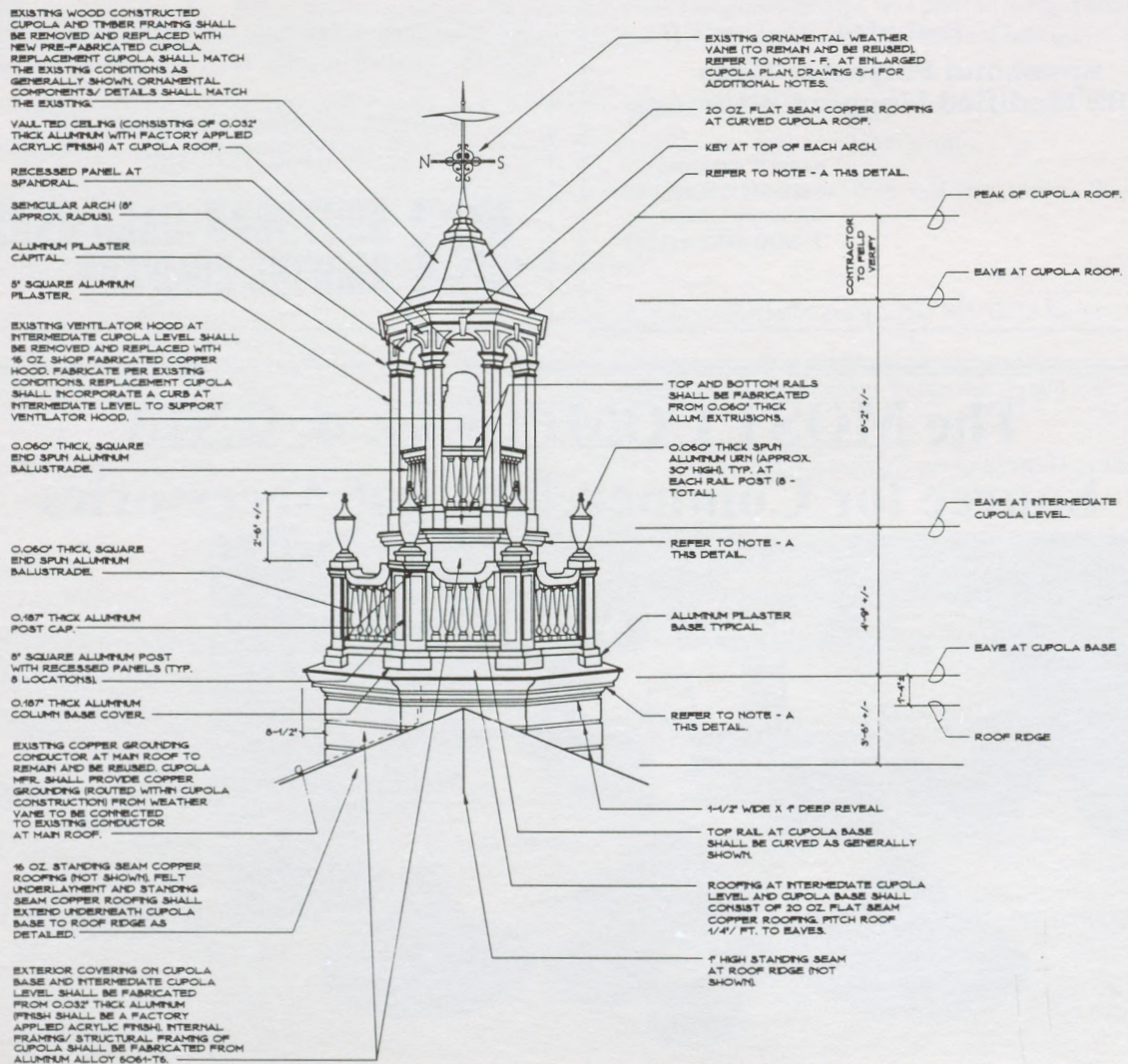


# 1994 Document Competition Winners

The following pages provide a look at details from last year's Document Competition winners. This annual competition, open to RCI Professional members, accepts entries for three categories: 1) large roofing and waterproofing projects, 2) small roofing and waterproofing projects, and 3) roof reports. A select panel of RCI volunteers judges the entries for excellence in regard to organization, format, clarity and appearance. All entries for the upcoming 1995 competition should be submitted to RCI Headquarters by February 15, 1995. Call RCI for more information.

## FIRST PLACE: LARGE PROJECT

**Michael R. Fisher**  
Hamden, Connecticut



### ELEVATION A-A

N.T.S.

