ADDENDUM NUMBER ONE

T C ROBERSON HIGH SCHOOL CAFETERIA, PEP, AND POOL ROOF REPLACEMENTS
BUNCOMBE COUNTY SCHOOLS
RFP 12-16

MLA PROJECT NUMBER: 16001

Mark Lusk Architecture, PLLC
120 Wedgewood Drive
Morganton, NC 28655
(843) 801-1775

DATE OF ISSUE: April 21, 2016

TO: ALL BIDDERS OF RECORD

This Addendum modifies the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this Addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDERS SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM ON BID FORM.

This Addendum consists of one page(s) and any enclosures noted:

I. ENCLOSURES:
1. Construction Drawings full set

II. GENERAL INFORMATION / CLARIFICATIONS:
1. The Construction Drawings are issued in addition to the Project Manual
2. Hard copies were issued at the Pre-Bid Meeting

III. CHANGES TO PROJECT MANUAL:
1. None

IV. CHANGES TO DRAWINGS:
1. None

END OF ADDENDUM

T. C. ROBERSON HIGH SCHOOL
CAFETERIA, PEP, AND POOL ROOF REPLACEMENTS

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Assistant Facilities Director
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LIST OF DRAWINGS	
T100	Cover Sheet
	ARCHITECTURAL
A201	Cafeteria Roof Plan
A202	PEP and Pool Roof Plan
A301	Details
A302	Details
A303	Details

ROOFING SQUARE FOOTAGE
ROOF 15 = 2,276
ROOF 16 = 775
ROOF 17 = 5,266
ROOF 19 = 1,208
ROOF 20 = 5,653
ROOF 21 = 3,008

2012 NORTH CAROLINA ENERGY CODE
1. PER NC HOUSE BILL 201: BUILDING RE-UTILIZATION FOR ECONOMIC DEVELOPMENT ACT: CONSTRUCTED BEFORE 2012, THIS BUILDING QUALIFIES FOR AN ALTERNATE ENERGY CODE COMPLIANCE PATH ALLOWING THE USE OF THE 2009 NC ENERGY CONSERVATION CODE. R-VALUE MIN. SHALL BE R-15.

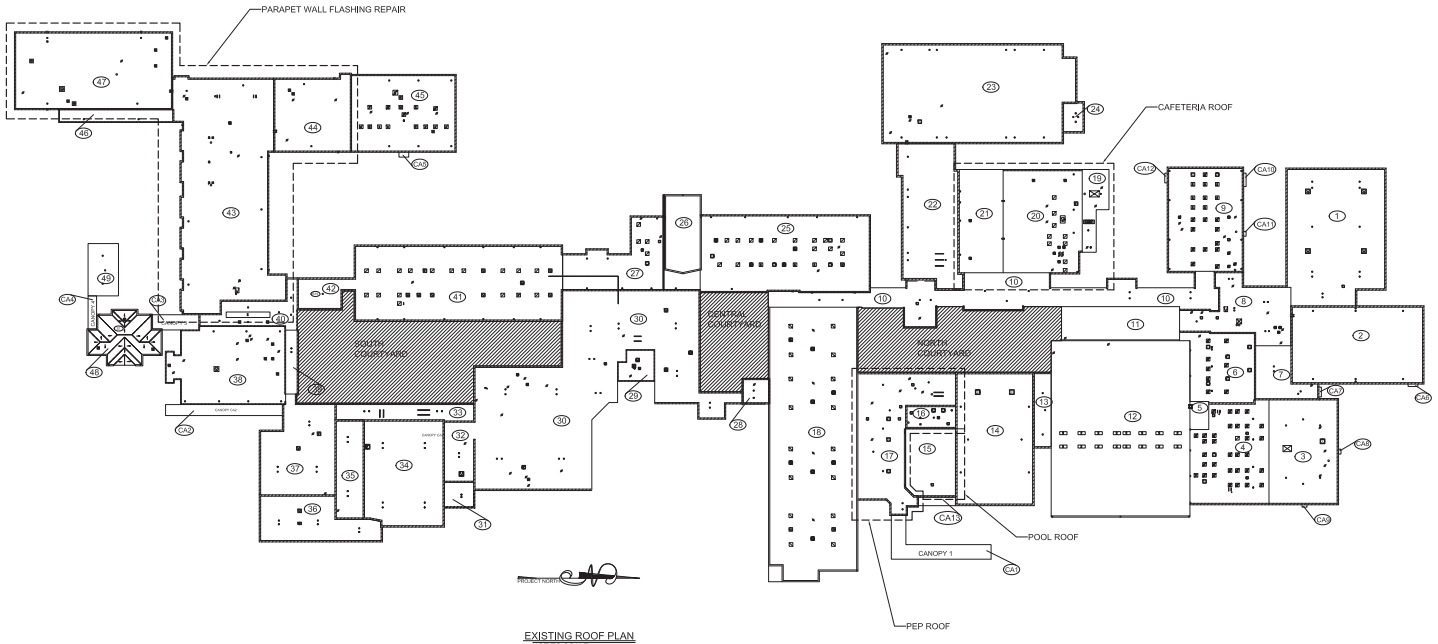
2. 502.2.1 EXCEPTION- R-VALUE OF TAPERED INSULATION SHALL BE 1" ABOVE MINIMUM THICKNESS

3. 101.4.3 NCDOI CODE INTERPRETATION 10/9/15: EXISTING EXPOSED INSULATION REMAINS- NO INSULATION UPGRADE REQUIRED.

ROOF 19:
R-VALUE EXISTING LWIC INSULATING CONCRETE DECK: 4.5" x R1.2/INCH = R5.4
PROVIDE 1.5" MIN TAPERED POLYISOCYANURATE: 2.5" x R5.8/INCH = R14.5
TOTAL R-VALUE 19.9

ROOF 20/21:
R-VALUE EXISTING 2.5" CWF DECK: R2.0
PROVIDE 1.5" MIN TAPERED POLYISOCYANURATE: 2.5" x R5.8/INCH = R14.5
TOTAL R-VALUE 16.5

ROOF 15-17:
EXISTING INSULATION EXPOSED DURING MEMBRANE REMOVAL SHALL REMAIN WITH NO INSULATION UPGRADE



EXISTING ROOF PLAN
NOT TO SCALE

MARK LUSK ARCHITECTURE, PLLC REGISTERED PROFESSIONAL COMPANY 52786 NORTH CAROLINA ASHEVILLE, N.C.

MARK S. LUSK 8685 REGISTERED ARCHITECT NORTH CAROLINA MORGANTON, N.C.

