ATTACHMENT 8

CONTAINER MANAGEMENT

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1.0 Containers

1.1 General Container Management

Containers are managed in Units 105, 106, 255, 535, and 604. Each unit serves a different purpose and has varying storage capacities and/or handling functions. Transfer between containers, addition of absorbent, container cleanout, and storage are among the functions of the various units.

Records are maintained at the facility that allow access to information regarding wastes, and document the movement of wastes through the facility from receipt, to storage and handling to shipment off-site. The records can be accessed by a unique identifier assigned to each waste container.

Thaw Unit 105

Unit 105 was originally designed to accommodate bulk loads, arriving by either rail or road which require warming to facilitate sampling or management. The building is also used to transfer waste received in roll-offs to smaller containers (e.g., 55 gallon drums) and to store smaller containers.

The building is constructed of structural steel columns, enclosed with siding, and has a supported roof system. The approximate overall dimensions of the building are 43 feet wide, 173 feet long and approximately 24 feet to eave height. The shed is equipped with roll-up doors at each end to accommodate road and rail tankers, and trucks. Drawing 43-10-4-J10 Plan and Sections in Attachment 9 depicts the arrangement of this unit.

When necessary during cold weather conditions the Thaw Unit will be maintained at a temperature typically in the 50 to 80 degree Fahrenheit range to slowly warm and thaw wastes to the point at which they can be safely removed from the container.

All bulk loads will remain closed, while in the unit, except when sampling, inspecting, and transferring.

The ventilation system will provide a minimum of one air change per hour, and will be exhausted to the atmosphere. The total volume of the Thaw Unit is approximately 178,600 cubic feet, and approximately 2,980 cfm of exhaust is required to achieve one air exchange per hour. The ventilation system will consist of two 4,250 cfm gable mount fans and one 7,500 cfm air make-up fan.

Containerized Bulk Solids Storage Unit (Unit 106)

Clive has constructed and uses a Containerized Bulk Solids Storage Unit at the facility. This unit, Unit 106, consists of three subunits, designated Subunits 1, 2, and 3.

Large and smaller containers (e.g., 55 gallon drums) are handled and stored in the Containerized Bulk Solids Storage Unit, Unit 106, only as specified herein, prior to transfer for management at other on-site units or off-site permitted hazardous waste facilities. The waste stored and segregated in this unit is typically containerized solid and sludge type wastes that may contain free liquids. Waste containers handled and stored in the Containerized Bulk Solids Storage Unit include intermodal containers (IMCs), sludge boxes, roll-off bins, van trailers with containers (e.g., 55-gallon drums), tanker trailers, and other large containers. Also, "Sea Line" type containers may be placed in Unit 106. Smaller containers (e.g. 55-gallon drums) may also be stored in Unit 106 (Subunit 1, enclosed portion only).

The containers may be delivered to the Clive Storage Facility by road or rail. Large containers arriving by rail will be off-loaded (e.g., via piggy packer, forklift, etc.) and transferred to the Containerized Bulk Solids Storage Unit for storage. Large containers arriving by road may be unloaded in Unit 106 or in other appropriate Units (such as Thaw Unit 105) and then transferred to Unit 106.

Occasionally, the enclosed portion of Unit 106, subunit 1 will be used to transfer waste received in roll-offs to smaller containers (e.g., 55 gallon drums) and to store smaller containers.

The Containerized Bulk Solids Storage Unit consists of three rectangular storage areas known as subunits. Secondary containment consists of sloped floors (with perimeter curbs). The layout of Unit 106 is shown on Drawing 43-10-2-D61, sheet 4 in Attachment 9.

Large Containers shall not be stacked more than three high in the enclosed portion of subunit 1. Triple stacking of large containers may also occur in the unenclosed portion of Subunit 1, Subunit 2, and Subunit 3 provided that the permitted storage capacities of the unenclosed portions of Unit 106 are not exceeded. In addition, no incompatible wastes, as determined by the Waste Analysis Plan, shall be stored within the enclosed portion of Subunit 1, the unenclosed portion of Subunit 1, Subunit 2, and Subunit 3.