**NOTE - A:**  
CORNICHE AT EAVE OF CUPOLA ROOF, INTERMEDIATE CUPOLA LEVEL AND CUPOLA BASE SHALL MATCH THE EXISTING PROFILES.

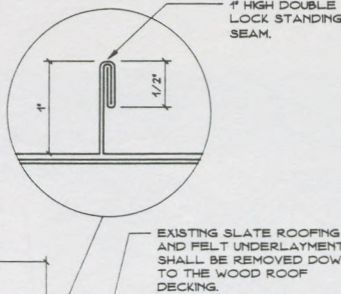
**NOTE - B:**  
FINISH ON ALL ALUMINUM CUPOLA COMPONENTS SHALL BE SHOP APPLIED AND SHALL TYPICALLY CONSIST OF A ZINC CHROMATE PRIMER (2 COATS) AND INDUSTRIAL VINYL FINISH (2 COATS).

16 OZ. FIELD FORMED STANDING SEAM COPPER ROOFING. ROOFING PANS SHALL BE 16" WIDE AND SHALL BE FASTENED TO THE ROOF DECKING WITH 2" WIDE, 16 OZ. FIXED COPPER CLEATS LOCATED 12" O.C. REFER TO TYP. CLEAT DETAIL, THIS DWG. TRANSVERSE SEAMS SHALL BE STAGGERED AND SHALL BE SYMMETRICAL IN LOCATION. REFER TO TYP. TRANSVERSE SEAM DETAIL, THIS DWG.

1" HIGH, DOUBLE LOCK STANDING SEAM.

ROSIN-SIZED BUILDING PAPER INSTALL OVER FELT UNDERLAYMENT. SECURE TO ROOF DECKING.

EXISTING TONGUE AND GROOVE WOOD ROOF DECKING. REFASTEN ALL LOOSE AND/OR INADEQUATELY FASTENED SECTIONS AS DIRECTED BY THE ENGINEER. DETERIORATED SECTIONS SHALL BE REMOVED AND REPLACED ON A UNIT PRICE BASIS AS DIRECTED BY THE ENGINEER.



EXISTING SLATE ROOFING AND FELT UNDERLAYMENT SHALL BE REMOVED DOWN TO THE WOOD ROOF DECKING.

30 LB. SATURATED ROOFING FELT UNDERLAYMENT. SECURE TO ROOF DECKING WITH COPPER NAILS WITH 1" SQUARE/ROUND SHEET COPPER WASHERS.

## TYP. SECTION AT ROOF TYPE - A

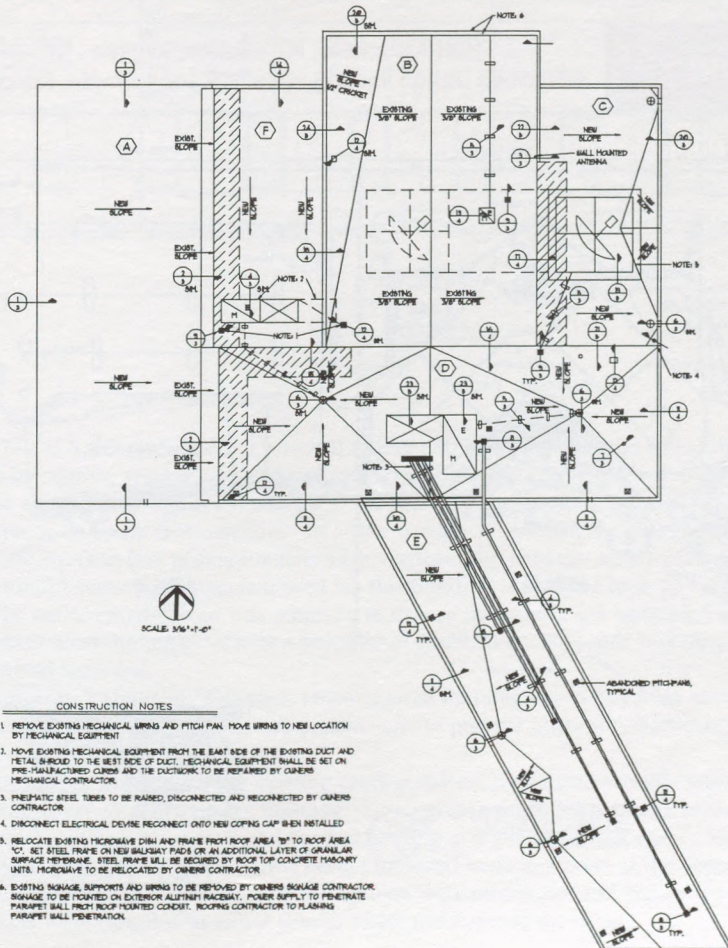
N.T.S.

