

HORRY COUNTY SCHOOLS

WATERWAY ES ROOFING RENOVATION

BID DOCUMENTS

04/22/22

LS3P PROJECT # 2201-218720

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ARCHITECTS

LS3P ASSOCIATES LTD.
 701-A Lady St.,
 Columbia, SC 29201
 tel: 803-765-2418
 fax: 803-765-2419

BUILDING ENVELOPE

WM BUILDING ENVELOPE CONSULTANTS, LLC
 512 Limestone Point
 Chapin, SC 29036
 tel: 803-260-4532

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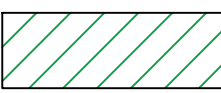
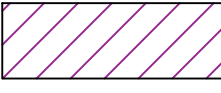

BUFORD GOFF AND ASSOCIATES, INC.
 1331 Elmwood Ave., Suite 200
 Columbia, SC 29201
 tel: 803-254-6302
 fax: 803-771-6142

NOTES:

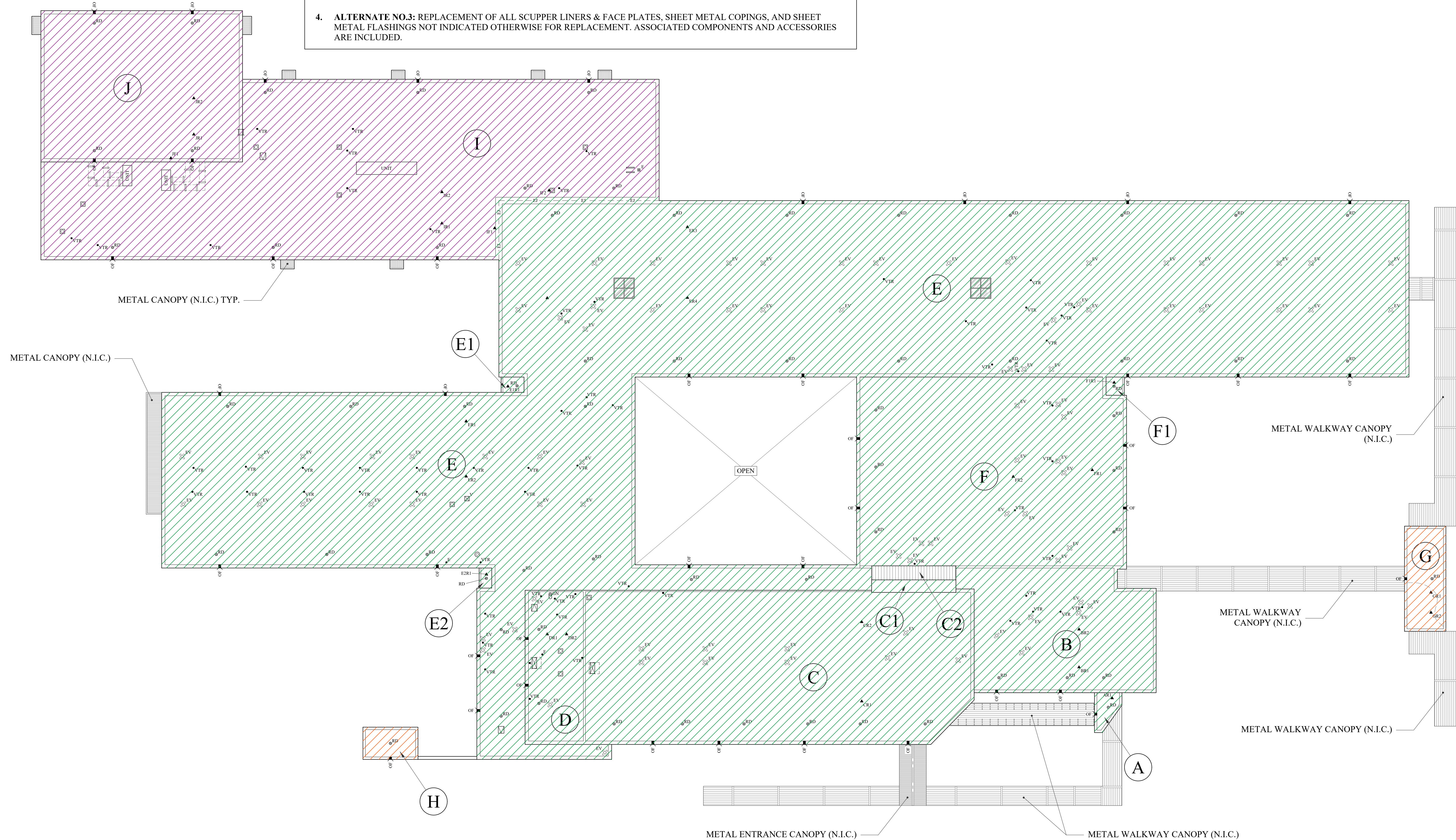
1. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND PENETRATIONS.
2. SEE SHEET A-401 "OVERALL EXISTING ROOF PLAN (IR SCAN)" FOR APPROXIMATE LOCATIONS MOISTURE WAS DETECTED DURING INFRARED SCAN. REMOVAL OF WET INSULATION IS TO BE INCLUDED IN THE BASE BID OR APPLICABLE ALTERNATE.
3. SEE "PARTIAL EXISTING ROOF PLAN" SHEETS FOR EXISTING ROOF CORE SUMMARY.

SCOPE OF WORK SUMMARY:

1. **BASE BID:** REMOVAL OF THE EXISTING LOW SLOPE ROOF MEMBRANE SYSTEM DOWN TO THE EXISTING ROOF INSULATION ON ROOF AREAS A, B, C, C1, D, E, E1, E2, F, AND F1 FOR REPLACEMENT WITH A NEW ROOF COVER BOARD AND MECHANICALLY ATTACHED TPO ROOF MEMBRANE SYSTEM. REMOVAL AND REPLACEMENT OF WET INSULATION MATERIALS IS REQUIRED AS NECESSARY FOR THE INSTALLATION OF A NEW LOW SLOPE ROOF RECOVERY SYSTEM. ASSOCIATED COMPONENTS AND ACCESSORIES ARE INCLUDED.
2. **ALTERNATE NO.1:** PREPARATION OF THE EXISTING LOW SLOPE AGGREGATE SURFACED BUILT-UP ROOF SYSTEMS ON ROOF ON ROOF AREAS I AND J AS NECESSARY FOR THE INSTALLATION OF A NEW LOW SLOPE ROOF RECOVERY SYSTEM. REMOVAL AND REPLACEMENT OF ALL WET INSULATION MATERIALS IS REQUIRED AS NECESSARY FOR THE INSTALLATION OF A NEW ROOF COVER BOARD AND MECHANICALLY ATTACHED TPO ROOF MEMBRANE SYSTEM. AREAS OF EXISTING ROOF ASSEMBLY REMOVED SHALL BE FILLED WITH LIKE MATERIAL OF EQUAL THICKNESS. ASSOCIATED COMPONENTS AND ACCESSORIES ARE INCLUDED.
3. **ALTERNATE NO.2:** REMOVAL OF THE EXISTING LOW SLOPE ROOF MEMBRANE SYSTEM DOWN TO THE EXISTING ROOF INSULATION ON ROOF AREAS G AND H FOR REPLACEMENT WITH A NEW ROOF COVER BOARD AND MECHANICALLY ATTACHED TPO ROOF MEMBRANE SYSTEM. REMOVAL AND REPLACEMENT OF WET INSULATION MATERIALS IS REQUIRED AS NECESSARY FOR THE INSTALLATION OF A NEW LOW SLOPE ROOF RECOVERY SYSTEM. ASSOCIATED COMPONENTS AND ACCESSORIES ARE INCLUDED.
4. **ALTERNATE NO.3:** REPLACEMENT OF ALL SCUPPER LINERS & FACE PLATES, SHEET METAL COPINGS, AND SHEET METAL FLASHINGS NOT INDICATED OTHERWISE FOR REPLACEMENT. ASSOCIATED COMPONENTS AND ACCESSORIES ARE INCLUDED.

-  = BASE BID
-  = ALTERNATE NO.1
-  = ALTERNATE NO.2

D
C
B
A



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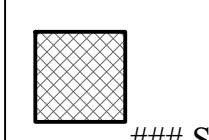
**OVERALL
EXISTING ROOF
PLAN**

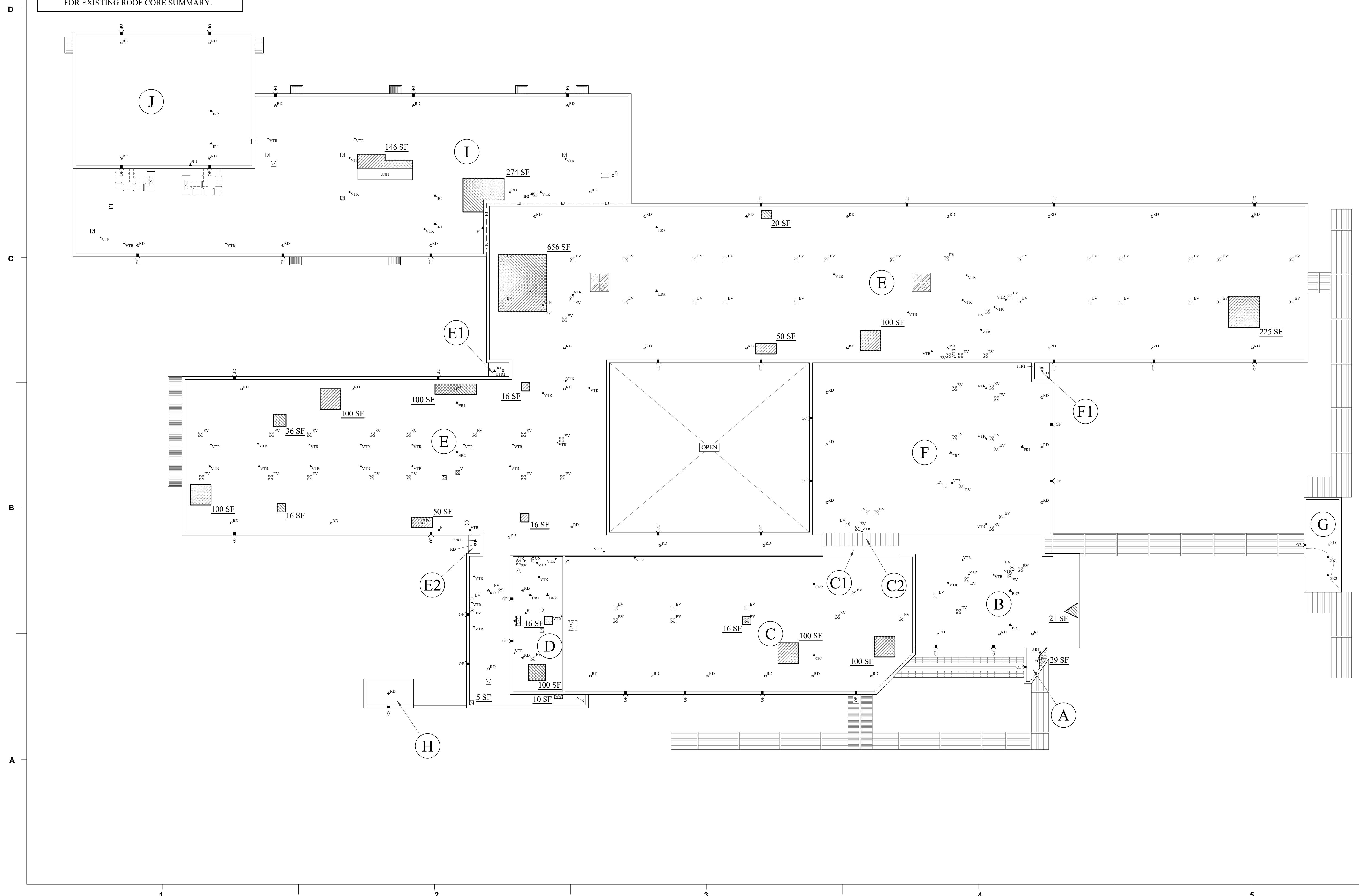
A-400

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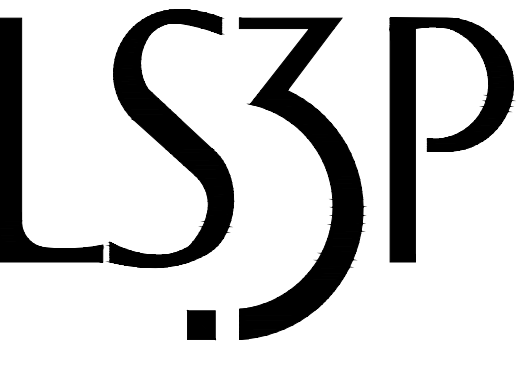
NOTES:

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3. SEE "PARTIAL EXISTING ROOF PLAN" SHEETS FOR EXISTING ROOF CORE SUMMARY.

 = APPROXIMATE LOCATIONS WHERE MOISTURE WAS DETECTED DURING INFRARED SCAN WITH APPROXIMATE AREA INDICATED (SQUARE FEET).
SF



**WATERWAY ES
ROOFING
RENOVATION**



701-A LADY STREET COLUMBIA SC 29201
TEL. 803.765.2418 FAX 803.765.2419
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**OVERALL
EXISTING ROOF
PLAN (IR SCAN)**

A-401

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**PARTIAL EXISTING
ROOF PLAN**

A-501

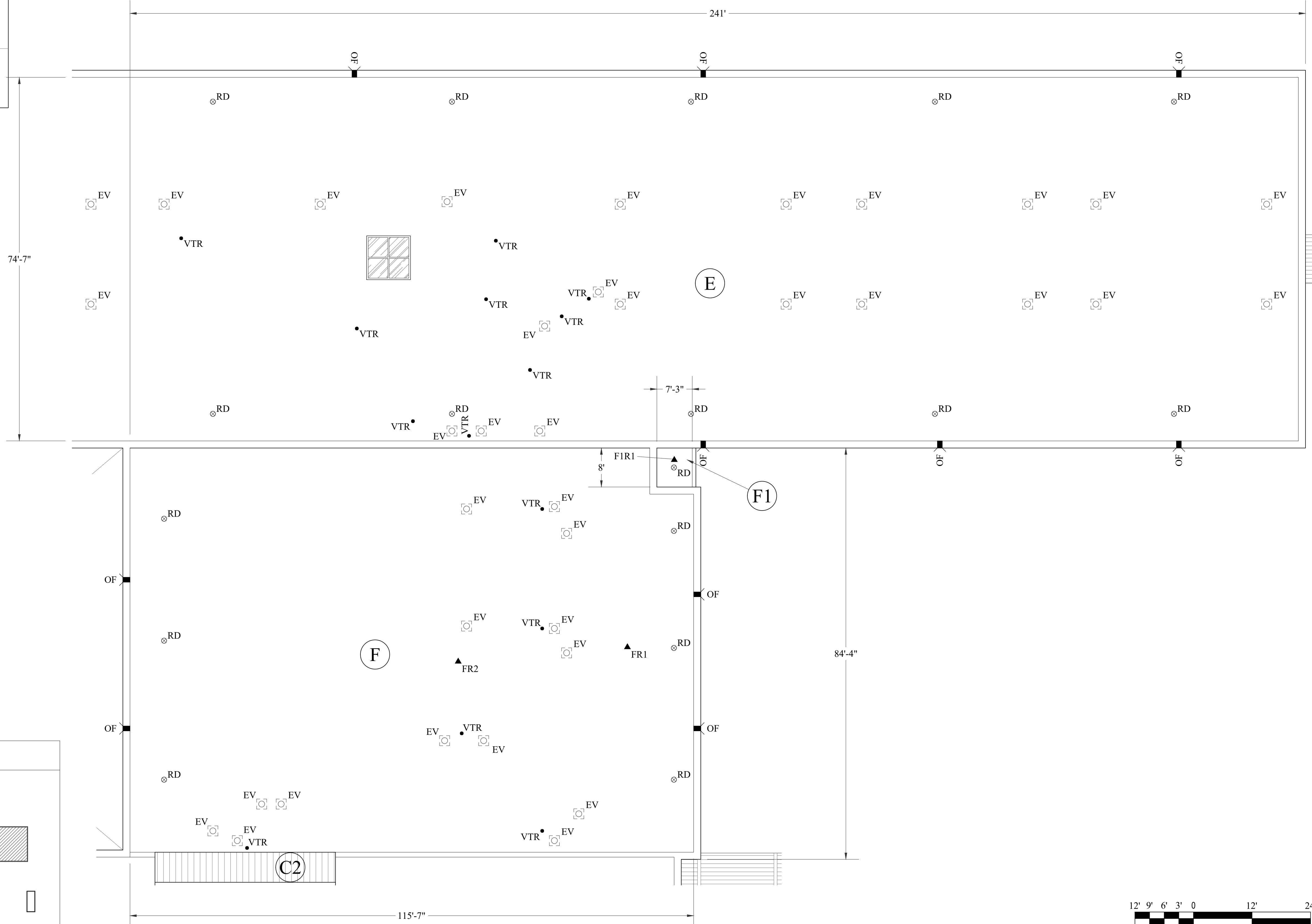
DRAWING LEGEND			
RD	ROOF DRAIN	STACK	EXPANSION JOINT
OF	OVERFLOW SCUPPER	VENTILATOR	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
VTR	VENT THROUGH ROOF	GOOSE NECK / HOOD PENETRATION	PARAPET WALL
EV	EXHAUST VENT	ROOF HATCH	EQUIPMENT SUPPORT CURB
E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	ROOF DESIGNATION
			METAL ROOF SYSTEM
			SKY LIGHT
			SLOPE ARROW

NOTES:

- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND PENETRATIONS.
- ALL EQUIPMENT TO HAVE A MINIMUM BASE FLASHING HEIGHT OF 8" OR GREATER FROM TOP OF FINISH ROOF SURFACE.

EXISTING ROOF CORE SUMMARY

Core Number and Identifier	Flashing Number and Identifier	Description
XRX		CORE NUMBER AND IDENTIFIER
AFX		FLASHING NUMBER AND IDENTIFIER
FR1		SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"
FR2		SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"



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NOTES:

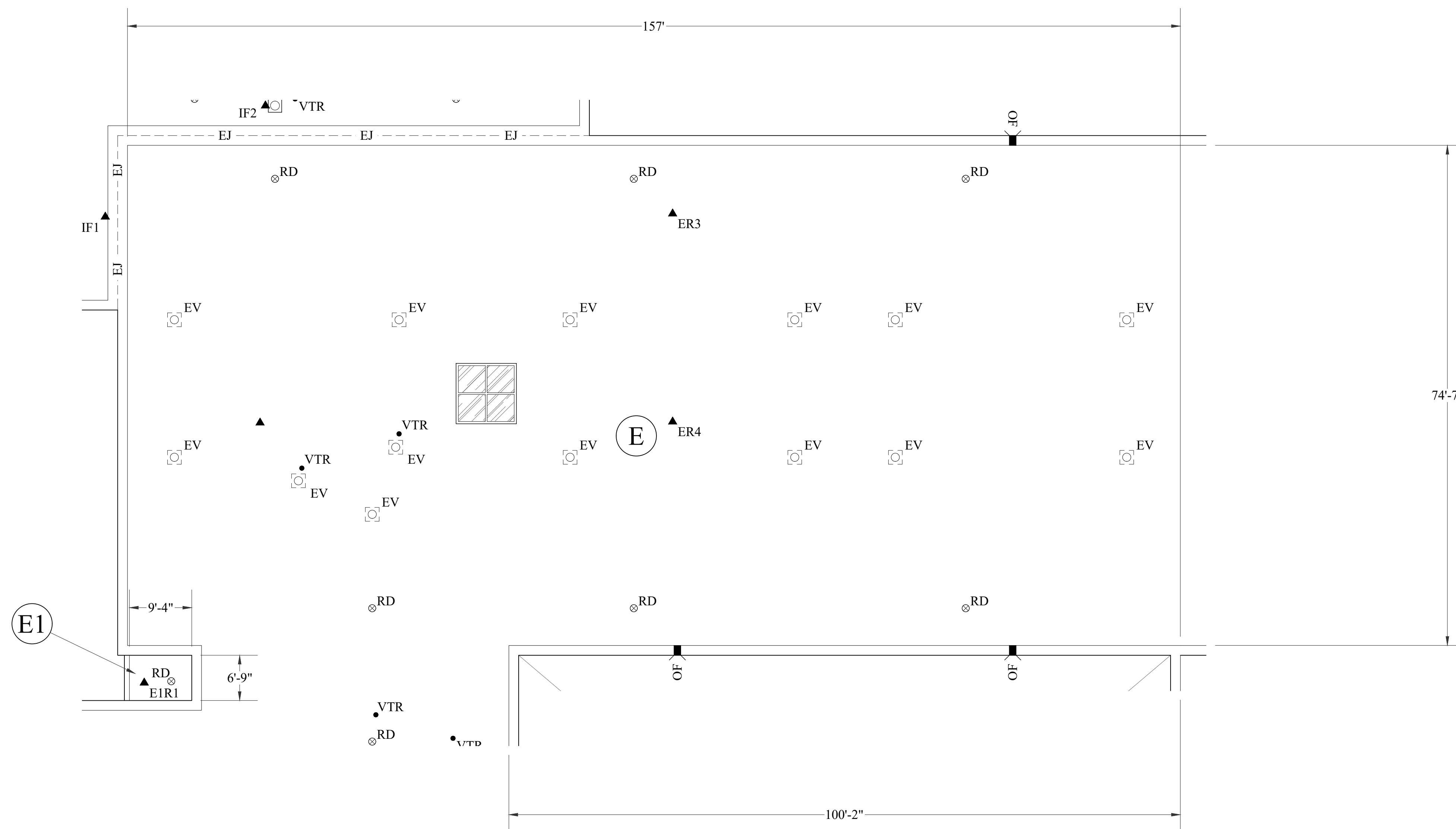
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND PENETRATIONS.
- ALL EQUIPMENT TO HAVE A MINIMUM BASE FLASHING HEIGHT OF 8" OR GREATER FROM TOP OF FINISH ROOF SURFACE.

EXISTING ROOF CORE SUMMARY

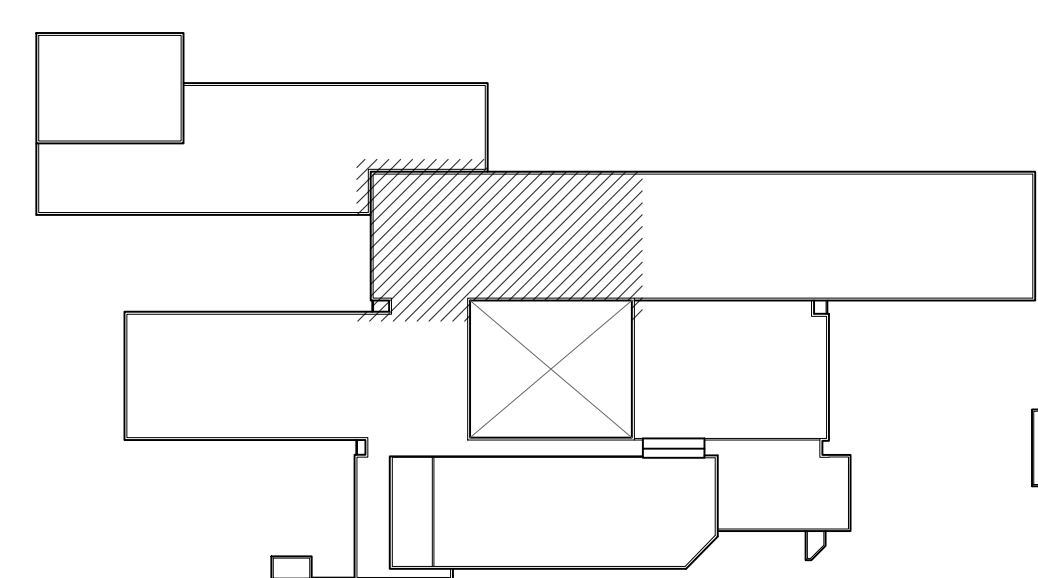
▲ XRX	CORE NUMBER AND IDENTIFIER
▲ XFX	FLASHING NUMBER AND IDENTIFIER
ER3	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"
ER4	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"

DRAWING LEGEND

⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
▣ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▤	METAL ROOF SYSTEM	▬	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▣	SKY LIGHT	▬	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	▣	ROOF HATCH	→	SLOPE ARROW	⊗	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



KEY PLAN



WATERWAY ES ROOFING RENOVATION



701-A LADY STREET COLUMBIA SC 29201
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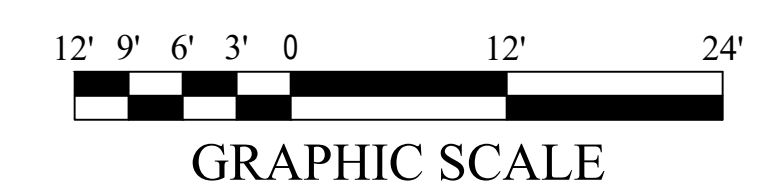
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PARTIAL EXISTING ROOF PLAN

A-502



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**PARTIAL EXISTING
ROOF PLAN**

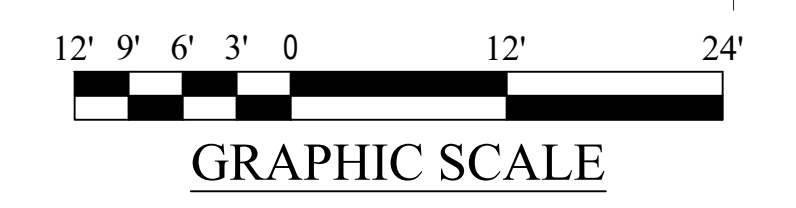
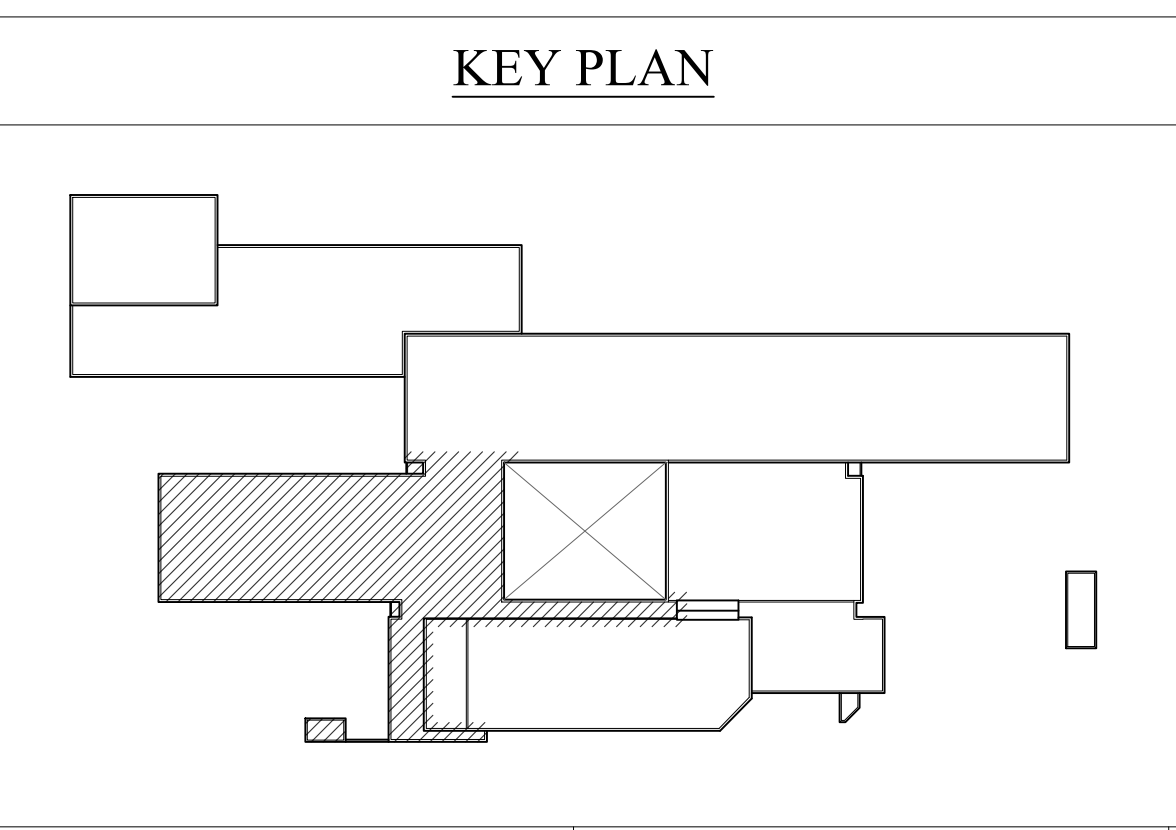
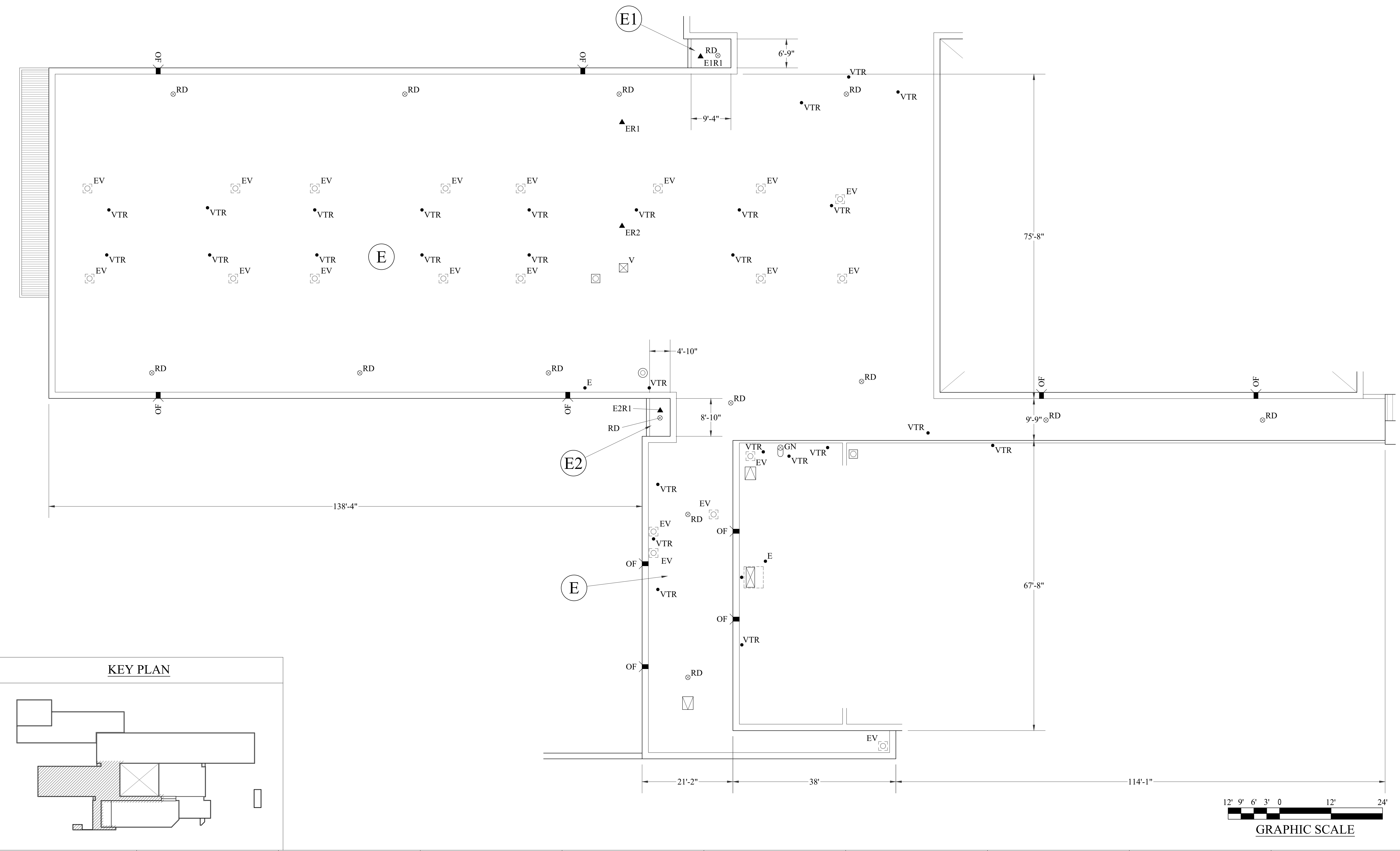
A-503

DRAWING LEGEND			
RD	ROOF DRAIN	STACK	EXPANSION JOINT
OF	OVERFLOW SCUPPER	VENTILATOR	METAL ROOF SYSTEM
VTR	VENT THROUGH ROOF	GOOSE NECK / HOOD PENETRATION	SKY LIGHT
EV	EXHAUST VENT	ROOF HATCH	SLOPE ARROW
E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
			PARAPET WALL
			EQUIPMENT SUPPORT CURB
			ROOF DESIGNATION

EXISTING ROOF CORE SUMMARY	
XRX	CORE NUMBER AND IDENTIFIER
XFX	FLASHING NUMBER AND IDENTIFIER
ER1	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"
ER2	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"

NOTES:

- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND PENETRATIONS.
- ALL EQUIPMENT TO HAVE A MINIMUM BASE FLASHING HEIGHT OF 8" OR GREATER FROM TOP OF FINISH ROOF SURFACE.



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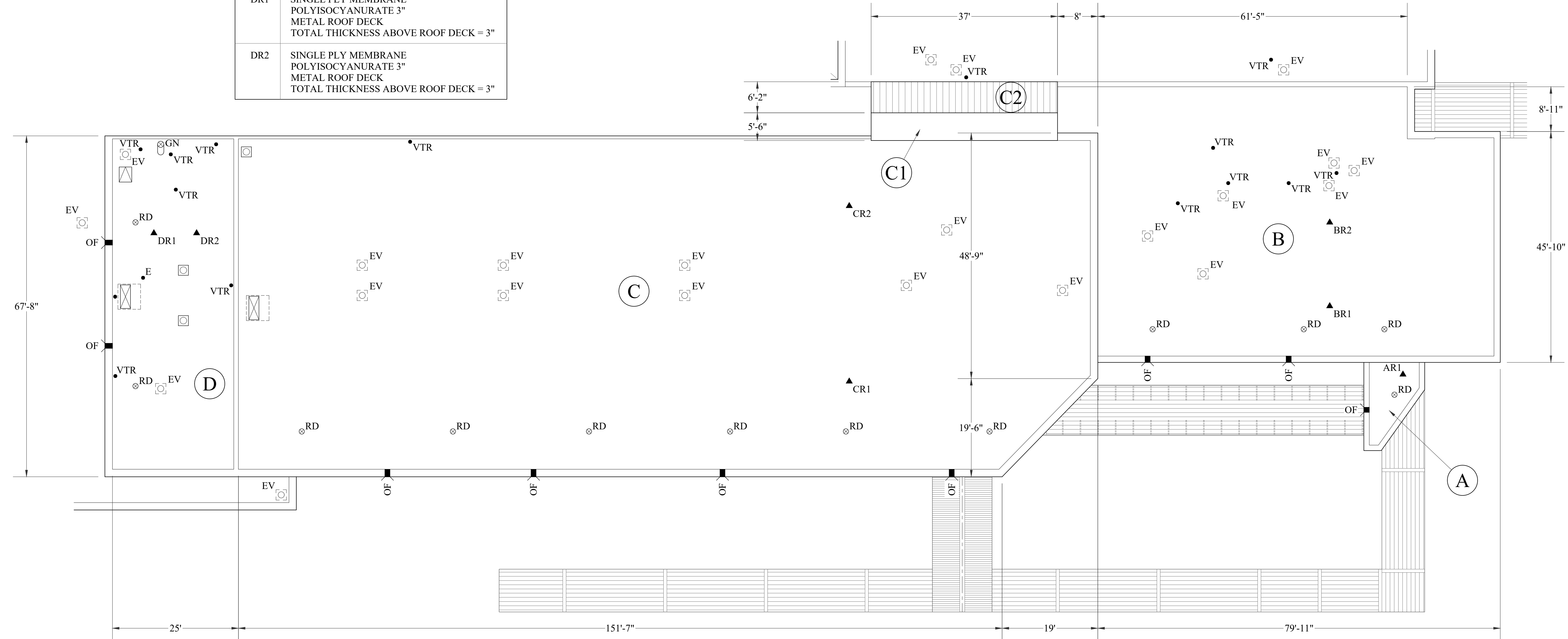
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND PENETRATIONS.
- ALL EQUIPMENT TO HAVE A MINIMUM BASE FLASHING HEIGHT OF 8" OR GREATER FROM TOP OF FINISH ROOF SURFACE.

EXISTING ROOF CORE SUMMARY

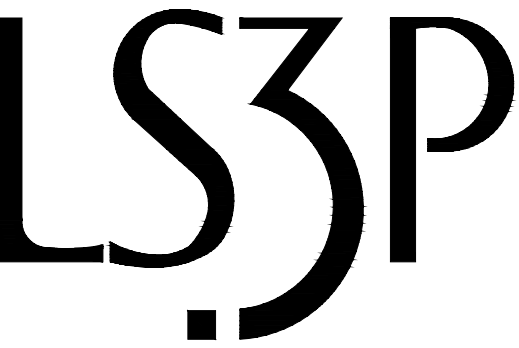
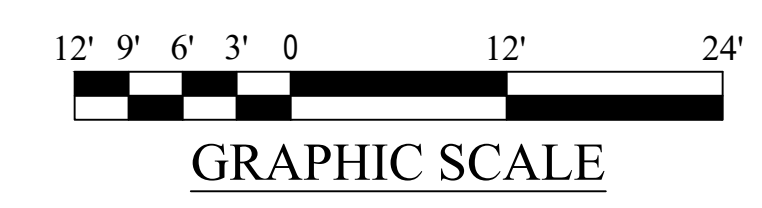
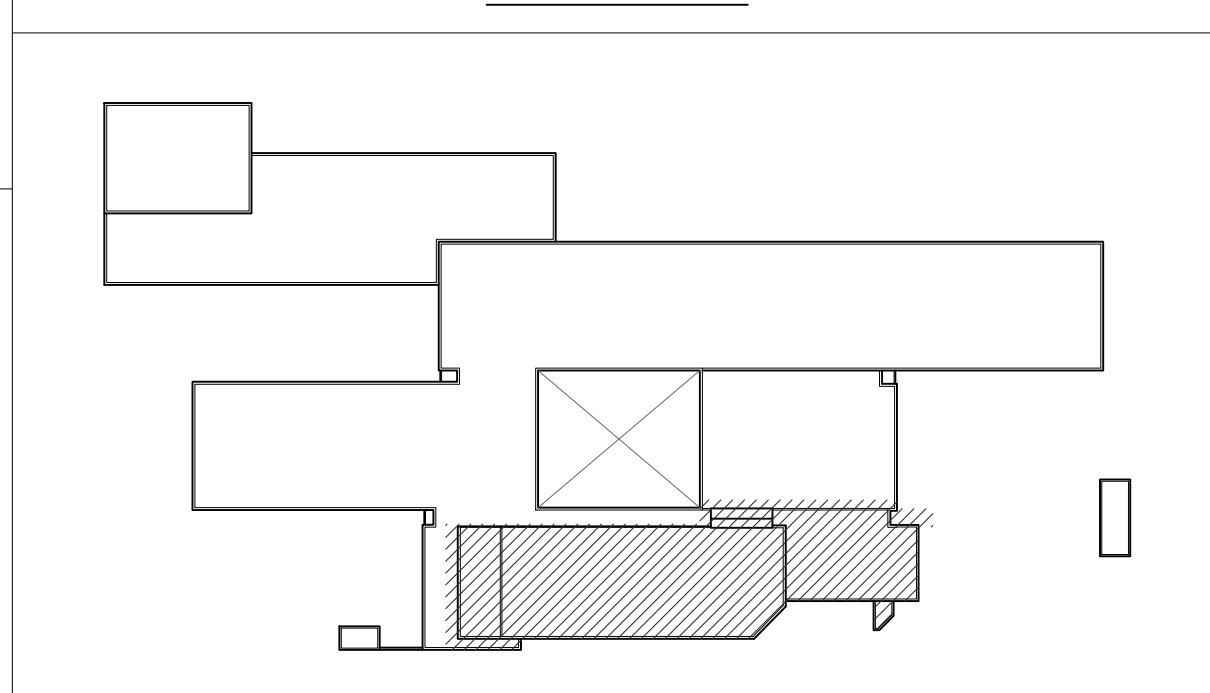
▲ XRX	CORE NUMBER AND IDENTIFIER
▲ XFX	FLASHING NUMBER AND IDENTIFIER
BR1	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"
BR2	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"
CR1	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"
CR2	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"
DR1	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"
DR2	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"

DRAWING LEGEND

⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
▣ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▨	METAL ROOF SYSTEM	▬	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▩	SKY LIGHT	▬	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	▩	ROOF HATCH	→	SLOPE ARROW	⊗	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



KEY PLAN



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PARTIAL EXISTING ROOF PLAN

A-504

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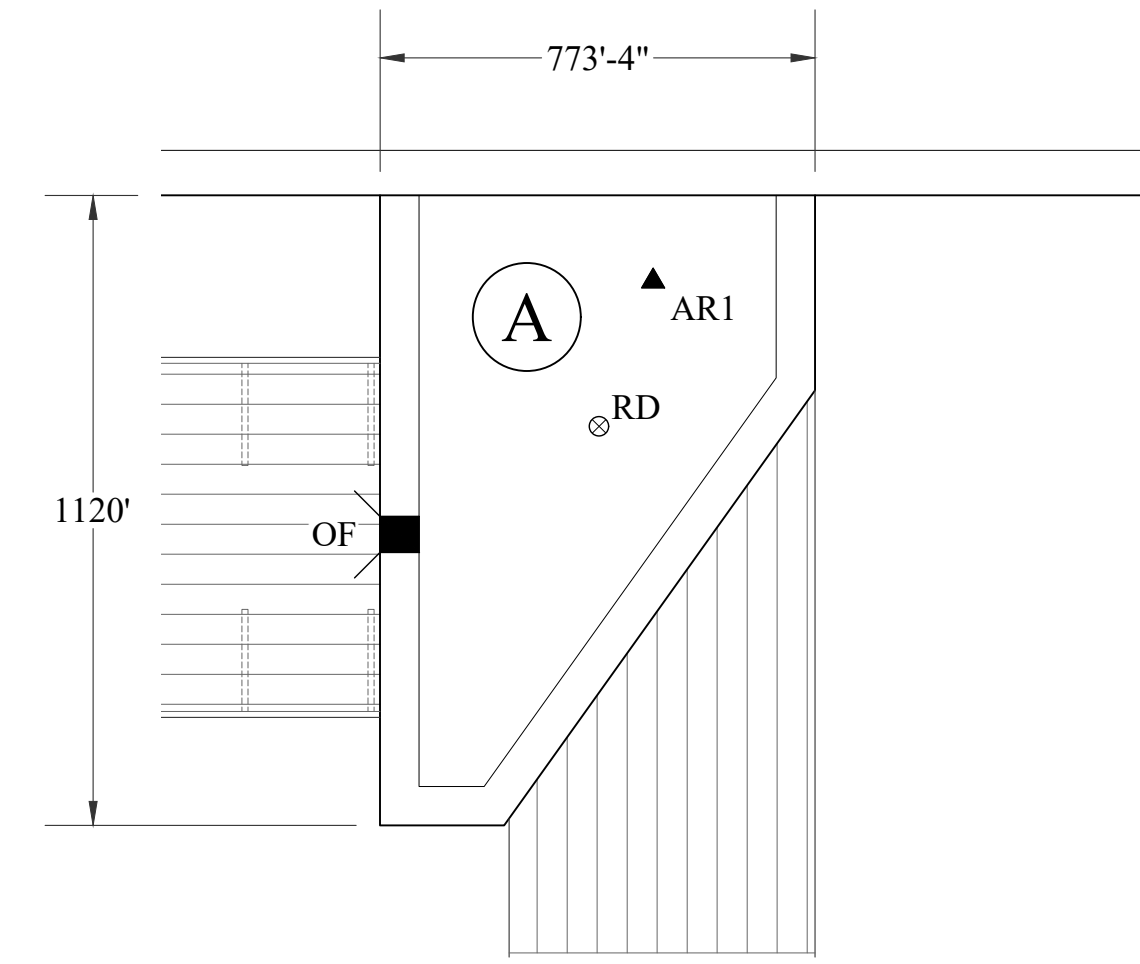
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND PENETRATIONS.
- ALL EQUIPMENT TO HAVE A MINIMUM BASE FLASHING HEIGHT OF 8" OR GREATER FROM TOP OF FINISH ROOF SURFACE.

EXISTING ROOF CORE SUMMARY

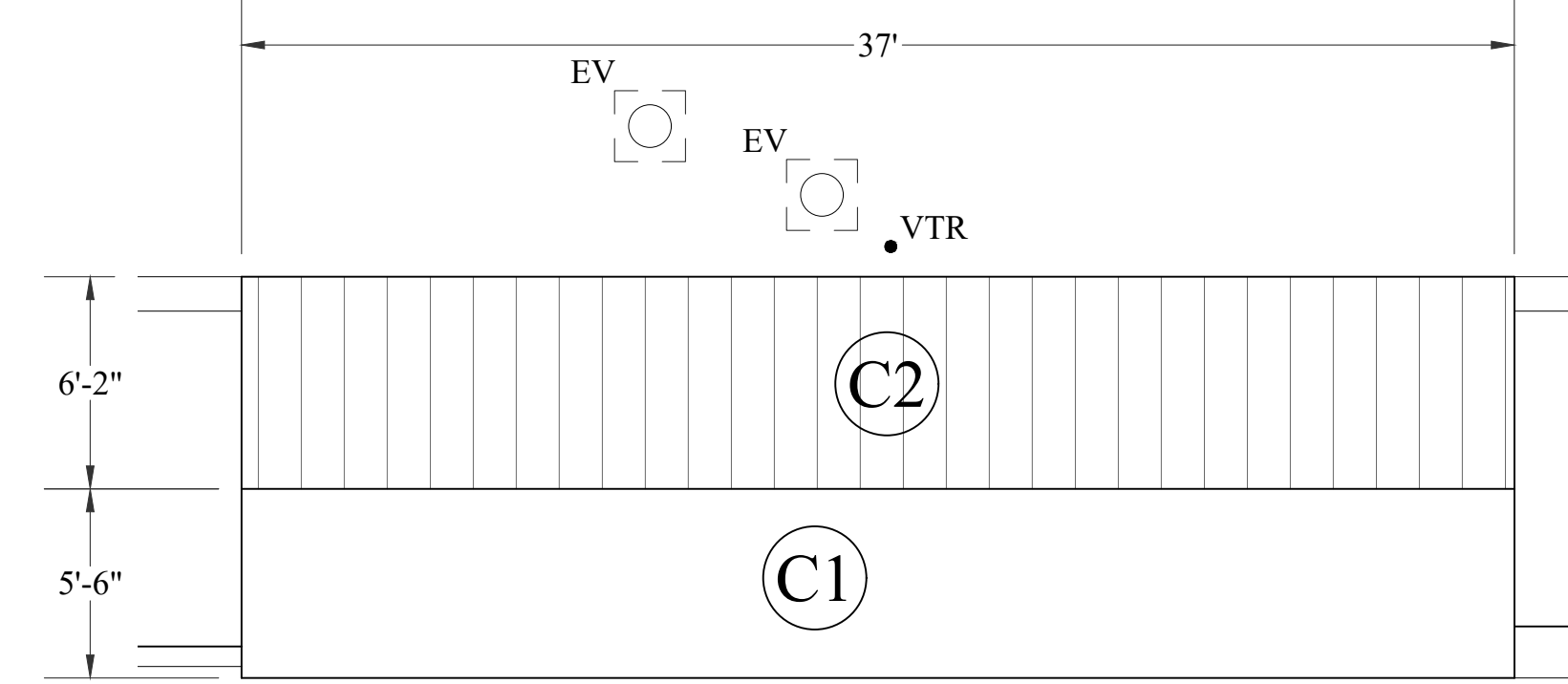
▲ XRX	CORE NUMBER AND IDENTIFIER
▲ XFX	FLASHING NUMBER AND IDENTIFIER
AR1	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"
E1R1	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"
E2R1	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"
F1R1	SINGLE PLY MEMBRANE POLYISOCYANURATE 5" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 5"

DRAWING LEGEND

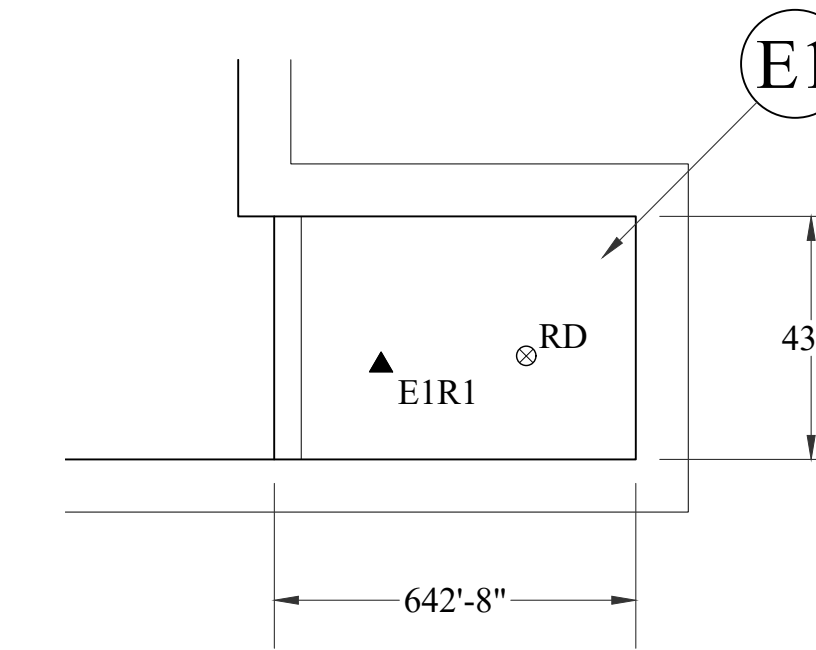
⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
▣ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▨	METAL ROOF SYSTEM	▬	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▩	SKY LIGHT	▬	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	▩	ROOF HATCH	→	SLOPE ARROW	⊗	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



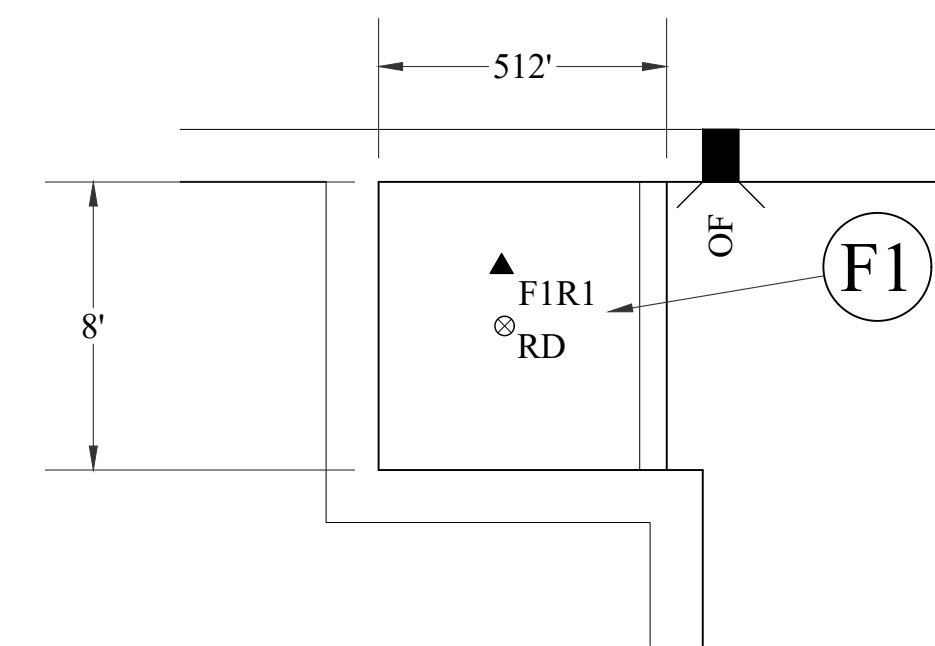
A PARTIAL ROOF PLAN - AREA "A"
A-505/ 3/16" = 1'-0"



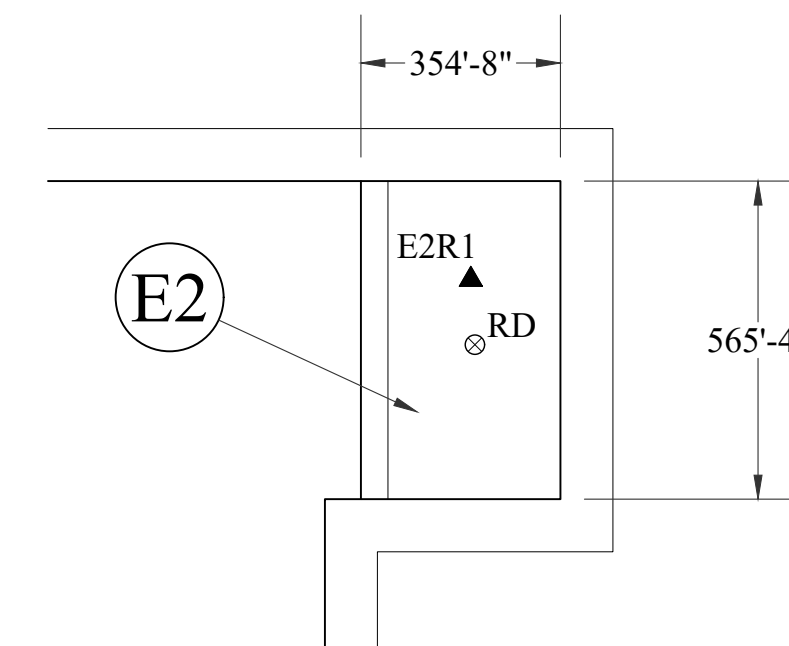
B PARTIAL ROOF PLAN - AREA "C1" AND "C2"
A-505/ 3/16" = 1'-0"



C PARTIAL ROOF PLAN - AREA "E1"
A-505/ 3/16" = 1'-0"

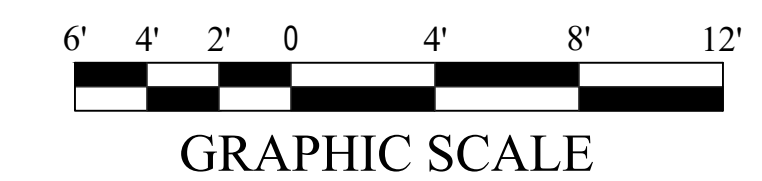
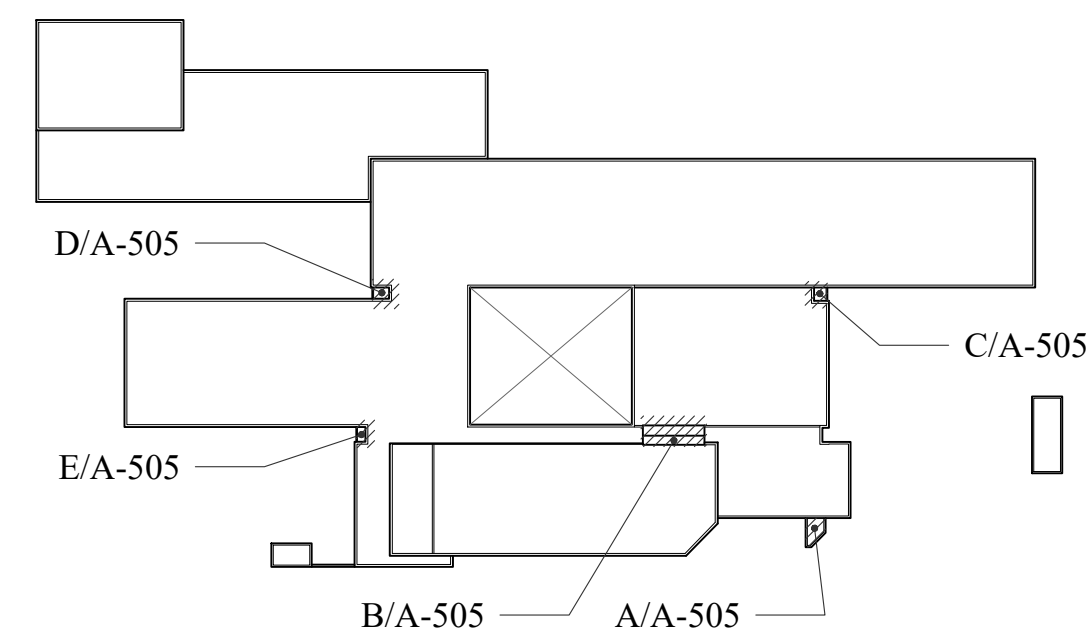


D PARTIAL ROOF PLAN - AREA "F1"
A-505/ 3/16" = 1'-0"



E PARTIAL ROOF PLAN - AREA "E2"
A-505/ 3/16" = 1'-0"

KEY PLAN



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**PARTIAL EXISTING
ROOF PLANS**

A-505

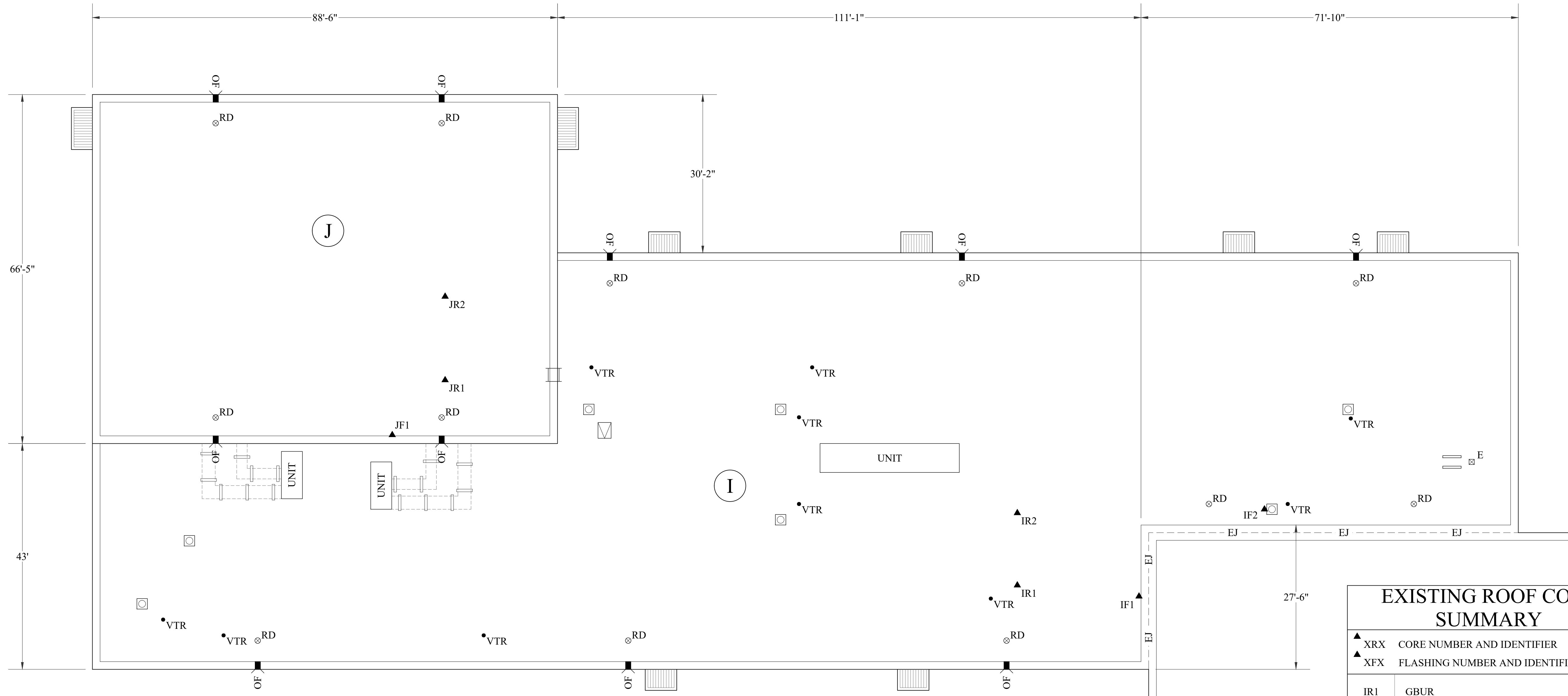
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NOTES:

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2. ALL EQUIPMENT TO HAVE A MINIMUM BASE FLASHING HEIGHT OF 8" OR GREATER FROM TOP OF FINISH ROOF SURFACE.

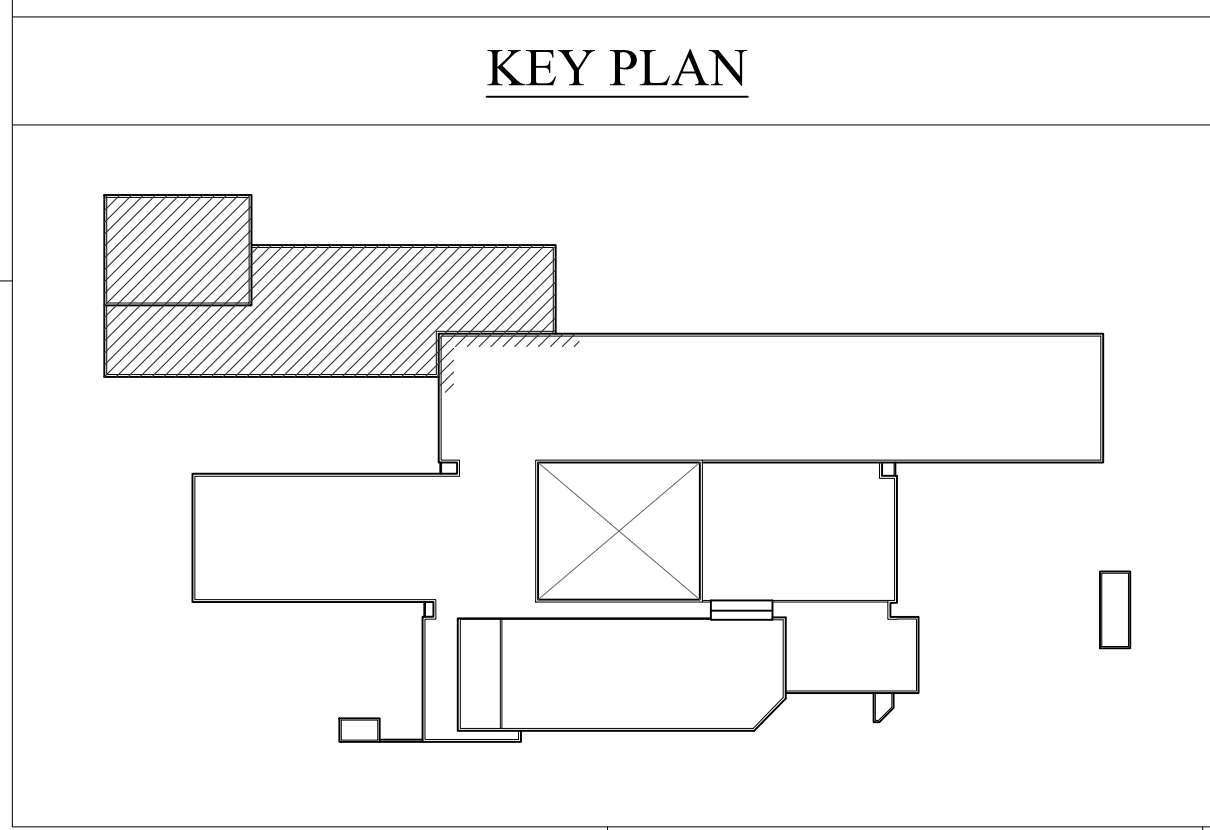
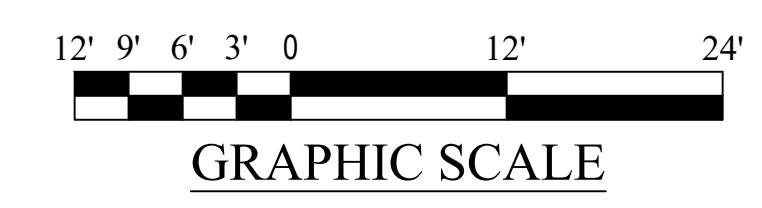
DRAWING LEGEND

⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
▣ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▤	METAL ROOF SYSTEM	—	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▣	SKY LIGHT	==	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	▣	ROOF HATCH	→	SLOPE ARROW	⊗	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



EXISTING ROOF CORE SUMMARY

▲ XRX	CORE NUMBER AND IDENTIFIER
▲ XFX	FLASHING NUMBER AND IDENTIFIER
IR1	GBUR PERLITE 3/4" POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 4"
IR2	GBUR PERLITE 3/4" POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 4"
JR1	GBUR PERLITE 3/4" POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 4"
JR2	GBUR PERLITE 3/4" POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 4"



WATERWAY ES ROOFING RENOVATION



701-A LADY STREET COLUMBIA SC 29201
TEL. 803.765.2418 FAX 803.765.2419
WWW.LS3P.COM

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PROJECT: 2201-218720
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PARTIAL EXISTING ROOF PLAN

A-506

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NOTES:

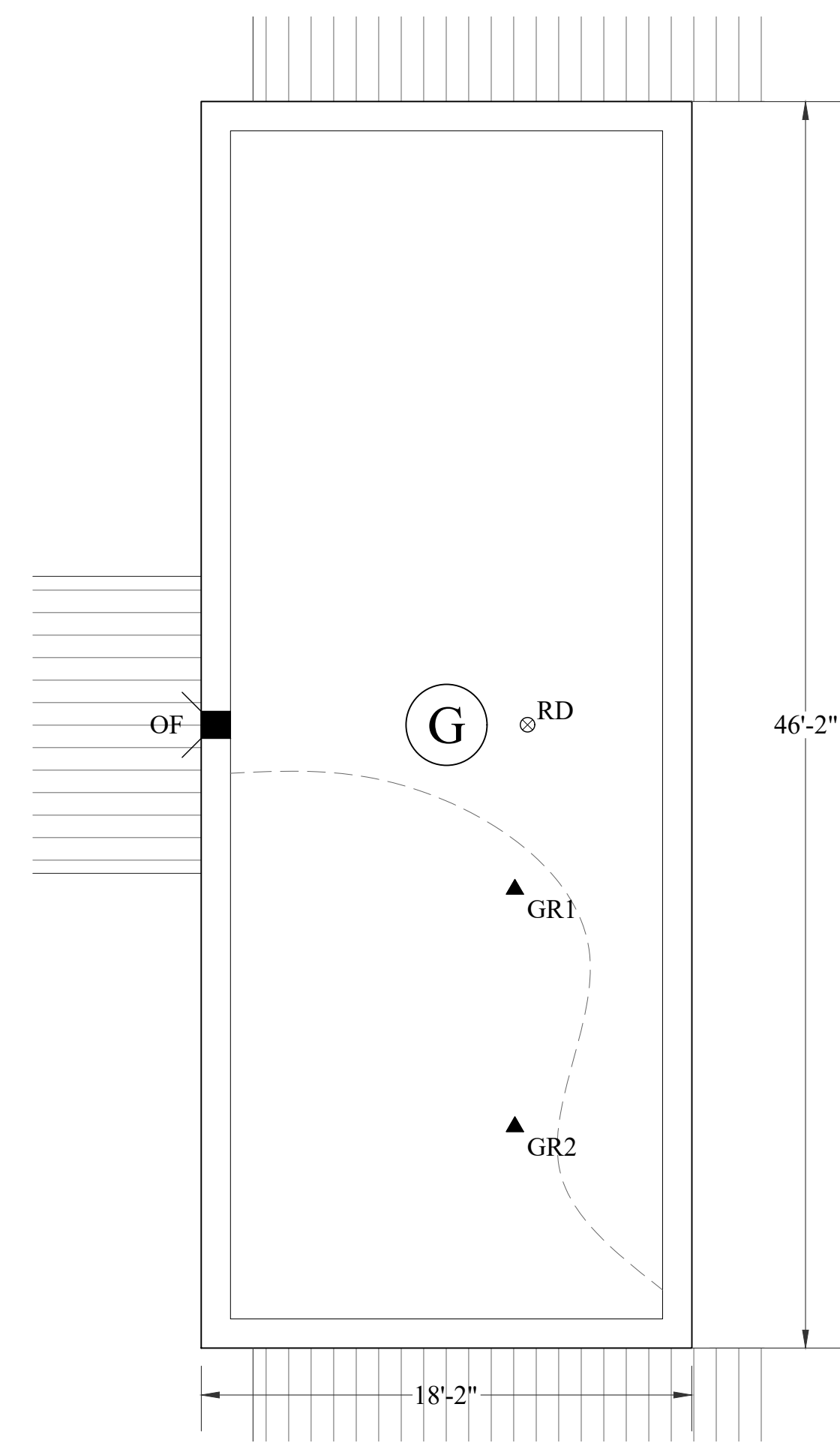
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND PENETRATIONS.
- ALL EQUIPMENT TO HAVE A MINIMUM BASE FLASHING HEIGHT OF 8" OR GREATER FROM TOP OF FINISH ROOF SURFACE.

