BRUNSWICK COUNTY SCHOOLS

WACCAMAW SCHOOL PARTIAL ROOF REPLACEMENT

5901 WACCAMAW SCHOOL RD.
ASH, NORTH CAROLINA 28420

REI PROJECT NO. 023CLT-179

DATE: 02-29-2024

KEY
- ROOF EDGE
- (XX) ROOF AREA INDICATOR
- INCLUDED IN CONTRACT
- NOT IN CONTRACT
- STAGING AND MATERIAL STORAGE

PLAN NORTH

A SITE PLAN
SCALE: N.T.S.

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4. NOTES ARE INTENDED TO PROVIDE TYPICAL LOCATIONS OF WORK. IT IS THE CONTRACTORS RESPONSIBILITY TO QUANTIFY ALL LOCATIONS.

DETAIL NOTES
1. LIGHT LINES REPRESENT EXISTING CONSTRUCTION TO REMAIN AND DARK LINES REPRESENT NEW COMPONENTS TO BE PROVIDED.

ABBREVIATION LIST:

AB	ABANDONED	MIN.	MINIMUM
ALUM.	ALUMINUM	N.I.C	NOT IN CONTRACT
BLDG.	BUILDING	NOM.	NOMINAL
CJ	CONTROL JOINT	N.T.S.	NOT TO SCALE
DS	DOWNSPOUT	O.C.	ON CENTER
EJ	EXPANSION JOINT	OF	OVERFLOW
EPDM	ETHYLENE PROPYLENE DIENE MONOMER	PS	PRESSURE SENSITIVE
		PVC	POLYVINYL CHLORIDE
		RPLC.	REPLACEMENT
EX.	EXISTING	SF	SQUARE FEET
GALV.	GALVANIZED	S.S.	STAINLESS STEEL
GA.	GAUGE	SIM.	SIMILAR
HT	HEIGHT	TERM.	TERMINATE/TERMINATION
MAX.	MAXIMUM	TYP.	TYPICAL

DRAWING INDEX:

G-001	COVER
XR101	ROOF PLAN
XR501	DETAILS
XR502	DETAILS
XR503	DETAILS

BUILDING CODE REFERENCE:
2018 NCBC: BUILDING
2018 NCBC: ENERGY CONSERVATION
2018 NCBC: EXISTING BUILDING
2018 NCBC: FIRE PREVENTION
2018 NCBC: FUEL GAS
2018 NCBC: MECHANICAL
2018 NCBC: PLUMBING

B GENERAL NOTES & INFORMATION
SCALE: N.T.S.

2018 APPENDIX B
BUILDING CODE SUMMARY
FOR COMMERCIAL ROOF REPLACEMENT PROJECTS
(EXCEPT 1 AND 2 FAMILY DWELLINGS AND TOWNHOUSES)

Name of Project: WACCAMAW SCHOOL PARTIAL ROOF REPLACEMENT
Address: 5901 WACCAMAW SCHOOL RD. ASH, NORTH CAROLINA 28420
Owner/ Authorized Agent: Grady Watkins Phone #: (910) 253-1077
Email: gwatkins@bcswan.net
Owned By: ☒ City/County ☐ Private ☐ State
Code Enforcement Jurisdiction: ☐ City ☒ County Brunswick ☐ State

ENGINEER:

FIRM	NAME	LICENSE #	PHONE #	EMAIL
REI Engineers	Jeremiah Webster	035689	(704) 614-0747	jwebster@reiengineers.com

2018 NORTH CAROLINA CODE FOR:
☒ Roof Replacement ☐ Roof Recover ☐ Roof Repair

2018 NORTH CAROLINA EXISTING BUILDING CODE
CHAPTER 5 CLASSIFICATION OF WORK:
☒ Section 503: Alteration – Level 1 (Renovation) ☐ Section 504: Alteration – Level 2 (Alteration) ☐ Section 505: Alteration – Level 3 (Reconstruction)

BASIC BUILDING DATA
Constructed Date: xxx **Construction Type:** (check all that apply) ☐ I-A ☒ II-A ☐ III-A ☐ IV ☐ V-A ☐ I-B ☐ II-B ☐ III-B ☐ V-B
Sprinklers: ☒ No ☐ Partial ☐ Yes: ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No ☐ Yes: Class: ☐ 1 ☐ 2 ☐ 3 ☐ Wet ☐ Dry
Fire District: ☒ No ☐ Yes (Primary)
Building Height: 15' feet **Roof Area:** 20,317 square feet **Number of Stories:** 1
Allowable Height: 65' feet **Allowable Area:** 26,500 square feet **Allowable Stories:** 3

OCCUPANCY
Assembly: ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business: ☐ B
Educational: ☒ E
Factory: ☐ F-1 (Moderate) ☐ F-2 (Low Hazard)
High Hazard: ☐ H-1 (Detonate) ☐ H-2 (Deflagrate) ☐ H-3 (Combust) ☐ H-4 (Health) ☐ H-5 (HPM)
Institutional: ☐ I-1 Condition 1 ☐ I-1 Condition 2 ☐ I-2 ☐ I-3 ☐ I-4
Mercantile: ☐ M
Residential: ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage: ☐ S-1 (Moderate) ☐ S-2 (Low Hazard)
Utility: ☐ U

