

# INFORMAL CONTRACT

FOR

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

## ROOF REPLACEMENT AT NEWLAND SALT STORAGE DOME HIGHWAY DIVISION 11 / AVERY COUNTY 171 NCDOT Road, Newland, NC 28657

### SCOPE OF WORK

This project consists of removing and disposing of the existing storage dome's approximately 5,600 SF of deteriorated asphalt shingle roofing, and installing a new 30 year asphalt shingle roofing system. The work includes repairing some damaged roof dome structure wood framing and sheathing. The scope includes providing all related materials, roof vents, flashing, trim, preparation, repair and replacement work specified, reasonably implied or required for a complete first-class roof replacement and roof framing repair job.

### NOTICE TO BIDDERS

Sealed proposals for this work will be received by the NCDOT Project Administrator at the following location:

Joe L. Laws, PE  
Division 11 Project Manager

Physical address:

N.C. Department of Transportation  
Highway Division 11  
801 Statesville Road  
North Wilkesboro, NC 28659

Mailing address:

N.C. Department of Transportation  
Highway Division 11  
P. O. Box 250  
North Wilkesboro, NC 28659

Telephone: 336.903.9138      Fax: 336.667.4549  
email: [jlaws@ncdot.gov](mailto:jlaws@ncdot.gov)

up to **2:00PM, on Thursday, May 30, 2013** and immediately thereafter publicly opened and read aloud. Contractors are not required to be present at the bid opening. All bidders will be notified of the results of the bidding and upon request may receive a copy of the bid tabulation form.

Plans, Specifications, and Contract Documents for this project are contained herewith and consist of the Informal Contract: Scope of Work, Notice to Bidders, General and Supplementary General Conditions, Technical Specifications, the Proposal and Contract, and Drawings: A 1 - Location Map, A2 - Reference Framing Plan, and A3 - Photos.

Project Oversight:      Jerry Combs, County Maintenance Engineer  
Avery County Maintenance  
171 NCDOT Road  
Newland, NC 28657  
Telephone: 828.733.2776      email: [jjcombs@ncdot.gov](mailto:jjcombs@ncdot.gov)

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Contractors are hereby notified that they must have proper license under the State laws governing their respective trades and that North Carolina General Statute 87 will be observed in receiving and awarding contracts. General Contractors must have general license classification for **Construction: Specialty Contractor S (Roofing)**.

**A bid bond, performance bond, and payment bond will not be required.**

No bid may be withdrawn after the opening of bids for a period of 30 days. The Owner reserves the right to reject any or all bids and waive informalities. Proposals shall be made only on the form provided herein with all blank spaces for bids properly filled in and all signatures properly executed.

Please note on the envelope or transmittal – **Bid Proposal: Attn:** Joe L. Laws, PE  
Roof Replacement at Newland Salt Storage Dome  
Bid Opening: May 30, 2013  
(Contractor)  
(License Number)

### **PRE-BID CONFERENCE**

A mandatory pre-bid meeting will be held on site at **10:00 AM Thursday, May 23, 2013** (Meet at the Dome). A guided tour of the facility and construction site will be conducted at this time to review and discuss the project requirements and answer questions. There will be no other site visits prior to the bid. Any questions during the bid period are to be directed to the Project Administrator, Joe L. Laws, via e-mail. Addenda will be issued with the minutes of the pre-bid meeting, and as required.

### **ACCESS TO THE SITE AND USE OF PREMISES**

The Owner's on-site contact person will be **Mr. Jerry Combs, Telephone: 828.733.2776.**

### **PROJECT DESIGNER REPRESENTATIVES**

The Project Administrator and On-site Contact persons are authorized representatives of the Project Design Oversight. Hereinafter the word "Designer" will refer to the Project Administrator.

## **GENERAL CONDITIONS**

### **GENERAL**

It is understood and agreed that by submitting a bid that the Contractor has examined these contract documents, drawings and specifications and has visited the site of the Work, and has satisfied himself relative to the Work to be performed.

### **MATERIALS, EQUIPMENT AND EMPLOYEES**

The contractor shall, unless otherwise specified, supply and pay for all labor, transportation, materials, tools, apparatus, lights, power, fuel, sanitary facilities and incidentals necessary for the completion of his work, and shall install, maintain and remove all equipment of the construction, other utensils or things, and be responsible for the safe, proper and lawful construction, maintenance and use of same, and shall construct in the best and most workmanlike manner, a complete job and everything incidental thereto, as shown on the plans, stated in the specifications, or reasonably implied there from, all in accordance with the contract documents.

All materials shall be new and of quality specified, except where reclaimed material is authorized herein and approved for use. Workmanship shall at all times be of a grade accepted as the best practice of the particular trade involved, and as stipulated in written standards of recognized organizations or institutes of the respective trades except as exceeded or qualified by the specifications.

No changes shall be made in the Work except upon written approval and change order of the Designer/Owner. Change orders shall be subject to provisions in the current North Carolina Construction Manual.

Products are generally specified by ASTM or other reference standard and/or by manufacturer's name and model number or trade name. When specified only by reference standard, the Contractor may select any product meeting this standard, by any manufacturer. When several products or manufacturers are specified as being equally acceptable, the Contractor has the option of using any product and manufacturer combination listed.

However, the contractor shall be aware that the cited examples are used only to denote the quality standard of product desired and that they do not restrict bidders to a specific brand, make, manufacturer or specific name; that they are used only to set forth and convey to bidders the general style, type, character and quality of product desired; and that equivalent products will be acceptable. Substitution of materials, items or equipment of equal or equivalent design shall be submitted to the architect or engineer for approval or disapproval; such approval or disapproval shall be made by the architect or engineer prior to the opening of bids.

