TOWN OF SIMSBURY

DEPARTMENT OF PUBLIC WORKS
933 HOPMEADOW STREET
SIMSBURY, CT 06070

INVITATION TO BID

FOR

CAST IN PLACE CONCRETE
SALT SHED FOUNDATION

August 4, 2015

Bids Due

AUGUST 20, 2015, 10:00 a.m. EDT

Prepared By:

Department of Public Works
Town of Simsbury
933 Hopmeadow Street
Simsbury, CT 06070

NOTICE TO BIDDERS

The Town of Simsbury is seeking responses from qualified vendors to construct a Cast In Place Concrete Foundation system to support a 65' x 112' fabric/membrane type Salt Storage Building to be located at our Public Works facility at 66 Town Forest Road in Simsbury.

Sealed bids marked "Cast In Place Concrete Foundation" will be received by the Town of Simsbury Finance Department, PO Box 495, 933 Hopmeadow Street, Simsbury, CT 06070. Submissions will be received no later than August 20, 2015 at 10:00 a.m. EDT. Bids received after that time will be rejected.

An Invitation to Bid, including specifications and forms on which bids must be submitted may be obtained on the Town website, www.simsbury-ct.gov/finance/pages/public-bids-and-rfp.

Each Respondent, by making their bid, represents that they have read and understand the bid documents. The Town reserves the right to reject any and all bids not deemed to be in the best interests of the Town of Simsbury. Final results will be posted on the Town website.

Any questions about this invitation to bid must be in writing and addressed to Thomas J. Roy, P.E., Director of Public Works, Town of Simsbury, PO Box 495, Simsbury, CT 06070 or faxed to 860-408-5416 on or before August 14, 2015. All responses will be made via addendum and posted to the Town's web page at least three days prior to the scheduled bid due date.

INFORMATION FOR BIDDERS

I. PROJECT OVERVIEW

The Town of Simsbury is seeking responses from qualified vendors to construct a Cast In Place Concrete Foundation system to support a 65’ x 112’ fabric/membrane type Salt Storage Building to be located at our Public Works facility at 66 Town Forest Road in Simsbury. All site preparation and superstructure work will be performed by others.

The Town will consider a precast concrete foundation as an alternative bid – see specifications.

II. SPECIFICATIONS

General Conditions:

The Town will provide a prepared site, including all excavation, compaction and backfill. A separate contract has been issued for a 65’ x 112’ fabric/membrane type salt storage structure.

The proposed foundation structure will provide for a 10’6” tall exposed wall capable of supporting the loading of salt, sand or other related construction materials stored in the facility.

Contractor will be required to obtain a building permit for this structure. The cost for the building permit must be paid by the Contractor. The Town will not waive the permit fee.

Contractor will supply all labor & equipment required for the placement of concrete on prepared sub-grade. The Town will not be providing any ramps or other support that will be required to place the concrete into the forms that will extend 10’+/- above grade.

Materials:

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:

1. Footings.
2. Foundation walls.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each concrete mixture, as prepared by a qualified Concrete Testing Agency. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

D. Anchor Rod Shop Drawings: Detail placement drawings meeting requirements of Salt Storage Shed manufacturer.

E. Construction Joint Layout: As indicated on the Drawings.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For testing agency.

B. Material Certificates: For each of the following, signed by manufacturers:

1. Cementitious materials.
2. Admixtures.
3. Steel reinforcement and accessories.
4. Wall treatments.
5. Bonding agents.
6. Adhesive.
7. Repair materials.

C. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:

1. Aggregates. Include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: The Town at its own discretion may hire an independent testing agency for testing.

B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.

1. Meet the requirements of Form 816 Article 1.20-1.06.01.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

A. Forms for Exposed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

1. Plywood, metal, metal-framed plywood faced, or other approved panel materials.

2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1.

B. Forms for Unexposed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

C. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.

D. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces. Comply with local regulations controlling use of volatile organic compounds (VOCs).

E. Form Ties: Factory-fabricated, adjustable length, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

1. Provide units that will leave no corrodible metal closer than 1-1/2 inches to the plane of exposed concrete surface.

2. Provide ties that, when removed, will leave holes no larger than 1 inch in diameter in concrete surface.

2.2 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

B. Epoxy-Coated Reinforcing Bars: ASTM A 775/A 775M, epoxy coated, with less than 2 percent damaged coating in each 12-inch bar length.

C. Epoxy-Coated Wire: ASTM A 884/A 884M, Class A, Type 1 coated, as-drawn, plain-steel wire, with less than 2 percent damaged coating in each 12-inch wire length.

2.3 REINFORCEMENT ACCESSORIES

A. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating; compatible with epoxy coating on reinforcement and complying with ASTM A 775/A 775M.

B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.
2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.

2.4 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:

1. Portland Cement: ASTM C 150, Type I or II, gray.
    a. Do not use air entraining cement.
    b. Allowed supplement includes the following:
        1) Fly Ash: ASTM C 618, Class F or C. (See "CONCRETE MIXTURES, GENERAL" for percentage limits.)

B. Normal-Weight Aggregates: ASTM C 33, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.

1. For exposed exterior surfaces, do not use fine or coarse aggregates that contain substances that cause spalling

2. Provide documentation that aggregates are non-reactive with alkalines in accordnace with ASTM C 289 and C 227.

3. Local aggregates not complying with ASTM C 33 that have been shown to produce concrete of adequate strength and durability by special tests or actual service may be used when acceptable to the Engineer

C. Water: ASTM C 94/C 94M and potable.

2.5 ADMIXTURES

A. Air-Entraining Admixture: ASTM C 260.

B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.

2. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.

3. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.

C. Non-Set-Accelerating Corrosion-Inhibiting Admixture: Commercially formulated, non-set-accelerating, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete.

2.6 INTERIOR WALL SURFACE TREATMENT

A. Penetrating Sealer: Minimum 30 percent solid solution.

1. Apply at a rate of not less than 125 square feet/gallon.

2. Available Products include, but are not limited to the following:

a. MasterProtect H440 HZ (formerly Hydrozo Clear 40 VOC), and MasterProtect H400 (formerly Hydrozo Enviroseal 40) by BASF.

b. Protectosil Chem-Trete BSM 400 by Evonik Industries.

c. Masterseal SL40 by Master Builders.

d. Penetrating Sealer 40 - by Sonneborn Building Products.

2.7 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

2.8 RELATED MATERIALS

A. Barrier Sheet: Polyethylene sheet, ASTM D 4397, not less than 10 mils thick.

B. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

C. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:

1. Types I and II, non-load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

2.9 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:

1. Fly Ash: 15 percent.

C. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.

D. Admixtures: Use admixtures according to manufacturer's written instructions and only when approved by the Engineer.

1. Use water-reducing, high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.

2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

3. Use water-reducing admixture in pumped concrete, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.

4. Use corrosion-inhibiting admixture in concrete mixtures as follows:

a. Salt Shed Stems and Footing: Use calcium nitrate.

1) Dosage: 4 gallons per cubic yard.

2.10 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Footings and Foundation Walls: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: **5000 psi** at 28 days.

2. Maximum Water-Cementitious Materials Ratio: 0.45.

3. Slump Limit: Not less than 1-inch and not more than 3-inches before adding high-range water-reducing admixture or plasticizing admixture.

4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-inch nominal maximum aggregate size.

2.11 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.12 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:

1. Class A, 1/8 inch for concrete surfaces exposed to view.

2. Class B, 1/4 inch for other concrete surfaces.

D. Construct forms tight enough to prevent loss of concrete mortar.

E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.