T. C. Roberson High School Cafeteria, PEP, and Pool Roof Replacements

Project Number: 16001
Checked:
Drawn: A. Rognas
Date: 4/12/16
Revisions: 4/18/16

Cover Sheet

T100

ROOFING NOTES- ROOF 19
1. EXISTING ROOF COMPONENTS:

STONE BALLAST
LOOSE LAID EPDM MEMBRANE
LIGHTWEIGHT CONCRETE DECK

2. REMOVE EXISTING BALLASTED EPDM MEMBRANE SYSTEM DOWN TO EXISTING ROOF DECK. REMOVE BALLAST FROM ROOF AND SITE.

3. PROVIDE FULLY ADHERED 80 MIL TPO MEMBRANE ROOFING SYSTEM AND TAPERED INSULATION OVER EXISTING LIGHTWEIGHT CONCRETE DECK. FULLY ADHERE RIGID INSULATION TO LIGHTWEIGHT CONCRETE DECK.

ROOFING NOTES- ROOF 20
1. EXISTING ROOF COMPONENTS:

FULLY ADHERED EPDM MEMBRANE
½" FIBERBOARD
1" BUILT-UP ROOFING
2½" CEMENTITIOUS WOOD FIBER DECK (CWF)

2. REMOVE EXISTING FULLY ADHERED EPDM MEMBRANE AND BUILT-UP ROOFING/GYPSUM BOARD DOWN TO EXISTING ROOF DECK.

3. REMOVE EXISTING ROOFING SYSTEM FASTENERS BY UNSCREWING AUGERS. DO NOT PULL OUT SO AS NOT TO DAMAGE EXISTING CWF DECK.

4. PROVIDE FULLY ADHERED 80 MIL TPO MEMBRANE ROOFING SYSTEM, TAPERED INSULATION, AND BASE SHEET OVER EXISTING 2½"CEMENTITIOUS WOOD FIBER DECK. FULLY ADHERE RIGID INSULATION TO BASE SHEET, MECHANICALLY ATTACH BASE SHEET TO 2½"CEMENTITIOUS WOOD FIBER DECK..

ROOFING NOTES- ROOF 21
1. EXISTING ROOF COMPONENTS:

FULLY ADHERED EPDM MEMBRANE
1" FIBERBOARD
1-5" TAPERED INSULATION - EPS
2½" CEMENTITIOUS WOOD FIBER DECK (CWF)

2. REMOVE EXISTING FULLY ADHERED EPDM MEMBRANE SYSTEM, FIBERBOARD, AND EPS INSULATION DOWN TO EXISTING ROOF DECK.

3. PROVIDE FULLY ADHERED 80 MIL TPO MEMBRANE ROOFING SYSTEM AND TAPERED INSULATION OVER EXISTING 2½"CEMENTITIOUS WOOD FIBER DECK. FULLY ADHERE RIGID INSULATION TO BASE SHEET. MECHANICALLY ATTACH BASE SHEET TO 2½"CEMENTITIOUS WOOD FIBER DECK..

ROOF PLAN LEGEND

MECHANICAL VENTILATOR- RAISE AND FLASH CURBS, AND PROVIDE CRICKET. SEE 6/A301

VTR — FLASH PLUMBING VENT. SEE 1/A301

RD — ABANDON EXISTING PLASTIC ROOF DRAINS: CLOSE DRAIN PIPE WITH PLUMBING EXPANSION PLUG AND CAP BOWL WITH METAL PLATE ATTACHED WITH ROOF DRAIN BOLTS.

P — FIELD FLASH POWER AND OTHER LINES CONNECTED TO ROOF FOR EQUIPMENT

MECHANICAL UNIT ON ROOF ON CURB. FLASH CURB PROVIDE CRICKET.

REPLACE EXISTING WOOD SLEEPERS WITH FIBERGLASS SLEEPERS.

MP — EXISTING MECHANICAL PAD.

DS — PROVIDE DOWNSPOUTS, TERMINATE AT GRADE, PROVIDE TEMPORARY CORRUGATED POLYPROPELENE PIPE FROM DS TO CATCH BASIN. SECURE TO LAWN & CATCH BASIN.

PROVIDE GUTTERS.

GUTTER

REMOVE WOOD CURBS AT EXISTING ROOF OPENINGS. CLOSE OPENING WITH 2½" CEMENTITIOUS WOOD FIBER PANELS.

M — RAISE AND FLASH MECHANICAL UNIT CURB, INCLUDING ASSOCIATED DUCT. SEE 6/A301

ROOFING NOTES- ROOF 19-20
1. REPLACE EXISTING DAMAGED (MOLD) CEMENTITIOUS WOOD FIBER DECK AS SELECTED BY OWNER/ARCHITECT. INCLUDE (5) 2½" THICK PANELS.

GENERAL NOTES
1. EXISTING WOOD NAILERS SHALL REMAIN UNLESS DETERMINED TO BE DAMAGED AND VERIFIED BY OWNER. REMOVAL AND REPLACEMENT SHALL BE PERFORMED AT UNIT PRICE.

2. VERIFY DIMENSIONS, QUANTITIES, SIZES, AND OTHER EXISTING CONDITIONS PRIOR TO DEMOLITION WORK. DISCREPANCIES BETWEEN DOCUMENTS AND EXISTING CONDITIONS SHALL BE REPORTED TO THE ARCHITECT PRIOR TO BIDDING.

3. RAISE EXISTING VTR'S AND MECHANICAL VENTILATORS TO 8" ABOVE ROOFING. ELECTRICAL AND MECHANICAL WORK, IF REQUIRED TO REMOVE VENTILATORS, SHALL BE PERFORMED BY LICENSED CONTRACTOR. INCLUDE POWER AND CONDENSATE LINE WORK.

