

ADDENDUM NO. 2

Date March 3, 2023

Eugene School District 4J Gilham Elementary School Roof Replacement 2023

This addendum is being issued for clarification and / or revision of the Contract Documents as noted. This document is hereby made a part of the Contract Documents to the extent as though it was originally included herein.

Bidder shall notify all sub-bidders of this addendum, and shall acknowledge receipt of this addendum by inserting the above addendum number in the space provided on the bid response form prior to submitting bids. Failure to acknowledge receipt of any addendum may subject the bidder to disqualification.

The following are clarifications to the Contract Documents:

Item	Reference	Description
2.01	<i>Bid Closing Date in the "Bid Form" and "Instructions to Bidders"</i>	Date of Bid Closing has been adjusted from March 7 th to March 14 th . <ul style="list-style-type: none">New bid closing: March 14th, 2023 at 2:00 pm.
2.02	<i>Project Manual Section 004113 "Bid Form"</i>	Replace section with attached revised Bid Form. Note the following changes: <ul style="list-style-type: none">Extended bid closing date information.Added requirement for including proposed roof system description and backup data indicating that proposed system meetings Class B up to and including 5:12 roof slopes.
2.03	<i>Project Manual Section 015000 "Temporary Facilities and Controls"</i>	Change Section to omit the following sub-paragraphs: <ul style="list-style-type: none">015000.2.2.B015000.2.2.C
2.04	<i>Project Manual Section 075216 "Styrene-Butadiene-Styrene (SBS) Modified Bituminous Membrane Roofing"</i>	Replace section with attached revised Bid Form. Note the following changes: <ul style="list-style-type: none">Changed allowable granule colors to include both "white" and "gray."Included two granule-surfaced SBS flashing membrane sheet options for potential use in addition to the originally specified foil-faced membrane sheet.
2.05	<i>Drawing Sheet S106</i>	Replace sheet with attached revised Sheet S106. Note the following changes: <ul style="list-style-type: none">Modified wall framing at seismic joints.
2.06	<i>Drawing Sheet S202</i>	Replace sheet with attached revised Sheet S202. Note the following changes: <ul style="list-style-type: none">Added wall framing at seismic joints.
2.07	<i>Pre-Bid Job Walk Attendee List</i>	See attached for the attendee list from the non-mandatory pre-bid job walk.

END OF ADDENDUM No. 2

PROFESSIONAL ROOF CONSULTANTS, INC.

DOCUMENT 00 41 13
BID FORM

BID FOR: Gilham Elementary School Roof Replacement CIP Number _____

Submitted to: Facilities Management Bid Deadline: 2:00PM
Eugene School District 4J 03/14/23
715 West Fourth Avenue
Eugene, Oregon 97402

Submitted by: _____
(Company Name)

BASE BIDS AND ALTERNATES

The undersigned proposes to furnish all material, equipment, and labor required for the complete project, and to perform all work in strict accordance with the Contract Documents for the lump sum prices indicated below with completion occurring on or prior to the dates indicated:

BASE BID: Roof Replacement at Sectors A & B Utilizing a 4-ply and a Cap BUR Membrane Assembly

Bid: _____ \$ _____
(Words) (Figures)

In the space below, describe the BUR system assembly your bid is based upon (manufacturer name and primary roof components) that will be used to meet the Class B roof assembly requirement of the specifications for roof slopes up to and including 5:12. Proof of acceptable Class B tested assembly meeting the specifications will be required prior to award of contract.

The undersigned agrees, if awarded the Contract, to substantially complete all Base Bid work on or before the dates specified in Section 01 11 00.

ALTERNATE NO. 1: Modifies Roof Replacement Scope at Sectors A & B to Install a 2-ply SBS Modified Bitumen Roof Membrane Assembly

Bid: _____ \$ _____
(Words) (Figures)

In the space below, describe the SBS system assembly your bid is based upon (manufacturer name and primary roof components) that will be used to meet the Class B roof assembly requirement of the specifications for roof slopes up to and including 5:12. Proof of acceptable Class B tested assembly meeting the specifications will be required prior to award of contract.

The undersigned agrees, if awarded the Contract, to substantially complete all Alternate No. 1 work on or before the dates specified in Section 01 11 00.

ALTERNATE NO. 2: Expands Scope to Include Roof Overlay at Sectors C & D Utilizing an 80-mil PVC Roof Membrane Assembly

Bid: _____ \$ _____
(Words) (Figures)

The undersigned agrees, if awarded the Contract, to substantially complete all Alternate No. 2 work on or before the dates specified in Section 01 11 00.

BID SECURITY

Accompanying herewith is the electronic copy of Bid Security, which is not less than ten percent (10%) of the total amount of the Base Bid plus additive alternates.

STIPULATIONS

The undersigned acknowledges the liquidated damages provision included in the A101-2017 Section 4.5

The undersigned agrees, if awarded the contract, to comply with the provisions of Oregon Revised Statutes 279C.800 through 279C.870 pertaining to the payment of prevailing rates of wage.

The undersigned agrees if awarded the contract to comply with Oregon Revised Statutes 326.603 giving the Owner authority to obtain fingerprints and criminal records check of Contractors, their employees, and subcontractors providing labor for the Project.

The undersigned agrees, if awarded the Contract, to execute and deliver to the Owner within ten (10) working days after receiving contract forms, a signed Agreement and a satisfactory Performance Bond and Payment Bond each in an amount equal to 100 percent (100%) of the Contract Sum.

For every Agreement of \$100,000 or greater in value, all Contractors and Subcontractors shall have a public works bond in the amount of \$30,000, filed with the Construction Contractors’ Board (CCB), in compliance with ORS 279C.836, before starting work on the project unless exempt. Contractor agrees to provide a copy of the Contractor’s BOLI Public Works bond with the signed Agreement as Specified in the Supplementary Conditions.

The undersigned agrees that the Bid Security accompanying this proposal is the measure of liquidated damages which the Owner will sustain by the failure of the undersigned to execute and deliver the above named agreement and bonds; and that if the undersigned defaults in executing that agreement within ten (10) days after forms are provided or providing the bonds, then the Bid Security shall become the property of the Owner; but if this proposal is not accepted within sixty (60) days of the time set for the opening of bids, or if the undersigned executes and delivers said agreement and bonds, the Bid Security shall be returned.

By submitting this Bid, the Bidder certifies that the Bidder:

- a) has available the appropriate financial, material, equipment, facility and personnel resources and expertise, or the ability to obtain the resources and expertise, necessary to meet all contractual responsibilities;
- b) has a satisfactory record of past performance;
- c) has a satisfactory record of integrity, and is not disqualified under ORS 279C.440;
- d) is qualified legally to contract with the Owner; and
- e) will promptly supply all necessary information in connection with any inquiry the Owner may make concerning the responsibility of the Bidder.

Prior to award of a Contract, the Bidder shall submit appropriate documentation to allow the Owner to determine whether or not the Bidder is “responsible” according to the above criteria.

The contractor agrees with the provisions of Oregon Revised Statutes 279C.505, which requires that the contractor shall demonstrate it has established a drug-testing program for employees and will require each subcontractor providing labor for the Project to do the same.

The undersigned has received addenda numbers _____ to _____ inclusive and has included their provisions in the above Bid amounts.