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE PROTECTION RATING REQUIRED	FIRE PROTECTION RATING PROVIDED	DESIGN # FOR RATED ASSEMBLY	COMMENTS
Roof Construction	1 HR	1 HR	P 225	Like for like roof replacement

STRUCTURAL SUMMARY
Components & Cladding Wind Uplift Resistance: (ASCE 7-10)
Basic Wind Speed 153 mph Risk Category III
Internal Pressure Coeff. 0.18 Exposure Category C

Wind Uplift Nominal Design Pressures:
Zone 1 (Field) -37 psf
Zone 2 (Perimeter) -62 psf
Zone 3 (Corner) -93 psf
Zone 2 OH (Perimeter) -53 psf
Zone 3 OH (Corner) -87 psf

Roof System Dead Load
Existing System: 8.67 psf
Replacement system 8.33 psf

ENERGY SUMMARY
Roof Assembly Description: Refer to Specification Section 07 22 16 Roof Insulation
Code Compliance: 2018 NCEBC
Min. Required R-value: Not less than existing

Existing R-Value:	R-20.33	R-xx	R-xx
R-Value of Insulation (min):	R-21.8	R-xx	R-xx
Number of Skylights:	0	0	0
u-Value of each Skylight:	0	0	0
Total Sq. Ft. of Skylights	0	0	0

C BUILDING CODE SUMMARY
SCALE: N.T.S.

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Digitally signed by Jeremiah Webster
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Reason: I agree to the terms defined by the placement of my signature on this document
Date: 2024.03.06 17:22:11-05'00'

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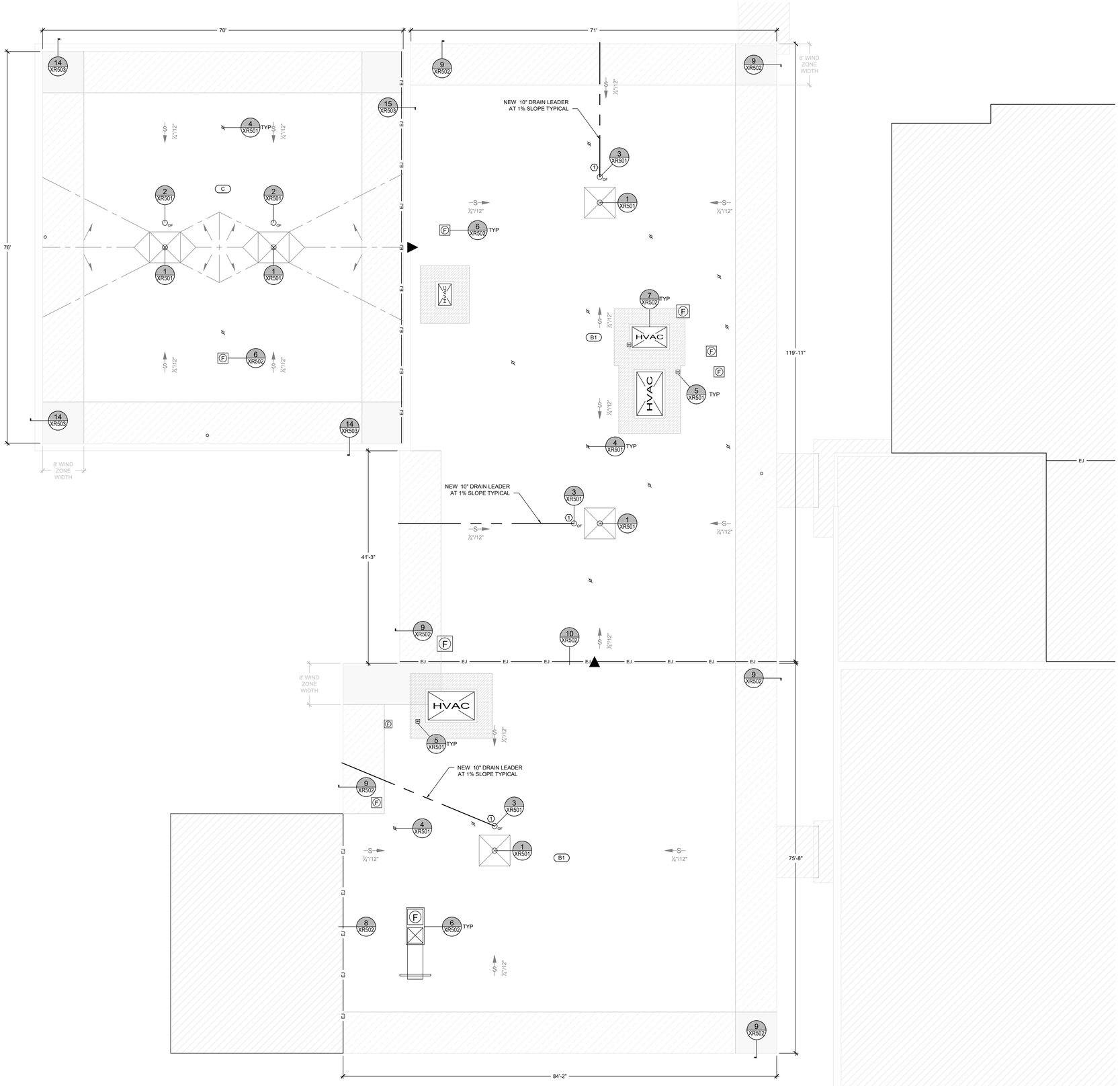
SHEET TITLE:
COVER

