

To: Prime contractors and all others to whom drawings and specifications have been issued. This Addendum forms part of the Contract Documents. It supplements and modifies them as follows:

A. Drawings:

1. **Sheet A1.0, Demolition Plan:** Delete detail 3/A1.0 labeled "Demolition Plan – Loading Dock".
2. **Sheet A1.1, Roof Plan:** Delete detail 3/A1.1 labeled "Roof Plan – Loading Dock".

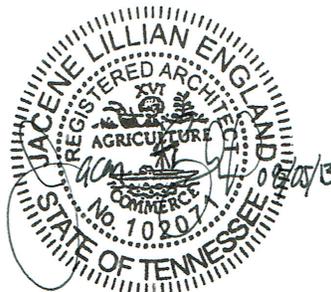
B. Specifications:

1. **Table of Contents:** Replace Table of Contents from the Specification dated 07/23/13 with the revised Table of Contents in Addendum 01 dated 08/05/13.
2. **Section 01 23 00 Alternates:** Replace Alternates section from the Specification dated 07/23/13 with the revised Alternates in Addendum 01 dated 08/05/13.
3. **Section 07 41 13 Metal Standing Seam Roofing:** Replace Metal Standing Seam Roofing section from the Specification dated 07/23/13 with the revised Metal Standing Seam Roofing in Addendum 01 dated 08/05/13.
4. **Section 07 41 23 Metal Wall Panels and Metal Soffit Panels:** Replace Metal Wall Panels and Metal Soffit Panels section from the Specification dated 07/23/13 with the revised Metal Wall Panels and Metal Soffit Panels in Addendum 01 dated 08/05/13.
5. **Section 07 63 00 Metal Roof Panel Insulation and Thermal Blocks:** Replace Metal Roof Panel Insulation and Thermal Blocks section from the Specification dated 07/23/13 with the revised Metal Roof Panel Insulation and Thermal Blocks in Addendum 01 dated 08/05/13.
6. **Section 13 34 21 Structural Retrofit Roof Sub-Framing System:** Add Structural Retrofit Roof Sub-Framing System section to the Specification per Addendum 01 dated 08/05/13.
7. **Bid Form:** Replace FY2014-30 Bid Form as supplied by the City of Oak Ridge with the Amended Bid Form per Addendum 01 dated 08/05/13.

C. Clarifications and Amendments:

1. Attached are the meeting minutes from the Pre Bid meeting on 08/01/13 at the City of Oak Ridge Central Services Complex. As the minutes are being issued as part of Addendum 01, they are part of the Construction Documents.

End of Addendum



A Metal Roof Replacement for: City of Oak Ridge Water Treatment Plant

1515 Bear Creek Road, Oak Ridge, TN 37830

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SECTION 01 23 00 . ALTERNATES

PART I . GENERAL

1.1 GENERAL

- A.** Each bidder shall submit a proposal of the following described alternates on the Bid Form. Work under alternates shall conform to all applicable provisions of drawings and specifications, except as specifically noted otherwise. Amounts quoted for alternates shall include cost of all incidental omissions, additions, adjustments required because of each change, and modification and/or removal of existing items as necessary for new work. All items not specifically identified as alternate items shall be included in Base Bid.

1.2 ALTERNATE 1

- A.** If Alternate "1" is accepted, the Contractor, at areas receiving new metal roofing, shall remove existing metal wall panels and replace with new metal wall panels per Section 07 41 23. Amount shall include all costs for materials, equipment, labor and supervision.

1.3 ALTERNATE 2

- A.** If Alternate "2" is accepted, the Contractor shall install over the existing metal roof, a structural retrofit roof sub-framing system per specification Section 13 34 21 with insulation per Section 07 63 00 and a new metal roofing system per specification Section 07 41 13. Amount shall include all costs for materials, equipment, labor and supervision.

NOT USED - PART 2 . PRODUCTS

NOT USED - PART 3 . EXECUTION

END OF SECTION

SECTION 07 41 13 . METAL STANDING SEAM ROOFING

PART 1 . GENERAL

1.1 RELATED DOCUMENTS

- A.** Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section. Additional Sections contained within this Project Manual may also be related to this Section as they may contain corresponding materials and/or methods, ancillary requirements and/or coordination necessities.

1.2 SUMMARY

- A.** Furnish all labor, materials and equipment, and perform all work to install metal standing seam roofing as shown on the drawings and as specified herein. Existing metal roof panels are to be removed and new metal roof panels are to be installed. Provide a structural standing seam roofing system for installation over existing "open framing". Verify existing conditions are acceptable to roofing manufacturer.