The undersigned has visited the site to become familiar with conditions under which the Work is to be performed and has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents.

The undersigned certifies that the Bidder is a _____ Bidder under ORS. ("Resident" or "Non-resident", to be filled in by Bidder)

Names of Firm: _____

Street Address: _____
(City) (State) (Zip)

Telephone Number: _____ FAX Number: _____

Email Address: _____

Signed By: _____ Printed Name: _____
(Signature of Authorized Official. If bid is from a partnership, one of the partners must sign bid).

Date Signed: _____

Official Capacity: _____

If corporation, attest: _____ Date: _____
(Secretary of Corporation)

SEAL (If Corporate)

_____ Corporation
_____ Partnership
_____ Individual

Enclosed: Bid Security

NON-DISCRIMINATION REQUIREMENT

Contractor certifies that the Contractor has not discriminated against minorities, women or emerging small business enterprises in obtaining any required subcontracts.

The Contractor agrees not to discriminate against any client, employee, or applicant for employment or for services, because of race, color, religion, sex, national origin, physical or mental handicap, sexual orientation or age, unless based upon bona fide occupational qualifications, and that they are otherwise in compliance with all federal, state and local laws prohibiting discrimination, with regard to, but not limited to, the following: Employment upgrading, demotion or transfer; Recruitment or recruitment advertising; Layoffs or termination; Rates of pay or other forms of compensation; Selection for training; Rendition of services. It is further understood that any vendor who is in violation of this clause shall be barred forthwith from receiving awards of any purchase order from the School District, unless a satisfactory showing is made that discriminatory practices have terminated and that a recurrence of such acts is unlikely.

FIRM NAME: _____

ADDRESS: _____

TELEPHONE: _____

BY: _____
(Company or Firm Officer)

BY: _____
(Type or Print Name)

NON-COLLUSION AFFIDAVIT

STATE OF _____)

County of _____)

I state that I am _____ of _____
(Title) (Name of Firm)

and that I am authorized to make this affidavit on behalf of my firm, and its owners, directors, and officers. I am the person responsible in my firm for the price(s) and the amount of this bid.

I state that:

(1) The price(s) and amount of this bid have been arrived at independently and without consultation, communication or agreement with any other contractor, bidder or potential bidder, except as disclosed on the attached appendix.

(2) That neither the price(s) nor the amount of this bid, and neither the approximate price(s) nor approximate amount of this bid, have been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed before bid opening.

(3) No attempt has been made or will be made to induce any firm or person to refrain from bidding on this contract, or to submit a bid higher than this bid, or to submit any intentionally high or noncompetitive bid or other form of complementary bid.

(4) The bid of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or noncompetitive bid.

(5) _____, its affiliates, subsidiaries, officers, directors and
(Name of my Firm)

employees are not currently under investigation by any governmental agency and have not in the last four years been convicted of or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract, except as described on the attached appendix.

I state that _____ understands and acknowledges that the above representations
(Name of my Firm)

are material and important, and will be relied on by School District 4J in awarding the contract(s) for which this bid is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from School District 4J of the true facts relating to the submission of bids for this contract.

(Authorized Signature)

Sworn to and subscribed before me this _____ day of _____, 20

(Notary Public for Oregon)

My Commission Expires: _____

END OF BID FORM

Updated 3/02/23

STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS MEMBRANE ROOFING

SECTION 075216

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.

1.2 SUMMARY

A. Section Includes:

1. Styrene-butadiene-styrene (SBS)-modified bituminous membrane roofing.
2. Vapor retarder.
3. Rigid roof insulation.

B. Related Requirements:

1. Section 012300 "Alternates" for administrative and procedural requirements for alternates.
2. Section 061000 "Miscellaneous Rough Carpentry" for wood nailer, blocking, and replacement of selected exterior wood siding.
3. Section 070150 "Preparation for Re-Roofing" for methods of existing roof tear-off procedures and requirements.
4. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counter flashings.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.4 REFERENCES

- A. ARMA: Asphalt Roofing Manufacturers Association

- B. ASTM: American Society for Testing and Materials

1. ASTM C1396: Gypsum Board
2. ASTM D5147: Test Methods for Sampling and Testing Modified Bituminous Sheet Material
3. ASTM E119: Test Method for Fire Tests of Building Construction and Materials

4. ASTM E84: Test Method for Surface Burning Characteristics of Building Materials
 5. ASTM C1289: Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
- C. NRCA: National Roofing Contractors Association
1. Quality Control Recommendations for Polymer Modified Bitumen Roofing
 2. NRCA Roofing and Waterproofing Manual
- D. TIMA: Thermal Insulation Manufacturers Association
1. RIC/TIMA Bulletin #281-1
- E. UL: Underwriters Laboratories Inc.
1. Requirements for Roof Deck Constructions
- 1.5 REROOFING (PREINSTALLATION) CONFERENCE
- A. Reroofing (Preinstallation) Conference: Reference Section 070150 "Preparation for Reroofing."
- 1.6 SUBMITTALS
- A. Product Data: For each type of product.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work, including:
1. Base flashings and membrane terminations.
 2. Tapered insulation, including slopes.
 3. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
- C. Qualification Data: For Installer and manufacturer.
- D. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
- E. Sample Warranties: For manufacturer's special warranties.
- F. Maintenance Data: For roofing system to include in maintenance manuals.
- 1.7 QUALITY ASSURANCE
- A. Manufacturer Qualifications: A qualified manufacturer that is UL listed for membrane roofing system identical to that used for this Project.

- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by built-up roofing manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.
 - 1. In continuous business under same name for a minimum of the past 5 years.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.9 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing to be installed according to manufacturer's written instructions and warranty requirements.
- B. Provide tarps or plastic sheeting required to protect opened roofs and flashings and to prevent the entrance of moisture or rain water into the existing structure until new materials have been applied and roof is in a watertight condition.
- C. Have necessary waterproof canvas or plastic sheeting readily available in case of emergency. The Contractor will be held liable for any damage to building interior due to Contractor's negligence.
- D. Roofing materials shall not be applied when water in any form (i.e., rain, dew, ice, frost, snow, etc.) is present on the deck.

1.10 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of built-up roofing that fail in materials or workmanship within specified warranty period.

1. Special warranty includes built-up roofing membrane, base flashings, roof insulation, fasteners, cover boards, roofing accessories, and other components of built-up roofing.
 2. Warranty Period: 20 years from date of Substantial Completion.
- B. Installer's Special Project Warranty: Submit roofing Installer's warranty, signed by Installer, covering the Work of this Section, including all components of built-up roofing such as built-up roofing membrane, base flashing, roof insulation, fasteners, cover boards, and vapor retarders, for the following warranty period:
1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed built-up roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Built-up roofing and base flashings shall remain watertight.
1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
 2. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D4272.
- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by built-up roofing manufacturer based on testing and field experience.
- C. Roofing System Design: The completed membrane roof system shall meet or exceed the uplift criteria as shown on the structural drawings.
- D. UL Listing:
1. Provide built-up bituminous roofing systems and components that have been tested for application and slopes indicated and are listed by Underwriter's Laboratories (UL) for Class B external fire exposure.
 2. Provide built-up bituminous roofing system materials bearing UL Classification marking on bundle, package, or container, indicating that materials have been produced under UL's Classification and follow-up service.
 3. Provide built-up bituminous roofing systems that can be installed to comply with UL requirements for Fire Classified and Class 90 wind-uplift requirements.
- E. Insulation Fire Performance Characteristics:
1. Provide insulation materials that are identical to those whose fire performance characteristics, as listed for each material or assembly of which insulation is a part, have

been determined by testing, per methods indicated below, by UL or other testing and inspecting agency acceptable to authorities having jurisdiction.

