ROOF REPLACEMENT AND RELATED WORK AT WESTERN ELEMENTARY SCHOOL

100 PINE STREET NAUGATUCK, CT 06770 STATE PROJECT NUMBER: TMP-088-GZCK

DRAWING LIST

PROJECT COVER SHEET L1.01 SITE LAYOUT A3.00 DEMOLITION PLAN A3.01 ROOF PLAN A3.02 ROOF DETAILS ASB-1 ASBESTOS ABATEMENT ASB-2 ASBESTOS ABATEMENT ASB-3 ASBESTOS ABATEMENT MEP-01 MEP ROOF PLAN MEP-02 MEP SPECIFICATIONS



BUILDING COMMITTEE **ROBERT NETH- Chairman** CINDY HERB RAYMOND LENNON JR. WAYNE McALLISTER KEVIN KNOWLES JAMES SCULLY MICHAEL LYNCH SHARON LOCKE

VOLUME 1 OF 1

DRAWINGS ISSUED FOR BID

JANUARY 26, 2016

KAESTLE BOOS ASSOCIATES, INC. KAESTLE BOOS

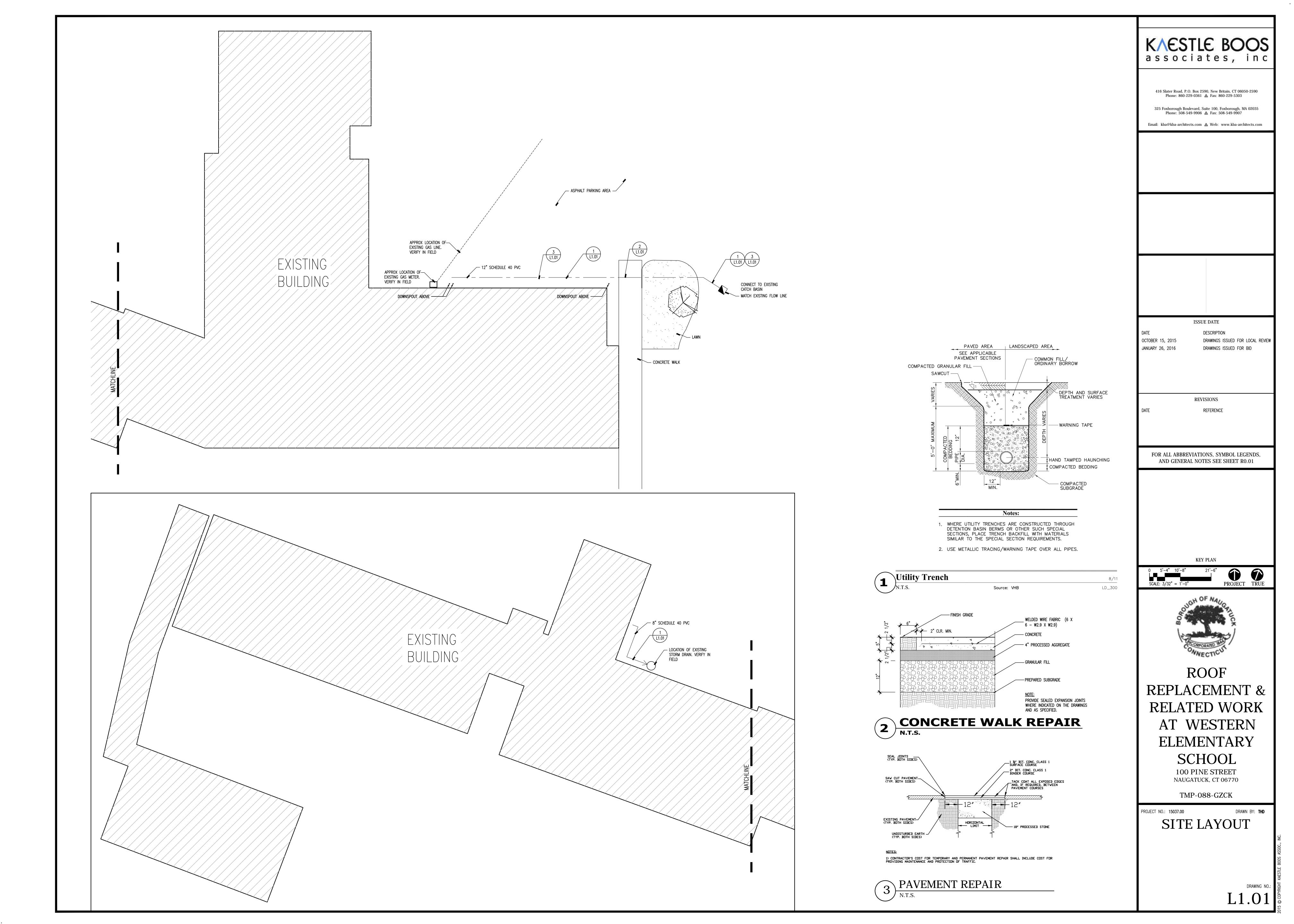
ARCHITECTURAL, STRUCTURAL & LANDSCAPE

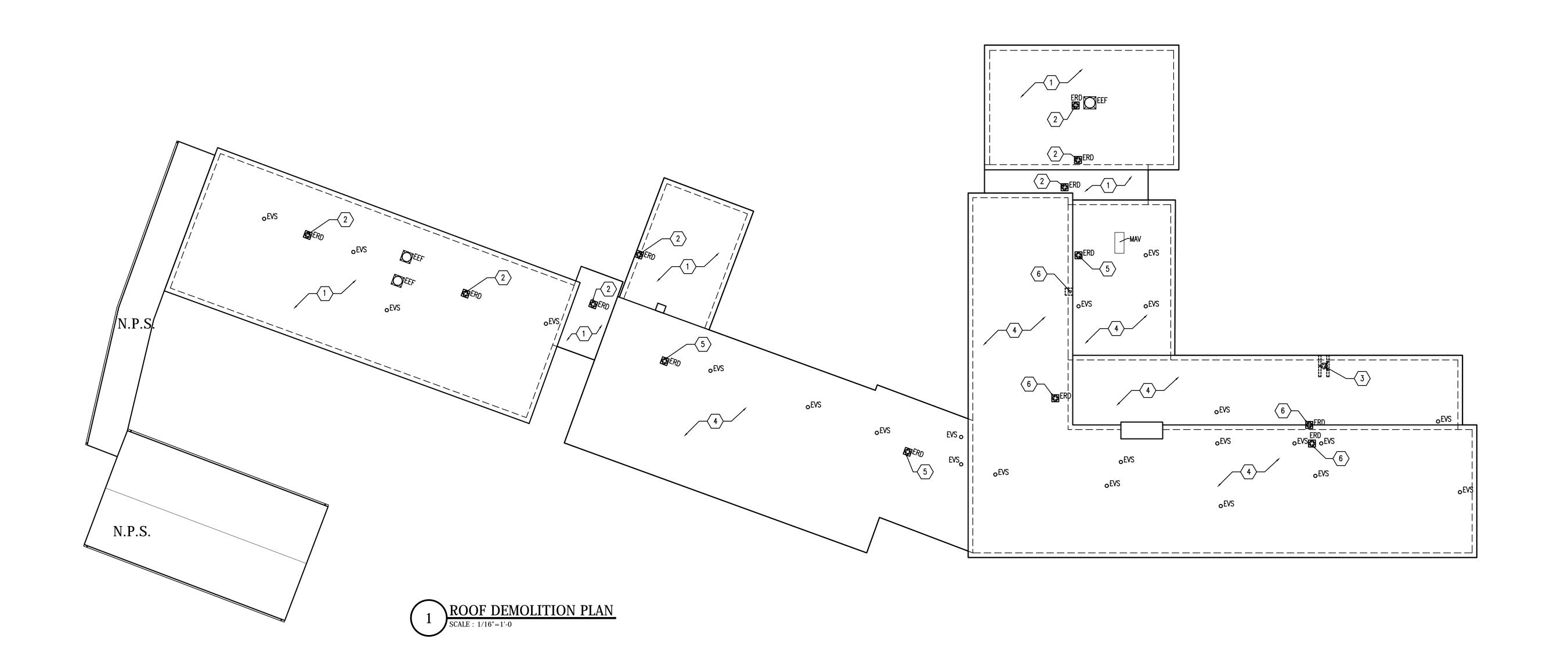
CONSULTING ENGINEERING SERVICES, INC.