1.3 SUBMITTALS

- A.** Submit manufacturer's product and application data and 6" square samples and verification samples for finishes, colors and textures of specified materials to the Architect for approval.
- B.** Product test reports.
- C.** Submit test results indicating compliance with minimum requirements of the specified performance.
- D.** Submit calculations with registered engineer seal, verifying roof panel and attachment method resists wind pressures imposed on it pursuant to applicable building codes and table of wind uplift capacity of sub-purlins.

1.4 WARRANTY:

- A.** Manufacturer's 20-year non prorated warranty on metal roofing system, including prefinished metal coatings.
- B.** Roofing shall be guaranteed to be weather-tight for a minimum of two (2) years. Any leakage during the two year warranty period shall be repaired and paid for by the Contractor.

1.5 QUALITY ASSURANCE

- A.** Engage an experienced installer who has completed roofing applications similar in material, design, and extent to that indicated for the project that have resulted in construction with a record of 5 years of successful in-service performance.
- B.** Entire system shall be provided by a single manufacturer.
- C.** Materials and/or equipment containing asbestos are prohibited.

1.6 ENVIRONMENTAL CONDITIONS

- A.** Sequencing and Scheduling: Coordinate the standing seam roofing and flashing with other work to ensure damage from other work does not damage new roofing system.
- B.** Environmental Requirements: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal roof panels to be performed according to manufacturers' written instructions and warranty requirements

1.7 DELIVERY AND STORAGE

- A.** Deliver materials in manufacturer's unopened packaging fully identified to show name, brand, type, grade, and thickness.
- B.** Store, protect and keep materials dry and out of direct sunlight. Determine manufacturer's recommended maximum storage and use temperature and protect materials against temperatures exceeding that limit

PART 2 . PRODUCTS

2.1 STANDING SEAM ROOFING

- A.** Manufacturers: Subject to the requirements specified herein, the following manufacturers are pre-approved to provide the structural, standing seam roof. Alternate manufacturers must be approved by Architect prior to bidding.
 - 1. ATAS International, Inc
 - 2. Berridge Manufacturing Company
 - 3. Firestone Metal Products
 - 4. Peterson Aluminum / PAC-CLAD
 - 5. Metal Roofing Systems
- B.** Panel: Nominal 18" wide G-90, Grade C, ASTM A-653-94 & ASTM A-924-94, hot dipped galvanized steel panel, ASTM-A446-85, with minimum 2-3/8" inch high standing seam.
 - 1. Panels shall be "structural", hydostatic panels suitable for installation on existing slope and "open" framing as determined by roofing manufacturer.
 - 2. Gauge: 24 gauge
 - 3. Standing seams are to be a minimum of 2-3/8" high and include factory-applied sealant.
 - 4. System may be field seamed or "snap" assembled in the field.
 - 5. Texture: Smooth
 - 6. Color: Kynar KYNAR 5000® PDVF or HYLAR 5000® Finish in selected from manufacturer's standard colors. Total dry film coating thickness with primer to be 1.0 to 1.25 mils. Provide strippable protective film. Provide reverse side backer coating with 0.25 mil dry film
 - 7. Length: Manufacturers standard (not less than 25 ft.) in one continuous length
- C.** Fabrication: Fabricate panels, trim and accessories to allow controlled expansion in running lengths in relation to system components, adjoining materials, flashing and wall construction
- D.** Performance:
 - 1. Air Infiltration ASTM E 283-84
 - 2. Water Infiltration ASTM E 331-86
 - 3. Wind Uplift - U.L.90

2.2 TRIM AND ACCESSORIES

- A.** Metal flashings and trim shall be from the same manufacturer and of the same material and gauge as panels. Exposed components shall be formed in longest possible lengths. Color to match panels.

- B. Manufacturer's standard fasteners, brackets, clips, furring strips, spacers, flashings, closures, weather-stripping, joint sealers, sealants, expansion control, etc. as required for complete weather-tight installation.
- C. Anchorage: Provided by the manufacturer. Comply with manufacturer's instructions.

2.3 SHOP FABRICATED UNITS

- A. Expansion Provisions: Where lapped or bayonet-type provisions cannot be used, form expansion joints of intermeshing hooked flanges not less than 1 inch deep, filled with mastic sealant
- B. Sealant Joints: Where movable, non-expansion joints are indicated; form metal to provide for proper installation of electrometric sealant in compliance with SMACNA standards

PART 3 . EXECUTION

3.1 INSPECTION

- A. Examine the substrates and adjoining construction, and the conditions under which the work is to be installed. Do not proceed with the work until unsatisfactory conditions detrimental to the proper and timely completion of the work have been corrected.