EXISTING ROOF CORE SUMMARY

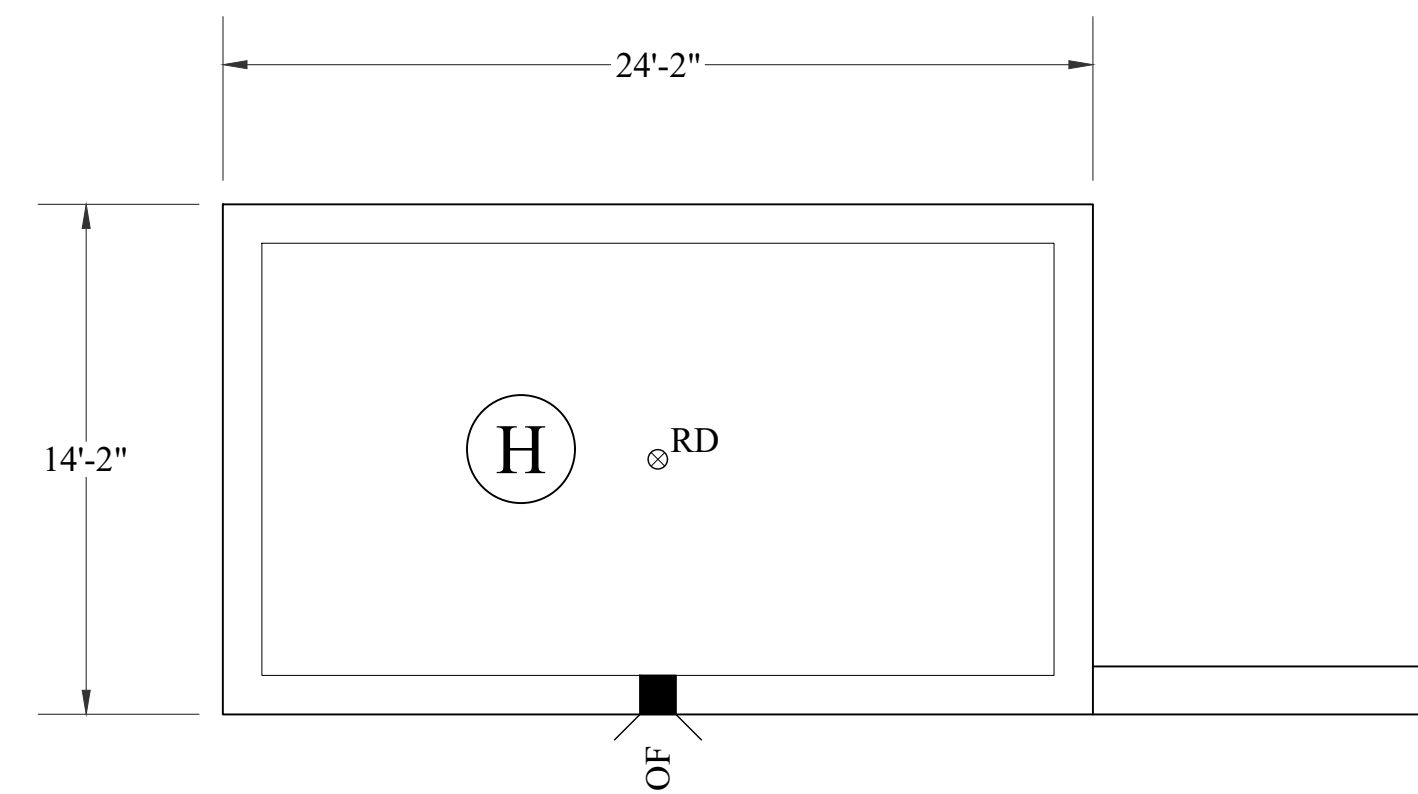
▲ XRX	CORE NUMBER AND IDENTIFIER
▲ XFX	FLASHING NUMBER AND IDENTIFIER
GR1	SINGLE PLY MEMBRANE POLYISOCYANURATE 3" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 3"
GR2	SINGLE PLY MEMBRANE POLYISOCYANURATE 5" METAL ROOF DECK TOTAL THICKNESS ABOVE ROOF DECK = 5"

DRAWING LEGEND

⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
■ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▨	METAL ROOF SYSTEM	—	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▨	SKY LIGHT	==	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	⊠	ROOF HATCH	→	SLOPE ARROW	⊗	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				

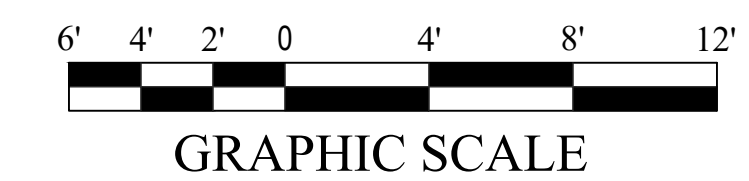
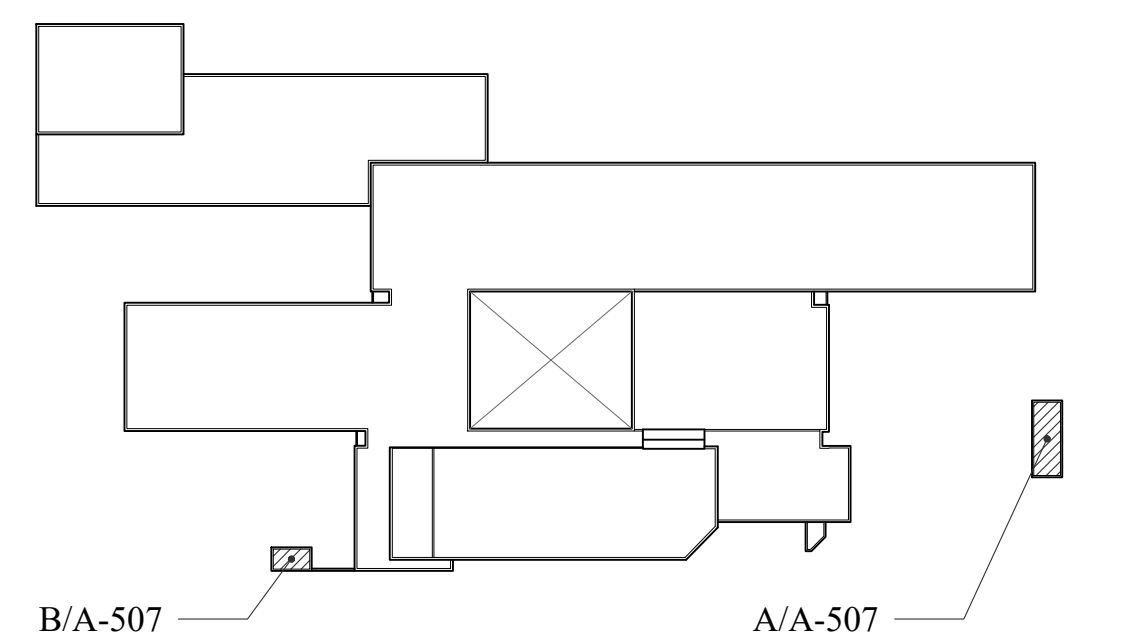


A PARTIAL ROOF PLAN - AREA "G"
A-507 3/16" = 1'-0"



B PARTIAL ROOF PLAN - AREA "H"
B-507 3/16" = 1'-0"

KEY PLAN



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**PARTIAL EXISTING
ROOF PLANS**

A-507

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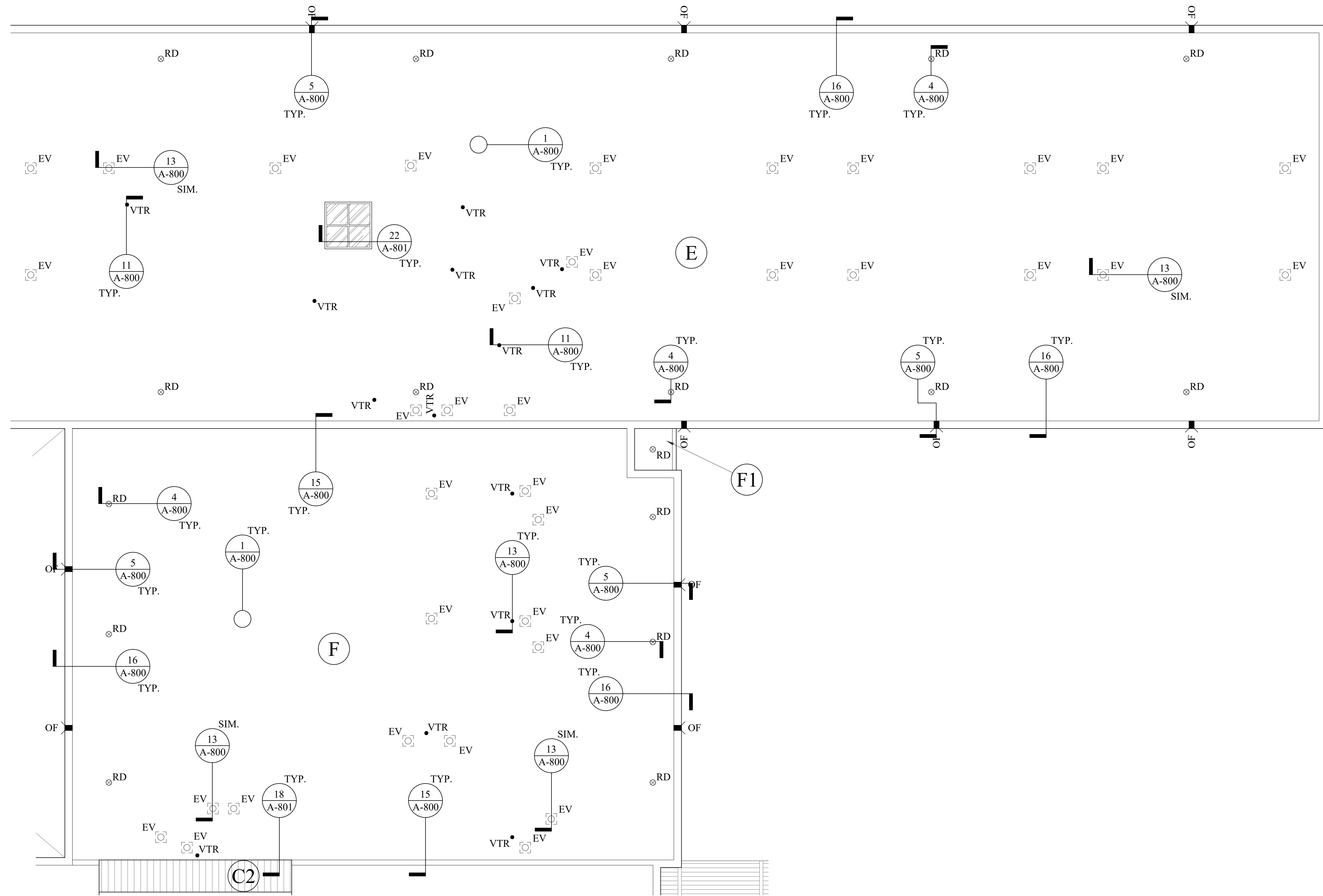
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DATE: 04/22/22
DRAWN BY: PD
CHECKED BY: CW

**PARTIAL NEW
ROOF PLAN
(BASE BID)**

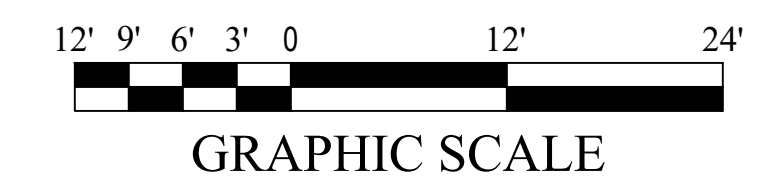
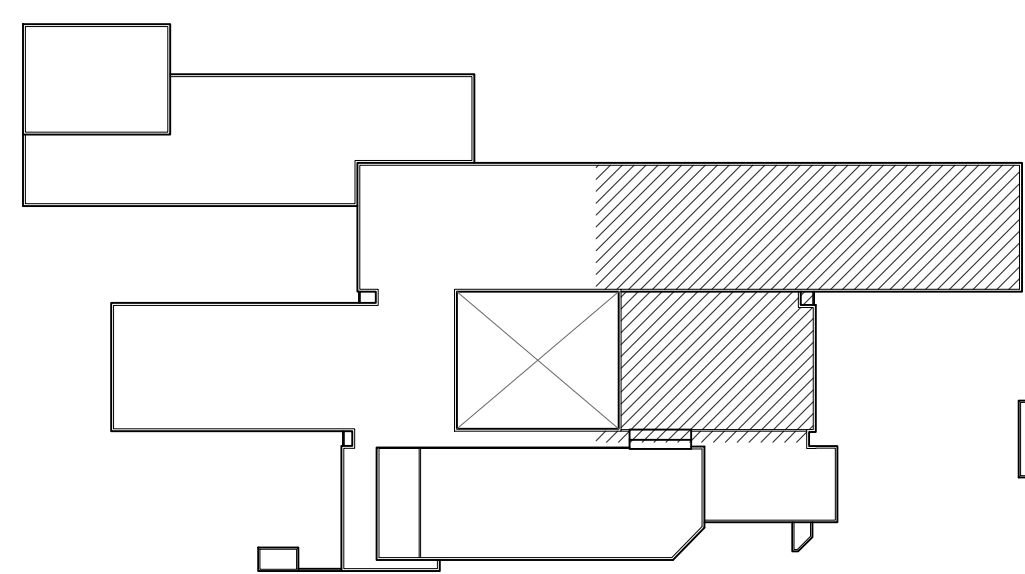
A-601

DRAWING LEGEND

⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
■ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▨	METAL ROOF SYSTEM	—	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▩	SKY LIGHT	==	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	▩	ROOF HATCH	→	SLOPE ARROW	⊗	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



KEY PLAN



REVISIONS:

No.	Description	Date

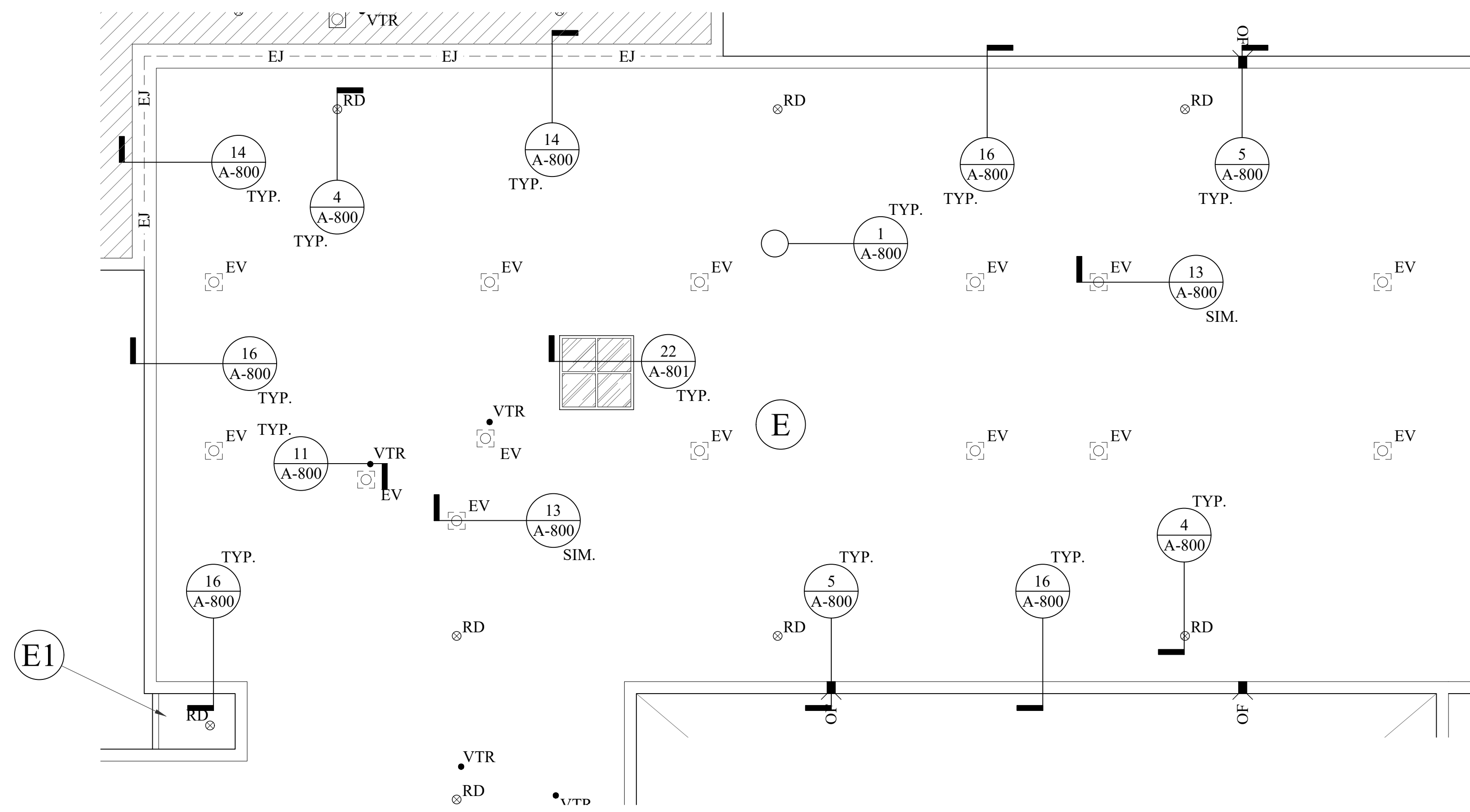
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DRAWN BY: PD
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(BASE BID)**

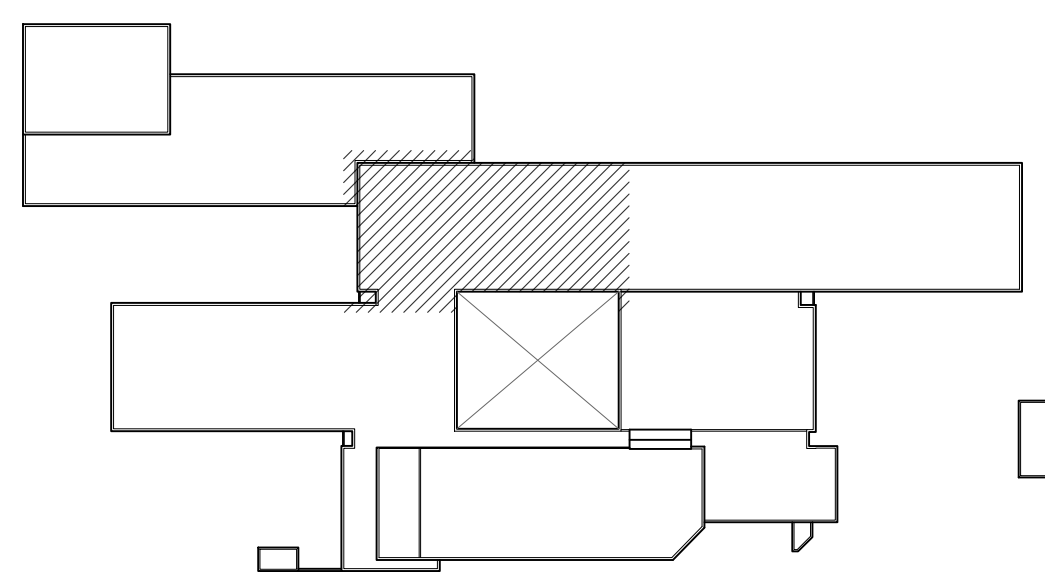
A-602

DRAWING LEGEND

⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
▬ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▬▬▬	METAL ROOF SYSTEM	▬▬▬	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▬▬▬	SKY LIGHT	▬▬▬	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	▬	ROOF HATCH	▬▬▬	SLOPE ARROW	⊗ XX	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



KEY PLAN



1

2

3

4

5

REVISIONS:

No.	Description	Date

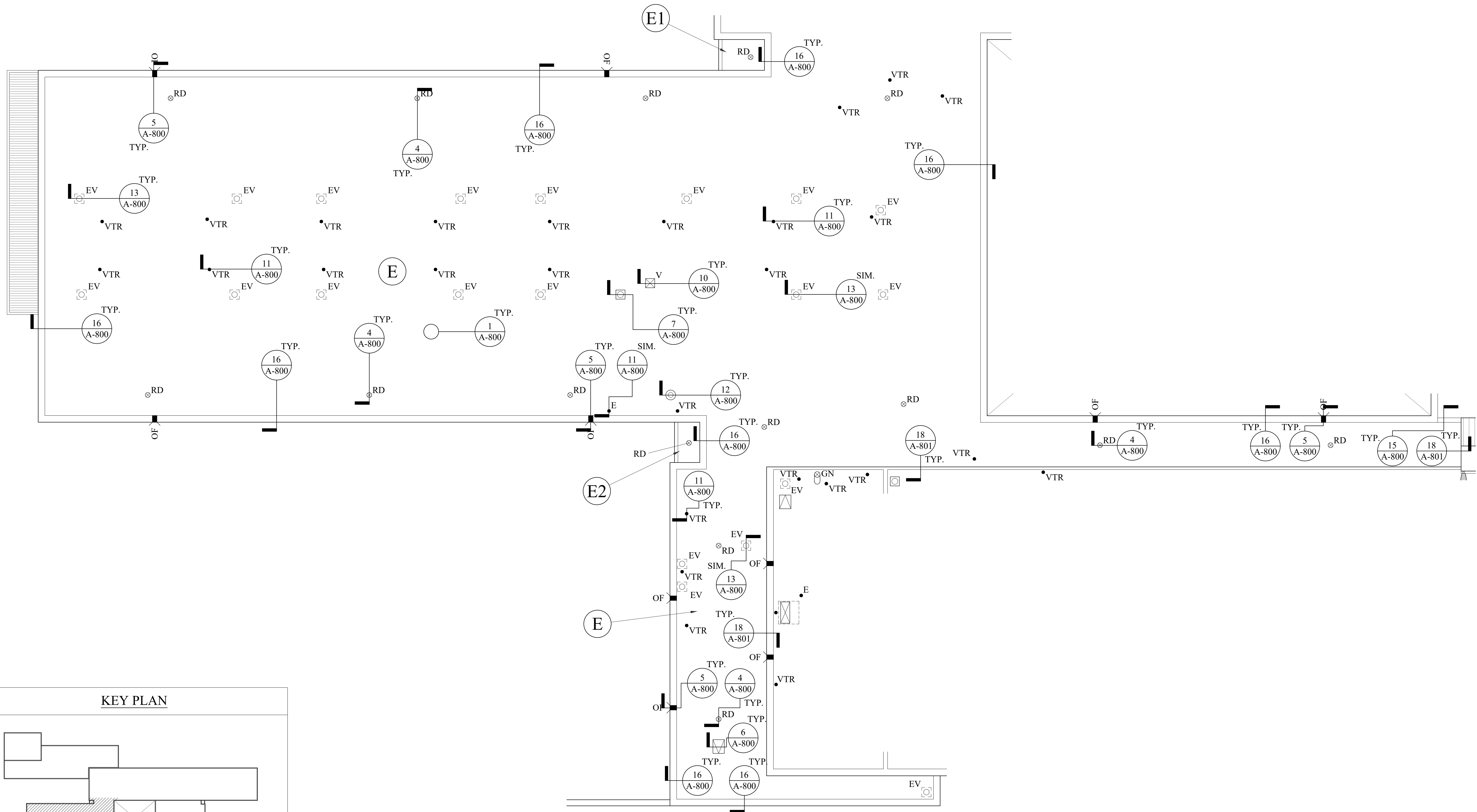
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DATE: 04/22/22
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**PARTIAL NEW
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(BASE BID)**

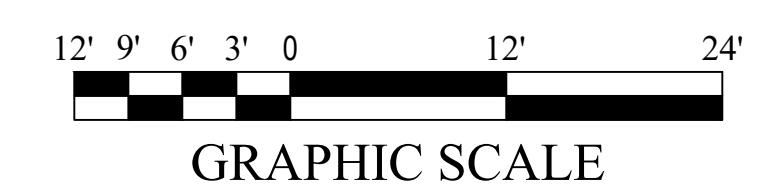
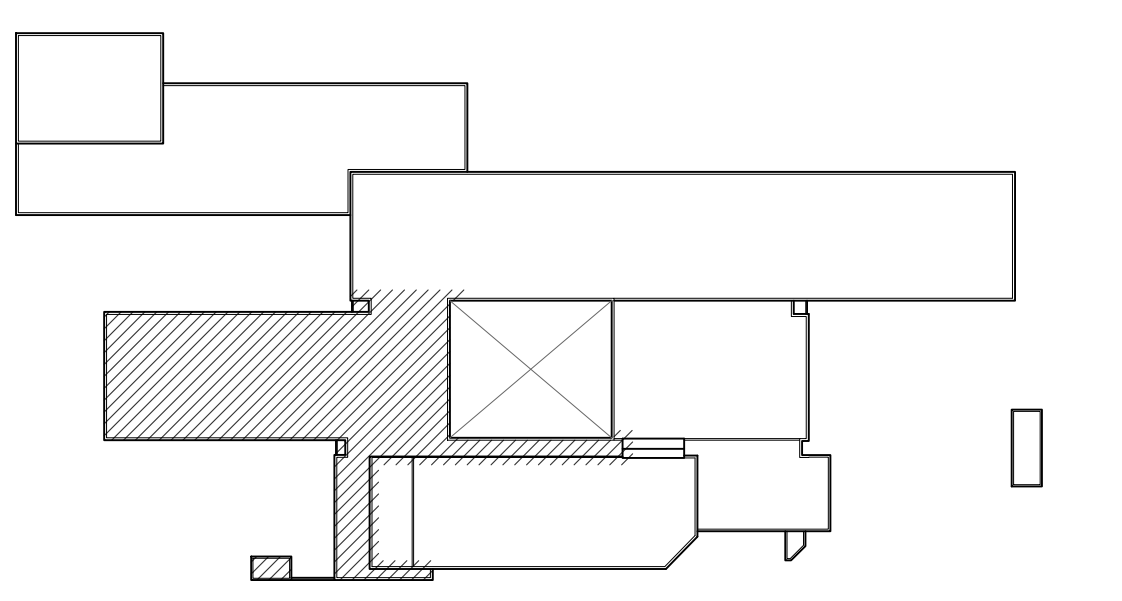
A-603

DRAWING LEGEND

⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
■ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▨	METAL ROOF SYSTEM	—	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▣	SKY LIGHT	==	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	▣	ROOF HATCH	→	SLOPE ARROW	⊗	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



KEY PLAN



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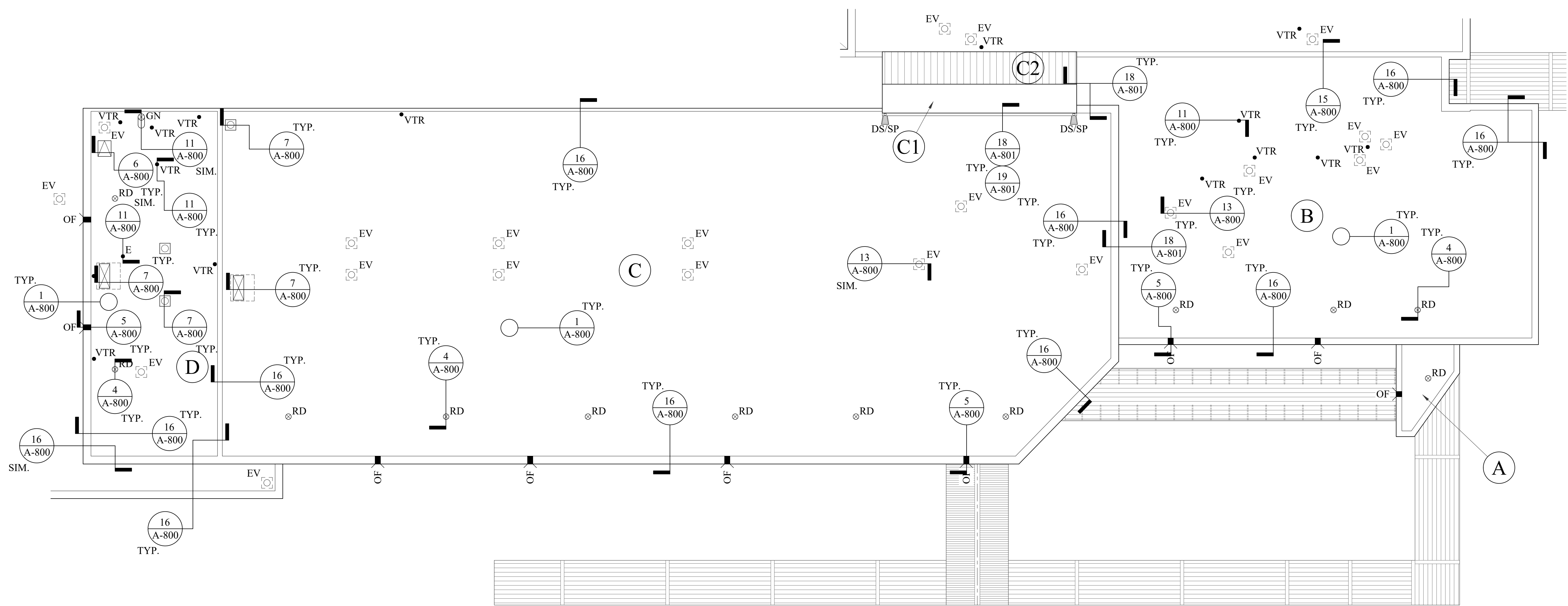
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**PARTIAL NEW
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(BASE BID)**

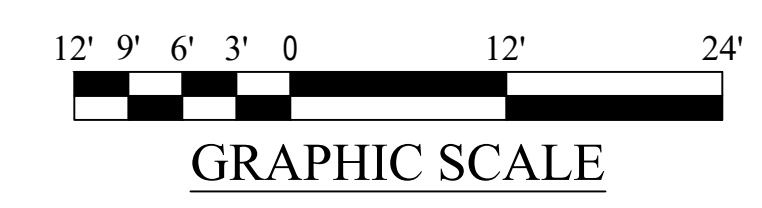
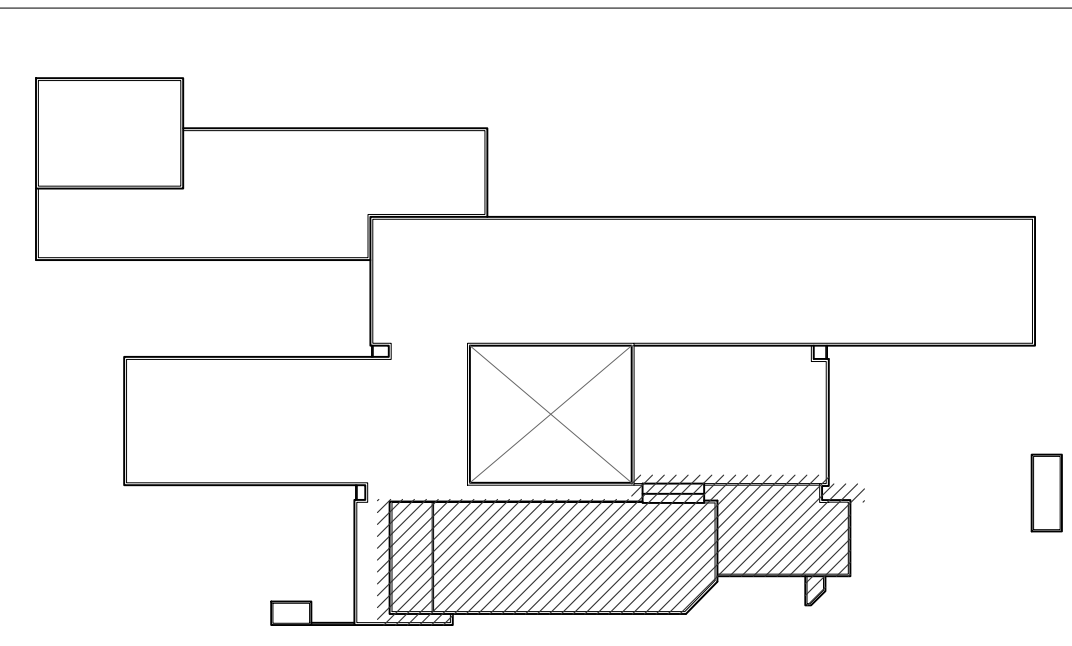
A-604

DRAWING LEGEND

⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
■ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▨	METAL ROOF SYSTEM	—	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▩	SKY LIGHT	==	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	⊠	ROOF HATCH	→	SLOPE ARROW	⊗	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



KEY PLAN



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No.	Description	Date

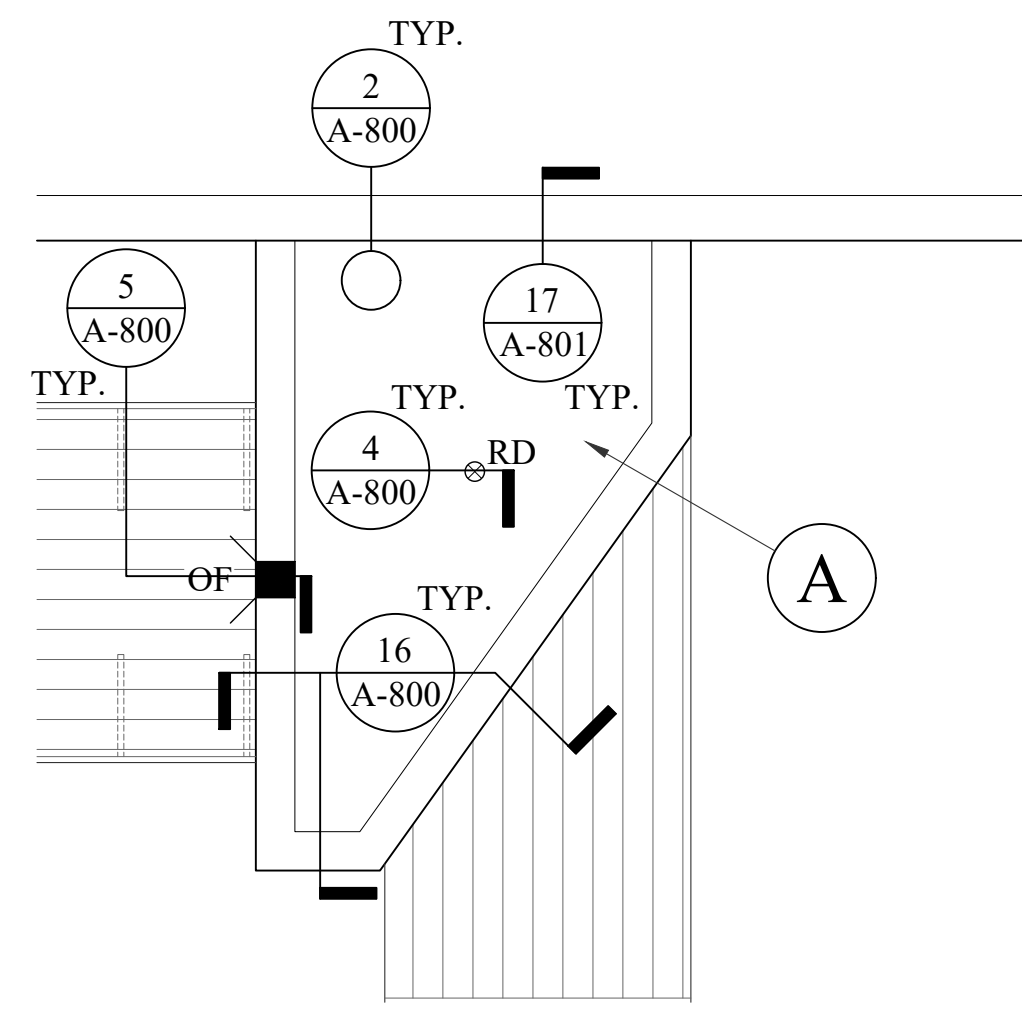
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DATE: 04/22/22
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**PARTIAL NEW
ROOF PLANS
(BASE BID)**

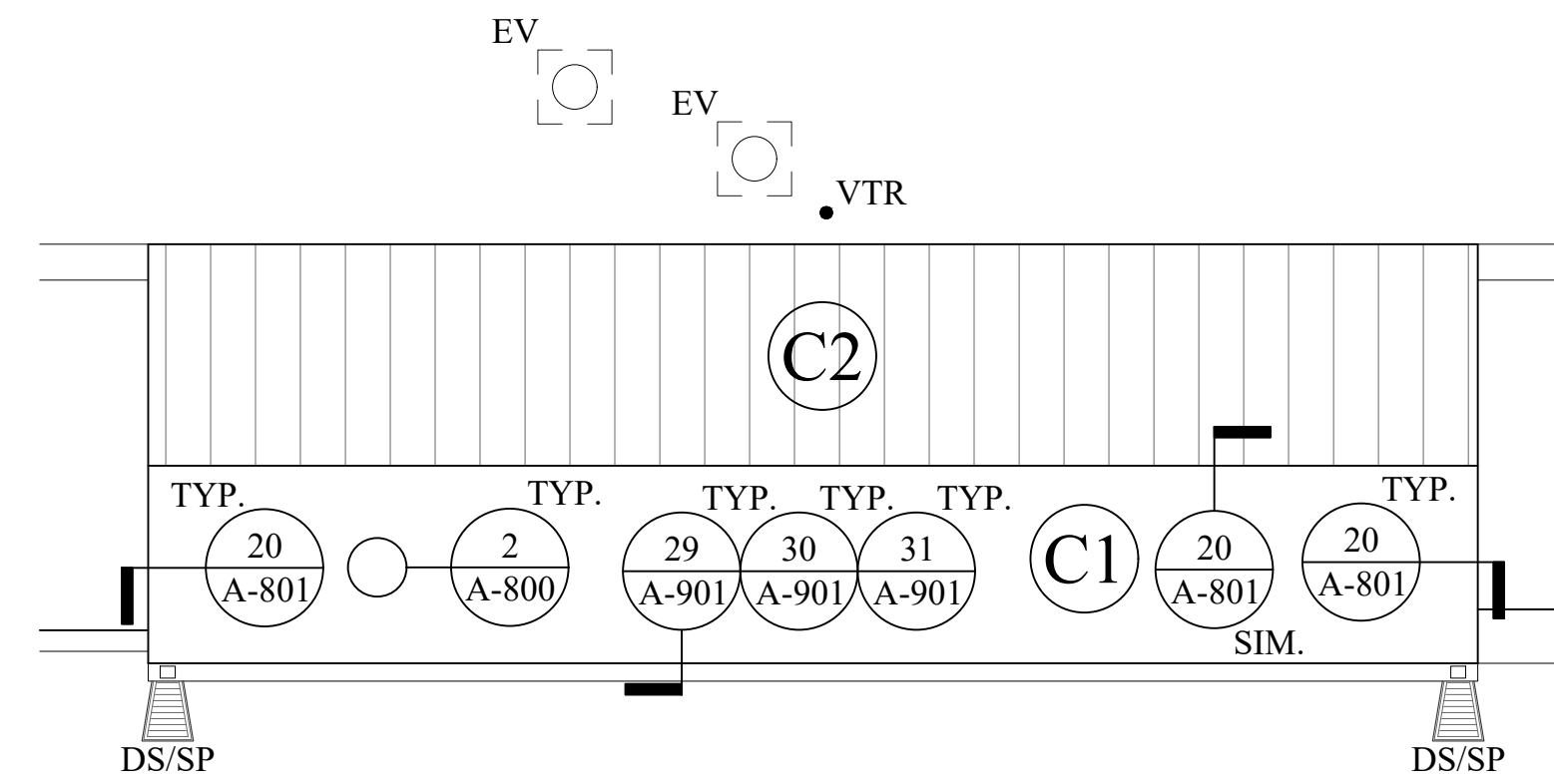
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DRAWING LEGEND

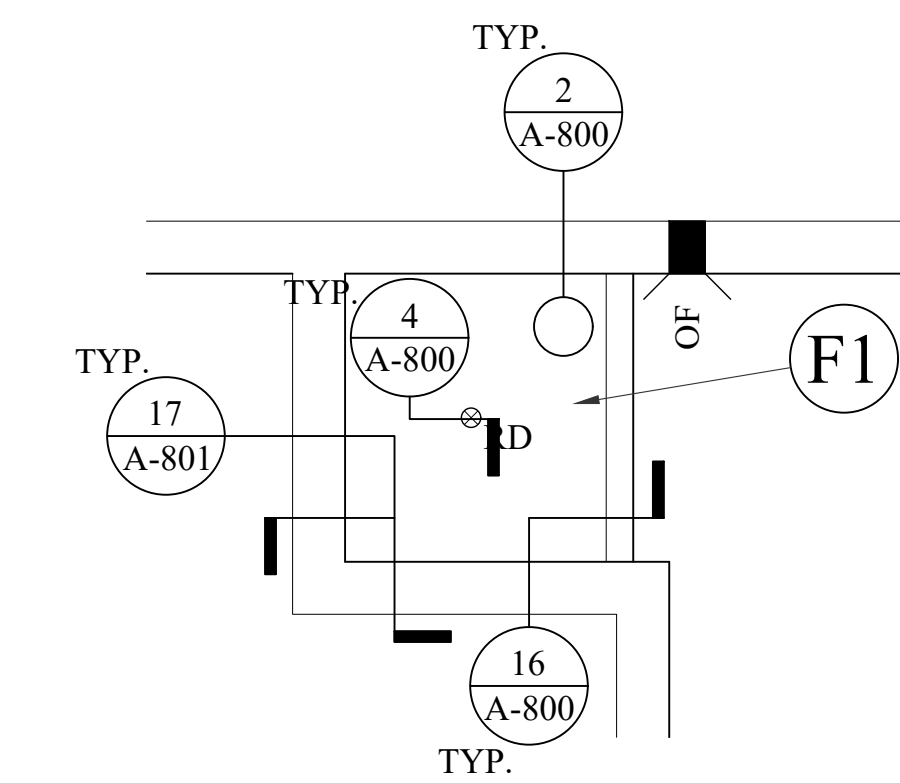
⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
■ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▨	METAL ROOF SYSTEM	▬	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▨	SKY LIGHT	▬	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	▨	ROOF HATCH	→	SLOPE ARROW	⊗ XX	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



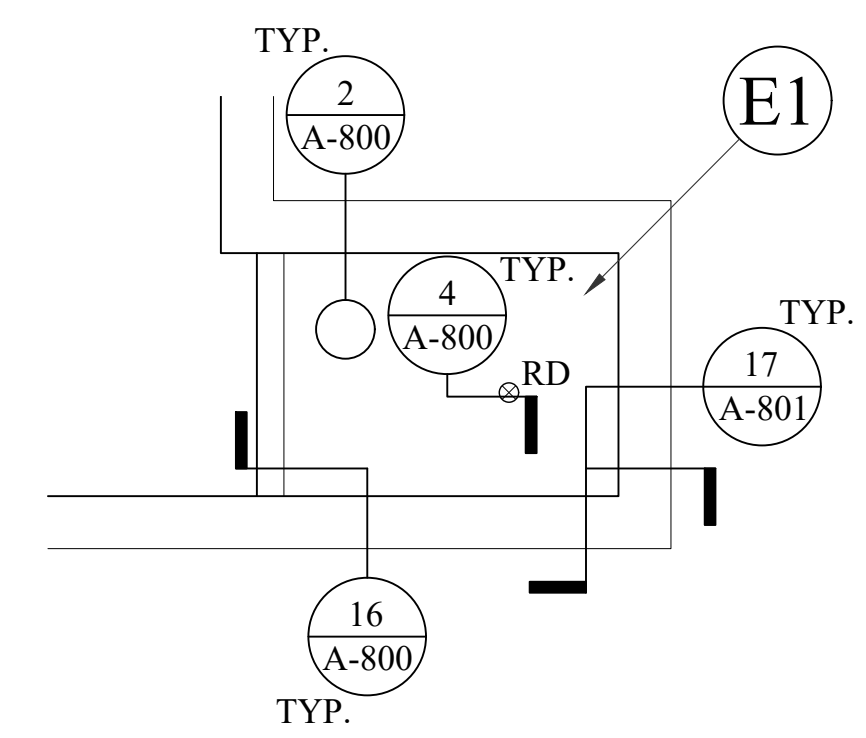
A PARTIAL ROOF PLAN - AREA "A"
A-605 3/16" = 1'-0"



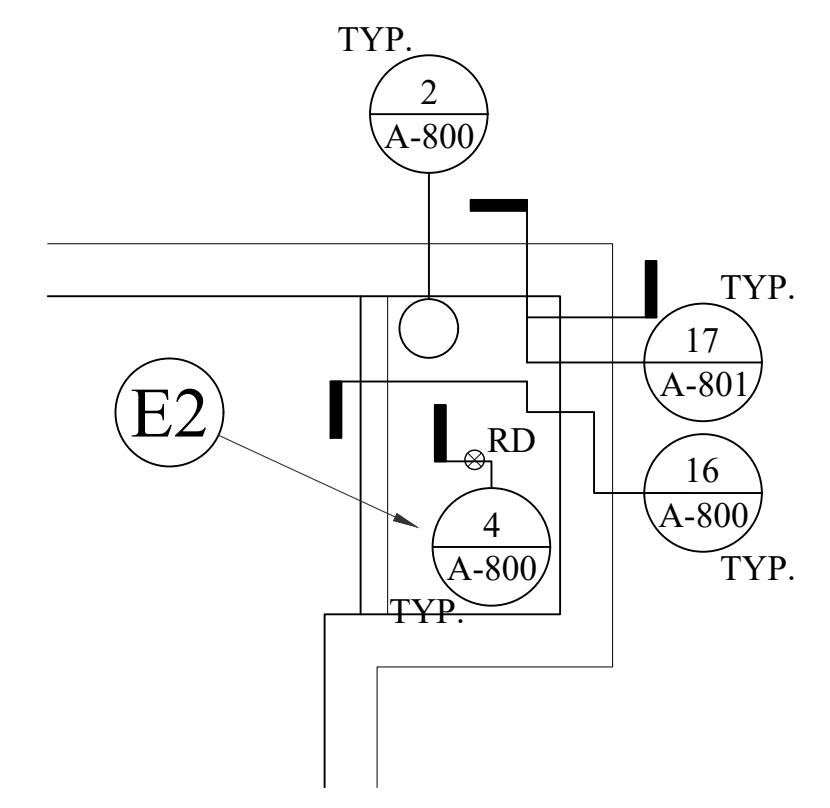
B PARTIAL ROOF PLAN - AREA "C1" AND "C2"
A-605 3/16" = 1'-0"



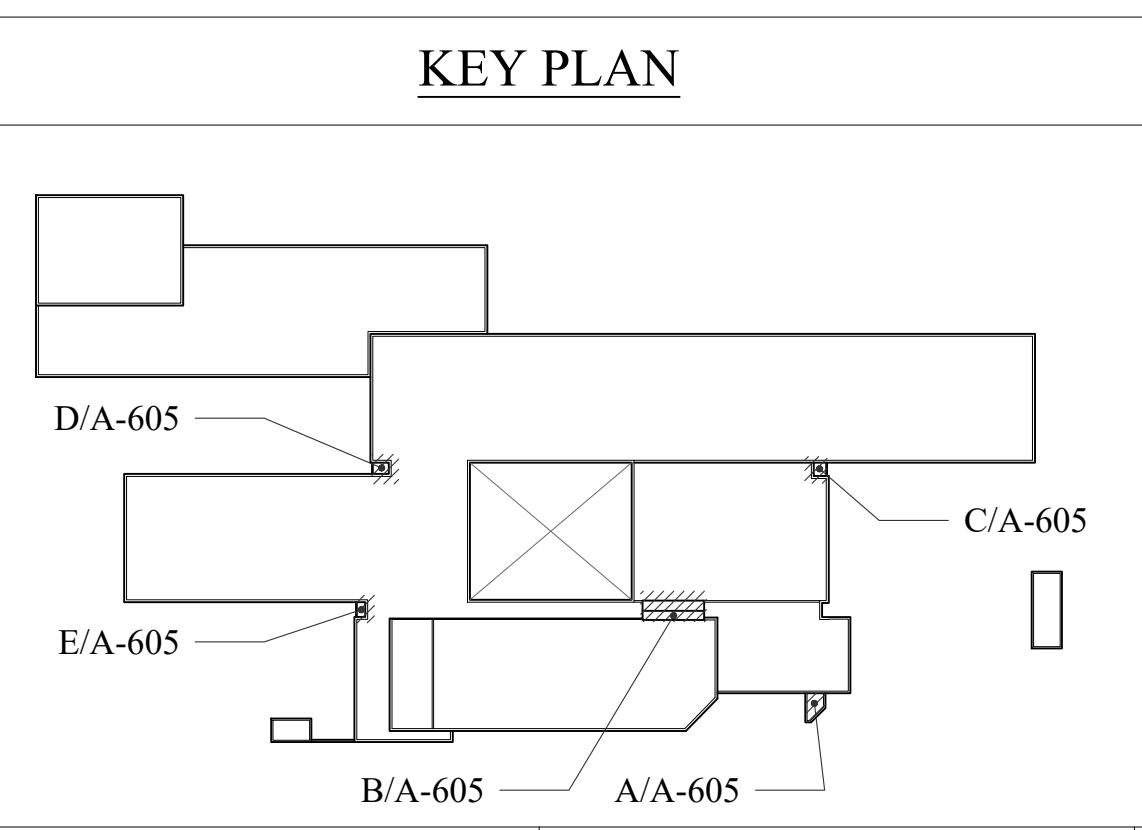
C PARTIAL ROOF PLAN - AREA "F1"
A-605 3/16" = 1'-0"



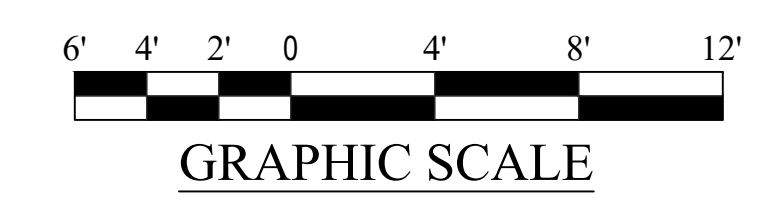
D PARTIAL ROOF PLAN - AREA "E1"
A-605 3/16" = 1'-0"



E PARTIAL ROOF PLAN - AREA "E2"
A-605 3/16" = 1'-0"



KEY PLAN



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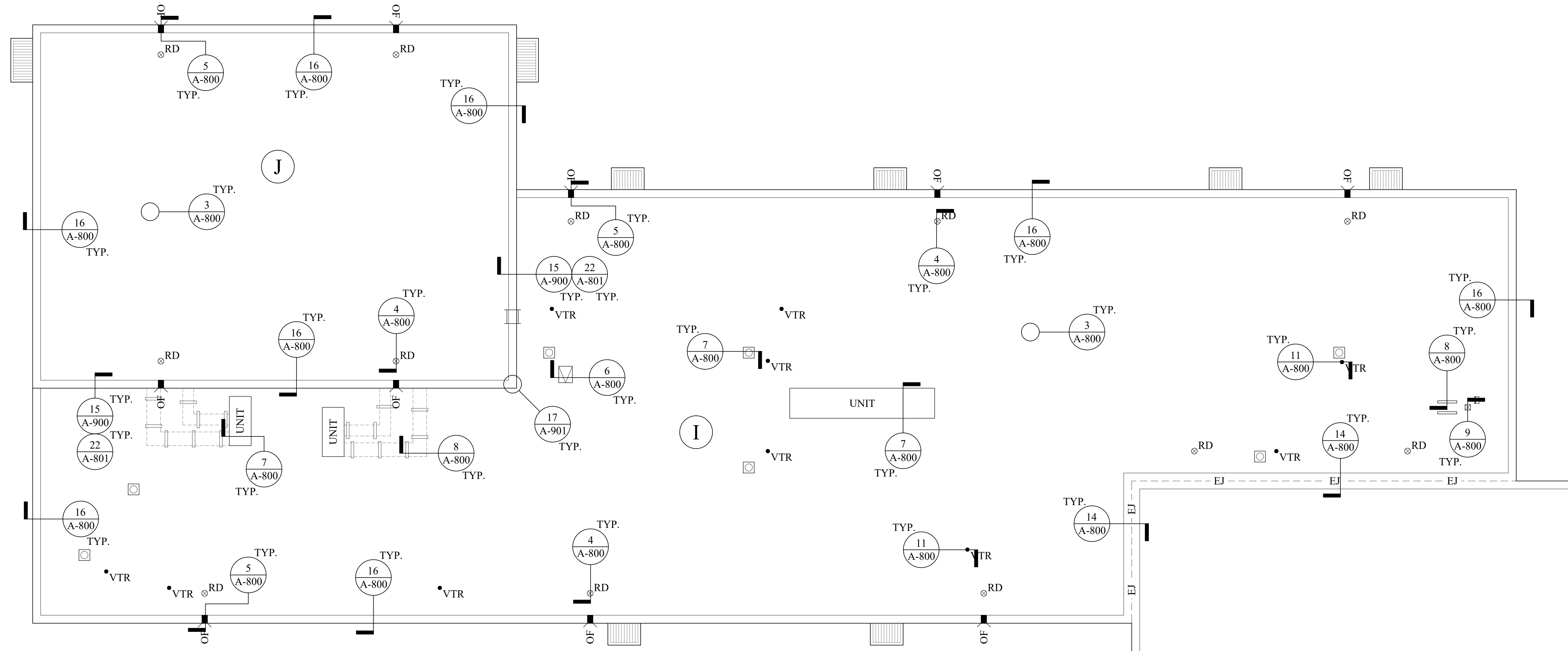
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DATE: 04/22/22
DRAWN BY: PD
CHECKED BY: CW

**PARTIAL NEW
ROOF PLAN
(ALT. NO. 1)**

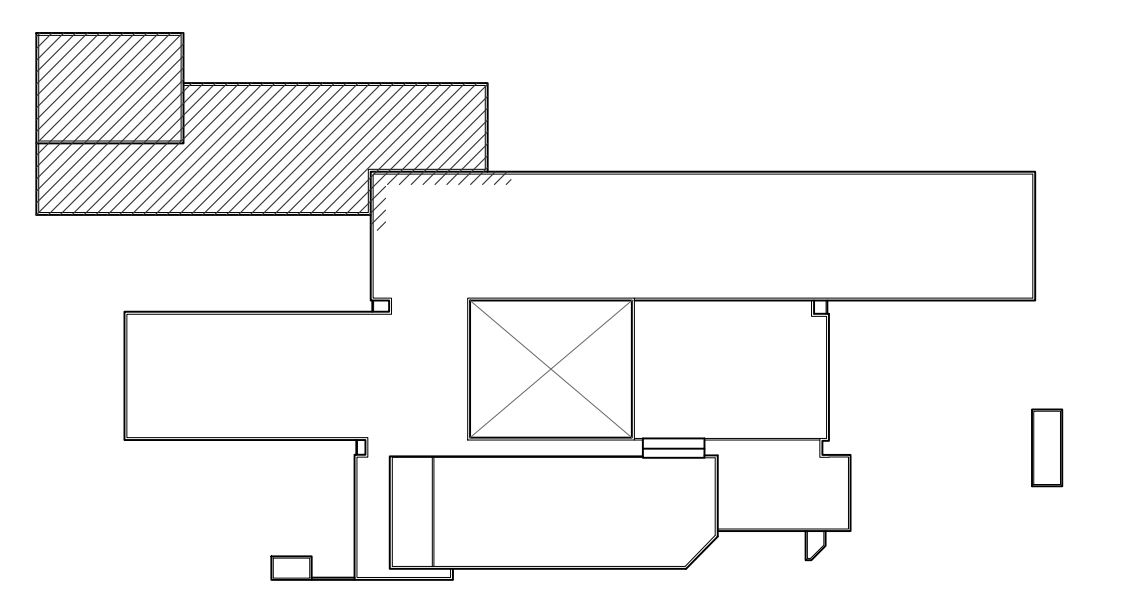
A-606

DRAWING LEGEND

⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
■ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▨	METAL ROOF SYSTEM	—	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▩	SKY LIGHT	==	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	▩	ROOF HATCH	→	SLOPE ARROW	⊗	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



KEY PLAN



1 2 3 4 5

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REVISIONS:

No.	Description	Date

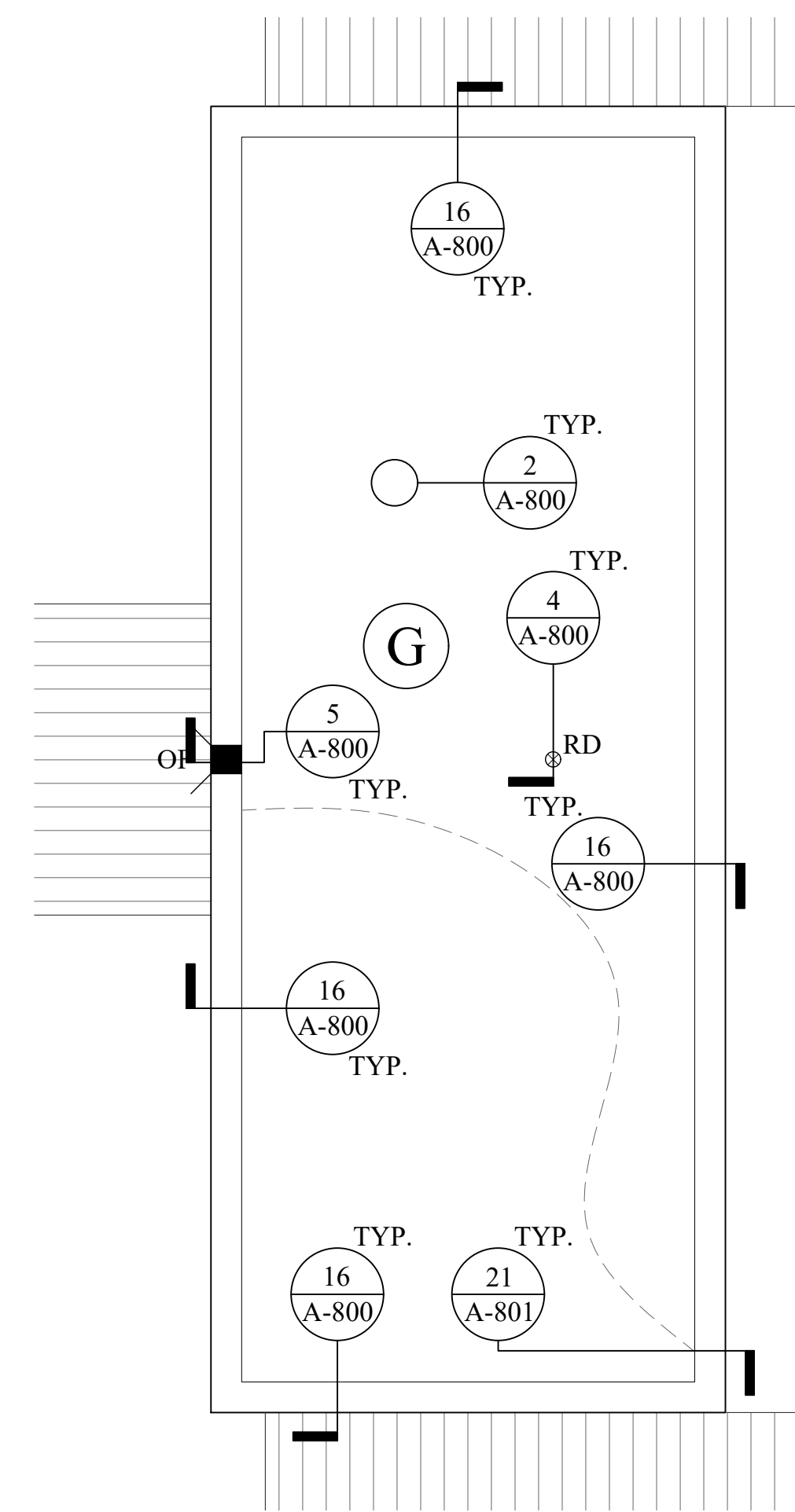
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**NEW PARTIAL
ROOF PLANS
(ALT. NO. 2)**

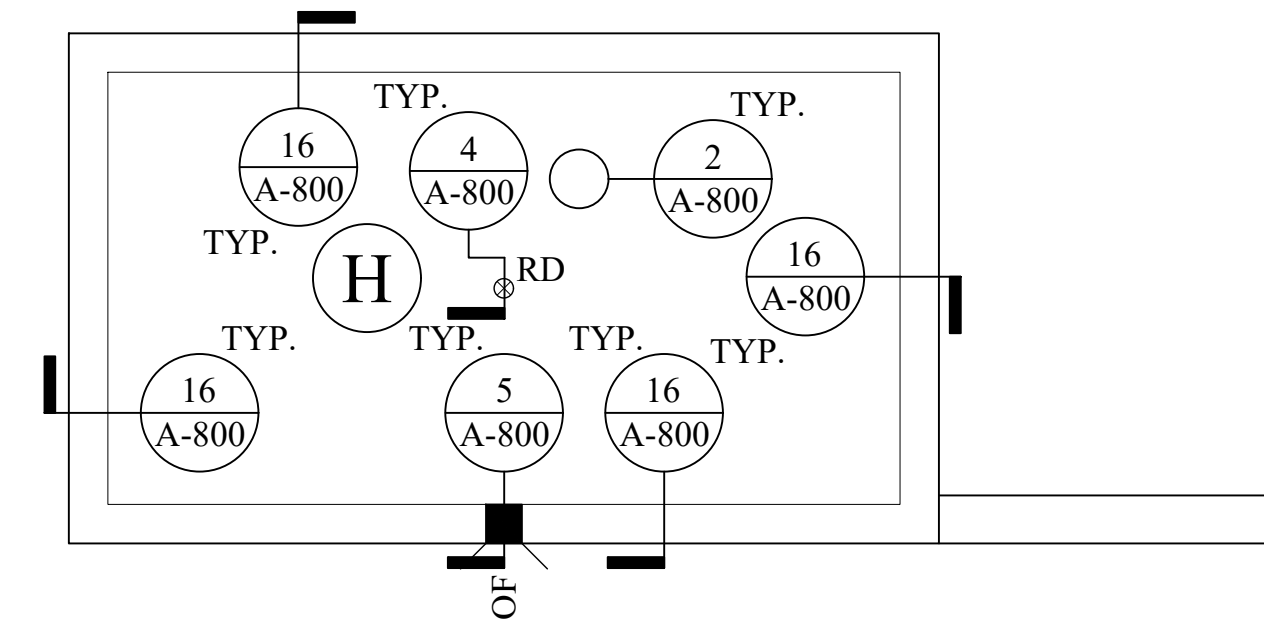
A-607

DRAWING LEGEND

RD	ROOF DRAIN	⊙	STACK	---EJ---	EXPANSION JOINT		MECHANICAL EQUIPMENT WITH DUCT PENETRATION
OF	OVERFLOW SCUPPER		VENTILATOR		METAL ROOF SYSTEM	==	PARAPET WALL
VTR	VENT THROUGH ROOF		GOOSE NECK / HOOD PENETRATION		SKY LIGHT	==	EQUIPMENT SUPPORT CURB
EV	EXHAUST VENT		ROOF HATCH		SLOPE ARROW	⊗	ROOF DESIGNATION
E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				