MECHANICAL, PLUMBING, AND ELECTRICAL ENGINEER

THE ENVIRONMENTAL CORPORATION

ASBESTOS ABATEMENT





ROOF DEMOLITION PLAN LEGEND

EXISTING EXHAUST FAN TO BE REMAIN

EXISTING ROOF DRAIN TO BE REMOVED

OEVS

EXISTING VENT STACK

N.P.S.

NOT IN PROJECT SCOPE

ROOF DEMOLITION LEGEND

REMOVE ALL EXISTING ROOFING MATERIAL DOWN TO DECK (WHERE INDICATED) INCLUDING BUT NOT LIMITED TO: MEMBRANE, MEMBRANE FLASHING, AND INSULATION (TYP).

REMOVE EXISTING ROOF DRAIN

REMOVE EXISTING ROOF TOP EQUIPMENT

ON CONCRETE DECKS REMOVE ALL EXISTING ROOFING MATERIAL DOWN TO THE GRAVEL ON COAL TAR PITCH (WHERE INDICATED) INCLUDING BUT NOT LIMITED TO: MEMBRANE, MEMBRANE FLASHING, AND INSULATION (TYP).

REMOVE EXISTING DRAIN BASKET (EXISTING ROOF DRAIN BOWL TO REMAIN).

REMOVE EXISTING DRAIN BASKET (EXISTING ROOF DRAIN BOWL TO BE CAPPED).

ROOF DEMOLITION NOTES

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.

3) ALL EXISTING ROOF EXHAUST FANS & CURBS ARE TO REMAIN.

4) ALL EXISTING VENT STACKS ARE TO REMAIN.

4) ALL EXISTING VENT STACKS ARE TO REMAIN.5) EXISTING ROOF TOP MECHANICAL EQUIPMENTS (MAV) TO REMAIN.

6) EXISTING EXHAUST FANS TO REMAIN ARE TO BE REMOVED, SALVAGED, AND REINSTALLED AT COMPLETION OF WORK.

7) REFER TO ASBESTOS ABATEMENT DRAWINGS FOR REMOVAL OF MATERIALS BY ABATEMENT CONTRACTOR (UNDER SEPARATE CONTRACT) AND COORDINATION OF SEQUENCE OF DEMOLITION. DRAWINGS ARE INCLUDED FOR REFERENCE ONLY.

KAESTLE BOOS associates, inc

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ISSUE DATE

DATE DESCRIPTION

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JANUARY 26, 2016 DRAWINGS ISSUED FOR BID

REFERENCE

REVISIONS

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

KEY PLAN

0 8' 16' 3 SCALE: 1/16" = 1'-0"





