



Westinghouse
Savannah River Company

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Aiken, SC 29802

690809

ESH-FSS-94-0455

July 26, 1994

CERTIFIED

Mr. John J. Schnabel, P. E.
Facility Engineering Section
Division of Solid Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201

Dear Mr. Schnabel:

DESIGN PROPOSAL FOR SEALING GAP AT Z-AREA SALTSTONE VAULT ONE, CELL A (U)

John, per your request, we are forwarding you a design proposal (see attachment) for sealing the gap at Z-Area Saltstone vault one, cell A. We have followed your recommendation for a design that completely fills the gap between the cell wall and the cell contents (saltstone). Several site engineers have reviewed this proposal and believe it will ensure the integrity of the vault and its contents.

Upon your review of the design proposal, please give us your thoughts and comments and let us know if we can proceed to make the proposed changes. If you have any questions or if I can be of further help, please let me know.

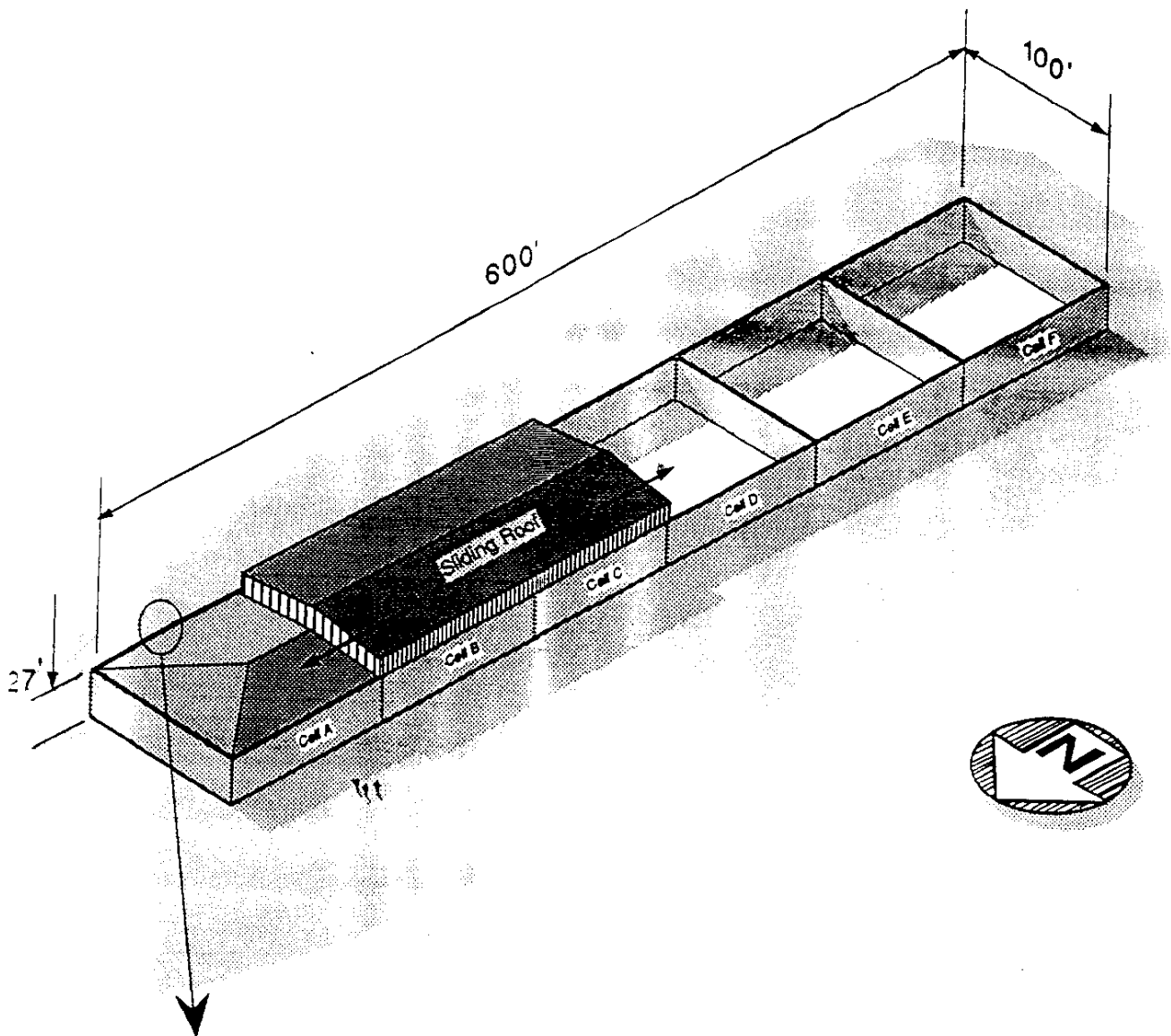
Sincerely,

Larry C. Haney
Environmental Protection Department

LCH:sam
Attachment

CC: Tim Fox, SCDHEC-Aiken
Bob Benson, SCDHEC-Aiken
A. B. Gould, DOE-703-47A
A. L. Towns, DOE-ECD, 704-S
W. C. Whitaker, DOE-ECD, 703-47A
D. G. Thompson, 704-Z