3.2 INSTALLATION

- A. System shall be installed straight and true to line, in compliance with manufacturer's instructions..
- B. Install Panel system shall not come in contact with dissimilar materials which will cause harmful reactions between the metals and/or finish. Separate dissimilar metals with coat of bituminous paint, concealed on one or both sides.
- C. Panels shall be fully interlocked with its adjacent panel.
- D. Fabricate sheets, seams, strips, cleats, valleys, ridges, edge treatments, flashings, etc. to allow drainage. Seal joints as required. Provide leak-proof construction.
- E. Sealant Joints: Embed hooked flanges not less than 1 inch into sealant. Completely conceal sealant.
- F. Lap metal flashing over sheet metal roofing to allow moisture to run over and off the material
- G. Install system to prevent bending buckling, twisting, abrasion, scratching, denting, etc. Only minor scratches may be touched-up in field.
- H. Anchor components securely in place. Use fasteners recommended by panel manufacturer. Accommodate thermal and structural movement. Use gasketed fasteners to prevent electrolytic action between metals. Conceal all fasteners and anchors.

3.3 FLASHING

- A. Coordinate the installation of flashing materials and roof accessories so as to provide a complete watertight system complying with the combined recommendations of manufacturers and installers involved in the work.

3.4 CLEANING

- A. Repair or replace defaced or disfigured finishes caused by work of this section.

- B. Remove protective film upon completion without damaging finish.
- C. Completed system shall be clean and free from grease, stains and finger marks.

3.5 PROTECTION

- A. Protect building surfaces against damage from roofing work. Where work must continue over finished roof membrane, protect surfaces.

END OF SECTION

SECTION 07 41 23 - METAL WALL PANELS AND METAL SOFFIT PANELS

PART 1 . GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section. Additional Sections contained within this Project Manual may also be related to this Section as they may contain corresponding materials and/or methods, ancillary requirements and/or coordination necessities.

1.2 SUMMARY

- A. Furnish all labor, materials and equipment, and perform all work to install factory-formed metal wall panels or soffits, including flashing and accessories.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM):
- B. Underwriters Laboratories (UL Classified Tests):
- C. Sheet Metal and Air Conditioning Contractors National Association (SMACNA):
 - 1. SMACNA Architectural Sheet Metal Manual

1.4 SUBMITTALS

- A. General: Submit listed submittals in accordance with Division 1
- B. Product Data: Submit product data, including manufacturer's SPEC-DATA product sheet, for specified products.
- C. Shop Drawings: Submit complete shop drawings approved by the metal roofing manufacturer, to the architect for review. Do not proceed with manufacturer of roofing materials prior to review of shop drawings and field verification of all dimensions. Do not use drawings prepared by the architect for shop drawings. Shop drawings shall show roof plans, elevations, methods of erection, and flashing details.
- D. Performance Tests: Submit certified test results by a recognized testing laboratory in accordance with specified test methods for each panel system.
- E. Samples: Submit selection and verification samples for finishes, colors and textures.
- F. Quality Assurance Submittals: Submit the following:
 - 1. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and physical requirements.
 - 2. Manufacturer's Instructions: Manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Installer who has 5 years proven experience in performing work of this section and who has specialized in the installation of work similar to that required for this project.
- B. Sheet Metal Industry Standard: Comply with Sheet Metal and Air Conditioning Contractors National Association (SMACNA) *Architectural Sheet Metal Manual*.
- C. Pre-Installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, Manufacturer's installation instructions and manufacturer's warranty

requirements. Comply with Division 1 Managements and Coordination, Project Meetings Section.

1.6 DELIVERY, STORAGE AND HANDLING

- A.** Ordering: Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- B.** Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact. Identify fabricated components with UL 90 Classified label where appropriate.
- C.** Storage and Protection: Store materials protected from exposure to harmful conditions. Store material in a dry, above ground location.
 - 1. Stack prefinished material to prevent twisting, bending, abrasion, scratching and denting. Elevate one end of each skid to allow for moisture to run off.
 - 2. Prevent contact with material that may cause corrosion, discoloration or staining.
 - 3. Do not expose to direct sunlight or extreme heat trim material with factory applied strippable film.

1.7 PROJECT CONDITIONS

- A.** Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements, fabrication schedule with construction progress to avoid construction delays.

1.8 WARRANTY

- A.** Provide manufacturer's 20-year non-prorated warranty covering wall panel system, soffit system and finishes; including color, fade, chalking and film integrity.
- B.** Warranty Period shall commence on Date of Substantial Completion.