4. SITE ACCESS, STAGING AND SCHEDULE TO BE COORDINATED WITH T.C. ROBERSON HIGH PRINCIPAL.

5. WORK THAT DISRUPTS SCHOOL ACTIVITIES OR POTENTIAL STUDENT SAFETY TO CEASE AT PRINCIPAL'S DIRECTION.

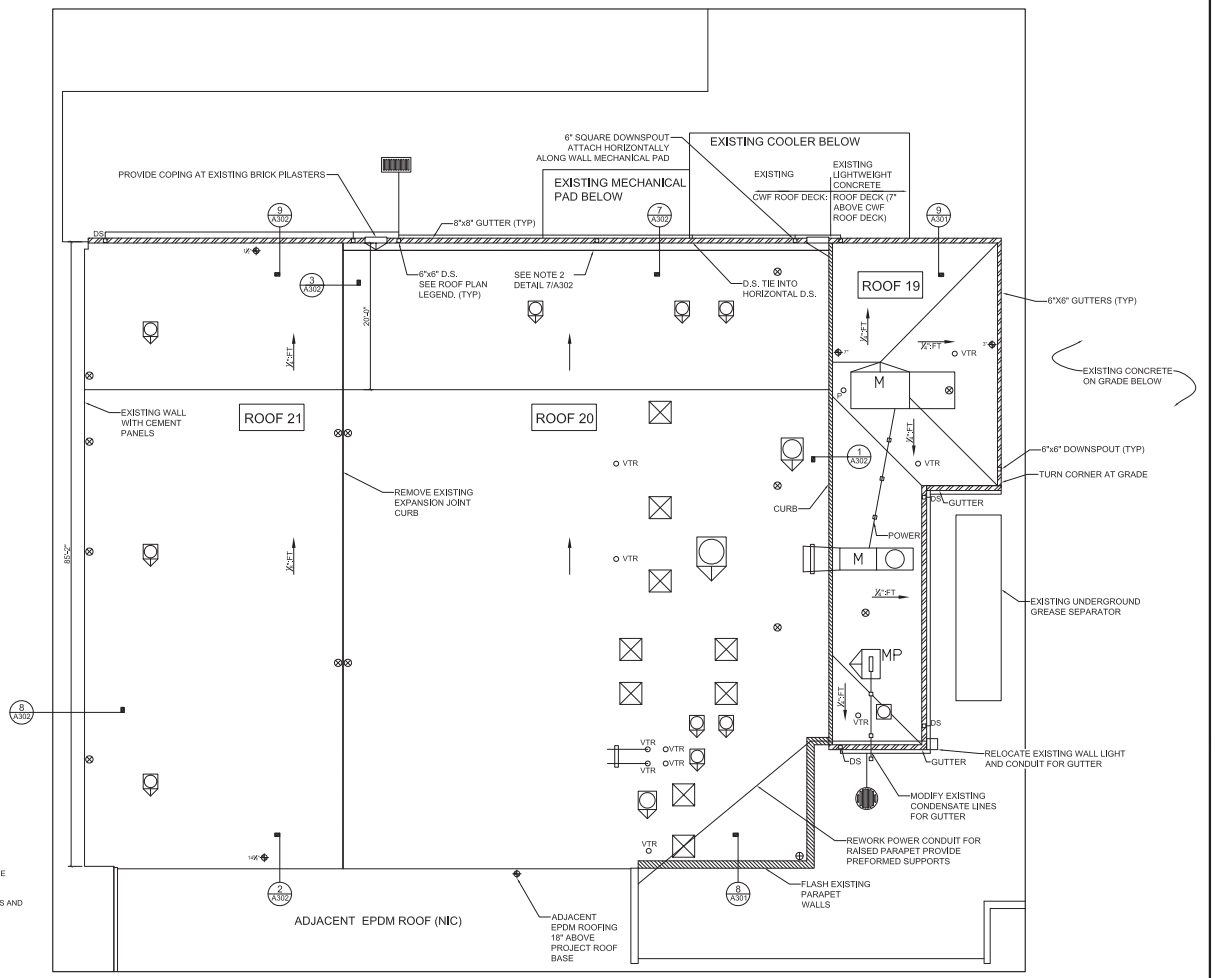
6. PROVIDE 18-8 OR 304 STAINLESS STEEL FASTENERS WHERE IN CONTACT WITH PRESSURE TREATED WOOD.

7. LUMBER SHALL BE KDAT PRESSURE TREATED.

8. ANY CUT EDGES OF REINFORCED TPO MEMBRANE TO BE STRIPPED WITH MINIMUM 5" WIDE UNREINFORCED TPO MEMBRANE, FULLY HEAT WELDED.

9. CONTRACTOR SHALL TAKE MEASURES TO PROTECT EXISTING ROOFING NIC AND SHALL BE RESPONSIBLE FOR ANY DAMAGES INCURRED DURING WORK TO PROVIDE WARRANTY REPAIR.

10. CLEAN INTERIOR SPACE OF DEBRIS FROM ROOF DECK.



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

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MARK S. LUSK REGISTERED ARCHITECT 8685 04-12-2016 NORTH CAROLINA MORGANTON, NC

T. C. Roberson High School Cafeteria, PEP, and Pool Roof Replacements

Project Number: 16001
Checked:
Drawn: A. Rognas
Date: 4/12/16
Revisions: 4/18/16

Cafeteria Roof Plan

A201

ROOFING NOTES- ROOF 15

1. EXISTING ROOFING COMPONENTS:
   2½" THICK STONE BALLAST
   LOOSE LAID EPDM MEMBRANE
   2" FLAT INSULATION - EPS
   1" GYPSUM BOARD
   CORRUGATED METAL DECK- SLOPED

2. REMOVE EXISTING BALLASTED EPDM MEMBRANE SYSTEM. EXISTING EPS INSULATION SHALL REMAIN. STORE EXISTING STONE BALLAST FOR RE-INSTALLATION.

3. PROVIDE LOOSE LAID 60 MIL EPDM MEMBRANE ROOFING SYSTEM AND HD POLYISO COVER BOARD OVER EXISTING EPS INSULATION. REINSTALL EXISTING STONE BALLAST.

ROOFING NOTES- ROOF 16 AND 17

REMOVE EXISTING BALLASTED EPDM MEMBRANE SYSTEM. EXISTING EPS INSULATION SHALL REMAIN. REMOVE BALLAST FROM ROOF AND SITE.

1. EXISTING ROOFING COMPONENTS:
   STONE BALLAST
   LOOSE LAID EPDM MEMBRANE
   2"-4" TAPERED INSULATION - EPS
   1" GYPSUM BOARD
   CORRUGATED METAL DECK- LEVEL

2. PROVIDE LOOSE LAID 80 MIL TPO MEMBRANE ROOFING SYSTEM AND HD POLYISO COVER BOARD OVER EXISTING TAPERED EPS INSULATION. MECHANICALLY ATTACH COVER BOARD THROUGH EXISTING TAPERED INSULATION INTO METAL CORRUGATED DECK.

