Addendum #1

December 30, 2019

To all bidders for furnishing all labor and material necessary and required for Constructing the:

Glenshire Elementary DSA Certification and Reroof Project
10990 Dorchester Drive, Truckee

This addendum forms a part of the Contract Documents and modifies the original bidding Documents which includes the drawings and specifications labeled Glenshire Elementary DSA Certification & Reroof Project of 2020. Acknowledge all addenda on the Bid Form. Failure to do so may subject bidder to disqualification.

General information:

1. Pre-bid meeting notes are attached for your reference.
2. Existing system to be torn off is: 1/2" insulation under 2 glass felts under mineral cap sheet set in type III hot asphalt.
3. Please note, the new Glue Laminated Beams do not require “In-Plant” inspection. Section 1705A.5.4 of 2016 CBC provides an exception to the requirement of fabrication special inspection for glued laminated beams. It excepts beams 5 1/8" wide and less, 18" deep and less with spans 32 feet and less from the special inspection requirements. The new glued laminated beams we are adding meet this exception.
4. The project requires a B license so the C-39 contractors can provide pricing to the B contractors. The list of attendees is included in addendum #1 as page #3.
5. If dry rot is discovered, we will confirm the extent and process a change order.
6. The parapet cap must be fabricated by Garland and purchased through them. This is not included in the owner supplied materials and is expected to be included in the bid.

Revisions to Specifications:

1. Replace Specifications Section 01 64 00 OWNER SUPPLIED MATERIAL with the attached dated 12/20/2019. The RMER-Coping and any additional Garland material required is the responsibility of the contractor.
2. Replace Specifications Section 061000 ROUGH CARPENTRY with the attached, dated 12/6/2019.
3. Replace Specifications Section 061600 SHEATHING with the attached, dated 12/6/2019
4. Replace Specifications Section 061850 GLUED-LAMINATED CONSTRUCTION with the attached, dated 12/6/2019.
Revisions to Drawings:

1. On Drawing Sheet A-3, revise note #2 to delete the part about “District to provide and install lights”. Lights will be provided and installed in this contract.

END OF ADDENDUM #1
<table>
<thead>
<tr>
<th>Company</th>
<th>Name</th>
<th>E-mail</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCI</td>
<td>Mante</td>
<td>M.Claymancdi-inc.net</td>
<td>530-559-8397</td>
</tr>
<tr>
<td>MCI</td>
<td>Burt Malott</td>
<td><a href="mailto:bcualter@malott.com">bcualter@malott.com</a></td>
<td>530-604-3710</td>
</tr>
<tr>
<td>Garland</td>
<td>Zach Holliman</td>
<td><a href="mailto:2hollman@garland.com">2hollman@garland.com</a></td>
<td>530-966-1586</td>
</tr>
<tr>
<td>Waterproofing Associates</td>
<td>Rob Will</td>
<td><a href="mailto:rob@rofield.com">rob@rofield.com</a></td>
<td>209-256-6777</td>
</tr>
<tr>
<td>Ruane &amp; Son Mechanical</td>
<td>Marty Jenkins</td>
<td><a href="mailto:MLJ@ruaneinc.com">MLJ@ruaneinc.com</a></td>
<td>916-865-7110</td>
</tr>
<tr>
<td>Debt Recovery</td>
<td>Alex Ruby</td>
<td><a href="mailto:anvy@addrify.com">anvy@addrify.com</a></td>
<td>775-685-5555</td>
</tr>
<tr>
<td>Garland</td>
<td>Tim Samways</td>
<td><a href="mailto:tsamways@garland.com">tsamways@garland.com</a></td>
<td>775-772-7882</td>
</tr>
<tr>
<td>BSCO</td>
<td>Shane Allen</td>
<td><a href="mailto:SAllen@bcor.com">SAllen@bcor.com</a></td>
<td>916-810-5828</td>
</tr>
<tr>
<td>Ponderosa</td>
<td>David Ford</td>
<td><a href="mailto:dford@ponderosa.com">dford@ponderosa.com</a></td>
<td>230-3242</td>
</tr>
<tr>
<td>State Roofing</td>
<td>Mike Denny</td>
<td><a href="mailto:mfstate@roofer54.com">mfstate@roofer54.com</a></td>
<td>510-772-7272</td>
</tr>
<tr>
<td>Walter Young</td>
<td>Ron Larkins</td>
<td><a href="mailto:ronlarkins@comcast.com">ronlarkins@comcast.com</a></td>
<td>530-587-3857</td>
</tr>
</tbody>
</table>
Notes
Glenshire DSA Certification & Reroof Project
Mandatory Pre-Bid meeting
Thursday, December 5th, 2019 at 10:30 AM
TTUSD Office 11603 Donner Pass Road, Truckee Conf Room A