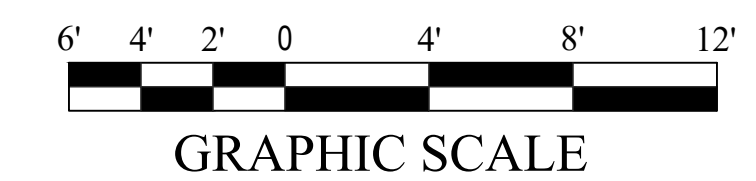
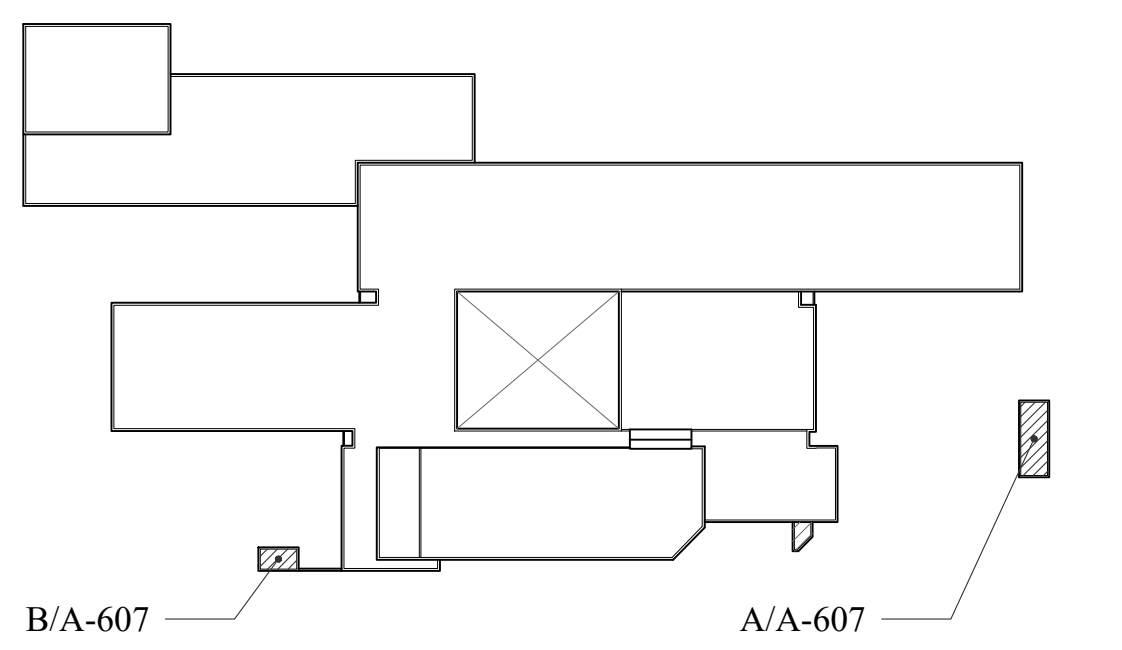


A PARTIAL ROOF PLAN - AREA "G"
A-607 3/16" = 1'-0"



B PARTIAL ROOF PLAN - AREA "H"
B-607 3/16" = 1'-0"

KEY PLAN



REVISIONS:

No.	Description	Date

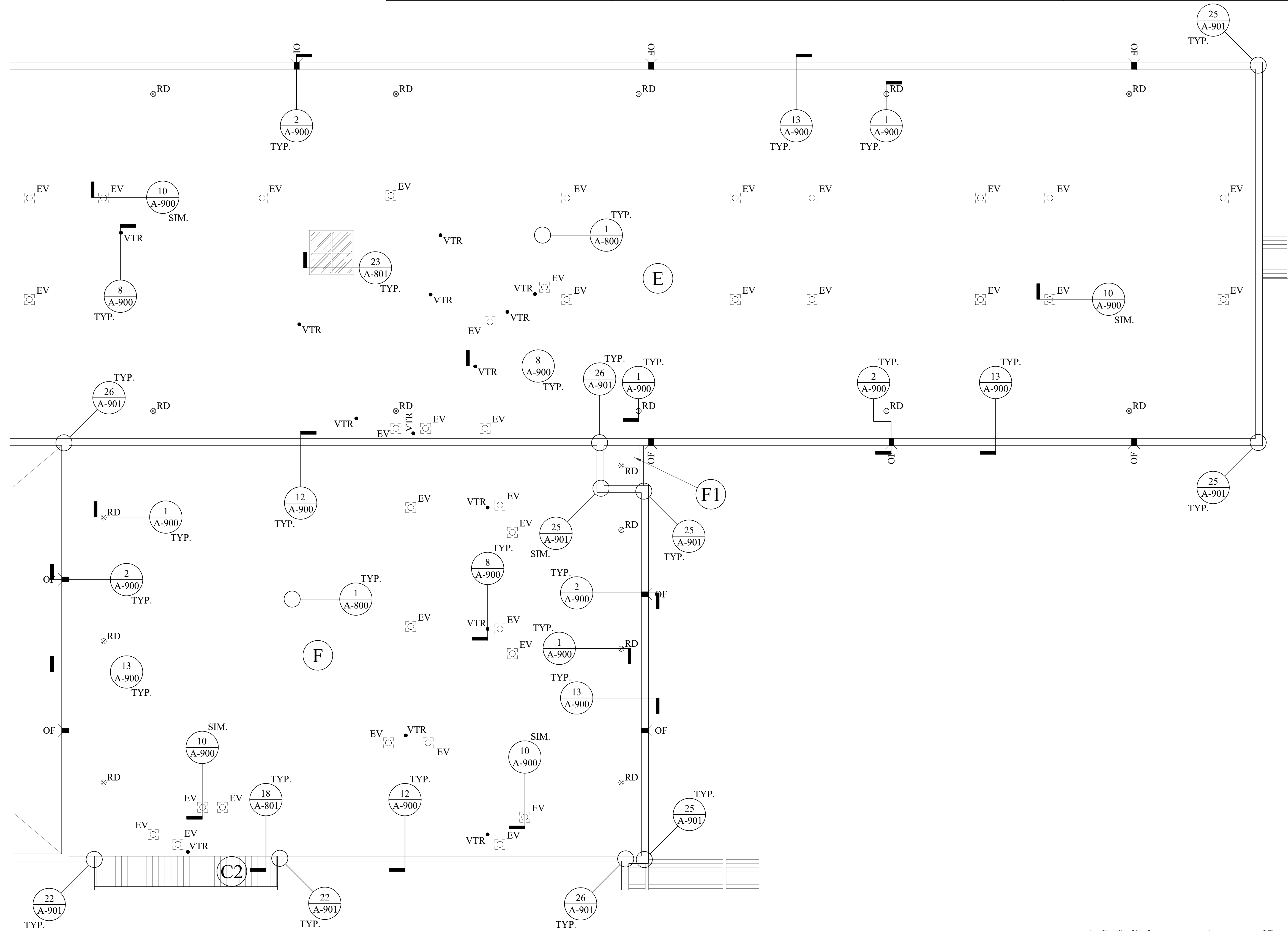
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**PARTIAL NEW
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(BASE BID & ALT. 3)**

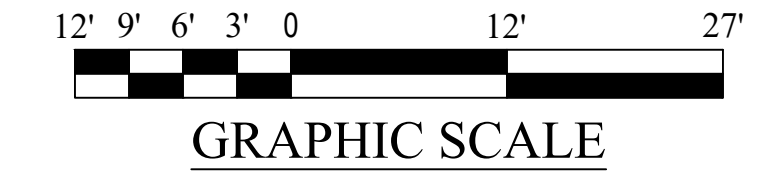
A-701

DRAWING LEGEND

RD	ROOF DRAIN	STACK	EXPANSION JOINT	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
OF	OVERFLOW SCUPPER	VENTILATOR	METAL ROOF SYSTEM	PARAPET WALL
VTR	VENT THROUGH ROOF	GOOSE NECK / HOOD PENETRATION	SKY LIGHT	EQUIPMENT SUPPORT CURB
EV	EXHAUST VENT	ROOF HATCH	SLOPE ARROW	ROOF DESIGNATION
E	ELECTRICAL PENETRATION / PITCH PAN	UNIT		



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No.	Description	Date

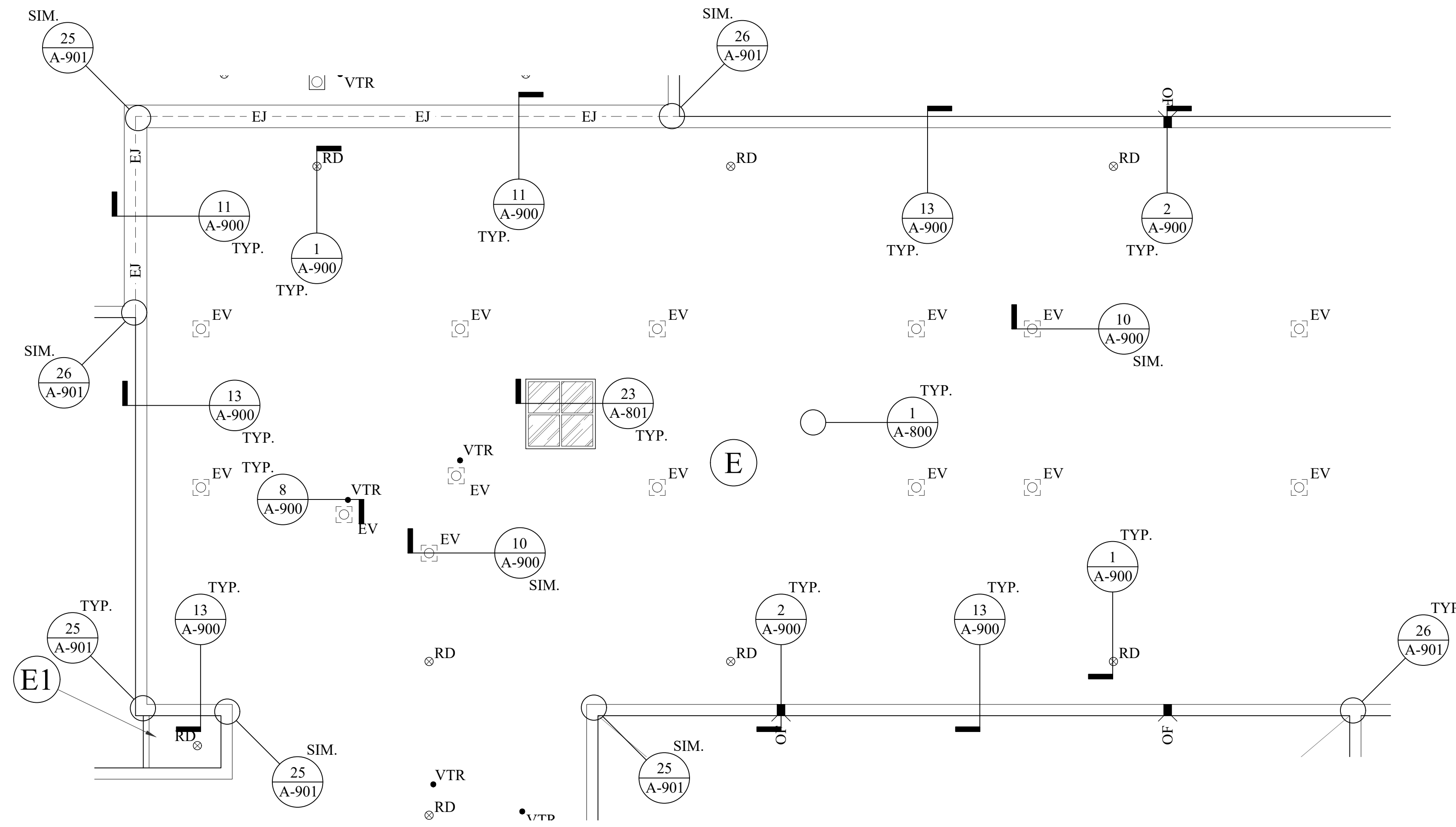
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**PARTIAL NEW
ROOF PLAN
(BASE BID & ALT. 3)**

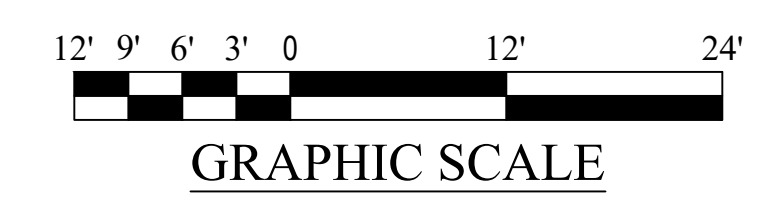
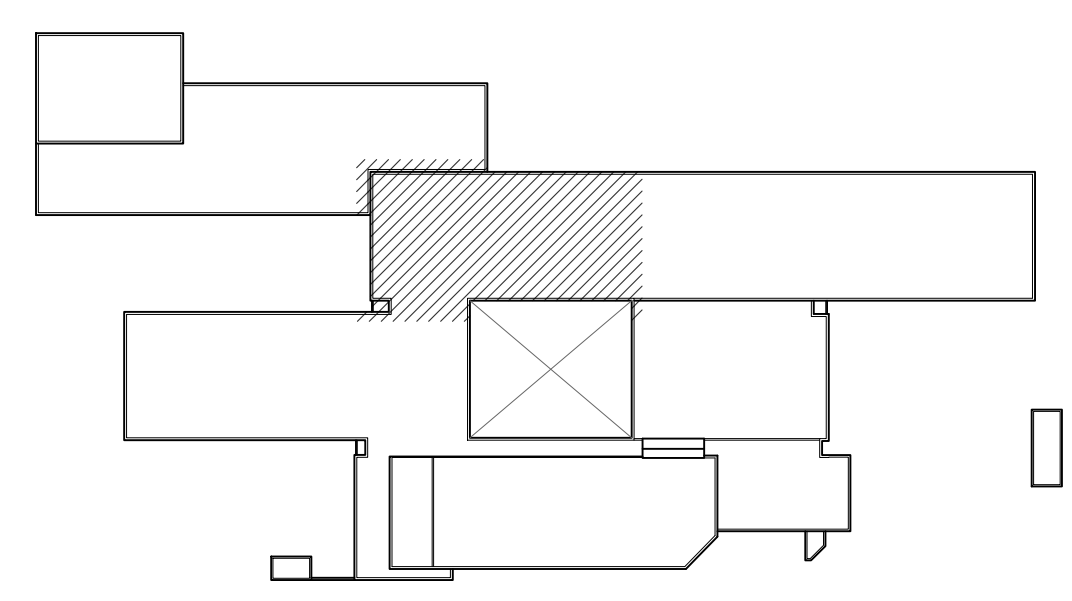
A-702

DRAWING LEGEND

⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
▬ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▬▬▬	METAL ROOF SYSTEM	▬▬▬	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▬▬▬	SKY LIGHT	▬▬▬	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	▬	ROOF HATCH	▬▬▬	SLOPE ARROW	⊗	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



KEY PLAN



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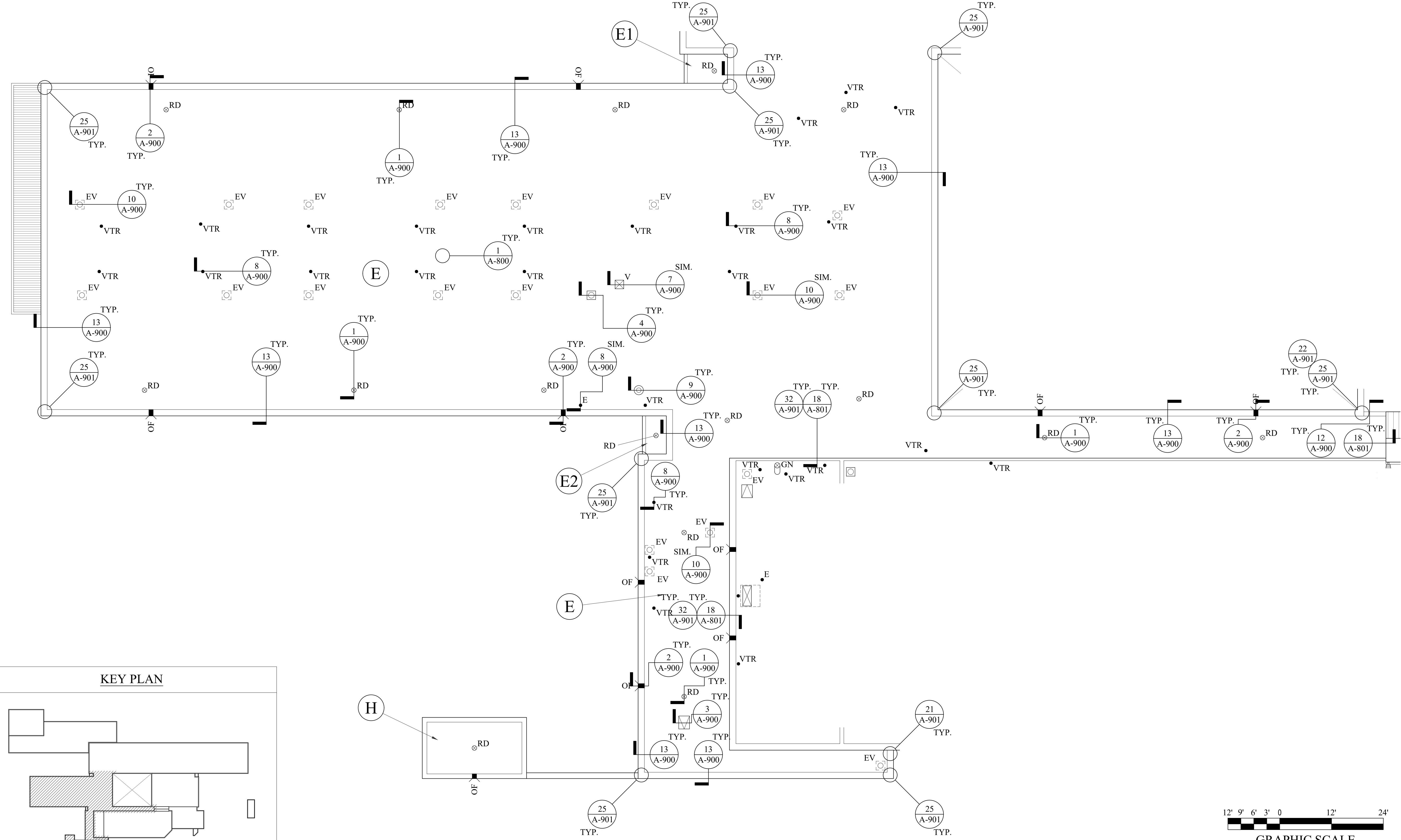
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DATE: 04/22/22
DRAWN BY: PD
CHECKED BY: CW

**PARTIAL NEW
ROOF PLAN
(BASE BID & ALT. 3)**

A-703

DRAWING LEGEND

⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
■ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▨	METAL ROOF SYSTEM	—	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▩	SKY LIGHT	==	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	▩	ROOF HATCH	→	SLOPE ARROW	⊗	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



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No.	Description	Date

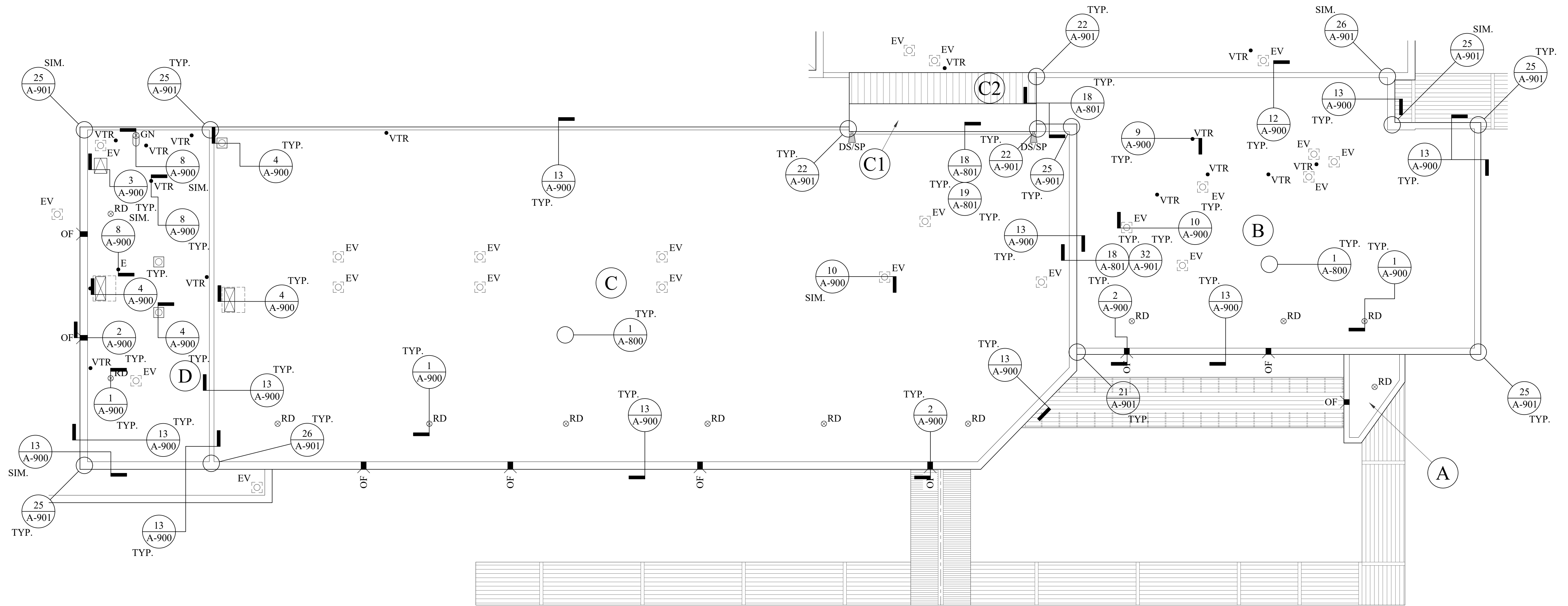
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**PARTIAL NEW
ROOF PLAN
(BASE BID & ALT. 3)**

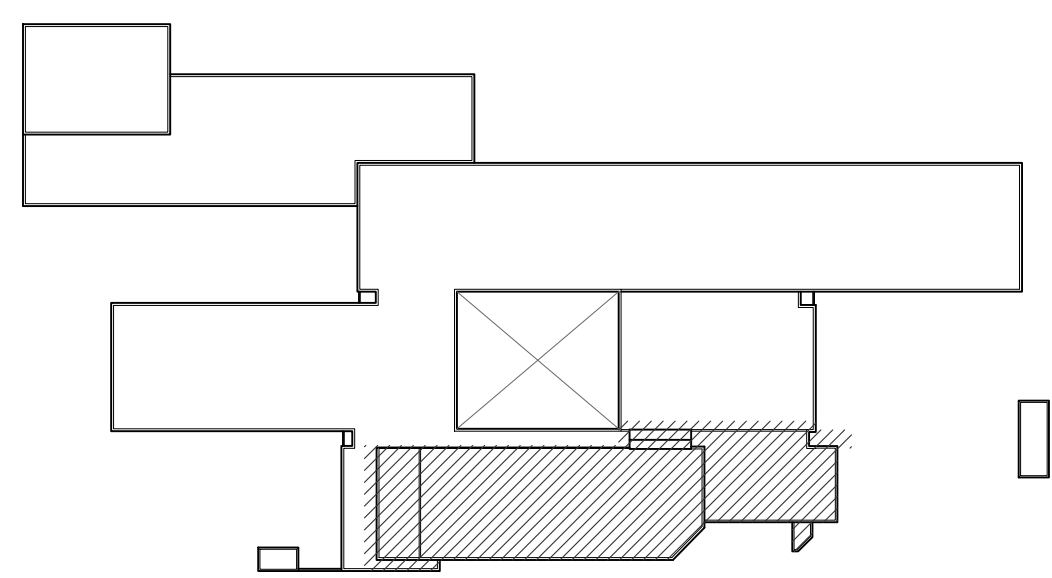
A-704

DRAWING LEGEND

RD	ROOF DRAIN	STACK	EJ	EXPANSION JOINT	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
OF	OVERFLOW SCUPPER	VENTILATOR	METAL ROOF SYSTEM	METAL ROOF SYSTEM	PARAPET WALL
VTR	VENT THROUGH ROOF	GOOSE NECK / HOOD PENETRATION	SKY LIGHT	SKY LIGHT	EQUIPMENT SUPPORT CURB
EV	EXHAUST VENT	ROOF HATCH	SLOPE ARROW	SLOPE ARROW	ROOF DESIGNATION
E	ELECTRICAL PENETRATION / PITCH PAN	UNIT			



KEY PLAN



REVISIONS:

No.	Description	Date

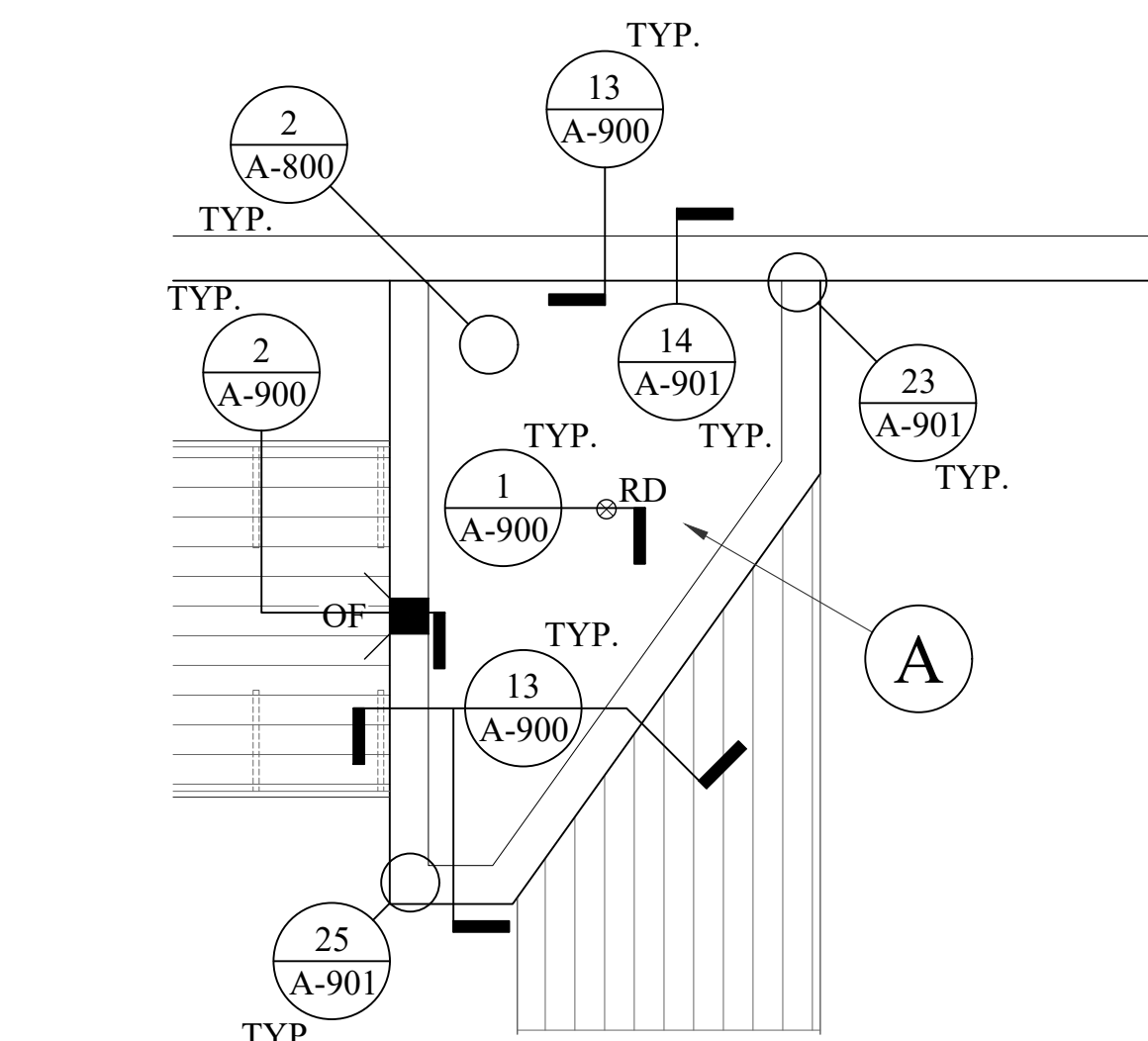
PROJECT: 2201-218720
DATE: 04/22/22
DRAWN BY: PD
CHECKED BY: CW

**PARTIAL NEW
ROOF PLAN
(BASE BID & ALT. 3)**

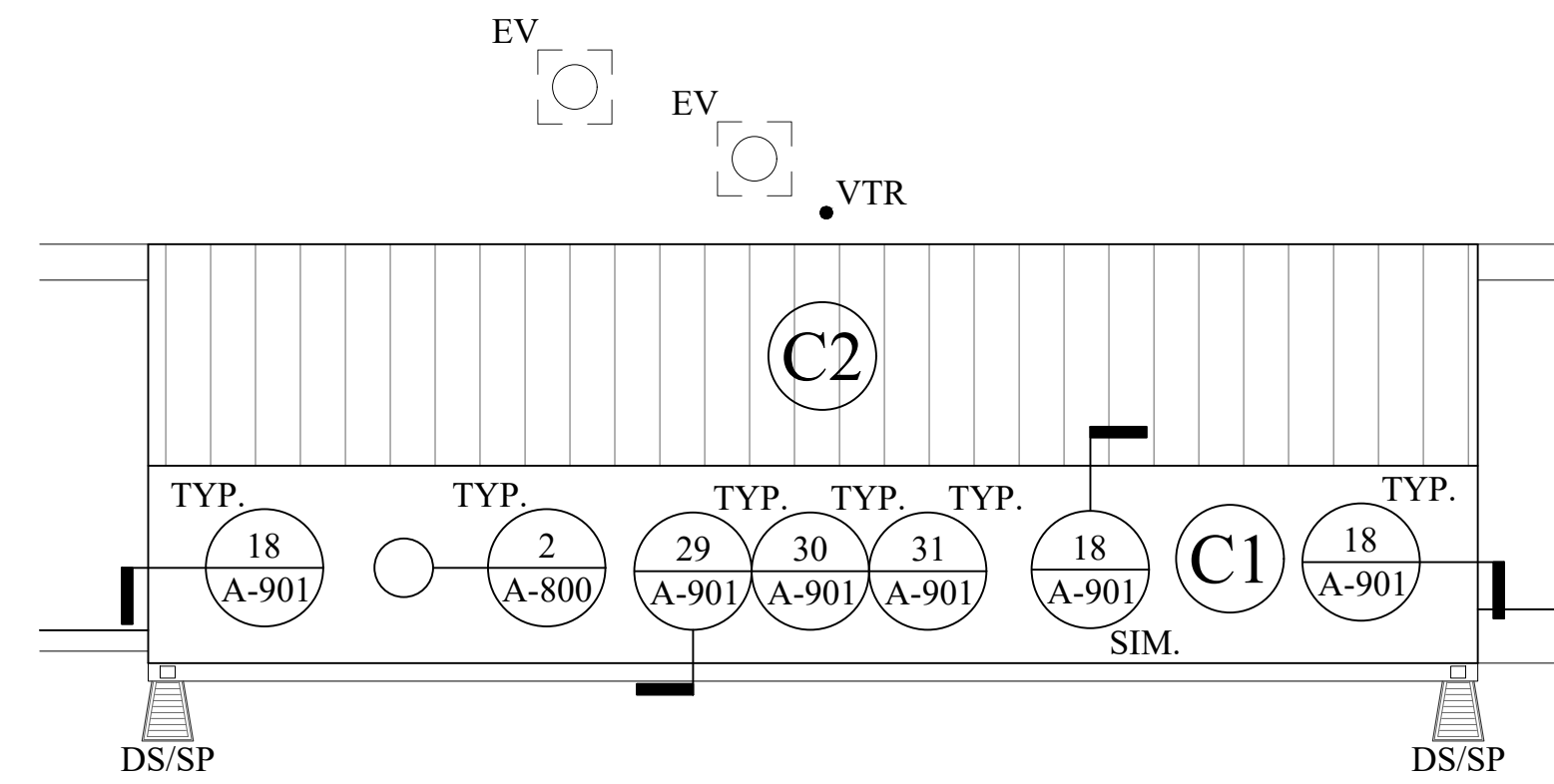
A-705

DRAWING LEGEND

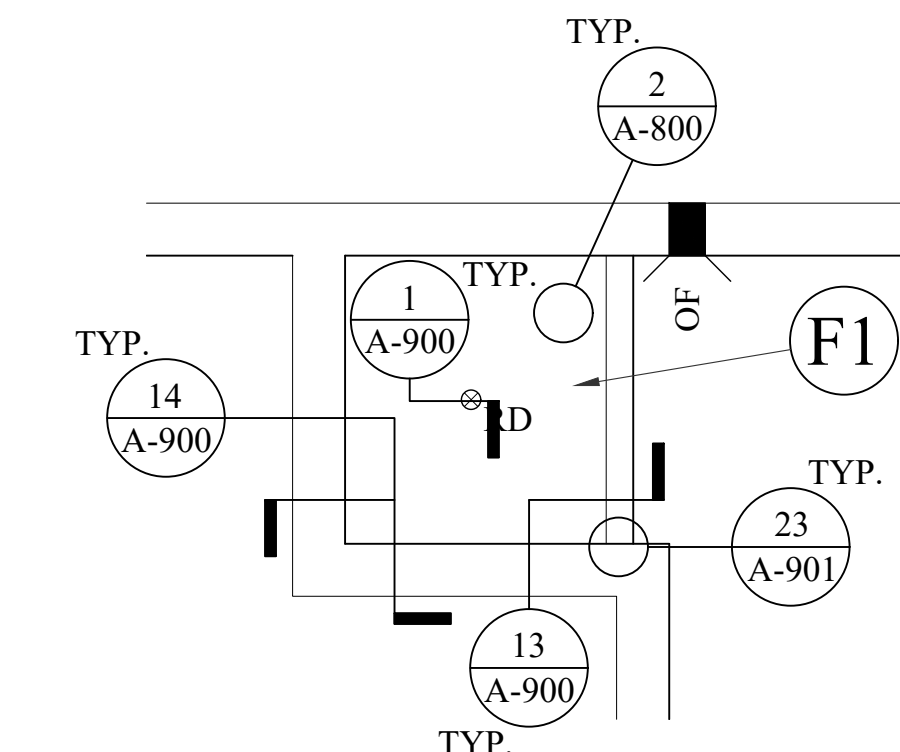
⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
■ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▨	METAL ROOF SYSTEM	—	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▩	SKY LIGHT	==	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	▩	ROOF HATCH	→	SLOPE ARROW	⊗ XX	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



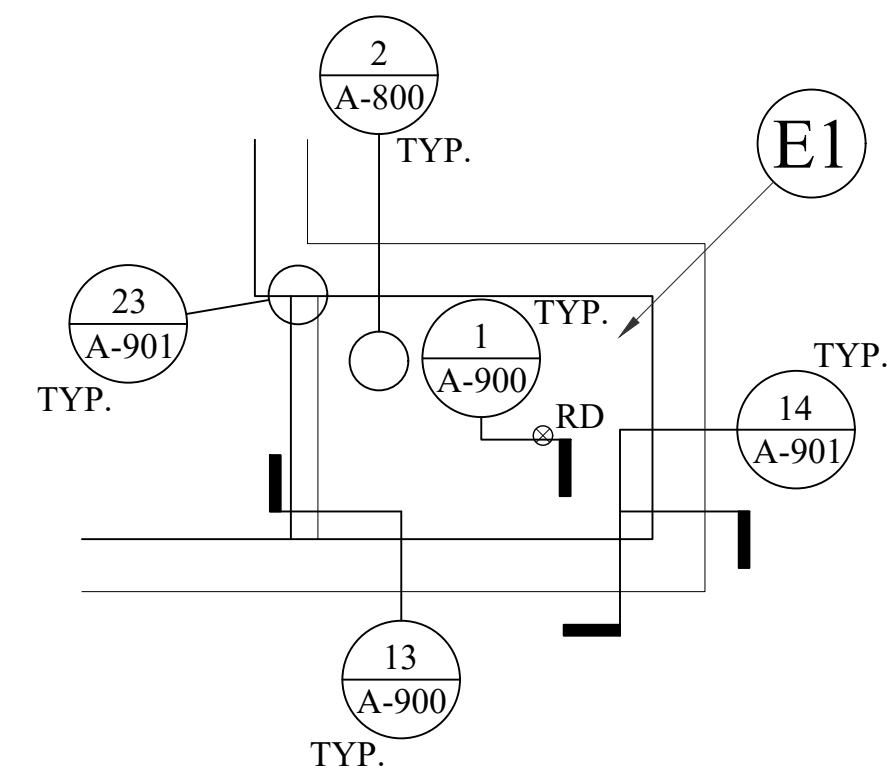
A PARTIAL ROOF PLAN - AREA "A"
A-705 3/16" = 1'-0"



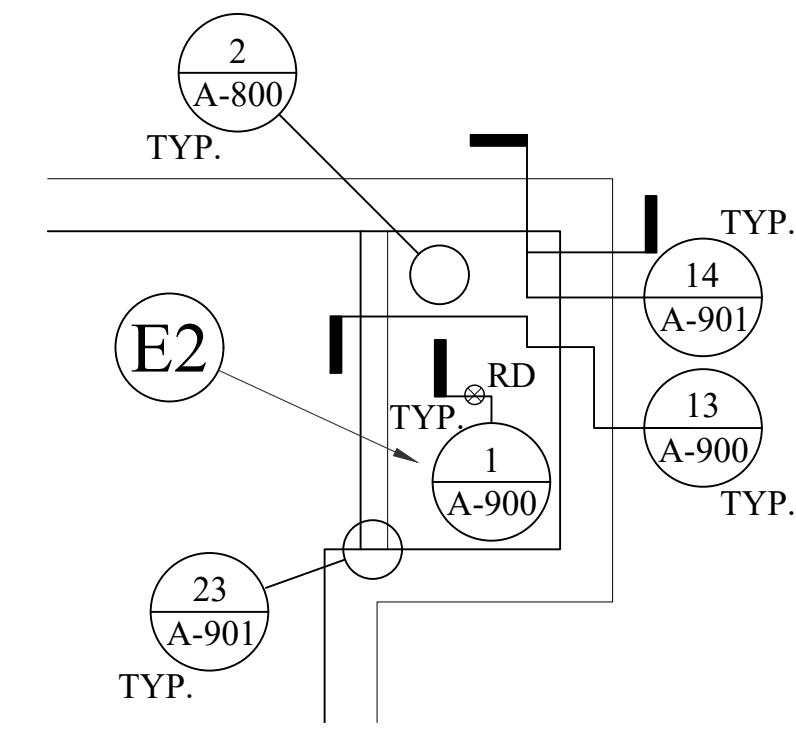
B PARTIAL ROOF PLAN - AREA "C1" AND "C2"
A-705 3/16" = 1'-0"



C PARTIAL ROOF PLAN - AREA "F1"
A-705 3/16" = 1'-0"

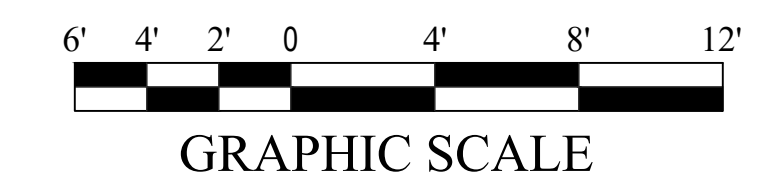
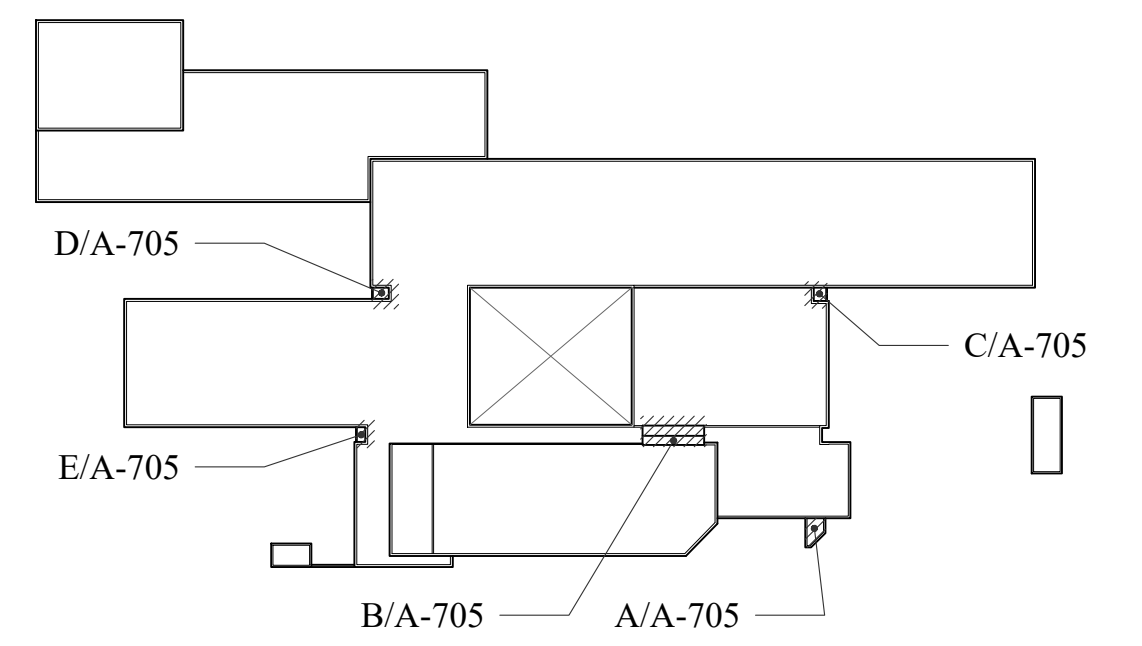


D PARTIAL ROOF PLAN - AREA "E1"
A-705 3/16" = 1'-0"



E PARTIAL ROOF PLAN - AREA "E2"
A-705 3/16" = 1'-0"

KEY PLAN



REVISIONS:

No.	Description	Date

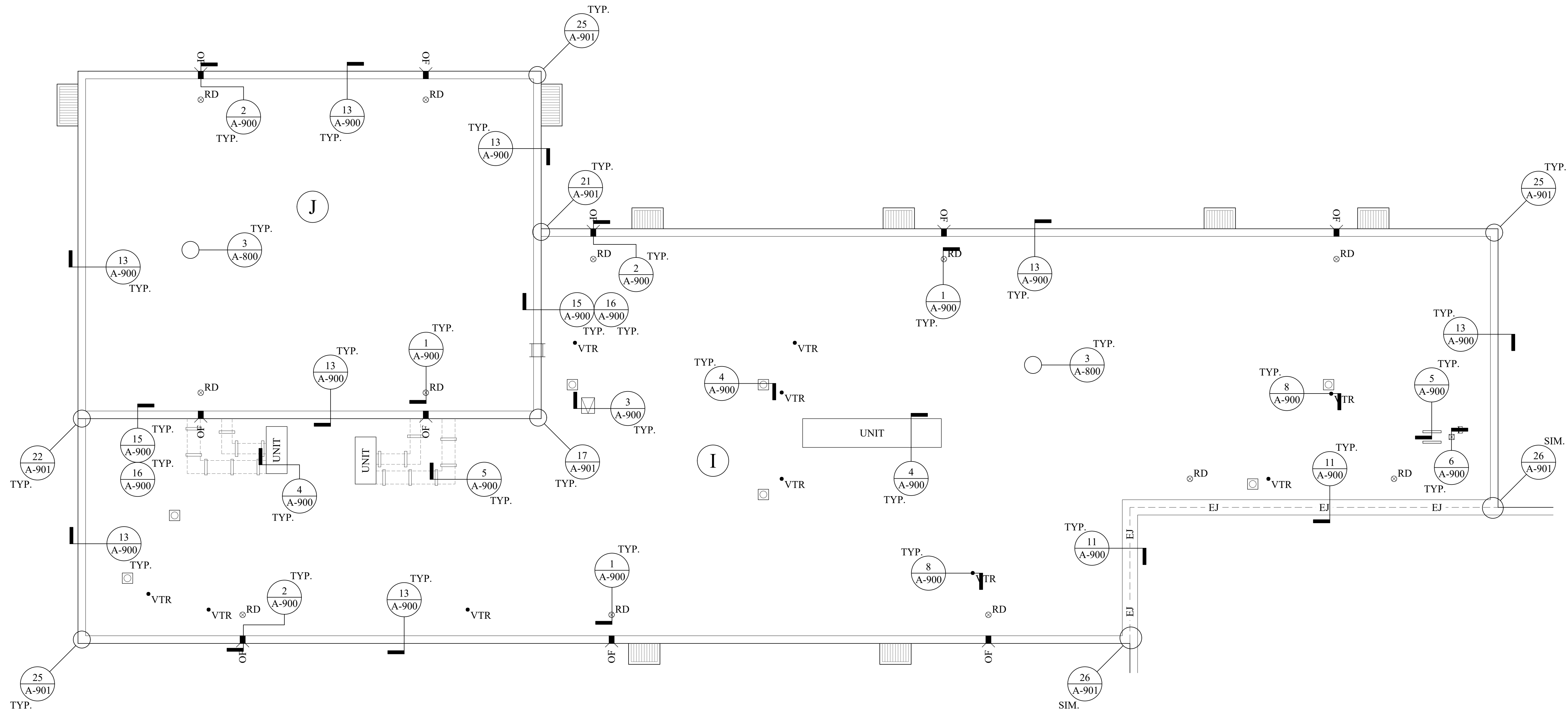
PROJECT: 2201-218720
DATE: 04/22/22
DRAWN BY: PD
CHECKED BY: CW

**PARTIAL NEW
ROOF PLAN
(ALT. 1 & ALT. 3)**

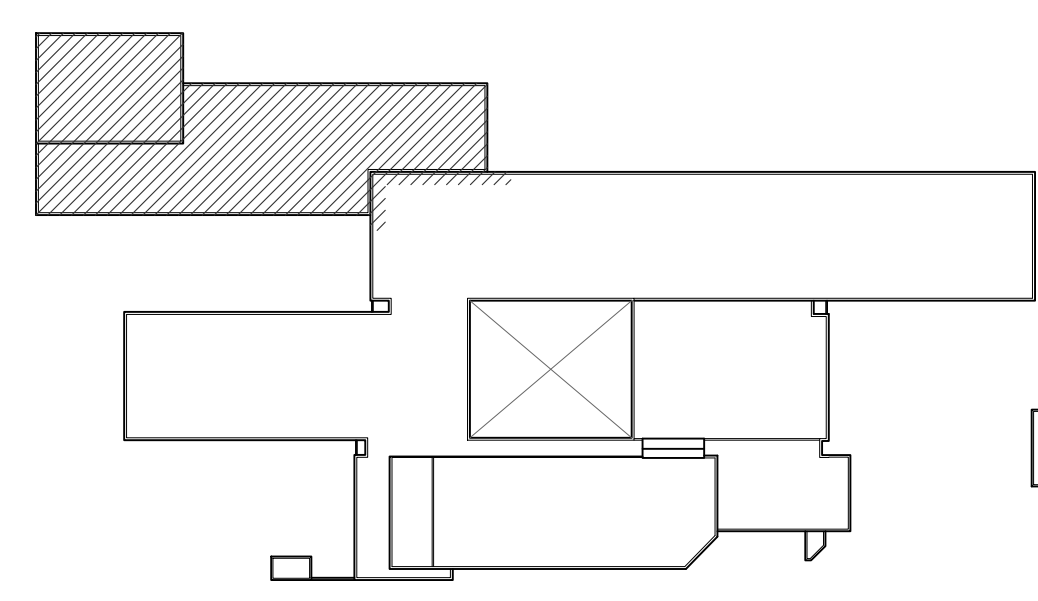
A-706

DRAWING LEGEND

⊙ RD	ROOF DRAIN	⊙	STACK	--- EJ ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
■ OF	OVERFLOW SCUPPER	⊠	VENTILATOR	▨	METAL ROOF SYSTEM	—	PARAPET WALL
• VTR	VENT THROUGH ROOF	⊠ GN	GOOSE NECK / HOOD PENETRATION	▩	SKY LIGHT	==	EQUIPMENT SUPPORT CURB
⊠ EV	EXHAUST VENT	▩	ROOF HATCH	→	SLOPE ARROW	⊗	ROOF DESIGNATION
• E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				



KEY PLAN



1 2 3 4 5

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REVISIONS:

No.	Description	Date

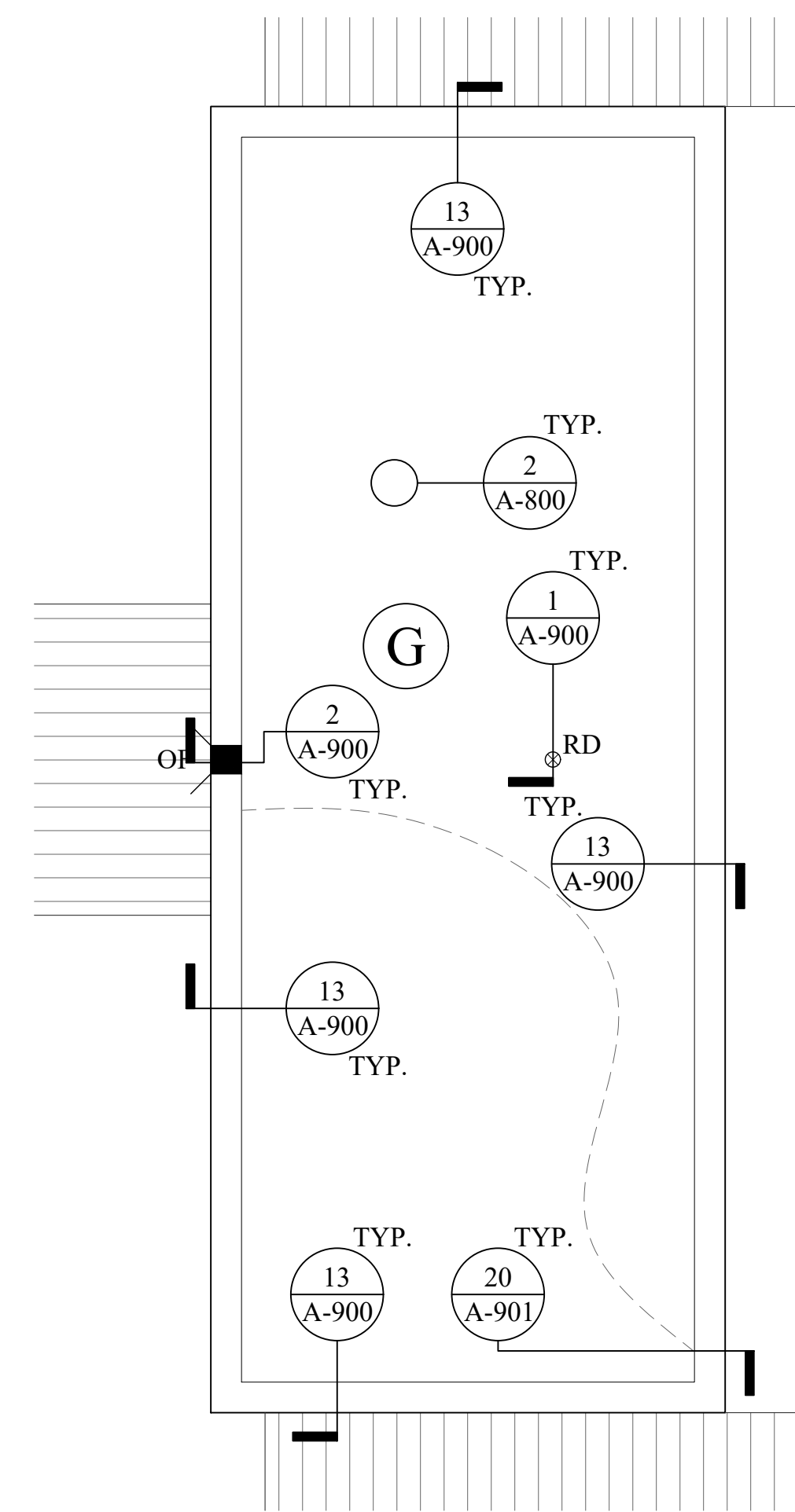
PROJECT: 2201-218720
DATE: 04/22/22
DRAWN BY: PD
CHECKED BY: CW

**PARTIAL NEW
ROOF PLANS
(ALT. 2 & ALT. 3)**

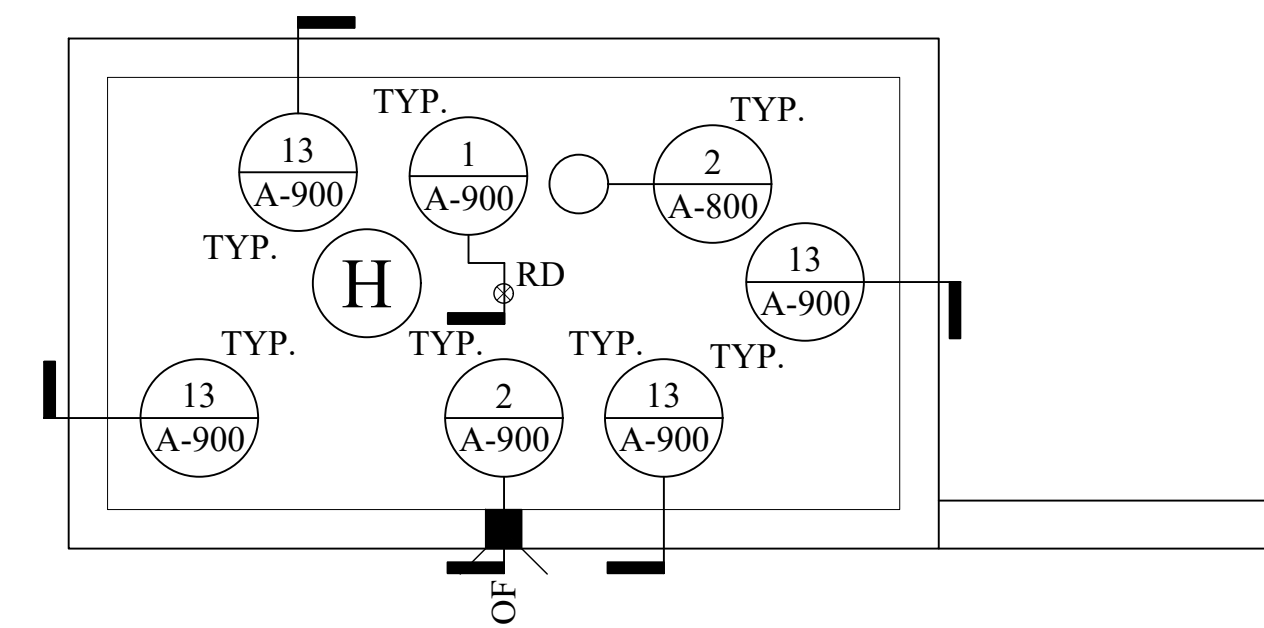
A-707

DRAWING LEGEND

RD	ROOF DRAIN	⊙	STACK	---EJ---	EXPANSION JOINT	⊠	MECHANICAL EQUIPMENT WITH DUCT PENETRATION
OF	OVERFLOW SCUPPER	⊠	VENTILATOR		METAL ROOF SYSTEM	—	PARAPET WALL
VTR	VENT THROUGH ROOF	⊠GN	GOOSE NECK / HOOD PENETRATION	▣	SKY LIGHT	==	EQUIPMENT SUPPORT CURB
EV	EXHAUST VENT	⊠	ROOF HATCH	↗	SLOPE ARROW	⊗	ROOF DESIGNATION
E	ELECTRICAL PENETRATION / PITCH PAN	UNIT	MECHANICAL UNIT / HVAC				

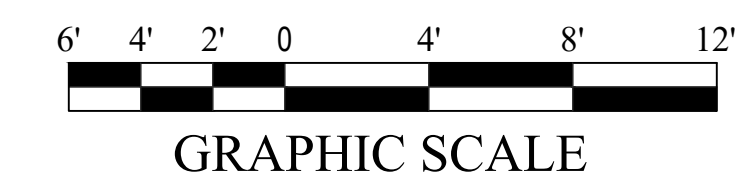
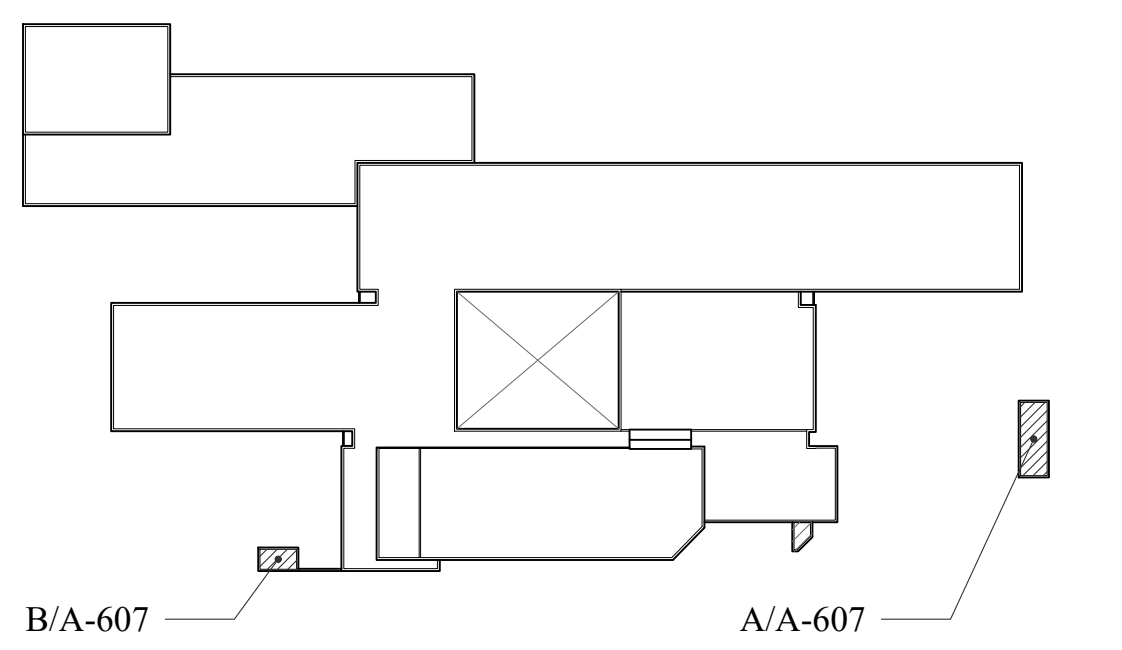


A PARTIAL ROOF PLAN - AREA "G"
A-607 3/16" = 1'-0"



B PARTIAL ROOF PLAN - AREA "H"
B-607 3/16" = 1'-0"

KEY PLAN

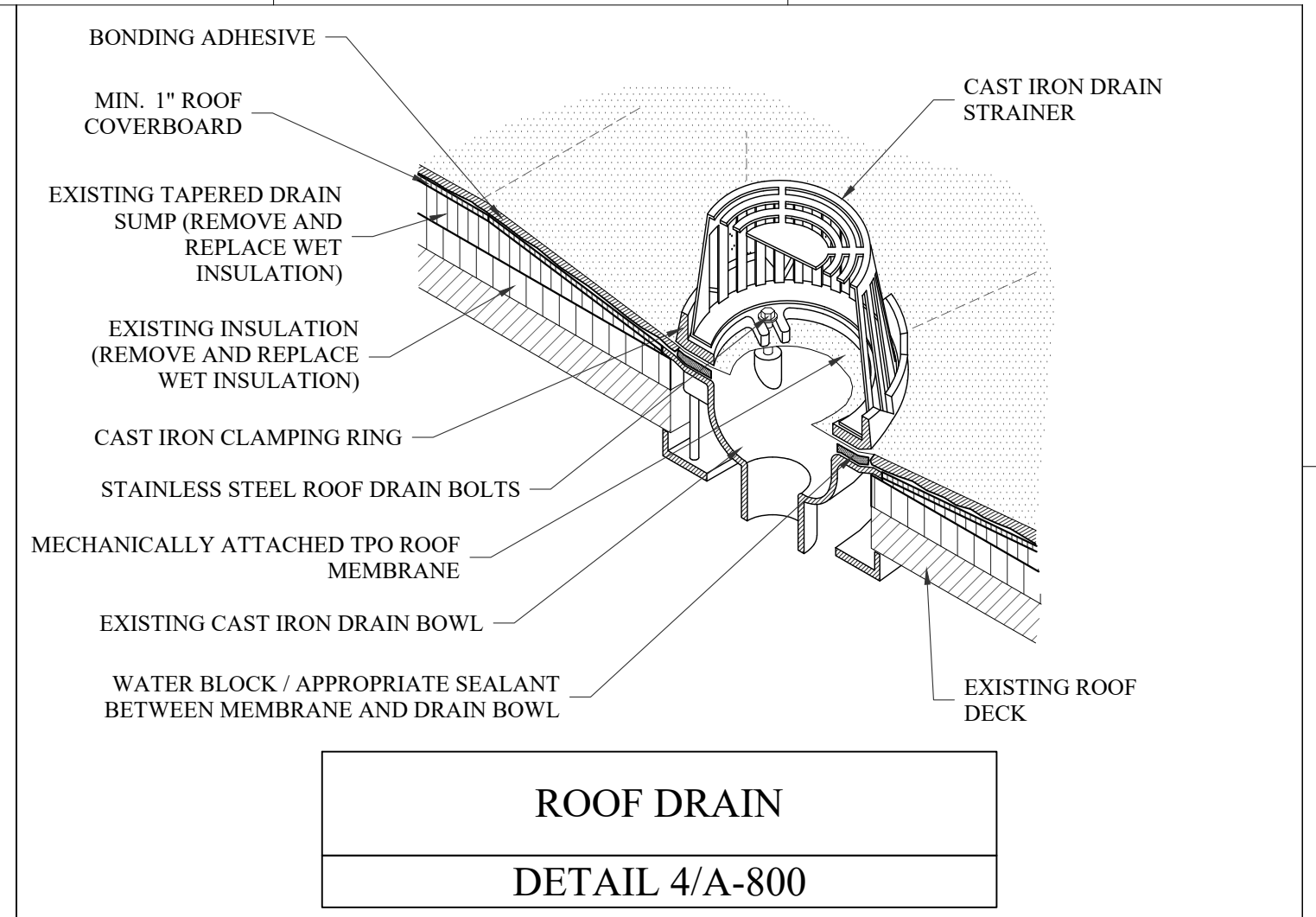


REVISIONS:

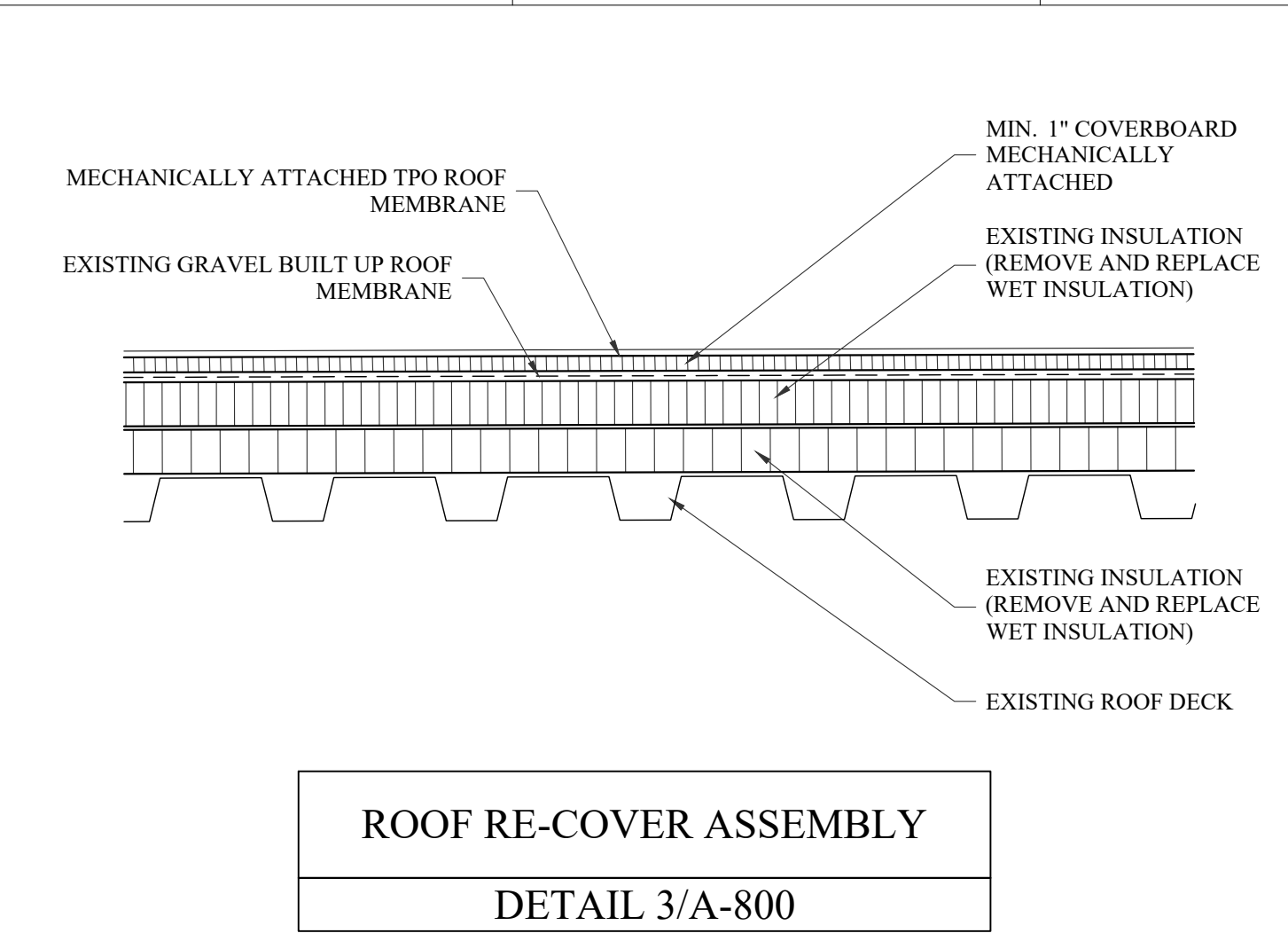
No.	Description	Date

PROJECT: 2201-218720
DATE: 04/22/22
DRAWN BY: PD
CHECKED BY: CW

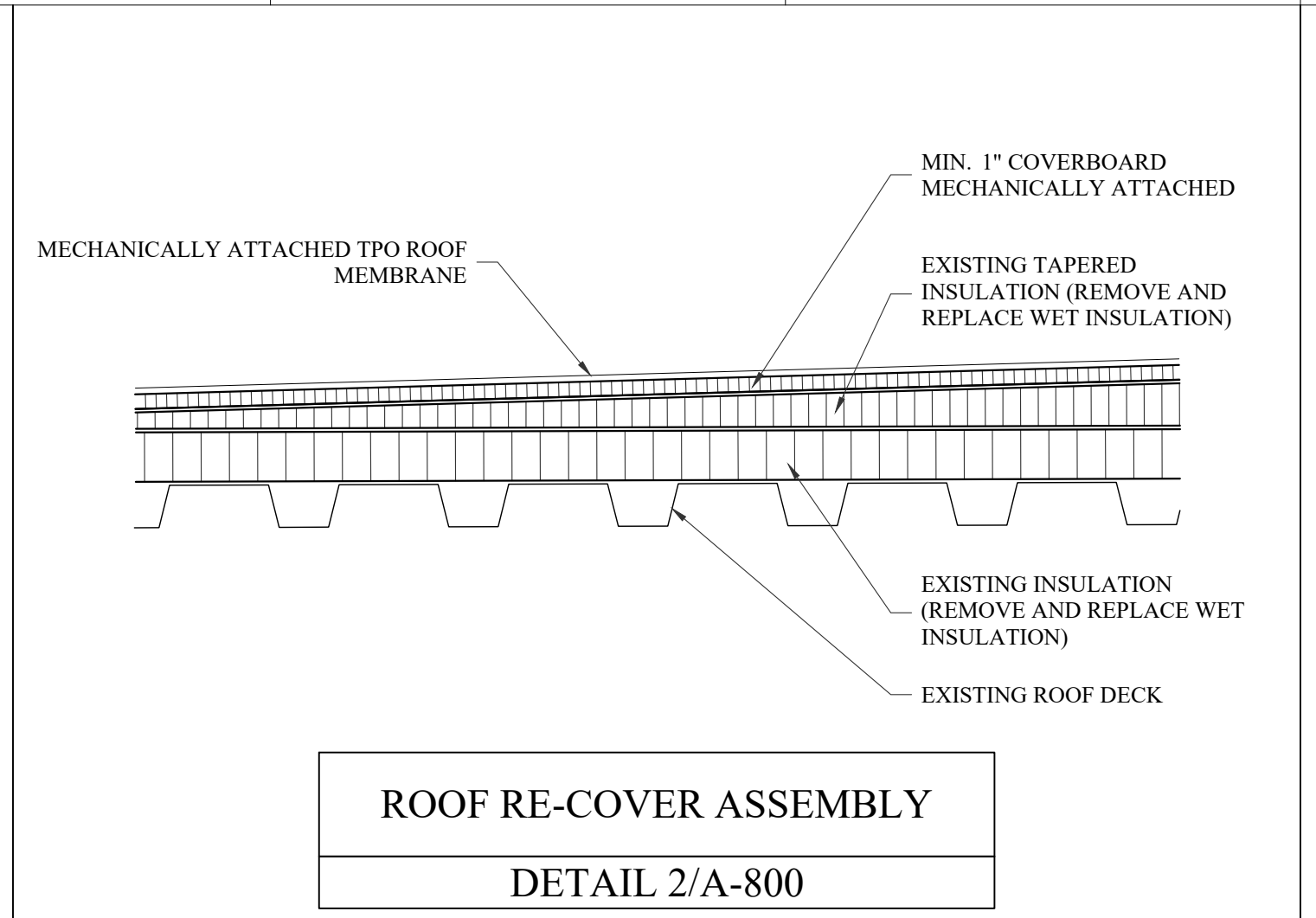
**DETAILS
A-800**



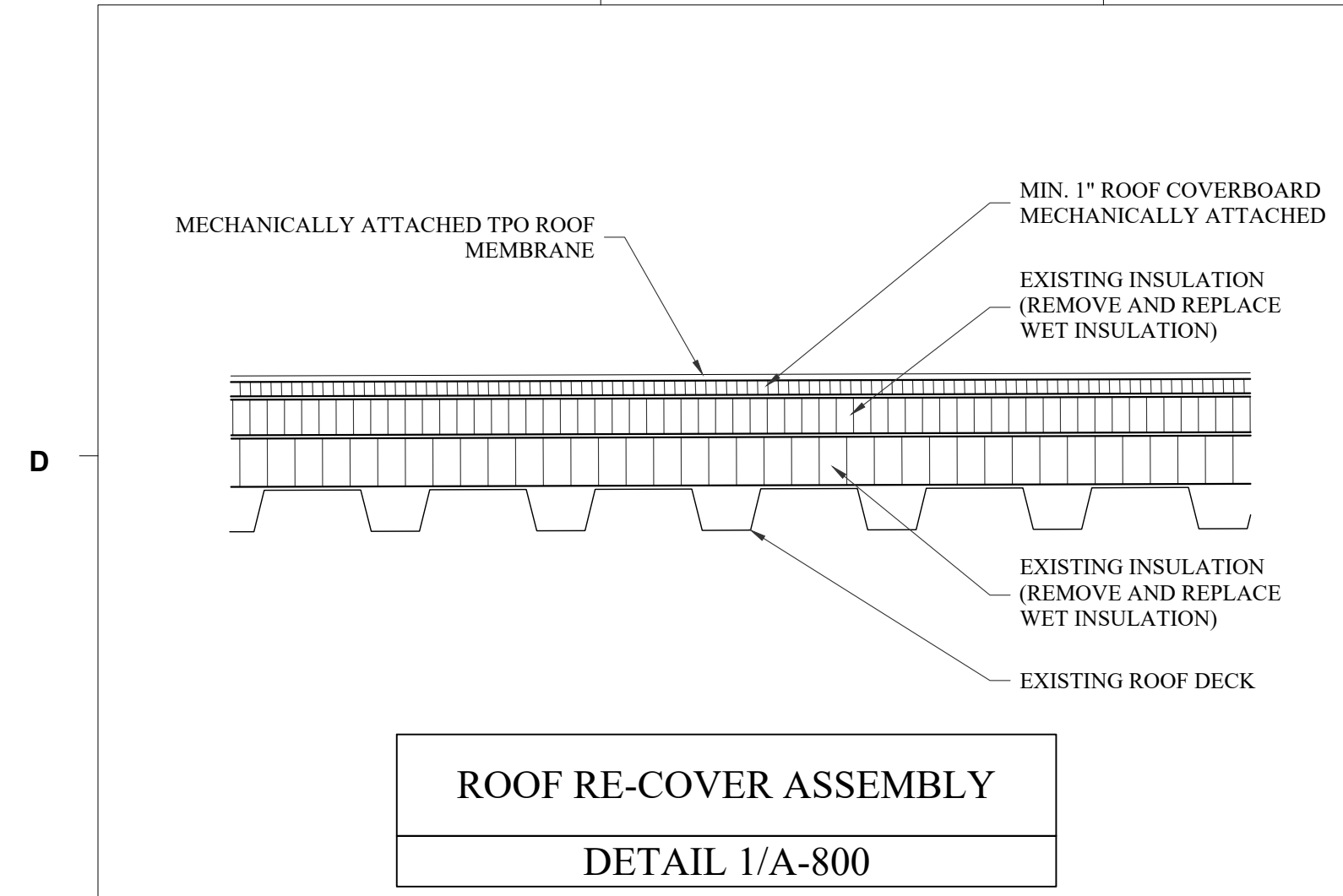
ROOF DRAIN
DETAIL 4/A-800



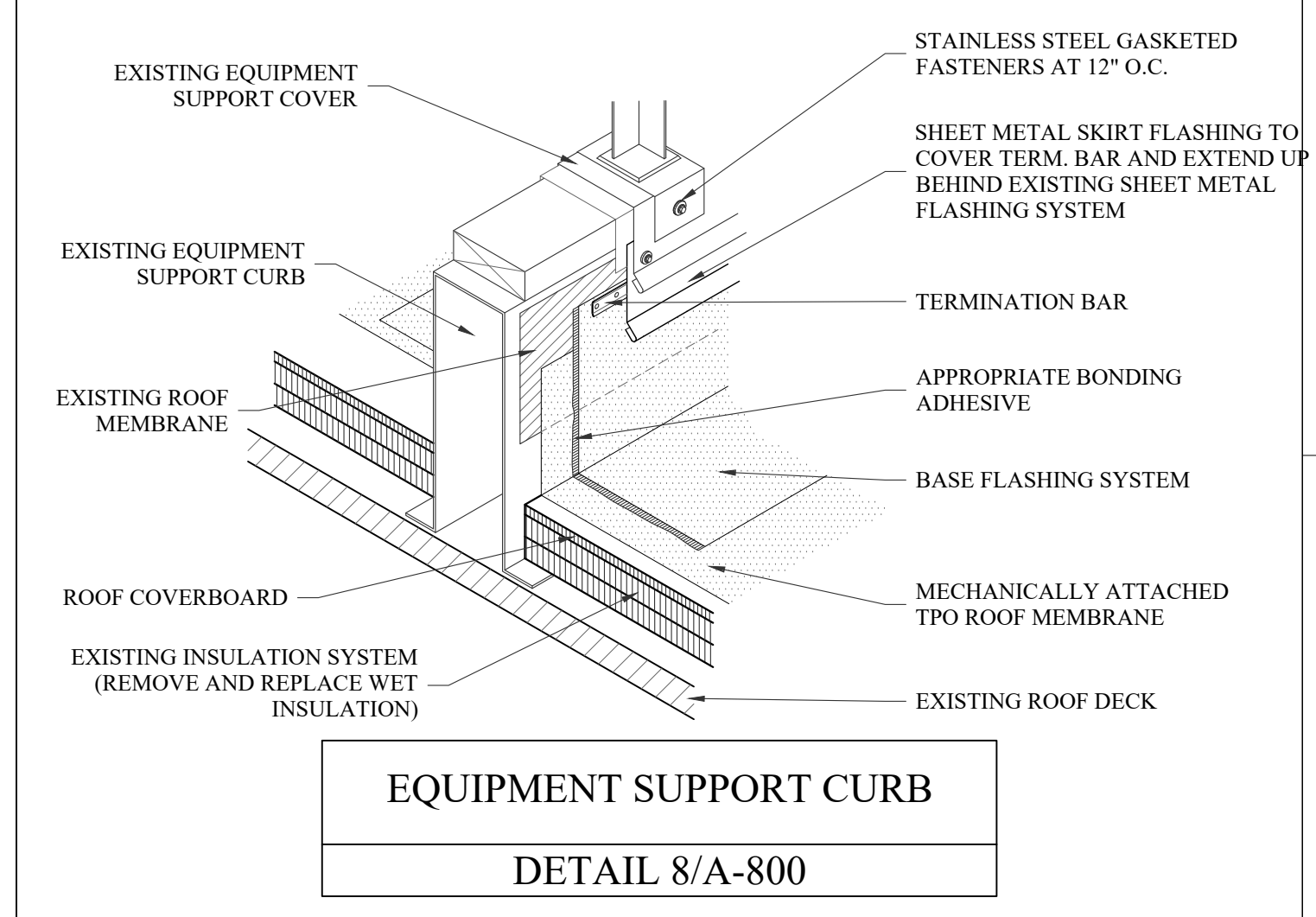
ROOF RE-COVER ASSEMBLY
DETAIL 3/A-800



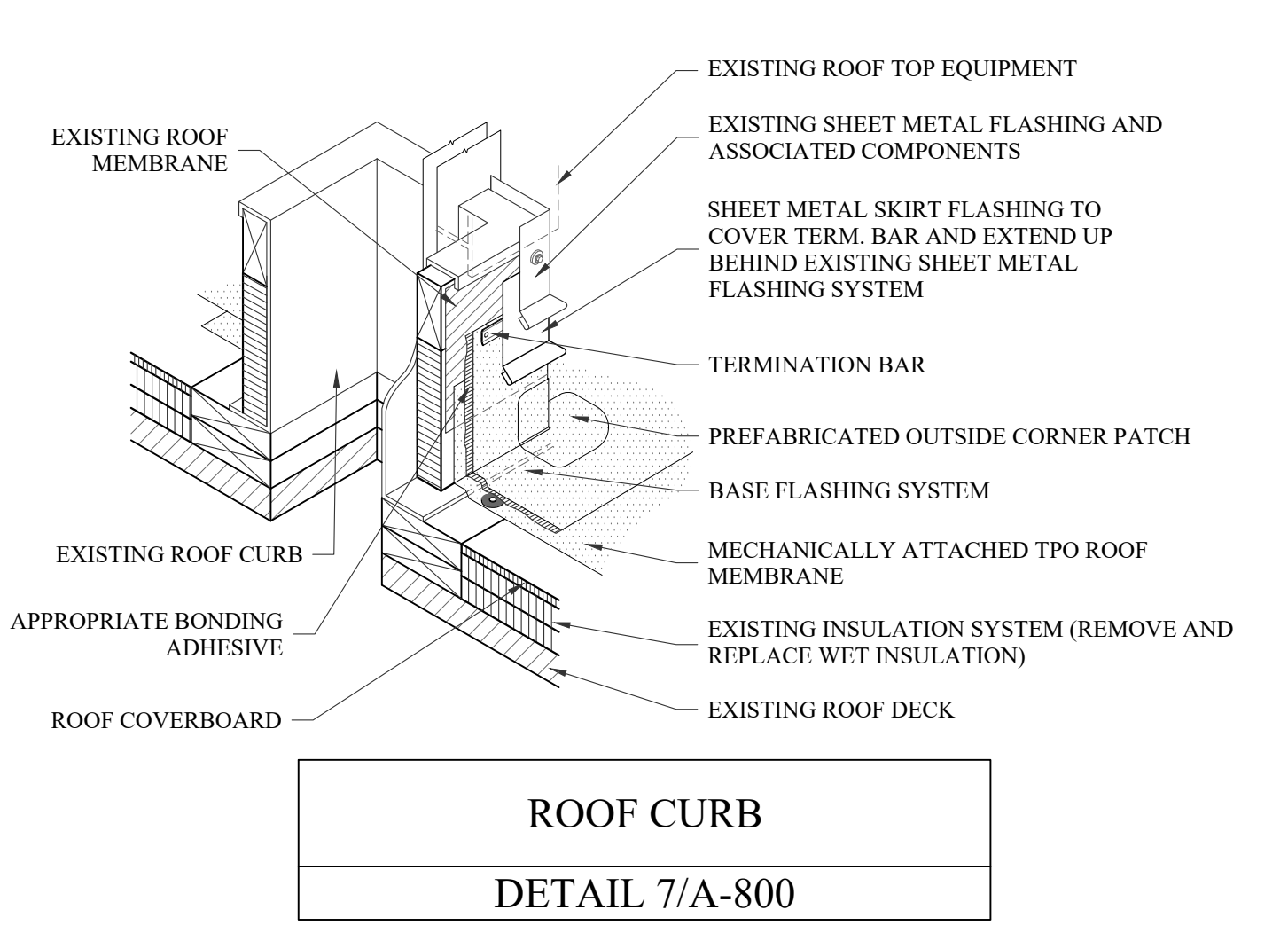
ROOF RE-COVER ASSEMBLY
DETAIL 2/A-800



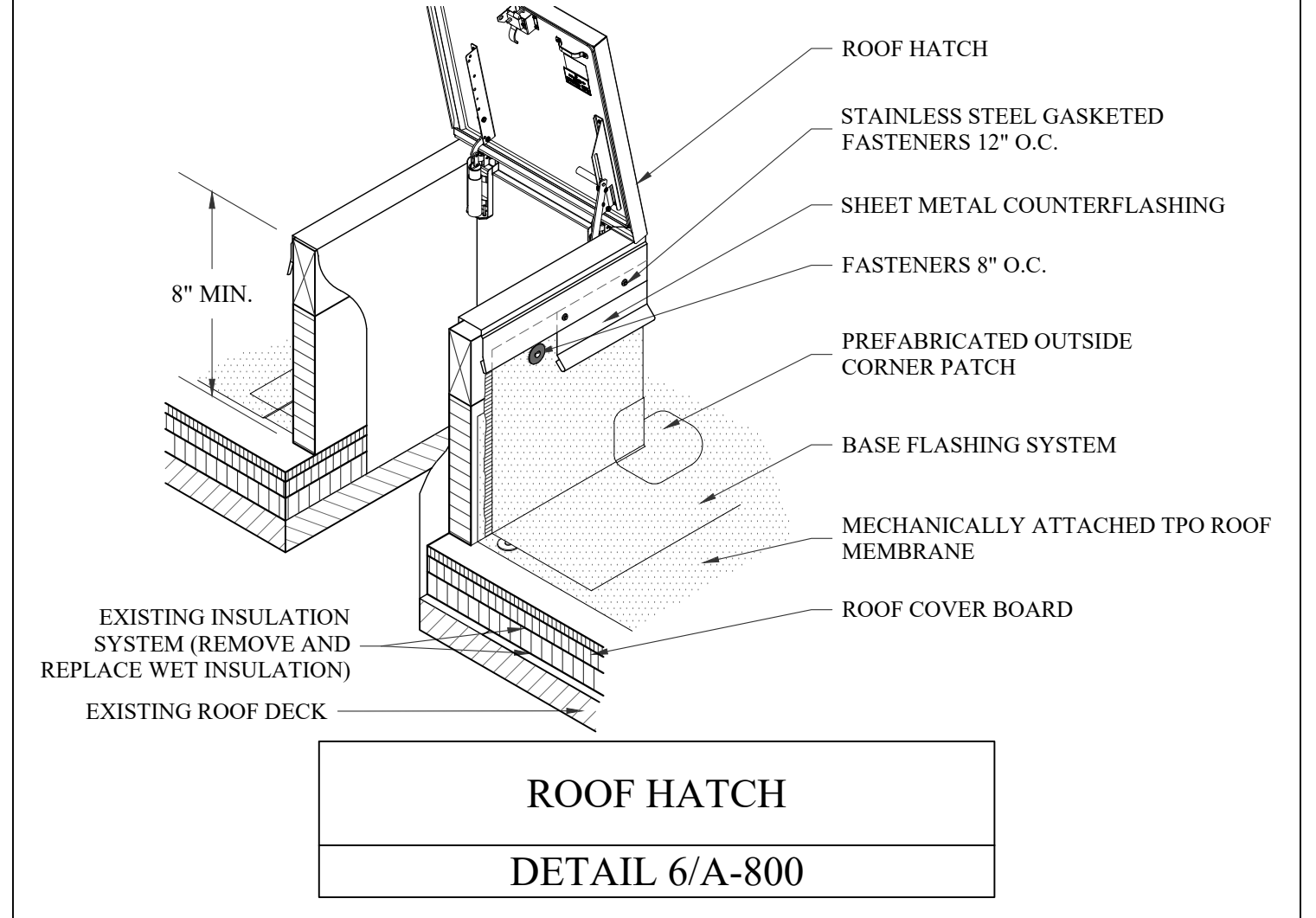
ROOF RE-COVER ASSEMBLY
DETAIL 1/A-800



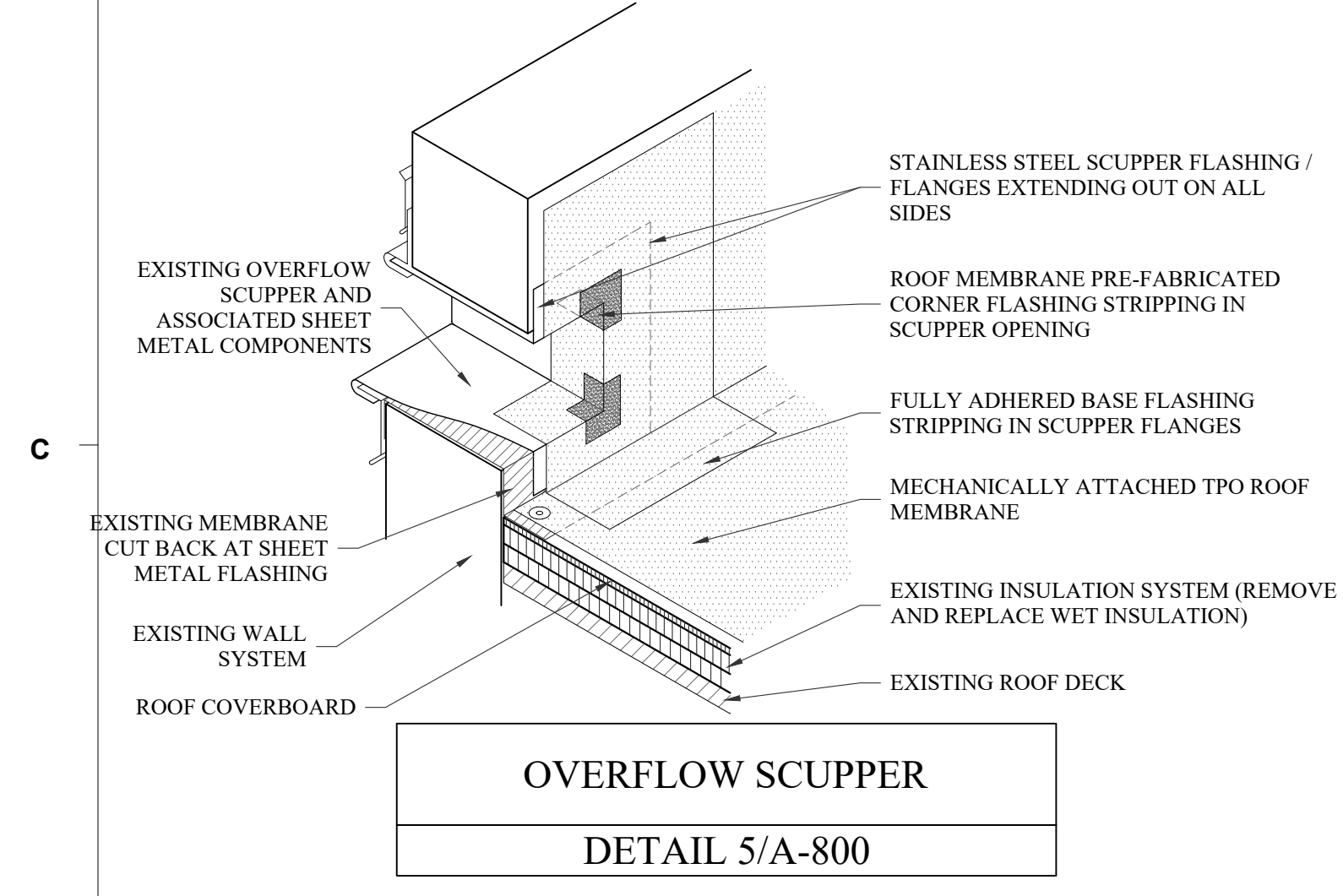
EQUIPMENT SUPPORT CURB
DETAIL 8/A-800



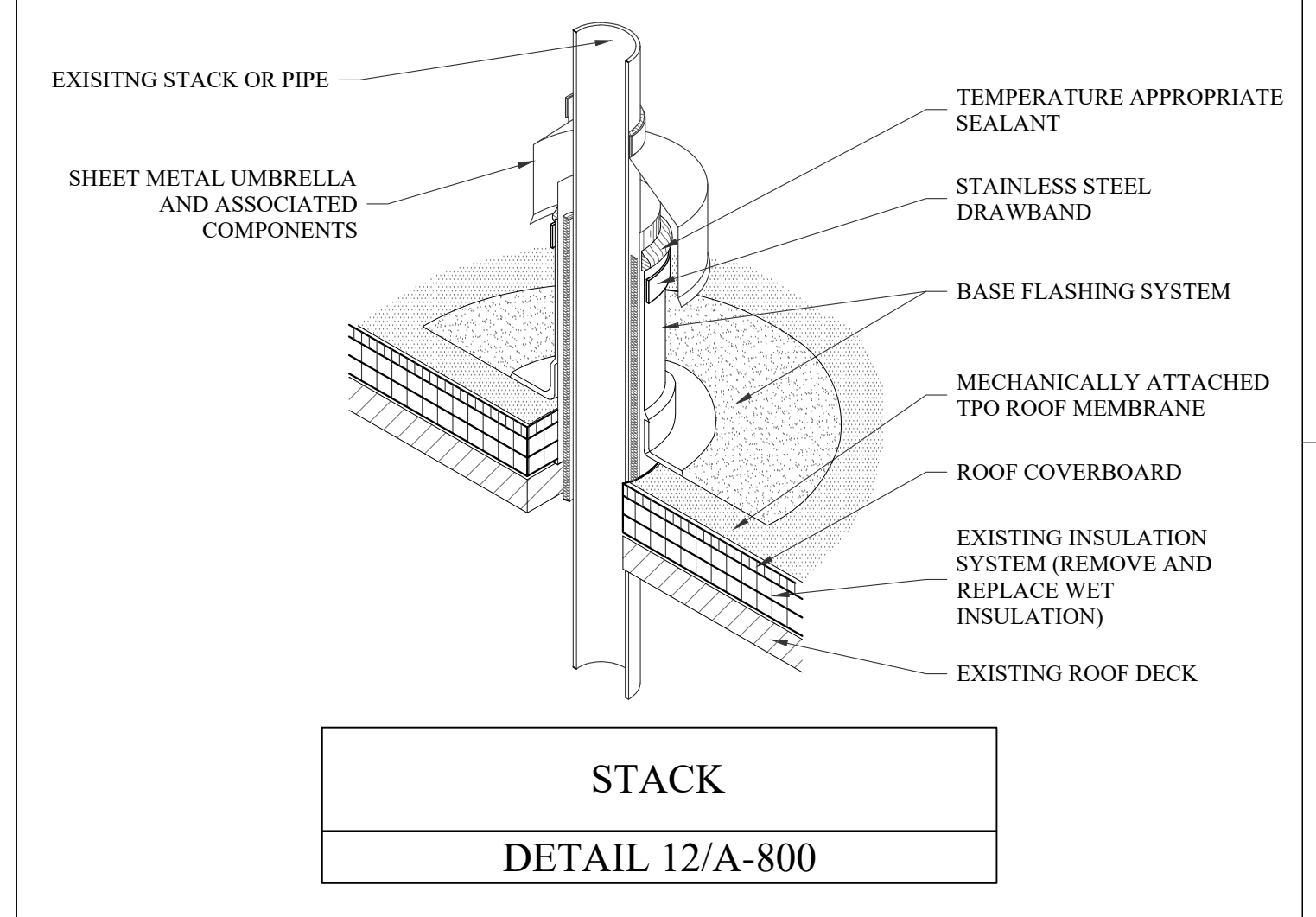
ROOF CURB
DETAIL 7/A-800



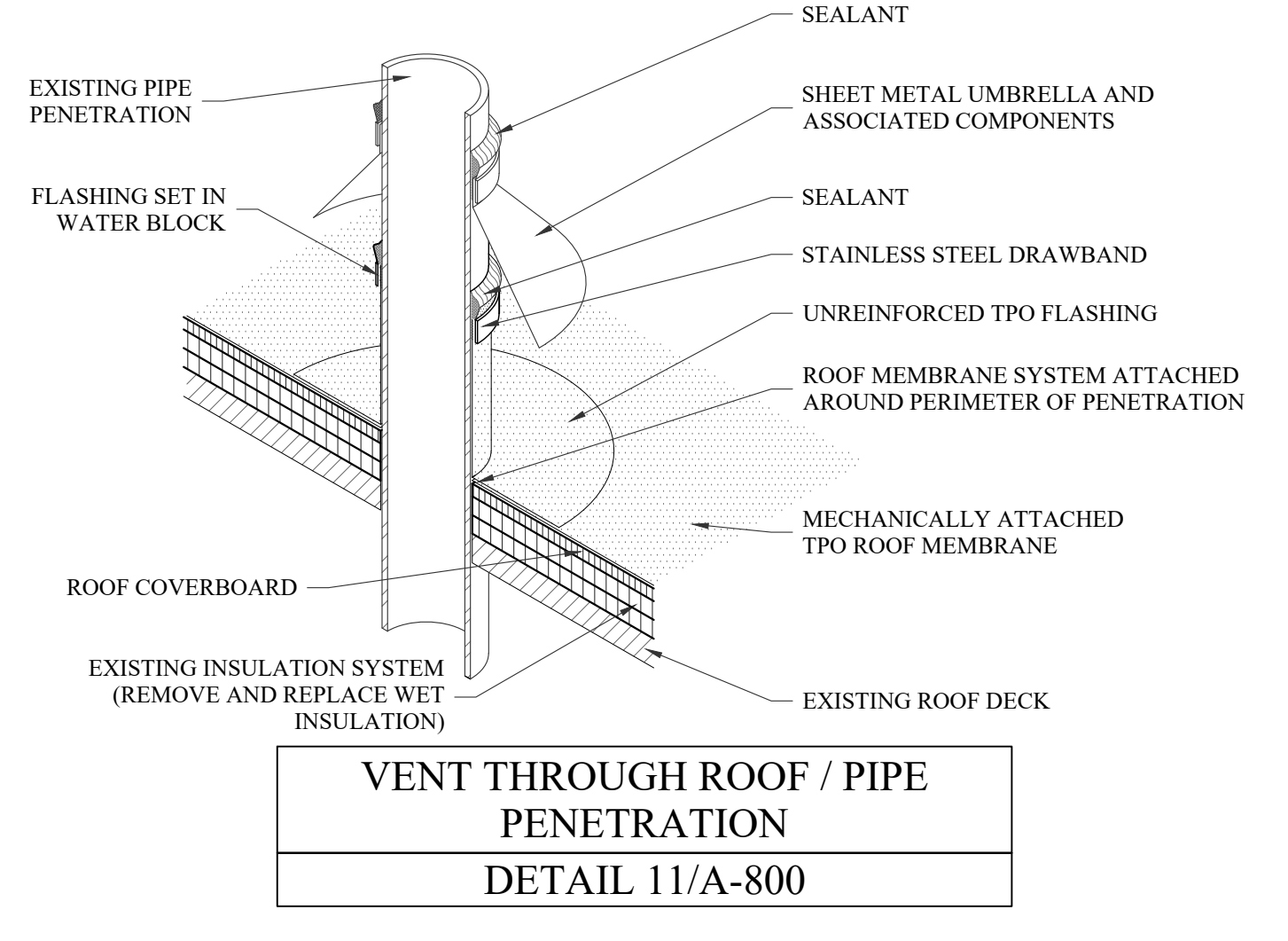
ROOF HATCH
DETAIL 6/A-800



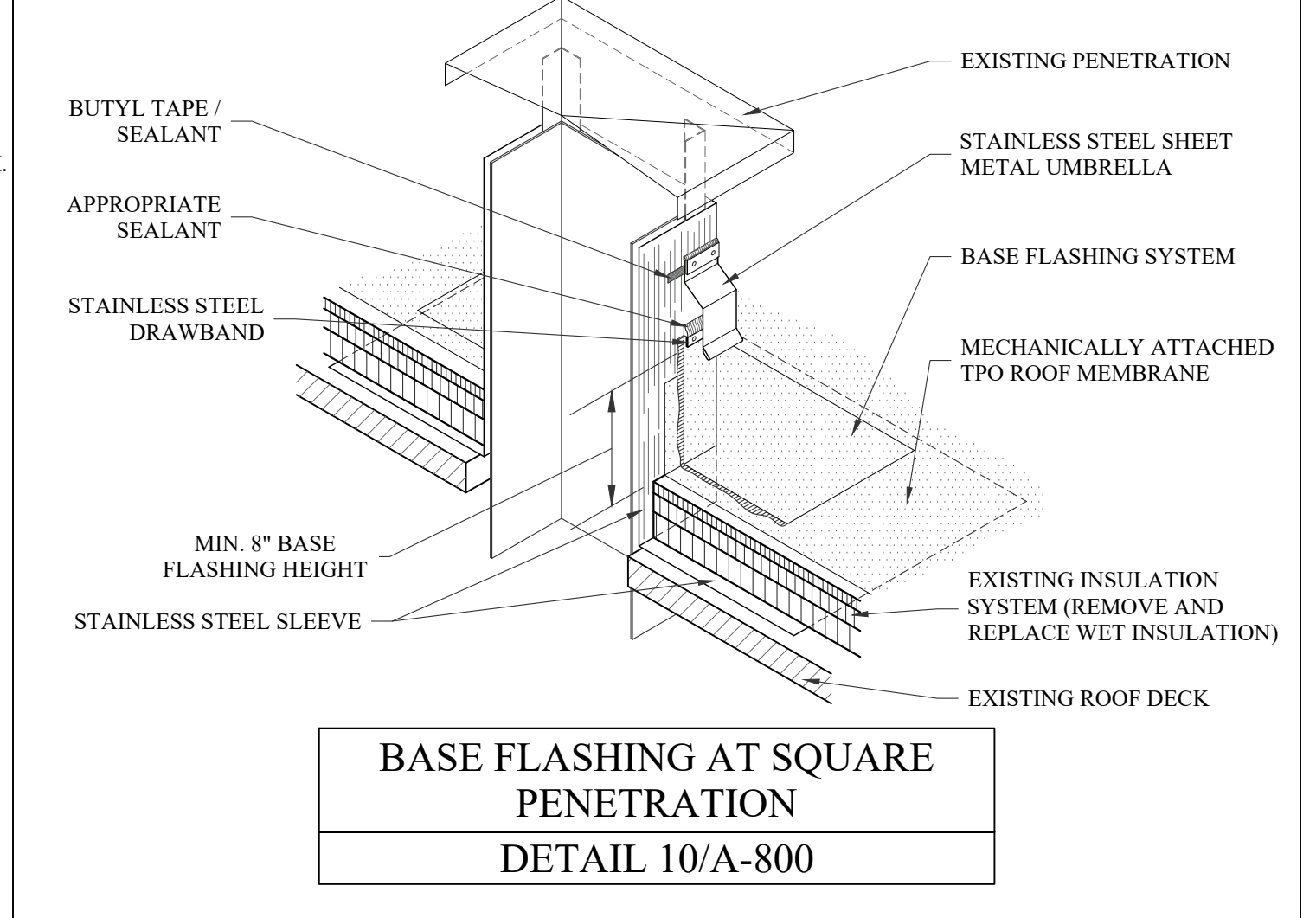
OVERFLOW SCUPPER
DETAIL 5/A-800



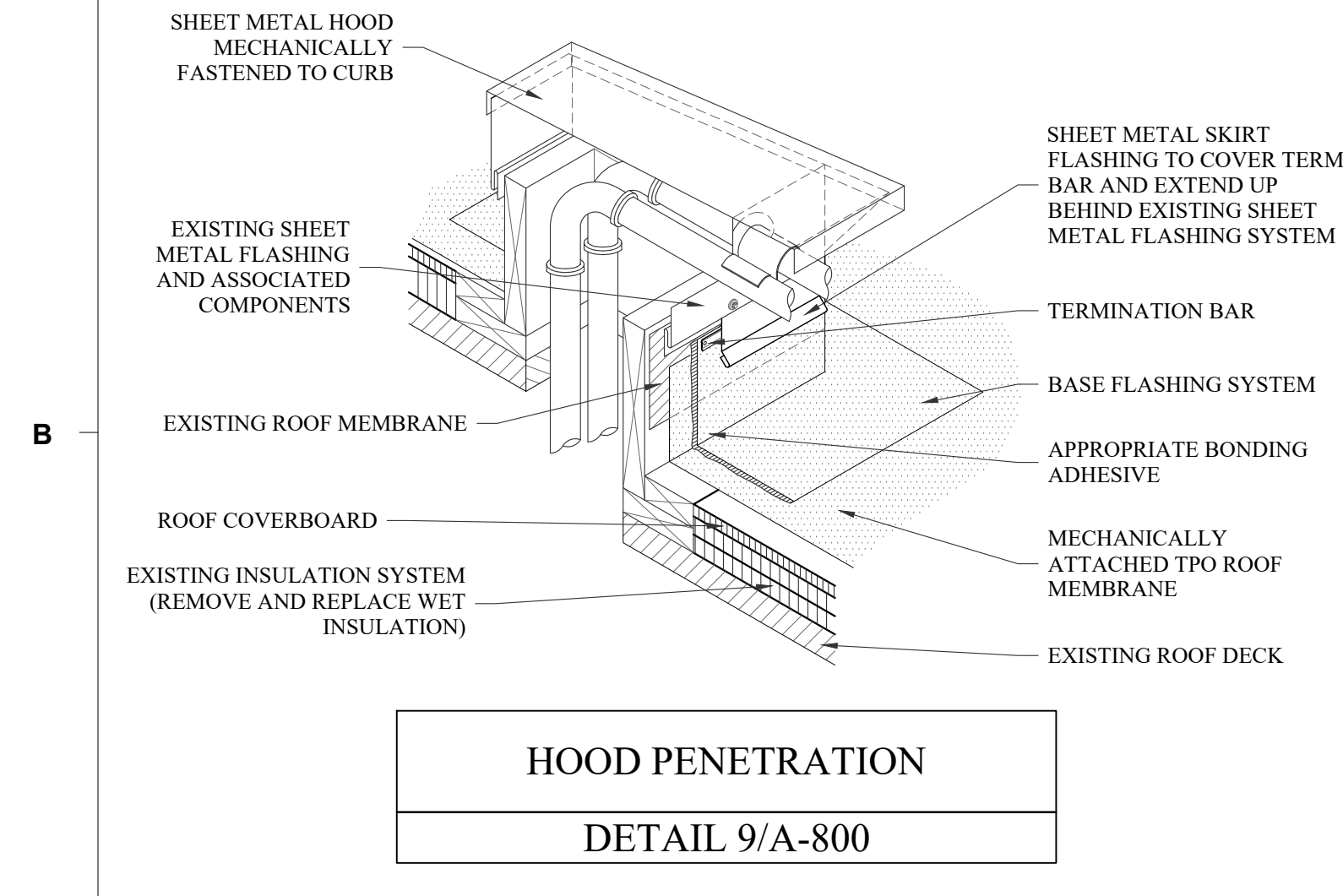
STACK
DETAIL 12/A-800



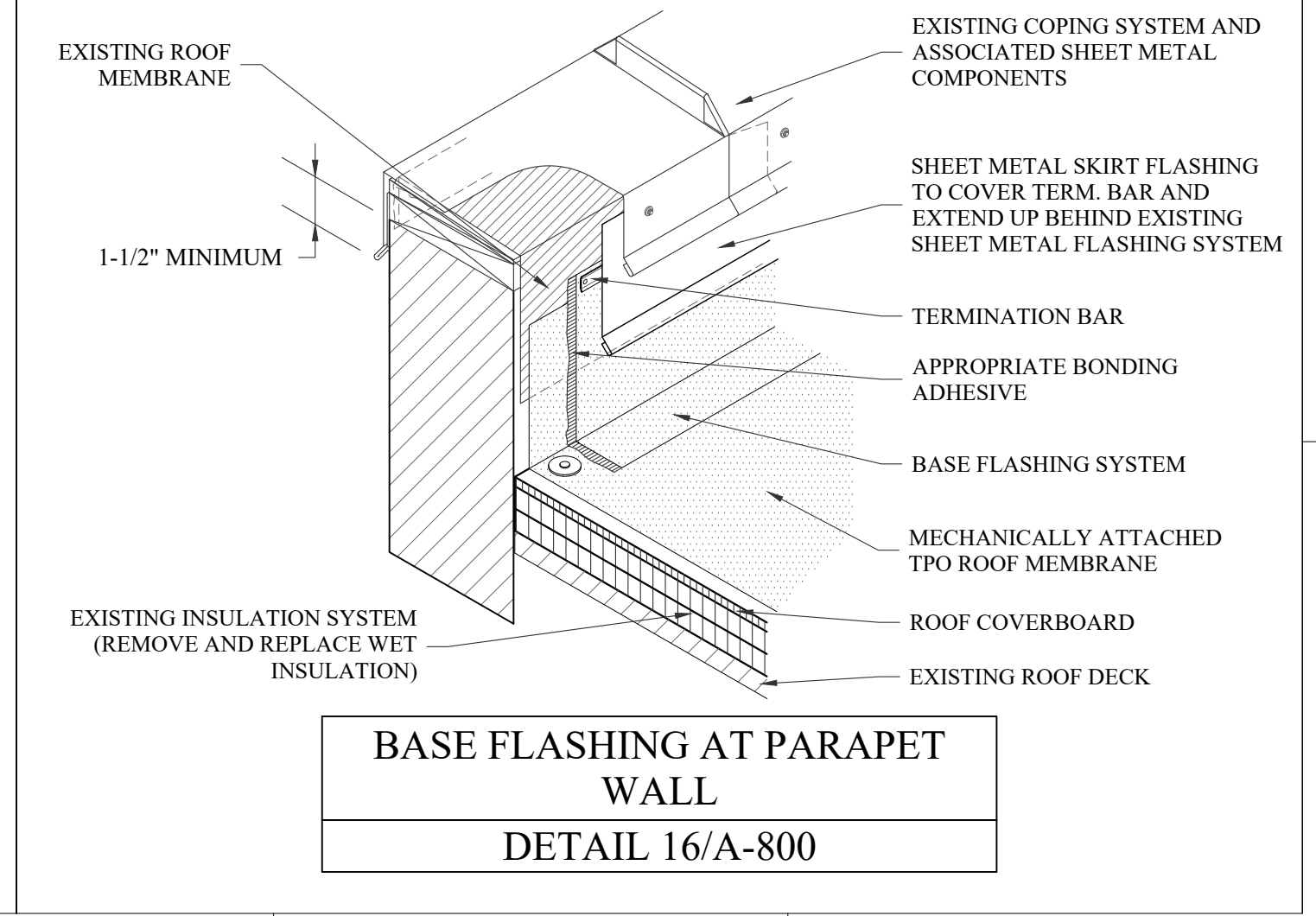
VENT THROUGH ROOF / PIPE PENETRATION
DETAIL 11/A-800



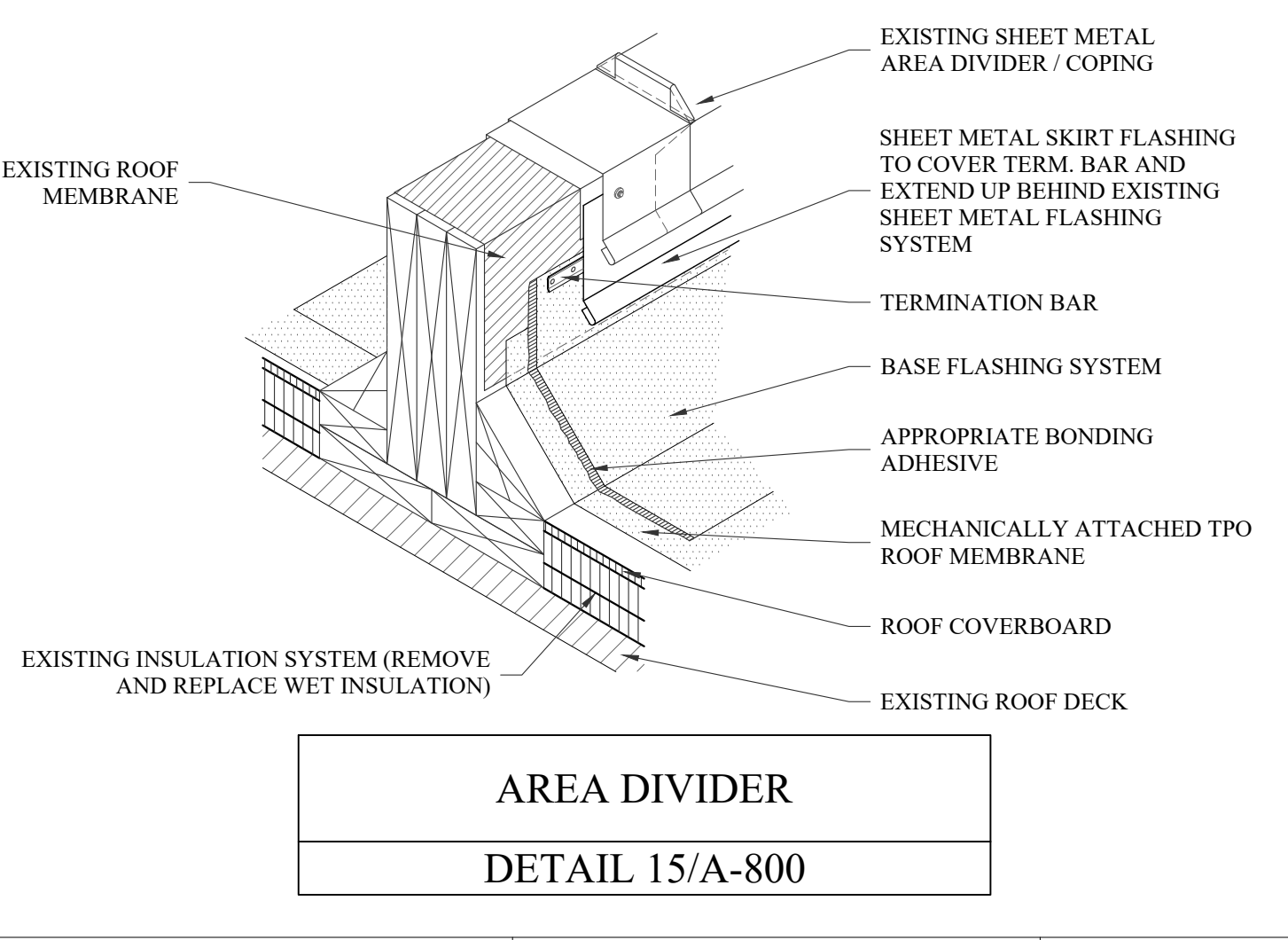
BASE FLASHING AT SQUARE PENETRATION
DETAIL 10/A-800



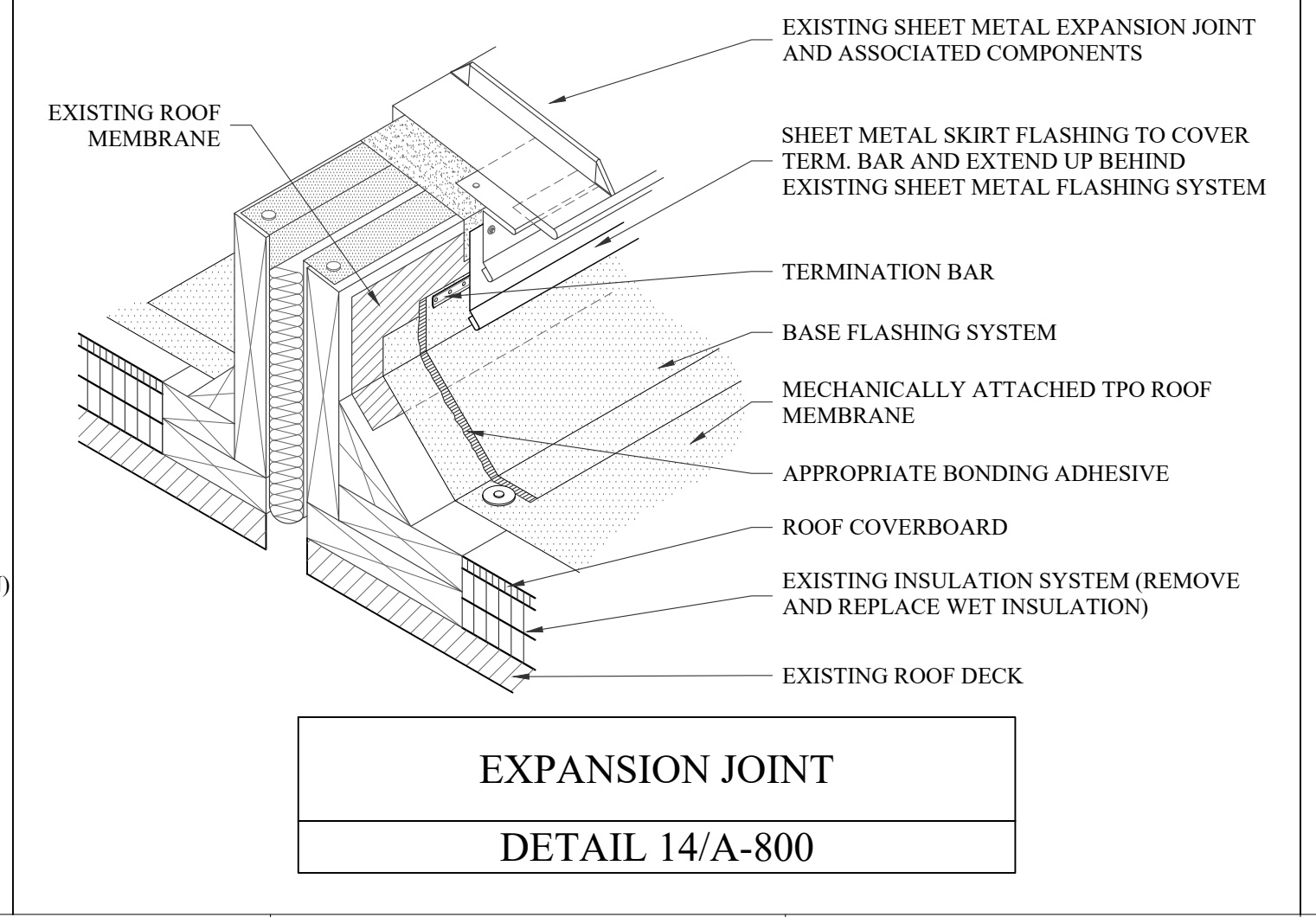
HOOD PENETRATION
DETAIL 9/A-800



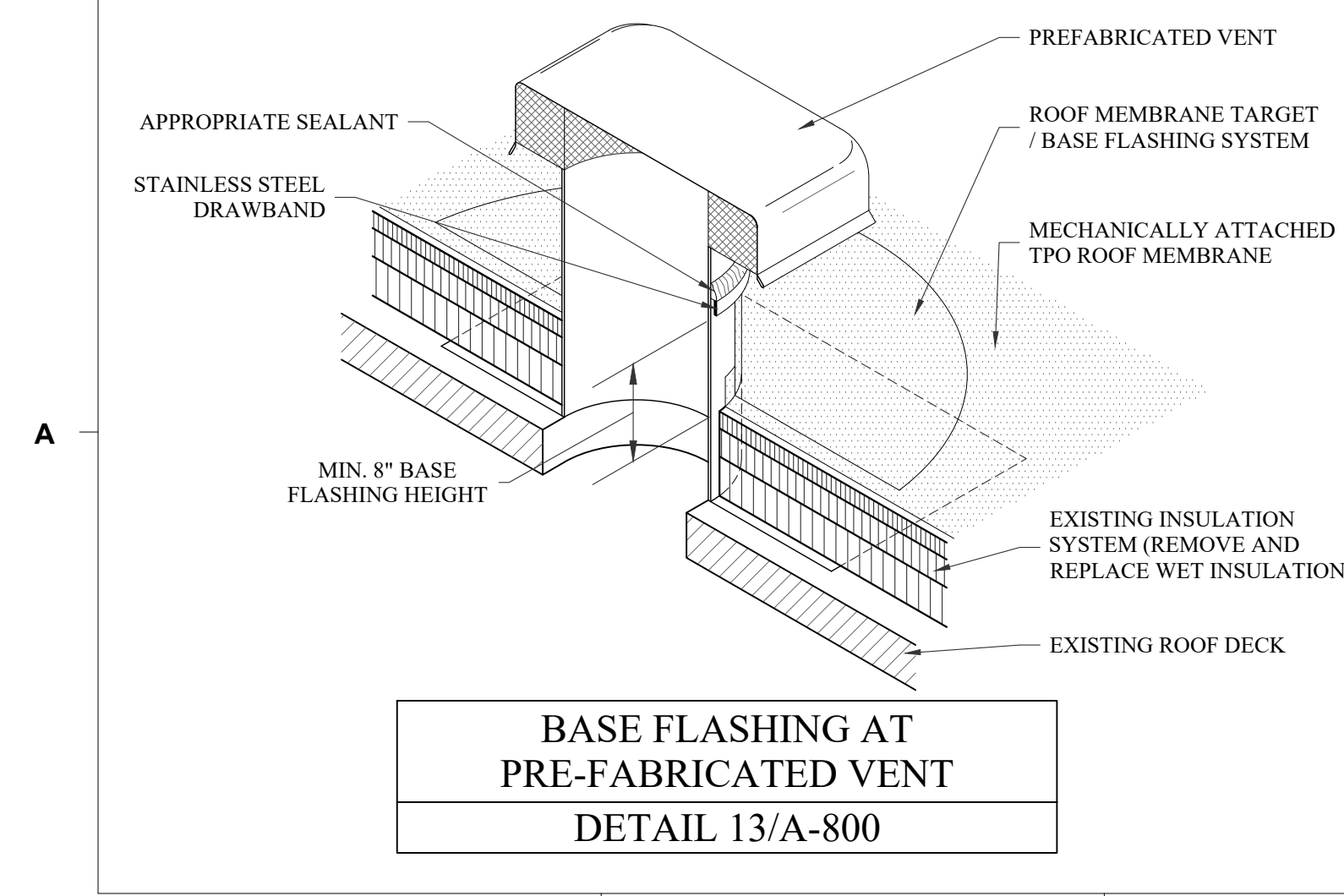
BASE FLASHING AT PARAPET WALL
DETAIL 16/A-800



