NAUGATUCK ROOF REPLACEMENT AND RELATED WORK AT HILLSIDE INTERMEDIATE SCHOOL

51 HILLSIDE AVE. NAUGATUCK, CT 06770

STATE PROJECT NUMBER: TMP-088-QJKF

DRAWING LIST

PROJECT COVER SHEET
D3.01 ROOF DEMOLITION PLAN
A3.01 ROOF PLAN
A3.02 ROOF DETAILS I
A3.03 ROOF DETAILS II
ASB-1 ASBESTOS ABATEMENT
ASB-2 ASBESTOS ABATEMENT
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MEP-01 MEP ROOF PLAN
MEP-02 MEP SPECIFICATIONS

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ROBERT NETH- Chairman
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VOLUME 1 OF 1

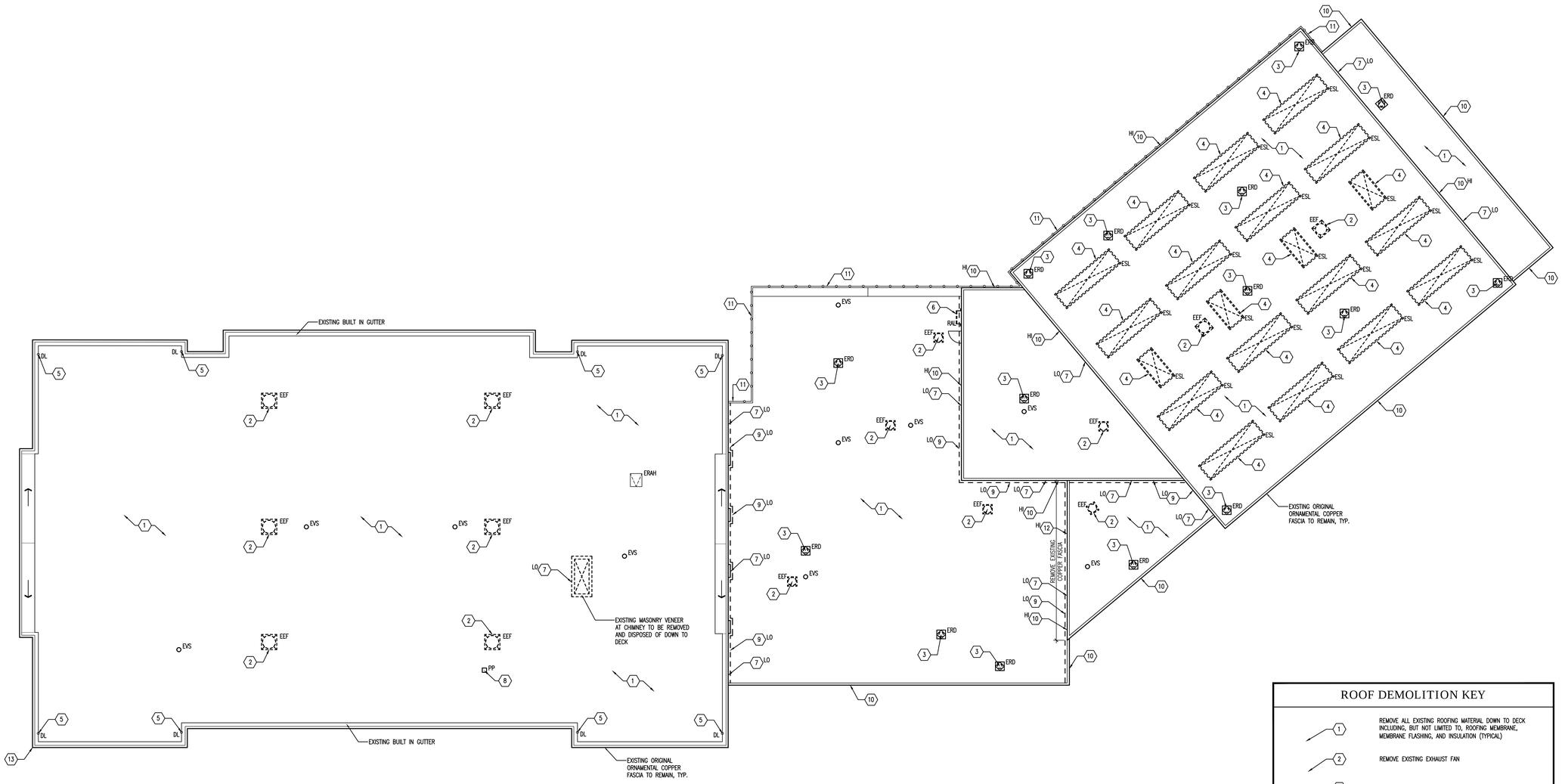
DRAWINGS ISSUED FOR BID

JANUARY 26, 2016

KAESTLE BOOS ASSOCIATES, INC. ARCHITECTURAL, STRUCTURAL & LANDSCAPE

CONSULTING ENGINEERING SERVICES, INC. MECHANICAL, PLUMBING, AND ELECTRICAL ENGINEER

THE ENVIRONMENTAL CORPORATION ASBESTOS ABATEMENT



ROOF DEMOLITION KEY

1. REMOVE ALL EXISTING ROOFING MATERIAL DOWN TO DECK INCLUDING, BUT NOT LIMITED TO, ROOFING MEMBRANE, MEMBRANE FLASHING, AND INSULATION (TYPICAL)
2. REMOVE EXISTING EXHAUST FAN
3. REMOVE EXISTING ROOF DRAIN
4. REMOVE EXISTING SKY LIGHT AND CURB
5. CLEAN AND SNAKE DRAIN LEADERS DOWN TO GRADE, TYP.
6. REMOVE EXISTING LADDER
7. REMOVE EXISTING COPPER COUNTER FLASHING
8. REMOVE EXISTING PITCH POCKET
9. REMOVE EXISTING EXPANSION JOINT
10. REMOVE ALL ALUMINUM FASCIA. COPPER TO REMAIN.
11. RELEASE CLAMPS OF CHAINLINK FENCE FROM FASCIA TO PERFORM WORK AND REATTACH AT COMPLETION OF WORK
12. REPAIR EXISTING DAMAGED CORNICE (DEDUCT ALTERNATE)

ROOF DEMOLITION PLAN LEGEND

- EEF — EXISTING EXHAUST FANS AND CURBS TO BE DEMOLISHED
- ERD — EXISTING ROOF DRAIN BOWLS TO BE REMOVED
- EVS — EXISTING VENT STACK TO REMAIN
- PP — EXISTING PITCH POCKET TO BE REMOVED
- ESL — EXISTING SKY LIGHT TO BE DEMOLISHED
- DL — DRAIN LEADER
- ERAH — EXISTING ROOF ACCESS HATCH TO REMAIN
- EXISTING CHAINLINK FENCE TO REMAIN
- RAL — EXISTING ROOF ACCESS LADDER TO BE DEMOLISHED
- EXISTING EXPANSION JOINT TO BE REMOVED

ROOF DEMOLITION NOTES

1. THE DEMOLITION SHOWN IS DIAGRAMMATIC AND IS INTENDED ONLY TO SHOW THE GENERAL EXTENT OF THE WORK. THE CONTRACTOR SHALL INCLUDE ALL DEMOLITION, WHETHER SPECIFICALLY CALLED FOR OR NOT, THAT IS NECESSARY TO ACCOMPLISH THE INTENT OF THE WORK. COORDINATE W/ ELECTRICAL, MECHANICAL AND PLUMBING DRAWINGS, ROOF DEMOLITION PLAN AND FIELD CONDITIONS AS REQUIRED TO IDENTIFY SCOPE OF WORK.
2. REFER TO ROOF DEMOLITION PLANS, A3.00'S, MEP DWGS, & ALTERNATES FOR REMOVAL AND DISPOSAL OF ROOF DRAINS, SKYLIGHTS & ROOF TOP MECHANICAL EQUIPMENTS AND ASSOCIATED CURBS.
3. ALL EXISTING ROOF EXHAUST FANS & CURBS ARE TO BE REMOVED.
4. ALL EXISTING VENT STACKS ARE TO REMAIN.
5. FACILITY CONTAINS ASBESTOS MATERIALS REFER TO SPECIFICATIONS FOR EXTENT OF ACM.

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0 5'-4" 10'-8" 21'-6"
SCALE: 3/32" = 1'-0"
PROJECT TRUE

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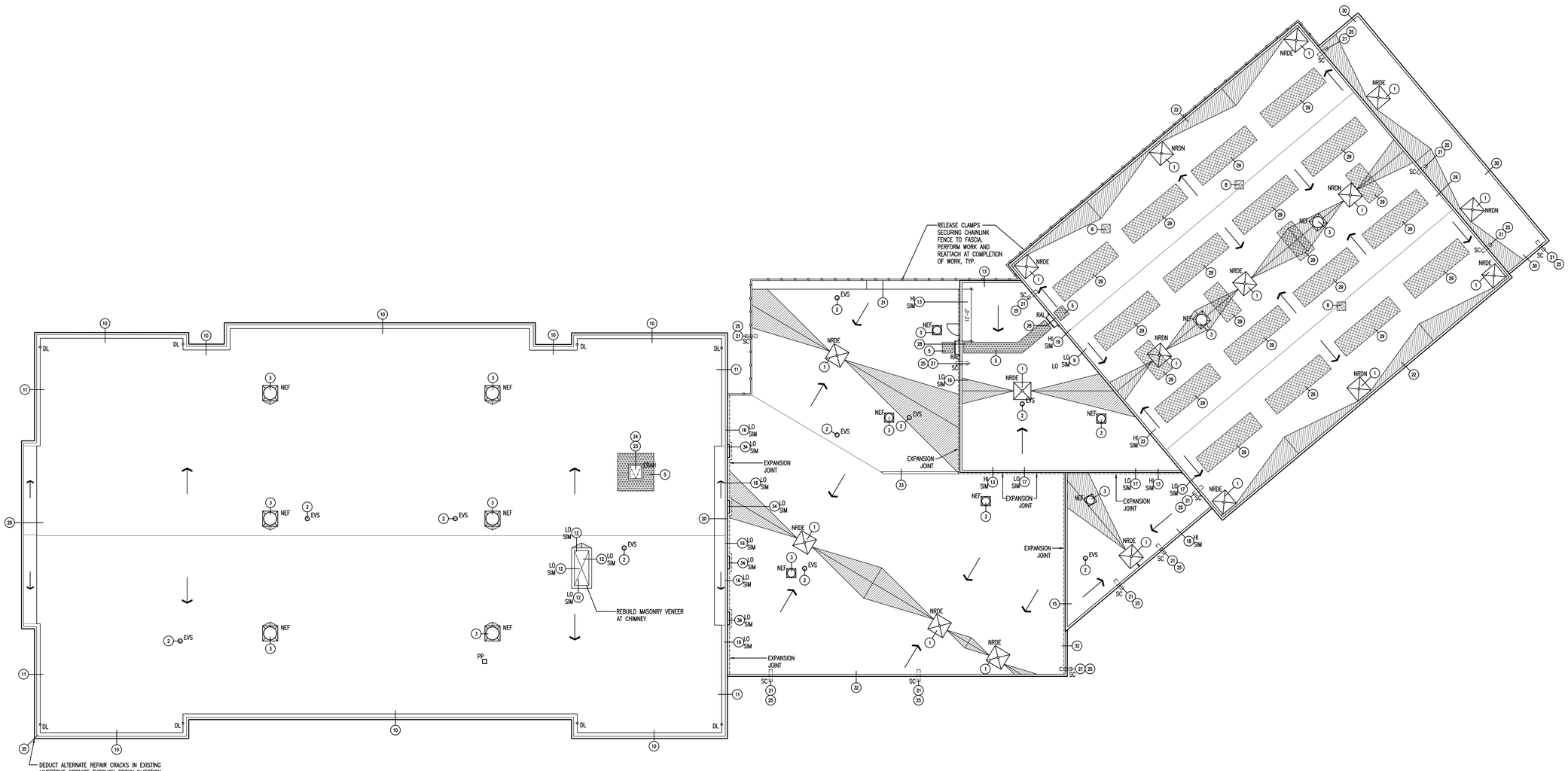
PROJECT NO.: 14046.00 DRAWN BY: THD