2. Surface Burning Characteristics: ASTM E84.
3. Fire Resistance Ratings: ASTM E119.

2.2 MANUFACTURERS

- A. Source Limitations: Obtain components including roof insulation, and fasteners for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.

2.3 SBS ROOFING

- A. Manufacturers: Subject to compliance with requirements.

2.4 ROOFING SHEET MATERIALS

- A. Assembly Configuration: Refer to Sheets GI-2 and GI-3 for specific roof assembly components and configurations.
 1. Steep Slope Requirements: Steep sloped roof areas must be able to achieve the specified external fire exposure rating, be a UL tested assembly, and approved by the manufacturer for warrantable installation on steep slope applications.
- B. Base Ply Sheet (Torch Applied – allowable for low and steep slope applications):
 1. Random fibrous glass mat impregnated with styrene-butadiene-styrene (SBS) modified bitumen. ASTM D 6163, Type I, Grade S.
 2. Minimum Slope allowable for Usage: >3:12
 3. Minimum thickness: 110 mils.
 4. Minimum weight: 76 pounds per 100 square feet.
 5. Application method: Torch Application.
- C. Base Ply Sheet (Self-Adhered – allowable for low and steep slope applications):
 1. Random fibrous glass mat impregnated with styrene-butadiene-styrene (SBS) modified bitumen. ASTM D 6163, Type I, Grade S.
 2. Minimum thickness: 98 mils.
 3. Minimum weight: 72 pounds per 100 square feet.
 4. Application method: Self-Adhered.
- D. Base Ply Sheet (Mechanically Attached – allowable for steep slope applications only):
 1. Dimensionally stable non-woven polyester mat reinforced sheet saturated with styrene-butadiene-styrene (SBS) modified bitumen. ASTM D 6164, Type I, Grade S.
 2. Minimum Slope allowable for Usage: >3:12

3. Minimum thickness: 118 mils.
4. Minimum weight: 81 pounds per 100 square feet.
5. Application method: Mechanically Attached.

E. Top Ply Sheet (Option 1):

1. Random fibrous glass mat impregnated with styrene-butadiene-styrene (SBS) modified bitumen. ASTM 6163, Type II, Grade G.
2. Average Thickness: 154-mils.
3. Minimum thickness: 126-mils at selvage edge.
4. Minimum weight: 125 pounds per 100 square feet.
5. Granule color: White or Gray.
6. Application method: Torch Application.

F. Top Ply Sheet (Option 2):

1. Random fibrous glass mat impregnated with styrene-butadiene-styrene (SBS) modified bitumen. ASTM 6163, Type I, Grade G.
2. Average Thickness: 138-mils.
3. Minimum thickness: 98-mils at selvage edge.
4. Minimum weight: 125 pounds per 100 square feet.
5. Granule color: White or Gray.
6. Application method: Torch Application.

G. Reinforcing Ply Sheet:

1. Random fibrous glass mat impregnated with styrene-butadiene-styrene (SBS) modified bitumen. ASTM D 6163, Type I, Grade S.
2. Minimum thickness: 110 mils.
3. Minimum weight: 76 pounds per 100 square feet.
4. Application method: Torch Application.

H. Flashing Sheet (Option 1):

1. Foil clad membrane with fiberglass scrim/fiberglass mat composite impregnated with styrene-butadiene-styrene (SBS) modified bitumen. ASTM D 6298.
2. Minimum thickness 146-mils.
3. Minimum weight: 96 pounds per 100 square feet.
4. Surface: Aluminum.
5. Application method: Torch or Cold Adhesive.

I. Flashing Sheet (Option 2):

1. Random fibrous glass mat impregnated with styrene-butadiene-styrene (SBS) modified bitumen. ASTM D 6163, Type II, Grade G.
2. Average Thickness: 154-mils.
3. Minimum thickness: 126-mils at selvage edge.
4. Minimum weight: 125 pounds per 100 square feet.
5. Surface: White or Gray

6. Application method: Torch or Cold Adhesive.

J. Flashing Sheet (Option 3):

1. Random fibrous glass mat impregnated with styrene-butadiene-styrene (SBS) modified bitumen. ASTM D 6163, Type II, Grade G.
2. Average Thickness: 138-mils.
3. Minimum thickness: 98-mils at selvage edge.
4. Minimum weight: 125 pounds per 100 square feet.
5. Surface: White or Gray
6. Application method: Torch or Cold Adhesive.

2.5 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing.
1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
- B. Roofing Cement / Flashing Cement / Plastic Cement: ASTM D 4586, asbestos free, of consistency required by roofing system manufacturer for application.
- C. Primer: Asphalt, solvent blend, conforming to ASTM D 41.
- D. Primer for Self-Adhered Sheets: Quick drying, low VOC, water based, high tack primer specifically designed to promote adhesion of roofing sheets to approved substrates.
- E. Cants: Rigid perlite board, 3-inch vertical (with 3-7/8-inch face) minimum, and as shown on the drawings, ASTM C728.
- F. Mastic Sealant: Polyisobutylene (plain or bituminous modified), nonhardening, nonmigrating, non-skinning, and nondrying.
- G. Sealant in contact with roof membrane materials: Moisture-curing, non-slump elastomeric sealant designed for roofing applications. Sealant shall be approved by the roof membrane manufacturer for use in conjunction with the roof membrane materials.
- H. Fasteners: Galvanized steel, fluoropolymer-coated steel, or nonferrous metal screws. Size, length, and type recommended by manufacturer as suitable for material to be fastened, substrate, and that will comply with requirements of governing authorities and listing agencies.
- I. Ceramic Granules: Ceramic-coated roofing granules, No. 11 screen size with 100 percent passing No. 8 sieve and 98 percent of mass retained on No. 40 sieve, color to match color of top ply (cap) sheet.
- J. Radiant Barrier Coating: As recommended by the manufacturer for use in covering asphaltic bleedout on the flashing sheet application.

1. Color: Match flashing sheet.
- K. Walk Pads: Manufacturer's standard cold-applied walk pad suitable for use with their SBS membrane assemblies.
- L. Reinforced Fluid Applied Flashing Membrane: Liquid applied, layered membrane, fully reinforced and seamless flashing system; Polymethyl Methacrylate (PMMA).
 1. Siplast Inc.; Parapro 123 Flashing System.
 2. Or pre-bid approved equal.
- M. Lead Sheet: 4 lbs. desilverized lead sheet.
- N. Preformed Pipe Flashing: Two piece, four pound lead pipe jack with integral flashing flange and flashing cap.
- O. Miscellaneous Accessories: Provide those recommended by roofing system manufacturer.