AREA DIVIDER
DETAIL 15/A-800



EXPANSION JOINT
DETAIL 14/A-800



BASE FLASHING AT PRE-FABRICATED VENT
DETAIL 13/A-800

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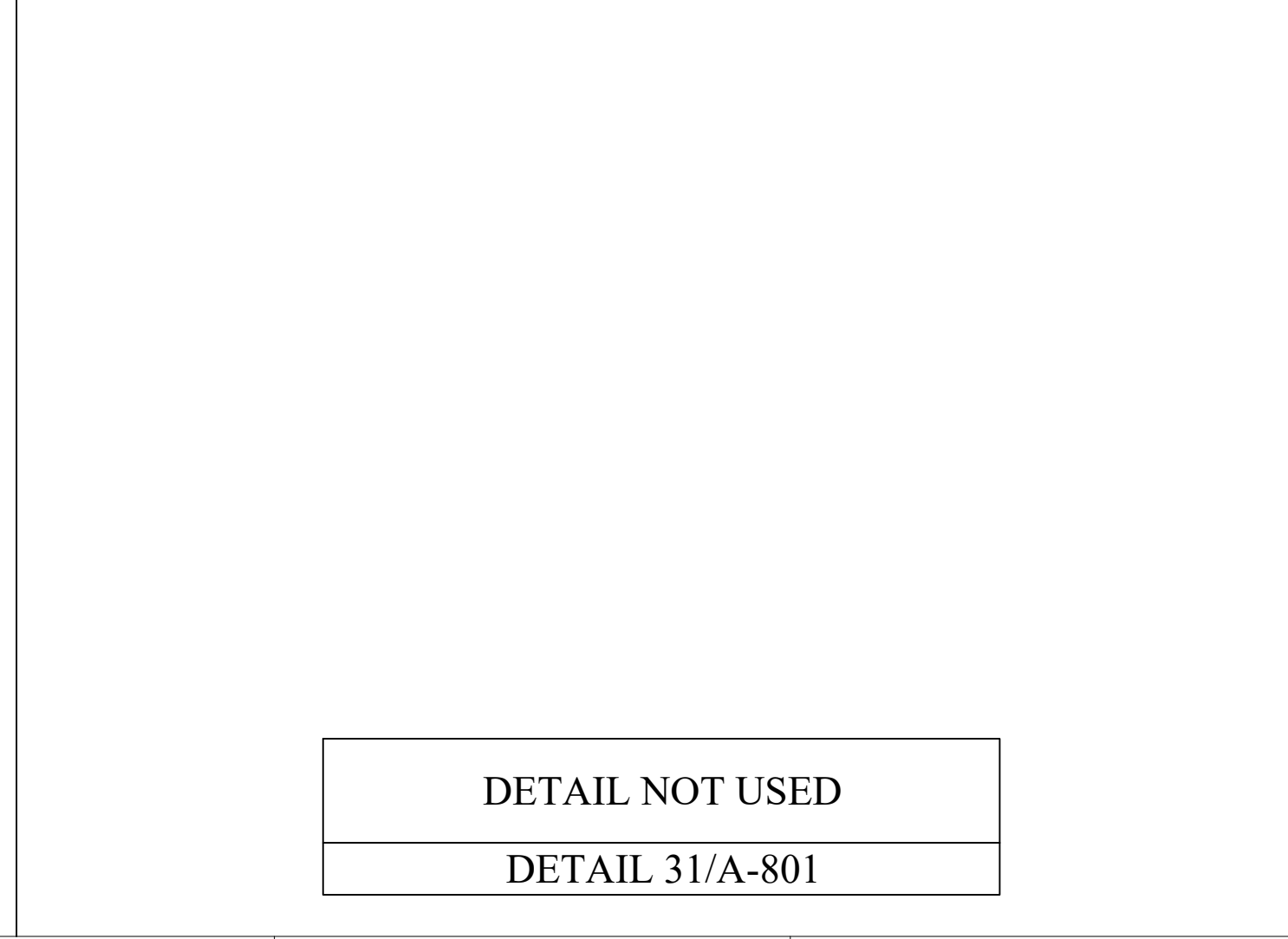
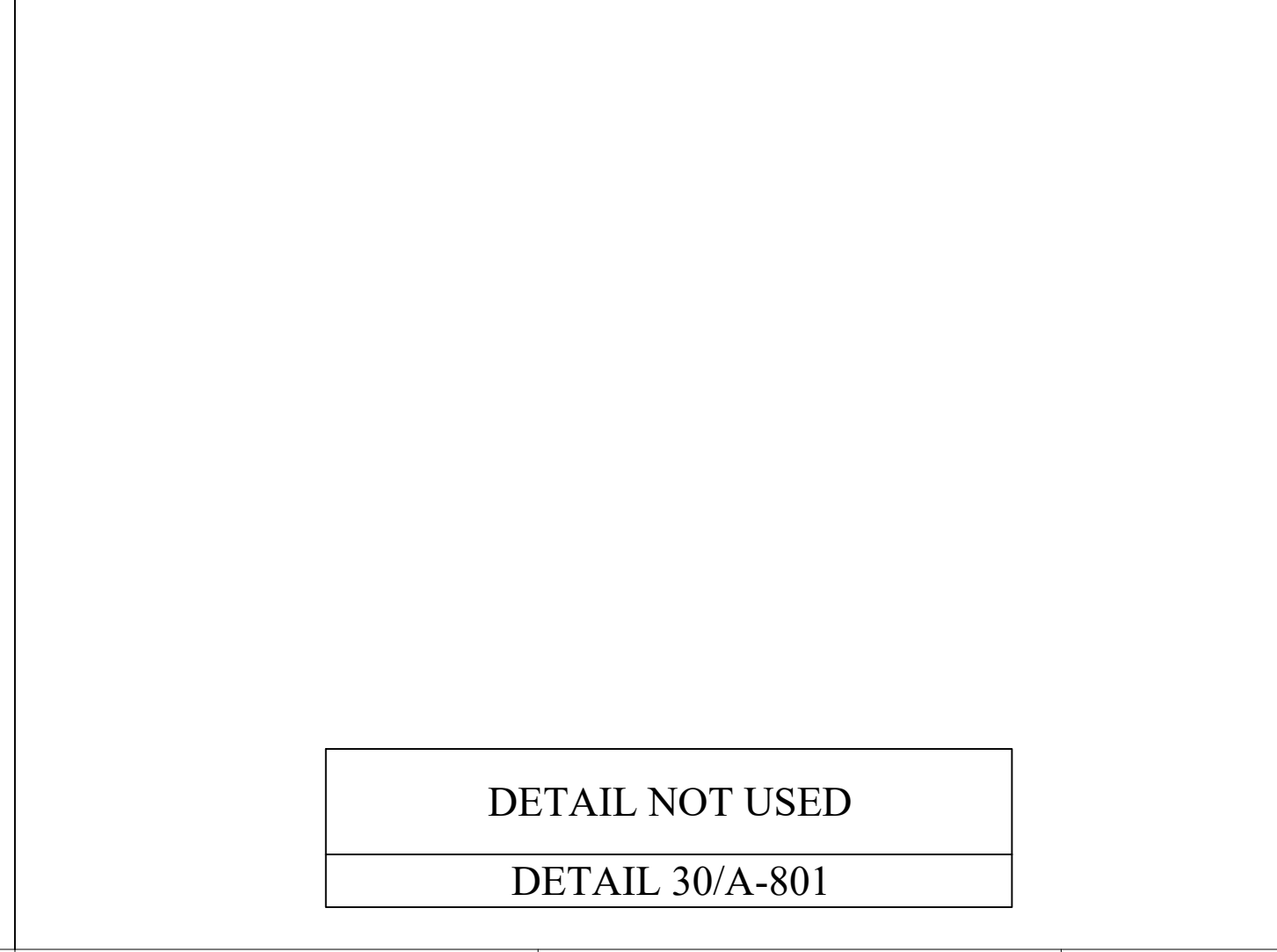
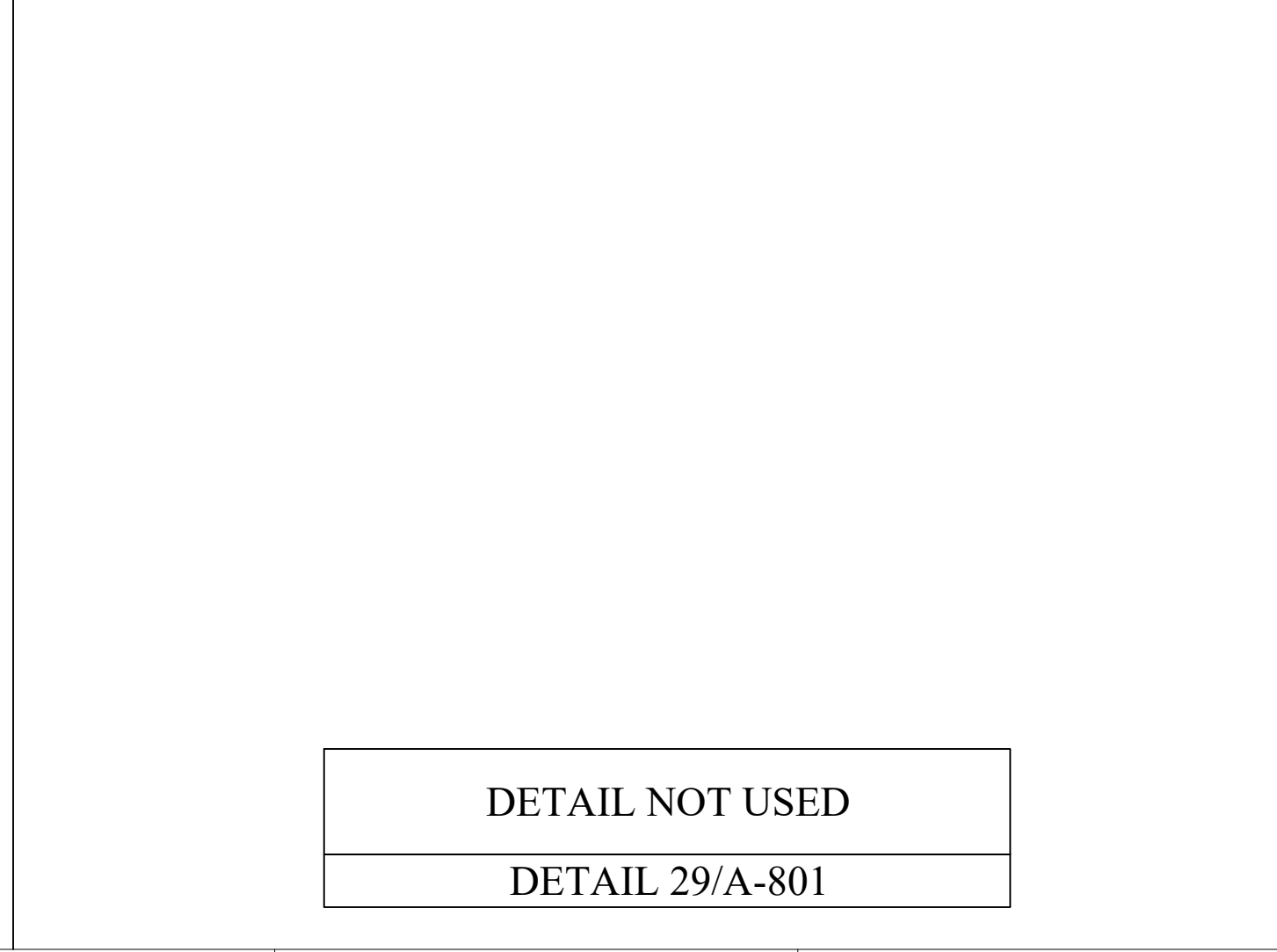
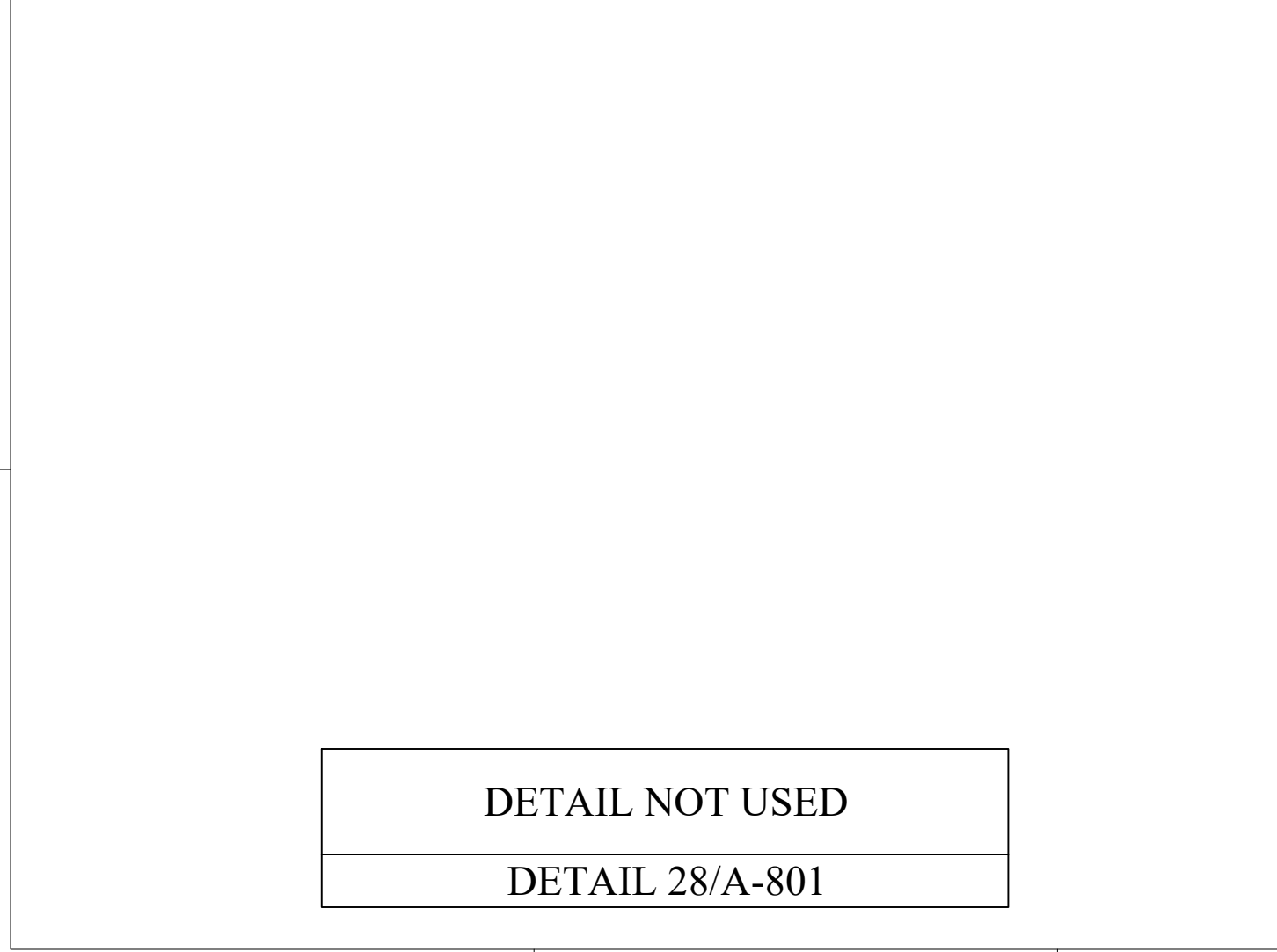
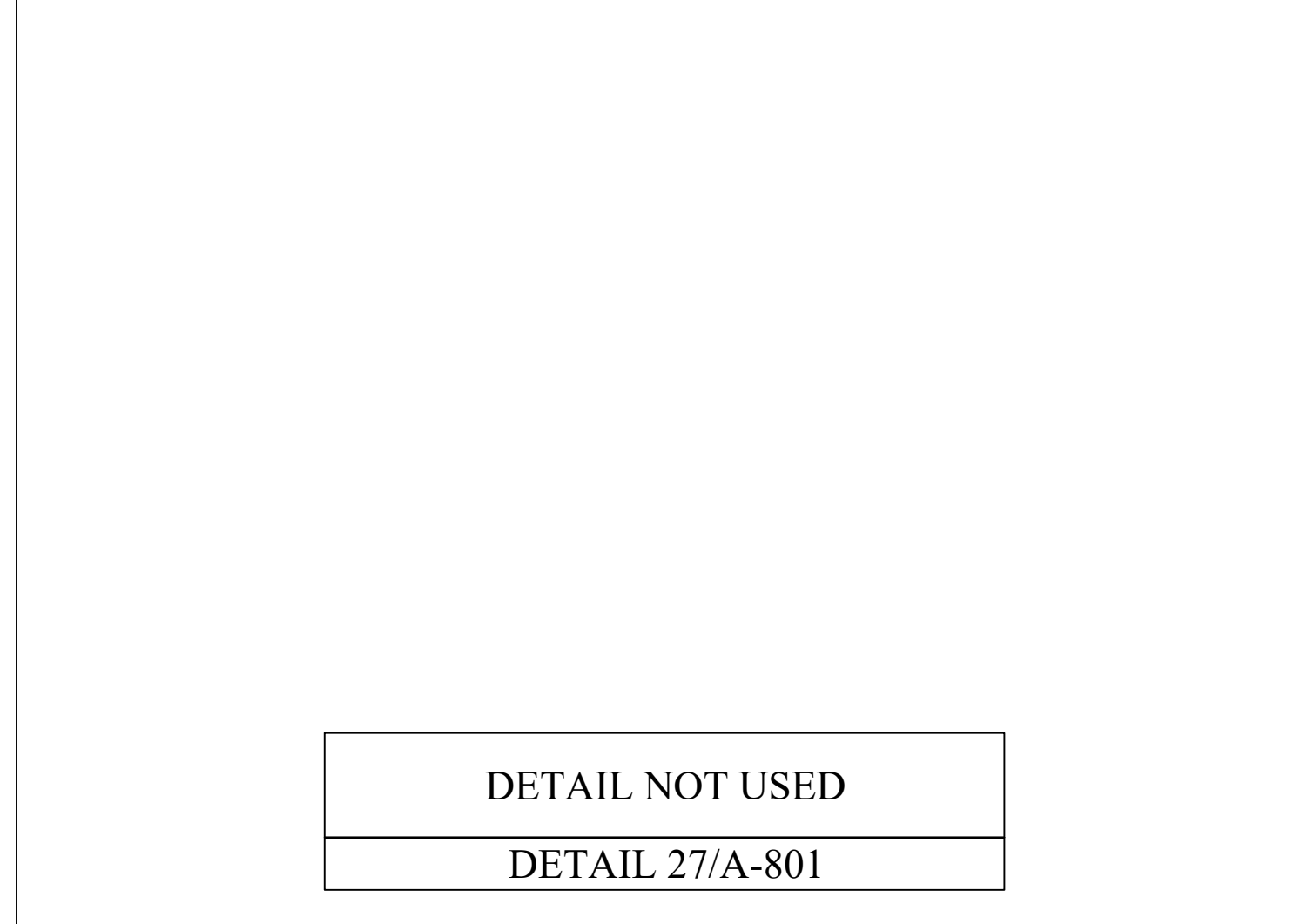
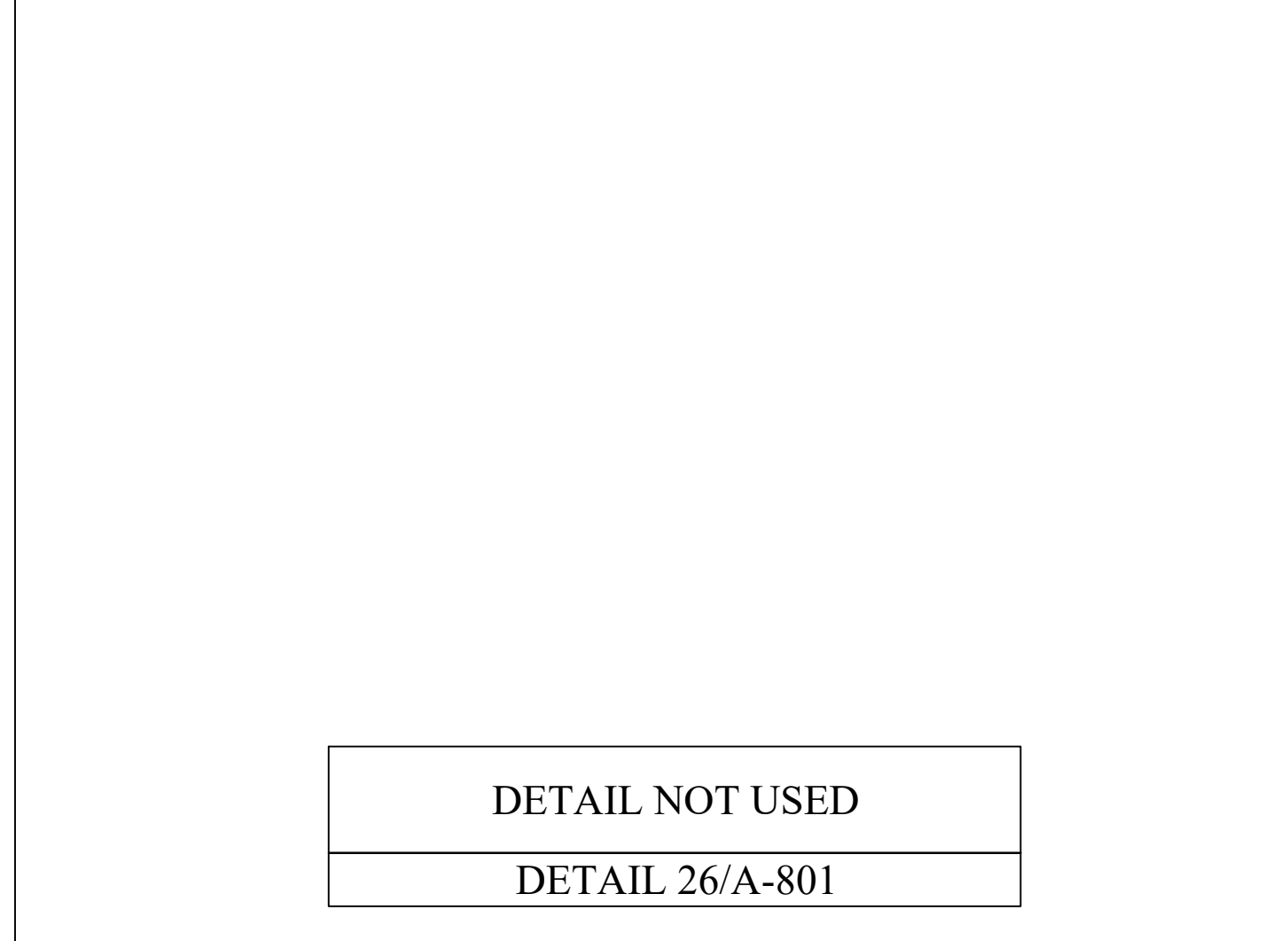
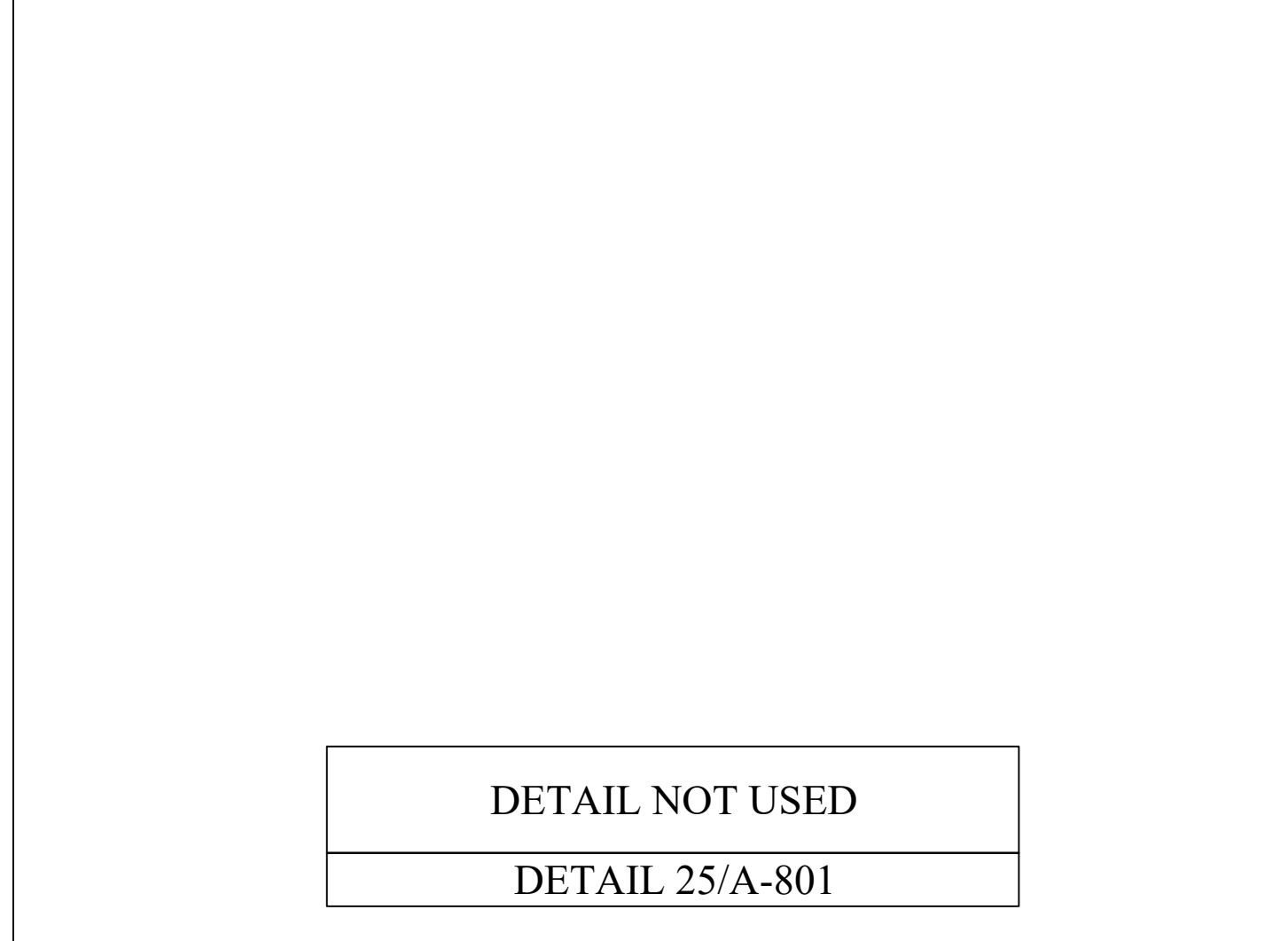
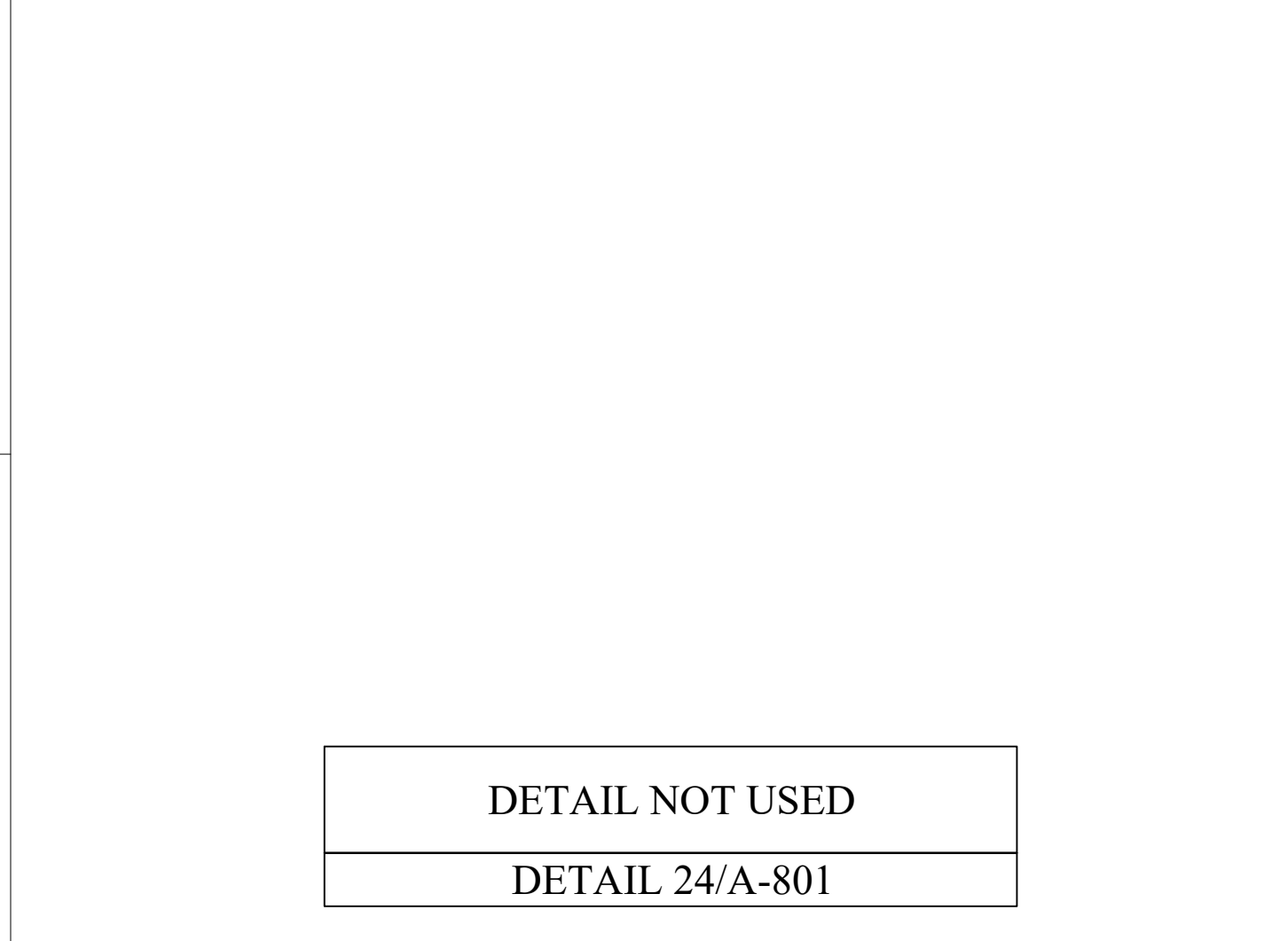
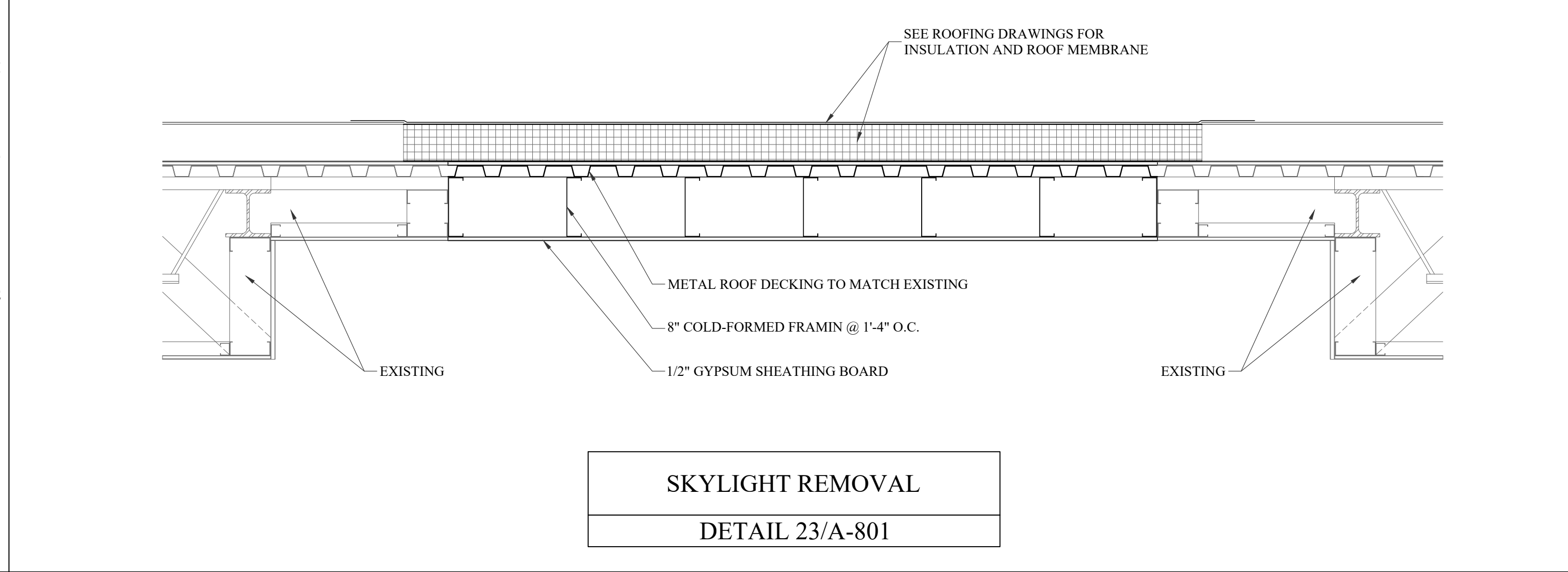
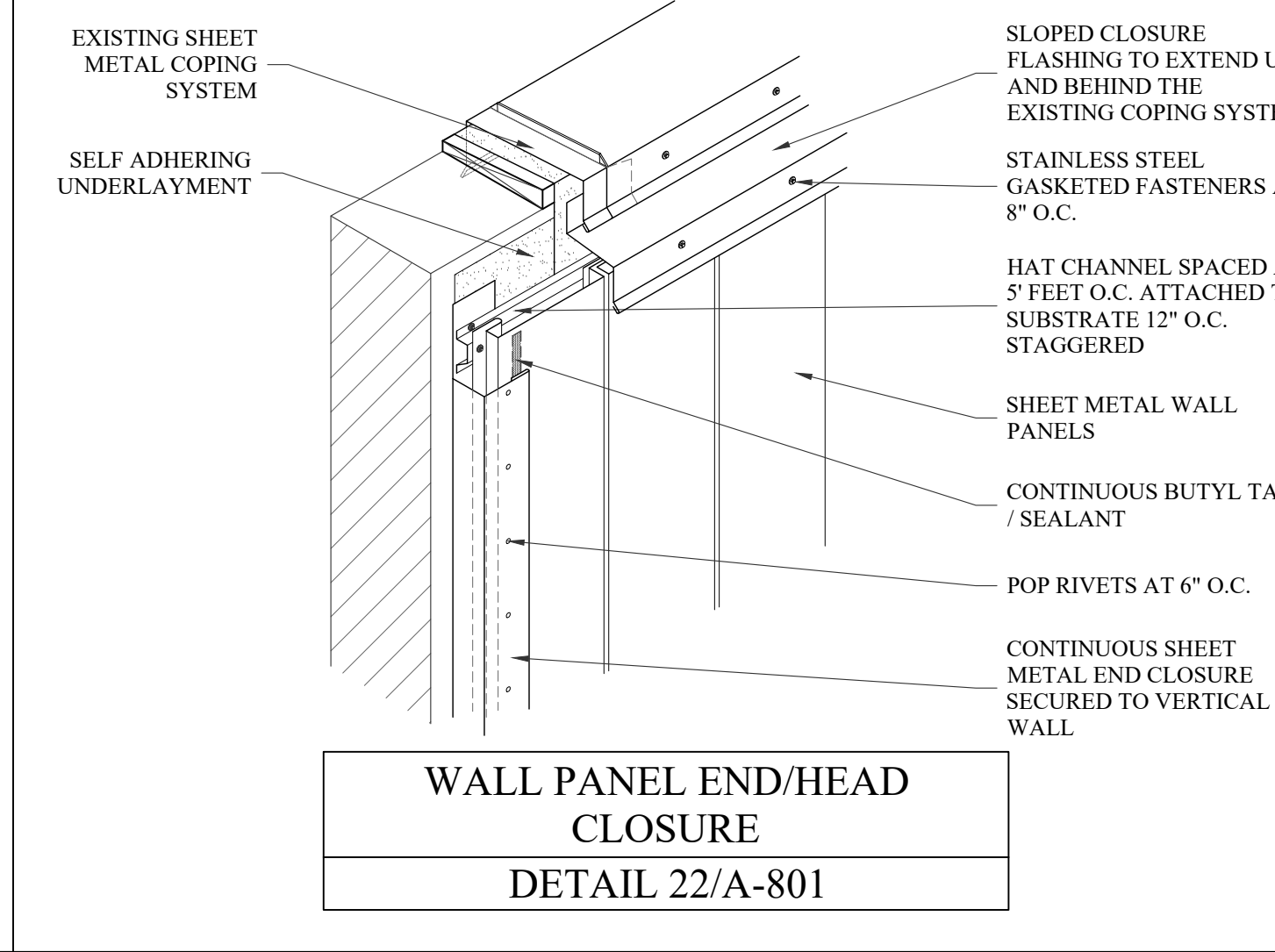
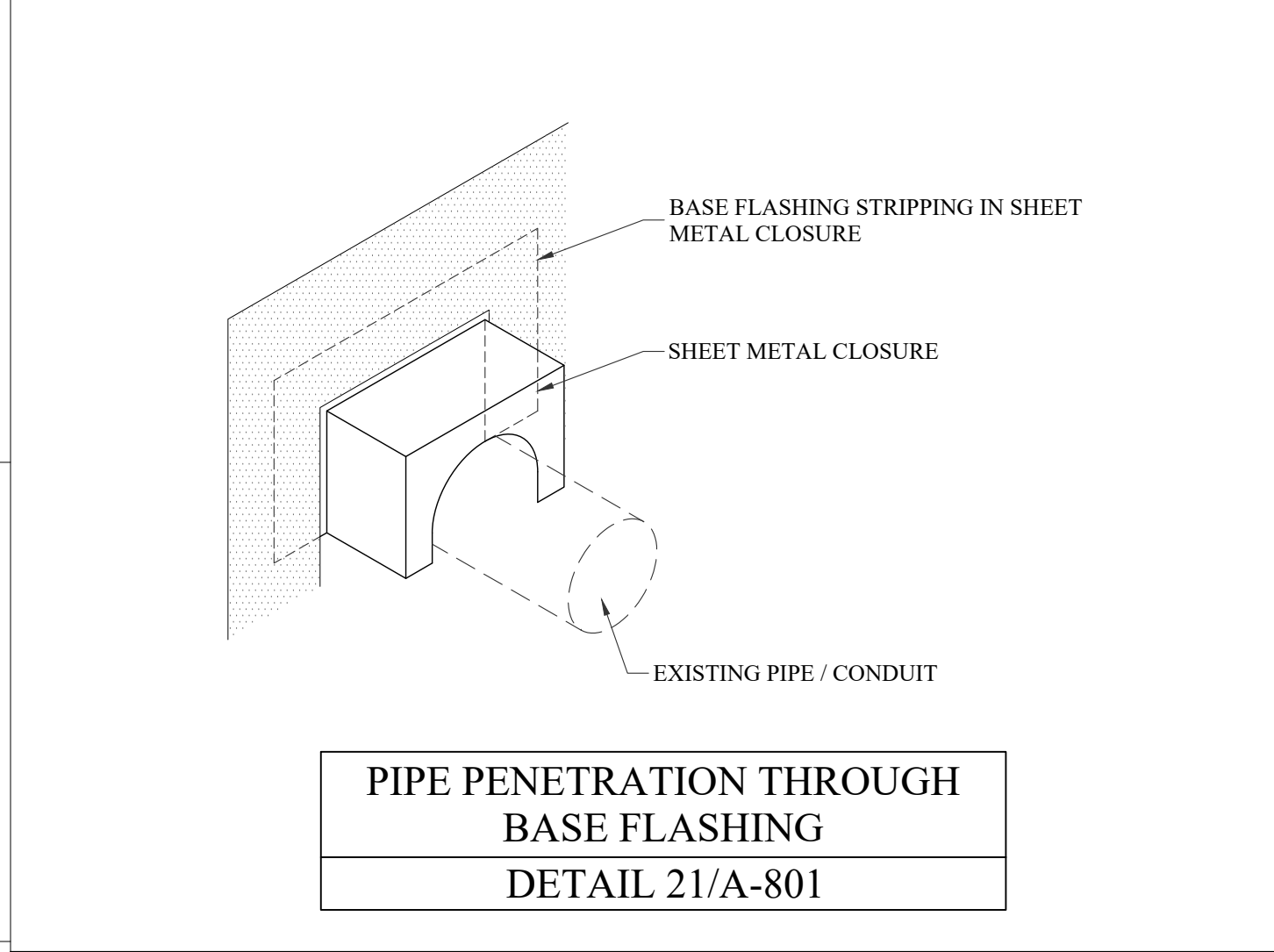
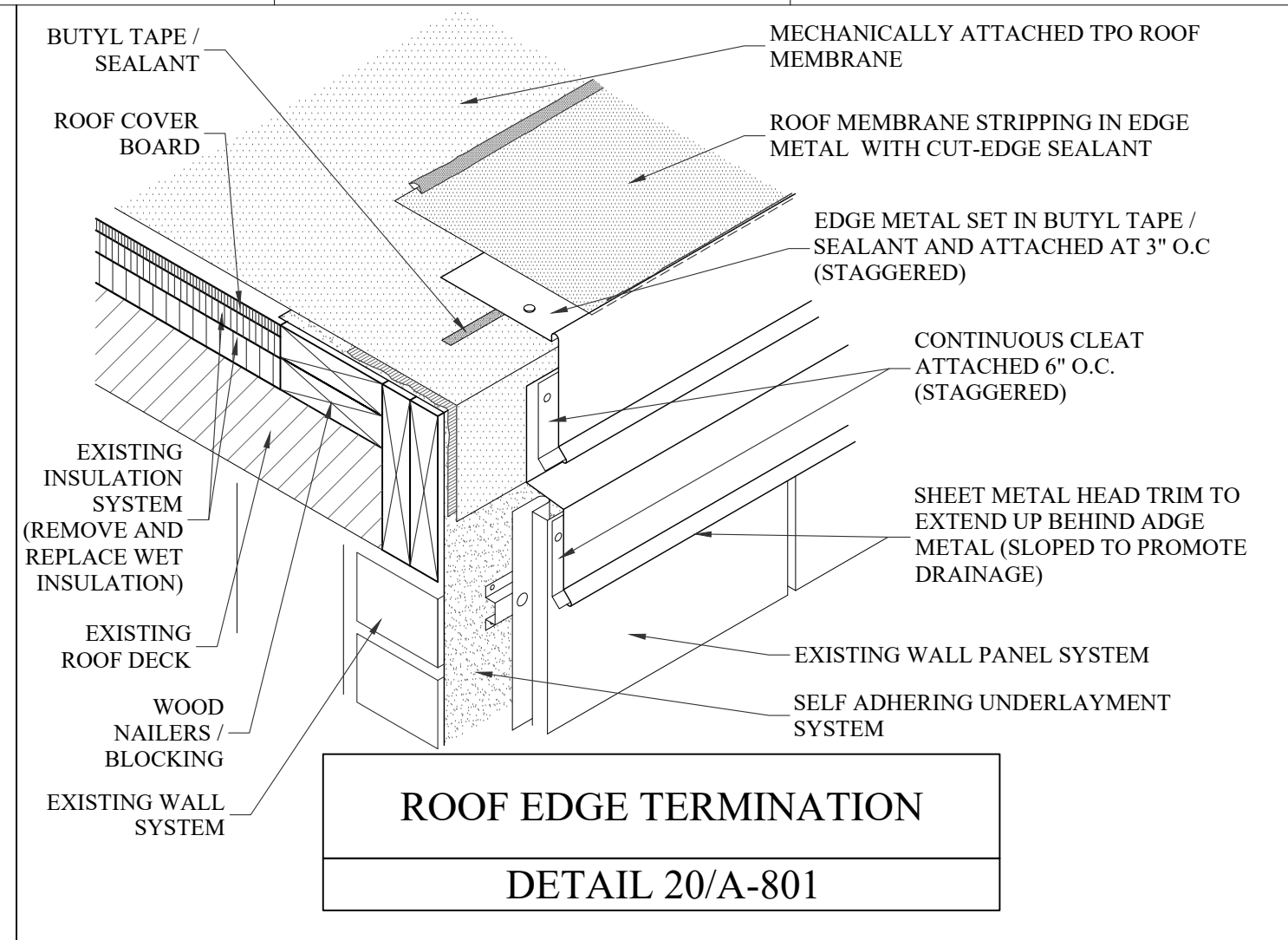
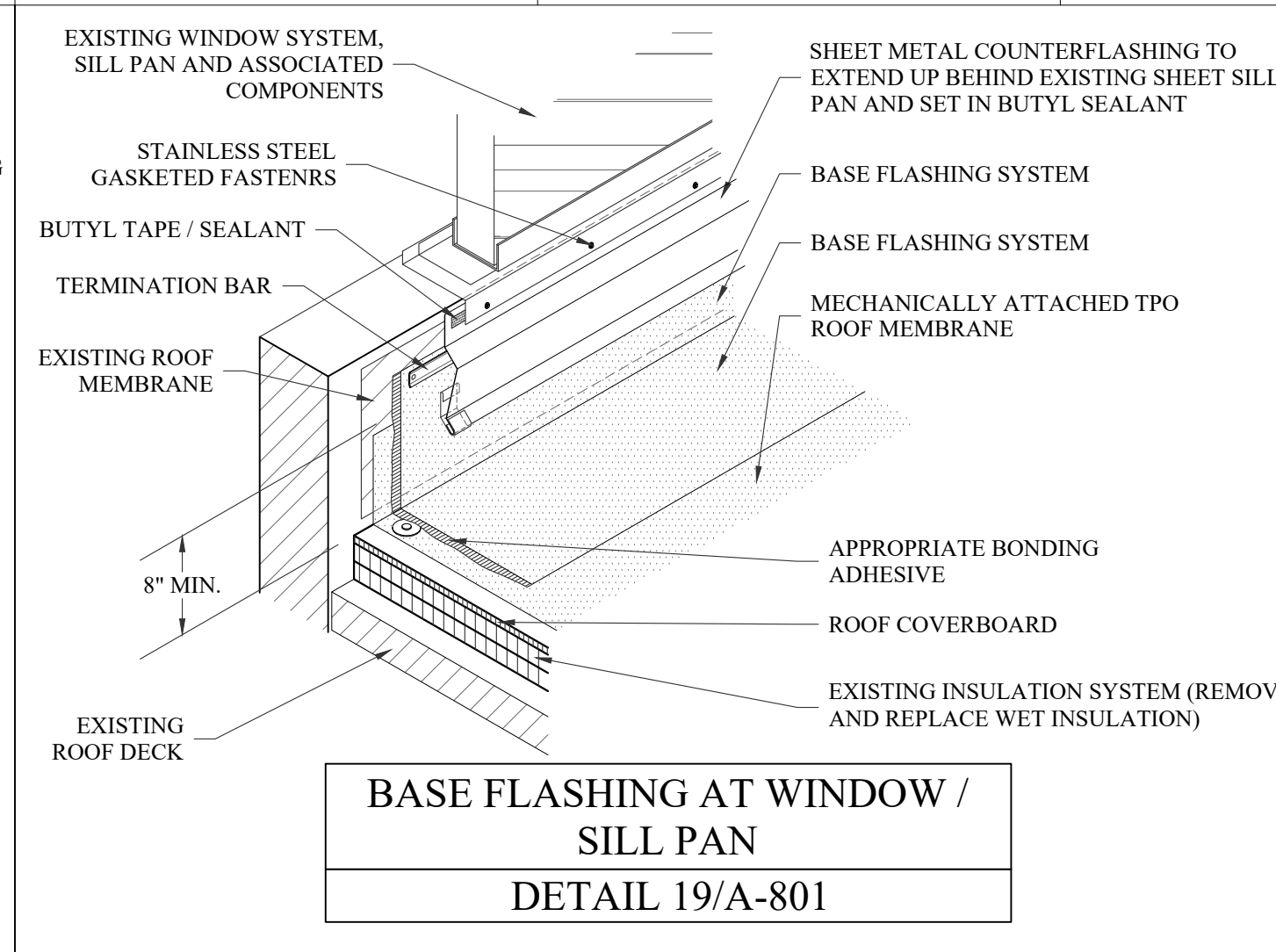
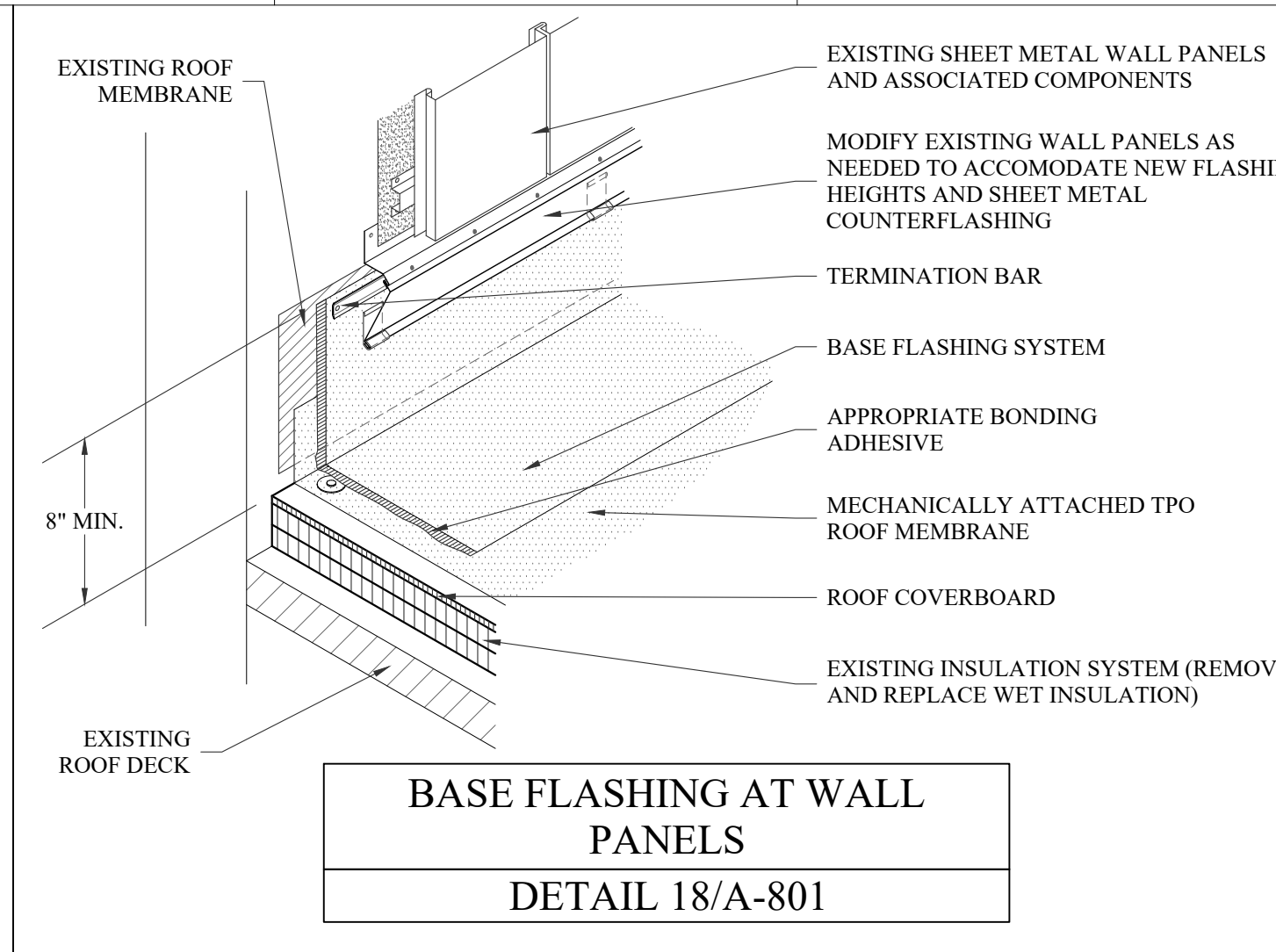
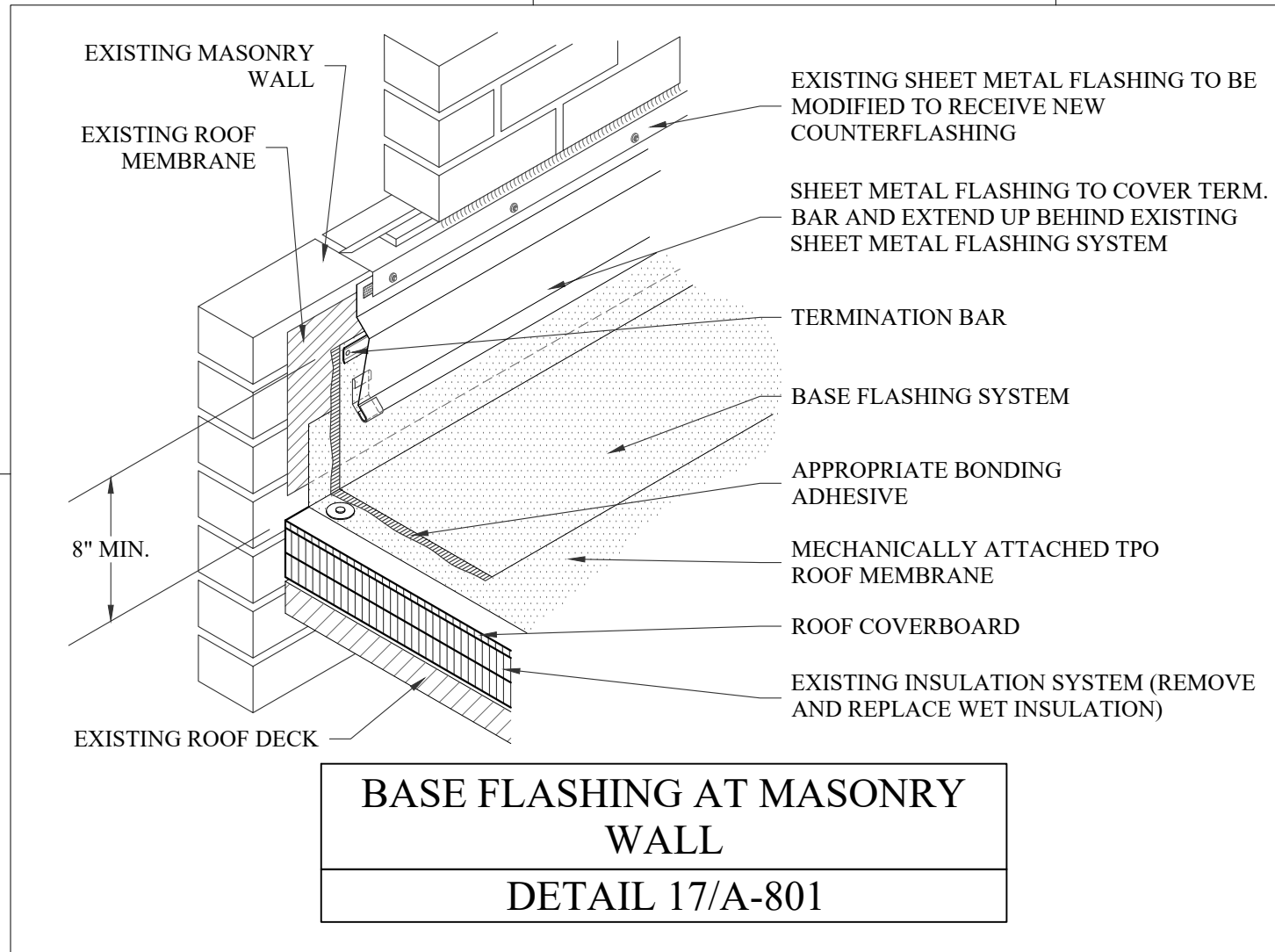
REVISIONS:

No.	Description	Date

PROJECT: 2201-218720
DATE: 04/22/22
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DETAILS

A-801



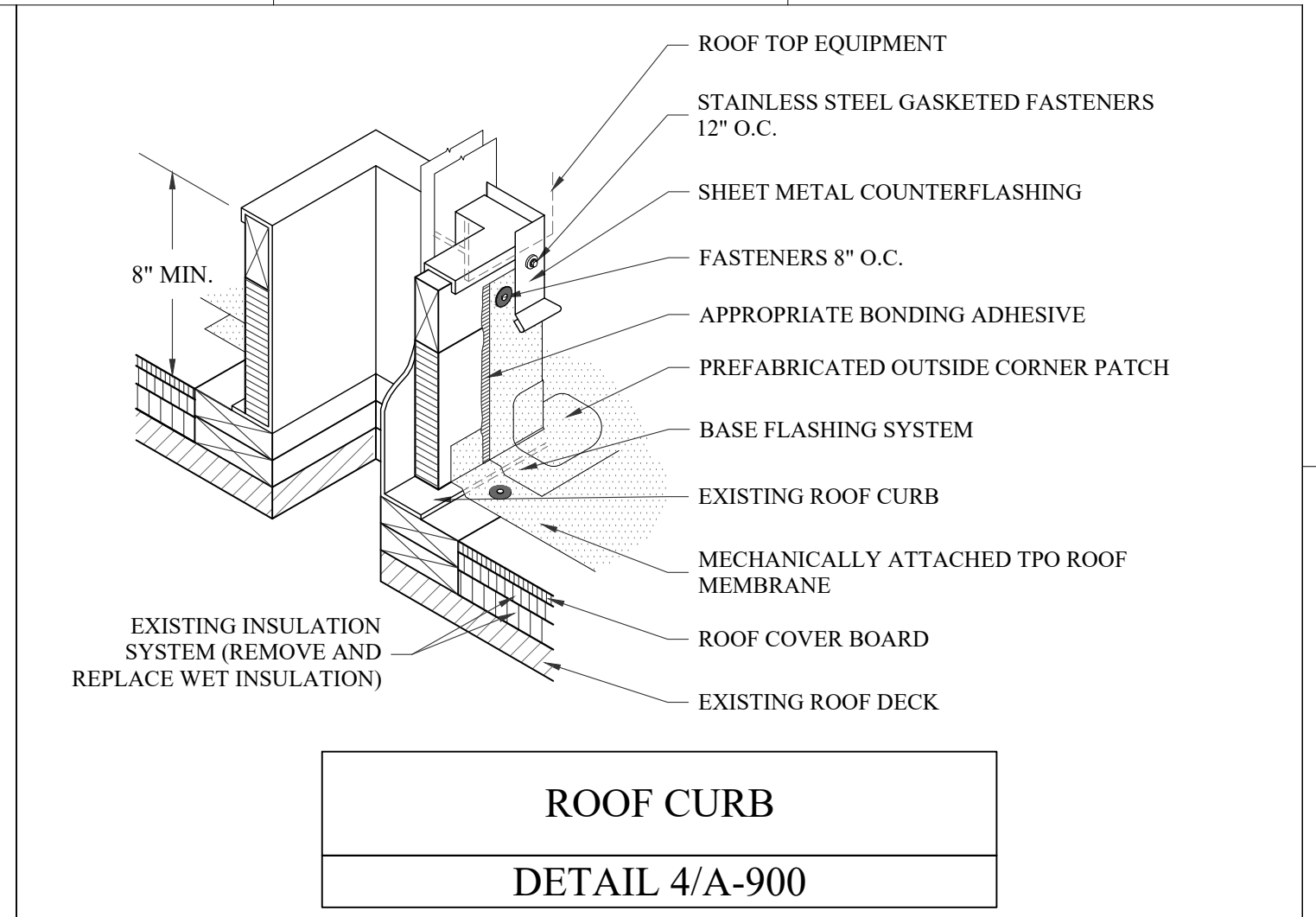
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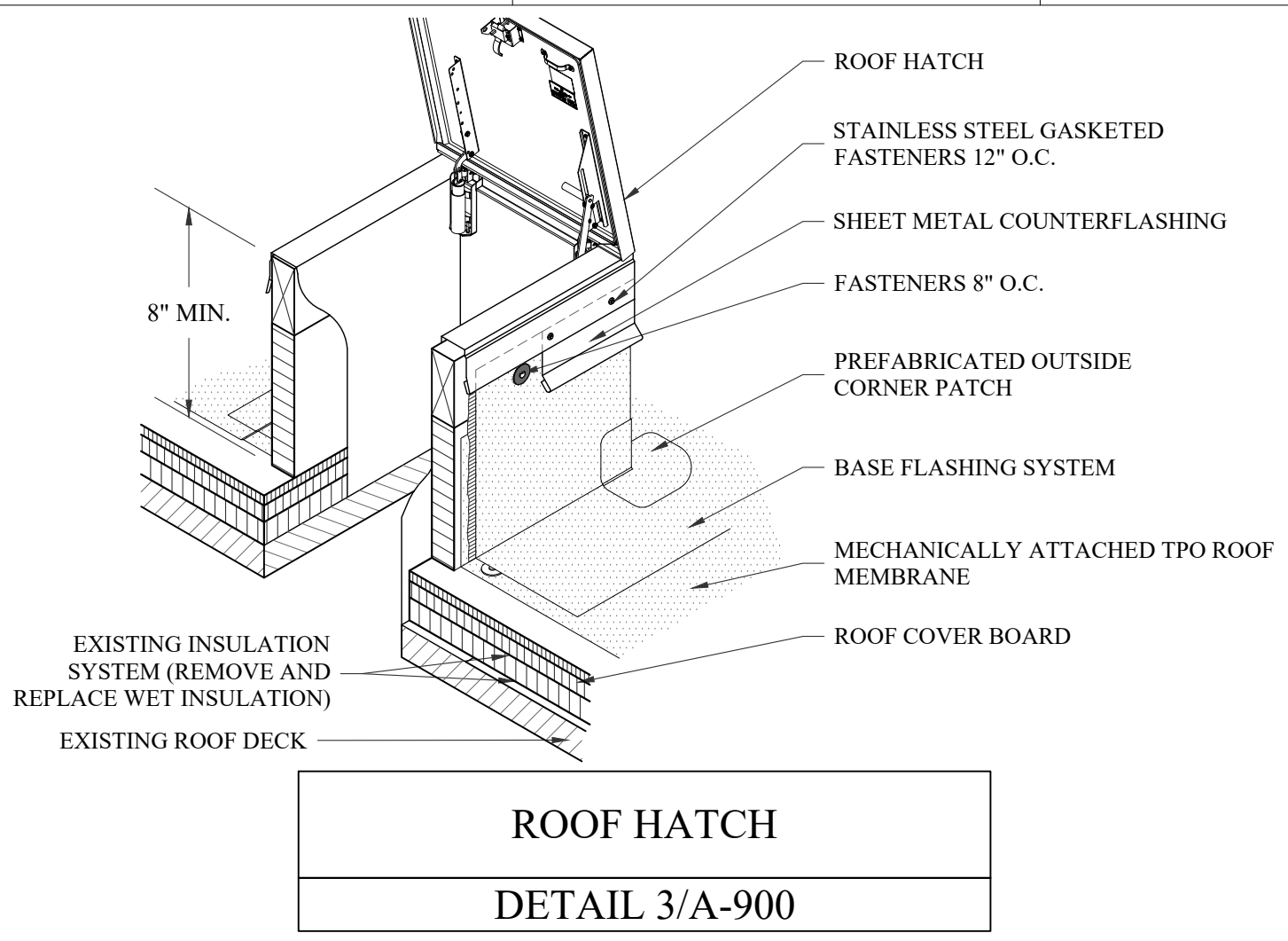
No.	Description	Date

PROJECT: 2201-218720
DATE: 04/22/22
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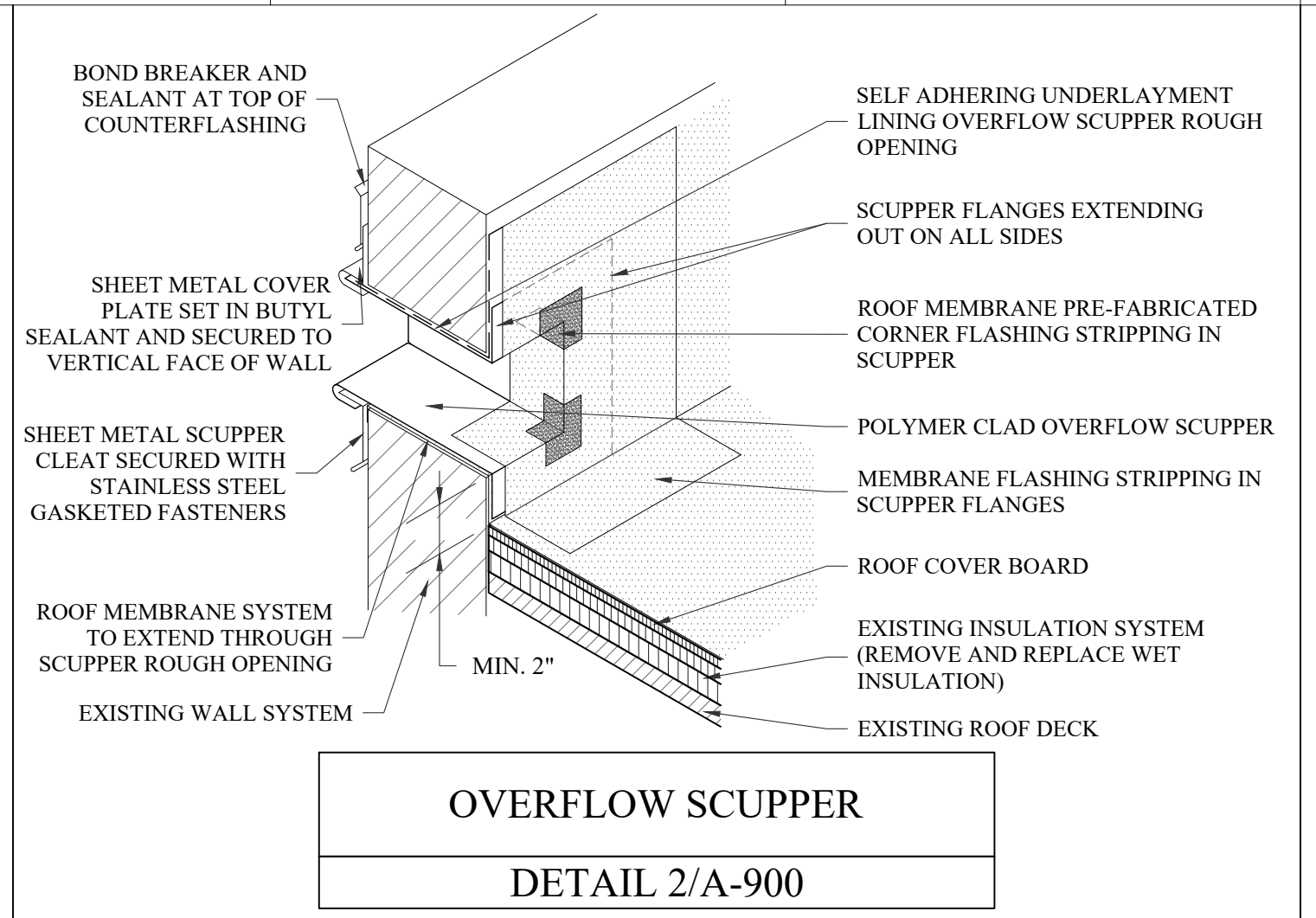
DETAILS
A-900



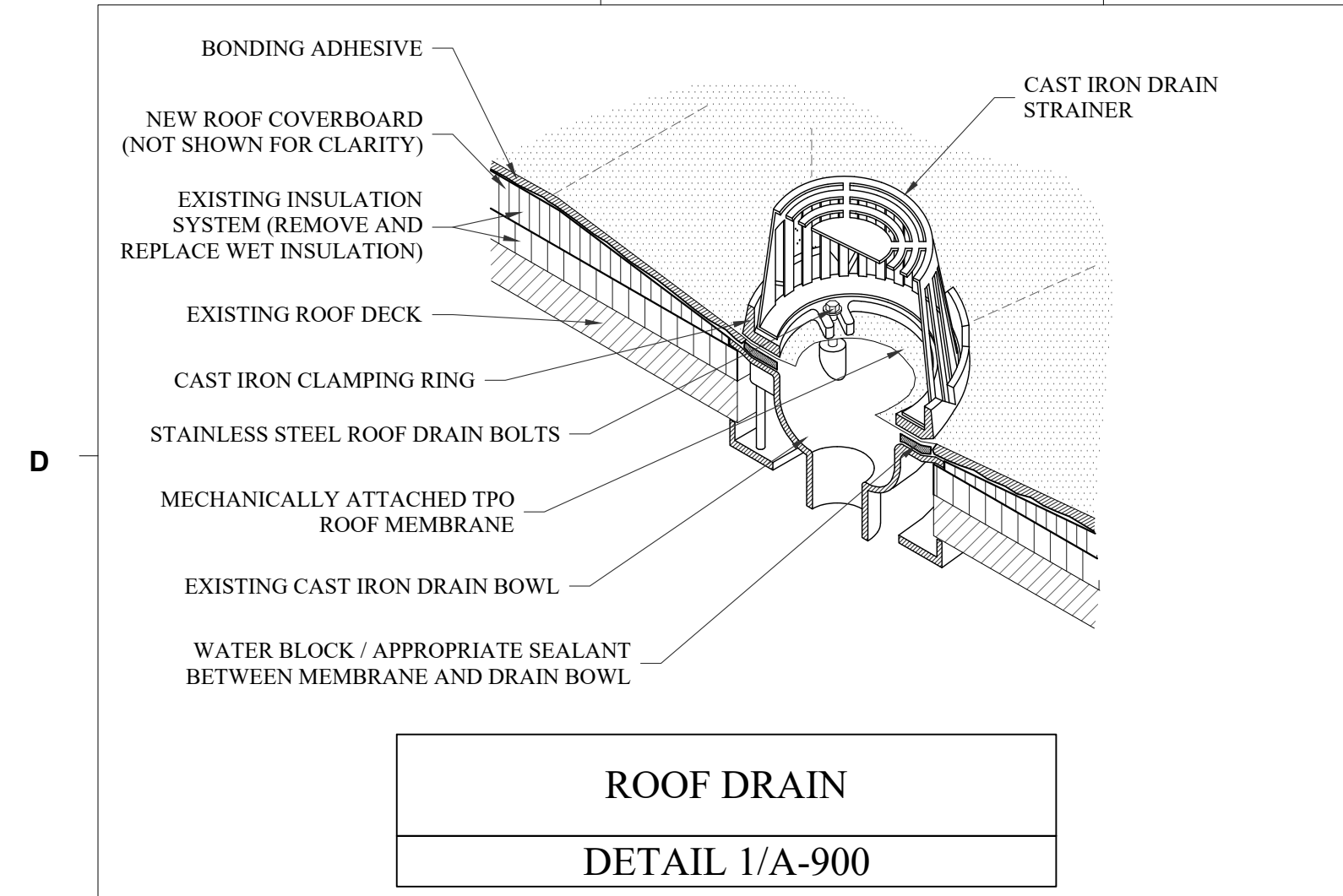
ROOF CURB
DETAIL 4/A-900



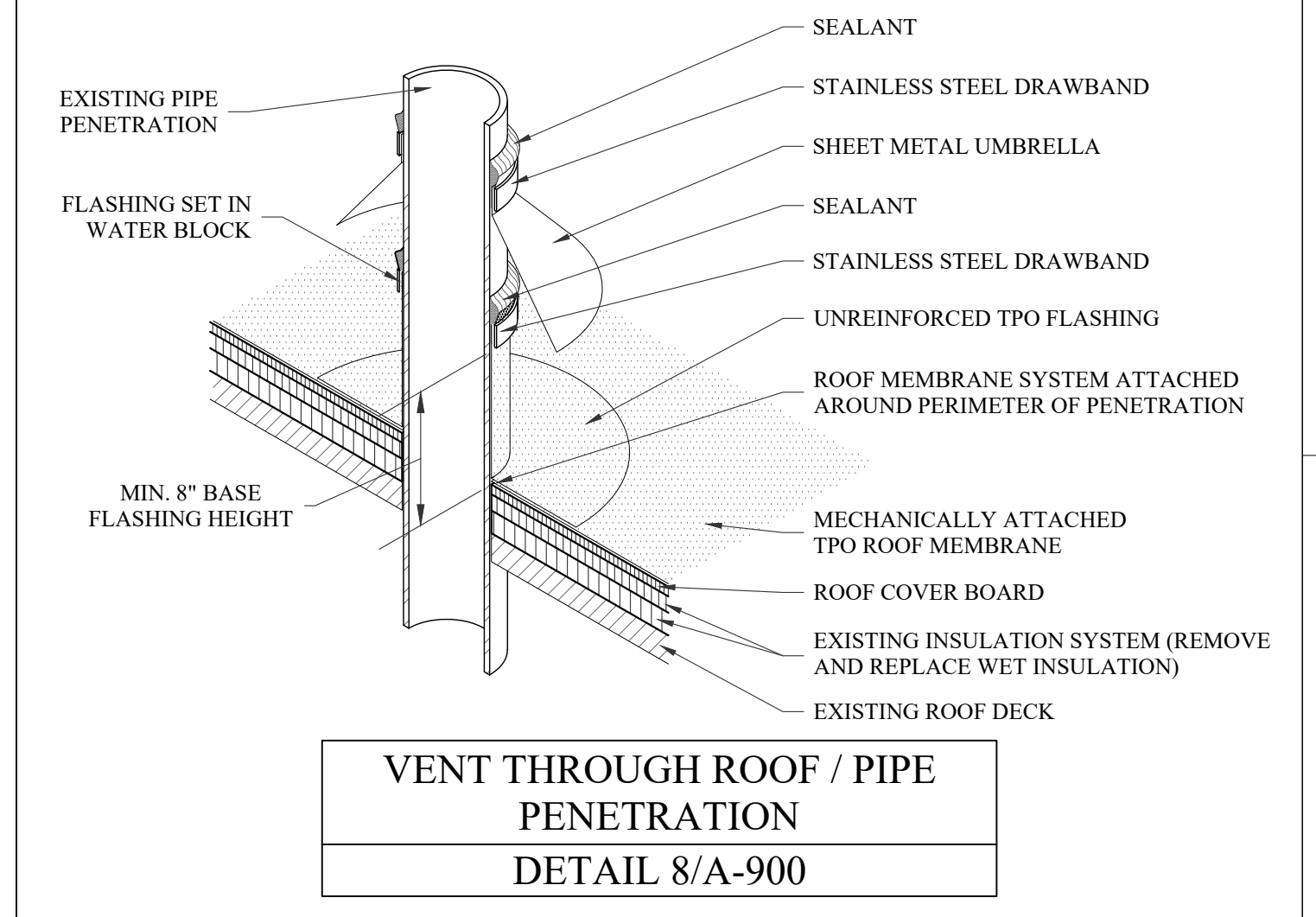
ROOF HATCH
DETAIL 3/A-900



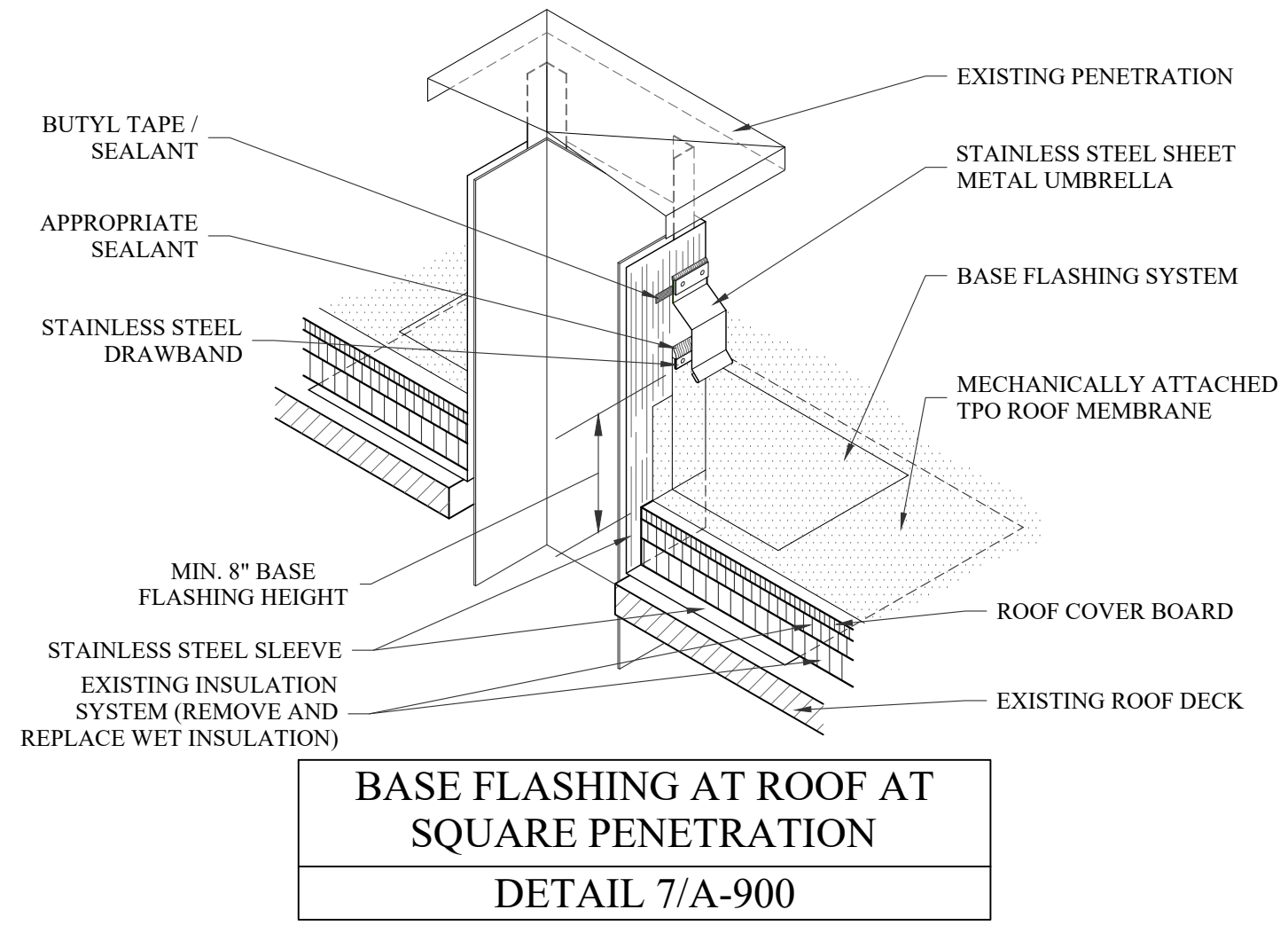
OVERFLOW SCUPPER
DETAIL 2/A-900



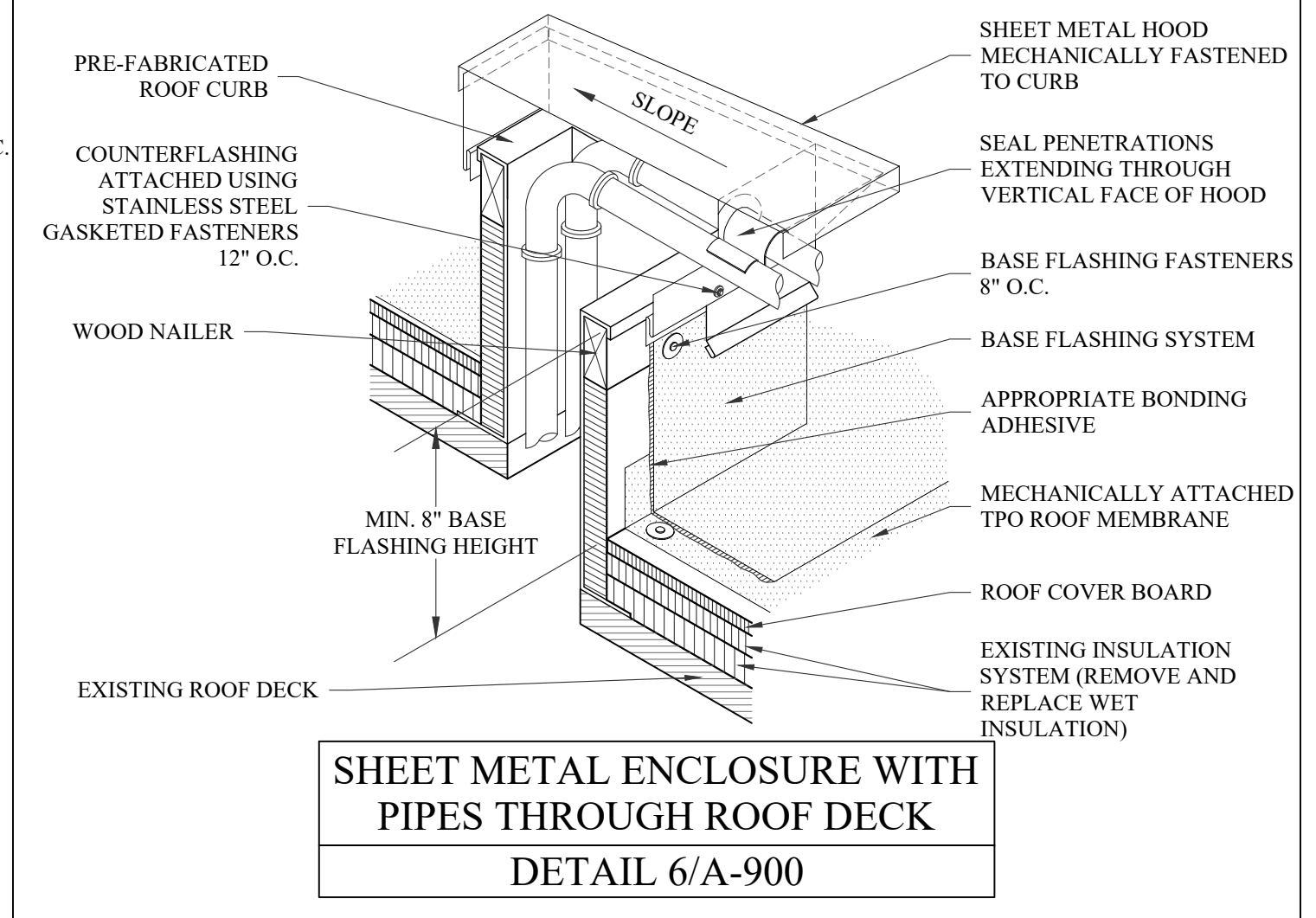
ROOF DRAIN
DETAIL 1/A-900



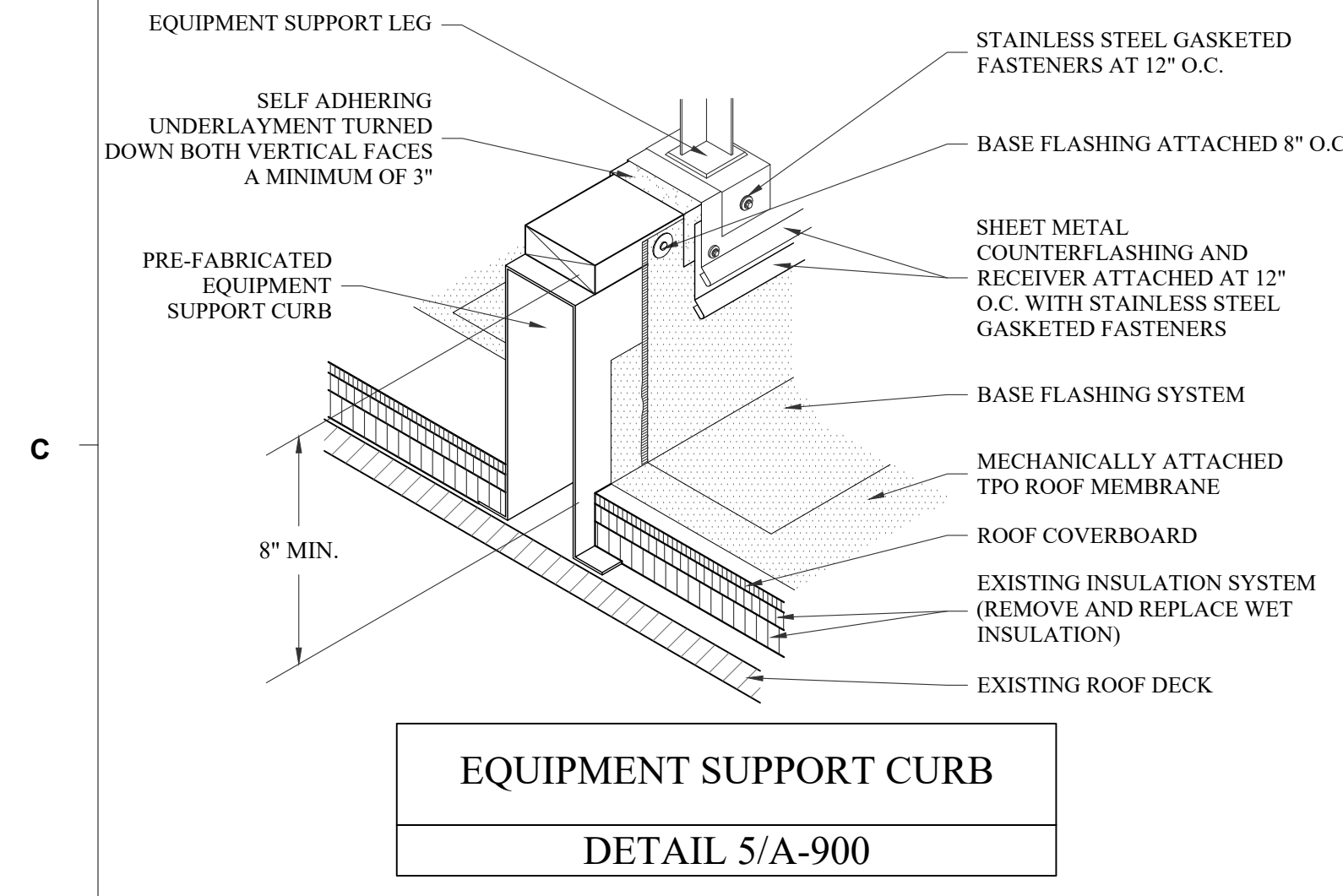
VENT THROUGH ROOF / PIPE PENETRATION
DETAIL 8/A-900