A. Introductions
1. Anna Klovstad: TTUSD, Project Manager
   i) aklovstad@ttusd.org
   ii) Office: (530) 582-2548 Cell: (530) 308-6394
2. Ward Young Architecture and Planning
   i) Ron Larkins ral@wyarch.cm
   ii) Robert Heck rh@wyarch.com
   iii) Office: (530) 587-3859
3. The Garland Company Inc
   i) Tim Samaniego tsmaniego@garlandind.com
      Cell: (775) 772-9822
   ii) Justin Holliman jholliman@garlandind.com
      Cell: (530) 965-0884
4. DSA Inspector: Jim Sajdak jim@cesw3.us
   Cell: (530) 581-0118

B. Bid Schedule: (AK)
1. Drawings are available via email. Contact Rose Green at rgreen@ttusd.org or (530) 582-2540
   i) Printing can be done at The Office Boss 12177 Business Park Dr # 2, Truckee, CA 96161
      (530) 587-1620 for the cost of the prints.
2. Final questions or substitution requests are due to Anna Klovstad by 10:30 am on Monday,
   December 16th, 2019.
3. Final addendum or substitution approval will be issued by 10:30 am on Friday, December 20th,
   2019.
4. Bids are due on Tuesday, January 7th, at 10:30 am at the District Office – Conference Room A
   11603 Donner Pass Road, Truckee, CA 96161. The building is not visible from Donner Pass
   Road – it is behind the fire house.
5. Only bids from those in attendance today will be opened.
6. The contract will be brought to TTUSD Board meeting on February 5th, 2020.
7. A notice of award will be sent out on Thursday, February 6th, 2020.

C. Construction Schedule: (AK)
1. Insurance, bonds, and executed contract due within 5 days of notice of award.
2. Construction begins on or about June 29th, 2020.
3. Substantial completion is expected by August 17th, 2020. The contract provides for 49 calendar
   days to complete. That includes weather days. If there are more than 16 days of documented
   weather prohibiting production, we will consider extending the deadline.
4. Liquidated damages apply starting August 18th, 2020 at $300 per day.
D. Scope (RL & TS)
1. The project includes Skylight Removal, Structural retrofitting, and Re-Roofing of the Multi-Purpose Room at Glenshire Elementary School. The scope of work of the project can be summarized as follows:
   i) Removal of existing Skylights and Built-Up Roofing system. The District will be providing the majority of the roofing materials for the project; this bid will include the installation of the new roof (Owner Furnished, Contractor Install roofing project). Materials to be provided by the contractor include:
      (1) Red Rosin Paper
      (2) Cover Board
      (3) Parapet Coping Cap: Note: Coping cap is to be purchased by the contractor from Garland.
      (4) Other miscellaneous materials needed for installation of the roof in full compliance with Specification Section 075552.
   ii) Structural Framing: (2) 12’ x 18’ aluminum framed barrel vault skylights and aluminum louvers will be removed and in-filled as part of this project. Additionally, Structural Retrofitting of the existing roof framing along the east wall will occur when the plywood deck is exposed. Structural retrofitting of existing blocking will occur along the west wall of the gym from below, as accessed in the attic space above the stage.
   iii) Finish work on the ceiling of the gym including batt insulation, gypsum board, painting, acoustic ceiling installation in the area of the removed skylights.
   iv) Additional trades involved in the project include mechanical work required for vent and equipment removal associated with the new roofing at existing curved penetrations on the roof. Minor electrical work associated with installation of 2 new lights and abandonment of a power louver system circuitry. Modification of existing sprinkler head locations under a Design/Build process for the infilled area of the skylights.

