

ADDENDUM ONE

Roofing and Related Work at Kettler Hall Roof Replacement Phase 1 - 2026:
Purdue University Fort Wayne
E Campus Drive
Fort Wayne, Indiana 46805

MARTINRILEY architects ▪ engineers
221 West Baker Street
Fort Wayne, Indiana 46802
260-422-7994

Commission No.: F26026
Addendum Date: July 7, 2026

Conditions: The following clarifications, amendments, additions, deletions, revisions and modifications are a part of the contract documents and change the original documents only in the manner and to the extent stated.

Copies of the Addendum shall be bound with all contracts sets of drawings and specifications.

Receipt: Addendum Number One shall be acknowledged by Bidders on their Bid Form.

CLARIFICATIONS:

- (10) LOUVER VENTS WILL NEED TO BE REMOVED, SALVAGED AND REINSTALLED TO ACCOMMODATE INSTALLATION OF NEW THRU-WALL FLASHING SYSTEM.
- USG COMPANY; SECUROCK HAS BEEN REMOVED FROM THE SPECIFICATION MANUAL

CHANGES TO THE SPECIFICATIONS:

- **REMOVE TABLE OF CONTENTS PAGE. 1 AND REPLACE WITH TABLE OF CONTENTS PAGE. 1 ATTACHED TO THE END OF THIS ADDENDUM**
- **REMOVE BID FORM INSERT PAGE. E-1 AND REPLACE WITH BID FORM INSERT PAGE. E-1 ATTACHED TO THE END OF THIS ADDENDUM.**
- **REMOVE PRINCIPAL SUBCONTRACTOR QUESTIONNAIRE PAGE. F-1 AND REPLACE WITH PRINCIPAL SUBCONTRACTOR QUESTIONNAIRE PAGE. F-1 ATTACHED TO THE END OF THIS ADDENDUM.**
- **REMOVE ALTERNATE PROPOSALS PAGE. H-1 AND REPLACE WITH ALTERNATE PROPOSALS PAGE. H-1 ATTACHED TO THE END OF THIS ADDENDUM.**
- **REMOVE UNIT PRICES PAGE. I-1 AND REPLACE WITH UNIT PRICES PAGE. I-1 ATTACHED TO THE END OF THIS ADDENDUM.**
- **REMOVE SECTION 01 0100 - PROJECT REQUIREMENTS PAGE. 01 0100 - 1 AND REPLACE WITH SECTION 01 0100 - PROJECT REQUIREMENTS PAGE. 01 0100 - 1 ATTACHED TO THE END OF THIS ADDENDUM.**
- **REMOVE SECTION 02 4170 - SELECTIVE DEMOLITION - ROOFING PAGE. 02 4170 - 1 AND REPLACE WITH SECTION 02 4170 - SELECTIVE DEMOLITION - ROOFING PAGE. 02 4170 - 1 ATTACHED TO THE END OF THIS ADDENDUM.**
- **REMOVE SECTION 07 5200 - MODIFIED BITUMINOUS MEMBRANE ROOFING PAGES. 07 5200 - 1 TO 07 5200 - 10 AND REPLACE WITH SECTION 07 5200 - MODIFIED BITUMINOUS MEMBRANE ROOFING PAGES. 07 5200 - 1 TO 07 5200 - 10 ATTACHED TO THE END OF THIS ADDENDUM.**
- **REMOVE SECTION 07 6200 - SHEET METAL FLASHING AND TRIM PAGES. 07 6200 - 1 TO 07 6200 - 4 AND REPLACE WITH SECTION 07 6200 - SHEET METAL FLASHING AND TRIM PAGES. 07 6200 - 1 TO 07 6200 - 4 ATTACHED TO THE END OF THIS ADDENDUM**

CHANGES TO THE DRAWINGS:

- **REMOVE SHEET C101 - SITE PLAN AND REPLACE WITH SHEET C101 - SITE PLAN ATTACHED TO THE END OF THIS ADDENDUM.**

- **REMOVE SHEET R101 - ROOF PLAN AND REPLACE WITH SHEET R101 - ROOF PLAN ATTACHED TO THE END OF THIS ADDENDUM.**
- **REMOVE SHEET R102 - ROOF PLAN AND REPLACE WITH SHEET R102 - ROOF PLAN ATTACHED TO THE END OF THIS ADDENDUM.**
- **REMOVE SHEET R105 - ROOF DETAILS AND REPLACE WITH SHEET R105 - ROOF DETAILS ATTACHED TO THE END OF THIS ADDENDUM.**
- **REMOVE SHEET R107 - ROOF DETAILS AND REPLACE WITH SHEET R107 - ROOF DETAILS ATTACHED TO THE END OF THIS ADDENDUM.**

END OF ADDENDUM NUMBER ONE

Attachments:

Prebid Meeting Minutes

Sheet C101

Sheet R101

Sheet R102

Sheet R105

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Section 07 6200 - Sheet Metal Flashing and Trim - Pages 1-4

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PREBID MEETING MINUTES

Project: Roofing and Related Work at Kettler Hall Roof Replacement Phase 1 - 2026
Meeting Date: June 23, 2026
Commission No: F26026

I. Design Team Introduction:

1. John Sheets, Project Manager, PFW
Office: 260-481-4195; Cell: 260-710-6511 email: sheetsj@pfw.edu
2. Matt Lennon, Construction Inspector,
Cell: 260-481-6717 email: mlennon@pfw.edu
3. Mike Hamilton, Principal-in-Charge, [MARTINRILEY architects•engineers](http://MARTINRILEYarchitects-engineers.com)
Office: 260.422.7994; Cell: 260.223.9014; email: mhamilton@martin-riley.com
4. Clarence White, Project Manager, [MARTINRILEY architects•engineers](http://MARTINRILEYarchitects-engineers.com)
Office: 260.422.7994; Cell: 260.445.7332; email: cwhite@martin-riley.com

II. Scope of Work: The Scope of roofing and related work includes Base Work

BASE WORK

The complete removal of the existing 2-ply polymer modified bitumen roofing (MBR) roof system and replace with new 2-ply modified bitumen roofing (MBR) roof system on roof areas <2>, <21>, <22A>, and <22B>.

ALTERNATE NO.1

The complete removal of the existing 2-ply polymer modified bitumen roofing (MBR) roof system and replace with new 2-ply polymer modified bitumen roofing (MBR) on roof areas <20A>, <20B>, and <20C>.

ALTERNATE NO.2

The complete removal of the existing 2-ply polymer modified bitumen roofing (MBR) roof system and replace with new 2-ply polymer modified bitumen roofing (MBR) on roof areas <24>.

III. Timeline

1. Address all questions to [MARTINRILEY](http://MARTINRILEY.com) by the end of the day July 13, 2026 to fairly disseminate all information to all bidders in the Addendum date of issuance of July 16, 2026. **Be certain all questions have been asked, as the submission of bids by the contractor suggests there are no questions regarding ambiguity, and you are submitting bids that will result in a complete project. Failure to do so will result in contractor's compliance with the Owner or Architects interpretation, at no contract increase.**
2. Bids will be due at the Office of the Director of the Physical Plant, Room 103, Ginsberg Hall, on the PFW North Campus, 5190 Saint Joe Road, Fort Wayne, Indiana 46835 before 11:00 a.m. local time on July 16th, 2026.
3. Bids will be opened and read aloud immediately after submission of bids in Room 114 of Ginsberg Hall.

4. It is the intent of the owner to have construction start on **August 17, 2026** and must be completed before **October 30, 2026**.
5. Final completion includes all the Architect's Punch List items and Closeout Documents.

IV. Additional items

1. Bidders may obtain bidding documents from Eastern Engineering (260) 426-3119.
2. The owner reserves the right to accept or reject any and all bids and to waive any informalities in bidding
3. Questions relating to the project should be directed to Clarence White or Mike Hamilton at the office of **MARTINRILEY architects-engineers**
4. Non-Collusion Affidavit is required with bid
5. Liquidated damages may be assessed in the amount of \$1,500.00 for each calendar day beyond the contracted end date if the Contractor is found to be in default.
6. Abide by rules and regulations on each project site identified in the project manual
7. A Pre-construction Conference will be held prior to any commencement of work
8. Insurance guidelines are outlined in the project manual.
9. The owner intends to continue to occupy the site and existing building the entire construction period.
10. The Contractor will have limited use of premises, including the site. Keep all driveways and entrances clear. Do not use these areas for parking or material storage.
11. Any damage to building or site incurred due to the roofing operations are the responsibility of the Contractor to repair back to the original condition. All damages shall be repaired according to PFW specifications.
12. **Refer to section 01 2900 - Payment Procedures in the project manual for all application for payment requirements.**
 - a. **Purdue shall provide required documents to properly process pay requests.**
13. Materials supplied for this project are exempt from Indiana State sales tax
14. **Record Drawings need to show actual daily installation of areas reroofed with dimensions, start times, areas of deck replacement, concealed elements (i.e. buried conduit) (if any).**
15. It will be the Contractor's responsibility to photograph or videotape any existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by selective demolition operations.
16. The contractor is to provide interior protection with suitable coverings when necessary.
17. Contractor is also responsible for daily interior inspections to verify the presence of water infiltration (if any), need for interior clean-up.
18. The contractor shall pick up all trash and debris along with screws/nails every day.

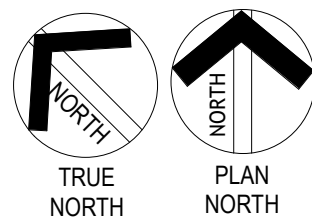
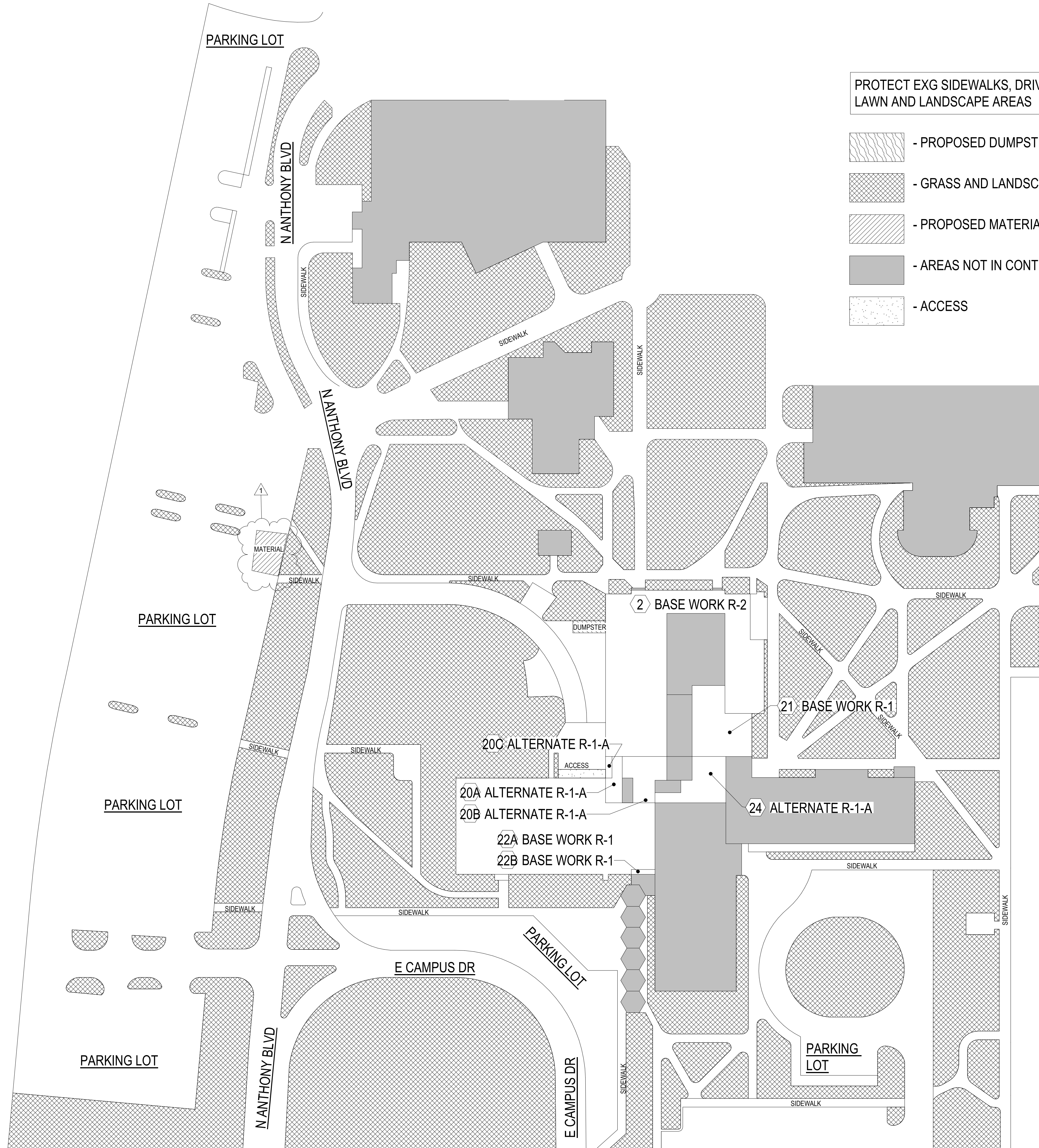
19. Contractor shall pay close attention to 01 7700 – Contract Close-Out to properly provide Operation and Maintenance Binders with requested information including record drawings.
20. Water and electricity are available for the contractor to use at the Owners discretion. Toilet and wash facilities are the responsibility of the contractor.
21. The contractor is responsible for verifying, in writing, that all mechanical equipment, power ventilators, HVAC units and all roof gutters/downspouts, prior to beginning work are operational and free from defects. Once work has commenced all, said items, are the responsibility of the contractor to be in working condition.
22. Smoking or use of tobacco products is not permitted on any PFW properties.
23. All submittals must be submitted through Procore.
24. Close-out documents and record drawings are to be submitted to MARTINRILEY electronic pdf. Format
25. Bidders may core roofs for existing conditions but need to notify PFW in advance and record all core locations and ID each core on roof with the contractor's name and date marked with grease pen.
26. Contractor will maintain suitable housekeeping at each site, including daily trash pickup. **Failure to clean site each day will result in \$100 fine per day.**
27. Do not block any path of egress needed by university police.
28. Staging and use of site will be addressed at the pre-construction meeting.
29. Mock-Ups of all Sheet metal will be required before commencement of sheet metal install begins.

V.

Review Drawings

1. Review drawings on project.
2. Bid each project per drawings, specifications, and addendum(s).
3. Contractors will be held accountable to the bidding documents.
4. Tour the roof(s) on project site.

F26026 KETTLE HALL ROOF REPLACEMENT PHASE 1 - 2026
7/6/2026 2:20:24 PM
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SD/DD/CD



1 Site Plan
1" = 50'-0"

ROOFING AND RELATED WORK AT:

KETTLE HALL ROOF REPLACEMENT PHASE 1 - 2026

E Campus Dr
Fort Wayne, IN 46805

PID: C.20.10237

PURDUE
UNIVERSITY
FORT WAYNE

MARTIN RILEY
architects•engineers

221 West Baker Street
Fort Wayne, Indiana 46802

TEL. 260.422.7994
FAX. 260.426.2067

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School Hours: 7:30 a.m. - 7 p.m.

REVISION: 1 DATE: 7/6/2026

DRAWN BY: ASP
COMMISSION NUMBER: F26026
REVIEWED BY: CLW
DATE: 2026-06-12

C101

SITE PLAN

22A	FLASHING:	2-PLY POLYMER MODIFIED BITUMEN ROOFING (MBR) COLD ADHERED
	SURFACE:	SMOOTH
	MEMBRANE:	2-PLY POLYMER MODIFIED BITUMEN ROOFING (MBR) COLD ADHERED
	INSULATION:	COLD ADHERED TAPERED INSULATION (1/2" START)
	VAPOR BARRIER:	NONE
	DECK:	CONCRETE (MOISTURE FOUND)

2	FLASHING:	2-PLY POLYMER MODIFIED BITUMEN ROOFING (MBR) COLD ADHERED
20A	SURFACE:	SMOOTH
20B	MEMBRANE:	2-PLY POLYMER MODIFIED BITUMEN ROOFING (MBR) COLD ADHERED
21	INSULATION:	COLD ADHERED TAPERED INSULATION (1/2" START) OVER COLD ADHERED 1" FLAT STOCK RIGID INSULATION
24	VAPOR BARRIER:	NONE
	DECK:	CONCRETE (MOISTURE FOUND)

20C	FLASHING:	2-PLY POLYMER MODIFIED BITUMEN ROOFING (MBR) COLD ADHERED
22B	SURFACE:	SMOOTH
	MEMBRANE:	2-PLY POLYMER MODIFIED BITUMEN ROOFING (MBR) COLD ADHERED
	INSULATION:	COLD ADHERED 1" FLAT STOCK RIGID INSULATION
	VAPOR BARRIER:	NONE
	DECK:	CONCRETE (MOISTURE FOUND)

4 Existing Conditions

N.T.S.

ROOF PRESSURES

ASCE 7-10

ROOF FIELD	-33.72 POUNDS PER SQUARE FOOT
ROOF PERIMETER	-56.58 POUNDS PER SQUARE FOOT
ROOF CORNERS	-85.16 POUNDS PER SQUARE FOOT

EDGE METAL PRESSURES

ANSI SPRI ES-1 2011

VERTICAL PERIMETER PRESSURE	66.07 POUNDS PER SQUARE FOOT
VERTICAL CORNER PRESSURE	99.50 POUNDS PER SQUARE FOOT
HORIZONTAL PERIMETER PRESSURE	38.15 POUNDS PER SQUARE FOOT
HORIZONTAL CORNER PRESSURE	47.59 POUNDS PER SQUARE FOOT

WOOD NAILERS ARE TO BE INSTALLED IN ACCORDANCE WITH ANSI-SPRI ES1 2011. APPROPRIATE WIND LOAD SAFETY FACTORS ARE TO BE USED BASED ON THE TABLE BELOW

WIND LOAD SAFETY FACTORS

WOOD	4.5
MASONRY	3.0
STEEL	1.9

3 Design Uplift Pressures

N.T.S.