2.6 VAPOR RETARDER

- A. Vapor Retarder: Polyethylene film laminated to layer of butyl rubber adhesive, minimum 30-mil total thickness; maximum permeance rating of 0.1 perm; self-adhered, with slip-resisting surface and release paper backing. Provide primer when recommended by vapor-retarder manufacturer.

2.7 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.
- B. Insulation Performance Requirements:
 1. Thermal Resistance: 5.7 per inch minimum R-value per manufacturer's data.
 2. Required assembly R-Value: As indicated on Sheets GI-2 and GI-3.
- C. Flat Stock Rigid Insulation – Type 1: ASTM C 1289, Type II, rigid closed-cell polyisocyanurate foam board, felt or glass-fiber mat facer on both major surfaces.
 1. Produced using HC blowing agents in lieu of HCFCs, in accordance with standards mandated by the Environmental Protection Agency.
 2. Compressive strength: Nominal 20 psi per ASTM D 1621.
 3. Flame spread: 35 or less per ASTM E 84.
 4. Panel Thickness: 2.6-inch.
 5. Board size: 4-foot by 4-foot.
 6. Attachment method: Adhesive Ribbons and Mechanically Attached – Reference Sheet GI-2.
- D. Flat Stock Rigid Insulation – Type 2: ASTM C 1289, Type II, rigid closed-cell polyisocyanurate foam board, felt or glass-fiber mat facer on both major surfaces.

1. Produced using HC blowing agents in lieu of HCFCs, in accordance with standards mandated by the Environmental Protection Agency.
 2. Compressive strength: Nominal 20 psi per ASTM D 1621.
 3. Flame spread: 35 or less per ASTM E 84.
 4. Panel Thickness: 2-inch
 5. Board size: 4-foot by 8-foot.
 6. Attachment method: Mechanically Attached.
- E. Tapered Rigid Insulation: ASTM C 1289, Type II, tapered rigid closed-cell polyisocyanurate foam board, felt or glass-fiber mat facer on both major surfaces.
1. Produced using HC blowing agents in lieu of HCFCs, in accordance with standards mandated by the Environmental Protection Agency.
 2. Compressive strength: Nominal 20 psi per ASTM D 1621.
 3. Flame spread: 35 or less per ASTM E 84.
 4. Slope: 1/4-inch per foot.
 5. Board size: 4-foot by 4-foot.
 6. Attachment method: Adhesive Ribbons
- F. Insulation Crickets: ASTM C 1289, Type II; Rigid closed-cell polyisocyanurate foam board, felt or glass-fiber mat facer on both major surfaces.
1. Units shall be 4-foot by 4-foot, 1/2-inch minimum thickness at the start-point of the tapered insulation system.
 2. Slope: As indicated on the Drawings.
 3. Attachment method: Adhesive Ribbons.

2.8 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with roofing.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening flat stock rigid roof insulation to substrate, and acceptable to roofing system manufacturer.
- C. Tapered Insulation and Cover Board Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:
1. Bead-applied, low-rise, one-component or multicomponent urethane adhesive.
- D. Tapered Edge Strip: Rigid polyisocyanurate board of 24-inches wide, 4-foot long tapering from 0-inch to 2-inch in thickness. Stack units to achieve required thickness where indicated on Drawings.
1. Products:
 - a. Atlas Roofing Corporation; Gemini Tapered Edge Strip.
 - b. Or pre-bid approved equal.

- E. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.9 COVER BOARD

- A. General: Provide preformed roof insulation cover boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.
- B. Cover Board – Type 3: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, factory primed.
 - 1. Unit thickness: 1/4-inch.
 - 2. Board size:
 - a. 4-foot x 4-foot at Adhesive Ribbons
 - b. 4-foot x 8-foot at Mechanically Attached
 - 3. Attachment method – Reference Sheets GI-2 and GI-3 for attachment method:
 - a. Adhesive Ribbons.
 - b. Mechanically Attached.
 - 4. Approved manufacturers:
 - a. Ultralight Coated Glass-Mat Roof Board, by United States Gypsum Company.
 - b. DensDeck Prime, by Georgia Pacific.
 - c. Or pre-bid approved equal.

2.10 WALK PADS

- A. Walk Pads: Manufacturer's standard factor-formed, nonporous, heavy-duty, slip-resistant, surface-textured, walk pad for use in conjunction with PVC roof membranes.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work:
 - 1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 - 2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 - 3. Verify that concrete substrate is visibly dry and free of moisture.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

3.3 ROOFING INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions, provided they do not conflict with the requirements herein.
- B. This building includes steep-sloped roof areas that may require supplemental installation methods to meet the manufacturer's requirements. Adhere to all required supplemental installation requirements.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.
- D. Install roofing and auxiliary materials to tie in to existing roofing to maintain weathertightness of transition.

3.4 VAPOR-RETARDER INSTALLATION

- A. Self-Adhering-Sheet Vapor Retarder: Prime substrate if required by manufacturer. Install self-adhering-sheet vapor retarder over area to receive vapor retarder, side and end lapping each sheet a minimum of 3-1/2 inches and 6 inches, respectively. Seal laps by rolling.
- B. Completely seal vapor retarder at terminations, obstructions, and penetrations to prevent air movement into roofing system.

3.5 INSULATION INSTALLATION

- A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Install tapered insulation under area of roofing to conform to slopes indicated.
- D. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.

- E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.
 - 1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
- G. Adhered Tapered Insulation: Install each layer of tapered insulation and adhere to substrate as follows:
 - 1. Set each layer of tapered insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
- H. Mechanically Fastened and Adhered Insulation: Secure insulation utilizing the attachment method outlined on Sheets GI-2 & GI-3.
 - 1. Where mechanical attachment is indicated, utilize the manufacturer specified fastener pattern as required to resist uplift pressure at corners, perimeter, and field of roof.
 - 2. Where adhesive ribbons are indicated, utilize the manufacturer specified ribbon spacing/pattern as required to resist uplift pressures at corners, perimeter, and field of roof.
 - a. Firmly press and compress insulation until the adhesive has fully bonded the insulation in place.
- I. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches in each direction. Loosely butt cover boards together.
 - 1. Install into ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.

3.6 SBS-MODIFIED BITUMINOUS MEMBRANE INSTALLATION

- A. Install roofing system according to roofing system manufacturer's written instructions and applicable recommendations in ARMA/NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing" and as follows:
 - 1. Deck Type: N (nailable).
 - 2. Adhering Method: Torch Application or self-adhering, varies by system assembly.
 - 3. Number of SBS-Modified Asphalt Sheets: Two.
 - 4. Surfacing Type: M (mineral-granule-surfaced cap sheet).
- B. Coordinate installation of roofing system so insulation and other components of the roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.

1. Provide tie-offs at end of each day's work to cover exposed roofing sheets and insulation with a course of coated felt set in roofing cement or hot roofing asphalt, with joints and edges sealed.
 2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
 3. Remove and discard temporary seals before beginning work on adjoining roofing.
- C. Install modified bituminous roofing sheet and cap sheet according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing membrane sheets over and terminate beyond cants, installing as follows:
1. Unroll roofing sheets and allow them to relax for minimum time period required by manufacturer.
- D. Laps: Accurately align roofing sheets, without stretching, and maintain uniform side and end laps. Stagger end laps. Completely bond and seal laps, leaving no voids.
1. Repair tears and voids in laps and lapped seams not completely sealed.
 2. Apply roofing granules to cover exuded bead at laps while bead is hot.
- E. Install roofing sheets so side and end laps shed water.