Small containers (e.g., 55 gallon drums) may only be stored in the enclosed portion of Subunit 1 and will not be stacked more than two high.

The dimensions of Subunits 2 and 3 are 43 feet wide by 465 feet long each. The dimensions of Subunit 1 are 43 to 45 feet wide by 465 feet long. As mentioned above, a portion of Subunit 1 is enclosed to allow for the storage of TSCA waste. Hazardous waste may be stored in all areas of all subunits of Unit 106, while storage of TSCA waste is limited to the enclosed portion of subunit 1.

The secondary containment system for each subunit provides sufficient capacity to contain ten percent of the volume of the containers within the area, in accordance with requirements listed in 40 CFR 264.175(b)(3). The portions of Unit 106 not within an enclosure (Subunits 2 and 3 and a portion of Subunit 1) also have sufficient capacity to contain a 25-yr, 24-hr storm event (1.9 inches). Secondary containment capacity will be provided by curbs and sloped floors. These

curbs will also serve to prevent the run-on of surface water, as required under 40 CFR 264.175(b)(4). Curbs are placed completely around the perimeter of each subunit.

Subunit floors are constructed of reinforced concrete equipped with waterstops and concrete coating, satisfying the requirements of 40 CFR 264.175(b)(1). Subunit floors are sloped (1% to 1.5% or greater - see drawing 43-10-2-D61, sheets 5 and 12 in Attachment 9 for details).

Rail/Truck Transfer Bay (Unit 535)

The Rail/Truck Tanker Transfer Unit which is located in Unit 535, is employed to transfer wastes from rail tankers to trucks or vice-versa. Occasionally, empty tank cars and tank trucks will also be cleaned out in this area. Drawings 43-53-4-J07, Rail Tanker Unloading Plans and Sections and 43-53-2-J01, Rail Tanker Unloading Unit Details, in Attachment 9 provide details on the design of these units. The location of this unit is shown on Drawing 43-01-1-J02, Partial Plan also found in Attachment 9.

Truck Wash Bay (Unit 604)

The Truck Wash Bay of the truck wash is used for transferring waste between containers and the storage of containers being transferred and leaking containers being prepared for shipment to Aragonite. It is also used for washing containers and equipment.

1.2 Container Storage

Clean Harbors Clive, LLC stores containers of hazardous waste in the Units 105, 106, 535, and 604. The requirements of 40 CFR 264, Subpart I and 40 CFR 270.15 apply to the Thaw Unit (Unit 105), Containerized Bulk Solids Storage Unit (Unit 106), and Rail/Truck Tanker Bay (Unit 535), and the Truck Wash Bay (Unit 604).

The term "container" in this section to means any portable device in which material is stored, transported, or otherwise handled. The term "drum" in this section will refer to a container having a capacity of 120 gallons or less.

All containers shipments will be accepted and placed into permitted storage within 10 days of arriving at the facility. Arrival at the facility means the waste passes through the facility gate. If circumstances dictate that unloading will be delayed beyond this time period, the load will be moved into a permitted storage area. The containers that are not unloaded within 10 days of arrival will be stored in a separate area away from wastes that are in storage. The area will be clearly marked and will be used for no other purpose. An inventory of the waste stored in this area will be maintained and will be part of the operating record.

1.2.1 Description of Containers

Thaw Unit (Unit 105)

Containers which may be stored in Unit 105 include Rail Tank Cars, Road Tanker Trucks, IMC's, sludge boxes, rolloffs, and drums. If a container in the Thaw Unit exhibits severe rusting, or it leaks or otherwise appears to be in poor condition, the container and its contents will be managed in accordance with Condition 3.E.1. Waste stored in the Thaw Unit will be compatible with the container in which it is stored. Waste that is transferred from a container in poor condition will be transferred to a container in good condition and compatible with the waste. When waste is transferred to replacement containers, all markings and labels will be duplicated or transferred to properly identify the contents of the replacement containers.