General Notes

- CONTRACTOR AND/OR SUBCONTRACTOR SHALL NOT STAGE AND/OR STORE MATERIALS ON EXISTING ROOF SYSTEMS THAT ARE NOT PART OF THIS WORK OR THAT HAVE BEEN REPLACED WITH NEW ROOFING AS PART OF THIS PROJECT. AS NOTED ON ROOF PLANS. IF APPROVED BY OWNER/ARCHITECT TO STORE MATERIALS OR TRAFFIC OVER N.I.C. ROOF AREAS OR REPLACED.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND DETAILS THAT AFFECT THIS WORK.
- CONTRACTOR STAGING AREA SHALL BE KEPT CLEAN AND ORGANIZED.
- PROVIDE PROTECTIVE BARRIER BENEATH ANY ROOFING VEHICLES OR EQUIPMENT TO PREVENT DAGING AND/OR STAINING OF EXISTING ASPHALT, CONCRETE WALK WAYS, OR LAND SCAPING.
- CONTRACTOR SHALL DOCUMENT (PHOTOGRAPH AND MARK ON SITE PLAN) EXISTING DEFECTS AND/OR DAMAGE TO EXISTING WALK WAYS. PRIOR TO COMMENCEMENT OF WORK. A COPY OF EXISTING CONDITIONS DOCUMENTATION SHALL BE PROVIDED TO ROOF CONSULTANT FOR RECORDS.
- CONTRACTOR RESPONSIBLE FOR PROTECTING AND REPAIRING ALL LANDSCAPING DAMAGED DUE TO CONSTRUCTION UP TO EXISTING CONDITION OR BETTER.

Plan Work Description Notes (R101)

- NO WORK AND OR MATERIALS TO BE STORED/PERFORMED IN THIS AREA
- REMOVE EXISTING (EXG) 2-PLY POLYMER MODIFIED BITUMEN ROOFING ROOFING (MBR), INSULATION, FLASHINGS (FLGS), CANTS AND STRIPPINGS. INSPECT EXG CONCRETE DECK FOR DAMAGE OR DETERIORATION AND REPORT CONDITIONS TO ROOF CONSULTANT, AREAS <20A>, <20B>, <20C>, <22A>, <22B>, AND <24> - SEE EXISTING CONDITIONS 4/R101
- REMOVE EXG ABANDONED (ABD) CURB CROSSING AREA SEPARATION. EXG GOOSE NECK PIPES IN CURB TO REMAIN. PATCH HOLES IN DECK WITH NEW STEEL ANGLES AND TYPE B METAL DECKING. PROVIDE NEW TREATED 2x WOOD AREA SEPARATION CURB WITH NEW 24 GA PREFINISHED GI AREA SEPARATION CAP TO MATCH THE HEIGHT AND WIDTH OF EXG AREA SEPERATION CURB AND ADD NEW AREA SEPERATION CAP, AREA <20B> - SEE DETAIL 6/R106 & 8/R106
- REMOVE EXG ABANDONED (ABD) CURBS. IF OPENING IS SMALLER THAN 12", COVER HOLE IN DECK WITH NEW 16 GAUGE METAL PLATE. EXTEND PLATE 6" BEYOND OPENING AND MECHANICALLY ATTACH PLATE TO DECK. IF OPENING IN ROOF DECK IS LARGER THAN 12" PATCH HOLE IN DECK WITH NEW STEEL ANGLE AND TYPE B METAL DECKING, AREA <22A> - SEE DETAIL 6/R106
- REMOVE ALL EXG PLUMBING VENT (PV) FLGS. EXTEND WITH PVC AND INTERNAL COUPLING TO ACCOMMODATE NEW 12" MINIMUM HEIGHT. PROVIDE NEW LEAD FLG, AREAS <20A>, <22A>, AND <24> - SEE DETAIL 4/R107
- CUT, SCRAPE, CLEAN AND/OR GRIND OUT ALL SEALANTS, MORTAR, BACKER ROD, DIRT, DEBRIS AND OTHER DELTERIOUS MATERIAL FROM ALL SURFACES OF LIMESTONE HEAD JOINTS AND BED JOINTS. PRIME JOINT AS REQUIRED BY MANUFACTURER AND PROVIDE NEW BACKER ROD AND NEW CONTINUOUS TOOLED URETHANE SEALANT, AREA <22A> - SEE DETAIL 2/R103 & PHOTO 5/R103
- REMOVE EXISTING PITCH POCKET (PP) AT PIPE PENETRATION. CUT EXISTING PIPE INSULATION (BACK TO EXISTING METAL) TO ALLOW FOR 8" MIN FLASHING HEIGHT. PROVIDE NEW PIPE INSULATION TO MATCH EXISTING. NEW PVC JACKETING, AND NEW LIQUID APPLIED FLASHING (RESIN, FLEECE, RESIN) TO ACCOMODATE LOW FLASHING HEIGHT, AREA <22A> - SEE DETAIL 7/R106
- REMOVE EXG METAL COPING AND ALL ACCESSORIES IN THEIR ENTIRETY. PROVIDE NEW PREFINISHED GI FASCIA WITH CONTINUOUS FASCIA CLIP, AREAS <20C>, <22A>, AND <22B> - SEE DETAILS 1/R103, 3/103, AND 6/R103

Plan Work Description Notes (R101)

- REMOVE THREE (3) COURSES OF EXISTING BRICK TO BE SALVAGED AND REINSTALLED AND/OR REPLACED WITH NEW BRICK (TO MATCH EXISTING) TO ACCOMMODATE INSTALLATION OF NEW POLYMER FABRIC COATED STAINLESS STEEL THRU-WALL FLASHING AND NEW 24 GA STAINLESS STEEL REGLET RECEIVER. PROVIDE NEW TERMINATION BAR, FLEXIBLE FLASHING, SEALANT AND WEEP VENTS AT 16" C/C. AREAS <20B>, <22A>, <24> - SEE DETAIL 3/R104
- RAISE ALL UNSHADED EXG POWER ROOF VENTILATORS (PRV), GRAVITY ROOF VENTS (GRV), AND OTHER ROOF TOP EQUIPMNT TO ACCOMMODATE NEW 12" MINIMUM BASE FLG HEIGHT. EXTEND ELECTRICAL WIRING AND DUCTWORK TO ACCOMMODATE NEW FLG HEIGHT. ALL SHADED EXG POWER ROOF VENTILATORS, AND OTHER ROOF TOP EQUIPMENT TO REMAIN AT EXISTING HEIGHT. PROVIDE NEW COUNTER FLG-MECHANICALLY ATTACHED TO EQUIPMENT HOOD FLANGE AT 12" C/C MAXIMUM AREAS <22A> & <24> - SEE DETAILS 3/R106 & 4/R106
- TEMPORARILY DISCONNECT AND REMOVE EXISTING RTU AND STRUCTURAL STEEL (I-BEAMS) AS REQUIRED TO RAISE EXG EQUIPMENT RAILS (ER) TO MINIMUM 12" FLASHING HEIGHT WITH EXTERIOR GRADE 2x WOOD BLOCKING. PROVIDE NEW 24 GA PREFINISHED GI RAIL CAP. DISCONNECT, EXTEND AND RECONNECT EXG ELECTRICAL CONDUIT, GAS LINES, REFRIGERANT AND OTHER UNIT LINES AS REQUIRED. RECLAIM AND RECHARGE REFRIGERANT AS NEEDED, AND REINSTALL RTU AND STRUCTURAL STEEL, AREA <22A> - SEE DETAIL 2/R106
- EXISTING SOLAR PANELS, SOLAR PANEL MOUNTING BRACKETS & SUPPORTS SHALL REMAIN. OWNER TO REMOVE SOLAR PANELS PRIOR TO ROOF REPLACEMENT. COORDINATION WITH OWNER, DISCONNECT REMOVAL AND REINSTALLATION OF SOLAR PANELS, TO ACCOMMODATE THE INSTALLATION OF NEW 2 PLY ICAG-MBR, AREA <22A>
- EXISTING SOLAR PANEL CONDUIT BOXES, CONDUIT, AND CONDUIT SUPPORTS TO BE DISCONNECTED, REMOVED, AND REINSTALLED A MINIMUM 2'-0" ABOVE ORIGINAL INSTALLED ELEVATION. COORDINATE WITH OWNER SOLAR CONTRACTOR FOR REMOVAL AND INSTALLATION, AREA <22A>
- EXG EQUIPMENT RAILS (ER) TO REMAIN. TEMPORARILY DISCONNECT AND REMOVE EXISTING RTUS AND STRUCTURAL STEEL (I-BEAMS) AS REQUIRED TO ACCOMODATE INSTALLATION OF NEW 24 GA PREFINISHED GI RAIL CAP. DISCONNECT, EXTEND AND RECONNECT EXG ELECTRICAL CONDUIT, GAS LINES, REFRIGERANT AND OTHER UNIT LINES AS REQUIRED. RECLAIM AND RECHARGE REFRIGERANT AS NEEDED, AREA <22A> - SEE DETAIL 1/R106
- EXG AREA SEPARATION (AS) CURB TO BE RAISED. PROVIDING NEW 2x WOOD BLOCKING & PLYWOOD TO ACCOMMODATE MIN 8" FLASHING HEIGHT AND PROVIDE NEW 24 GA PREFINISHED GI AREA SEPARATION CAP TO MATCH EXISTING, AREAS <20A>, <20B>, AND <22A> - SEE DETAIL 1/R105 & 3/R105
- EXG EXPANSION JOINT (EXP JT) CURB TO BE RAISED TO ACCOMMODATE MIN 8" FLASHING HEIGHT WITH NEW TREATED 2x WOOD BLOCKING. REMOVE EXISTING EXPANSION JOINT COVER AND ALL ACCESSORIES IN THEIR ENTIRETY. PROVIDE NEW CONTINUOUS FLEXIBLE EXPANSION JOINT COVER AND 1" ALUMINUM TERMINATION BAR, AREAS <20A>, <20B>, <20C>, <22A>, <22B>, AND <24> - SEE DETAILS 4/R105, AND 5/R105
- RESET ALL EXG ROOF DRAIN (RD) CLAMPING RINGS AND STRAINERS IN NEW LEAD FLG. REMOVE AND REPLACE ANY MISSING AND/OR BROKEN COMPONENTS WITH NEW CAST IRON COMPONENTS, REPLACE ALL PLASTIC STRAINERS WITH NEW CAST IRON STRAINERS. PROVIDE NEW MANUFACTURERS APPROVED LIQUID APPLIED FLASHING (RESIN, FLEECE, RESIN) IN A 2X2' TARGET PATCH FROM THE CENTER OF THE DRAIN, AREAS <20A>, <20B>, <22A>, AND <24> - SEE DETAIL 1/R107 & 2/R107
- PROVIDE NEW HEIGHT ADJUSTABLE RUBBER PIPE SUPPORTS (RPS) (DURA-BLOK DUCT SUPPORTS) SPACED 8'-0" C/C MAX TO ACCOMMODATE FOR RE-ROUTING AND REINSTALLATION OF SOLAR PANEL CONDUIT SUPPORTS AND RTU LINES, AREAS <20B> & <22A>.
- PROVIDE NEW ADHESIVELY ADHERED 1/8"-12" TAPERED RIGID INSULATION (START THICKNESS 2.5" - (2 LAYER MIN.)) (AVG R-20.4), NEW ADHESIVELY ADHERED COVER BOARD AND NEW 2 PLY ICAG-MBR, AREAS <20A>, <20B>, <22A>, AND <24> - SEE DETAIL 5/R102
- PROVIDE NEW ADHESIVELY ADHERED 1/8"-12" TAPERED RIGID INSULATION (START THICKNESS .5"), NEW ADHESIVELY ADHERED COVER BOARD AND NEW 2 PLY ICAG-MBR, AREAS <20C> & <22B>
- PROVIDE NEW 1/4"-12 TAPERED INSULATION SADDLES WITH 6" TAPERED EDGE STRIP, AREA <22A>

Plan Work Description Notes (R101)

- CUT DOWN EXISTING FLUE PIPE DOWN BELOW ROOF DECK. PATCH HOLE IN DECK WITH NEW STEEL ANGLES AND TYPE B METAL DECKING, AREA <22A>
- PROVIDE NEW MODIFIED BITUMEN ROOFING (MBR) FLASHINGS AND STRIPPINGS, AREAS <20A>, <20B>, <20C>, <22A>, <22B>, AND <24>
- PROVIDE NEW CONTRACTOR'S WARRANTY (2 YEAR) AND MANUFACTURER'S WARRANTY (20 YEAR), AREAS <20A>, <20B>, <20C>, <22A>, <22B>, AND <24>
- REMOVE, SALVAGE, MODIFY AND REINSTALL EXISTING DOOR THRESHOLD AS REQUIRED TO ACCOMMODATE NEW BASE FLASHING HEIGHT AT DOOR. PROVIDE NEW DOOR TO MATCH EXISTING AND FIT NEW DOOR OPENING AT NEW HEIGHT. PROVIDE PREFINISHED METAL CLOSURE AT BOTTOM OF DOOR. PROVIDE NEW CMU BLOCKS AS REQUIRED AT DOOR TO ACCOMMODATE NEW FLASHING HEIGHT WHILE STAYING UNDER EXG HINSE POCKET AND CUT EXISTING METAL DOOR AND JAMB AS REQUIRED. PROVIDE NEW MIRO INDUSTRIES SUREFOOT SERVICE PLATFORM ON INTERIOR & EXTERIOR SIDES OF THE DOOR, AREA <24> - SEE DETAIL 1/R104
- REMOVE EXISTING FLUE COLLAR, AND STACK FLASHING AT EXISTING FLUE (FL) OR GOOSENECK (GN). PROVIDE NEW GI FLASHING, GI RAIN COLLAR AND NEW MBR FLASHING, AREA <20B> - SEE DETAIL 5/R106
- EXG LADDER TO REMAIN. CLEAN, PRIME, AND PAINT EXISTING LADDER WITH (1) COAT OF SHERWIN WILLIAMS MACROPOXY 646 FAST CURE EPOXY PRIMER AND (2) COATS OF SHERWIN WILLIAMSH H-SOLIDS POLYURETHANE PAINT. ADD TEXTURED PAINT TO TOP OF RUNGS FOR SLIP RESISTANCE. REMOVE AND REINSTALL WITH NEW EXPANSION ANCHORS OR PAINT IN PLACE PROTECTING ADJACENT WALLS FROM OVERSPRAY. PROVIDE (4) NEW 24"x24"x2" INTERLOCKING RUBBER WALKWAY PADS (WP) AT TOP AND BASE OF LADDER AS INDICATED ON ROOF PLAN, AREAS <20B> & <24>
- EXTEND NEW EXPANSION JOINT CURB INTO N.I.C. AREA TO ACCOMMODATE INSTALLATION OF NEW MANUFACTURER'S 3-WAY CROSSOVER EXPANSION JOINT COVER. TAPER EXPANSION JOINT BACK 3'-0" MINIMUM FROM INTERSECTION TO BE FLUSH WITH ADJACENT EXG EXPANSION JOINT CURB. FLATTEN OUT NEW EXPANSION JOINT COVER AND EXTEND OVER EXG COVER 6" MINIMUM. PROVIDE NEW 2 PLY MBR FLASHING OVER ADJACENT N.I.C. AREA FLASHINGS TO ACCOMMODATE NEW EXPANSION JOINT HEIGHT, AREA <24> - SEE DETAIL 3/R107
- PROVIDE NEW CONCRETE SPLASH BLOCK (SB) WITH SLIP SHEET AT EXG DOWNSPOUT (DS), AREA <20A>
- PROVIDE NEW TREATED 2x WOOD AREA SEPARATION CURB WITH NEW 24 GA PREFINISHED GI AREA SEPARATION CAP, AREAS <20A> & <20B> - SEE DETAIL 2/R105
- REMOVE EXISTING METAL COVER AND PROVIDE NEW STUD WALL AND FP1511 DMI METAL FLUSH WALL PANEL TO COVER EXISTING OPENING, AREA <20B> - SEE DETAIL 4/R104

Additional Plan Work Description Notes Alternate R-1-B

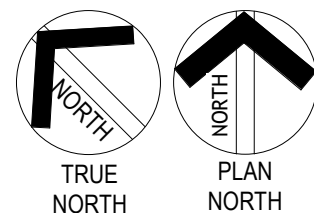
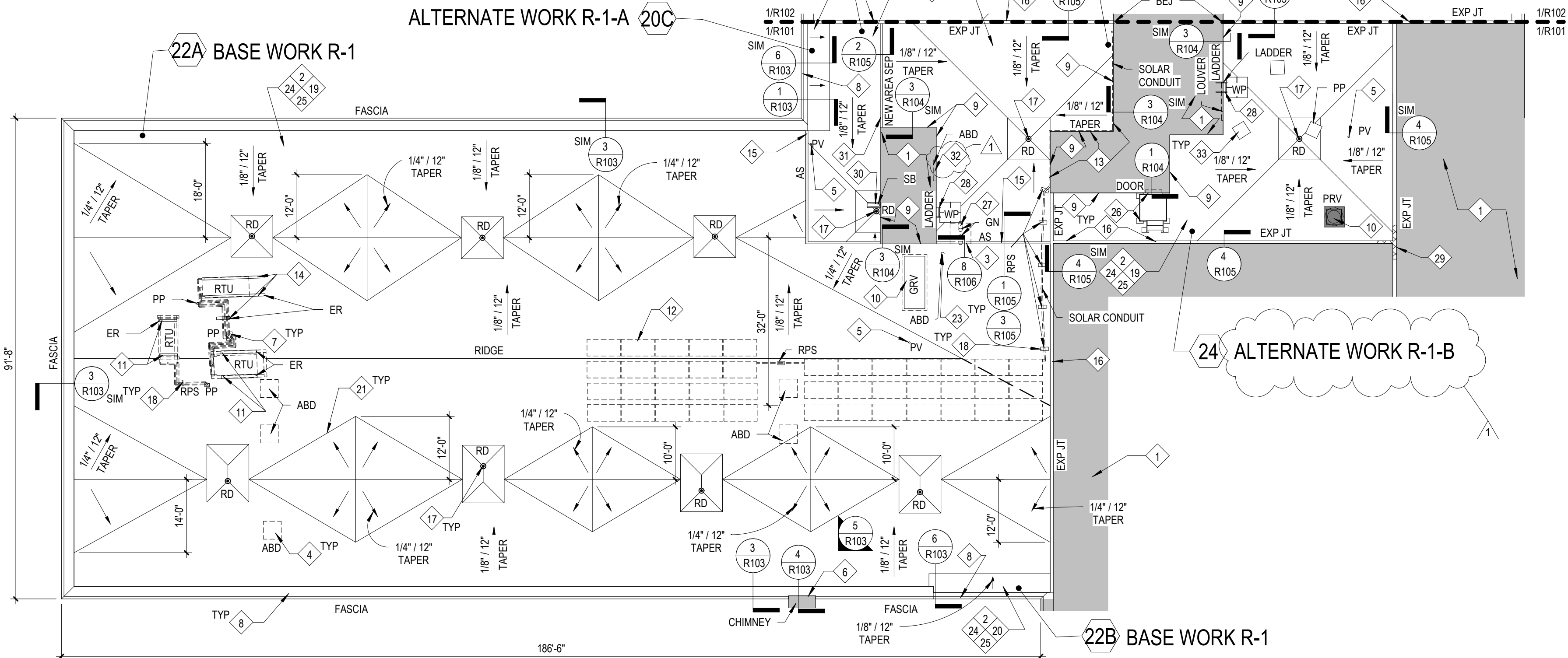
- REMOVE EXG PITCH POCKET AND EXG METAL CAP AT TOWER ATTACHMENT PEDESTALS. CLEAN, PRIME, AND PREP CONCRETE PEDESTALS AND TOWER ATTACHMENT POINTS FOR INSTALLATION OF NEW TAPERED INSULATION, MBR MEMBRANE, AND PITCH PAN WITH POURABLE SEALER, AREA <24> - SEE DETAIL 7/R105