DRAWING:
G-001



A ROOF PLAN
SCALE: 1/8" = 1'-0"

ROOF SECTOR	AREA	HEIGHT (FT.)
B1	± 6,369 SQ. FT.	15'
B2	± 8,628 SQ. FT.	14'
C	± 5,320 SQ. FT.	16'

WIND ZONES
- ZONE 1 (FIELD)
- ZONE 2 (PERIMETER)
- ZONE 3 (CORNER)

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SHEET NOTES:
1. PROVIDE 6" DIAMETER HIGH FLOW RETROFIT DRAIN AND 10" DIAMETER HORIZONTAL DRAIN LEADER AT 1" SLOPE TO DISCHARGE THROUGH EXTERIOR WALL WITH DISCHARGE TONGUE.
2. REMOVE ABANDONED PENETRATION AND PROPERLY REPAIR ROOF DECK.

KEY
- ROOF EDGE
- PARAPET WALL
- EXPANSION JOINT
- WALL EXPANSION JOINT
- TAPERED INSULATION
- STRUCTURAL SLOPE
- TAPERED INSULATION SLOPE
- CRICKET SLOPE
- DRAIN LEADER
- ROOF DRAIN
- O_{DF} OVERFLOW DRAIN
- SOIL PIPE
- PIPE PENETRATION
- HVAC UNIT
- MECHANICAL CURB
- MULTIPLE PIPE PENETRATION
- EXHAUST FAN
- GRAVITY VENT
- EQUIPMENT SUPPORT CURB
- WALKPAD
- NOT IN CONTRACT
- ELEVATION CHANGE
- (XX) ROOF AREA INDICATOR
- (#) NOTE NO.
- (#/SHT) DETAIL INDICATOR
- (#/SHT) SECTION INDICATOR

PLAN NORTH

1/8" = 1'-0" 8 0 8 16

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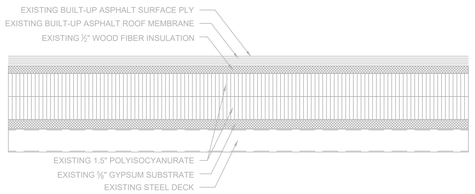
ROOF PLAN

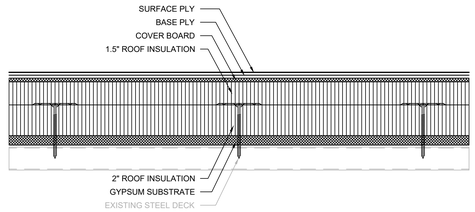
DRAWING:

XR101



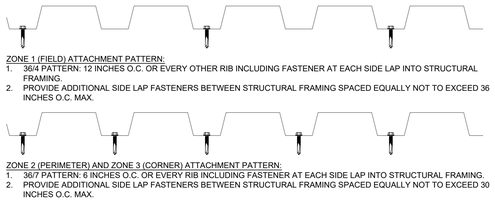
NOTES:
1. EXISTING ROOF SYSTEM COMPOSITION SHOWN IS BASED UPON RANDOM SAMPLING.
2. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY INFORMATION PROVIDED.
3. REMOVE COMPONENTS DOWN TO THE EXISTING STEEL DECK TO REMAIN.

A EXISTING ROOF SYSTEM
SCALE: 3" = 1'-0"



NOTES:
1. ROOF SYSTEM SHALL BE A TESTED ASSEMBLY IN ACCORDANCE WITH FM 4474, UL 580 OR UL 1897 TO RESIST THE WIND UPLIFT PRESSURES SPECIFIED ON DRAWING G-001. PROVIDE SUBMITTAL INCLUDING DOCUMENTATION OF TESTED ASSEMBLY ALONG WITH ATTACHMENT REQUIREMENTS FOR THE ASSEMBLY.
2. ANY WHOLE OR PARTIAL INSULATION BOARD OR PORTION OF ANY BOARD WHICH FALLS IN THE PERIMETERS & CORNERS OUTLINED SHALL BE SUBJECT TO THE FASTENING REQUIREMENTS FOR THE HIGHEST WIND ZONE ENCOUNTERED, ACROSS THE ENTIRE BOARD.