"The scope of work generally entailed the complete removal of the existing slate roofing and the installation of a shop fabricated, 16-oz. standing seam copper roofing system. Prior to the installation of the standing seam roofing, a 30-lb. saturated felt underlayment and rosin-sized paper were applied over the tongue and groove wood roof decking. "Ice and water shield" membrane was applied within the valleys and gutter liner as additional waterproofing protection. Additionally, the built-in gutter liner, ornamental conductor heads and leaders were also replaced. A 0.045-in. thick, reinforced fully-adhered EPDM roofing systems was employed at the lower porch roofs located at either end of the building.

The project also entailed the restoration of the cupola. This included the removal of the existing wood framed cupola and the installation of pre-manufactured cupola. Flat seam copper roofing was employed at the curved cupola roof, cupola intermediate level and cupola base."

## FIRST PLACE: SMALL PROJECT

Law Engineering, Inc.  
Tampa, Florida



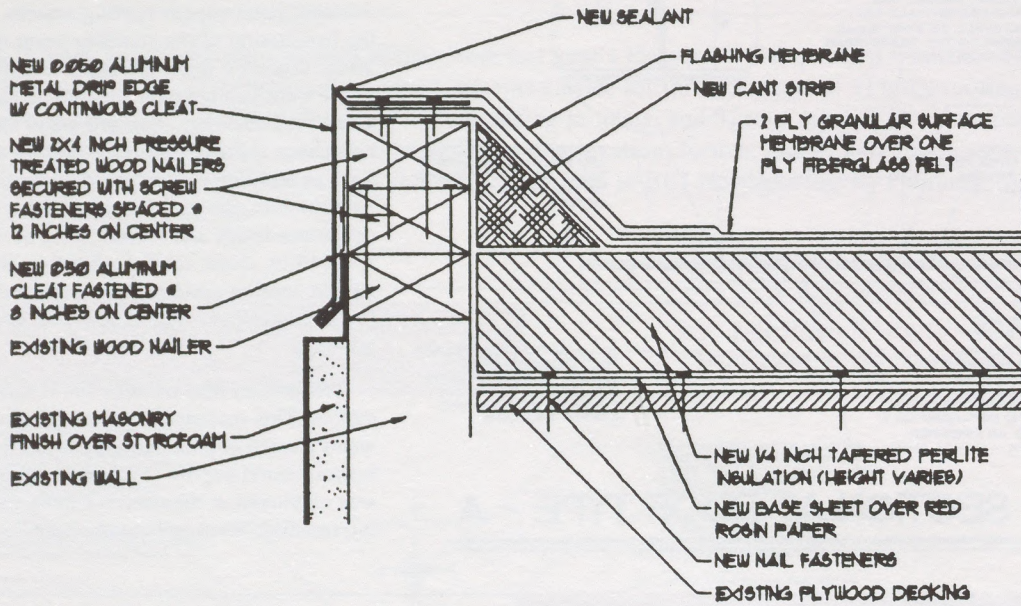
### CONSTRUCTION NOTES

1. REMOVE EXISTING MECHANICAL WIRING AND PITCH PAN. MOVE WIRING TO NEW LOCATION BY MECHANICAL EQUIPMENT.
2. MOVE EXISTING MECHANICAL EQUIPMENT FROM THE REAR SIDE OF THE EXISTING DUCT AND METAL SHROUD TO THE REAR SIDE OF DUCT. MECHANICAL EQUIPMENT SHALL BE SET ON PRE-FABRICATED CURBS AND THE DUCTWORK TO BE REPAIRED BY OWNERS MECHANICAL CONTRACTOR.
3. PNEUMATIC ATTEN TUBES TO BE RAISED, DISCONNECTED AND RECONNECTED BY OWNERS CONTRACTOR.
4. DISCONNECT ELECTRICAL DEVIATE RECONNECT ONTO NEW COPING CAP WHEN INSTALLED.
5. RELOCATE EXISTING MICROWAVE DISH AND FRAME FROM ROOF AREA 10" TO ROOF AREA 10". SET STEEL FRAME ON NEW BALCONY PADS OR AN ADDITIONAL LAYER OF GRANULAR SURFACE MEMBRANE. STEEL FRAME WILL BE SECURED BY ROOF TOP CONCRETE/MASONRY UNITS. MICROWAVE TO BE RELOCATED BY OWNERS CONTRACTOR.
6. EXISTING SIGNAGE, SUPPORTS AND WIRING TO BE REMOVED BY OWNERS SIGNAGE CONTRACTOR. SIGNAGE TO BE REINSTALLED ON EXTERIOR ALUMINUM RAILS. POWER SUPPLY TO PENETRATE PARAPET SHALL PROTECT ROOF POINTED CONCRETE. ROOFING CONTRACTOR TO FLASHING PARAPET WALL PENETRATION.