ALTERNATE WORK R-1-A 20B

ALTERNATE WORK R-1-A 20A

ALTERNATE WORK R-1-A 20C

22A BASE WORK R-1



2 Partial Roof Plan

1/16" = 1'-0"

CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DETAILS AND DIMENSIONS THAT AFFECT THIS WORK

BASE WORK R-1 2

ALTERNATE R-1-A 20B

ALTERNATE R-1-A 20A

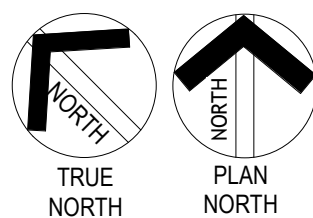
ALTERNATE R-1-A 20C

BASE WORK R-1 22A

BASE WORK R-1 22B

21 BASE WORK R-1

24 ALTERNATE R-1-B

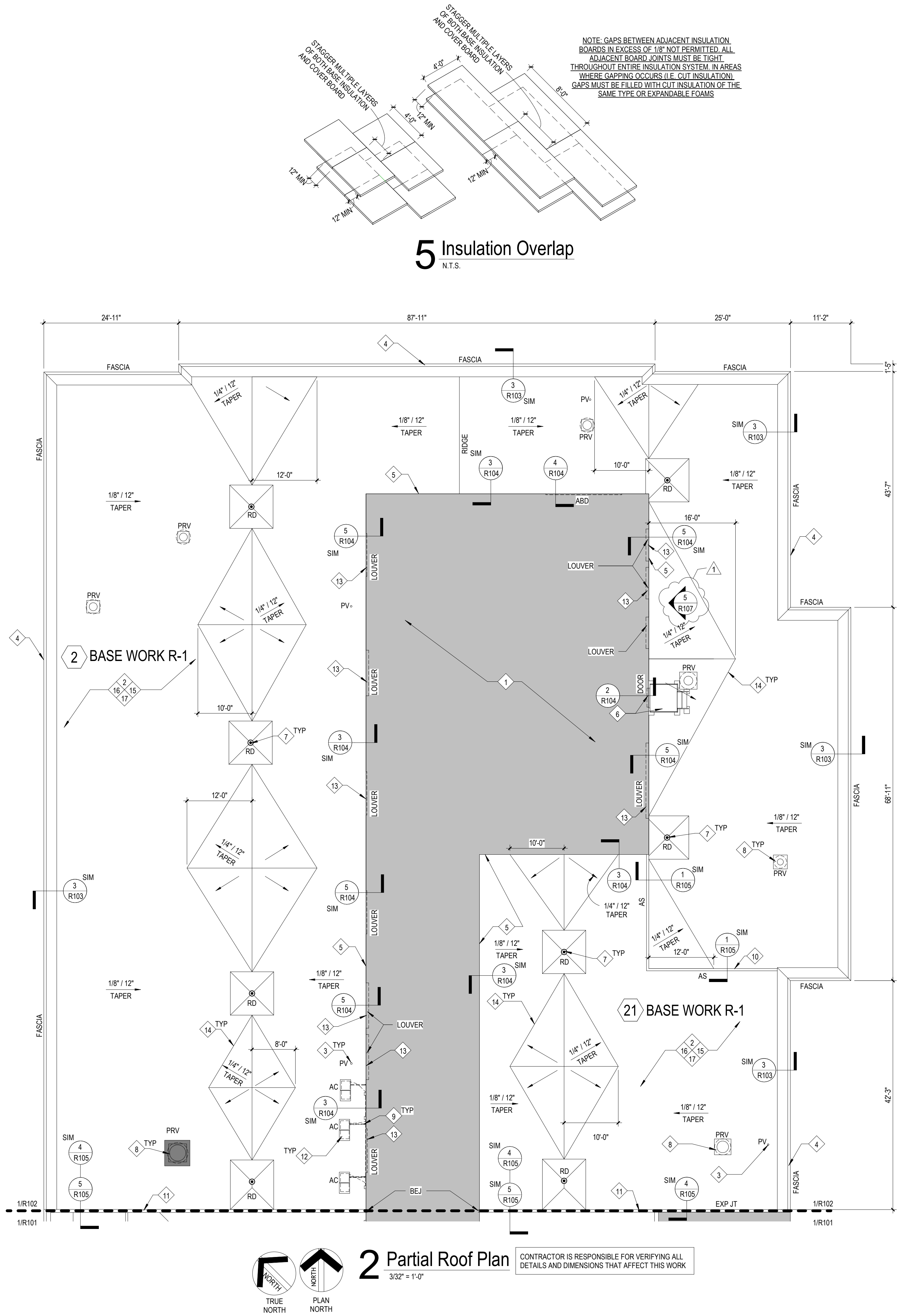


1 Key Plan

N.T.S.

ALL IDEAS, DESIGN, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THIS DRAWING ARE OWNED BY, AND THE PROPERTY OF, MARTIN RILEY, INC., AND WERE CREATED, DEVELOPED, AND DISCOVERED BY THE FIRM, AND IN CONNECTION WITH THE FIRM'S PROFESSIONAL SERVICES. NO PART OF THIS DRAWING OR ANY INFORMATION CONTAINED HEREIN IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF MARTIN RILEY, INC. THE FIRM AND ITS EMPLOYEES SHALL BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS OF THE JOB AND THIS OFFICE MUST BE ADVISED OF ANY VARIATION FROM THE DIMENSIONS AND CONDITIONS SHOWN HEREON. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF MARTIN RILEY, INC. 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F26026 KETTLER HALL ROOF REPLACEMENT PHASE 1 - 2026
7/6/2026 2:20:25 PM
C:\Users\white\Documents\F26026 Kettler Hall Rf Repl_cwhite677W.rvt
SD/DD/CD



22	FLASHING:	2-PLY POLYMER MODIFIED BITUMEN ROOFING (MBR) ADHESIVELY ADHERED
	SURFACE:	SMOOTH
	MEMBRANE:	2-PLY POLYMER MODIFIED BITUMEN ROOFING (MBR) ADHESIVELY ADHERED
	INSULATION:	ADHESIVELY ADHERED TAPERED INSULATION (1/2" START)
	VAPOR BARRIER:	NONE
	DECK:	CONCRETE (MOISTURE FOUND)

2	FLASHING:	2-PLY POLYMER MODIFIED BITUMEN ROOFING (MBR) ADHESIVELY ADHERED
20A	SURFACE:	SMOOTH
20B	MEMBRANE:	2-PLY POLYMER MODIFIED BITUMEN ROOFING (MBR) ADHESIVELY ADHERED
21	INSULATION:	ADHESIVELY ADHERED TAPERED INSULATION (1/2" START) OVER ADHESIVELY ADHERED 1" FLAT STOCK RIGID INSULATION
24	VAPOR BARRIER:	NONE
	DECK:	CONCRETE (MOISTURE FOUND)

20C	FLASHING:	2-PLY POLYMER MODIFIED BITUMEN ROOFING (MBR) ADHESIVELY ADHERED
22B	SURFACE:	SMOOTH
	MEMBRANE:	2-PLY POLYMER MODIFIED BITUMEN ROOFING (MBR) ADHESIVELY ADHERED
	INSULATION:	ADHESIVELY ADHERED 1" FLAT STOCK RIGID INSULATION
	VAPOR BARRIER:	NONE
	DECK:	CONCRETE (MOISTURE FOUND)

4 Existing Conditions

N.T.S.

ROOF PRESSURES

ASCE 7-10

ROOF FIELD	-33.72 POUNDS PER SQUARE FOOT
ROOF PERIMETER	-56.58 POUNDS PER SQUARE FOOT
ROOF CORNERS	-85.16 POUNDS PER SQUARE FOOT

EDGE METAL PRESSURES

ANSI SPRI ES-1 2011

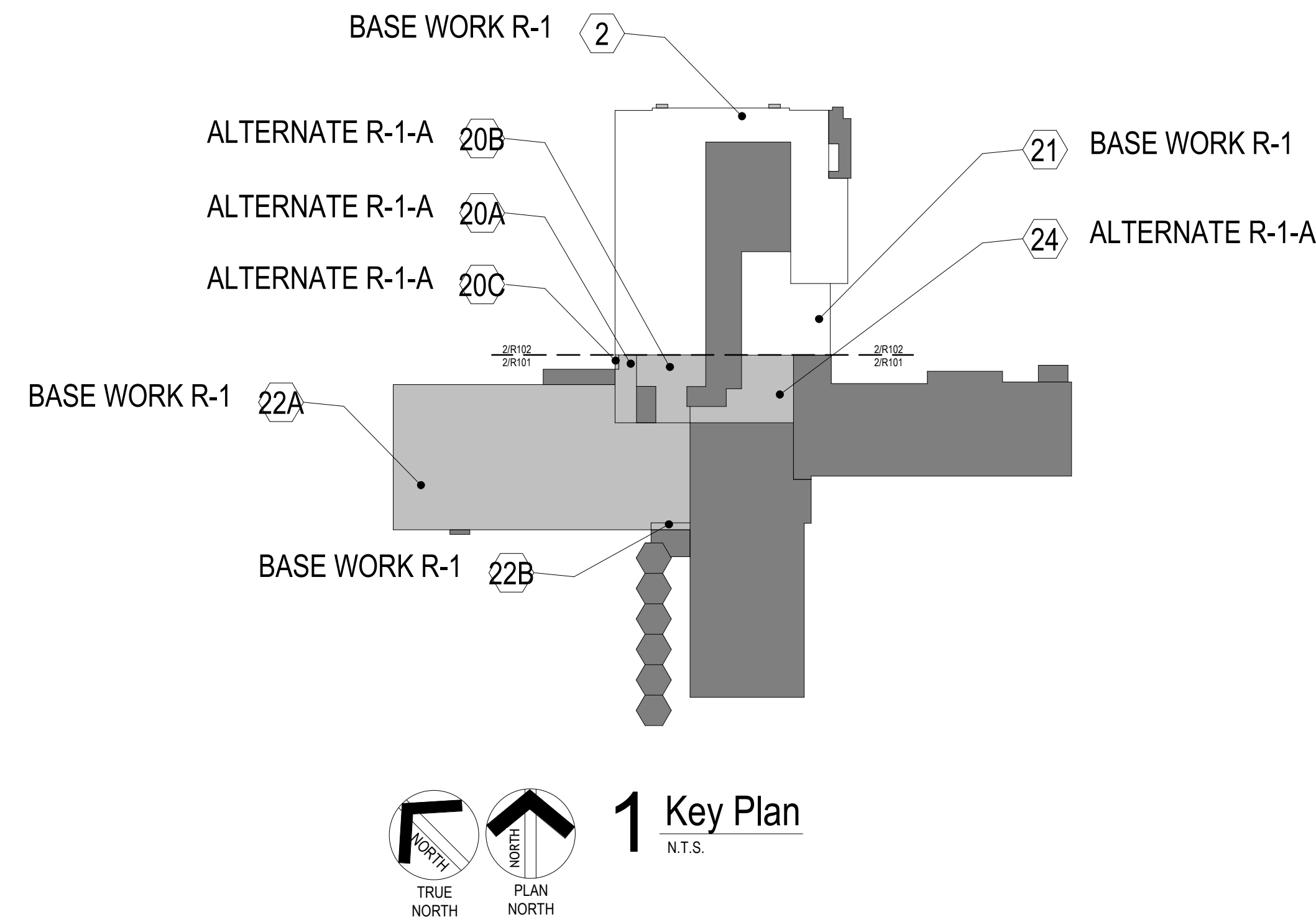
VERTICAL PERIMETER PRESSURE	66.07 POUNDS PER SQUARE FOOT
VERTICAL CORNER PRESSURE	99.50 POUNDS PER SQUARE FOOT
HORIZONTAL PERIMETER PRESSURE	38.15 POUNDS PER SQUARE FOOT
HORIZONTAL CORNER PRESSURE	47.59 POUNDS PER SQUARE FOOT

WOOD NAILERS ARE TO BE INSTALLED IN ACCORDANCE WITH ANSI-SPRI ES1 2011; APPROPRIATE WIND LOAD SAFETY FACTORS ARE TO BE USED BASED ON THE TABLE BELOW

WIND LOAD SAFETY FACTORS	
WOOD	4.5
MASONRY	3.0
STEEL	1.9

3 Design Uplift Pressures

N.T.S.



Plan Work Description Notes (R102)

- NO WORK AND OR MATERIALS TO BE STORED/PERFORMED IN THIS AREA
- REMOVE EXISTING (EXG) POLYMER MODIFIED BITUMEN ROOFING ROOFING, INSULATION, FLASHINGS (FLGS), CANTS AND STRIPPINGS. INSPECT EXG CONCRETE DECK FOR DAMAGE OR DETERIORATION AND REPORT CONDITIONS TO ROOF CONSULTANT, AREAS <2> & <21> - SEE EXISTING CONDITIONS 4/R102
- REMOVE ALL EXG PLUMBING VENT (PV) FLGS. EXTEND WITH PVC AND INTERNAL COUPLING TO ACCOMMODATE NEW 12" MINIMUM HEIGHT. PROVIDE NEW LEAD FLG, AREAS <2> & <21> - SEE DETAIL 4/R107
- REMOVE EXG METAL COPING AND ALL ACCESSORIES IN THEIR ENTIRETY. PROVIDE NEW PREFINISHED GI FASCIA WITH CONTINUOUS FASCIA CLIP, AREAS <2> & <21> - SEE DETAIL 1/R103, 3/R103, 6/R103
- REMOVE THREE (3) COURSES OF EXISTING BRICK TO BE SALVAGED AND REINSTALLED AND/OR REPLACED WITH NEW BRICK (TO MATCH EXISTING) TO ACCOMMODATE INSTALLATION OF NEW POLYMER FABRIC COATED STAINLESS STEEL THRU-WALL FLASHING AND NEW 24 GA STAINLESS STEEL REGLET RECEIVER. PROVIDE NEW TERMINATION BAR, FLEXIBLE FLASHING, SEALANT AND WEEP VENTS AT 16" C/C, AREAS <2> & <21> - SEE DETAIL 3/R104
- REMOVE, SALVAGE, MODIFY AND REINSTALL EXISTING DOOR THRESHOLD AS REQUIRED TO ACCOMMODATE NEW BASE FLASHING HEIGHT AT DOOR. PROVIDE NEW DOOR TO MATCH EXISTING AND FIT NEW DOOR OPENING AT NEW HEIGHT. PROVIDE PREFINISHED METAL CLOSURE AT BOTTOM OF DOOR. PROVIDE NEW CMU BLOCKS AS REQUIRED AT DOOR TO ACCOMMODATE NEW FLASHING HEIGHT WHILE STAYING UNDER EXG HINGE POCKET AND CUT EXISTING METAL DOOR AND JAMB AS REQUIRED. PROVIDE NEW MIRO INDUSTRIES SUREFOOT SERVICE PLATFORM ON INTERIOR & EXTERIOR SIDES OF THE DOOR, AREA <2> - SEE DETAIL 1/R104
- RESET ALL EXG ROOF DRAIN (RD) CLAMPING RINGS AND STRAINERS IN NEW LEAD FLG. REMOVE AND REPLACE ANY MISSING AND/OR BROKEN COMPONENTS WITH NEW CAST IRON COMPONENTS. REPLACE ALL PLASTIC STRAINERS WITH NEW CAST IRON STRAINERS. PROVIDE NEW MANUFACTURERS APPROVED LIQUID APPLIED FLASHING (RESIN, FLEECE, RESIN) IN A 2'X2' TARGET PATCH FROM THE CENTER OF THE DRAIN, AREAS <2> & <21> - SEE DETAIL 1/R107 & 2/R107
- RAISE ALL UNSHADED EXG POWER ROOF VENTILATORS (PRV), GRAVITY ROOF VENTS (GRV), AND OTHER ROOF TOP EQUIPMENT TO ACCOMMODATE NEW 12" MINIMUM BASE FLG HEIGHT. EXTEND ELECTRICAL WIRING AND DUCTWORK TO ACCOMMODATE NEW FLG HEIGHT. ALL SHADED EXG POWER ROOF VENTILATORS, AND OTHER ROOF TOP EQUIPMENT TO REMAIN AT EXISTING FLASHING HEIGHT. PROVIDE NEW COUNTER FLG-MECHANICALLY ATTACHED TO EQUIPMENT HOOD FLANGE AT 12" C/C MAXIMUM AREAS <2> & <21> - SEE DETAILS 3/R106 & 4/R106
- EXG AC UNIT ELECTRICAL CONDUIT, GAS LINES, REFRIGERANT AND OTHER UNIT LINES TO BE DISCONNECTED, EXTENDED OR RAISED AND RECONNECTED AS REQUIRED TO ACCOMMODATE NEW THRU WALL FLASHING INSTALLATION. RECLAIM AND RECHARGE REFRIGERANT AS NEEDED, AREA <2>
- EXG AREA SEPARATION CURB TO BE RAISED. PROVIDING NEW 2X BLOCKING & PLYWOOD TO ACCOMMODATE A MIN 8" FLASHINGS HEIGHT AND PROVIDE NEW 24 GA PREFINISHED GI AREA SEPARATION CAP TO MATCH EXISTING, AREAS <2> & <21> - SEE DETAIL 1/R105 & 3/R105
- EXG EXPANSION JOINT (EXP JT) CURB TO BE RAISED TO ACCOMMODATE MIN 8" FLASHING HEIGHT WITH NEW TREATED 2X WOOD BLOCKING. REMOVE EXISTING EXPANSION JOINT COVER AND ALL ACCESSORIES IN THEIR ENTIRETY. PROVIDE NEW CONTINUOUS FLEXIBLE EXPANSION JOINT COVER AND 1" ALUMINUM TERMINATION BAR, AREAS <2> & <21> - SEE DETAILS 4/R105, 5/R105, 6/R105
- EXG A/C UNIT TO REMAIN - REMOVE EXISTING CONCRETE WALKWAY PADS AND PROVIDE (2) NEW 24"X24" INTERLOCKING WALKWAY PADS (W/P) PER A/C UNIT-AS INDICATED ON ROOF PLAN, AREA <2>
- EXISTING LOUVERS TO REMAIN - REMOVE AND REINSTALL TO ACCOMMODATE INSTALLATION OF NEW THRU WALL FLASHING. CLEAN, PRIME, AND PAINT EXISTING LOUVER FRAME WITH (1) COAT OF SHERWIN WILLIAMS MACROPOXY 646 FAST CURE EPOXY PRIMER AND (2) COATS OF SHERWIN WILLIAMS HI-SOLIDS POLYURETHANE PAINT. OUT, SCRAPE, CLEAN AND/OR GRIND OUT ALL SEALANTS, MORTAR, BACKER ROD, DIRT, DEBRIS AND OTHER DELETERIOUS MATERIAL FROM ALL SURFACES OF LOUVER JOINTS. PRIME JOINT AS REQUIRED BY MANUFACTURER AND PROVIDE NEW BACKER ROD AND NEW CONTINUOUS TOOLED URETHANE SEALANT. PROVIDE NEW 24 GA PREFINISHED RECEIVER AND COUNTERFLASHING AT HEAD JOINT ABOVE LOUVER, AREAS <2> & <21> - SEE DETAIL 5/R104
- PROVIDE NEW 1/4-1/2 TAPERED INSULATION SADDLES WITH 6" TAPERED EDGE STRIP, AREAS <2> & <21>
- PROVIDE NEW ADHESIVELY ADHERED 1/8"X12" TAPERED RIGID INSULATION (START THICKNESS 2.5" - (2 LAYER MIN.)) (AVG R=20.4), NEW ADHESIVELY ADHERED COVER BOARD AND NEW 2 PLY ICAG-MBR, AREAS <2>, AND <21> - SEE DETAIL 5/R102
- PROVIDE NEW MODIFIED BITUMEN ROOFING (MBR) FLASHINGS AND STRIPPINGS, AREAS <2> & <21>
- PROVIDE NEW CONTRACTOR'S WARRANTY (2 YEAR) AND MANUFACTURER'S WARRANTY (20 YEAR), AREAS <2> & <21>