ROOF PLAN LEGEND

- MECHANICAL VENTILATOR ON RAISED CURBS, FLASH CURBS AND PROVIDE CRICKET. SEE 6/A301
- VTR — FLASH PLUMBING VENT. SEE 1/A301
- RD / ORD — REMOVE EXISTING PLASTIC ROOF DRAINS/ OVERFLOW ROOF DRAINS AND REPLACE WITH CAST IRON ROOF DRAINS, INSULATE ROOF DRAIN BOWLS. SEE 3/A301
- P — FIELD FLASH POWER AND OTHER LINES CONNECTED TO ROOF FOR EQUIPMENT
- MECHANICAL UNIT ON ROOF ON CURBS. REFLASH EXISTING CURB - RE-INSTALL METAL CAP.
- RP — FLASH ROUND PIPE- NO CURB. SEE 7/A301
- HP — FLASH HOT PIPE. SEE 5/302
- DS — REMOVE EXISTING DOWNSPOUTS. PROVIDE DOWNSPOUTS AND SPLASHBLOCKS.
- GUTTER — REMOVE EXISTING GUTTER PROVIDE GUTTER. SEE
- SADDLES - ADHERED TAPERED HD POLYISO BOARDS

ALTERNATES - SEE 0/2300
ALTERNATE NO. 1: PROVIDE WORK AS DESCRIBED ON ROOFS 15 & 16 INCLUDING GUTTERS AND DOWNSPOUTS/SPLASHBLOCKS

ALTERNATE NO. 2: REMOVE AND PROVIDE GUTTERS AND DOWNSPOUTS/SPLASHBLOCKS FOR ROOFS 15&16. (NO ROOF WORK)

ALTERNATE NO. 3: PROVIDE WORK AS DESCRIBED ON ROOF 17

ALTERNATE NO. 4: PROVIDE 60 MIL TPO MEMBRANE IN LIEU OF 80 MIL TPO MEMBRANE.

ALLOWANCES:
ALLOWANCE NO. 1: REFER TO ROOF PLAN SHEET T100, PROVIDE AN ALLOWANCE FOR 150 LINEAR FEET OF PARAPET WALL FLASHING REPAIR WITH A UNIT COST. ROOFS SHALL INCLUDE 43, 44, 47 AS DIRECTED BY OWNER/ARCHITECT.

GENERAL NOTES

1. EXISTING WOOD NAILERS SHALL REMAIN UNLESS DETERMINED TO BE DAMAGED AND VERIFIED BY OWNER. REMOVAL AND REPLACEMENT SHALL BE PERFORMED AT UNIT PRICE.

2. VERIFY DIMENSIONS, QUANTITIES, SIZES, AND OTHER EXISTING CONDITIONS PRIOR TO DEMOLITION WORK. DISCREPANCIES BETWEEN DOCUMENTS AND EXISTING CONDITIONS SHALL BE REPORTED TO THE ARCHITECT PRIOR TO BIDDING.

3. RAISE EXISTING VTR'S AND MECHANICAL VENTILATORS TO 8" ABOVE ROOFING. ELECTRICAL WORK, IF REQUIRED TO REMOVE VENTILATORS, SHALL BE PERFORMED BY LICENSED CONTRACTOR.

4. SITE ACCESS, STAGING AND SCHEDULE TO BE COORDINATED WITH T.C. ROBERSON HIGH PRINCIPAL.

5. WORK THAT DISRUPTS SCHOOL ACTIVITIES OR POTENTIAL STUDENT SAFETY TO CEASE AT PRINCIPAL'S DIRECTION.

6. PROVIDE 18-8 OR 304 STAINLESS STEEL FASTENERS WHERE IN CONTACT WITH PRESSURE TREATED WOOD.

7. PLYWOOD AND LUMBER SHALL BE KDAT PRESSURE TREATED.

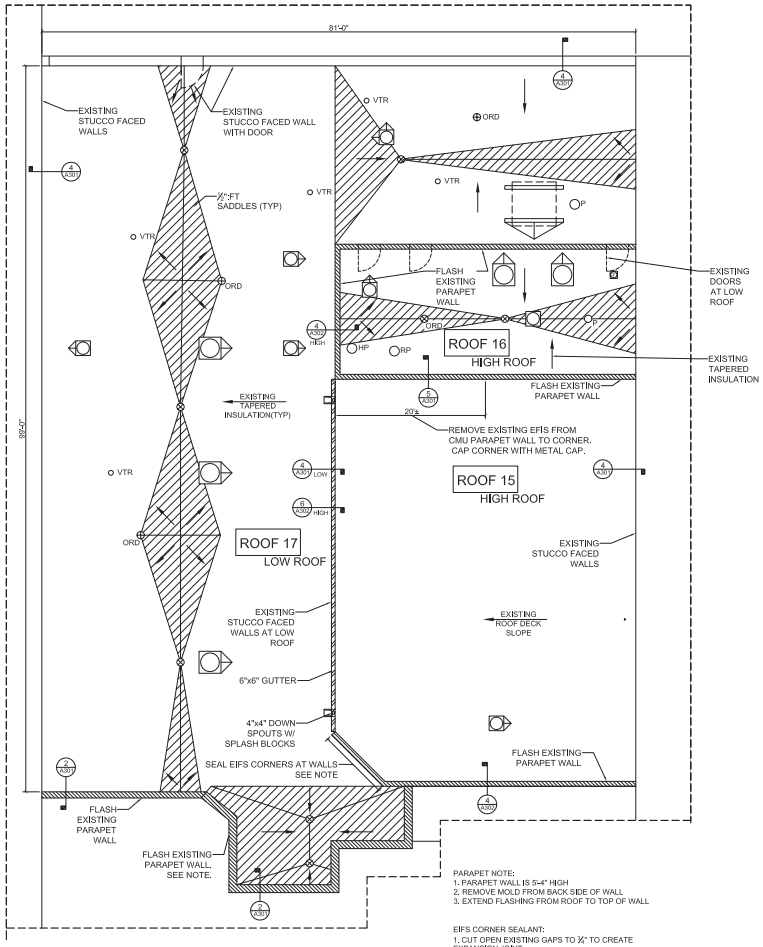
8. ANY CUT EDGES OF REINFORCED TPO MEMBRANE TO BE STRIPPED WITH MINIMUM 5" WIDE UNREINFORCED TPO MEMBRANE, FULLY HEAT WELDED.

9. CONTRACTOR SHALL TAKE MEASURES TO PROTECT EXISTING ROOFING NIC AND SHALL BE RESPONSIBLE FOR ANY DAMAGES INCURRED DURING WORK TO PROVIDE WARRANTY REPAIR.

UNIT PRICES

UNIT PRICE 1: REMOVE EXISTING EPDM FLASHING FROM PARAPETS AS SELECTED BY OWNER. PROVIDE RUSS STRIP WITH 2" PLATES AND FASTENERS. PATCH AREA WITH FULLY ADHERED 60 MIL EPDM FLASHING.

UNIT PRICE 2: REMOVE DAMAGED EXISTING WOOD NAILERS AS COORDINATED WITH ARCHITECT/OWNER AND PROVIDE TREATED WOOD NAILERS PER SPECIFICATIONS.