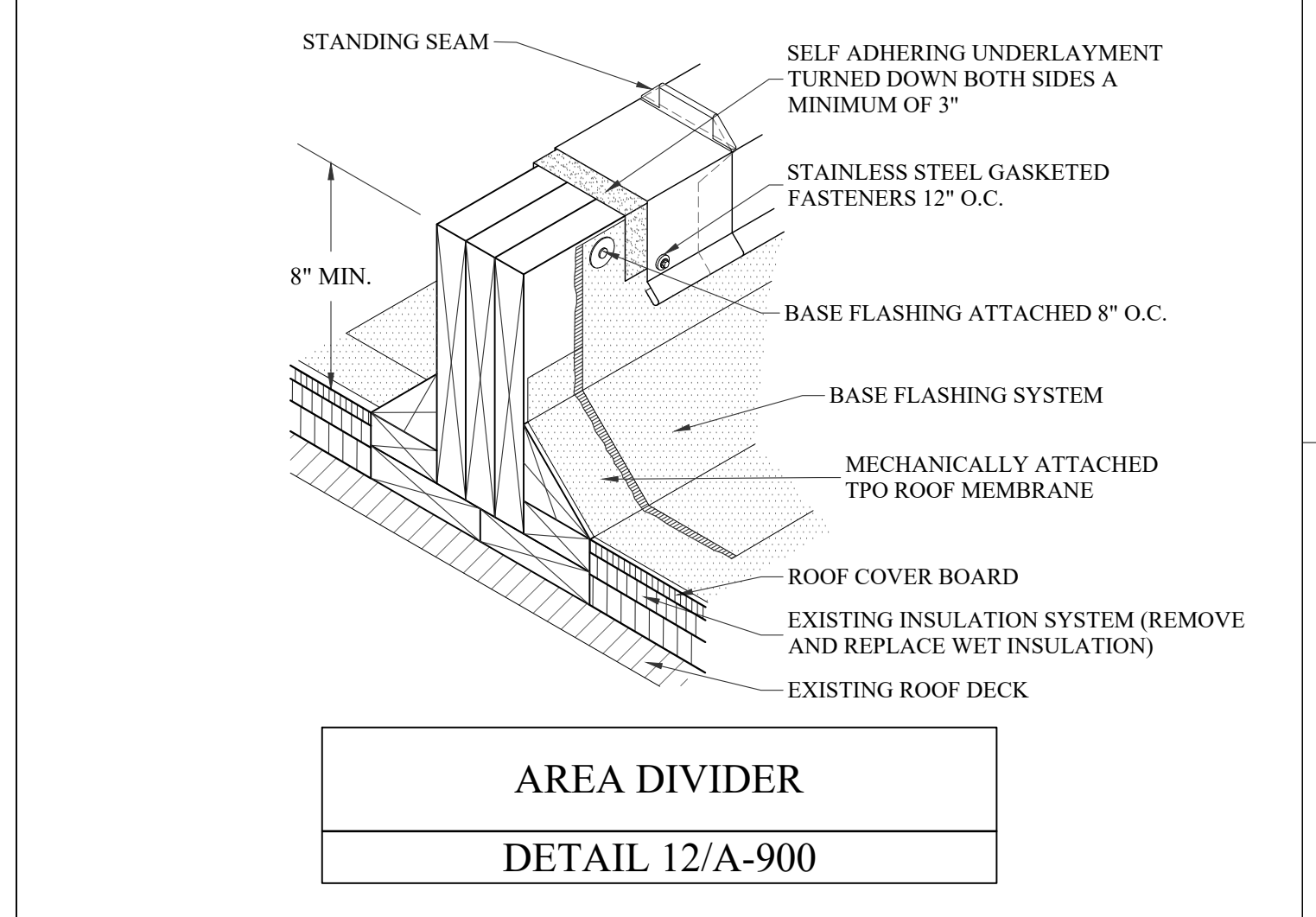
BASE FLASHING AT ROOF AT SQUARE PENETRATION
DETAIL 7/A-900



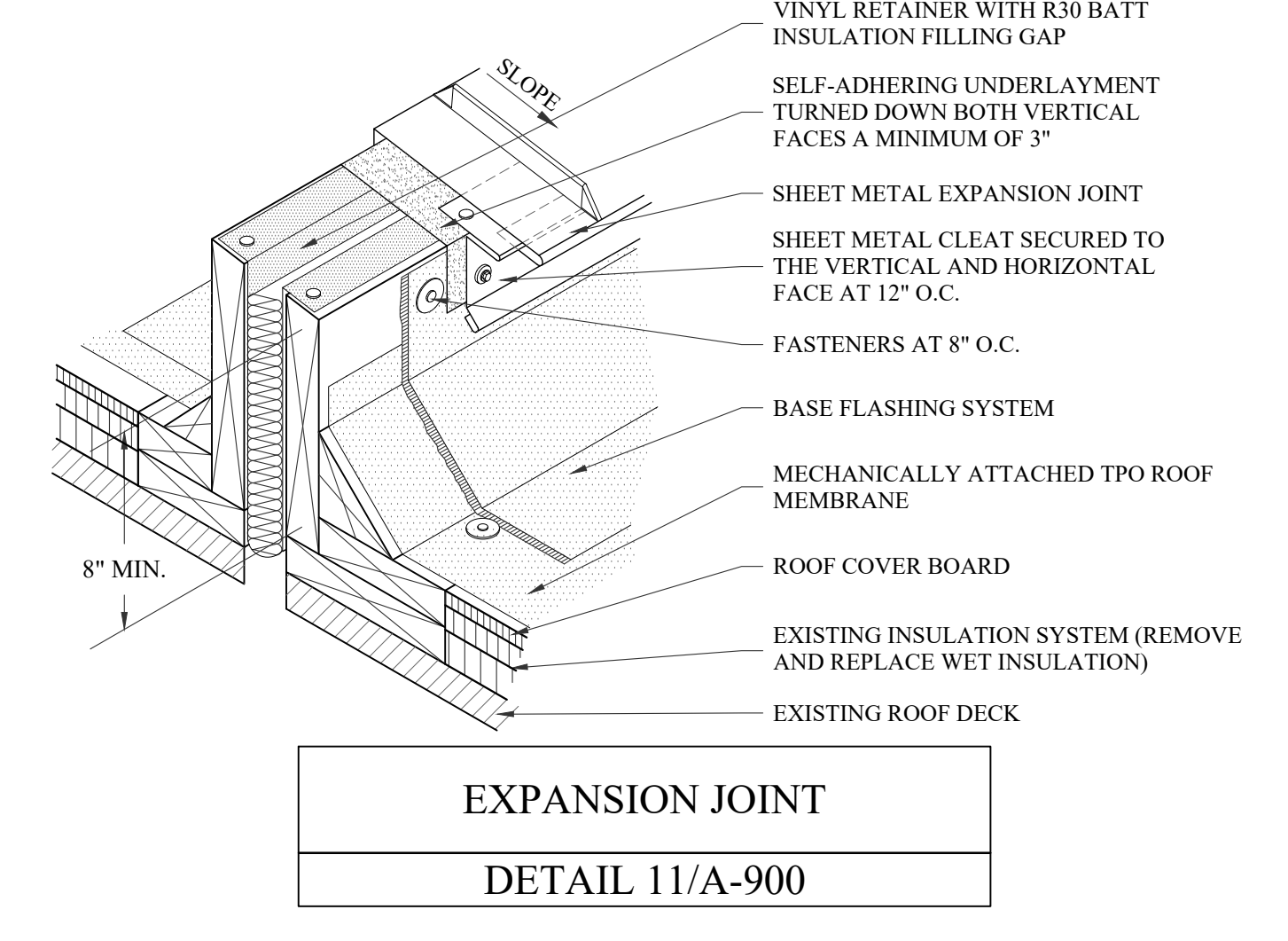
SHEET METAL ENCLOSURE WITH PIPES THROUGH ROOF DECK
DETAIL 6/A-900



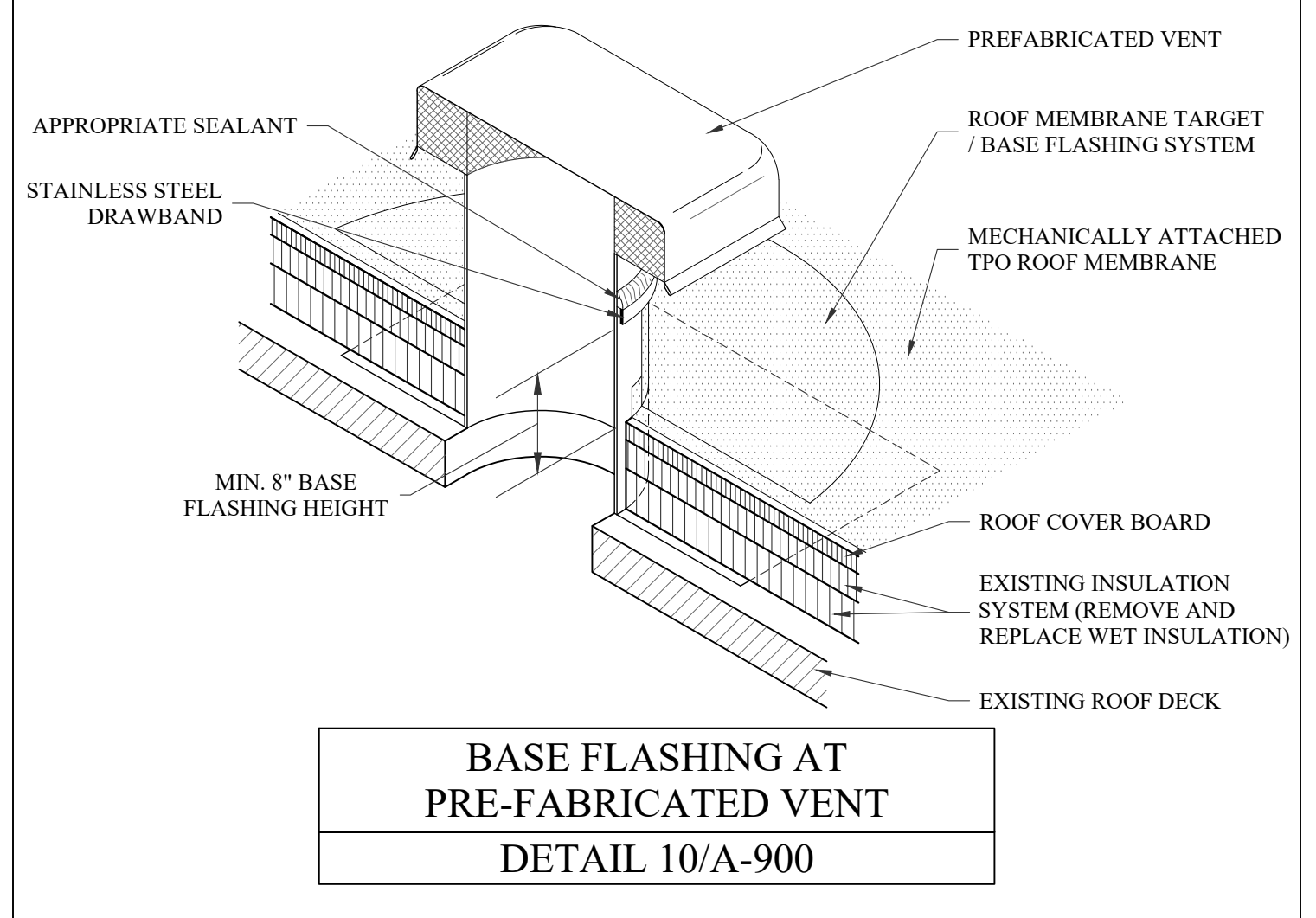
EQUIPMENT SUPPORT CURB
DETAIL 5/A-900



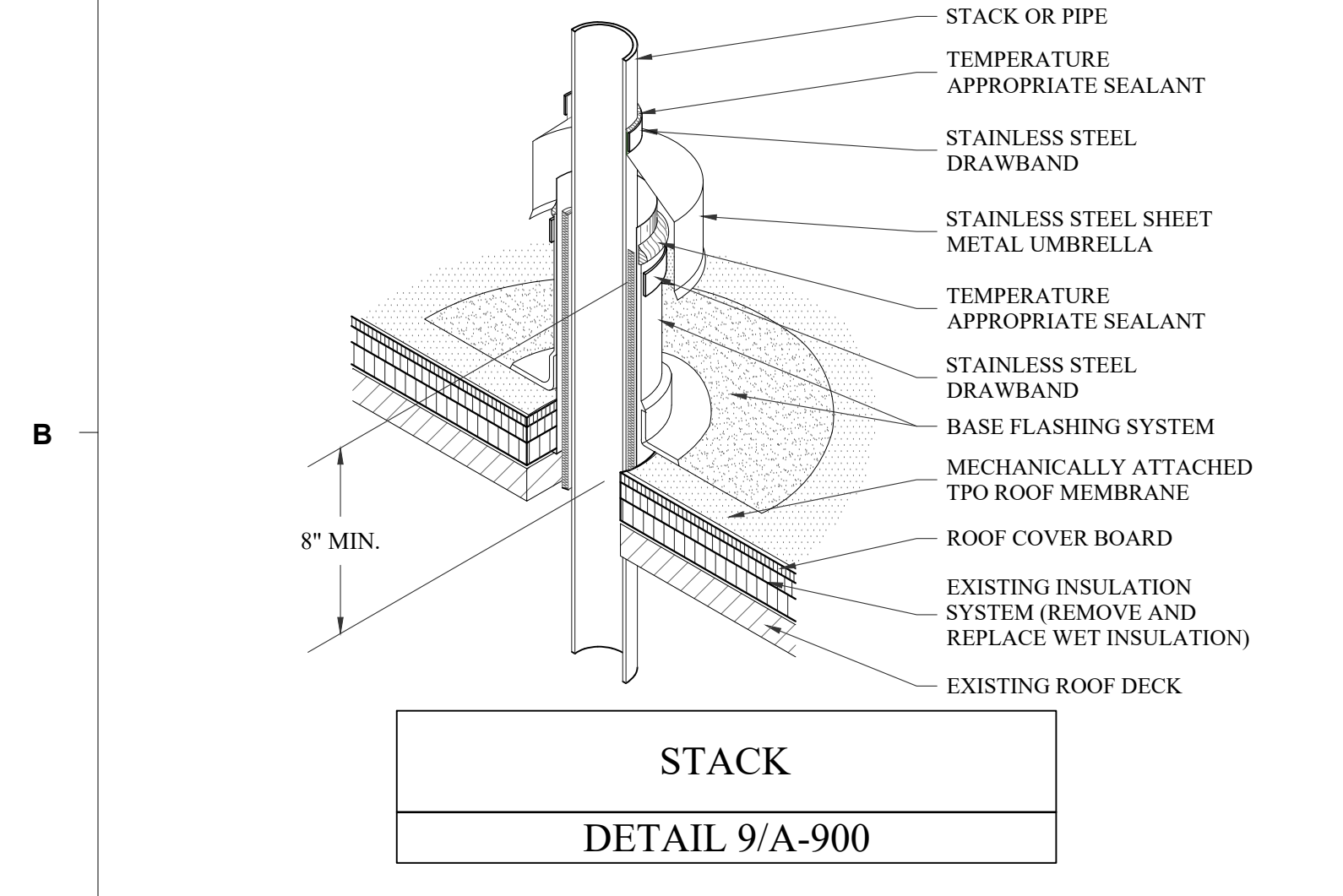
AREA DIVIDER
DETAIL 12/A-900



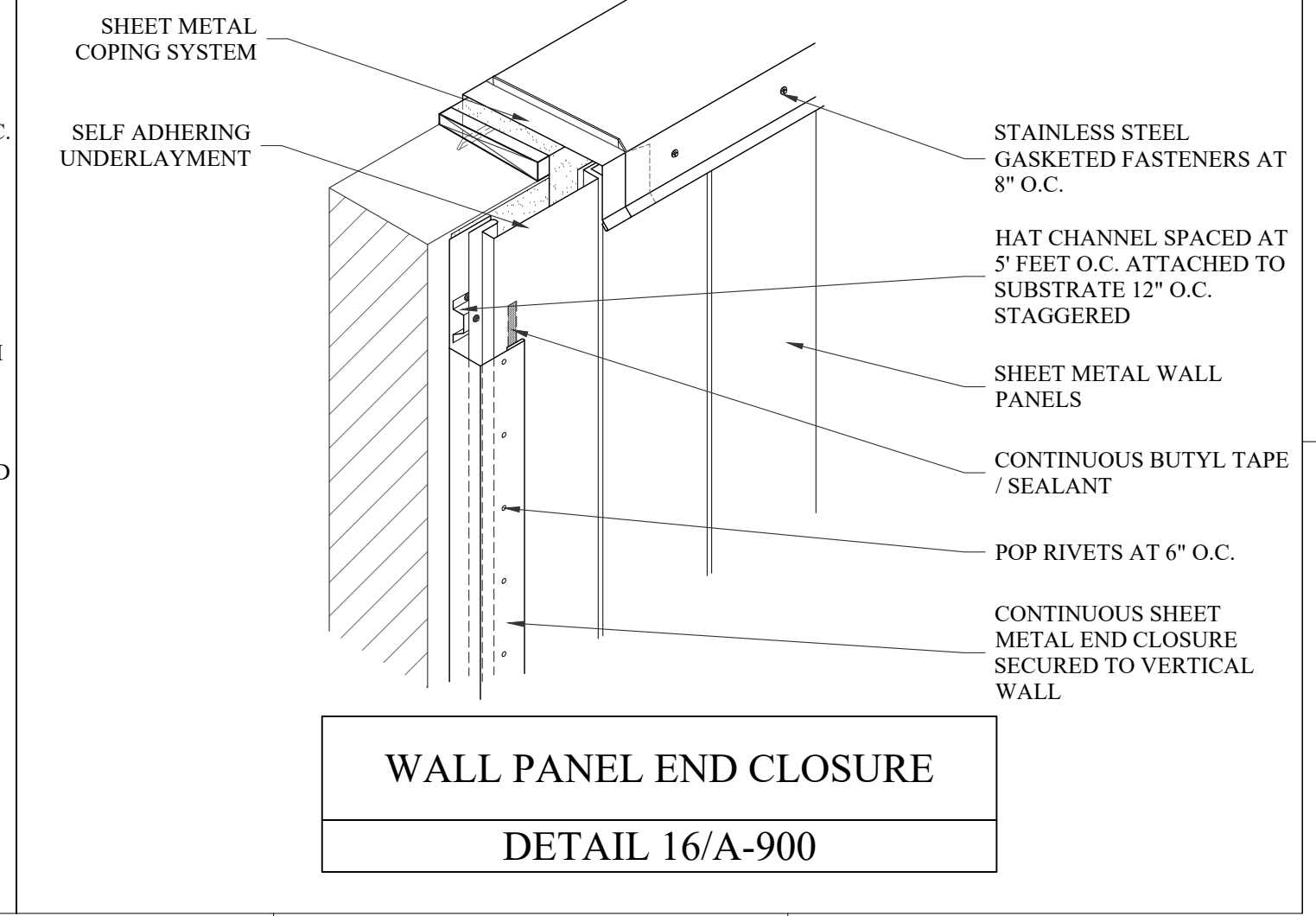
EXPANSION JOINT
DETAIL 11/A-900



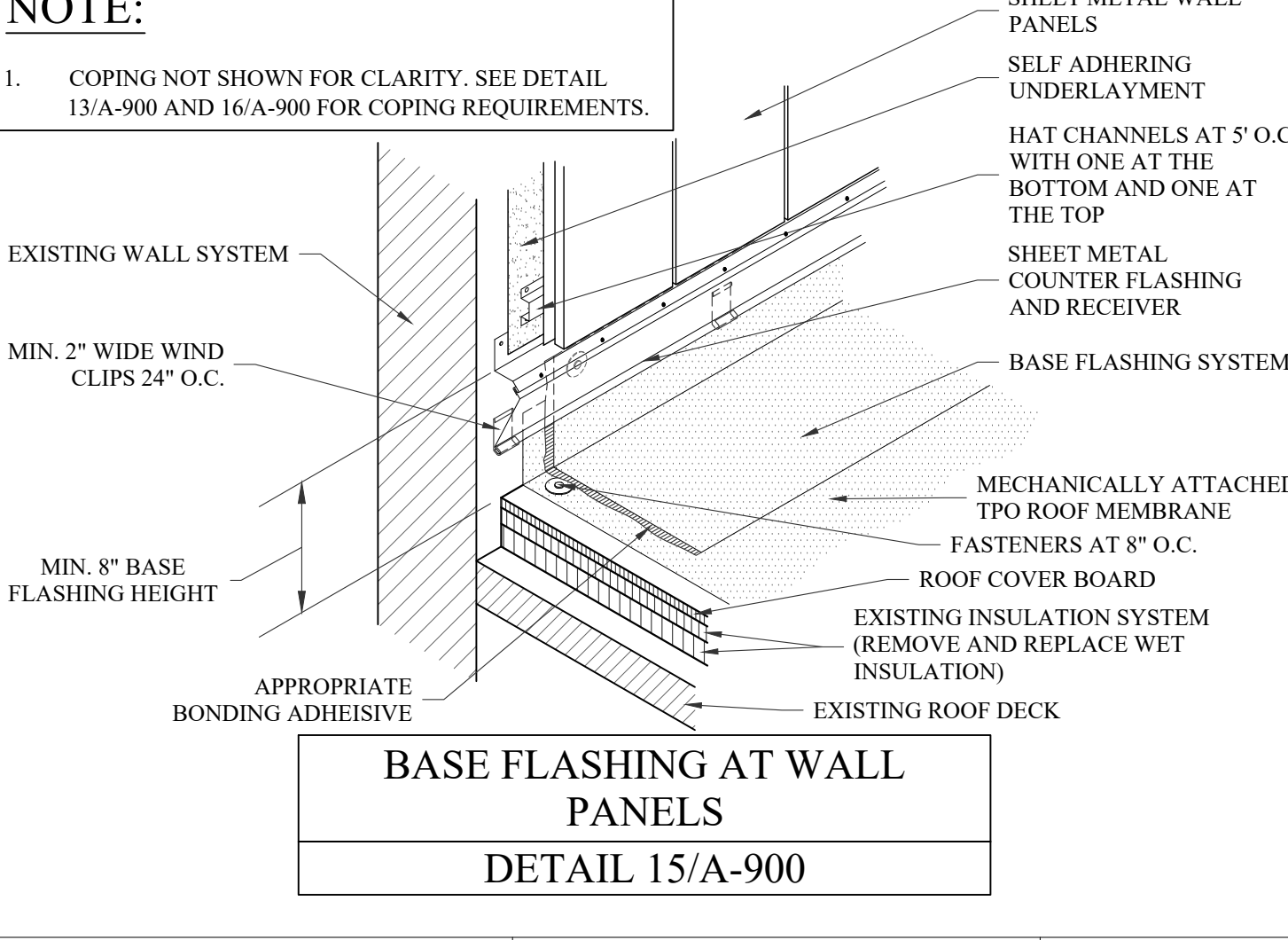
BASE FLASHING AT PREFABRICATED VENT
DETAIL 10/A-900



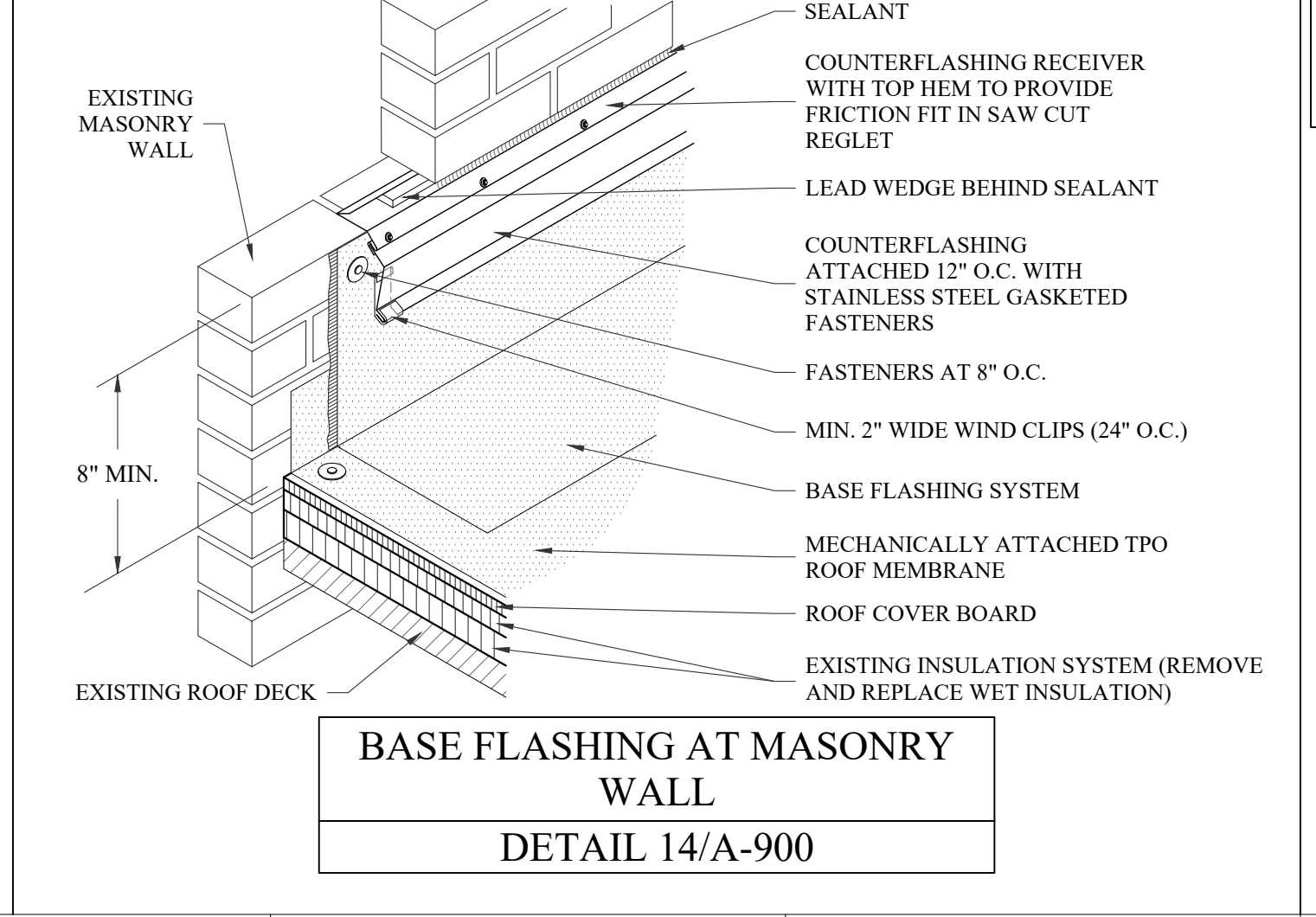
STACK
DETAIL 9/A-900



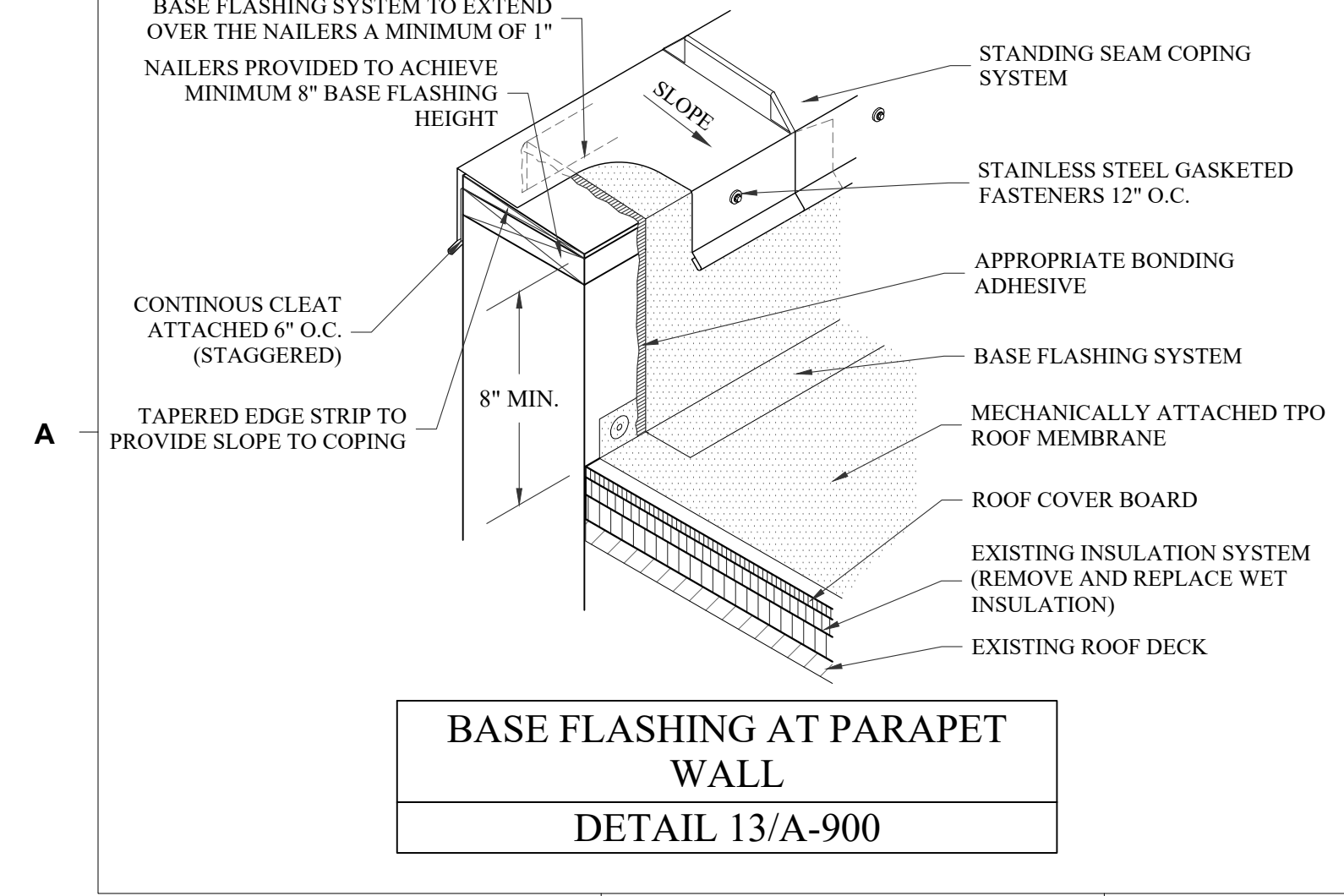
WALL PANEL END CLOSURE
DETAIL 16/A-900



BASE FLASHING AT WALL PANELS
DETAIL 15/A-900



BASE FLASHING AT MASONRY WALL
DETAIL 14/A-900



BASE FLASHING AT PARAPET WALL
DETAIL 13/A-900

NOTE:

- COPING NOT SHOWN FOR CLARITY. SEE DETAIL 13/A-900 AND 16/A-900 FOR COPING REQUIREMENTS.

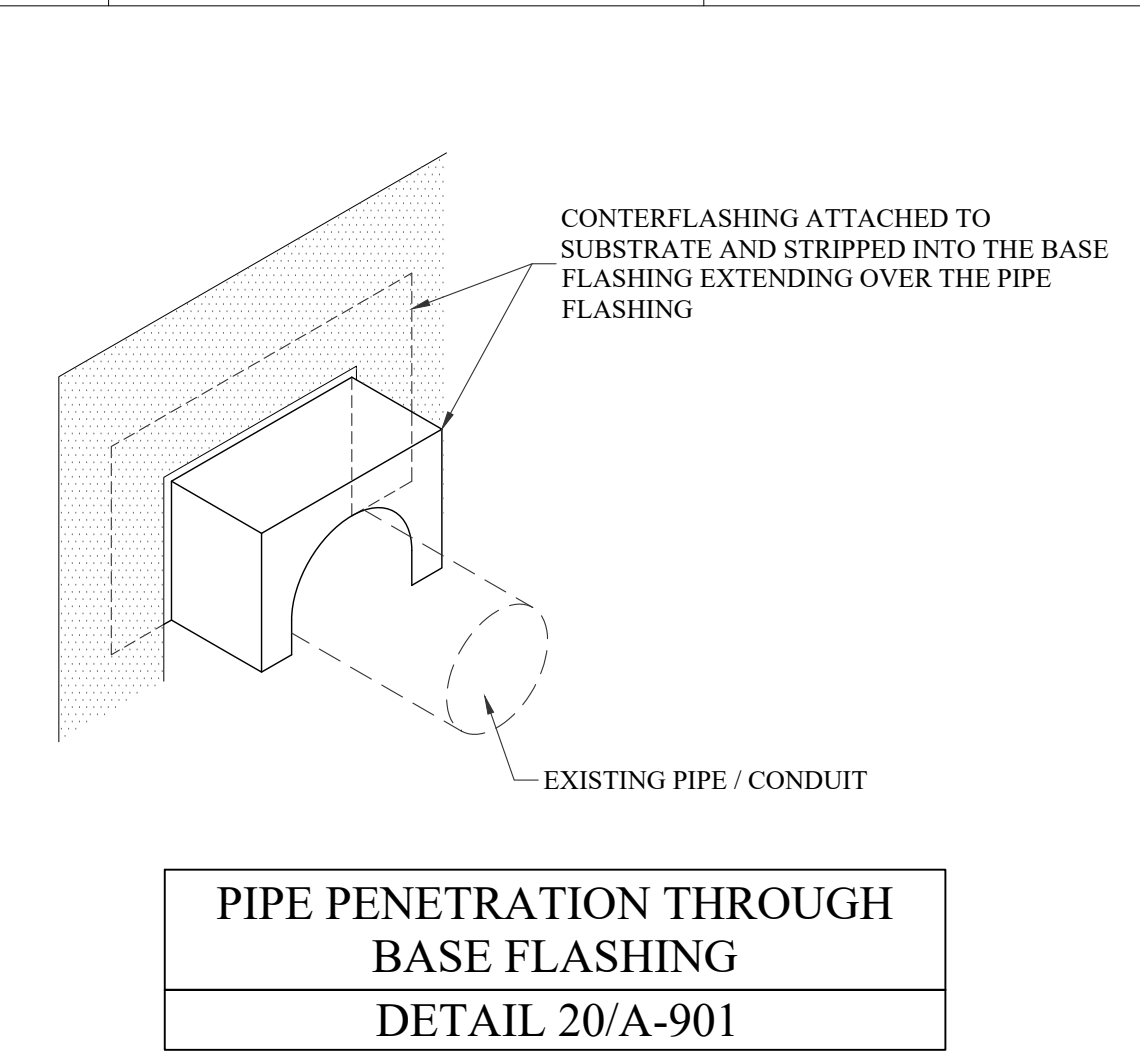
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REVISIONS:

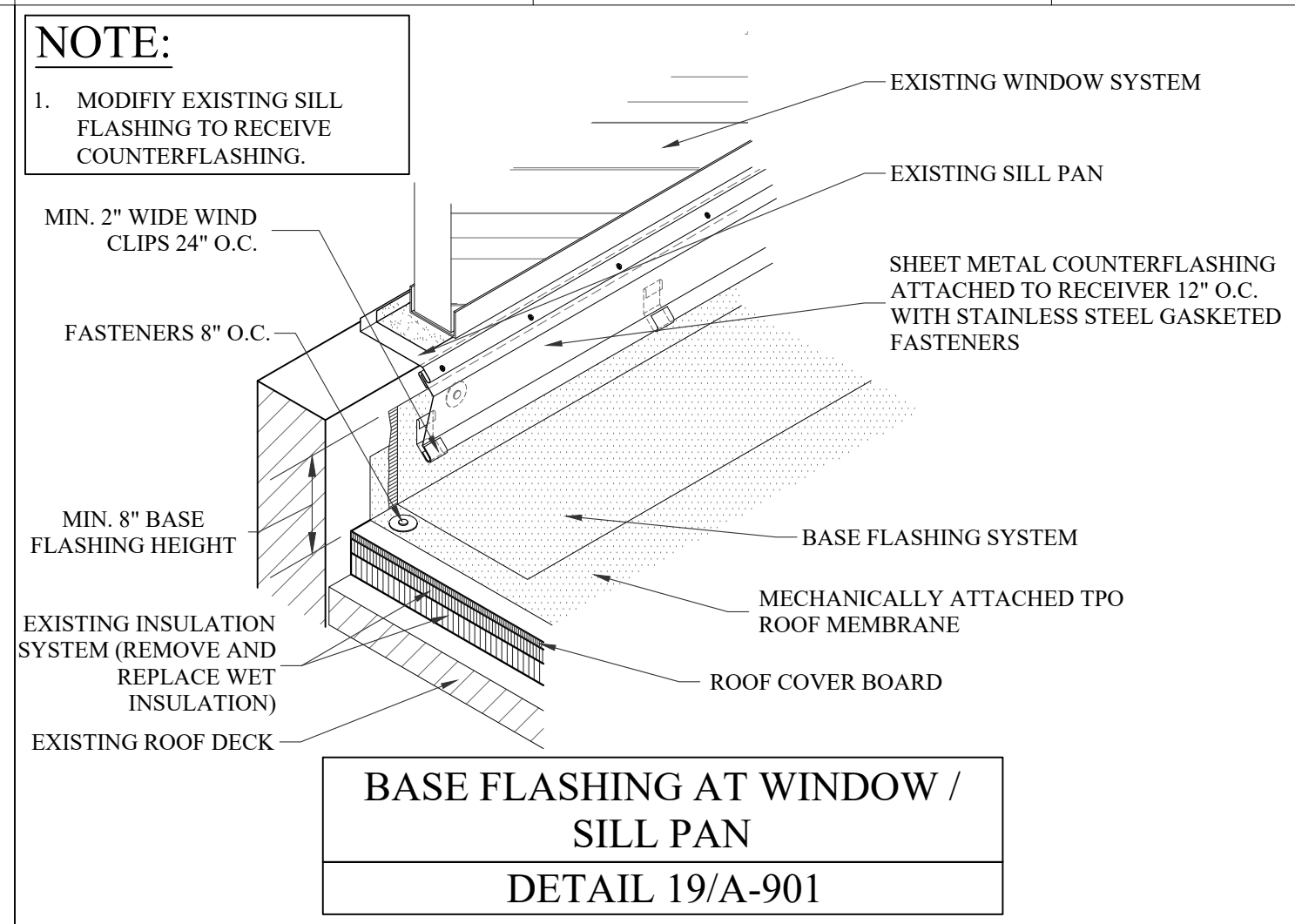
No.	Description	Date

PROJECT: 2201-218720
DATE: 04/22/22
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CHECKED BY: CW

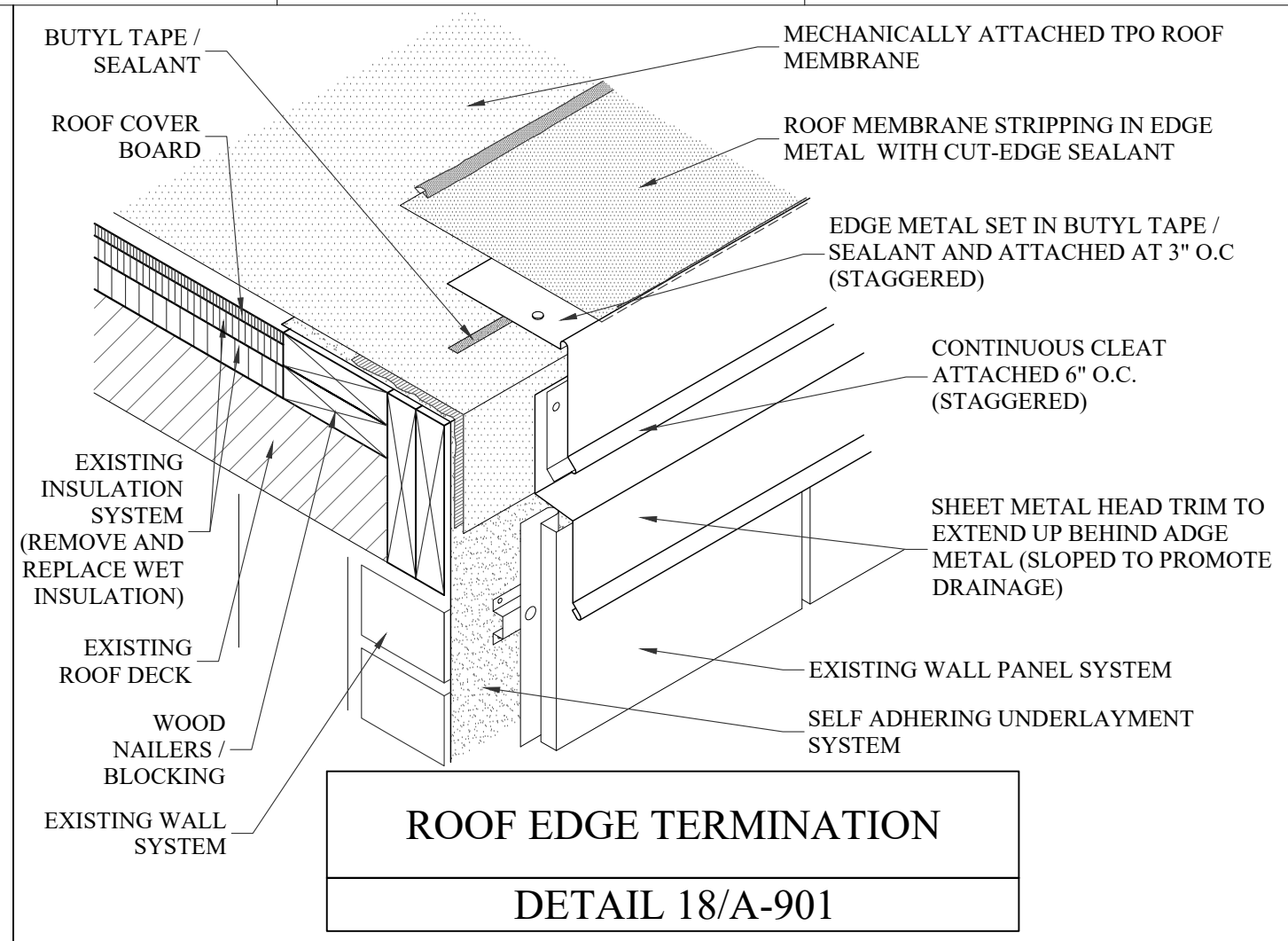
**DETAILS
A-901**



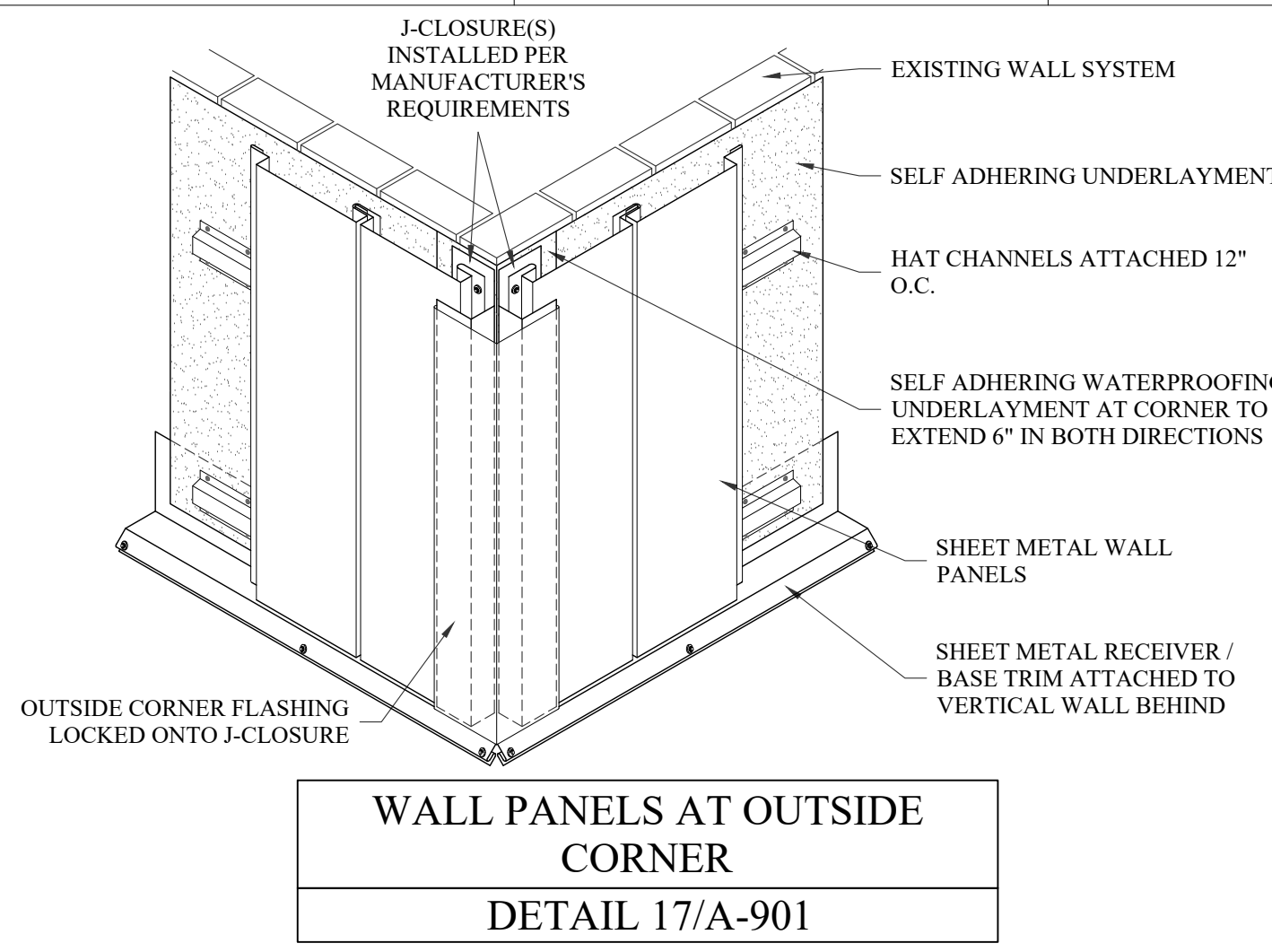
**PIPE PENETRATION THROUGH
BASE FLASHING
DETAIL 20/A-901**



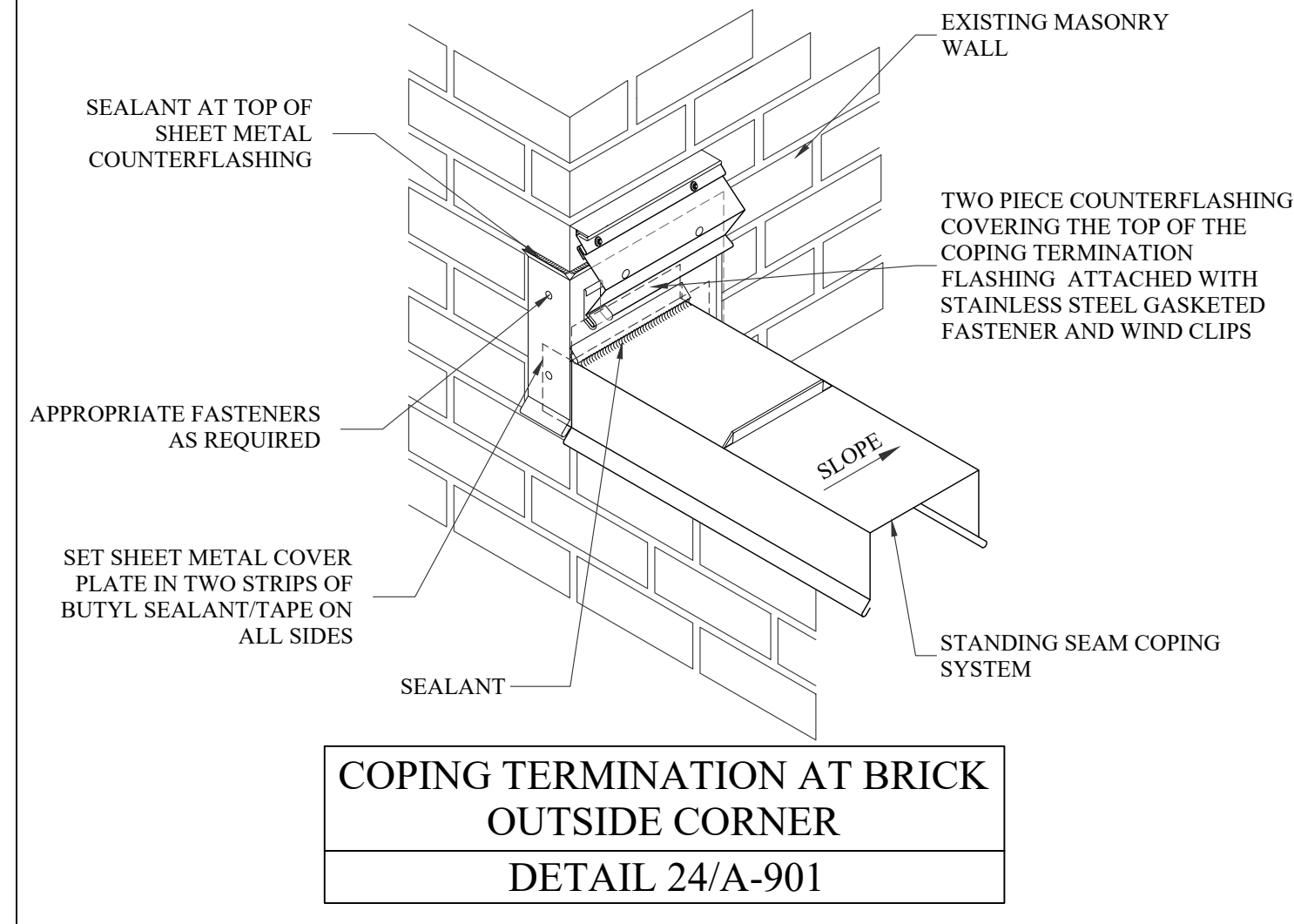
**BASE FLASHING AT WINDOW /
SILL PAN
DETAIL 19/A-901**



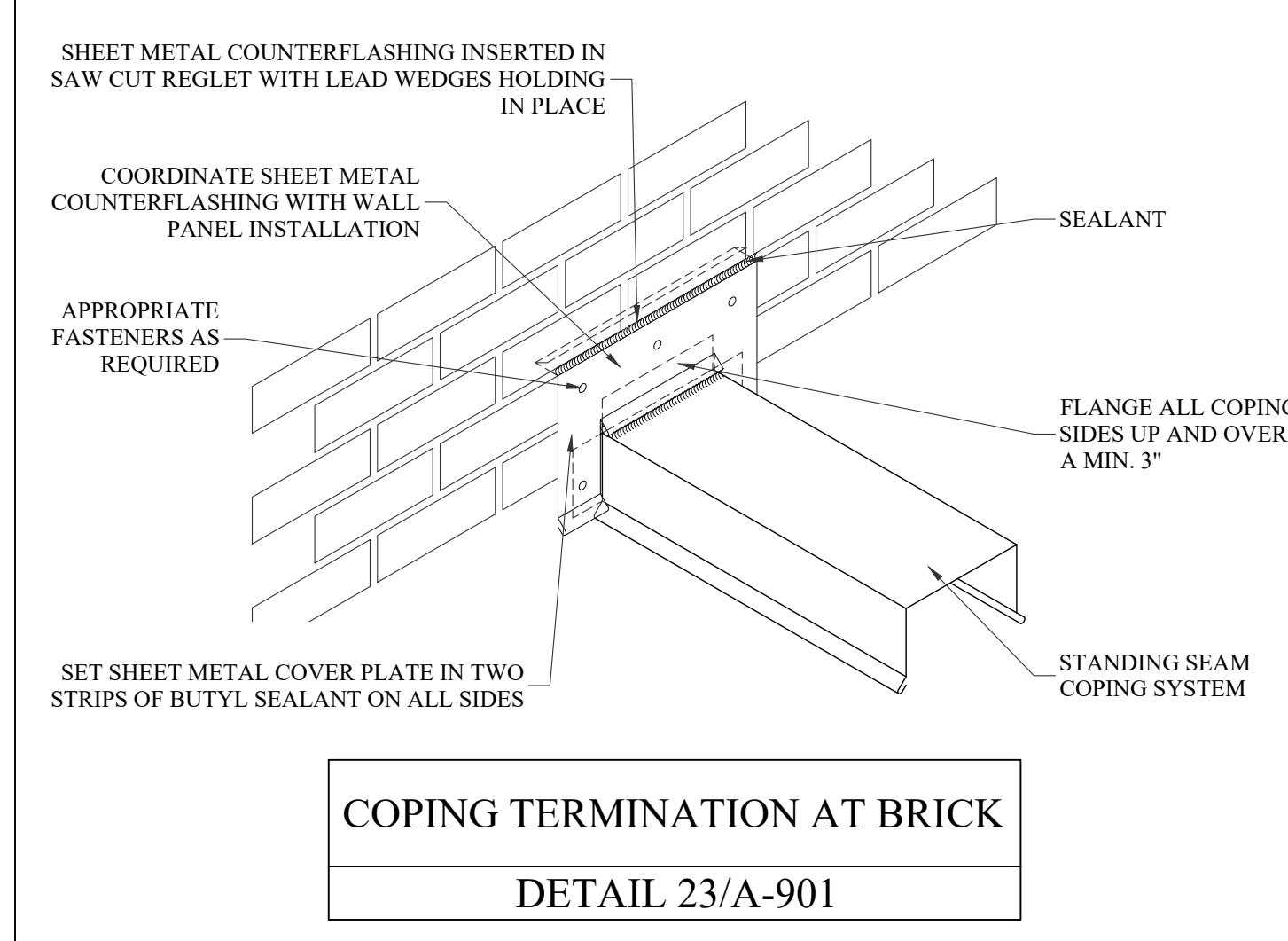
**ROOF EDGE TERMINATION
DETAIL 18/A-901**



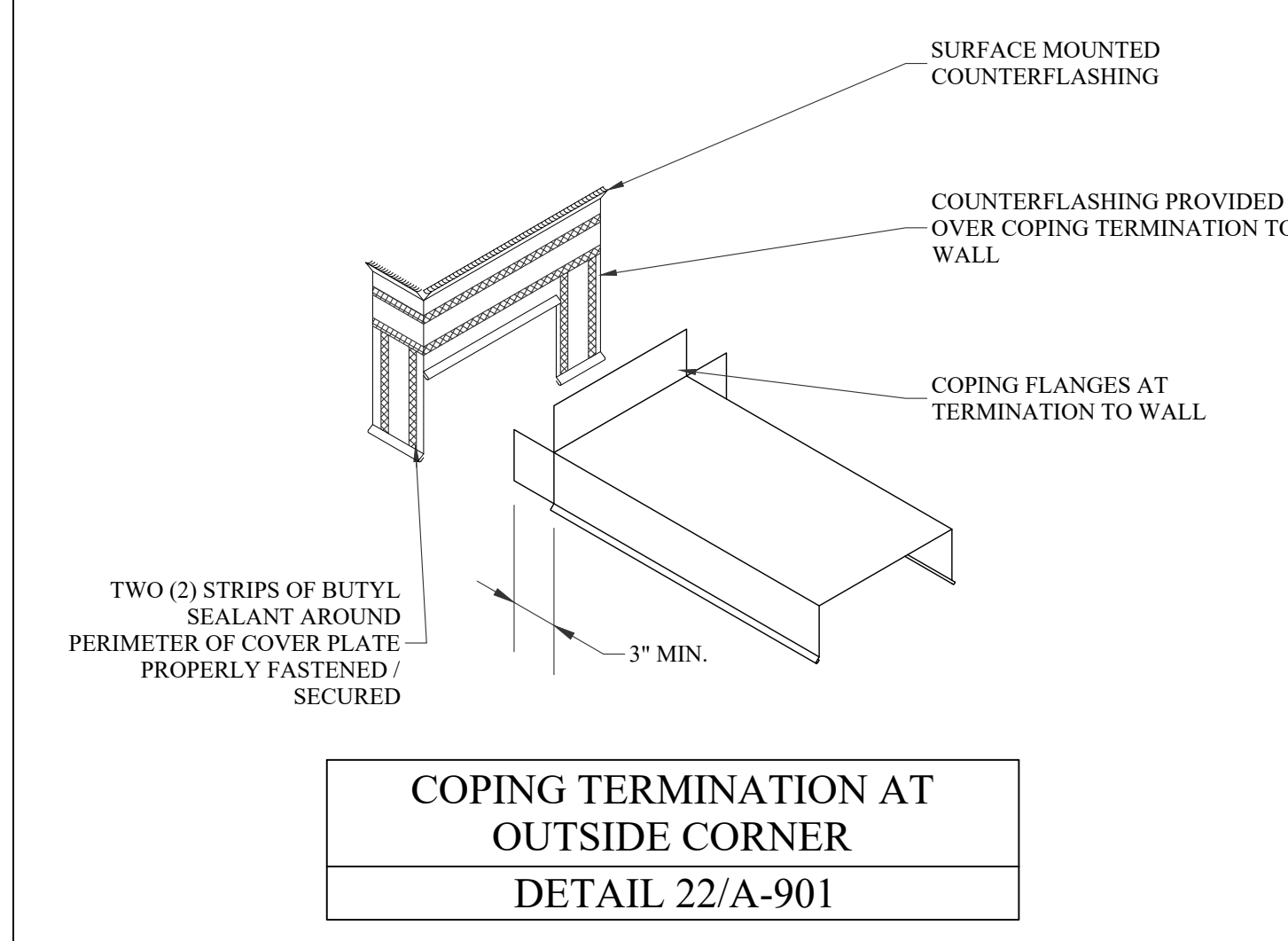
**WALL PANELS AT OUTSIDE
CORNER
DETAIL 17/A-901**



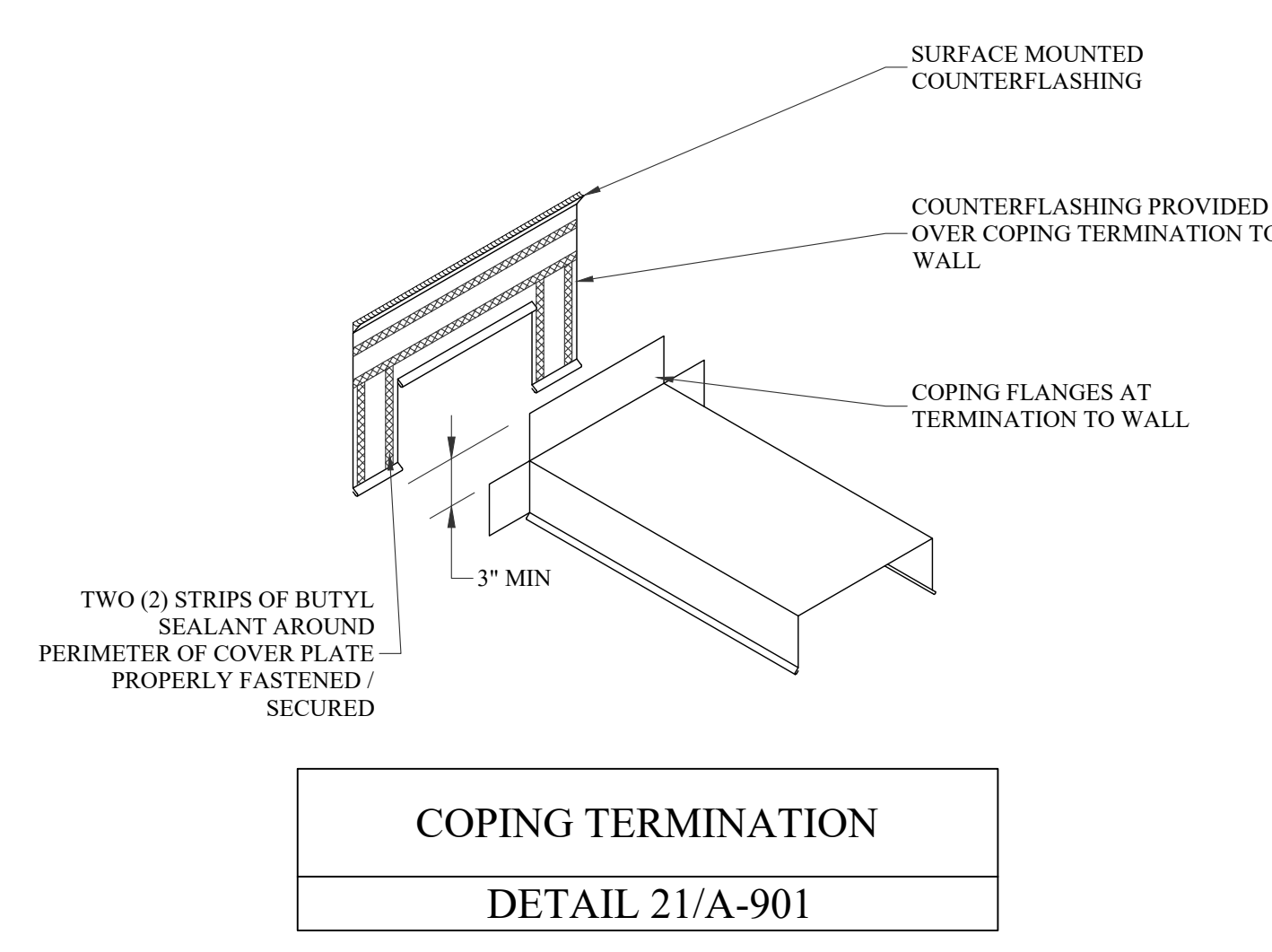
**COPING TERMINATION AT BRICK
OUTSIDE CORNER
DETAIL 24/A-901**



