

ADDENDUM NUMBER NO. (4)

10/16/2024

Delgado Community College
475 Manhattan Boulevard – Building A
Roof Replacement
HARVEY, LOUISIANA
H/S PROJECT NO. 24025

HOLLY & SMITH ARCHITECTS, APAC
2302 MAGAZINE STREET
NEW ORLEANS, LOUISIANA 70130

This addendum forms a part of the Contract Documents and modifies the original specifications and drawings issued for bidding to the extent noted hereinafter.

Careful note of this Addendum will be taken by all parties of interest so that proper allowances are made in all computations, estimates and contracts and so that all trades affected are fully advised in the performance of the work that will be required of them.

ARCHITECTURAL

Clarifications

- 4.1 The project budget noted at the mandatory pre bid meeting was \$700,000 - \$800,000.
- 4.2 Another site visit will be made available to bidders on Friday, 10/18 from 1:00 to 3:00 pm.

Drawings

- 4.3 Refer to Sheet A001. Delete this sheet in its entirety and replace it with revised sheet A001 attached herein as part of this addendum.
- 4.4 Refer to Sheet A011. Delete this sheet in its entirety and replace it with revised sheet A011 attached herein as part of this addendum.
- 4.5 Refer to Sheet A012. Delete this sheet in its entirety and replace it with revised sheet A012 attached herein as part of this addendum.
- 4.6 Refer to Sheet A901. Delete this sheet in its entirety and replace it with revised sheet A901 attached herein as part of this addendum.
- 4.7 Refer to Sheet A911. Delete this sheet in its entirety and replace it with revised sheet A911 attached herein as part of this addendum.

Specifications

- 4.8 Refer to Bid Form, Unit Price Form. Delete this form in its entirety and replace it with revised Unit Price Form attached herein as part of this addendum.

4.9 Refer to Section 012200 – Unit Prices. Delete this section in its entirety and replace it with revised section 012200 attached herein as part of this addendum.

4.10 Refer to Section 075216 – Cold Applied SBS Modified Bituminous Membrane Roofing. Delete this section in its entirety and replace it with revised section 075216 attached herein as part of this addendum.

4.11 Refer to Section 077200 – Roof Accessories. Delete this section in its entirety and replace it with revised section 077200 attached herein as part of this addendum.

END OF ADDENDUM

DEMOLITION GENERAL NOTES

- QUANTITIES, LOCATIONS, SIZES AND ORIENTATIONS OF ALL ROOF MOUNTED ITEMS ARE APPROXIMATE. FIELD VERIFY ALL CONDITIONS THROUGHOUT.
- UNLESS NOTED OTHERWISE, DASHED LINES INDICATE WORK TO BE DEMOLISHED AND REMOVED.
- DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW EVERY ITEM TO BE DEMOLISHED, WHETHER LISTED OR NOT. REMOVE ALL ROOF COVERING DOWN TO TOP OF LIGHTWEIGHT CONCRETE ROOF DECK.
- PROTECT ALL WORK THAT IS SCHEDULED TO REMAIN FROM DAMAGE.
- PRIOR TO EXECUTING WORK, NOTIFY THE ARCHITECT IF CONDITIONS DEVIATE FROM WHAT IS SHOWN.
- VERIFY THAT ALL ROOF DRAIN LEADERS ARE CLEAR OF DEBRIS AND UNOBSTRUCTED AND CLEAN OUT AS NEEDED.
- REMOVE ALL OVERHANGING TREES BRANCHES LOCATED WITHIN AN 8'-0" DISTANCE FROM PERIMETER EDGE OF ROOF.
- REMOVE ANY WOOD BLOCK NAILERS, LIGHTWEIGHT CONCRETE OR METAL DECK THAT HAS BECOME LOOSE, DETERIORATED AND/OR IS DAMAGED DURING DEMOLITION. REFER TO UNIT PRICE SPECIFICATION SECTION FOR PRICING OF THIS WORK.
- COORDINATE ANY DEMOLITION OF ELECTRICAL WIRING AND/OR CONDUIT WITH OWNER'S REPRESENTATIVE AND HANDLE PER NEC REQUIREMENTS.
- IN ADDITION TO WHAT'S SHOWN IN THE DOCUMENTS, THE WORK SCOPE SHALL ALSO INCLUDE DEMOLITION OF 150 LF OF DETERIORATED WOOD BLOCKING STACKED (3) ROWS HIGH. FOR ANY QUANTITY REQUIRED TO BE DEMOLISHED BEYOND THIS AMOUNT, REFER TO UNIT PRICE SPECIFICATION.

DEMOLITION LEGEND

- PLUMBING VENT STACK TO REMAIN IN PLACE.
- ROOF DRAIN
- REMOVE EXISTING ROOF MEMBRANE, COVER BOARD, RIGID INSULATION AND BUILT UP ROOFING DOWN TO TOP OF EXISTING CONCRETE ROOF DECK
- REFERENCE FOR PHOTOGRAPH OF EXISTING CONDITION
- EXHAUST FAN ASSEMBLY
- RTU

KEYNOTE LEGEND

- 0101 REMOVE ANTENNAE MAST HEAD ASSEMBLY, WIRING, PENETRATION HOOD ASSEMBLY, FLASHING, ROOF SYSTEM DOWN TO TOP OF LIGHTWEIGHT INSULATED CONCRETE DECK. REMOVE WIRING AND CONDUIT BELOW ROOF DECK AS NEEDED TO INSTALL NEW ROOF.
- 0102 REMOVE ROOF HATCH ASSEMBLY, METAL FLASHING, WOOD BLOCKING AND STEEL LADDER. SEE DETAIL - 03 / A012
- 0103 REMOVE SMOKE VENT ASSEMBLY, WOOD BLOCKING, FLASHING, CURB, ROOF SYSTEM AND LIGHTWEIGHT INSULATED CONCRETE DOWN TO TOP OF METAL ROOF DECK. SEE DETAIL - 05 / A012
- 0104 METAL CANOPY OVERHANG BELOW TO REMAIN
- 0105 REMOVE ROOF AREA SEPARATION CURB, METAL FLASHING, BLOCKING DOWN, ROOF SYSTEM AND LIGHTWEIGHT INSULATED CONCRETE DOWN TO TOP OF METAL DECK.
- 0106 REMOVE BASE FLASHING AND COUNTER FLASHING AT RTU CURB PERIMETER. RTU AND SUPPORT BASE TO REMAIN. REMOVE ANY LOOSE OR DAMAGED CONDENSATE PIPE AND PIPE SUPPORT. MAINTAIN CONDENSATE LINE DRAINAGE TO ROOF DRAINS DURING RENOVATION. INSTALL NEW PVC PIPE AND EXTEND TO ROOF DRAINS AS NEEDED. PROVIDE NEW PIPE SUPPORTS FOR ALL CONDENSATE LINES. SEE DETAIL - 04 / A012
- 0107 REMOVE ROOF DRAIN DOME, COLLAR, BOLTS AND ANY ROOF MEMBRANE OR SPRAY FOAM ATTACHED TO DRAIN BASIN. DRAIN BASIN TO REMAIN. SEE DETAIL - 06 / A012
- 0110 REMOVE EXHAUST FAN ASSEMBLY, SUPPORT CURB, BLOCKING AND FLASHING DOWN TO TOP OF LIGHTWEIGHT INSULATED CONCRETE. SALVAGE EXHAUST FAN ASSEMBLY AND ANY ASSOCIATED WIRING OR CONDUIT FOR RE-INSTALLATION ON NEW SUPPORT CURB. EXTEND CONDUIT AND WIRING AS NEEDED FOR NEW CURB HEIGHT AND INSTALL A NEW COVER FOR THE MOTOR ASSEMBLY FROM SAME MANUFACTURER OF EXHAUST FAN. SEE DETAIL - 02 / A012

KEYNOTE LEGEND (CONTINUED)

- 0112 REMOVE ALL SPRAY FOAM INSULATION AND FLASHING FROM PLUMBING VENT STACK, VENT STACK TO REMAIN. SEE DETAIL - 07 / A012
- 0114 REMOVE ROOF EDGE METAL FLASHING AND A 5-1/2" WIDE BAND OF WOOD BLOCKING AND/OR LIGHTWEIGHT INSULATED CONCRETE DOWN TO TOP OF METAL DECK AT ROOF PERIMETER INDICATED WITH BOLD DASHED LINE ON PLAN TYPICAL. SEE DETAIL - 01 / A012
- 0115 REMOVE ALL OF ROOF COVERING INCLUDING SPRAY FOAM ROOF, MEMBRANE ROOF, RIGID INSULATION, CANT STRIPS AND BLOCKING DOWN TO TOP OF LIGHTWEIGHT CONCRETE ROOF DECK THROUGHOUT AREA ENCLOSED BY BOLD DASHED LINE SHOWN ON PLAN.
- 0122 REMOVE UTILITY ROUTING HOOD ENCLOSURE, FLASHING, BASE AND BLOCKING DOWN TO TOP OF LIGHTWEIGHT INSULATED CONCRETE DECK.
- 0123 EXISTING FIBER-OPTIC CABLES EXTENDING ACROSS THE ROOF ARE EXISTING TO REMAIN AND SHALL REMAIN FUNCTIONAL THROUGHOUT PROJECT. COORDINATE DEMOLITION WORK SO AS NOT TO DISTURB CABLE OPERATION.
- 0124 REMOVE PORTION OF LIGHTWEIGHT CONCRETE ROOF AND METAL DECK TO CREATE OPENING REQUIRED FOR NEW OVERFLOW ROOF DRAIN. COORDINATE OPENING LOCATION WITH EXISTING STRUCTURE. SEE ROOF PLAN FOR LOCATION.



STAFF AND STUDENT PARKING LOT

BUILDING A - RECOVERED ROOF AREA

SITE ACCESS

CONTRACT LIMITS:
FENCED IN CONTRACTOR PARKING, STAGING, LAY DOWN AREA AVAILABLE

3 SITE USE PLAN
1" = 20'-0"

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DELGADO COMMUNITY COLLEGE - MANHATTAN BLVD.
BUILDING A
ROOF REPLACEMENT
475 MANHATTAN BOULEVARD



NO.	DESCRIPTION	DATE
1	ADDENDUM # 3	10/07/24
2	ADDENDUM # 4	10/18/24

PROJECT NO. 24025
PHASE CD
DATE 7/15/24
PROJECT MANAGER
QUALITY CONTROL

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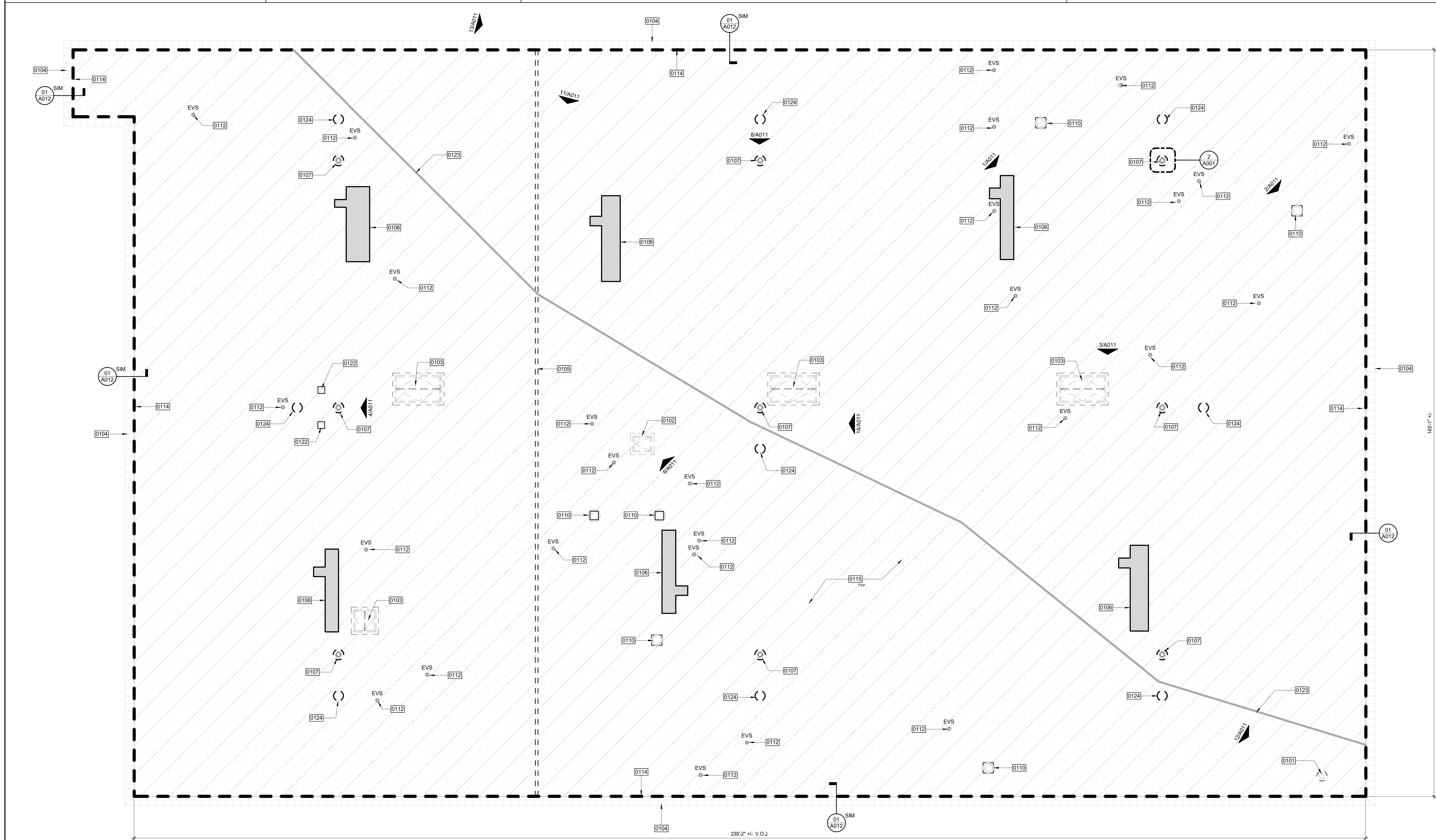
BID DOCUMENTS

A001
ROOF DEMOLITION PLAN

H/S

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1 ROOF DEMOLITION PLAN
1/8" = 1'-0"

239'-2" +/- V.O.J.

145'-4" V.O.J.

The graphic scale at the bottom left corner of this drawing must measure 1"x1" otherwise all listed scales are null and void.

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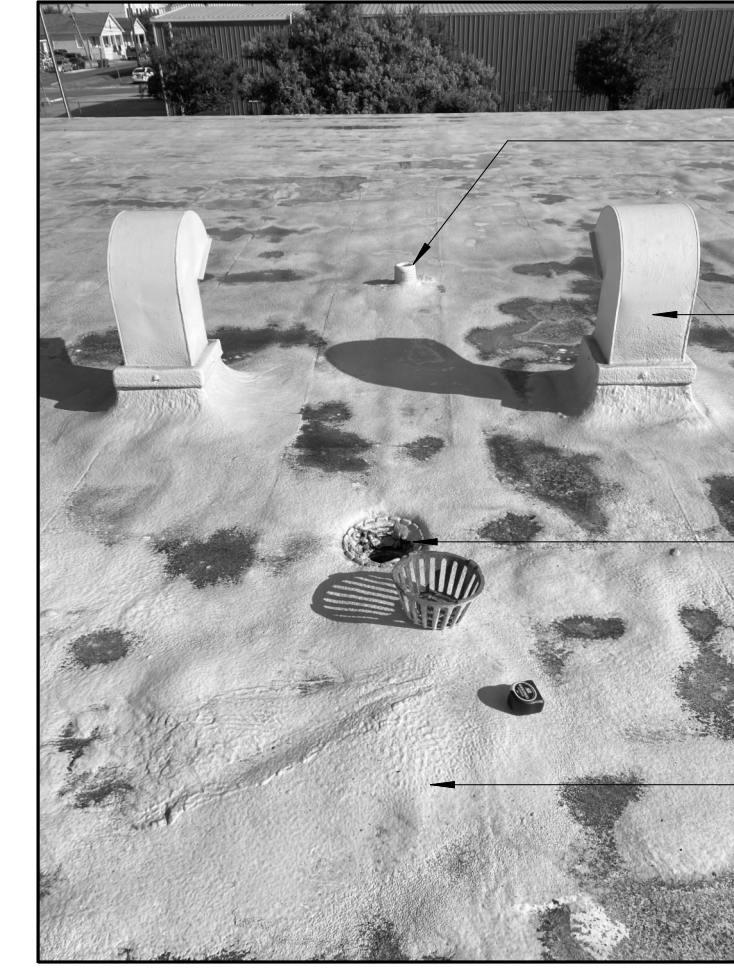
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N.T.S.