E. Owner Furnished Contractor Installed product (TS).
1. The owner will purchase the roofing material directly from The Garland Company:
   i) Base (Ply) Sheet
   ii) Modified Cap (Ply) Sheet
   iii) Interply Adhesive: (Layer 1 and 2): Green-Lock Membrane Adhesive.
   iv) Flashing Base Ply
   v) Flashing Cap (Ply) Sheet
   vi) Flashing Ply Adhesive: Green-Lock Flashing Adhesive.
   vii) Pyrmic Plus LO (title 24 compliant coating)

2. Product will be delivered to the site on or before: June 29th, 2020. Delivery is to be coordinated by contractor with The Garland Company Inc. Contractor is responsible for off-loading product and getting it to the roof.

3. Contractor is to include in their bid any expected shortages from the “Owner Supplied Products” list above.

4. Products to be purchased by the contractor includes:
   i) ANSI SPRI ES-1 approved R-mer Coping System from The Garland Company.
   ii) Rosin Paper and Recover Board.
   iii) Any materials needed in addition to the Owner Supplied Materials to complete the roofing system installation per the specification.

F. Alternates (AK)
1. No alternates are planned for Glenshire Elementary.
G. Substitutions (AK)
   1. I do not expect any substitutions since the District is providing the majority of the roofing material. If you do wish to make a substitution, this must be submitted as an RFI and approved prior to bid opening.

H. Public Contract Code & TTUSD Requirements (AK)
   1. This project is subject to all the requirements of the PCC and prevailing wage. Know the code and there will be no exceptions.
   2. **Class B license is required.**
   3. All procedures for submittals, shop drawings, substitutions, RFI’s, payment requests, etc, must be in accordance with the project manual.
   4. Occupied campus:
      i) While this project is scheduled to occur during summer break, our campuses are seen as public and the community will still use the fields and playgrounds. Staff will also be on site occasionally. Please be considerate of these activities and people.
      ii) No smoking, tobacco products or alcohol at all.
      iii) Be safe at all times. Students are curious.
      iv) At a minimum, long pants and short sleeve shirts are required – no profanities, tobacco or alcohol advertisements allowed.
      v) Deliveries only between 7:00 am and 7:00 pm – this is a residential neighborhood and we want to be a good neighbor.
      vi) Do not block access for staff or emergency providers at any time.
   5. Criminal Background checks: Plan on providing barriers.
   6. Identification badges are required to be visible at all times. Worker’s name and company at a minimum.
   7. Secure all materials, equipment and trailers at all times.
   8. Schedule all shutdowns with TTUSD: Anna Klovstad and site administrator in advance. That goes for utilities, access, doors, etc.
   9. Contractor to provide their own trailer, storage, restroom, and phone. No indoor restroom use will be allowed. This job does not require a trailer unless the contractor wants to install one for convenience.

I. Hazardous materials removal (AK)
   1. None anticipated. The District has performed HazMat tests and non were found in this roof system. The report is available upon request.
   2. However, specification section 00 73 56 details what to do if you suspect hazardous materials. We want to protect your workers, the school staff and community. Please stop immediately and follow the procedures.

J. Other (AK)
   1. A site key will be issued to the contractor to facilitate access to the roof and in case of emergencies.
   2. Debarred, suspended or contractors in process of debarment are not permitted to bid on this project.
   3. The project manual contains Special Conditions – please review and ask questions if you have any.
   4. Bids must include:
      (a) Completed bid form – signed
      (b) Site visit certification form.
(c) List of subcontractors form (even if you have none) completely filled out and including the license number.
(d) Non collusion affidavit
(e) Bid bond for 10% of the value of the bid is required
5. All other documents and certifications are not required until contract execution.
6. PLM bonds must be accompanied by a certificate from the Nevada County Clerk’s office which verifies the surety has authority to act as surety upon bonds in CA.
7. Normal district maintenance will be on going. Please work with them if they need access.
8. Provide fencing for laydown area – protect your equipment and materials.
9. Dumpster must be fenced at the end of each day. Do not put food or food trash in the open dumpsters. This will attract bears and other wildlife to the campus.

K. DSA Requirements (JS)
1. DSA inspector and all other special inspections will be paid for by TTUSD.
2. Call for inspections at least 24 hours in advance.
3. Do not cover up work until the inspection is complete and signed off.
4. DSA form 6 will be required at the completion of the project verifying all work installed per plans and specifications.
5. Therefore, all questions, clarifications, and changes in the work must be fully documented. Please use the RFI, CCD and other forms of contract changes provided in the contract document section 01 26 00.