B RPLC. ROOF SYSTEM
SCALE: 3" = 1'-0"

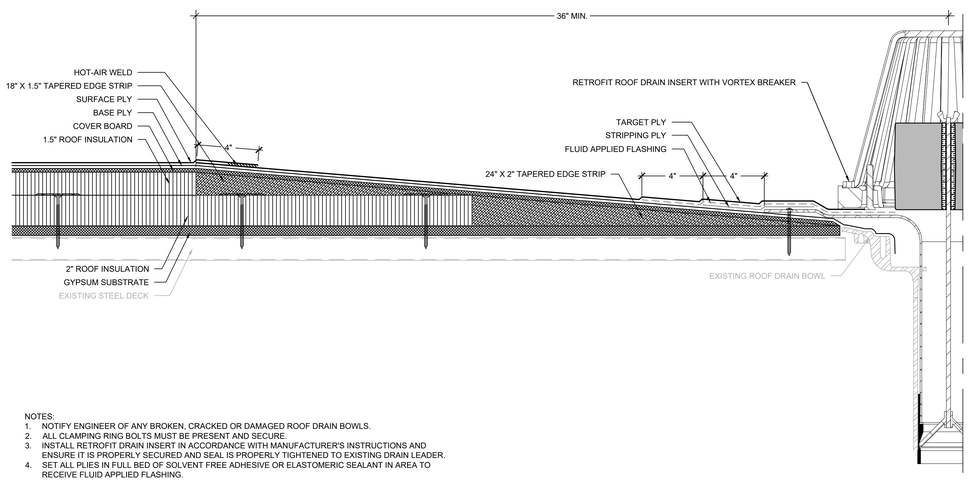


ZONE 1 (FIELD) ATTACHMENT PATTERN:
1. 36/4 PATTERN: 12 INCHES O.C. OR EVERY OTHER RIB INCLUDING FASTENER AT EACH SIDE LAP INTO STRUCTURAL FRAMING.
2. PROVIDE ADDITIONAL SIDE LAP FASTENERS BETWEEN STRUCTURAL FRAMING SPACED EQUALLY NOT TO EXCEED 36 INCHES O.C. MAX.

ZONE 2 (PERIMETER) AND ZONE 3 (CORNER) ATTACHMENT PATTERN:
1. 36/7 PATTERN: 6 INCHES O.C. OR EVERY RIB INCLUDING FASTENER AT EACH SIDE LAP INTO STRUCTURAL FRAMING.
2. PROVIDE ADDITIONAL SIDE LAP FASTENERS BETWEEN STRUCTURAL FRAMING SPACED EQUALLY NOT TO EXCEED 30 INCHES O.C. MAX.

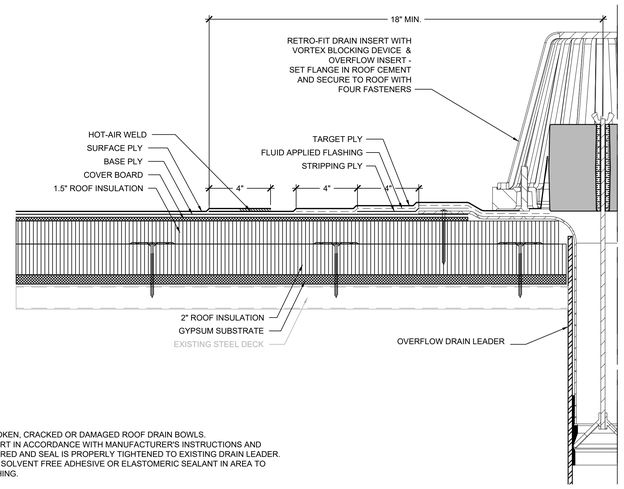
NOTES:
1. REFER TO SPECIFICATION SECTION 05 01 30 "STEEL ROOF DECK REPAIR AND SECURMENT" FOR FASTENER SPECIFICATIONS AND ADDITIONAL ATTACHMENT INFORMATION.

C STEEL DECK SECUREMENT
SCALE: 3" = 1'-0"



NOTES:
1. NOTIFY ENGINEER OF ANY BROKEN, CRACKED OR DAMAGED ROOF DRAIN BOWLS.
2. ALL CLAMPING RING BOLTS MUST BE PRESENT AND SECURE.
3. INSTALL RETROFIT DRAIN INSERT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND ENSURE IT IS PROPERLY SECURED AND SEAL IS PROPERLY TIGHTENED TO EXISTING DRAIN LEADER.
4. SET ALL PLIES IN FULL BED OF SOLVENT FREE ADHESIVE OR ELASTOMERIC SEALANT IN AREA TO RECEIVE FLUID APPLIED FLASHING.

