

## ADDENDUM #1

**Project Name:**  
**Newton Correctional IPI Homes for Iowa Phase II**  
**A/E Project # 02401959.001**  
**DAS# 9239.02 & 9239.03**  
**RFB 923902-01**  
**Addendum #1**  
**Dated: August 14, 2025**

This Addendum forms a part of the bidding and contract documents. This Addendum supersedes and supplements all portions of the original bidding and contract documents dated July 18, 2025 with which it conflicts.

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY SUBJECT THE BIDDER TO DISQUALIFICATION.

### 1. CLARIFICATIONS

- A. No items.

### 2. PLANS

- A. No items.

### 3. SPECIFICATIONS

- A. Section 00 0115, List Of Drawing Sheets-Replace entire section with attached.

### 4. QUESTIONS AND CLARIFICATIONS

- A. Can you tell me the Valuation for the Packages? I need this for Bonding purposes. **A> Opinion of Probable Cost provided by Farnsworth Group: Base Bid - \$2,716,000, Alternate #1 - \$532,891, Alternate #2A - \$197,385, Alternate #2B - \$26,800, Alternate #3 - \$494,325, and Alternate #4 - \$500,650**
- B. Can we Combine / Bid All Packages together? **A> The project does not have a combined bid package scope. There are three bid packages for the project: Bid Package #01 – General Construction, Bid Package #02 – Civil, and Bid Package #03 – MEP. See Section 01 1200 Contract Summary for additional information.**
- C. Special Inspections are by Owner, correct? **A> The Owner will engage a qualified testing agency or special inspector for services noted in section 01 4500. Contractors should be familiar with section 01 4500 for any contractor responsibilities.**
- D. The Building Permit is by Owner, correct? **A> There is no building permit noted for this project. See 00 3143 for applicable permit and inspections.**
- E. I do not see the list of plantings. Did I miss something? **A> There are no new plantings for this project.**
- F. Who is responsible for Division 2, Site Selective Demo? **A> Bid Package #02 - Civil, See Section 01 1200 Contract Summary for additional information.**

- G. Did you happen to see or read anywhere on either the plans or specs if this project needs to have a steel standing seam roof? A> We are not requiring a standing seam metal roof.
- H. Did you happen to see or read anywhere on either the plans or specs if this project will have a steel lined ceiling? I see the walls have steel running up the walls to the 17ft mark. A> The ceiling/bottom of truss top chords are not metal finished.
- I. We found a couple of discrepancies in the plans. C1.3 is listed on the cover sheet index but is NOT in the plans. C2.0 is NOT listed on the cover sheet index but is in the set of plans. A> See attached revised List of Drawings.
- J. Please see the yellow highlighted portion of Bid Package #01 below and explain how this applies. “walls excavation/backfill, and final grade are by Bid Package #1”. A> It should be assumed that Bid Package #2 shall grade to within 1” +/- of rough grade for the building site prior to Bid Package #01 construction activities. Bid Package #1 shall prep and grade concrete slab on grade per detail A5 on S5.1 including 8” granular fill, 4” free draining coarse aggregate, and vapor barrier.

## 5. SUBSTITUTION REQUESTS

- A. No items.

## 6. ATTACHMENTS

- A. Section 00 0115, List Of Drawing Sheets (2 pages)
- B. Pre-bid Meeting and Attendance Sheet (5 pages)
- C. Farnsworth Group Addendum #001, Dated August 14, 2025, Contents: Addendum (2 pages) with attachments of 2 specifications [Section 07 2119 Foamed-In-Place Insulation (3 pages) and Section 13 3400 Engineered Post Frame Structures (9 pages)]

**END OF ADDENDUM**

## RFB923902-01 Pre-Bid Minutes: Meeting #1

**Meeting Date** Aug 12, 2025 **Meeting Time** 10:00 am - 11:00 am UTC

**Meeting Location**

**Overview** Meeting to allow prospective bidders to visit the site, when possible, and learn more about the project.

**Notes**

**Attachments**

### Scheduled Attendees

Name	Company	Phone Number	Email	Attendance
Leona Sears	Farnsworth Group	P: (515) 297-8587	lsears@f-w.com	
Robert Fairfax	Iowa Prison Industries	P: (515) 725-8712	bob.fairfax@iowa.gov	
Chad Squires	Iowa Prison Industries		chad.squires@iowa.gov	
Jerry Dehnke	Samuels Group, Inc.	P: (515) 288-0467	jdehnke@samuelsgroup.net	
Brad Tonyan	State of Iowa - Department of Administrative Services	P: 515-360-7718	brad.tonyan@iowa.gov	
Nathan Emsick	Twin Rivers Engineering	P: (515) 288-3679	nemsick@twinriverseng.com	

### Introduction

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
1.1	1	Introductions				Open
		<b>Description</b> <ul style="list-style-type: none"><li>Attendees</li><li>Sign in Sheet</li></ul>				

### Project Overview

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
2.1	1	Project Description				Open
		<b>Description</b> <ul style="list-style-type: none"><li><b>Base bids:</b> <b>Bid Package #01</b> – General Construction <b>Bid Package #02</b> – Civil <b>Bid Package #03</b> – MEP</li></ul>				