ROOF DEMOLITION PLAN

DRAWING NO.:
D3.01



AVERAGE R-VALUE CALCULATIONS - ROOF TYPE A
EPDM MEMBRANE ON METAL DECK

OUTSIDE OF AIR VALUE:	0.17
EPDM MEMBRANE:	0.33
1/4" ROOF COVER BOARD:	0.28
RIGID INSULATION – 4 1/2":	25.0
EXISTING METAL DECK:	0.00
INSIDE AIR VALUE:	0.61
R-VALUE:	26.39
U-TOTAL (1/R):	0.038

AVERAGE R-VALUE CALCULATIONS - ROOF TYPE B
EPDM MEMBRANE ON METAL DECK

OUTSIDE OF AIR VALUE:	0.17
EPDM MEMBRANE:	0.33
1/4" ROOF COVER BOARD:	0.28
RIGID INSULATION – 5":	28.8
EXISTING METAL DECK:	0.00
INSIDE AIR VALUE:	0.61
R-VALUE:	30.19
U-TOTAL (1/R):	0.0331

AVERAGE R-VALUE CALCULATIONS - ROOF TYPE C
EPDM MEMBRANE ON TECTUM DECK

OUTSIDE OF AIR VALUE:	0.17
EPDM MEMBRANE:	0.33
1/4" ROOF COVER BOARD:	0.28
RIGID INSULATION – 4 1/2":	25.0
EXISTING TECTUM DECK:	5.25
INSIDE AIR VALUE:	0.61
R-VALUE:	31.64
U-TOTAL (1/R):	0.032

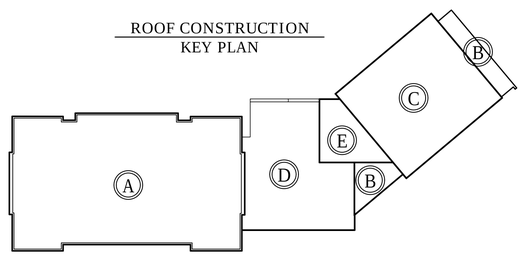
AVERAGE R-VALUE CALCULATIONS - ROOF TYPE D
EPDM MEMBRANE ON METAL DECK

OUTSIDE OF AIR VALUE:	0.17
EPDM MEMBRANE:	0.33
1/4" ROOF COVER BOARD:	0.28
RIGID INSULATION – 5":	28.8
EXISTING METAL DECK:	0.00
INSIDE AIR VALUE:	0.61
R-VALUE:	30.19
U-TOTAL (1/R):	0.033

AVERAGE R-VALUE CALCULATIONS - ROOF TYPE E
EPDM MEMBRANE ON METAL DECK

OUTSIDE OF AIR VALUE:	0.17
EPDM MEMBRANE:	0.33
1/4" ROOF COVER BOARD:	0.28
RIGID INSULATION – 5 1/2":	31.4
EXISTING METAL DECK:	0.00
INSIDE AIR VALUE:	0.61
R-VALUE:	32.79
U-TOTAL (1/R):	0.030

ROOF CONSTRUCTION KEY PLAN



ALTERNATES

1. ADD
   INSTALL 20 OZ. PRE-AGED PATINA COPPER GRAVEL STOPS IN LIEU OF ALUMINUM GRAVEL STOPS ON THE SINGLE STORY AND GYMNASIUM ADDITIONS. (COLOR TO MATCH EXISTING COPPER TO REMAIN).
2. ADD
   INSTALL TECTUM DECK SKYLIGHT INFILLS TO MATCH EXISTING IN LIEU OF 20 GA. GALVANIZED METAL DECK INFILLS (BASE BID).
3. DEDUCT
   REPAIR CRACKS IN EXISTING LIMESTONE CORNICE THROUGH EPOXY INJECTION PORTS INSTALLED FROM TOP AND UNDERSIDE. REMOVE ALL ROOFING MATERIAL AND DECORATIVE TRIM TO EXPOSE LIMESTONE SURFACE PRIOR TO INSTALLING EPOXY. REPAIR ALL EXPOSED SURFACES TO HIDE PORTS.
4. DEDUCT
   EXISTING EXHAUST FANS TO REMAIN IN LIEU OF REPLACING UNITS WITH NEW EXHAUST FANS.

ROOF CONSTRUCTION TYPES
BASE BID

- (A) FULLY ADHERED 090 MIL SINGLE-PLY EPDM ON 1/4" ROOF COVER BOARD ON 1/8" PER FOOT TAPERED INSULATION ON 2" OF RIGID ISO INSULATION ON EXISTING 1/8" PER FOOT SLOPED METAL DECK (TOTAL 1/4" ROOF SLOPE)
- (B) FULLY ADHERED 090 MIL SINGLE-PLY EPDM ON 1/4" ROOF COVER BOARD ON 1/4" PER FOOT TAPERED INSULATION ON 2" OF RIGID ISO INSULATION ON 1 1/2" OF RIGID ISO INSULATION ON EXISTING FLAT METAL DECK
- (C) FULLY ADHERED 090 MIL SINGLE-PLY EPDM ON 1/4" ROOF COVER BOARD ON 1/4" PER FOOT TAPERED INSULATION ON 2 1/2" OF RIGID ISO INSULATION ON 2" OF RIGID ISO INSULATION ON EXISTING FLAT TECTUM DECK (ALL LAYERS OF INSULATION TO BE INSTALLED WITH LOW RISE FOAM ADHESIVE ON TECTUM)
- (D) FULLY ADHERED 090 MIL SINGLE-PLY EPDM ON 1/4" ROOF COVER BOARD ON 1/4" PER FOOT TAPERED INSULATION ON 2" OF RIGID ISO INSULATION ON ON EXISTING FLAT METAL DECK
- (E) FULLY ADHERED 090 MIL SINGLE-PLY EPDM ON 1/4" ROOF COVER BOARD ON 1/4" PER FOOT TAPERED INSULATION ON 2 LAYERS OF 1 1/2" RIGID ISO INSULATION ON EXISTING FLAT METAL DECK

ROOF GENERAL NOTES

1. CONTRACTOR TO FIELD VERIFY QUANTITY & LOCATION OF NEW PLUMBING VENTS STACKS (SEE MEP DWGS) & FLASH IN ACCORDANCE w/ MANUFACTURER SPECIFICATIONS. (ALL NEW VENT STACKS MUST EXTEND 24" ABOVE FINISH ROOF SURFACE).
2. ALL NOTES AND DIMENSIONS DESIGNATED AS TYPICAL APPLY TO ALL LIKE OR SIMILAR CONDITIONS THROUGHOUT THE PROJECT.
3. CONTRACTOR TO FIELD VERIFY LOCATION OF ROOF CONDUITS & CABLES. FLASH PENETRATIONS AS REQUIRED AND MAINTAIN FEEDS ACTIVE.
4. CONTRACTOR TO TAKE AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AS DEFINED IN CONTRACT DOCUMENTS. PROCEEDING WITH WORK CONSTITUTES ACCEPTANCE OF EXISTING CONDITIONS AS BEING SUBSTANTIALLY AS SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE OF FINISHED WORK AND FOR THE SAME WORK, SHALL BE HELD RESPONSIBLE.
5. SIZE AND LOCATIONS OF EXHAUST FANS, MECHANICAL UNITS, VENTS STACKS, CONDENSER UNITS AND OTHER ROOF PENETRATIONS OF ROOF MOUNTED ITEMS ARE DIAGRAMMATIC ONLY. SEE M.E.P. DRAWINGS FOR QUANTITIES & LOCATIONS (TYP).
6. CONTRACTOR IS TO SURVEY THE ROOF DECKS TO VERIFY THAT SLOPES INDICATED ON PLANS ARE ACCURATE. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO PERFORMING ANY ADDITIONAL ROOFING OPERATIONS.
7. ALTHOUGH FASCIA DIMENSIONS WILL VARY FROM ROOF AREA TO ROOF AREA, CONTRACTOR TO PROVIDE KILN DRIED WOOD BLOCKING AS REQUIRED TO ENSURE CONTINUOUS GRAVEL STOP/FASCIA AND/OR COPING DIMENSIONS FOR EACH INDIVIDUAL ROOF AREA (TYP).
8. ROOF DRAIN LOCATIONS ARE INDICATED DIAGRAMMATICALLY AND MUST BE COORDINATED IN THE FIELD TO INSTALL NEW DRAINS @ LOWEST POSSIBLE POINT OF ROOF PITCH.
9. INSULATE ALL NEW DRAIN BOWLS AND PIPES (TYP.).
10. STAGGER JOINTS BETWEEN LAYERS OF INSULATION (TYP.).
11. KILN DRIED WOOD NAILERS SHALL BE SECURELY ANCHORED TO METAL DECK TO RESIST A FORCE OF 300 POUNDS PER LINEAR FOOT IN ANY DIRECTION (TYP.).
12. ALL WOOD BLOCKING USED IN ROOF ASSEMBLIES SHALL BE KILN DRIED MATERIAL AND ALL JOINTS TO BE STAGGERED MINIMUM OF 12" (TYP.).
13. SCUPPERS TO BE 6'-0" UPSLOPE OF CENTERLINE OF ROOF DRAINS UNLESS OTHERWISE NOTED (TYP.)
14. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE CONTINUOUS PERIMETER BLOCKING TO ALIGN WITH HIGH POINT OF INSULATION AT ALL CONDITIONS W/O PARAPETS (TYP.).
15. AT ROOF EDGE CONDITIONS WHERE THE DECK VARIES IN HEIGHT TO ENHANCE WATER MANAGEMENT, THE WOOD BLOCKING OR PARAPET MUST MAINTAIN A CONSTANT HORIZONTAL ELEVATION THAT COINCIDES WITH HIGH POINT ON THAT SAME ROOF UNLESS OTHERWISE NOTED.
16. STRUCTURAL INFORMATION ON ROOF DETAILS ARE DIAGRAMMATIC ONLY.
17. NO EQUIPMENT REQUIRING SERVICING SHALL BE LOCATED WITHIN 10 FEET OF THE EDGE OF THE ROOF OR PROVIDE 42" HIGH FALL PROTECTION, (TYP.).
18. PROVIDE CRICKET ON HIGH SIDE OF ALL ROOF TOP EQUIPMENT AND ROOF HATCH CURBS, (TYP.).
19. ALL VERTICAL FLASHING HEIGHTS MUST BE A MINIMUM OF 8" (TYP.).
20. CLEAN DEBRIS FROM VENT STACKS.