1. Install keyways, reglets, recesses, and the like, for easy removal.

2. Do not use rust-stained steel form-facing material.

F. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

G. Chamfer exterior corners and edges of permanently exposed concrete.

H. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

I. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

J. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

K. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."

3.3 REMOVING AND REUSING FORMS

A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete.

Concrete has to be hard enough to not be damaged by form-removal operations and curing and protection operations need to be maintained.

1. Leave formwork for structural elements that support weight of concrete in place until concrete has achieved at least 70 percent of its 28-day design compressive strength.

B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.

C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Engineer.

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

E. Epoxy-Coated Reinforcement: Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963/D 3963M. Use epoxy-coated steel wire ties to fasten epoxy-coated steel reinforcement.

3.5 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Engineer.

1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated.

2. Form keyed joints as indicated. Embed keys at least 1-1/2 inches into concrete.

3. Space vertical joints in walls as indicated.

4. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

3.6 SHEET BARRIER

A. Place, protect, and repair sheet barrier according to ASTM E 1643 and manufacturer's written instructions.

1. Install at locations indicated on Drawings.

3.7 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Engineer.

C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.

2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

D. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.

2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.

3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

E. Hot-Weather Placement: Comply with ACI 301 and as follows:

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.

2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.8 FINISHING FORMED SURFACES

A. Forms for Unexposed Finished Concrete: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

B. Forms for Exposed Finished Concrete: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.9 MISCELLANEOUS CONCRETE ITEMS

A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

3.10 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Formed Surfaces: Cure formed concrete surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.

C. Unformed Surfaces: Begin curing immediately after finishing concrete.

D. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

a. Water.

b. Continuous water-fog spray.

c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

3.11 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Engineer. Remove and replace concrete that cannot be repaired and patched to Engineer's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/4 inch in any dimension to solid concrete. Limit cut depth to 1 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.

3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Engineer.

D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.

2. After concrete has cured at least 14 days, correct high areas by grinding.

3. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.

4. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

E. Perform structural repairs of concrete, subject to Engineer's approval, using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used, subject to Engineer's approval.

3.12 INTERIOR WALL SURFACE TREATMENT

A. Apply coating of penetrating sealer in accordance with manufacturer’s written instructions.

1. Apply at vertical concrete wall surfaces facing the interior of the Salt Storage Shed, from top of footing to top of wall, and to top of concrete walls.

3.13 FIELD QUALITY CONTROL

A. Testing and Inspecting: The Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

1. Materials and installed work may require testing and retesting at any time during progress of work. Retesting of rejected materials for installed work shall be done at the Contractor’s expense.

B. Inspections:

1. Steel reinforcement placement.
2. Concrete placement, including conveying and depositing.
3. Curing procedures and maintenance of curing temperature.

C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
    a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C 31/C 31M.
    a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.

6. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
    a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
    b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
7. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
8. Test results shall be reported in writing to Engineer, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
9. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer but will not be used as sole basis for approval or rejection of concrete.
10. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Engineer. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Engineer.
11. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
12. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

Alternate Bid – Precast Foundation Components:

The Town of Simsbury will consider an alternate bid using precast concrete, provided that the contractor provides a design that has been stamped by a Professional Engineer licenced in Connecticut and all design calculations that conform to the deisgn criteria listed below:

Design Specifications:

Design of precast foundation components shall be in accordance with the 2003 International Building Code portion of the 2005 Connecticut Building Code, including 2013 Amendments, and the following additional criteria:

1. Building Roof Loads: Refer to Appendix A – Building Loads and Reactions. Preliminary values are provided for bidding purposes – if any substantial changes occur, price modifications will be made.

2. Stored Salt Material:

   Internal pressure exerted on the foundation walls shall be calculated based on the following properties of the stored salt:

   - Angle of Repose from Horizontal: 32 degrees
   - Salt Material Density: 80 pcf
   - Max design height of salt material: As indicated on foundation drawings
   - Max slope of salt material: As indicated on foundation drawing

III. INSURANCE

The selected Respondent will be required to maintain insurance in accordance with the attached Insurance Exhibits and furnish the Town with certificates of insurance effecting coverage required by this exhibit.