L. Walk scope areas including the loading zones (ALL)
1. Contractor responsible to protect all finishes not being disturbed including driveways, sidewalks, landscaping, flooring and roofing.
2. Contractor responsible for keeping non construction areas clean and for clean-up of these and the construction area daily.
3. Discuss roof modifications - contractors will be allowed access to the roof.

M. Questions:
1. The existing roofing system is 1/2" insulation under 2 glass felts under mineral cap sheet set in type III hot asphalt.
2. The project requires a B license so the C-39 contractors can provide pricing to the B contractors. The list of attendees is included in addendum #1.
3. What if dry rot is discovered? Bid what is in the documents. If dry rot is discovered, we will confirm the extent and process a change order.
4. Can the contractor buy flat stock parapet cap material and bend it themselves? No, this must be fabricated by Garland and purchased through them.
PART 1 - GENERAL

1.1 SUMMARY

A. DESCRIPTION: The Owner shall procure and provide certain products for installation as shown and specified per Contract Documents.

B. RELATED WORK SPECIFIED ELSEWHERE:

1. General: Products furnished and paid for by the Owner are described in the following technical sections and/or in the Drawings.

2. Owner SUPPLIED MATERIAL

Note that this project includes the installation of owner-supplied material; the Owner has acquired roofing material through the CMAS program.

1.2 DEFINITIONS

A. GENERAL: The following are used to identify products as noted on the Drawings.

B. OWNER FURNISHED CONTRACTOR INSTALLED (O.F.C.I.): Products or equipment furnished by the Owner for installation under this contract.

C. OWNER FURNISHED OWNER INSTALLED (O.F.O.I.): Products or equipment to be provided and installed by the Owner, but requiring surfacing, backing, utility connections or other preparation under this contract, for proper installation.

D. NOT IN CONTRACT (N.I.C.): Products or equipment to be provided and installed by Owner, not requiring surfacing, backing, utility connections or other preparation under this contract.

PART 2 - PRODUCTS

2.1 PRODUCTS

A. ROOFING MATERIAL FURNISHED BY OWNER (O.F.C.I.): Owner supplied material through the CMAS program. Related specification sections include;

   Section 075200 Modified Bituminous Membrane Roofing
   Section 076200 Sheet Metal Flashing and Trim

B. MATERIAL LIST

Listed in a Table below is a list of Owner provided material. Any material or accessories required for the installation of the roof system in excess of the Owner provided material must be supplied by the Contractor. It is up to the Contractor to determine the precise amount of material required for the completion of this project; and to provide excess material, as required.
TABLE OF ROOFING MATERIAL OWNER FURNISHED CONTRACTOR INSTALLED (O.F.C.I)

<table>
<thead>
<tr>
<th>Material</th>
<th>Product Name</th>
<th>Product Code</th>
<th>Quantity Supplied by County</th>
<th>Coverage</th>
</tr>
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<tbody>
<tr>
<td>GES DSA Certification &amp; Reroof Project</td>
<td>Stress Base 80</td>
<td>4411-80</td>
<td>70 rolls</td>
<td>150 sq. ft/roll</td>
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<tr>
<td>Mineral Cap Sheet</td>
<td>StressPly Plus FR Min</td>
<td>4377</td>
<td>140 rolls</td>
<td>75 sq. ft/roll</td>
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<tr>
<td>Membrane Adhesive</td>
<td>Green-Loc NO VOC</td>
<td>7301-5</td>
<td>85 (5 gal buckets)</td>
<td>IP: 2.0 gals/sq. CAP: 2.5 gals/sq</td>
</tr>
<tr>
<td>Flashing Adhesive</td>
<td>Green-Loc Flashing</td>
<td>7302-3</td>
<td>15 (3.5 gal buckets)</td>
<td></td>
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<tr>
<td>Caulking/Sealant</td>
<td>Tuff-Stuff</td>
<td>2130WHT</td>
<td>15 – 10 Oz tubes</td>
<td>20 feet</td>
</tr>
<tr>
<td>Mastic</td>
<td>KEE Lock</td>
<td>7303-3</td>
<td>3 (3.5 gal buckets)</td>
<td></td>
</tr>
<tr>
<td>Reinforcement fabric</td>
<td>GarMesh 6</td>
<td>4840-6</td>
<td>3 rolls</td>
<td>6”x150’ each</td>
</tr>
<tr>
<td>Coating</td>
<td>Pyramic Plus LO</td>
<td>7475-5U</td>
<td>62 (5 gal buckets)</td>
<td>1.5 gal/sq. per coat 2 coats required</td>
</tr>
</tbody>
</table>