Containerized Bulk Solids Storage Unit (Unit 106)

The Containerized Bulk Solids Storage Unit is capable of receiving and storing large containers, such as sludge boxes, roll-off bins, tanker trailers and intermodal containers. In addition, smaller containers (i.e., those with a capacity of 120 gallons or less) may be stored in the enclosed portion of Unit 106, subunit 1. Typical dimensions of the boxes to be stored are 8 feet wide, 20-24 feet long, and approximately 4-9 feet high ("Sea Line" containers may be as long as 33 feet). Containers will be covered to prevent the ingress of precipitation or the egress of waste. The most common material of construction will be carbon steel. Some of the containers may have their carbon steel tops replaced by aluminum, fiberglass, or a tarp to reduce dead weight. Containers accepted for storage in Unit 106 are required to be compatible with the wastes stored within them.

If a container in Unit 106 exhibits severe rusting, irreparable leaks or otherwise appears to be in poor condition, the container and its contents will be managed in accordance with Condition 3.E.1. When waste is transferred to replacement containers, all markings and labels will be duplicated or transferred to properly identify the contents of the replacement containers.

Rail/Truck Transfer Bay (Unit 535)

The Rail/Truck Tanker Transfer Unit will be used to position a rail tanker of nominally 20,000-gallon capacity, while its contents are unloaded into a road tanker. If a container or transport vehicle in the Rail/Truck Tanker Transfer Unit exhibits severe rusting, or it leaks or otherwise appears to be in poor condition, the contents of the container will be transferred to a container or transport vehicle in good condition. Waste stored in the Rail/Truck Tanker Transfer Unit will be compatible with the container in which it is stored. Waste that is transferred from a container or transport vehicle in poor condition will be transferred to a container or transport vehicle in good condition and compatible with the waste.

Truck Wash Bay (Unit 604)

The Truck Wash Bay will be used to store containers for transfer. Only large containers may be stored in this unit and no more than four roll-offs will be stored in this unit at the same time. Waste may only be stored in Unit 604 if the equivalent capacity is available and remains available in Unit 106. If a container in Unit 604 exhibits severe rusting, irreparable leaks or otherwise appears to be in poor condition, the container and its contents will be managed in

accordance with Condition 3.E.1. When waste is transferred to replacement containers, all markings and labels will be duplicated or transferred to properly identify the contents of the replacement containers.

1.3 Container Management Practices

Thaw Unit (Unit 105)

The maximum permitted capacity of the Thaw Unit is 60,000 gallons, or 8,020 cubic feet. This includes both TSCA and RCRA wastes.

Containers will remain closed except when inspecting, sampling, and transferring waste. Drawing 43-10-4-J10 Thaw Unit Plan & Sections in Attachment 9 identifies aisles along the sides of the building that are four feet four inches wide, and a center aisle over the containment sumps which is six feet wide.

Waste will only be transferred to and/or from containers in Unit 105 in accordance with the requirements found in Condition 3.G.

Containerized Bulk Solids Storage Unit (Unit 106)

The permitted storage capacity for Unit 106 is 1,847,871 gallons. Subunit 1 has a capacity of 630,240 gallons with 448,440 gallons in enclosed area and 181,800 gallons in the unenclosed area. Subunit 2 has a capacity of 617,463 gallons and Subunit 3 has a capacity of 600,168 gallons.

In each subunit, there are three rows containing a variable number of containers. A typical storage arrangement within the Containerized Bulk Solids Storage Unit is shown on Drawing 43-10-2-D61, sheet 4 in Attachment 9. A minimum of 2.5 feet of aisle space will be maintained between containers in Unit 106.