### LEGEND

⊠	ABANDONED PENETRATION
≡	NEW PITCH PAN
⊞	NEW ROOF DRAIN
○	EXISTING PLUMBING VENT PIPE
— — —	NEW EXPANSION JOINT
— — —	NEW SCHEDULE 40 PVC CONDENSATE LINE WITH WOOD BLOCKING
⊞	EXISTING MECHANICAL EQUIPMENT AND METAL DUCT THROUGH
⊞	ROOF AREA DESIGNATION
⊞	DETAIL NUMBER
⊞	PAGE NUMBER
⊞	INSTALL ADDITIONAL PLY OF GRANULATED SURFACE MEMBRANE SECURED IN HOT ASPHALT

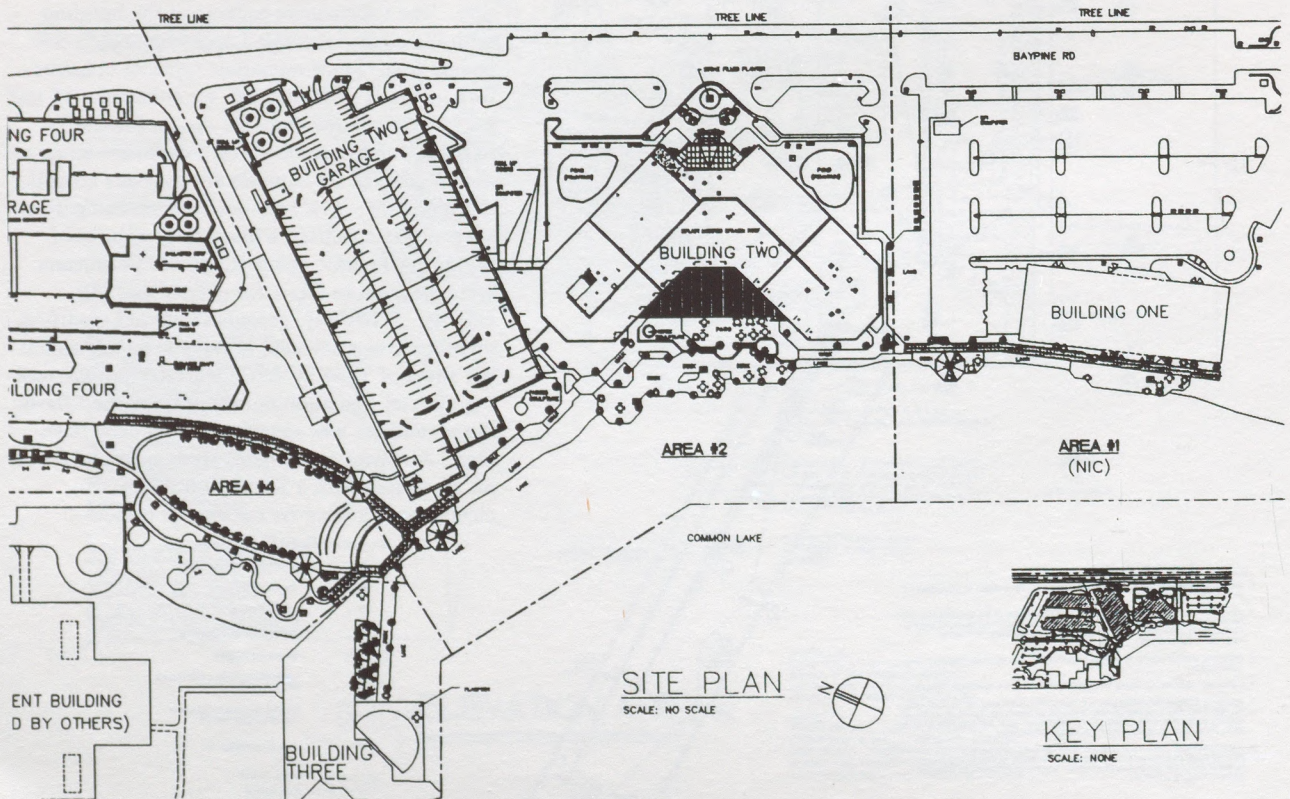
"The project was a single-story structure located in Winter Haven, Florida. The building was originally approximately 1,500 square feet with three additions added to the original structure. The total square footage of the building with the additions totaled approximately 3,800 square feet. Since numerous types of construction methods were utilized, we conducted 15 test cuts to various locations on the roof to verify existing conditions, existing component structure and to analyze the samples for asbestos containing materials. A 1/4-in. per foot tapered perlite system was specified with supplemental roof drains. All curbs, penetrations and perimeters were elevated to allow for proper flashing heights. A two-ply, granular-surfaced modified membrane was selected to include an additional ply sheet of Type IV felt integrated into the roofing system. An aluminum faced modified flashing membrane was specified for all base flashings. All sheet metal items were specified 0.050-in. aluminum with a Kynar 500 finish. No change orders were issued on this project."