1 ROOF DRAIN
SCALE: 3" = 1'-0"



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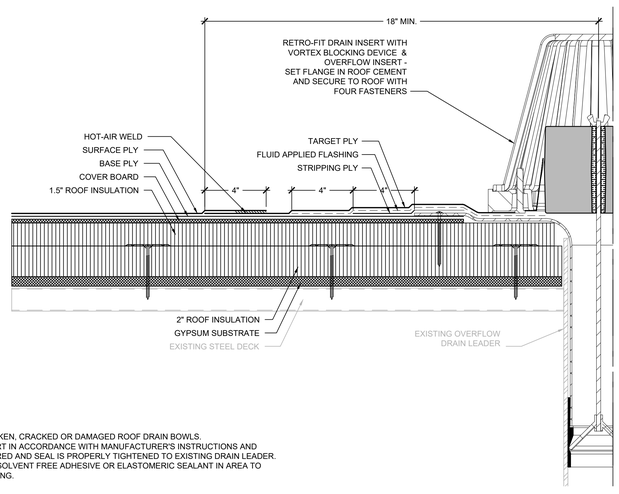
2 OVERFLOW DRAIN - AREAS B1 & B2
SCALE: 3" = 1'-0"



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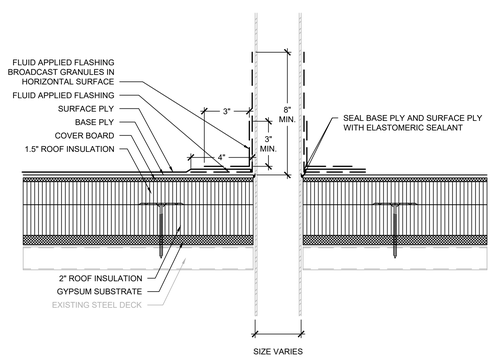
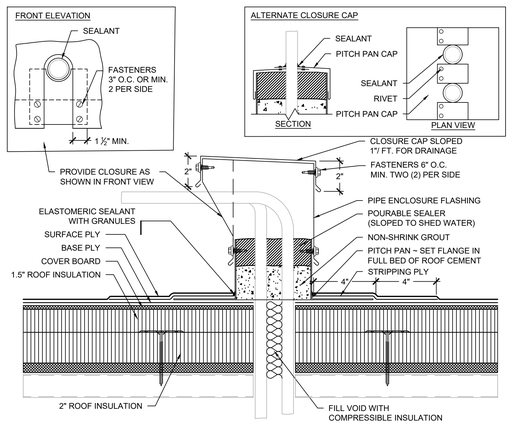
3 OVERFLOW DRAIN - AREA C
SCALE: 3" = 1'-0"



NOTES:
1. EXTEND PIPE PENETRATION TO PROVIDE MINIMUM 8" FLASHING HEIGHT.

4 PIPE PENETRATION
SCALE: 3" = 1'-0"



NOTES:
1. WHERE PIPES CAN BE SEPARATED WITH 2" MIN. CLEARANCE, PROVIDE FLUID APPLIED FLASHING IN LIEU OF MULTIPLE PIPE PENETRATION FLASHING. UTILIZE RIGID INSULATION B/W PIPES TO MAINTAIN SEPARATION.
2. WHERE PIPES ARE VERTICAL, PROVIDE ALTERNATE CLOSURE CAP.

5 MULTIPLE PIPE PENETRATION
SCALE: 3" = 1'-0"

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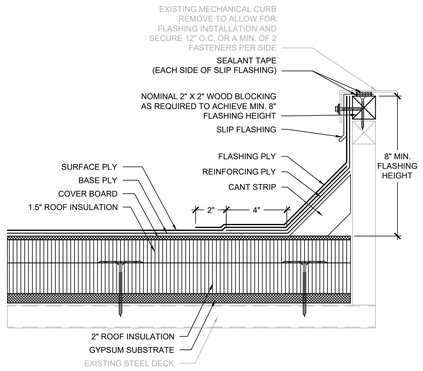
SHEET TITLE:

ROOF SYSTEMS/ DETAILS

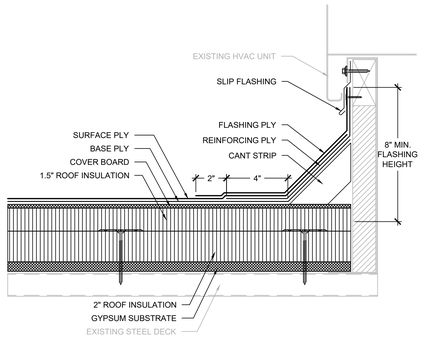
DRAWING:

XR501

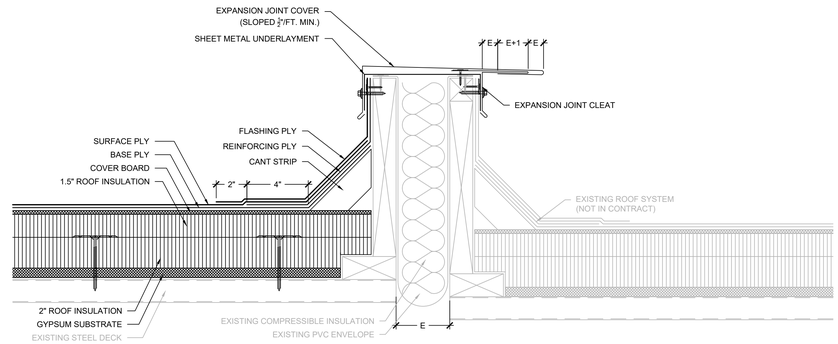


NOTES:
1. PROPERLY DISCONNECT UNIT TO RAISE AND ALLOW FLASHING INSTALLATION THEN PROPERLY REINSTALL AND CONNECT.
2. EXTEND CURB HEIGHT AND/OR PROVIDE WOOD NAILERS TO PROVIDE MINIMUM 8" FLASHING HEIGHT.
3. ATTACH EQUIPMENT/UNIT TO CURB WITH A MINIMUM OF TWO FASTENERS PER SIDE AND ENSURE ALL PRE-DRILLED HOLES ARE UTILIZED FOR ATTACHMENT.
4. PROVIDE MECHANICALLY ATTACHED BASE SHEET OVER COMBUSTIBLE OR NAILABLE SUBSTRATES PRIOR TO ADHERING BASE FLASHINGS.

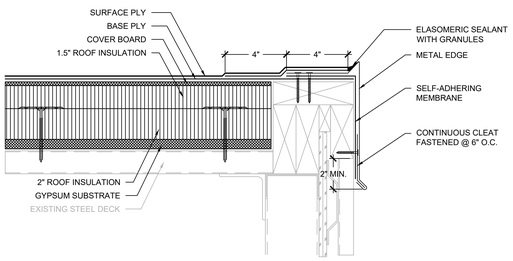
6 MECHANICAL CURB
SCALE: 3" = 1'-0"



7 HVAC UNIT
SCALE: 3" = 1'-0"

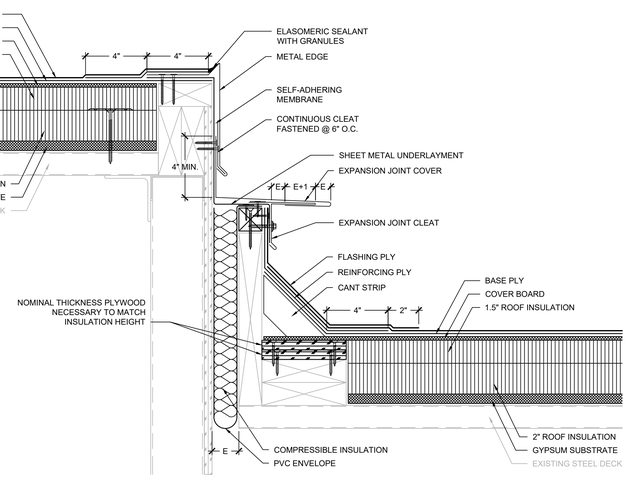


8 EXPANSION JOINT
SCALE: 3" = 1'-0"

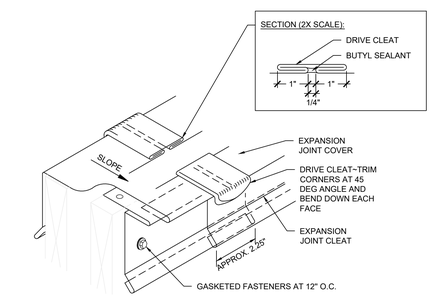


NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXISTING ROOF EDGE CONSTRUCTION AND COMPONENTS PRIOR TO SHEET METAL FABRICATION.
2. EDGE METAL SHALL BE TESTED FOR RESISTANCE TO WIND UPLIFT PRESSURES SPECIFIED IN ACCORDANCE WITH ANSI/SPRI ES-1 TEST METHODS RE-1 AND RE-2. CONTRACTOR SHALL PROVIDE SHOP DRAWING DEPICTING SHEET METAL COMPONENTS WITH DIMENSIONS AND PROVIDE EVIDENCE OF TESTING TO RESIST THE SPECIFIED WIND UPLIFT PRESSURES.
3. PROVIDE SEPARATE FASCIA COVER EXTENSION WHERE EDGE METAL DIMENSIONS EXCEED ALLOWABLE TESTED ASSEMBLY REQUIREMENTS.
4. PROVIDE ADDITIONAL WOOD NAILERS WHERE REQUIRED TO PROVIDE FLUSH TRANSITION WITH MAXIMUM HEIGHT OF INSULATION. WOOD NAILERS SHALL BE PROVIDED TO MAINTAIN CONSTANT PERIMETER EDGE HEIGHT.
5. PROVIDE TAPERED EDGE STRIP/CANT STRIP AS NECESSARY TO MAINTAIN SMOOTH TRANSITION FROM INSULATION TO WOOD NAILERS.