HAZARDOUS MATERIALS

- THE PROJECT REQUIRES ASBESTOS REMOVAL. ASBESTOS MUST BE HANDLED AND DISPOSED OF BY FOLLOWING ALL CURRENT AND APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS. (REFER TO SPECIFICATIONS)
- THE PROJECT REQUIRES PCB REMOVAL. THE PROJECT YIELDS CONCENTRATIONS IN EXCESS OF 1mg/Kg OF PCBs, BUT LESS THAN 50mg/Kg OF PCBs SHALL BE HANDLED AND DISPOSED OF OUT OF STATE BY FOLLOWING ALL CURRENT AND APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS. (REFER TO SPECIFICATIONS)

ROOF PLAN LEGEND

- AREA OF NEW CRICKET
- AREA OF DECK INFILL
- AREA OF TRAFFIC PAD
- NEF — NEW EXHAUST FAN
- NRDN — NEW ROOF DRAIN AND HORIZONTAL PIPING IN NEW LOCATION WITH 4"X4" SUMP
- NRDE — NEW ROOF DRAIN BOWL IN EXISTING DRAIN LOCATION WITH 4"X4" SUMP
- EVS — EXISTING VENT STACK
- DIRECTION OF ROOF PITCH
- PP — NEW PITCH POCKET
- AREA OF DECK INFILL
- RAL — NEW ROOF ACCESS LADDER
- ERAH — EXISTING ROOF ACCESS HATCH
- DL — DRAIN LEADER
- SC — OVERFLOW SCUPPER

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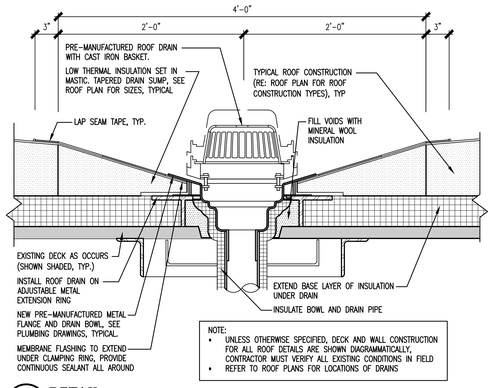
PROJECT NO.: 1406.00 DRAWN BY: THD

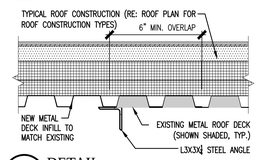
ROOF PLAN

DRAWING NO.: A3.01

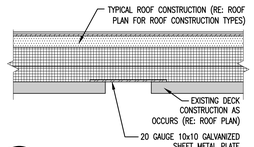


NOTE:
- UNLESS OTHERWISE SPECIFIED, DECK AND WALL CONSTRUCTION FOR ALL ROOF DETAILS ARE SHOWN DIAGRAMMATICALLY, CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS IN FIELD
- REFER TO ROOF PLANS FOR LOCATIONS OF DRAINS

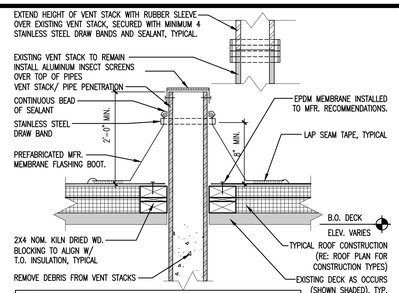
1 DETAIL
NEW ROOF DRAIN



7 DETAIL
METAL DECK INFILL AT EXISTING CONSTRUCTION

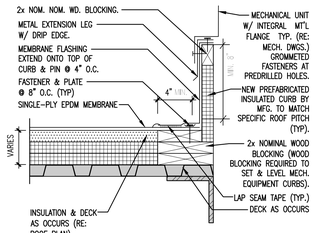


8 DETAIL
PATCHING AT EXISTING METAL DECK



NOTE:
- EXTEND ALL EXISTING VENT STACK TO PROVIDE 24" MINIMUM HEIGHT FROM TOP OF FINISHED ROOF.
- PROVIDE BLOCKING TO ALIGN WITH HIGH POINT OF INSULATION

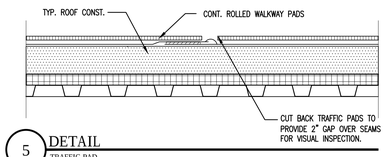
2 DETAIL
VENT STACK/ PIPE PENETRATION



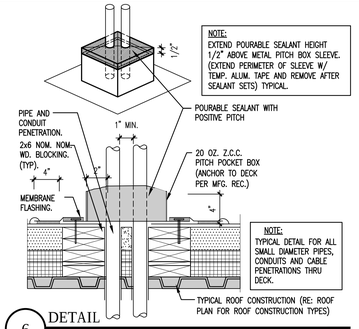
NOTE:
- PROVIDE CRICKET ON HIGH SIDE OF ALL ROOF TOP EQUIPMENTS (TYP).
- TYPICAL DETAIL FOR ALL VENTS, EXHAUST FANS AND SMALL MISCELLANEOUS EQUIPMENT

3 DETAIL
EXHAUST FAN/ ROOF HOOD CURB

4 NOT USED

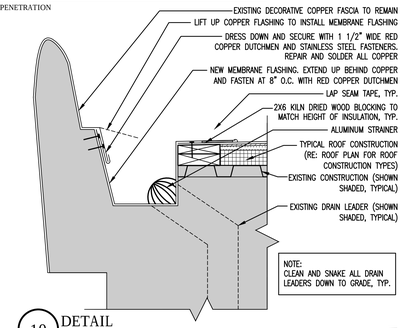


5 DETAIL
TRAFFIC PAD



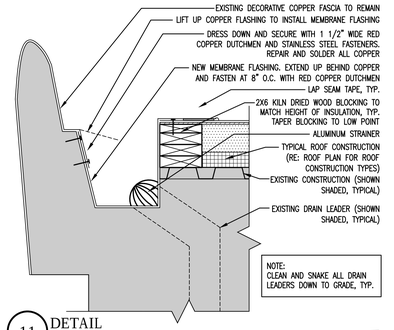
6 DETAIL
PITCH POCKETS

9 NOT USED



NOTE: CLEAN AND SNAKE ALL DRAIN LEADERS DOWN TO GRADE, TYP.

10 DETAIL
ROOF EDGE



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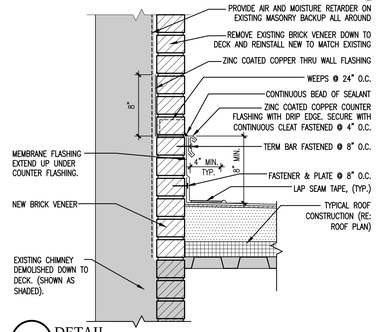
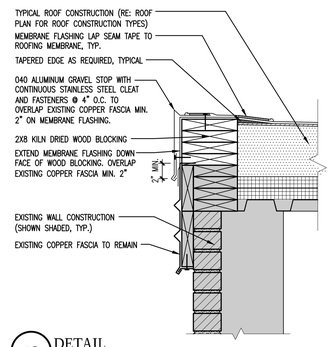
11 DETAIL
ROOF EDGE



12 DETAIL
ROOF TRANSITION AT CHIMNEY



13 DETAIL
ROOF EDGE

14 NOT USED

15 DETAIL
ROOF TRANSITION

16 NOT USED
EXPANSION JOINT

17 DETAIL
EXPANSION JOINT

18 DETAIL
ROOF EDGE

19 DETAIL
ROOF EDGE

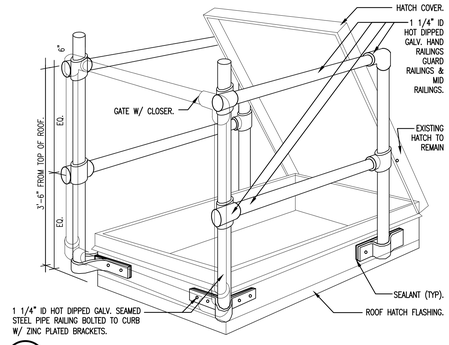
20 DETAIL
ROOF EDGE

21 DETAIL
SPILL OUT OVERFLOW SCUPPER

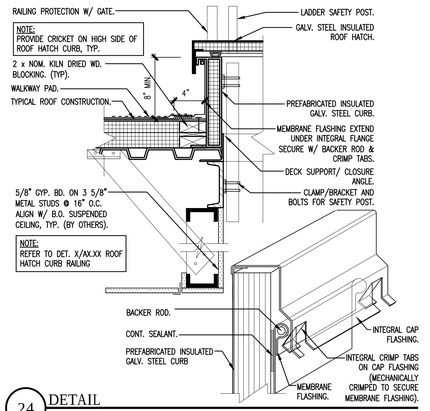
NOTE: SECONDARY DRAINAGE SPILL OUT SCUPPERS TO BE INSTALLED 1 1/2" MAX. ABOVE ROOFLINE. (TYP).

25 DETAIL
SPILL OUT OVERFLOW SCUPPER

22 DETAIL
ROOF EDGE



23 DETAIL
RAILING @ ROOF HATCH



24 DETAIL
ROOF HATCH CURB

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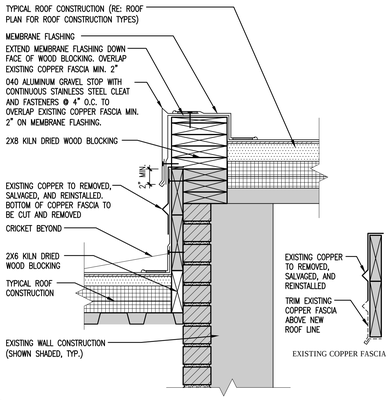
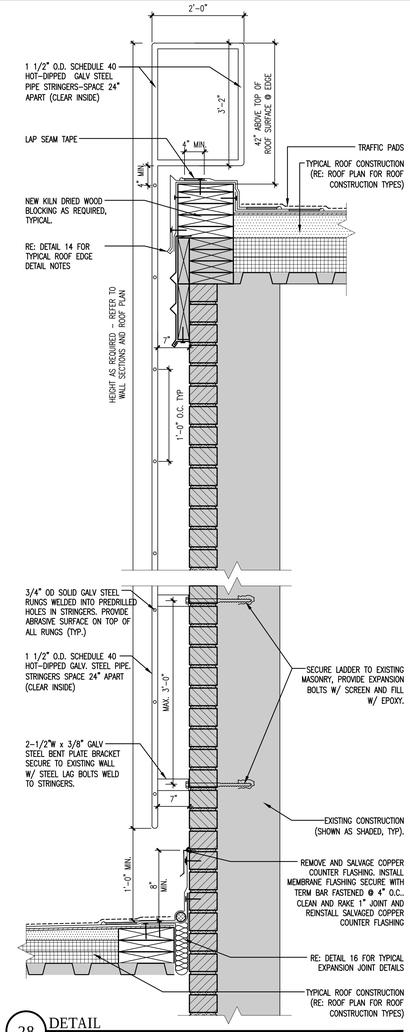
ROOF DETAILS I