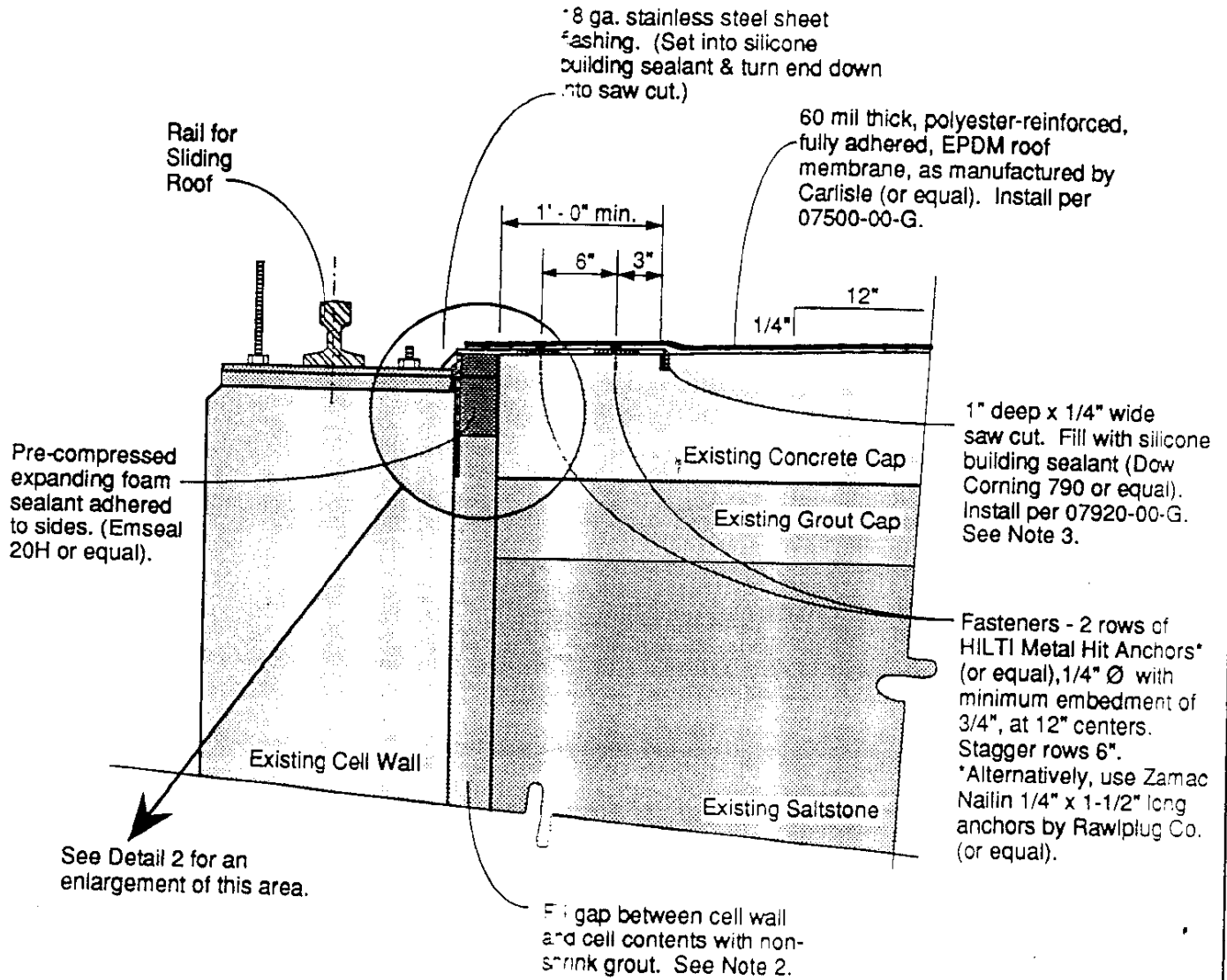
Ron Reeves, 704-25S
Don Morris, 742-A
Sandra J. Carroll, 742-A
Lori Coward, 742-5A
EPD File, 742-A
Records Administration, 773-52A



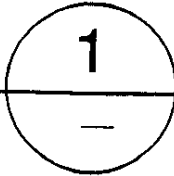
See Detail 1 for an enlargement of this area.