PART 2 . PRODUCTS

2.1 SHEET METAL PANELS

- A.** Provide metal wall and soffit panels from same manufacturer providing metal roofing panels.
- B.** Metal Wall Panels:
 - 1. Type: Structural wall panel based on ATAS MFR160. Equal products by approved manufacturers are allowed.
 - 2. Materials: 22 ga Galvalume Steel; AZ50 Aluminum-Zinc Alloy-Coated Steel with ©Kynar 500 finish on top side. Provide polyester washcoat with dry film thickness of 0.3 mils on under side.
 - 3. Panel Dimension: 16" with 1 5/8" ribs
 - 4. Color: To be selected from standard colors
 - 5. Texture: Smooth
- C.** Metal Soffit Panels:
 - 1. Type: 1" Flush Seam Soffit Panel
 - 2. Materials: 24 ga Galvalume Steel; AZ50 Aluminum-Zinc Alloy-Coated Steel with ©Kynar 500 finish on top side. Provide polyester washcoat with dry film thickness of 0.3 mils on under side.

3. Panel Dimension: 12" o.c.
4. Feature: V Groove, Perforated
5. Texture: Smooth

D. Flashing and Trim: Manufacturer's standard flashing and trim profiles, factory formed, gauge as recommended by manufacturer, color and finish to match metal roofing panels.

2.2 FABRICATION

- A. Continuous Length: Fabricate panels in one continuous length. Undeliverable lengths must be fabricated on-site.
- B. Trim and Flashings: Fabricate trim and flashings from same material as roof system material.
- C. Portable Roll Former: Panels fabricated by portable roll former shall not be approved unless panel lengths are undeliverable and must be run onsite

2.3 FINISHES

- A. Factory Applied Finish:
 1. Topside: Full-strength fluoropolymer (70% Kynar 500 or Hylar resin) system of 1.0 mil (.025 mm) total dry film thickness.
 2. Underside: Wash coat of 0.3 - 0.4 mil dry film thickness.
 3. Texture: (Smooth texture, dull matte specular gloss 25 - 35% at 60 deg
 4. Protective film: Strippable vinyl film applied during panel fabrication and finishing.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- A. Comply with manufacturer's product data, recommendations and installations instructions for substrate verification, preparation requirements and installation.
- B. Strippable Film: Remove manufacturer's protective film, if any, from surfaces of roofing panels.

3.2 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for project installation in accordance with manufacturer's instructions.

3.3 PREPARATION

- A. Coordination: Coordinate with other Work (drainage, flashing and trim, deck substrates, parapets, copings, walls) and other adjoining work to provide a non-corrosive and leak-proof installation.
- B. Dissimilar Metals: Prevent galvanic action of dissimilar metals.

3.4 INSTALLATION

- A. Install all components to profiles, patterns and drainage indicated and required for leak-proof installation. Provide for structural and thermal movement at work. Seal joints for leak-proof installation.
 1. Seams: Provide uniform, neat seams.
 2. Fasteners: Conceal fasteners where possible in exposed work. Cover and seal fasteners

and anchors for watertight and leak-proof installation.

3. Sealant-Type Joints: Provide sealant-type joint where indicated. Form joints to conceal sealant. Comply with Division 7 Joint Sealants Section for Sealant installation.

3.5 FIELD QUALITY REQUIREMENTS

- A. Site Tests (Post Installation): Owner reserves right to perform post installation testing of installed work.

3.6 CLEANING

- A. Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.

3.7 PROTECTION

- A. Protect installed product from damage during construction.

END OF SECTION

SECTION 07 63 00 . METAL ROOF PANEL INSULATION AND THERMAL BLOCKS
PART 1 . GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section. Additional Sections contained within this Project Manual may also be related to this Section as they may contain corresponding materials and/or methods, ancillary requirements and/or coordination necessities.

1.2 SUMMARY

- A. Furnish all labor, materials and equipment, and perform all work to install glass fiber insulation with a factory-applied, laminated-facing material and thermal insulation blocks to be installed with metal roofing panels.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM)
- B. Underwriters Laboratories (UL Classified Test)

1.4 SUBMITTALS

- A. Submittal shall be included as part of the Metal Roofing Panel submittal
- B. Submit manufactures product literature. Include materials, R-values and typical installation details
- C. Provide manufacturer's printed installation instructions

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Installer experienced in performing work of this section who has 5 years of experience specializing in the installation of work similar to that required for this project.
- B. Installer must be approved by the manufacture of the Metal Roofing Panels.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Comply with Division One of the specifications
- B. Delivery: Deliver material to job site in manufacturer's original , unopened packaging with identification labels intact. Packing shall be clearly marked as to the material and manufacture.
- C. Storage and Protection: Store materials protected from exposure to harmful conditions. Store material in dry, above ground location. Packages shall be elevated from the ground Poly-bag shall have holes in each end to aerate the insulation. packages may be left uncovered during the day but shall be protected at night with polyethylene film, canvas or other covering.
- D. Handling: Handle material according to manufactures recommendations. Workers shall ware manufacturer's recommended protective clothing during handling and installation.