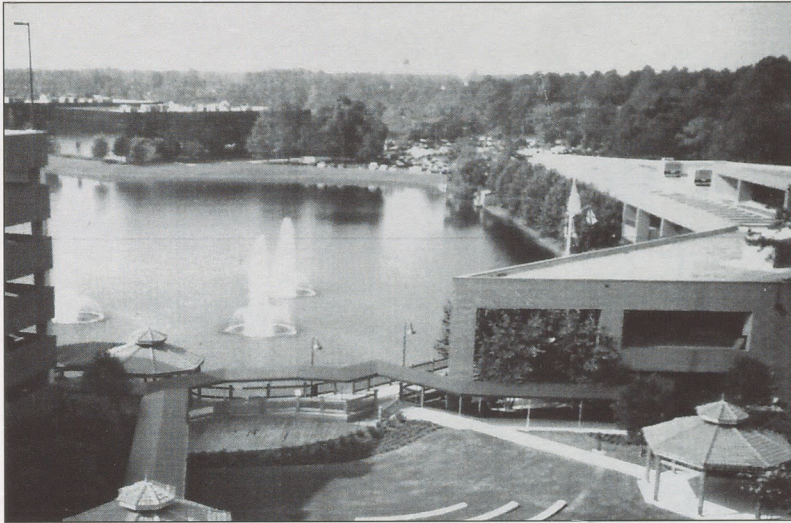


Detail of Law Engineering, Inc.'s first place small project.

FIRST PLACE: ROOF REPORT

HDH Associates, PC • Salem, Virginia  
Advanced Design Roofing Systems • Jacksonville, Florida

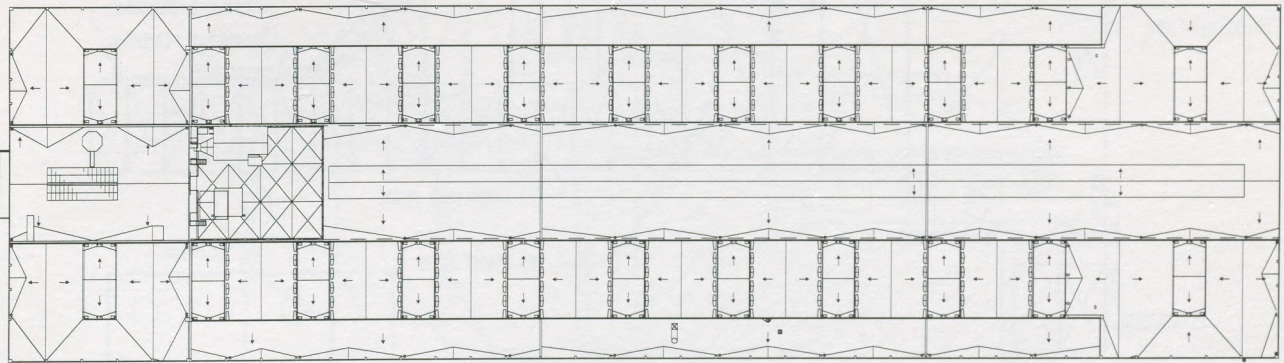




“The purpose of this investigation was to identify and evaluate on-site conditions of the buildings and the surrounding grounds such that, through remedial improvements or remedial maintenance, the property owner should expect reduced losses from physical damage resulting from a hurricane of Category 1, 2, 3, 4 and 5. The purpose of this study was also to produce a document identifying ways to protect the property and building contents and to allow the facilities to regain operational capabilities, with the shortest possible downtime, during or immediately after a hurricane, regardless of the storm’s classification. These categories primarily are remedial activities, preventive maintenance and storm readiness.”