PART 3 - EXECUTION

2.2 OWNER’S RESPONSIBILITIES

A. SUBMITTALS: Arrange for and deliver necessary shop drawings, product data and samples to Contractor.

B. DELIVERY:

1. General: Arrange and pay for product delivery to site, in accordance with construction schedule.

2. Bill of Materials: Deliver supplier’s documentation to Contractor.

3. Inspection: Inspect jointly with Contractor.

4. Claims: Submit for transportation damage and replacement of otherwise damaged, defective, or missing items.

C. GUARANTEES: Arrange for manufacturer’s warranties, bonds, service, and inspections, as required.
2.3 CONTRACTOR’S RESPONSIBILITIES

A. **SUBMITTALS**: Review shop drawings, product data and samples with notification of any discrepancies or problems anticipated in use of product.

B. **DELIVERY**:
   1. **General**: Designate delivery date for each product in Progress Schedule.
   2. **Receiving**: Receive and unload products at site. Handle products at site, including uncrating and storage.
   3. **Inspection**: Promptly inspect products jointly with Owner; record shortages, damaged or defective items.
   4. **Storage**: Protect products from damage or exposure to elements.

C. **INSTALLATION**:
   1. **General**: Assemble, install, connect, adjust and finish products, as stipulated in the respective section of Specifications.
   2. **Repair and Replacement**: Items damaged during handling and installation.

* End Section *
SECTION 061000 - ROUGH CARPENTRY

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. This Section includes the following:

1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Wood blocking, cants and nailers.
4. Wood furring and grounds.
5. Wood sleepers.
6. Threaded rods epoxy set into C.M.U.
7. Epoxy injection into split blocking.

B. Related Sections include the following:

1. Division 06 Section "Sheathing."
2. Division 06 Section "Glued-Laminated Construction."

1.3 DEFINITIONS

A. Exposed Framing: Framing not concealed by other construction.

B. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) or greater but less than 5 inches nominal (114 mm actual) in least dimension.

C. Lumber grading agencies, and the abbreviations used to reference them, include the following:

1. WCLIB: West Coast Lumber Inspection Bureau.
2. WWPA: Western Wood Products Association.
3. NLGA: National Lumber Grades Authority.

1.4 SUBMITTALS
A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
3. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

B. Fastener Patterns: Full-size templates for fasteners in exposed framing.

C. Research/Evaluation Reports: For the following, showing compliance with building code in effect for Project:
   1. Power-driven fasteners.
   2. Powder-actuated fasteners.
   3. Expansion anchors.
   4. Metal framing anchors.

1.5 QUALITY ASSURANCE
A. Source Limitations for Engineered Wood Products: Obtain each type of engineered wood product through one source from a single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING
A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings. Protect lumber from weather by covering with waterproof sheeting, securely anchored.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL
A. Lumber: DOC PS 20 and applicable rules of WCLIB or WWPA. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

   1. Factory mark each piece of lumber with grade stamp of grading agency.
   2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece or omit marking and provide certificates of
3. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.

4. Provide dressed lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 19% unless otherwise indicated.

C. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.

1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA C2, except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPA C31 with inorganic boron (SBX).

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

2. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat items indicated on Drawings, and the following:

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.

2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
2.3 DIMENSION LUMBER FRAMING

A. Maximum Moisture Content: 19 percent.

B. Joists, Rafters, and Other Framing Not Listed Above: No. 1 grade of the following species:
   1. Douglas fir-larch; WCLIB or WWPA.

2.4 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
   1. Blocking.
   2. Nailers.
   3. Rooftop equipment bases and support curbs.
   5. Furring.

B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 19 percent maximum moisture content and any of the following species:
   1. Douglas fir-larch; WCLIB or WWPA.

C. For concealed boards, provide lumber with 19 percent maximum moisture content.

D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

E. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.

   1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Nails, Brads, and Staples: ASTM F 1667.