2 Photo 2
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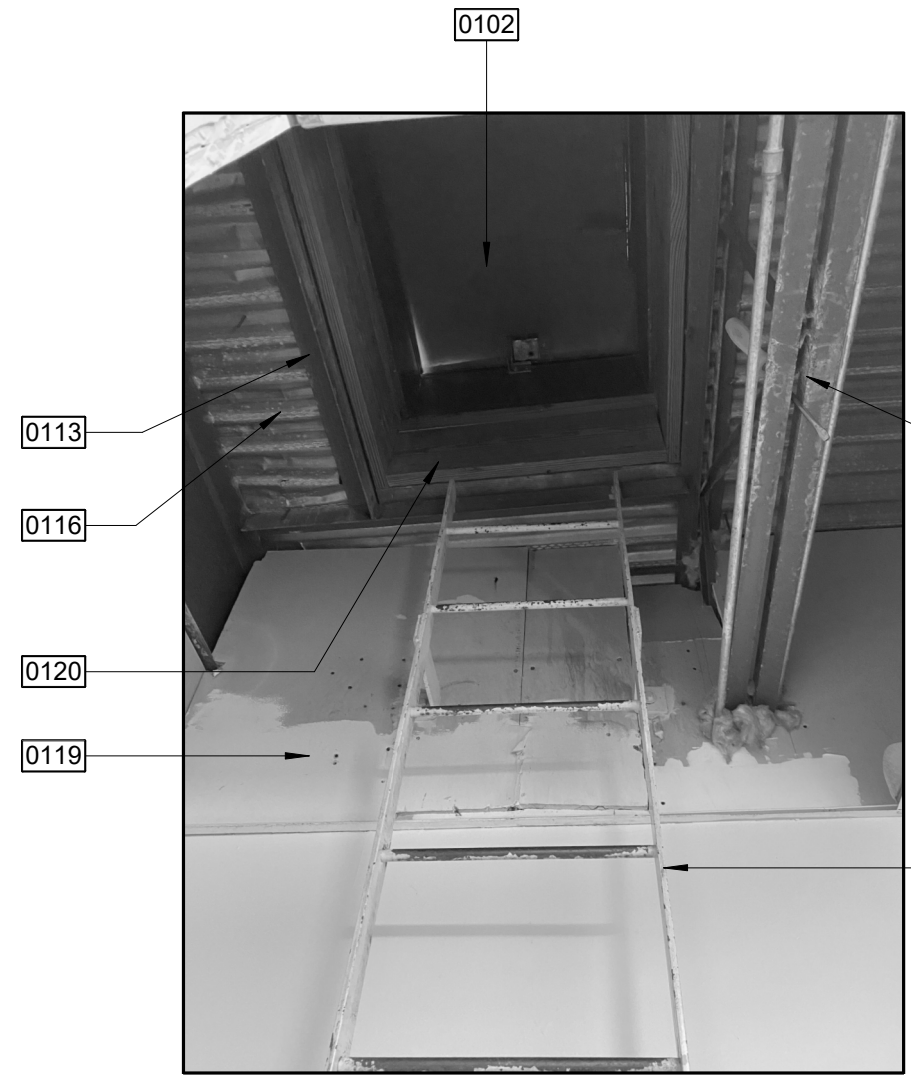
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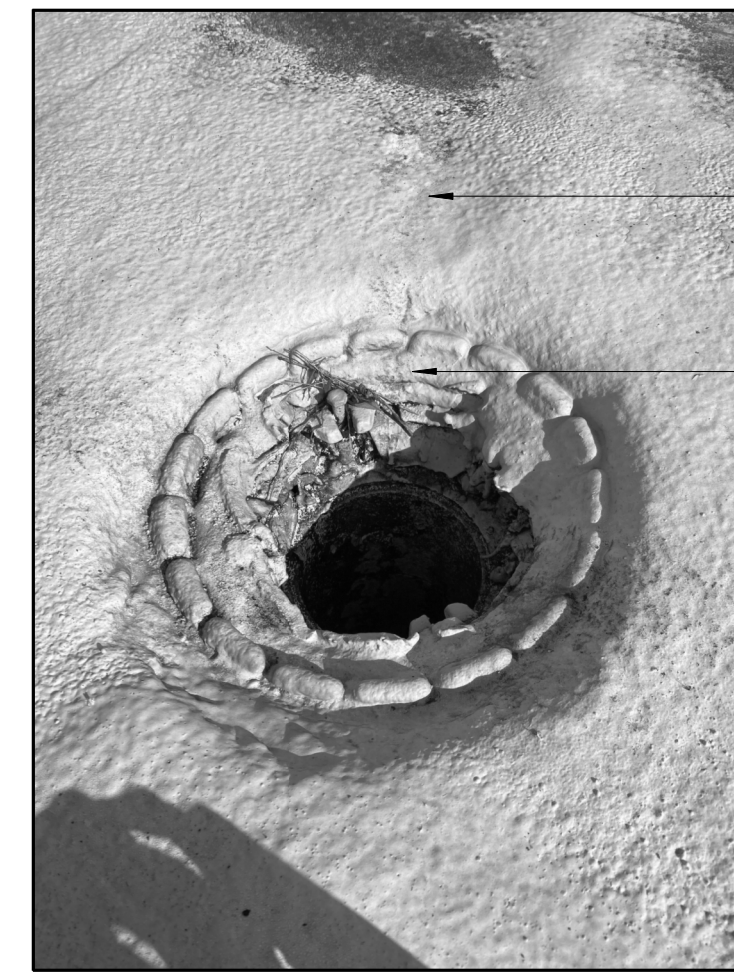
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6 Photo 5
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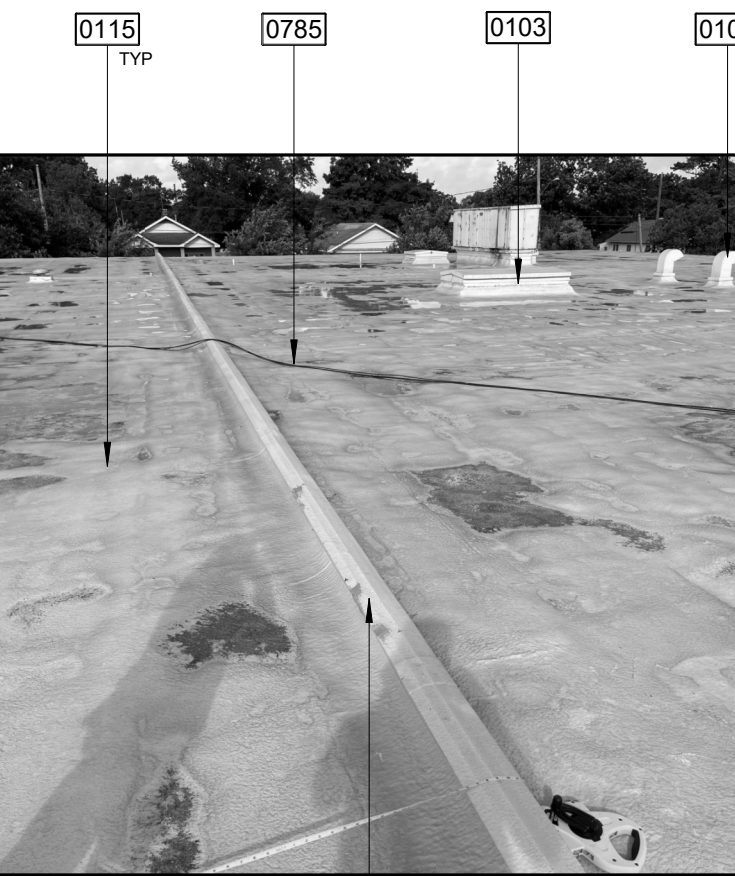
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8 Photo 7
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9 Photo 8
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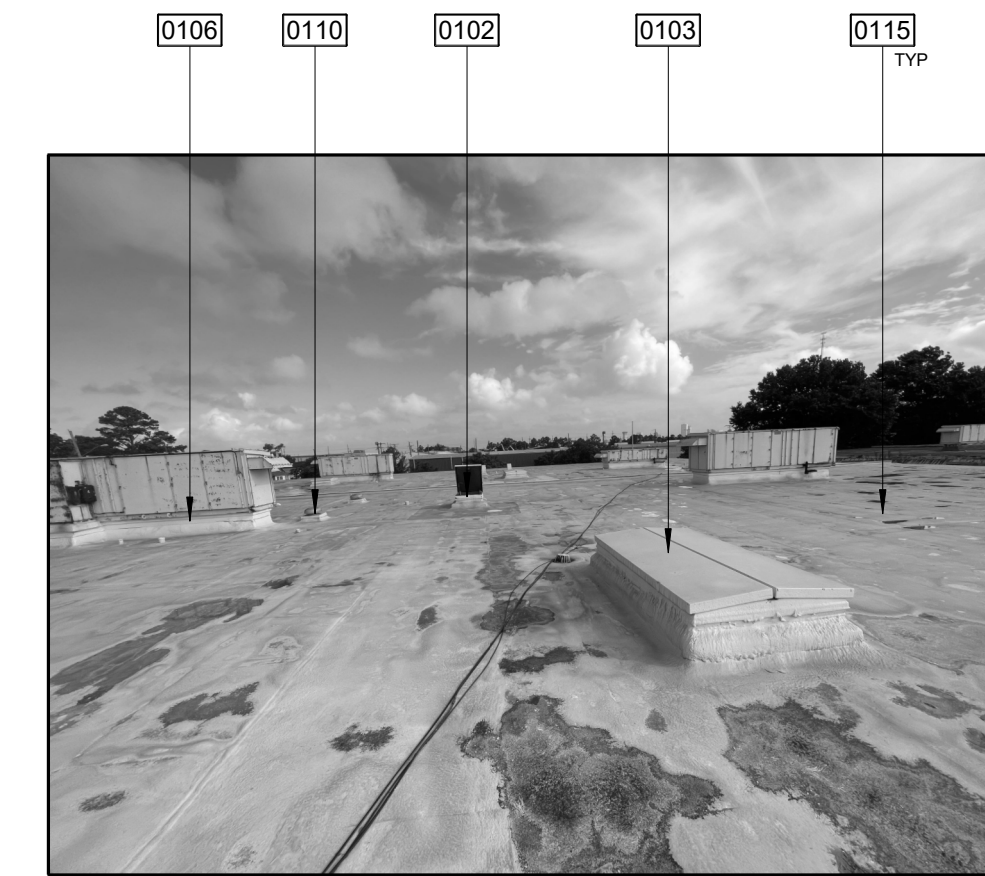
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12 Photo 10
N.T.S.



13 Photo 11
N.T.S.



14 Photo 12
N.T.S.

DEMO PHOTO GENERAL NOTES

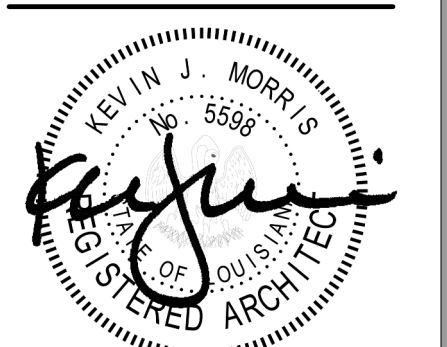
- QUANTITIES, LOCATIONS, SIZES AND ORIENTATIONS OF ALL ROOF MOUNTED ITEMS ARE APPROXIMATE. FIELD VERIFY ALL CONDITIONS THROUGHOUT.
- CONDITIONS SHOWN IN PHOTOGRAPHS ARE PROVIDED AS SUPPLEMENTAL INFORMATION TO THE DEMOLITION PLAN. SIMILAR CONDITIONS MAY VARY AND SHOULD BE VERIFIED IN FIELD THROUGHOUT.

KEYNOTE LEGEND

- 0101 REMOVE ANTENNAE MAST HEAD ASSEMBLY, WIRING, PENETRATION HOOD ASSEMBLY, FLASHING, ROOF SYSTEM DOWN TO TOP OF LIGHTWEIGHT INSULATED CONCRETE DECK. REMOVE WIRING AND CONDUIT BELOW ROOF DECK AS NEEDED TO INSTALL NEW ROOF.
- 0102 REMOVE ROOF HATCH ASSEMBLY, METAL FLASHING, WOOD BLOCKING AND STEEL LADDER. SEE DETAIL - 03 / A012
- 0103 REMOVE SMOKE VENT ASSEMBLY, WOOD BLOCKING, FLASHING, CURB, ROOF SYSTEM AND LIGHTWEIGHT INSULATED CONCRETE DOWN TO TOP OF METAL ROOF DECK. SEE DETAIL - 05 / A012
- 0105 REMOVE ROOF AREA SEPARATION CURB, METAL FLASHING, BLOCKING DOWN, ROOF SYSTEM AND LIGHT WEIGHT INSULATED CONCRETE DOWN TO TOP OF METAL DECK.
- 0106 REMOVE BASE FLASHING AND COUNTER FLASHING AT RTU CURB PERIMETER. RTU AND SUPPORT BASE TO REMAIN. REMOVE ANY LOOSE OR DAMAGED CONDENSATE PIPE AND PIPE SUPPORT. MAINTAIN CONDENSATE LINE DRAINAGE TO ROOF DRAINS DURING RENOVATION. INSTALL NEW PVC PIPE AND EXTEND TO ROOF DRAINS AS NEEDED. PROVIDE NEW PIPE SUPPORTS FOR ALL CONDENSATE LINES. SEE DETAIL - 04 / A012
- 0107 REMOVE ROOF DRAIN DOME, COLLAR, BOLTS AND ANY ROOF MEMBRANE OR SPRAY FOAM ATTACHED TO DRAIN BASIN. DRAIN BASIN TO REMAIN. SEE DETAIL - 06 / A012
- 0108 RTU BASE MOUNTING FLANGE TO REMAIN
- 0109 REMOVE GANGED UTILITY PENETRATION HOOD ENCLOSURE, SUPPORT CURB, BLOCKING AND FLASHING. SALVAGE HOOD ENCLOSURE FOR INSTALLATION ON NEW SUPPORT CURB. SIM. TO DETAIL - 02 / A012
- 0110 REMOVE EXHAUST FAN ASSEMBLY, SUPPORT CURB, BLOCKING AND FLASHING DOWN TO TOP OF LIGHT WEIGHT INSULATED CONCRETE. SALVAGE EXHAUST FAN ASSEMBLY AND ANY ASSOCIATED WIRING OR CONDUIT FOR RE-INSTALLATION ON NEW SUPPORT CURB. EXTEND CONDUIT AND WIRING AS NEEDED FOR NEW CURB HEIGHT AND INSTALL A NEW COVER FOR THE MOTOR ASSEMBLY FROM SAME MANUFACTURER OF EXHAUST FAN. SEE DETAIL - 02 / A012
- 0111 CORE SAMPLE TAKEN OF ROOF APPEARS TO INCLUDE A BASE SHEET, FIBERGLASS INSULATION (24" - 1" THICK), TAPERED PERLITE, FELTS AND SPRAY FOAM ROOF. DEPTH FROM TOP OF SPRAY FOAM DOWN TO TOP OF LIGHT WEIGHT INSULATED CONCRETE RANGES FROM 3" - 6" IN TOTAL THICKNESS BASED ON SEVERAL CORES.
- 0112 REMOVE ALL SPRAY FOAM INSULATION AND FLASHING FROM PLUMBING VENT STACK; VENT STACK TO REMAIN. SEE DETAIL - 07 / A012
- 0113 EXISTING STEEL ANGLE
- 0114 REMOVE ROOF EDGE METAL FLASHING AND A 5-1/2" WIDE BAND OF WOOD BLOCKING AND/OR LIGHT WEIGHT INSULATED CONCRETE DOWN TO TOP OF METAL DECK AT ROOF PERIMETER INDICATED WITH BOLD DASHED LINE ON PLAN TYPICAL. SEE DETAIL - 01 / A012
- 0115 REMOVE ALL OF ROOF COVERING INCLUDING SPRAY FOAM ROOF, MEMBRANE ROOF, RIGID INSULATION, CANT STRIPS AND BLOCKING DOWN TO TOP OF LIGHT WEIGHT CONCRETE ROOF DECK THROUGHOUT AREA ENCLOSED BY BOLD DASHED LINE SHOWN ON PLAN.
- 0116 EXISTING METAL ROOF DECK TO REMAIN
- 0117 EXISTING METAL BAR JOIST
- 0119 REMOVE GYPSUM BOARD AS NEEDED TO INSTALL WOOD BLOCKING FOR NEW LADDER MOUNTING
- 0120 EXISTING WOOD BLOCKING TO REMAIN
- 0121 REMOVE STEEL ACCESS LADDER AND MOUNTING BRACKETS
- 0781 EXISTING MANSARD STANDING SEAM METAL ROOF OVERHANG TO REMAIN
- 0785 EXISTING FIBER OPTIC CABLES EXTENDING ACROSS THE ROOF ARE EXISTING TO REMAIN AND SHALL REMAIN FUNCTIONAL THROUGHOUT PROJECT. COORDINATE NEW WORK SO AS TO NOT DISTURB CABLE OPERATION. INSTALL RT1B RUBBER CURBS BY RUBBER TRIANGLE INC. OR EQUAL AT 48" O.C. CEMENTED TO ROOF SURFACE FOR CABLE SUPPORT.

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DELGADO COMMUNITY COLLEGE - MANHATTAN BLVD.
 BUILDING A
 ROOF REPLACEMENT
 475 MANHATTAN BOULEVARD



NO.	DESCRIPTION	DATE
1	ADDENDUM # 3	10/07/24
2	ADDENDUM # 4	10/16/24

PROJECT NO.	24025
PHASE	CD
DATE	7/15/24
PROJECT MANAGER	RAYK
QUALITY CONTROL	Checker

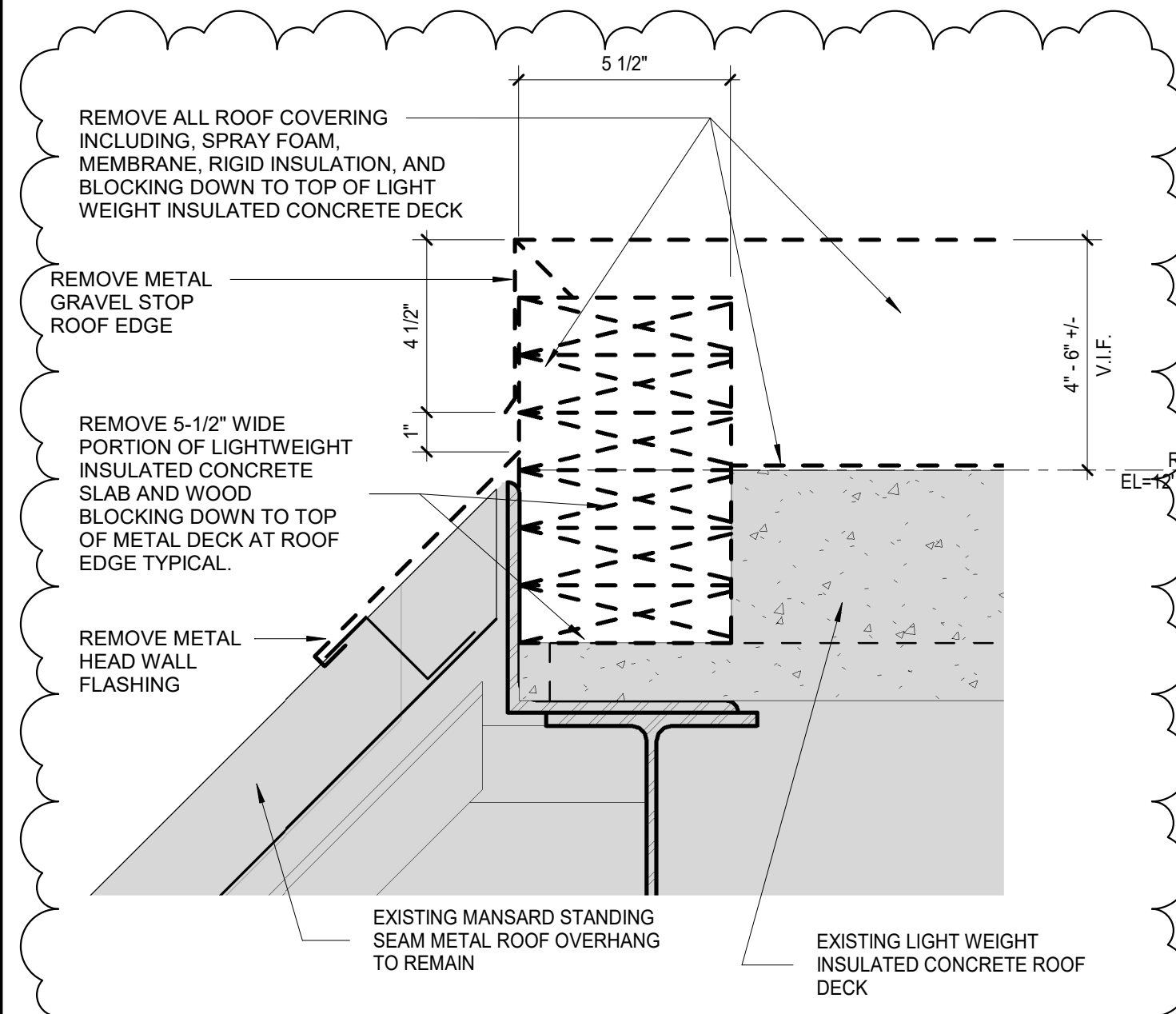
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BID DOCUMENTS