IV. TAXES

The Town is a qualified tax-exempt institution and as such is not liable for any federal, state, or local excise, sales, use, property or other taxes that Respondent may incur as a result of this agreement.

V. PUBLIC INFORMATION & OWNERSHIP OF DOCUMENTS

All bids submitted and information included therein or attached thereto shall become public records upon their delivery to the Town. All documents created by the Respondent during the completion of their contract requirements shall become the property of the Town, including any databases and information systems that are created. Proprietary information shall be identified as such. The Town will take every effort to secure proprietary information within its limits and confines.

VI. ACKNOWLEDGEMENT FORM

All bidders must read and sign the attached Town of Simsbury Acknowledgement Form, stating they have read the Town Ethics Policy.

VII. SITE INSPECTION AND QUESTIONS

Contractors may make an appointment to visit the site during our normal operating hours by calling Mr. Kevin Clemins, Highway Superintendent at 860.658.3222. Visitors will not be permitted to inspect the site with out a prior arranged appointment.

Any questions about this Invitation to Bid must be made in writing to Mr. Thomas J. Roy, PE, Director of Public Works, Town of Simsbury, PO Box 495, Simsbury, CT 06070 or faxed to 860-408-5416 on or before August 14, 2015. All responses to substantive questions will be made via addendum and posted to the Town's web site at least three days prior to the scheduled bid opening.

VIII. SCHEDULE:

Contractor will be expected to provide a schedule including critical project components and milestones based on a notice to proceed date of August 25, 2015. The Town intends on completing the Salt Shed before the winter season and timing is a critical concern to the project

IX. SELECTION AND EVALUATION CRITERIA

Evaluation Criteria:

After receipt of bids, the Town will use the following criteria in evaluating the bids and selecting a provider of services:

a. Schedule: The ability to deliver the project in a timely fashion will be a consideration in the award of the contract. Our intent is to complete the Salt Storage building for use this coming winter season and time is of the essence.

b. Costs: Competitiveness of proposed fee, although the Town is not bound to select the respondent who bid the lowest fees for services.

c. Vendor History: The quality and performance of the vendor as evidenced by references of current and/or former clients being. The company's history and stability may also be taken into consideration, including its financial stability.

X. BID SUBMISSION INSTRUCTIONS

Submit the Following:

- Bid Forms
- Project Schedule
- Equal Opportunity Employment form
- Acknowledgement Form, stating they have read the Town Ethics Policy

BID FORM
REINFORCED CONCRETE SALT SHED FOUNDATION

Pursuant to and in compliance with the "Invitation to Bid" and Standard Instructions to Bidders relating thereto, the undersigned, having visited the sites and carefully examined all Bidding Documents and complete General Specifications together with all Addenda issued and received prior to the scheduled closing time for receipt of Bids, hereby offers and agrees as follows:

- To provide all labor, materials, and anything else reasonably necessary to complete all work per the attached plans and specifications.

- If awarded this Contract, we will execute a Contract with the Town of Simsbury, Owner of the properties.

In submitting this BID, the BIDDER acknowledges that:

1. Each lump sum price includes all labor, materials, transportation, hauling, overhead, fees and insurances, profit, and all other costs to cover the finished work called for regarding the specified section of Town as stated in the Contract Documents. No additional payment of any kind in the form of a surcharge will be made for work accomplished under the lump sum prices, as bid.

2. No representation of warranty has been made by the OWNER that the estimated quantities used for comparison of BIDS will even approximate the actual quantities required to satisfactorily complete the WORK required under this CONTRACT.

3. Upon receipt of written notice of acceptance of this BID by the OWNER, the BIDDER shall execute the CONTRACT attached to these documents within ten (10) calendar days and other documents as required in these documents.