PEP AND POOL ROOF PLAN
SCALE: 1/8" = 1'-0"

PROJECT NORTH

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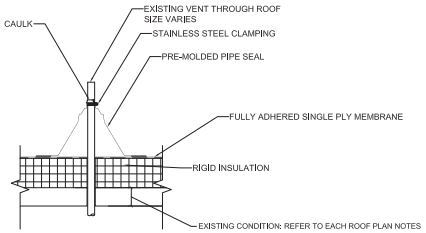
T. C. Roberson High School Cafeteria, PEP, and Pool Roof Replacements

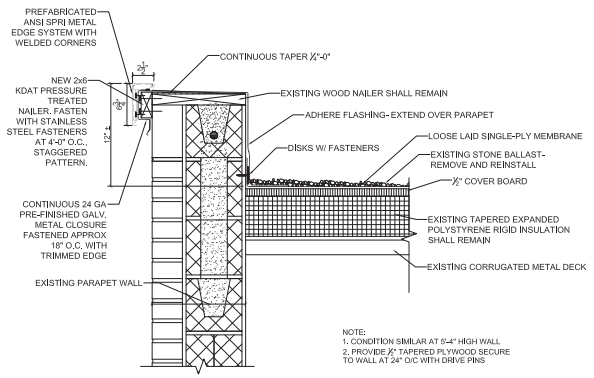
Project Number: 16001
Checked:
Drawn: A. Rognas
Date: 4/12/16
Revisions: 4/18/16

PEP and Pool Roof Plan

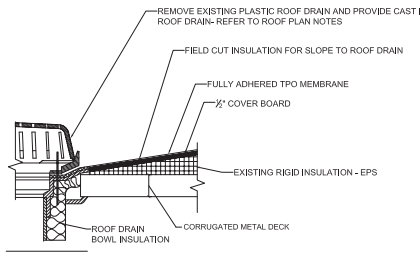
A202



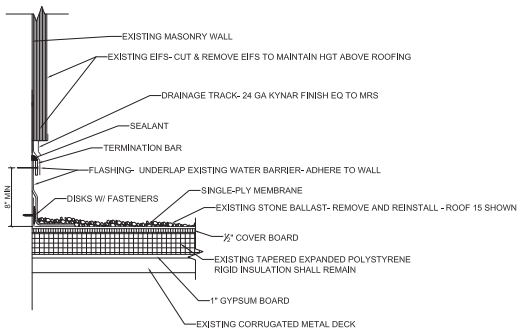
1 VTR DETAIL
SCALE: ½" = 1'-0"



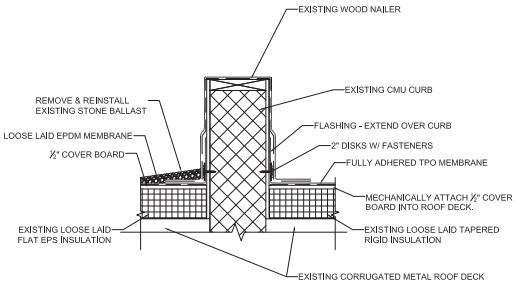
2 DETAIL
SCALE: ½" = 1'-0"



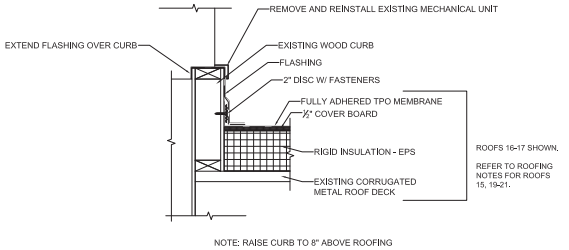
3 ROOF DRAIN DETAIL
SCALE: ½" = 1'-0"



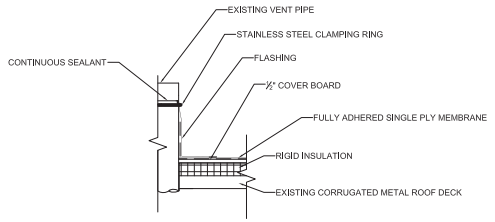
4 DETAIL
SCALE: ½" = 1'-0"



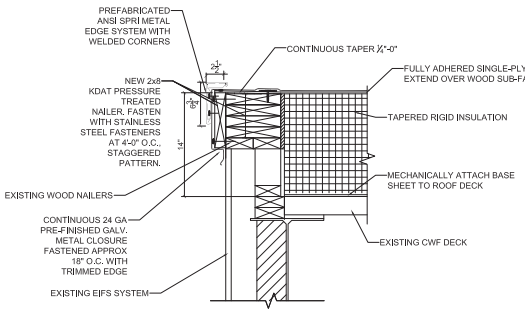
5 CURB DETAIL
SCALE: ½" = 1'-0"



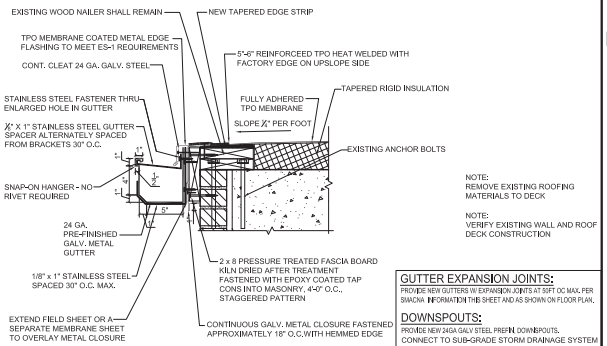
6 MECHANICAL CURB DETAIL
SCALE: ½" = 1'-0"



7 ROUND PIPE DETAIL
SCALE: ½" = 1'-0"



8 DETAIL
SCALE: ½" = 1'-0"



9 GUTTER/ ROOF EDGE DETAIL
SCALE: ½" = 1'-0"

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4-12-16
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Project Number: 16001
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Drawn: A. Rognas
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Details

A301

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T. C. Roberson High School Cafeteria, PEP, and Pool Roof Replacements

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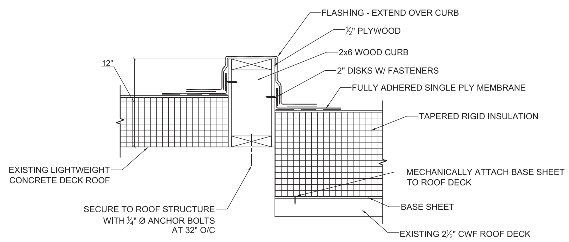
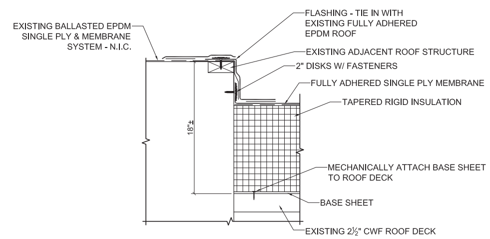
Drawn: A. Rognas
Date: 4/12/16
Revisions: 4/19/16