If at any time during the construction and completion of the work covered by these contract documents, the conduct of any workman of the various crafts be adjudged a nuisance to the Owner or if any workman be considered detrimental to the work, the Contractor shall order such parties removed immediately from the site.

The contractor shall designate a foreman/superintendent who shall direct the work.

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## CODES, PERMITS AND INSPECTIONS

The Contractor shall obtain the required permits, if required, give all notices, and comply with all laws, ordinances, codes, rules and regulations bearing on the conduct of the work under this contract. If the Contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the Designer in writing. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, codes, rules and regulations, and without such notice to the Owner, he shall bear all cost arising there from.

All work under this contract shall conform to the current North Carolina Building Code and other state and national codes as are applicable

Projects constructed by the State of North Carolina or by any agency or institution of the State are not subject to county or municipal building codes and may\* not be subject to inspection by county or municipal authorities. The Contractor shall, however, cooperate with the county or municipal authorities by obtaining building permits. Permits may be obtained by the contractor at no cost to the owner.

\*Inspection and certification of compliance by local authorities is necessary if an architect or engineer was not employed on the project, or if the plans and specifications were not approved and the construction inspected by the State Construction Office.

**(An NCDOT engineer is employed on this project.)**

## SAFETY REQUIREMENTS

The Contractor shall be responsible for the entire site and the construction of the same and provide all the necessary protections as required by laws or ordinances governing such conditions and as required by the Owner or Designer. He shall be responsible for any damage to the Owner's property or that of others on the job, by himself, his personnel or his subcontractors, and shall make good such damages. He shall be responsible for and pay for any claims against the Owner arising from such damages.

The Contractor shall adhere to the rules, regulations and interpretations of the North Carolina Department of Labor relating to Occupational Safety and Health Standards for the Construction Industry (Title 29, Code of Federal Regulations, Part 1926 published in Volume 39, Number 122, Part 11, June 24, 1974 Federal Register), and revisions thereto as adopted by General Statutes of North Carolina 95-126 through 155.

The Contractor shall provide all necessary safety measures for the protection of all persons on the work, including the requirements of the AGC Accident Prevention Manual in Construction as amended, and shall fully comply with all state laws or regulations and North Carolina Building Code requirements to prevent accident or injury to persons on or about the location of the work. He shall clearly mark or post signs warning of hazards existing, and shall barricade excavations and similar hazards. He shall protect against damage or injury resulting from falling materials and he shall maintain all protective devices and signs throughout the progress of the work.

## TAXES

Federal Excise Taxes do not apply to materials entering into State work (Internal Revenue Code, Section 3442(3)).

Federal Transportation Taxes do not apply to materials entering into State work (Internal Revenue Code, Section 3475 (b) as amended).

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North Carolina Sales Taxes and Use Tax do apply to materials entering into State Work (N.C. Sales and Use Tax Regulation No. 42, Paragraph A), and such costs shall be included in the bid proposal and contract sum.

Local Option Sales and Use Taxes do apply to materials entering into State work as applicable (Local Option Sales and Use Tax Act, Regulation No. 57), and such cost shall be included in the bid proposal and contract sum.

## **EQUAL OPPORTUNITY**

The non-discrimination clause contained in Section 202 (Federal) Executive Order 11246, as amended by Executive Order 11375, relative to Equal Employment Opportunity for all persons without regard to race, color, religion, sex or national origin, and the implementing rules and regulations prescribed by the Secretary of Labor, are incorporated herein.

The Contractors agree not to discriminate against any employees or applicant for employment because of physical or mental handicap in regard to any position for which the employees or applicant is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices.

## **INSURANCE**

The Contractor shall not commence work until he has obtained all insurance required, and the Owner has approved such insurance, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been obtained.

The Contractor shall provide and maintain during the life of this contract Workmen's Compensation Insurance for all employees employed at the site of the project under his contract.

The Contractor shall provide and maintain during the life of this contract such Public Liability and Property Damage Insurance as shall protect him and any subcontractor performing work covered by this contract, from claims for damage for personal injury, including accidental death, as well as from claims for property damages which may arise from operations under this contract, whether such operation be by the Contractor himself or by any subcontractor, or by anyone directly or indirectly employed by either of them and the amounts of such insurance shall be as follows:

Public Liability Insurance in an amount not less than \$300,000 for injuries, including accidental death, to any one person and subject to the same limit for each person, in amount not less than \$500,000 on account of one accident; and Property Damage Insurance in an amount not less than \$100,000/\$300,000.

The Contractor shall furnish such additional insurance as may be required by General Statutes of North Carolina, including motor vehicle insurance in amounts not less than statutory limits.

Each Certificate of Insurance shall bear the provision that the policy cannot be canceled, reduced in amount or coverage eliminated in less than fifteen (15) days after mailing written notice to the insured and/or the Owner of such alteration or cancellation, sent by registered mail.

The Contractor shall furnish the Owner with satisfactory proof of carriage of the insurance required before written approval is granted by the Owner.

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## **INVOICES FOR PAYMENT**

No partial payment will be made unless agreed to in advance. Final payment will be made lump sum within thirty (30) consecutive days after acceptance of the work and the submission both of notarized contractor's affidavit and four copies of invoices which are to include the contract, account and job order numbers.

The contractor's affidavit shall state: "This is to certify that all costs of materials, equipment, labor, and all else entering into the accomplishment of this contract, including payrolls, have been paid in full."