- **Alternates:**

**Alternate #01 – General Construction:** Extend Overall Length of Building

**Alternate #01 – Civil:** Extend Overall Length of Building

**Alternate #01 – MEP:** Extend Overall Length of Building

**Alternate #02A Civil:** All Grading and Earthwork for North Region of Site as Noted

**Alternate #02B – Civil:** Respread Topsoil and Seed All Graded Areas as Noted

**Alternate #03 – Civil:** Civil Work for the "Gravel Surface Add including Electrical Work as Noted"

**Alternate #03 – Electrical:** Electrical Work for the "Gravel Surface Add including Electrical Work as Noted"

**Alternate #04 – Electrical:** Electrical Service and Distribution Re-work at the North end of the Site

- **Unit prices:**

**Unit Price #01** - Grading Berm Material - per cubic yd

**Unit Price #02** - Over-Excavation & Replacement of Unsuitable Fill - per cubic yd

**Unit Price #03** - Additional Crushed Rock Surface - per cubic yd

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
2.2	1	Project Schedule				Open
<b>Description</b> <ul style="list-style-type: none"> <li>• Contract(s) Issued: 09-12-2025</li> <li>• Submittals: 09-15 through 10-10-25</li> <li>• Construction: 09-22-25</li> <li>• Substantial Completion - 03/26/26 – Post Frame Structure</li> <li>• Substantial Completion by – 03/26/26 – Alternate 01 – Extend Overall Length of Building</li> <li>• Substantial Completion by – 11/25/25 – Alternate 02A – North Region</li> <li>• Substantial Completion by – 11/25/25 – Alternate 02B – North Region</li> <li>• Substantial Completion by – 11/25/25 – Alternate 03 – North Region</li> <li>• Closeout: 04-02-26</li> </ul> <p>A pull-plan session will be held with the successful bid package contractors to finalize the construction schedule.</p> <p>State Holidays: New Year's Day, Martin Luther King Day, Memorial Day, 4th of July, Labor Day, Veterans Day, Thanksgiving and day after Thanksgiving, Christmas Day</p>						

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
2.3	1	Site Rules				Open
<b>Description</b> <ul style="list-style-type: none"> <li>• Onsite supervision by Prime Contractor is required at all times when work by that contractor or their subcontractors/suppliers is taking place.</li> <li>• Contractors shall provide daily logs for each day they are on site.</li> <li>• Construction progress meeting will be established once construction starts.</li> <li>• It is of the utmost importance to show respect and courtesy to all staff at all times.</li> <li>• Clean all debris, materials, and bring all finishes back to existing conditions in the area they were working in prior to moving to the next area.</li> <li>• No smoking, vaping or smokeless tobacco use onsite.</li> <li>• Do not interact with residents/offenders.</li> <li>• Temporary facilities - Dumpsters and Portable Toilets By Owner</li> </ul>						

- Demolished equipment
- Tool control
- Cell phones
- Background checks
- Work hours 7:00 AM to 3:30 PM, Monday through Friday
- View Specification 01 1200 - Contract Summary for more information.
- Secure all tools at end of day or at end of shift
- Contractors are responsible for clean up of their own work.

**RFB Overview**

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
3.1	1	Bid Submission				Open
<b>Description</b> <ul style="list-style-type: none"> <li>• Bids are due <u>Wednesday, August 27th, 2025 by 2:00 pm</u></li> <li>• The Bid shall be submitted to the Issuing Officer through the IMPACS Electronic Procurement System. <ul style="list-style-type: none"> <li>◦ Link and information is in the project manual</li> <li>◦ Contractors will need to register prior to bidding</li> <li>◦ Bidders will need to register regardless of whether it has already done business with the State of Iowa.</li> <li>◦ Bidders should complete the registration process and ensure the ability to log in as soon as possible to ensure Bids can be submitted on the due date.</li> <li>◦ Please make sure the electronic documents submitted contain any required signatures. Digital signatures will be accepted.</li> </ul> </li> <li>• Bid Opening will be held via conference call on <u>Wednesday, August 27th, 2025 at 3:00 pm.</u> See Notice to Bidders</li> <li>• Contractor shall reference section 00 0116 for the bid submittal checklist <ul style="list-style-type: none"> <li>◦ Bid Proposal Information</li> <li>◦ Non Discrimination Clause Information</li> <li>◦ Contractor Targeted Small Business Enterprise Pre-Bid Contract Information</li> <li>◦ Bid Security – 5% of total Bid amount</li> </ul> </li> <li>• Apparent low bidder will be required to submit subcontractor/supplier list 48hrs after the bid opening</li> </ul>						

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
3.2	1	Bid Schedule				Open
<b>Description</b> <ul style="list-style-type: none"> <li>• Questions/Substitutions Due in Writing to <a href="mailto:Construction.Procurement@iowa.gov">Construction.Procurement@iowa.gov</a> by 2:00 pm on August 15th, 2025</li> <li>• Addendum Issued: Wednesday, August 20th, 2025</li> <li>• Bids Due: <u>Wednesday, August 27th, 2025 by 2:00 pm</u></li> <li>• Tentative NOI Issued: Thursday, August 28th</li> </ul>						

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
3.3	1	Administrative Details				Open
<b>Description</b> <ul style="list-style-type: none"> <li>Contractors will sign a modified ConsensusDocs 802. Example in the project manual.</li> <li>Project-specific Certificate of Insurance must be provided prior to contract execution. Follow example in the project manual and limits in the 802.</li> <li>Project-specific P&amp;P bonds must be provided prior to contract execution.</li> <li>Successful contractor must turn in their list of subcontractors and suppliers within 48 hours of the bid.</li> <li>DAS will provide tax exempt certificates upon request.</li> <li>Procore will be used for all project management, at no cost to the trade contractor. <ul style="list-style-type: none"> <li>Submittals, Invoicing, RFIs, ASIs, PRs, RFQs</li> <li>Contracts, Change Orders and Certificates of Substantial and Final Completion will also use Docusign</li> </ul> </li> <li>Contractor Schedule of Values shall be broken out as specified in the project manual. <ul style="list-style-type: none"> <li>SOV must contain a closeout line item for at least 1% of the total contract value.</li> <li>This line item can only be invoiced once the certificate of final completion has been signed by all parties.</li> </ul> </li> </ul>						