ROOF
REPLACEMENT &
RELATED WORK
AT WESTERN
ELEMENTARY

SCHOOL 100 PINE STREET

NAUGATUCK, CT 06770

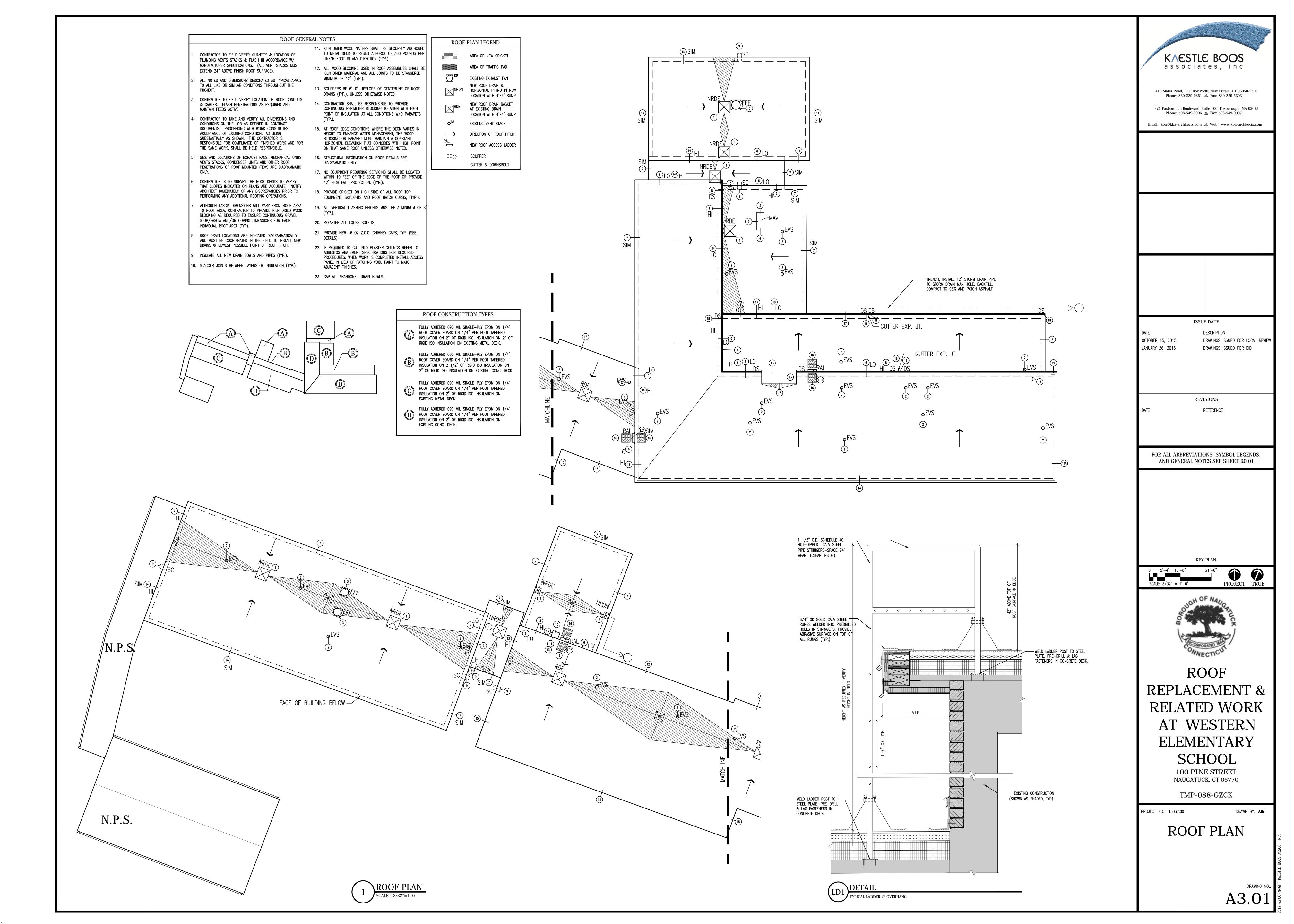