**Executed contract documents, insurance certifications and, upon completion and acceptance of the work, invoices and other information requested are to be sent to: The Project Administrator, Joe L. Laws, PE, at the address indicated in the Notice to Bidders.**

It is imperative that contract documents, invoices, etc., be sent only to the project administrator in order to assure proper and timely delivery and handling.

## **CLEANING UP**

The Contractor shall keep the sites and surrounding area reasonably free from rubbish at all times and shall remove debris from the site from time to time or when directed to do so by the Owner. Before final inspection and acceptance of the project, the Contractor shall thoroughly clean the sites, and completely prepare the project and site for use by the Owner.

## **GUARANTEE**

The contractor shall unconditionally guarantee materials and workmanship against patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve (12) months following the final acceptance of the work and shall replace such defective materials or workmanship without cost to the owner.

Where items of equipment or material carry a manufacturer's warranty for any period in excess of twelve (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material. The contractor shall replace such defective equipment or materials, without cost to the owner, within the manufacturer's warranty period.

Additionally, the owner may bring an action for latent defects caused by the negligence of the contractor, which is hidden or not readily apparent to the owner at the time of beneficial occupancy or final acceptance, whichever occurred first, in accordance with applicable law.

Guarantees for roofing workmanship and materials shall be stipulated in the specifications sections governing such roof, equipment, materials, or supplies.

## **CONTRACTOR-SUBCONTRACTOR RELATIONSHIPS**

The Contractor agrees that the terms of these contract documents shall apply equally to a subcontractor as to the Contractor, and that the subcontractor is bound by those terms as an employee of the Contractor.

## **SUPPLEMENTARY GENERAL CONDITIONS**

### **TIME OF COMPLETION**

The Contractor shall commence work to be performed under this Contract on a date to be specified in written order from the Designer and shall fully complete all work hereunder within **thirty (30) consecutive calendar days** from the Notice to Proceed for base bid contract. For each day in excess of the above number of days, the Contractor shall pay the Owner the amount of **Two Hundred Dollars (\$200.00)** as liquidated damages reasonably estimated in advance to cover the losses to be incurred by the Owner should the Contractor fail to complete the Work within the time specified.

If the Contractor is delayed at any time in the progress of his work by any act or negligence of the Owner, his employees or his separate contractor, by changes ordered in the work; by abnormal weather conditions; by any causes beyond the Contractor's control or by other causes deemed justifiable by Owner, then the contract time may be reasonably extended in a written order from the Owner upon written request from the contractor within ten days following the cause for delay.

### **ROOFING GUARANTEE**

The following paragraphs are hereby added and shall become a part of the Guarantee of the General Conditions of the Contract. The substitution of an equal or longer term manufacturer's warranty in lieu of this requirement will not be accepted.

The Roofing Contractor shall warrant the materials and workmanship of the roofing system against leakage and against defects due to faulty materials, workmanship and contract negligence for a period of **two (2) years** following acceptance of the project by the Owner.

The Roofing System Manufacturer shall inspect the installation and warrant the materials and workmanship of the roofing system against leakage for a minimum period of **ten (10) years** following acceptance of the project by the Owner.

The guarantee and warranties with proof of purchase for this project shall be submitted with the invoice for final payment.

### **UTILITIES**

The Owner will allow use of its water and electrical utility services (but not toilet facilities) for work on this project with connections and extensions by the contractor. The Contractor shall provide, and maintain on a continuous basis, portable temporary toilet facilities as necessary for the use of his workers and coordinate the location with the Owner.

### **USE OF SITE AND WORK HOURS**

Access to the site will be available weekdays during normal dayshift working hours (excluding State Holidays). Any variance from normal must be requested and approved in advance. The Contractor's exact use of the site (including work schedule, project staging, and other site specific work requirements) will be coordinated with and approved by the Owner's Project Administrator and On-Site Contact Person at the preconstruction meeting.

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The maintenance yard site shall remain in operation during the performance of the work. The Contractor shall coordinate his activities with the Owner and endeavor to conduct the work so as to cause the least interference with the Owner's operations. The owner in turn will endeavor to cooperate with the Contractor's operations when notified of requirements in advance.

### **DECORUM ON THE CONSTRUCTION SITE**

It is illegal for any person to have firearms (includes bow and arrows and large knives) at the project site, any type of alcoholic beverages, or drugs other than prescribed by a physician.

Everyone at the project site is expected to exhibit proper behavior. Indecent language, graffiti, acts or dress will not be accepted. Anyone in violation of proper behavior will be ejected from the construction site by the proper authorities.

### **MAINTENANCE OF FACILITY DURING CONSTRUCTION**

The Contractor shall be responsible for cleaning the site around the building of all excess or scrap materials as a result of his work at the end of each working day. This work will consist of, but is not limited to, removing all old shingles, nails, old boards, felt, and other material removed as a result of the demolition work, and removing all paper, rope, pallets, shingle pieces and other material as a result of the new roofing work.

The site shall be left absolutely clean of all nails, paper, and shingle / felt scraps and any other incidental materials resultant from the contractors work prior to final inspection and invoice.

### **UNIT PRICES AND FINAL CONTRACT AMOUNT**

Unit Prices for unknown conditions or amounts of work: Due to concealed or otherwise unknown conditions the existing construction may require some unforeseen repair or replacement in order to be suitable for receiving or completing the new work. Estimated amounts for anticipated items of such work have been listed in the contract for inclusion in the Base Bid, with a **unit price** to adjust the actual amount up or down.