Details

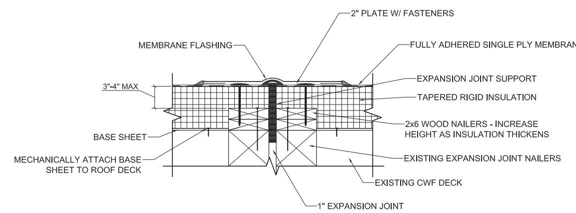
A302



1 CURB DETAIL
SCALE: 1½" = 1'-0"

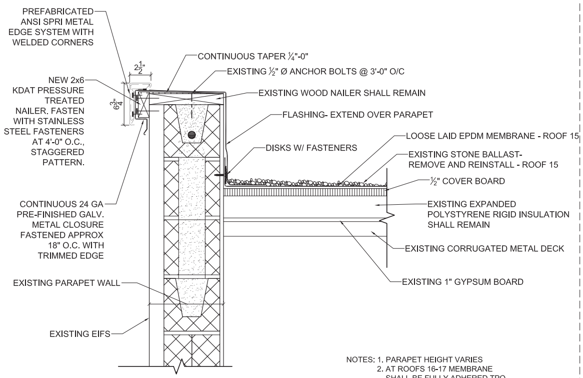


2 CURB DETAIL
SCALE: 1½" = 1'-0"



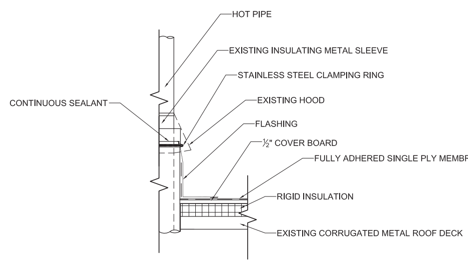
NOTE: REMOVE EXISTING WOOD CURB & METAL CAP

3 EXPANSION JOINT
SCALE: 1½" = 1'-0"

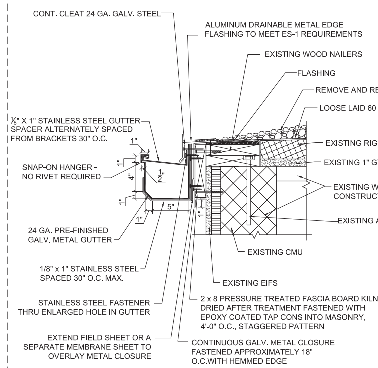


NOTES: 1. PARAPET HEIGHT VARIES
2. AT ROOFS 16-17 MEMBRANE SHALL BE FULLY ADHERED TPO MEMBRANE. SEE ROOFING NOTES

4 DETAIL
SCALE: 1½" = 1'-0"



5 HOT PIPE DETAIL
SCALE: 1½" = 1'-0"

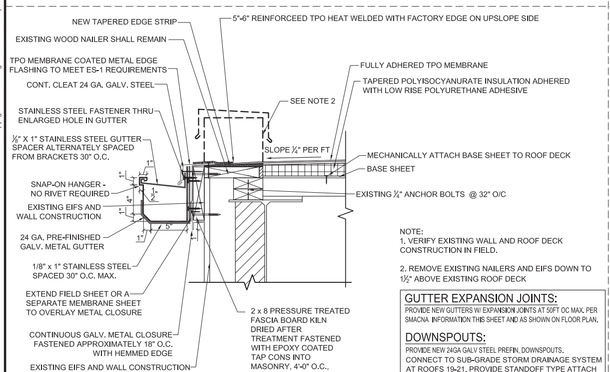


GUTTER EXPANSION JOINTS:
PROVIDE NEW GUTTERS W/ EXPANSION JOINTS AT 50FT OC MAX, PER SMACNA INFORMATION THIS SHEET AND AS SHOWN ON FLOOR PLAN.

DOWNSPOUTS:
PROVIDE NEW 24GA GALV STEEL PREFIN. DOWNSPOUTS, CONNECT TO SUB-GRADE STORM DRAINAGE SYSTEM AT ROOFS 19-21. PROVIDE STANDOFF TYPE ATTACH TO STRUCTURE PROVIDING MIN 3/4" GAP BETWEEN BUILDING & DOWNSPOUT

COLOR:
PROVIDE SELECTION OF MANUFACTURER'S STANDARD COLORS.

6 GUTTER/ ROOF EDGE DETAIL
SCALE: 1½" = 1'-0"



NOTE:
1. VERIFY EXISTING WALL AND ROOF DECK CONSTRUCTION IN FIELD.

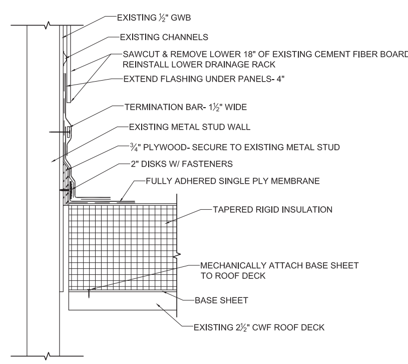
2. REMOVE EXISTING NAILERS AND EIFS DOWN TO 1½" ABOVE EXISTING ROOF DECK

GUTTER EXPANSION JOINTS:
PROVIDE NEW GUTTERS W/ EXPANSION JOINTS AT 50FT OC MAX, PER SMACNA INFORMATION THIS SHEET AND AS SHOWN ON FLOOR PLAN.

DOWNSPOUTS:
PROVIDE NEW 24GA GALV STEEL PREFIN. DOWNSPOUTS, CONNECT TO SUB-GRADE STORM DRAINAGE SYSTEM AT ROOFS 19-21. PROVIDE STANDOFF TYPE ATTACH TO STRUCTURE PROVIDING MIN 3/4" GAP BETWEEN BUILDING & DOWNSPOUT

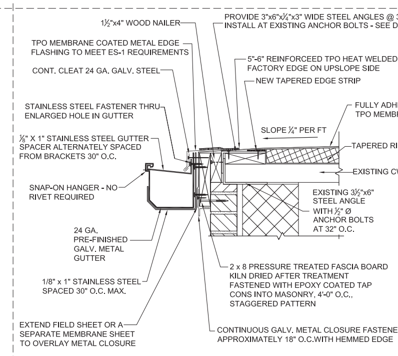
COLOR:
PROVIDE SELECTION OF MANUFACTURER'S STANDARD COLORS.

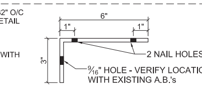
7 GUTTER/ ROOF EDGE DETAIL
SCALE: 1½" = 1'-0"



8 WALL DETAIL
SCALE: 1½" = 1'-0"

NOTE: SEAL BOTTOM EDGE OF CUT CEMENT BOARD WITH SEALER ACCEPTABLE TO MFGR.