4. In regard to all conditions affecting the WORK to be done and the labor and materials to be furnished, this BID is based solely on the BIDDER'S investigations and findings and neither the OWNER nor its officers, employees or agents shall be held responsible for the accuracy of, or be bound by any information contained in these Contract Documents.

Submitted By: _____

Company *Phone*

_____

Street *City* *Zip*

Authorized Signature:_____

Signature *Printed Name*

BID FORM
REINFORCED CONCRETE SALT SHED FOUNDATION

BASE BID:

Provide all labors and materials required to construct the reinforced concrete salt shed foundation as described in the Invitation to Bid, Specifications and Plans using and uncoated steel reinforcing bars (ASTM A 615/A 615M): $ _____
LUMP SUM

TOTAL BASE BID: $ _____
LUMP SUM

Bid Alternate #1:

Additional Cost to Provide Epoxy Coated Reinforcement (ASTM A 775/A 775M), in place of the uncoated steel reinforcement. $ _____
LUMP SUM

TOTAL BID ALTERNATE #1: $ _____
LUMP SUM

Submitted By: _____
Company

Authorized Signature: _____
Signature

IF A SOLELY OWNED COMPANY:

Company Name _____

Address _____

Town _____

By _____

(Authorized Signature)

Title _____ Date_____

IF A CORPORATION OR LIMITED LIABILITY COMPANY:

A corporation or limited liability company organized under the laws of

_____, composed of officers as follows:

_____ President

_____ Secretary

_____ Vice President

_____ Treasurer

IF A PARTNERSHIP:

A partnership doing business under the firm name and style of

_____, composed of partners as follows:

_____ Name & Title (if any)

_____ Name & Title (if any)

_____ Name & Title (if any)

_____ Name & Title (if any)

This Bill must bear the written signature of the BIDDER. If the BIDDER is a partnership, the Bid must be signed by a partner. If the BIDDER is a corporation or limited liability company, the Bid must be signed by a duly authorized officer of such corporation or Limited Liability Company.

BIDDER'S QUALIFICATIONS STATEMENT

The BIDDER shall answer all of the following questions, as part of the Bid, so that the OWNER can judge the BIDDER's ability, experience and facilities for performing the proposed work.

1. Name of BIDDER: _____

2. Bidder's Tax Identification Number: _____

3. What year was company organized/formed? _____

4. How many years has the BIDDER been engaged in business under the present firm or trade name? _____

5. What is the general character or type of work you perform? _____

   _____

6. Has a claim ever been brought in court or to arbitration against the BIDDER for failure to complete any contracted work or default on a contract? _____

   If yes, explain with whom and why: _____

   _____

7. For other similar projects you have under contract at the present time: Attach list with description of work; the name of the client/owner with telephone number; and the approximate value of the work to be performed.

   NOTE: The BIDDER is required to have completed a minimum of five (5) similar projects as a demonstration of competency and experience for the project proposed herein. Such projects are to be listed below.

8. Attach a list of all projects that your present organization has completed within the past ten years or is presently working on, including name of project, owner and name and telephone number of the owner's representative. Indicate here how many additional pages attached: ____pages.

9. Attach a list of the names, addresses and the background/experience of all principal or key members of the BIDDERS organization, including its officers:

   Indicate the number of pages attached: _____pages

NOTE: If requested, the BIDDER agrees to furnish the OWNER with a detailed financial statement and other relevant information that may be required by the Town of Simsbury to properly evaluate the qualifications of the BIDDER.

PROPOSED SUBCONTRACTORS

BIDDER intends to utilize the following subcontractors on this project:

If none, write "None" here: _____

NAME AND ADDRESS
OF SUBCONTRACTOR _____ DESCRIPTION OF WORK:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

NON-COLLUSION AFFIDAVIT OF BIDDER

State of _____, County of _____, being first duly sworn, disposes and says that:

1. He is the owner, officer, representative or agent of: _____ the BIDDER that has submitted the attached BID;

2. The attached BID is genuine; it is not a collusive or sham BID.

3. He is fully informed respecting the preparation, and contents of, and knowledgeable of all pertinent circumstances respecting the attached BID.