The unit prices quoted shall include all materials, equipment, labor, profit and overhead necessary to complete the work described. The actual amounts of unit price work performed must be documented by the Contractor, and verified and approved by the Designer.

Any repair or replacement work not covered by unit prices should be minor and anticipated as part of the contractor's responsibility to provide a quality, complete and finished job. *(Note: The Owner will be responsible for any finish painting required by unit price work unless otherwise noted.)*

Final Contract Amount: The Contractor agrees that at project completion, the base bid contract sum amount may be adjusted accordingly up or down in order for the final invoice for payment to reflect the actual documented amount of unit price work performed.



# TECHNICAL SPECIFICATIONS

## SECTION 01100 – SUMMARY

### PART 1. SUMMARY OF THE WORK SEQUENCE

The Contractor shall provide the work required for a complete, first-class roof replacement and roof framing repair job in accordance with the Contract Documents. New materials shall be delivered to the job site in original, unopened wrappings or containers. The work consists of but shall not be limited to the following items:

1. Identify and document with the Owner's on-site contact person the extent of the damaged (2x6 and 2x10) wood framing on the underside of the roof structure and repair or replace this existing construction with unit price work as needed.
2. Remove and dispose of the existing asphalt shingled roofing material. *(Note: Removal, repair and replacement work may be done in stages for different areas of the roof.)*
3. Call for an inspection by the owner's on-site contact person to determine how much of the existing roof sheathing and other components need replacing. Complete roof substrate repair work as required to properly receive new roofing. *(Note: Verify and document with the Owner's on-site contact person (in writing and with digital photography) all unit price work performed.)*
4. Install new asphalt shingle roofing system with all roof vents, flashing, edge trim and other necessary components. *(Note: This project requires full deck coverage with ice & water shield leak barrier underlayment in lieu of standard asphalt building felt underlayment.)*
5. Call for final inspection by the project administrator and/or the Owner's on-site contact person.

### PART 2. WEATHERPROOFING BUILDING

The Contractor is responsible for weatherproofing the building from precipitation during the life of the contract. The contractor shall use tarps, plastic or other suitable materials to weatherproof the building. The Contractor shall be responsible for repairing any damages incurred to the building caused by water entering the building as a result of the work or failure to cover the work.

### PART 3. REPAIR OF ROOF FRAMING

All exposed existing interior roof and side wall framing lumber that has been seriously compromised by damage from ageing, equipment contact or other means shall be repaired and/or removed and replaced in kind. The extent and exact manner of repair or replacement shall be agreed upon in advance and approved by the Designer. New lumber shall be kiln dried S.P.F. or better, grade No.2 or better.

### PART 4. REMOVING OLD ROOFING

The Contractor will remove all of the old roofing material down to the roof sheathing/ decking. The old shingles, felt, and other materials which are to be replaced (unless otherwise noted) shall be removed from the site and disposed of by the contractor in accordance with all state, local, and federal laws and regulations.

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The Contractor shall salvage and turn over to the Owner/Designer the existing roof vents. The Contractor may keep one roof vent to be used in evaluating the equality of the new vents.

## **PART 5. EXISTING CONDITIONS - ROOF SHEATHING/ DECKING**

The Contractor shall be responsible for preparing a suitable substrate to receive the new roof and for replacing any existing work that is defective or otherwise unsuitable for reuse as required for a complete and finished job.

After the contractor has removed the old shingles and felt, the contractor will hold and call for an inspection by the Owner's on-site contact person to determine how much of the existing roof structure, if any, must be removed and replaced. The contractor shall provide **Unit Prices** for the cost of replacing existing construction and materials found to be unsuitable for reuse with the definite understanding that no money will be allowed for extra work except as set forth in these contract documents for the sum(s) listed.

Some sheathing under the old shingles may be rotten. The contractor will be responsible for removing all rotten or otherwise defective material. The contractor will remove the material back to the nearest rafter, in rectangular or trapezoidal shapes to allow for proper bearing of the new sheathing.

Replacement roof sheathing may be plywood or OSB board (Match existing thickness which is nominal W'). Edges of sheathing shall be planed so as to butt against adjacent sheathing. Sheathing shall be glued to the panel framing and either nailed with 2" spiral nails or stapled with 1-3/4" 16 ga. coated staples at 6"oc max. Adhesive shall be of a waterproof type resorcinol resin adhesive applied according to manufacturer's instructions.

Any unanticipated additional work not covered in the contractor's bid must be noted in writing by the contractor, judged reasonable and approved in writing by the Designer in order for the contractor to receive any additional compensation. Any approved additional work shall be with similar materials, approved by the Designer, at the actual cost of materials, equipment, and labor plus 20% profit and overhead. The Contractor shall provide the Designer with actual invoices and documentation to substantiate the cost.

## **PART 6. NEW ROOFING, VENTS AND FLASHINGS**

The roof size is unusual. The dome is made up of sheathing panels that are wider at the base, tapering to a peak at a height of approximately fifty feet above the ground. The shape of pieces of roof sheathing will be rectangular or trapezoidal depending on the ribs to which they are attached. There are parallel ribs and ribs that taper to the point of the roof, so the number of parallel ribs decreases towards the top of the roof as the tapering ribs converge to a point. For all surfaces of the roof, this is approximately 5,600 square feet. **The exact area and dimensions of the roof shall be verified by the contractor to the extent that they affect his work.**

All existing metal roof vents shall be replaced with similar aluminum roof vents of equal or greater capacity approved by the Designer. Vents are estimated at approximately 51 sq. in. of net free area each (field verify). Submit catalog cuts with specifications of proposed new vents to Designer for approval.