1.7 WARRANTY

- A. Manufacturer's Warranty: Provide manufacturer's standard material warranty

PART 2 . PRODUCTS

2.1 APPROVED MANUFACTURES

- A. Manufacturer: Knauf Insulation
- B. Substitutions will not be allowed unless approved by the metal roofing panel manufacturer.

2.2 MATERIAL

- A. Blanket Insulation: Glass fiber, with factory laminated facing material with the following characteristics: (Would not be included in project if ALTERNATE 2 is accepted)
 - 1. Glass fiber: Odorless, neutral colored, long filament, flexible resilient, produced in compliance with NAIMA 202-96.
 - 2. Flame spread Index: The composite of fiberglass and facing shall have surface burning characteristics not to exceed 25 flame spread when tested in accordance with UL 723 or ASTM E 84 test methods.
 - 3. Smoke Developed Index: not to exceed 50 smoke development when tested in accordance with UL 723 or ASTM E 84 test methods.
 - 4. UL Classified.
 - 5. Smoke Developed of 50 or less, when tested in accordance with UL 723.
- B. Blanket Insulation Facing : Facing shall be ALPHA-TEMP Style VR-R (REINFORCED) Plus Facing with the following characteristics: (Would not be included in project if ALTERNATE 2 is accepted)
 - 1. White polypropylene film metallization fiberglass and polyester scrim 14# white craft 0.0015 inch thick (plus or minus 10 percent)
 - 2. Permeance shall be in compliance with ASTM E 96 0.02 perm (1.15 ng/Ns).
 - 3. Tri-directional fiberglass/polyester facing meeting Flame spread of 25 or less, Smoke Developed of 50 or less, when tested in accordance with UL 723
 - 4. Color shall be white
- C. Thermal Blocks: High density, expanded polystyrene, for installation over the purlin
- D. Thermal Value: Provide the following thermal values:
 - 1. Roof Blanket Insulation(nominal values): 6 inches (150 mm); R-value = 19
 - 2. Thermal block insulation: 3/4" inch (19mm) thick (R=5 per inch)
- E. Rigid Insulation as part of ALTERNATE 2: Provide 1" High density, expanded polystyrene between existing metal roof system over conditioned area of main water treatment plant roof and new metal roof system.

PART 3 . EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with the manufacturer's product data, recommendations and installation instructions.

3.2 EXIMINATION

- A. Site Verification and Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for project installation in accordance with manufacturer's instructions.

3.3 INSTALLATION

- A. Do not install insulation if the temperature falls below the minimum workability temperature for the vapor retarder. The minimum workability temperature for vinyl/scrim/metallized polyester (VRP) is 20 deg. F.
- B. Starting at the end wall of the building, temporarily secure the end of the insulation to the eave strut by using either a spray adhesive, double-faced tape, or mechanical fastener (screws, washers, metal banding or strips). Unroll the insulation across the purlins with the vapor retarder towards the interior. Keep tension on the insulation while the metal panels are being attached over the insulation. Prevent excessive draping which can result in large voids above the insulation. Do not overstretch the insulation. Fasten the insulation at the other eave in the same manner as the first eave. Install the next roll of insulation in the same manner, making sure the rolls are stretched tight (but also allow for full recovery of the installation blanket) aligned properly and closely butted, and seal the insulation tabs by one of the methods described in the Tab Fastening section.

3.4 THERMAL SPACER BLOCKS

- A. Install thermal spacers between the purlins and the roof sheet. Thermal blocks shall be placed on top of the insulation at the structural members and shall be temporarily held in place with double-faced tape or spray adhesive until the roofing panels are put on.

3.5 TAB FASTENING

- A. Two 3" Tabs: If two 3 inch tabs are supplied, use a plier stapler to fasten the facing tabs together where two adjoining pieces of insulation butt together. First, pull the facing tabs in between the blankets, away from the inside of the building. Then stable approximately every 4 inches at approximately 1/4 inch to 1/2 inch from the edge of the tabs. after stabling the tabs, fold them over to tuck them between the installation blankets and stable again.
- B. One 6" Tab: If only one 6 inch tab exist, spray or brush a good quality moisture-proof adhesive on the back of the tab. extend the tab over the facing of the adjacent roll of insulation and press firmly with a damp cloth along the seam to smooth it and remove excess adhesive. In cases where continuity of the vapor retarder properties of the facing is not critical, the use of an adhesive is not required.