If a waste shipment contains incompatible waste, the waste will be placed in a segregated storage area. If it is determined that a container of waste is incompatible with the other wastes stored within the containment system (i.e., the enclosed portion of Subunit 1, the unenclosed portion of Subunit 1, Subunit 2, or Subunit 3), it will be removed and placed in a different storage area with other wastes with which it is compatible. This separation method for wastes requiring segregation is in compliance with 40 CFR 264.177(c).

During storage, the containers will be kept closed to prevent dispersion of wastes into the environment. Containers will be opened only for inspections, sampling, and transfer of wastes between containers (e.g., in response to a leaking container). Regularly scheduled inspections of the container storage areas will be conducted to detect open or deteriorating containers, improper storage, liquids in the secondary containment system; or other unsafe conditions as required by R-315-8-9.5. The frequency of these inspections is outlined in Attachment 3.

Waste will only be transferred to and/or from containers in Unit 106 in accordance with the requirements found in Condition 3.G.

All wastes stored in the Containerized Bulk Solids Storage Unit will eventually be transferred to other on-site management units for storage and further processing, or to appropriate off-site facilities. On-site management units that will accept wastes directly from Unit 106 include the Thaw Unit (Unit 105).

The location of containers stored at Unit 106 will be recorded in the operating record by using an alpha-numeric system of coordinates that will identify the storage location and level (layer) of each container. The operating record will be maintained so that it will accurately indicate the waste identification number, the quantity of the waste, and the location of the waste at Unit 106 in accordance with R315-8-5.3.

A grid system has been defined for Unit 106 and is presented in Drawing 43-10-2-D61, sheet 4 in Attachment 9. The grid is numbered from 1 to 19 and from A to J. Lines painted on the concrete surface indicate the aisle spaces between containers. The painted lines indicating the aisles create a minimum of 2.5 feet of aisle space. This will facilitate the positioning of the containers and allow easy inspection to ensure that the minimum aisle spacing of 2.5 feet has been met, i.e., as long as the containers do not encroach on the painted lines, the necessary aisle space is being maintained. Drums stored in the enclosed portion of Subunit 1 will be stored on pallets and on a painted grid system placed inside the roll-off container markings.

To identify the stacking arrangement of containers within the area, a letter will be used to indicate if the container is at ground level or stacked on top of another container. The letter S will designate those containers found at ground level, the letter D will designate those containers that are stacked on top of one other container (double stacked), and the letter T will designate those containers stacked on top of two other containers (triple stacked). An example of a typical location identifier used to identify the location of a container in the area would be 106-C05D; the 106 indicating that the container is stored at Unit 106, the letter C indicating that the container is in row C of the grid, the number 05 indicating that the container is in column 5 of the grid, and the letter D indicating that the container is stacked on top of one other bulk container.

Records will be maintained at the facility which will allow access to information regarding wastes, and document the movement of wastes through the facility from receipt, to storage and processing, through shipment off-site. The records will be accessed by a unique identifier assigned to each waste container.

Rail/Truck Transfer Bay (Unit 535)

A maximum of one rail tanker will be located at the Rail/Truck Tanker Transfer Unit at any given time. Based on containment volume considerations, the maximum RCRA permitted capacity of the Rail/Truck Tanker Transfer Unit is 23,560 gallons. Containers will remain closed except when inspecting, sampling, adding or removing wastes. Waste will only be transferred to and/or from containers in Unit 535 in accordance with the requirements found in Condition 3.G.

Truck Wash Bay (Unit 604)

A maximum of four roll-off containers may be located in the Truck Wash Bay at any one time. One roll-off of capacity will be kept available in Unit 106 for each for each roll-off container stored in Unit 604. Containers will remain closed except when inspecting, sampling, adding or removing wastes. Waste will only be transferred to and/or from containers in Unit 604 in accordance with the requirements found in Condition 3.G.

1.4 Secondary Containment System Design and Operation

Thaw Unit (Unit 105)

The secondary containment system of the Thaw Unit has been designed to facilitate sound container management practices and prevent the release of hazard wastes into the environment. Drawings 43-10-4-J10 and 43-10-2-J05 in Attachment 9 provide plan, elevation and section views of the building and the containment system design.