The Contractor will remove and replace all flashing around all vertical and horizontal intersections of exterior finish material. The flashing will be a thickness of 0.024" aluminum. In-kind flashing (not drip edges) will be installed at all perimeter edges using roofing nails on the horizontal/top surface minimum 18" on-center.

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## **PART 7. MAINTENANCE OF FACILITY DURING CONSTRUCTION**

The Contractor shall be responsible for cleaning the site around the building of all excess or scrap materials as a result of his work at the end of each working day. This work will consist of, but is not limited to, removing all old shingles, nails, old boards, felt, and other material removed as a result of the demolition work, and removing all paper, rope, pallets, shingle pieces and other material as a result of the new roofing work.

The site shall be left absolutely clean of all nails, paper, and shingle/felt scraps and any other incidental materials resultant from the contractors work prior to final inspection and invoice.

### **END OF SECTION 01100**

## **SECTION 07311 – ASPHALT SHINGLES**

### **PART 1 – GENERAL**

#### **1.01 SUMMARY**

- A. Section includes the following at the existing salt dome structure:
  - 1. Asphalt shingle roofing.
  - 2. Roof vents, flashing and eave edging.

#### **1.02 SUBMITTALS**

- A. Product data.
- B. Samples: For verification, submit sufficient number of samples to demonstrate range of color and texture anticipated for selected finish.

#### **1.03 WARRANTY**

- A. Submit manufacturer's standard 30 year shingle warranty.

### **PART 2- PRODUCTS**

#### **2.01 MANUFACTURERS**

- A. Asphalt Shingles:
  - 1. Products of the following manufacturers, provided they comply with requirements of the contract documents, will be among those considered acceptable:
    - a. **GAF/Eik Building Materials Corporation, Timberline\***.
    - b. Owens Corning Roofing.
    - c. Atlas Roofing Corporation.
- B. Rubberized Asphalt Ice & Water Protection Membrane:
  - 1. The following products, provided they comply with requirements of the contract documents, will be among those considered acceptable:
    - a. "StormGuard Leak Barrier Underlayment"; GAF Building Materials Corporation.
    - b. "Weatherlock Flex Ice & Water Barrier"; Owens Corning Roofing.
    - c. "WeatherMaster Granular Underlayment"; Atlas Roofing Corporation
    - d. "Ice & Water Shield"; W.R. Grace & Company

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**2.02 MATERIALS**

- A. Asphalt Shingles: Mineral-surfaced, self-sealing, laminated multi-ply overlay construction glass fiber base.
  - 1. Comply with ASTM D 3018, Type I.
  - 2. Fire resistance: Class A, UL labeled.
  - 3. Wind resistance: 90 MPH Minimum
  - 4. Style: Three-dimensional laminated straight edge strip shingle.
    - a. Fungus Resistant: Surface treated to remain free of fungus and algae growth for at least 5 years.
  - 5. Color: To be selected by the Owner from samples of the Manufacturer's standard range supplied by the contractor.
  - 6. Provide factory prefabricated or field fabricated hip and ridge shingles to match field shingles, at contractor's option.
- B. Underlayment: Ice & Water Protection Underlayment: Rubberized asphalt sheet membrane, self-adhering, minimum 40 mils thick, 36-inch-wide rolls; minimum tensile strength 250 psi, in accordance with ASTM D 146.
  - 1. Provide UL-listed material approved for use in roofing assembly to achieve specified fire rating.
- C. Asphalt Plastic Cement: ASTM D 4586, fibrated asphalt cement, asbestos free.
- D. Nails: 11 or 12 gage, aluminum or hot-dipped galvanized, with barbed shanks, minimum 3/8 inch diameter head; length as necessary to penetrate through sheathing, or 3/4 inch into solid decking. Provide nailing pattern to achieve 90-MPH wind resistance.

**2.03 ACCESSORIES**

- A. Roof Vents: Low profile aluminum similar to existing as manufactured by GAF/ LL Building Products, Air Vent Inc., HVAC Express, Owens Corning, or equal approved by the Designer.
- B. Flashing and eave edging: Aluminum with baked on enamel "Brown" finish.

**PART 3- EXECUTION**

**3.01 EXAMINATION**

- A. Review substrate to receive shingles for obstructions, loose sheathing, or voids in sheathing. Repair or replace unacceptable work which may affect proper material installation.

**3.02 PREPARATION**

- A. Remove projections and debris from substrate before starting installation; lay sheet metal over minor voids and nail to substrate.
- B. Coordinate shingle installation with flashing and other work integral with shingles.

**3.03 INSTALLATION**

- A. Install shingles in accordance with shingle manufacturer's instructions or NRCA's "The NRCA Roofing & Waterproofing Manual," 4th Edition, 1996, and "AAMM/IDCP Construction Guidelines" whichever is more restrictive, and to meet wind requirements per NC Building Code.
- B. Ice Protection Underlayment: Install single layer row of self-adhering ice protection underlayment around base of dome and work additional rows upward to the top of the dome in accordance with underlayment manufacturer's installation instructions until the entire dome roof deck is covered.