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architects+engineers

221 West Baker Street
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School Hours: 7:30 a.m. - 7 p.m.

REVISION: 1
DATE: 7/6/2026

DRAWN BY: ASP
COMMISSION NUMBER: F26026

REVIEWED BY: CLW
DATE: 2026-06-12

R102

ROOF PLAN

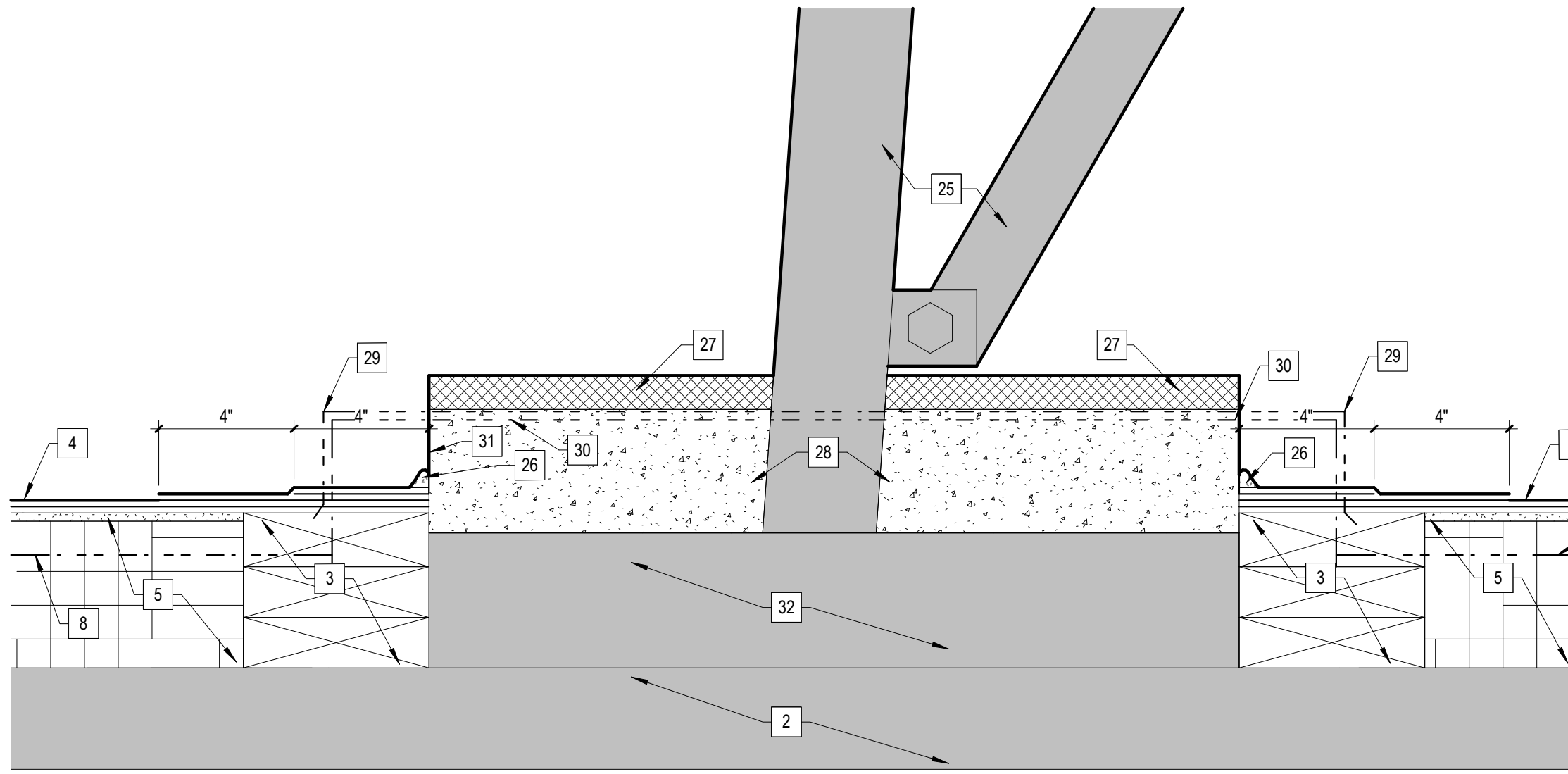
ROOFING AND RELATED WORK AT:

KETTLER HALL ROOF
REPLACEMENT PHASE 1 - 2026

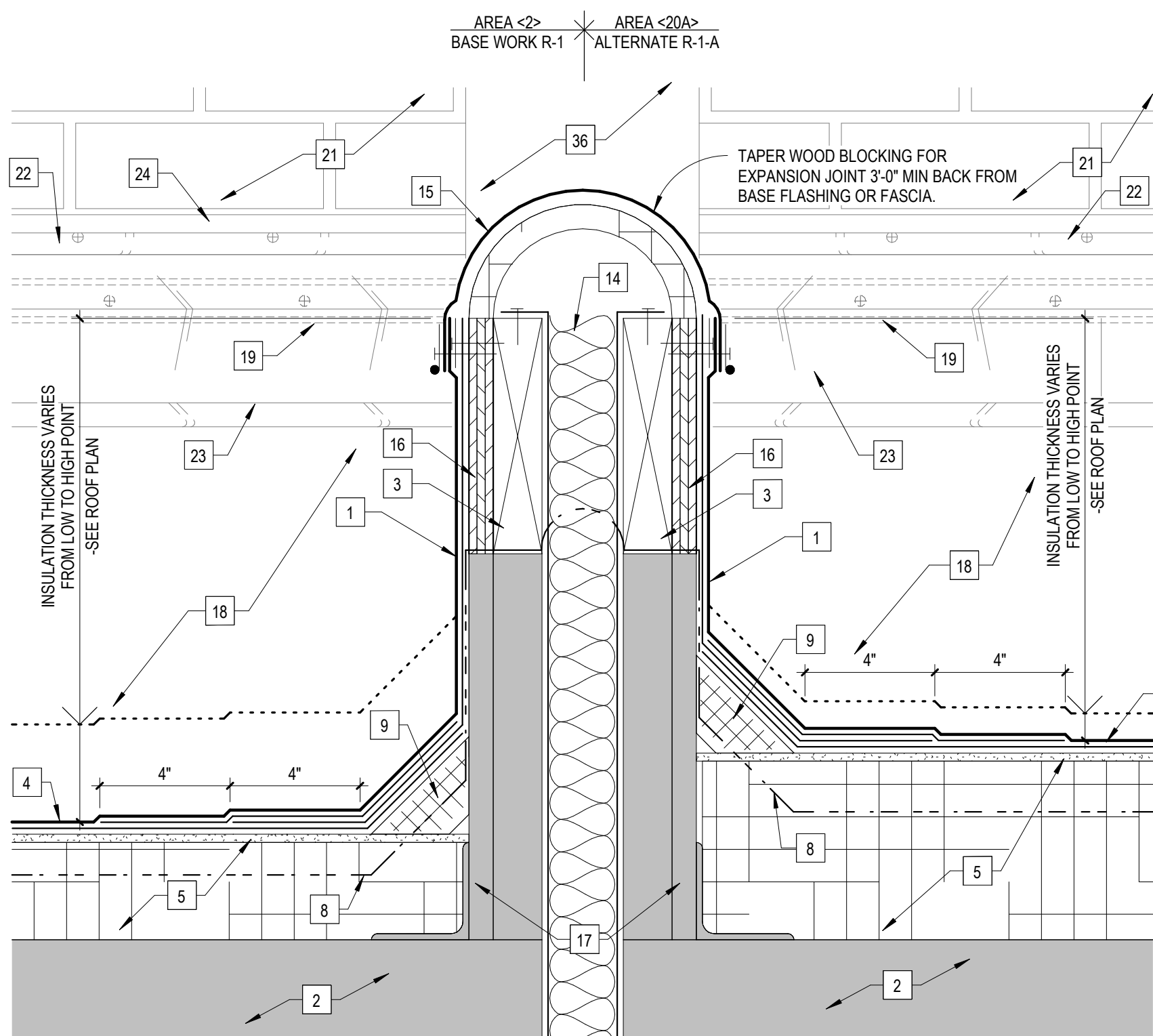
E Campus Dr
Fort Wayne, IN 46805

PID: C.20.10237

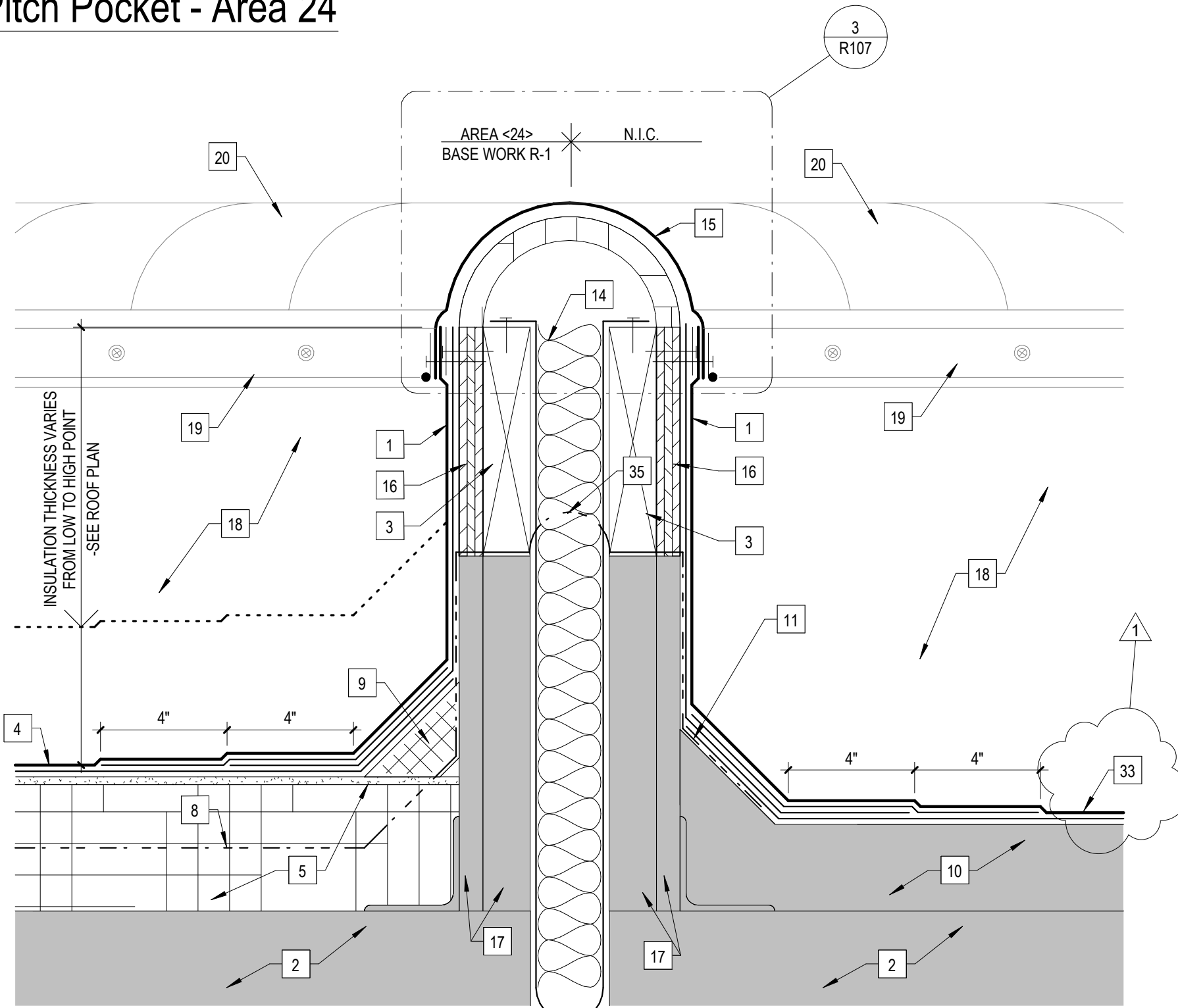
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SD/DD/CD



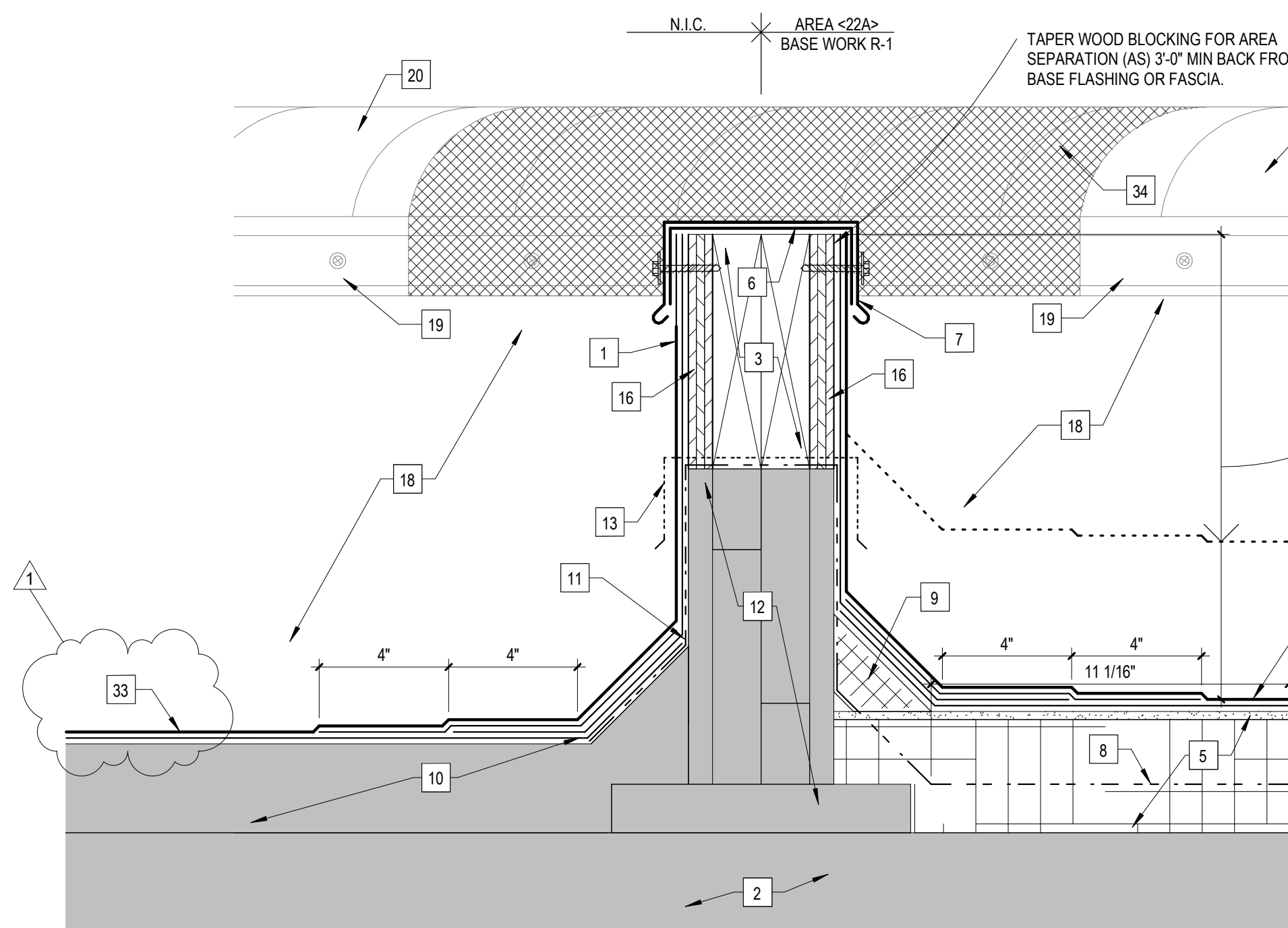
6 Antenna Pitch Pocket - Area 24
3" = 1'-0"