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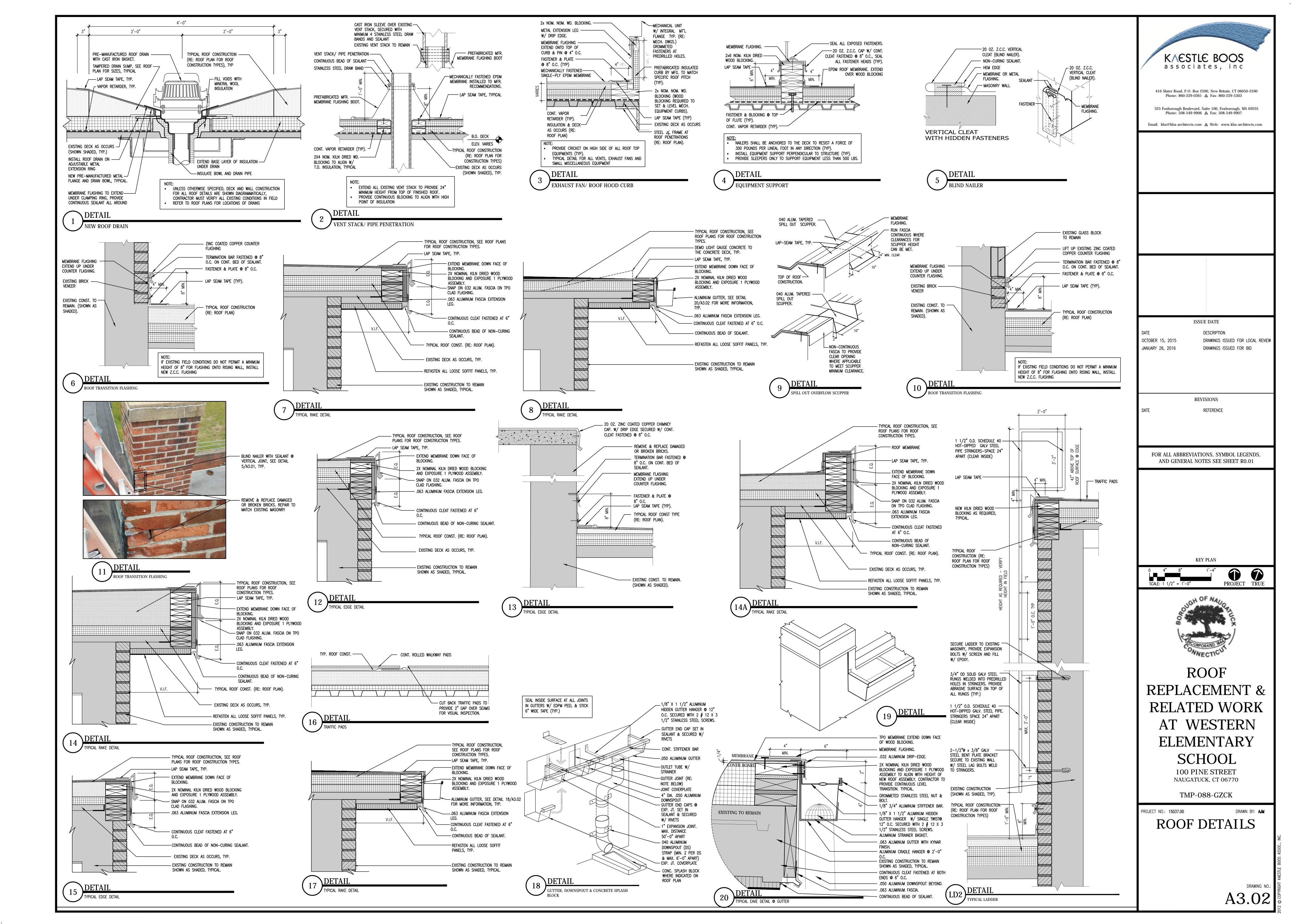
PROJECT NO.: **15037.00**