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- C. Flashing: Install all types of flashing to conform with installation details and instructions of "The NRCA
- D. Steep Roofing Manual."
- E. Asphalt Shingles:
  - 1. Start shingle installation with row of inverted shingles without tabs or layer of roll roofing placed along full length of eave (overhang shingles 3/8" at eaves & rake) and fastened 1/2" back from edge of sheathing and with 6-nails per strip.
  - 2. Coursing - roof: Install shingles in accordance with "The NRCA Steep Roofing Manual."
    - a. Nail Pattern: Six (6) nail pattern, 1/2 way between tab cut-out and sealant, 1" from ends and cut-outs; and 6-nails per starter strip, 1/2" in from edge of sheathing, or as otherwise needed to meet 90 MPH code required wind resistance.
  - 3. Roof Cement- Place 2-dabs of cement (1" in dia.) per course at rakes, and on drip edge per course at rake; 3-dabs per tab between starter strip and first course per tab; and 2-dabs between ridge shingle -strip shingle - ridge shingles.

**END OF SECTION 0731**

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# PROPOSAL AND CONTRACT

FOR

## ROOF REPLACEMENT AT NEWLAND SALT STORAGE DOME HIGHWAY DIVISION 11 / AVERY COUNTY 171 NCDOT Road, Newland, NC 28657

Brief Description: Remove existing and install a new asphalt shingle roof including any flashing, trim, preparation, repair or replacement work, reasonably implied or required for a complete first-class re-roofing job.

The undersigned, as bidder, proposes and agrees if this proposal is accepted to contract with the State of North Carolina through the NC Department of Transportation for the furnishing of all materials, equipment, and labor necessary to complete the construction of the work described in these documents in full and complete accordance with plans, specifications, and contract documents, and to the full and entire satisfaction of the State of North Carolina and Highway Division 11 for the sum of:

**BASE BID:** \_\_\_\_\_ **Dollars \$** \_\_\_\_\_.

**Unit Prices:** The unit prices quoted shall include all cost to provide for as yet unknown amounts of work needed. These unit prices will be applied in determining cost for additions to or deductions from the work after execution of this contract and shall apply throughout the life of the contract. Note: The Base Bid shall include the estimated amounts of unit price work listed.

<u>Item</u>	<u>Estimated Amount</u>	<u>Unit Price</u>
Roof Shingles, Installed	56 Squares	\$_____per/SF
Roof Sheathing, Installed	320 SF	\$_____per/SF
Structural Framing, Installed	300 LF	\$_____per/LF

Respectively submitted this \_\_\_\_\_ day of \_\_\_\_\_ 2013

\_\_\_\_\_  
**(Contractor)**

Federal ID# \_\_\_\_\_ By: \_\_\_\_\_

Witness: \_\_\_\_\_ Title: \_\_\_\_\_

*(Owner, partner, corp. Pres. or Vice President)*

\_\_\_\_\_  
*(Proprietorship or Partnership)*

Address: \_\_\_\_\_

Attest: *(corporation)*

Email Address: \_\_\_\_\_

**(Printable Corporate Seal)**

By: \_\_\_\_\_ License#: \_\_\_\_\_

Title: \_\_\_\_\_

*(Corporation Secretary/Ass't Secretary)*

Addendum received and used in computing bid: Addendum No.1 \_\_\_\_\_ Addendum No.2 \_\_\_\_\_

ROOF REPLACEMENT AT  
-NEWLAND SALT STORAGE DOME-

**ACCEPTED by the STATE OF NORTH CAROLINA**

through the

N.C. Department of Transportation

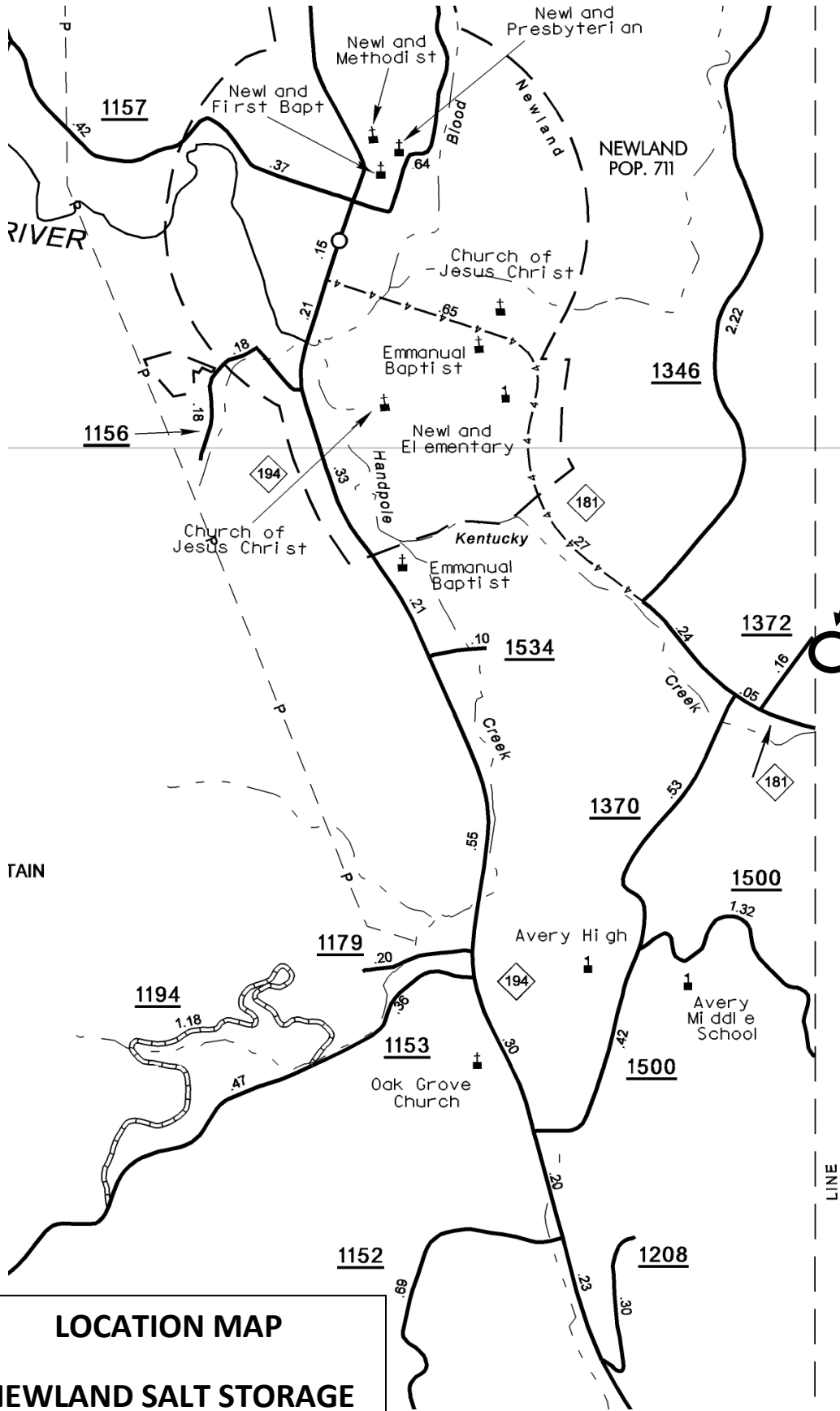
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*(Agency/Institution)*