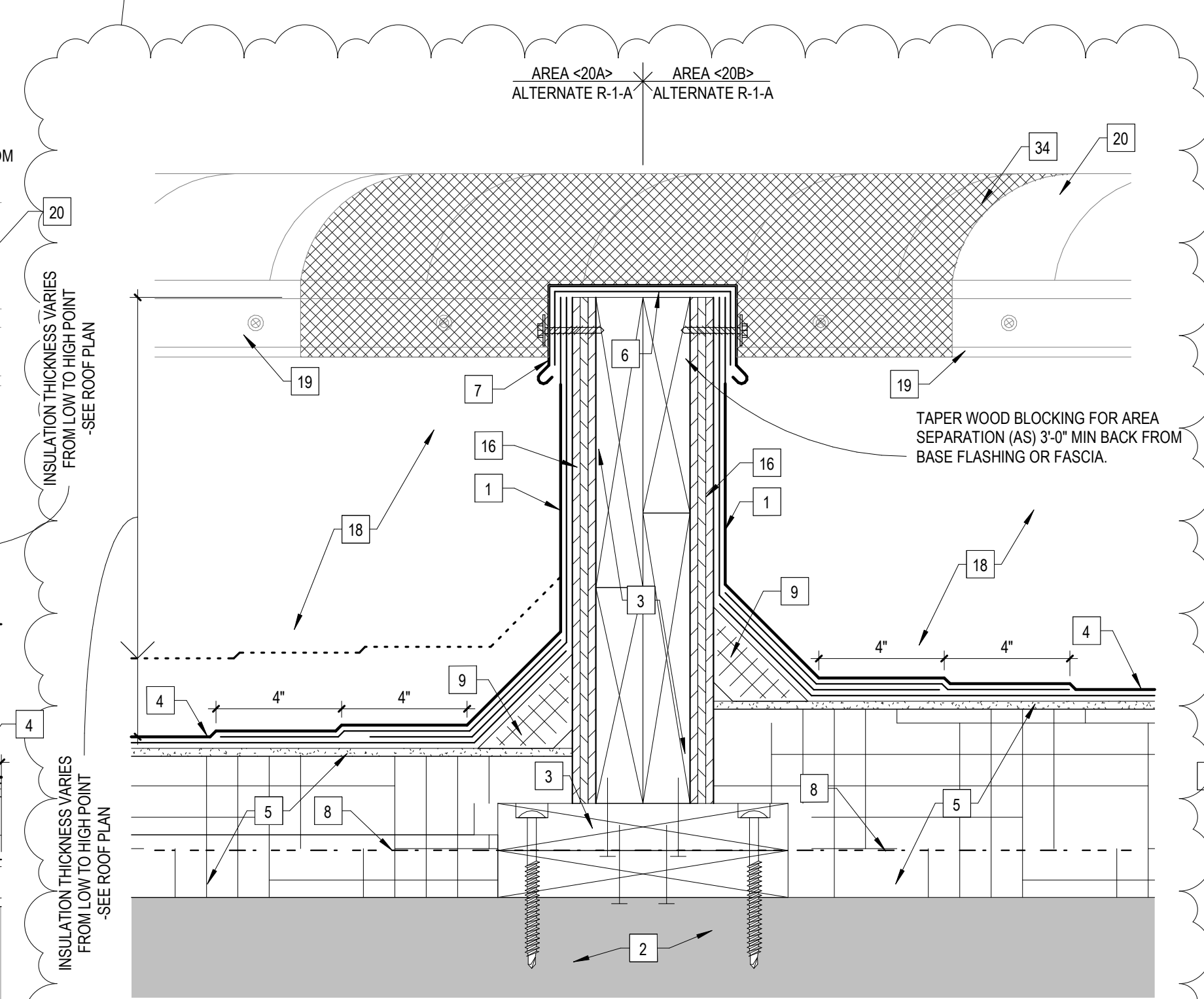
5 Expansion Curb - Alternate Taken
3" = 1'-0"



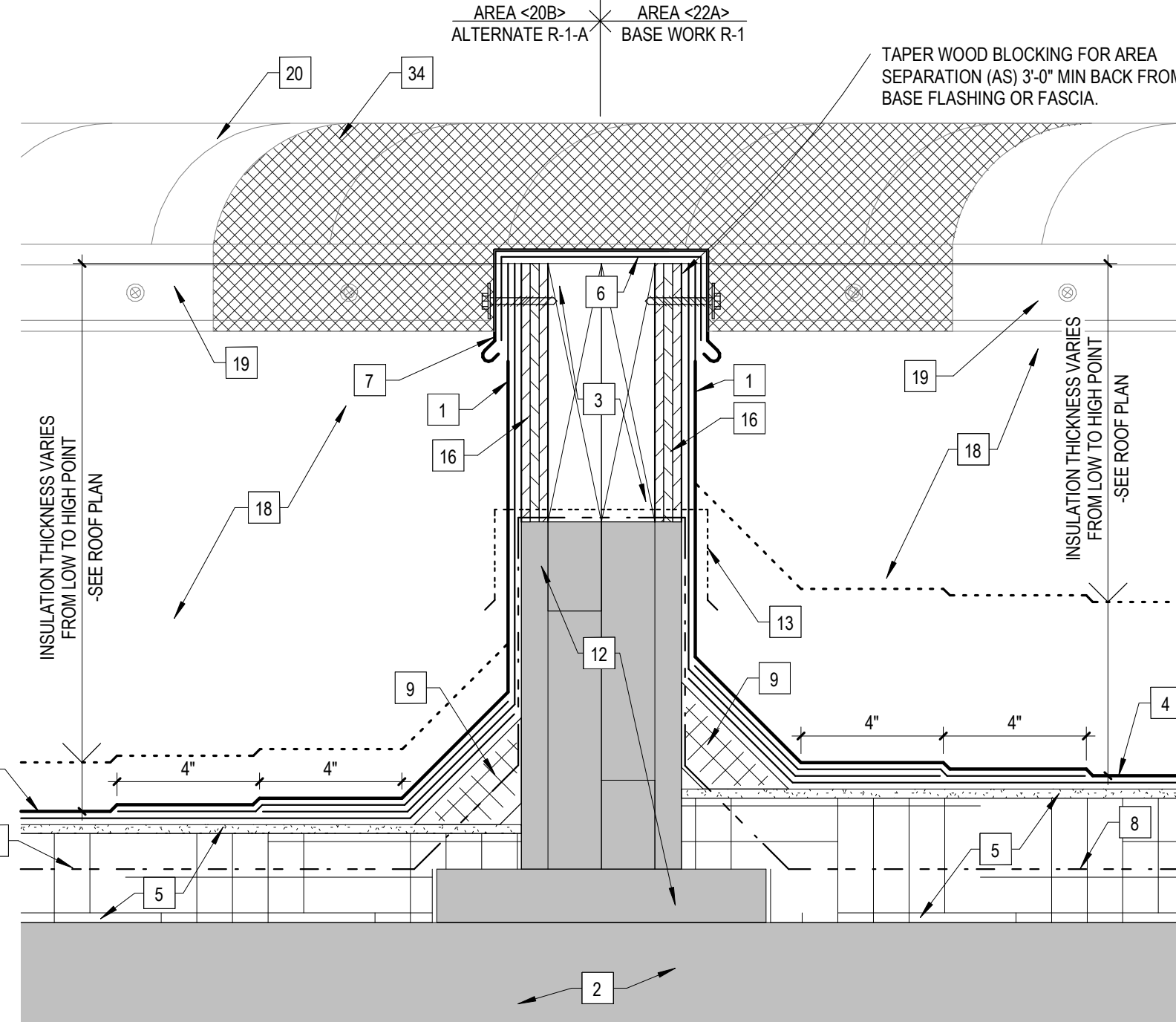
4 Expansion Curb - Alternate Taken
3" = 1'-0"



3 Area Separation - Alternate Not Taken
3" = 1'-0"



2 Area Separation - Alternate Taken
3" = 1'-0"



1 Area Separation - Alternate Taken
3" = 1'-0"

Detail Work Description Notes

- CLEAN AND PRIME SUBSTRATE, PROVIDE NEW 2 PLY MBR FLG
- EXG CONCRETE DECK TO REMAIN. INSPECT DECK FOR DAMAGE OR DETERIORATION AND REPORT CONDITIONS TO ROOF CONSULTANT
- NEW WOOD BLOCKING MECHANICALLY ATTACHED TO SUBSTRATE
- NEW 2 PLY ICAG OR ICSG MODIFIED BITUMEN ROOFING (MBR)
- NEW ADHESIVELY ADHERED RIGID INSULATION BOARD AND ADHESIVELY ADHERED COVER BOARD INSULATION
- NEW WEATHER RESISTIVE AIR BARRIER RAN DOWN OVER FLASHING 2" MIN ON BOTH SIDES
- NEW PREFINISHED GI METAL AREA SEPERATION CAP-MECHANICALLY ATTACHED 12" C/C (USE ONLY FASTENERS WITH EPDM WASHERS)
- REMOVE EXISTING 2-PLY MBR ROOFING, INSULATION, SADDLES, FLASHINGS (FLG) CANTS AND STRIPPINGS
- NEW CONTINUOUS WOOD FIBER CANT SET IN ASPHALT OR ROOF CEMENT
- EXG ROOF SYSTEM TO REMAIN
- REMOVE EXG MBR FLASHING DOWN TO TOP OF EXG CANT STRIP TO ACCOMMODATE INSTALLATION OF NEW BLOCKING AND MBR FLASHING MEMBRANE
- EXG AREA SEPERATION CURB TO REMAIN
- REMOVE EXG AREA SEPERATION CAP
- PROVIDE NEW VINYL AIR STOP AND FILL WITH BATT INSULATION
- NEW FLEXIBLE EXPANSION JOINT COVER. STRIP OFF NAILING FLANGE WITH MBR AND SECURE WITH TERMINATION BAR MECHANICALLY ATTACHED 6" C/C (USE ONLY FASTENERS WITH EPDM WASHERS)
- NEW EXTERIOR GRADE PLYWOOD
- EXG WOOD BLOCKING TO REMAIN. REPLACE ANY DAMAGED OR DETERIORATED WOOD BLOCKING WITH NEW WOOD BLOCKING
- NEW MBR FLASHING BEYOND
- NEW TERMINATION BAR BEYOND
- NEW EXPANSION JOINT COVER BEYOND
- EXG BRICK BEYOND
- NEW THRU WALL RECEIVER BEYOND
- NEW COUNTERFLASHING BEYOND
- NEW THRU WALL FLASHING BEYOND
- EXG ANTENNA TOWER TO REMAIN
- NEW MANUFACTURERS APPROVED CONTINUOUS TOOLED SEALANT
- NEW POURABLE SEALER
- NEW NON-EXPANDING GROUT
- REMOVE EXG METAL CAP
- REMOVE EXG PITCH POCKET
- NEW PITCH PAN
- EXG CONCRETE PEDISTAL TO REMAIN
- NEW 2 PLY MEMBRANE FLASHING INSTALLED MINIMUM 18" ONTO EXISTING ROOF MEMBRANE
- NEW LIQUID FLASHING BEYOND
- REMOVE EXG EXPANSION JOINT COVER
- EXG BUILDING EXPANSION JOINT TO REMAIN BEYOND

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School Hours: 7:30 a.m. - 7 p.m.

REVISION: 1
DATE: 7/6/2026

DRAWN BY: ASP
COMMISSION NUMBER: F26026
REVIEWED BY: CLW
DATE: 2026-06-12

R105

ROOF DETAILS

ROOFING AND RELATED WORK AT:
KETTLER HALL ROOF
REPLACEMENT PHASE 1 - 2026

E Campus Dr
Fort Wayne, IN 46805

PID: C.20.10237

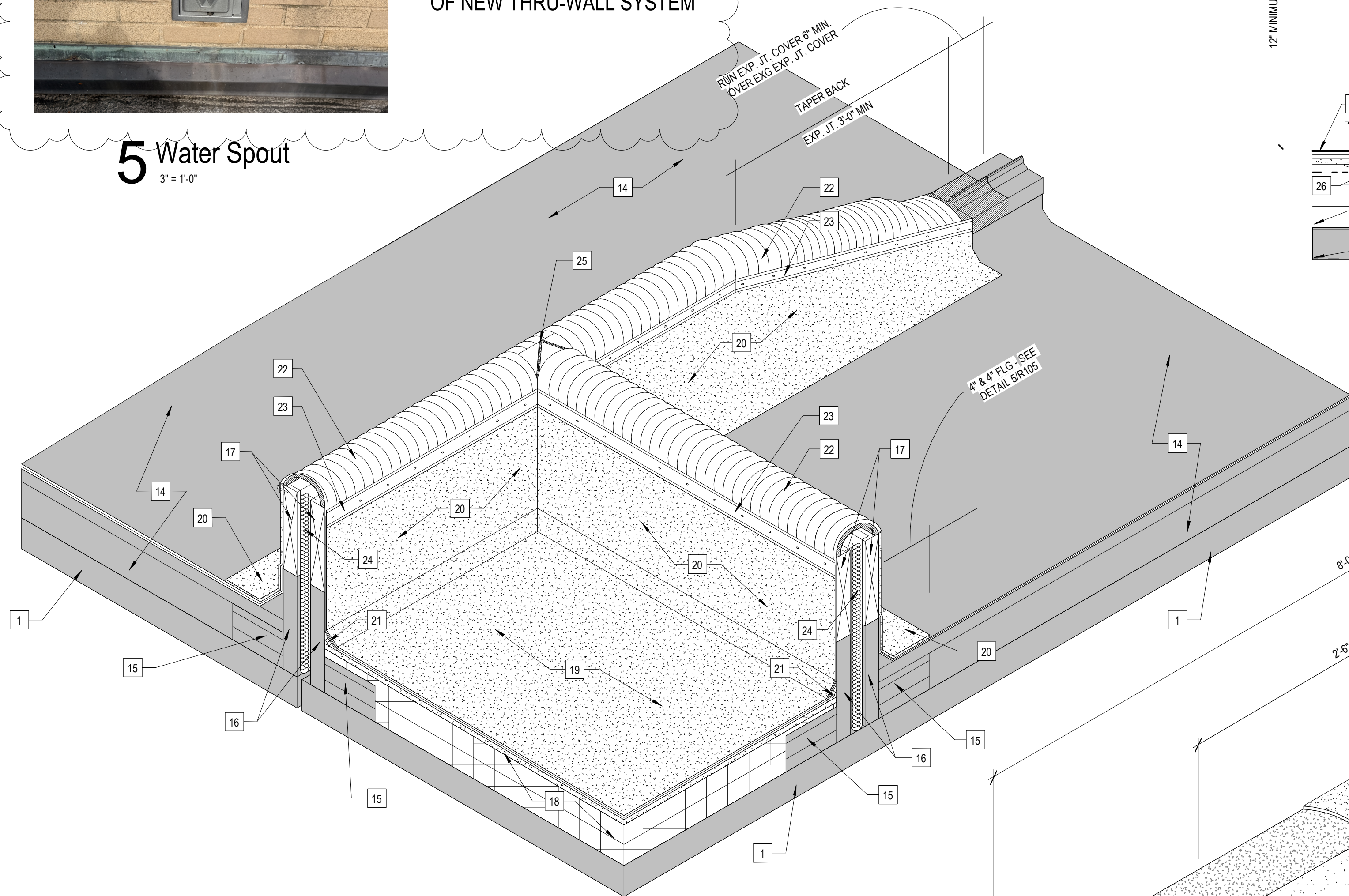
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REMOVE AND RE-ROUTE
EXISTING WATER SPOUT AND
COVER AS NECESSARY TO
ACCOMMODATE INSTALLATION
OF NEW THRU-WALL SYSTEM

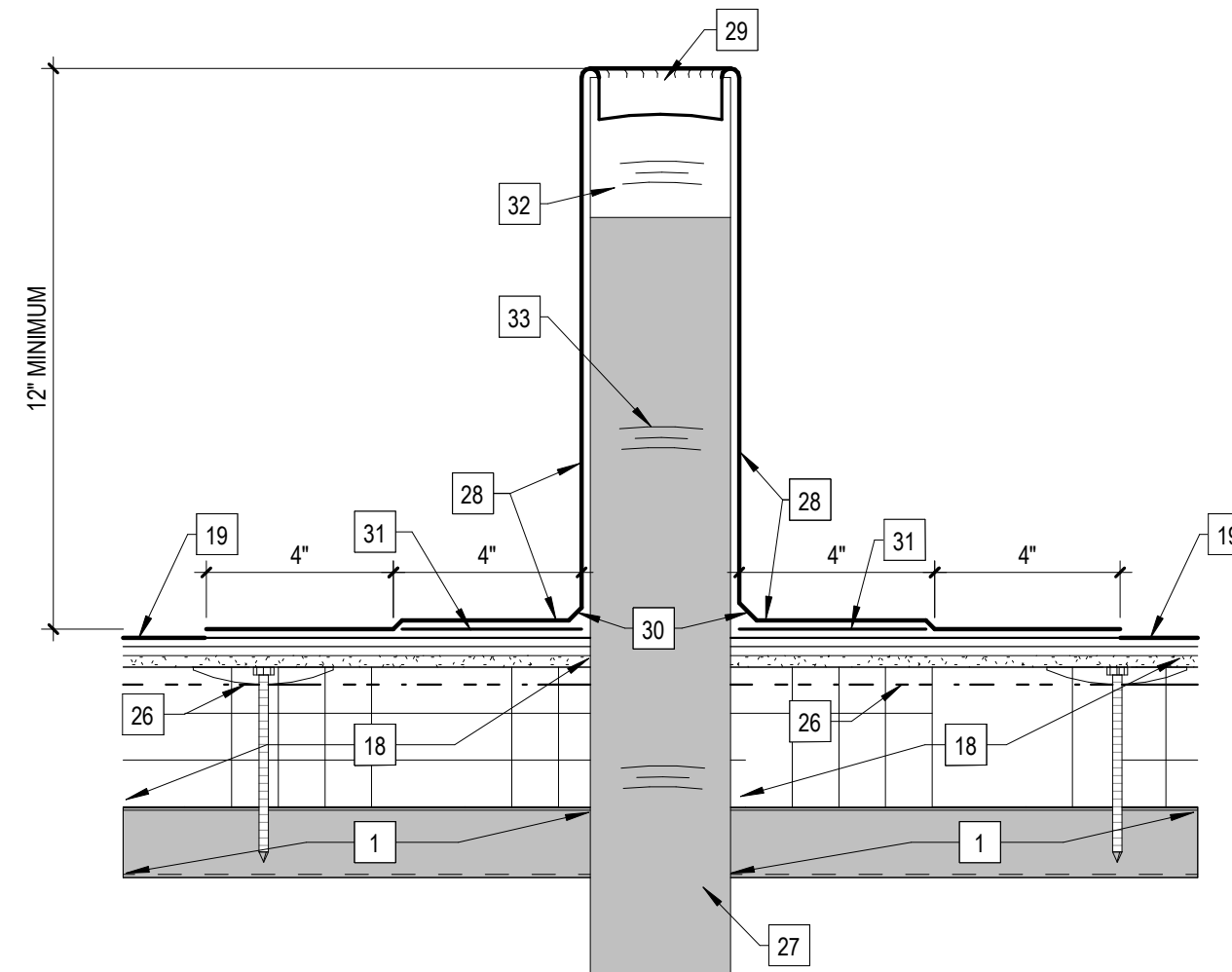
5 Water Spout

3" = 1'-0"