SALTSTONE VAULT =1 ISOMETRIC

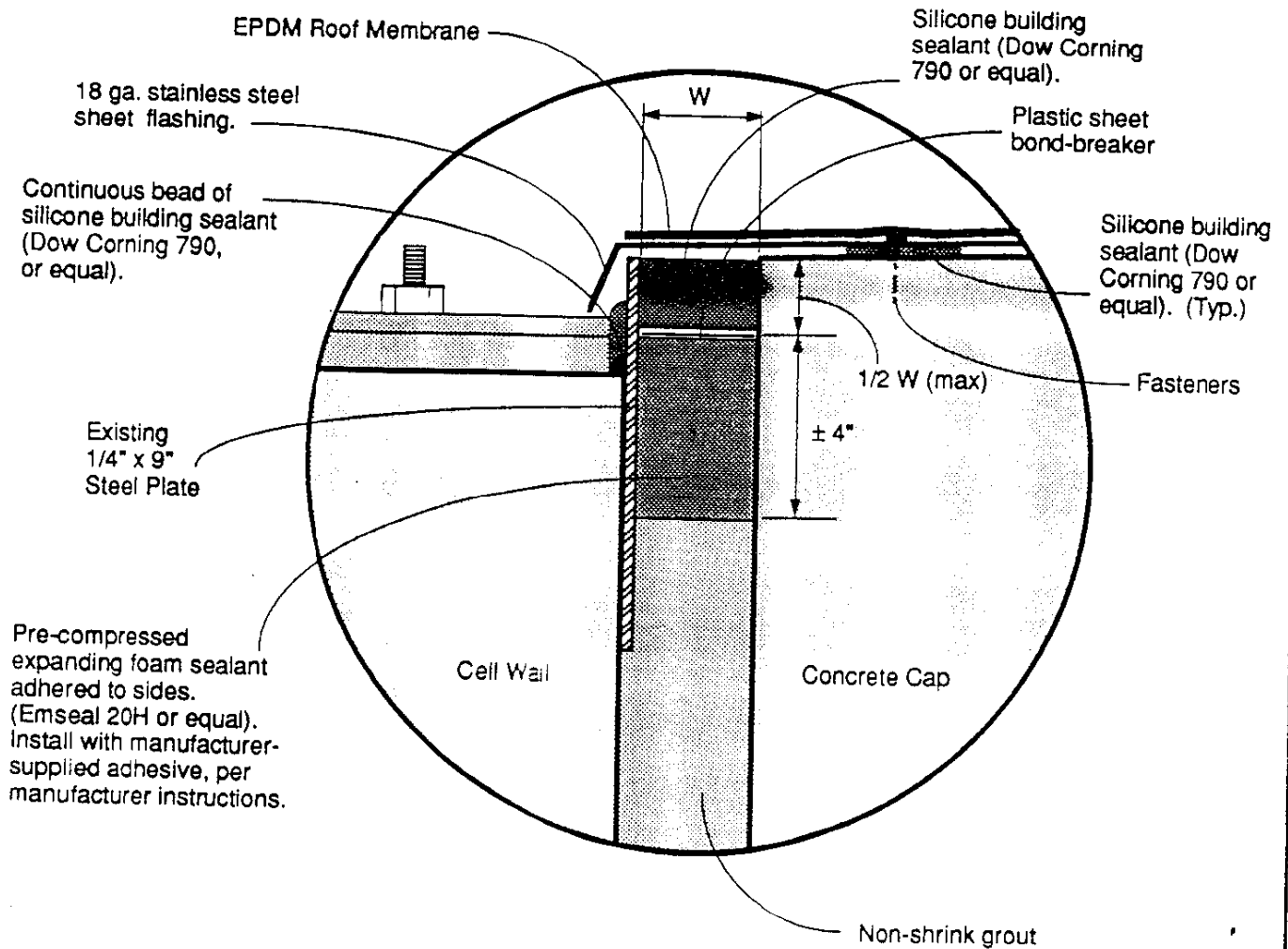
SCALE: 1" = 100'-0"



DETAIL



SCALE: 1" = 1'-0"