4. Neither BIDDER nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including this affiant, has in any way colluded, conspired, connived, or agreed, directly or indirectly, with any other bidder, firm or person to submit a collusive or sham BID in connection with the AGREEMENT for which the attached BID has been submitted or to refrain from bidding in connection with any contract, or has in any manner, directly or indirectly, sought by agreement, collusion, communication or conference with any other bidder, firm or person to fix the price or prices in the attached BID or of any other bidder, or to fix any overhead, profit or cost element of the BID prices or the bid price of any other bidder, or to secure through collusion, conspiracy, connivance or unlawful agreement any advantage against the Town of Simsbury or any other person interested in the proposed AGREEMENT.

5. The price(s) quoted in the attached BID are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the BIDDER or any of its agents, representatives, owners, employees, or parties in interest, including this affiant; and

6. That no elected or appointed official or other officer or employee of the Town of Simsbury, who is directly or indirectly interested in this BID, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.

(Signed)_____

(Name of Bidder)

Subscribed and sworn to before me this
_____day of_____, 2015

_____
Title
My Commission expires _____, 20__

ATTACHMENT A

Please see following pages

Regarding Insurance Requirements & Agreements

ATTACHMENT A

INSURANCE REQUIREMENTS:

The firm must carry insurance under which the Town is named as an additional insured, as follows:

Such insurance must be by insurance companies licensed to write such insurance in Connecticut against the following risks with the following minimum amounts and minimum durations.

A. Workman's Compensation, as required by State Statute & $100,000 employers liability limit.

B. Public Liability, Bodily Injury Liability and Property Damage Liability as follows:

Injury or death of one person:	$2,000,000
Injury to more than one person in a single accident:	$1,000,000
Property damage in one accident:	$1,000,000
Property damage in all accidents:	$2,000,000

C. Automobile and Truck (Vehicular) Public Liability, Bodily Injury Liability and Property Damage Liability as follows:

Injury or death of one person:	$1,000,000
Injury to more than one person in a single accident:	$1,000,000
Property damage in one accident:	$1,000,000
Property damage in all accidents:	$1,000,000

Insurance under B, and C above must provide for a 30 day notice to the Town of cancellation/or restrictive amendment.

Insurance under B and C above must be for the whole duration of the contract and for twelve (12) months after acceptance of the project by the Town.

Subcontractors must carry A, B, and C in the same amounts as above for the duration of the project and until acceptance by the Town.

Certificates of insurance must be submitted to the Director of Public Works prior to the signing of the contract and within ten days of notification of award of contract. Should any insurance expire or be terminated during the period in which the same is required by this contract, the Director of Public Works shall be notified and such expired or terminated insurance must be replaced with new insurance and a new certificate furnished to the Director of Public Works.

Failure to provide the required insurance and certificates may, at the option of the Town, be held to be a willful and substantial breach of this contract.

TOWN OF SIMSBURY

Acknowledgement Form
and
Charter Section 1103
Code of the Town of Simsbury

ACKNOWLEDGEMENT FORM

I have read Section 1103 of the Charter of the Town of Simsbury, the Code of Ethics Ordinance, and the Guidelines issued thereunder. I understand my responsibilities as a Contractor retained by the Town of Simsbury, and I am in compliance with the Charter and the Code of Ethics. I have indicated in the space below any areas of conflict should they arise in matters before our board, commission, agency or department, and I agree to report any future conflicts under the provisions of Section 1103 of the Charter.