BY: \_\_\_\_\_ TITLE: \_\_\_\_\_

(Highway Division 11)

DATE: \_\_\_\_\_ 2013



SALT DOME LOCATION  
 171 NCDOT ROAD  
 NEWLAND, NC 28657

**LOCATION MAP**  
**NEWLAND SALT STORAGE**  
**DOMES**





2012/08/07  
06-03-12  
Avery Maintenance



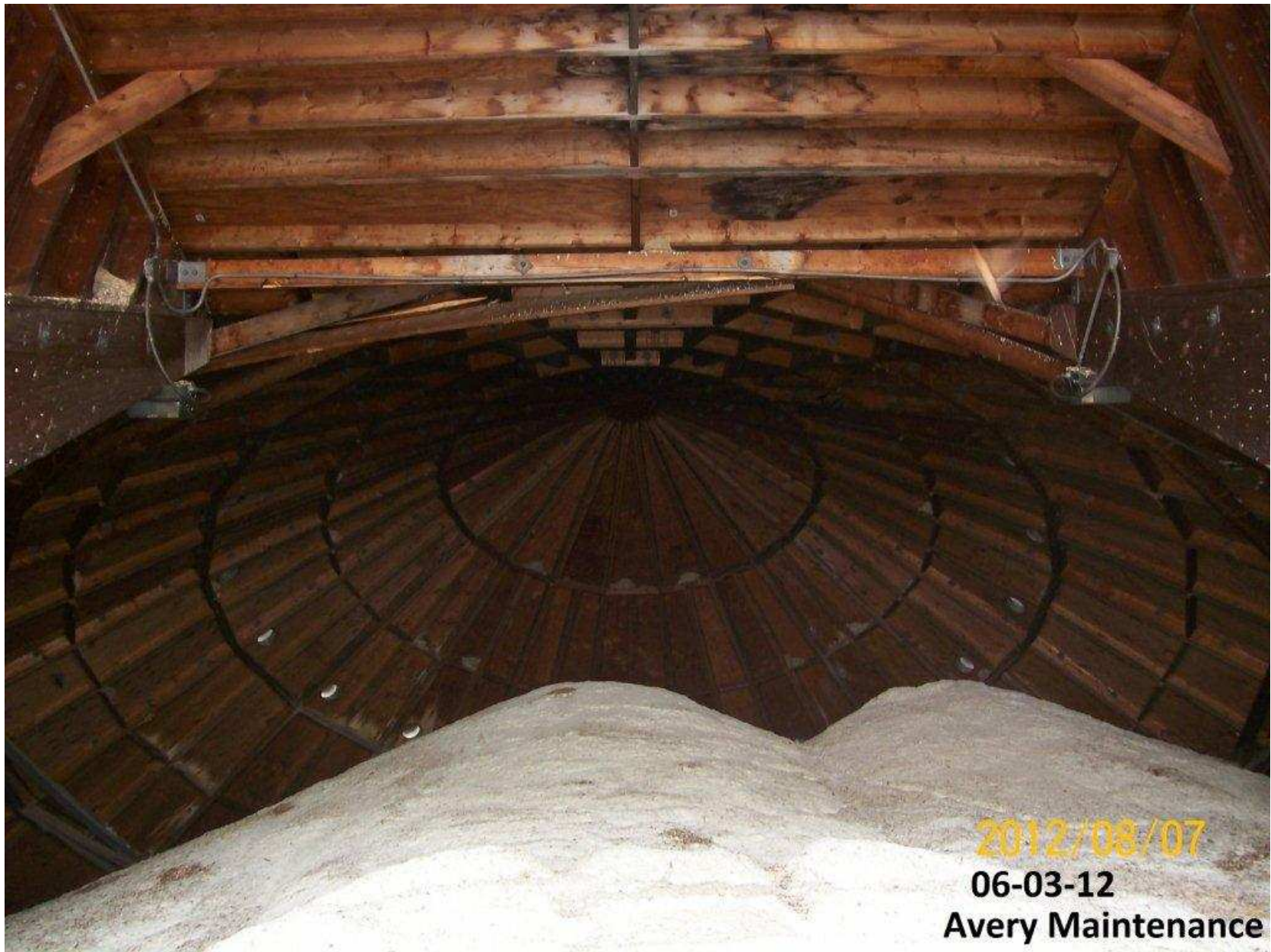


2012/08/07

06-03-12

Avery Maintenance





2012/08/07

06-03-12

Avery Maintenance





2012/08/07

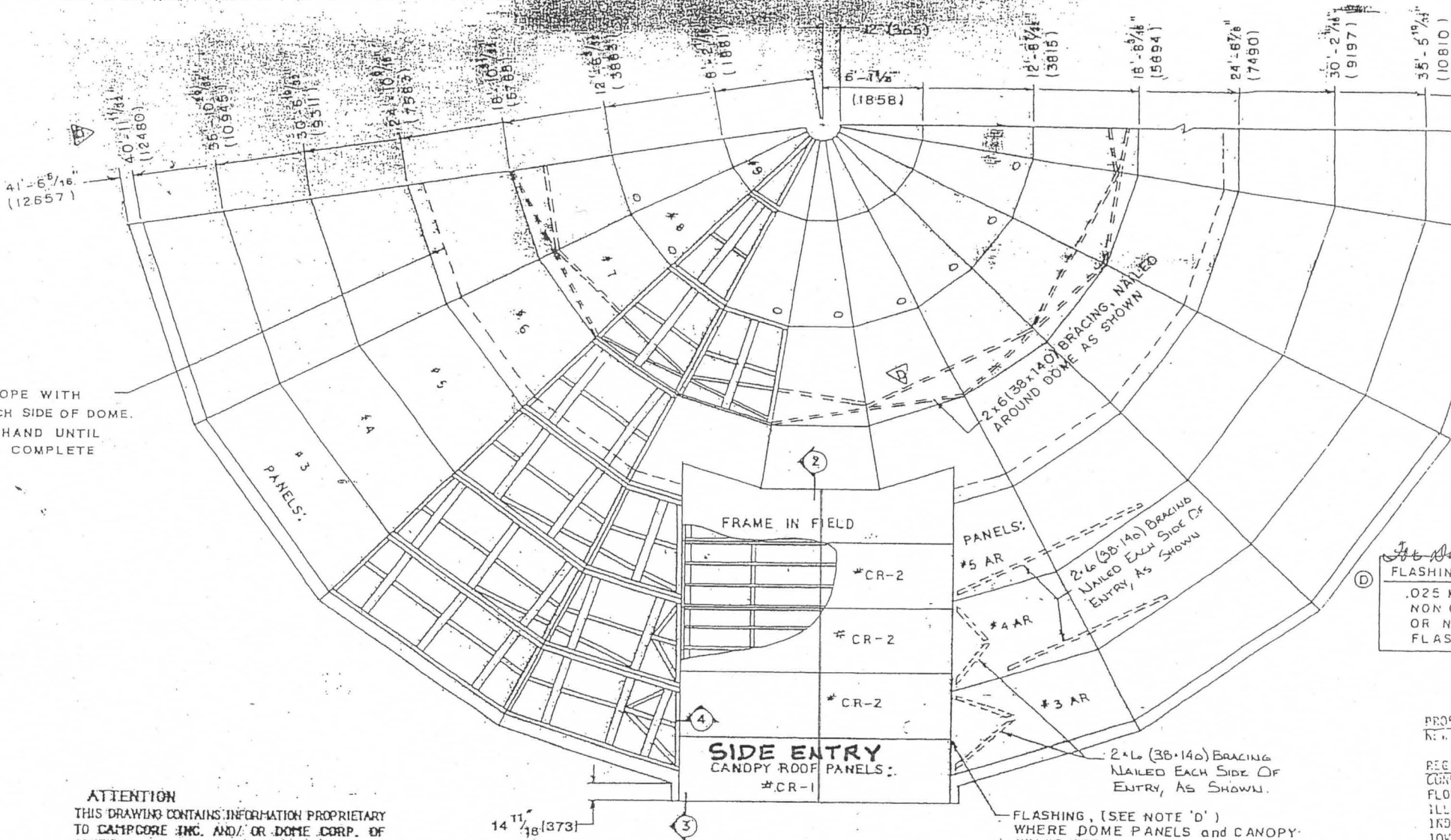
06-03-12

Avery Maintenance









E ROPE WITH  
EACH SIDE OF DOME.  
BY HAND UNTIL  
ONE COMPLETE

#3  
PANELS:

PANELS:  
#5 AR

#4 AR

#3 AR

FLASHING:  
#025 M  
NON C  
OR NI  
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*Handwritten signature*

**ATTENTION**  
THIS DRAWING CONTAINS INFORMATION PROPRIETARY TO CAMPCORE INC. AND/OR DOME CORP. OF AMERICA AND SHALL NOT BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR DISCLOSED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT IS FURNISHED WITHOUT THE PRIOR WRITTEN PERMISSION OF CAMPCORE INC. AND/OR DOME CORP. OF AMERICA.  
U. S. PATENT NUMBER 3820292  
CANADA PATENT NUMBER 896836  
PATENTS APPLIED FOR IN 17 FOREIGN COUNTRIES.

**TYPICAL\***  
**FRAMING PLAN – HALF DOME**  
NOT TO SCALE

**\*NOTE: FOR REFERENCE USE ONLY. PLAN OF SIMILAR BUT... NOT EXACT SAME DOME.**

Dome Corp. reserves the right to make minor changes to the drawings and or the specifications to maintain compliance with accepted material specifications and workmanship standards without prior notification to the purchaser. In no way will the changes affect the integrity of the building.

**A2**