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
3.4	1	Pre-Bid Site Visits				Open
<b>Description</b> <ul style="list-style-type: none"> <li>Submit pre-bid site visits in writing to <a href="mailto:construction.procurement@iowa.gov">construction.procurement@iowa.gov</a></li> <li>Do not contact Newton Correctional Facility or Iowa Prison Industries for additional site visits.</li> </ul>						

## Questions

No.	Mtg Origin	Title	Assignment	Due Date	Priority	Status
4.1	1	Questions				Open
<b>Description</b> Submit all questions in writing to <a href="mailto:construction.procurement@iowa.gov">construction.procurement@iowa.gov</a> Questions must be submitted by 2:00 pm, Friday, August 15, 2025, to the Issuing Officer.  Bidding documents may stipulate a specific product. Substitute product will be considered if a written request is received by 2:00 pm, Friday, August 15, 2025, prior to bid opening. Substitution requests will be considered for all products per Section 01 2500 Substitution Procedures, even if the specification does not include a statement such as "or equal," "equal to," "equivalent to," or "basis of design," unless otherwise noted.						

These meeting minutes are believed to be an accurate reflection of those items discussed and the conclusions that were reached during the referenced meeting.  
Please contact State of Iowa - Department of Administrative Services if there are any discrepancies or questions with the content of these minutes.



Design  
Construct  
Furnish

PROJECT NAME: NCF IOWA PRISON INDUSTRIES PHASE II

MEETING LOCATION: NCF IPI HOMES FOR IOWA PRODUCTION SITE

MEETING TYPE: RFB923902-01

DATE AND TIME: 08/12/2025 10:00AM

Contact Person	Company Name	Phone Number	Email Address
Sam Stoll	Sunrise <sup>Frame</sup> Post	319-569-7285	
Milo Koder	Miles Construction	641-208-5738	Miles.roofing@yahoo.com
Nathan Emsick	Twin Rivers Engineering	515-288-3679	Nemsick@twinriverseng.com
Jerry Dehake	Samuels Group	515-661-7142	jdehake@samuelsgroup.net
LEONA SEARS	FARNSWORTH GRP	515.297.8587	lsears@F-w.com
TODD HEIERMANN	ACCURATE COMMERCIAL	515 447-8122	THEHEIERMANN@ACCURATE-COMMERCIAL.COM
BRAD KLEINSCHMIDT	Home Revisions LLC	515-985 9867	BRAD@HOMEREVISIONS.IOWA.COM

THIS PAGE INTENTIONALLY LEFT BLANK



**Addendum Number:** 001

**Addendum Issue Date:** August 14, 2025

**Owner:** State of Iowa

**Project Name:** Newton CF IPI Homes for Iowa Phase II

**A/E Project Number:** 02401959.001

**Owner Project No.:** 9239.02 & 9239.03

**Owner Request for Bid** RFB 923902-01

**Containing:** 2 Pages; 0 Documents; 0 Drawings; 2 Specifications

*This addendum amends the drawings and specifications of the above reference project and is hereby incorporated into the contract documents as part thereof. Bidders must acknowledge receipt of this Addendum in the space provided on the Bid Form. **FAILURE TO DO SO MAY SUBJECT BIDDER TO DISQUALIFICATION.***

**General:**

- Item No. 1 The spacing of post frame columns and roof trusses is for reference only. Per the specifications, the building manufacturer shall provide engineering services by a licensed engineer to design the building structure with size and elements as shown. If framing element spacing differs from what is provided in the bid documents, the elements shown by the Design Team shall be adjusted to accommodate the changes. Those changes include but are not limited to moving, adding, or removing fixtures.

**Specifications:**

**Section 07 21 19 – Foamed-in-Place Insulation**

- Item No. 2 Add Section in its entirety to the contract documents.

**Section 13 34 00 – Engineered Post Frame Structures.**

- Item No. 3 Replace the Section in its entirety with the attached document.

Note modifications to the following Articles:

- 2.1 SYSTEM DESCRIPTION
- 2.5 MATERIALS – PREFINISHED MATERIALS
- 2.8 INSULATION

**Drawings:**

**Architectural**

**Cover Sheet**

- Item No. 4 Reference DRAWING LIST.  
Renummer PROJECT LIMITS SHEET from C1.3 TO C2.0.

**Product Pre-Approvals:**

Item No. 5      The following manufacturers shall be substituted as equal to the named Base Bid manufacturer(s) specified. Approval is contingent upon manufacturers fulfilling all specification requirements, tangible and intangible, set forth in the Drawings and Project Manual. Mechanical and Electrical Contractors shall verify that pre-approved vendors meet specifications and installation requirements based upon the project's available space. This approval does not waive any requirements or conditions of the Contract Documents for any material, system or manufacturer.

Section	Item	Approved Equal
08 33 23	Overhead Coiling Doors	CornellCookson: Thermiser Model ESD20

**Bids are Due:** August 27, 2025 / 2:00 PM local time *on the IMPACS Electronic Procurement System.*

**END OF ADDENDUM 001**

**Issued By:**



FARNSWORTH GROUP, INC.

Leona J. Sears, AIA

Senior Project Architect

**Attachments:**

*Specifications:*    Section 07 21 19 – Foamed-in-Place Insulation  
                              Section 13 34 00 – Engineered Post Frame Structures

**SECTION 07 21 19**

**FOAMED-IN-PLACE INSULATION**

**RFB #923902-01**

**PART 1 – GENERAL**

**1.01 SECTION INCLUDES**

- A. Foamed-in-place insulation.
- B. Protective intumescent coating.
- C. Foamed-in-place insulation at walls, parapet, soffit, and miscellaneous conditions to achieve a thermal and air seal, with protective cover where needed.