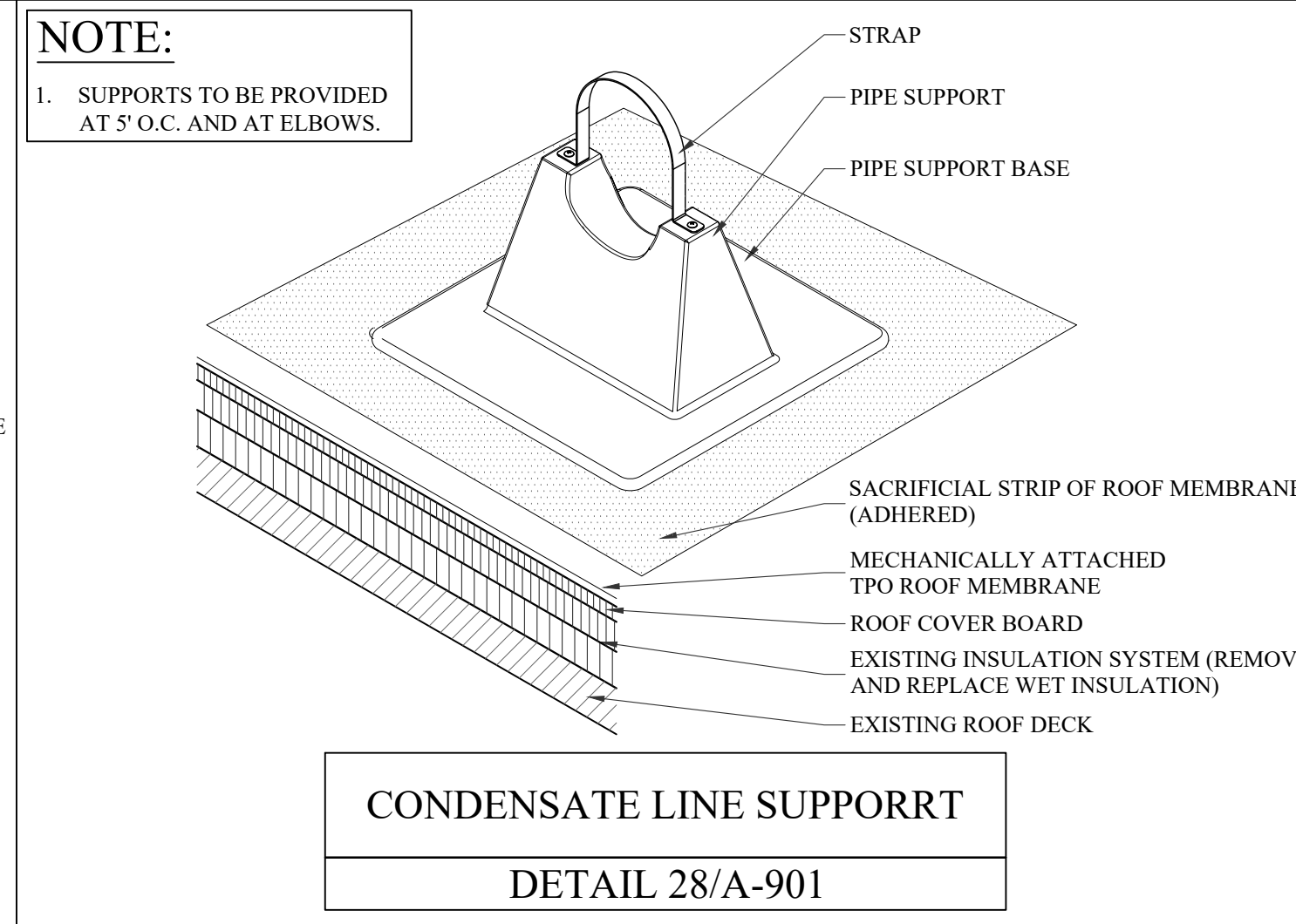
**COPING TERMINATION AT BRICK
DETAIL 23/A-901**



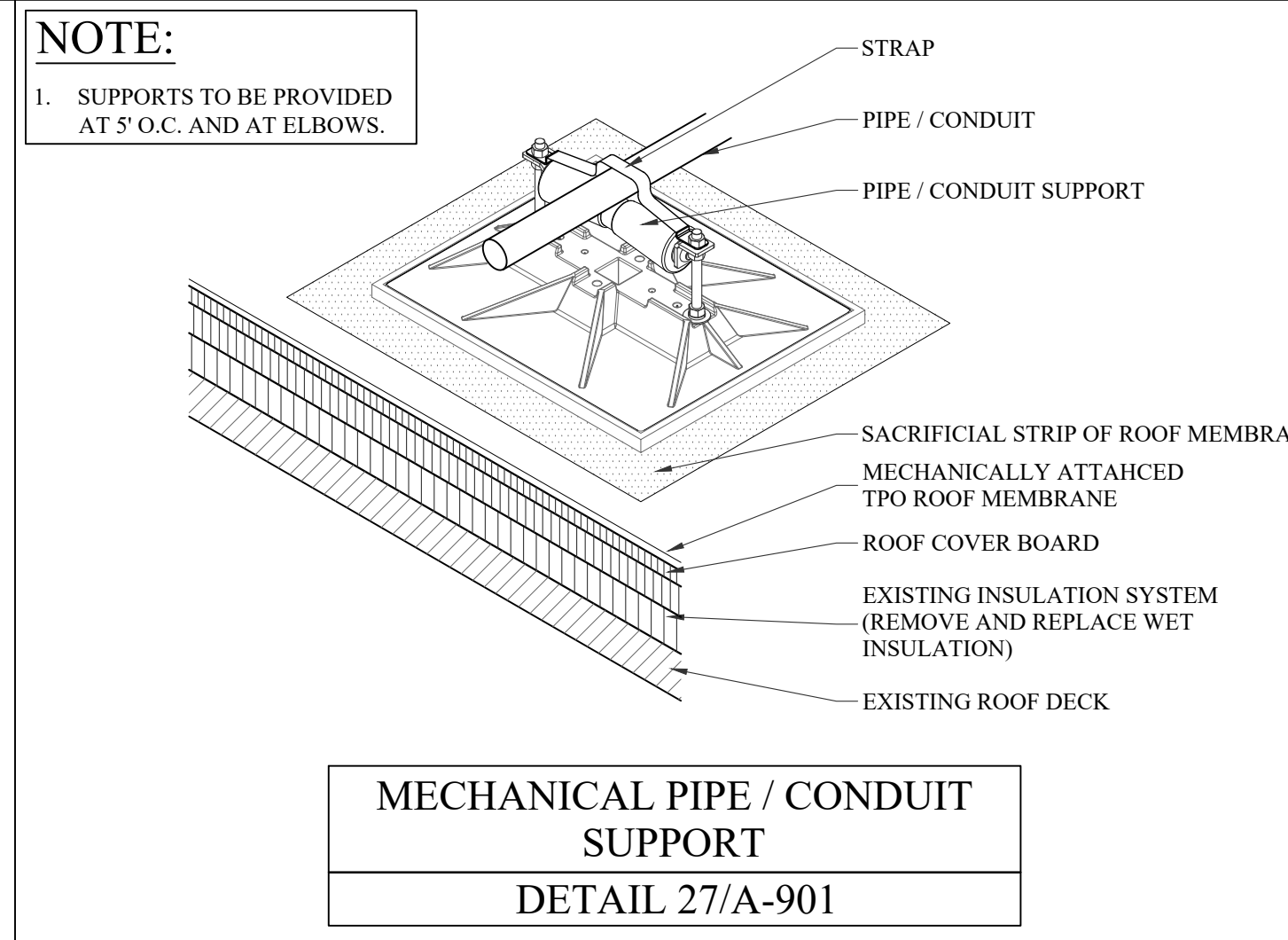
**COPING TERMINATION AT
OUTSIDE CORNER
DETAIL 22/A-901**



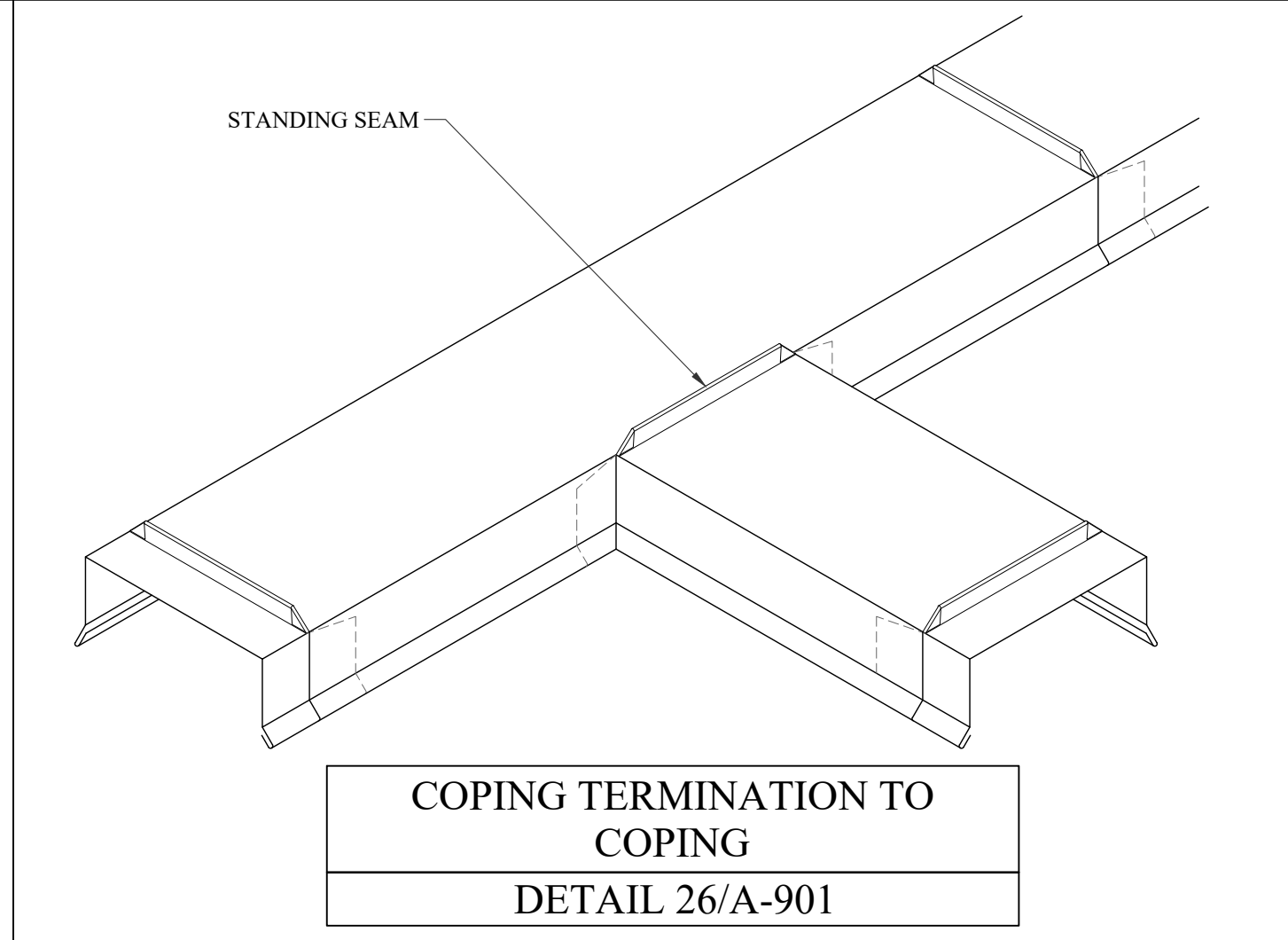
**COPING TERMINATION
DETAIL 21/A-901**



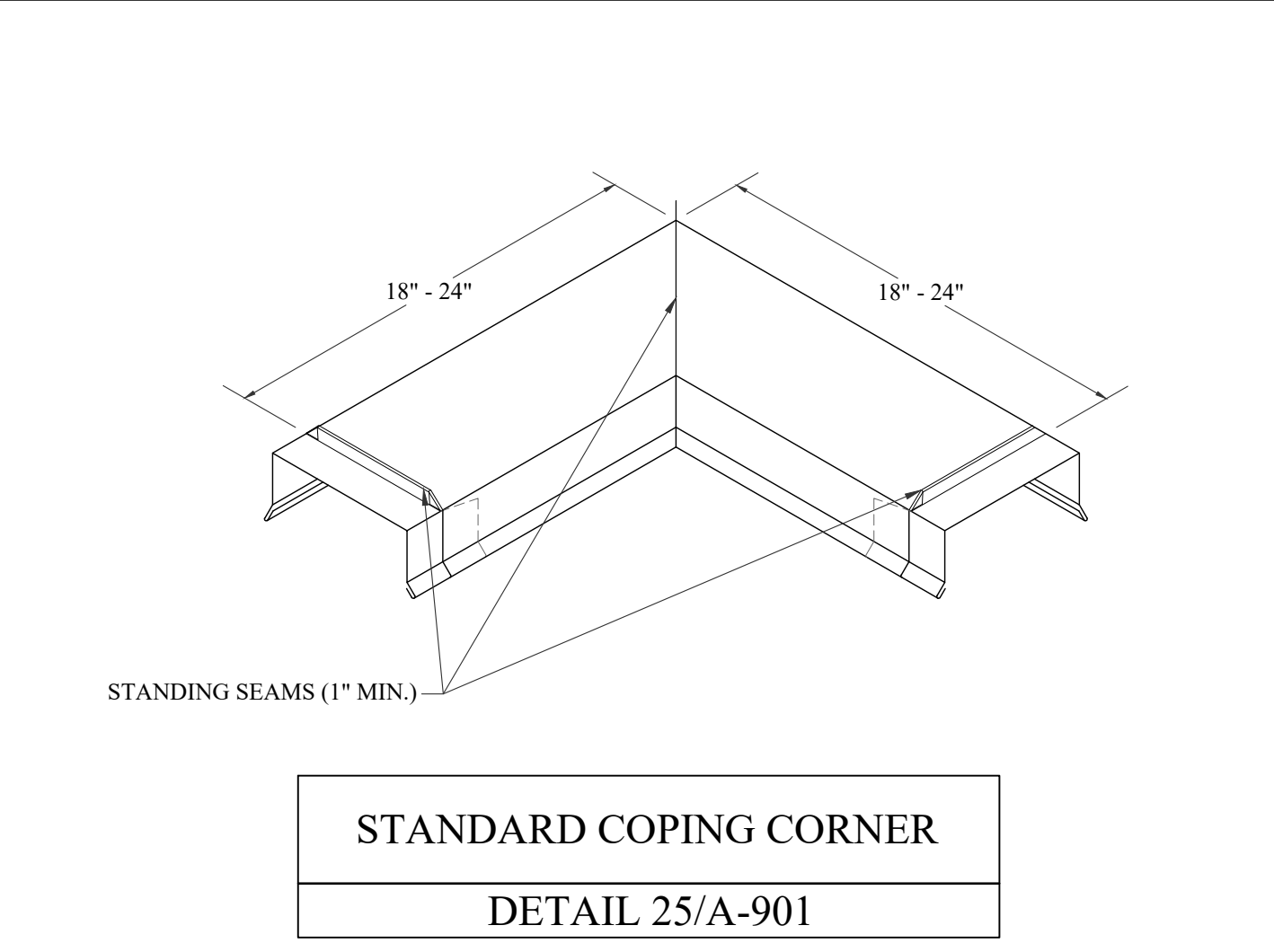
**CONDENSATE LINE SUPPORT
DETAIL 28/A-901**



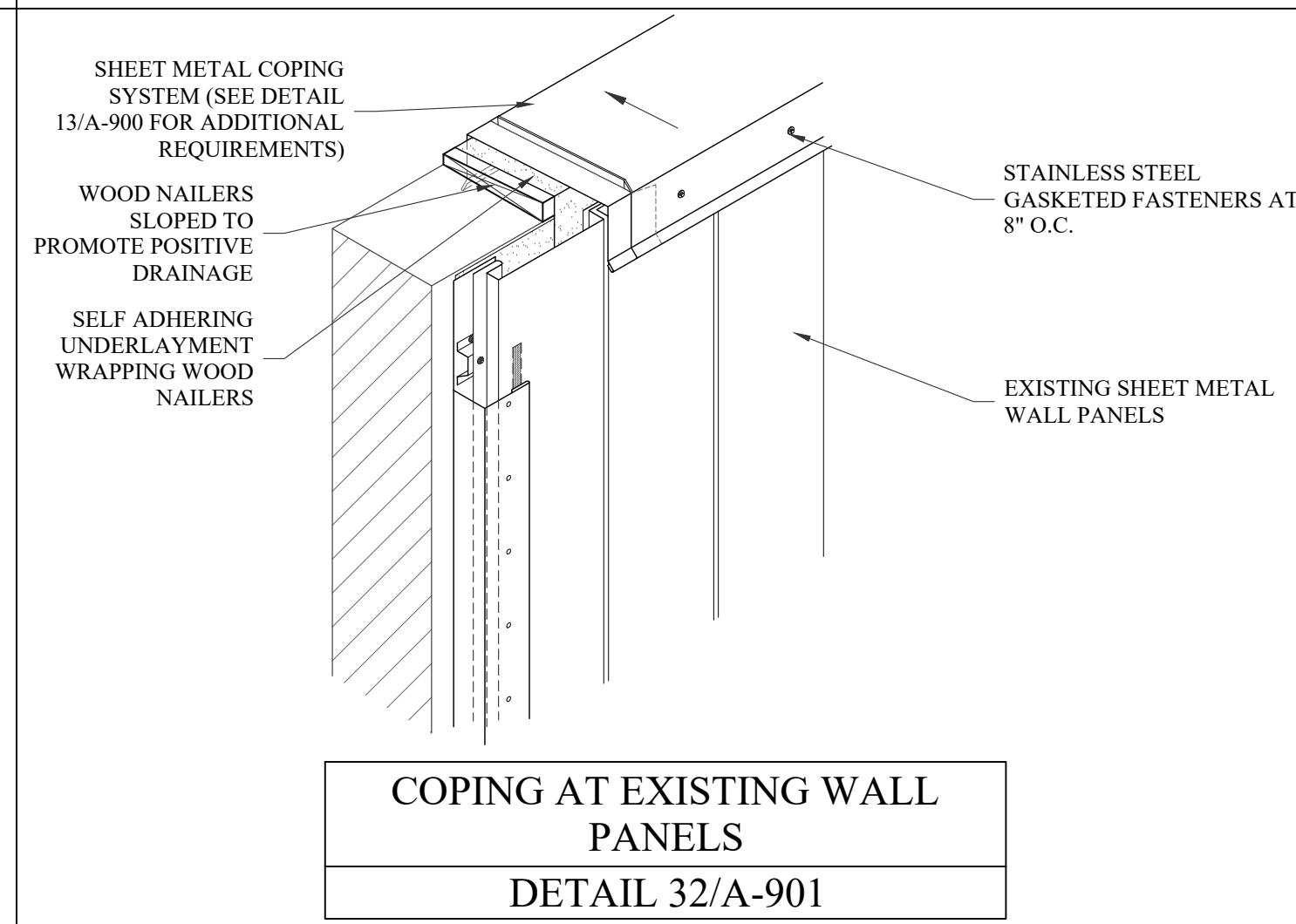
**MECHANICAL PIPE / CONDUIT
SUPPORT
DETAIL 27/A-901**



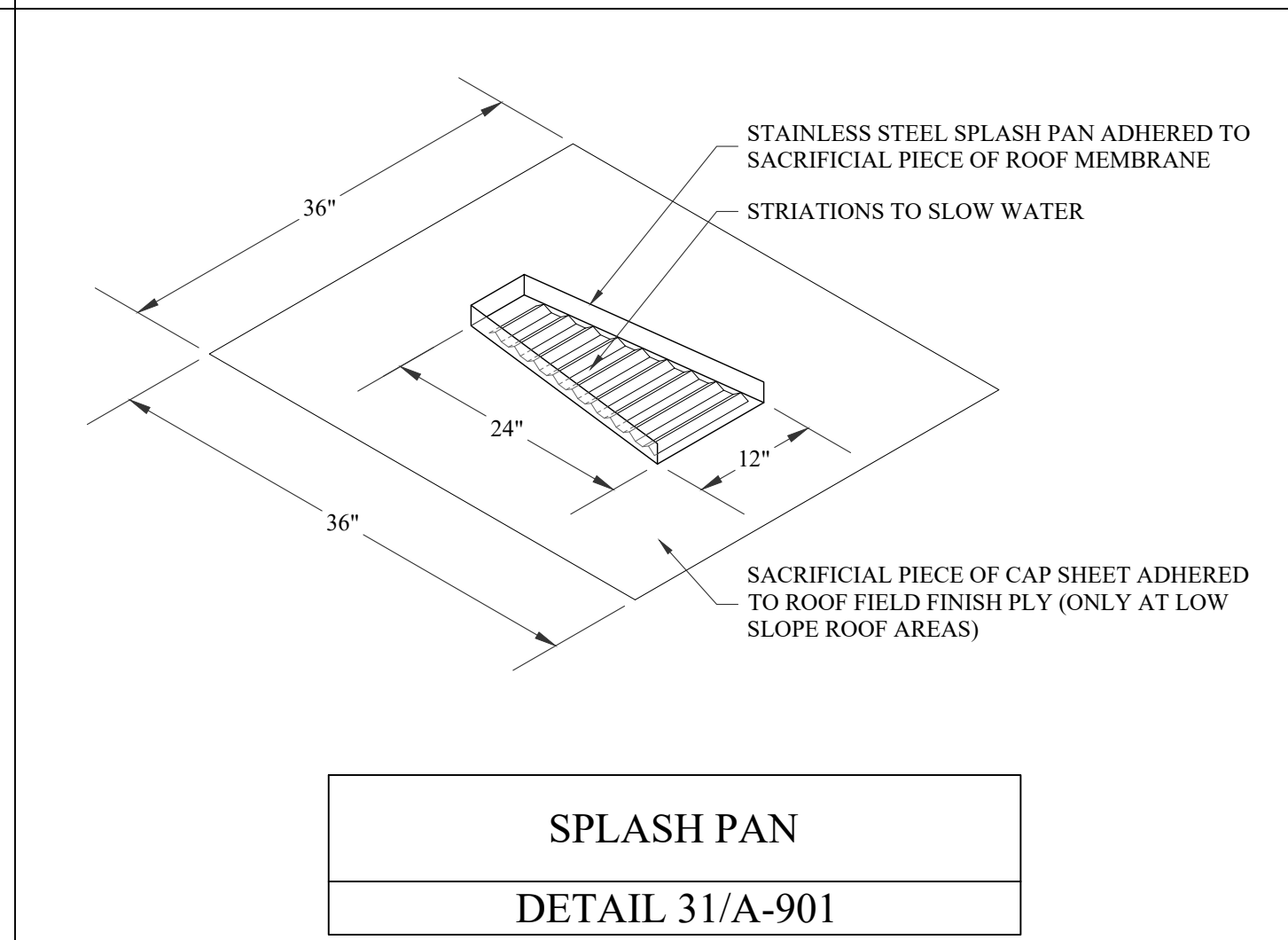
**COPING TERMINATION TO
COPING
DETAIL 26/A-901**



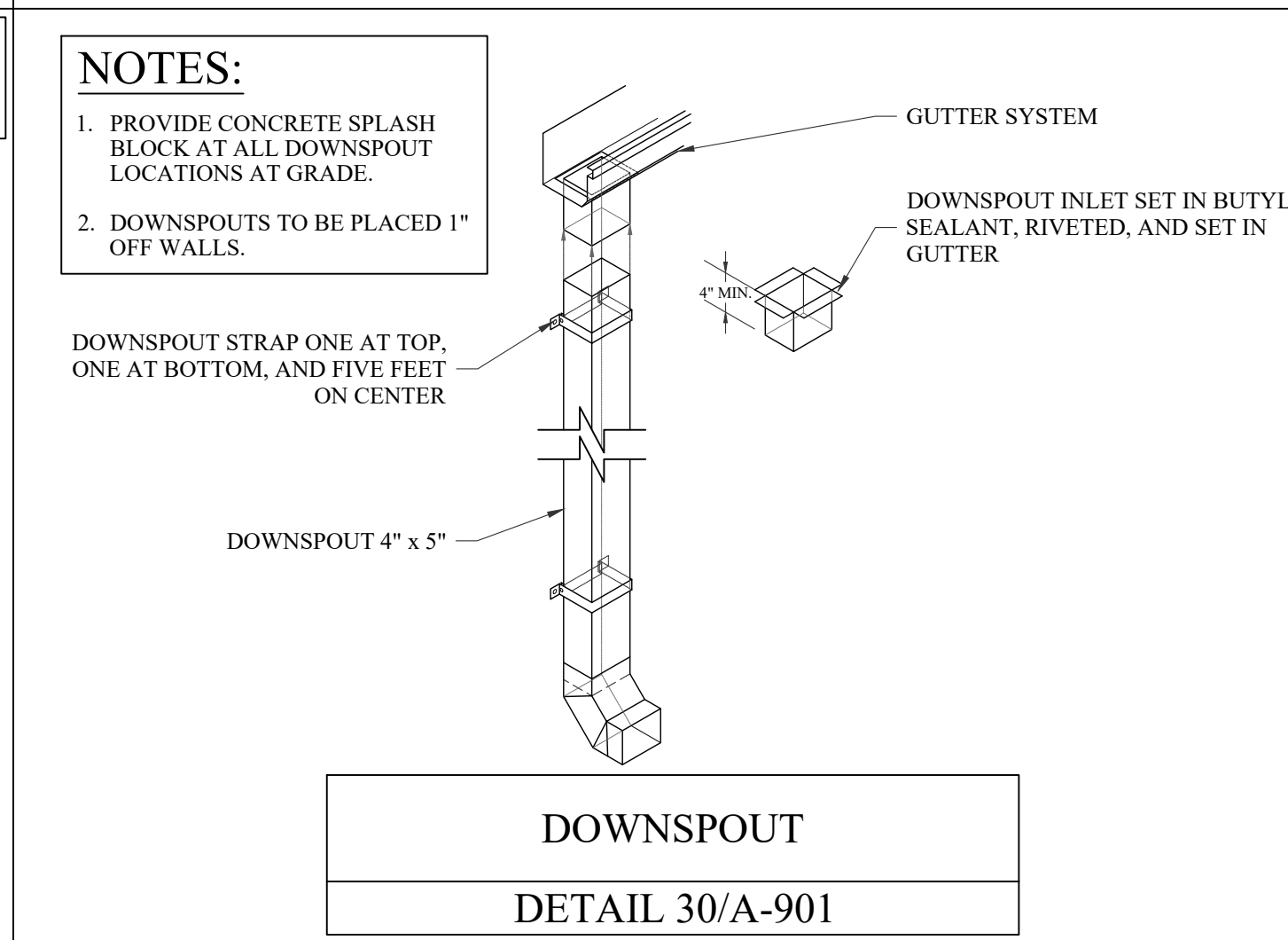
**STANDARD COPING CORNER
DETAIL 25/A-901**



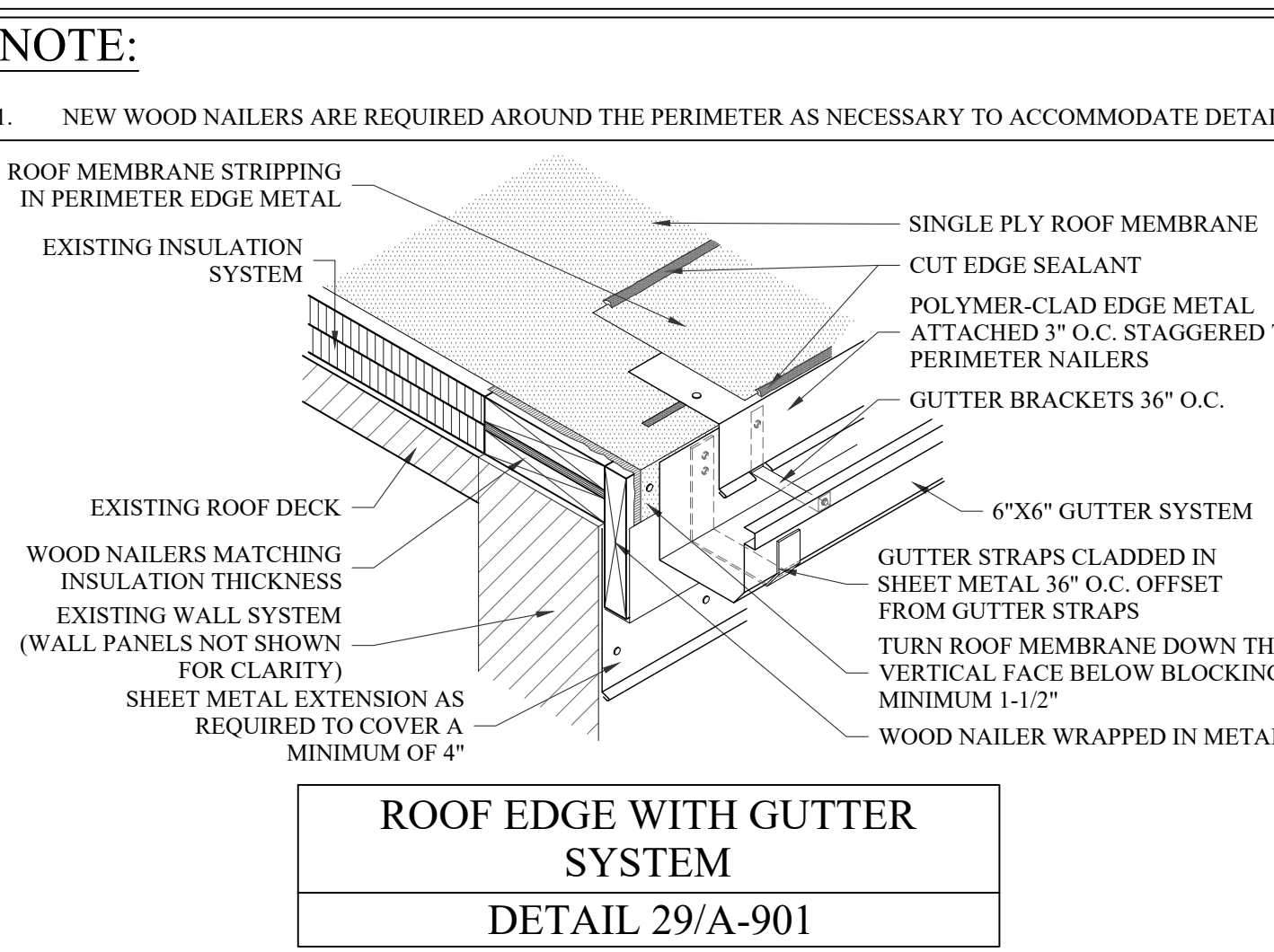
**COPING AT EXISTING WALL
PANELS
DETAIL 32/A-901**



**SPLASH PAN
DETAIL 31/A-901**

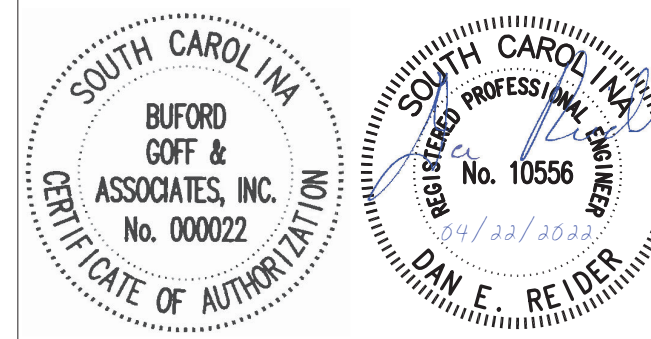


**DOWNSPOUT
DETAIL 30/A-901**



**ROOF EDGE WITH GUTTER
SYSTEM
DETAIL 29/A-901**

C:\Users\jermcknz\Documents\Arch_Waterway ES Roofing Renovation_2020_3\jermcknz.rvt 2/9/2022 1:37:09 PM



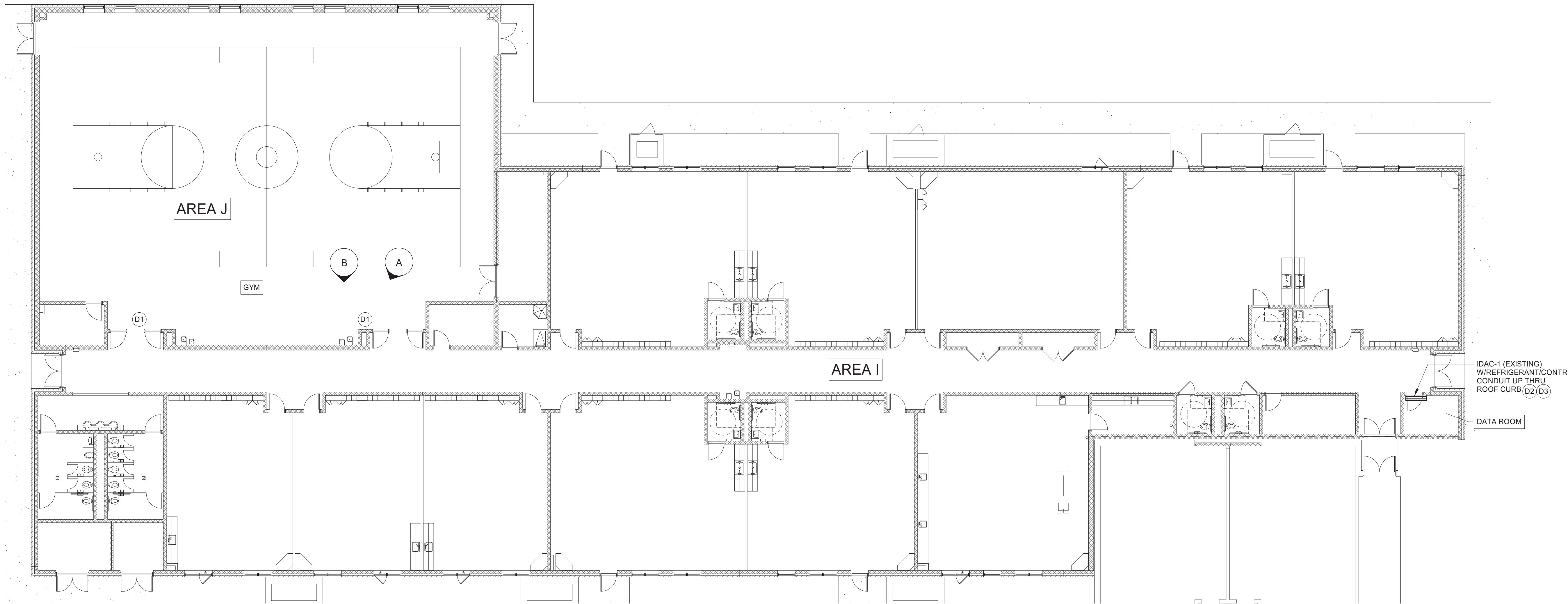
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D

C

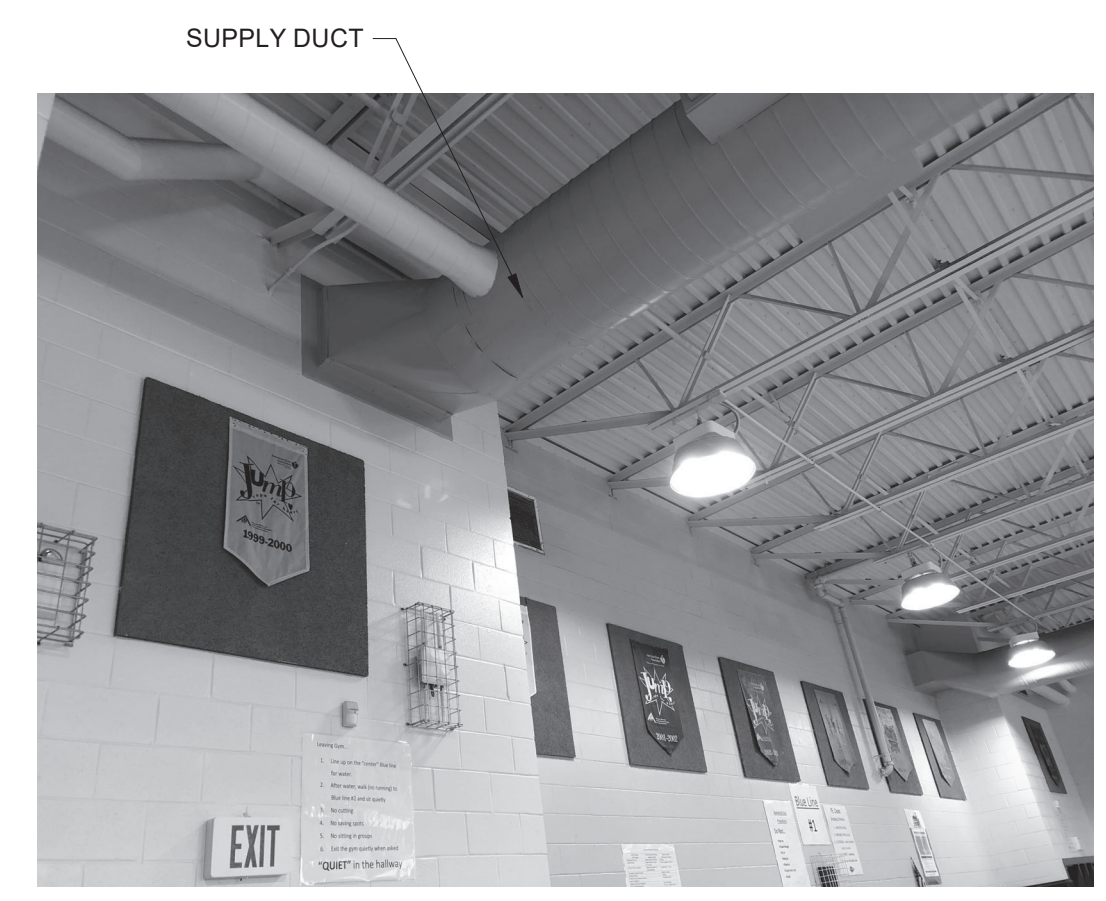
B



IDAC-1 (EXISTING)
W/REFRIGERANT/CONTROL
CONDUIT UP THRU
ROOF CURB (D2) (D3)
DATA ROOM

1 FLOOR PLAN - HVAC - DEMOLITION
3/32" = 1'-0"

A



A GYM SUPPLY DUCT



B GYM RETURN GRILLE

MECHANICAL DEMOLITION NOTES

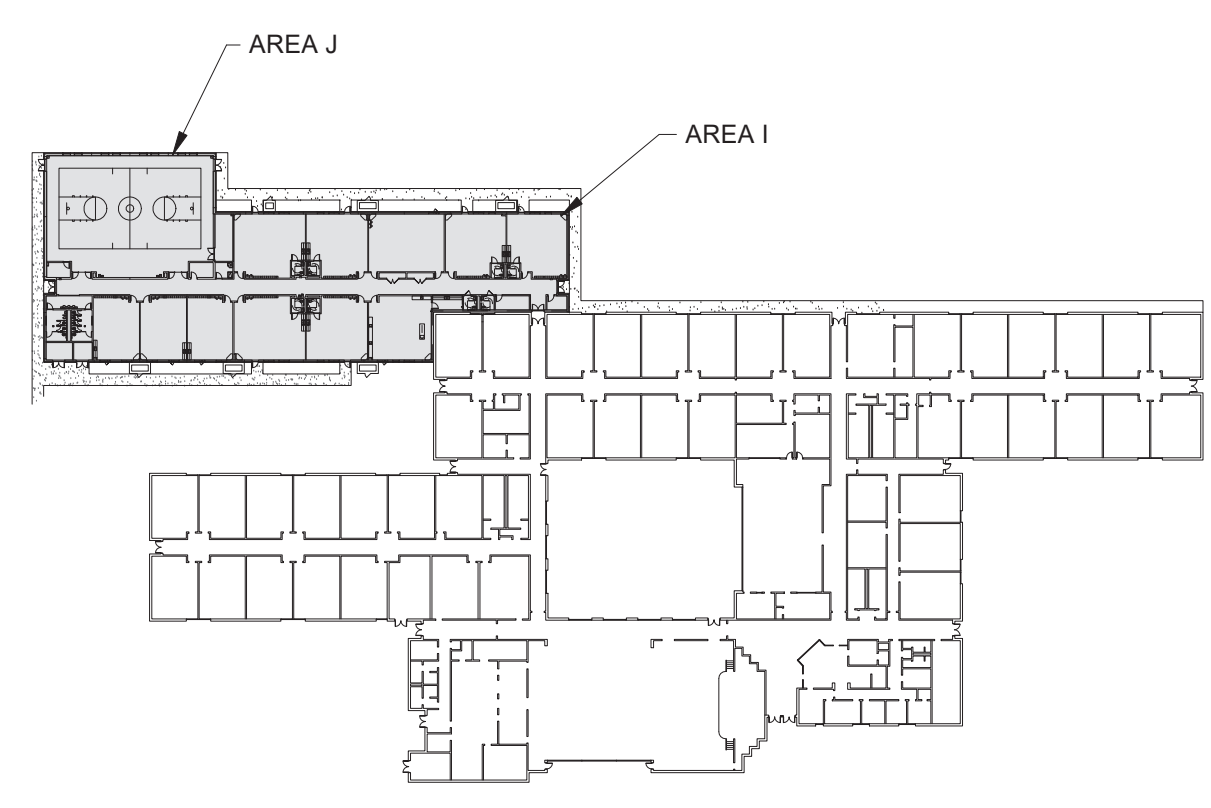
- (D1) REMOVE EXISTING THERMOSTAT. PROVIDE STAINLESS STEEL COVERPLATE FOR SPHP-1 & SPHP-2.
- (D2) REMOVE EXISTING INDOOR UNIT (IDAC-1), CONTROLS, SUPPORTS AND ACCESSORIES.
- (D3) REMOVE REFRIGERANT LINES AND CONTROLS (CONDUIT AND WIRING) UP THROUGH ROOF CURB TO OUTDOOR UNIT (ODAC-1).

TEST AND BALANCE

1. BEFORE ANY DEMOLITION WORK IS PERFORMED, MEASURE AIRFLOW AT ALL SUPPLY AND RETURN GRILLES WITHIN THE GYM.
2. SUBMIT PRE DEMOLITION REPORT TO THE A/E.
3. AFTER THE NEW UNITS ARE INSTALLED, PROVIDE T & B PER SPECIFICATIONS. SET AIRFLOWS TO VALUES DETERMINED BY THE A/E.

ALTERNATE NO. 4:
REPLACE ROOFTOP HVAC UNITS AT ROOF AREA I.

KEY PLAN

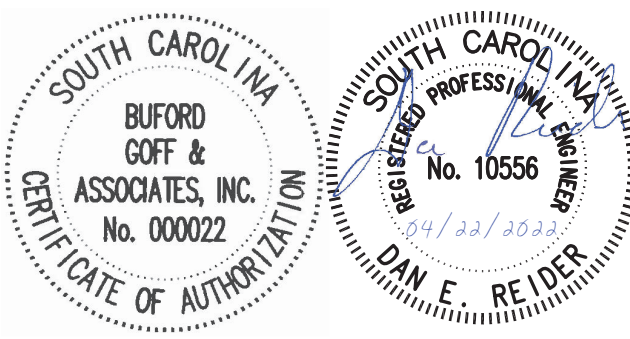


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PROJECT: 2201-218720
DATE: 04/22/2022

**FLOOR PLAN -
HVAC -
DEMOLITION**
M-101



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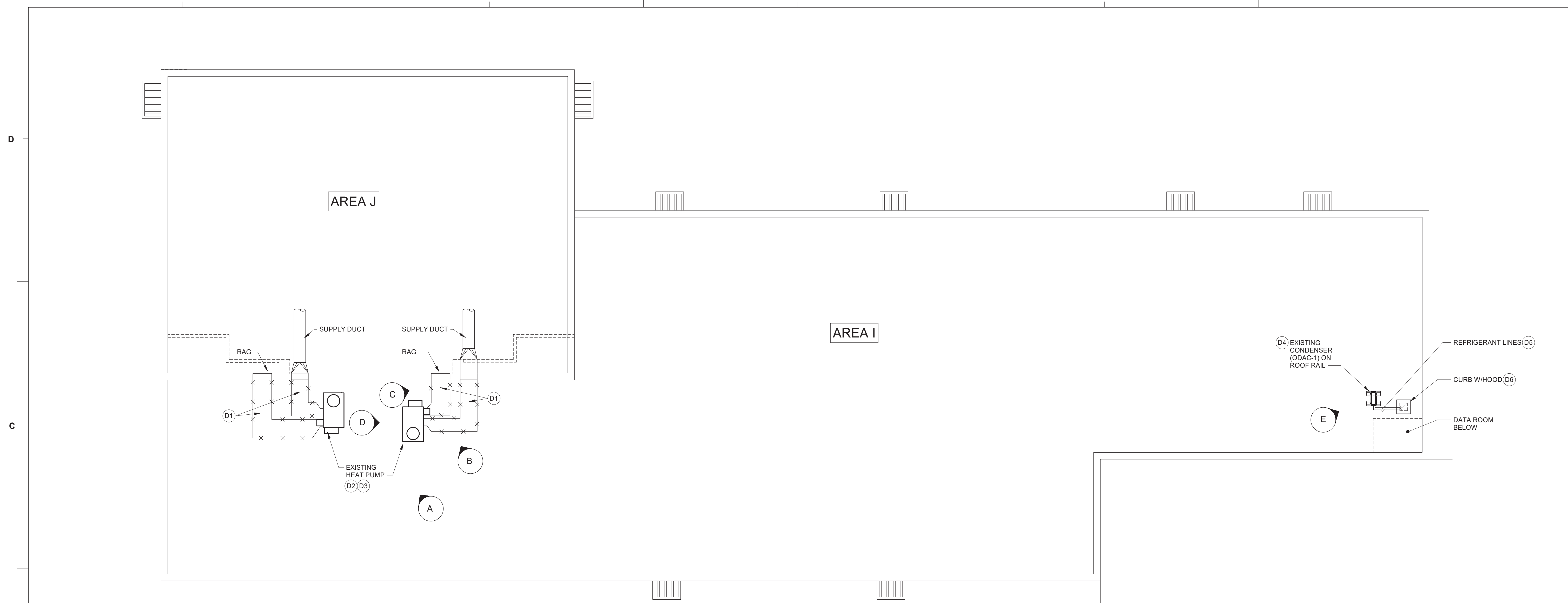
REVISIONS:

No.	Description	Date

PROJECT: 2201-218720
DATE: 04/22/2022

**ROOF PLAN -
HVAC -
DEMOLITION**

M-102



1 ROOF PLAN - HVAC - DEMOLITION
3/32" = 1'-0"



A ROOFTOP UNITS



B SUPPLY AND RETURN DUCT



C RETURN DUCT @ EXTERIOR WALL
1/2" = 1'-0"



D ROOFTOP UNIT



E DATA ROOM CONDENSER

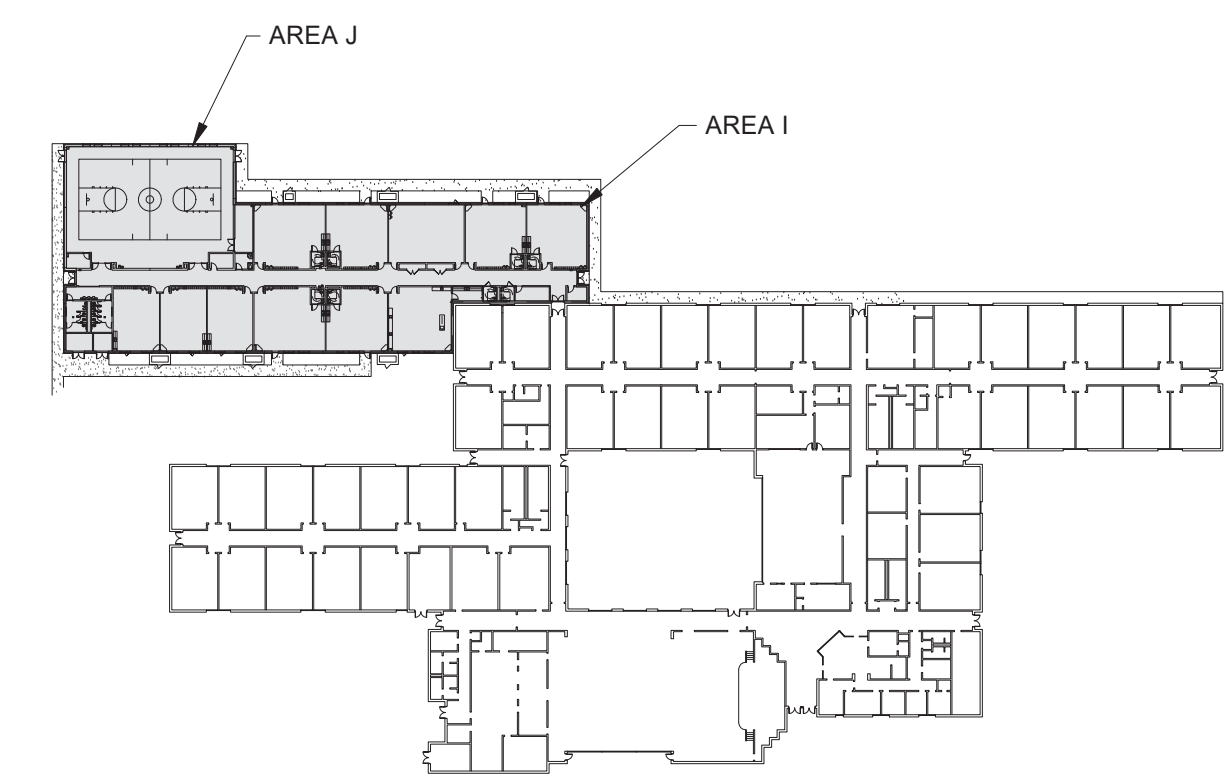
MECHANICAL DEMOLITION NOTES

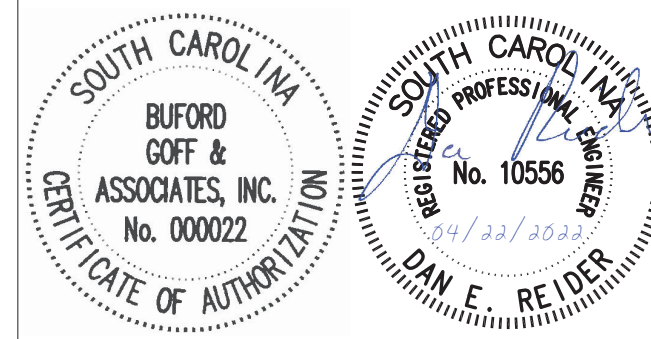
- (D1) REMOVE EXISTING DUCT, INSULATION, SUPPORTS AND ACCESSORIES TO APPROXIMATELY 4" TO 8" FROM GYM HIGH WALL. SECURE THE EXISTING DUCT OPENING WEATHERTIGHT UNTIL NEW DUCT IS INSTALLED.
- (D2) REMOVE EXISTING HEAT PUMP, CONTROLS AND ACCESSORIES. THE EXISTING CURB SHALL REMAIN. SECURE THE CURB WEATHERTIGHT UNTIL THE NEW UNIT IS INSTALLED.
- (D3) REMOVE EXISTING DRAIN LINE AND SUPPORTS.
- (D4) REMOVE EXISTING CONDENSER UNIT AND RAIL CAP. EXISTING EQUIPMENT RAILS SHALL BE EXTENDED.
- (D5) REMOVE REFRIGERANT LINES, CONDUIT AND WIRING FROM CONDENSER, THROUGH THE CURB, AND DOWN TO THE EXISTING INDOOR UNIT IN THE DATA ROOM.
- (D6) REMOVE THE EXISTING HOOD FROM THE CURB. THE EXISTING CURB SHALL BE EXTENDED. SECURE THE CURB WEATHERTIGHT UNTIL THE NEW HOOD, PIPING, AND CONDUIT IS INSTALLED.

ALTERNATE NO. 4:

REPLACE ROOFTOP HVAC UNITS AT ROOF AREA I.

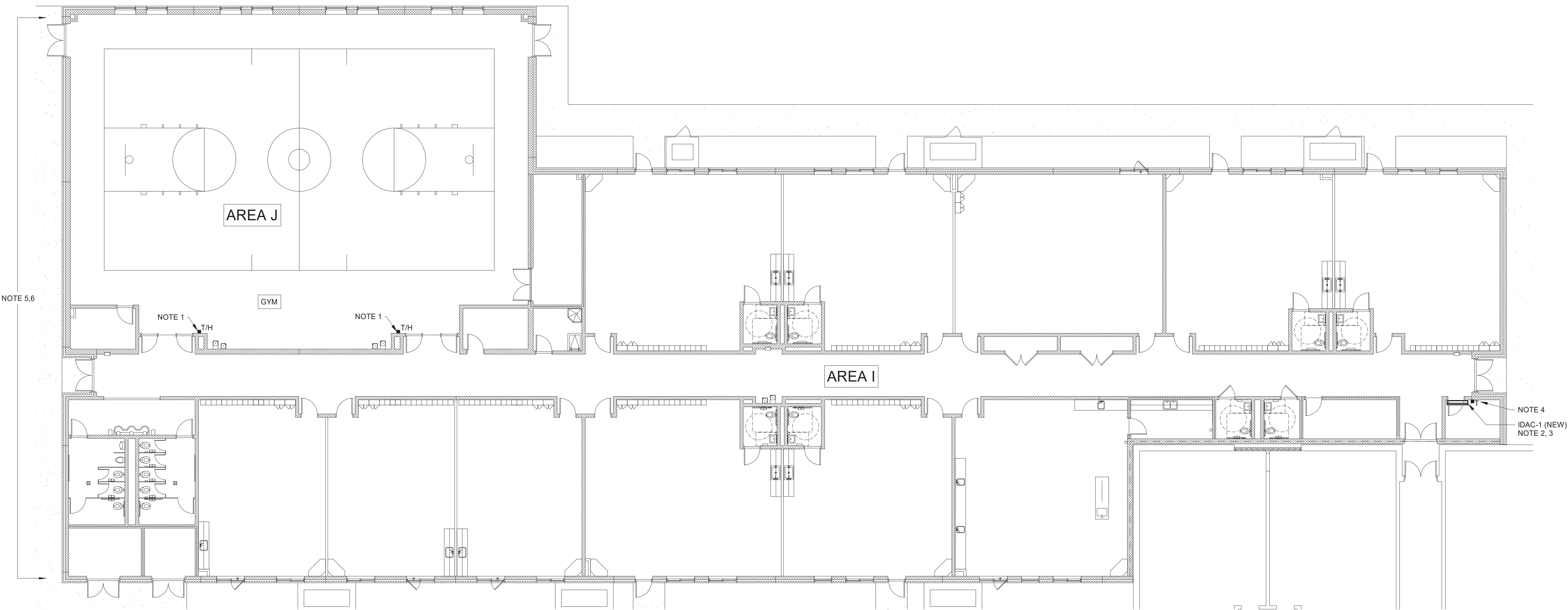
KEY PLAN





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1 FLOOR PLAN - HVAC - RENOVATION
3/32" = 1'-0"

ALTERNATE NO. 4:
REPLACE ROOFTOP HVAC UNITS
AT ROOF AREA I.

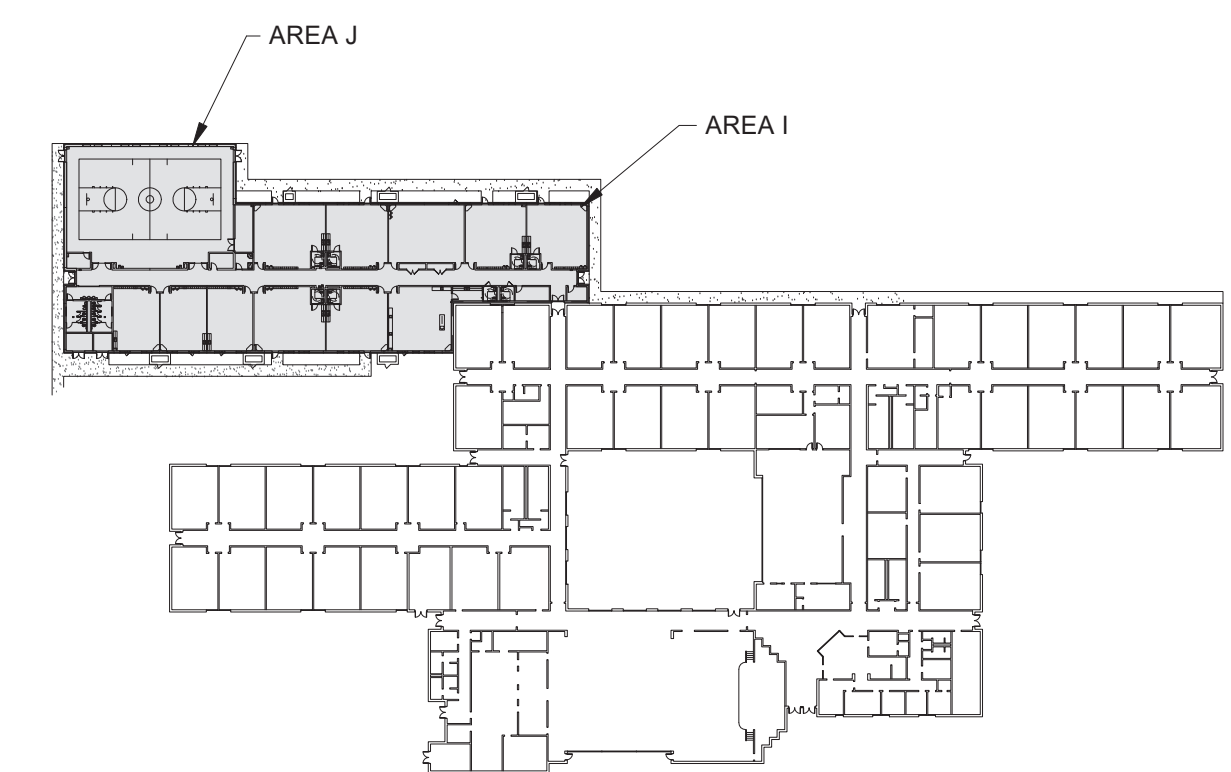
MECHANICAL RENOVATION NOTES

1. PROVIDE NEW TEMPERATURE AND HUMIDITY SENSOR FOR SPHP-1 & SPHP-2 WITH METAL GUARD. COORDINATE EXACT LOCATION WITH THE DISTRICT. PROVIDE WIRE MOLD WHERE WIRING IS EXPOSED.
2. INSTALL NEW INDOOR UNIT, IDAC-1.
3. ROUTE REFRIGERANT LINES AND CONTROL CONDUIT UP TO NEW ODAC-1 ON ROOF THROUGH THE EXISTING CURB. SEAL OPENINGS IN ROOF WEATHERTIGHT. PROVIDE NEW HOOD ON CURB.
4. PROVIDE THERMOSTAT FOR IDAC-1. ALSO PROVIDE A TEMPERATURE SENSOR FOR THE DATA ROOM TO ALLOW THE BUILDING AUTOMATION SYSTEM TO MONITOR THE DATA ROOM TEMPERATURE.
5. RUN ALL NEW WIRING IN CONDUIT. FIRE STOP CONDUIT AT ALL WALL PENETRATED. IF NO WALL RATING IS INDICATED, FIRE STOP FOR A 2 HR WALL. SEE DETAIL.
6. ALL NEW 120/1 OR 24V POWER REQUIRED FOR CONTROLS SHALL BE PROVIDED BY THE CONTROLS CONTRACTOR.

TEST AND BALANCE

1. BEFORE ANY DEMOLITION WORK IS PERFORMED, MEASURE AIRFLOW AT ALL SUPPLY AND RETURN GRILLES.
2. SUBMIT PRE DEMOLITION REPORT TO THE A/E.
3. AFTER THE NEW UNITS ARE INSTALLED, PROVIDE T & B PER SPECIFICATIONS. SET AIRFLOWS TO VALUES DETERMINED BY THE A/E.

KEY PLAN



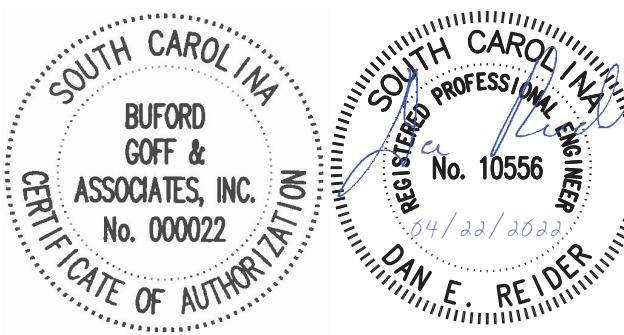
REVISIONS:

No.	Description	Date
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PROJECT: 2201-218720
DATE: 04/22/2022

**FLOOR PLAN -
HVAC -
RENOVATION**

M-201



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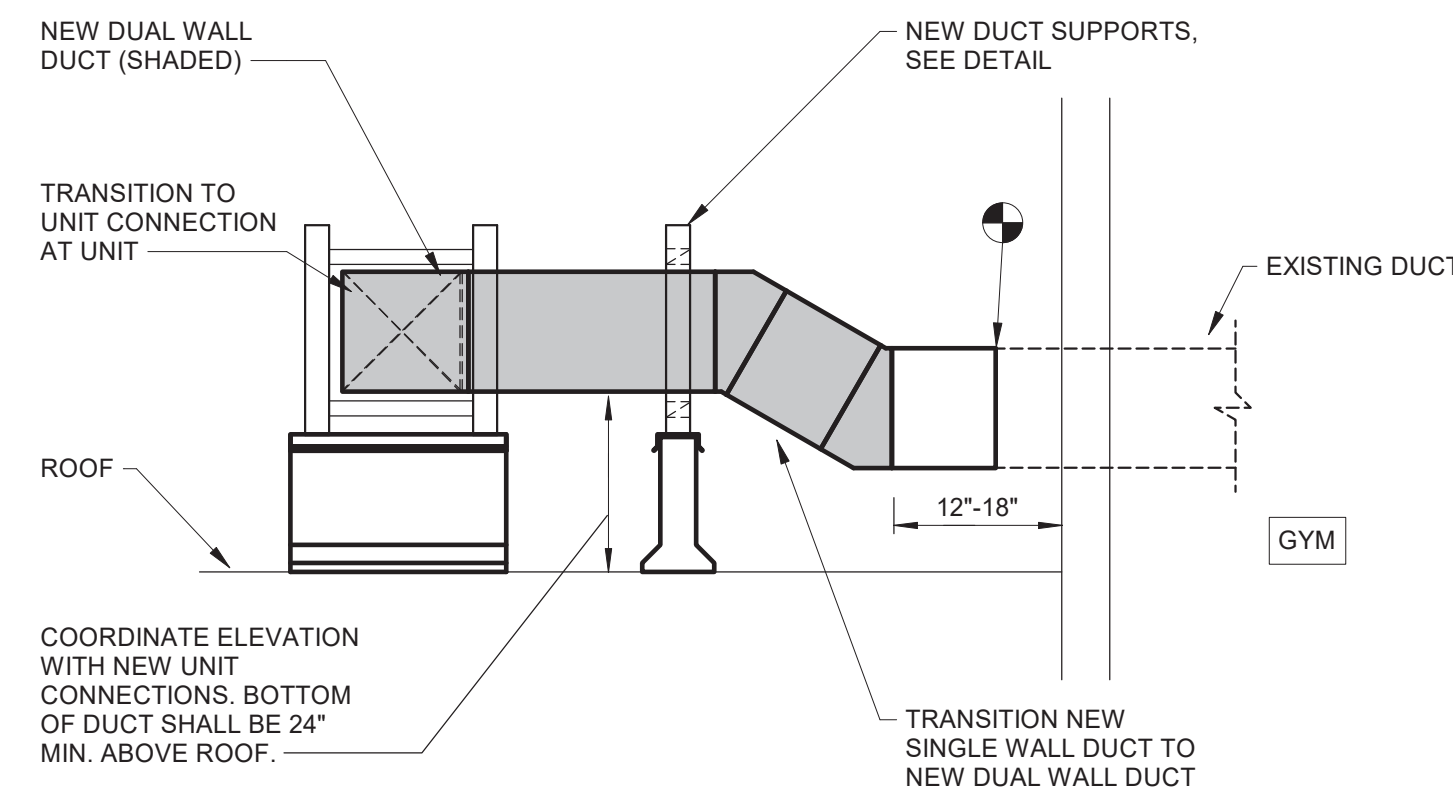
D

C

B



1 ROOF PLAN - HVAC - RENOVATION
3/32" = 1'-0"



NOTE:
1. SUBMIT DETAILED DUCT DRAWING FOR ALL ROOFTOP DUCT.