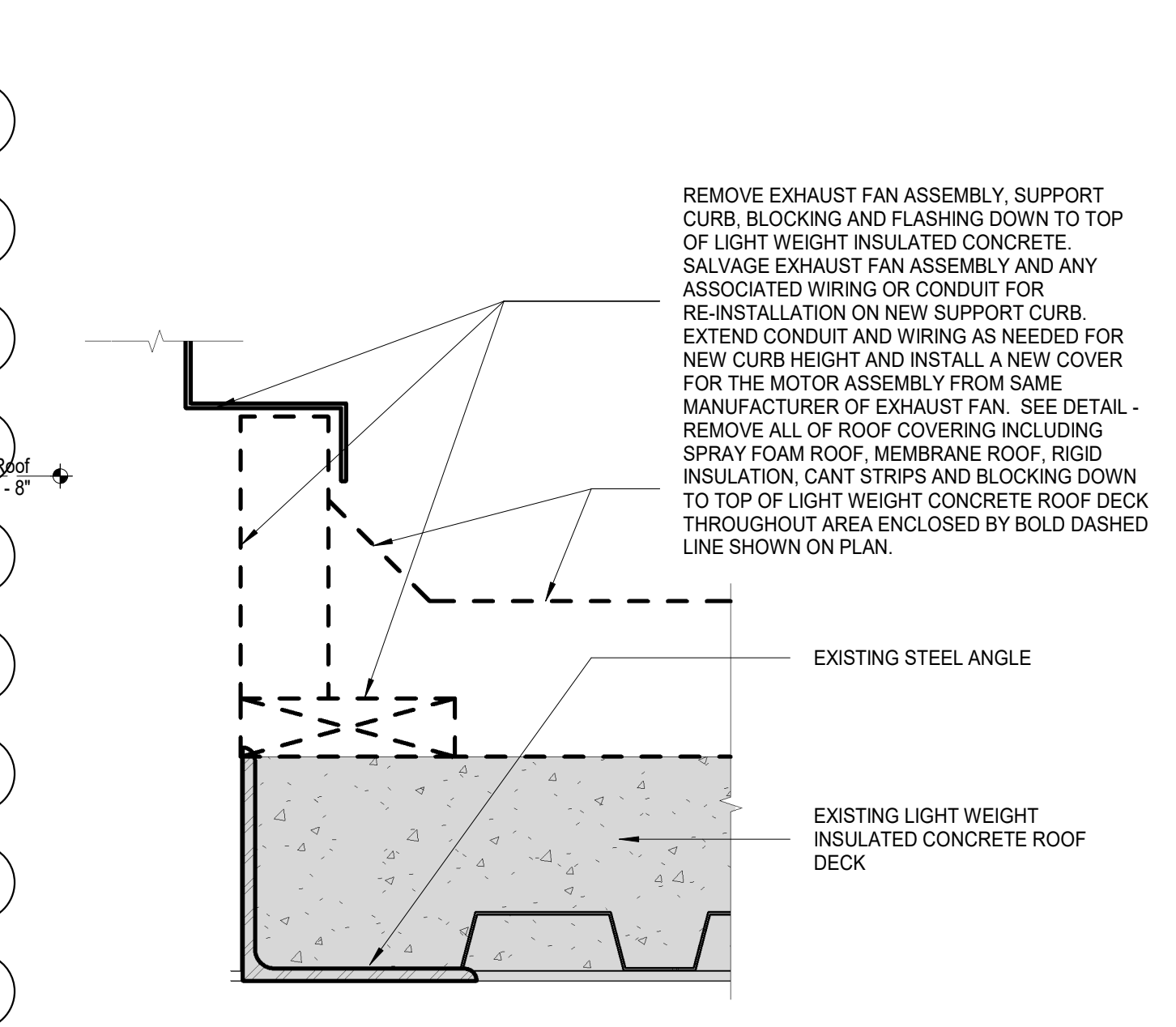
A011
 DEMOLITION PHOTOS

H/S

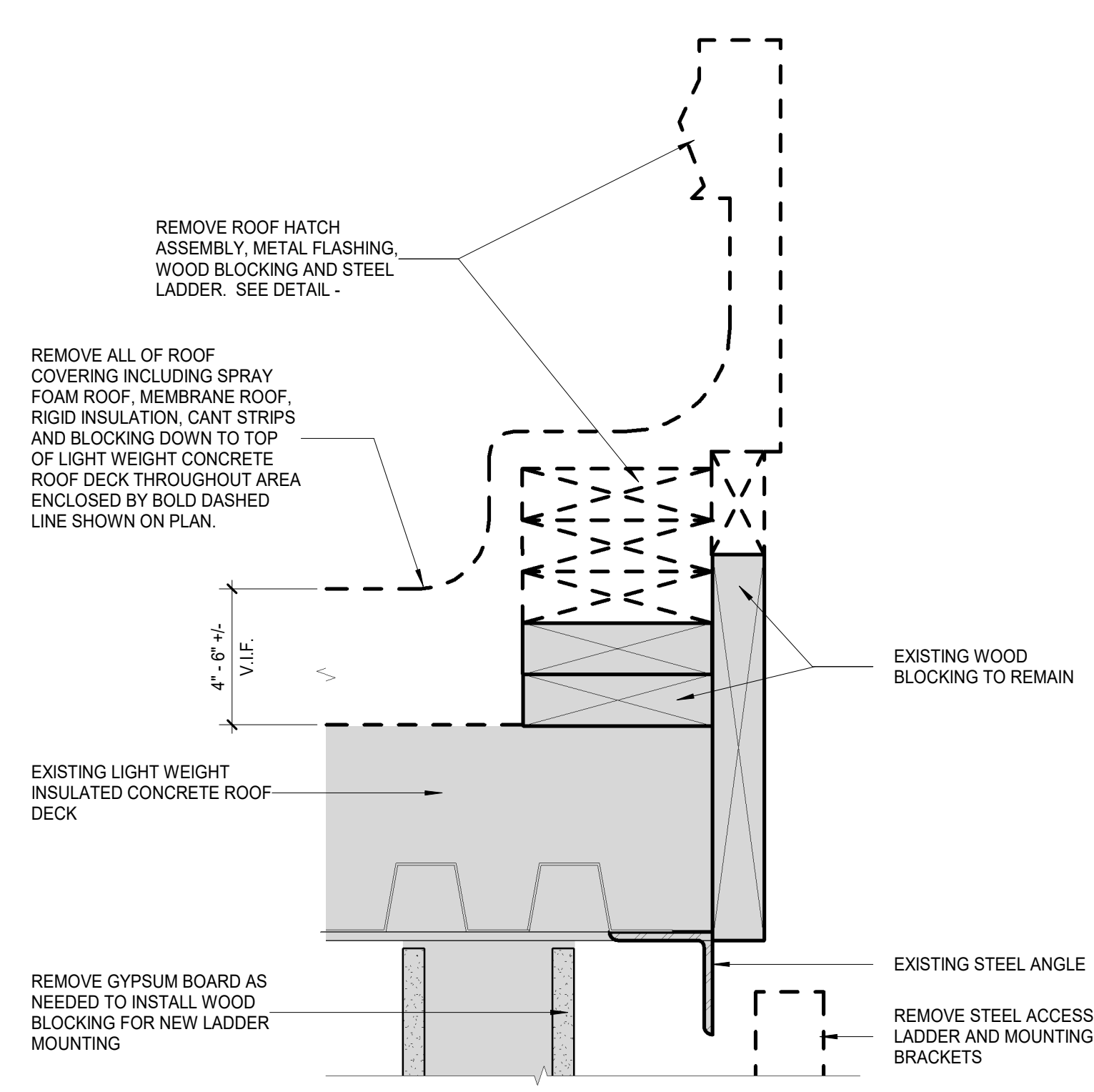
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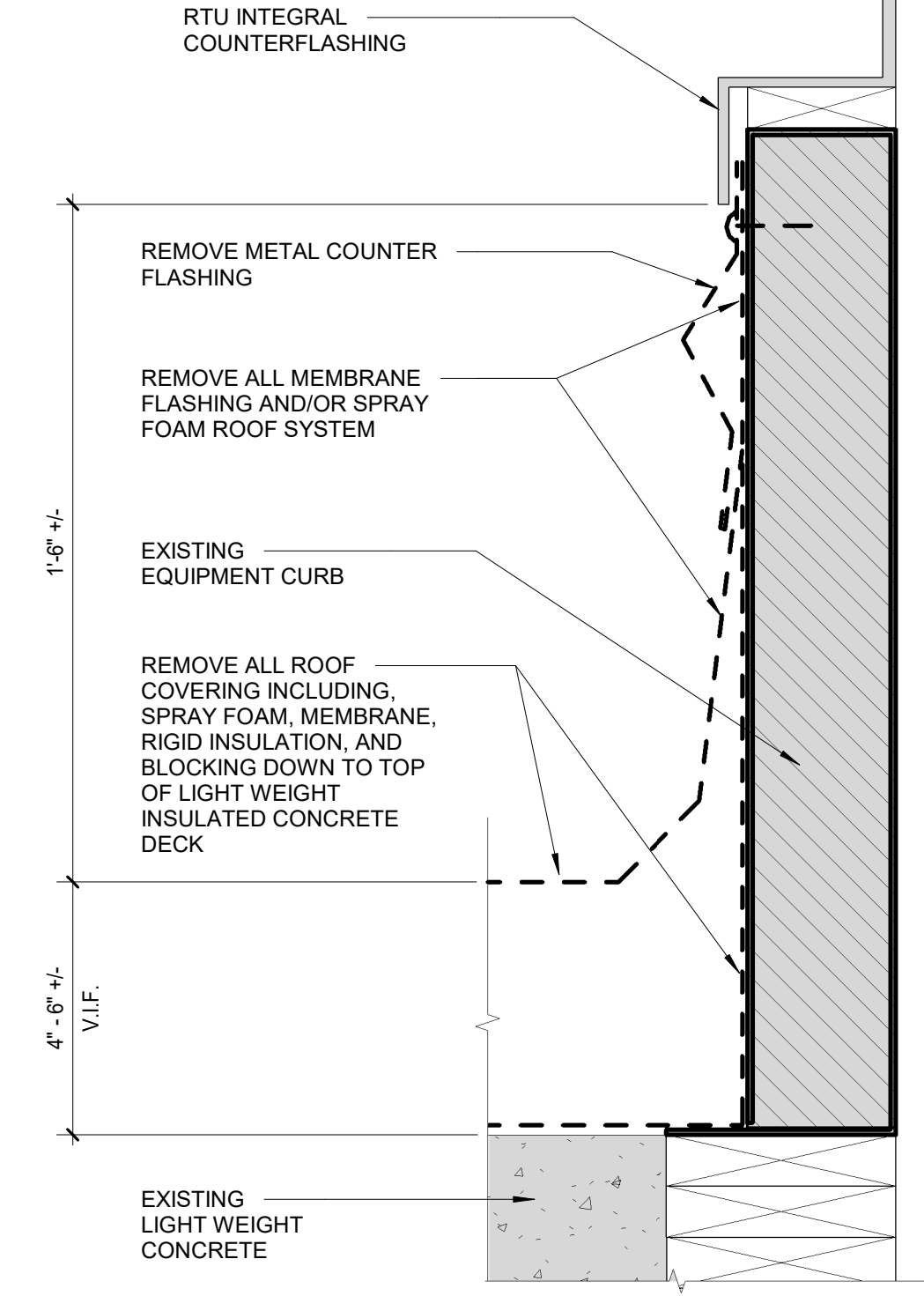
01 DETAIL - ROOF EDGE - DEMO
 3" = 1'-0"



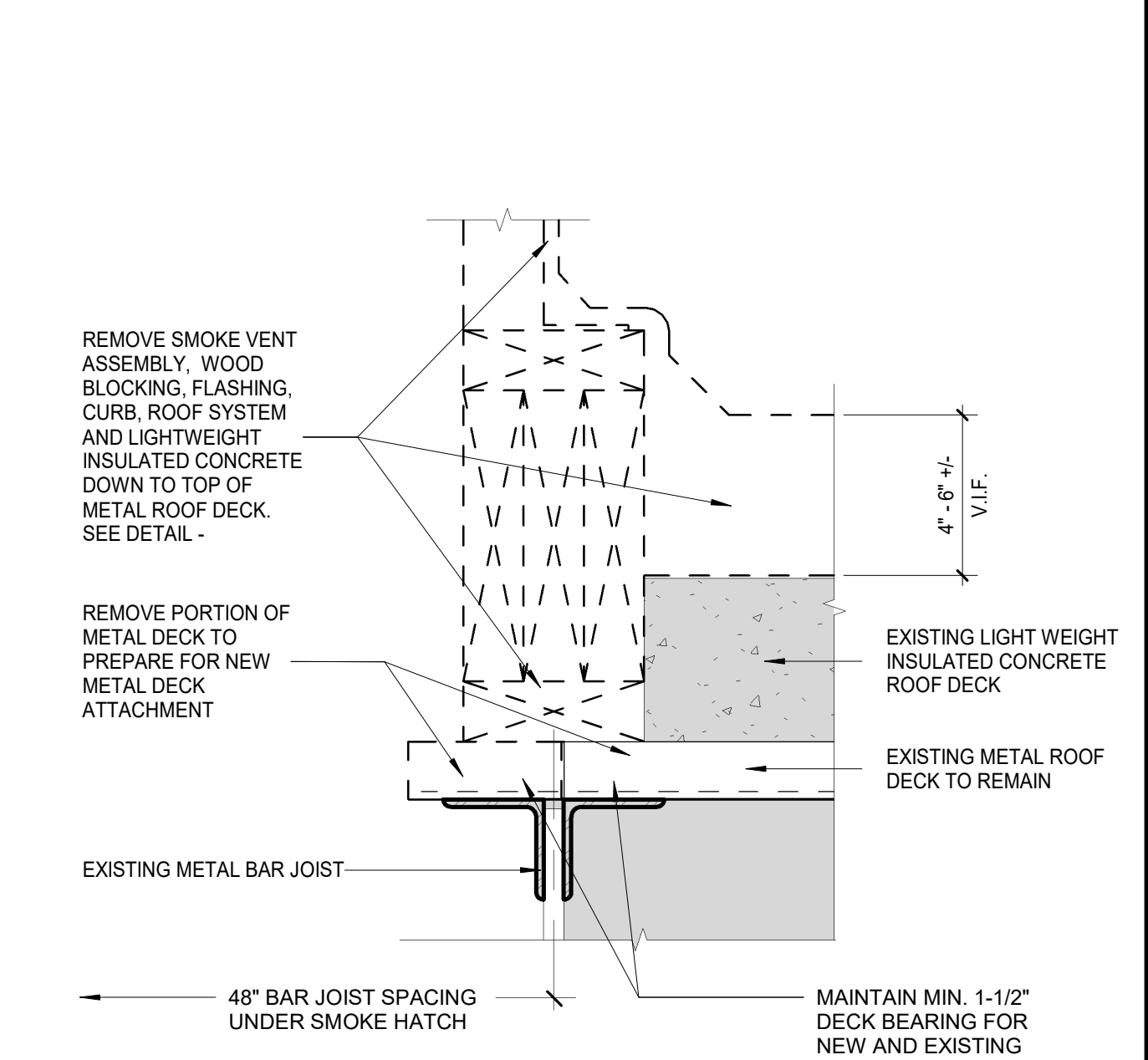
02 DETAIL - MECH FAN CURB - DEMO
 3" = 1'-0"



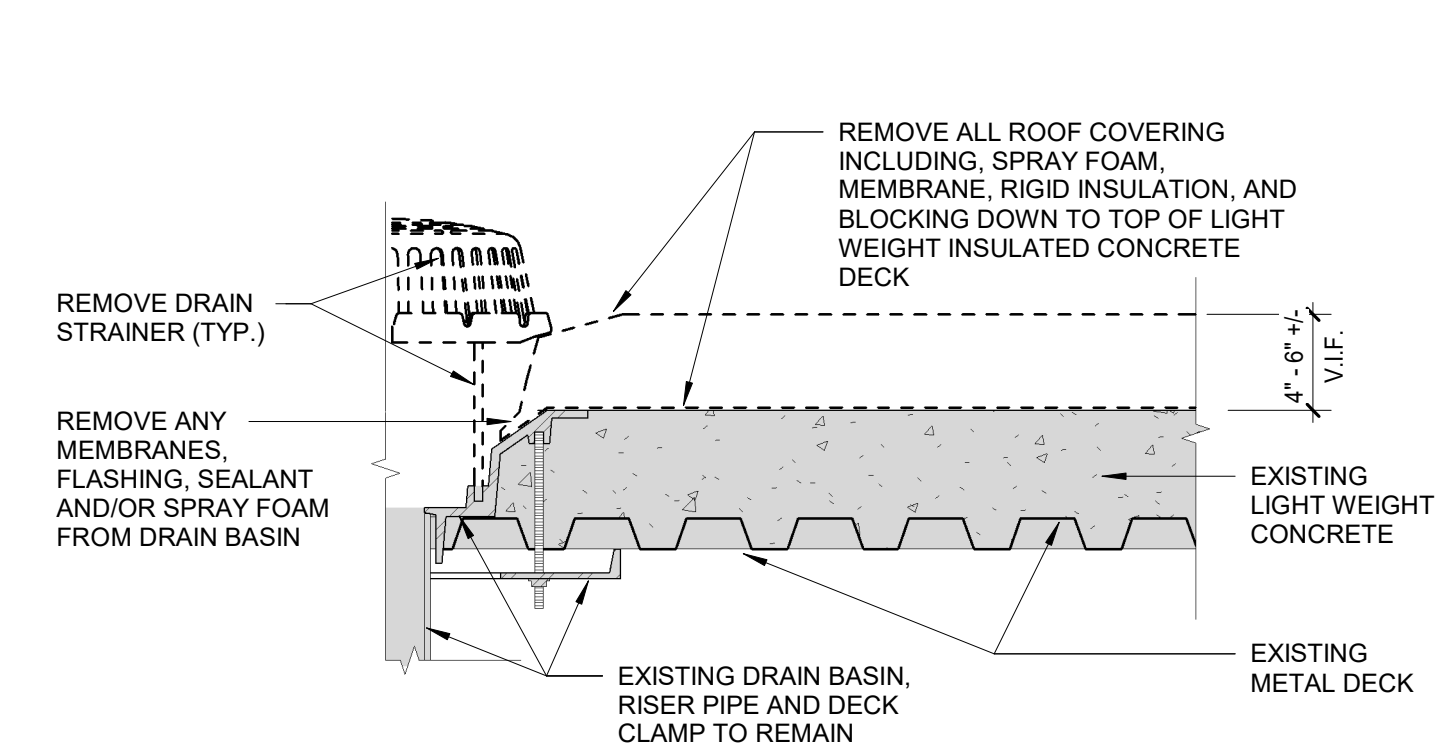
03 DETAIL - ROOF HATCH - DEMO
 3" = 1'-0"