Containerized Bulk Solids Storage Unit (Unit 106)

The secondary containment system of the Containerized Bulk Solids Storage Unit has been designed to facilitate sound container management practices and prevent the release of hazardous wastes into the environment. Plan, elevation and section views of Unit 106 and the containment system design are shown on Drawing 43-10-2-D61, sheets 4 - 8 and 10 - 12 in Attachment 9.

Rail/Truck Transfer Bay (Unit 535)

The secondary containment system of the Rail/Truck Tanker Transfer Unit has been designed to facilitate sound container management practices and prevent the release of hazardous wastes into the environment. Drawings 43-53-4-J07 and 43-53-2-J01 in Attachment 9 provide plan and section views of the bay and the containment system design.

Truck Wash Bay (Unit 604)

The secondary containment system of the Rail/Truck Tanker Transfer Unit has been designed to facilitate sound container management practices and prevent the release of hazard wastes into the environment. Drawings 43-60-2-J04 and 43-60-4-J08 in Attachment 9 provide plan and section views of the bay and the containment system design. A total of 1100 ft^3 of containment capacity is available which is greater than the largest container, 30 yd^3, which may be stored in the unit at any time.

1.4.1 Requirement for the Base or Liner to Contain Liquids

Containment areas are constructed on a minimum of eight or nine inch thick concrete pads reinforced with one or two mats of #4 steel reinforcing bar poured on a compacted fill base. The

slabs are free of cracks or gaps. All joints contain a continuous water stop to prevent migration of water past the stop.

A sealant is maintained on all concrete surfaces within the containment systems. If liquids are discovered, they are removed within 24 hours of detection.

A table listing the technical specifications of each coating group used in the container storage units within the Clive facility is provided in Appendix A, Concrete Coatings.

1.4.2 Containment System Drainage

Thaw Unit (Unit 105)

The floor of the Thaw Unit is sloped at approximately 1/8 inch per foot to four separate sumps. The storage areas are completely enclosed to prevent run-on of rain or dispersion of wastes by wind. Wastes will only be placed in the Thaw Unit after review of manifest information to confirm that the wastes are compatible. If subsequent sampling, testing and/or analysis indicate that incompatible wastes are present in the Thaw Unit, such containers of wastes determined to be incompatible will be removed and relocated to an appropriate alternate storage area.

Containerized Bulk Solids Storage Unit (Unit 106)

The floor of each subunit within the Containerized Bulk Solids Storage Unit is sloped (1% to greater than 1.5% - see Drawing 43-10-2-D61 sheets 5 and 12 in Attachment 9 for details) toward the outside perimeter berms. Most containers are equipped with legs that support the body of the containers a minimum of eight inches above ground level. If a container is not equipped with legs (eight inch minimum), another method will be used to elevate the container. Other methods may include placing railroad ties or grating beneath the container. The elevation of each container, in combination with the drainage provided by the slope of the concrete floor, will satisfy the requirements of 40 CFR 264.175(b)(2) by preventing contact between the accumulated liquid and the body of each container.

Truck Wash Bay (Unit 604)

Drawings 43-60-2-J04 and 43-60-4-J08 in Attachment 9 show the details of Truck Wash Bay containment. The tanks are not in use and the sumps are blocked where they penetrate the wall on the east side of the bay. The floor is sloped to the sumps.

Rail/Truck Transfer Bay (Unit 535)

The rail side of the Rail/Truck Tanker Transfer Unit is sloped at a nominal 1/4 inch per foot to two sumps each of which is 14 feet long by 3 feet wide by 3 feet 6 inches deep (minimum). The tanker truck side of the Rail/Truck Tanker Transfer Unit is sloped at a nominal 1/2 inch per foot to one sump in the center of the bay which is 14 feet long by 3 feet wide by 3 feet 6 inches deep (minimum).