STEEL ANGLE DETAIL

NOTE:
1. REMOVE EXISTING ROOFING MATERIALS TO DECK
2. REMOVE EXISTING WOOD NAILERS

NOTE:
VERIFY EXISTING WALL AND ROOF DECK CONSTRUCTION

GUTTER EXPANSION JOINTS:
PROVIDE NEW GUTTERS W/ EXPANSION JOINTS AT 50FT OC MAX, PER SMACNA INFORMATION THIS SHEET AND AS SHOWN ON FLOOR PLAN.

DOWNSPOUTS:
PROVIDE NEW 24GA GALV STEEL PREFIN. DOWNSPOUTS, CONNECT TO SUB-GRADE STORM DRAINAGE SYSTEM AT ROOFS 19-21. PROVIDE STANDOFF TYPE ATTACH TO STRUCTURE PROVIDING MIN 3/4" GAP BETWEEN BUILDING & DOWNSPOUT

COLOR:
PROVIDE SELECTION OF MANUFACTURER'S STANDARD COLORS.

9 GUTTER/ ROOF EDGE DETAIL
SCALE: 1½" = 1'-0"

WOOD NAILER SECUREMENT CRITERIA
FACTORY MUTUAL LOSS PREVENTION DATA BULLETIN 1-49

ONE OF THE MOST OFTEN OVERLOOKED DETAILS ON A ROOFING SYSTEM IS THE ATTACHMENT METHOD FOR WOOD NAILERS AT THE PERIMETER OF THE ROOF. FACTORY MUTUAL (FM) PUBLISHES DESIGN RECOMMENDATIONS FOR THE ATTACHMENT OF WOOD NAILERS TO VARIOUS SUBSTRATES AND FOR THE ATTACHMENT OF PERIMETER FLASHING DETAILS TO WOOD NAILERS. THIS INFORMATION IS CONTAINED IN FACTORY MUTUAL'S LOSS PREVENTION DATA BULLETIN 1-49. IN ACCORDANCE WITH THAT BULLETIN, THE INFORMATION LISTED BELOW SHOULD BE REFERENCED WHEN SELECTING AN APPROPRIATE PERIMETER ATTACHMENT METHOD.

GENERAL CRITERIA
WOOD NAILERS THAT ARE ANCHORED TO STEEL, WOOD OR MASONRY DECKING SHOULD NOT BE LESS THAN 2" X 6" NOMINAL (MINIMUM 1-1/2" X 5-1/2").
WOOD NAILERS SHOULD BE DOUGLAS FIR, SOUTHERN YELLOW PINE OR OF WOOD HAVING SIMILAR DECAY RESISTANCE PROPERTIES.

ATTACHMENT TO MASONRY WALLS
WHEN FASTENING TO A MASONRY WALL, A 1/2 INCH ANCHOR BOLT IS PLACED 48 INCHES ON CENTER AT AN 8 INCH MINIMUM DEPTH (12 INCHES MINIMUM WHEN MASONRY WALLS ARE COMPOSTED OF LIGHTWEIGHT AGGREGATE OR CINDER) AS SHOWN IN FIGURE 1. EACH ANCHOR BOLD IS POSITIONED (STAGGERED IF THE WOOD NAILER IS WIDER THAN 6 INCHES) IN A BLOCK CORE OR AIR SPACE AND TIGHTLY FILLED WITH CONCRETE TO THE DEPTH OF THE BOLT.

NOTE: PLASTIC PARTS MUST NOT BE USED WITH MASONRY ANCHORS.

FACTORY MUTUAL HAS SPECIFIED REQUIREMENTS CONCERNING FILLING OF CORES OR VOIDS IN THE TOP COURSE OF CINDER BLOCKS.

FOR EXAMPLE:
PROJECTS LOCATED IN ZONE 2 (FM 1-90 SECUREMENT) FILL THE ENTIRE TOP COURSE.
PROJECTS LOCATED IN ZONE 1 (FM 1-60 SECUREMENT) FILL ONLY REQUIRED WHERE ANCHOR BOLTS ARE POSITIONED (48 INCHES ON CENTER IN THE FIELD, 24 INCHES ON CENTER AT ROOF CORNERS).

AT OUTSIDE CORNERS, THE FASTENING DENSITY MUST BE INCREASED WITHIN THE FIRST 8 FEET IN EACH DIRECTION BY POSITIONING ANCHOR BOLTS 24 INCHES ON CENTER.

AN ALTERNATE METHOD MAY BE USED BY INSTALLING 3/8 INCH DIAMETER ANCHOR BOLTS SPACED 32 INCHES APART. FOR OUTSIDE CORNERS, BOLTS ARE FASTENED 16 INCHES APART, 8 INCHES FROM EACH SIDE OF THE CORNER. IF ADDITIONAL WOOD NAILERS ARE NEEDED, REFER TO FIGURE 5 FOR ATTACHMENT OF ADDITIONAL WOOD NAILERS.

ATTACHMENT TO STEEL AND WOOD DECKING
PENETRATION OF THE FASTENERS SHOULD BE TO THE TOP FLUTES ONLY. THE FASTENERS MUST BE STAGGERED AS SHOWN IN FIGURE 2.

CAUTION: ATTENTION SHOULD BE PAID TO THE FACTORY MUTUAL REQUIREMENT WHICH CALLS FOR GALVANIZED
STEEL WASHERS (MINIMUM 5/8 INCH OUTSIDE DIAMETER) TO BE USED IN CONJUNCTION WITH GALVANIZED SCREWS. THIS REQUIREMENT IS NOT RECOGNIZED IN MOST CASES AND MOST OFTEN FORGOTTEN.

THIS STAGGERED FASTENING PATTERN SHOULD BE INCREASED WITHIN 8 FEET FROM OUTSIDE CORNERS AS SHOWN IN FIGURE 3.

IF THE PERIMETER NAILER IS TO BE SECURED TO A STEEL ANGLE, ANCHOR BOLTS MUST BE POSITIONED AT 48
INCH CENTERS AS SHOWN IN FIGURE 4.

ON WOOD DECKS, THE STAGGERED FASTENING PATTER WITH GALVANIZED STEEL SCREWS SHOULD BE UTILIZED AS SHOWN IN FIGURE 2.

ATTACHMENT OF ADDITIONAL WOOD NAILERS
WHEN ADDITIONAL WOOD NAILERS ARE REQUIRED, THEY MUST BE ATTACHED WITH GALVANIZED NAILS OR LAG SCREWS THAT PENETRATE INTO THE BOTTOM NAILER AT 1-1/4 INCHES USING A STAGGERED FASTENING PATTERN IN TWO ROWS AT 24 INCHES APART AS SHOWN IN THE FIGURE 5.

THE INCREASED FASTENING DENSITY WITHIN 8 FEET FROM OUTSIDE CORNERS IS STILL REQUIRED AND MUST COMPLY WITH FIGURE 3.