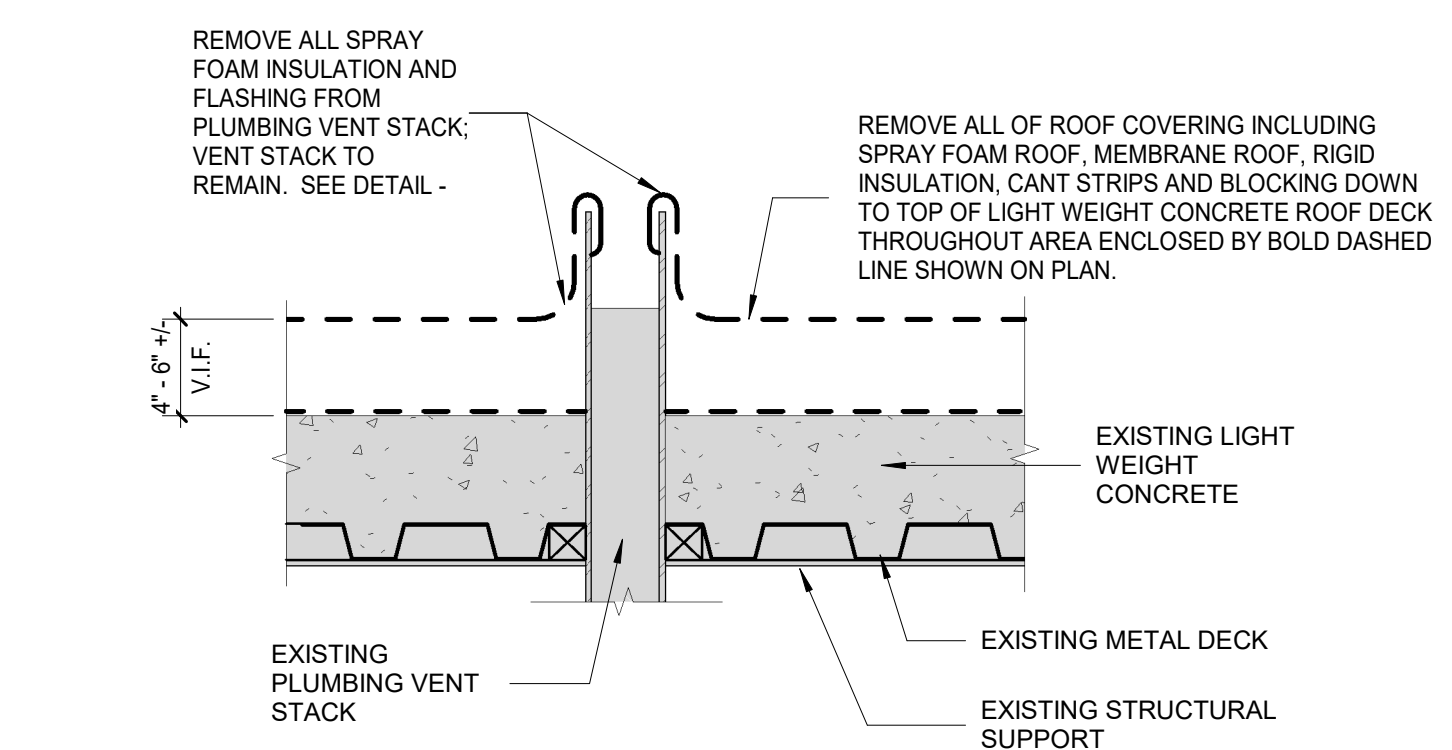
04 DETAIL - RTU BASE - DEMO
 3" = 1'-0"



05 DETAIL - SMOKE HATCH DEMO
 3" = 1'-0"



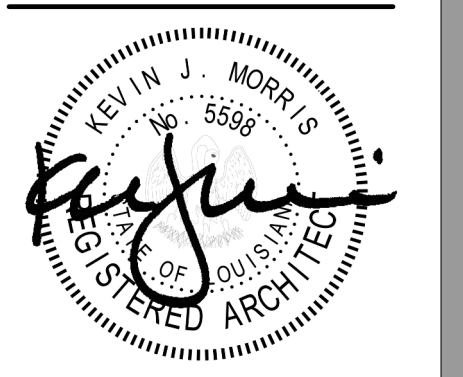
06 DETAIL - ROOF DRAIN - DEMO
 1 1/2" = 1'-0"



07 DETAIL - PLUMBING VENT - DEMO
 1 1/2" = 1'-0"

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NO.	DESCRIPTION	DATE
2	ADDENDUM # 4	10/18/24

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PROJECT MANAGER	
QUALITY CONTROL	

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BID DOCUMENTS

A012

ROOF DEMOLITION DETAILS

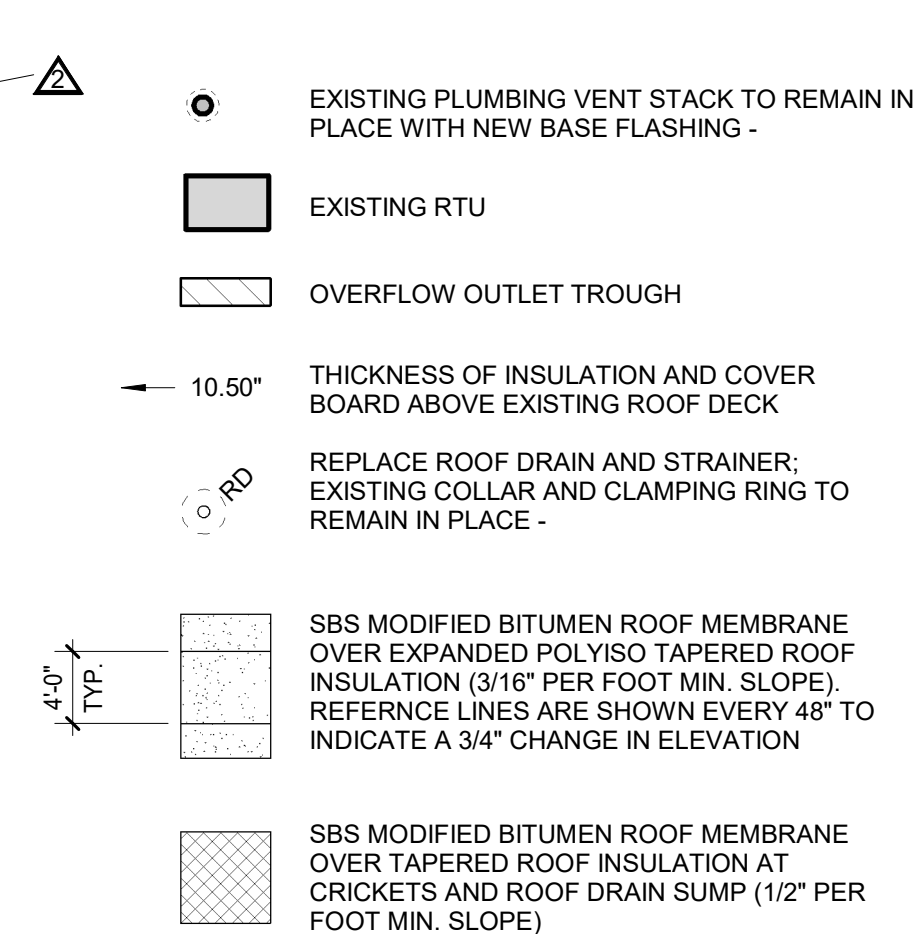
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GENERAL NOTES

- TYPICAL ROOF SYSTEM.** COLD APPLIED SBS MODIFIED BITUMEN ROOF SYSTEM ON 1/2" COVER BOARD AND R-25 AVERAGE RIGID INSULATION VALUE AT MINIMUM ON EXISTING LIGHT WEIGHT CONCRETE ROOF DECK UNLESS NOTED OTHERWISE. REFER TO DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
- IN ADDITION TO WHAT'S SHOWN IN THE DOCUMENTS, THE SCOPE OF WORK SHALL ALSO INCLUDE PATCHING AND REPAIR OF 4 SQUARES X 2" THICK OF DAMAGED LIGHT-WEIGHT CONCRETE DECK SURFACE WITH PATCHING COMPOUND. FOR ANY QUANTITY REQUIRED BEYOND THIS AMOUNT, REFER TO UNIT PRICE SPECIFICATION.
- IN ADDITION TO WHAT'S SHOWN IN THE DOCUMENTS, THE SCOPE OF WORK SHALL ALSO INCLUDE REPLACEMENT OF 200 CF OF LIGHTWEIGHT CONCRETE DECK WITH INFILL OF TAPERED RIGID INSULATION DOWN TO METAL DECK. FOR ANY QUANTITY REQUIRED BEYOND THIS AMOUNT, REFER TO UNIT PRICE SPECIFICATION.
- IN ADDITION TO WHAT'S SHOWN IN THE DOCUMENTS, THE SCOPE OF WORK SHALL ALSO INCLUDE REPLACEMENT OF 150 LF OF DETERIORATED WOOD BLOCKING STACKED (3) ROWS HIGH OF TREATED WOOD 2x6 BOLTED TO PREDRILLED AND THREADED ROOF STRUCTURE WITH 1/2" DIA. X 5' LONG GALVANIZED SELF THREADING SCREWS SPACED 32" O.C. MIN. FOR ANY QUANTITY REQUIRED BEYOND THIS AMOUNT, REFER TO UNIT PRICE SPECIFICATION.
- THE WORK SHALL INCLUDE THE INSTALLATION OF 39 SQUARES OF MODIFIED BITUMEN CAP SHEET PILES ONLY AS DETERMINED BY ARCHITECT TO ELIMINATE PONDING OBSERVED DURING PONDING WATER INSPECTION. FOR ANY QUANTITY REQUIRED BEYOND THIS AMOUNT, REFER TO UNIT PRICE SPECIFICATION.
- PROVIDE 3/16" PER FOOT SLOPE TYPICAL TAPERED INSULATION THROUGHOUT ROOF.
- SEE SHEET A911 FOR ROOFING DETAILS. WHERE DETAILS ARE NOT SHOWN, PROVIDE STANDARD DETAILS AS RECOMMENDED BY THE ROOFING MANUFACTURER AND NRCA. REPORT ANY DISCREPANCIES BETWEEN DETAILS, MANUFACTURER'S RECOMMENDATIONS, AND FIELD CONDITIONS TO THE ARCHITECT.
- TOP OF ROOF THICKNESSES SHOWN ARE TAKEN FROM TOP OF COVER BOARD.
- COAT ALL EXISTING EXPOSED STEEL, INCLUDING FASTENERS AND BRACKETS, WITH GALVANIZING PAINT.
- COMPLY WITH MANUFACTURER'S RECOMMENDATIONS FOR ROOF PENETRATIONS, FLASHINGS, ETC.
- QUANTITIES, LOCATIONS, SIZES AND ORIENTATIONS OF ALL ROOF MOUNTED ITEMS ARE APPROXIMATE. FIELD VERIFY ALL CONDITIONS THROUGHOUT.
- ALL NEW METAL FLASHING, CLEATS AND FASTENERS SHALL BE STAINLESS STEEL.
- PROVIDE ROOF WALK WAY PADS FROM ROOF HATCH TO EACH ROOF TOP UNIT AND AROUND THE PERIMETER OF THE UNIT AS OUTLINED IN THE SPECIFICATIONS.

ROOF LEGEND



KEYNOTE LEGEND

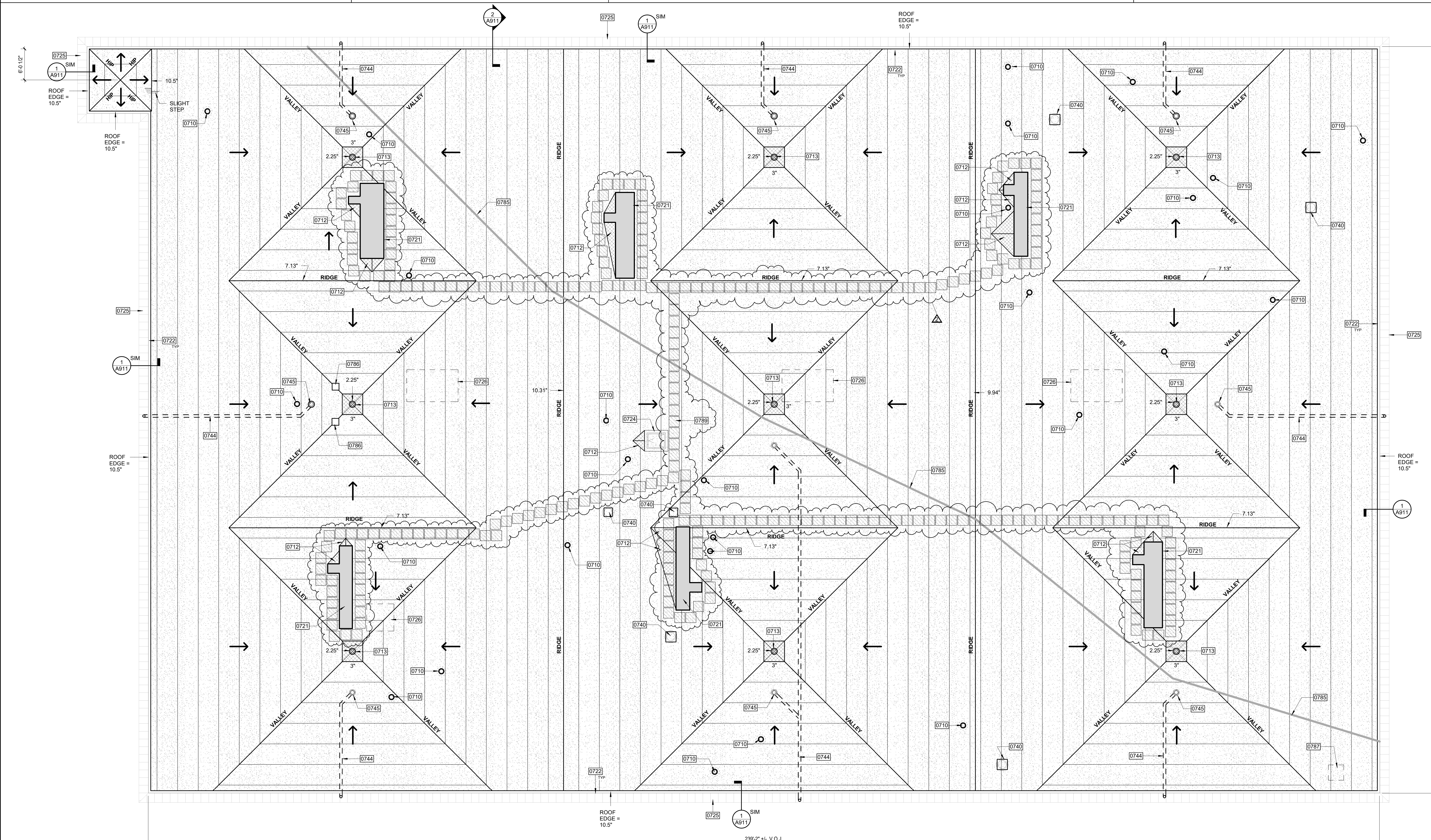
- 0710 PROVIDE BASE FLASHING AND PIPE EXTENSION AS NEEDED FOR REQUIRED MINIMUM FLASHING HEIGHT AT EXISTING PLUMBING VENT. SEE DETAIL - 8 / A911
- 0712 PROVIDE TAPERED RIGID INSULATION CRICKET WITH 1/2" PER 1'-0" SLOPE TO SHED WATER AWAY FROM HIGH SIDE OF ROOF PENETRATION.
- 0713 INSTALL NEW CAST IRON DOME, COLLAR AND EXTENSION AT EXISTING DRAIN BASIN. COORDINATE INSTALLATION WITH TAPERED INSULATION SUMP. SEE DETAIL - 9 / A911
- 0721 FLASH NEW ROOF INTO PERIMETER OF EXISTING RTU CURB. THE APPROXIMATE SIZE AND CONFIGURATION OF CURB FOOTPRINT IS SHOWN FOR REFERENCE. MAINTAIN CONDENSATE LINE DRAINAGE TO ROOF DRAINS DURING RENOVATION. INSTALL NEW PVC PIPE AND EXTEND TO ROOF DRAINS AS NEEDED. INSTALL NEW RT1B RUBBER CURB PIPE SUPPORTS BY RUBBER TRIANGLE INC. OR EQUAL AT 48" O.C. CEMENTED TO ROOF SURFACE FOR ALL CONDENSATE LINES. SEE DETAIL - 5 / A911
- 0722 STAINLESS STEEL ROOF EDGE FLASHING AND TREATED WOOD BLOCKING AT ROOF PERIMETER TYPICAL. SEE DETAIL - 1 / A911
- 0724 INSULATED ROOF HATCH ASSEMBLY ON TREATED WOOD BLOCKING BUILT UP CURB. SEE DETAIL - 7 / A911
- 0725 EXISTING METAL CANOPY OVERHANG BELOW.
- 0726 INFILL DEMOLISHED SMOKE HATCH OPENING WITH METAL DECK AND RIGID INSULATION TO THE SAME THICKNESS AS ADJACENT LIGHT WEIGHT CONCRETE. SEE DETAIL - 5 / A911
- 0740 REINSTALL EXISTING EXHAUST FAN ASSEMBLY ON TOP OF NEW CURB AND PROVIDE NEW METAL COUNTER FLASHING AND BASE FLASHING
- 0744 INSTALL 6" DIA. PVC STORM LINE AT OVERFLOW DRAIN AND ROUTE TO EXTERIOR METAL SOFFIT. INCREASE LINE CAPACITY AS REQUIRED WHERE MULTIPLE LINES COMBINE. PROVIDE ZURN MODEL Z199-DC S.S. COVER OR EQUAL AT OPENING IN SOFFIT. INSTALLATION SHALL MEET ALL BUILDING CODE AND PLUMBING CODE REQUIREMENTS. SUSPEND PIPE FROM STRUCTURE ONLY.

KEYNOTE LEGEND

- 0745 OVERFLOW ROOF DRAIN WITH 6" DIAMETER CAPACITY. LOCATE DRAIN 8'-0" FROM EXISTING ROOF DRAIN (CENTER TO CENTER)
- 0785 EXISTING FIBER OPTIC CABLES EXTENDING ACROSS THE ROOF ARE EXISTING TO REMAIN AND SHALL REMAIN FUNCTIONAL THROUGHOUT PROJECT. COORDINATE NEW WORK SO AS TO NOT DISTURB CABLE OPERATION. INSTALL RT1B RUBBER CURBS BY RUBBER TRIANGLE INC. OR EQUAL AT 48" O.C. CEMENTED TO ROOF SURFACE FOR CABLE SUPPORT.
- 0786 REINSTALL EXISTING UTILITY HOOD ENCLOSURE ASSEMBLY ON TOP OF NEW CURB AND PROVIDE NEW METAL COUNTER FLASHING AND BASE FLASHING
- 0787 GALVANIZED 18 GA. METAL SHEET INSTALLED OVER OPENING IN LIGHT WEIGHT DECK AND FASTENED THROUGH METAL DECK BELOW WITH FASTENERS @ 3" O.C. TYP. AND MEET UP LIFT REQUIREMENTS LISTED. SEE DETAIL - 10 / A911
- 0789 24"x24" ROOF WALKWAY PADS ADHERED TO ROOF SYSTEM.

HOLLY & SMITH ARCHITECTS
 HAMMOND
 T 985.345.5210
 NEW ORLEANS
 T 504.585.1315
 LA FAYETTE
 T 337.279.2010
 www.hollyandsmith.com

DELGADO COMMUNITY COLLEGE - MANHATTAN BLVD.
 BUILDING A
ROOF REPLACEMENT
 475 MANHATTAN BOULEVARD



1 ROOF PLAN
 1/8" = 1'-0"



NO.	DESCRIPTION	DATE
1	ADDENDUM # 3	10/07/24
2	ADDENDUM # 4	10/16/24

PROJECT NO. 24025
 PHASE CD
 DATE 7/15/24
 PROJECT MANAGER RK
 QUALITY CONTROL

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BID DOCUMENTS

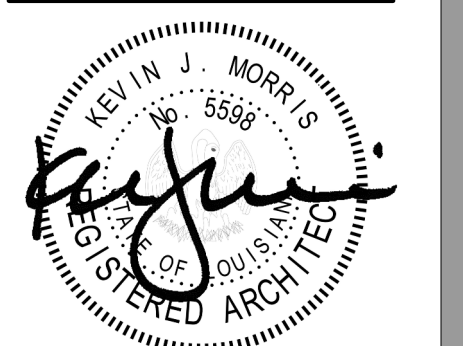
A901
 ROOF PLAN

H/S

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The graphic scale at the bottom left corner of this drawing must measure 1"x1" otherwise all listed scales are null and void.



NO.	DESCRIPTION	DATE
2	ADDENDUM #4	10/18/24

PROJECT NO.	24025
PHASE	CD
DATE	7/15/24
PROJECT MANAGER	
QUALITY CONTROL	

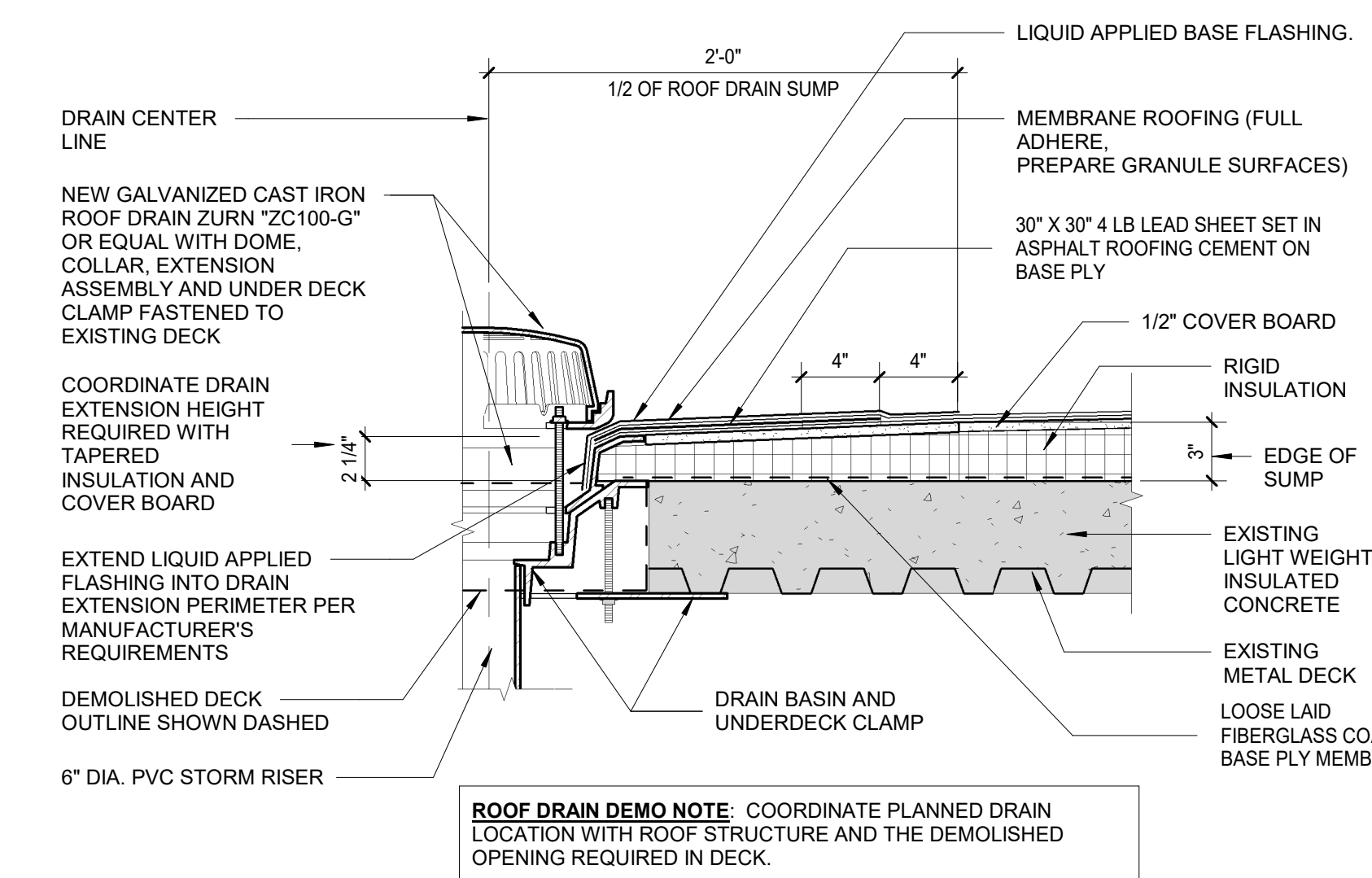
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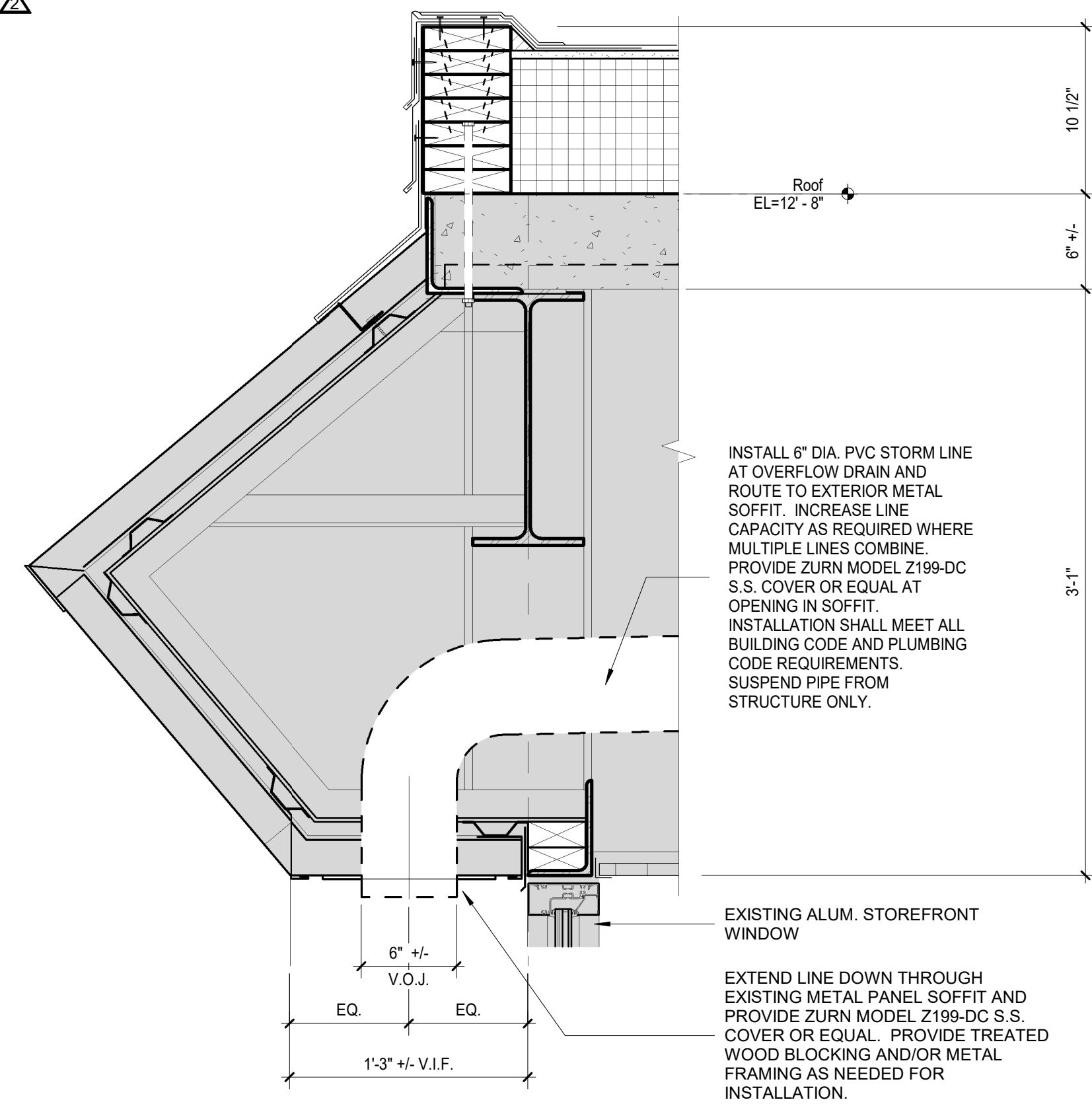
A911

ROOF DETAILS

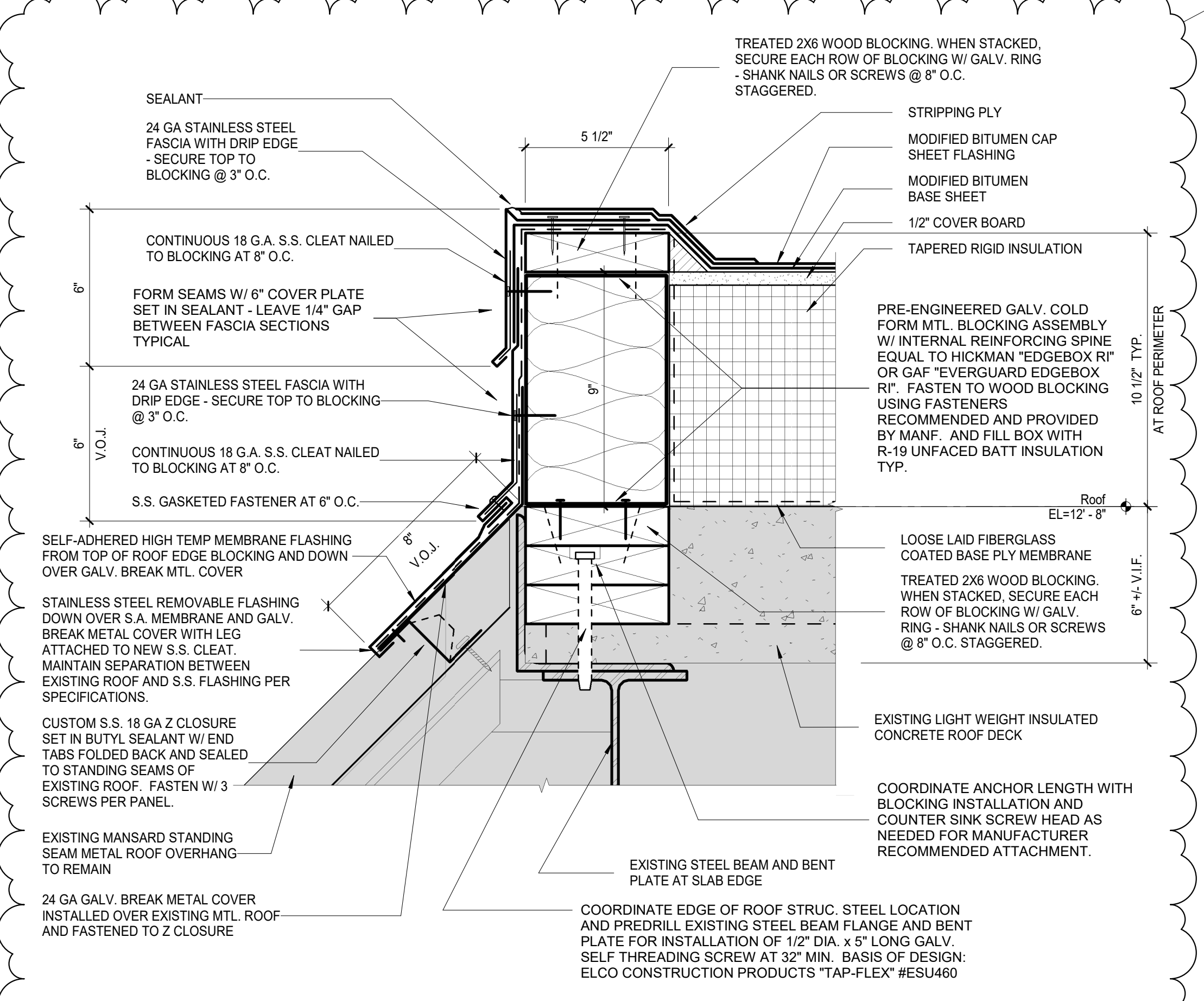
H/S



3 DETAIL - ROOF OVERFLOW DRAIN - NEW
 1 1/2" = 1'-0"



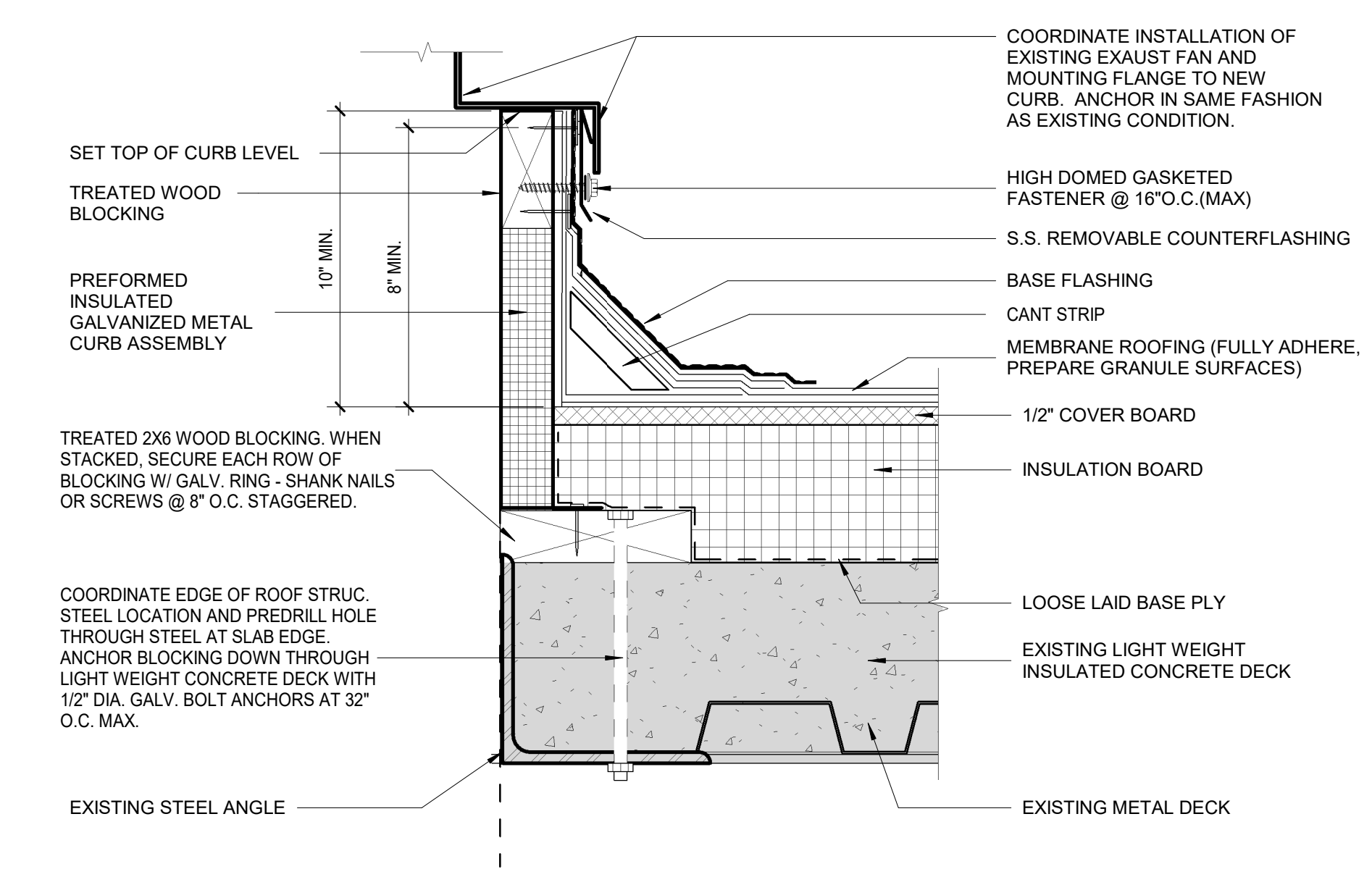
2 SECTION - METAL CANOPY OVERHANG
 1 1/2" = 1'-0"



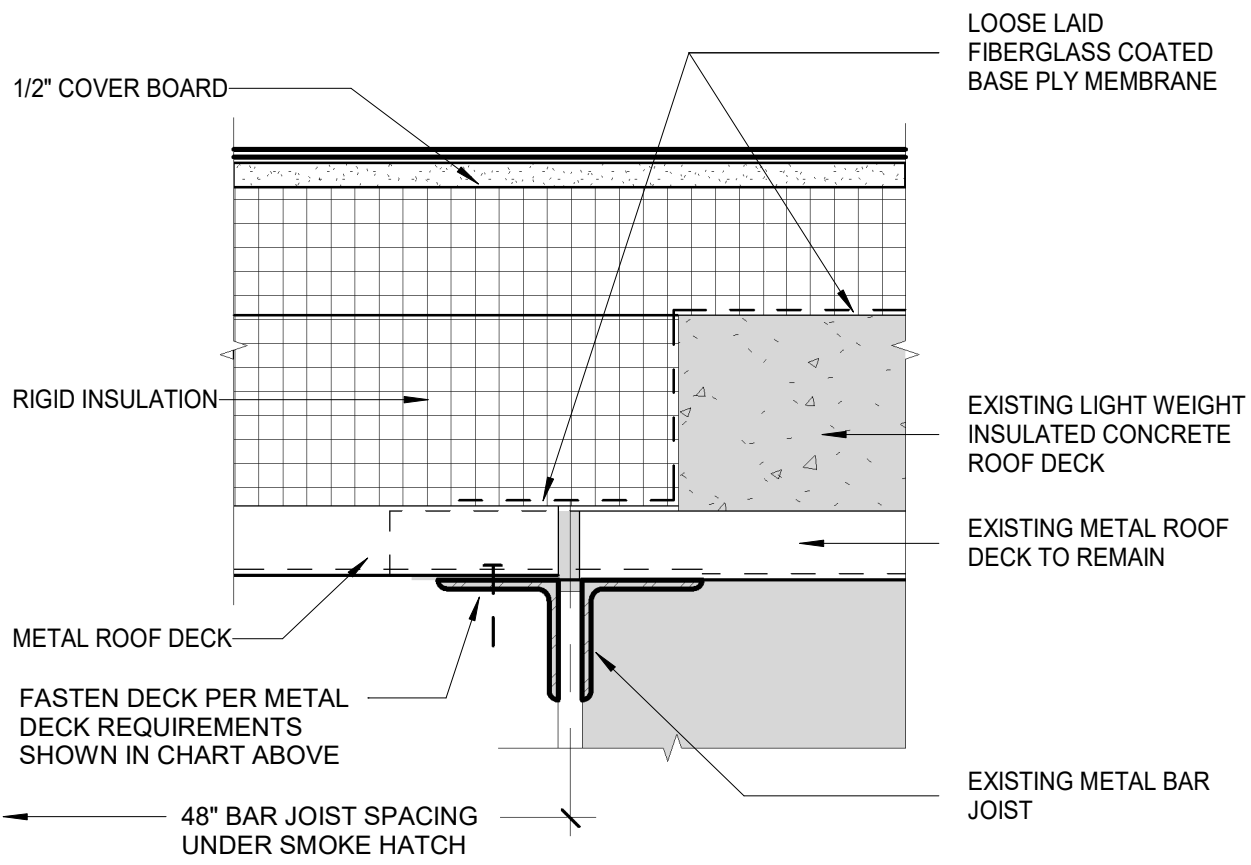
1 DETAIL - ROOF EDGE - NEW
 3" = 1'-0"

METAL DECK REQUIREMENTS

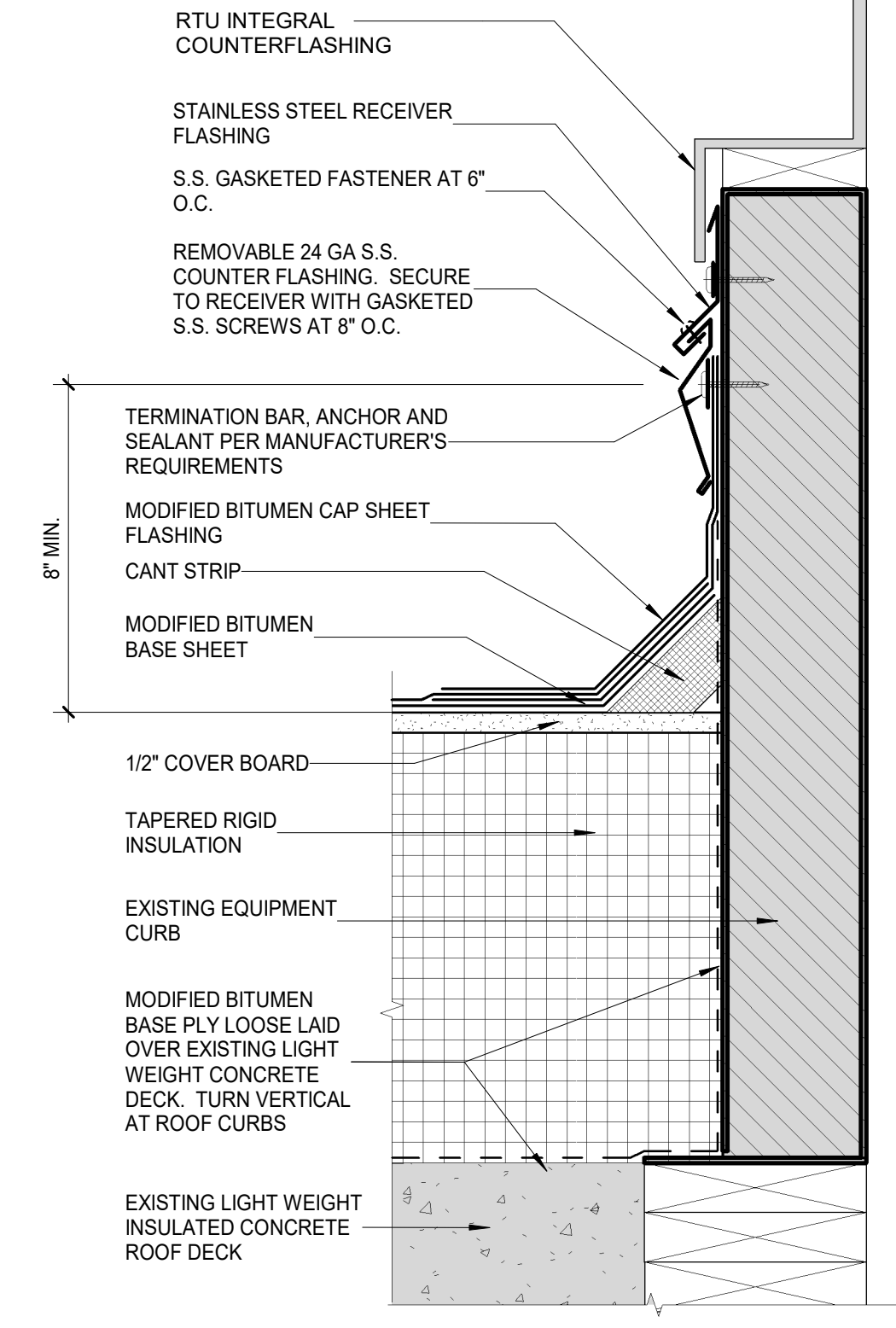
- METAL ROOF DECK**
 1.5622 GALVANIZED STEEL ROOF DECK BY VULCRAFT OR APPROVED EQUAL.
- A. DECK PROPERTIES**
- DEPTH: 1.57"
 - GAGE: 22
 - MIN. SECTION MODULUS (POSITIVE): 0.188 IN⁴ PER FT.
 - MIN. SECTION MODULUS (NEGATIVE): 0.192 IN⁴ PER FT.
 - MIN. MOMENT OF INERTIA (POSITIVE): 0.155 IN⁴ PER FT.
 - MIN. MOMENT OF INERTIA (NEGATIVE): 0.183 IN⁴ PER FT.
 - DESIGN THICKNESS: 0.0280"
 - ALLOWABLE STRESS: 50 KSI
- B. DECK FASTENING PATTERN**
- SUPPORT FASTENERS:
 - STEEL > 3/8" THICK: HILTI X-ENP-19
 - STEEL RANGING FROM 1/8" TO 3/8" THICK: HILTI X-HSN 24
 - STEEL < 1/8" THICK: #12 TEK SCREWS
 - SUPPORT FASTENER PATTERN: 364
 - SEIDLAP FASTENERS: #10 SCREWS
 - SEIDLAP FASTENERS PER SPAN: 12" O.C.



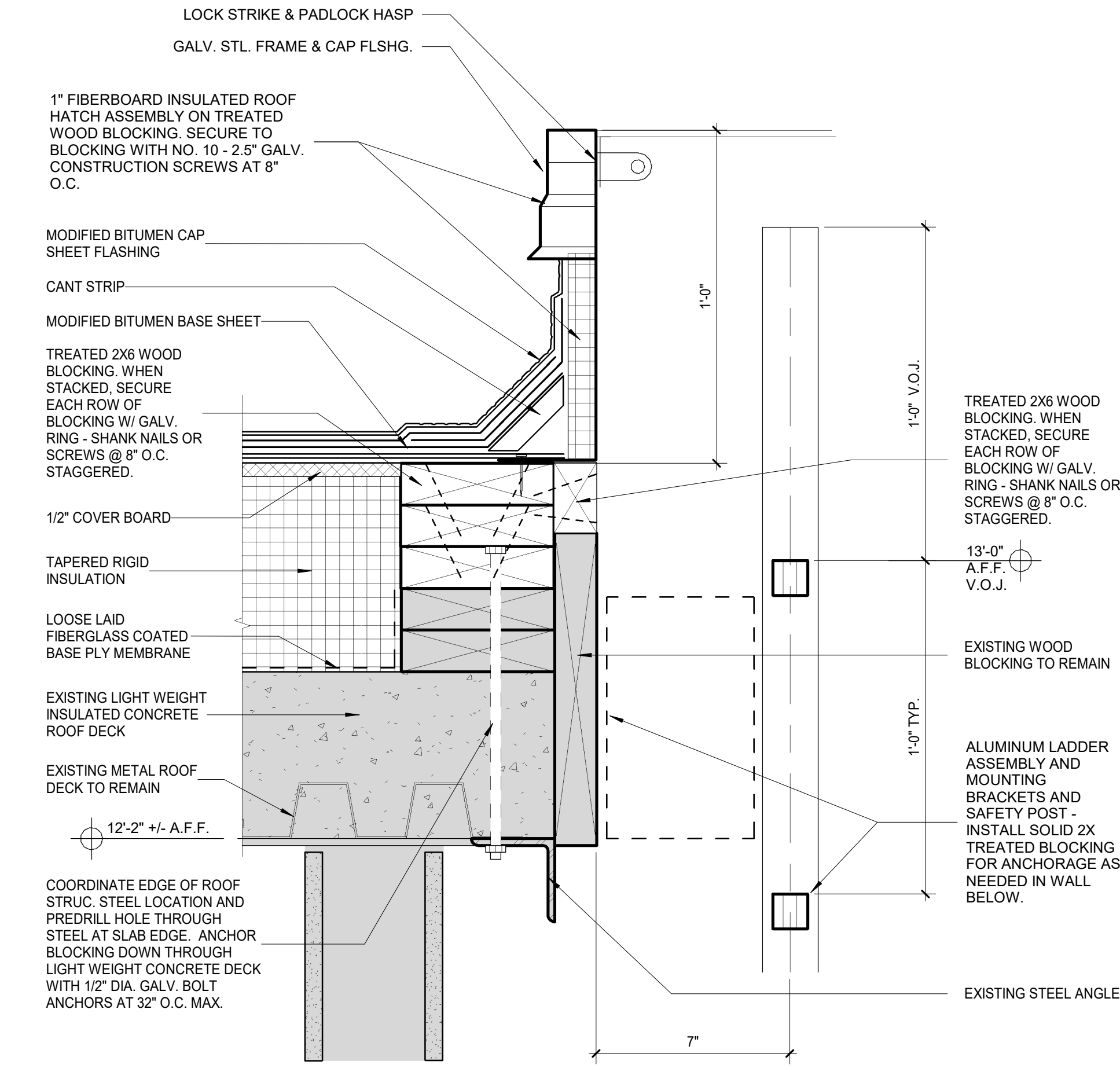
4 DETAIL - MECH FAN CURB
 3" = 1'-0"



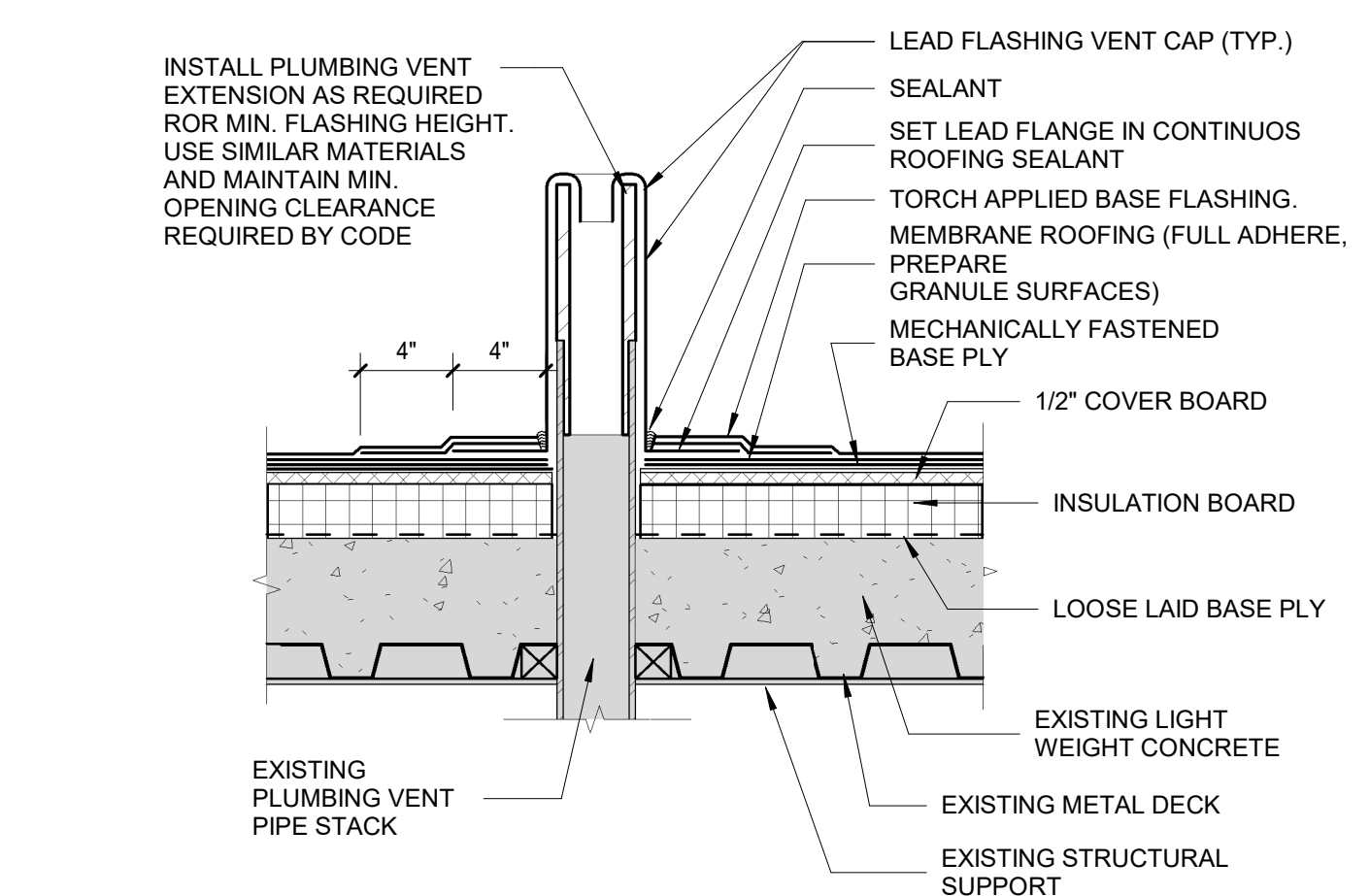
5 DETAIL - SMOKE HATCH INFILL
 3" = 1'-0"



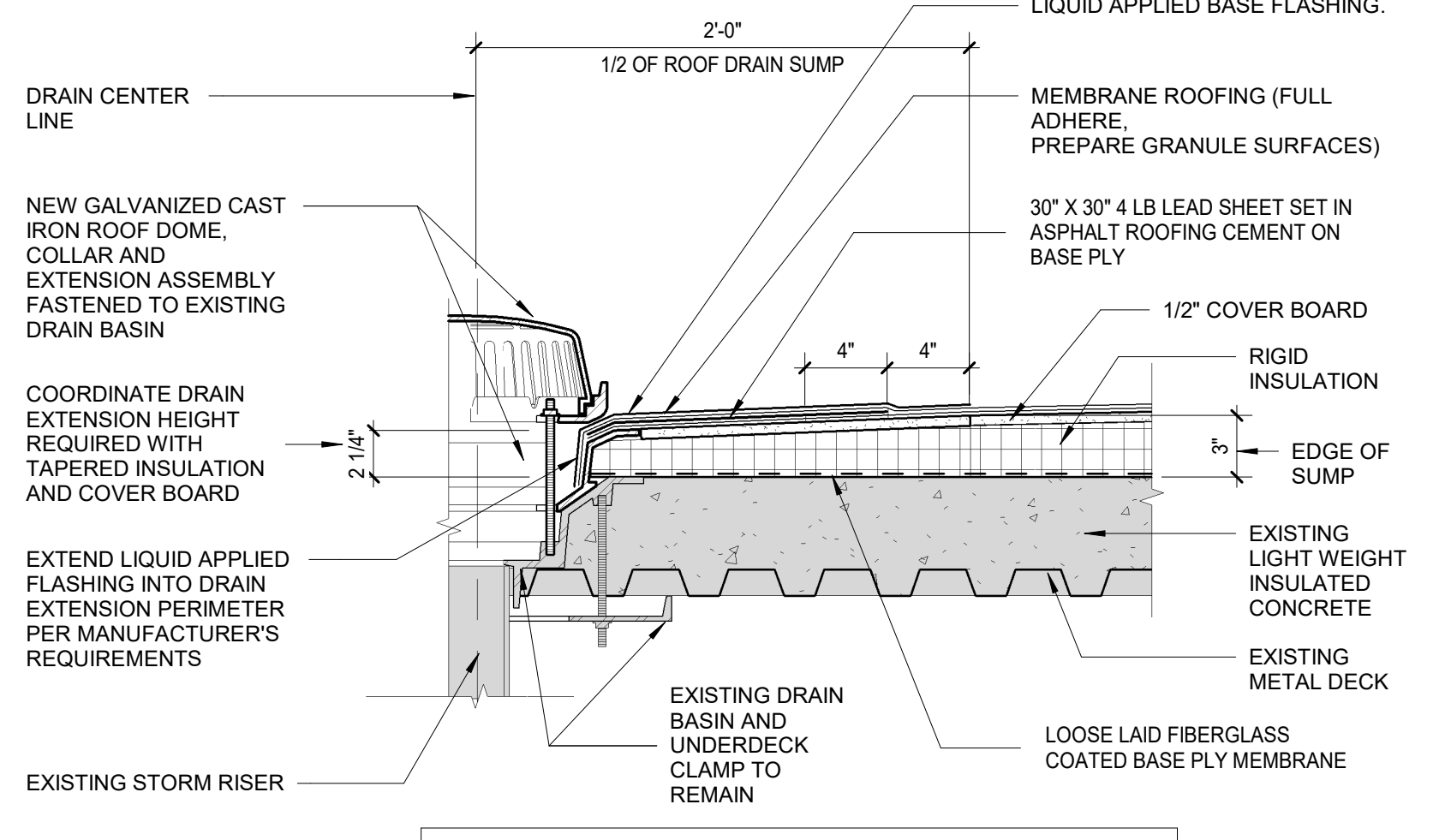
6 DETAIL - RTU BASE - NEW
 3" = 1'-0"



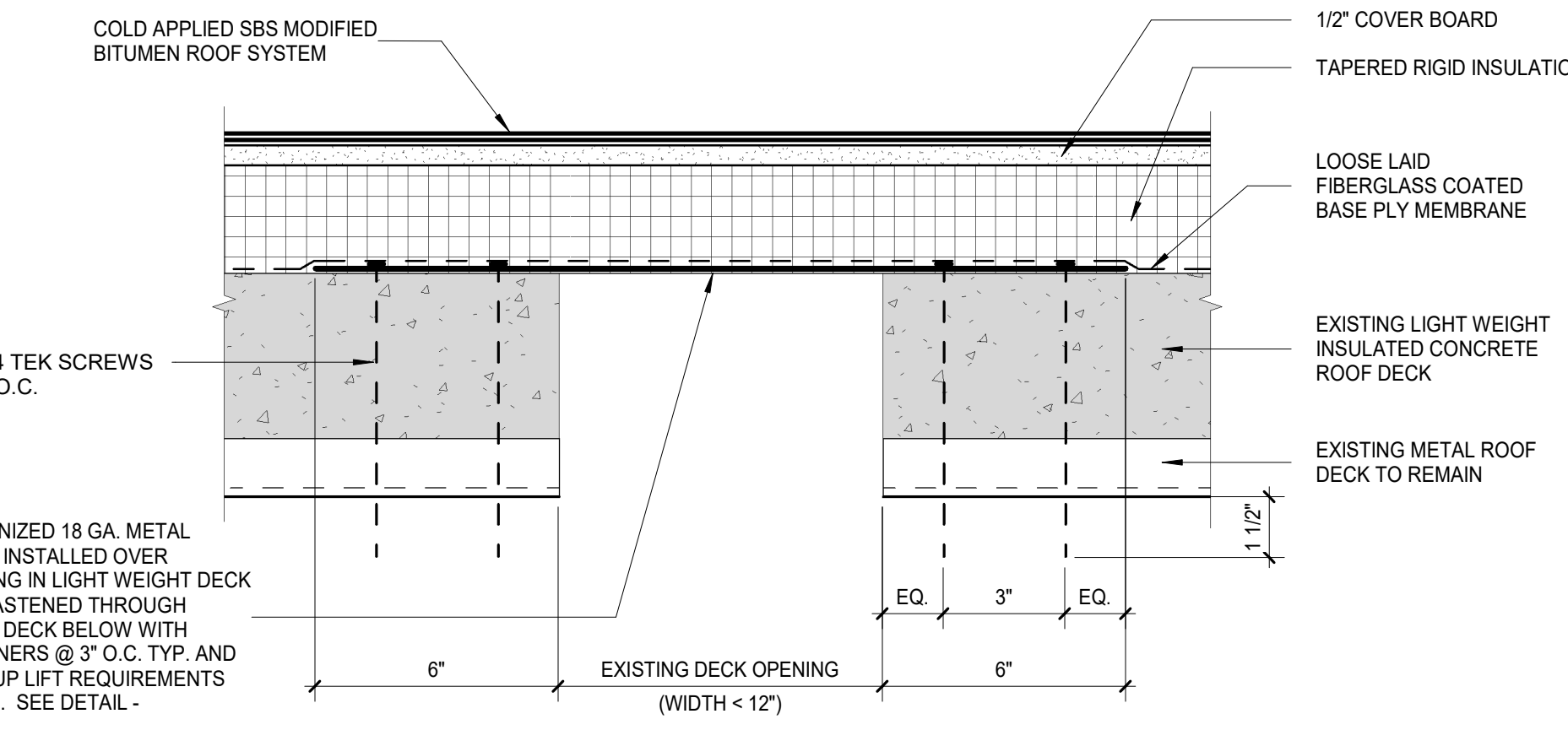
7 DETAIL - ROOF HATCH - NEW
 3" = 1'-0"



8 DETAIL - PLUMBING VENT - NEW
 1 1/2" = 1'-0"



9 DETAIL - ROOF DRAIN - NEW
 1 1/2" = 1'-0"



10 DETAIL - ANTENNAE DECK INFILL
 3" = 1'-0"

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LOUISIANA UNIFORM PUBLIC WORK BID FORM

UNIT PRICE FORM

TO: Delgado Community College
615 City Park Avenue
New Orleans, LA 70119

(Owner to provide name and address of owner)

BID FOR: Delgado Community College
475 Manhattan Blvd. - Building
Roof Replacement

(Owner to provide name of project and other identifying information)

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	■ Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION <i>(Quantity times Unit Price)</i>
Unit Price No. 1: Light Weight Insulated Concrete Patch and Repair	1	Square Foot of installed patch and repair material.		N/A

DESCRIPTION:	■ Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION <i>(Quantity times Unit Price)</i>
Unit Price No. 2: Light Weight Insulated Concrete Replacement with Tapered Rigid Insulation	1	Cubic Foot of installed tapered rigid insulation		N/A

DESCRIPTION:	■ Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION <i>(Quantity times Unit Price)</i>
Unit Price No. 3: Wood Nailer	1	Linear foot of installed treated 2"x6" wood nailer.		N/A

DESCRIPTION:	■ Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION <i>(Quantity times Unit Price)</i>
Unit Price No. 4: Additional Ponding Roof Plies	1	Square foot of roof ply.		N/A

Wording for "DESCRIPTION" is to be provided by the Owner.

All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner.

SECTION 01 22 00 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
 - 1. Section 01 21 00 "Allowances" for procedures for using unit prices to adjust quantity allowances.

1.2 DEFINITIONS

- A. Unit price is an amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price No. 1: Light Weight Insulated Concrete Patch and Repair for areas where less than 2" depth in thickness of top surface requires patching.
1. Description: Unit cost of all materials, labor, tax, delivery, hauling and incidentals to provide, deliver and install a patching compound, as recommended by the roofing manufacturer and according to drawings and Section 07 52 16 – Cold Applied SBS Modified Bituminous Membrane Roofing.
 2. Unit of Measurement: Square Foot of installed patch and repair material.
- B. Unit Price No. 2: Light Weight Insulated Concrete Replacement with Tapered Rigid Insulation for areas where more than 2" depth of slab requires replacement.
1. Description: Unit cost of all materials, labor, tax, delivery, hauling and incidentals to provide, deliver and replace Light Weight Insulated Concrete with Tapered Insulation according to drawings and Section 07 21 00 – Thermal Insulation.
 2. Unit of Measurement: Cubic Foot of installed Tapered Rigid Insulation – Matching and aligning with adjacent light-weight concrete roof deck depth and slope.
- C. Unit Price No. 3: Wood Nailer.
1. Description: Unit cost of all materials, labor, tax, delivery, hauling and incidentals to provide, deliver and install CCA Treated Wood Nailer according to drawings and Section 06 10 00 – Rough Carpentry. This shall include removal of rotted wood nailers and anchorage of new wood blocking to structure supporting roof deck. Anchors used shall be ½" diameter x 5" long galvanized bolts spaced at 32" o.c. screwed into existing steel structure that has been pre-drilled and threaded to receive these bolts.
 2. Unit of Measurement: Linear Foot of installed treated 2"x6" wood nailer.
- D. Unit Price No. 4: Additional Ponding Roof Plies
1. Description: Unit cost of all materials, labor, tax, delivery, hauling and incidentals to provide, deliver and install additional Modified Bitumen Roof Cover Plies according to drawings and Section 07 52 16 – SBS Modified Bituminous Membrane Roofing.
 2. Unit of Measurement: Square Foot of Roof Ply installed to eliminate ponding present in punch list inspection.

END OF SECTION 01 22 00

SECTION 07 52 16 – COLD APPLIED SBS-MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
1. Preparation of existing Lightweight Insulating Concrete over Structural Steel roof deck, and all flashing substrates
 2. SBS-modified bitumen base ply(s) (Cold-applied)
 3. SBS-modified bitumen cap ply(s) (Cold-applied)
 4. SBS-modified bitumen membrane flashings (Heat Welded/Torch)
 5. Liquid applied, reinforced flashings.
 6. Refer to related Sections for Insulation, Coverboard and Roof Edge Systems
 7. All related materials and labor required to complete specified roofing necessary to receive specified manufacturer's warranty.
- B. Related Sections include the following:
1. Division 6 Section "Rough Carpentry" for wood nailers, cants, curbs, and blocking.
 2. Division 7 Section "Sheet Metal Flashing and Trim" for metal roof penetration flashings, flashings, and counterflashings.
 3. Division 7 Section "Roof Specialties" for edge metal.
 4. Division 7 Section "Thermal Insulation" for rigid insulation and cover board.
- C. Description of Work:
1. Extent of roofing system work is indicated on drawings and by provisions of this section, and is defined to include roofing, insulation immediately under roofing, base sheet, flashing and stripping and roofing accessories integrally related to roof installation.
 2. Type of roofing required for project:
 - a) Mineral faced, prefabricated fiberglass reinforced homogenous SBS modified membrane secured to a prepared substrate.
 - b) Roof insulation / cover board as specified in Section "Thermal Insulation".
 - c) Roof edge metal as specified in Section "Roof Specialties".
 - d) Metal counter flashings as specified in Section "Sheet Metal Flashing & Trim".
- D. Contractor Acceptance: Prior to the project start, the contractor shall ascertain to his satisfaction that all aspects of these specifications and possible modifications are workable and do not conflict with the manufacturer's requirements for the specified guarantee. Upon commencement of the work, it will be presumed that these specifications and drawings, addenda and modifications are satisfactory to both the contractor and the manufacturer in their entirety.

- E. Supplied Materials: The contractor shall supply all materials of the roofing system, including accessory products. The bidding contractor, by making his bid, represents that his bid price is based on the use of materials listed in Part 2 "Products". Refer to Description of Work and Products for specific use within each roofing assembly outline.
- F. Special Requirements:
1. A letter from the Roofing Manufacturer shall be submitted fourteen (14) days after Notice to Proceed stating that the manufacturer has read the specifications for this project and agrees to all the terms and conditions of the Contract Documents for the SBS Modified Bitumen Roofing Membrane Systems.
 - a) The Roofing Manufacturer's Guaranty/Warranty shall guarantee at the manufacturer's own cost and expense, to make or cause to be made such repairs to/replacement of the roof system to correct any and all faulty installations or materials of the roofing system from the deck up, to keep the roofing system in a watertight condition throughout the guarantee period. The Guarantee shall not be prorated. This Guarantee shall provide all necessary labor and material to keep the roofing system in a watertight condition throughout the 20 year guarantee period. This Manufacturer's Guaranty/Warranty shall be a primary guarantee for this project's roofing system but in no way diminishes the responsibility of the Roofing Contractor to furnish and install a complete, weathertight, warranted roofing system. Specifically excluded from the manufacturer's warranty/guarantee are portions of the Work damaged as a result of lightning, tornadoes, hailstorm, earthquake, fire structural failure, or unusual phenomena.
 2. Installer Certification: Submit a letter on Certificate of Certification issued by the roof manufacturer that indicates the roofing contractor has attained the highest level of certification as an Installer of the roof system specified that is issued by the manufacturer. Provide a copy of certification to Architect before award of roofing work. The written documentation shall be submitted 14 days after Notice to Proceed. Failure to provide the Roof System Manufacturer's letter or certification as an approved applicator within the time allotted could be cause for rejection of the Roofing Contractor's proposal.
 3. Contractor shall schedule a site visit with the Architect to review the existing conditions as the roof demolition begins to verify if it is apparent the areas retaining water are a result of the structure or insulation slope.

1.3 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

- C. Roofing System Design: Provide a roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist wind uplift pressure noted in the documents.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other Work.
 - 1. Base flashings, cants, and membrane terminations.
 - 2. Tapered insulation, including slopes.
 - 3. Crickets, saddles, and tapered edge strips, including slopes.
 - 4. Insulation fastening patterns.
- C. Samples: For the following products:
 - 1. 12-by-12-inch (300-by-300-mm) square of base roofing membrane cap sheet, mineral-granule-surfaced roofing membrane cap sheet and metal-foil-surfaced roofing membrane flashing sheet of color specified.
 - 2. 12-by-12-inch (300-by-300-mm) square of roof insulation cover board.
 - 3. 10 lb (4.5 kg) of aggregate ballast in color and gradation indicated.
- D. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
- E. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - 1. Submit evidence of meeting performance requirements.
- F. Qualification Data: For Installer and manufacturer.
- G. Maintenance Data: For roofing system to include in maintenance manuals.
- H. Warranties: Special warranties specified in this Section.
- I. Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing installation.
- J. The roofing system product supplier shall furnish the Roofing Contractor with Material Safety Data sheet/Sheets (MSDS), incorporating OSHA approved form, current edition. These sheets shall be available at the site at all times until project completion. A copy shall be filed in the project file with the Owner.
- K. Roofing manufacturer proposed assembly letter indicating the contractor is an authorized applicator. Proposed assembly letter to list all of the roofing products from the deck up. This list should be comprised of all products which make up the total roof assembly. Include manufacturer and brand name. Assembly letter shall show wind uplift testing, fastening patterns, and UL Fire System number.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's warranty.
- B. Manufacturer Qualifications: A qualified manufacturer that has UL listing and FMG approval for roofing system identical to that used for this Project.
- C. Source Limitations: Obtain components for roofing system from roofing system manufacturer.
- D. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
 - 1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.
- E. Preinstallation Conference: Conduct conference at Project site. Comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to roofing system including, but not limited to, the following:
 - 1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 - 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
 - 5. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
 - 6. Review governing regulations and requirements for insurance and certificates if applicable.
 - 7. Review temporary protection requirements for roofing system during and after installation.
 - 8. Review roof observation and repair procedures after roofing installation.
- F. Pre Application Roofing Conference: Within one week of roofing application.
- G. Pre Closeout Conference: Just before the Roofing Contractor concludes his work at the project site.
- H. Pull Test Report: Conduct a pull test for intended fasteners to be used on existing lightweight concrete and metal roof deck prior to commencement of work. Testing shall be in accordance with ANSI/FM 4474, FM 4450, UL 580 or UL 1897. Provide a report that lists values found including metal deck thickness, gage, rib profile and depth in inches. Include certification that intended fasteners will meet wind uplift requirements.
- I. The Owner may at his option select and employ at the Owner's expense:

1. A roofing systems Consultant to review the Construction Documents and/or perform surveillance during any installation of substrate, roofing, flashing and any other part of the total roofing system.
2. An independent roofing inspection service specializing in performing Non-Destructive Evaluation (NDE), for moisture detection purposes, before the roofing final acceptance or before the end of the Roofing Guarantee Period. The general contractor and roofing subcontractor shall cooperate with this testing agency during the course of the test.
3. Have a full time representative on site during the roofing installation.

1.7 DELIVERY, STORAGE, AND HANDLING

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

1.8 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.9 WARRANTY

- A. Special Project Warranty: Submit two (2) executed copies of standard 2-year Roofing Warranty on form included at the end of this Section, covering work of this section including roofing membrane, membrane flashing, roof insulation, any vapor retarders, and roofing accessories, signed and countersigned by Installer (Roofer) and Contractor. Provide both labor and material in the warranty. Warranty will begin at date of substantial completion.
 - 1) Warranty Forms: Warranty forms included at end of this Section. If the roofing contractor is a Subcontractor to a General Contractor for this project, use Roofing Guarantee R-1 Form. If the roofing contractor is the General Contractor for this project, use Roofing Guarantee R-2.
- B. Manufacturer's Warranty: Submit executed copy of roofing manufacturer's state approved Unlimited Service Warranty agreement covering the provision of both labor and material and including flashing and installation endorsement, signed by an authorized representative of modified bitumen sheet roofing system manufacturer.

1. 20 year continuous guarantee.
 2. The sample form of the guarantee shall be delivered to the Architect from the manufacturer processed through the Contractor.
- C. The Designer, Owner, User Agency, the General Contractor, the Roofing Contractor and Roofing Manufacturer's technical representative (not the same person as the sales representative) shall make inspections of the roofing system toward the end of the one (1) year warranty period and toward the end of the Roofing System Manufacturer's Guarantee, the authorized technical representative shall inspect the roofing system and submit a report to User.
- D. The Roofing Contractor or Roofing Systems Manufacturer, as applicable, shall make approved repairs and/or replacements covered by the Guarantee and will provide all labor and materials as necessary at no cost to the Owner. The project will not be accepted until the Roofing Contractor's Guarantee and the Roofing Manufacturer's Guarantee are both executed in strict accordance with the Contract Documents and Date from Roofing Guarantee as attached in this specification. This information must be submitted to the Owner and approved by the Owner.
- E. The Roofing Manufacturer's Guarantee/Warranty shall guarantee at the manufacturer's own cost and expense, to make or cause to be made such repairs to/replacement of, to correct any and all faulty installations or materials of the roofing system from the deck up, to keep the roofing system in a watertight condition throughout the guarantee period. The guarantee shall not be prorated. This Guarantee shall provide all necessary labor and materials to keep the roofing system in a watertight condition throughout the 20-year guarantee period. The Manufacturer's specific exclusion shall be itemized, reviewed, and approved by the Owner. The fully executed guarantee shall be delivered to the Architect in three original counter parts prior to Final Acceptance of the Work.
- F. The definition of the roofing systems which are to be specified and guaranteed in the appropriate Section of the Specifications includes the materials and methods used from the deck up. Items typically excluded from the guarantee/warranty are the metal counterflashing, edging, caps and copings, vent covers (pre-manufactured) expansion joint covers and roof drain assemblies unless items are included by prior approval of the Owner in which case included items will be specified as inclusive.
- G. Roof Completion Information: The Certified Roofing Subcontractor and/or General Contractor is required to submit to the Owner the ***State of Louisiana Roof Completion Information Form*** at the time of warranty submittal.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. SBS-Modified Bituminous Membrane Roofing:
 - a) Soprema (Sopralene 180 Sanded 2.2 Interply / Sopralene 180 GR FR Cap)
 - b) Siplast (Paradiene 20 EG Interply / Paradiene 30 FR Cap)
 - c) Johns Manville (Dynabase PR / DynaGlas FR Cap)

- B. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
1. Products: Subject to compliance with requirements, provide one of the products specified.

2.2 SBS-MODIFIED BITUMEN MEMBRANES

- A. Base Ply:
1. Interply, Cold Adhesive Applied:
 - a) Sopralene 180 Sanded 2.2
 - b) Paradiene 20 EG;
 - c) Dynabase PR
 2. Loose Laid on existing lightweight insulated concrete surface. Provide a fiberglass asphalt coated base sheet meeting ASTM D4601 Type II requirements from one of the following manufacturer's:
 - a) Soprema
 - b) Siplast Parabase FS
 - c) Johns Manville
- B. Flashing Base Ply:
1. Flashing Base Ply, Heat Welded:
 - a) Sopralene Flam 180
 - b) Irex 40
 - c) Dynaweld 180
- C. Cap Sheet:
1. Cap Sheet, Cold Adhesive Applied:
 - a) Sopralene 180 FR GR
 - b) Paradiene 30 FR
 - c) DynaGlas FR
- D. Flashing Cap Sheet
1. Flashing Cap Sheet, Heat-Welded:
 - a) Sopralast 50 TV Alu
 - b) Veral Aluminum
 - c) DynaClad

2.3 AUXILIARY ROOFING MEMBRANE MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing membrane.
- B. Cold Adhesive:

1. Soprema's Colply Adhesive
 2. Siplast's PA-311 Adhesive
 3. Johns Manville's MBR Cold Adhesive
- C. Asphalt Primer: ASTM D 41.
1. ELASTOCOL 500 Asphalt Primer
 2. PA 1125 Asphalt Primer
 3. JM Asphalt Primer
- D. Roofing Asphalt: ASTM D 312, Type as recommended by roofing system manufacturer for application to meet project requirements and warranty.
- E. General Purpose Roofing Cement and Mastic:
1. Sopramastic
 2. SFT Cement
 3. MBR Utility Cement
- F. General Purpose Sealant:
1. Sopramastic SP1
 2. PS209
 3. MBR Utility Cement
- G. Liquid Applied Reinforced Flashing System:
1. Soprema: Alsan Flashing
 2. Siplast: Parapro
 3. Johns Manville: Permaflash
- H. Mineral Granules:
1. Soprema Granules
 2. Siplast Granules
 3. JM Granules
- I. Walkway Protection:
1. Soprema Soprawalk
 2. Siplast Paratread
 3. JM DynaTred
- J. Patching Compound for Light-weight Insulated Concrete as recommended by the following manufacturers:
1. Siplast: Zonopatch
 2. USG: Securock Brand Gypsum-Concrete Patch
- K. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roofing membrane components to substrate, tested by manufacturer for required pullout strength, and acceptable to roofing system manufacturer.
- L. Metal Flashing Sheet: Metal flashing sheet is specified in Division 7 Section "Sheet Metal Flashing and Trim."

- M. Miscellaneous Accessories: Provide miscellaneous accessories recommended by roofing system manufacturer.

PART 3 - PART - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
 - 1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
 - 2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 - 3. Ensure general rigidity and proper slope for drainage.
 - 4. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units more than 1/16 inch (1.6 mm) out of plane relative to adjoining deck.
 - 5. Unacceptable panels should be brought to the attention of the General Contractor and Project Owner's Representative and must be corrected prior to installation of roofing system.
 - 6. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. The owner may, at his option, select and employ at the owner's expense one or both of the following:
 - 1. A roofing systems consultant to review the construction documents and/or perform surveillance during any installation of substrate, roofing, flashing and any other part of the total roofing system.
 - 2. An independent roofing inspection service specializing in performing non-destructive evaluation (NDE) for moisture detection purposes before the roofing final acceptance or before the end of the roofing guarantee.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Correct low or ponding areas of existing roof deck with interply membrane or hot asphalt fill at discretion of Owner/User Agency with recommendations of roofing manufacturer considered. Complete and prime corrected low spots according to manufacturer's written recommendations to produce a smooth, uniform, plane, and sloped surface that matches the slope of the surrounding roof deck. Feather edges to match adjacent existing roof deck elevations.

- C. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

3.3 PRIMER APPLICATION

- A. Examine all substrates, and conduct adhesion peel tests as necessary, to ensure satisfactory adhesion is achieved.
- B. Apply the appropriate specified primer to dry, compatible substrates as required to enhance adhesion of new specified roofing materials.
- C. Apply primer using brush, roller, or sprayer at the rate published on the product data sheet. Lightly prime for uniform coverage, do not apply heavy or thick coats of primer.
- D. Asphalt primer: Apply primer to dry substrates before applying asphalt and heat-welded membrane plies. Primer is optional for solvent based SBS adhesives and cements. Refer to product data sheets.
- E. Project conditions vary throughout the day. Monitor changing conditions, monitor the drying time of primers, and monitor the adhesion of the membrane plies. Adjust primer and membrane application methods a necessary to achieve the desired results.

3.4 MEMBRANE ADHESIVE APPLICATION

- A. The ambient temperature shall be above 50 degrees F and the adhesive temperature shall be a minimum of 70 degrees F at the point of membrane application.
- B. To ensure the adhesive is applied at 70 degrees F, during cold weather, drums and 5 gallon pails shall be stored in heated areas. Drums and 5 gallon pails exposed to cold temperature on the roof shall be provided with heaters when necessary to ensure the minimum application temperature is maintained.
- C. Priming substrates is optional when solvent-based membrane adhesives are used. Primer may be applied to reduce adhesive consumption rates for some absorptive substrates.
- D. Adhesive may be applied using a 3/16 – 3/8 inch notched squeegee, brush or spray equipment.
- E. Follow the adhesive product data sheet requirements for application rate published on the product data sheet.
- F. Apply 1-1/2" to 2 gallons per square between membrane plies. The application rate is 2 to 3 gallons per square or more over absorptive substrates and over granule surfaces. Refer to manufacturer's product data sheet and adjust application rate based upon surface conditions.
- G. Install the SBS membrane ply before the adhesive begins to skin over. Once adhesive skins over, the membrane ply will not adhere.
- H. Contractor to heat weld all laps of membrane.

3.5 HEAT WELDING

- A. The Contractor is responsible for project safety. Where conditions are deemed unsafe to use open flames, manufacturer's alternate membrane application methods shall be used to install SBS modified bitumen membrane and flashings. Acceptable alternate installation methods include cold adhesive-applied membranes. Hot air welding equipment may be used in lieu of roof torches to seal membrane side and end laps where heat welding the laps is necessary. Refer to NRCA CERTA, local codes and building owner's requirements for hot work operations.
- B. Single or multi-nozzle, hand-held propane roof torches shall be used to install heat-welded membrane and flashing piles.

3.6 SBS MASTIC AND GENERAL PURPOSE ROOFING CEMENT APPLICATION

- A. Apply general purpose SBS mastic and roofing cement to seal drain leads, metal flanges, seal along membrane edge at terminations, and where specified and required in detail drawings.
- B. Do not use general purpose SBS mastics and roofing cement where flashing cement applications are required. Do not use SBS mastics and roofing cement beneath SBS modified bitumen membrane and flashing plies.
- C. Apply general purpose SBS mastic and elastic roofing cement using caulking gun, or notched trowel at 2.0 – 2.5 gallons per square on each surface. Application rates vary based on substrate porosity and roughness. Tool-in as necessary to seal laps.
- D. Embed matching granules into wet cement where exposed.

3.7 FLASHING APPLICATION, HEAT WELDED

- A. Refer to SBS manufacturer's membrane application instructions, flashing detail drawings, and follow product data sheets and other published requirements for installation instructions. Refer to manufacturer's membrane flashing detail drawings.
- B. The contractor is responsible for project safety. Refer to NRCA CERTA recommendations and building owner requirements for hot work operations.
- C. Where required to seal substrates for fire safety, install specified adhered, self-adhered or fastened backer ply to the substrate. Ensure backer-ply covers and seals all substrates requiring protection from exposure to torch operations.
- D. Ensure all flashing substrates that require primer are primed, and the primer is fully dry.
- E. Unroll the flashing base ply and flashing cap sheet onto the roof surface to their complete length. Once relaxed, cut the membrane to the required working lengths to accommodate the flashing height, cants and the required over-lap onto the horizontal roof surface.
- F. Cut the flashing membrane from the end of the roll in order to always install flashings to the side-lap line or selvage edge line.
- G. Lay out the flashing base ply and flashing Cap Sheet to offset all side-laps a minimum of 12 inches so that side-laps are never aligned on top of the ply beneath. Shingle the flashing ply laps to prevent back-water laps.
- H. Install non-combustible cant strips at transitions where required.
- I. Ensure correct membrane and flashing sequencing to achieve redundant, multi-ply, watertight flashings.
- J. ROOF MEMBRANE BASE PLY:

1. Before installing flashings, install the roof membrane base ply in the horizontal field of the roof, and extend the base ply up to the top of the cant, where present, at roof terminations, transitions and penetrations.
- K. FLASHING BASE PLY:
 1. Install the flashing base ply starting at the top leading edge of the vertical flashing substrate, down over the cant and onto the horizontal surface of the roof a minimum of 3 inches beyond the of base of the cant onto the roof. Cut the base ply at corners to form 3 inch side-laps. Install gussets to seal corner transitions.
 2. Install one or more flashing base ply(s) at all roof terminations, transitions and penetrations.
- L. ROOF MEMBRANE CAP SHEET:
 1. Install the roof membrane Cap Sheet in the horizontal field of the roof over the flashing base ply up to the roof termination, transition or penetration, and up to the top of cants where present.
 2. Using a chalk line, mark a line on the membrane cap sheet a minimum of 4 inches from the base of the cant onto the roof. Where granules are present, embed the cap sheet granules using a torch and trowel or granule embedder to prepare the surface to receive the flashing cap sheet.
- M. FLASHING CAP SHEET:
 1. Install the flashing Cap Sheet starting at the top leading edge on the vertical substrate, over the cant and onto the roof surface 4 inches from the base of the cant onto the roof.
 2. Install the flashing Cap Sheet to ensure a minimum two (2) ply flashing system is present at all roof terminations, transitions and penetrations.
- N. During the membrane and flashing installation, ensure all plies are completely adhered into place, with no bridging, voids or openings. Ensure bitumen or flashing cement bleed-out is present at all flashing side and end-laps.
- O. Use a damp sponge float or damp rag to press-in the heat-welded flashing plies during installation.
- P. Where sufficient bitumen bleed-out is not present, and for all self-adhered plies, apply specified gun-grade sealant or mastic to seal the membrane termination along all roof terminations, transitions and penetrations. These include gravel stop edge metal, pipe penetrations, along the top edge of curb and wall flashing, and all other flashing terminations where necessary to seal flashings watertight.
- Q. Fasten the top leading edge of the flashing 8 in on-centers with appropriate 1 in metal cap nails or other specified fasteners and plates. Seal fastener penetrations watertight using specified sealant or mastic.
- R. Manufacturer's liquid-applied, reinforced flashing systems shall be installed where conditions are not favorable to install SBS modified bitumen flashings. Such conditions include irregular shapes penetrating roof surfaces (I-beams), confined areas and low flashing heights. Manufacturer's liquid-applied, reinforced flashing systems are recommended in lieu of pitch pans and lead pipe flashings.

3.8 LIQUID-APPLIED, SINGLE-COMPONENT, BITUMEN-URETHANE FLASHING SYSTEM APPLICATION

- A. Refer to manufacturer's details drawings, product data sheets and published general requirements for application rates and specific installation instructions

- B. Pre-cut polyester reinforcing fleece to conform to roof terminations, transitions and penetrations being flashed. Ensure a minimum 2 in overlap of fleece at side and end-laps. Ensure the completed liquid-applied flashing membrane is fully reinforced.
- C. Apply the base coat of liquid-applied flashing resin onto the substrate using a brush or roller, working the material into the surface for complete coverage and full adhesion at 2.0 gallons per square.
- D. Immediately apply the reinforcing into the wet base coat of resin. Using a brush or roller, work the into the wet resin while applying the second coat of resin to completely encapsulate the fleece at 2.0 gallons per square, and extend the liquid resin 1 inch beyond the fleece.
- E. Apply a finish coat of resin at 2.0 gallons per square within 2-3 hours. When applying the finish coat more than 24 hours, the surface may need to be cleaned using acetone or MEK to ensure satisfactory adhesion.
- F. Broadcast mineral granules into the wet finish coat as required to match the adjacent cap sheet.

3.9 LIQUID APPLIED, PMMA MEMBRANE, PROTECTION AREA AND FLASHING SYSTEM APPLICATION

- A. Refer to manufacturer's details drawings, product data sheets and published general requirements for application rates and specific installation instructions.
- B. Pre-cut polyester reinforcing fleece to conform to roof terminations, transitions and penetrations being flashed. Ensure a minimum 2 in overlap of fleece at side and end-laps. Ensure the completed liquid-applied flashing membrane is fully reinforced.
- C. Apply the base coat of catalyzed resin onto the substrate using a brush or roller, working the material into the surface for complete coverage and full adhesion.
- D. Immediately apply the reinforcing into the wet base coat of resin. Using a brush or roller, work the reinforcing fabric into the wet resin while applying the second coat of catalyzed resin to completely encapsulate the fleece.
- E. Refer to reinforced, polymethyl-methacrylate (PMMA) specification section and application instructions, details drawings, product data sheets and published general requirements for installation instructions.

3.10 WALKWAYS

- A. At areas described on the drawings, and around the perimeter of all rooftop equipment and at roof hatch, install walkway protection.
- B. Cut walkway from end of rolls. No piece shall be less than 24 in.
- C. Spot adhere walkway protection with general purpose sealant or heat welding.
- D. Provide a 2 in space between sheets for drainage.

3.11 RELATED COMPONENTS INSTALLATION

- A. The following is a list of verbal descriptions for correct installation of components integrated in the roof membrane assembly. In all cases, unless otherwise approved, flange components shall be incorporated into the system between the application of the base ply and the cap sheet. The flange must be primed with a uniform coating of approved ASTM D 41-73 asphalt primer and allowed to dry thoroughly. All flanges must be set in approved mastic.

1. Edge Metal: The metal flanges shall be completely primed and allowed to dry prior to installation. The base ply shall be turned down 2' past the roof edge, over the nailer. After the base ply has been installed, the flange shall be set in mastic and stagger nailed every 3" o.c. The flange shall be stripped in using 9" wide strips of base ply material. the cap sheet shall than be applied terminating at the gravel stop rise of the edge metal.
2. Sealant: All cap sheet edges exposed at gravel stops, way stacks, pitch pans, vent stacks, etc. shall be caulked with a smooth continuous bead of approved sealant.
3. Roof Drains: Set 30-by-30-inch (760-by-760-mm) metal flashing in bed of asphalt roofing cement on completed roofing membrane. Cover metal flashing with roofing membrane cap-sheet stripping and extend a minimum of 4 inches (100 mm) beyond edge of metal flashing onto field of roofing membrane. Clamp roofing membrane, metal flashing, and stripping into roof-drain clamping ring.
 - a) Install stripping according to roofing system manufacturer's written instructions.
 - b) All drains will be sumped and flooded with metal clad flashing.

3.12 FIELD QUALITY CONTROL

- A. Testing Agency: Owner may engage a qualified independent testing and inspecting agency to perform roof tests and inspections and to prepare test reports.
- B. Test Cuts: Test specimens will be removed to evaluate problems observed during quality-assurance inspections of roofing membrane as follows:
 1. Approximate quantities of components within roofing membrane will be determined according to ASTM D 3617.
 2. Test specimens will be examined for interply voids according to ASTM D 3617 and to comply with criteria established in Appendix 3 of ARMA/NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing."
- C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.
 1. Notify Architect and or Owner 48 hours in advance of date and time of inspection.
- D. Repair or remove and replace components of roofing system where test results or inspections indicate that they do not comply with specified requirements.
- E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- F. During the course of application of the mineral surfaced SBS modified membrane, no SBS membrane shall be left exposed. Strip patching to cover exposed membrane shall not be permitted. The entire sheet shall be removed and replaced with proper coverage.
- G. The contractor is to maintain a daily log. The log sheet is to be available on the job site for inspection whenever visits are made by the representatives of the Owner and the Designer. The log sheet is to contain the following information:
 1. Time of day
 2. Date of the month
 3. Ambient temperature at roof height
 4. Estimation of wind velocity

5. Visual assessment of weather conditions, e.g. clear, cloudy, etc.
6. The contractor is to have logged exact quantities of materials used, including batch numbers off of containers.
7. Any additives such as reducers or thinners are to be indicated by quantity and name.

3.13 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION **07 52 16**

SECTION 077200 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Roof curbs.
 - 2. Roof hatches.
- B. Related Sections include the following:
 - 1. Division 1 Section "Quality Requirements" under "Building Envelope".
 - 2. Division 5 Section "Metal Fabrications" for ladders and miscellaneous metal framing and supports.
 - 3. Division 7 Section "Sheet Metal Flashing and Trim" for shop- and field-fabricated metal flashing, counterflashing and miscellaneous sheet metal items.
 - 4. Division 15 Sections for equipment requiring curbs.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, materials, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: Show fabrication and installation details. Indicate dimensions, weights, loadings, required clearances, method of field assembly, and components. Include plans, elevations, sections, details, and attachments to other Work.

1.4 QUALITY ASSURANCE

- A. Standards: Comply with the following:
 - 1. SMACNA's "Architectural Sheet Metal Manual" details for fabrication of units, including flanges and cap flashing to coordinate with type of roofing indicated.
 - 2. NRCA's "Roofing and Waterproofing Manual" details for installing units.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Roof Curbs and Equipment Supports:
 - a. Basis of Design: The Pate Company – Type pc-2
 - b. Commodity Products Company, Inc.
 - c. Curbs Plus, Inc.
 - d. Custom Curb, Inc.
 - e. LMCurbs.
 - f. Metallic Products Corporation.
 - g. Prior Approved Equal
 2. Roof Hatches:
 - a. Basis of Design: The Bilco Company - Type S roof hatch.
 - b. Custom Curb, Inc.
 - c. Hi Pro International, Inc.
 - d. J. L. Industries, Inc.
 - e. Metallic Products Corporation.
 - f. Trimco, Inc.
 - g. Wasco Products, Inc.
 - h. Prior Approved Equal
 3. Roof Hatch Ladders:
 - a. Refer to Section 055000 metal fabrication for aluminum ladder.

2.2 MATERIALS, GENERAL

- A. Aluminum Sheet: ASTM B 209 for alclad alloy 3005H25 or alloy and temper required to suit forming operations, with mill finish, unless otherwise indicated.
- B. Extruded Aluminum: ASTM B 221 alloy 6063-T52 or alloy and temper required to suit structural and finish requirements, with mill finish, unless otherwise indicated.
- C. Insulation: Manufacturer's standard rigid or semirigid glass-fiber board of thickness indicated.
- D. Wood Nailers: Softwood lumber, pressure treated with waterborne preservatives for aboveground use, complying with AWPA C2; not less than 1-1/2 inches thick.
- E. Fasteners: Same metal as metals being fastened, or nonmagnetic stainless steel or other noncorrosive metal as recommended by manufacturer. Match finish of exposed fasteners with finish of material being fastened.
- F. Gaskets: Manufacturer's standard tubular or fingered design of neoprene, EPDM, or PVC; or flat design of foam rubber, sponge neoprene, or cork.

- G. Bituminous Coating: SSPC-Paint 12, solvent-type bituminous mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil dry film thickness per coating.
- H. Mastic Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.
- I. Elastomeric Sealant: Generic type recommended by unit manufacturer that is compatible with joint surfaces; ASTM C 920, Type S, Grade NS, Class 25, and Uses NT, G, A, and, as applicable to joint substrates indicated, O.
- J. Roofing Cement: ASTM D 4586, nonasbestos, fibrated asphalt cement designed for trowel application or other adhesive compatible with roofing system.

2.3 ROOF CURBS

- A. General: Provide roof curbs capable of supporting superimposed live and dead loads, including equipment loads and other construction to be supported on roof curbs. Coordinate dimensions with existing rough-in information and existing equipment to be supported.
- B. Fabrication: Unless otherwise indicated or required for strength, fabricate units from minimum 0.063-inch- thick, sheet aluminum with welded corner joints.
 - 1. Provide preservative-treated wood nailers at tops of curbs and formed flange at perimeter bottom for mounting to roof.
 - 2. Height of curbs shall be such that roof base flashings extend up a minimum of 8 inches above the top surface of the roofing membrane, unless otherwise indicated.
 - 3. Sloping Roofs: Where slope of roof deck exceeds 1/4 inch per foot, fabricate curb units with water diverter or cricket and with height tapered to match slope to level tops of units.

2.4 ROOF HATCHES

- A. General: Fabricate units to withstand 40-lbf/sq. ft. external and 20-lbf/sq. ft. internal loading pressure. Frame with integral-curb, minimum height of 8-inch- above the finished surface of the roofing membrane, double-wall construction with 1-1/2-inch insulation, formed cap flashing (roofing counterflashing), with welded or sealed mechanical corner joints. Provide double-wall cover (lid) construction with 1- inch- thick insulation core. Provide gasketing and equip with corrosion-resistant or hot-dip galvanized hardware including pintle hinges, hold-open devices, interior padlock hasps, and both interior and exterior latch handles. Coordinate dimensions with existing opening size.
- B. Type: Single-leaf personnel access.
 - 1. For Ladder Access: 30 by 36 inches.
- C. Material: Aluminum, sheets and extrusions.
 - 1. Finish: Clear anodic.
- D. Sloping Roofs: Where slope or roof deck exceeds 1/4 inch per foot, fabricate hatch curbs with height tapered to match slope to level tops of units.

2.5 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.6 ALUMINUM FINISHES

- A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- B. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: Nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 607.1.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with manufacturer's written instructions. Coordinate installation of roof accessories with installation of roof deck, roof insulation, flashing, roofing membranes, penetrations, equipment, and other construction involving roof accessories to ensure that each element of the Work performs properly and that combined elements are waterproof and weathertight. Anchor roof accessories securely to supporting structural substrates so they are capable of withstanding lateral and thermal stresses, and inward and outward loading pressures.
- B. Install roof accessory items according to construction details of NRCA's "Roofing and Waterproofing Manual," unless otherwise indicated,
- C. Separation: Separate metal from incompatible metal or corrosive substrates, including wood, by coating concealed surfaces, at locations of contact, with bituminous coating or providing other permanent separation.
- D. Flange Seals: Unless otherwise indicated, set flanges of accessory units in a thick bed of roofing cement to form a seal.
- E. Cap Flashing: Where required as component of accessory, install cap flashing to provide waterproof overlap with roofing or roof flashing (as counterflashing). Seal overlap with thick bead of mastic sealant.
- F. Operational Units: Test-operate units with operable components. Clean and lubricate joints and hardware. Adjust for proper operation.

3.2 CLEANING AND PROTECTION

- A. Clean exposed surfaces according to manufacturer's written instructions. Touch up damaged Site painted metal coatings. Do touch-up painting is allowed on pre-finished items. Damaged pre-finished items are to be replaced.

END OF SECTION