DEMOLITION PLAN

DRAWING NO.: A3.00

DRAWN BY: AJM





ACM NOTES:

- 1. Phase 1 includes the removal of ACM in the form of penetration flashing on Roof 1.
- 2. Phase 2 includes the removal of ACM in the forms of penetration and perimeter flashing on Roofs 2 and 3.
- 3. Phase 3 includes the removal of ACM in the form of penetration flashing on Roofs 6 and 8; in the form of grey brittle window caulk (WC1) on Roofs 5, 6, and 8; and in the form of grey brittle caulk (C4) on Roofs 5 and 6.
- 4. Refer to Section 02 08 00 for additional information concerning Phase 1 through 3 asbestos



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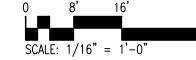
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FOR ALL ABBREVIATIONS, SYMBOL LEGENDS,

AND GENERAL NOTES SEE SHEET R0.01

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SCHOOL 100 PINE STREET NAUGATUCK, CT 06770

TMP-088-GZCK

PROJECT NO.: 237478

LEGEND OF SYMBOLS

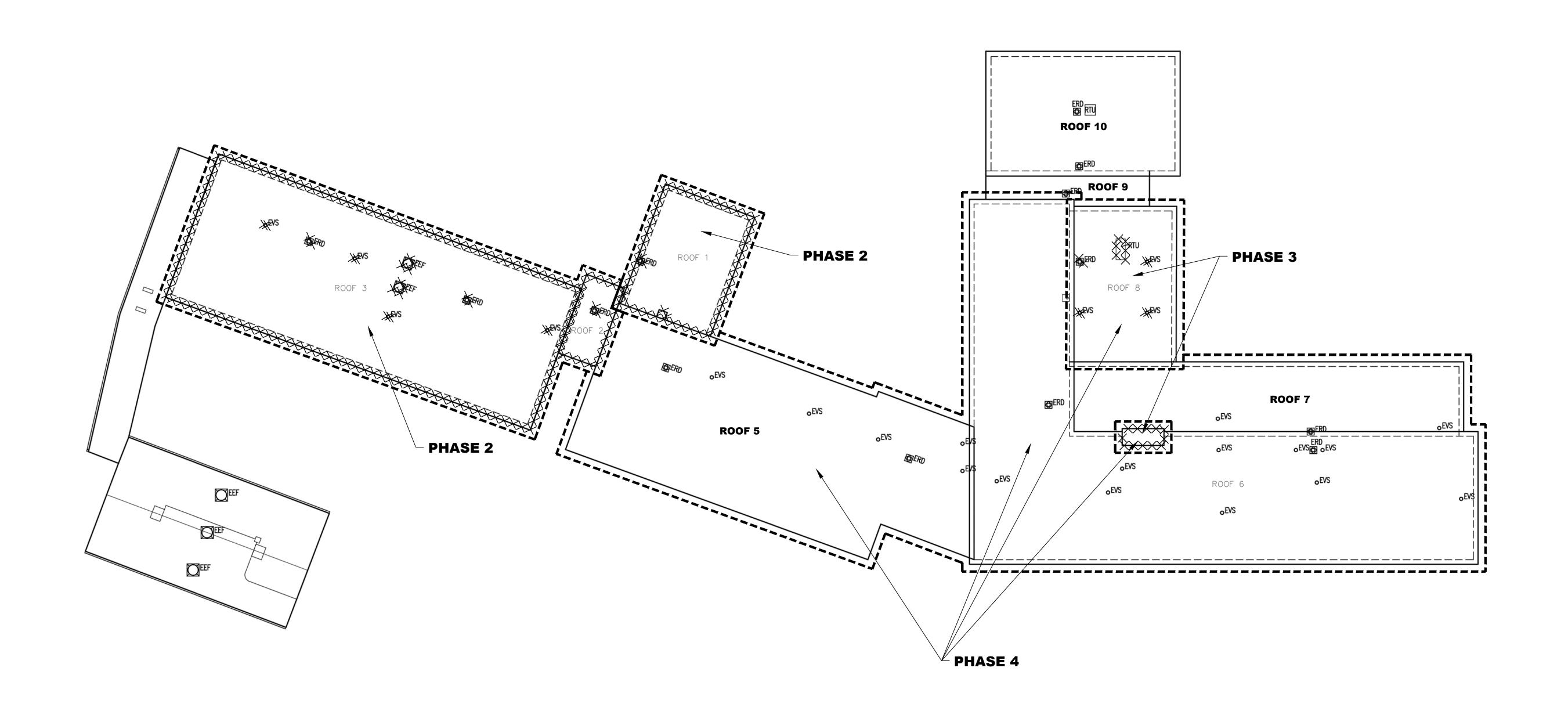
XXXX ACM ROOF FLASHING

■■■ PHASE LINE

ASBESTOS

ABATEMENT

DRAWING NO.:
ASB-1



GRASSEY AREA

MUSIC ROOM 10

KONFALA

GRADE 2

ROOM 31

LAV

ART ROOM 9

LIBRARY ROOM 7

COMPUTER LAB ROOM 8

HALL

GR 1 LeFEBVRE ROOM 5

QUINN GRADE 1 ROOM 6

PHASE 4 &

PHASE 5

GUIDANCE SOCIAL WORKER

WARD GR K ROOM 3

STAIRS 2

CAF

STORAGE

MAKARAWICZ

GR K

ROOM 2

BOILER ROOM

GODIN GR K ROOM 1

MAIN DOORS

PELLETIER

ROOM 301

WORK ROOM ROOM 11

GRADE 2

- 1. Phase 4 includes the enclosure with polyethylene sheeting of all base coat and skim coat ceiling plaster on the lower level of the original building.
- 2. Phase 4 enclosures will be installed prior to roofing activities. 3. Phase 5 includes the removal of all mudded roof drain bowl insulation and roof drain insulation as
- 4. Refer to Section 02 08 00 for additional information concerning Phase 4 and 5 asbestos removal.



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KEY PLAN





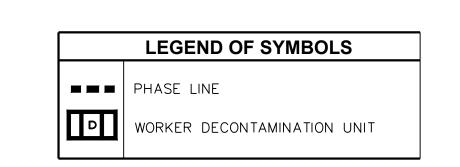
ROOF REPLACEMENT & RELATED WORK AT WESTERN **ELEMENTARY**