D. Wood Screws: ASME B18.6.1.

E. SDS Screws: ICC-ES ESR-2236.

F. Lag Bolts: ASME B18.2.1 (ASME B18.2.3.8M).

G. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

H. Expansion Anchors: As indicated in Construction Documents.

2.6 METAL FRAMING ANCHORS

A. Basis-of-Design Products: Subject to compliance with requirements, provide products indicated on Drawings:
   1. Simpson Strong-Tie Co., Inc.

B. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

C. Install hardware with model number and manufacturer indicated on construction documents. Substitutions must be submitted to Architect and DSA for review and approval prior to installation.

2.7 MISCELLANEOUS MATERIALS

A. Epoxy adhesive for masonry anchors: Simpson Set-XP epoxy adhesive or approved equal.

B. Epoxy paste for injection into split blocking.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL
A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.


C. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

D. Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions.

E. Do not splice structural members between supports, unless otherwise indicated.

F. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
   1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels.

G. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

H. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
   1. Use inorganic boron for items that are continuously protected from liquid water.
   2. Use copper naphthenate for items not continuously protected from liquid water.

I. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated.

J. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads, unless otherwise indicated.

K. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.
Glenshire Elementary School
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1. Comply with indicated fastener patterns where applicable.
2. Use finishing nails, unless otherwise indicated. Countersink nail heads and fill holes with wood filler.

3.2 WOOD GROUND, SLEEPER, BLOCKING, AND NAILER INSTALLATION

A. Install where indicated and where required for screeding or attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

C. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

D. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches (38 mm) wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 Epoxy for Masonry anchor installation: As indicated in Construction Documents.

3.4 Epoxy for Injection into split blocking space: AS indicated in construction documents.

3.5 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Protect rough carpentry from weather.

END OF SECTION 061000
SECTION 061600 - SHEATHING

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. This Section includes the following:
   1. Roof sheathing.

B. Related Sections include the following:
   1. Division 06 Section "Rough Carpentry".

1.3 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Stack plywood and other panels flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS, GENERAL

A. Plywood: Either DOC PS 1 or DOC PS 2, unless otherwise indicated.

B. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.

C. Factory mark panels to indicate compliance with applicable standard.
2.2 PRESERVATIVE-TREATED PLYWOOD

   1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.

C. Application: Treat items indicated on Drawings and plywood in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and waterproofing.

2.3 ROOF SHEATHING

   2. Nominal Thickness: Not less than 5/8 inch.
   3. Oriented strand board (OSB) is not an acceptable substitute for plywood sheathing and is not permitted to be used.

2.4 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
   1. For roof and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M of Type 304 stainless steel.

B. SDS Screws: ICC-ES ESR-2236.

C. Nails: ASTM F 1667.


E. Wood Screws: ASME B18.6.1.

2.5 MISCELLANEOUS MATERIALS

A. Adhesives for Field Gluing Panels to Framing: Formulation complying with APA AFG-01 and ASTM D 3498 that is approved for use with type of construction panel indicated by manufacturers of both adhesives and panels.
   1. Use adhesives that have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.

B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction, unless otherwise indicated.

C. Securely attach to substrate by fastening as indicated.

D. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.

E. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.2 WOOD STRUCTURAL PANEL INSTALLATION


B. Fastening Methods: Fasten panels as indicated in construction documents. Staples shall not be used.

1. Roof Sheathing:
   a. Nail to wood framing. Apply a continuous bead of glue to framing members at edges of wall sheathing panels.
   b. Space panels 1/8 inch (3 mm) apart at edges and ends.

END OF SECTION 061600

SECTION 061600
SHEATHING
SECTION 061850 - GLUED-LAMINATED CONSTRUCTION

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 framing using structural glued-laminated timber.

B. Related Sections:

1. Division 06 Section "Rough Carpentry" for dimension lumber items associated with structural glued-laminated timber.

1.3 DEFINITIONS

A. Structural Glued-Laminated (Glulam) Timber: An engineered, stress-rated timber product assembled from selected and prepared wood laminations bonded together with adhesives and with the grain of the laminations approximately parallel longitudinally.

1.4 SUBMITTALS

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

1. Include data on lumber, adhesives, fabrication, and protection.
2. For preservative-treated wood products, include chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.
3. For connectors, include installation instructions.