3.6 MISCELLANEOUS

- A. Cover any rips or tears with matching facing tape to seal tabs
- B. Trim excessive insulation flush at eaves and rakes to keep water out of the insulation.
- C. When manufacturer's installation instructions differ from those listed above adhere to the manufacturer's instructions.

END OF SECTION

SECTION 13 34 21 . STRUCTURAL RETROFIT ROOF SUB-FRAMING SYSTEM

PART 1 . GENERAL

1.1 RELATED DOCUMENTS

- A.** Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section. Additional Sections contained within this Project Manual may also be related to this Section as they may contain corresponding materials and/or methods, ancillary requirements and/or coordination necessities.

1.2 SUMMARY

- A.** Furnish all labor, materials and equipment, and perform all work to install the structural retrofit roof sub-framing system to support a new metal standing seam roofing over the existing metal roofing as specified herein. Verify existing conditions are acceptable to manufacturer of new metal roofing system before and after sub-framing system is installed. It shall be engineered in accordance with the specified code and design loading and shall transfer positive acting loads at each attachment location into an existing structural member. Furnish labor, material, tools, equipment and services for the fabrication of retrofit roof sub-framing as indicated in accordance with provisions of the contract documents.

1.3 SUBMITTALS

- A.** Submit manufacturer's product and application data of specified materials to the Architect for approval.
- B.** Shop drawings: Submit manufacturer's shop drawings for sub-purlins indicating gauge, yield strength, flange and web sizes, cut-out dimensions, and punch pattern for attachment holes in base flange.

1.4 WARRANTY:

- A.** Manufacturer's 20-year non prorated warranty on metal roofing system, including prefinished metal coatings.
- B.** Roofing shall be guaranteed to be weather-tight for a minimum of two (2) years. Any leakage during the two year warranty period shall be repaired and paid for by the Contractor.

1.5 QUALITY ASSURANCE

- A.** Manufacturer shall have a minimum of five years of experience in manufacturing and fabrication of retrofit sub-framing systems of this nature. Light-gauge steel sub-framing components specified in this section shall be produced in a factory environment by roll forming and press-brake equipment assuring the highest level of quality control.
- B.** Entire system shall be provided by a single manufacturer.
- C.** Product shall conform with the following quality assurance standards:
 - 1. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 2. ASTM A 1011/A 1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
 - 3. ASTM E 1592 - Structural Performance Test for Metal Panel and Siding Systems by Uniform Static Air Pressure Difference

4. AISI – 2008 Edition of the “Cold Form Steel Design Manual”
5. AISI – 2007 Edition of the “North American Specification for the Design of Cold-Formed Steel Structural Members”
6. AISC - “Specification for Structural Steel for Buildings

1.6 ENVIRONMENTAL CONDITIONS

- A. Sequencing and Scheduling: Coordinate the retrofit roof sub-framing system and flashing with other work to ensure damage from other work does not damage existing roofing system.
- B. Environmental Requirements: Proceed with installation only when existing and forecasted weather conditions permit assembly of framing to be performed according to manufacturers' written instructions and warranty requirements

1.7 DELIVERY AND STORAGE

- A. Deliver materials in manufacturer's unopened packaging fully identified to show name, brand, type, grade, and thickness.
- B. Store, protect and keep materials off ground with one end elevated to provide drainage. Determine manufacturer's recommended maximum storage and use temperature and protect materials against temperatures exceeding that limit. Protect sub-purlins from corrosion, deformation and other damage.

1.8 EXISTING ROOF SYSTEM AND PRE-CONSTRUCTION INSPECTION

- A. The existing roof is a metal panel with 3” Tees at 18” on center.
- B. The Contractor shall conduct a detailed inspection of the existing roof to identify any existing roof elements that are a cause for concern IE: panel deterioration, structural deterioration, equipment curbs, plumbing and electrical penetrations, special flashing requirements, and any other items that should be submitted to the Architect for review and evaluation.
- C. The Contractor shall perform a detailed survey of the existing roof and confirm the existing panel dimensions, type and profile. In the case of existing standing seam roofing it should be determined if the existing roof employs standard or tall clips. If high panel clips are existing, the standoff dimension should be determined.
- D. The Contractor shall obtain field measurements on the existing roof geometry including width, length, eave height, roof pitch and purlin spacing. This information is to be forwarded to the retrofit sub-framing system manufacturer for coordination and integration into the design and installation documents
- E. Examine existing roof areas to receive sub-purlins. Notify Architect if areas are not acceptable or structurally adequate. Do not begin installation until unacceptable conditions have been corrected.
- F. Verify existing purlins and eave struts are in good serviceable condition, without rust-thru of flanges.
- G. Field Verify Before Ordering of and Installation of Sub-Purlins:
 1. Existing panel profile and panel rib dimensions.
 2. Existing panel run-out by measuring roof over several 20-foot areas to confirm panels were installed on module and in-square. Note variations.