9 METAL EDGE
SCALE: 3" = 1'-0"

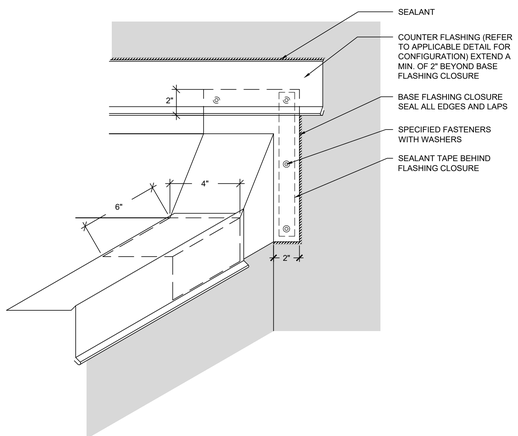


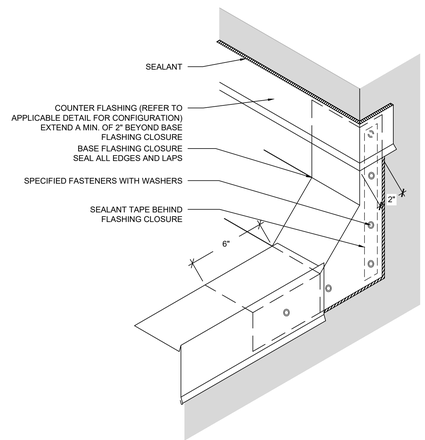
10 METAL EDGE / WALL EXPANSION JOINT
SCALE: 3" = 1'-0"



NOTES:
1. STAGGER JOINTS OF CLEAT AND COVER MINIMUM OF 12 INCHES.

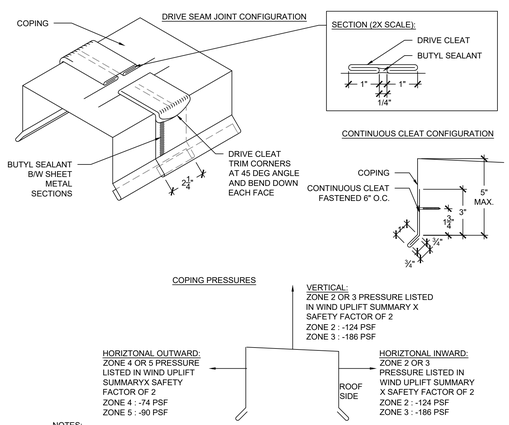
11 EXPANSION JOINT DRIVE SEAM
SCALE: 3" = 1'-0"





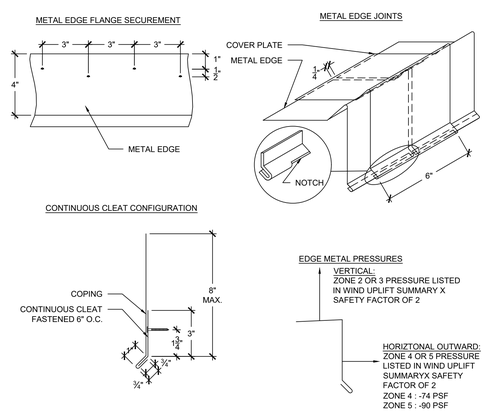
NOTES:
1. MEMBRANE AND BASE FLASHINGS NOT SHOWN FOR CLARITY.
2. BASE FLASHING CLOSURE TO BE INSTALLED CONCURRENTLY WITH METAL EDGE AND STRIPPED INTO BASE PLY/REINFORCING PLY PRIOR TO SURFACE PLY APPLICATION.

12 BASE FLASHING CLOSURE
SCALE: 3" = 1'-0"



NOTES:
1. COPING SHALL BE TESTED FOR RESISTANCE TO PRESSURES SHOWN ABOVE IN ACCORDANCE WITH ANSI/SPRI ES-1 TEST METHOD RE-3.
2. CONTRACTOR SHALL PROVIDE SHOP DRAWING DEPICTING SHEET METAL COMPONENTS WITH DIMENSIONS AND PROVIDE EVIDENCE OF TESTING TO RESIST THE SPECIFIED PRESSURES.
3. PROVIDE SEPARATE FASCIA COVER EXTENSION WHERE EDGE METAL DIMENSIONS EXCEED ALLOWABLE TESTED ASSEMBLY REQUIREMENTS.

13 COPING COMPONENTS
SCALE: 3" = 1'-0"



NOTES:
1. EDGE METAL SHALL BE TESTED FOR RESISTANCE TO WIND PRESSURES SPECIFIED IN WIND UPLIFT SUMMARY IN ACCORDANCE WITH ANSI/SPRI ES-1 TEST METHODS RE-1 AND RE-2.
2. CONTRACTOR SHALL PROVIDE SHOP DRAWING DEPICTING SHEET METAL COMPONENTS WITH DIMENSIONS AND PROVIDE EVIDENCE OF TESTING TO RESIST THE SPECIFIED WIND PRESSURES.
3. PROVIDE SEPARATE FASCIA COVER EXTENSION WHERE EDGE METAL DIMENSIONS EXCEED ALLOWABLE TESTED ASSEMBLY REQUIREMENTS.