**1.02 REFERENCE STANDARDS**

- A. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2017.
- B. ASTM D2842 - Standard Test Method for Water Absorption of Rigid Cellular Plastics; 2012.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2018b.
- D. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2016.
- E. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2004 (Reapproved 2012).
- F. ASTM E2178 - Standard Test Method for Air Permeance of Building Materials; 2013.
- G. International Building Code, 2015 Edition. (IBC-2015)

**1.03 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide product description, insulation properties, overcoat properties, and preparation requirements.
- C. Submit documentation of compliance with quality assurance requirements.

**1.04 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with not less than three years of documented experience.

**1.05 REGULATORY REQUIREMENTS**

- A. Conform to applicable code for flame and smoke limitations.
- B. Conform to IBC 2015 for applicable thermal barrier required on foam insulation.

**PART 2 - PRODUCTS**

**2.01 MATERIALS**

- A. Foamed-In-Place Insulation: Medium-density, rigid or semi-rigid, closed cell polyurethane foam; foamed on-site, using blowing agent of water or non-ozone-depleting gas.
  - 1. Thermal Resistance: R-value of 5.0, minimum, per 1 inch thickness at 75 degrees F mean temperature when tested in accordance with ASTM C518.

2. Water Vapor Permeance: Vapor retarder; 2 perms, maximum, when tested at intended thickness in accordance with ASTM E96/E96M, desiccant method.
3. Water Absorption: Less than 2 percent by volume, maximum, when tested in accordance with ASTM D2842.
4. Air Permeance: 0.04 cfm/sq ft, maximum, when tested at intended thickness in accordance with ASTM E2178 or ASTM E283 at 1.57 psf.
5. Closed Cell Content: At least 90 percent.
6. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/450, maximum, when tested in accordance with ASTM E84.
7. Manufacturers:
  - a. Carlisle Spray Foam Insulation; Foamsulate Closed Cell: [www.foamsulate.com](http://www.foamsulate.com).
  - b. BASF Corporation; SPRAYTITE 178 Series: [www.spf.basf.com](http://www.spf.basf.com).
  - c. Demilec LLC; HEATLOK XT: [www.demilec.com](http://www.demilec.com).
  - d. Icynene Inc; Icynene ProSeal LE: [www.icynene.com](http://www.icynene.com).
  - e. Johns Manville; JM Corbond III Closed Cell Spray Polyurethane Foam: [www.jm.com](http://www.jm.com).
  - f. Substitutions: See Section 01 60 00 - Product Requirements.

## **2.02 ACCESSORIES**

- A. Primer: As required by insulation manufacturer or as required to obtain bond between material and substrate.
- B. Protective Coating: Intumescent coating of type recommended by insulation manufacturer and as required to comply with applicable codes.
  1. Provide protective coating unless other code compliant thermal barrier, separating occupied space from foam insulation is provided.
  2. Thermal barrier. Foam plastic shall be separated from the interior of a building by an approved thermal barrier of 1/2-inch (12.7 mm) gypsum wallboard or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.
  3. Basis of Design: International Fireproof Technology, Inc (IFTI); DC315 water based intumescent coating: [www.painttoprotect.com](http://www.painttoprotect.com).
  4. Substitutions: See Section 01 60 00 - Product Requirements.

## **PART 3 – EXECUTION**

### **3.01 EXAMINATION**

- A. Verify work within construction spaces or crevices is complete prior to insulation application.
- B. Verify that surfaces are clean, dry, and free of matter that may inhibit insulation or overcoat adhesion.

### **3.02 PREPARATION**

- A. Mask and protect adjacent surfaces from over spray or dusting.
- B. Apply primer in accordance with the manufacturer's instructions.

### **3.03 APPLICATION**

- A. Apply insulation in accordance with the manufacturer's instructions.
- B. Apply insulation by spray method, to a uniform monolithic density without voids.
- C. Apply overcoat to a uniform minimum thickness, to achieve fire rating required.
- D. Patch damaged areas.
- E. Where applied to voids and gaps assure space for expansion to avoid pressure on adjacent materials that may bind operable parts.

**3.04 PROTECTION**

- A. Do not permit subsequent construction work to disturb applied insulation.

END OF SECTION



## **SECTION 13 34 00**

### **ENGINEERED POST FRAME STRUCTURES**

**RFB #923902-01**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Engineered wood-framed structures consisting of the following components:
    - a. Factory-engineered wall columns.
    - b. Factory-engineered roof truss.
    - c. Factory-engineered metal roof and wall panels.
    - d. Prefinished metal trim items.
    - e. Prefinished ridge vents and soffits.
    - f. Prefinished metal gutters and downspouts.
    - g. Roof and wall insulation.

##### **1.2 REFERENCES**

- A. Reference Standards:
  - 1. Preservative Treated Lumber:
    - a. American Wood Preservers Association (AWPA).
  - 2. Lumber grading rules and wood species:
    - a. National Design Specifications for Wood Construction, current edition.
    - b. Northeastern Lumber Manufacturer's Association, Inc. (NELMA).
    - c. Southern Pine Inspection Bureau (SPIB): Southern Pine.
    - d. West Coast Lumber Inspection Bureau (WCLIB): Douglas Fir.
    - e. Western Wood Products Association (WWPA): Douglas Fir and Ponderosa Pine.
  - 3. MSR Lumber Producers Council (MSR) for machine stress rated lumber.
  - 4. National Design Specifications for Wood Construction.
  - 5. National Design Standard for Metal Plate Connected Wood Truss Construction (TPI).

##### **1.3 ACTION SUBMITTALS**

- A. Product Data: For each type of process and factory-engineered product. Indicate component materials, dimensions, profiles, and construction and installation details.
  - 1. Include information for specialty accessory products specified for this Project.
  - 2. Include data for wood-preservative treatment from chemical treatment manufacturers and certification by treating plants that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
  - 3. For products receiving waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to truss fabricator.
  - 4. Include copies of warranties from chemical treatment manufacturers for each type of treatment.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
  - 1. Sizes, stress grades, and species of lumber.
  - 2. Anchor-bolt layout.
  - 3. Structural Framing Drawings: Show complete fabrication of primary and secondary framing. Include provisions for openings and the following information:
    - a. Slope or depth, span, and spacing of truss.
    - b. Heel bearing height.
    - c. Design loading to include:
      - 1) Top chord live load.

- 2) Top chord dead load.
    - 3) Bottom chord dead load.
    - 4) Concentrated loads and their points.
  - d. Adjustments to lumber and plate design values for conditions of use.
  - e. Plate type, thickness of gauge, and size.
  - f. Lumber size, species and grade for each member.
  - g. Truss framing bracing layout and connections.
4. Metal Roof and Wall Panel Layout Drawings: Show layouts of metal panels including methods of support. Include details of edge conditions, joints, panel profiles, corners, anchorages, trim, flashings, closures, and special details. Indicate the following components:
  - a. Roof mounted items.
  - b. Wall mounted items.
5. Submit Shop Drawings that have been engineered and certified by professional engineer licensed in the State in which Project is located. Include seal and signature of professional engineer on Shop Drawings.
- C. Design Data: Truss and support framing engineering calculations for loading and stresses, bearing seal and signature of professional engineer licensed in the State in which Project is located. Include the following calculations:
  1. Minimum design shall meet design standards of the latest edition of the International Building Code unless other, more stringent requirements are in force in Project location.
  2. Bending moments and axial forces for each member.
  3. Basic plate design values.
  4. Design analysis for each joint indicating that proper plates have been used.
  5. Provide design calculations for exterior walls, canopies, soffit systems, and lateral bracing walls. Design wind loads and lateral bracing loads are indicated on structural Drawings.
  6. Submit design calculations that have been engineered and certified by professional engineer licensed in the State in which Project is located. Include seal and signature of professional engineer on calculations
- D. Samples for Initial Selection: For each finish product specified, provide complete sets of color chips representing manufacturer's full range of available colors and patterns.

### **1.3 INFORMATIONAL SUBMITTALS**

- A. Evaluation Reports: For the following, from ICC-ES:
  1. Wood-preserved-treated wood.
  2. Engineered wood products.
- B. Quality Control Submittals:
  1. Test Reports: Certified test reports showing compliance with specified performance characteristics.
  2. Certification: Manufacturer's certification that Products furnished meet specified design and performance criteria.
- C. Submit written proof of third party inspection program in force for truss manufacturers used on Project.
- D. Certifications: Certify that specified roof and wind load requirements are met.

### **1.5 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Manufacturer that participates in recognized quality-assurance program that complies with quality-control procedures and that involves third-party inspection by an independent testing and inspecting agency acceptable to Architect and authorities having jurisdiction.
  1. Manufacturer's responsibilities include providing professional engineering services needed to assume engineering responsibility.
  2. The manufacturer shall have an engineering department.



3. Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by qualified professional engineer.
- B. Erector Qualifications: An erector who specializes in erecting and installing work similar in material, design, and extent to that indicated for this Project and who is acceptable to manufacturer.
- C. Source Limitations: Obtain engineered post frame building components, including primary and secondary framing and metal panel assemblies, from single source from single manufacturer.

## **1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Handle and store materials per manufacturer's requirements.
- B. Handle and store trusses to comply with recommendations in TPI BCSI, "Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining, & Bracing Metal Plate Connected Wood Trusses."
  1. Store trusses flat, off of ground, and adequately supported to prevent lateral bending.
  2. Protect trusses from weather by covering with waterproof sheeting, securely anchored.
  3. Provide air circulation around stacks and under coverings.
  4. Store trusses to avoid contact with other materials that could create staining or discoloration.
- C. Inspect trusses upon deliver to Project site and notify manufacturer immediately if members have damage from handling or show discoloration, corrosion, or other evidence of deterioration. Discard and replace trusses that are damaged or defective.

## **1.7 WARRANTY**

- A. Manufacturer's Special Warranty – Treated Material: Manufacturer agrees to repair, restore, or replace columns that fail in materials within specified warranty period.
  1. Warranty Period: 50 years from date of Substantial Completion.
  2. Manufacturer shall repair treated structural columns that fail because of insect damage or because of decay that occurs under normal conditions and proper use. If manufacturer is not able to repair structural posts to satisfaction of Architect and Owner, manufacturer shall replace damaged treated structural columns.
- B. Special Warranty on Metal Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
  1. Exposed Panel Finish: Deterioration includes the following:
    - a. Color fading more than 5 Hunter units when tested per ASTM D2244.
    - b. Chalking in excess of a No. 8 rating when tested per ASTM D4214.
    - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
  2. Finish Warranty Period: From date of Substantial Completion, 40 years on chalk; 30 years on color change:
  3. Warranty Exclusions: Manufacturer will not warrant metal panel finishes damaged due to exposure to atmospheric pollutants including animal waste or other corrosive conditions. Manufacturer will not warrant labor by others.
  4. Manufacturer shall repair painted steel roofing or siding panels if the paint peels, cracks, checks, flakes or blisters to an extent that is apparent by ordinary outdoor visual observation when exposed to normal weather and atmospheric conditions. If manufacturer is not able to repair steel panels to satisfaction of Architect and Owner, manufacturer shall replace damaged steel panels.

## **PART 2 - PRODUCTS**

### **2.1 SYSTEM DESCRIPTION**

- A. Structural Frame Design:
  - 1. Design shall be based on the building framing and enclosure as noted.
    - a. Type: Clear span roof truss framing without interior column lines.
    - b. Maximum Width: 100 feet.
    - c. Maximum Clear Height: 24 feet.
    - d. Columns: Bolted to foundation.
    - e. Purlins: Recessed between trusses in galvanized steel joist hangers Or on-edge above truss, factory drilled and fastened with 3/16 inch x 6 inches screw.
- B. Dimensions:
  - 1. Interior post spacing shall be on center, except for end bays which shall be from center of first interior bay post to the outside of endwall framing.
  - 2. Width: 100 feet, outside to outside of primary or secondary wall framing.
  - 3. Length: Outside to outside of primary or secondary wall framing.
    - a. Base Bid Length: 150 feet.
    - b. Alternate No.1: 200 feet.
  - 4. Height: 24 feet, clearance from top of floor to underside of truss or rafter.
  - 5. Roof Slope: 4:12 (units of rise per 12 units of run).
  - 6. Ceiling Slope: None.

### **2.2 PERFORMANCE CRITERIA**

- A. Design Requirements:
  - 1. Design wood members per formulas published in National Design Specifications (NDS) for Wood Construction.
  - 2. Design light meta-toothed connector plates and joint design in compliance with Truss Plate Institute's (TPI) National Design Standard for Metal Plate Connected Wood Truss Construction.
  - 3. Include unbalanced roof loads required by ASCE-7, current edition.

### **2.3 WOOD-PRESERVATIVE-TREATED LUMBER**

- A. Preservative Treatment by Pressure Process: AWWA U1; Use Category UC3b for exterior construction not in contact with ground and Use Category UC4a for items in contact with ground.
  - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
  - 2. For exposed items indicated to receive stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Maximum moisture content of 19 percent or per appropriate grading rules. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of inspection agency approved by ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
  - 1. Laminated columns.
  - 2. Baseboards.
  - 3. Hold down blocks.

### **2.4 MATERIALS – WOOD**

- A. Laminated Columns: Factory-fabricated from minimum 3 ply 2x6 #1 or better Southern yellow pine.

1. Columns over 20 Feet Lengths: Spliced laminated plies per approved Shop Drawings and manufacturer's design. Basis of design is laminated 2x8 columns.
2. Preservative-Treatment: Treat portions of columns designed to be in contact with ground to net retention of 0.60 pounds per cubic foot of CCA per AWWA U1 requirements.
- B. Wood Trusses: Factory-fabricated of surfaced lumber.
  1. Lumber:
    - a. Top and Bottoms Chords: No. 1 or better Southern yellow pine or comparable Spruce-pine-fir.
    - b. Webs: No. 2 or better Southern yellow pine or SPF.
  2. Metal Connector Plates: Fabricated from ASTM A653; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A); G60 hot-dip galvanizing coating designation.
    - a. Plate Thicknesses: 0.036 inch and 0.0556 inch thick.
- C. Baseboards: 2x8 No. 2 or better Southern yellow pine, tongue-and-groove.
  1. Preservative-Treatment: Treat baseboards for ground contact conditions per AWWA U1 requirements. Preservative shall penetrate 100 percent of sapwood.
- D. Wall Girts: 2x6 girts, No. 1 or better Southern yellow pine.
- E. Purlins and Truss Ties: 2x4 laid on edge, MSR SPF 1650.
  1. Purlins may be installed over top chord of truss, flat, or in purlin hangers. Where purlins and truss ties are set in hangers, provide 2x6 laid on edge, MSR SPF 1650 or No. 1 or better Southern yellow pine.
- F. Overhang Framing: Fabricated rafter frames.
  1. Provide factory beveled fascia boards, 2x6 Spruce-pine-fir, No. 2.
- G. Wind Bracing:
  1. 2x6, No. 2 or better Spruce-pine-fir from end wall column to first truss back.
  2. 2x4 diagonal in roofline bracing as required by design.
- H. Framing Around Openings:
  1. Provide 2x6 / 2x4 No. 2 around door, window, and overhead sectional door openings.
- I. Headers:
  1. Option 1: Provide built-up No. 1 or better Southern yellow pine headers as required to meet loading designs.
  2. Option 2: Structural steel header and jamb columns as required to meet loading designs.
- J. Incidental Framing: No.2 or better 2x4.

## **2.5 MATERIALS – PREFINISHED MATERIALS**

- A. General: Factory-formed metal panels, roll-formed in manufacturer's facility, designed to be field assembled by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps. Include accessories required for weathertight installation.
- B. Metal Panels: Exposed-fastener metal roof and wall panels, formed with raised ribs and recesses.
  1. Material: Zinc-coated (galvanized) steel sheet, 0.0125 inch nominal thickness.
    - a. Exterior Finish: Siliconized polyester.
    - b. Color:
      - 1) Roof Panels: Regal Blue / Gallery Blue.
      - 2) Wall Panels: Slate Gray / Pewter Gray.
  2. Rib Spacing: 2 major ribs at 9 inches on center. 2 minor ribs at 3 inches on center between major ribs.
  3. Panel Coverage: 36 inches.
  4. Panel Height: 7/8 inch.
- C. Metal Wall Liner Panels: Concealed-fastener metal interior wall liner panels, formed with a smooth, flat profile.
  1. Finish: Factory-applied siliconized polyester protective coating.
  2. 24 Gauge.
  3. Coverage Width: 12 inches.

- D. Metal Trim: Match material and color of metal panels. Provide trim for corners, ridge lines, rakes, eaves, and panel bases.
  - 1. Lengths: Minimum 10 feet.
  - 2. Trim, overhang fascias, track covers, and slide door jambs available in building panel covers.
  - 3. Overhead Sectional Door and Slide Door Jamb Trim: Fabricated from 1 piece up to 10 feet in length.
- E. Soffits: Aluminum or steel vented as required. Colors shall match roof panel color.
- F. Gutters and Downspouts: Provide manufacturer's standard gutters and downspouts as shown in Drawings. Colors shall match roof panel color.
- G. Ridge Vent: Manufacturer's standard pre-engineered ridge cap or ridgelite, flashings, and eave and gable trim. Field-fabricate minor flashings as indicated on approved Shop Drawings.
  - 1. Provide manufacturer's standard ridge vents.
    - a. Continuous Vented Ridge: 12 square inches per lineal foot.

## **2.6 RELATED MATERIALS**

- A. Closure Strips: Closed cell, 2 psf density polyethylene foam, pre-molded to match configuration of panels.

## **2.7 FASTENERS**

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
  - 1. Where trusses are exposed to weather, in ground contact, made from pressure-preservative treated wood, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A153.
  - 2. Exposed Fastener Heads: Match color of steel panel.
  - 3. Where steel panels or trims are attached to preservative-treated lumber, provide fasteners of unpainted Type 304 stainless steel.
- B. Nails, Brads, and Staples: ASTM F1667.
  - 1. Framing Lumber: 10d, 16d and 60d ring shank nails.
  - 2. Machine Bolts: Minimum grade 1, A307.
  - 3. Metal Panels: Minimum 1-1/2 inch No. 10 screw fasteners with EPDM sealing washers bearing on weather side of metal panels.
    - a. Match color of metal panels.

## **2.8 INSULATION**

- A. Contractor's Option: Provide an insulation system other than what is detailed in the drawings as long as it is fully compliant with the following listed requirements.
  - 1. IECC 2012:
    - a. Roof Requirements:
      - 1) Insulation Entirely Above Deck: R-25 Continuous.
      - OR
      - 2) Engineered Building with R-5 Thermal Blocks: R-19 + R-11 Liner System
    - b. Wall Requirements:
      - 1) Wood-framed and Other: R-13 + R-3.8 Continuous.
      - OR
      - 2) Wood-framed and Other: R-20.
  - 2. The provision of any insulation system that is not entirely on the outside of the building framing shall include thermal blocking at a minimum 1/2 inch thick and R-5.
  - 3. The use of any closed cell spray foam insulation must include the application of a fire-resistant coating, separating the foam from the interior of the building by an approved thermal barrier. See Section 07 21 19 Foamed-in-Place Insulation for additional information.

- B. Blanket Insulation: ASTM C 665, Type I, Class A, Unfaced Fiberglass Blanket.
  - 1. Thermal Resistance: R-20.
  - 2. Flame Spread, ASTM E 84: Less than 25.
  - 3. Smoke Developed, ASTM E 84: Less than 50.
- C. Blanket Insulation: ASTM C 665, Type II, Class C, Kraft Faced Fiberglass Blanket.
  - 1. Thermal Resistance: R-20.
  - 2. Water Vapor Transmission, ASTM E 96, 1.00 Perm (57.45 ng/(Pa\*s\*m^2) or less.
- D. Blanket Insulation: ASTM C 991, Type II, Preformed Poly-Scrim-Kraft-Faced Fiberglass Blanket, located between framing and exterior sheathing:
  - 1. Thermal Resistance: R-6 (R-1.06).
  - 2. Facing: 0.0015 inch white polypropylene film, fiberglass scrim reinforcement, and 12 lb. craft paper. 3 mil cross laminated high density polyethylene.
  - 3. Physical Properties:
    - a. Flame Spread, ASTM E 84: Less than 25
    - b. Smoke Developed, ASTM E 84: Less than 50
    - c. Water Vapor Transmission, ASTM E 96: 0.02 Perms (1.15 ng/(Pa\*s\*m^2).
    - d. Light Reflectivity, ASTM C 523, illuminant D-6500: 87 percent.
- E. Mineral Wool (Owens Corning Thermafiber Fire & Sound Guard Plus).
  - 1. Thermal Resistance: R-21.
  - 2. Water Vapor Sorption, ASTM C 1104, Sorption less than 1% by volume.
- F. Continuous High Compression Mineral Wool (Owens Corning Thermafiber Rainbarrier CI HC (80)) located between framing and exterior sheathing:
  - 1. Thermal Resistance: R-4.2 per inch minimum.
  - 2. Water Vapor Sorption, ASTM C 1104, Sorption less than 0.1% by volume.
  - 3. Installed between exterior wall cladding and wall girt framing. Provides continuous insulation (ci).
- G. Fabric Liner Blanket Insulation System.
  - 1. Components:
    - a. Fabric liner facing/vapor barrier composed of woven high-density polyethylene coated on both sides with polyethylene, white color.
    - b. Galvanized metal support straps (bands). Coated steel, width 1.0 inch, structural steel Grade 50 per ASTM C 653, exposed color to match vapor barrier, gray backing color.
    - c. Unfaced Fiberglass Blanket. ASTM C 665, Type I, Class A.
      - 1) Thermal Resistance: R-20.
      - 2) Flame Spread, ASTM E 84: Less than 25.
      - 3) Smoke Developed, ASTM E 84: Less than 50.
- H. Polyisocyanurate (ISO) Board Insulation with Facers Both Sides: Rigid cellular foam, complying with ASTM C1289.
  - 1. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
  - 2. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
  - 3. Complies with fire resistance requirements required by IBC 2015 as part of an exterior non-load-bearing exterior wall assembly when tested in accordance with NFPA 285.
  - 4. Board Size: 48 x 96 inch or as required for placement.
  - 5. Board Thickness: 1 inch or as indicated or as required to achieve R-value indicated.
  - 6. Board Edges: Square.
  - 7. Manufacturers:
    - a. Atlas Roofing Corporation; EnergyShield Pro Continuous Wall Insulation: [www.atlasroofing.com](http://www.atlasroofing.com).
    - b. Carlisle Coatings & Waterproofing, Inc; R2+ Matte: [www.carlisleccw.com](http://www.carlisleccw.com).
    - c. GAF; EnergyGuard Polyiso Insulation: [www.gaf.com](http://www.gaf.com).
    - d. Hunter Panels; Xci Foil (Class A): [www.hunterpanels.com](http://www.hunterpanels.com).
    - e. Johns Manville; AP Foil-Faced: [www.jm.com](http://www.jm.com).
  - 8. Substitutions: See Section 01 60 00 - Product Requirements.
- I. Thermal spacer blocks, minimum R-5.
  - 1. Thickness: 0.5 to 1.0 inches.
  - 2. Minimum Width: 3.0 inches.

- J. If application exposes insulation to heated building space, install with factory applied vapor retarder membrane facing warm side of building spaces. Lap ends and side flanges of membrane over framing members.

## **2.9 FABRICATION**

- A. Shop-fabricate wood trusses in TPI inspected plant.
- B. Cut truss members to accurate lengths, angles, and sizes to produce close-fitting joints.
- C. Fabricate metal connector plates to sizes, configurations, thicknesses, and anchorage details required to withstand design loads for types of joint designs indicated.
- D. Assemble truss members in design configuration indicated; use jigs or other means to ensure uniformity and accuracy of assembly with joints closely fitted to comply with tolerances in TPI 1. Position members to produce design camber as indicated.
  - 1. Fabricate wood trusses within manufacturing tolerances in TPI 1.
- E. Connect truss members by metal connector plates located and securely embedded simultaneously in both sides of wood members by air or hydraulic press.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine substrates, areas, and conditions, with erector present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- B. Before erection proceeds, survey elevations and locations of concrete-bearing surfaces and locations of anchor rods, bearing plates, and other embedments to receive structural framing, with the erector present, for compliance with requirements and metal building system manufacturer's tolerances.
  - 1. Engage land surveyor to perform surveying.
- C. Verify that mechanical and electrical utilities are in correct position.
- D. Proceed with erection only after unsatisfactory conditions have been corrected.

### **3.2 PREPARATION**

- A. Provide temporary shores, guys, braces, and other supports during erection to keep framing secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent framing, connections, and bracing are in place unless indicated otherwise.

### **3.3 ERECTION OF FRAMING**

- A. General: Do not use materials that are unsound, warped, improperly finished, or with defective surfaces, sizes, or patterns.
  - 1. Comply with frame manufacturer's approved Shop Drawings for details and building erection.
  - 2. Comply with NFBA document "Accepted Practices for Post-frame Construction Framing Tolerances."
- B. Columns:
  - 1. Coordinate installation of cast-in-concrete column anchors and/or brackets with foundation wall installer.
  - 2. Install column anchorage brackets per approved Shop Drawings and manufacture's recommendations.
  - 3. Install the column into anchorage brackets per approved Shop Drawings and manufacture's recommendations.
- C. Baseboards: Install 1 run of 2-inch by 8-inch tongue-and-groove plank, at grade, using manufacturer recommended fasteners.

- D. Wall Girts: Install at centers indicated on Drawings.
  - 1. If required, install overhang framing at top of wall girts.
- E. Trusses:
  - 1. Set trusses in place in center of column using lifting methods as approved by manufacturer.
  - 2. When trusses are properly positioned, install 1/2-inch machine bolt and manufacturer recommended 20d ring shank nails through 2 of column laminates and truss heel, or as indicated in approved Shop Drawings.
  - 3. Brace trusses per WTCA guidelines and BCSI Manual
- F. Purlins: Install purlins with fasteners and at spacings per approved Shop Drawings.
- G. Truss Ties: Install truss ties at locations recommended by structure manufacture and per approved Shop Drawings
  - 1. Run truss ties from end wall to end wall.
- H. Incidental Framing: Install 2x4 or 2x6 blocking as required per structure manufacturer's recommendations.

### **3.4 METAL PANEL INSTALLATION, GENERAL**

- A. Install metal panels per manufacturer's established construction procedures.
- B. Install metal panels and components plumb, square, straight, and true to lines, and to assure freedom from rattles.
- C. Take care when cutting prefinished materials to ensure cuttings do not remain on finished surface.
- D. Properly install fasteners taking care to not under- or overdrive.

### **3.5 METAL PANEL INSTALLATION**

- A. Roofing Panels: Install panels perpendicular to supports aligned straight with end fascias and fasten to purlins. Anchor with fasteners at spacings recommended by manufacturer and design loads.
- B. Wall Panels: Install metal panels perpendicular to wall girt and purlin supports, aligned level and plumb. Anchor with fasteners at spacings recommended by manufacturer and design loads.
- C. Vented Ridges: Fasten vented ridges to structure as indicated on Drawings, maintaining manufacturer's minimum clear throat opening.
- D. Soffits: Install soffits to interlock with trim items at top of steel siding and at fascias.
  - 1. Solid or optional vented soffit shall be used at end overhang.
  - 2. A combination of solid and perforated soffits shall be provided for balanced ventilation at side overhangs.
- E. Trim Items: Install trim items at base, wainscot transitions, corners, top of steel siding, fascia, gables, and ridges using no less than 1 inch screw fasteners.
  - 1. Trim items shall be installed at the base, at any wainscot transition, corners, top of steel siding, fascias, gables and ridge using appropriate 1" screw fasteners.
- F. Closure Strips: Provide closure strips at top and bottom of roofing panels.

### **3.5 FIELD QUALITY CONTROL**

- A. Special Inspections: Owner will engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Inspections: Refer to Section 01 45 00 - Special Inspections and Tests for required verifications and inspections.

END OF SECTION