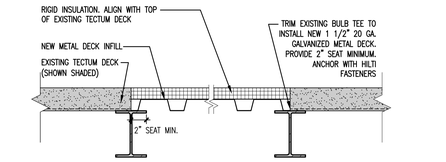
DRAWING NO.:
A3.02



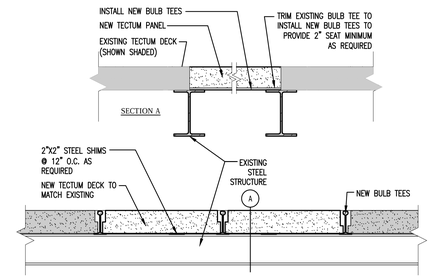
26 DETAIL
ROOF TRANSITION



28 DETAIL
TYPICAL LADDER

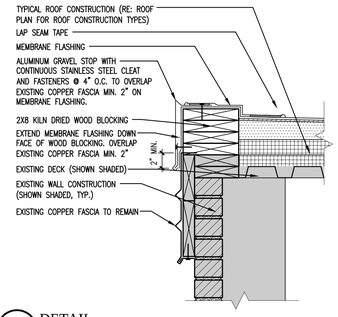


A) METAL DECK INFILL

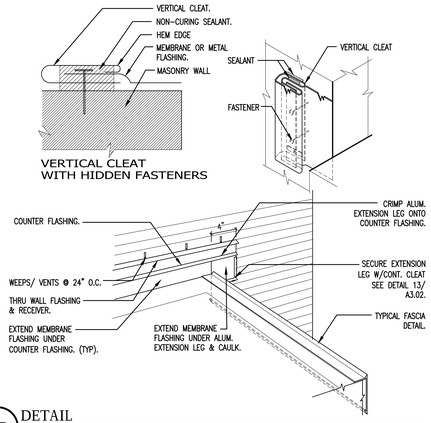


B) ALTERNATE #2 - TECTUM DECK IN LIEU OF METAL DECK INFILL

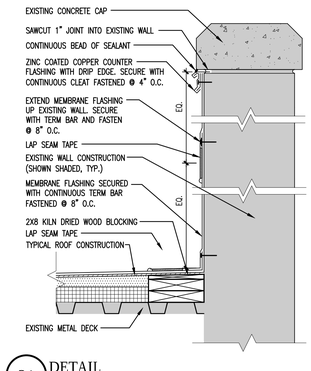
29 DETAIL
DECK INFILL



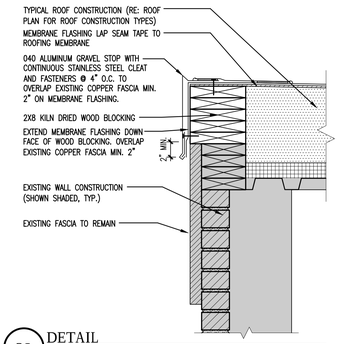
30 DETAIL
ROOF EDGE



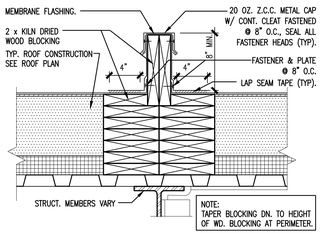
27 DETAIL
THRU-WALL AND MEMBRANE FLASHING TERMINATION DEATIL @INTERSECTION ROOF



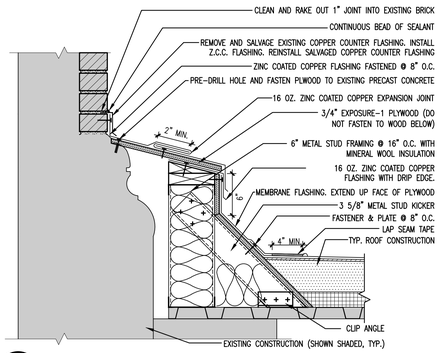
31 DETAIL
FLASHING DETAIL AT WALL



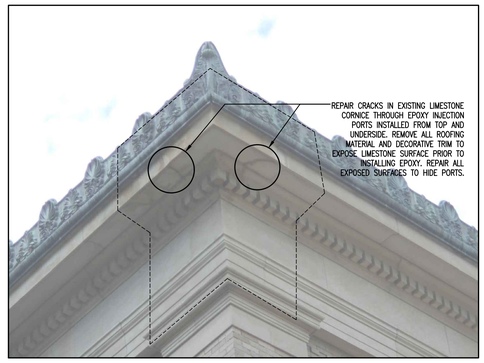
32 DETAIL
ROOF EDGE



33 DETAIL
AREA DIVIDER



34 DETAIL
EXPANSION JOINT



35 DETAIL
CORNICE REPAIR DETAIL

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JANUARY 26, 2016	DRAWINGS ISSUED FOR BID

REVISIONS

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FOR ALL ABBREVIATIONS, SYMBOL LEGENDS, AND GENERAL NOTES SEE SHEET R0.01

KEY PLAN

SCALE: 1 1/2" = 1'-0" PROJECT TRUE

BOROUGH OF NAUGATUCK INCORPORATED 1844 CONNECTICUT

NAUGATUCK ROOF REPLACEMENT AND RELATED WORK AT HILLSIDE INTERMEDIATE SCHOOL

51 HILLSIDE AVENUE
NAUGATUCK, CT 06770

TMP-088-QJKF

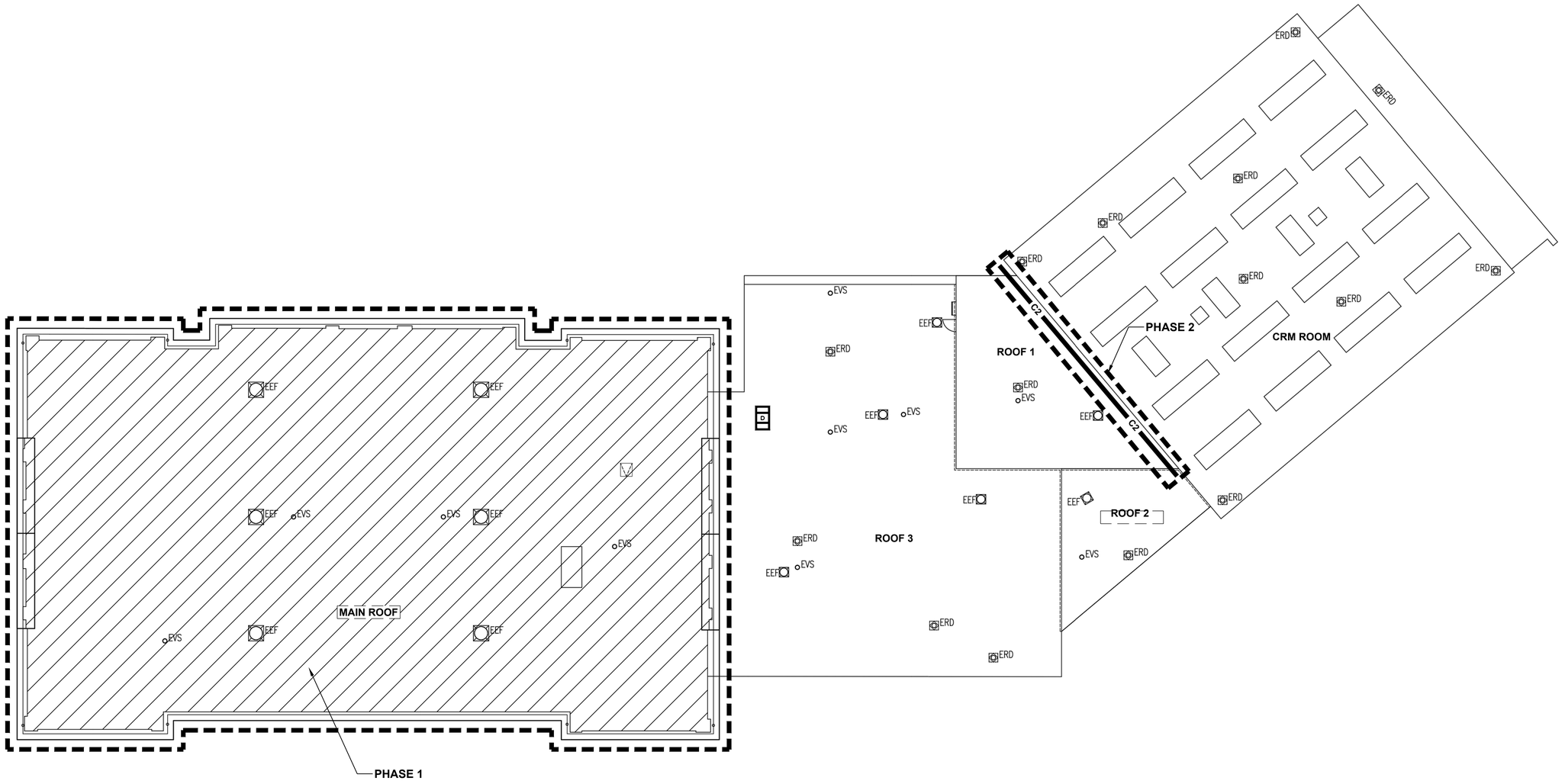
PROJECT NO.: 1406.00 DRAWN BY: THD

ROOF DETAILS II

DRAWING NO.:
A3.03

ACM NOTES:

1. **Phase 1 includes the removal of ACM in the form of:**
   - **All black backing associated with brown paper vapor barrier (VB1) as ACM**
   - **All tar on paper vapor barrier (T1) as ACM**
   - **All penetration flashing (PEN3 & PEN4) as ACM**
   - **All perimeter flashing (PER2) as ACM**
2. **Phase 2 includes the removal of C2 caulk from roof 2. Caulk type C2 contains both ACM and EPA regulated PCBs. Abatement of these materials will coincide with PCB remediation as outlined in Section 02 84 33.**
3. **Refer to Section 02 08 00 for additional information concerning Phase 1 and 2 asbestos removal.**