3.7 FLASHING AND STRIPPING INSTALLATION

- A. Install base flashing over cant strips and other sloped and vertical surfaces, at roof edges, and at penetrations through roof, and secure to substrates according to roofing system manufacturer's written instructions and as follows:
1. Prime substrates with asphalt primer if required by roofing system manufacturer.
 2. Flashing-Sheet Application (Option 1): Adhere flashing sheet to substrate in asphalt roofing cement at rate required by roofing system manufacturer.
 3. Flashing-Sheet Application (Option 2): Torch apply flashing sheet to substrate.
- B. Extend base flashing up walls or parapets a minimum of 8 inches above roofing membrane and 4 inches onto field of roofing membrane.
- C. Mechanically fasten top of base flashing securely at terminations and perimeter of roofing.
1. Seal top termination of base flashing.
- D. Install roofing cap-sheet stripping where metal flanges and edgings are set on roofing according to roofing system manufacturer's written instructions.
- E. Apply radiant barrier coating over all adhesive bleed-out in the flashing sheet application.
- F. Roof Drains: Set 30-by-30-inch metal flashing in bed of asphaltic adhesive on completed roofing membrane. Cover metal flashing with roofing cap-sheet stripping, and extend a minimum of 6

inches beyond edge of metal flashing onto field of roofing membrane. Clamp roofing membrane, metal flashing, and stripping into roof-drain clamping ring.

1. Install stripping according to roofing system manufacturer's written instructions.

3.8 REINFORCED FLUID APPLIED PMMA MEMBRANE FLASHING INSTALLATION

A. Substrate Examination/Preparation:

1. General: Ensure that substrates are free from gross irregularities, loose, unsound or foreign material such as dirt, ice, snow, water, grease, oil, bituminous products, release agents, laitance, paint, loose particles/friable matter, rust or any other material that would be detrimental to adhesion of the catalyzed primer and/or resin to the substrate. Some surfaces may require scarification, shotblasting, or grinding to achieve a suitable substrate.
2. Preparation of Steel/Aluminum Substrates: Grind to generate a "white-metal" surface and remove loose particles. Extend preparation area a minimum of 1/2-inch beyond the termination of the roofing/flashing system. Notch steel surfaces to provide a rust-stop where detailed.
3. Rigid Plastic Flashing Substrates: Evaluate the plastic for compatibility with the resin materials. Lightly abrade the surface to receive the flashing system, clean plastic substrates using the specified cleaner/solvent and allow to dry. Extend the preparation area a minimum of 1/2- inch beyond the termination of the flashing system.
4. Preparation of Wood/Plywood Flashing Substrates to receive Resin: Prime wood/plywood surfaces to receive the specified flashing system with the specified PMMA-based primer at the rate specified by the resin manufacturer and allow primer to cure. Tape the joints between plywood or wood panels using the specified tape and prior to application of the flashing system.

B. Mixing of Resin Products:

1. Preparation/Mixing/Catalyzing Resin Products: Pour the desired quantity of resin into a clean container and using a spiral mixer or mixing paddle, stir the liquid for the time period specified by the resin manufacturer. Calculate the amount of catalyst powder needed using the manufacturer's guidelines and add the pre-measured catalyst to the resin component. Mix again for the time period specified by the resin manufacturer, ensuring that the product is free from swirls and bubbles. To avoid aeration, do not use a spiral mixer unless the spiral section of the mixer can be fully contained in the liquid during the mixing process. Mix only enough product to ensure that it can be applied before pot life expires.

C. Preparation Paste and Primer Mixing/Applications:

1. Primer Application: Apply primer resin using a roller or brush at the rate specified by the primer manufacturer over qualified and prepared substrates. Apply primer resin at the increased rate specified by the primer manufacturer over DensDeck Prime or other porous substrates. Do not let resin pool or pond. Do not under-apply or over-apply primers as this may interfere with proper primer catalyzation. Make allowances for waste, including saturation of roller covers and application equipment.

2. Paste Application: Apply catalyzed preparation paste using a trowel over prepared and primed substrates. Before application of any resin product over cured paste, wipe the surface of the paste using the specified cleaner/solvent and allow to dry. Treat the surface again if not followed up by resin application within 60 minutes.

D. Flashing Membrane Application:

1. Base Flashing Application:

- a. Using masking tape, mask the perimeter of the area to receive the flashing system. Apply resin primer to substrates requiring additional preparation and allow primer to cure.
- b. Pre-cut fleece to ensure a proper fit at transitions and corners prior to membrane application.
- c. Apply an even, generous base coat of flashing resin to prepared surfaces using a roller at the rate specified by the resin manufacturer. Work the fleece into the wet, catalyzed resin using a brush or roller to fully embed the fleece in the resin and remove trapped air. Lap fleece layers a minimum of 2 inch (5 cm) and apply an additional coat of catalyzed resin between layers of overlapping fleece. Again using a roller, apply an even top coat of catalyzed resin immediately following embedment of the fleece at the rate specified by the resin manufacturer, ensuring that the fleece is fully saturated. Ensure that the flashing resin is applied to extend beyond the fleece (maximum ¼-inch (6 mm)). Remove the tape before the catalyzed resin cures. Make allowances for waste, including saturation of roller covers and application equipment.
- d. Should work be interrupted for more than 12 hours or the surface of the cured resin becomes dirty or contaminated by the elements, wipe the surface to be lapped with new flashing resin using the specified cleaner/solvent. Allow the surface to dry for a minimum 20 minutes and a maximum 60 minutes before continuing work.

3.9 WALKWAY INSTALLATION

- A. Walkway Pads: Install walkway pads using units of size indicated or, if not indicated, of manufacturer's standard size, according to walkway pad manufacturer's written instructions.

1. Set walkway pads in cold-applied adhesive.

3.10 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to inspect substrate conditions, surface preparation, membrane application, flashings, protection, and drainage components, and to furnish reports to Roof Consultant.

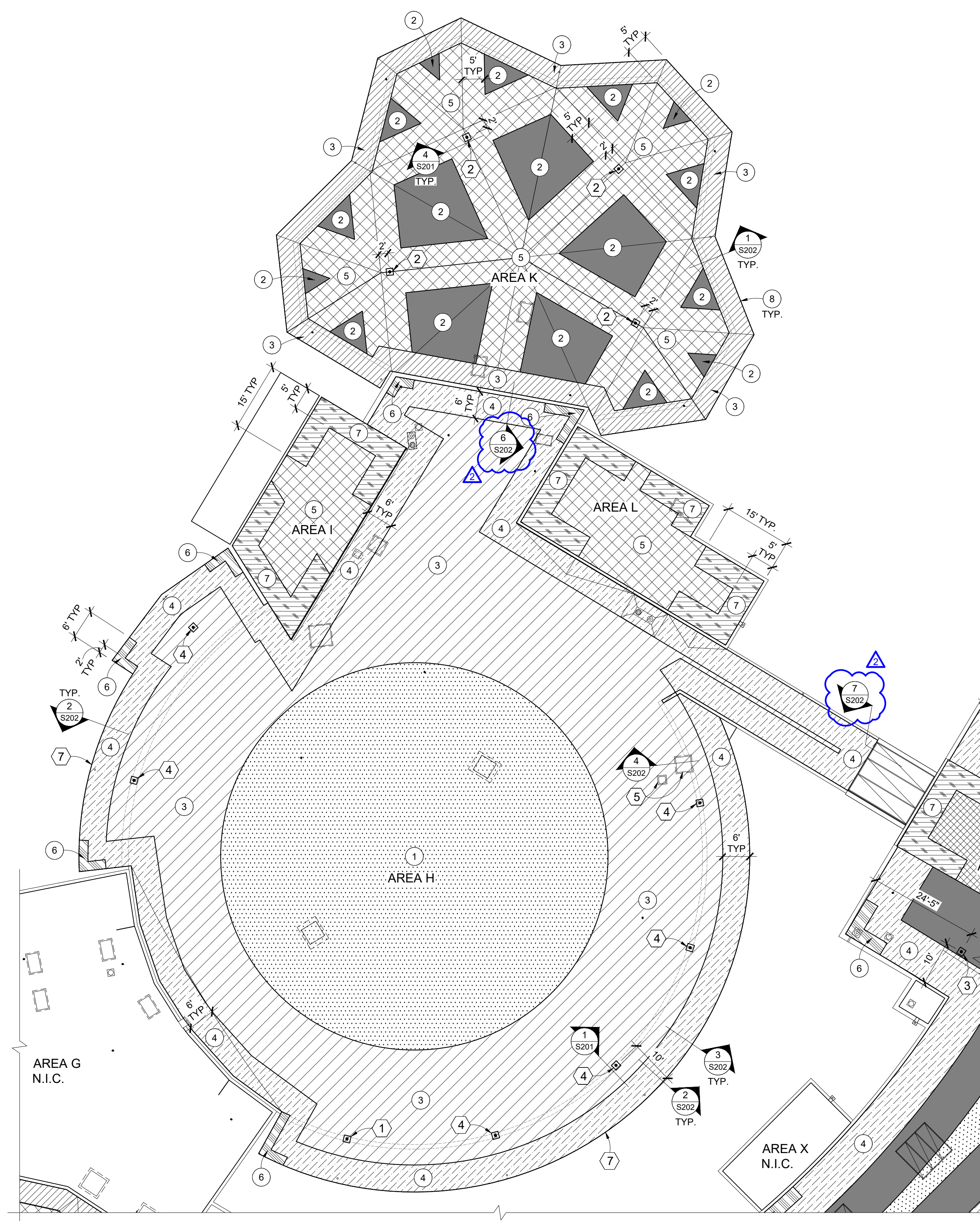
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.

1. Notify Roof Consultant and Owner 48 hours in advance of date and time of inspection.

3.11 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to the Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

END OF SECTION 075216



ROOF WIND UPLIFT LOADS

ROOF WIND UPLIFT (psf)						
ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7
11.6	21.9	25.4	29.7	34.4	41.3	47.8

- NOTES:**
- CODE: ASCE 7-16 CH. 30.
 - BASIC WIND SPEED (3-SEC. GUST) = 102 MPH
 - RISK CATEGORY: III
 - WIND EXPOSURE: B
 - LOADS ARE AT ULTIMATE (LRFD) LEVEL. MULTIPLY VALUES BY 0.6 TO OBTAIN ALLOWABLE STRESS (ASD) LEVEL LOADS.
 - UPLIFT VALUES BASED ON TRIBUTARY AREA OF 10 SQ. FT.

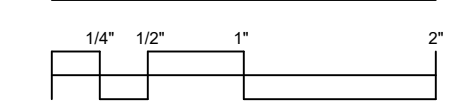
KEYNOTES:

1. FALL PROTECTION ANCHOR PER DETAIL 2/S201.
2. FALL PROTECTION ANCHOR PER DETAIL 4/S201.
3. FALL PROTECTION ANCHOR PER DETAIL 5/S201.
4. FALL PROTECTION ANCHOR PER DETAIL 1/S201.
5. COVER EXISTING ABANDONED MECHANICAL CURB PER DETAIL 4/S202.
6. FALL PROTECTION ANCHOR PER DETAIL 7/S201.
7. REPAIR ALL DAMAGED GL TAILS PER DETAIL 3/S202.
8. REPLACED DAMAGED SHEATHING WITH SAME TYPE AND THICKNESS. FASTEN TO FRAMING WITH 10d NAILS @ 6" O/C AT ALL EDGES AND 1'-0" O/C IN THE FIELD. NOTIFY E.O.R. IF DECKING DAMAGE IS DISCOVERED AT OTHER AREAS BESIDES A, E, AND K OR IF DAMAGE EXTENDS TO FRAMING.

EUGENE SCHOOL DISTRICT 4J
GILHAM ELEMENTARY SCHOOL
ROOF REPLACEMENT

Sheet Title:
 SECTOR B - ROOF PLAN AREAS - H, I, J, K, L, M

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THIS BAR SCALE MEASURES 2 INCHES IN LENGTH WHEN THE SHEET IS PRINTED FULL-SIZE. IF THIS BAR IS NOT 2 INCHES LONG, THE VIEWS ON THIS SHEET ARE NOT TO THE SCALE INDICATED.

Date: 02-21-2023

Revisions:
 1. 02-28-2023

Drawn: JSC
 Checked: JH

PRC No.: 23002.02

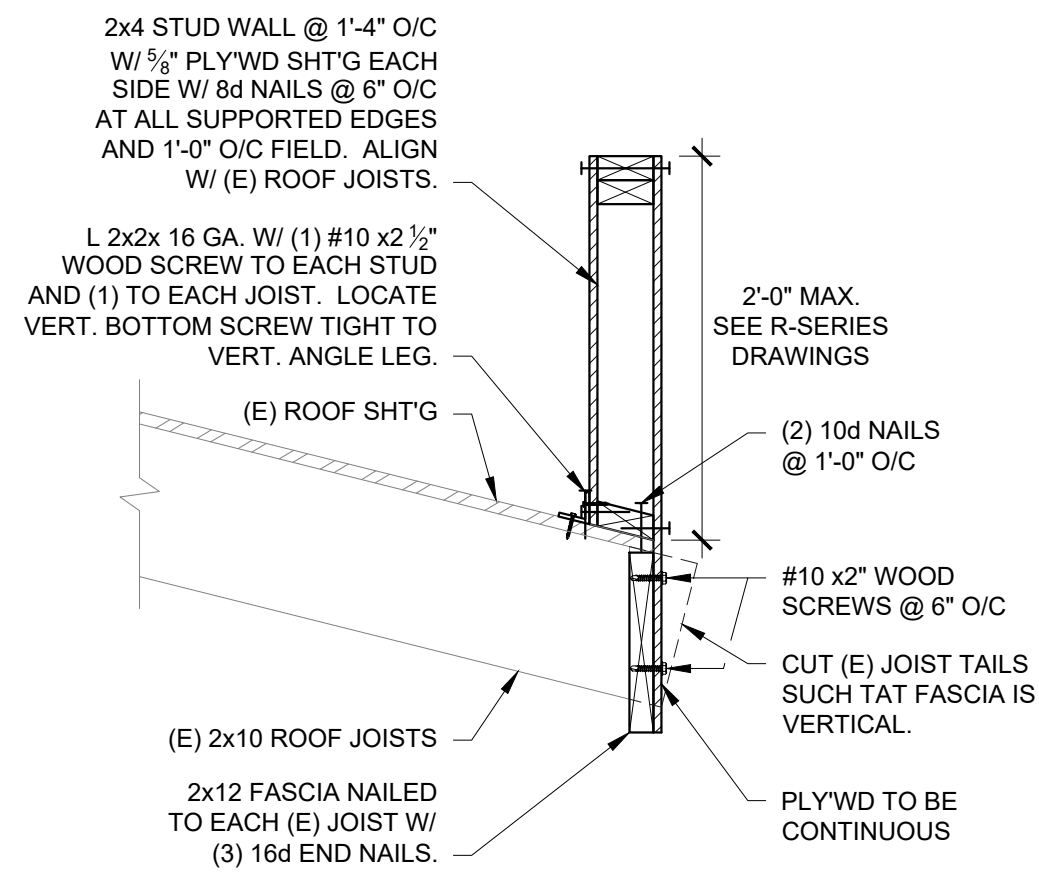
Sheet No.:

S106

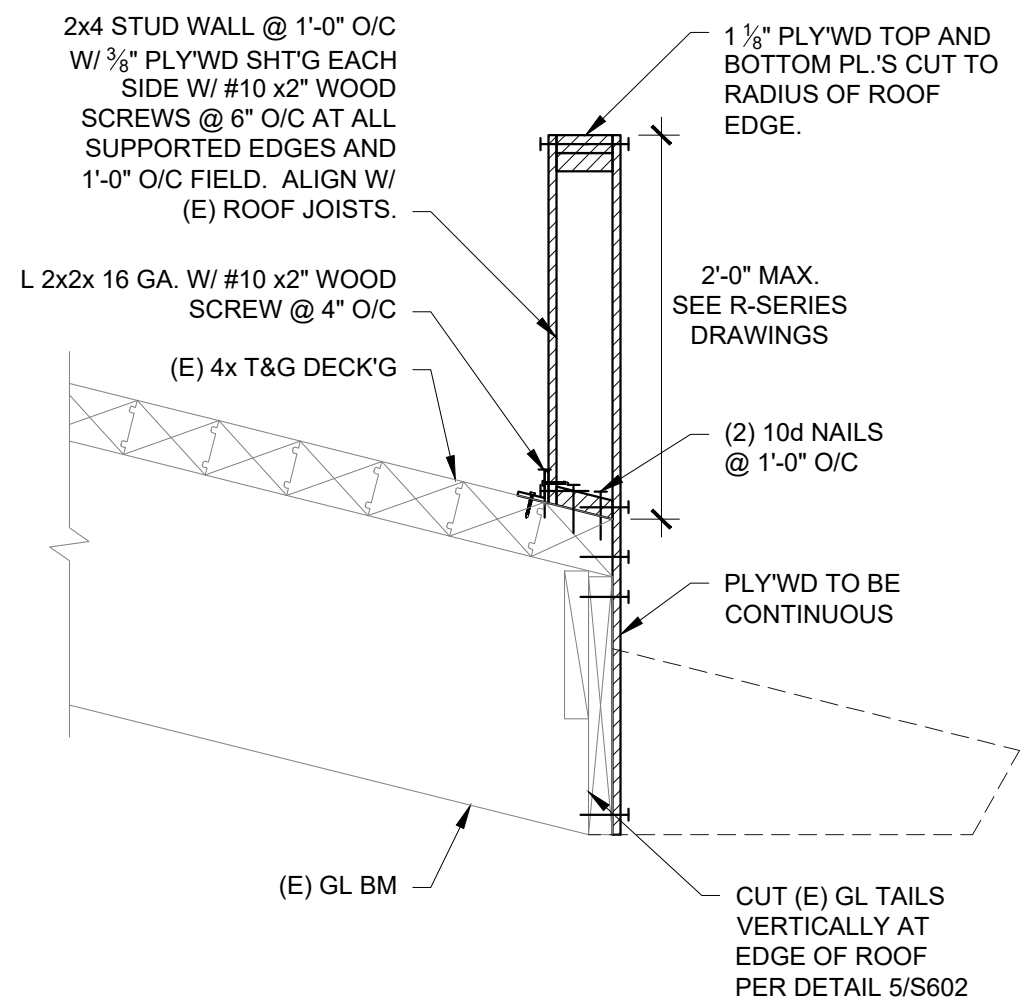
NORTH

1
S106
ROOF PLAN - SECTOR B
 SCALE: 1/16" = 1'-0"
 0 4' 8' 16'

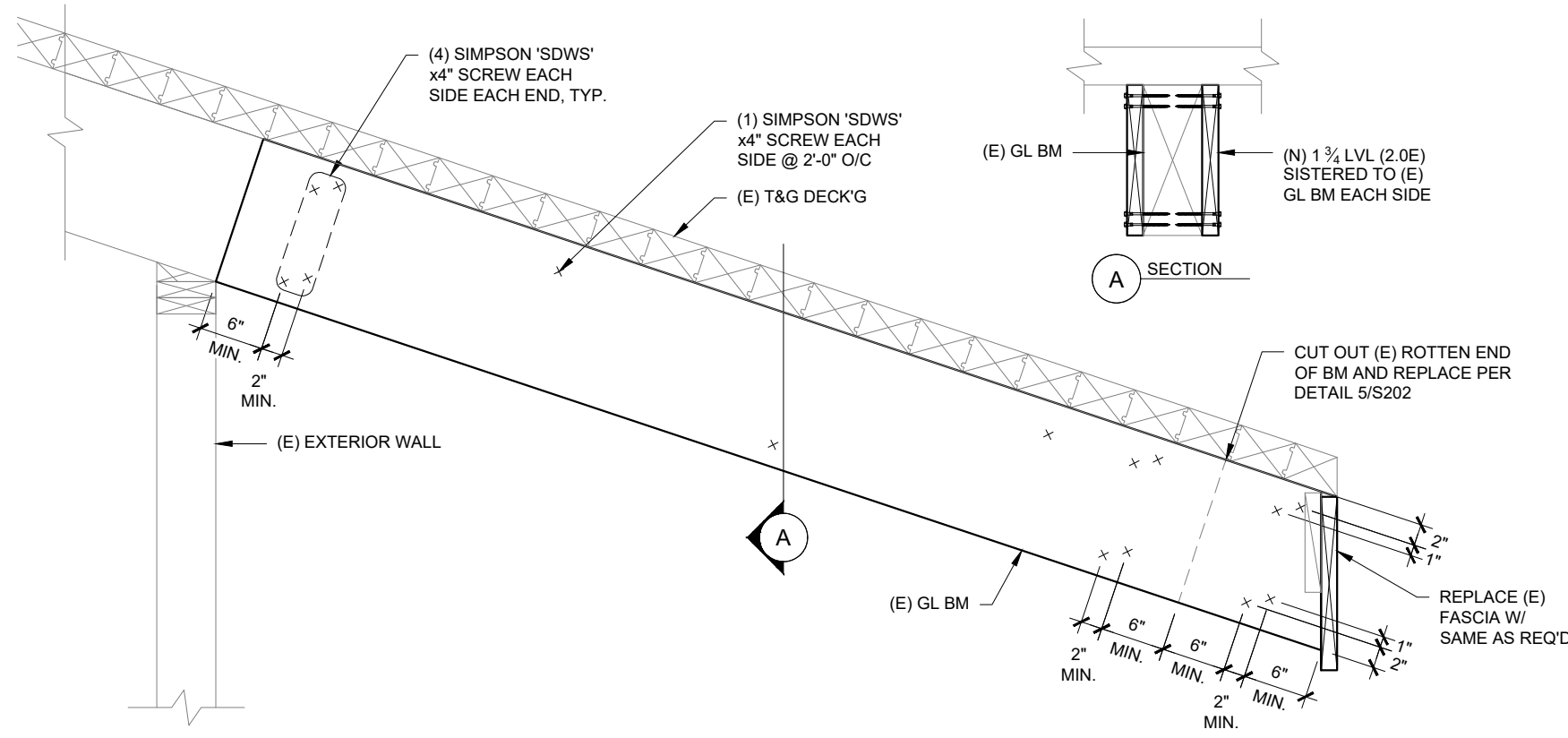
BID SET



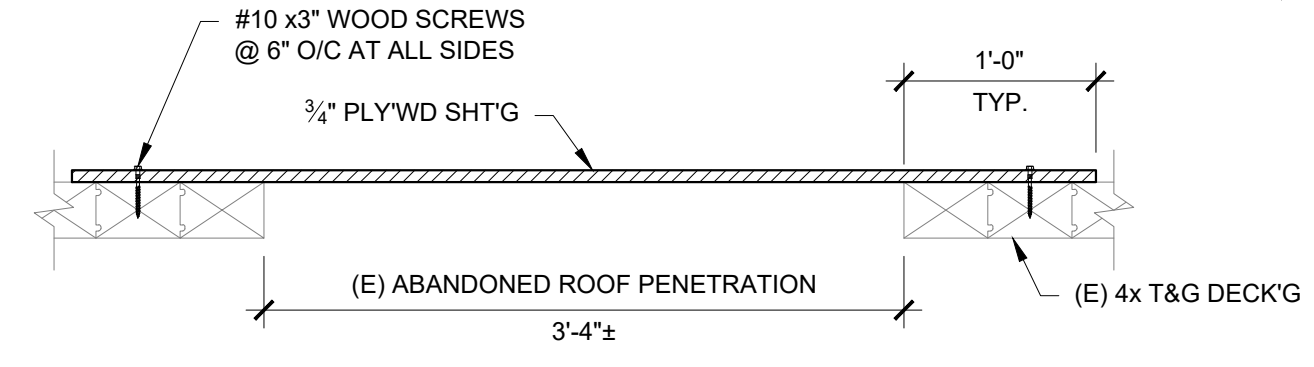
1 SECTION AT PARAPET EXTENSION
 S202 23002.02-10 SCALE: 1" = 1'-0"



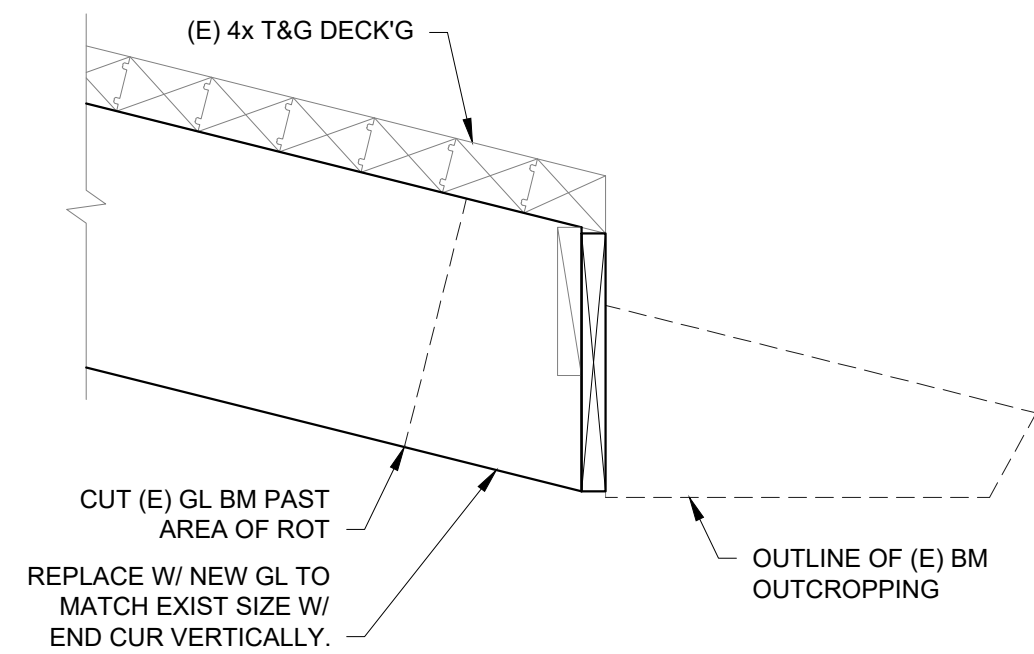
2 SECTION AT PARAPET EXTENSION
 S202 23002.02-11 SCALE: 1" = 1'-0"



3 GL BEAM REPAIR
 S202 23002.02-12 SCALE: 3/4" = 1'-0"



4 (E) ROOF OPENING COVER
 S202 23002.02-13 SCALE: 1" = 1'-0"



5 GL BEAM REPAIR
 S202 23002.02-15 SCALE: 1" = 1'-0"

'H' (IN)	X1 (IN)	X2 (IN)
18	6	24
24	12	24
30	12	24
36	12	24
42	24	24
48	24	24
54	36	48
60	36	48

6 SEISMIC JOINT SECTION
 S202 23002.02-16 SCALE: 1" = 1'-0"

7 SEISMIC JOINT SECTION
 S202 23002.02-17 SCALE: 1" = 1'-0"

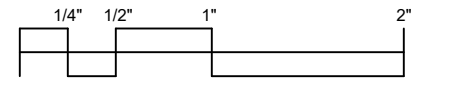
REGISTERED PROFESSIONAL ENGINEER
 16,720
Ralph Turnbaugh
 ORGON
 JULY 20, 1983
 EXP: 6/30/24
T.M. RIPPEY
 CONSULTING ENGINEERS
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PROFESSIONAL ROOF CONSULTANTS INC.
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**EUGENE SCHOOL DISTRICT 4J
 GILHAM ELEMENTARY SCHOOL
 ROOF REPLACEMENT**

Sheet Title:
 ROOF FRAMING DETAILS

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Date: 02-21-2023

Revisions:
 28-02-2023

Drawn: JSC
 Checked: JH

PRC No.: 23002.02

Sheet No.:

S202

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BID SET

Pre Bid Meeting

Project: Gilham Elementary Roofing

Date: 02/27/23, 3:00 pm

PLEASE PRINT THIS INFORMATION

Name	Company Name	E-Mail	Phone
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Casey Kowitz	PEPPER BUILT	brad@propebui.it.net	