Areas of Exception

CONFLICTS OF INTEREST
SECTION 1103

CONFLICTS OF INTEREST. It is hereby declared to be the policy of the Town that any elected or appointed officer, any member of any board or commission or any employee of the Town who has a financial interest, direct or indirect, in any contract, transaction or decision of any officer or agent of the Town or any board or commission, shall disclose that interest to the Board of Selectmen, which shall record such disclosure upon the official record of its meetings. Such disclosure of a financial interest, direct or indirect, in any contract, transaction or decision of any officer or agent of the town or of any board or commission shall disqualify such elected or appointed official or such member of a board of commission or such town employee from participation in the awarding, assignment or discussion of said contract, transaction or decision. Violation by any such official, board or commission member or employee of the provisions of this section shall be grounds for his/her removal.

_____
Signature

_____
Name (Please Print)

_____
Date

A copy of the Town Code is available from the Office of the Town Clerk or is available on line at
http://www.simsbury-ct.gov/sites/simsburyct/files/file/file/towncode_1.pdf

STATEMENT OF BIDDERS COMPLIANCE WITH
EQUAL EMPLOYMENT OPPORTUNITY LAW AND
REGULATION INCLUDING EXECUTIVE ORDER NO. 3

This statement must be completed by the Bidder and shall accompany his bid for this project.

IT IS HEREBY CERTIFIED THAT:

NAME OF BIDDER: _____

BUSINESS ADDRESS: _____

_____

To the extent required by law, the Bidder has complied on past Contracts and will fully comply on this project with all applicable laws and regulation regarding equal employment opportunities for minorities and women, and;

Has _____ has not _____ previously performed work under the conditions of the Governor's Executive Order No. 3 of the State of Connecticut, or any preceding similar Executive Order with regards to Non-Discrimination.

_____
Signature

_____
Title

Subscribed and sworn to before me this
_____day of_____, 2015

_____
Title

My Commission expires _____, 20__

IMPORTANT: THIS STATEMENT MUST BE SUBMITTED WITH BID

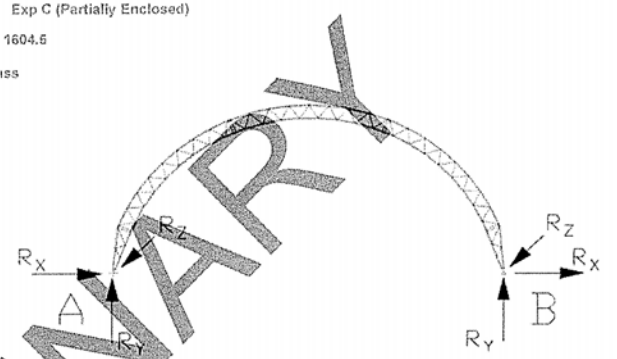
APPENDIX A

Building Loads and Reactions
For use With Alternate Bid – PreCast Concrete

BACK ENDWALL
64'-10" O-O BASE PLATES
64' C-C PIVOT HOLES
15'-4"
9'-6"
14'-4"
9'-6"
15'-4"
A
C
C
C
C
A
113'-6" O-O BASE PLATES
112'-6" RAFTER CHORD CENTERS
12'-6" TYP.
NOTE: ANCHOR DESIGN TO BE BY FOUNDATION ENGINEER
NOTE: ALL ENDWALL BASE PLATES ARE AT SAME ELEVATION AS TRUSS BASE PLATES
20'W x 24'H (14'H ABOVE TOP OF WALL) CONCRETE OPENING
FRONT ENDWALL
13'-4"
8'-6"
20'-4"
8'-6"
13'-4"
A
B
C
B
C
A
BP061M
EWIB35S001M4 111700
PRELIMINARY

Building Width	65	ft
Building Length	112.5	ft
Rafter Spacing	12.5	ft

Ground Snow Load	35	psf	(Fully Exposed Roof)
Wind Load	100	mph	Exp C (Partially Enclosed)
Occupancy Category	I		IBC Table 1604.5
Collateral Load	300	lbs per truss	