**SECOND PLACE: LARGE PROJECT**

**Thomas K. Butt, AIA**  
**Point Richmond, California**



1 ROOF PLAN



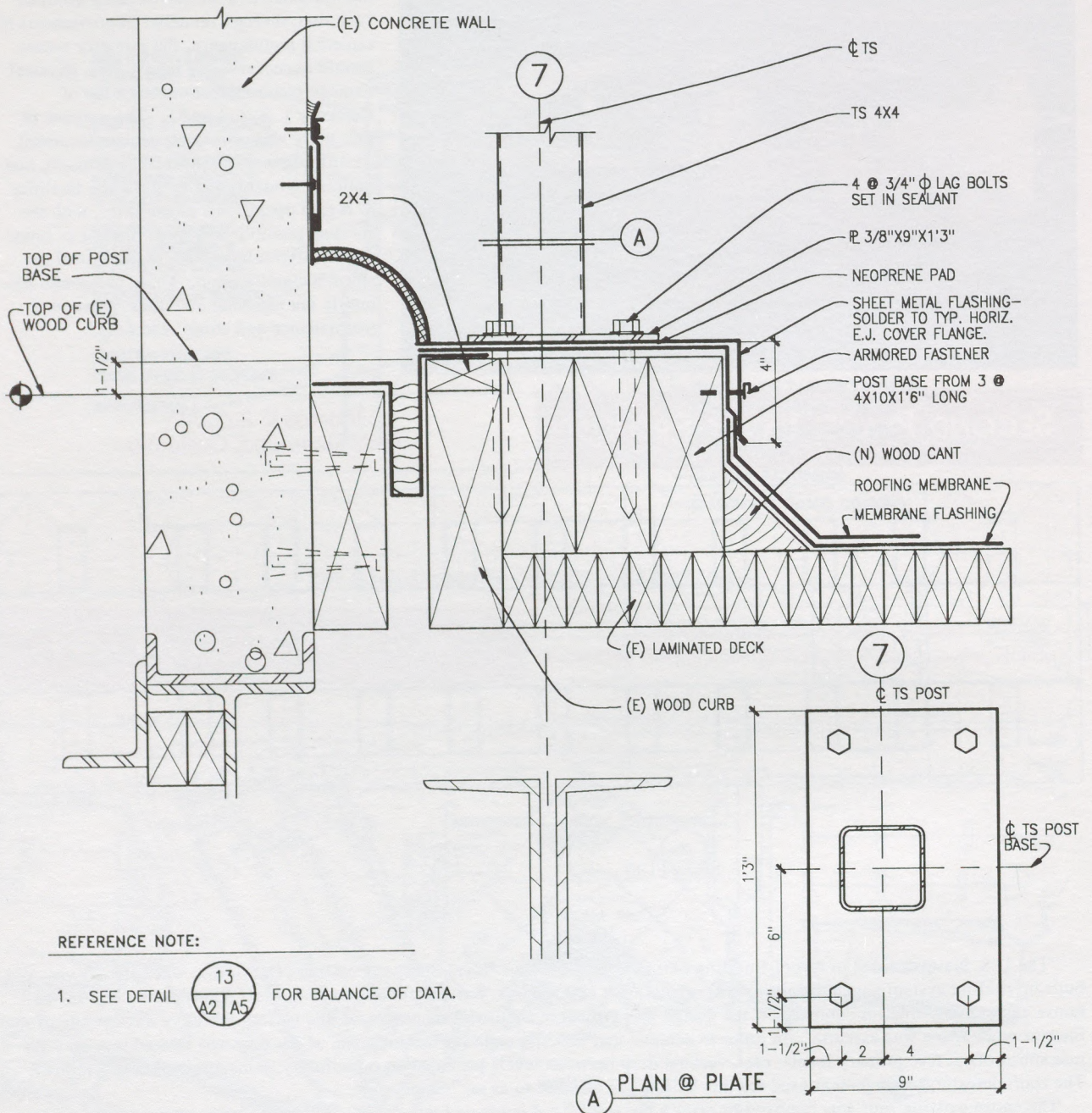
“The U.S. Navy decided to reroof Building 680 of its Mare Island Naval Shipyard, Vallejo, California, when the 22-year-old built-up roofing system began to fail in 1991. Totalling 2,260 squares, Building 680 is one big roof! Constructed in 1939 to house an assembly line for submarines, the design was typical of industrial structures of this period; effective daylighting of the interior work space was essential. In order to achieve that end, the main horizontal plane of the roof was broken into 46 separate sub-roofs at five primary levels; each vertical drop between levels provided an opportunity to install clerestory windows. The roof/clerestory arrangement used for this building is referred to as an “aiken” roof.