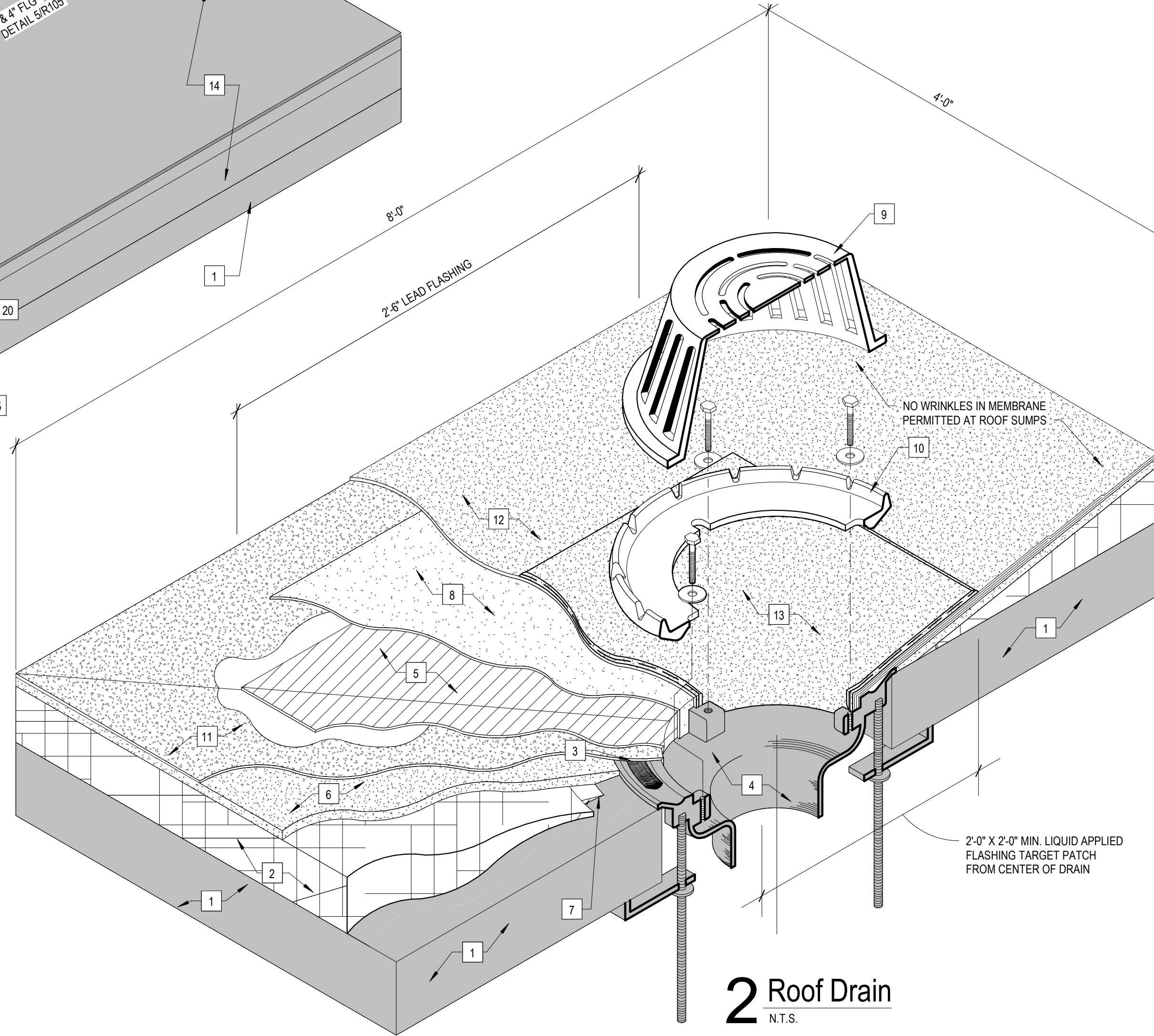
3 Expansion Joint 3-Way Tee

N.T.S.



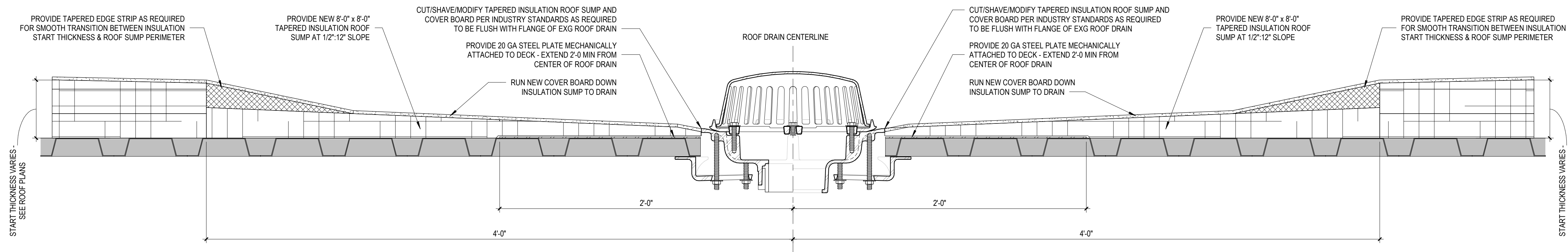
4 Pipe Seal - 2 Ply MBR (2D)

3" = 1'-0"



2 Roof Drain

N.T.S.



SEE 2/R107 FOR ROOF SUMP FLASHING NOTES

1 Roof Sump - 2D Layout

N.T.S.

Detail Work Description Notes

- EXG CONCRETE DECK TO REMAIN. INSPECT DECK FOR DAMAGE OR DETERIORATION AND REPORT CONDITIONS TO ROOF CONSULTANT
- NEW TAPERED INSULATION SUMP, SHAVE FLUSH WITH ROOF SUMP DECK FLANGE
- NEW CONTINUOUS BEAD OF ROOF CEMENT
- EXG ROOF DRAIN BOWL TO REMAIN. REPLACE ANY MISSING, BROKEN OR PLASTIC COMPONENTS WITH NEW CAST IRON COMPONENTS
- NEW LEAD FLG PRIMED AND SET IN ROOF CEMENT
- NEW ADHESIVELY ADHERED RECOVER BOARD INSULATION
- NEW ADHESIVELY ADHERED TAPERED EDGE STRIP
- NEW MBR STRIPPING EXTEND 6" MIN BEYOND LEAD FLASHING BUT NOT BEYOND ROOF SUMP
- EXG ROOF DRAIN STRAINER TO REMAIN IF MISSING, BROKEN OR PLASTIC REPLACE WITH NEW CAST IRON STRAINER
- RESET EXG ROOF SUMP CLAMPING RING IN NEW LEAD FLG. REPLACE ANY MISSING AND/OR PLASTIC COMPONENT WITH NEW CAST IRON COMPONENTS. REPLACE EXG PLASTIC STRAINERS WITH NEW CAST IRON STRAINERS
- NEW MBR BASE PLY SET IN FULLY TROWLED BED OF COLD ADHESIVE. REFER TO MANUFACTURER INSTRUCTIONS FOR RATE OF APPLICATION.
- NEW MBR CAP PLY SET IN FULLY TROWLED BED OF COLD ADHESIVE. REFER TO MANUFACTURER INSTRUCTIONS FOR RATE OF APPLICATION
- CLEAN AND PRIME SUBSTRATE PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE NEW MANUFACTURER'S APPROVED LIQUID APPLIED FLASHING (RESINFLEECE/RESIN)
- EXG ROOF SYSTEM TO REMAIN
- EXG WOOD BLOCKING TO REMAIN. REPLACE ANY DAMAGED OR DETERIORATED WOOD BLOCKING WITH NEW WOOD BLOCKING
- EXG EXP JOINT CURB TO REMAIN
- NEW WOOD BLOCKING MECHANICALLY ATTACHED TO SUBSTRATE
- NEW ADHESIVELY ADHERED RIGID INSULATION BOARD AND ADHESIVELY ADHERED COVER BOARD INSULATION
- NEW 2 PLY ICAG OR ICSG MODIFIED BITUMEN ROOFING (MBR)
- CLEAN AND PRIME SUBSTRATE, PROVIDE NEW 2 PLY MBR FLG
- NEW CONTINUOUS WOOD FIBER CANT SET IN ASPHALT OR ROOF CEMENT
- NEW FLEXIBLE EXPANSION JOINT COVER. STRIP OFF NAILING FLANGE WITH MBR AND SECURE WITH TERMINATION BAR MECHANICALLY ATTACHED 6" C/C (USE ONLY FASTENERS WITH EPDM WASHERS)
- NEW MANUFACTURERS SURFACE MOUNTED TERMINATION BAR. MECHANICALLY ATTACHED 6" C/C (USE ONLY FASTENERS WITH EPDM WASHERS)
- PROVIDE NEW VINYL AIR STOP AND FILL WITH BATT INSULATION
- PROVIDE NEW MANUFACTURER'S FACTORY SEALED AND SEWN 3-WAY TEE EXPANSION JOINT COVER
- REMOVE EXISTING 2-PLY MBR ROOFING, INSULATION, SADDLES, FLASHINGS (FLG) CANTS AND STRIPPINGS
- EXG ROOF PENETRATION TO REMAIN
- NEW LEAD FLASHING
- ROLL TOP OF LEAD FLASHING DOWN INTO PIPE APPROXIMATELY 1"
- NEW CANTED BEAD OF MBR UTILITY CEMENT
- NEW PRIMED FLANGE OF LEAD FLASHING WITH PRIMER ON BOTH SIDES, SET LEAD FLANGE IN MBR UTILITY CEMENT, OR MBR FLASHING CEMENT
- NEW PVC PIPE EXTENSION
- NEW PVC INTERNAL COUPLING

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School Hours: 7:30 a.m. - 7 p.m.

REVISION: 1
DATE: 7/6/2026

DRAWN BY: ASP
COMMISSION NUMBER: F26026
REVIEWED BY: CLW
DATE: 2026-06-12

R107

ROOF DETAILS

ROOFING AND RELATED WORK AT:

KETTLER HALL ROOF
REPLACEMENT PHASE 1 - 2026

E Campus Dr
Fort Wayne, IN 46805

PID: C.20.10237

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BID FORM INSERT

Kettler Hall Roof Replacement Phase I - 2026

Purdue University, Fort Wayne, Indiana

Following notices given and having carefully examined the Contract Documents as well as the premises and conditions affecting the work, the undersigned proposes to furnish all labor and materials, necessary tools, expendable equipment, and all utility and transportation services and to perform all work required by and in strict accordance with the above named documents, prepared by Martin Riley, now on file in the office of the Vice President for Physical Facilities, Purdue University, West Lafayette, Indiana, and Martin Riley as stated below.

BID PROPOSALS

Bidder agrees to perform all items of work as shown on the Drawings and/or described in the Specifications or Addenda, for the amounts shown as follows:

(Amount for Bids shall be shown in both words and figures. In case of discrepancy, the amount shown in words will govern).

The complete removal of existing 2 ply polymer modified bitumen roof system and installation of new 2 ply polymer modified bitumen roof system on areas <2>, <21>, <22A>, and <22B> at

BASE BID: Kettler Hall. The complete construction as required by the Contract Documents for the sum

_____ Dollars (\$ _____)

ALTERNATE PROPOSALS

Submit Alternate Bids on the respective Alternates as applicable to the Base Bid submitted. Use the space provided under the respective Alternates accordingly.

ALTERNATE NO. 1
(R-1-A):

The complete removal of existing 2 ply polymer modified bitumen roof system and installation of new 2 ply polymer modified bitumen roof system on areas <20A>, <20B>, and <20C> at Kettler Hall.

(Add to/deduct from) the Base Bid the sum of: _____

_____ Dollars (\$ _____)

ALTERNATE NO. 2
(R-1-B):

The complete removal of existing 2 ply polymer modified bitumen roof system and installation of new 2 ply polymer modified bitumen roof system on area <24> at Kettler Hall.

(Add to/deduct from) the Base Bid the sum of: _____

_____ Dollars (\$ _____)

PRINCIPAL SUBCONTRACTOR QUESTIONNAIRE**Kettler Hall Roof Replacement Phase I - 2026**

Purdue University, Fort Wayne, Indiana

Principal Subcontractor Questionnaire

Submitted by _____

(To be submitted by each Bidder with his Bid)

Bidder to list subcontractors as requested below. **In addition to the requested subcontractors, Bidder to list all subcontractors that will have subcontracts greater than \$150,000.**

If awarded the complete construction contract, I/WE propose to have the following Subcontractors.

SUBCONTRACTOR - COMPLETE ADDRESS

(List the Subcontractor firms only)

Indicate if
MBE/WBE/DBE**Mechanical Construction**

NAME

ADDRESS

Electrical Construction

NAME

ADDRESS

Concrete

NAME

ADDRESS

These Subcontractors have been advised of the applicable labor provisions as set forth in the Contract Documents and these labor provisions will be included in all Subcontracts.

PRINTED NAME & TITLE

SIGNATURE

DATE

ALTERNATE PROPOSALS

The base bid shall be submitted in strict accordance with the plans and specifications.

The deduction from, or addition to, the base bid for each numbered alternate shall include the cost of any changes in, additions to, or omissions from adjacent construction and materials necessary to properly install and complete the work even though such changes, additions to, or omissions are not specifically noted in the description of the alternate. No extra will be allowed for any such changes, additions, or omissions.

Each bidder shall state in his proposal the amount to be deducted from or added to his base bid for each and every alternate hereinafter described. If his base bid is not affected by any particular alternate proposal, he shall enter the amount of \$0.00 in the proper place on the Supplemental Bid Form.

BASE BID

The complete removal of the existing 2-ply polymer modified bitumen roofing (MBR) roof system and replace with new 2-ply polymer modified bitumen roofing (MBR) roof system on roof areas <2>, <21>, <22A>, and <22B>

ALTERNATE NO. 1

The complete removal of the existing 2-ply polymer modified bitumen roofing (MBR) roof system and replace with new 2-ply polymer modified bitumen roofing (MBR) roof system on roof areas <20A>, <20B>, and <20C>

ALTERNATE NO. 2

The complete removal of the existing 2-ply polymer modified bitumen roofing (MBR) roof system and replace with new 2-ply polymer modified bitumen roofing (MBR) roof system on roof area <24>

UNIT PRICES

Kettler Hall Roof Replacement Phase I - 2026

The Bidder is required to complete the following schedule of Unit Prices to be listed on Form No. 96.

The Unit costs herein quoted are to apply to additions or deductions to the contract. The following unit prices are for the cost of the material installed, unless noted otherwise. The Unit Prices shall include all incidental items, such as use of tools, scaffolding, equipment, Contractor's overhead and profit, taxes, insurance, etc. All quantities will be determined by measurements in place.

The right is reserved to reject any and all Unit Prices if the cost is considered excessive.

1.

_____ \$ _____ per _____

2

_____ \$ _____ per _____

3

_____ \$ _____ per _____

4

_____ \$ _____ per _____

5

_____ \$ _____ per _____

6

_____ \$ _____ per _____

7

_____ \$ _____ per _____

8

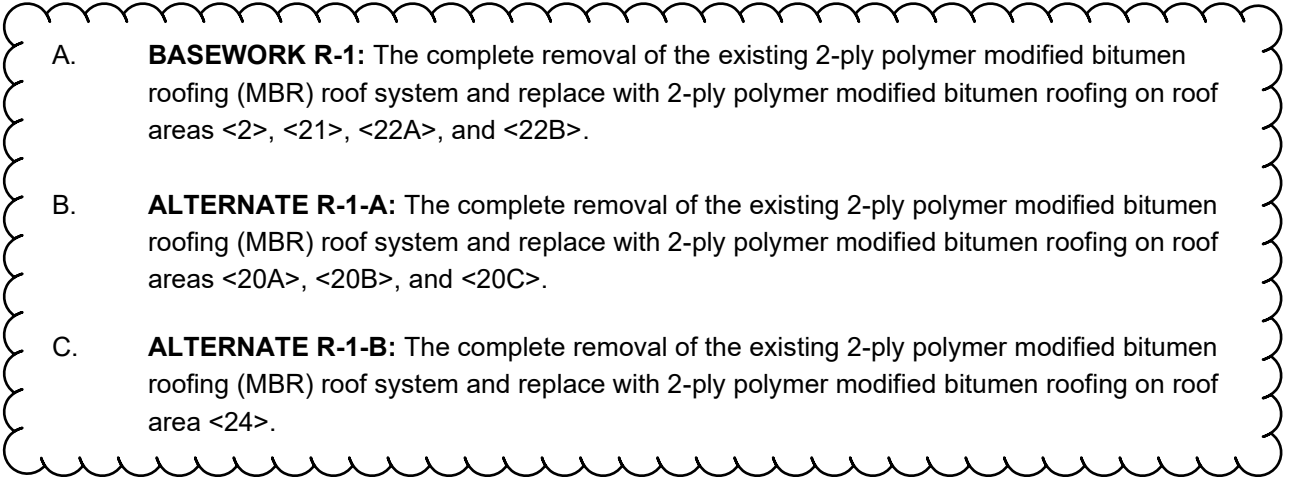
_____ \$ _____ per _____

SECTION 01 0100 - PROJECT REQUIREMENTS

SECTION 01 0100 - PROJECT REQUIREMENTS

PART 1: GENERAL

1.01 SCOPE OF PROJECT

- 
- A. **BASEWORK R-1:** The complete removal of the existing 2-ply polymer modified bitumen roofing (MBR) roof system and replace with 2-ply polymer modified bitumen roofing on roof areas <2>, <21>, <22A>, and <22B>.
 - B. **ALTERNATE R-1-A:** The complete removal of the existing 2-ply polymer modified bitumen roofing (MBR) roof system and replace with 2-ply polymer modified bitumen roofing on roof areas <20A>, <20B>, and <20C>.
 - C. **ALTERNATE R-1-B:** The complete removal of the existing 2-ply polymer modified bitumen roofing (MBR) roof system and replace with 2-ply polymer modified bitumen roofing on roof area <24>.
- B. Contract: Construction work under unified fixed price contract.