METAL-ERA STRONGLY EMPHASIZES THE IMPORTANCE OF THE PERIMETER WOOD NAILER SECUREMENT AND COMPLIANCE WITH FACTORY MUTUAL LOSS PREVENTION DATA BULLETIN 1-49 TO IMPROVE WIND PERFORMANCE AND MINIMIZE ROOF EDGE DISTURBANCE.

EVEN THOUGH NOT EMPHASIZED IN THE BULLETIN, CONTRACTORS SHOULD EXAMINE OR QUESTION EXISTING CONDITIONS TO DETERMINE IF EXISTING WOOD NAILERS ARE ATTACHED IN COMPLIANCE WITH THE ABOVE CRITERIA. IF NOT, EXISTING WOOD NAILERS SHOULD BE REFASTENED USING ONE OF THESE OPTIONS AND ADDITIONAL WOOD NAILERS MUST BE SECURED FOLLOWING FIGURE 5.

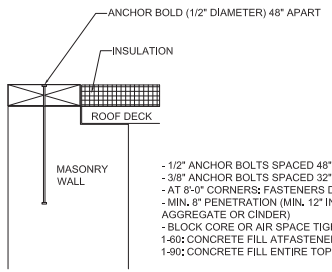
SINCE WOOD NAILERS ARE NOT CONSIDERED PART OF THE METAL-ERA ROOF EDGE WARRANTY, THEY ARE NOT ADDRESSED IN DEPTH IN THE METAL-ERA SPECIFICATIONS. WOOD NAILERS, HOWEVER, PLAY A MAJOR ROLE IN THE PERFORMANCE OF THE ROOFING SYSTEM AND CONTRIBUTE TO THE WIND UPLIFT RESISTANCE OF THE ROOF EDGE WHICH IS THE FIRST LINE OF DEFENSE DURING WIND STORMS. IT IS IMPORTANT TO COMPLY WITH THE ABOVE REQUIREMENTS AND PERIODICALLY CHECK VARIOUS UPDATES PUBLISHED BY FACTORY MUTUAL NOT ONLY FOR THE ATTACHMENT OF WOOD NAILERS, BUT ALSO FOR THE SECUREMENT OF METAL EDGING.

① Wood Nailer Securement Criteria
1/4" = 1'-0"

WOOD NAILER SECUREMENT NOTES
1. ALL EXISTING AND NEW PERIMETER NAILERS SHALL BE RESECURED PER FM1-49.

2. EXISTING PERIMETER NAILERS: ASSUME ADDITIONAL SECUREMENT IS REQUIRED. PROVIDE A TOTAL OF 80 NEW ACQ TREATED POWDER ACTUATED NAIL AND WASHERS.

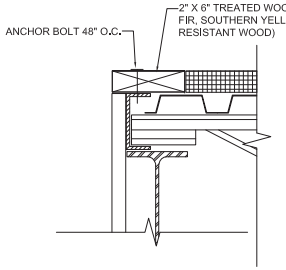
NOTE: ALL FASTENERS IN PRESSURE TREATED WOOD TO BE 18-8 OR 304 STAINLESS STEEL.



- 1/2" ANCHOR BOLTS SPACED 48" O.C.
- 3/8" ANCHOR BOLTS SPACED 32" O.C.
- AT 8'-0" CORNERS: FASTENERS DOUBLED
- MIN. 8" PENETRATION (MIN. 12" INTO LIGHTWEIGHT AGGREGATE OR CINDER)
- BLOCK CORE OR AIR SPACE TIGHTLY FILLED WITH CONCRETE
1-60: CONCRETE FILL ATFASTENERS
1-90: CONCRETE FILL ENTIRE TOP COURSE

FIGURE 1

② Naller Securement
3" = 1'-0"



3/4" ANCHOR BOLTS 48" O.C. AT 8 FOOT CORNERS: FASTENING DOUBLED (24" O.C. MAX.)

FIGURE 4

④ Naller Detail
3" = 1'-0"

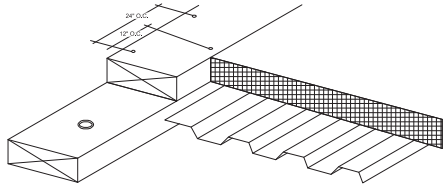


FIGURE 5

- SECURE ADDITIONAL NAILERS WITH 2 ROWS OF GALVANIZED NAILS OR LAG SCREWS
- SPACING OF FASTENERS IN EACH ROW 24" MAX.
- AT 8'-0" CORNERS, FASTENING DOUBLED (12" O.C. MAX.)
-MINIMUM FASTENER PENETRATION INTO BOTTOM NAILER 1 1/4"

⑥ Naller Detall
3" = 1'-0"

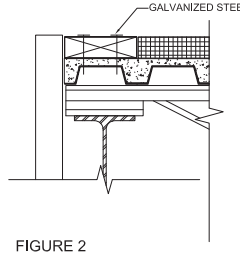
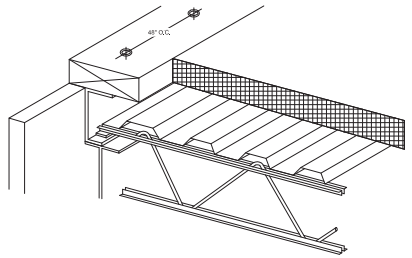


FIGURE 2

- WOOD NAILERS ATTACHED WITH 2 ROWS OF NO. 10 GALVANIZED SCREWS
- SPACING OF FASTENERS IN EACH ROW SHALL NOT EXCEED 24"
- AT 8'-0" CORNERS, FASTENERS DOUBLED (MAX 12" O.C. IN EACH ROW)
- 5/8" GALVANIZED STEEL WASHERS RECOMMENDED UNDER SCREW HEADS

③ Naller Detall
3" = 1'-0"



⑤ Naller Detall
3" = 1'-0"

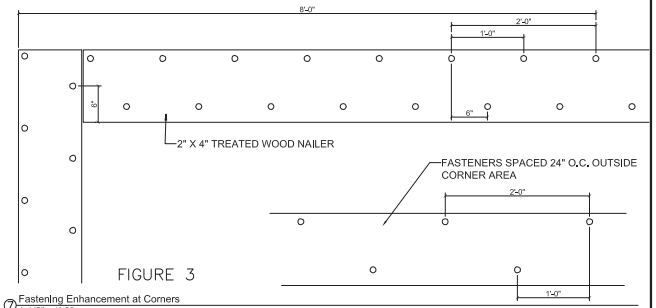


FIGURE 3

⑦ Fastening Enhancement at Corners
1 1/2"= 1'-0"

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T. C. Roberson High School Cafeteria, PEP, and Pool Roof Replacements

Project Number: 16001
Checked:
Drawn: A. Rognas
Date: 4/12/16
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Details

A303