The entire existing roof was removed to expose the solid 2 x 4 laminated wood deck. Original slopes were retained as they provided good drainage. A new 4-ply, gravel-surfaced built-up roof was then installed. Specific challenges our design addressed included:

**Building Expansion Joints:** A manufactured building expansion joint cover system (Expand-O-Flash) was selected to replace fabricated sheet metal components and to provide continuity between horizontal and vertical lengths of the expansion joint (see illustration, next page).

**Perimeter Flashing:** The existing roofing system terminated at walls with membrane flashing only. These had failed and allowed water to penetrate the building. Low parapet walls did not have copings. Our solution included installing surface mounted reglets with sheet metal counterflashing at walls and sheet metal copings at all parapet walls.

**Built-in Gutters:** The original design included built-in gutters at the uppermost roof that ran the length of the building and were in questionable condition. These gutters were eliminated and replaced with conventional roof drains and overflow drains. Crickets were installed at either side to direct the water to the drain.”



15
A2   A5

**OPTICS DECK — EXPANSION JOINT @ STAIR POST**

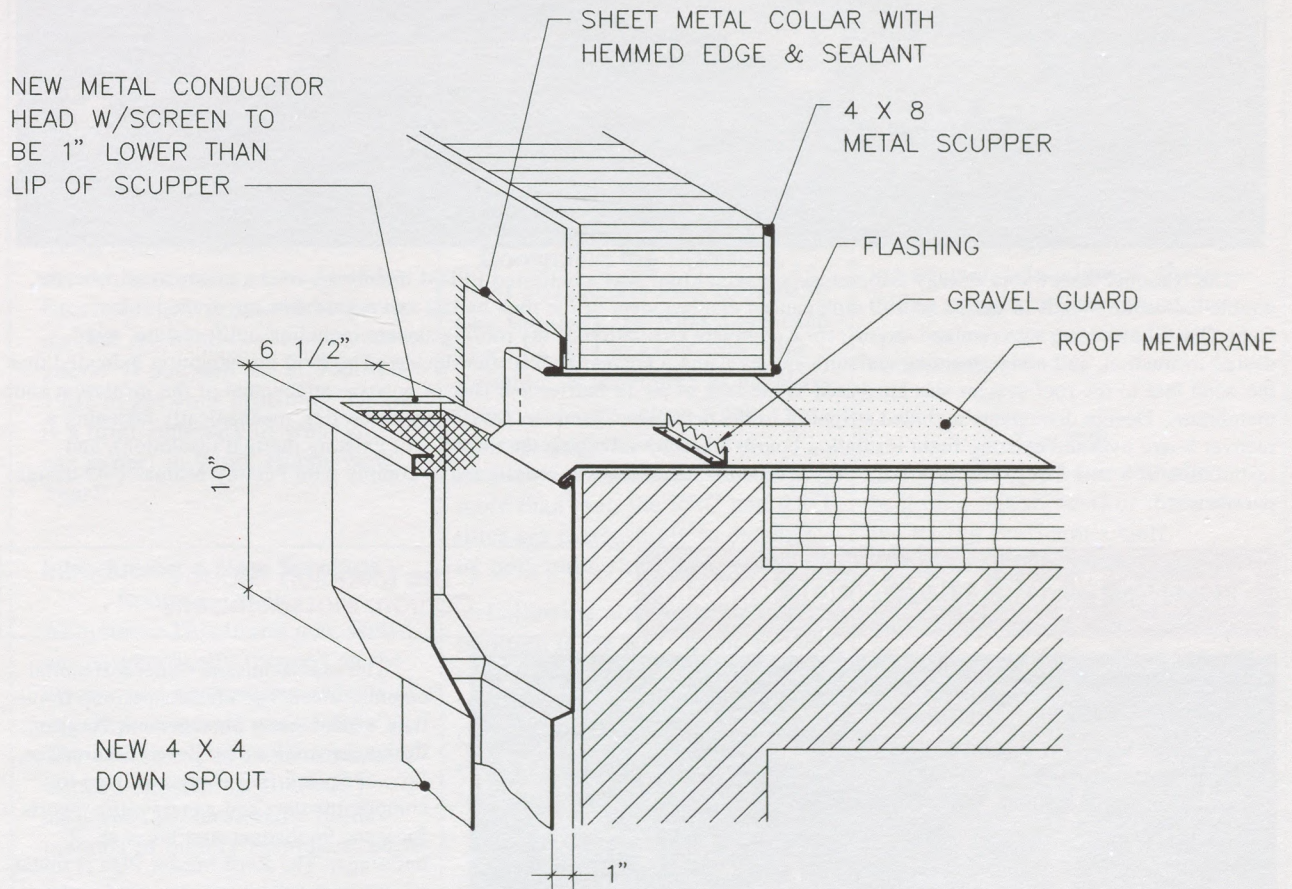
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SCALE: 3"=1'0"