SCHOOL 100 PINE STREETNAUGATUCK, CT 06770

TMP-088-GZCK

ASBESTOS ABATEMENT

> DRAWING NO.: ASB-2



READING TUTOR

MATH TUTOR

| ■ STAIRS

MAIN DOORS

CURRICULUM

ROOM 21

ROOM

D

CURYLO GRADE 3 ROOM 23

KITCHEN

SCHMALING GRADE 3 ROOM 24

STAGE

GYM/MULTI PURPOSE ROOM

CAF

ZIROLLI SPEECH ROOM 25

RESOURSE ROOM

RACHEL

HAYES

ROOM 26

PHASE 4 &

PHASE 5

PISCITELLI GRADE 4 ROOM 27

LUCHENE GRADE 4 ROOM 28

STAIRS

COLELLA

GRADE 3

ROOM 22

- 1. Phase 4 includes the enclosure with polyethylene sheeting of all base coat and skim coat ceiling plaster on the upper level of the original building.
- 2. Phase 4 enclosures will be installed prior to roofing activities.
- 3. Phase 5 includes the removal of all mudded roof drain bowl insulation and roof drain insulation as
- 4. Refer to Section 02 08 00 for additional information concerning Phase 4 and 5 asbestos removal.



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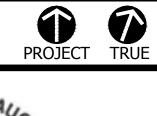
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> **REVISIONS** REFERENCE

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KEY PLAN





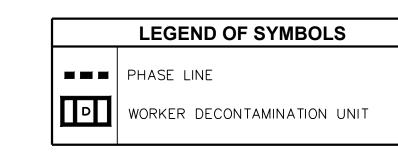
ROOF REPLACEMENT & RELATED WORK AT WESTERN **ELEMENTARY**

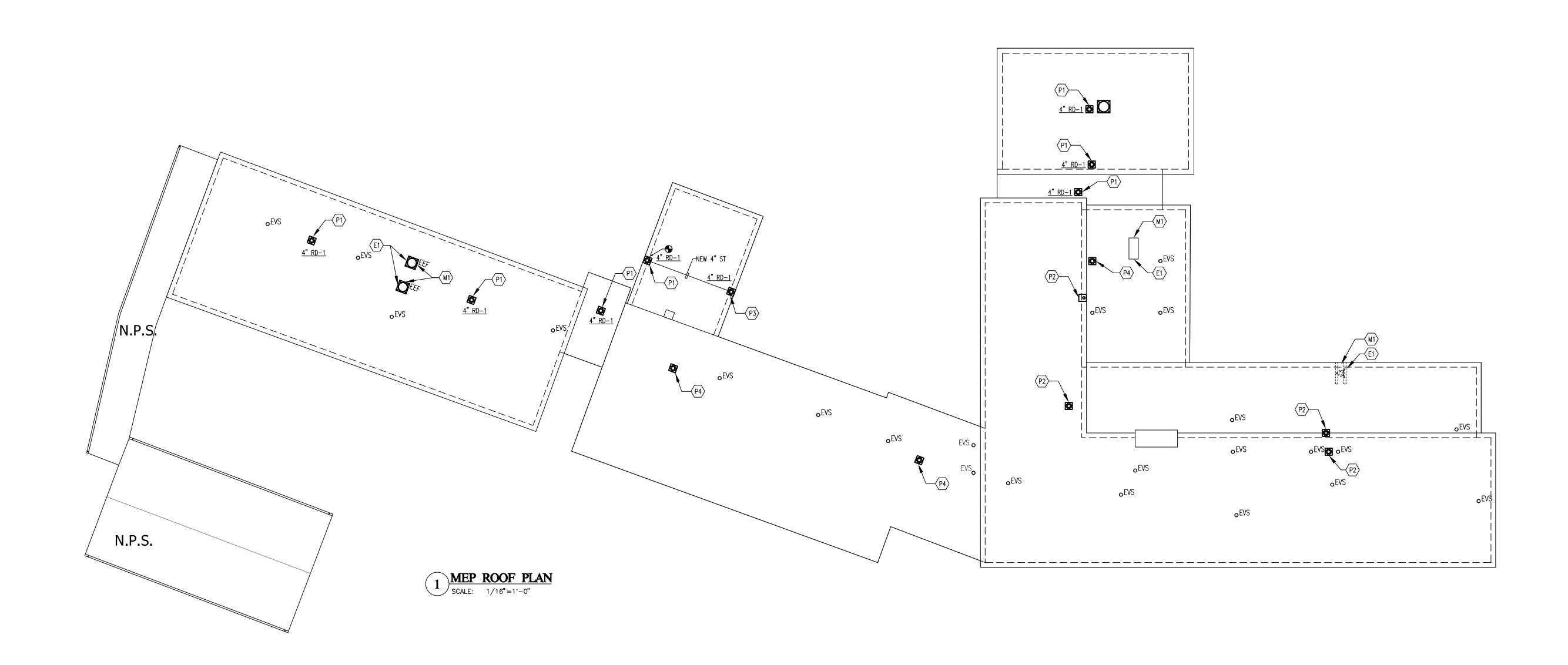
SCHOOL 100 PINE STREETNAUGATUCK, CT 06770