*See notes below		UNFACTORED BASE REACTIONS TO CONSIDER AT TYPICAL BASES			
Load Case		Side A		Side B	
		Rx (kip)	Ry (kip)	Rx (kip)	Ry (kip)
Dead Load, Self Weight	DL	0.31	0.85	-0.31	0.85
Dead Load, Collateral	EL	0.08	0.16	-0.08	0.16
Snow Load, Balanced	S	3.53	5.79	-3.53	5.79
Snow Load, Unbalanced	Su	2.26	2.25	-2.26	5.88
Wind Load	Wx	-5.41	-8.59	1.02	-8.77
Wind Load	Wx2	-4.40	-0.03	0.02	-0.21
Wind Load	Wz	-0.70	-10.18	2.09	-10.01
Wind Load	Wz2	0.25	-1.66	1.10	-1.50
		0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00

CONTROLLING ASD COMBINATIONS TO CONSIDER AT TYPICAL BASES			
Max Gravity (kip)	6.89	DL + EL + Su	
Max Uplift (kip)	-9.67	0.6DL + Wz	
Max Inward Lateral (kip)	-5.23	0.6DL + Wx	
Max Outward Lateral (kip)	3.92	DL + EL + S	

*See notes below		ADDITIONAL UNFACTORED BASE REACTIONS TO CONSIDER AT BASES WITH CABLE ATTACHED					
Load Case		Side A			Side B		
		Rx (kip)	Ry (kip)	Rz (kip)	Rx (kip)	Ry (kip)	Rz (kip)
Wind Load	Wz	-5.20	-8.79	0.24	1.66	-9.59	0.24
Dead Load, Cable (Wz)	DL	0.02	0.06		-0.02	0.06	
Wind Load	Wz2	2.27	4.04	0.03	-1.85	3.80	0.08
Dead Load, Cable (Wz2)	DL	0.02	0.04		-0.02	0.04	

ADDITIONAL CONTROLLING ASD COMBINATIONS TO CONSIDER AT BASES WITH CABLE ATTACHED			
Max Gravity (kip)	6.93	DL + EL + Su	
Max Uplift (kip)	-9.04	0.6DL + Wz	
Max Inward Lateral (kip)	-5.21	0.6DL + Wx	
Max Outward Lateral (kip)	3.93	DL + EL + S	

Notes:

a. The above Reaction Data should be combined as required by the Load Combinations from IBC or other applicable code.

b. The Reaction Data is for a building that represents a low hazard to human life in the event of a failure. Examples of such are agricultural buildings, unoccupied private buildings, unoccupied storage buildings, or temporary buildings. A building is considered "unoccupied" when employees are typically in the building only to move materials in and out (no permanent workstations) and it is not open to the public.

FRONT ENDWALL REACTIONS @ 'B' BASES:

UNFACTORED ENDWALL COLUMN REACTIONS ('B' BASES)		
MAXIMUM GRAVITY	910	lbs
MAXIMUM NET UPLIFT	180	lbs
MAXIMUM HORIZONTAL (MWFRS)	1520	lbs
MAXIMUM HORIZONTAL (C&C)	2000	lbs

FRONT ENDWALL REACTIONS @ 'C' BASES:

UNFACTORED ENDWALL COLUMN REACTIONS ('C' BASES)		
MAXIMUM GRAVITY	360	lbs
MAXIMUM NET UPLIFT	330	lbs
MAXIMUM HORIZONTAL (MWFRS)	2300	lbs
MAXIMUM HORIZONTAL (C&C)	2840	lbs

BACK ENDWALL REACTIONS:

UNFACTORED ENDWALL COLUMN REACTIONS		
MAXIMUM GRAVITY	670	lbs
MAXIMUM NET UPLIFT	390	lbs
MAXIMUM HORIZONTAL (MWFRS)	2930	lbs
MAXIMUM HORIZONTAL (C&C)	4060	lbs