LEGEND OF SYMBOLS	
	PHASE LINE
D	WORKER DECONTAMINATION UNIT
	BUILT UP ROOFING AND FLASHING
C2	CAULK

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KEY PLAN

SCALE: 3/32" = 1'-0" (0, 5'-4", 10'-8", 21'-6") PROJECT TRUE

BOROUGH OF NAUGATUCK INCORPORATED 1844 CONNECTICUT

NAUGATUCK ROOF REPLACEMENT AND RELATED WORK AT HILLSIDE INTERMEDIATE SCHOOL

51 HILLSIDE AVENUE
NAUGATUCK, CT 06770

TMP-088-QJKF

PROJECT NO.: 237479 DRAWN BY: REA

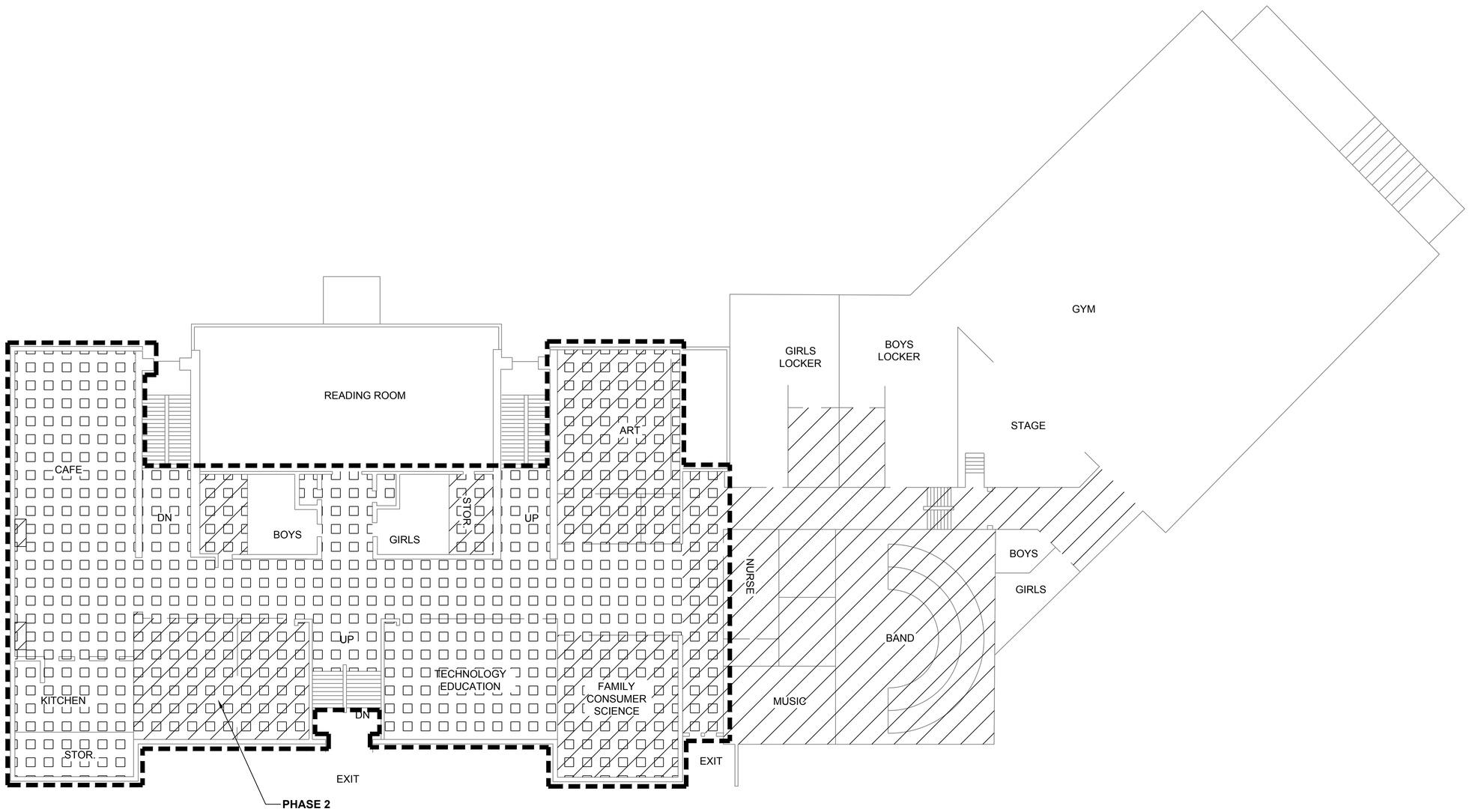
ASBESTOS ABATEMENT

DRAWING NO.:

ASB-1

ACM NOTES:

1. **Phase 2 includes the removal of:**
   - **All 2'x4' ceiling tile with pinhole pattern as ACM**
   - **Remove all mudded pipe fittings, pipe insulation and roof drain/bowl insulation as ACM**
2. **Refer to Section 02 08 00 for additional information concerning Phase 3 asbestos removal.**



LEGEND OF SYMBOLS	
	PHASE LINE
D	WORKER DECONTAMINATION UNIT
	FLOOR TILE W/MASTIC
	2'X4' CEILING TILE
PI	PIPE INSULATION
MF	MUDDED FITTING

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KEY PLAN

0 5'-4" 10'-8" 21'-6"
SCALE: 3/32" = 1'-0"
PROJECT TRUE

BOROUGH OF NAUGATUCK INCORPORATED 1844 CONNECTICUT

NAUGATUCK ROOF REPLACEMENT AND RELATED WORK AT HILLSIDE INTERMEDIATE SCHOOL

51 HILLSIDE AVENUE
NAUGATUCK, CT 06770

TMP-088-QJKF

PROJECT NO.: 237479 DRAWN BY: REA

ASBESTOS ABATEMENT

DRAWING NO.:
ASB-2

PCB NOTES:

1. **All light gray pliable caulk (C2) located vertically and horizontally on brick walls at Roof 1 were found or are assumed to be EPA PCB bulk product waste.**
2. **Any metal window frames abutting the subject caulk shall be removed and disposed of as PCB Bulk Product Waste (and ACM waste as applicable).**
3. **Concrete abutting the subject caulks shall also be removed to a distance of three (3") from the caulk line.**
4. **Verification sampling shall be performed by the Engineer in accordance with EPA 40 CFR 761 Subpart O, every five feet.**
5. **The *PCB Bulk Product Waste Reinterpretation Memorandum* issued October 24, 2012 is being utilized for waste management and disposal.**
6. **PCB Bulk Product Waste (caulk, glaze and substrate) shall be disposed of in a "performance based" manner accordance with 40 CFR 761.62(a), 62(b) and the October 24, 2012 Waste Reinterpretation Memo, and may be disposed of in a State permitted solid waste landfill, PCB TSCA Chemical Waste Landfill, RCRA Hazardous Waste Landfill, or high temperature incinerator.**
7. **Caulk type C2 also contains ACM. Abatement of these materials will coincide with PCB remediation as outlined in Section 02 08 00.**
8. **All white pliable caulk (C3) located vertically and horizontally on brick walls and concrete at Roof 3 were found or are assumed to be CT DEEP bulk product waste.**
9. **Any metal/wood window/door frames abutting the subject state regulated PCB-containing caulk/glazing shall be removed and disposed of as CT State Regulated Waste.**
10. **Wood abutting CTDEEP caulk shall be removed entirely.**
11. **Concrete/brick abutting CTDEEP caulk do not contain PCBs.**
12. **Prior substrate sampling indicates no additional verification sampling is required.**
13. **CT State Regulated Waste (CRW - CR01) may be disposed of in a State permitted solid waste landfill, PCB TSCA Chemical Waste Landfill, RCRA Hazardous Waste Landfill, or high temperature incinerator.**

LEGEND OF SYMBOLS	
C2	CAULK
C3	CAULK

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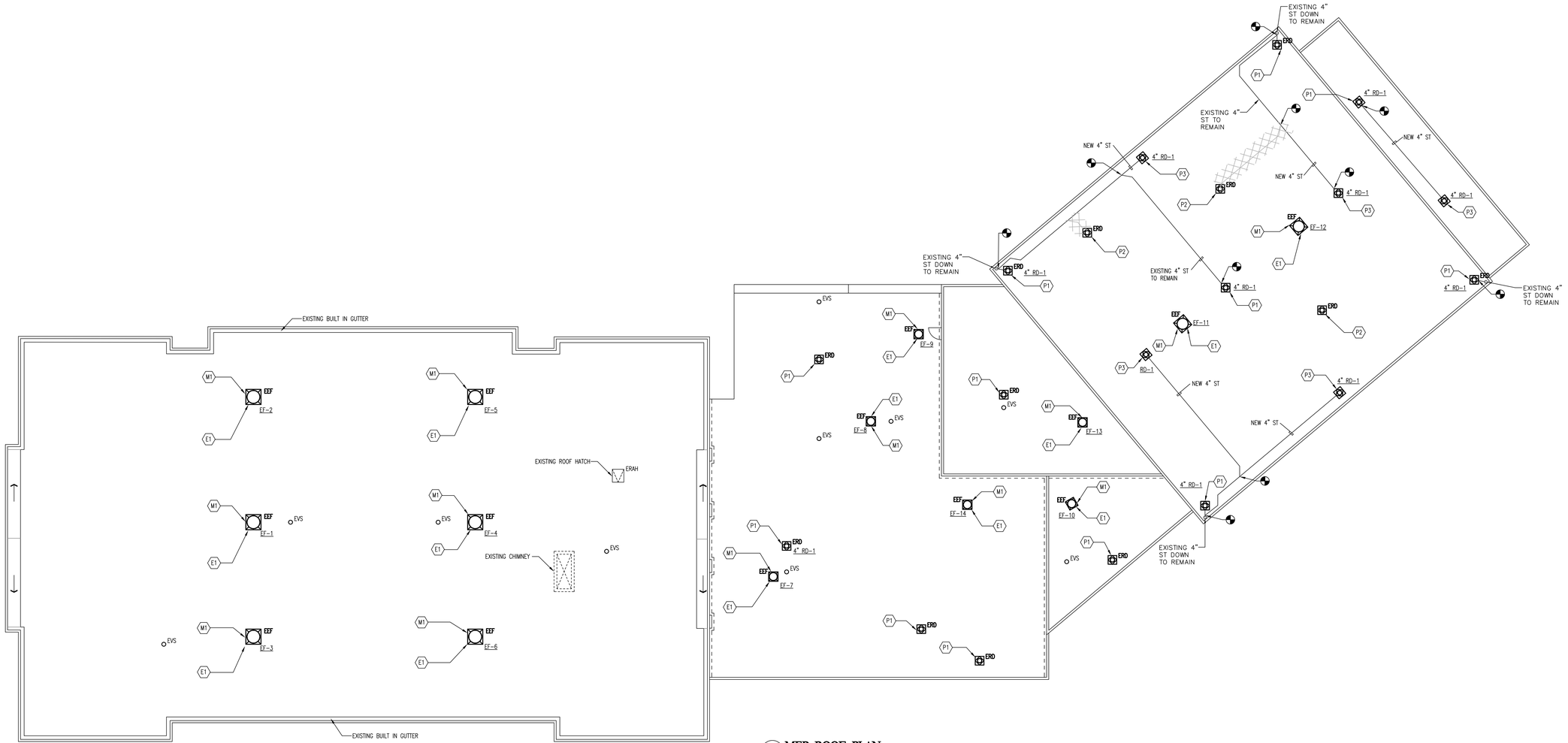
TMP-088-QJKF

PROJECT NO.: 237479 DRAWN BY: ####

PCB ABATEMENT

DRAWING NO.:
PCB-1



1 MEP ROOF PLAN
SCALE: 3/32"=1'-0"

MECHANICAL ROOF NOTES

(M) EXISTING ROOF EXHAUST FAN TO BE REMOVED INCLUDING HOOD, MOTOR, FAN, FLAME AND DAMPER. REPLACE WITH NEW. SEE FAN SCHEDULE THIS SHEET. RECONNECT TO EXISTING CONTROLS. EXTEND EXISTING ROOF CURB TO MAINTAIN HEIGHT OF 12" ABOVE NEW ROOF FOR ALL NEW MECHANICAL EQUIPMENT.

ELECTRICAL ROOF NOTES

(E) DISCONNECT EXISTING ROOF EXHAUST FAN FOR REMOVAL BY MECHANICAL CONTRACTOR. RECONNECT TO NEW EXHAUST FAN, DISCONNECT SWITCH PROVIDED BY MECHANICAL CONTRACTOR.