1.02 PROJECT MANAGER

- A. Project Manager for this project is **John Sheets**, Physical Facilities, Purdue University, Office 260-481-4195, Mobile 260-710-6511

1.03 COMMENCEMENT AND COMPLETION OF THE WORK

- A. Refer to the General Conditions of the Contract, Article 8.
- B. Except as otherwise provided in the General Conditions of the Contract, all of the work to be performed under the Contract Documents shall be started on **August 17, 2026** and completed on or before **October 30, 2026**.
- C. Because time is of the essence in Contractor's performance and Owner's actual damages from delayed performance is difficult to determine, Contractor shall pay liquidated damages based on actual costs reasonably expected to be incurred by the Owner when the Contractor delivers the Work later than agreed. The liquidated damages shall be the sum of **dollars (\$1500)** for each calendar day that the Contractor is in default.
- D. Prior to the Owner's preparation of a Project Punch List, the Contractor shall prepare his own punch list and submit to the Owner.

1.04 JOBSITE VISITS

**SECTION 02 4170
SELECTIVE DEMOLITION - ROOFING**

PART 1 GENERAL

1.01 SECTION REQUIRES THE FOLLOWING

- A. Removal of existing roof systems and related work as indicated on the drawings to accommodate the new specified roof systems, except those indicated to be reinstalled, salvaged, or to remain the Owner's property.
- B. Remove and Salvage: Items indicated to be removed and salvaged remain the Owner's property. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to Owner's designated storage area.
- C. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Reinstall items in locations indicated.
- D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.
- E. Demolition of portions of the interior of existing building.

1.02 RELATED REQUIREMENTS

- A. Section 01 0100 - Project Requirements: Contract descriptions, description of alterations work, work by others, future work, occupancy conditions, use of site and premises, work sequence.
- B. Section 01 1000 - Summary: Contract descriptions, description of alterations work, work by others, future work, occupancy conditions, use of site and premises, work sequence.
- C. Section 01 3000 - Administrative Requirements: Submittal procedures, project meetings, progress schedules and documentation, reports, coordination.
- D. Section 01 4000 - Quality Requirements: Procedures for testing, inspection, mock-ups, reports, certificates; use of reference standards.
- E. Section 01 4219 - Reference Standards: Consolidated list of citations with edition dates.
- F. ~~Section 01 5000 - Temporary Facilities and Controls.~~

- G. Section 01 7700 - Contract Close Outs: Examination, preparation, and general installation procedures; preinstallation meetings; cutting and patching; cleaning and protection; starting of systems; demonstration and instruction; closeout procedures except payment procedures; requirements for alterations work.

1.03 REFERENCE STANDARDS

- A. EPA - ENVIRONMENTAL PROTECTION AGENCY
 - 1. EPA (NPDES) - National Pollutant Discharge Elimination System (NPDES), Construction General Permit; Current Edition.
- B. NFPA 241- Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2004.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Comply with the requirements of Section 01 3000 - Administrative Requirements, for project meetings.
- B. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.

1.05 SUBMITTALS

- A. See section Section 01 3000 - Administrative Requirements, for submittal procedures.

**SECTION 07 5200
MODIFIED BITUMINOUS MEMBRANE ROOFING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Modified bituminous roofing membrane, conventional application.
- B. SBS Modified bituminous roofing membrane, cold adhesive with heat welded seams application.
- C. APP Modified bituminous roofing membrane, cold adhesive with heat welded seams application.
- D. Rigid roof insulation, tapered and flat
- E. Cover boards.

1.02 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Wood nailers, curbs, cant strips, and items installed on roof.
- B. Section 07 1010 - General Roofing Consideration.
- C. Section 07 6200 - Sheet Metal Flashing and Trim: Counterflashings, reglets and fascia.
- D. Section 07 9005 - Joint Sealants

1.03 REFERENCE STANDARDS

- A. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2017.
- B. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2023a.
- C. ASTM D41/D41M - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing; 2011 (Reapproved 2023).
- D. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2017 (Reapproved 2023).
- E. ASTM D312/D312M - Standard Specification for Asphalt Used in Roofing; 2016a (Reapproved 2023).
- F. ASTM D1863/D1863M - Standard Specification for Mineral Aggregate Used on Built-Up Roofs; 2005 (Reapproved 2018).
- G. ASTM D2178/D2178M - Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing; 2015a (Reapproved 2021).
- H. ASTM D4263 - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method; 1983 (Reapproved 2018).
- I. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2018).
- J. ASTM D4601/D4601M - Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing; 2004 (Reapproved 2020).
- K. ASTM D4897/D4897M - Standard Specification for Asphalt-Coated Glass-Fiber Venting Base Sheet Used in Roofing; 2016 (Reapproved 2023).
- L. ASTM D6162/D6162M - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements; 2021.
- M. ASTM D6163/D6163M - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements; 2021.

07 5200 - MODIFIED BITUMINOUS MEMBRANE ROOFING

- N. ASTM D6164/D6164M - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements; 2021.
- O. ASTM D6222/D6222M - Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements; 2016 (Reapproved 2023).
- P. ASTM D6223/D6223M - Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements; 2021.
- Q. ASTM D6298/D6298M - Standard Specification for Fiberglass Reinforced Styrene Butadiene Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface; 2016.
- R. FM (AG) - FM Approval Guide; Current Edition.
- S. NRCA (RM) - The NRCA Roofing Manual; 2024.

1.04 PRE-INSTALLATION MEETING

- A. See Section 07 1010 General Roofing Consideration
- B. Convene one week before starting work of this section.
- C. Review preparation and installation procedures and coordinating and scheduling required with related work.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. See Section 07 1010 - General Roof Considerations for additional submittals and data.
- C. Product Data: Provide manufacturer's catalog data for membrane and bitumen materials, base flashing materials and insulation.
- D. Provide manufacturer's technical product data for each type of product specified substantiating that materials comply with requirements.
- E. Certificate of Analysis: Manufacturer shall submit a Certificate of Analysis from the manufacturing facility laboratory, listing the physical properties for each production lot shipped to project site.
- F. Manufacturer qualification: Manufacturer shall submit on manufacturer letterhead from the manufacturing facility laboratory, stating that the product shipped to the project site meets or exceeds the same physical properties as specified herein. Manufacturer also states that they understand the penalties as outlined below in the Quality Assurance of this specification section, if that product does not meet specified physical properties.
- G. Installer's qualification: Contractor shall be experienced to perform work in this section and who has specialized in installing roofing similar to that required for this Project; who is approved, authorized, or licensed by the roofing system manufacturer to install manufacturer's product; and who is eligible to receive the standard roofing manufacturer's warranty.
- H. Manufacturer's Installation Instructions: Indicate special procedures.
- I. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- J. Manufacturer's Field Reports: Indicate procedures followed.
- K. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.06 QUALITY ASSURANCE

- A. Sampling and Testing: Random samples may be taken from each different production lot that is shipped to job site for independent third party testing to insure that product shipped to the job site meets the specified physical properties as identified in this specification section. MRae will provide the contractor with a six foot sample from each roll sampled for testing. MRae will tag and store the remaining portion at their facility. Cost associated with material testing will be paid by the owner unless the material fails to meet the specified physical properties. Any

07 5200 - MODIFIED BITUMINOUS MEMBRANE ROOFING

Modified Bituminous Roofing material that does not meet the specified physical properties will be replaced with new material that meets the specified physical properties at no cost to the owner including labor cost to remove material that may have already been installed.

- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- C. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience, and approved by manufacturer.
- D. Installer Qualifications: Installer should have a minimum of five (5) years experience in installing modified bitumen roofing, who is approved, authorized, or licensed by the specified roof system manufacturer to install manufacturer's roof system and who is eligible to receive specified roofing manufacturer's basic roofing guarantee.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original containers, dry and undamaged, with seals and labels intact unless otherwise indicated.
- B. Coordinate the storage of insulation, base sheets, and modified bitumen roofing sheets so that materials are not exposed to precipitation or night air. All materials shall be completely protected while in storage and during application to keep dry at all times.
 - 1. When stored outdoors, roofing materials shall be stacked on pallets or dunnage at least 4 inches above ground level or existing roof membrane level. Roofing materials shall be covered with tarpaulins or other approved covering. Plastic shrink wrap used for transit of palletized materials will not be allowed as an approved covering.
- C. Do not leave unused roll goods and other sheet materials or insulation on the roof overnight or when roofing work is not in progress unless protected from weather or other moisture sources.
- D. Handle and store materials or equipment in a manner to avoid significant or permanent deflection of deck.
- E. Store materials in weather protected environment, clear of ground and moisture; ballast materials may be stored outdoors.
- F. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.
- G. Protect foam insulation from direct exposure to sunlight.

1.08 FIELD CONDITIONS

- A. Do not apply roofing membrane when environmental conditions are outside the ranges recommended by manufacturer.
- B. Do not apply roofing membrane during unsuitable weather.
- C. Do not apply roofing membrane when ambient temperature is below 40 degrees F.
- D. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- E. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.
- F. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.

1.09 WARRANTY

- A. Roofing Contractor's Warranty: Provide roofing contractor's "Roofing Warranty" typical in form and content indicated by Midwest Roofing Contractors Association, Inc. approved guarantee form No. 2007B, for 2- years as indicated on form.
- B. Manufacturer's Warranty: Provide modified bitumen roofing manufacturer's standard unlimited product and contractor workmanship liability "Roofing Manufacturer's Basic Roofing Guarantee" from date of Substantial Completion against leaks caused by defective materials or

07 5200 - MODIFIED BITUMINOUS MEMBRANE ROOFING

workmanship and against normal wear and tear for the following period of time with respect to the following system designations

1. 2 ply ICSG-MBR 20 Years "NDL"
2. 2 ply ICAG-MBR 20 Years "NDL"

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Modified Bituminous Membrane Roofing:
1. Siplast, Inc: www.siplast.com.
 2. Derbigum Roof Systems, Inc.: www.derbigum.com
 3. Soprema Inc, www.soprema.us
 4. Johns Manville: www.jm.com
 5. Substitutions: See Section 01 6000 - Product Requirements.

2.02 ROOFING - CONVENTIONAL APPLICATION

- A. Modified Bituminous Roofing:
1. SYSTEM: System designation explained in Section 07 1010. Provide one of the following systems:
 - a. 2 ply ICAG-MBR (insulated substrate, 1 ply APP smooth surfaced modified bitumen base ply set in cold adhesive and 1 ply APP granule surfaced modified bitumen sheet membrane set in cold adhesive): Seams to be heat welded.
 - 1) Derbigum; 1ply "Derbibase Ultra" set in cold adhesive with laps heat welded and 1 ply "Derbicolor GP FR" set in cold adhesive with laps heat welded. (2 ply base flashing system of "Derbibase Ultra" and "Derbicolor GP FR" both set in cold adhesive.)
 - b. 2 ply ICSG or ICAG-MBR (insulated substrate, 1 ply SBS smooth surfaced modified bitumen base ply set in cold adhesive and 1 ply SBS granule surfaced modified bitumen sheet membrane set in cold adhesive): Testing shall be in accordance with the parameters published in ASTM D 5174.
 - 1) Siplast; 1 ply "Paradine 20" set in cold adhesive and 1 ply "Paradiene 40 FR" set in cold adhesive. (2 ply base flashing system of "Paradiene 20" and "Parafor 30" both set in cold adhesive. All seams to be heat welded.
 - 2) Johns Manville; 1 ply "DynaBase" set in cold adhesive and 1 ply "DynaLastic 250 FR" set in cold adhesive, (2 ply base flashing system of "DynaBase and "DynaLastic 250 FR" both set in cold adhesive). All seams to be heat welded.
 - 3) Soprema; 1 ply "Elastophene Sanded 3.0" set in cold adhesive and 1 ply "Elastophene HR FR GR" set in cold adhesive. (2 ply base flashing system of "Elastophene Sanded 3.0" and "Elastophene HR FR GR" both set in cold adhesive). All seams to be heat welded.
- B. Roofing Assembly Requirements:
1. The roof system shall pass ASTM D 5849 - 07 Standard Test Method for Evaluating Resistance of Modified Bituminous Roofing Membrane to Cyclic Fatigue (Joint Displacement)
 2. Underwriters Laboratories, Inc. (UL)
 - a. Exterior Fire-Test Exposure: Class A or B; UL 790 for application and roof slopes indicated.
 - b. Internal Fire Spread Below Deck: UL 1256 for application and roof slopes indicated
 3. Factory Mutual Research Corp. (Resistance)
 - a. Resistance to Fire, Wind, Hail, Leakage, Corrosion, Ultraviolet Weathering and Foot Traffic when tested in accordance with Approval Standard 4470: Class 1 for application and roof slopes indicated.
 - b. Resistance to Wind: Minimum 90 pounds per square foot uplift pressure resistance when tested in accordance with Approval Standard 4470.

- C. Modified Bituminous Sheet Physical Properties Requirements: Testing shall be in accordance with the parameters published in ASTM D 5147. Minimum or Maximum values indicated in both machine direction (MD) and cross machine direction (Resistance).
1. Modified Bitumen Base Membrane, Flashing and Stripping Ply
 - a. Thickness (min): 90 mils(2.9 mm)
 - b. Low temperature flexibility @ -10° F (-23.3°C) - SBS PASS; @ 0° F (-17.8°C) - APP PASS
 - c. Tensile Strength/Peak load (avg) @ 0°F (-18°C): 100 lbf/inch (17.6 kN/m)
 - d. Tear Strength (lbf): 80 lbf (36.3 kgf)
 - e. Dimensional Stability (max): 0.2%
 - f. Compound Stability (min): 250°F (121°C)
 2. Modified Bitumen Membrane and Flashing/Stripping Cap Ply
 - a. Thickness (min): 130 mils (3.0 mm)
 - b. Low temperature flexibility @ -10° F (-23.3°C) - SBS PASS; @ 0° F (-17.8°C) - APP PASS
 - c. Tensile Strength/Peak load (avg) @ 0°F (-18°C): 100 lbf/inch (17.6 kN/m)
 - d. Tear Strength (lbf): 100lbf (45.4 kgf)
 - e. Dimensional Stability (max): 0.2%
 - f. Compound Stability (min): 250°F (121°C)
 - g. Granule Embedment (max. avg. loss): 1.5 grams per sample

2.03 MEMBRANE AND SHEET MATERIALS

- A. Membrane: Modified Bituminous Roofing (MBR) Polymer modified asphalt, reinforced with non-woven fabric; granule surfaced; with the following characteristics:
1. Styrene-Butadiene-Styrene (SBS) Modified: Smooth surfaced, or granule coated, cold adhesive applied SBS modified bitumen membrane, with a fiberglass or non-woven polyester mat reinforced core. Sheet to meet NBS 55 criteria for tensile strength and comply with ASTM D2523 at 0 degrees F. Subject to compliance with requirements.
 - a. Granule coating: A continuous layer of slate chips factory applied to exposed surface. Color: Manufacturer's standard white.
 2. Atactic Polypropylene (APP) Modified: Smooth surfaced or granule coated, set in cold adhesive APP modified bitumen membrane, non-woven polyester mat (with or without additional fiberglass mat and web) reinforced core. Sheet to meet NBS 55 criteria for tensile strength and comply with ASTM D2523 at 0 degrees F. Subject to compliance with requirements:
 - a. Granule coating: A continuous layer of slate chips factory applied to exposed surface. Color: Manufacturer's standard white.
- B. Modified Bituminous Flashing Material: 2-Ply flashing same material as membrane or as follows:
1. SBS Flashing:
 - a. Base Ply:
 - 1) Siplast; "Paradiene 20"
 - 2) Soprema;"Elastophene Sanded 3.0"
 - 3) Johns Manville; "Dynalastic 250 FR"
 - b. Cap Ply:
 - 1) Siplast; "Parafor 30 FR"
 - 2) Soprema; "Elastophene HR FR GR"
 - 3) Johns Manville; " DynaGlas"
 - c. Liquid Applied Flashing:
 - 1) Siplast: "Parapro 123"
 - 2) Soprema; "Alson"
 - 3) Johns Manville; "Permaflash System"
 2. APP Flashing:
 - a. Base Ply: Derbigum; "Derbibase Ultra"

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- b. Cap Ply: Derbigum; "Derbicolor GP FR"
- c. Liquid Applied Flashing:
 - 1) Derbigum: "Derbi-Flash"
- C. Base Sheet: ASTM D4601/D4601M Type I; asphalt-coated glass fiber; unperforated.
- D. Modified Base Sheet: Modified bitumen sheet with glass-fiber reinforcing mat.
- E. Flexible Flashing Material: Same material as membrane.