1.4.3 Removal of Liquids from Containment Systems

The floor of the Unit 106 is sloped (1% to greater than 1.5%) in all container storage areas and access aisles. This slope will facilitate the detection of leaks, causing any liquid which might leak from a container to migrate down the slope to the perimeter areas. Liquid, which accumulates in the secondary containment system will be collected (e.g., vacuum truck, portable pump, etc.) and managed as a hazardous waste.

The floor slope of 1/8 to 1/2 inch per foot provided in all other container storage bays, access corridors and processing areas will facilitate the detection of leaks causing any liquid which might leak from a container to migrate down the slope to a containment sump.

When an inspection reveals liquid within the sump, the source of the leak will be identified. The identification of the location of a leak may be accomplished in a number of ways, using a variety of inspection techniques. Visual inspection of the condition of containers, localized staining or leakage adjacent to a particular drum, rocking of containers to determine if volume has been lost are techniques which are most likely to be employed to trace the source of a leak. If these measures fail, a sample of the liquid in the sump will be analyzed for a range of characteristics based upon the possible contents of the containers in the containment area. This process should identify the waste stream that has leaked. All the containers of that waste stream would then be checked for leaks.

Wastes from the leaking container will be transferred into a clean container, or the container and its contents will be transferred into an overpack. Liquid in the sump will be transferred from the sump to a clean container via a portable pump. Other suitable methods using absorbents, vacuum systems, etc. may also be used to manage spills. Any container into which wastes are transferred will be appropriately labeled as to the type of waste stored in it and managed in the same manner as was specified for the container from which the waste originated. In the unlikely event that the waste cannot be traced back to a specific container or group of containers, a sample will be analyzed to permit proper definition of the management protocol necessary for the waste. Minor leakage which does not flow to a sump will be absorbed, collected and placed in an appropriately labeled container.

1.4.4 Control of Run-On

The storage areas are completely enclosed within the Thaw Unit, and Truck Wash Bay to prevent ingress of wind borne rain or dispersion of wastes by wind. The Thaw Unit also has an eight inch perimeter curb. Rainwater from the roofs of these storage units is brought to grade level by a system of roof drains. Site grading around the buildings will divert water away from them.

The Rail/Truck Transfer Bay is surrounded by concrete berms which prevent run-on into the containment areas.

Likewise, in Unit 106, each subunit is completely surrounded by perimeter curbs that prevent surface water run-on into the containment areas (see Drawing 43-10-2-D61, sheets 5 - 8, 10 - 12 in Attachment 9 for curb details). The unenclosed containment areas have been designed to accommodate the amount of rainfall that would accumulate from a 25-year, 24-hour storm event (1.9 inches) and 10% of the volume of containers stored as required by 40 CFR 264.175(b)(3). Therefore, run-on is prevented and/or controlled as required by 40 CFR 264.175(b)(4).

1.5 Special Requirements for Incompatible wastes

Thaw Unit 105

When incoming containers are received at Unit 105, the containers will be placed into storage so that any incompatible wastes, as described on the manifests and determined through incoming load procedures, are not placed within the same containment system. Four separate sump systems are provided to contain leaks from containers in Unit 105.

Should one or more containers subsequently be determined to be incompatible with the other wastes stored in a common secondary containment system, the container(s) of incompatible waste will be relocated to another secondary containment system storing compatible wastes. The criteria for determining where a particular waste is stored are based upon considerations of compatibility and storage area capacity. Storage areas in Unit 105 are used interchangeably.

A storage area will be cleaned if a spill has been reported or evidence of a spill is found when removing containers from the storage area. Normal decontamination procedures will be employed in cleaning up spills. Equipment normally employed during cleanups includes brooms, shovels, absorbents, pumps, detergents and wash water.