MEP ROOF PLAN LEGEND

- EF — EXISTING EXHAUST FANS TO BE REMOVED AND REPLACED WITH NEW
- ERD — EXISTING ROOF DRAIN TO BE REMOVED
- EVS — EXISTING VENT STACK TO REMAIN

PLUMBING ROOF NOTES

(P1) REMOVE EXISTING ROOF DRAIN, MAINTAIN EXISTING STORM SYSTEM PIPING. INSTALL NEW ROOF DRAIN IN SAME LOCATION, CONNECT TO EXISTING STORM PIPING, REFER TO PLAN FOR SIZE.

(P2) REMOVE EXISTING ROOF DRAIN COMPLETELY. REMOVE EXISTING 4" STORM PIPING AS INDICATED.

(P3) NEW ROOF DRAIN IN NEW LOCATION. PROVIDE NEW ROOF DRAIN AND STORM PIPING. CONNECT TO EXISTING STORM PIPING AS INDICATED. SEE PLAN FOR SIZES.

FAN SCHEDULE

GENERAL					PHYS.	PERFORMANCE				ELECTRICAL			REMARKS		
SYMBOL	MANUFACTURER	MODEL	LOCATION	SERVICE	WEIGHT (LBS)	CFM	SP (IN. WG)	MOTOR RPM	SONES	HP	VOLTS	PHASE	TYPE	RATINGS	FEATURES
EF-1	COOK	VCR-D	ROOF ABOVE CORRIDOR 314	KITCHEN/DINING ROOM	171	2700	0.75	1725	22	1 1/9	208	3	1	1,2,3	2,5
EF-2	COOK	ACE-D	ROOF ABOVE CLASSROOM 308	MULTIPURPOSE	121	2700	0.375	1075	9.6	1/2	115	1	2	2,3	1,3,4,5
EF-3	COOK	ACE-D	ROOF ABOVE CLASSROOM 302	TOILET ROOMS	194	3500	0.375	860	9.1	3/4	208	3	2	2,3	3,4,5
EF-4	COOK	ACE-D	ROOF ABOVE CORRIDOR 314	CLASSROOMS	244	6000	0.375	860	13.5	1	208	3	2	2,3	3,4,5
EF-5	COOK	ACE-D	ROOF ABOVE CLASSROOM 307	CLASSROOMS	244	6000	0.375	860	13.5	1	208	3	2	2,3	3,4,5
EF-6	COOK	ACE-D	ROOF ABOVE CLASSROOM 304	CLASSROOMS	244	6000	0.25	860	12.9	3/4	208	3	2	2,3	3,4,5
EF-7	COOK	ACE-D	ROOF ABOVE GIRLS 203	TOILETS	66	1105	0.25	1550	8.1	1/4	115	1	2	2,3	1,3,4,5
EF-8	COOK	ACE-D	ROOF ABOVE 204	----	66	714	0.125	1075	3.3	1/4	120	1	2	2,3	1,3,4,5
EF-9	COOK	ACE-D	ROOF ABOVE BOYS SHOWER 305	TOILETS	66	714	0.125	1075	3.3	1/4	115	1	2	2,3	1,3,4,5
EF-10	COOK	ACE-D	ROOF ABOVE CORRIDOR	TOILETS	66	642	0.25	1075	3.4	1/4	115	1	2	2,3	1,3,4,5
EF-11	COOK	ACE-D	ROOF ABOVE GYMNASIUM	GYM/AUDITORIUM	194	3880	0.125	860	9.7	1/3	208	3	2	2,3	3,4,5
EF-12	COOK	ACE-D	ROOF ABOVE GYMNASIUM	GYM/AUDITORIUM	194	3880	0.125	860	9.7	1/3	208	3	2	2,3	3,4,5
EF-13	COOK	ACE-D	ROOF ABOVE STAGE	STAGE	89	2000	0.125	1075	6.9	1/4	115	1	2	2,3	1,3,4,5
EF-14	COOK	ACE-D	ROOF ABOVE STAGE	STAGE	89	2000	0.125	1075	6.9	1/4	115	1	2	2,3	1,3,4,5

REMARKS-TYPE
1. ROOF MOUNTED, CENTRIFUGAL, UPBLAST, DIRECT DRIVE.
2. ROOF MOUNTED, CENTRIFUGAL, DOWNBLAST, DIRECT DRIVE.

REMARKS-RATINGS
1. UL762
2. AMCA 210 FOR AIR PERFORMANCE, AMCA 300 FOR SOUND PERFORMANCE
3. DESIGNED TO WITHSTAND 125 MPH WINDS

REMARKS-FEATURES
1. UNIT MOUNTED SPEED CONTROLLER
2. GREASE TERMINATOR, PROVIDE VENTILATED EXTENSION(AS NECESSARY FOR 40" CLEARANCE FROM DISCHARGE TO ROOF) AND ACCESSIBLE HINGED CURB CAP, EXTERNAL WIRING, DISCONNECT SWITCH, GALVANIZED STEEL ROOF CURB, BIRDSCREEN, CURB SEAL, DRAIN CONNECT, ECM MOTOR.
3. GRAVITY BACKDRAFT DAMPER
4. PROVIDE GALVANIZED STEEL ROOF CURB WITH DAMPER TRAY
5. PRE-WIRED STANDARD DISCONNECT

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Fax: (860) 632-1708
CES *2015193.00

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PROJECT TRUE

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NAUGATUCK, CT 06770

TMP-088-QJKF

PROJECT NO.: 13014.00 DRAWN BY: AOK

MEP ROOF PLAN

MEP-01

DRAWING NO.:

MEP SPECIFICATIONS

1. PROVIDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO COMPLETE THE WORK OUTLINED ON THESE CONTRACT DOCUMENTS. THE CONTRACTOR IS TO NOTE THAT THESE DOCUMENTS ARE DIAGRAMMATIC ONLY AND THAT FINAL PLACEMENT OF EQUIPMENT OR DEVICES IN THE FIELD MAY NOT DIRECTLY CORRESPOND TO THAT WHICH IS SHOWN ON THE DRAWINGS. IF A CONFLICT IN POSITIONING OCCURS THE CONTRACTOR IS TO NOTIFY THE ENGINEER IMMEDIATELY TO ASCERTAIN WHAT THE INTENT WAS BY THE DESIGN PROFESSIONAL.
2. PRIOR TO SUBMITTING BID, VISIT AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY INDENTIFIED BY EXPERIENCED OBSERVERS.
3. SCOPE OF WORK CONSISTS OF INSTALLATION OF MATERIALS TO BE FURNISHED UNDER THE CONTRACT DOCUMENTS AND WITHOUT LIMITING GENERALITY THEREOF CONSISTS OF FURNISHING LABOR, MATERIALS, EQUIPMENT, HOISTING, PLANT, TRANSPORTATION, RIGGING, STAGING, APPURTENANCES, AND SERVICES NECESSARY AND/OR INCIDENTAL TO PROPERLY COMPLETE ALL ELECTRICAL WORK AS SHOWN ON THE DRAWINGS AS DESCRIBED HEREIN.
4. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST STATE OF CONNECTICUT ACCEPTED REVISION OF FOLLOWING:
   A. INTERNATIONAL BUILDING CODE
   B. INTERNATIONAL PLUMBING CODE
   C. INTERNATIONAL MECHANICAL CODE
   D. NFPA 101 LIFE SAFETY CODE.
   E. THE NATIONAL ELECTRIC CODE (NEC), NFPA 70
5. THE FOLLOWING DEFINITIONS APPLY TO THIS CONTRACT:
   A. FURNISH: THE TERM "FURNISH" MEANS TO "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."
   B. INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."
   C. PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."
   D. REMOVE: THE TERM "REMOVE" MEANS "TO DISCONNECT FROM ITS PRESENT POSITION, REMOVE FROM THE PREMISES AND TO DISPOSE OF IN A LEGAL MANNER."
   E. SUBSTITUTIONS: "SUBSTITUTIONS" ARE REQUESTS FOR CHANGES IN PRODUCTS, MATERIALS AND METHODS OF CONSTRUCTION AS PROPOSED BY THE CONTRACTOR AFTER AWARD OF THE CONTRACT.
6. DO NOT SCALE DRAWINGS. SCALE INDICATED ON DRAWINGS IS FOR ESTABLISHING REFERENCE POINTS ONLY. ACTUAL FIELD CONDITIONS SHALL GOVERN ALL DIMENSIONS.
7. SUPPLY TO THE OWNER AN OFFICIAL CERTIFICATE OF INSURANCE FOR THEIR RECORDS.
8. INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
9. USE ADEQUATE NUMBERS OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND THE METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK.
10. ARRANGE INSTALLATION TO PROVIDE ACCESS TO EQUIPMENT FOR EASY MAINTENANCE AND REPAIR.
11. GUARANTEE WORK OF THESE CONTRACT DOCUMENTS IN WRITING FOR NOT LESS THAN ONE YEAR FROM DATE OF FINAL NOTICE OF ACCEPTANCE. REPAIR OR REPLACE DEFECTIVE MATERIALS, EQUIPMENT, WORKMANSHIP AND INSTALLATION THAT DEVELOP WITHIN THIS PERIOD, PROMPT AND TO OWNER'S SATISFACTION AND CORRECT DAMAGE CAUSED IN MAKING NECESSARY REPAIRS AND REPLACEMENTS UNDER GUARANTEE WITHIN CONTRACT PRICE.
12. MATERIALS AND EQUIPMENT SHALL BE UL LISTED WHERE STANDARD HAS BEEN ESTABLISHED.
13. OBTAIN IN OWNER'S NAME WRITTEN EQUIPMENT AND MATERIAL WARRANTIES OFFERED IN MANUFACTURER'S PUBLISHED PRODUCT DATA WITHOUT EXCLUSION OR LIMITATION.
14. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING FOR INSPECTIONS AND BEING AVAILABLE FOR INSPECTIONS BY THE AUTHORITY HAVING JURISDICTION.
15. PROVIDE FIRESTOPPING AROUND ALL PENETRATIONS THROUGH FIRE RATED PARTITIONS. PROVIDE ASBESTOS FREE FIRESTOPPING SYSTEM CAPABLE OF MAINTAINING AN EFFECTIVE BARRIER AGAINST FLAME AND GASES. SYSTEM SHALL BE UL LISTED AND COMPLY WITH ASTM E 814.
16. PRIOR TO ORDERING ANY MATERIALS AND EQUIPMENT, THOROUGHLY REVIEW THE SITE CONDITIONS TO DETERMINE IF ADEQUATE CLEARANCE AND ACCESS IS ALLOWED TO INSTALL THE COMPONENTS. ORDER EQUIPMENT BROKEN DOWN AS NECESSARY TO ALLOW FOR PROPER HANDLING THROUGH THE PROJECT AREA. PROVIDE ALL NECESSARY ALTERATIONS TO THE STRUCTURE OF THE BUILDING AS NECESSARY TO RIG THE EQUIPMENT IN PLACE.
17. THE CONTRACTOR SHALL BE REQUIRED TO PROPERLY STORE MATERIALS AND EQUIPMENT SO AS TO AVOID THEFT OR VANDALISM. IF THEFT OR VANDALISM OCCURS, THE CONTRACTOR SHALL REPAIR OR REPLACE SUCH ITEMS AT THE DIRECTION OF THE ENGINEER.
18. NOT USED
19. SHOP DRAWINGS:
   A. SHOP DRAWINGS INCLUDE EQUIPMENT SUBMITTALS, FABRICATION AND INSTALLATION DRAWINGS, SETTING DIAGRAMS, SCHEDULES, PATTERNS, TEMPLATES AND SIMILAR DRAWINGS.
   B. DO NOT USE SHOP DRAWINGS WITHOUT AN APPROPRIATE FINAL STAMP INDICATING ACTION TAKEN IN CONNECTION WITH CONSTRUCTION.
   C. DO NOT ORDER ANY MATERIALS OR EQUIPMENT PRIOR TO RECEIVING FINAL APPROVED SHOP DRAWINGS.
20. AS-BUILT DRAWINGS
   A. PREPARE AS-BUILT DRAWINGS TO A SCALE OF 1/4"=1'-0" OR LARGER; DETAILING THE ACTUAL INSTALLATION OF MAJOR ELEMENTS, COMPONENTS, AND SYSTEMS EQUIPMENT AND MATERIALS. WHERE SHOP DRAWINGS ARE USED, RECORD A CROSS-REFERENCE AT THE CORRESPONDING LOCATION ON THE AS-BUILT DRAWINGS. GIVE PARTICULAR ATTENTION TO CONCEALED ELEMENTS THAT WOULD BE DIFFICULT TO MEASURE AND RECORD AT A LATER DATE.
   B. MARK NEW INFORMATION THAT IS IMPORTANT TO THE OWNER, BUT WAS NOT SHOWN ON CONTRACT DRAWINGS OR SHOP DRAWINGS.
   C. NOTE RELATED CHANGE ORDER NUMBERS WHERE APPLICABLE.
21. DEMO: EQUIPMENT TO BE REMOVED WILL INCLUDE ALL NECESSARY ELECTRICAL POWER, CONTROL AND ASSOCIATED DISCONNECTS, ROOF EQUIPMENT SUPPORTS, AND REMAINING ROOF OPENINGS COVERED TO WEATHER. EQUIPMENT REPLACED ON ROOF SHALL BE RECONNECTED TO ELECTRICAL POWER, CONTROL, WIRING AS REQUIRED TO MAKE EQUIPMENT COMPLETELY FUNCTIONAL. DUCTWORK AS REQUIRED SHALL BE COORDINATED WITH NEW LOCATION OF EXISTING EQUIPMENT AND EXTENDED AS REQUIRED TO MAKE THE EQUIPMENT FULLY FUNCTIONAL EQUIPMENT ROOF CURBS AND SUPPORTS SHALL BE EXTENDED AS REQUIRED TO A MINIMUM OF 12" ABOVE THE NEW FINISHED ROOF.
22. SUBSTITUTIONS
   A. SUBSTITUTION REQUEST SUBMITTAL: REQUESTS FOR SUBSTITUTION WILL BE CONSIDERED IF RECEIVED WITHIN 15 DAYS AFTER COMMENCEMENT OF THE WORK. REQUESTS RECEIVED MORE THAN 15 DAYS AFTER COMMENCEMENT OF THE WORK MAY BE CONSIDERED OR REJECTED AT THE DISCRETION OF THE ENGINEER.
   B SUBMIT 3 COPIES OF EACH REQUEST FOR SUBSTITUTION FOR CONSIDERATION.
   C. IDENTIFY THE PRODUCT, OR THE FABRICATION OR INSTALLATION METHOD TO BE REPLACED IN EACH REQUEST. INCLUDE RELATED DRAWING NUMBERS. PROVIDE COMPLETE DOCUMENTATION SHOWING COMPLIANCE WITH THE REQUIREMENTS FOR SUBSTITUTIONS, AND THE FOLLOWING INFORMATION, AS APPROPRIATE.
      1. PRODUCT DATA, INCLUDING DRAWINGS AND DESCRIPTIONS OF PRODUCTS, FABRICATION AND INSTALLATION PROCEDURES.
      2. SAMPLES, WHERE APPLICABLE OR REQUESTED.
      3. A DETAILED COMPARISON OF SIGNIFICANT QUALITIES OF THE PROPOSED SUBSTITUTION WITH THOSE OF THE WORK SPECIFIED, SIGNIFICANT QUALITIES MAY INCLUDE ELEMENTS SUCH AS SIZE, WEIGHT, DURABILITY, PERFORMANCE AND VISUAL EFFECT.
      4. COORDINATION INFORMATION, INCLUDING A LIST OF CHANGES OR MODIFICATIONS NEEDED TO OTHER PARTS OF THE WORK AND TO CONSTRUCTION PERFORMED BY THE OWNER AND SEPARATE CONTRACTORS, THAT WILL BECOME NECESSARY TO ACCOMMODATE THE PROPOSED SUBSTITUTION.
      5. A STATEMENT INDICATING THE SUBSTITUTION'S EFFECT ON THE CONTRACTOR'S CONSTRUCTION SCHEDULE COMPARED TO THE SCHEDULE WITHOUT APPROVAL OF THE SUBSTITUTION. INDICATE THE EFFECT OF THE PROPOSED SUBSTITUTION ON OVERALL CONTRACT TIME.
      6. COST INFORMATION, INCLUDING A PROPOSAL OF THE NET CHANGE, IF ANY IN THE CONTRACT SUM.
      7. CERTIFICATION BY THE CONTRACTOR THAT THE SUBSTITUTION PROPOSED IS EQUAL TO OR BETTER IN EVERY SIGNIFICANT RESPECT TO THAT REQUIRED BY THE CONTRACT DOCUMENTS AND THAT IT WILL PERFORM ADEQUATELY IN THE APPLICATION INDICATED. INCLUDE THE CONTRACTOR'S WAIVER OF RIGHTS TO ADDITIONAL PAYMENT OR TIME, THAT MAY SUBSEQUENTLY BECOME NECESSARY BECAUSE OF THE FAILURE OF THE SUBSTITUTION TO PERFORM ADEQUATELY.