2.04 BITUMINOUS MATERIALS

- A. No. 15 Roofing Felt (for night cutoff s): Asphalt-saturated unperforated organic roofing felt, complying with ASTM D226, Type I, 36 inch wide, approximate weight 18lb/square.
- B. Bitumen: Asphalt, ASTM D312/D312M Type IV; for adhering insulation, use Type III.
- C. Asphalt Primer: ASTM D41/D41M, asphalt type.
- D. Asphalt Roof Cement: ASTM D4586/D4586M, Type II, asbestos-free.
- E. Cold Adhesive (for membrane application): Provide special high-flash, quick drying solvent adhesive, complying with ASTM D 4479, Type II.
 - 1. Products: subject to compliance with requirements, provide one of the following:
 - a. "PA-311M Adhesive"; Siplast.
 - b. "MBR Cold Application Adhesive"; Johns Manville
 - c. "FM Adhesive Squeegee grade"; Soprema
- F. Cold Adhesive (for flashing application): Provide special high-flash, quick drying solvent adhesive, complying with ASTM D 4479, Type II.
 - 1. Products: subject to compliance with requirements, provide one of the following:
 - a. "Perflash"; Derbigum.
- G. Cold Adhesive (for insulation application): Single-components, non-flammable, spray dispensed, moisture curing low rise polyurethane foam adhesive.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. "Insta-stik"; Insta-foam Products, Inc"
 - b. "Para-Stick"; Siplast.
 - c. "Olybond"; OMG
 - d. "Derbibond LR" Derbigum
 - e. "High Velocity Insulation Adhesive" Soprema

2.05 COVER BOARDS

- A. Cover Boards: Glass-mat faced gypsum panels complying with ASTM C1177/C1177M.
 - 1. Thickness: 1/4 inch, fire-resistant.
 - 2. Sheet Size: 48"x48"
 - 3. Manufacturers:
 - a. Georgia-Pacific; DensDeck Prime with EONIC Technology: www.densdeck.com/#sle
 - b. Substitutions: See Section 01 6000 - Product Requirements

2.06 INSULATION

- A. Rigid insulation boards and air/vapor retarder filler foams shall not be produced with, or contain, any of the United States Environmental Protection Agency (USEPA) regulated chlorofluorocarbon (CFC) compounds listed in the Montreal Protocol of the United Nations Environmental Program.
- B. Polyisocyanurate Board Insulation: Rigid closed cellular polyisocyanurate foam core board, complying with ASTM C 1289, Type II, Class 1, cellulose felt or glass fiber mat both faces; Grade 1, for Class A Construction with the following characteristics:
 - 1. Board Size: 48 x 96. (Flatstock) and 48 x 48 inches (Tapered)
 - 2. Board Thickness: 2.0 inch (Flatstock) and Varies (Tapered)
 - 3. Thermal Resistance: R-Value of 5.41/inch

07 5200 - MODIFIED BITUMINOUS MEMBRANE ROOFING

4. Board Edges: Square
5. Compressive Strength: 20 psi

2.07 ACCESSORIES

- A. Air/Vapor Retarder Filler Foam: Single-component, non-flammable, spray dispensed, adhesive polyurethane foam used as a filler around obstructions and penetrations to mitigate both air and vapor infiltration from both interior and exterior origin.
 1. Available Products: Subject to compliance with requirements, products that may be incorporated in the work include, but are not limited to the following:
 - a. Hilti Construction Chemicals, Inc: "Hilti CF 124".
- B. Cant and Edge Strips: Asphalt-impregnated wood fiberboard, compatible with roofing materials ; cants formed to 45 degree angle.
- C. Self Adhering Waterproofing Underlayment: Laminated sheet of polymer rubberized asphalt and elastomeric 5-mil polymer film with release paper to self adhere to substrate.
 1. Available Products: Subject to compliance with requirements, products that may be incorporated in the work include the following:
 - a. Ice and Water Shield; W.R. Grace Corp.
 - b. Winterguard; CertainTeed Corporation.
 - c. Weather Watch; GAF Building Materials Corporation.
- D. Preformed Edge Strips: Rigid insulation units matching roof insulation, or asphalt-impregnated organic fiber insulation units, molded to form 3 1/2-inch by 3 1/2-inch by 45 degree cant strips and 1 5/8-inch by 18 inch tapered edge strips to receive roofing ply sheet courses and lift edges above main roofing surface.
- E. Roofing Nails: Galvanized, hot-dipped type, size and configuration as required to suit application.
- F. Glass Fiber Fabric: Type I, minimum 1.5 pound sheet of woven glass fiber, impregnated with asphalt; complying with ASTM D 1668.
- G. Roofing Cement: Asphaltic cement, asbestos-free; ASTM D 4586.
- H. Sheet Metal Accessory Materials: Provide materials as specified in Sections 07 6200.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces and site conditions are ready to receive work.
- B. Verify deck is supported and secure.
- C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.
- D. Verify deck surfaces are dry and free of moisture and dew.
- E. Verify that roof openings, curbs, and penetrations through roof are solidly set, and cant strips are in place.
- F. Coordinate the storage and protection of insulation, base sheets, modified bitumen roofing sheets so that materials are not exposed to precipitation or night air. All materials shall be completely protected while in storage and during application to keep it dry at all times.
 1. When stored outdoors, roofing materials shall be stacked on pallets or dunnage at least 4-inches above ground level or existing roof membrane level. Roofing materials shall be covered with tarpaulins or other approved covering. Plastic shrink wrap used for transit of palletted materials will not be allowed as an approved covering.
- G. Examine Substrate surface to receive modified bituminous roofing system and associated work and conditions under which roofing will be installed. Do not proceed with roofing work until unsatisfactory conditions have been corrected in a manner acceptable to the Manufacturer and Architect.

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1. Verify substrate moisture - do not install roofing on wet insulation or other moist substrates. Do not install insulation to deck that is wet or has standing water in the flutes. Remove moisture and verify that the deck and/or insulation is dry.
- H. Substrate Joint Penetrations: Prevent bitumen from penetrating substrate joints, entering building and drains, or damaging roofing system components or adjacent building construction.
- I. Cutoffs: At end of each day's roofing installation, protect exposed edge of incomplete work, including ply sheets and insulation. Provide temporary covering with single ply Modified Bitumen roofing sheet set in cold adhesive; remove at beginning of next day's work.

3.02 PREPARATION - CONCRETE DECK

- A. Verify adjacent precast concrete roof members do not vary more than 1/4 inch in height, and grout keys are filled flush.
- B. Fill surface honeycomb and variations with latex filler.
- C. Do not begin work until elevated concrete substrate has cured at least 28 days and moisture content is five percent or less.

3.03 INSTALLATION - INSULATION, CONVENTIONAL

- A. Attachment of Insulation: Comply with insulation manufacturer's instructions and recommendations for handling, installing, and bonding or anchorage of insulation substrate.
 1. Secure insulation to metal deck using mechanical fasteners specifically designed and sized for attachment of specified recovery board type insulation and existing base insulation to deck type shown. Fasten insulation over entire area of roofing at spacing as required by FM Classification 1-90. Run long joints for insulation in continuous straight lines perpendicular to the roof slope with end joints staggered between rows.
 2. Clean surface of concrete deck and sweep to remove excess dust and debris. Prime substrate with asphalt cut back primer, ASTM D41. Set insulation in cold adhesive. Run long joints of insulation in continuous straight line, perpendicular to roof slope, with end joints staggered between rows. Weight insulation set in cold adhesive with a weighted yard roller, or roofing material buckets.
 3. Two-layer Installation: Where indicated, install required thickness in two layers with joints of second layer staggered from joints of first layer a minimum of 12 inches each direction. Install second layer in cold adhesive.
 4. Nailers: Where insulation substrates slope 3/4 inch per foot or more, install wood nailers minimum 2 inches wide and as same thickness as base layer of insulation, set nailers between insulation boards. Anchor nailers to substrate and run nailers perpendicular to slope of roof. Install nailers at the following spacing:
 - a. 3/4 inch to 3 inch per foot slope; 96 inches face to face of nailer.
 - b. 3 inches or more; 48 inches face to face of nailer.
 5. Install tapered insulation for crickets and saddles between the first and second layers of insulation.
 6. Trim surface of insulation where necessary at roof drains so completed surface is flush with drain ring.
- B. Cover Boards: Adhesively adhere cover boards in accordance with roofing manufacturer's instructions and FM (AG) Factory Mutual requirements.
- C. Lay subsequent layers of insulation with joints staggered minimum 6 inches from joints of preceding layer.
- D. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
- E. Do not apply more insulation than can be covered with membrane in same day.

3.04 INSTALLATION - MEMBRANE

- A. Install modified bituminous membrane roofing system in accordance with manufacturer's recommendations and NRCA (RM) applicable requirements.

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- B. Install membrane; lap and seal edges and ends permanently waterproof.
- C. Install smooth, free from air pockets, wrinkles, fish-mouths, or tears. Ensure full bond of membrane to substrate.
- D. Prime substrate when torching membranes or flashing direct to surfaces with 1.0 gal. per square of asphalt cut back primer, ASTM D41.
- E. At end of day's operation, install waterproof cut-off. Remove cut-off before resuming roofing.
- F. Roof Membrane and Flashing Installation (complete tear-off): Install membrane with modified bitumen sheets lapped and shingled uniformly to achieve required number of membrane piles throughout. Shingle in proper direction to shed water.
 - 1. Apply 2-courses stripping of glass-fiber fabric and roofing cement at obstructions and penetrations.
 - 2. Cant Strips/Tapered Edge Strips: Install preformed 45-degree insulation cant strips set in roof cement at junctures of modified bitumen roofing system membrane with vertical surface. Provide preformed, tapered edge strips at perimeter of roof that do not terminate flush with vertical surfaces.
 - 3. Extend first ply of modified field sheet in cold adhesive to top edge of cant strip and terminate.
 - 4. Install first ply of APP/SBS modified base flashing sheet set in cold adhesive a minimum 4 inches onto roof beyond cant and turn sheet up above cant to finish flashing height.
 - 5. Provide second ply of APP/SBS modified field sheet set in cold adhesive to top edge of cant and terminate.
 - 6. Install second ply of APP/SBS modified base flashing set in cold adhesive a minimum 8 inches onto roof beyond cant strip and turn sheet up above cant to finish flashing height. Nail top of flashing a minimum 6 inches o.c. or provide other form of mechanical attachment.
 - 7. Nail edges of roofing membrane to wood blocking at perimeter edges of roof prior to installing fascias. Space nails at a minimum of 6 inches o.c.
 - 8. Liquid Flashing Installation: Apply flashing in accordance with manufacturer's instructions.
- G. Roof Sumps (Drains): Cut-out insulation around roof drains and provide new taper insulation sump to drain. Fill clamping ring base with a heavy coating of roofing cement. Provide a primed minimum 30 inch square, 2 1/2 to 4 lb. lead flashing sheet in a bed of roofing cement sandwiched between base and cap plies of modified bituminous roofing plies. Lead flashing sheet is not to extend beyond edge of sump created by tapered insulation.
- H. At intersections with vertical surfaces:
 - 1. Extend membrane over cant strips and up a minimum of 8 inches onto vertical surfaces.
 - 2. Apply flexible flashing over membrane.
- I. Around roof penetrations, mop in and seal flanges and flashings with flexible flashing.
- J. Coordinate installation of roof drains and sumps and related flashings.
- K. Insulation of Roof Accessories: Miscellaneous sheet metal accessory items and major items of roof accessories (if any) to be coordinated with modified bituminous sheet roofing system work, are specified in other sections of these specifications.

3.05 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements for additional requirements.
- B. Provide monthly on-site attendance of roofing and insulation manufacturer's representative during installation of this work.

3.06 CLEANING

- A. Remove bituminous markings from finished surfaces.
- B. Repair or replace defaced or damaged finishes caused by work of this section.

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3.07 PROTECTION

- A. Protect installed roofing and flashings from construction operations.
- B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

END OF SECTION

**SECTION 07 6200
SHEET METAL FLASHING AND TRIM**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sealants for joints within sheet metal fabrications.
- B. Fabricated sheet metal items, including flashings, counterflashings, fascia, and trim.

1.02 RELATED REQUIREMENTS

- A. Section 07 7100 - Roof Specialties: Preformed flashings.
- B. Section 07 9200 - Joint Sealants - Sealing non-lap joints between sheet metal fabrications and adjacent construction.

1.03 REFERENCE STANDARDS

- A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.
- B. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.
- C. ASTM A 167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip; 1999 (Reapproved 2004).
- D. ASTM A666/A666M - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2024.
- E. ASTM B32 - Standard Specification for Solder Metal; 2020.
- F. ASTM B101 - Standard Specification for Lead-Coated Copper Sheet and Strip for Building Construction; 2022.
- G. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.
- H. ANSI/SPRI ES-1, 2011. Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems; 2011.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
 - 1. Provide shop drawings for those items factory or shop fabricated, showing extent of the work and all required details to describe the installation.
- C. Provide samples for those items shop fabricated or assembled including all accessories and anchors required for the coping, fascia, curb or other sheet metal items. Submit samples of entire assembly to Architect for review and approval prior to commencing shop fabrication. Submit samples with actual finish to be installed. Samples to be eighteen inches long minimum.
- D. Provide manufacturer's guarantee on the applied finishes to the various prefinished sheet metal components against oxidation, checking, peeling, fading, chalking in excess of 8 (ASTM D 523), or other deterioration of the finish for a period of five years.
- E. Edge Metal Flashings-Submit certification that edge metal is fabricated, installed and tested in compliance with ANSI/SPRI ES-1, 2011.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

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- B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 5 years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

- A. Galvanized Steel: ASTM A-653/A 653M, with G-90/Z275, commercial quality, or G-90 (ASTM A653/A 653M), lock-forming quality, hot-dip galvanized, mill phosphatized where indicated for painting; not less than 20 gauge 0.0359 inch thick, unless otherwise indicated.
- B. Aluminum-Zinc Coated Steel Sheet (AZ): ASTM A 792, Class AZ-50 coating, Grade 40, 55% aluminum, 1.6% silicon, 44.4% zinc, 22 gauge (0.0299 inch), unless noted otherwise; ASTM A 792/A 792M, Class AZ-150 coating, Grade 275 triple spot coat average equivalent to 0.80 mils thickness both sides.
- C. Aluminum or Steel Finishes: Comply with NAAMM "Metal Finishes Manual" to produce uniformly finished products. For colored finishes (prefinished), if any, provide coating as indicated and colors as selected by Architect from manufacturer's standard colors.
 - 1. Fluoropolymer Coating (FP): Manufacturer's standard two-coat, thermocured, full-strength 70 percent "Kynar 500" coating consisting of a primer and a minimum dry film thickness of 0.9 mil and 30 percent reflective gloss when tested in accordance with ASTM D 523.
 - 2. Durability: Provide coating that has been field tested under normal range of weathering conditions for minimum of 20 years without significant peel, blister, flake, chip, crack, or check in finish; in accordance with AAMA 2604.
 - a. Color and Gloss: As selected by Architect from Manufacturer's standard colors.
- D. Stainless Steel Sheet: ASTM A 167, ASTM A 666, Type 304, soft annealed, with No. 2D finish, except where harder temper is required for forming or performance; minimum 0.0187 inch thick, unless otherwise indicated.

2.02 ACCESSORIES

- A. Fasteners: Noncorrosive metal, with soft EPDM washers. Match finish of exposed heads with material being fastened.
- B. Sealant: Type Elastomeric specified in Section 07 9200.
- C. Mastic Sealant: Polyisobutylene, nonhardening, nonskinning, nondrying, nonmigrating sealant.
- D. Epoxy Seam Sealer: 2-part, noncorrosive, aluminum seam-cementing compound.
- E. Adhesive: Type recommended for waterproof and weather-resistant seaming and adhesive.
- F. Clip Straps, Anchoring Devices and Similar Accessories: Compatible with material being installed.

2.03 FABRICATION

- A. Fabricate sheet metal flashing and trim to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal and other characteristics of the item indicated.
- B. Fabricate sheet metal flashing and trim to comply with recommendations of ANSI/SPRI ES-1 that apply to the design, dimensions, metal and other characteristics of the item indicated.
- C. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- D. Form pieces in longest possible lengths.
- E. Hem exposed edges on underside 1/2 inch; miter and seam corners.

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- F. Form material with batten seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- G. Fabricate corners from one piece with minimum 18-inch long legs; seam for rigidity, seal with sealant.
- H. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.
- I. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.
- J. Fabricate flashings to allow toe to extend 2 inches over roofing gravel. Return and brake edges.
- K. Fabricate fascia and coping to profiles and coping to profiles and details shown herein and/or as indicated on the drawings. Fabrication to be free of face distortion and oil canning. Fabrication shall not mar the prefinished surfaces of exposed components. Shop form materials in their entirety with only length adjustments and attachments in the field.
 - 1. Contractor's Option: In lieu of shop fabricated fascia, copings and gutter and downspouts as herein identified, provide manufacturer's prefabricated fascia, coping and gutter and downspouts systems produced by:
 - a. Hickman
 - b. Metal - Era
 - c. Applied Fabricators
 - d. When required by roofing material manufacturer to procure "Manufacturer's Warranty", provide required fascia and coping systems as specified by roofing material manufacturer.
- L. Coat back-side of fabricated sheet metal with 15-mil sulfur-free bituminous coating, ASTM D 4479 Type 1, where required for water-tight construction provide hooked flanges filled with polyisobutylene mastic for 1-inch embedment or flanges. Space joints at intervals of not more than 50 feet for steel, 30 feet for zinc alloy or aluminum. Conceal expansion provisions where possible.
- M. 4 inch wide flange for setting sheet metal on MBR, and flexible sheet roofing system with concealment by MBR roofing sheet stripping or elastic roofing sheet stripping.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.
- B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

- A. Install starter and edge strips, and cleats before starting installation.
- B. Install surface mounted receivers where indicated true to lines and levels. Seal top of reglets with sealant.
- C. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil, 0.015 inch.

3.03 INSTALLATION

- A. Comply with manufacturer's instructions and SMACNA's "Architectural Sheet Metal Manual" allow for thermal expansion; set true to line and level as indicated. Install Work with laps, joints, and seams permanently watertight and weatherproof; conceal fasteners where possible. Corners and bends of prefinished materials to be of radius from the base metals. Refinish or regalvanize after fabrication.
 - 1. Coordinate handling and installation of joints and sheet metal materials, to minimize exposure of expansion, to damage from other work of other trades and to provide proper integration of units with membranes and flashings.

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2. Roof-Edge Flashings: Secure metal flashings at roof edges according to ANSI/SPRI ES-1. Provide ANSI/SPRI ES-1 certification with closeout documents.
3. Expansion Provisions: Provide for thermal expansion of exposed sheet metal Work. Space movement joints at maximum of 10 feet (3 m) with no joints allowed within 24 inches (610 mm) of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).
- B. Anchor work in place with noncorrosive fasteners, adhesives, setting compounds, tapes and other materials and devices as recommended by manufactures of each material or system. Provide for thermal expansion and building movements. Comply with recommendations of "Architectural Sheet Metal Manual" by SMACNA.
- C. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pretin edges of sheets to be soldered to a width of 1-1/2 inches (38 mm), except where pretinned surface would show in finished Work.
 1. Pretinning is not required for lead.
 2. Do not solder aluminum.
- D. Seal moving joints in metal work with elastomeric joint sealants, complying with requirements specified in Division 7 Section "Joint Sealant".
- E. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards. Fill joint with sealant and form metal to completely conceal sealant.
- F. Clean metal surfaces of other substances which could cause corrosion of metal or discoloring of finish.
- G. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- H. Seams: Fabricate nonmoving seams in aluminum with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
- I. Separations: Separate noncompatible metals or corrosive substrates with a coating of asphalt mastic. 15-mil sulfur-free bituminous coating ASTM D 4479 Type 1 metals from corrosive substrates, including cementitious materials, wood or other absorbent materials or other permanent separation as recommended by manufacturer.
- J. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted..
- K. Apply plastic cement compound between metal flashings and felt flashings.
- L. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- M. See details appended to the end of this section.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements for field inspection requirements.
- B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

3.05 MARTIN RILEY FASCIA SYSTEM COMPONENTS

END OF SECTION