14 METAL EDGE COMPONENTS
SCALE: 3" = 1'-0"

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PROJECT NAME:

BRUNSWICK COUNTY SCHOOLS

WACCAMAW SCHOOL PARTIAL ROOF REPLACEMENT

5901 WACCAMAW SCHOOL RD.
ASH, NORTH CAROLINA 28420

PROJ. NO:

023CLT-179

ISSUE:

NO.	DATE	DESCRIPTION
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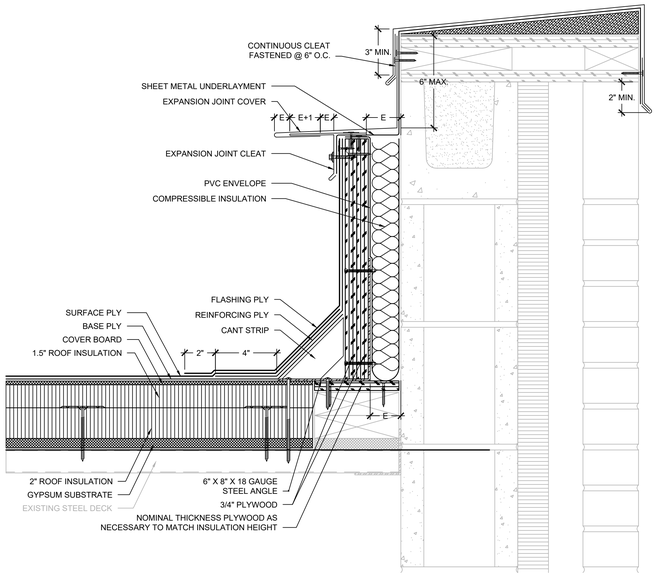
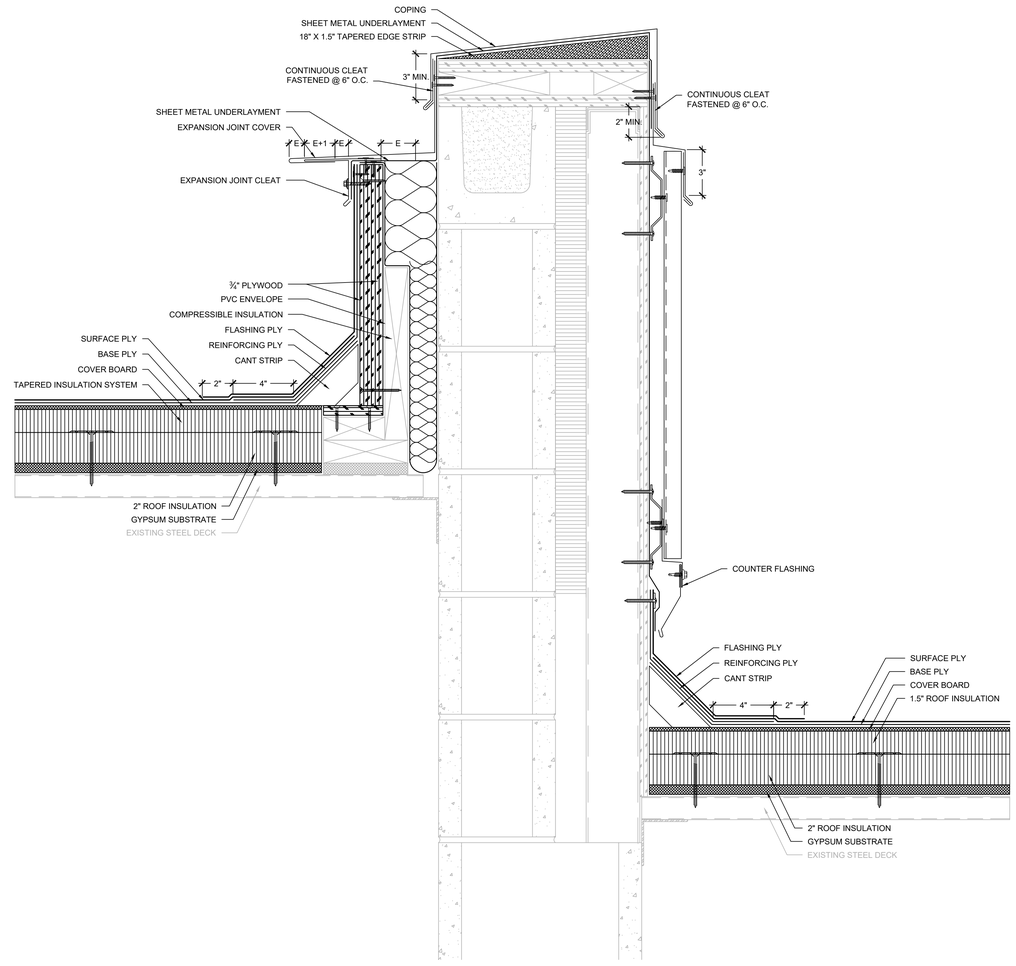


14 PARAPET WALL EXPANSION JOINT

SCALE: 3" = 1'-0"



15 PARAPET WALL EXPANSION JOINT / ELEVATION WALL

SCALE: 3" = 1'-0"

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