D. ENGINEER'S ACTION: WITHIN ONE WEEK OF RECEIPT OF THE REQUEST FOR SUBSTITUTION, THE ENGINEER WILL REQUEST ADDITIONAL INFORMATION OR DOCUMENTATION NECESSARY FOR EVALUATION OF THE REQUEST. WITHIN 2 WEEKS OF RECEIPT OF THE REQUEST, OR ONE WEEK OF RECEIPT OF THE ADDITIONAL INFORMATION OR DOCUMENTATION, WHICHEVER IS LATER, THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ACCEPTANCE OR REJECTION OF THE PROPOSED SUBSTITUTION. IF A DECISION ON USE OF A PROPOSED SUBSTITUTE CANNOT BE MADE OR OBTAINED WITH THE TIME ALLOCATED, USE THE PRODUCT SPECIFIED BY NAME. ACCEPTANCE OF A PRODUCT SUBSTITUTION WILL BE IN THE FORM OF A CHANGE ORDER.

E. OTHER CONDITIONS: THE CONTRACTOR'S SUBSTITUTION REQUEST WILL BE RECEIVED AND CONSIDERED BY THE ENGINEER WHEN ONE OR MORE OF THE FOLLOWING CONDITIONS ARE SATISFIED, AS DETERMINED BY THE ENGINEER; OTHERWISE REQUESTS WILL BE RETURNED WITHOUT ACTION EXCEPT TO RECORD NONCOMPLIANCE WITH THESE REQUIREMENTS.

1. THE REQUEST IS DIRECTLY RELATED TO AN "OR EQUAL" CLAUSE OR SIMILAR LANGUAGE IN THE CONTRACT DOCUMENTS.
2. THE SPECIFIED PRODUCT OR METHOD OF CONSTRUCTION CANNOT BE PROVIDED WITHIN THE CONTRACT TIME. THE REQUEST WILL NOT BE CONSIDERED IF THE PRODUCT OR METHOD CANNOT BE PROVIDED AS A RESULT OF FAILURE TO PURSUE THE WORK PROMPTLY OR COORDINATE ACTIVITIES PROPERLY.
3. A SUBSTANTIAL ADVANTAGE IS OFFERED THE OWNER, IN TERMS OF COST, TIME, ENERGY CONSERVATION OR OTHER CONSIDERATIONS OF MERIT, AFTER DEDUCTING OFFSETTING RESPONSIBILITIES THE OWNER MAY BE REQUIRED TO BEAR. ADDITIONAL RESPONSIBILITIES FOR THE OWNER MAY INCLUDE ADDITIONAL COMPENSATION TO THE ENGINEER FOR REDESIGN AND EVALUATION SERVICES, INCREASED COST OF OTHER CONSTRUCTION BY THE OWNER OR SEPARATE CONTRACTORS, AND SIMILAR CONSIDERATIONS.

PLUMBING SYSTEMS

THE CONTRACTOR, SUBCONTRACTORS, AND/OR SUPPLIERS PROVIDING GOODS AND SERVICES REFERENCED IN OR RELATED TO THIS SECTION SHALL ALSO BE BOUND BY THE RELATED DOCUMENTS IDENTIFIED IN DIVISION 01 SECTION "SUMMARY."

1.1 SUMMARY
   A. SECTION INCLUDES:
      1. ROOF DRAINS.
      2. STORM PIPING
1.2 REFERENCES
   A. AMERICAN NATIONAL STANDARDS INSTITUTE:
      1. ANSI A117.1 – ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES.
   B. AMERICAN SOCIETY OF MECHANICAL ENGINEERS:
      1. ASME A112.18.1 – PLUMBING FIXTURE FITTINGS.

1.3 QUALITY ASSURANCE
   A. ALL ITEMS OF SIMILAR CLASS SHALL BE THE PRODUCTS OF THE SAME MANUFACTURER. ALL VALVES, ACCESSORY ITEMS, ETC. SHALL BE FROM THE SAME SOURCE.
   B. PROVIDE PRODUCTS REQUIRING ELECTRICAL CONNECTIONS LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC.
   C. MAINTAIN ONE COPY OF EACH DOCUMENT ON SITE.
1.4 QUALIFICATIONS
   A. MANUFACTURER: COMPANY SPECIALIZING IN MANUFACTURING PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM THREE YEARS EXPERIENCE.
   B. INSTALLER: COMPANY SPECIALIZING IN PERFORMING WORK OF THIS SECTION WITH MINIMUM THREE YEARS EXPERIENCE.
1.5 DELIVERY, STORAGE, AND HANDLING
   A. ACCEPT FIXTURES ON SITE IN FACTORY PACKAGING. INSPECT FOR DAMAGE.
   B. PROTECT INSTALLED FIXTURES FROM DAMAGE BY SECURING AREAS AND BY LEAVING FACTORY PACKAGING IN PLACE TO PROTECT FIXTURES AND PREVENT USE.

PART 2 PLUMBING

2.1 STORM PIPING, ABOVE GRADE, SCHEDULE 40 PVC PIPING AND FITTINGS.

2.2 GLASS FIBER PIPING INSULATION, JOHNS/MANVILLE MICRO-LOK. OR APPROVED EQUAL, ASTM C547 RIGID MOLDED, NONCOMBUSTIBLE. 'K' VALUE (SI 'K' VALUE): ASTM C335, 0.25 AT 75 DEGREES F (0.036 AT 24 DEGREES C). VAPOR BARRIER JACKET: WHITE KRAFT PAPER REINFORCED WITH GLASS FIBER YARN AND BONDED TO ALUMINIZED FILM. MOISTURE VAPOR PERMEABILITY: ASTM E96; 0.02 PERM-INCHES. SECURE SEAMS WITH PRESSURE SENSITIVE TAPE CLOSURE AND BUTT JOINTS WITH MINIMUM 3 INCH (76 MM) WIDE TAPE OF SAME MATERIAL AS VAPOR BARRIER JACKET.