PART 2 . PRODUCTS

2.1 RETROFIT STEEL SUB-PURLINS

A. Manufacturers: Subject to the requirements specified herein, the following manufacturers are pre-approved to provide the structural, standing seam roof. Alternate manufacturers must be approved by Architect prior to bidding.

1. Roof Hugger, Inc., (800) 909-4424, www.roofhugger.com, sales@roofhugger.com

B. System:

1. Panels 1-piece, custom-notched and punched Z-shaped section.
2. Pre-punched to nest over existing through-fastened, low clip and high clip standing seam roof panel ribs for low-profile attachment.
3. Pre-punched for attachment fasteners.
4. Integrally formed Anti-Rotational Arm as required for high clip standing seam panels.
5. Fastens directly into existing purlins, joists or structural decking with fasteners

C. Material:

1. Galvanized steel, A 1011, G-90, yield strength 50 KSI
2. Thickness, 0.060" minimum, 16 gauge
3. Web Height: 2" above insulation or as recommended by manufacturer
4. Base Flange Width: Pre-punch base flange to manufacturer's standard
5. Top Flange Width: Nominally 2" with 0.25" minimum stiffening lip
6. Length: Nominally 10' long plus an additional +/- 1" top flange extension for part lap

PART 3 . EXECUTION

3.1 INSPECTION

A. Examine the substrates and adjoining construction, and the conditions under which the work is to be installed. Do not proceed with the work until unsatisfactory conditions detrimental to the proper and timely completion of the work have been corrected.

3.2 INSTALLATION

- A. System shall be installed straight and true to line, in compliance with manufacturer's instructions and shop drawings.
- B. Limit installation of sub-purlins to the amount that can be roofed over each day.
- C. Install sub-framing system so it shall not come in contact with dissimilar materials which will cause harmful reactions between the metals and/or finish. Separate dissimilar metals with coat of bituminous paint, concealed on one or both sides.
- D. Install sub-purlins directly over existing purlins and fasten to existing purlin through existing panel pan section.
- E. Do not remove existing roof fasteners unless installation of sub-purlins over fasteners causes sub-purlins to "roll" or "porpoise". Some distortion of base flange of sub-purlins caused by existing roof fasteners is normal

3.3 PROTECTION

A. Protect building surfaces against damage from roofing work. Where work must continue over finished roof membrane, protect surfaces.

END OF SECTION

FY2014-30 BID FORM

Project: Water Treatment Plant Metal Roof Replacement

In compliance with the Invitation for Bids, dated July 19, 2013, the undersigned Bidder:

* a corporation organized and existing under the laws of the State of: _____

* a partnership consisting of: _____

*an individual trading as: _____

(*fill in as appropriate)

of the City of _____ in the State of _____ agrees that if this bid is accepted as hereinafter provided, it will furnish all labor, materials, supplies, tools, and equipment necessary to perform all work and services described in the Invitation for Bid and Instructions to Bidders, in strict accordance with the terms and provisions of the Contract attached thereto.

If written Notice of Award is received, the Bidder agrees to furnish to the City of Oak Ridge, within ten (10) working days after receipt of said Notice of Award, the Completion and Performance Bond; Labor and Material Bond or other suitable securities; and required insurance certificates naming the City of Oak Ridge as an additional insured.

It is understood that the City may reject any or all bids, and it is agreed that this bid shall be not withdrawn for a period of forty-five (45) calendar days following the date of opening thereof; however, this bid may be withdrawn at any time prior to the scheduled time for opening of bids, or any authorized postponement.

Time for Completion:

The undersigned Bidder agrees that the work shall be completed by _____ calendar days.

(Price Sheet Follows)

Pricing (in accordance with the Bid Documents & Project Manual):

Base Bid (Metal Roof Replacement Project): \$ _____

_____ Dollars

ALTERNATES:

Alternate 1

If Alternate 1 to remove existing metal wall panels and replace with new metal wall panels per Specification Section 07 41 23 at areas receiving new metal roofing is accepted, ADD to the Base Bid the sum of

_____ Dollars (\$ _____)

Alternate 2

If Alternate 2 to install, over the existing metal roof, a structural retrofit sub-framing system per specification Section 13 34 21 with insulation per Section 07 63 00 and a new metal roofing system per specification Section 07 41 13 is accepted, DEDUCT from the Base Bid the sum of

_____ Dollars (\$ _____)

Bidder attests that no officers or employees of the City of Oak Ridge are members of, or have financial interest in, the business submitting this bid.