Containerized Bulk Solids Storage Unit (Unit 106) and Truck Wash Bay (Unit 604)

When received at Unit 106 or 604, incoming containers will be placed in storage so that incompatible wastes, as described by the manifests and determined by incoming load procedures, will not be placed within the same containment system. Should one or more containers subsequently be determined to be incompatible with the other wastes stored in a common secondary containment system, the container(s) of incompatible waste will be relocated to another secondary containment system containing compatible wastes. The criteria for deciding where particular wastes are stored will be based upon considerations of compatibility and storage area capacity. Storage areas will be used interchangeably.

A storage area will be cleaned if a spill has been reported or evidence of a spill is found when removing containers from the storage area. Normal decontamination procedures will be employed in cleaning up spills. Equipment normally employed during cleanups includes brooms, shovels, absorbents, pumps, detergents and wash water.

Rail/Truck Transfer Bay (Unit 535)

In this Unit, wastes will be unloaded from the rail tanker into a road tanker. Only one container will be located in the Rail/Truck Tanker Transfer Unit at any one time so incompatibility with another waste within the unit will not be an issue.

APPENDIX A

CONCRETE COATINGS

Appendix A

Concrete Coatings

The concrete coating systems at the Clive facility consist of four types. Each type is selected to provide the appropriate level of protection against chemical penetration and abrasion for all concrete secondary containment surfaces within Clive. The types are differentiated by the configuration of the surface to which they will be applied. These four types are designated as Type I, II, III and IV. A general, functional specification for each system is provided below.

Type I: Coatings for horizontal surfaces outside of sumps and trenches. These coatings are designed for high volumes of abrasive traffic as well as for excellent chemical resistance.

Type II: Coatings for sumps and trenches. These coatings provide a very high degree of chemical resistance. These coatings may also be used for coating joints in the concrete outside of sumps and trenches.

Type III: Coatings for vertical surfaces outside of sumps and trenches. These coatings are similar to Type I coatings, except that they have a somewhat lesser degree of abrasion resistance.

Type IV: Coatings for expansion joints, construction joints, corner fillets, and repairing cracks. These coatings are more elastic than most of the other coatings to provide a seal while accommodating slight movements of the concrete. Type IV coating is only used where slab movement is experienced or anticipated.

The following coating system specification establishes the minimum standards for each system. A coating system that meets or exceeds these standards may be substituted.

Type I: Horizontal Surfaces

- Tnemec Series 66 Hi-Build Epoxoline (12 mils minimum) topped by Tnemec Series 71 Endura-Shield (2.5 mils minimum) or,
- Sentry Semstone 140 (30 mils minimum) topped by Semstone 245 (10 mils minimum) or,
- Rust-Oleum CPS Lite Overkote (30 mils minimum) topped by Overkote Plus (10 mils minimum) or,
- ¼ inch of Koch TECHNI-PLUS EP 60 SL

Type II: Sumps & Trenches

- Tnemec Series 66 Hi-Build Epoxoline (12 mils minimum) or,
- Sentry Semstone 245 (50 mils minimum) topped by Semstone 245 (60 mils minimum) or,
- Rust-Oleum Overflex (60 mils minimum) topped by Overkote Plus (125 mils minimum)

Type III: Vertical Surfaces

- Tnemec Series 66 Hi-Build Epoxoline (12 mils minimum) or,
- Sentry Semstone 140 (30 mils minimum) topped by Semstone 245 (10 mils minimum) or,
- Rust-Oleum CPS Lite Overkote (30 mils minimum) topped by Overkote Plus (10 mils minimum) or,
- ⅛ inch Koch TECHNI-PLUS EP SL

Type IV: Expansion & Construction Joints, Crack Repair

- Tnemec Series 66 Hi-Build Epoxiline (12 mils minimum) topped by Tnemec Series 71 Endura-Shield (2.5 mils minimum) or,
- Sentry Semstone 805 (50 mils minimum) with Semstone 805 coating fabric strip immersed in Semstone 805 (10 mils minimum) topped with SPX 5100 (10 mils minimum) or,
- Rust-Oleum Overflex (60 mils minimum) with woven roving fiberglass strip topped by Overkote Plus (125 mils minimum)