*Detail of Thomas K. Butt's second place large project.*

SECOND PLACE: SMALL PROJECT

Austin • Dillon • Cook Engineering, Inc.  
Hanahan, South Carolina

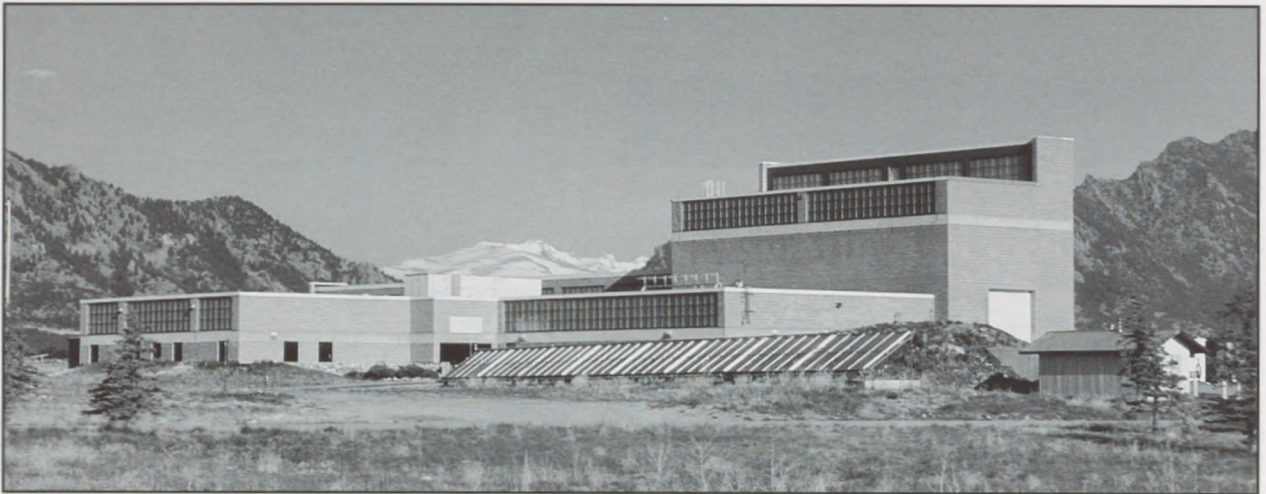


13 NEW SCUPPER  
R3|R6 NTS

“This project, the Myrtle Beach Fire Station No. 2, included the investigation of the entire building envelope and a written report which provided direction on corrective actions. A design was then undertaken for a complete re-roofing of the facility. Provided is an example of an isometric detail of a sheet metal scupper for the re-roof design. Drawings included existing roof plan and details, plus the new roof and details.”

**SECOND PLACE (TIE): ROOF REPORT**

**CyberCon Engineering, Inc.**  
 Littleton, Colorado



“The National Renewable Energy Laboratory’s original roof was a ballasted EPDM membrane over a prestressed concrete, double tee deck. Winds in excess of 140 mph caused displacement of the rock ballast and severe damage to the roof. CyberCon Engineering was retained to perform a complete evaluation of the roofing system including uplift testing, wind design evaluation, and nondestructive moisture survey using a nuclear backscatter device. The field investigation indicated that the wind loss to the roof system was attributed to the lack of an air barrier and lack of positive attachment of the insulation and membrane. Design documents included stripping-in the deck panel joints to provide an air barrier, mechanically fastening a recover board over the existing foam insulation boards (thereby salvaging the majority of existing thermal insulation), and installation of a new 4-ply, built-up roof. Perimeter metal cladding was redesigned to comply with Factory Mutual 1-49 design parameters.”

**SECOND PLACE (TIE): ROOF REPORT**

**The Meridian Group**  
 Canton, Massachusetts



“The Massachusetts General Hospital commissioned The Meridian Group to initiate a Roof Asset Management Program. Computer software by Bruco Enterprises, Inc., of Spring, Texas, was utilized to compile the data and generate the reports for some 96 distinct roof areas on 26 buildings. The Roof Master Plan is updated yearly to reflect ongoing roof replacements and repairs and to identify new preventive maintenance tasks. The Meridian Group has used the same approach in establishing Roof Asset Management Programs for three other clients in both the public and private sectors in the year prior to this report.”