By: _____
Signature

Telephone #: _____

Name: _____

Fax # _____

Title: _____

Email _____

Business

Name: _____

Date: _____

Address: _____

Tax ID Number: _____

Bidder acknowledges receipt of the following addenda:

Addendum No. _____ Date: _____

NOTE: In accordance with the Invitation to Bid, a Bid Bond in the amount of ten percent (10%) of the total bid price, and the Drug-Free Workplace Affidavit are attached.



Pre Bid Meeting Minutes

Date: 08/01/13

Time: 09:00 am

Location: Central Services Complex Multipurpose Room
100 Woodbury Lane, Oak Ridge TN 37831

Summary of Discussion:

- Project bids Thursday, August 15th. The metal roofing project is due at 2:30pm and the modified bitumen roof is due at 2:45pm.
- A 3% discretionary fund is to be included in the bid
- Liquidated damages are \$500 per day
- All questions must go through the City of Oak Ridge via Lyn Majeski.
- The last day for questions to Lyn Majeski will be Thursday August 8th at 5pm.
- Written changes can be issued by the City of Oak Ridge until 2:30pm Tuesday August 13th.
- The start date for the metal roofing project would be after Council meets and approves the project in September.
- The modified bitumen roof would commence after the metal roof is complete, as to minimize risk of punctures to the membrane.
- As stated in the bid documents, resumes of personnel are required at the time of bidding. References and equipment would only be needed for the contractor awarded the job.
- Access to the main building roof is through the building and on the short sides of the flat roof.
- Badging and security:
 - The badging office does not work on Fridays
 - A badge can be issued with a government issued photo ID but a driver's license number is required for a badge to allow you to drive within the secured area.
 - Awarded contractors will be able to have a multi week pass.
 - The project is on the City of Oak Ridge's property and therefore the project does not require DOE paperwork or DOE safety regulations.
 - Selected contractor will be given a PIN for the water treatment plant gate.
 - The City of Oak Ridge will address issues arising from delays due to Y-12 shutdown or excessive security measures for material being delivered to the site, such as unloading all material from truck for searching, as a change order.
- Ballast from the flat roof is to be placed in a truck provided by the City of Oak Ridge. Once a truck is full, a new one will be sent to the site.
- A bin will be provided by the City of Oak Ridge for the collection of the copper flashing.
- There are no known contaminates in the roof material that would require special disposal measures.
- A sheet will be issued by the City of Oak Ridge for contractors bidding both projects to address issues concerning combining both projects.

Attendees:

- Lyn Majeski, City of Oak Ridge
- Pat Fallon, City of Oak Ridge
- Susan Fallon, City of Oak Ridge
- Jacene England, Perspective Architecture
- Caleb Eskola, Eskola Roofing
- Brad Hatcher, TN Roofing Corp.
- Charles Price, TN Roofing Corp.
- Chris Fetty, TBM Roofing
- Brad Sharp, Dixie Roofing
- Curtis Hoskins, Dixie Roofing
- Terry Wyatt, Cleveland Roofing Co.
- Angie Wyatt, Cleveland Roofing Co.

Documents Exchanged:

- None

Distribution:

- All Attendees

Summary of Discussion Continued:

- Open joint conditions in wall above modified bitumen roof termination bar will be the responsibility of the City of Oak Ridge on the modified roofing project
- The lighting protection equipment will need to be detached from the existing roof and reattached to the new metal roof system and then reconnected to the existing lightning protection system. The lightning protection system will not be required to be certified after work is complete.
- Existing ballasted roof is comprised of concrete deck with partial existing base ply adhered with 2” rigid insulation, membrane roof and rock ballast. The contractor is to remove base sheet which is loose but if adhered well to concrete deck and if it does not affect the roof warranty then the adhered portions can remain.
- The section of metal roofing shown on detail 3 on both sheets A1.0 and A1.1 will be deleted.
- The City of Oak Ridge uses Waste Connections for trash pickup at the Water Treatment Plant. It is not a requirement to use Waste Connections. Whichever company is selected by the contractor, it should be verified that they can pass security.
- Alternate 2 for the metal roof on the main conditioned part of the building will be published. It will allow for a new metal roof to be installed over the existing metal roof using Roof Hugger as the basis of design.