B. Shop Drawings:

1. Show layout of structural glued-laminated timber system and full dimensions of each member.
2. Indicate species and laminating combination, adhesive type, and other variables in required work.
3. Include large-scale details of connections.
C. Certificates of Conformance: Issued by a qualified testing and inspecting agency indicating that structural glued-laminated timber complies with requirements in AITC A190.1.

D. Material Certificates: For preservative-treated wood products, from manufacturer. Indicate type of preservative used and net amount of preservative retained.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Provide factory-glued structural units produced by an AITC- or APA-licensed firm.

1. Factory mark each piece of structural glued-laminated timber with AITC Quality Mark or APA-EWS trademark. Place mark on surfaces that will not be exposed in the completed Work.

B. Quality Standard: Comply with AITC A190.1.

C. Glue Laminated Member Grade: As indicated in construction documents.

1.6 DELIVERY, STORAGE, AND HANDLING

A. General: Comply with provisions in AITC 111.

B. Individually wrap members using plastic-coated paper covering with water-resistant seams.

PART 2 - PRODUCTS

2.1 STRUCTURAL GLUED-LAMINATED TIMBER

A. General: Provide structural glued-laminated timber that complies with AITC 117 or research/evaluation reports acceptable to authorities having jurisdiction.

1. Provide structural glued-laminated timber made from single species.
2. Provide structural glued-laminated timber made from solid lumber laminations; do not use laminated veneer lumber.
3. Provide structural glued-laminated timber made with wet-use adhesive complies with AITC A190.1.

a. Use adhesive that contains no urea-formaldehyde resins.

B. Species and Grades for Structural Glued-Laminated Timber: Douglas fir-larch that complies with structural properties, combination symbols, and beam stress classifications indicated.
C. Species and Grades for Beams:
   2. Lay-up: Either balanced or unbalanced.

D. End Sealer: Manufacturer’s standard, transparent, colorless wood sealer that is effective in retarding the transmission of moisture at cross-grain cuts and is compatible with indicated finish.

E. Penetrating Sealer: Manufacturer’s standard, transparent, penetrating wood sealer that is compatible with indicated finish.

2.2 TIMBER CONNECTORS

A. Pre-fabricated connectors, manufacturer and model per construction documents.

2.3 FABRICATION

A. Camber: Fabricate horizontal and inclined members of less than 1:1 slope with either circular or parabolic camber equal to 1/500 of span.

B. End-Cut Sealing: Immediately after end cutting each member to final length and after preservative treatment, apply a saturation coat of end sealer to ends and other cross-cut surfaces, keeping surfaces flood coated for not less than 10 minutes.

C. Seal Coat: After fabricating, sanding, and end-coat sealing, apply a heavy saturation coat of penetrating sealer on surfaces of each unit, except for preservative-treated wood where treatment included a water repellent.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates in areas to receive structural glued-laminated timber, with Installer present, for compliance with requirements, installation tolerances, and other conditions affecting performance of structural glued-laminated timber.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Erect structural glued-laminated timber true and plumb, and with uniform, close-fitting joints. Provide temporary bracing to maintain lines and levels until permanent supporting members are in place.
1. Lift with padded slings and protect corners with wood blocking.
2. Install structural glued-laminated timber to comply with Shop Drawings.
3. Install timber connectors as indicated and in strict conformance with manufacturer’s recommendations.

B. Fit structural glued-laminated timber by cutting and restoring exposed surfaces to match specified surfacing and finishing.
   1. Predrill for fasteners using timber connectors as templates.
   2. Dress exposed surfaces as needed to remove planing and surfacing marks.
   3. Coat cross cuts with end sealer.

C. Cutting: Avoid cutting after fabrication. Where field fitting is unavoidable, comply with requirements for shop fabrication.

3.3 ADJUSTING

A. Repair damaged surfaces and finishes after completing erection. Replace damaged structural glued-laminated timber if repairs are not approved by Architect.

3.4 PROTECTION

A. Do not remove wrappings on individually wrapped members until they no longer serve a useful purpose including protection from weather, sunlight, soiling, and damage from work of other trades.
   1. Coordinate wrapping removal with finishing work specified in Division 09. Retain wrapping where it can serve as a painting shield.
   2. Slit underside of wrapping to prevent accumulation of moisture inside the wrapping.

END OF SECTION 061850