DETAIL

2

SCALE: 3" = 1'-0"

NOTES:

1. On the east, north, and west sides of the concrete cap, saw-cut a groove 1-inch deep and 1/4-inch wide on the top surface of the cap. Groove shall be a minimum of 1 foot away from the edge of the concrete cap. Clean out groove ensuring the removal of all loose materials.
2. Prior to installation of gap seal materials, ensure that entire gap has been cleared of existing water stop, debris, dust, and other foreign materials. Where accessible, wire-brush existing vertical steel plate on cell wall to remove any rust or loose material.
3. Install non-shrink grout in the gap between the existing cell walls and the cell contents in accordance with the requirements of SRSESM 03600-01-F. Grout shall be in flowable form, and shall be placed in maximum 3-foot lifts to ensure that vault walls do not deflect excessively due to hydraulic pressure. Top of grout shall be a minimum of 6 inches below top of vertical steel plate. No aggregate shall be included in the grout. Grout shall be allowed to cure a minimum of 24 hours between lifts.
4. In the gap above the non-shrink grout, install Emseal 20H expanding foam strips (or equal). Alternatively, WEBAC 157 may be used. Install in accordance with manufacturer's instructions. Use manufacturer-supplied adhesive on both sides of the gap. Use appropriately sized material for width of gap. Where existing expansion joint material is undamaged and firmly adhered to both faces of the gap, it may be left in place as a backing material for the silicone building sealant. If this material is to remain, remove top 1-inch.
5. Insert plastic bond-breaker sheet on top of expanding foam strips (or existing expansion joint material) prior to installing the single component, liquid-applied silicone building sealant. Sealant shall be Dow Corning 790 silicone sealant (or equal). Depth of sealant shall not exceed 1/2 the width of the gap. Ensure placement of bond-breaker sheet does not prevent adherence of sealant to sides of gap.
6. Apply a continuous bead of silicone building sealant (Dow Corning 790, or W. R. Meadows Sealright cold-applied Sof-seal, or equal) at the intersection of the exterior face of the existing vertical steel plate, and the top edge of the cell wall and rail support plates.
7. Install 1/8 gage stainless steel sheet flashing on top of concrete cap, in a bed of silicone sealant. As an alternative to the sealant bed, a strip of roll-out sealant may be used under the flashing anchors. Turn upper end of top flashing down into the saw-cut groove. Flashing shall be attached to the concrete cap by two rows of HILTI Meta-Hit Anchors* (or equal), 1/4" Ø, with a minimum embedment of 3/4 inch. Stagger the two rows of fasteners by 6 inches. Lap flashing joints 2 inches minimum, and seal laps with building sealant. Fill saw-cut groove completely with silicone building sealant, and top top of sealant flush with top edges of saw-cut groove. Alternatively, use Rawplug Zamac Nail anchors, 1/4" Ø x 1-1/2" long).
8. Ensure that the gaps under the existing rails on top of the cell wall are clear of obstructions, allowing run-off water from the roof to drain under the rails. In the northeast corner of the cell, where no gap exists under the rails between the rail support plates, the concrete below the rails in this location shall be removed to the top of the wall to allow for drainage between the rail support plates.
9. Lift existing flashing with neoprene skirt, attached to the sloping roof structure at south end of Cell A. Install, per manufacturer's instructions, a fully adhered, 60-mil thick, polyester-reinforced EPDM roof membrane (Carlisle or equal) across top of entire Cell A concrete cap. On the east, north, and west side, overlap the EPDM membrane over the flashing and terminate the membrane at the flashing bend. On the south side, leave a minimum of 2 feet. of extra membrane rolled up. This will be used to overlap and splice with the roof membrane that will be installed on Cell B in the future. Ensure that rolled-up excess EPDM membrane is underneath the flashing.
10. Construction to take extra precaution to prevent water infiltration while performing this task.
11. The EPDM roof membrane shall be protected from damage due to Operations or Construction activities on the adjacent cell.

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Record Indexing

*Required with all records submitted to D&RA
 Print or type in black ink.*

Transmittal No.

Part A — Transmittal

To Document and Records Administration		Location 773-52A	Date 7/27/94	
From EPD File		Location 742-A	Dept EPD	Phone 5-4672

Items in shaded fields are required for all records.

Keywords and other information are also required and shall be supplied as necessary to insure accurate and timely record retrieval.

Part B — Indexing Information (Completed by Originator)

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Author/Originator L. C. Haney			
Security Classification of Record Unclassified			
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Building	Elevation	Area	
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Part C — For D&RA Use Only

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