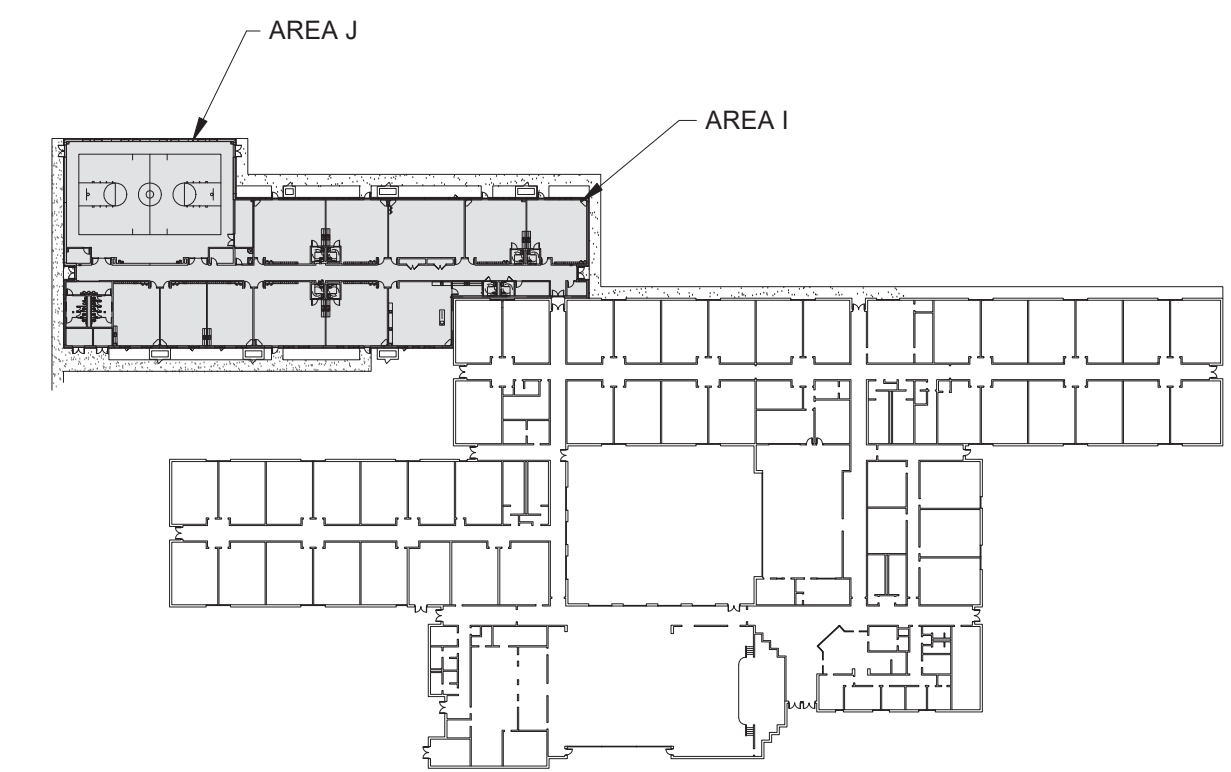
DETAIL "A"-A"
NOT TO SCALE

ALTERNATE NO. 4:
REPLACE ROOFTOP HVAC UNITS
AT ROOF AREA I.

MECHANICAL RENOVATION NOTES

1. PROVIDE CURB EXTENSION AND ADAPTER CURB. COORDINATE SIZE WITH EXISTING CURB AND NEW UNIT. SUBMIT COORDINATION DRAWINGS TO A/E. SEE DETAIL FOR ADDITIONAL INFORMATION.
2. TRANSITION SINGLE WALL DUCT TO EXISTING.
3. DUCT MAY BE RESIZED BY THE CONTRACTOR AS LONG AS DUCT IS 400 SQUARE INCHES MINIMUM IN SIZE.
4. PROVIDE 2 - 2"x4" TREATED WOOD STACKED AND SECURED TO EXISTING CURB. TRIM WOOD TO WIDTH OF EXISTING CURB.
5. PROVIDE NEW WEATHERTIGHT HOOD ON THE EXISTING CURB. ROUTE PIPING AND CONDUIT DOWN THROUGH CURB/HOOD TO IDAC-1. SEAL THE PIPING AND CONDUIT THROUGH THE HOOD WEATHERTIGHT.
6. ROUTE UNIT DRAIN TO ROOF DRAIN. SEE DETAIL.
7. PROVIDE NEW ROOF RAILS TO SUPPORT DUCT. COORDINATE LOCATION WITH ROOFING CONTRACTOR. SEE DETAIL.
8. INSTALL NEW ODAC-1 ON EXISTING EQUIPMENT RAILS. ROUTE PIPING AND CONDUIT TO THE EXISTING ROOF CURB.
9. PROVIDE NEW CURB CAP.

KEY PLAN



REVISIONS:

No.	Description	Date

PROJECT: 2201-218720
DATE: 04/22/2022

**ROOF PLAN -
HVAC -
RENOVATION**

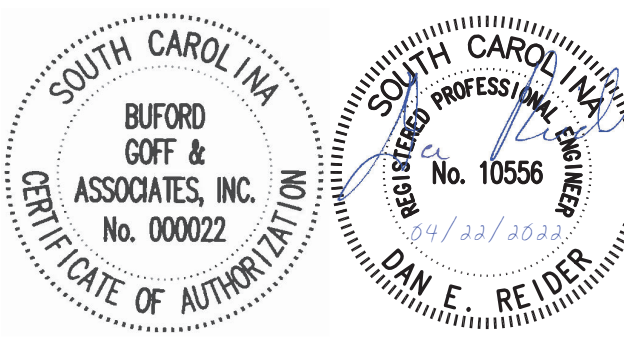
M-202



WATERWAY ES ROOFING RENOVATION



701-A LADY STREET
COLUMBIA, SOUTH CAROLINA 29201
TEL. 803.765.2418 FAX 803.765.2419
WWW.LS3P.COM



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No.	Description	Date

PROJECT: 2201-218720
DATE: 04/22/2022

HVAC SCHEDULES & NOTES

M-301

SINGLE PACKAGE HEAT PUMP SCHEDULE

HEAT PUMP #	LOCATION	ESP (a) *	CFM		FANS				COMPRESSOR		ELECTRIC HEAT			COOLING COIL CAPACITY						HEATING					MAX WEIGHT (#)	ELECTRICAL			MANUFACTURER AND MODEL	REMARKS				
			TOTAL	OA	OUTDOOR		INDOOR		NO	RLA	STAGES	KW	VOLT / PH	MBH (NET)		ENTERING AIR		LEAVING AIR		EER (b)	SEER (b)	ENT DB T	@ 17 F			@ 47 F		HSPF (b)			MAX MCA	MOCOP	VOLT / PH	
					NO	FLA	BHP	HP						TOTAL	SENS	DB T	DB	WB	DB	WB				MBH		COP	MBH	COP						
SPHP-1, 2	ROOF	.5	3600	850	1	1.4	1.37	2.75	2	8.46/7.80	2	27	460/3	118	87	95	80	67	55.5	55.4	11.5	16.0	60	-	-	114	-	-	1500	64	70	460/3	TRANE WHC 120	①②③④⑤⑥⑦⑧⑨⑩⑪⑫⑬

* INCLUDES DUCT, GRILLES, AND LOADED FILTERS; (a) INCHES WG; (b) @ARI CONDITIONS

- ① ROOF CURB EXTENSION/ADAPTER ③ SCROLL COMPRESSORS ⑤ SINGLE PT CONNECTION ⑦ HOT GAS REHEAT (55'-72" F MIN.) ⑨ MULTI-SPEED, DIRECT DRIVE INDOOR FAN MOTOR ⑪ NEEDLEPOINT BIPOLAR IONIZATION ⑬ THRU BASE ELECTRICAL
- ② HORIZONTAL DISCHARGE ④ NON-FUSED DISCONNECT SWITCH ⑥ LOW AMBIENT CONTROL TO 30°F ⑧ 2" FILTERS ⑩ LOW LEAK OUTSIDE AIR DAMPER ⑫ R410A REFRIGERANT

09/20

S3251B

SPLIT SYSTEM AIR CONDITIONING UNIT SCHEDULE (DUCTLESS)

INDOOR UNIT											OUTDOOR UNIT											COOLING COIL CAPACITY						REMARKS	
INDOOR AC #	LOCATION	CFM		EXT SP(a)	HP	MAX WEIGHT #	ELECTRIC			MANUFACTURER AND MODEL	OUTDOOR AC #	FANS		COMPRESSOR		MAX WEIGHT #	ELECTRIC			MANUFACTURER AND MODEL	MBH (NET)		OUTDOOR DB T	ENT AIR		LVG AIR			SEER(b)
		TOT	OA				MAX MCA	MOCOP	VOLT/PH			HP	NO	NO	RLA		MAX MCA	MOCOP	VOLT/PH		TOT	SENS		DB T	DB	WB	DB		
IDAC-1	DATA ROOM	700	0	-	56W	50	1.0	-	208/230/1	mitsubishi PKA-A24	ODAC-1	.75	1	1	12	150	18	30	208/230/1	mitsubishi PUY-A24	24	18.5	97	75	65	-	-	17.0	①②③④⑤⑥⑦

* INCLUDES DUCT, GRILLES, AND LOADED FILTERS (b) @ ARI CONDITIONS

- ① PROVIDE START CAPACITOR FOR SINGLE PHASE UNITS ③ FACTORY MOUNTED CONDENSATE PUMP ⑤ R410A REFRIGERANT ⑦ WALL MOUNTED INDOOR UNIT
- ② LOW AMBIENT CONTROL TO 20°F ④ POWER INDOOR UNIT FROM OUTDOOR UNIT ⑥ HARD WIRED THERMOSTAT ⑧ CEILING MOUNTED RECESSED INDOOR UNIT

9/20

S3252E



OSF Form F3 – Building Code Analysis

Date: January 6, 2022

SUBMITTAL: Schematic Design Development Construction Document

SC CODE EDITION: 2018 ICC CODE EDITION: 2018 ICC A117.1 EDITION: 2017 OSF GUIDE EDITION: 2020

OTHER CODES/STANDARDS & EDITIONS:

PROJECT DESCRIPTION: [Brief Scope of Work & Include project delivery method (i.e. CMR, etc.)]
Replacement of wall mounted heat pump HVAC systems throughout the facility via Design/Bid/Build delivery method.

MECHANICAL ABBREVIATIONS

AFF	ABOVE FINISH FLOOR	IN	INCHES
CFM	CUBIC FEET PER MINUTE.	ODAC-1	OUTDOOR AIR CONDITIONER NO.1
CLG	CEILING	ODP	OPEN DRIP PROOF
D	DRAIN	PD	PRESSURE DROP
EFF	EFFICIENCY	PH	PHASE
ELEC	ELECTRICAL	REF	REFRIGERANT LINES
ESP	EXTERNAL STATIC PRESSURE	SF	SQUARE FOOT
EXT	EXTERNAL	SPHP-1	SINGLE PACKAGE HEAT PUMP NO.1
FPS	FEET PER SECOND	TA	THROW AWAY (FILTER)
FT	FEET	VEL	VELOCITY
FLR	FLOOR	VOLT	VOLTAGE
HP	HORSE POWER		
IDAC-1	INDOOR AIR CONDITIONER NO.1		

4/01

S3956

MECHANICAL SYMBOL LEGEND

	SUPPLY OR OUTSIDE AIR GRILLE		THERMOSTAT / SPACE SENSOR
	DUAL WALL DUCT (SHADED OR WHERE NOTED)		HUMIDISTAT / HUMIDITY SENSOR
	INSIDE DUCT DIMENSION		CONNECT NEW TO EXISTING
			CONTROL WIRING

6/20

S3950

DUCT PRESSURE CLASSIFICATION

DUCT	SYSTEM	PRESSURE	STATIC PRESSURE CLASS (INWG)
RETURN DUCT	ALL SYSTEM RETURNS	NEG	-2"
SUPPLY DUCT	ALL OTHER SYSTEM SUPPLYS	POS	+2"

6/02

S3958

MECHANICAL GENERAL NOTES

- DO NOT SCALE DRAWINGS, SEE ARCHITECTURAL AND ROOF DRAWINGS.
- LOCATE ALL THERMOSTATS 48"(TO TOP OF DEVICE) ABOVE FINISH FLOOR, UNLESS NOTED OTHERWISE.
- ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS. SUPPORT DETAILS SHALL BE SUBMITTED TO THE MECHANICAL ENGINEER.
- PROVIDE ALL TRANSITIONS REQUIRED FOR INSTALLATION OF DUCT, AIR HANDLING UNITS, FANS, AND ALL OTHER EQUIPMENT AND APPURTENANCES.
- ALL DUCT SHALL BE GALVANIZED SHEETMETAL EXCEPT AS NOTED.
- DUCT SIZES INDICATED SHALL BE CLEAR INSIDE DIMENSIONS.

7/17

S3951

MECHANICAL DEMOLITION NOTES

- DRAWINGS SHOW GENERAL INTENT OF DEMOLITION. QUANTITIES, LOCATIONS, SIZES AND EQUIPMENT ARE SHOWN TO INDICATE TYPE OF SYSTEM INSTALLED AND DOES NOT NECESSARILY REPRESENT EXACT CONDITIONS. CONTRACTOR SHALL FIELD VERIFY BEFORE BIDDING.
- DEMOLITION OF EQUIPMENT, SYSTEMS, AND COMPONENTS SHALL INCLUDE ALL SUPPORTS, PADS, HANGERS, INSULATION, CONTROLS, CONDUIT, ACCESSORIES, AND APPURTENANCES NOT REQUIRED FOR THE INSTALLATION OF THE NEW SYSTEM.
- ALL OPENINGS CREATED BY THE ABANDONMENT OR REMOVAL OF EXISTING SYSTEMS SHALL BE PATCHED.
- REMOVAL OF SYSTEMS SHALL INCLUDE COMPLETE SYSTEM WHENEVER PRACTICAL.

7/17

S3955

PACKAGED HEAT PUMP (SPHP-1 & 2) PRIOR APPROVAL REQUIREMENTS

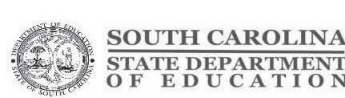
- THE UNITS DUCTING CONFIGURATION AND ROUTING IS VERY LIMITED BY EXISTING CONDITIONS
- ANY UNIT SUBMITTED SHALL NOT BLOCK OR IMPEDE EASY ACCESS TO UNIT COMPONENTS, ACCESS DOORS, ETC.
- A VENDOR REQUESTING PRIOR APPROVAL TO BID THIS PROJECT SHALL SUBMIT ALONG WITH THEIR UNIT PERFORMANCE, A SKETCH CLEARLY SHOWING HOW THE DUCT ROUTING WILL NOT BLOCK OR IMPEDE EASY ACCESS, WITHOUT CLIMBING OVER DUCT, TO UNIT COMPONENTS, ACCESS DOORS, ETC.

SEISMIC AND WIND DESIGN CRITERIA

SEISMIC DESIGN CATEGORY (SDC): C

RISK CATEGORY: III

BASIC WIND SPEED: 156 MPH



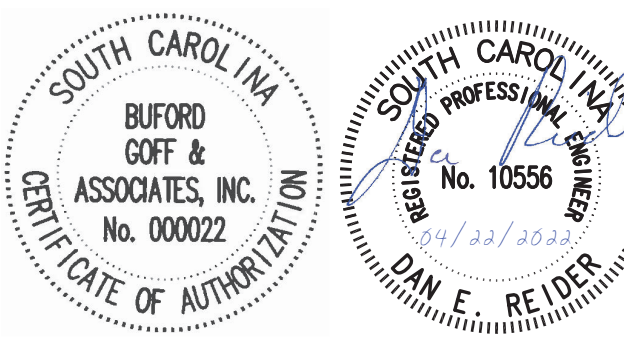
OSF Form F3 – Building Code Analysis

Summary of data from approved ASHRAE 90.1 compliance sheets.

MECHANICAL INFORMATION		
GENERAL INFORMATION		
Building Location	Little River, South Carolina	
Climate Zone	3A	
Outdoor Design Temperature	Summer	92 deg F DB 77 deg F WB
	Winter	25 deg F DB N/A deg F WB
Indoor Design Temperature	Summer	72 deg F DB 60 % RH
	Winter	70 deg F DB N/A % RH
OUTSIDE AIR		
Occupied Minimum Outside Air	5 cfm per person	
CO2 Demand Management	<input checked="" type="checkbox"/> no <input type="checkbox"/> yes	
Supervised Control System	<input type="checkbox"/> no <input checked="" type="checkbox"/> yes	
MECHANICAL SYSTEMS, SERVICE SYSTEMS & EQUIPMENT		
Briefly describe mechanical system: Packaged Rooftop Heat Pump with hot gas reheat for humidity control, MERV 13 filters and Bipolar Ionization		
ELECTRICAL INFORMATION N/A, Existing Services		

2 of 2

Version April 2021



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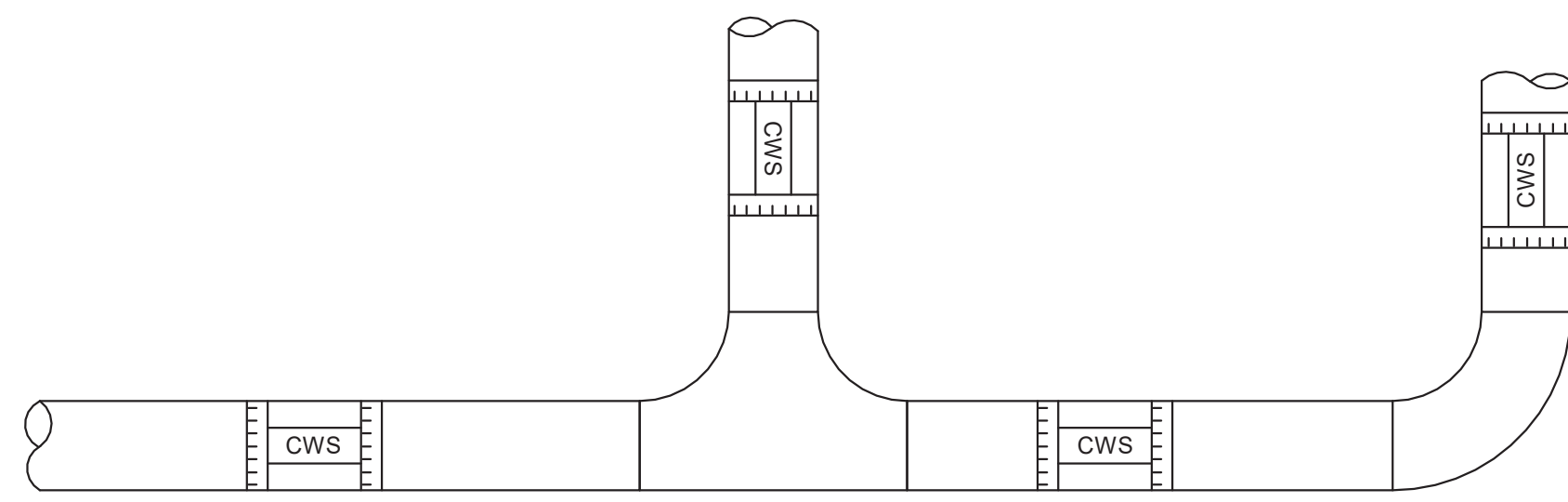
REVISIONS:

No.	Description	Date

PROJECT: 2201-218720
DATE: 04/22/2022

HVAC DETAILS

M-401

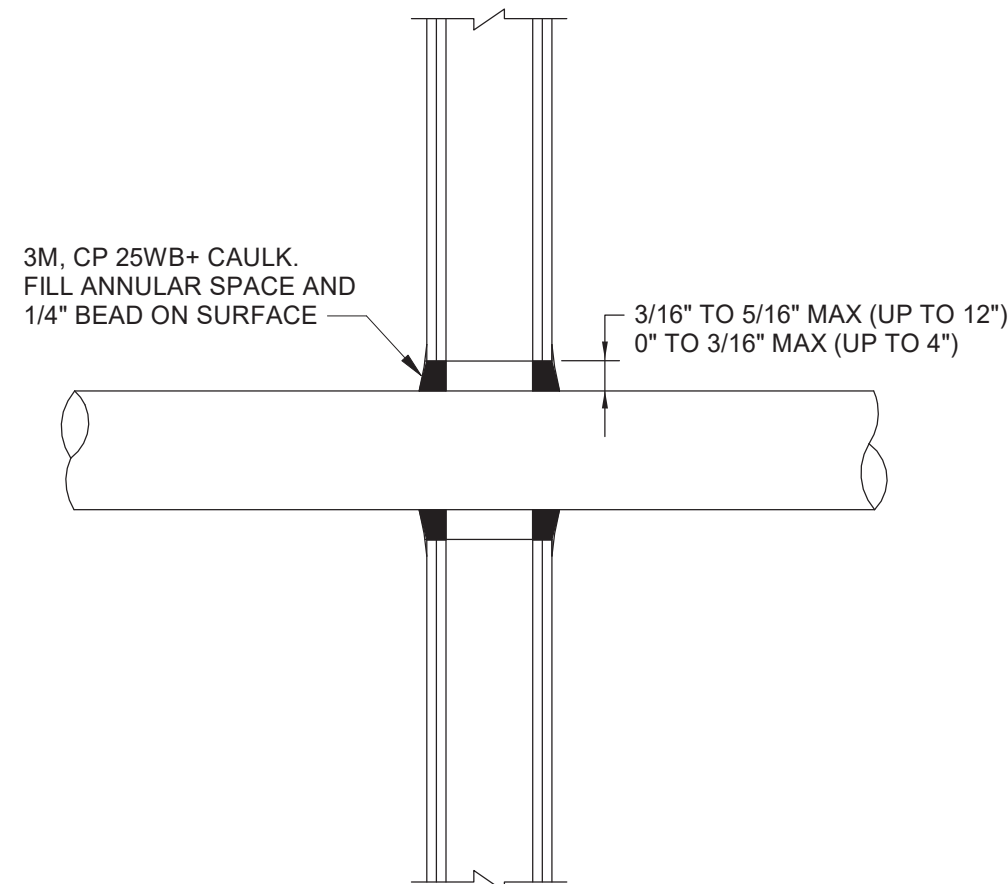


NOTES:

- SERVICE LABEL SHALL BE ON FRONT AND BACK OF PIPE (TEN FEET AND LESS AFF) AND BOTTOM AND TOP OF PIPE (MORE THAN TEN FEET AFF).
- MAXIMUM SPACING SHALL BE TWENTY FEET ON CENTER. MINIMUM ONE PER ROOM.
- LABEL PIPING AT EVERY CHANGE OF DIRECTION.

PIPING IDENTIFICATION DETAIL

3302 NOT TO SCALE 09/93

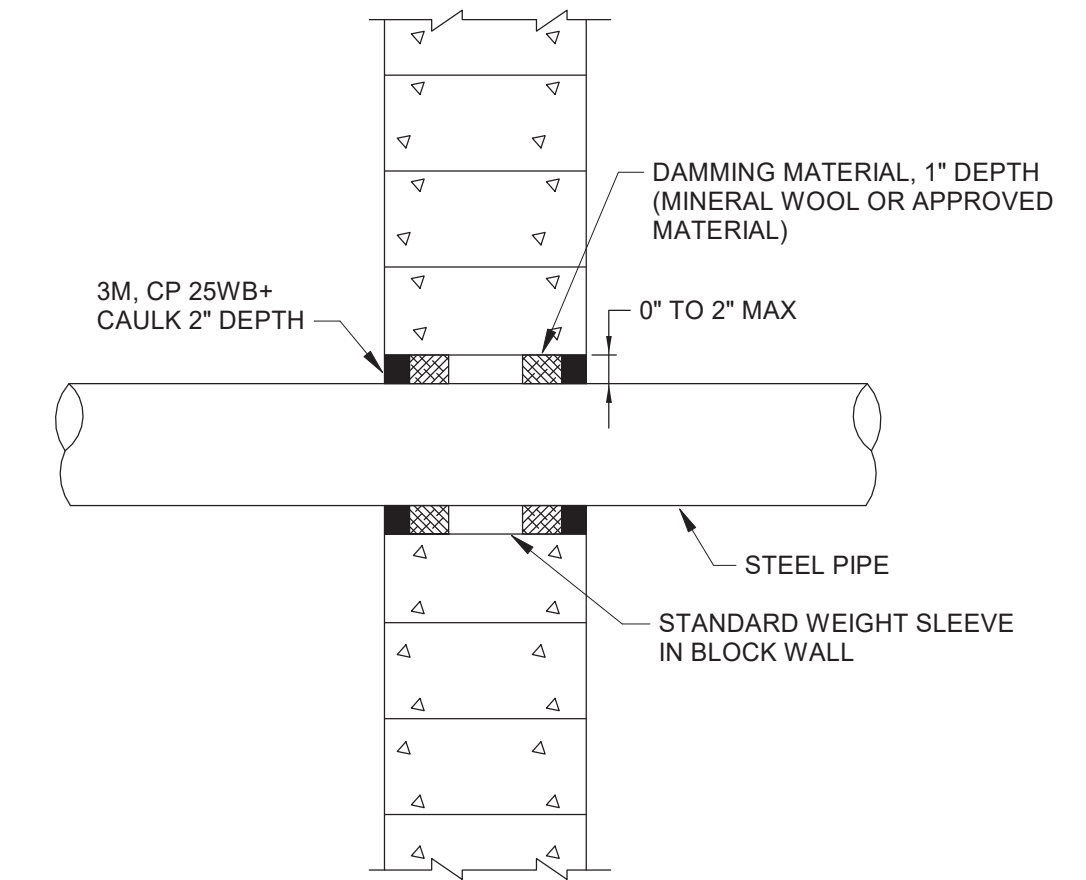


NOTES:

- REFER TO THE LATEST EDITION OF UL BUILDING MATERIAL DIRECTORY.
- WALL OPENING SHALL BE CUT NEATLY. PROVIDE A SLEEVE IF THE WALL OPENING IS NOT CUT PROPERLY.

**METAL CONDUIT THROUGH PENETRATION
FIRESTOP SYSTEM (UL#WL1001) ONE AND TWO
HOUR GYPSUM WALL DETAIL**

3251B NOT TO SCALE 03/03

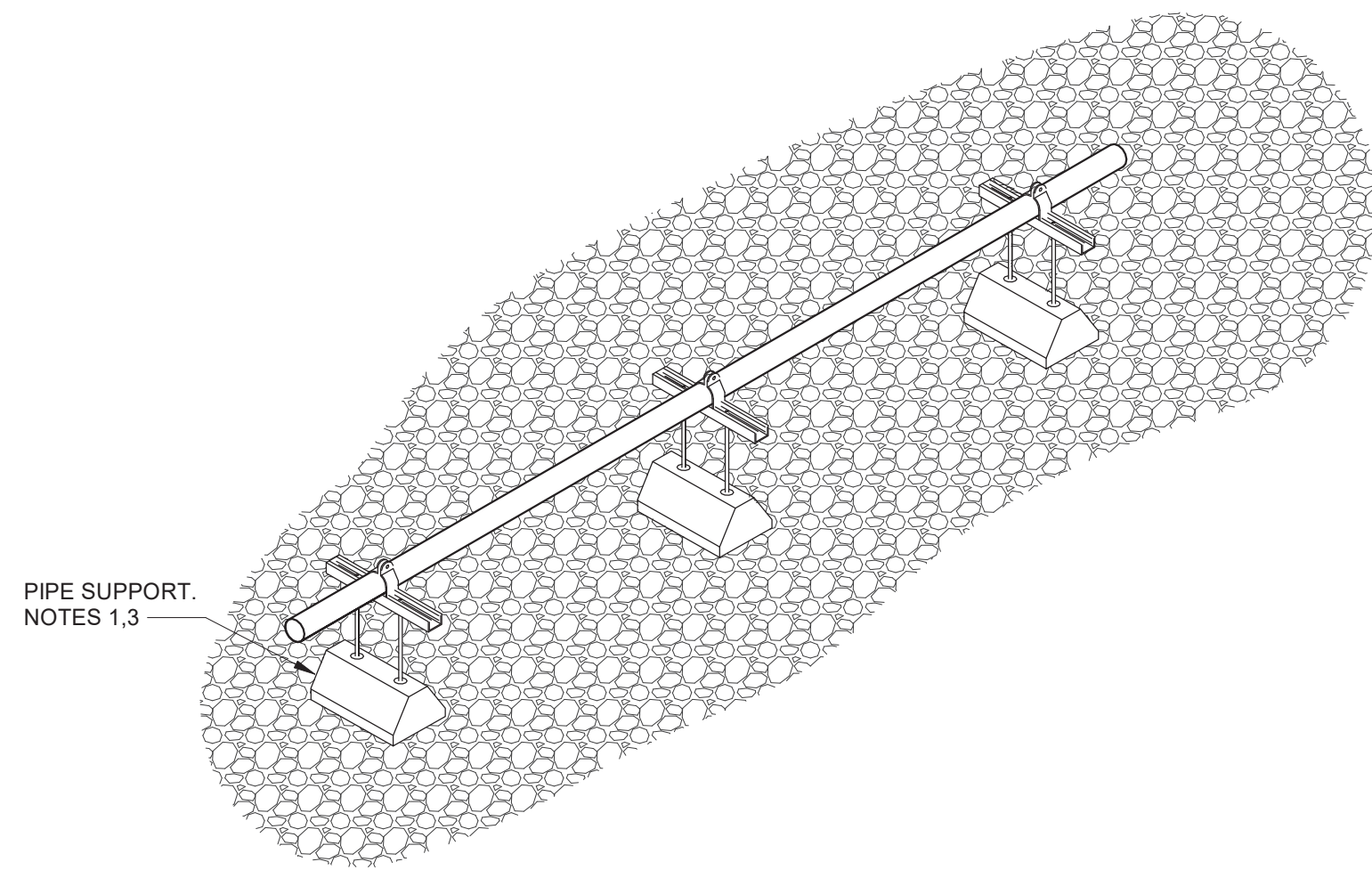


NOTES:

- REFER TO LATEST EDITION OF UL BUILDING MATERIAL DIRECTORY.
- COPPER TUBING (TYPE K,L) SIMILAR (UL-395), 3 HOUR.
- METAL CONDUIT SIMILAR (UL-49), 3 HOUR.

**METAL CONDUIT THROUGH PENETRATION FIRESTOP
SYSTEM (UL#CAJ1044) ONE, TWO, AND THREE HOUR
CONCRETE AND BLOCK WALL DETAIL**

3252B NOT TO SCALE 11/95

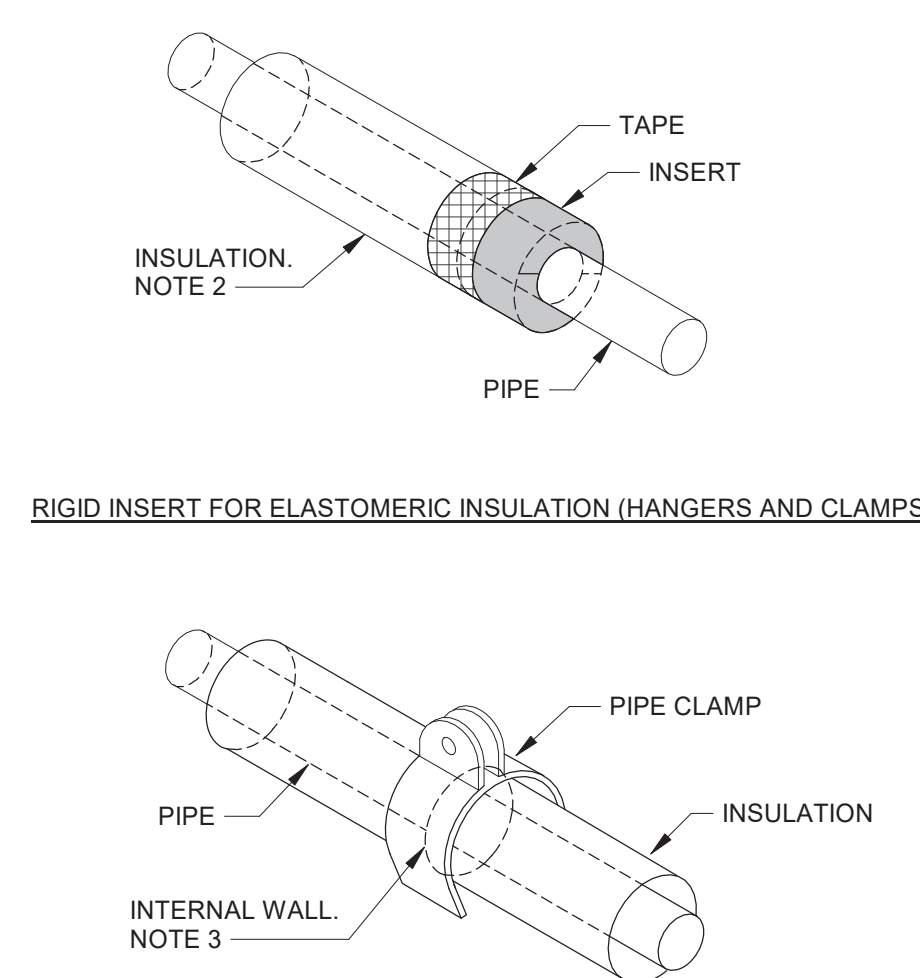


NOTES:

- PROVIDE SUPPORT 4'-0" ON CENTER.
- SEE SPECIFICATIONS FOR SUPPORT REQUIREMENTS.
- SET SUPPORTS IN HEAVY BED OF MASTIC.
- HEIGHT OF SUPPORT SHALL BE ADJUSTED TO PROVIDE A 1/4" PER FOOT SLOPE TOWARD THE DRAIN.

EQUIPMENT DRAIN PIPE SUPPORT ON ROOF DETAIL

3179C NOT TO SCALE 04/18



RIGID INSERT FOR ELASTOMERIC INSULATION (HANGERS AND CLAMPS)

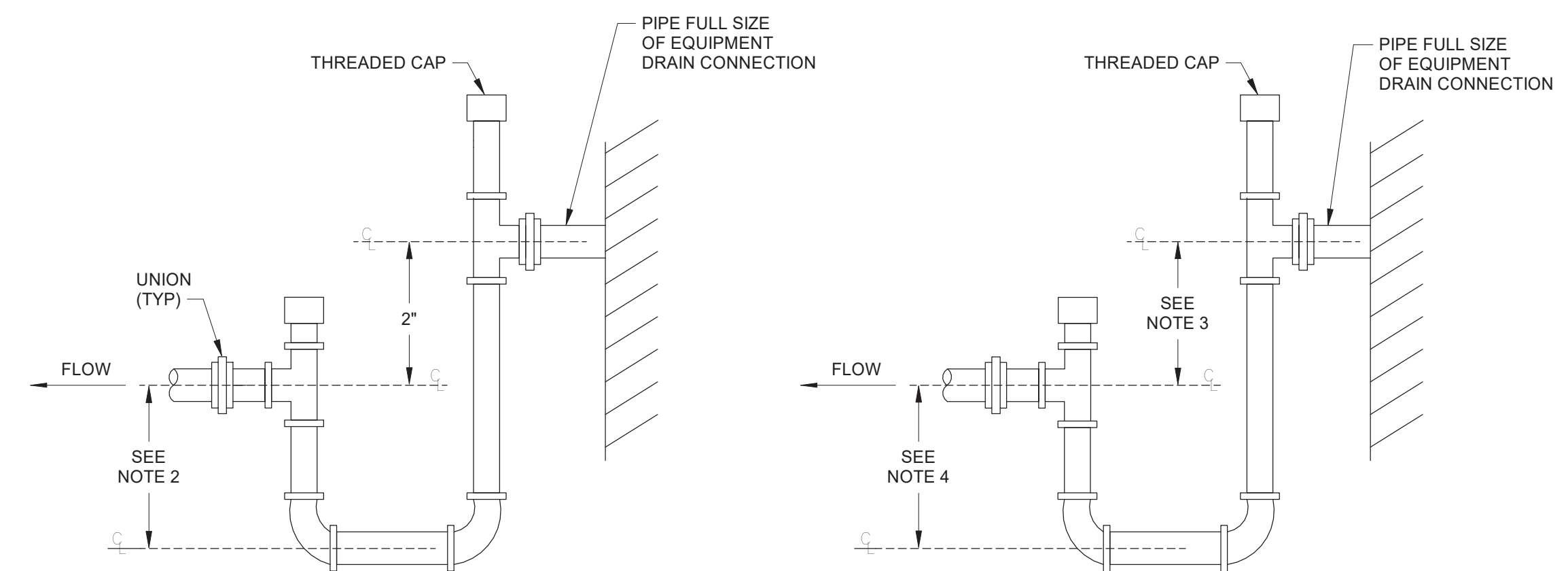
REFRIGERANT PIPE CLAMP

NOTES:

- RIGID INSULATION INSERT SHALL OCCUR AT EVERY HANGER OR PIPE CLAMP UNLESS A REFRIGERANT PIPE CLAMP IS USED.
- INSULATION SHALL BUTT UP TIGHT TO INSERT. SEAL WITH MANUFACTURER'S TAPE TO PROVIDE AN AIRTIGHT SEAL.
- INSERT INSULATION INTO THE PIPE CLAMP POCKETS ON BOTH SIDES UP TO THE INTERNAL WALL TO CREATE A CONTINUOUSLY INSULATED ASSEMBLY. SEAL AROUND CLAMP WITH MANUFACTURER'S APPROVED TAPE.

REFRIGERANT PIPE SUPPORT DETAIL

3183 NOT TO SCALE 04/18



BLOW THRU DRAIN

DRAW THRU DRAIN

NOTES:

- LOCATE TRAPS SO AS TO BE ACCESSIBLE FOR CLEANING.
- HEIGHT SHALL BE EQUAL TO UNIT MAXIMUM TOTAL STATIC PRESSURE PLUS 1/2".
- HEIGHT SHALL BE EQUAL TO UNIT MAXIMUM NEGATIVE STATIC PRESSURE PLUS 1".
- HEIGHT SHALL BE 1/2 OF HEIGHT INSTALLED IN NOTE 3.
- PIPE TO NEAREST DRAIN.
- TRAP SHALL NOT BLOCK ACCESS TO EQUIPMENT.
- PROVIDE UNIONS AT INLET AND OUTLET OF TRAP.
- DRAIN LINE SHALL BE 3/4" MIN OR UNIT CONNECTION SIZE, WHICHEVER IS LARGER.

EQUIPMENT CONDENSATE DRAIN DETAIL

3179B NOT TO SCALE 03/16

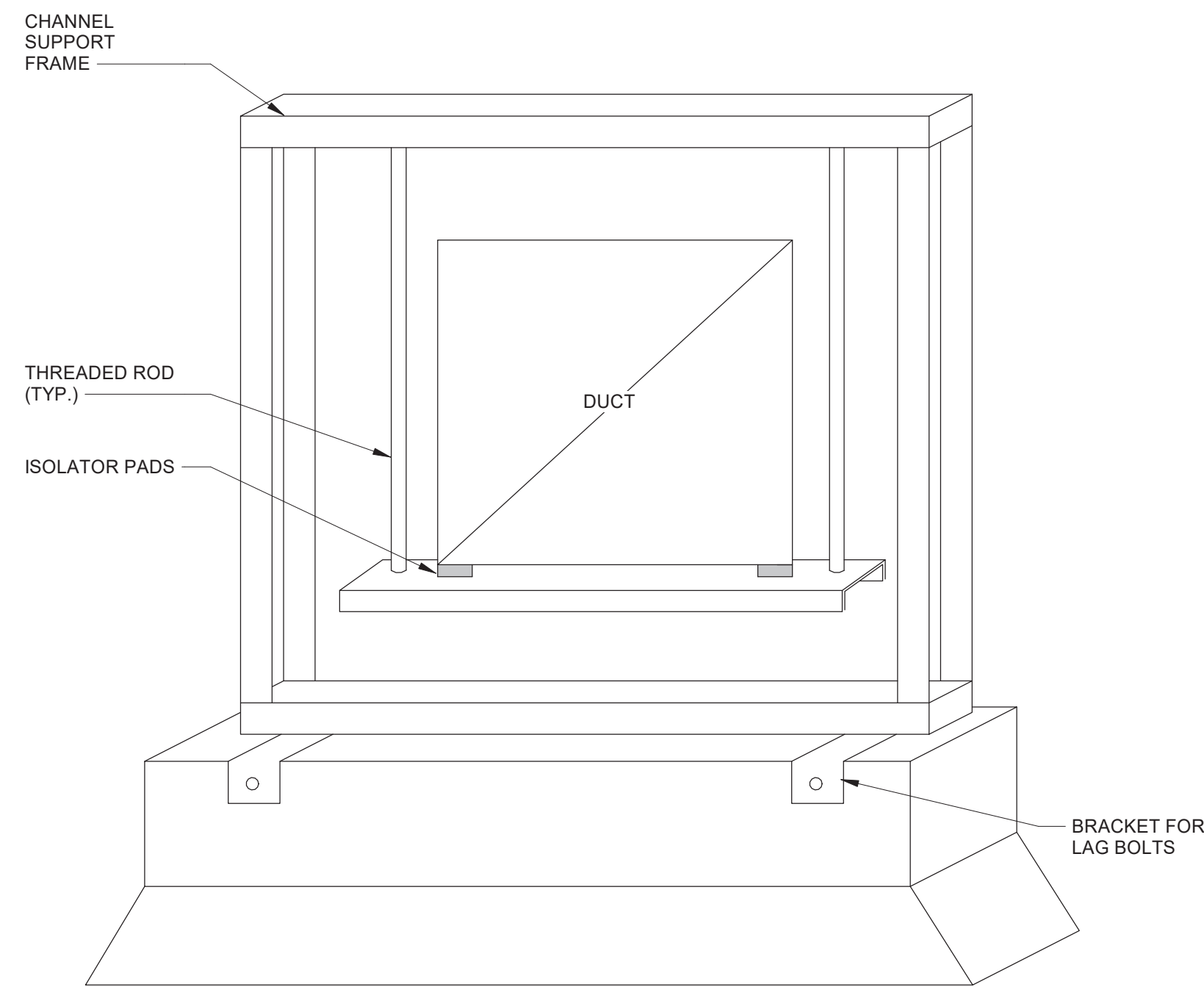
REVISIONS:

No.	Description	Date

PROJECT: 2201-218720
DATE: 04/22/2022

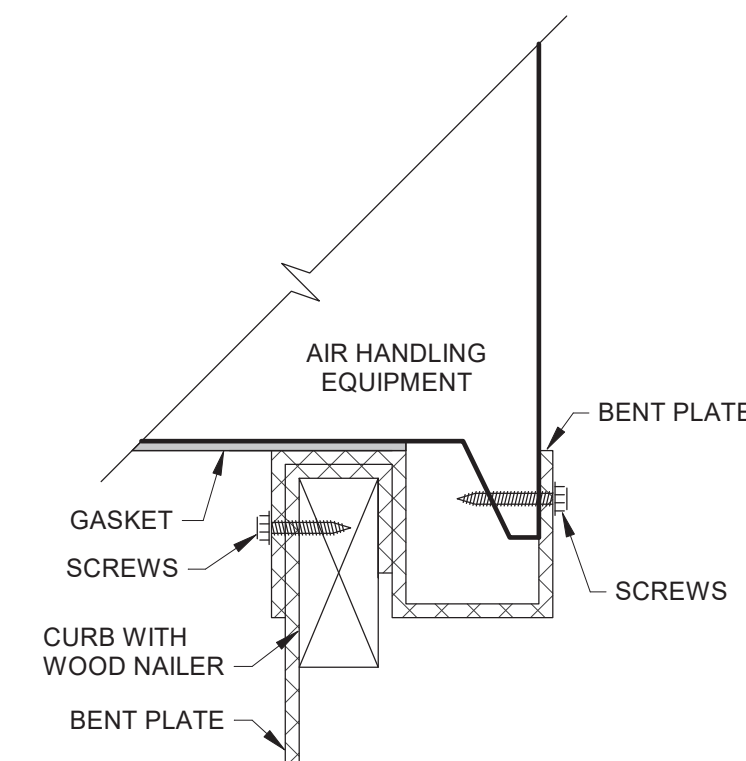
HVAC DETAILS

M-402



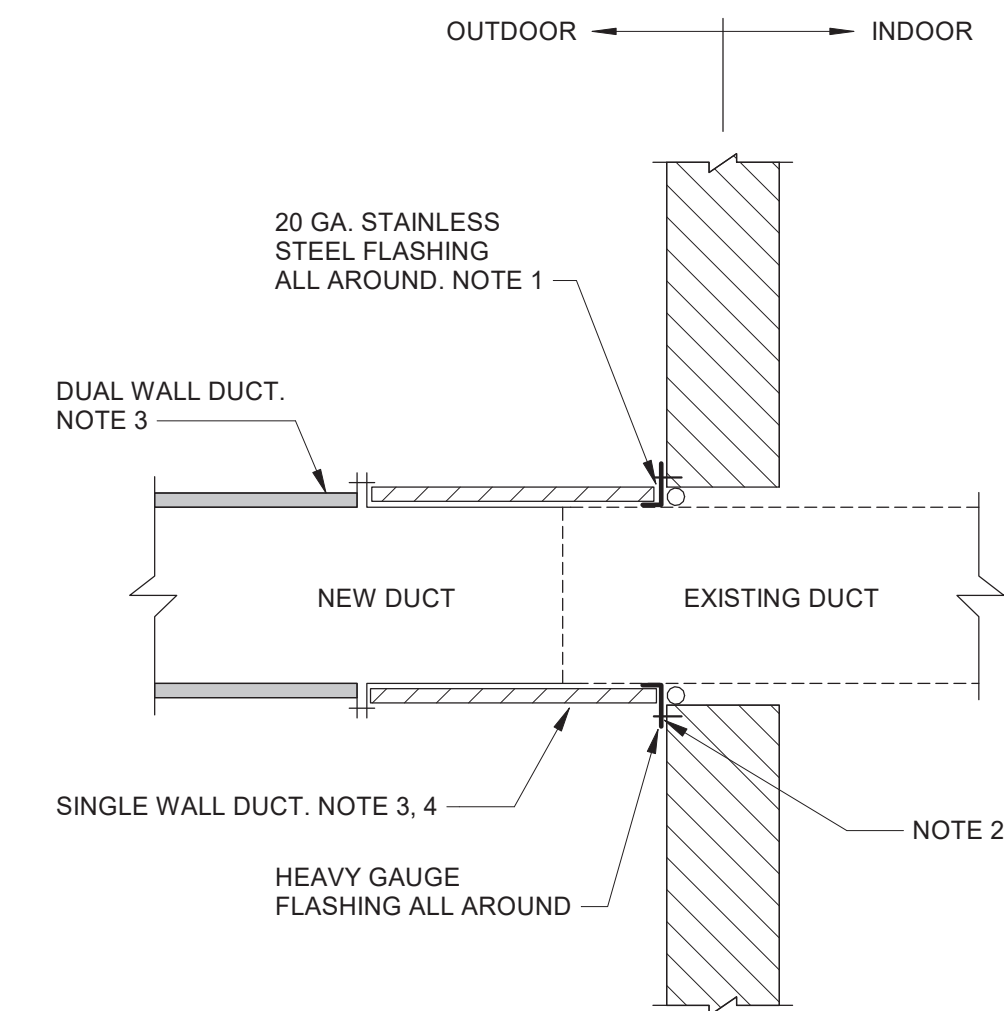
- NOTES:**
1. SUPPORT SHALL BE FABRICATED SO CHANNELS DO NOT CATCH RAIN WATER.
 2. TOP CHANNEL SHALL BE DESIGNED TO BOLT TO VERTICAL CHANNELS AFTER DUCT IS SET.

ROOF DUCT SUPPORT DETAIL
3326A NOT TO SCALE 04/12



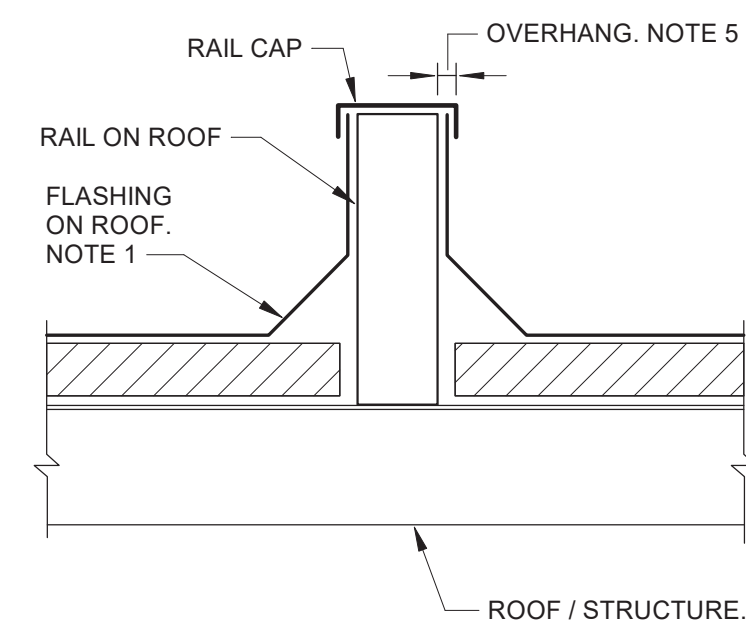
- NOTES:**
1. THIS DETAIL REPRESENTS A GENERAL INSTALLATION DETAIL. SPECIFIC SIZES OF BENT PLATES, FASTENERS, ETC., TO BE DETERMINED BY THE SEISMIC ENGINEER.
 2. ALTERNATE ATTACHMENT MAY BE ACCEPTABLE WHEN SUBMITTED BY THE SEISMIC ENGINEER.

ROOFTOP UNIT ATTACHMENT TO CURB DETAIL - TYPE 2
3860B NOT TO SCALE 10/10



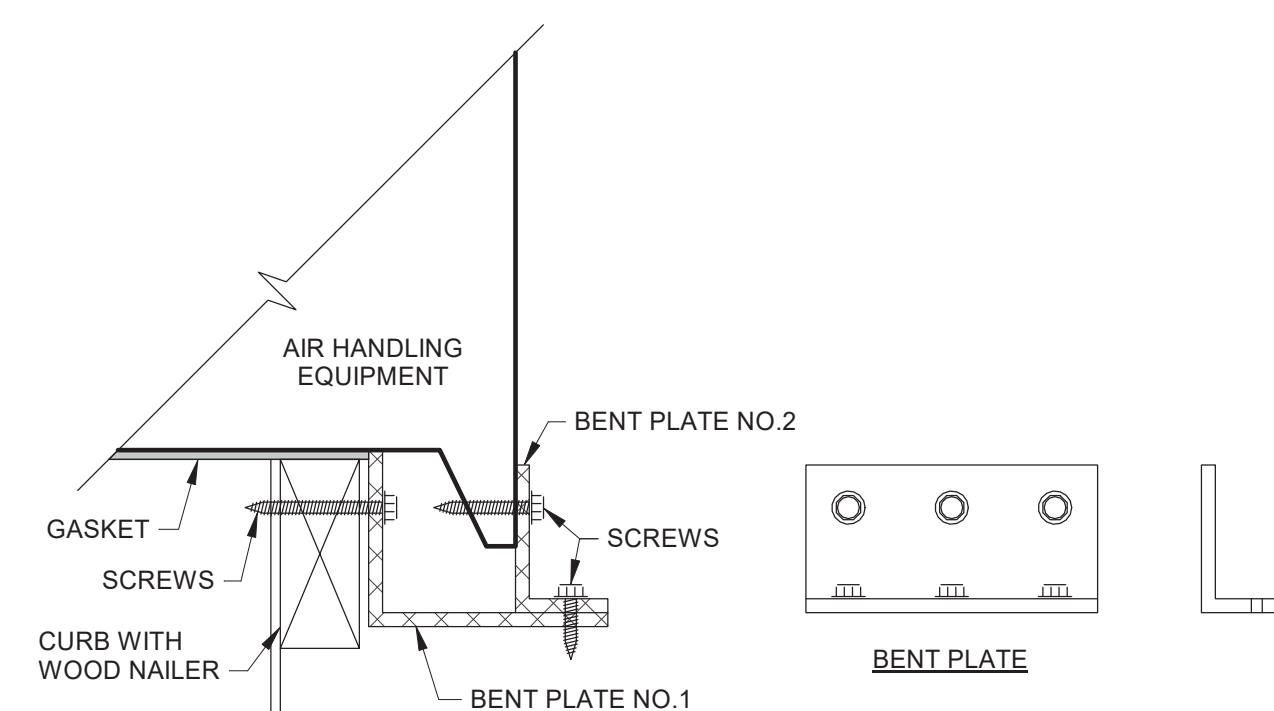
- NOTES:**
1. PROVIDE CAULKING BEHIND ANGLE.
 2. PROVIDE SEALANT BETWEEN DUCT AND WALL ALL AROUND.
 3. SEE SPECIFICATIONS
 4. ELASTOMERIC INSULATION WITH METAL JACKET.

DUAL WALL DUCT THROUGH EXTERIOR WALL DETAIL
3041C NOT TO SCALE 10/09



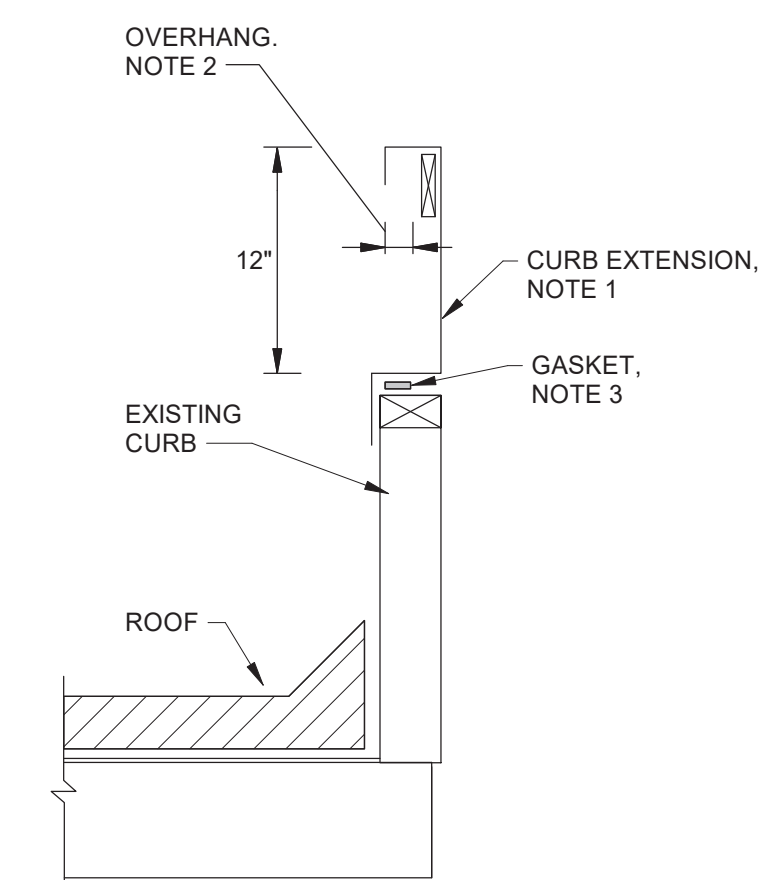
- NOTES:**
1. FLASHING ON DETAIL IS DIAGRAMMATIC ONLY. SEE ROOFING DETAILS FOR ACTUAL FLASHING AND COUNTER FLASHING REQUIRED. COORDINATE CURB INSTALLATION WITH ROOFING WORK.
 2. PROVIDE ROOF CURB TO MATCH ROOF SLOPE.
 3. SPOT WELD OR ANCHOR CURB TO STRUCTURE. SEE SEISMIC FOR ADDITIONAL REQUIREMENTS.
 4. ATTACH CAP TO CURB 12" O.C., MINIMUM 2 PER SIDE.
 5. PROVIDE 3/4" SPACE BETWEEN PLENUM OR CAP OVERHANG AND CURB FOR ROOFING AND FLASHING.
 6. SEAL ALL PENETRATIONS WITH APPROVED CAULKING OR BITUMASTIC.

ROOFTOP DUCT SUPPORT RAIL DETAIL
3325C NOT TO SCALE 08/19



- NOTES:**
1. THIS DETAIL REPRESENTS A GENERAL INSTALLATION DETAIL. SPECIFIC SIZES OF BENT PLATES, FASTENERS, ETC., TO BE DETERMINED BY THE SEISMIC ENGINEER.
 2. ALTERNATE ATTACHMENT MAY BE ACCEPTABLE WHEN SUBMITTED BY THE SEISMIC ENGINEER.

ROOFTOP UNIT ATTACHMENT TO CURB DETAIL - TYPE 1
3860A NOT TO SCALE 10/10



- NOTES:**
1. SEE SPECIFICATIONS FOR MATERIALS REQUIRED.
 2. PROVIDE 3/4" SPACE FOR ROOFING AND FLASHING
 3. PROVIDE 1/8" NEOPRENE OR ELASTOMERIC GASKET BETWEEN CURB AND EXTENSION.
 4. PROVIDE ADAPTER CURB ON TOP OF EXTENSIONS.

ROOFTOP CURB EXTENSION
3325E NOT TO SCALE 12/21

REVISIONS:

No.	Description	Date

PROJECT: 2201-218720
DATE: 04/22/2022
DRAWN BY: MTFH
CHECKED BY: BCM

ELECTRICAL SYMBOL SCHEDULE

SYMBOL	DESCRIPTION
	120V, 20A DUPLEX RECEPTACLE
	EQUIPMENT CONDUIT/CIRCUIT CONNECTION
	JUNCTION BOX, SIZE PER NEC UNLESS SIZE NOTED
	FUSED SAFETY DISCONNECT SWITCH
	CONDUIT RUN CONCEALED OVERHEAD OR IN WALLS
	CONDUIT RUN EXPOSED
	CONDUIT RUN IN OR UNDER FLOOR SLAB OR UNDERGROUND
AFF	ABOVE FINISHED FLOOR
UNO	UNLESS NOTED OTHERWISE
C.	CONDUIT
E.C.	EMPTY CONDUIT
GFI	GROUND FAULT INTERRUPTER
RT	RAINTIGHT, NEMA 3R UNO
WP	WEATHER PROOF
	KEYNOTE LABEL
	CONDUIT RUN, VERTICAL

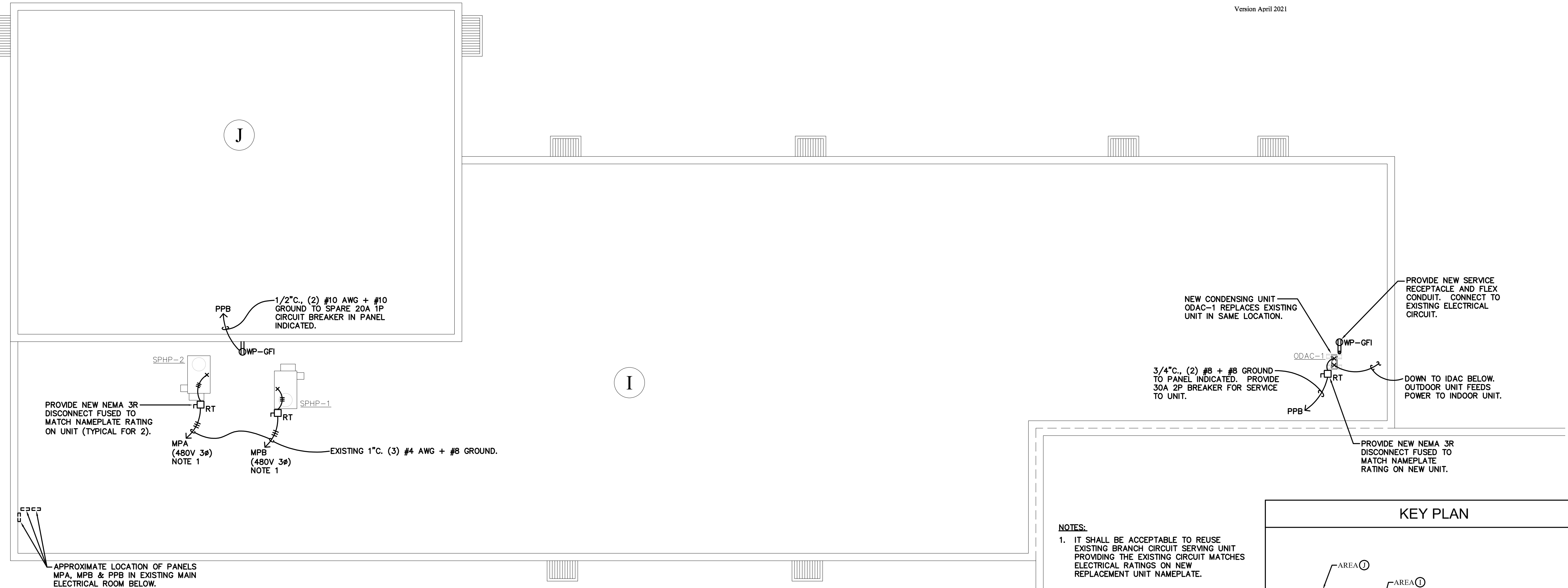
ELECTRICAL INFORMATION

SERVICE TRANSFORMER	<input checked="" type="checkbox"/> By Utility	KVA Primary
	<input type="checkbox"/> By District	Voltage/Phase
ELECTRICAL SERVICE INFORMATION		
Service Voltage/Phase	Existing	Amperes
Service Entrance Conductors Size	Existing	Qty per Phase
Total Connected Load	Existing	KVA
Estimated Maximum Demand	Existing	KVA
Available Fault Current in Symmetrical Amperes	Existing - N/A	
Interrupting Capacity of Service Overcurrent Device	Existing - N/A	
Grounding electrode system components (NEC 250)	Existing - N/A	
EMERGENCY SERVICE INFORMATION		
Emergency Generator (Not Applicable to Scope)	<input type="checkbox"/> no <input type="checkbox"/> yes	KVA
	Fuel	Voltage/Phase
Exit/Emergency Lights Backup Power	<input type="checkbox"/> Integral Battery	
	<input type="checkbox"/> Generator	
Fire Alarm System (Not Applicable to Scope)	<input type="checkbox"/> Manual	<input type="checkbox"/> Addressable
	<input type="checkbox"/> Automatic	<input type="checkbox"/> Class A
		<input type="checkbox"/> Class B
LIGHTNING PROTECTION PROVIDED	<input checked="" type="checkbox"/> no <input type="checkbox"/> yes	

Version April 2021

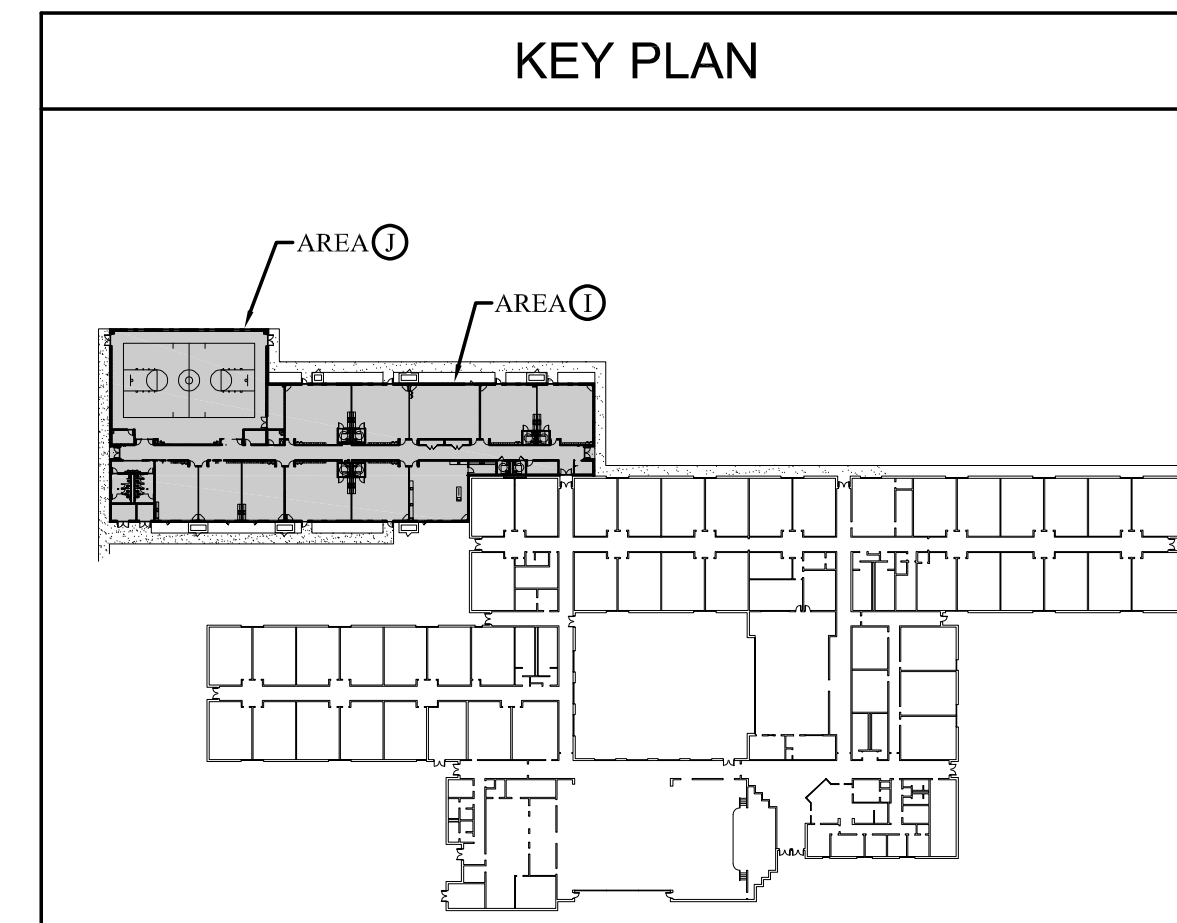
The electrical work associated with the Roof Replacement project is narrow scope and is limited to incidental work associated with the roof replacements and electrical service to (3) items of mechanical (HVAC) equipment:

1. Re-connecting (2) replacement HVAC Rooftop units to existing circuits.
2. Provide upsized electrical service to a small replacement HVAC mini-split AC unit.



NOTES:

1. IT SHALL BE ACCEPTABLE TO REUSE EXISTING BRANCH CIRCUIT SERVING UNIT PROVIDING THE EXISTING CIRCUIT MATCHES ELECTRICAL RATINGS ON NEW REPLACEMENT UNIT NAMEPLATE.



ALTERNATE NO. 4:

WORK ON THIS SHEET SHALL BE BID AS ALTERNATE #4.

A1 PARTIAL EXISTING ROOF PLAN - AREAS "J" & "I" - ELECTRICAL
3/32" = 1'-0"