TMP-088-GZCK

ASBESTOS ABATEMENT

> DRAWING NO.: ASB-3





- EXISTING EXHAUST FAN
- EXISTING ROOF DRAIN

MECHANICAL ROOF NOTES

EXISTING ROOF EXHAUST FAN TO BE REMOVED. EXTEND EXISTING ROOF CURB TO MAINTAIN HEIGHT OF 12" ABOVE NEW ROOF REINSTALL EXISTING EXHAUST FAN

ELECTRICAL ROOF DEMO NOTES

DISCONNECT EXISTING ROOF EXHAUST FAN FOR REMOVAL BY MECHANICAL CONTRACTOR. RECONNECT TO NEW EXHAUST FAN.

 $\stackrel{\text{\scriptsize (E2)}}{\longrightarrow}$ DISCONNECT EXISTING MECHANICAL EQUIPMENT. CAP AND MAKE SAFE EXISTING WIRING.

DISCONNECT AND REMOVE EXISTING MECHANICAL EQUIPMENT COMPLETELY, CAP EXISTING DUCTWORK AND/OR PIPING.

- PI) 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.
- EXISTING ROOF DRAIN TO REMAIN. REMOVE EXISTING DOME STRAINER. PROVIDE METAL CAP, FULL SIZED FOR DRAIN AND SUMP, TO CAP ROOF DRAIN.
- EXISTING ROOF DRAIN TO REMAIN. REPLACE EXISTING DOME STRAINER. VERIFY EXACT SIZE IN FIELD.

MEP ROOF PLAN LEGEND

- EXISTING VENT STACK
- N.P.S. NOT IN PROJECT SCOPE

PLUMBING ROOF NOTES

- NEW ROOF DRAIN. EXTEND NEW STORM PIPING AND CONNECT TO EXISTING.

associates, inc

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REFERENCE

KEY PLAN





ROOF REPLACEMENT & RELATED WORK AT WESTERN **ELEMENTARY**

SCHOOL 100 PINE STREET

NAUGATUCK, CT 06770 TMP-088-GZCK

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.
- 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. <u>PROVIDE</u>: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."
- D. <u>REMOVE</u>: 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.

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. LISE ADEQUATE NUMBERS OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND
- 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
- 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
- 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
- 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.
- 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.
- 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.

NONCOMPLIANCE WITH THESE REQUIREMENTS.

- WILL BE IN THE FORM OF A CHANGE ORDER.

 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
- 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 SYSTEM

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:
- ROOF DRAINS.
 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.

- 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.
- 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 STORM HORIZONTAL PIPING SHALL BE INSULATED PER SPECIFICATION SECTION 2.1.
- 2.5 PLUMBING INSTALLATION
- A. SLOPE DRAIN PIPING AND ARRANGE TO DRAIN AT LOW POINTS.
- B. CLEANING AND FLUSHING AND TESTING
- 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.
- EQUIPMENT USED.
 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

LIMITATIONS

NOT USED

- 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.

ELECTRICAL SYSTEMS

OF WIRING SYSTEMS.

CONFORMANCE TO NFPA 70.

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

- 2. NOT USED
- 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
- 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
- 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
- 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.

DOCUMENTS BUT NECESSARY TO COMPLETE THE WORK.

- 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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CES #2015193.00

ISSUE DATE

DATE DESCRIPTION

OCTOBER 15, 2015 DRAWINGS ISSUED FOR LOCAL REVIEW

DRAWINGS ISSUED FOR BID

REVISIONS

JANUARY 26, 2016

REFERENCE

KEY PLAN





ROOF REPLACEMENT & RELATED WORK AT WESTERN ELEMENTARY

100 PINE STREETNAUGATUCK, CT 06770

TMP-088-GZCK

PROJECT NO.: **13014.00**

MEP SPECIFICATIONS

MEP-02

DRAWING NO.

DRAWN BY: AOK