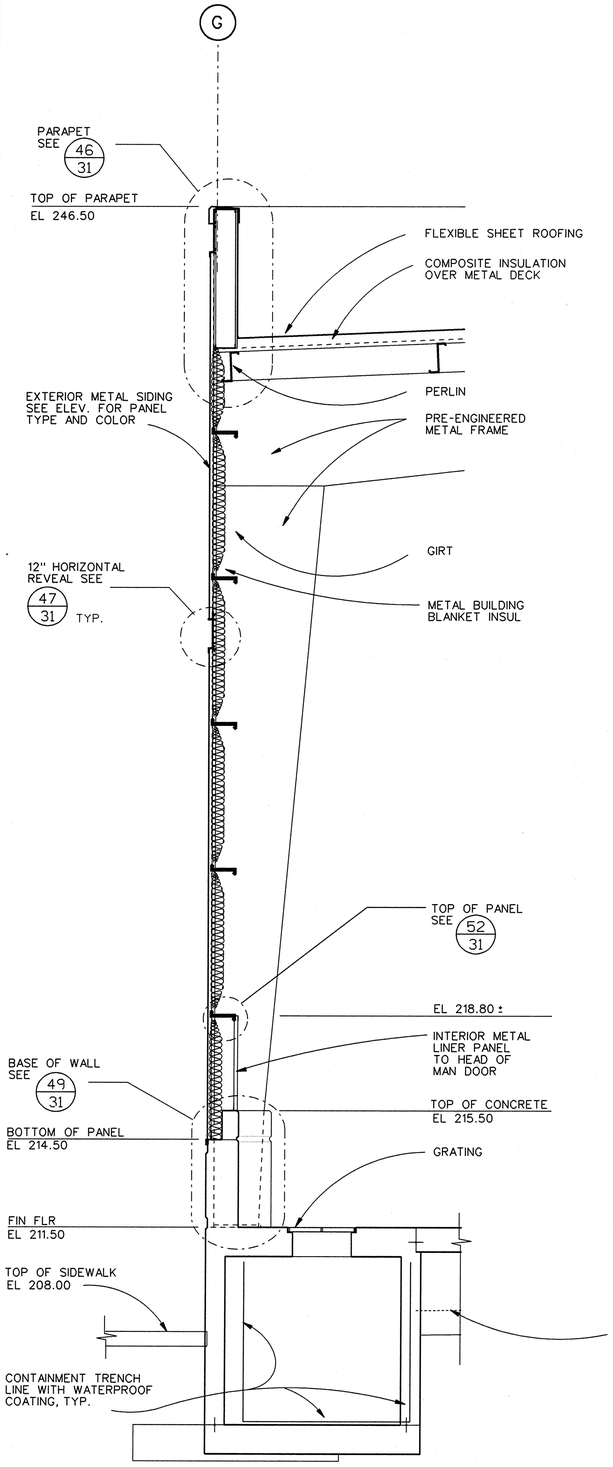
UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY
ARCHITECTURAL
WALL SECTIONS

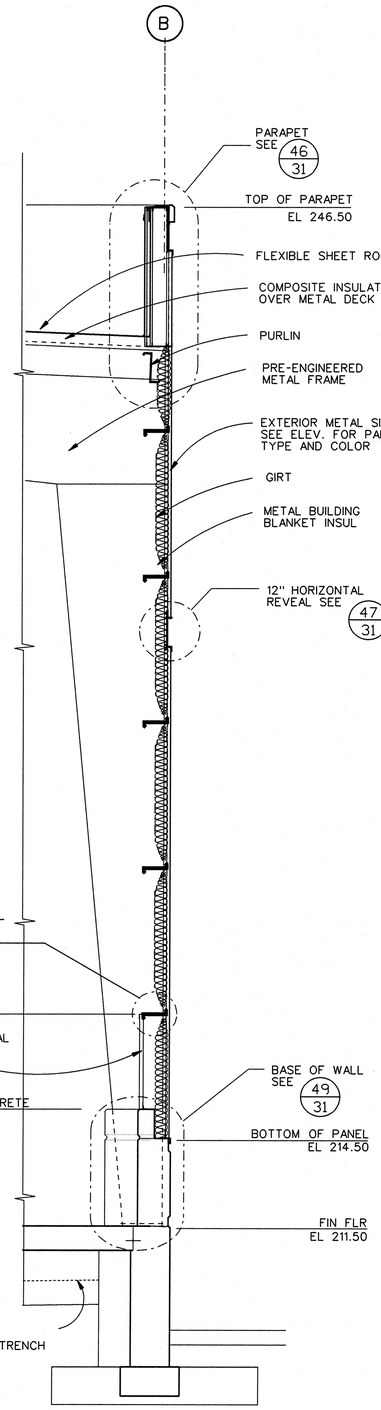
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FILE NAME: 17294517.FDJ
PLOT DATE: 07-08-92

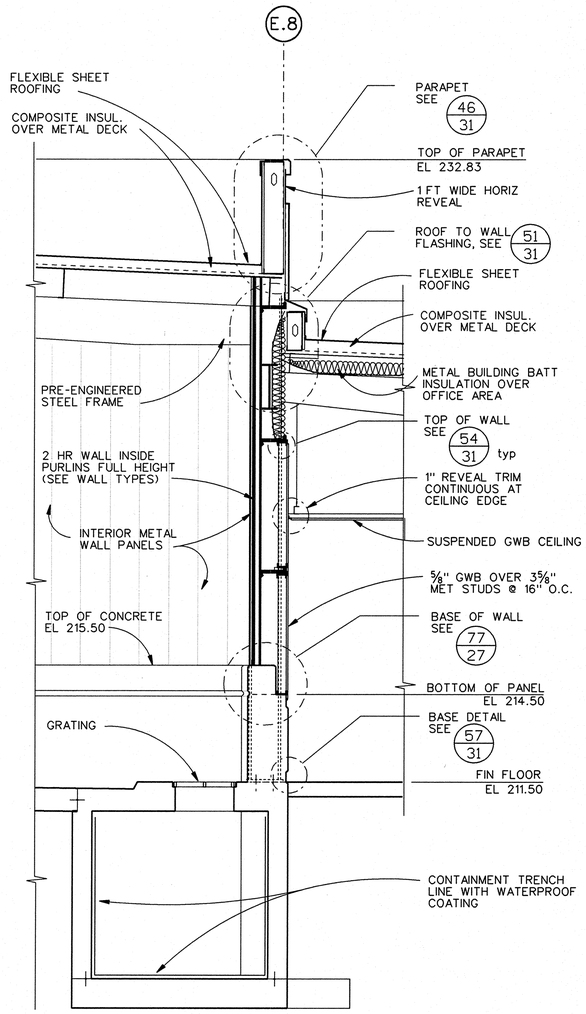
26



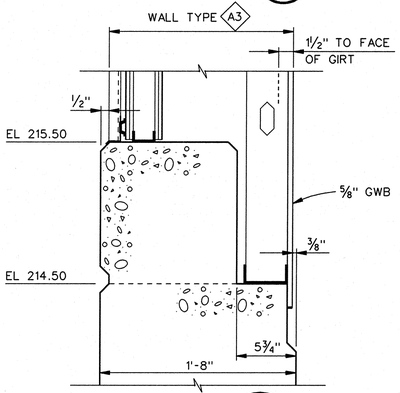
SECTION N-N 15
3/8" = 1'-0"



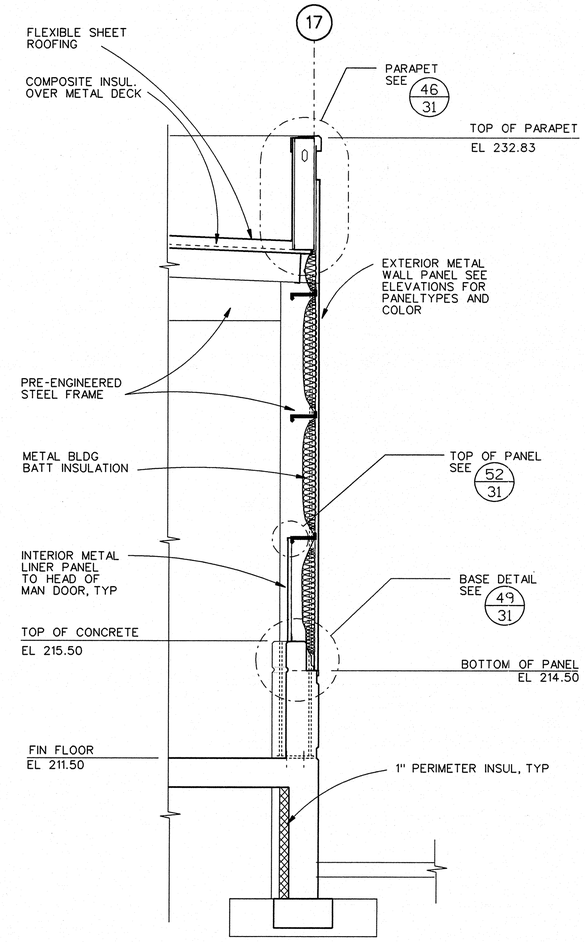
SECTION P-P 14
3/8" = 1'-0"



SECTION Q-Q 15
3/8" = 1'-0"



SECTION 77/27
1 1/2" = 1'-0"



SECTION R-R 16
3/8" = 1'-0"

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

NO.	C	PL-6 MZC106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

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Drawn BD ROUSH
Chkd JE CAVE
Sub
Rec
Rec
Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL WALL SECTIONS

SERIAL	SOURCE	SIZE	SHEET	REVISION
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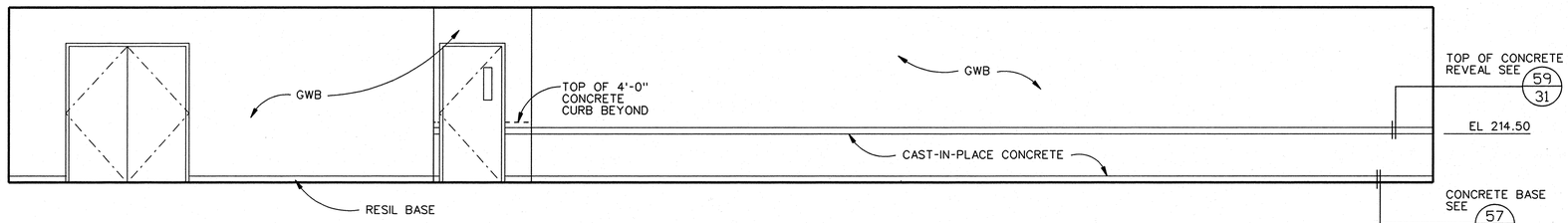
REFERENCE DRAWINGS

DRAWING NUMBER	SHEET	TITLE
17294505.FDJ	14	FLOOR PLAN - AREA A
17294506.FDJ	15	FLOOR PLAN - AREA B
17294507.FDJ	16	FLOOR PLAN - AREA C
17294521.FDJ	31	DETAILS

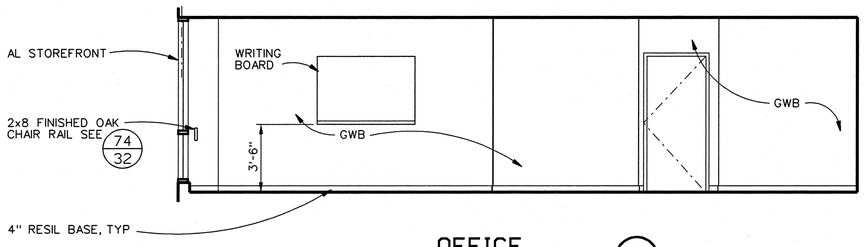
FILE NAME: 17294526.FDJ
PLOT DATE: 07-08-92

27

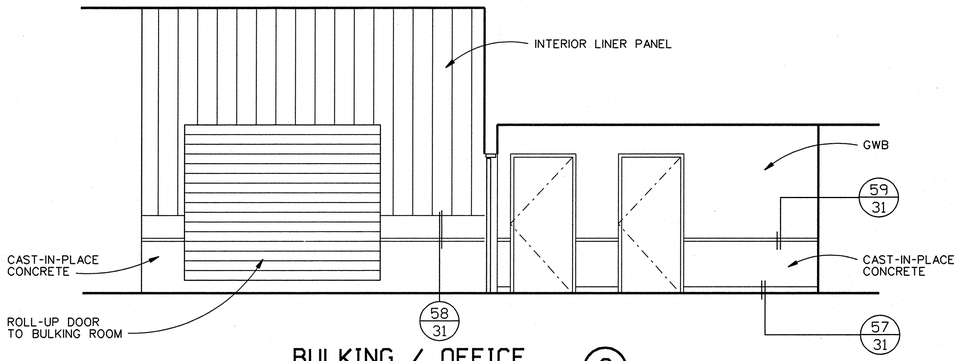
CH2M HILL
CORVALLIS, OREGON



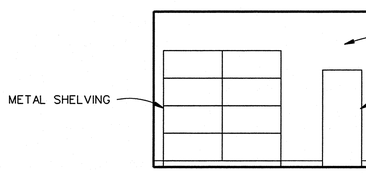
OFFICE 1
1/4" = 1'-0"



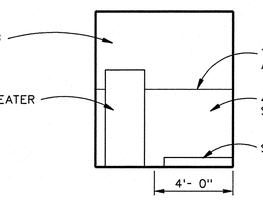
OFFICE 2
1/4" = 1'-0"



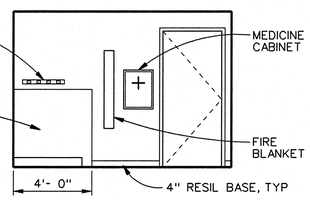
BULKING / OFFICE 3
1/4" = 1'-0"



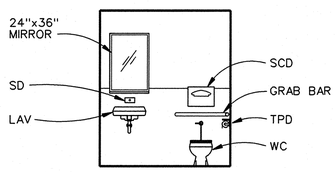
UTILITY ROOM 4
1/4" = 1'-0"



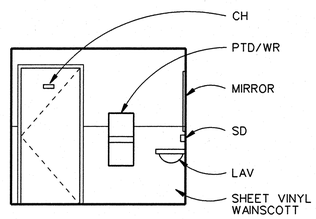
UTILITY ROOM 5
1/4" = 1'-0"



UTILITY ROOM 6
1/4" = 1'-0"



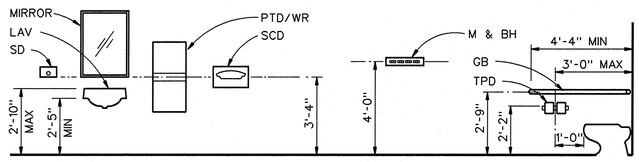
RESTROOM 7
1/4" = 1'-0"



RESTROOM 8
1/4" = 1'-0"

BULKING ROOM 9
1/4" = 1'-0"

NOTE: FOR HVAC DUCTWORK PLAN SEE SHEET 75.



STANDARD FIXTURE MOUNTING HEIGHTS
NTS

NO.	C	PL-6 M2C106	COMPUTER REVISION ONLY	BY	DATE	APPROVED
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0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

Design E BARLOW-PIETERICK
Drawn BD ROUSH
Chkd JE CAVE
Sub
Rec
Rec
Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL INTERIOR ELEVATIONS

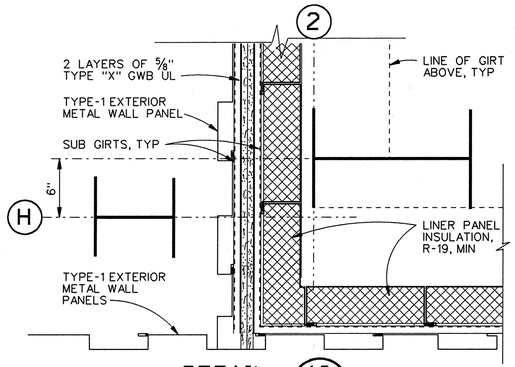
SERIAL	SOURCE	SIZE	SHEET	REVISION
172945	FCJ	A1	28	0

DRAWING NUMBER	SHEET	TITLE
17294521.FDJ	31	DETAILS
17294522.FDJ	32	DETAILS
17294714.FDJ	75	HVAC-OFFICE/BULKING PARTIAL PLAN

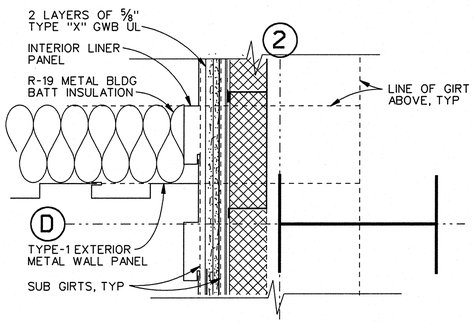
REFERENCE DRAWINGS

PLOT DATE: 07-08-92 FILE NAME: 17294518.FDJ

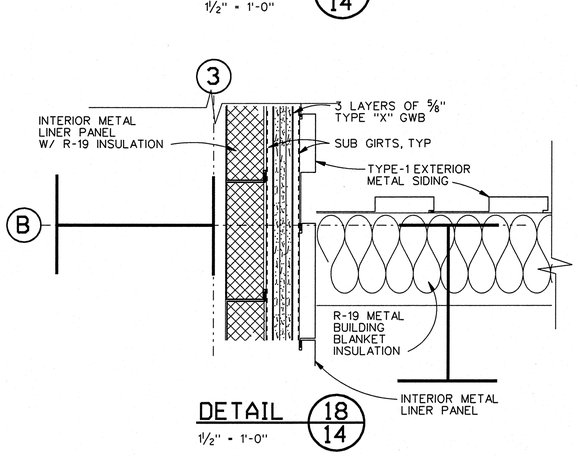
28



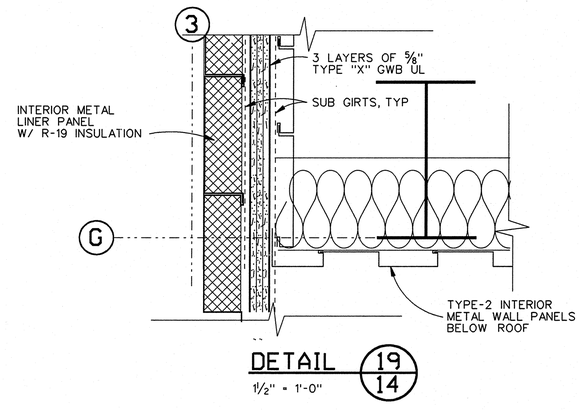
DETAIL 16/14
1½" = 1'-0"



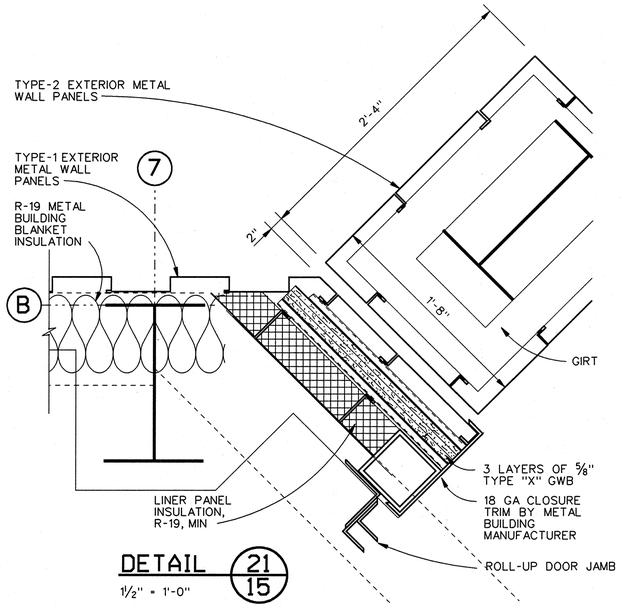
DETAIL 17/14
1½" = 1'-0"



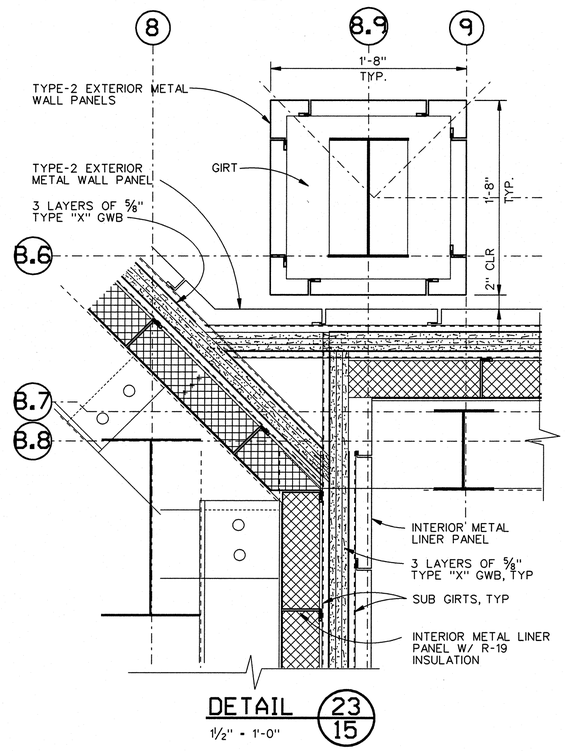
DETAIL 18/14
1½" = 1'-0"



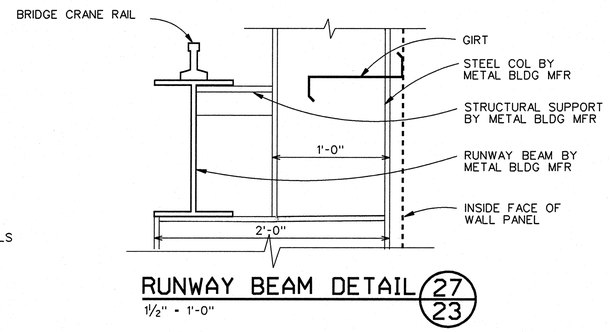
DETAIL 19/14
1½" = 1'-0"



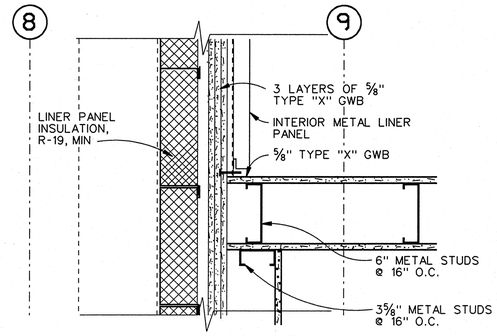
DETAIL 21/15
1½" = 1'-0"



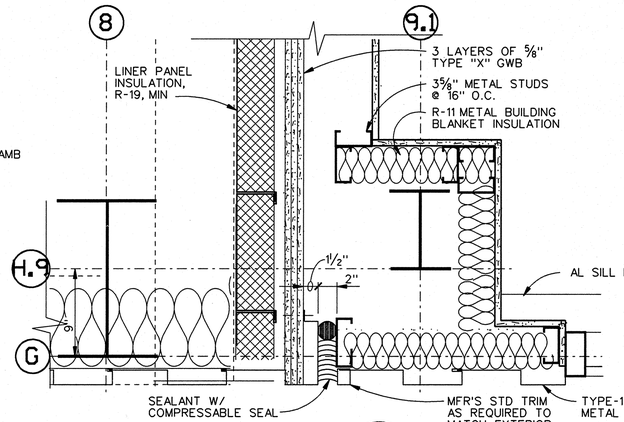
DETAIL 23/15
1½" = 1'-0"



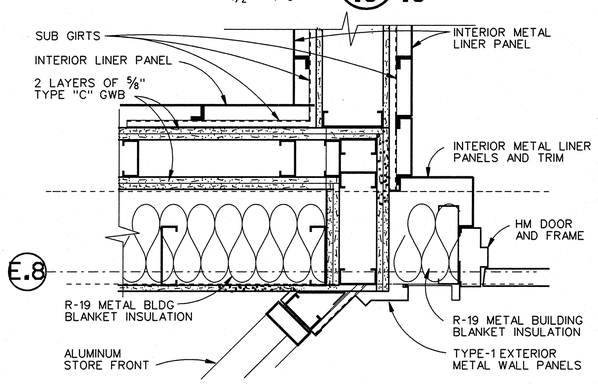
RUNWAY BEAM DETAIL 27/23
1½" = 1'-0"



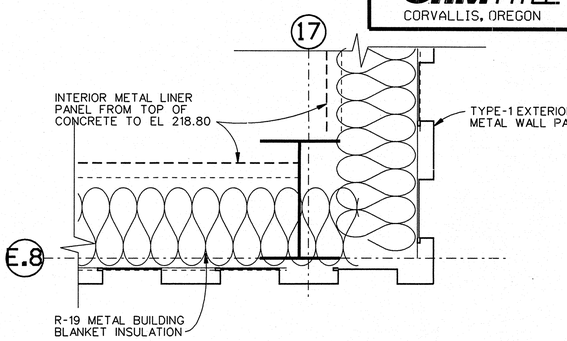
DETAIL 24/18
1½" = 1'-0"



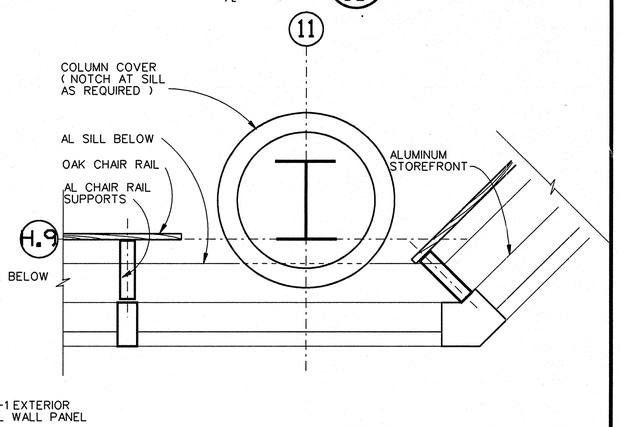
DETAIL 25/18 15
1½" = 1'-0"



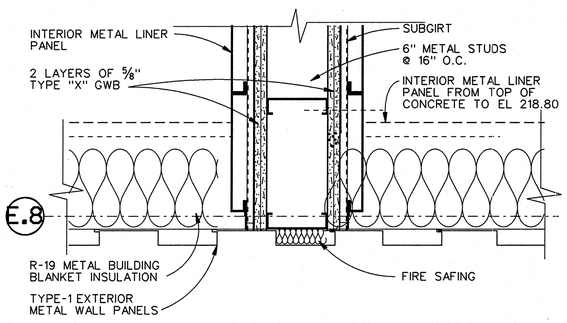
DETAIL 26/18
1½" = 1'-0"



DETAIL 28/16
1½" = 1'-0"



DETAIL 29/18
1½" = 1'-0"



DETAIL 30/16
1½" = 1'-0"

DRAWING NUMBER	SHEET	TITLE
17294505.FDJ	14	FLOOR PLAN - AREA A
17294506.FDJ	15	FLOOR PLAN - AREA B
17294507.FDJ	16	FLOOR PLAN - AREA C
17294510.FDJ	18	OFFICE/BULKING AREA PLAN & DETS
17294514.FDJ	23	BUILDING SECTIONS

REFERENCE DRAWINGS

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

NO.	BY	DATE	APPROVED
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Sub
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Rec
Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

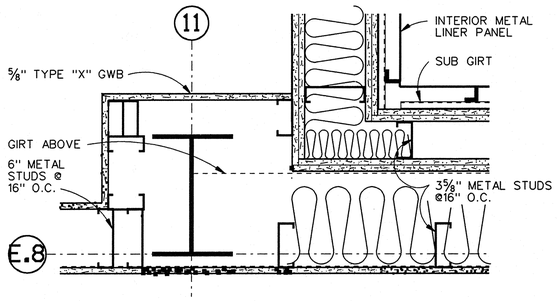
H&TMH FACILITY ARCHITECTURAL DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
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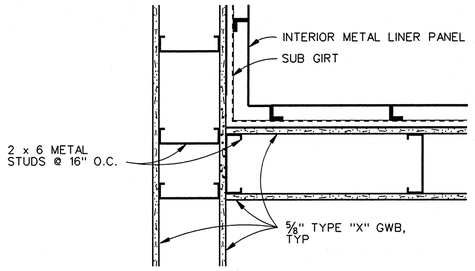
CH2M HILL
CORVALLIS, OREGON

PLOT DATE: 07-08-92 FILE NAME: 17294519.FDJ

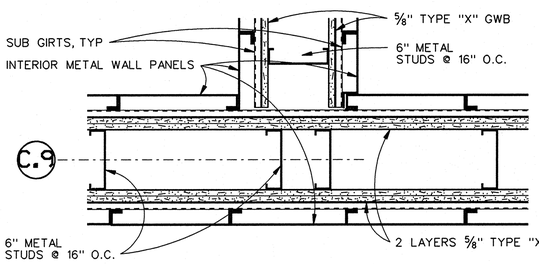
29



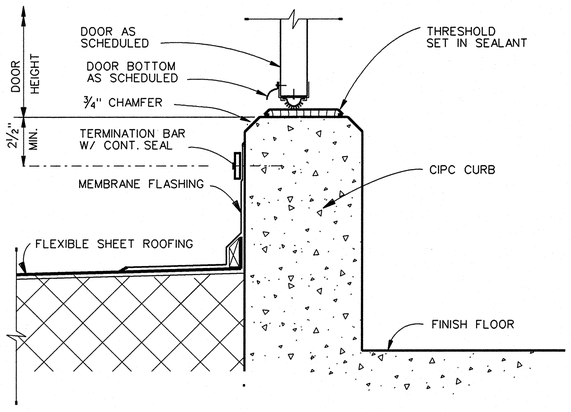
DETAIL 31/18 15
NTS



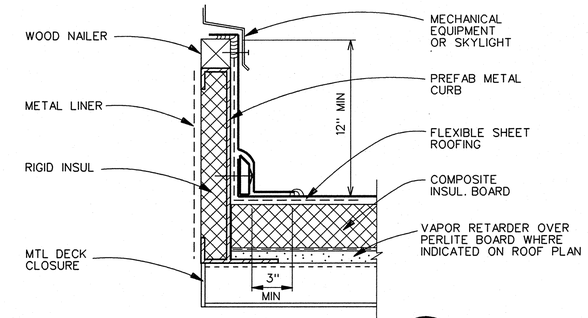
DETAIL 32/18 15
NTS



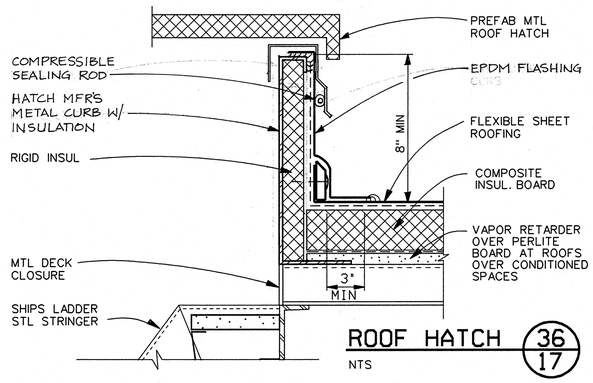
DETAIL 33/16
NTS



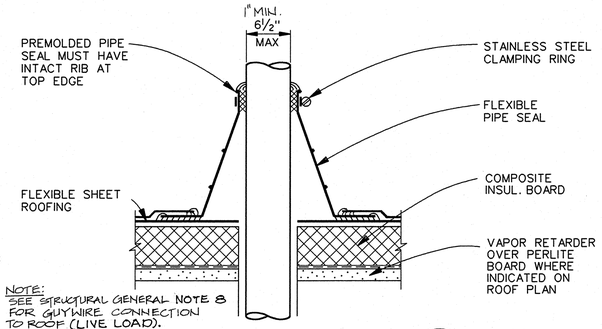
DOOR SILL 34/33
3" = 1'-0"



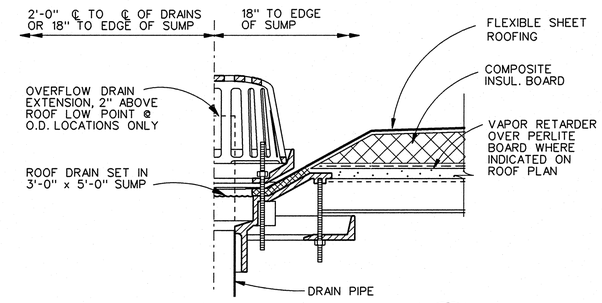
MECH CURB DETAIL 35/17
NTS



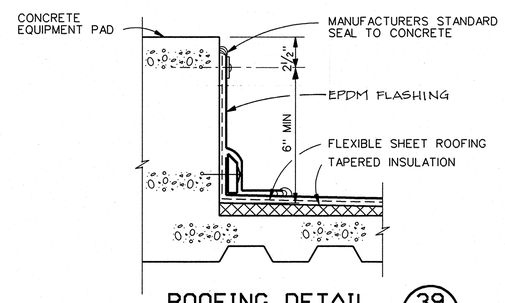
ROOF HATCH 36/17
NTS



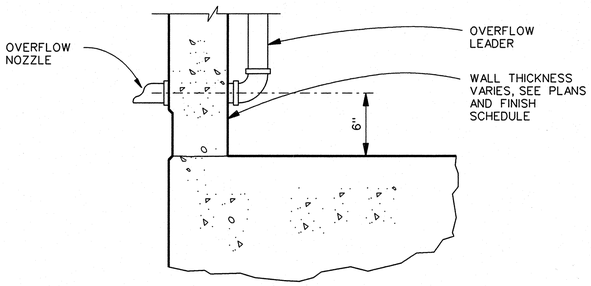
ROOF PIPE DETAIL 37/17
NTS



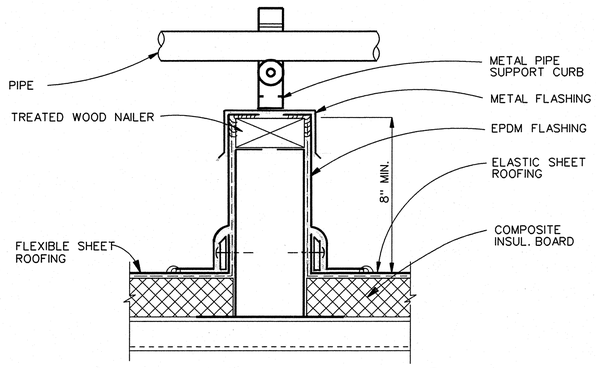
ROOF DRAIN DETAIL 38/17
NTS



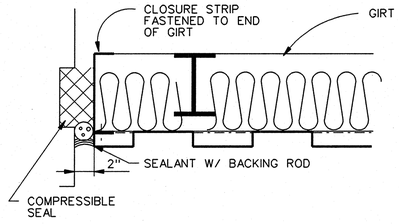
ROOFING DETAIL 39/17
NTS



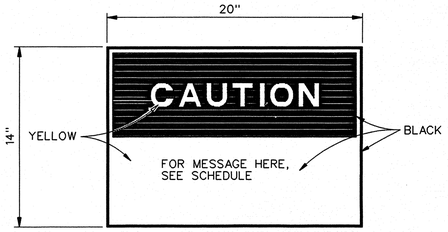
OVERFLOW DRAIN (ON-1) 40/82 83 84
1½" = 1'-0"



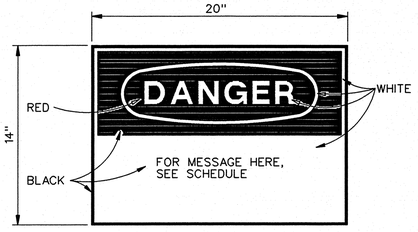
PIPE SUPPORT DETAIL 41/17
NTS



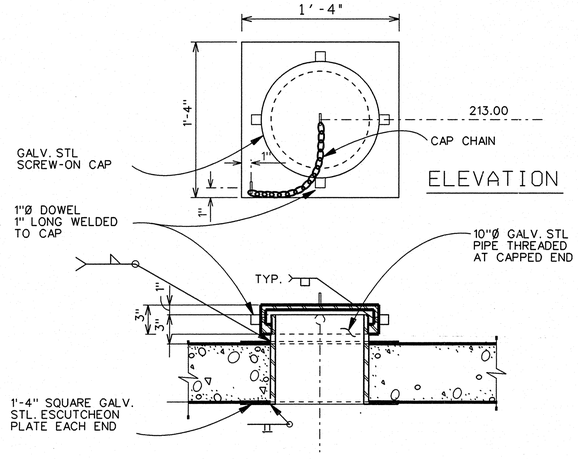
EXPANSION JOIT DETAIL 42/14 19
NTS



SIGN DETAIL 43/—
NTS



SIGN DETAIL 44/—
NTS



HOSE PORTHOLE 45/21
1½" = 1'-0"

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

17294506.FDJ	15	FLOOR PLAN - AREA B
17294507.FDJ	16	FLOOR PLAN - AREA C
17294510.FDJ	18	OFFICE/BULKING AREA PLAN & DETS
17294511.FDJ	19	HVAC ROOM PLANS
17294513.FDJ	21	BUILDING ELEVATIONS
17294523.FDJ	33	DOOR AND HARDWARE SCHEDULE
17294608.FDJ	44	STRUCT-FLOOR SLAB PLAN AREA C
17294721.FDJ	82	PLUMB - FLOOR PLAN AREA A
17294722.FDJ	83	PLUMB - FLOOR PLAN AREA B & PART
17294723.FDJ	84	PLUMB - FLOOR PLAN AREA C & DETS
DRAWING NUMBER	SHEET	TITLE

REFERENCE DRAWINGS

NO.	C	PL-6 M2.1.06	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

CH2M HILL
CORVALLIS, OREGON

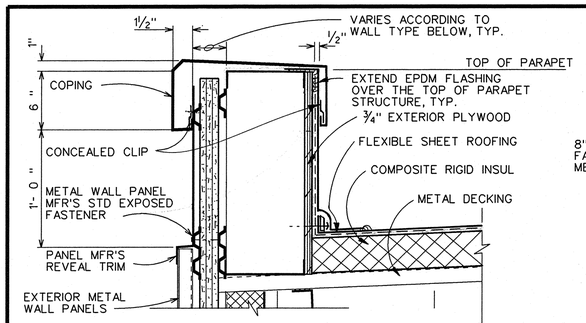
Design E BARLOW-PIETERICK
Drawn BD ROUSH
Chkd JE CAVE
Sub
Rec
Rec
Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

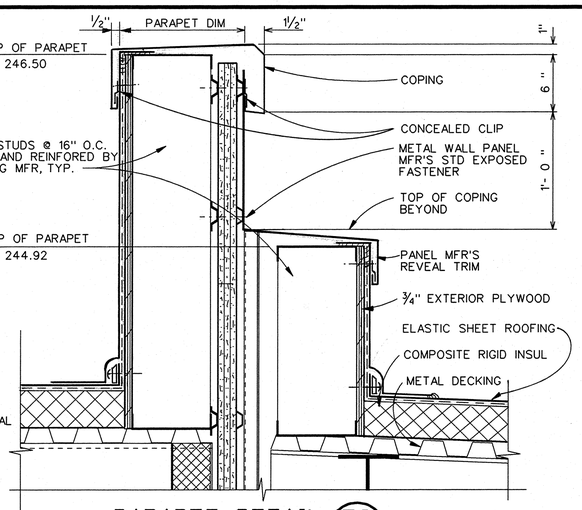
H&TMH FACILITY ARCHITECTURAL DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
172945	FCJ	A1	30	0

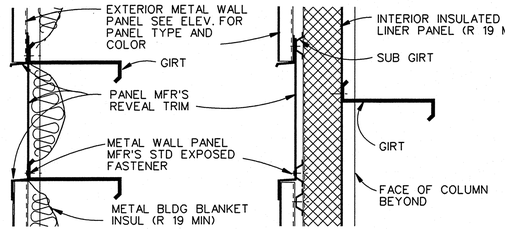
PLOT DATE: 07-08-92 FILE NAME: 17294520.FDJ



PARAPET DETAIL 46
1½" = 1'-0"
21,23 25 26,27

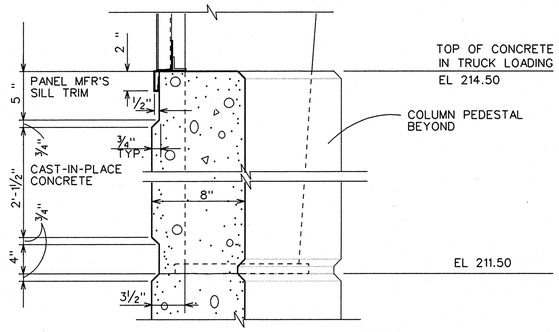


PARAPET DETAIL 50
25
1½" = 1'-0"

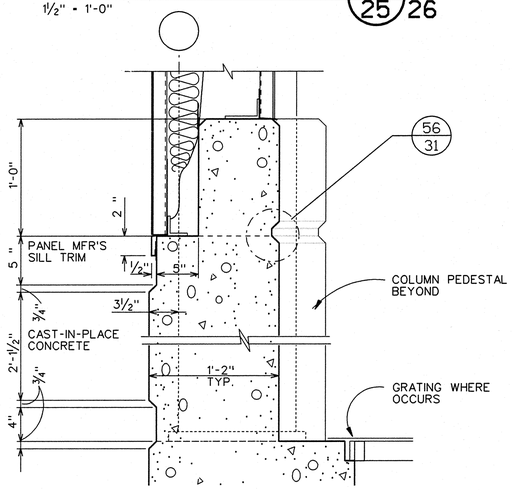


WITHOUT LINER PANEL WITH LINER PANEL

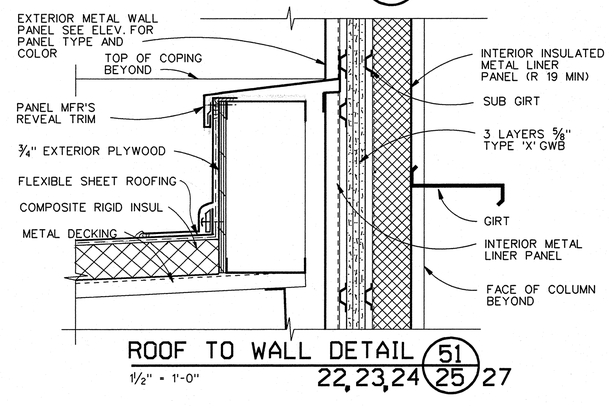
REVEAL DETAILS 47
1½" = 1'-0"
23 25 26,27



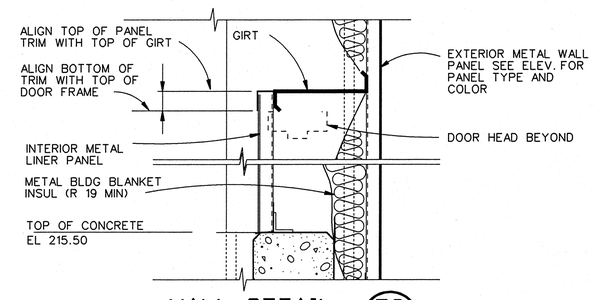
BASE OF WALL DETAIL 48
1½" = 1'-0"
25 26



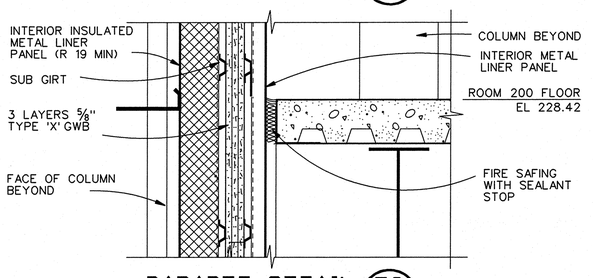
BASE OF WALL DETAIL 49
1½" = 1'-0"
25 26 27



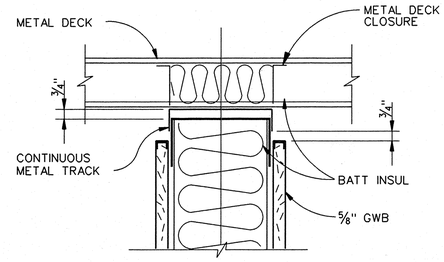
ROOF TO WALL DETAIL 51
1½" = 1'-0"
22,23,24 25 27



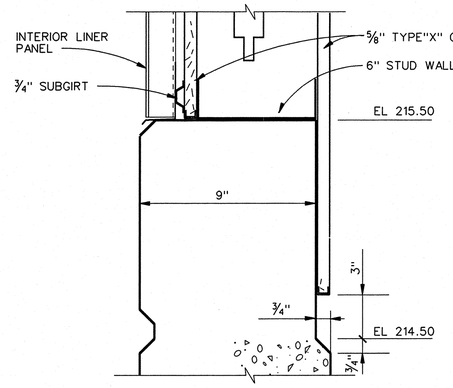
WALL DETAIL 52
1½" = 1'-0"
26 27



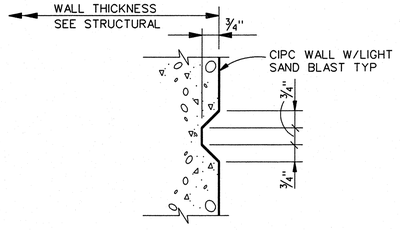
PARAPET DETAIL 53
1½" = 1'-0"
25



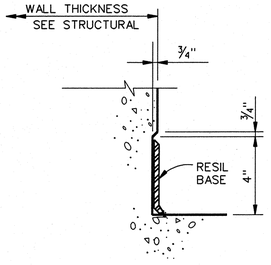
TOP OF WALL DETAIL 54
25 27
3" = 1'-0"



BASE OF WALL DETAIL 55
3" = 1'-0"
18 31

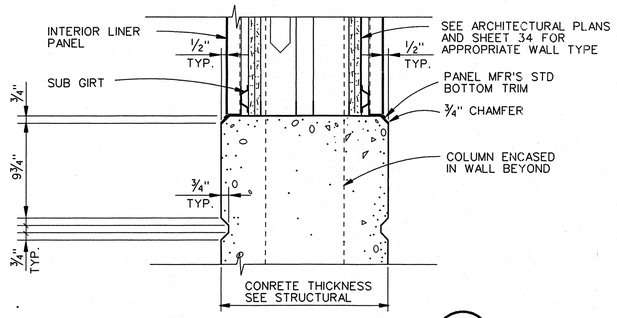


CIPC DETAIL 56
23 24 25,28
3" = 1'-0"

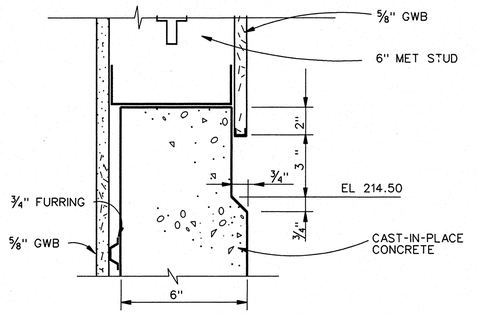


CIPC DETAIL 57
27 28
3" = 1'-0"

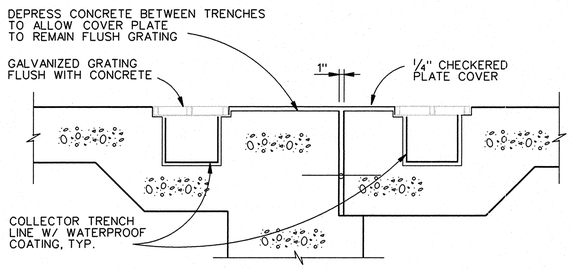
0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON



BASE OF WALL DETAIL 58
1½" = 1'-0"
25 28



BASE OF WALL DETAIL 59
3" = 1'-0"
18 24 28



EXPANSION JOINT DETAIL 60
NTS
14 15,25

DRAWING NUMBER	SHEET	TITLE
17294505.FDJ	14	FLOOR PLAN - AREA A
17294506.FDJ	15	FLOOR PLAN - AREA B
17294510.FDJ	18	OFFICE/BULKING AREA PLAN & DETS
17294513.FDJ	21	BUILDING ELEVATIONS
17294509.FDJ	22	STAIR PLANS AND SECTIONS
17294514.FDJ	23	BUILDING SECTIONS
17294515.FDJ	24	BUILDING SECTIONS
17294516.FDJ	25	WALL SECTIONS
17294517.FDJ	26	WALL SECTIONS
17294526.FDJ	27	WALL SECTIONS
17294518.FDJ	28	INTERIOR ELEVATIONS

REFERENCE DRAWINGS

NO.	C	PL-6 M2C106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

CH2M HILL
CORVALLIS, OREGON

Design E BARLOW-PIETERICK
Drawn BD ROUSH
Chkd JE CAVE
Sub
Rec
Rec
Appr
Date

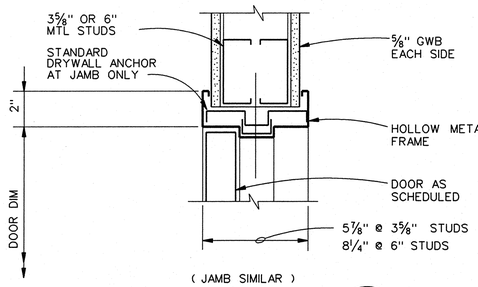
UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL DETAILS

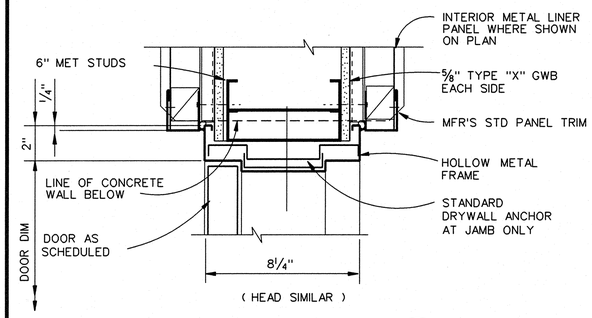
SERIAL	SOURCE	SIZE	SHEET	REVISION
172945	FCJ	A1	31	0

PLOT DATE: 07-08-92 FILE NAME: 17294521.FDJ

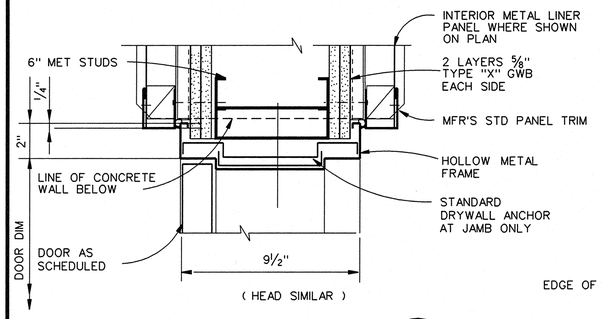
CH2M HILL
CORVALLIS, OREGON



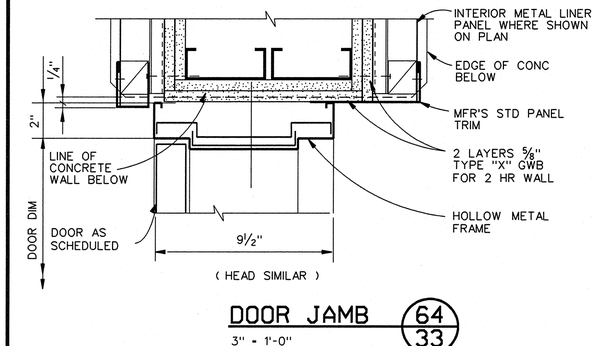
DOOR HEAD 61/33
3" = 1'-0"



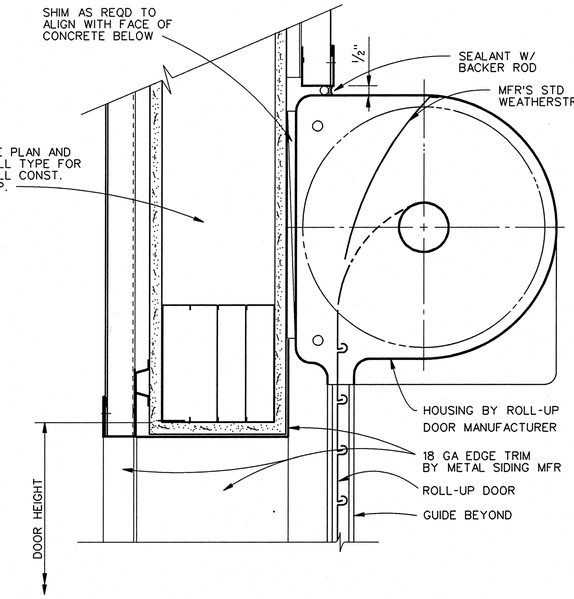
DOOR JAMB 62/33
3" = 1'-0"



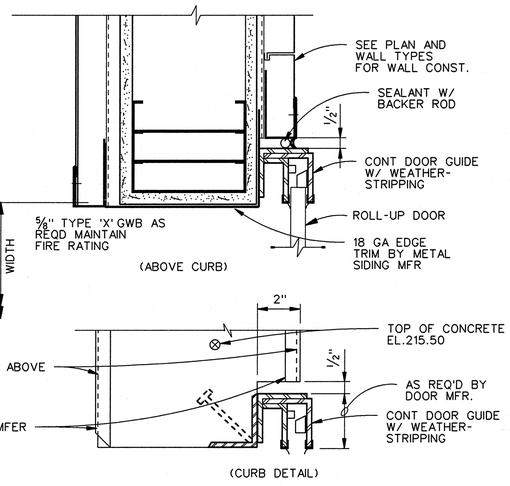
DOOR JAMB 63/33
3" = 1'-0"



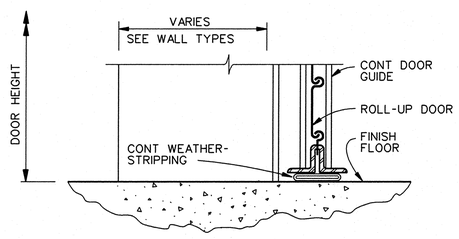
DOOR JAMB 64/33
3" = 1'-0"



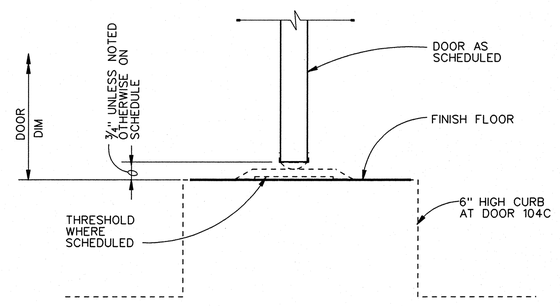
HEAD DETAIL 66/33
3" = 1'-0"



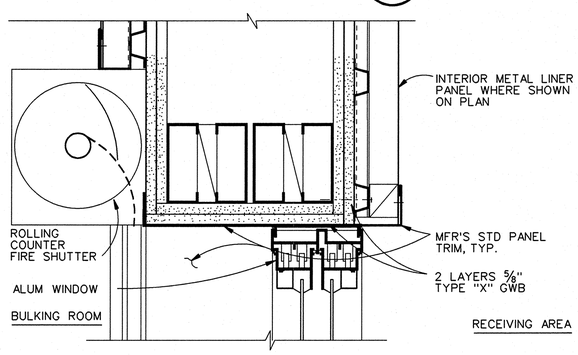
JAMB DETAIL 67/33
3" = 1'-0"



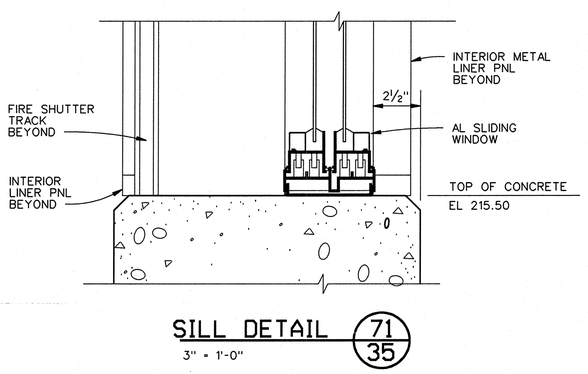
SILL DETAIL 68/33
3" = 1'-0"



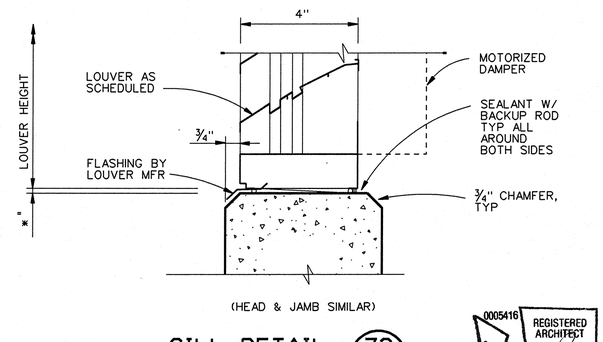
DOOR SILL 69/33
3" = 1'-0"



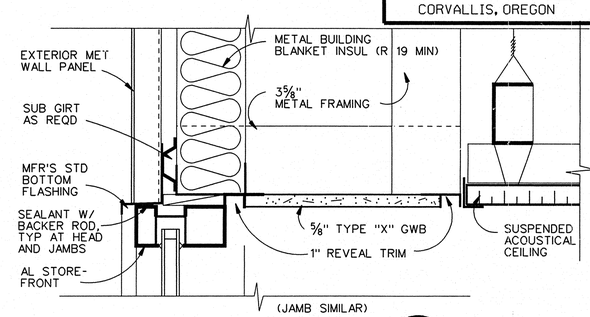
HEAD DETAIL 70/35
3" = 1'-0"



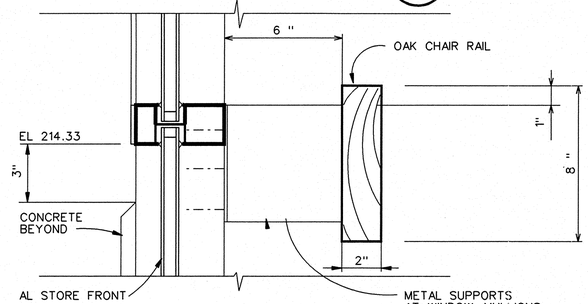
SILL DETAIL 71/35
3" = 1'-0"



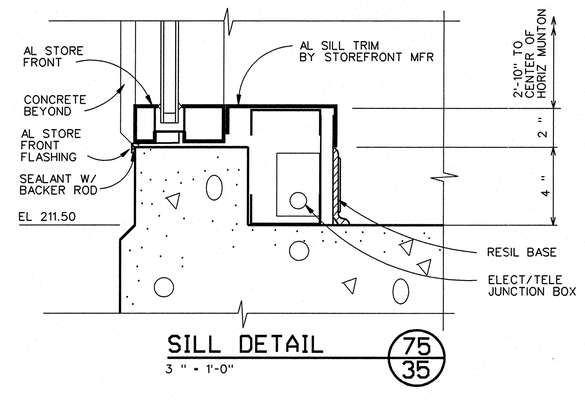
SILL DETAIL 72/35
3" = 1'-0"



HEAD DETAIL 73/35
3 " = 1'-0"



MULLION DETAIL 74/35 15
3 " = 1'-0"



SILL DETAIL 75/35
3 " = 1'-0"

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

NO.	C	PL-6 MZC106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design E BARLOW PIETERICK
Drawn BD ROUSH
Chkd JE CAVE
Sub
Rec
Rec
Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
172945	FCJ	A1	32	0

REFERENCE DRAWINGS

DRAWING NUMBER	SHEET	TITLE
17294506.FDJ	15	FLOOR PLAN - AREA B
17294523.FDJ	33	DOOR AND HARDWARE SCHEDULE
17294525.FDJ	35	WIN,LOUV,EXT FIN & COLOR SCHEDUL

PLOT DATE: 07-08-92 FILE NAME: 17294522.FDJ

32

STRUCTURE

DOOR AND HARDWARE SCHEDULE

CH2M HILL
CORVALLIS, OREGON

ROOM	NO.	OPENING							FRAME							MISCELLANEOUS			HARDWARE									REMARKS
		DOOR SIZE			DOOR								DETAILS															
		WIDTH	HEIGHT	THKNS	MATL	TYPE	FINISH	COLOR	MATL	TYPE	FINISH	COLOR	HEAD	JAMB	SILL	RATING	GLASS	LOUVER	HINGE	LOCK	CLOSER	PUSH PULL	STOP HOLDER	BOLT	KICK	THRES-HOLD	WEATHER STRIP	MISC	
100	A	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	63	63	69	1½HR	-	-	H1	L2	C3	-	-	-	-	-	W3	-	
	B	8'-0"	8'-0"	-	STL	OHD	6	A-1	STL	F4	GALV	A-1	66	67	68	1½HR	-	-	-	-	-	-	-	-	-	-	W5	-	
	C	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	H1	X3	C2	-	S1	-	K1	T1	W1	-	
101	A	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	62	62	69	-	-	-	H1	L2	-	-	S1	-	-	-	-	-	
	B	8'-0"	8'-0"	-	STL	OHD	6	A-1	STL	F4	GALV	A-1	66	67	68	-	-	-	-	-	-	-	-	-	-	-	W5	-	
	C	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	H1	X3	C2	-	S1	-	K1	T1	W1	-	
	D	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	H1	X3	C2	-	S1	-	K1	T1	W1	-	
102	A	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	H1	X3	C3	-	-	-	K1	T1	W1	-	
	B	8'-0"	8'-0"	-	STL	OHD	6	A-1	STL	F4	GALV	A-1	66	67	68	1½HR	-	-	-	-	-	-	-	-	-	-	W5	-	
	C	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	64	64	69	1½HR	-	-	H1	L2	C3	-	-	-	-	-	W3	-	
103	A	3'-0"	7'-0"	1¾"	HM	D2	6	A-1	HM	F1	6	A-1	62	62	69	¾ HR	WG	-	H1	X3	C2	-	S2	-	K1	T1	W2	ES	
	B	8'-0"	10'-0"	-	STL	OHD *	6	A-1	STL	F4	GALV	A-1	NOTE 7	NOTE 7	NOTE 7	1½HR	-	-	-	-	-	-	-	-	-	-	W5	-	* INSULATED DOOR
	C	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	1½HR	-	-	H1	L1	C2	-	S1	-	K1	T1	W2	ES	
	D	8'-0"	10'-0"	-	STL	OHD *	6	A-1	STL	F4	GALV	A-1	NOTE 7	NOTE 7	NOTE 7	1½HR	-	-	-	-	-	-	-	-	-	-	W5	-	* INSULATED DOOR
	E	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	62	62	69	¾ HR	-	-	H1	L2	C1	-	S1	-	K1	-	W3	N1	"HVAC ROOM"
104	A	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	63	63	69	1½HR	-	-	H1	L1	C3	-	-	-	K1	-	W3	ES	
	B	10'-0"	8'-0"	-	STL	OHD	6	A-1	STL	F4	GALV	A-1	66	67	68	¾ HR	-	-	-	-	-	-	-	-	-	-	W5	-	
	C	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	64(SIM)	64(SIM)	69	¾ HR	-	-	H1	X3	C3	-	-	-	K1	-	W3	-	
105	A	3'-0"	7'-0"	1¾"	WD	D1	105	B2	HM	F1	6	A-1	61	61	69	-	-	-	H1	-	C1	P1	S1	-	-	-	-	N1	"LOCKER ROOM"
106	A	3'-0"	7'-0"	1¾"	WD	D1	105	B2	HM	F1	6	A-1	61	61	69	-	-	-	H1	L4	-	-	S1	-	-	-	-	N1	"ELECTRICAL ROOM"
107	A	(2)3'-0"	7'-0"	1¾"	AL	D7	FCTY	B-1	AL	F2	FCTY	B-1	-	-	-	-	-	-	H3	L6	C4	P2	-	B3	-	T3	W5	ES	
109	A	3'-0"	7'-0"	1¾"	WD	D1	105	B2	HM	F1	6	A-1	61	61	69	-	-	-	H1	L5	C1	-	S2	-	-	-	-	N2	"WOMEN"
110	A	(2)3'-0"	7'-0"	1¾"	WD	D1	105	B2	HM	F1	6	A-1	61	61	69	-	-	-	H1	L4	-	-	2(S2)	B1	-	-	-	-	
111	A	3'-0"	7'-0"	1¾"	WD	D1	105	B2	HM	F1	6	A-1	61	61	69	-	-	-	H1	L4	C1	-	S2	-	-	-	-	N1	"UTILITY ROOM"
112	A	3'-0"	7'-0"	1¾"	WD	D1	105	B2	HM	F1	6	A-1	61	61	69	-	-	-	H1	L5	C1	-	S2	-	-	-	-	N2	"MEN"
113	A	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	H1	X3	C2	-	S1	-	K1	T1	W1	-	
	B	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	H1	X3	C3	-	-	-	K1	T1	W1	-	
	C	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	H1	X3	C2	-	S1	-	K1	T1	W1	-	
	D	28'-0"	10'-0"	-	STL	OHD *	6	A-1	STL	F4	GALV	A-1	NOTE 7	NOTE 7	NOTE 7	1½HR	-	-	-	-	-	-	-	-	-	-	W5	-	* INSULATED DOOR
	E	8'-0"	10'-0"	-	STL	OHD *	6	A-1	STL	F4	GALV	A-1	NOTE 7	NOTE 7	NOTE 7	1½HR	-	-	-	-	-	-	-	-	-	-	W5	-	* INSULATED DOOR
	F	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	1½HR	-	-	H1	L2	C3	-	-	-	-	-	W3	-	
114	A	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	H1	L2	C3	-	-	-	-	T1	W2	N1	"LOCKER ROOM"
115	A	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	1½HR	-	-	H1	L2	C2	-	S1	-	-	-	W3	N1	"LOCKER ROOM"
	B	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	¾ HR	-	-	H1	X3	C3	-	-	-	K1	T1	W1	-	
	C	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	H1	L1	C2	-	S1	-	K1	T1	W1	ES	
	D	12'-0"	14'-0"	-	STL	OHD *	6	A-1	STL	F4	GALV	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	-	-	-	-	-	-	-	-	W5	-	* INSULATED DOOR
	E	30'-0"	30'-0"	-	STL	D5	6	A-1	STL	F4	GALV	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	-	-	-	-	-	-	-	-	W5	-	
	F	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	H1	X3	C3	-	-	-	-	T1	W1	-	
	G	12'-0"	14'-0"	-	STL	OHD *	6	A-1	STL	F4	GALV	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	-	-	-	-	-	-	-	-	W5	-	* INSULATED DOOR
	H	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	1½HR	-	-	H1	L1	C3	-	-	-	-	T1	W1	ES	
	J	20'-0"	24'-0"	-	STL	OHD *	6	A-1	HM	F4	6	A-1	NOTE 7	NOTE 7	NOTE 7	1½HR	-	-	-	-	-	-	-	-	-	-	W5	-	* INSULATED DOOR
116	A	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	H1	L1	C3	-	-	-	-	T1	W1	ES	
	B	14'-0"	14'-0"	-	STL	OHG	ANOD	CLR	STL	F4	GALV	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	-	-	-	-	-	-	-	-	W5	-	
	C	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	H1	L1	C3	-	-	-	-	T1	W1	-	
	D	14'-0"	14'-0"	-	STL	OHG	ANOD	CLR	STL	F4	GALV	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	-	-	-	-	-	-	-	-	W5	-	
117	A	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	NOTE 7	-	-	-	H1	L1	C3	-	-	-	-	T1	W1	N1	"ELECTRICAL ROOM"
200	A	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	61	61	69	¾ HR	-	-	H1	L2	C1		S1	-	K1	-	W3	-	
	B	(2)3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	34	-	-	-	H1	L2	C3	-	-	B1	-	T1	W1	N1	"ROOF ACCESS"
	C	(2)3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	34	-	-	-	H1	-	-		S6	(2)B3	-	T1	W1	N1	
	D	(2)3'-6"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	34	-	-	-	H1	-	-	-	S6	(2)B3	-	T1	W1		
201	A	3'-0"	7'-0"	1¾"	HM	D1	6	A-1	HM	F1	6	A-1	NOTE 7	NOTE 7	34	-	-	-	H1	L2	C3	-	-	-	-	T1	W1		"ROOF ACCESS"

NOTES:

1. NUMBER DESIGNATION IN "FINISH" COLUMN REFERS TO PAINT SYSTEMS IN SPECIFICATION SECTION 09900, PAINTING.
2. LETTER/NUMBER DESIGNATION IN "COLOR" COLUMN REFERS TO COLOR LEGEND ON SHEET 35.
3. FOR DETAILS SEE SHEET 32 .
4. FOR HARDWARE, SEE SPECIFICATION SECTION 08710, FINISH HARDWARE.
5. FOR GLASS TYPES, SEE SPECIFICATION SECTION 08800, GLASS AND GLAZING.
6. METAL BUILDING MANUFACTURER TO INSTALL DOOR AND HARDWARE AS SPECIFIED AND PROVIDE REQUIRED STRUCTURAL SUPPORT AND FINISH TRIM.

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

DRAWING NUMBER	SHEET	TITLE
17294522.FDJ	32	DETAILS
17294525.FDJ	35	WIN,LOUV,EXT FIN & COLOR SCEDULE

REFERENCE DRAWINGS

NO.	C.	PL-6 MZC106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design E BARLOW PIETERICK
Drawn BD ROUSH
Chkd JE CAVE
Sub
Rec
Rec
Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL DOOR & HARDWARE SCHEDULE

SERIAL	SOURCE	SIZE	SHEET	REVISION
172945	FCJ	A1	33	0

FILE NAME: 17294523.FDJ
PLOT DATE: 07-08-92

STRUCTURE

INTERIOR FINISH SCHEDULE

CH2M HILL
CORVALLIS, OREGON

SPACE		FLOOR			BASE AND WAINSCOT					NORTH WALL			EAST WALL			SOUTH WALL			WEST WALL			CEILING				MISCELLANEOUS				
NO.	NAME	SUBFLOOR	FINISH	COLOR	HEIGHT	MATL	FINISH	COLOR	WALLS	MATL	FINISH	COLOR	MATL	FINISH	COLOR	MATL	FINISH	COLOR	MATL	FINISH	COLOR	HEIGHT	MATL	FINISH	COLOR	ITEM	MATL	FINISH	COLOR	REMARKS
100	TOXIC STORAGE	CONC	HDNR / SEALER	CLR	4'-0"	CONC	-	-	ALL	MET PNL	FCTY	A1	MET PNL / INSUL	FCTY / VINYL	A1 / WHITE	MET PNL / INSUL	FCTY / VINYL	A1 / WHITE	MET PNL	FCTY	A1	-	MET DECK	6	A4	-	-	-	-	
101	PCB STORAGE	CONC	HDNR / SEALER	CLR	4'-0"	CONC	-	-	ALL	MET PNL / INSUL	FCTY / VINYL	A1 / WHITE	MET PNL / INSUL	FCTY / VINYL	A1 / WHITE	MET PNL	FCTY	A1	MET PNL	FCTY	A1	-	MET DECK	6	A4	-	-	-	-	
102	HAZ. WASTE STOR.	CONC	HDNR / SEALER	CLR	4'-0"	CONC	-	-	ALL	MET PNL	FCTY	A1	MET PNL	FCTY	A1	MET PNL / INSUL	FCTY / VINYL	A1 / WHITE	MET PNL	FCTY	A1	-	MET DECK	6	A4	-	-	-	-	
103	SHIPPING & REC.	CONC	HDNR / SEALER	CLR	4'-0"	CONC	-	-	ALL	MET PNL	FCTY	A1	MET PNL	FCTY	A1	MET PNL	FCTY	A1	MET PNL	FCTY	A1	-	MET DECK	6	A4	-	-	-	-	
104	BULKING ROOM	CONC	HDNR / SEALER	CLR	4'-0"	CONC	-	-	ALL	MET PNL	FCTY	A1	MET PNL	FCTY	A1	MET PNL	FCTY	A1	MET PNL	FCTY	A1	-	MET DECK	6	A4	-	-	-	-	
105	LOCKER ROOM	CONC	SHT VIN	A10	4'-0" / 4"	CONC / RESIL	- / FCTY	- / A6	N / ALL	GWB	115	A7	GWB	115	A7	GWB	115	A7	GWB	115	A7	8'-0"	GWB	115	A4	LOCKER BENCH / LOCKERS	STL / STL	5 / 5	A2 / A2	SEALED WOOD BENCH
106	ELECTRICAL ROOM	CONC	HDNR / SEALER	CLR	4"	RESIL	FCTY	A6	ALL	GWB	115	A7	GWB	115	A7	GWB	115	A7	GWB	115	A7	-	MET DECK	6	A4	-	-	-	-	
107	OFFICE	CONC	CARP / VCT	A9 / A10	4"	RESIL	FCTY	A6	ALL	GWB	115	A7	GWB	115	A7	GWB	115	A7	GWB	115	A7	9'-0"	ACT-1	FCTY	WHITE	-	-	-	-	
108	HALL	CONC	VCT	A10	4'-0" / 4"	CONC / RESIL	- / FCTY	- / A6	N, E / ALL	GWB	115	A7	GWB	115	A7	GWB	115	A7	GWB	115	A7	9'-0"	ACT-1 / GWB	FCTY / 115	WHITE / A4	-	-	-	-	
109	WOMEN	CONC	SHT VIN	A10	4'-0"	SHT VIN	FCTY	A8	ALL	GWB	115	A7	GWB	115	A7	GWB	115	A7	GWB	115	A7	8'-0"	GWB	115	A4	-	-	-	-	
110	STORAGE ROOM	CONC	CARP	A9	4"	RESIL	FCTY	A6	ALL	GWB	115	A7	GWB	115	A7	GWB	115	A7	GWB	115	A7	9'-0"	ACT-1	FCTY	WHITE	-	-	-	-	
111	UTILITY ROOM	CONC	SHT VIN	A10	4'-0" / 4"	SHT VIN / RESIL	FCTY / FCTY	A8 / A6	N,E / S,W	GWB	115	A7	GWB	115	A7	GWB	115	A7	GWB	115	A7	-	MET DECK	6	A4	-	-	-	-	
112	MEN	CONC	SHT VIN	A10	4'-0"	SHT VIN	FCTY	A8	ALL	GWB	115	A7	GWB	115	A7	GWB	115	A7	GWB	115	A7	8'-0"	GWB	115	A4	LOCKER BENCH / LOCKERS	STL / STL	5 / 5	A2 / A2	SEALED WOOD BENCH
113	COVERED STORAGE	CONC	HDNR / SEALER	CLR	4'-0"	CONC	-	-	ALL	INSUL	VINYL	WHITE	MET PNL	FCTY	A1	INSUL	VINYL	WHITE	MET PNL	FCTY	A1	-	MET DECK	6	A4	-	-	-	-	
114	LOCKER ROOM	CONC	HDNR / SEALER	CLR	4'-0"	CONC / RESIL	- / FCTY	- / A6	ALL	MET PNL	FCTY	A1	MET PNL	FCTY	A1	MET PNL	FCTY	A1	MET PNL	FCTY	A1	8'-0"	GWB	115	A4	-	-	-	-	
115	DRAIN & FLUSH	CONC	CHR PLT	CLR	4'-0" MIN	CONC	-	-	ALL	MET PNL	FCTY	A1	MET PNL	FCTY	A1	MET PNL	FCTY	A1	MET PNL	FCTY	A1	-	MET DECK	6	A4	GUARDRAIL	STL	5	A5	
116	TRUCK LOADING	CONC	HDNR / SEALER	CLR	7'-0"	CONC	-	-	ALL	MET PNL	FCTY	A1	MET PNL	FCTY	A1	MET PNL	FCTY	A1	MET PNL	FCTY	A1	19'-0"	MET DECK	6	A4	-	-	-	-	* ACOUSTICAL DECK
117	ELECTRICAL ROOM	CONC	HDNR / SEALER	CLR	3'-0"	CONC	-	-	ALL	INSUL	VINYL	WHITE	MET PNL	FCTY	A1	INSUL	VINYL	WHITE	INSUL	VINYL	WHITE	-	MET DECK	6	A4	HANDRAIL	STL	5	A5	
200	PENTHOUSE	CONC	HDNR / SEALER	CLR	AS REQ	CONC	-	-	ALL	INSUL	VINYL	WHITE	INSUL	VINYL	WHITE	INSUL / GWB	VINYL / 115	WHITE / A7	MET PNL / GWB	FCTY / 115	A1 / A7	-	MET DECK	6	A4	-	-	-	-	
201	PENTHOUSE	CONC	HDNR / SEALER	CLR	AS REQ	CONC	-	-	ALL	INSUL	VINYL	WHITE	MET PNL	FCTY	A1	INSUL	VINYL	WHITE	INSUL	VINYL	WHITE	-	MET DECK	6	A4	-	-	-	-	
X	X	X	X	X																										
X	X	X	X	X																										
X	X	X	X	X																										

A — EXTERIOR MTL WALL PANEL, SEE ELEVATIONS FOR PANEL TYPE; GIRT

B — EXTERIOR MTL WALL PANEL, SEE ELEVATIONS FOR PANEL TYPE, TYP.; ¾" SUBGIRT, TYP.; 2 - LAYERS ⅝" TYPE 'X' GWB; INTERIOR INSULATED MTL LINER PANEL W/ MIN R-19 LINER PANEL INSULATION, TYP.; GIRT

C1 — EXTERIOR MTL WALL PANEL, SEE ELEVATIONS FOR PANEL TYPE; INTERIOR INSULATED MTL LINER PANEL W/ MIN R-19 LINER PANEL INSULATION; GIRT

G1 — INTERIOR MTL LINER PANEL OVER SUBGIRT; 6" MTL STUDS @ 16" OC; 2 - LAYERS ⅝" TYPE 'X' GWB

H1 / H2 — ⅝" TYPE 'X' GWB, TYP; 3⅝" MTL STUDS @ 16" OC; H2: W/ SOUND ATTENUATING BLANKETS

J2 — INTERIOR MTL LINER PANEL OVER SUBGIRT, TYP; R-19 METAL BUILDING BLANKET INSULATION; COL DIM + 2"; 3⅝" MTL STUDS @ 16" OC; ⅝" TYPE 'X' GWB, TYP

A1 — R-19 METAL BUILDING BLANKET INSULATION; INTERIOR MTL LINER PANEL BELOW EL 218.80

B1 — 3 - LAYERS ⅝" TYPE 'X' GWB OVER SUBGIRT; GIRT

D — ⅝" TYPE 'X' GWB, TYP; 3⅝" MTL STUDS @ 16" OC

H — ⅝" TYPE 'X' GWB, TYP; 6" MTL STUDS @ 16" OC

H3 — W/ R-19 METAL BUILDING BLANKET INSULATION

J1 / J — INTERIOR MTL LINER PANEL OVER SUBGIRT, TYP; COL DIM + 2"; 2 - LAYERS ⅝" TYPE 'X' GWB; 3⅝" MTL STUDS @ 16" OC; J: 1 LAYER OF GWB EA FACE. INCREASE CAVITY TO MATCH FACE OF 2HR WALL

J3 — INTERIOR MTL LINER PANEL OVER SUBGIRT, TYP; 6" MTL STUDS @ 16" OC; ⅝" TYPE 'X' GWB, TYP; R-19 METAL BUILDING BLANKET INSULATION

A2 — INTERIOR MTL LINER PANEL FULL HT.

B2 — INTERIOR MTL LINER PANEL OVER SUBGIRT; 3 - LAYERS ⅝" TYPE 'X' GWB OVER SUBGIRT; GIRT

F — INTERIOR MTL LINER PANEL OVER SUBGIRT, TYP; 6" MTL STUDS @ 16" OC; 2 - LAYERS ⅝" TYPE 'X' GWB

F1 — WITH R-19 METAL BUILDING BATT INSULATION.

A3 — R-19 METAL BUILDING BLANKET INSULATION; ⅝" TYPE 'X' GWB, TYP; FACE OF GIRT; 1½"; 2 - LAYERS ⅝" TYPE 'X' GWB; 3⅝" MTL STUDS @ 16" OC, TYP; INTERIOR MTL LINER PANEL OVER SUBGIRT

B3 — 3 - LAYERS ⅝" TYPE 'X' GWB OVER SUBGIRT; INTERIOR MTL LINER PANEL W/ MIN R-19 LINER PANEL INSULATION; GIRT

G — INTERIOR MTL LINER PANEL OVER SUBGIRT; 6" MTL STUDS @ 16" OC; ⅝" TYPE 'X' GWB, TYP

G3 — W/ R-19 METAL BUILDING BLANKET INSULATION

WALL TYPES

1" = 1'-0"

NOTE:

1. DO NOT APPLY SILANE FLOOR SEALER TO CONCRETE SURFACES THAT WILL HAVE A FLOOR FINISH REQUIRING AN ADHESIVE BOND TO CONCRETE. (THIS INCLUDES BUT IS NOT LIMITED TO TRENCHES AND OFFICE AREA FLOOR COVERINGS)
2. FOR FLOOR FINISH ABBREVIATIONS REFER TO SPECIFICATION SECTION 09650.
3. FOR ADDITIONAL NOTES SEE SHT 35.

0005416 REGISTERED ARCHITECT — EDWARD A BARLOW-PIETERICK — STATE OF WASHINGTON

NO.	C	PL-6 M2C1066	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design E BARLOW-PIETERICK
Drawn BD ROUSH
Chkd JE CAVE
Sub
Rec
Rec
Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL INTERIOR FINISH SCHEDULE AND WALL TYPES

SERIAL	SOURCE	SIZE	SHEET	REVISION
172945	FCJ	A1	34	0

17294525.FDJ	35	WIN,LOUV,EXT FIN & COLOR SCHEDUL
DRAWING NUMBER	SHEET	TITLE

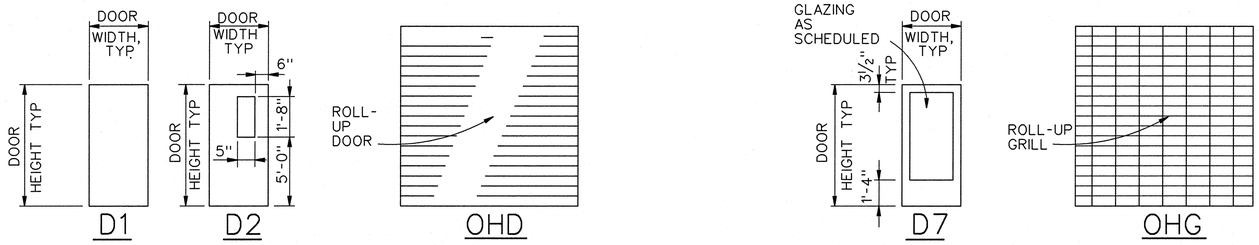
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PLOT DATE: 07-07-92 FILE NAME: 17294524.FDJ

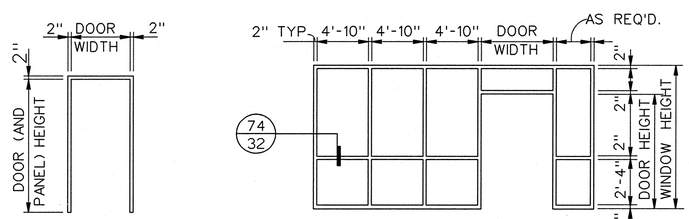
STRUCTURE

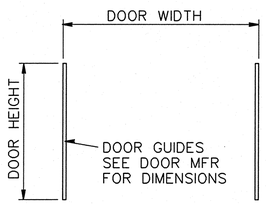
WINDOW, RELIGHT AND LOUVER SCHEDULE

NO.	OPENING SIZE WIDTH	SIZE HEIGHT	SIZE THKNS	WINDOW/LOUVER MATL	WINDOW/LOUVER TYPE	WINDOW/LOUVER RATING	WINDOW/LOUVER FINISH	WINDOW/LOUVER COLOR	FRAME MATL	FRAME TYPE	FRAME FINISH	FRAME COLOR	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	REMARKS
W1	3'-0"	3'-0"	5½"	GLASS	TG	*	-	-	AL	S1	ANOD	B1	70	70 SIM	71	* ¾HR RATED ROLLING COUNTER FIRE SHUTTER REQ
W2	25'-0"	8'-8"	5½"	GLASS	IG	-	-	-	AL	F2	FCTY	B1	73/74	73 SIM	75	REINFORCING FOR CHAIR RAIL IN FRAME REQUIRED WINDOW BLINDS (COLOR A2)
W3	52'-0"	8'-8"	5½"	GLASS	IG	-	-	-	AL	WF1	FCTY	B1	73/74	73 SIM	75	REINFORCING FOR CHAIR RAIL IN FRAME REQUIRED WINDOW BLINDS (COLOR A2)
L1	2'-0"	3'-0"	4"	AL	DB	-	ANOD	CLR	AL	LF1	ANOD	CLR	72 SIM	72 SIM	72	
L2	5'-0"	4'-2"	4"	AL	DB	-	FCTY	A1	AL	LF1	FCTY	A1	NOTE 11	NOTE 11	72	
L3	*	*	*	AL	DB	-	FCTY	A2	AL	-	FCTY	A2	-	-	-	* LOUVERED PENTHOUSES SIZE AS SHOWN ON MECHANICAL DRAWINGS

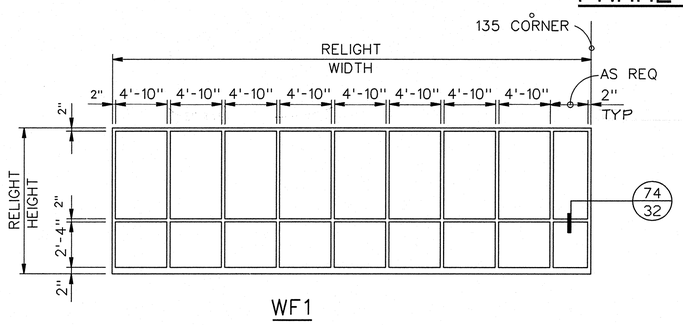


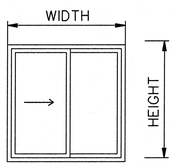
DOOR TYPES

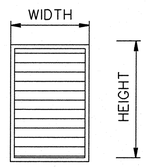




FRAME TYPES







FRAME TYPES

EXTERIOR FINISH SCHEDULE

CH2M HILL CORVALLIS, OREGON

LOCATION	MATERIAL	FINISH	COLOR	REMARKS
RAILING	ALUM	ANOD	B1	
BOLLARDS	STL	6	A11	
COPING	GALV STL	FCTY	A1	
LADDER	GALV STL	6	A1	
EXT.MTL WALL PANEL-TYPE I	GALV STL	FCTY	A1	
EXT.MTL WALL PANEL-TYPE II	GALV STL	FCTY	A1	
EXT.MTL WALL PANEL-TYPE I	GALV STL	FCTY	A2	
EXT.MTL REVEALS	GALV STL	FCTY	A3	

COLOR LEGEND

MARK	DESCRIPTION
A1	TO BE SELECTED BY CONTRACTING OFFICER
A2	TO BE SELECTED BY CONTRACTING OFFICER
A3	TO BE SELECTED BY CONTRACTING OFFICER
A4	TO BE SELECTED BY CONTRACTING OFFICER
A5	TO BE SELECTED BY CONTRACTING OFFICER
A6	TO BE SELECTED BY CONTRACTING OFFICER
A7	TO BE SELECTED BY CONTRACTING OFFICER
A8	TO BE SELECTED BY CONTRACTING OFFICER
A9	TO BE SELECTED BY CONTRACTING OFFICER
A10	TO BE SELECTED BY CONTRACTING OFFICER
B1	TO BE SELECTED BY CONTRACTING OFFICER
B2	TO BE SELECTED BY CONTRACTING OFFICER

NOTES:

1. LOUVER TYPES IN REMARKS COLUMN REFER TO SPECIFICATION SECTION 10200, LOUVERS.
2. NUMBER DESIGNATION IN "FINISH" COLUMN REFERS TO PAINT SYSTEMS IN SPECIFICATION SECTION 09900, PAINTING.
3. LETTER/NUMBER DESIGNATION IN "COLOR" COLUMN REFERS TO COLOR LEGEND THIS SHEET.
4. MECHANICAL AND ELECTRICAL ITEMS NOT SPECIFICALLY NOTED SHALL BE PAINTED THE COLOR OF THE SURFACE TO WHICH THEY ARE ADJACENT (EXAMPLE: EXPOSED ELECTRICAL CONDUIT AT CEILING SAME COLOR AS CEILING). ALUMINUM, STAINLESS STEEL AND NON-METALLIC SURFACES SHALL NOT BE PAINTED UNLESS REQUIRED IN SECTION 09900, PAINTING.
5. EQUIPMENT SHALL BE PAINTED THE SAME COLOR AS PROCESS PIPING ATTACHED TO IT. COMPONENTS, GUARDS, ETC REQUIRING COMPLIANCE TO OSHA STANDARDS SHALL BE PAINTED TO THOSE STANDADS. USE PAINT SYSTEM NO. 6 FOR EQUIPMENT AND PROCESS PIPING.
6. PAINT ALL INTERIOR STRUCTURAL STEEL MEMBERS (COLUMNS, BEAMS, JOISTS, ETC) AND TRIM NOT SHOWN ABOVE PAINT SYSTEM NO. 6. FOR GALVANIZED STEEL USE SYSTEM NO. 106.
7. SEE SPEC SECTION 03300 FOR EXTERIOR FINISH OF CAST-IN-PLACE CONCRETE.
8. FINISH COLOR SELECTION WILL BE MADE AFTER ALL FINISH MATERIAL SUPPLIERS HAVE BEEN SELECTED. COLOR AVAILABILITY MAY HELP DETERMINE THE SELECTION OF MATERIAL SUPPLIERS.
9. METAL BUILDING MANUFACTURER TO INSTALL LOUVERS AS SPECIFIED AND SHALL PROVIDE REQUIRED STRUCTURAL SUPPORT AND FINISH TRIM.
10. NUMBERS IN DETAIL COLUMNS REFER TO DETAILS ON SHEET 32.

0005416 REGISTERED ARCHITECT
EDWARD A BARLOW-PIETERICK
STATE OF WASHINGTON

NO.	C	PL-6 M2C106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design E BARLOW-PIETERICK
Drawn AG OLSON
Chkd JE CAVE
Sub
Rec
Re
Appr
Date

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY ARCHITECTURAL WINDOW, LOUVER, EXTERIOR FINISH & COLOR SCHEDULES

SERIAL	SOURCE	SIZE	SHEET	REVISION
172945	FCJ	A1	35	0

DRAWING NUMBER	SHEET	TITLE
17294522.FDJ	32	DETAILS

REFERENCE DRAWINGS

FILE NAME: 17294525.FDJ
PLOT DATE: 07-08-92

GENERAL STRUCTURAL NOTES

BUILDING LIVE LOADS

1. ROOF LIVE LOAD = 25 PSF + DRIFTING. SEE SEA SNOW LOADS FOR THE STATE OF WASHINGTON
2. FLOOR LIVE LOAD:
   a. MECHANICAL ROOM 150 PSF OR EQUIPMENT WEIGHT, 6" CONCRETE EQUIPMENT PAD, PLUS 100 PSF LIVE LOAD ON AREA NOT OCCUPIED BY THE EQUIPMENT. SEE PLAN FOR LOADS.
   b. SLAB ON GRADE = 300 PSF OR 8000lb FORKLIFT
   c. GENERAL LOAD = 100 PSF
3. WIND, UBC 90 MPH EXPOSURE B.
4. SEISMIC UBC ZONE 3, IMPORTANCE FACTOR 1.25.
5. DESIGN FOR CRANE LOADS AS FOLLOWS:
   a. 10 TON BRIDGE CRANE IN BAY BETWEEN GRID LINES (2) & (3). INCLUDE 42 K DL.
   b. 3 TON JIB CRANES LOCATED ON COLUMNS D-2 & F-2.
   c. 2 TON BARREL MANIPULATOR LOADS BETWEEN GRID LINES (D.2) & (E) & (10) & (11)
   d. DESIGN LOADS TO INCLUDE BRIDGE ON JIB CRANE DEAD LOAD, LIVE LOAD & IMPACT LOADINGS IN CONFORMANCE WITH THE AISC STEEL CONSTRUCTION MANUAL.
   e. FOR CRANE INFORMATION, SEE SPECIFICATIONS.
6. FOUNDATIONS, SEE CH2M HILL SOILS INVESTIGATION, DATED JUNE 1992.
7. FOUNDATION SIZES AT FRAMES ARE DEPENDENT ON FINAL BRACE LOCATIONS. BRACING SHALL BE LOCATED BY THE METAL BUILDING MANUFACTURER, SO THAT FOUNDATIONS AS SHOWN WILL RESIST ALL UPLIFT FORCES.
8. FABRICATED METAL BASE FOR STACK GUYWIRE CONNECTION SHALL BE DESIGNED AND MOUNTED TO COMPLY WITH LATERAL FORCE CALCULATIONS IN THE UBC.

REINFORCING DETAILS

1. THE MINIMUM REINFORCING FOR ALL CONCRETE WALLS AND SLABS SHALL BE AS FOLLOWS:

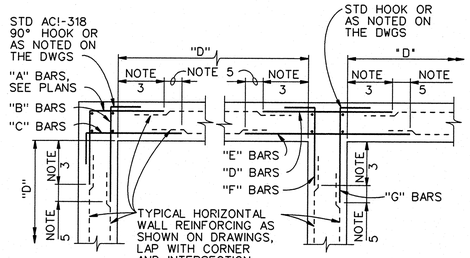
WALL THICKNESS	REINF EACH WAY	LOCATION
6"	#4@12"	CENTERED
8"	#5@12"	CENTERED
10"	#4@12"	EACH FACE
12"*	#5@12"	EACH FACE

   PROVIDE LARGER SIZES AND MORE REINFORCING IN ALL SECTIONS OF CONCRETE WHERE REQUIRED BY THE DETAILS ON THE DRAWINGS OR BY THE SPECIFICATIONS.
2. CLEARANCE FOR REINFORCEMENT BARS, UNLESS SHOWN OTHERWISE, SHALL BE:
   - WHEN PLACED ON GROUND: —— 3"
   - ALL OTHER CONCRETE SURFACES:
     - #5 BAR OR SMALLER —— 1½"
     - #6 BAR OR LARGER —— 2"
3. REFER TO WALL CORNER AND WALL INTERSECTION REINFORCING DETAIL. IN GENERAL, THE WALL CORNER REINFORCING SIZES AND SPACINGS SHALL BE CALLED OUT ON THE PLANS AND REFERENCED TO THESE DETAILS AND THE TYPICAL HORIZONTAL WALL REINFORCING SHALL LAP WITH THE TYPICAL HORIZONTAL REINFORCING.
4. ALL BENDS, UNLESS OTHERWISE SHOWN, SHALL BE A 90 DEGREE STANDARD HOOK AS DEFINED IN LATEST EDITION OF ACI 318.
5. ALL WALL CORNER AND WALL INTERSECTION REINFORCEMENT BARS SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH COLUMNS OR PILASTERS. REINFORCEMENT SHALL BE EXTENDED INTO CONNECTING WALLS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING WALLS, AS INDICATED ELSEWHERE ON THIS SHEET.
6. VERTICAL WALL BARS SHALL BE LAPPED WITH DOWELS FROM BASE SLABS AND EXTENDED INTO THE TOP FACE OF ROOF SLABS AND LAPPED WITH TOP SLAB REINFORCEMENT. PROVIDE A MINIMUM OF TWO FULL HEIGHT VERTICAL BARS WITH MATCHING DOWELS AT WALL ENDS, CORNERS AND INTERSECTIONS WITH SIZE TO MATCH TYPICAL VERTICAL REINFORCING STEEL SHOWN OR REQUIRED BY NOTES ABOVE.
7. UNLESS INDICATED OTHERWISE, CONTRACTOR MAY SPLICE CONTINUOUS SLAB OR LONGITUDINAL BEAM BARS AT LOCATIONS OF HIS CHOOSING, EXCEPT THAT TOP BAR SPLICES SHALL BE LOCATED AT MIDSPAN AND BOTTOM BAR SPLICES SHALL BE LOCATED AT SUPPORTS. ALL REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENT:

DETAIL OF REINFORCEMENT - LAP LENGTHS							
BAR SIZE		#6 OR SMALLER	#7	#8	#9	#10	#11
CONC DESIGN STRENGTH		4000 PSI					
GR 60	TOP BAR *	45 DIA, MIN 2'-0"	3'-8"	4'-9"	6'-0"	7'-8"	9'-6"
	OTHER BAR	32 DIA, MIN 1'-6"	2'-8"	3'-6"	4'-4"	5'-6"	6'-9"

* TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR, IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.

8. CONTINUOUS WATERSTOP AS SPECIFIED SHALL BE INSTALLED IN ALL CONSTRUCTION JOINTS IN WALLS OF WATER HOLDING BASINS AND CHANNELS, EXCEPT WHERE INDICATED OTHERWISE.
9. PROVIDE AND INSTALL SELECT GRANULAR MATERIAL AS SPECIFIED UNDER ALL SLABS AND FOOTINGS TO UNDISTURBED EARTH WITH MINIMUM THICKNESS, EQUAL TO 6", UNLESS OTHERWISE NOTED.
10. INCREASE LAP LENGTHS SHOWN ABOVE FOR NON-COATED BARS BY 25% WHERE BARS ARE SPACED CLOSER THAN 6" O.C. OR LESS THAN 3" FROM FACE OF MEMBER TO EDGE BAR MEASURED IN DIRECTION OF SPACING.



TYPICAL DOUBLE MAT CORNER AND INTERSECTION REINFORCING (30/37)

NTS (SEE PLANS FOR SIZE AND SPACING)

GENERAL STRUCTURAL NOTES

CORNER AND INTERSECTION REINFORCING DETAILS

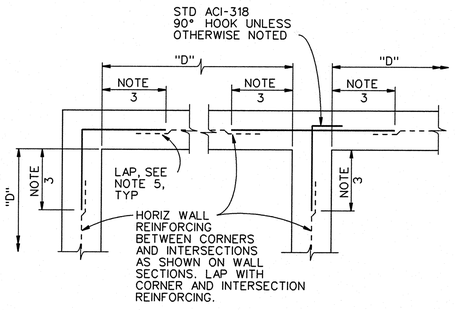
1. TYPICAL HORIZONTAL WALL CORNER AND INTERSECTION REINFORCING LAYOUT IS SHOWN TO AVOID CONGESTION AND PERMIT PROPER PLACEMENT, FOR SIZE AND SPACING SEE PLANS. ALL HORIZONTAL REINFORCING AT CORNERS AND INTERSECTIONS SHALL BE FABRICATED AND INSTALLED WITH SPLICES LOCATED WHERE SHOWN REGARDLESS OF BAR SIZE AND SPACING.
2. WHERE THE CORNER OR INTERSECTION REINFORCING SIZE AND SPACING IS NOT SHOWN, NOTED OR TABULATED ON THE PLANS, THE SIZE AND SPACING SHALL BE THE SAME AS THE WALL HORIZONTAL REINFORCING SHOWN ON THE WALL SECTIONS OR AS NOTED FOR THE REINFORCING BETWEEN THE CORNERS OR INTERSECTIONS.
3. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 3" SHALL BE THE LESSER OF D/4, 10 FEET, OR 1.0 TIMES THE HEIGHT OF THE WALL, EXCEPT THAT IN NO CASE SHALL IT BE LESS THAN 2.0 FEET.
4. D = LENGTH OF WALL PARALLEL TO THE BAR LENGTH IN QUESTION.
5. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 5" SHALL BE EQUAL TO ONE "LAP LENGTH" AS REQUIRED BY THE GENERAL STRUCTURAL NOTES. USE THE LAP LENGTH AS REQUIRED FOR THE SMALLER OF THE TWO REINFORCING BARS BEING SPLICED.
6. UNLESS OTHERWISE NOTED, "B" AND "C" BARS ARE THE SAME SIZE AND SPACING AND, "F" AND "G" BARS ARE THE SAME SIZE AND SPACING, SEE DETAIL (30/36)

STRUCTURAL ABBREVIATIONS

AB	ANCHOR BOLT
AHR	ANCHOR
AL	ALUMINUM
ALTN	ALTERNATE
APVD	APPROVED
BOT	BOTTOM
BF	BOTTOM FACE
BM	BEAM
BRG	BEARING
C TO C	CENTER TO CENTER
CJ	CONSTRUCTION JOINT
℄ CL	CENTER LINE
CLR	CLEARANCE
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CTR	CENTER
DBA	DEFORMED BAR ANCHOR
DIA	DIAMETER
DIR	DIRECTION
DWG	DRAWING
EA	EACH
EF	EACH FACE
EL	ELEVATION
EQL SP	EQUALLY SPACED
EW	EACH WAY
EXP JT	EXPANSION JOINT
EXST	EXISTING
FD	FLOOR DRAIN
FDN	FOUNDATION
FG	FINISHED GRADE
FTG	FOOTING
GALV	GALVANIZE (HOT DIP)
GVL	GRAVEL
HAS.	HEADED ANCHOR STUD
HDR	HEADER
HORIZ	HORIZONTAL
IF.	INSIDE FACE
LNTL	LINTEL
LONG.	LONGITUDINAL
MAX	MAXIMUM
MB	MACHINE BOLTS
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OF	OUTSIDE FACE
O TO O	OUT TO OUT
OPNG	OPENING
PJF	PREMOLDED JOINT FILLER
PLYWD	PLYWOOD
PRCST	PRECAST
P	PILASTER
RC	REINFORCED CONCRETE
REINF	REINFORCE
RST	REINFORCING STEEL
SIM	SIMILIAR
SPECS	SPECIFICATIONS
SQ	SQUARE
STD	STANDARD
STIF	STIFFENER
STL	STEEL
STR	STRAIGHT
STRUCT	STRUCTURES
SYMM	SYMMETRICAL
T&B	TOP AND BOTTOM
TC	TOP OF CONCRETE
TF	TOP FACE
THK	THICK
TRANSV	TRANSVERSE
TST	TOP OF STEEL
TW	TOP OF WALL
TYP	TYPICAL
VERT	VERTICAL
WS	WATERSTOP OR WATER SURFACE
WWF	WELDED WIRE FABRIC

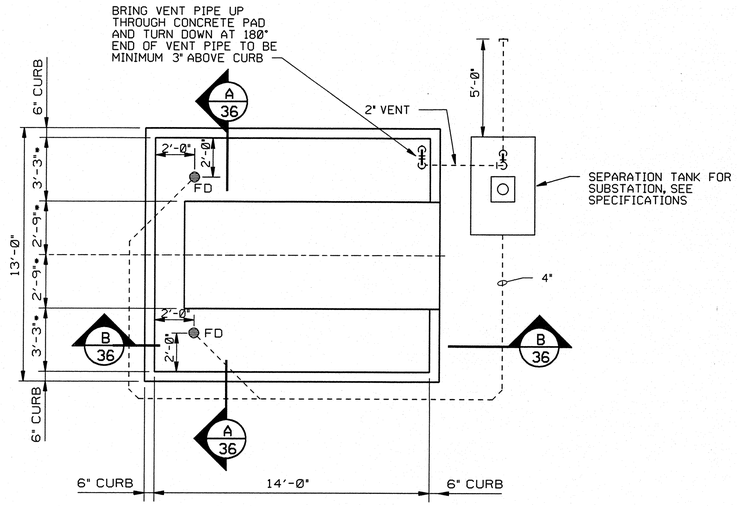
NOTE:

FOR ABBREVIATIONS NOT LISTED, SEE "ABBREVIATIONS FOR USE ON DRAWINGS AND TEXT", PUBLISHED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE INC. (ANSI)



TYPICAL SINGLE MAT CORNER AND INTERSECTION REINFORCING (31/37)

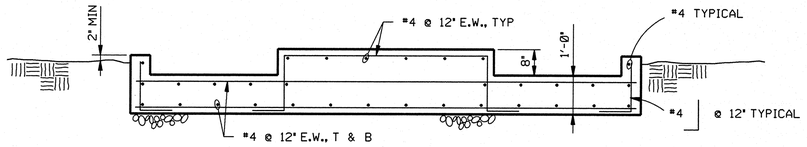
NTS



NOTE:
DIMENSIONS MARKED WITH (*) ARE ESTIMATED
VERIFY ACTUAL DIMENSIONS WITH ELECTRICAL EQUIPMENT MANUFACTURER.

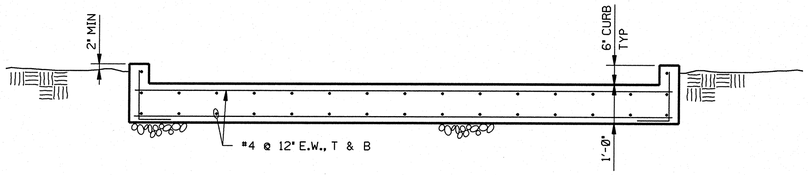
PLAN - UNIT SUBSTATIONS

¼" = 1'-0"



SECTION (A-A/36)

½"=1'-0"



SECTION (B-B/36)

½"=1'-0"

SUSAN M. FREY — STATE OF WASHINGTON — 0026808 — REGISTERED PROFESSIONAL ENGINEER

EXPIRES 11-23-93

NO.	C		BY	DATE	APPROVED
PL-6 M2C.106		COMPUTER REVISION ONLY			

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design HH MEJDELL
Drawn TR WILSON
Chkd SM FREY
Sub
Rec J. Fernando Rubio
Rec W.A. Fahel
Appr Walter Schlenker
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY STRUCTURAL GENERAL NOTES AND DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
172946	FDG	A1	36	0

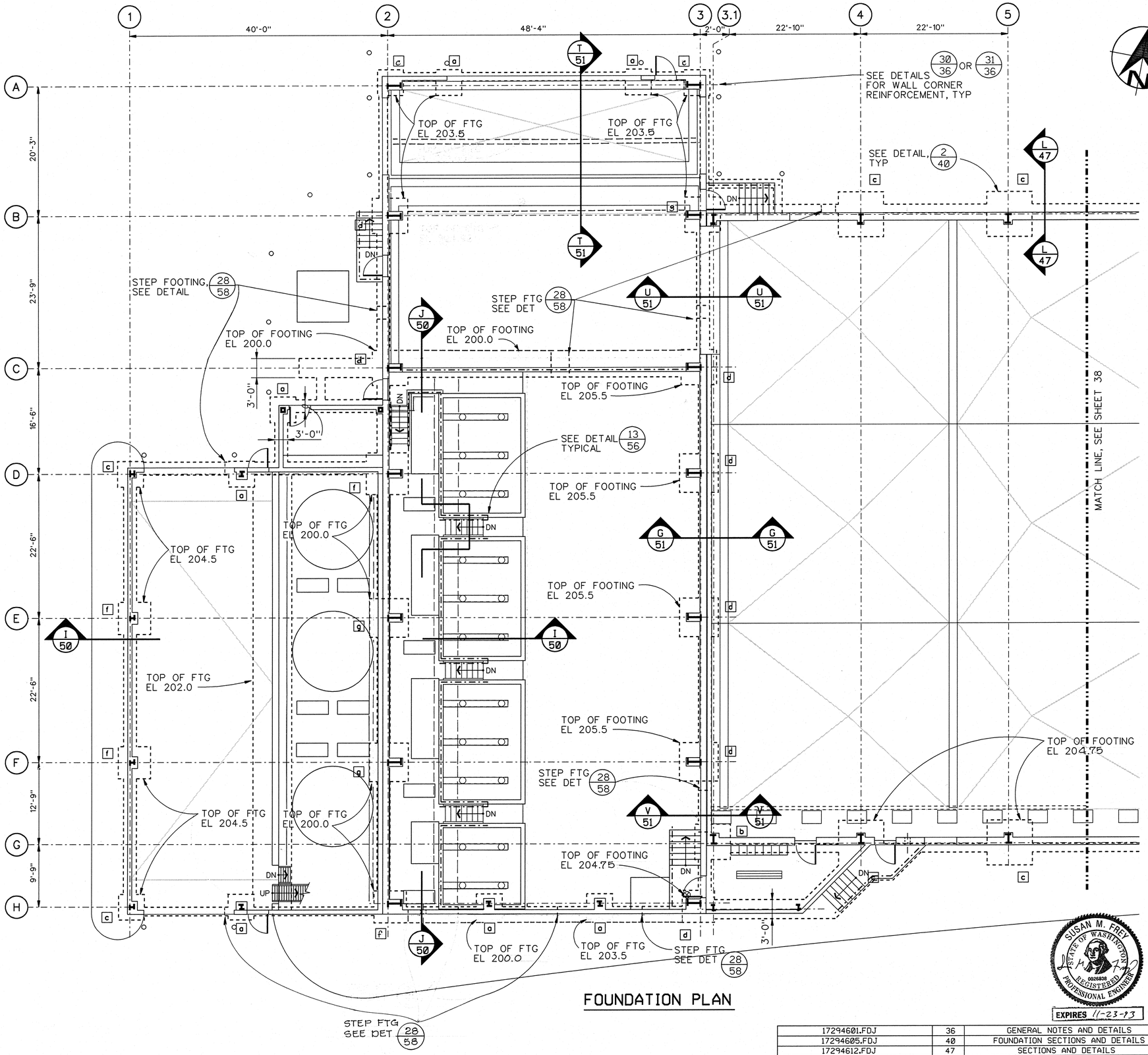
DRAWING NUMBER	SHEET	TITLE
17294602.FDJ	37	FOUNDATION PLAN -AREA A

REFERENCE DRAWINGS

PLOT DATE: 07-07-92 FILE NAME: 17294601.FDJ

36

CH2M HILL
CORVALLIS, OREGON



NOTES:

1. SEE FOOTING DETAILS, SHEET 40.
2. TOP OF FOOTING ELEVATION 207.0 UNLESS OTHERWISE NOTED.
3. FOUNDATION DESIGN MAY CHANGE BECAUSE OF BUILDING MANUFACTURERS DESIGN. THE CONTRACTOR SHALL COORDINATE AND CONSTRUCT BUILDING DESIGN AND FOUNDATION AT NO ADDITIONAL COST TO B.P.A.
4. [o] INDICATES FOOTING MARK, SEE SHEET 40 FOR SCHEDULE & DETAILS.

FOUNDATION PLAN

SCALE 1/8" = 1'-0" 0 4 8 12 16 20FT

DRAWING NUMBER	SHEET	TITLE
17294601.FDJ	36	GENERAL NOTES AND DETAILS
17294605.FDJ	40	FOUNDATION SECTIONS AND DETAILS
17294612.FDJ	47	SECTIONS AND DETAILS
17294615.FDJ	50	SECTIONS AND DETAILS
17294616.FDJ	51	SECTIONS AND DETAILS
17294621.FDJ	56	DETAILS
17294623.FDJ	58	DETAILS

REFERENCE DRAWINGS

SUSAN M. FREY STATE OF WASHINGTON 0026808 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 11-23-93

NO.	C	PL-6 M2C106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design HH MEFDELL
Drawn TR WILSON
Chkd SM FREY
Sub
Rec J. Bernardo Rubio
Rec W.O. Babel
Appr Walter C. Schenck
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

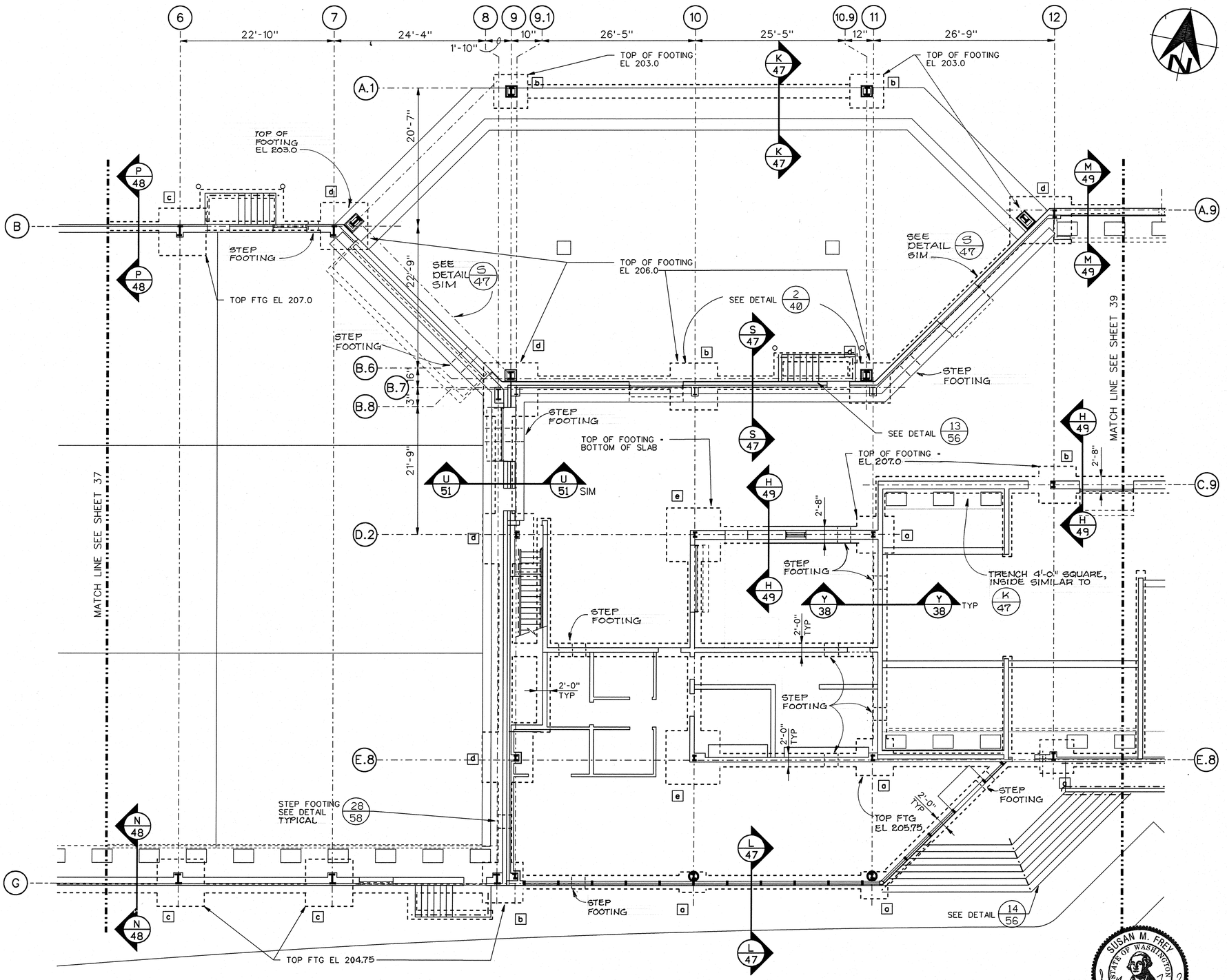
H&TMH FACILITY STRUCTURAL FOUNDATION PLAN - AREA A

SERIAL	SOURCE	SIZE	SHEET	REVISION
172946	FDG	A1	37	0

PLOT DATE: 07-07-92 FILE NAME: 17294602.FDJ

37

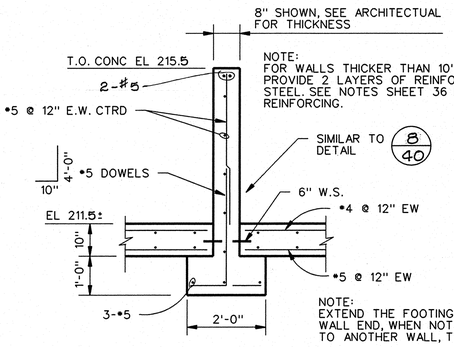
CH2M HILL
CORVALLIS, OREGON



NOTES:

1. SEE FOOTING DETAILS, SHEET 40.
2. TOP OF FOOTING ELEVATION 207.0 UNLESS OTHERWISE NOTED.
3. FOUNDATION DESIGN MAY CHANGE BECAUSE OF BUILDING MANUFACTURERS DESIGN. THE CONTRACTOR SHALL COORDINATE AND CONSTRUCT BUILDING DESIGN AND FOUNDATION
4. [a] NO ADDITIONAL COST TO B.P.A.

[a] INDICATES FOOTING MARK, SEE SHEET 40 FOR SCHEDULE & DETAILS.



NOTE:
FOR WALLS THICKER THAN 10", PROVIDE 2 LAYERS OF REINFORCING STEEL. SEE NOTES SHEET 36 FOR REINFORCING.

NOTE:
EXTEND THE FOOTING 4" BEYOND WALL END, WHEN NOT CONNECTING TO ANOTHER WALL, TYP

NOTE:
TOP FOOTING ELEVATION 210.17, TYPICAL UNLESS OTHERWISE NOTED

SECTION Y-Y 38/39
½" = 1'-0"

FOUNDATION PLAN

SCALE 1/8" = 1'-0" 0 4 8 12 16 20FT

SUSAN M. FREY
STATE OF WASHINGTON
0026838
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 11-23-93

REFERENCE DRAWINGS

DRAWING NUMBER	SHEET	TITLE
17294601.FDJ	36	GENERAL NOTES AND DETAILS
17294604.FDJ	39	FDN PLAN - AREA C AND DETAILS
17294605.FDJ	40	FOUNDATION SECTIONS AND DETAILS
17294612.FDJ	47	SECTIONS AND DETAILS
17294613.FDJ	48	SECTIONS AND DETAILS
17294614.FDJ	49	SECTIONS AND DETAILS
17294616.FDJ	51	SECTIONS AND DETAILS
17294621.FDJ	56	DETAILS
17294623.FDJ	58	DETAILS

NO.	C	PL-6 MZC106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design HH MEJDELL
Drawn TR WILSON
Chkd SM FREY
Sub
Rec J. Bernardo Rubio
Rec W. A. Stabel
Appr Walter C. Schroeder
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

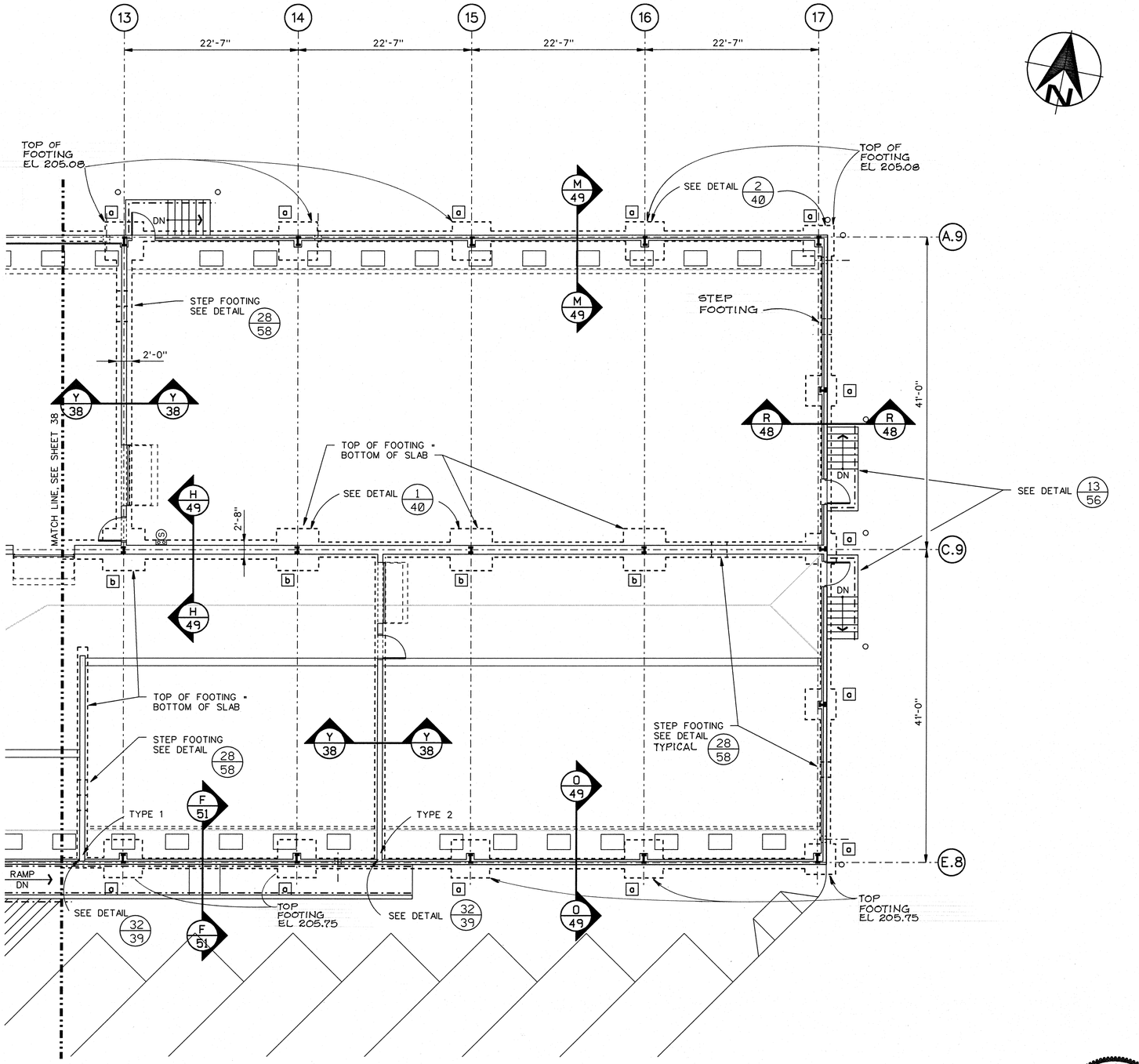
H&TMH FACILITY STRUCTURAL FOUNDATION PLAN - AREA B AND DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
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PLOT DATE: 07-07-92
FILE NAME: 17294603.FDJ

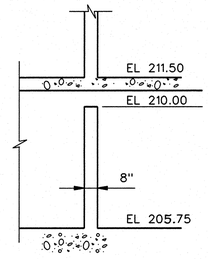
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CH2M HILL
CORVALLIS, OREGON

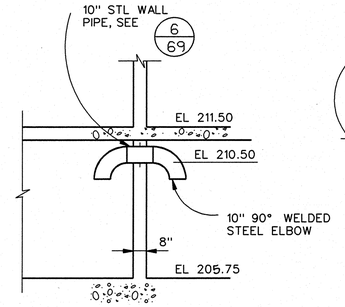


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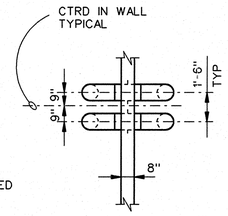
1. SEE FOOTING DETAILS, SHEET 40.
2. TOP OF FOOTING ELEVATION 207.0 UNLESS OTHERWISE NOTED.
3. FOUNDATION DESIGN MAY CHANGE BECAUSE OF BUILDING MANUFACTURER'S DESIGN. THE CONTRACTOR SHALL COORDINATE AND CONSTRUCT BUILDING DESIGN AND FOUNDATION AT NO ADDITIONAL COST TO B.P.A.
4. [o] INDICATES FOOTING MARK, SEE SHEET 40 FOR SCHEDULE AND DETAILS



TYPE 1



TYPE 2 ELEVATION



TYPE 2 PLAN

DETAIL 32/39 43, 44
½" = 1'-0"

FOUNDATION PLAN

SCALE 1/8" = 1'-0" 0 4 8 12 16 20FT

SUSAN M. FREY
STATE OF WASHINGTON
0026838
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 11-23-93

REFERENCE DRAWINGS		
17294603.FDJ	38	FDN PLAN - AREA B AND DETAILS
17294605.FDJ	40	FOUNDATION SECTIONS AND DETAILS
17294607.FDJ	43	FLOOR SLAB - AREA B
17294608.FDJ	44	FLOOR SLAB PLAN - AREA C & DETS
17294613.FDJ	48	SECTIONS AND DETAILS
17294614.FDJ	49	SECTIONS AND DETAILS
17294616.FDJ	51	SECTIONS AND DETAILS
17294621.FDJ	56	DETAILS
17294623.FDJ	58	DETAILS
DRAWING NUMBER	SHEET	TITLE

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C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

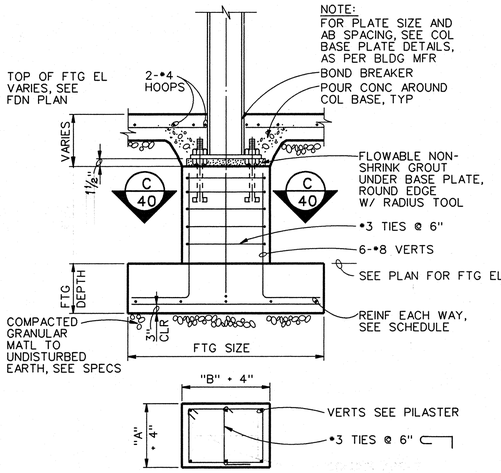
Design HH MEJDELL
Drawn TR WILSON
Chkd SM FREY
Sub
Rec J. Bernardo Rubio
Rec W.O. Nobel
Appr Walter C. Schwab
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY
STRUCTURAL
FOUNDATION PLAN - AREA C AND DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
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PLOT DATE: 07-07-92 FILE NAME: 17294604.FDJ



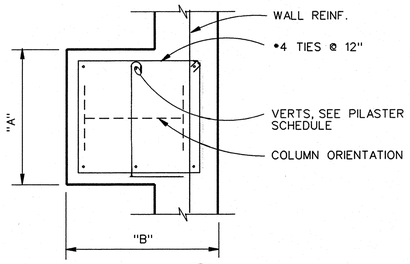
SECTION C-C 40

TYPICAL COLUMN FTG 1

NTS

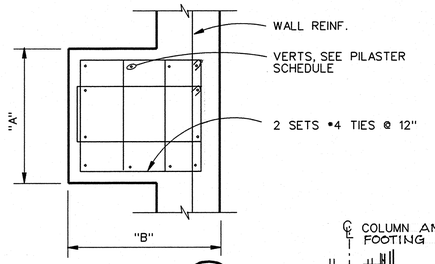
COLUMN FOOTING SCHEDULE				
FOOTING TYPE	FOOTING SIZE (SQ)	FOOTING DEPTH	REINFORCING (EACH WAY)	CAPACITY KIPS
a	5'-0"	12"	6-•6	50
b	6'-0"	12"	6-•7	72
c	7'-0"	14"	6-•8	98
d	8'-6"	18"	8-•8	145
e	9'-0"	19"	7-•9	162
f	10'-0"	21"	9-•9	200
g	12'-0"	25"	10-•10	288

PILASTER SCHEDULE					
COLUMN MARK	DIMENSIONS "A"	DIMENSIONS "B"	VERTICAL REINFORCING ABOVE PL	VERTICAL REINFORCING BELOW PL	ELEVATION TOP PIER
D-1, H-1	18.5"	16"	6-•6	6-•6	215.5
E-1, F-1	12"	16"	6-•6	6-•6	215.5
D-1.5, H-1.5	12"	16"	6-•6	6-•6	215.5
A-2, H-2	26"	34"	6-•8	10-•8	207.0
C.1-1.6	16"	12"	6-•6	6-•6	215.5
B-2 THRU F-2	16"	34"	6-•8	10-•8	215.5
A-3, H-3	26"	36"	6-•8	10-•8	215.5
B-3 THRU F-3	16"	36"	6-•8	10-•8	215.5
B.3-1, G.3-1	12"	22"	6-•7	8-•7	215.5
B-4THRU B-7, G-4 THRU G-7	12"	22"	6-•7	8-•7	215.5
B.8-8, G-8	26"	24"	6-•8	10-•8	215.5
B.8-9, B.8-10 B.8-11	12"	20"	6-•6	6-•6	215.5
F.9-9, F.9-10 F.9-11	12"	23"	---	6-•6	210.5
D.2-9, D.2-10, D.2-11, E.8-9, E.8-10, E.8-11	12"	16"	---	6-•6	210.5
A.9-7.1, A.1-8.9, B.6-8.9, A.1-10.9, B.6-10.9, A.9-11.9	20"	20"	8-•7	8-•7	214.5
F.9-8, F.9-10 F.9-11	12"	20"	---	6-•6	210.5
A.9-12 THRU A.9-16, E.8-12 THRU E.8-16	18"	18½"	6-•6	6-•6	214.5
C.9-12 THRU C.9-16	12"	14"	---	6-•6	210.5
B.6-17, C.9-17 AND E.2-17	12"	20½"	6-•6	6-•6	210.5



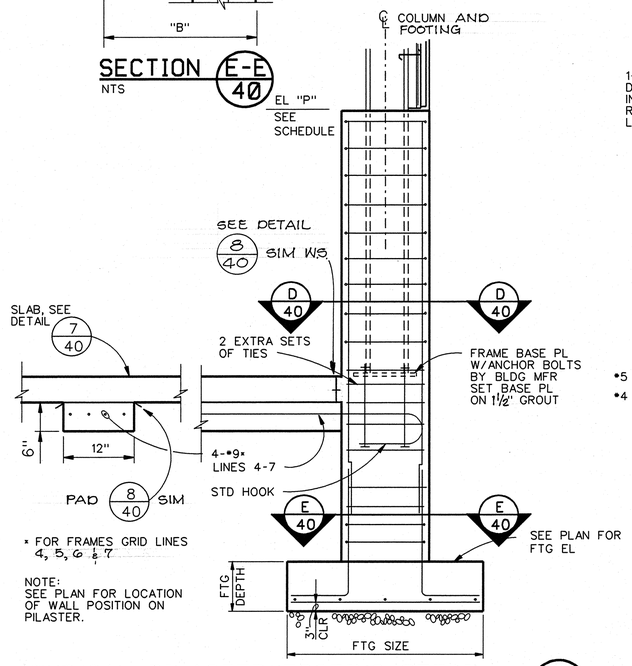
SECTION D-D 40

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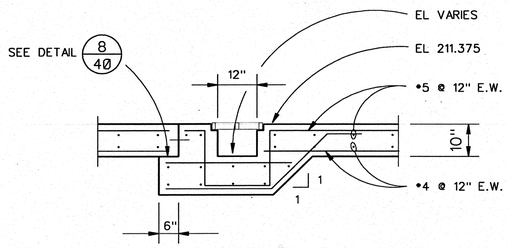
SECTION E-E 40

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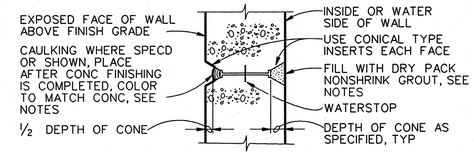
TYPICAL PILASTER/FOOTING DETAIL 2

NTS



DETAIL 34 42

½" = 1'-0"

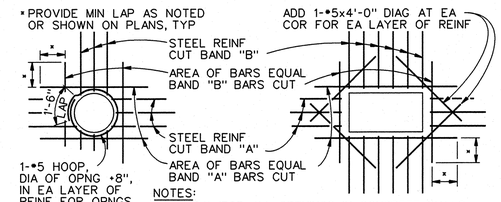


NOTES:

1. FOR FORM TIE HOLES ON OUTSIDE FACE OF WALL BELOW GRADE, FILL WITH NONSHRINK GROUT, (DRY PACK)
2. THE SPACING OF FORM TIES ON EXPOSED PORTIONS OF WALLS SHALL BE APPROXIMATELY EQUAL HORIZONTALLY AND VERTICALLY AND SHALL BE UNIFORM IN EACH DIRECTION.
3. WHERE CAULKING IS NOT SPECIFIED OR SHOWN, DRY PACK EXTERIOR TIE HOLES WITH NONSHRINK GROUT WITH COLOR OF GROUT TO MATCH COLOR OF CONCRETE AS CLOSE AS POSSIBLE.
4. DRY PACK METHOD SHALL BE AS SPECIFIED USING STEEL TOOLS.

FORM SNAP-TIE HOLE 5

NTS

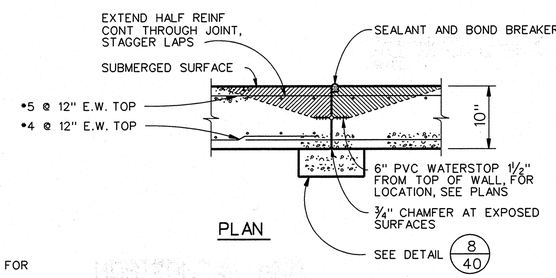


NOTES:

1. TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS UNLESS INDICATED OTHERWISE ON PLANS.
2. DO NOT WELD REINFORCEMENT TO PIPE SLEEVES AND INSERTS.

OPENING REINFORCING 6

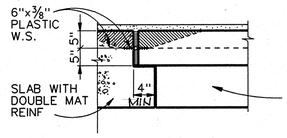
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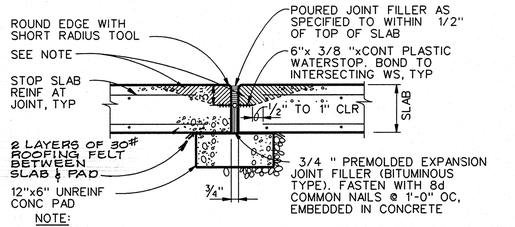
PLAN

SLAB CONSTRUCTION JOINT 7

NTS



SINGLE/DOUBLE MAT SLAB EXPANSION JOINT INTERSECTION

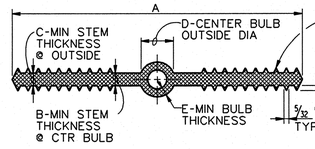


NOTE:
PLACE CONCRETE UNDER THE WATERSTOP & VERIFY THERE ARE NO VOIDS PRIOR TO PLACING CONCRETE OVER THE TOP OF THE WATERSTOP.

SLAB WITH SINGLE/DOUBLE MAT REINFORCING

BASE SLAB EXPANSION JOINT 8

NTS



SIZE	A	B	C	D	E	F
6"x⅜"	6"	⅜"	⅜"	⅞"	¼"	6

NOTES:

1. MATERIAL QUALITY PER SPECIFICATIONS.
2. DIM REQUIREMENTS INDICATED SHOULD BE GIVEN TO SUPPLIERS PRIOR TO PLACING ORDERS.
3. NON-ROUND CENTER BULBS SHALL HAVE A MIN OUTSIDE DIM OF 'D'.

PLASTIC WATERSTOP 9

NTS

SUSAN M. FREY
STATE OF WASHINGTON
16026838
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 11-23-93

DRAWING NUMBER	SHEET	TITLE

REFERENCE DRAWINGS

NO.	C	PL-6 M2C106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design HH MEJDELL
Drawn TR WILSON
Chkd SM FREY
Sub
Rec J. Bernardo Rubio
Rec W.A. Abel
Appr Walter Clebsch
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY STRUCTURAL FOUNDATION SECTIONS AND DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
172946	FDG	A1	40	0

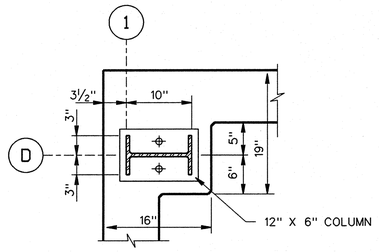
CH2M HILL
CORVALLIS, OREGON

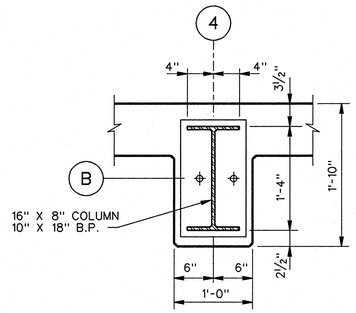
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PLOT DATE: 07-07-92

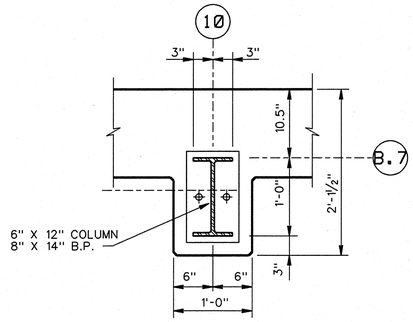
CH2M HILL
CORVALLIS, OREGON

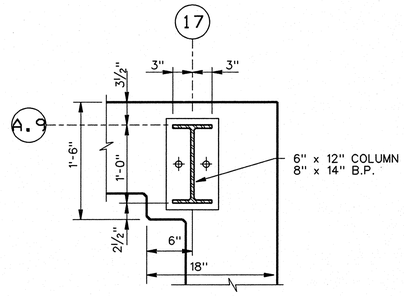
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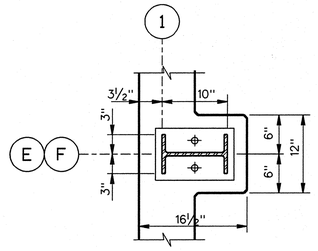
1. ALL ANCHOR BOLTS BY BUILDING MANUFACTURER. MINIMUM REQUIRED, 2-¾"x12" ANCHOR BOLTS.
2. FOR PILATSER DETAILS, SEE (2/40)
3. COLUMN SIZES SHOWN ARE ESTIMATES OBTAINED FROM A BUILDING MANUFACTURER AND SHOULD BE USED IN THE DESIGN IF AT ALL POSSIBLE. A SMALL MORE ECONOMICAL SIZE MAY BE USED.
4. BASE PLATES ARE SHOW 2" LARGER THAN THE COLUMN SIZES.

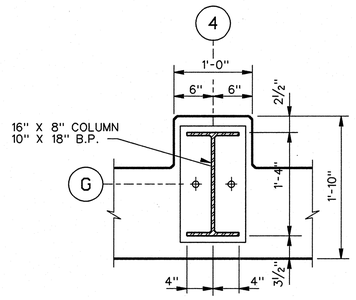


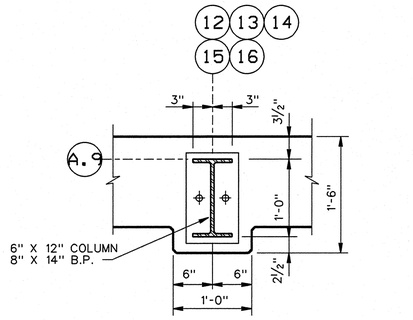


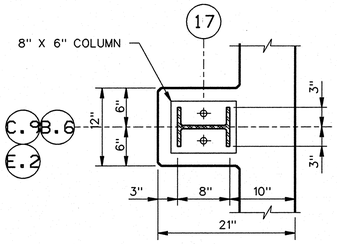


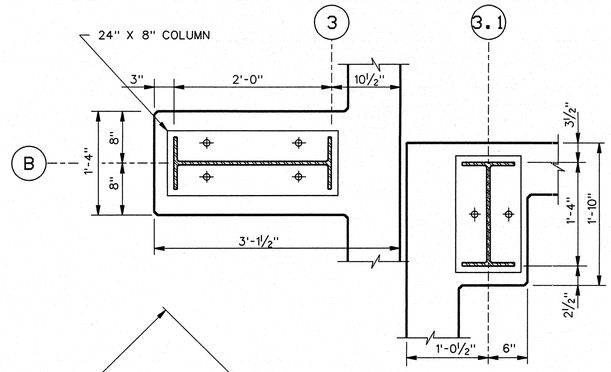


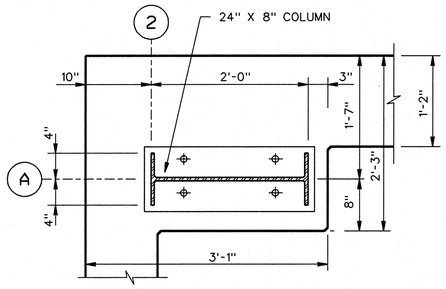


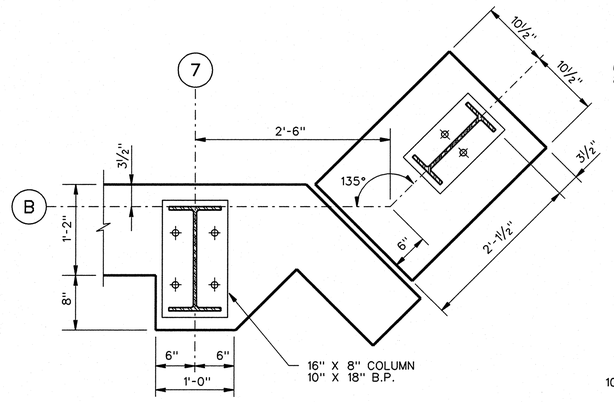


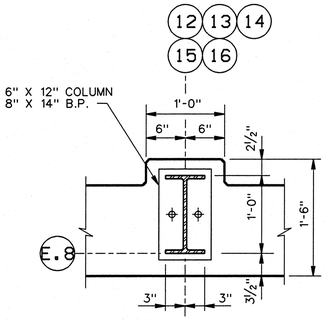


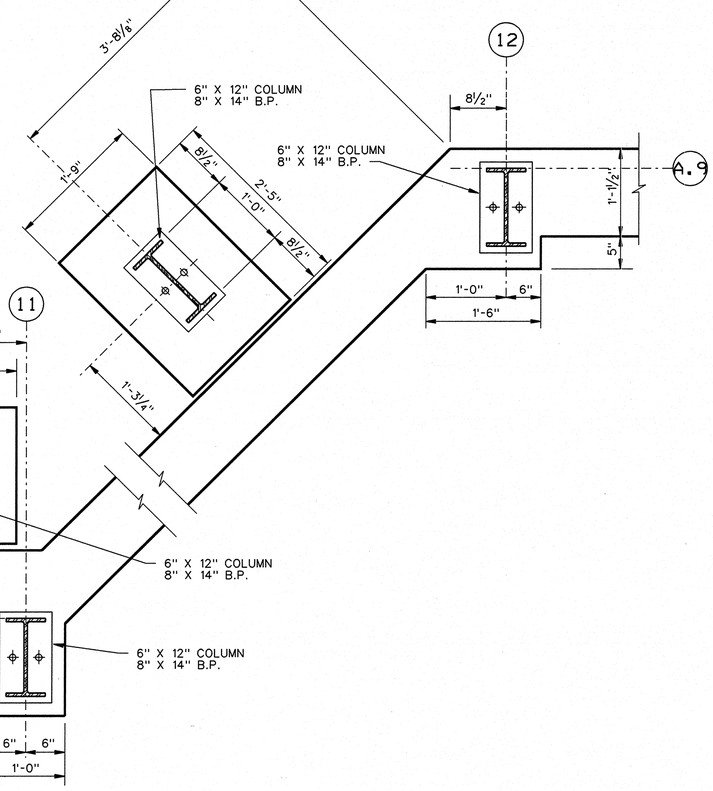


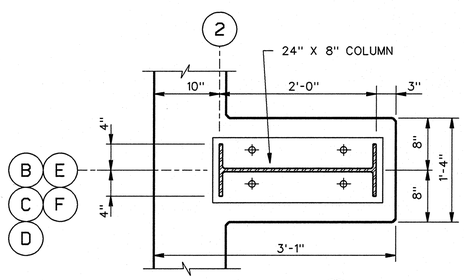


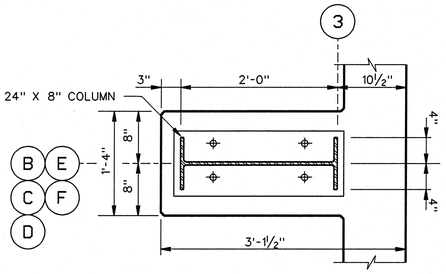


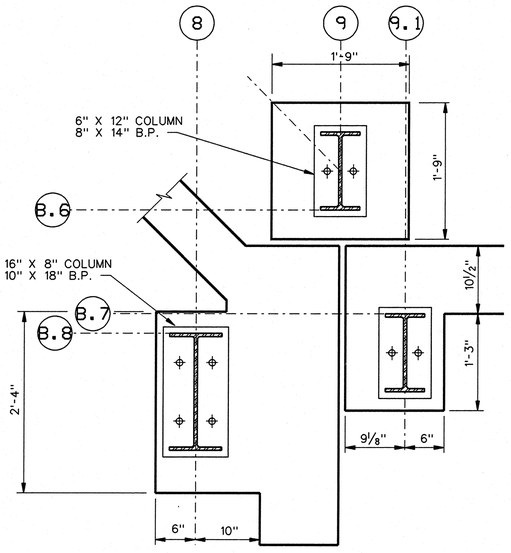


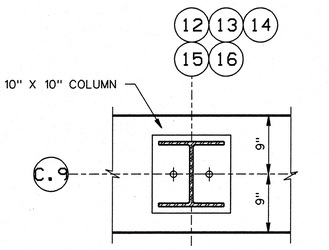












SUSAN M. FREY
STATE OF WASHINGTON
0026808
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 11-23-93

NO.	C.	PL-6 M2C1006	COMPUTER REVISION ONLY	BY	DATE	APPROVED
C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD						

Design HH MEJDELL
Drawn DL MONK
Chkd SM FREY
Sub
Rec J. Bernardo Rubio
Rec W.O. Rebal
Appr Walter C. Edwards
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY STRUCTURAL PILASTER DETAILS

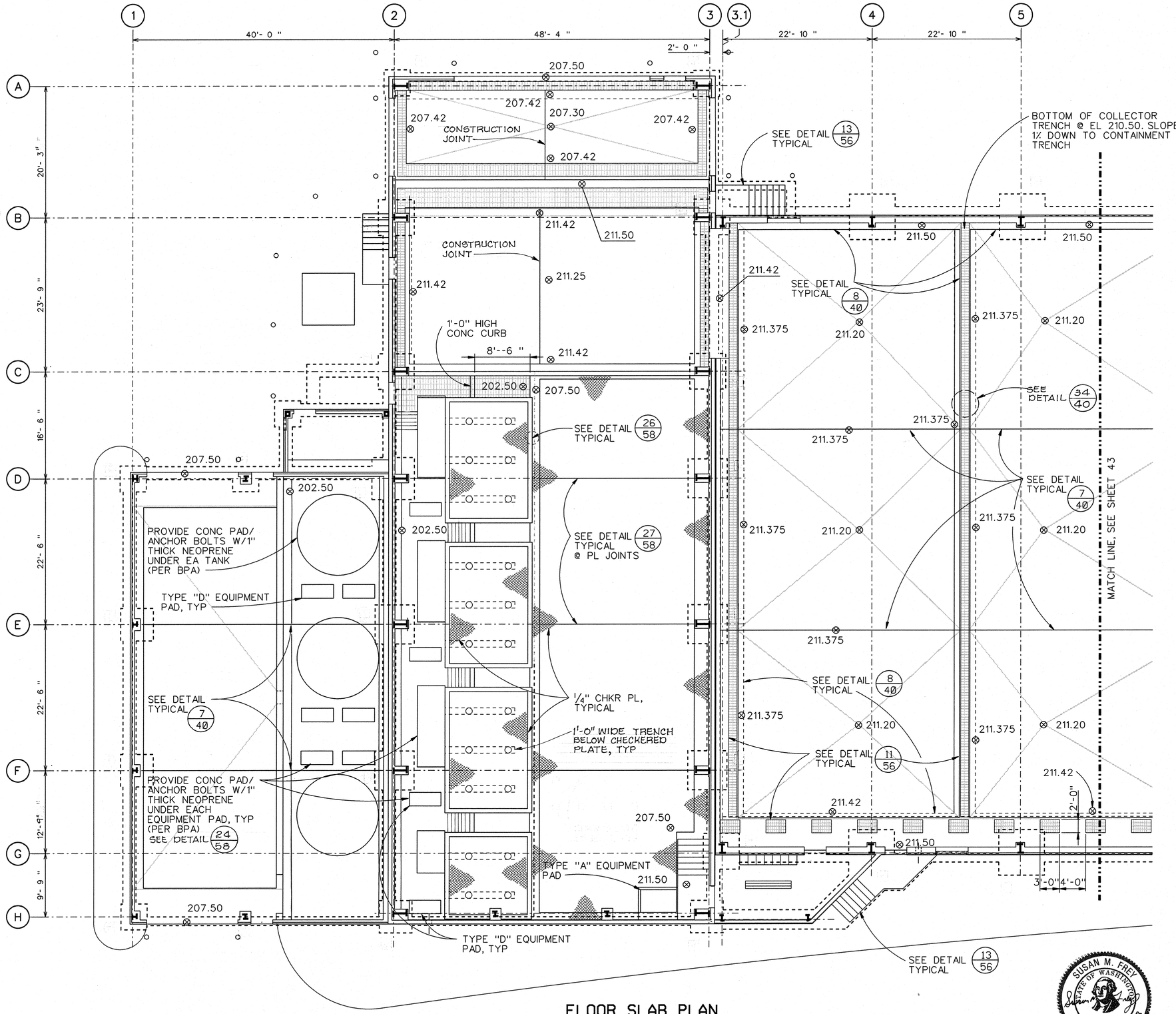
SERIAL	SOURCE	SIZE	SHEET	REVISION
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17294605.FDJ	40	FOUNDATION SECTIONS AND DETAILS
DRAWING NUMBER	SHEET	TITLE

REFERENCE DRAWINGS

PLOT DATE: 07-07-92 FILE NAME: 1729461I.FDJ

CH2M HILL
CORVALLIS, OREGON



FLOOR SLAB PLAN

SCALE 1/8" = 1'-0" 0 4 8 12 16 20FT

SUSAN M. FREY STATE OF WASHINGTON 0026806 REGISTERED PROFESSIONAL ENGINEER

EXPIRES 11-23-93

REFERENCE DRAWINGS		
17294605.FDJ	40	FOUNDATION SECTIONS AND DETAILS
17294621.FDJ	56	DETAILS
17294623.FDJ	58	DETAILS
DRAWING NUMBER	SHEET	TITLE

NO.	C	PL-6 M2C106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design HH MEJDELL
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Appr Walter C. Edwards
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

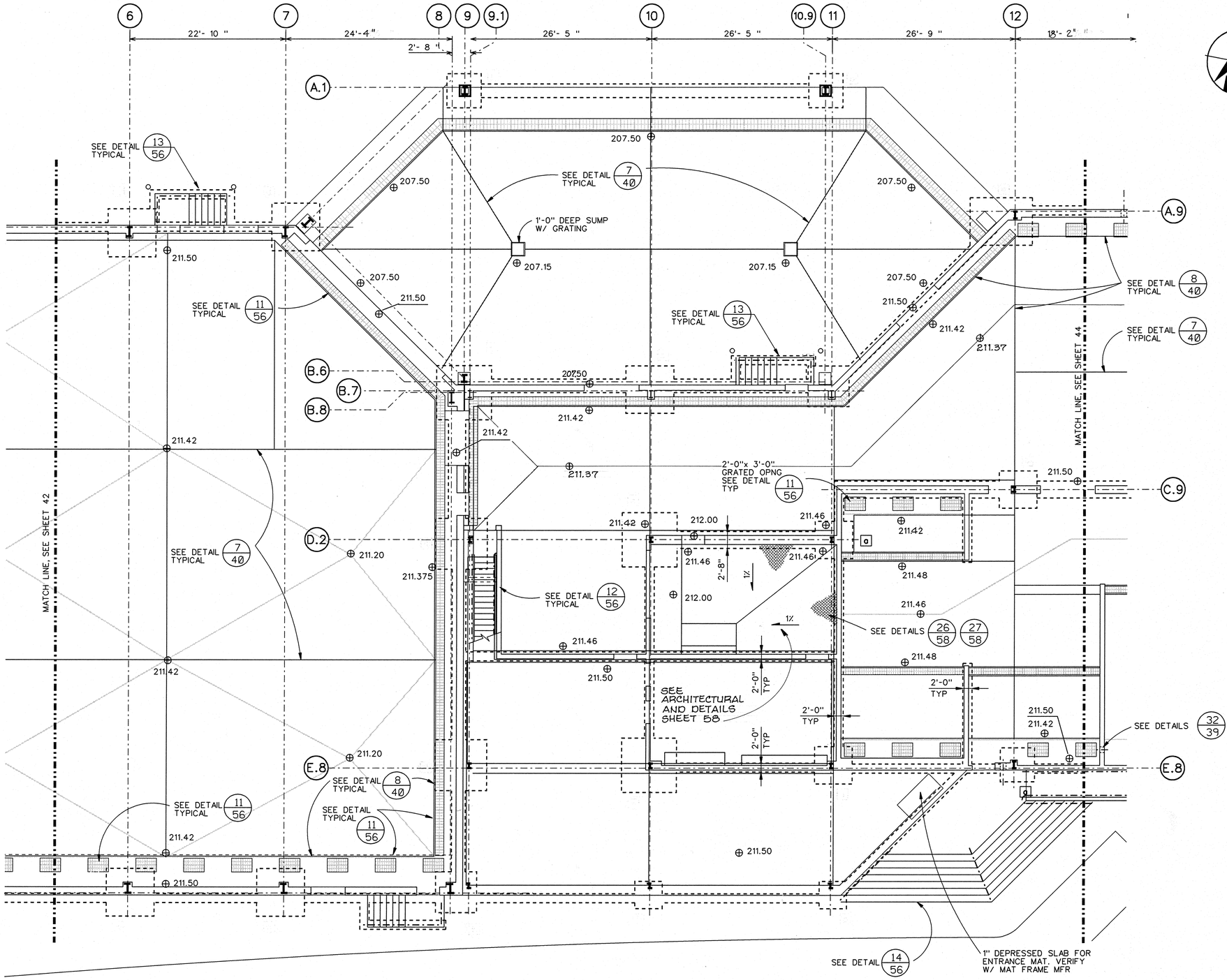
H&TMH FACILITY STRUCTURAL FLOOR SLAB PLAN - AREA A

SERIAL	SOURCE	SIZE	SHEET	REVISION
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FILE NAME: 17294606.DGN
PLOT DATE: 07-07-92

42

CH2M HILL
CORVALLIS, OREGON



FLOOR SLAB PLAN

SCALE 1/8" = 1'-0" 0 4 8 12 16 20FT

DRAWING NUMBER	SHEET	TITLE
17294604.FDJ	39	FOUNDATION PLAN - AREA C & DETS
17294605.FDJ	40	FOUNDATION SECTIONS AND DETAILS
17294621.FDJ	56	DETAILS
17294623.FDJ	58	DETAILS

REFERENCE DRAWINGS

SUSAN M. FREY
STATE OF WASHINGTON
9026838
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 11-23-93

NO.	C.	PL-6 M2C106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design HH MEJDELL
Drawn TR WILSON
Chkd SM FREY
Sub
Rec J. Bernardo Rubio
Rec W.A. Habel
Appr Walter C Schmidt
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY STRUCTURAL FLOOR SLAB PLAN - AREA B

SERIAL	SOURCE	SIZE	SHEET	REVISION
172946	FDG	A1	43	0

PLOT DATE: 07-07-92
FILE NAME: 17294607.FDJ

CHM HILL
CORVALLIS, OREGON

HVAC ROOM DESIGN LOAD NOTES:

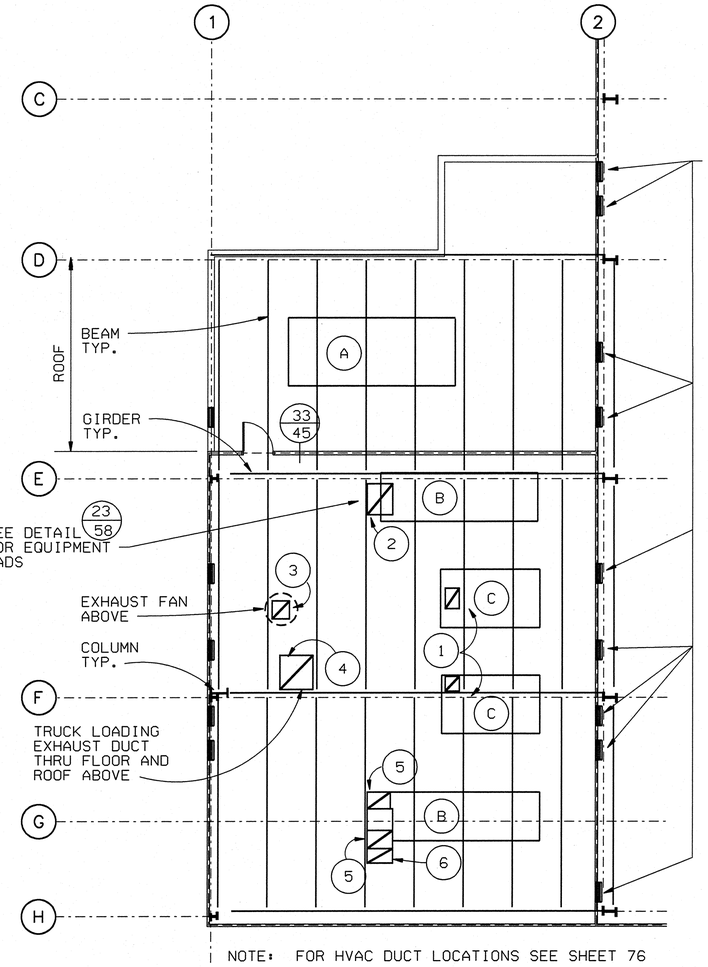
1. SEE MECHANICAL DRAWINGS.
2. DESIGN HVAC ROOM FLOORS FOR STRUCTURAL DEAD LOADS, 15PSF SUPERIMPOSED DEAD LOADS, EQUIPMENT WEIGHT, EQUIPMENT CONCRETE PADS AND 100 PSF LIVE LOAD ON AREAS NOT OCCUPIED BY THE EQUIPMENT.
3. DESIGN ROOF FOR STRUCTURAL DEAD LOADS, 15 PSF SUPERIMPOSED DEADLOAD, EQUIPMENT WEIGHT, EQUIPMENT CONCRETE PADS WEIGHT, AND 25 PSF SNOW LOAD INCLUDING DRIFTING EFFECT.
4. EQUIPMENT WEIGHT AND 6" COCRETE PADS ARE AS FOLLOWS:

(A)	EQUIPMENT WT.	6000LBS
	6" CONC. PAD	11,500LBS
(B)	EQUIPMENT WT.	4500LBS
	6" CONC. PAD	9000LBS
(C)	EQUIPMENT WT.	2700LBS
	6" CONC. PAD	5800LBS
(D)	EQUIPMENT WT.	3600LBS
	6" CONC. PAD	8000LBS
(E)	EQUIPMENT WT.	3250LBS
	6" CONC. PAD	7400LBS
(F)	EQUIPMENT WT.	2000LBS
	6" CONC. PAD	5000LBS
(G)	EQUIPMENT WT.	2250LBS
	6" CONC. PAD	5000LBS

5. ROOF OPENINGS ARE AS FOLLOWS:
FLOOR OPENINGS INDICATED AS NOTED.

(1) 24"X 30"
(2) 40"X 52"
(3) 26"X 26"
(4) 46"X 49" + FLOOR OPENING
(5) 40"X 28"
(6) 40"X 24"
(7) 52"X 32"
(8) 56"X 33" + FLOOR OPENING
(9) 28"X 22" + FLOOR OPENING
(10) 26"X 23" + FLOOR OPENING
(11) 26"X 20"
(12) 28"X 23" + FLOOR OPENING
(13) 42"X 21" + FLOOR OPENING
(14) 44"X 38"
(15) 52"X 28"

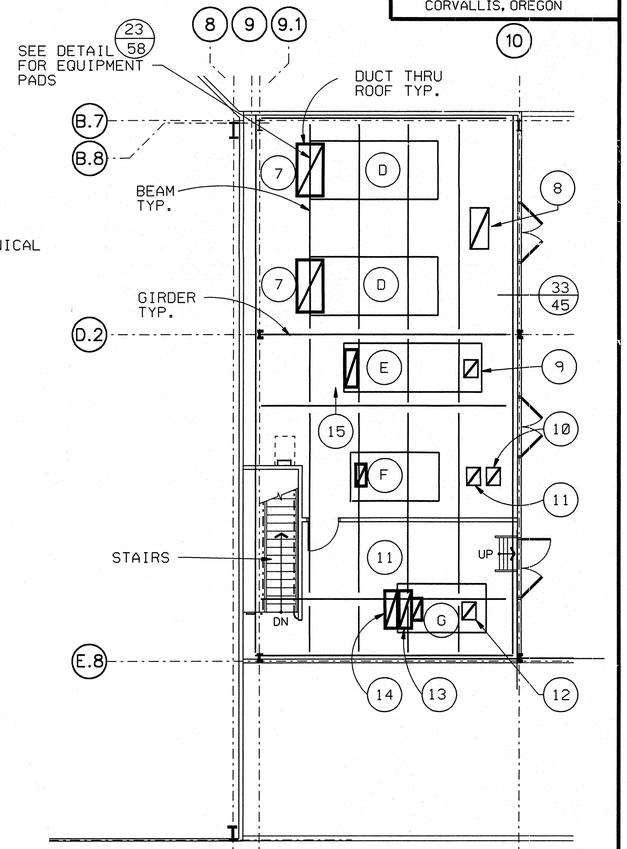
NOTE:
PROVIDE ADDITIONAL FRAMING AROUND OPENINGS TO SUPPORT DECKING.



NOTE: FOR HVAC DUCT LOCATIONS SEE SHEET 76

MECHANICAL ROOM 201 FLOOR FRAMING PLAN: FINISHED FLOOR EL 227.50

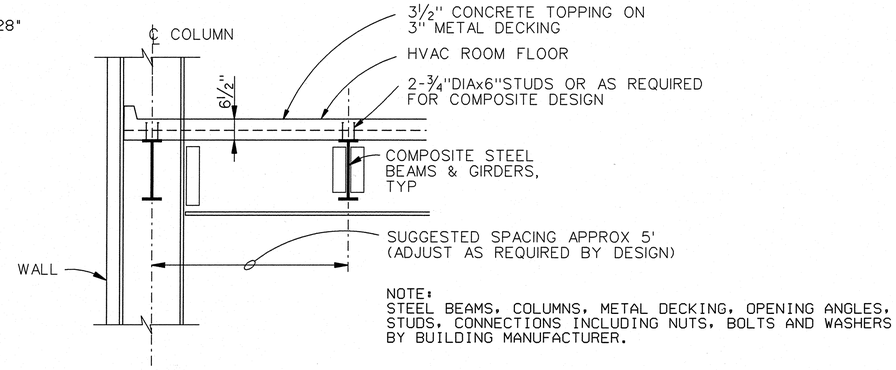
1/8"=1'-0"



NOTE: FOR HVAC DUCT LOCATIONS SEE SHEET 77

MECHANICAL ROOM 200 FLOOR FRAMING PLAN: FINISHED FLOOR EL 228.42

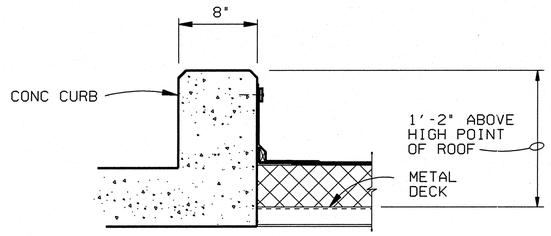
1/8"=1'-0"



NOTE:
STEEL BEAMS, COLUMNS, METAL DECKING, OPENING ANGLES, STUDS, CONNECTIONS INCLUDING NUTS, BOLTS AND WASHERS BY BUILDING MANUFACTURER.

TYPICAL FRAMING SECTION

NTS



CURB DETAIL (33/45)

NTS

SUSAN M. FREY
STATE OF WASHINGTON
0026838
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 1-23-93

NO.	C.		BY	DATE	APPROVED
	PL-6 M2C106	COMPUTER REVISION ONLY			

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design HH MEJDELL
Drawn AG OLSON
Chkd SM FREY
Sub
Rec Bernardo Rubio
Rec W.A. Isabel
Appr Walter C. Edwards
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY STRUCTURAL ROOM FRAMING PLANS SECTIONS AND DETAILS

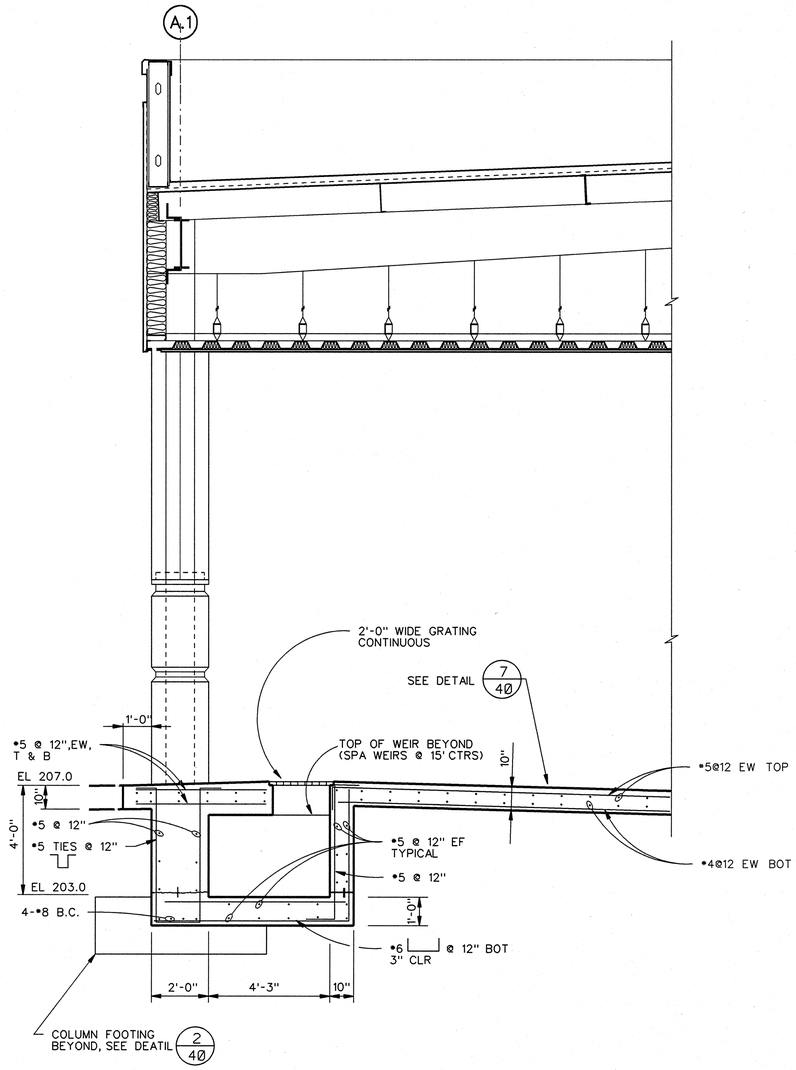
SERIAL	SOURCE	SIZE	SHEET	REVISION
172946	FDG	A1	45	0

17294623.FDJ	58	DETAILS
DRAWING NUMBER	SHEET	TITLE

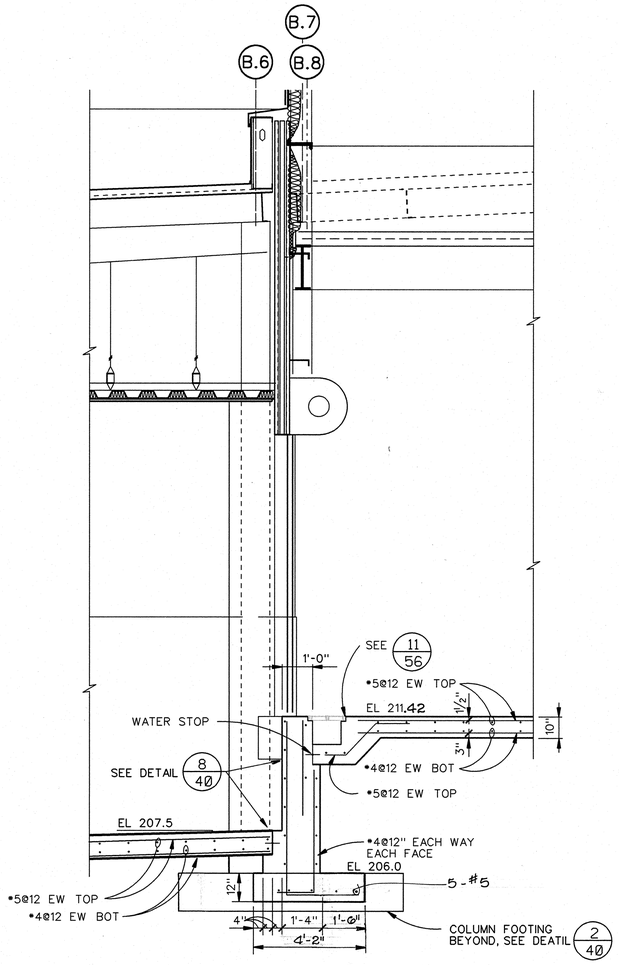
REFERENCE DRAWINGS

PLOT DATE: 07-07-92 FILE NAME: 17294609.FDJ

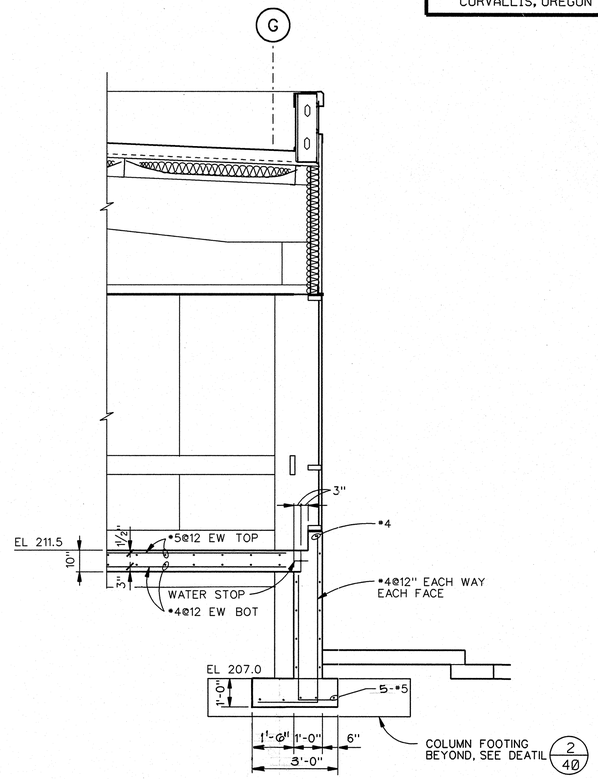
CH2M HILL
CORVALLIS, OREGON



SECTION K-K
3/8" - 1'-0"



SECTION S-S
3/8" - 1'-0"



SECTION L-L
3/8" - 1'-0"
38 37

SUSAN M. FREY
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

EXPIRES 11-23-93

NO.	C.		BY	DATE	APPROVED
PL-6 M2C1066		COMPUTER REVISION ONLY			

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design HH MEJDELL
Drawn RA BEYER
Chkd SM FREY
Sub
Rec J. Bernardo Rubio
Rec W.O. Bobel
Appr Walter C. Schroder
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY STRUCTURAL SECTIONS AND DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
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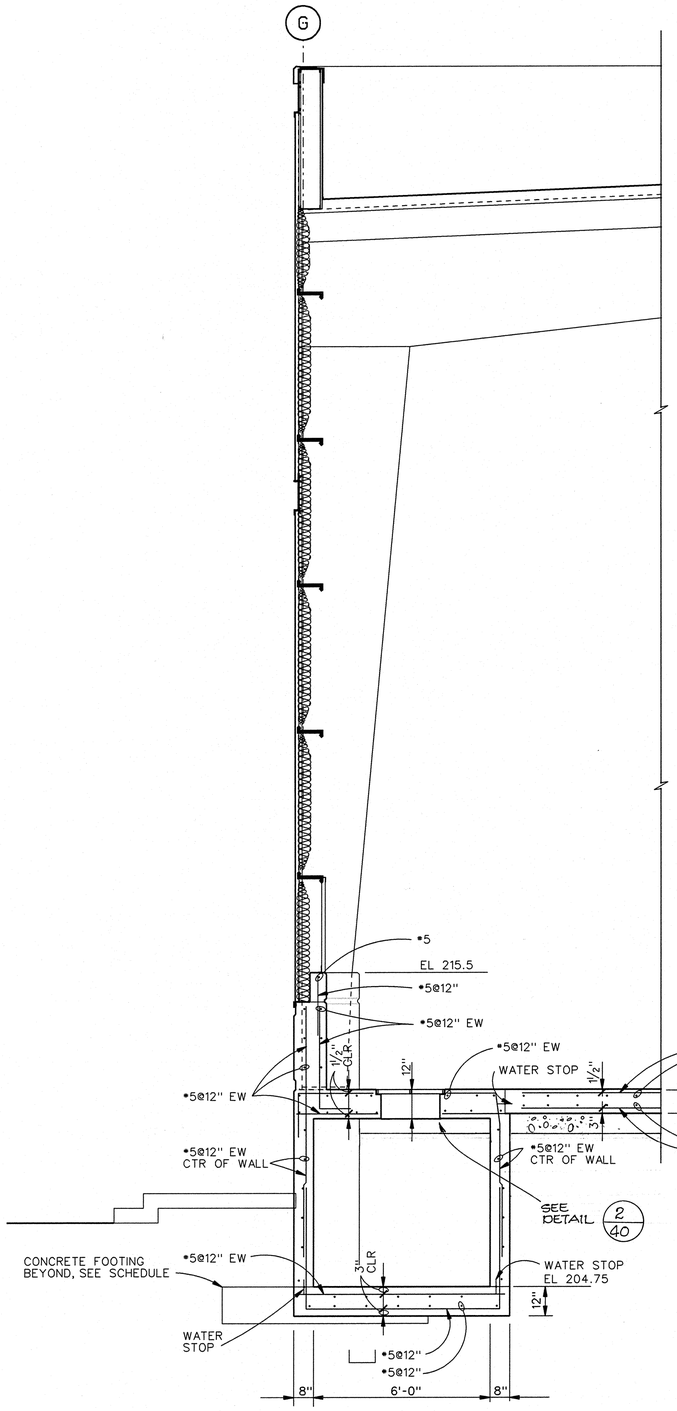
REFERENCE DRAWINGS

DRAWING NUMBER	SHEET	TITLE
17294602.FDJ	37	FOUNDATION PLAN - AREA A
17294603.FDJ	38	FOUNDATION PLAN - AREA B & DETS
17294605.FDJ	40	FOUNDATION SECTIONS AND DETAILS
17294621.FDJ	56	DETAILS

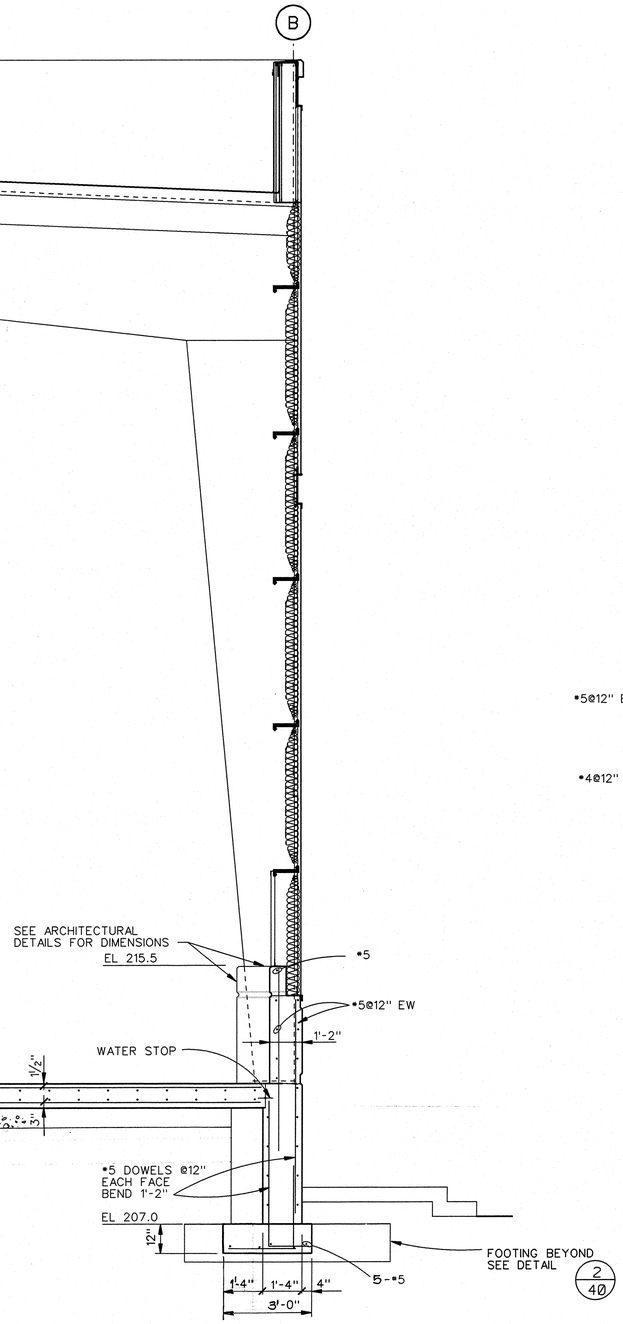
PLOT DATE: 07-07-92
FILE NAME: 17294612.FDJ

46

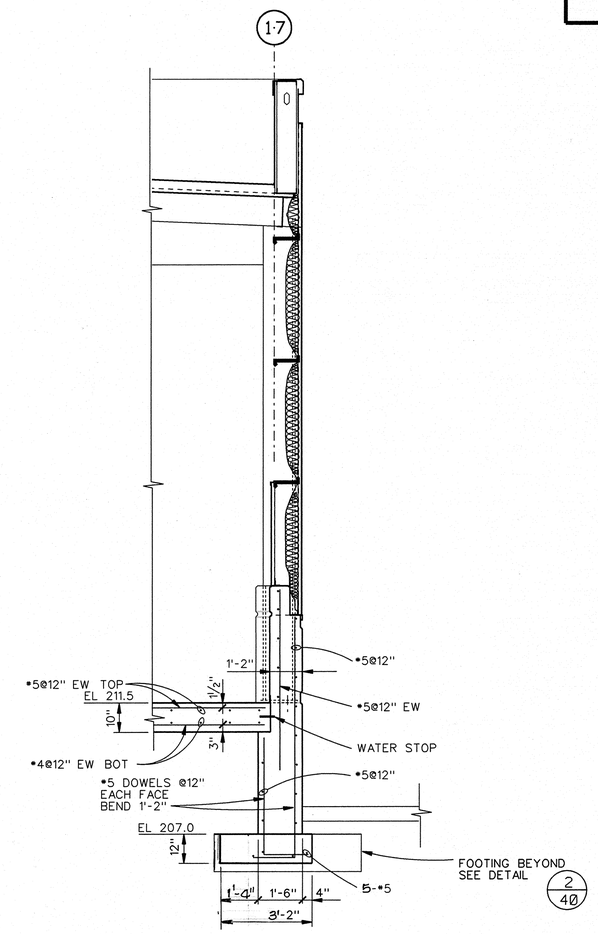
CH2M HILL
CORVALLIS, OREGON



SECTION N-N 38
3/8" = 1'-0"



SECTION P-P 38
3/8" = 1'-0"



SECTION R-R 39
3/8" = 1'-0"

SUSAN M. FREY
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0026838
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EXPIRES 11-23-93

NO.	C	PL-6 M2C106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design HH MEJDELL
Drawn DL MONK
Chkd SM FREY
Sub
Rec Bernardo Rubio
Rec W.A. Robel
Appr Walter C. Schmeltz
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

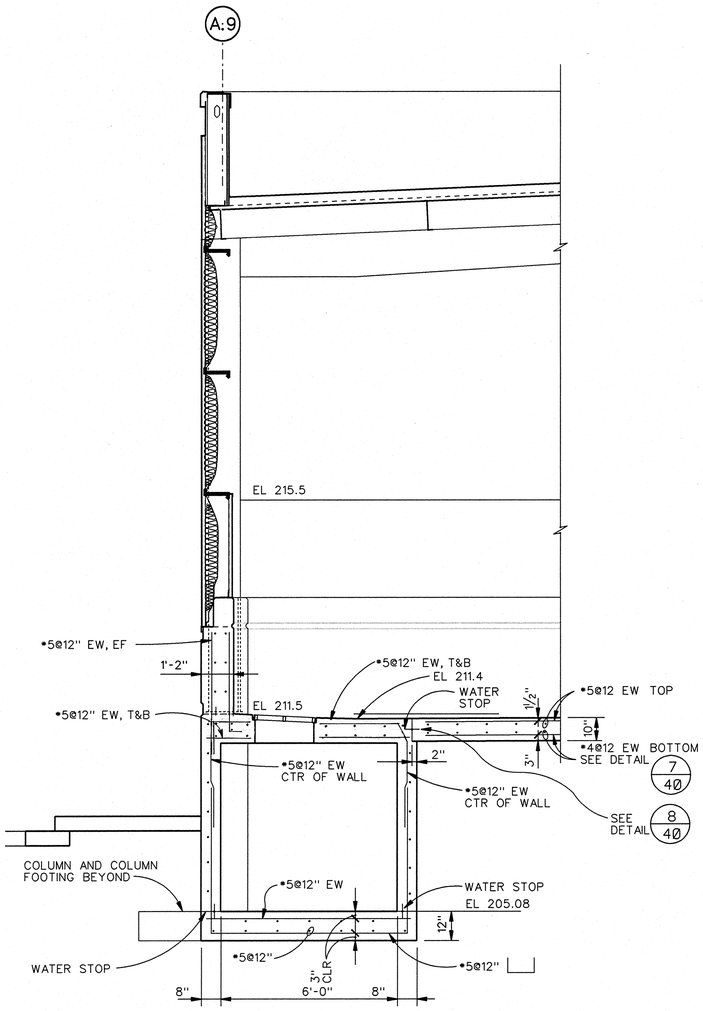
H&TMH FACILITY STRUCTURAL SECTIONS AND DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
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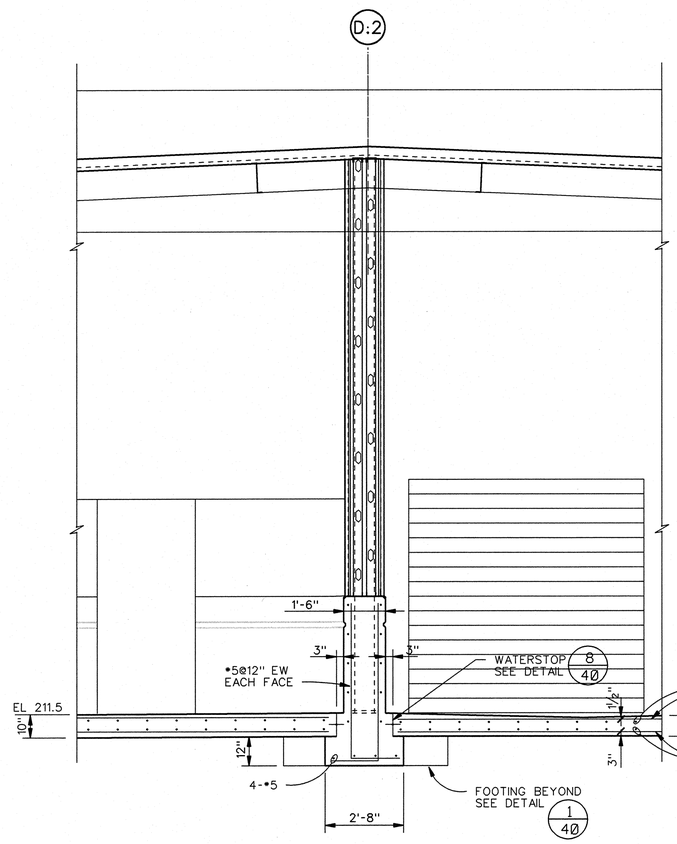
REFERENCE DRAWINGS

DRAWING NUMBER	SHEET	TITLE
17294603.FDJ	38	FOUNDATION PLAN - AREA B & DETS
17294604.FDJ	39	FOUNDATION PLAN - AREA C & DETS
17294605.FDJ	40	PILASTER DETAILS

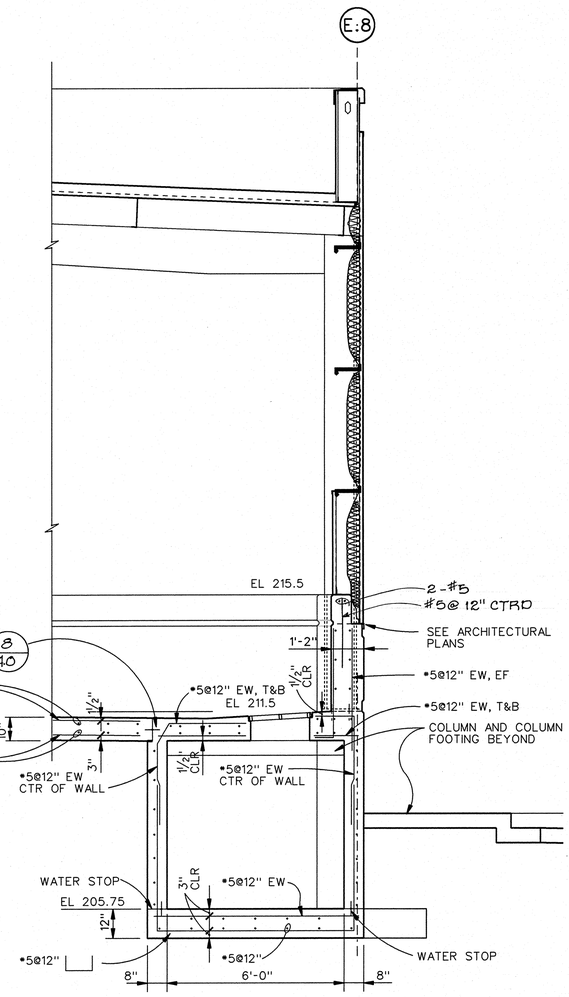
FILE NAME: 17294613.FDJ
PLOT DATE: 07-07-92



SECTION M-M 38
⅜" = 1'-0"



SECTION H-H 38
⅜" = 1'-0"



SECTION O-O 39
⅜" = 1'-0"

17294603.FDJ	38	FOUNDATION PLAN - AREA B & DETS
17294604.FDJ	39	FOUNDATION PLAN - AREA C & DETS
17294605.FDJ	40	FOUNDATION SECTIONS AND DETAILS
DRAWING NUMBER	SHEET	TITLE

REFERENCE DRAWINGS

SUSAN M. FREY
STATE OF WASHINGTON
0026808
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES 11-23-93

NO.	C	PL-6 M2C106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design HH MEJDELL
Drawn DL MONK
Chkd SM FREY
Sub
Rec J. Bernardo Julio
Rec W.A. Abel
Appr Walter C. Schenk
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

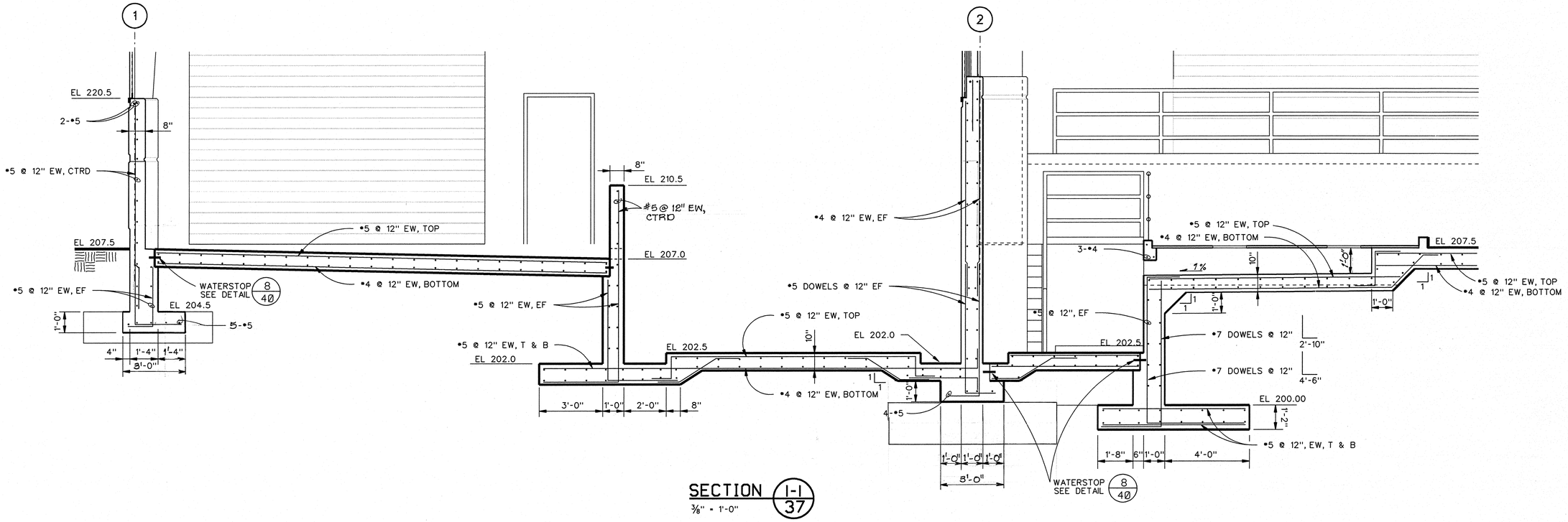
H&TMH FACILITY STRUCTURAL SECTIONS AND DETAILS

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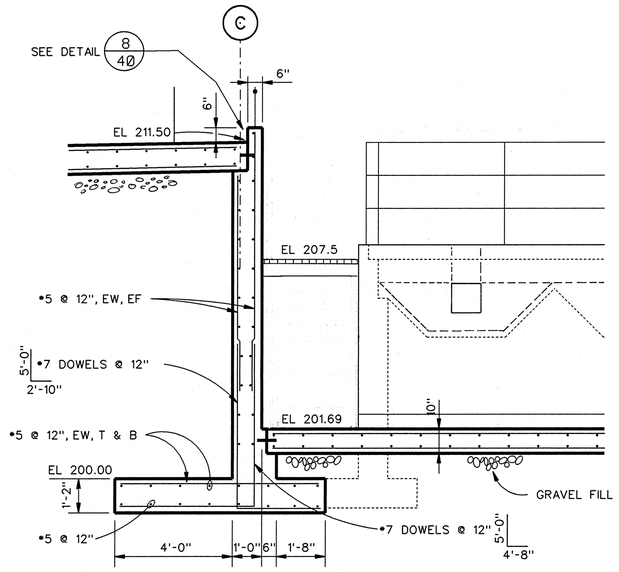
CH2M HILL
CORVALLIS, OREGON

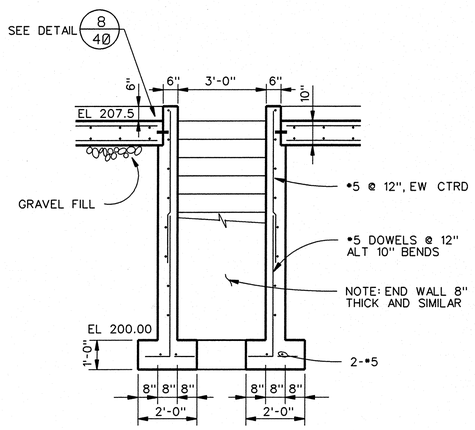
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PLOT DATE: 07-07-92

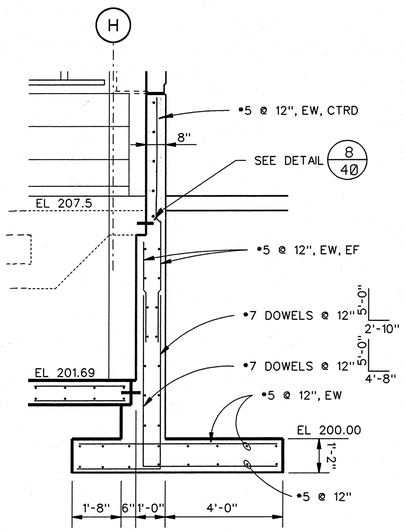
48



SECTION 1-1 / 37
3/8" = 1'-0"







SECTION J-J / 37
3/8" = 1'-0"

SUSAN M. FREY
STATE OF WASHINGTON
9026608
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PROFESSIONAL ENGINEER
EXPIRES 11-23-93

17294602.FDJ	37	FOUNDATION PLAN - AREA A
17294605.FDJ	40	FOUNDATION SECTIONS AND DETAILS
DRAWING NUMBER	SHEET	TITLE

REFERENCE DRAWINGS

NO.	C	PL-6 M2C106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

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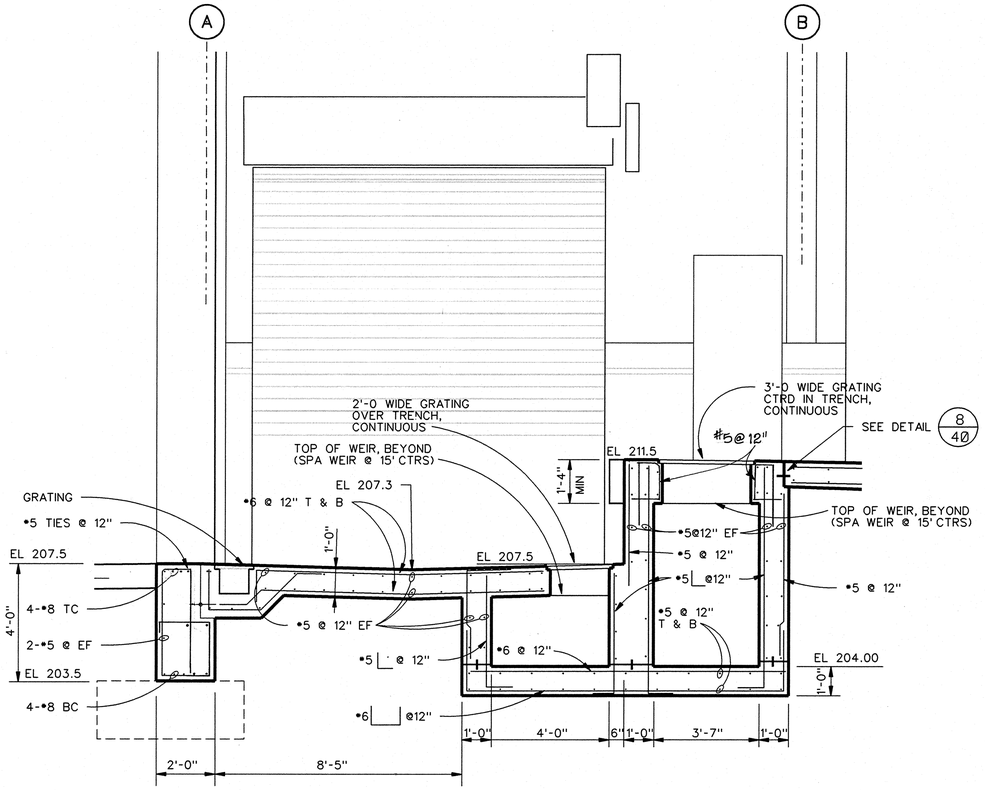
Design HH MEJDELL
Drawn DL MONK
Chkd SM FREY
Sub
Rec J. Bernardo Rubio
Rec W.O. Abdal
Appr Walter C. Schroeder
Date 7-10-92

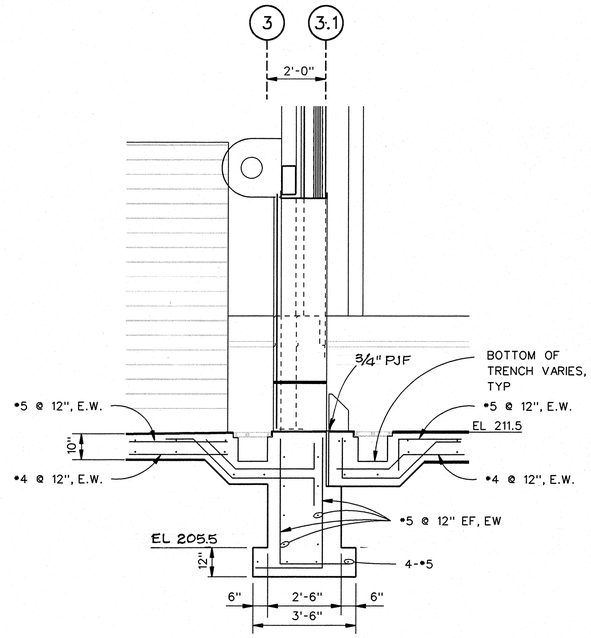
UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY STRUCTURAL SECTIONS AND DETAILS

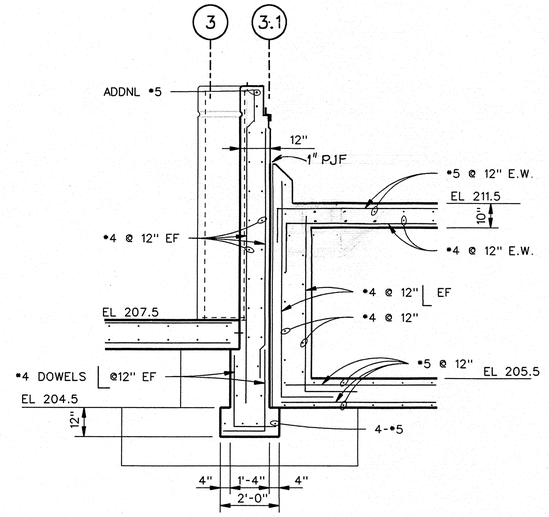
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172946	FDG	A1	50	0

PLOT DATE: 07-07-92 FILE NAME: 17294615.FDJ



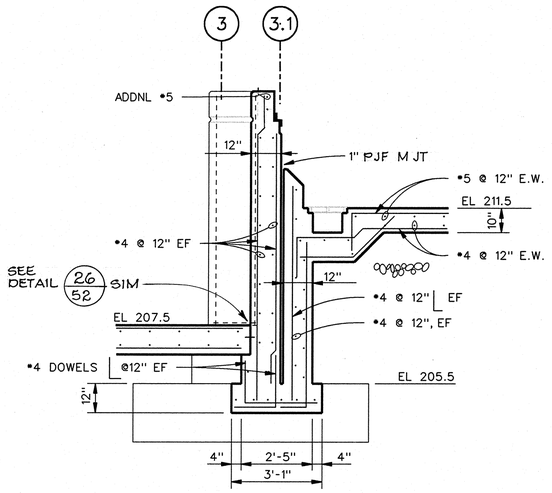


SECTION U-U
3/8" - 1'-0"
37 38

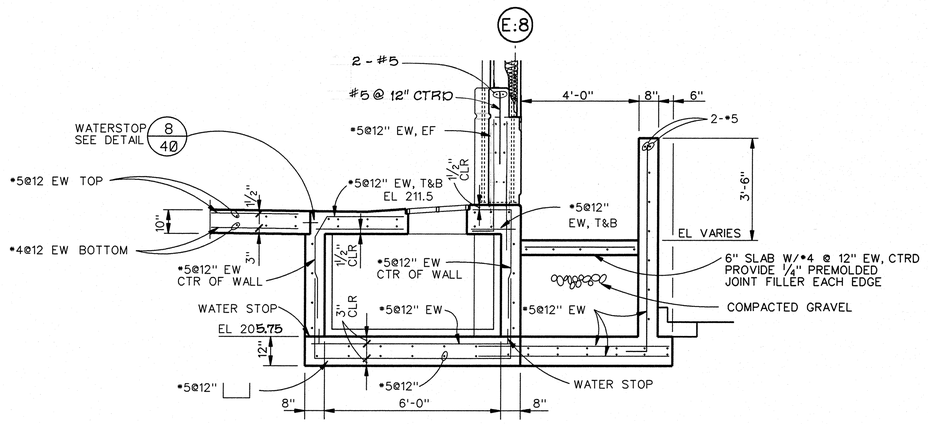


SECTION V-V
3/8" - 1'-0"
37

SECTION T-T
3/8" - 1'-0"
37



SECTION G-G
3/8" - 1'-0"
37



SECTION F-F
3/8" - 1'-0"
39

SUSAN M. FREY
STATE OF WASHINGTON
0026808
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 11-23-93

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Drawn RA BEYER
Chkd SM FREY
Sub
Rec J. Bernardo Rubio
Rec W.A. Nobel
Appr Walter C. Schwab
Date 7-10-92

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BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

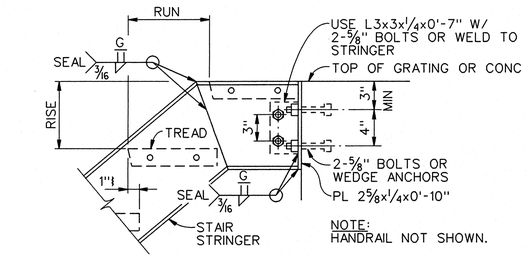
H&TMH FACILITY STRUCTURAL SECTIONS AND DETAILS

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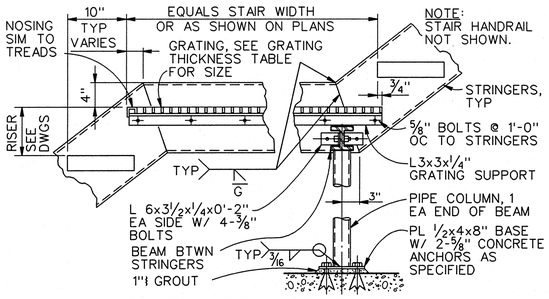
DRAWING NUMBER	SHEET	TITLE
17294602.FDJ	37	FOUNDATION PLAN - AREA A
17294604.FDJ	39	FOUNDATION PLAN - AREA C & DETS
17294605.FDJ	40	FOUNDATION SECTIONS AND DETAILS

REFERENCE DRAWINGS

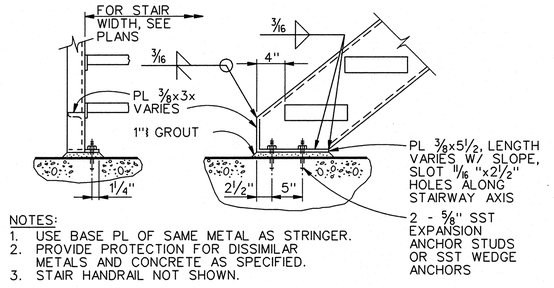
PLOT DATE: 07-07-92 FILE NAME: 17294616.FDJ



STAIR TOP CONNECTION



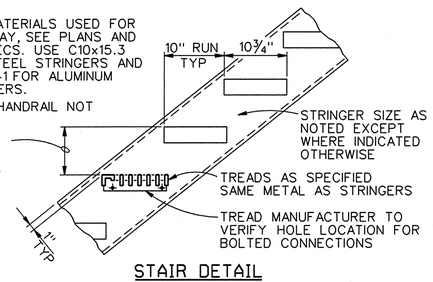
STAIR LANDING WITH SUPPORTS



NOTES:
1. USE BASE PL OF SAME METAL AS STRINGER.
2. PROVIDE PROTECTION FOR DISSIMILAR METALS AND CONCRETE AS SPECIFIED.
3. STAIR HANDRAIL NOT SHOWN.

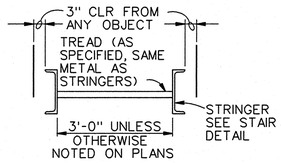
STAIR BOTTOM CONN

NOTES:
1. FOR MATERIALS USED FOR STAIRWAY, SEE PLANS AND OR SPECS. USE C10x15.3 FOR STEEL STRINGERS AND C12x7.41 FOR ALUMINUM STRINGERS.
2. STAIR HANDRAIL NOT SHOWN.



STAIR DETAIL

STAIRWAY WIDTH	BEARING BARS	
	ALUMINUM TREAD	STEEL TREAD
2'-3" OR LESS	1"x3/16"	3/4"x3/16"
2'-9" OR LESS	1 1/4"x3/16"	1"x3/16"
3'-3" OR LESS	1 1/2"x3/16"	1 1/4"x3/16"
4'-7" OR LESS	1 3/4"x3/16"	1 1/2"x3/16"



STAIR TREADS

STEEL STAIR DETAILS

NTS

10

GRATING NOTES

1. EXTEND GRATING CONTINUOUSLY OVER GATE GUIDES AND GATES.
2. NOTCH GRATING SUPPORTS AT GATES AS REQUIRED.
3. GRATING SPAN —— SEE PLAN.
4. WIDTH OF GRATING SECTIONS SHALL NOT EXCEED 3'-0".
5. SHOP DRAWINGS BASED ON FIELD DIMENSIONS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION.
6. MATERIAL FOR SUPPORTS OF STEEL AND ALUMINUM GRATING TO BE SAME AS GRATING, EXCEPT METAL SUPPORTS THAT ARE TO BE EMBEDDED IN CONCRETE SHALL BE TYPE 316 STAINLESS STEEL.
7. UNLESS NOTED OTHERWISE ON PLANS, GRATING THICKNESS SHALL BE AS TABULATED IN "GRATING THICKNESS TABLE" FOR APPLICABLE TRAFFIC.
8. BEARING BAR THICKNESS FOR GRATING TO BE 3/16" MINIMUM.
9. BAND ALL EDGES WITH 3/16" x DEPTH OF BEARING BAR.
10. PROVIDE MISCELLANEOUS GRATING FASTENERS AS REQUIRED.
11. TYPE OF MATERIAL USED SHALL BE AS SHOWN ON PLANS OR AS SPECIFIED. THIS STANDARD DETAIL INCLUDES 3 TYPES, ALTHOUGH ALL 3 MAY NOT BE INCLUDED IN PROJECT.
12. THE HORIZONTAL CLEARANCE BETWEEN THE GRATING AND GRATING SUPPORTS SHALL NOT BE LESS THAN 1/4" NOR GREATER THAN 1/2" AND AS SPECIFIED.
13. ALL GRATING SECTIONS, WHEN IN PLACE, SHALL ALWAYS BE FIRMLY ANCHORED TO THEIR SUPPORTS AS SPECIFIED.

FOOT TRAFFIC

GRATING THICKNESS TABLE

MAXIMUM SPAN	ALUMINUM (IN.)	STEEL (IN.)	FIBERGLASS (IN.)
3'-6"	1 1/4"	1"	1 1/2"
4'-0"	1 1/2"	1"	1 1/2"
4'-6"	1 3/4"	1"	1 1/2"
5'-0"	1 3/4"	1 1/4"	MAXIMUM ALLOWABLE SPAN IS 4'-6" LIMIT DEFLECTION TO 1/4" MAX
5'-6"	2"	1 1/4"	
6'-0"	2 1/4"	1 1/2"	
6'-6"	2 1/4"	1 1/2"	
7'-0"	2 1/2"	1 3/4"	

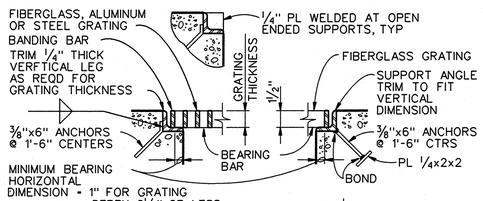
VEHICULAR TRAFFIC

GRATING THICKNESS TABLE

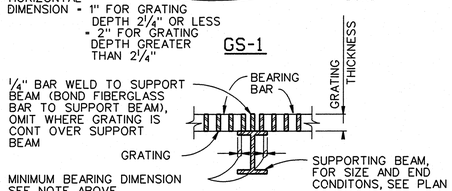
HEAVY VEHICULAR TRAFFIC

(HS 20-44)

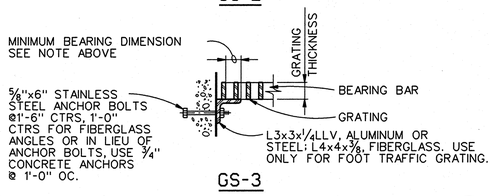
MAXIMUM SPAN	STEEL (IN.)	ALUMINUM (IN.)
1'-0"	2"x3/16"	DO NOT USE ALUMINUM GRATING
1'-8"	2 1/2"x1/4"	
2'-0"	2 1/2"x3/8" OR 3"x1/4"	
2'-6"	3"x3/8" OR 4"x1/4"	
3'-3"	3 1/2"x3/8"	
4'-0"	4"x3/8"	
5'-0"	4 1/2"x3/8"	



GS-1



GS-2



GS-3

GRATING SUPPORT

NTS

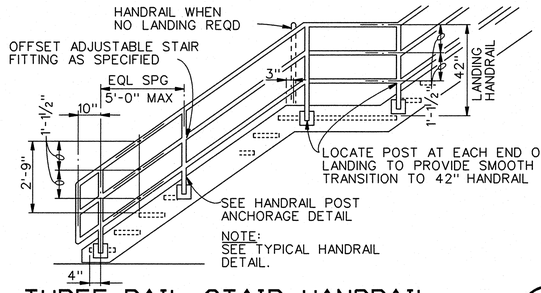
11

LIGHT VEHICULAR TRAFFIC

(WHEEL LOAD = 2000 POUNDS OR LESS)

MAXIMUM SPAN	STEEL (IN.)	ALUMINUM (IN.)
1'-0"	1 1/4"x3/16"	1 1/4"x3/16"
1'-6"	1 3/4"x3/16"	1 3/4"x3/16"
2'-0"	2"x3/16"	2"x3/16"
2'-6"	2 1/4"x3/16"	2 1/4"x3/16"
3'-0"	2 1/2"x3/16"	2 1/2"x3/16"
4'-0"	2 1/2"x1/4"	DO NOT USE ALUMINUM GRATING
5'-0"	2 1/2"x3/8"	
6'-0"	2 1/2"x3/8"	
7'-0"	3"x3/8"	

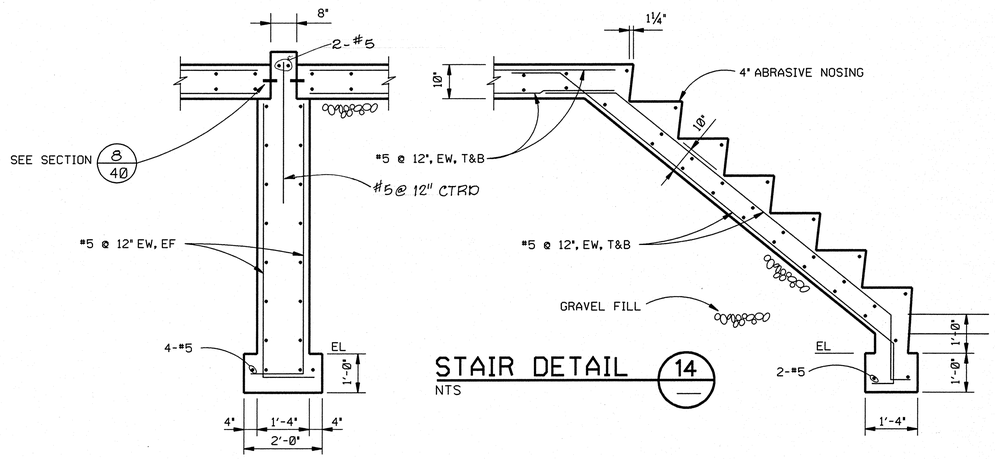
NOTE:
STEEL GRATING BEARING BARS FOR VEHICULAR TRAFFIC SHALL BE SPACED AT 1 3/16" OC; ALUMINUM GRATING BEARING BARS FOR VEHICULAR TRAFFIC SHALL BE SPACED AT 1 3/16" OC.



THREE-RAIL STAIR HANDRAIL

NTS (ALUMINUM)

12



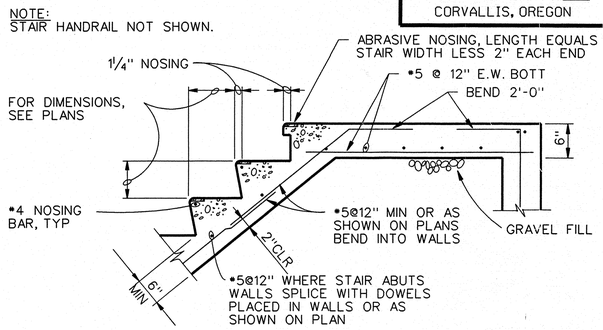
STAIR DETAIL

NTS

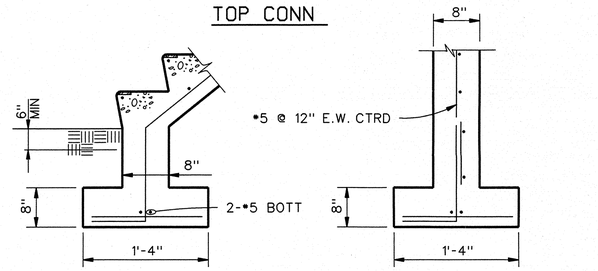
14

CHM HILL
CORVALLIS, OREGON

NOTE:
STAIR HANDRAIL NOT SHOWN.



TOP CONN



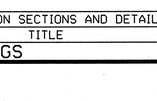
ALTERNATE CONN

BOTTOM CONN

CONCRETE STAIR

NTS

13



EXPIRES 11-23-93

NO.	C.	PL-6 MZC106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design HH MEJDELL
Drawn AG OLSON
Chkd
Sub
Rec J. Bernardo Rubio
Rec W.A. Habel
Appr Walter C. Schmidt
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

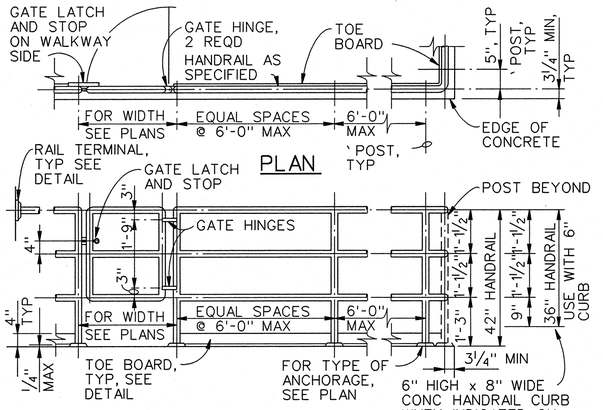
H&TMH FACILITY STRUCTURAL DETAILS

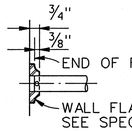
SERIAL	SOURCE	SIZE	SHEET	REVISION
172946	FDG	A1	56	0

17294605.FDJ	40	FOUNDATION SECTIONS AND DETAILS
DRAWING NUMBER	SHEET	TITLE

REFERENCE DRAWINGS

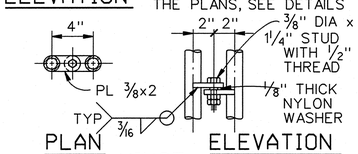
FILE NAME: 17294621.FDJ
PLOT DATE: 07-07-92





RAIL TERMINAL

NOTES:
1. FASTEN RAIL TO WALL FLANGE PER MANUFACTURERS RECOMMENDATIONS.
2. WALL FLANGE TO BE MOUNTED TO WALL WITH 2 - ⅜" DIA SST WEDGE ANCHORS.

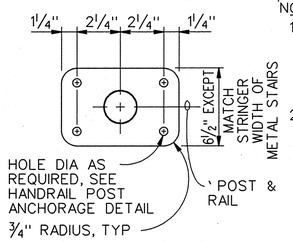


HINGE

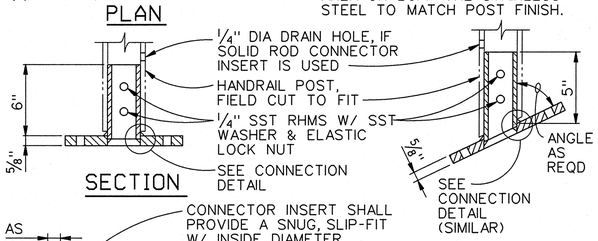
NOTE:
AT CONTRACTOR'S OPTION FABRICATE HINGES OR PROVIDE OTHER HINGES AS SPECIFIED. GALV OR FINISH AFTER ALL WELDING AS SPECIFIED.

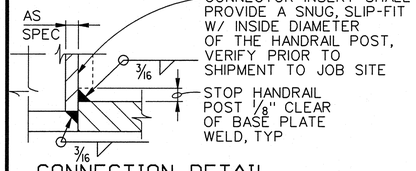
THREE-RAIL HANDRAIL 14

NTS (ALUMINUM & GALVANIZED STEEL)



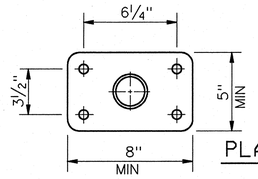
NOTES:
1. USE STAINLESS STEEL POST CONNECTORS FOR STAINLESS STEEL HANDRAILS AND GALVANIZED STEEL POST CONNECTORS FOR GALVANIZED STEEL HANDRAILS.
2. AT CONTRACTOR'S OPTION VERTICAL POST TOLERANCE MAY BE OBTAINED BY CUTTING POST IN FIELD TO FIT AND WELDING POST TO BASE PLATE WITHOUT THE CONNECTOR INSERT. GRIND WELDS SMOOTH AND APPLY GALVANIZING REPAIR TO WELD AREA OR BUFF THE STAINLESS STEEL TO MATCH POST FINISH.





HANDRAIL POST CONNECTOR FOR BOLTED BASE PLATE 15

NTS (GALVANIZED & STAINLESS STEEL)

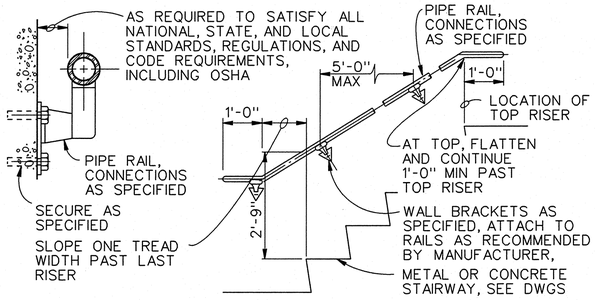


NOTE:
PROVIDE PROTECTION FOR DISSIMILAR METALS AND CONCRETE PER SPECIFICATIONS.

TYPE "A"

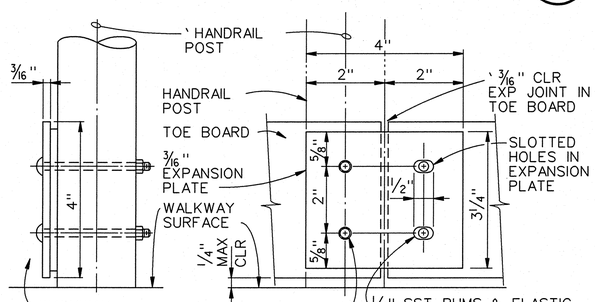
HANDRAIL POST ANCHORAGE 16

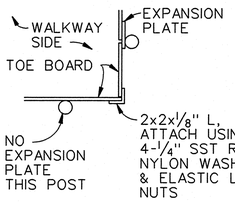
NTS (ALUMINUM)



WALL HANDRAIL 17

NTS (ALUMINUM)



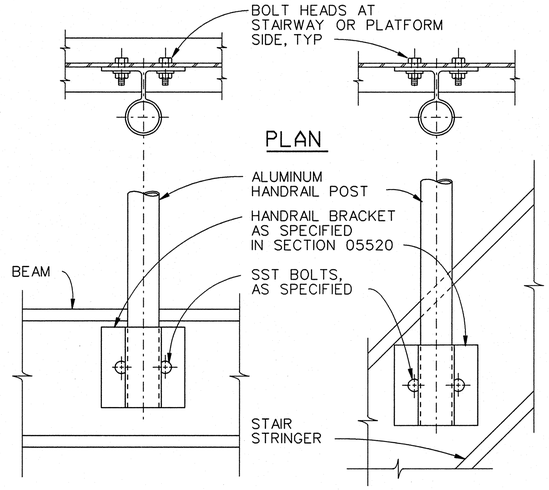


ELEVATION - TOE BOARD/ EXPANSION PLATE CONNECTION

NOTES:
1. WHERE BOLTED BASE PLATE EXTENDS ABOVE WALKWAY SURFACE, NOTCH TOE BOARD TO FIT AROUND BASE PLATE WITH MAXIMUM OF ¼" GAP.
2. TOE BOARD TO BE MOUNTED ON WALKWAY SIDE OF HANDRAIL.
3. RHMS = ROUND HEAD MACHINE SCREW AS SPECIFIED, SST.

HANDRAIL TOE BOARD 18

NTS (GALVANIZED & STAINLESS STEEL)

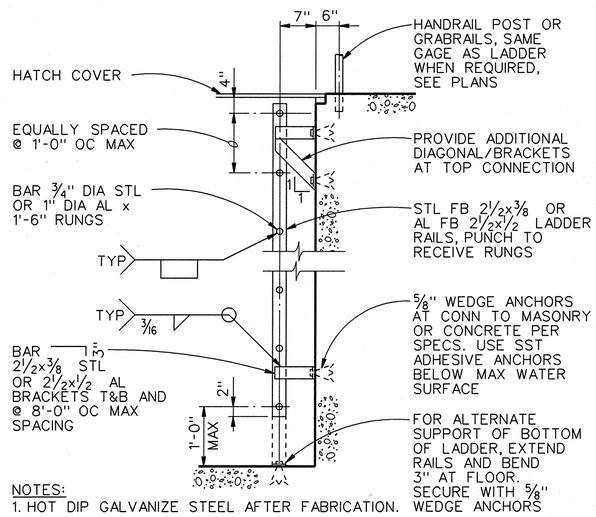


NOTE:
PROVIDE PROTECTION FOR DISSIMILAR METALS AND CONCRETE PER SPECIFICATIONS.

TYPE "D"

HANDRAIL POST ANCHORAGE 19

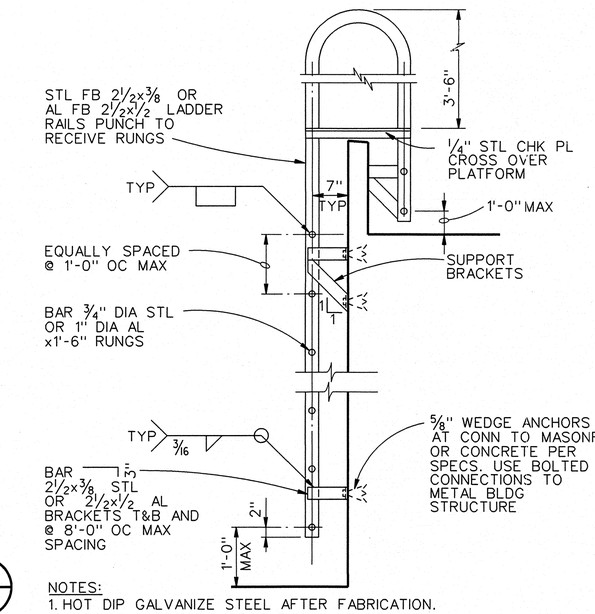
NTS (ALUMINUM)



NOTES:
1. HOT DIP GALVANIZE STEEL AFTER FABRICATION.
2. PROVIDE PROTECTION FOR DISSIMILAR METALS AND CONCRETE PER SPECIFICATIONS.

LADDER 21

NTS



NOTES:
1. HOT DIP GALVANIZE STEEL AFTER FABRICATION.
2. PROVIDE PROTECTION FOR DISSIMILAR METALS AND CONCRETE PER SPECIFICATIONS.
3. METAL BUILDING MANUFACTURE TO SUPPLY REQUIRED STRUCTURAL SUPPORTS FOR MOUNTING DETAIL.

LADDER 20

NTS

CH2M HILL
CORVALLIS, OREGON

SUSAN M. FREY
STATE OF WASHINGTON
6028808
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 11-23-93

NO.	C.		BY	DATE	APPROVED
PL-6 M2C106		COMPUTER REVISION ONLY			

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design HH MEJDELL
Drawn DL MONK
Chkd SM FREY
Sub
Rec Bernardo Rubio
Rec W.A. Rabel
Appr Walter C. Schmeltz
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY STRUCTURAL DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
172946	FDG	A1	57	0

DRAWING NUMBER	SHEET	TITLE

REFERENCE DRAWINGS

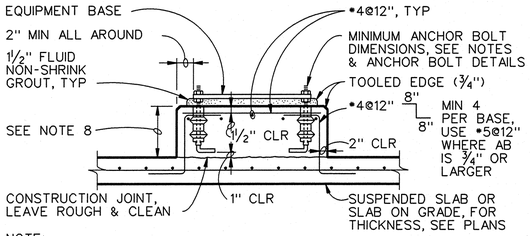
FILE NAME: 17294622.FDJ
PLOT DATE: 07-07-92

CH2M HILL
CORVALLIS, OREGON

EQUIPMENT BASE NOTES

1. PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS OR AS INDICATED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.
2. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER, AND SHALL BE AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A ONE PIECE TEMPLATE, MATCHING THE BASE PLATE, WHILE PAD IS BEING POURED.
3. ANCHOR BOLT SLEEVES SHALL BE USED TO PROVIDE THE ANCHOR BOLT A MINIMUM MOVEMENT OF 1/2" IN ALL DIRECTIONS. THE MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT.
4. ANCHOR BOLT SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 1" GREATER THAN BOLT DIAMETER AND A MAXIMUM INTERNAL DIAMETER 3" GREATER THAN ANCHOR BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT.
5. EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS SPECIFIED OTHERWISE.
6. TYPE "D" DETAIL SHALL BE USED ONLY FOR SLABS ON GRADE AND AT GRADE. THE SURROUNDING FLOOR SLAB SHALL NOT BE PLACED UNTIL THE EXACT SIZE AND LOCATION OF THE PAD IS KNOWN.
7. WEDGES OR SHIMS SHALL BE USED TO SUPPORT THE BASE WHILE THE NON-SHRINK GROUT IS PLACED. TEMPORARY LEVELING NUTS SHALL BE BACKED OFF. IF LEFT IN, THE WEDGES OR SHIMS SHALL NOT BE EXPOSED TO VIEW.
8. HEIGHT OF PADS SHALL BE MINIMUM REQUIRED FOR ANCHOR BOLT CLEARANCE TO KEEP ANCHOR BOLT OUT OF SLAB (SEE TABLE BELOW). WHERE EQUIPMENT OR PIPING ELEVATION REQUIRE A PAD HEIGHT LESS THAN THE MINIMUM SHOWN, USE TYPE B WITH BLOCKOUT.

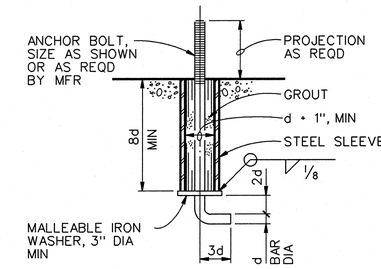
AB DIA (IN.)	1/2	5/8	3/4	7/8	1	1 1/4	1 3/8	1 1/2	1 3/4	2
MIN PAD HT (IN.)	7	8 1/2	10	11	12 1/2	15	16 1/2	18	21	24

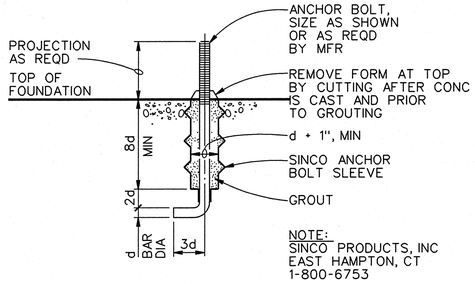


NOTE:
SEE EQUIPMENT BASE NOTES.

TYPE A

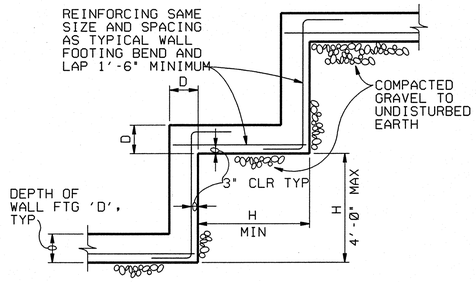
EQUIPMENT PAD 23
NTS



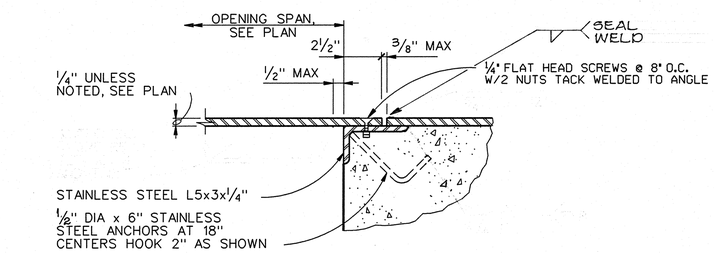


NOTE:
SINCO PRODUCTS, INC
EAST HAMPTON, CT
1-800-6753

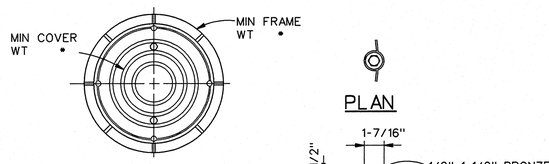
ALTERNATE MACHINERY ANCHOR BOLT 25
NTS



STEPPED FOOTING 28
NTS

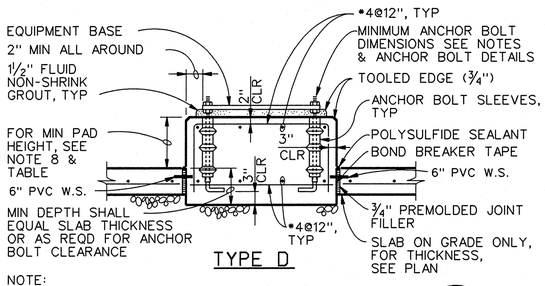


DETAIL 26
NTS



NOTE:
WATERTIGHT MANHOLE FRAME AND COVER SIMILAR TO STANDARD MANHOLE FRAME AND COVER EXCEPT AS SHOWN.

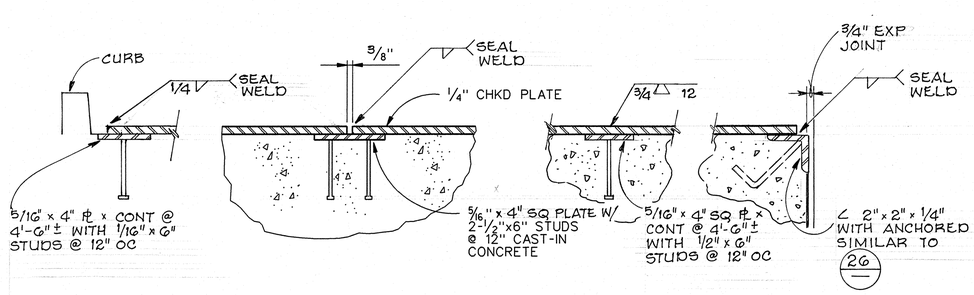
WATERTIGHT MANHOLE FRAME AND COVER 29
NTS



NOTE:
SEE EQUIPMENT BASE NOTES.

TYPE D

EQUIPMENT PAD 24
NTS



DETAIL 27
NTS

SUSAN M. FREY
STATE OF WASHINGTON
0026808
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 11-23-93

DRAWING NUMBER	SHEET	TITLE
		REFERENCE DRAWINGS

NO.	C	PL-6 M2C106	COMPUTER REVISION ONLY	BY	DATE	APPROVED

C=CONTRACT CONSTRUCTION ,FA=FORCE ACCOUNT CONSTRUCTION ,R=RECORD

Design HH MEJDELL
Drawn UL MONK
Chkd SM FREY
Sub
Rec J. Bernardo Rubio
Rec W.A. Rohel
Appr Walter C. Schmidt
Date 7-10-92

UNITED STATES DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
HEADQUARTERS, PORTLAND, OREGON

H&TMH FACILITY STRUCTURAL DETAILS

SERIAL	SOURCE	SIZE	SHEET	REVISION
172946	FDG	A1	58	0

FILE NAME: 17294623.FDJ
PLOT DATE: 07-07-92

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