2.2 NOT USED

2.4 NEW PRIMARY AND SECONDARY (OVERFLOW) STORM HORIZONTAL PIPING SHALL BE INSULATED PER SPECIFICATION SECTION 2.2.

2.5 PLUMBING INSTALLATION
   A. SLOPE DRAIN PIPING AND ARRANGE TO DRAIN AT LOW POINTS.
   B. CLEANING AND FLUSHING AND TESTING
      1. BUILDING STORM SHALL BE TESTED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE. THE SYSTEM SHALL BE FILLED WITH WATER TO A HEAD OF NOT LESS THAN 10 FEET. THE WATER LEVEL AT THE TOP OF THE TEST HEAD OF WATER SHALL NOT DROP FOR AT LEAST 15 MINUTES.
      2. COMPLETION OF TESTS CONTRACTOR SHALL SUBMIT A TYPEWRITTEN LOG OF TEST DATA FOR OWNER'S PERMANENT FILE INCLUDING:
      1. DATA OF TEST.
      2. SECTION TESTED-ATTACH SKETCH.
      3. EQUIPMENT USED.
      4. PERSONNEL INVOLVED.
      5. OWNER OR OWNER'S WITNESS IN ATTENDANCE.
      6. RESULTS.
   D. AFTER REPAIR ANY FAILED TEST SHALL BE REPEATED UNTIL ALL REQUIREMENTS OF THIS SECTION ARE MET.

MECHANICAL SYSTEMS

1. THE CONTRACTOR SHALL COORDINATE ALL INTERRUPTIONS OF SERVICES AND LIMITATIONS OF ACCESS WITH THE OWNER NO LESS THAN 5 DAYS PRIOR TO THE
2. ACCESS DOORS SHALL BE PROVIDED IN CEILINGS, WALLS AND FLOORS AT ALL DAMPERS, VALVES, CONTROL DEVICES, AND OTHER APPARATUS AND EQUIPMENT REQUIRING PERIODIC SERVICE AND INSPECTION. COORDINATE TYPE AND LOCATION WITH ARCHITECTURAL PLANS.
3. DUCTWORK, PIPING AND ACCESSORIES
   A. ALL DUCTWORK AND ACCESSORIES AS ITEMIZED HERE-IN SHALL BE GALVANIZED STEEL CONSTRUCTION, INCLUDING ALL FITTINGS AND FASTENERS AND SHALL COMPLY WITH THE LATEST EDITION OF SMACNA STANDARDS FOR 1" PRESSURE CLASS. ALL DUCTWORK DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS. ALL SQUARE DUCT ELBOWS ARE TO BE INSTALLED WITH TURNING VANES. ALL RADIUSED DUCT ELBOWS SHALL HAVE MINIMUM CENTER LINE RADIUS EQUAL TO 1-1/2 TIMES THE DUCT WIDTH.
4. INSULATION
   A. INSULATION THICKNESS SHALL BE IN ACCORDANCE WITH LATEST EDITION OF ASHRAE 90.1 EXCEPT THAT PIPE INSULATION SHALL NOT BE LESS THAN 1" THICK AND, FLEXIBLE DUCTWORK INSULATION SHALL NOT BE LESS THAN 1-1/2" THICK. ALL INSULATION MATERIALS, ADHESIVES, COATINGS, AND OTHER ACCESSORIES SHALL HAVE FLAME SPREAD RATINGS OF 25 OR LESS, AND SMOKE DEVELOPED RATINGS OF 50 OR LESS AS TESTED BY ASTM E-84 (NFPA 255) METHOD. ALL INSULATION MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA AND ASHRAE STANDARDS.
5. SEISMIC RESTRAINTS SHALL BE INSTALLED AS REQUIRED PER STATE OF CONNECTICUT BUILDING CODE AND FIRE SAFETY CODE. RESTRAINTS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 13 AND SMACNA STANDARDS. SUBMIT SHOP DRAWINGS INCLUDING SEISMIC CALCULATIONS WITH PROFESSIONAL ENGINEER'S SEAL FOR REVIEW BY ENGINEER.
   A. PROVIDE SEISMIC BRACING FOR ALL DUCTWORK AND EQUIPMENT AS REQUIRED PER THE CODES REFERENCED ABOVE.
6. CLEAN, PRIME AND PAINT MECHANICAL EQUIPMENT AND THE EXPOSED PORTION OF THE DUCTWORK AND PIPING SYSTEMS TO PROTECT AGAINST WEATHER.

ELECTRICAL SYSTEMS

1. GROUNDING SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 70. GROUND EXPOSED, NON-CURRENT-CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, METALLIC RACEWAY SYSTEMS, GROUNDING CONDUCTOR IN METALLIC AND NONMETALLIC RACEWAYS, GROUNDING CONDUCTOR OF NONMETALLIC SHEATHED CABLES, AND NEUTRAL CONDUCTOR OF WIRING SYSTEMS.
2. CONDUCTORS NO. 8 AWG AND LARGER DIAMETER SHALL BE STRANDED ANNEALED COPPER. CONDUCTORS NO. 10 AWG AND SMALLER DIAMETER SHALL BE SOLID ANNEALED COPPER, EXCEPT THAT CONDUCTORS FOR REMOTE CONTROL, ALARM, AND SIGNAL CIRCUITS, CLASSES 1, 2, AND 3, SHALL BE STRANDED UNLESS SPECIFICALLY INDICATED OTHERWISE. CONDUCTOR SIZES AND AMPACITIES SHOWN ARE BASED ON COPPER, UNLESS INDICATED OTHERWISE. UNLESS SPECIFIED OR INDICATED OTHERWISE OR REQUIRED BY NFPA 70, POWER AND LIGHTING WIRES SHALL BE 600-VOLT, TYPE THWN/THHN, ANNEALED COPPER, REMOTE-CONTROL AND SIGNAL CIRCUITS SHALL BE TYPE TW, THW, OR TF ANNEALED COPPER.
3. MAKE ALL SPLICES IN ACCESSIBLE LOCATIONS. MAKE SPLICES IN CONDUCTORS NO. 10 AWG AND SMALLER DIAMETER WITH INSULATED, PRESSURE-TYPE CONNECTOR. MAKE SPLICES IN CONDUCTORS NO. 8 AWG AND LARGER DIAMETER WITH SOLDERLESS CONNECTOR, AND COVER WITH INSULATION MATERIAL EQUIVALENT TO CONDUCTOR INSULATION.
4. PHASE CONDUCTORS SHALL BE IDENTIFIED BY COLOR CODING. THE COLOR OF THE INSULATION ON PHASES A, B, AND C RESPECTIVELY (FOR THREE PHASE) OR PHASES A AND B RESPECTIVELY (FOR SINGLE PHASE) OF DIFFERENT VOLTAGE SYSTEMS SHALL BE AS FOLLOWS: 120/208 VOLT, 3-PHASE: BLACK, RED, AND BLUE.
5. UNLESS OTHERWISE INDICATED, THE WIRING METHOD SHALL CONSIST OF THE INSTALLATION OF INSULATED CONDUCTORS INSTALLED IN ELECTRICAL METALLIC TUBING. METALLIC-ARMORED CABLES MAY BE INSTALLED IN GYPSUM BOARD WALL ABOVE FINISHED CEILINGS AND IN PROTECTED AREAS AS PERMITTED BY NFPA 70. PROVIDE INSULATED, GREEN EQUIPMENT GROUNDING CONDUCTOR IN FEEDER AND BRANCH CIRCUITS, INSTALLED IN CONDUIT OR RACEWAYS. GROUNDING CONDUCTOR SHALL BE SEPARATE FROM ELECTRICAL SYSTEM NEUTRAL CONDUCTOR. MINIMUM SIZE OF RACEWAYS SHALL BE 3/4 INCH. ONLY METAL CONDUITS WILL BE PERMITTED WHEN CONDUITS ARE REQUIRED FOR SHIELDING OR OTHER SPECIAL PURPOSES INDICATED, OR WHEN REQUIRED BY CONFORMANCE TO NFPA 70.
6. ELECTRICAL METALLIC TUBING MAY BE INSTALLED WITHIN BUILDINGS OR EXTERIOR TO BUILDINGS. BUSHINGS, MANUFACTURED FITTINGS OR BOXES PROVIDING EQUIVALENT MEANS OF PROTECTION SHALL BE INSTALLED ON THE ENDS OF ALL CONDUITS AND SHALL BE OF THE INSULATING TYPE, WHERE REQUIRED BY NFPA 70. ONLY UL LISTED ADAPTERS SHALL BE USED TO CONNECT EMT TO RIGID METAL CONDUIT, CAST BOXES, AND CONDUIT BODIES. METALLIC CONDUITS AND TUBING SHALL BE SECURELY AND RIGIDLY FASTENED IN PLACE AS REQUIRED BY NFPA 70.
7. PROVIDE ALL NECESSARY JUNCTION BOXES, PULL BOXES, PULL WIRES, COVER PLATES AND OTHER MISCELLANEOUS EQUIPMENT WHICH IS NOT SHOWN ON THE CONTRACT DOCUMENTS BUT NECESSARY TO COMPLETE THE WORK.
8. PROVIDE FIRESTOPPING AROUND ELECTRICAL PENETRATIONS IN ACCORDANCE WITH FIRESTOPPING REQUIREMENTS. PROVIDE ASBESTOS FREE FIRESTOPPING SYSTEM CAPABLE OF MAINTAINING AN EFFECTIVE BARRIER AGAINST FLAME AND GASES. SYSTEM SHALL BE UL LISTED AND COMPLY WITH ASTM E 814.
9. PROVIDE ALL NECESSARY WIRE, CONDUIT AND EQUIPMENT TO SUPPLY POWER TO THE NEW EXHAUST FANS
10. COORDINATE ALL WORK WITH OTHER TRADES AND ARRANGE INSTALLATION TO AVOID CLASHES BETWEEN EQUIPMENT, WORK OF OTHER TRADES AND BUILDING STRUCTURE.
11. THE CONTRACTOR, SUBCONTRACTORS, AND/OR SUPPLIERS PROVIDING GOODS AND SERVICES REFERENCED IN OR RELATED TO THIS SECTION SHALL ALSO BE BOUND BY THE RELATED DOCUMENTS IDENTIFIED IN DIVISION 01 SECTION "SUMMARY".

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ISSUE DATE

DATE	DESCRIPTION
OCTOBER 15, 2015	DRAWINGS ISSUED FOR LOCAL REVIEW
JANUARY 26, 2016	DRAWINGS ISSUED FOR BID

REVISIONS

DATE	REFERENCE

KEY PLAN

PROJECT TRUE

BOROUGH OF NAUGATUCK INCORPORATED MAY 23, 1844 CONNECTICUT

NAUGATUCK ROOF REPLACEMENT AND RELATED WORK AT HILLSIDE INTERMEDIATE SCHOOL

51 HILLSIDE AVENUE
NAUGATUCK, CT 06770

TMP-088-QJKF

PROJECT NO.: 13014.00 DRAWN BY: AOK

MEP SPECIFICATIONS

MEP-02

DRAWING NO.: