

THE STATE OF CONNECTICUT DEPARTMENT OF HOUSING (DOH) COMMUNITY DEVELOPMENT BLOCK GRANT - DISASTER RECOVERY (CDBG-DR) OWNER OCCUPIED REHABILITATION and REBUILDING PROGRAM (OORR)

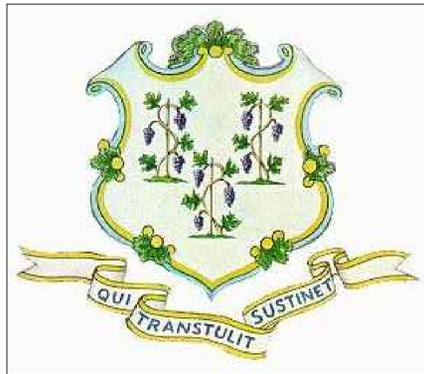


June 26, 2015

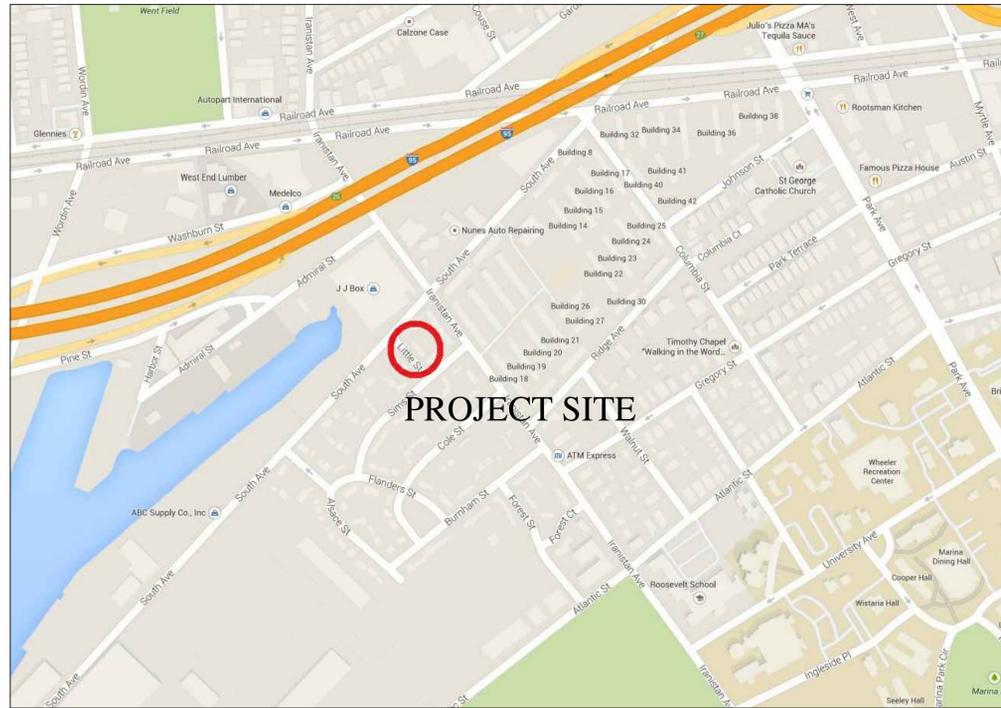
csa project 1347-17

Issued for:

Bidding and Construction



Curwen Residence Rehabilitation and Mitigation Application No. 1732 16 Little Street Bridgeport, CT 06604



LOCATION PLAN

not to scale



Drawing List

Title Sheet	
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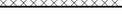
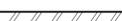
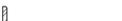
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**THE STATE OF CONNECTICUT
DEPARTMENT OF HOUSING (DOH)
COMMUNITY DEVELOPMENT BLOCK GRANT - DISASTER RECOVERY (CDBG-DR)
OWNER OCCUPIED REHABILITATION and REBUILDING PROGRAM (OOR)**

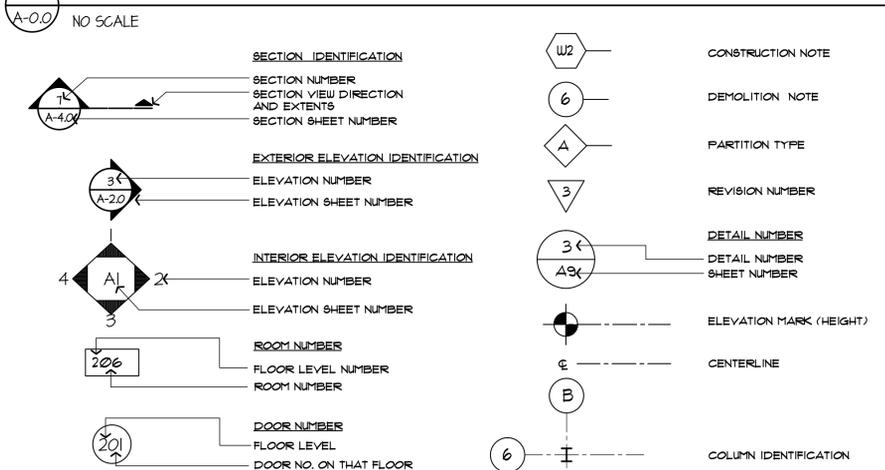
**GENERAL RENOVATIONS for the CURWEN RESIDENCE
APPLICATION No. 1732
16 Little Street
Bridgeport, CT 06604**

	BRICK		SPRAY FOAM INSULATION
	STONE		BATT INSULATION
	CONCRETE		FINISH WOOD (ELEVATION)
	MASONRY BLOCK		FINISH WOOD (SECTION)
	PLYWOOD		WOOD BLOCKING (CONT)
	GYPSUM BOARD		WOOD BLOCKING (NOT CONT)
	STEEL (SECTION)		STEEL ANGLE
	CERAMIC TILE		STEEL BEAM
	EARTH		GRAVEL

A.C.T. ACOUST. AL.T. ALUM. ARCH. ASB. A.T. @	ACOUSTICAL CEILING TILE ACOUSTIC ALTERNATE ALUMINUM ARCHITECTURAL ASBESTOS ASPHALT TILE AT	I.D. INSUL.	INSIDE DIAMETER INSULATION
B.C. BD. B.F. BLDG.	BRICK COURSE BOARD BOTTOM OF FOOTING BUILDING	JAN. JT.	JANITOR JOINT
CAB. C/C C.T. C.J. C.L. C.L.G. C.O. COL. COMP. CONC. CONN. CONT. CORR. CSK.	CABINET CENTER TO CENTER CERAMIC TILE CONTROL JOINT CENTER LINE CEILING CASED OPENING COLUMN COMPACTED CONCRETE CONNECTION CONTINUOUS CORRIDOR COUNTERSINK	LAM. L.P. LCKR.	LAMINATED LOW POINT LOCKER
D.F. DET. DNG. DN. DP.	DRINKING FOUNTAIN DETAIL DRAWING DOWN DAMPPOOFING	MAS. MAT. MAX. M.C. MECH. MEM. MFR. MIN. MIR. MISC. M.O.	MASONRY MATERIAL MAXIMUM MASONRY COURSE MECHANICAL MEMBRANE MANUFACTURER MINIMUM MIRROR MISCELLANEOUS MASONRY OPENING
ELECT. E.J. ELEV. E.P. EQUIP. ETR. E.W.C. EXP.	ELECTRICAL EXPANSION JOINT ELEVATION (ELEVATOR) ELECTRICAL PANEL EQUIPMENT EXISTING TO REMAIN ELECTRIC WATER COOLER EXPANSION	N.I.C. NO. N.T.S.	NOT IN CONTRACT NUMBER NOT TO SCALE
F.A.P. F.D. F.E. F.H.C. FIN. FL. F/M F/F FDN F.R. FTG. FUR.	FIRE ALARM PANEL FLOOR DRAIN FIRE EXTINGUISHER FIREHOSE CABINET FINISH FLOOR FACE OF MASONRY FACE OF FRAMING FOUNDATION FIRE RATED FOOTING FURNACE	O/C O.D. OPNG. OPP.	ON CENTER OUTSIDE DIAMETER OPENING OPPOSITE
G.M.W. GWB. GALV. GL. GLZ. GYP. BD.	GLAZED MASONRY UNIT GYPSUM WALLBOARD GALVANIZED GLASS GLAZING GYPSUM WALL BOARD	PERF. P.T.	PERFORATED PRESSURE TREATED
HGT. H.M. H.P. HDWD. HDWR.	HEIGHT HOLLOW METAL HIGH POINT HARDWOOD HARDWARE	R. R.B. REF. REINF. R.L. RM.	RISER (RADIUS) RUBBER BASE REFERENCE REINFORCING RAIN LEADER ROOM
		SIM. SPEC. STL. STRUCT. STOR. SUSP.	SIMILAR SPECIFICATION STEEL STRUCTURAL STORAGE SUSPENDED
		TERR. T&G. THRESH. T. T/S T/STL T/W TYPICAL	TERRAZZO (TERRACE) TONGUE AND GROOVE THRESHOLD TREAD TOP OF SLAB TOP OF STEEL TOP OF WALL TYPICAL
		V.C.T. V.B. VERT. VEST. V.I.F. V.W.C.	VINYL COMPOSITE TILE VINYL BASE VERTICAL VESTIBULE VERIFY IN FIELD VINYL WALL COVERING
		W W.C. WD. WIND. W.P. WH. ZCC	WITH WATER CLOSET WOOD WINDOW WATERPROOFING WATER HEATER ZINC-TIN COATED COPPER

- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH APPLICABLE STATE OF CONNECTICUT BUILDING AND FIRE CODES AND SAFETY CODES. BEFORE WORK BEGINS CONTRACTOR IS TO CONTACT CALL BEFORE YOU DIG AT 1-800-422-4455 TO LOCATE ALL UNDERGROUND UTILITIES.
- WORK PERMITS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL SECURE ALL REQUIRED LOCAL AND STATE OF CONNECTICUT PERMITS PRIOR TO COMMENCING WORK. ALL COSTS OF SECURING PERMITS SHALL BE PAID BY THE OWNER.
- ALL MATERIALS AND EQUIPMENT THAT WILL BE USED IN THE CONSTRUCTION OF THIS PROJECT ARE SUBJECT TO THE APPROVAL OF THE OWNER. ALL MATERIALS AND EQUIPMENT REQUIRED BY NOTES OR SPECIFICATIONS SHALL BE SUBMITTED IN THE FORM OF SAMPLES AND SHOP DRAWINGS FOR APPROVAL BY ARCHITECT. WHERE COLOR SELECTIONS ARE MADE, COMPLETE SAMPLES SHALL BE FURNISHED TO THE ARCHITECT.
- ALL EXISTING OR NEW CONSTRUCTION DISTURBED OR DAMAGED DURING THE COURSE OF THIS WORK SHALL BE RESTORED TO MATCH EXISTING ADJACENT SURFACES OR ORIGINAL CONSTRUCTION.
- PRECAUTION MUST BE EXERCISED AT ALL TIMES FOR THE PROTECTION OF PERSONS AND PROPERTY. THE SAFETY PROVISIONS OF APPLICABLE LAWS AND CONSTRUCTION CODES MUST BE OBSERVED. CONTRACTOR SHALL TAKE OR CAUSE TO BE TAKEN SUCH ADDITIONAL SAFETY AND HEALTH MEASURES AS ARE REASONABLY NECESSARY. MACHINERY, EQUIPMENT AND OTHER HAZARDS GUARDED IN ACCORDANCE WITH SAFETY PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" PUBLISHED BY THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, TO THE EXTENT THAT SUCH PROVISIONS ARE NOT IN CONTRADICTION OF APPLICABLE LAWS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT AND PRESERVE IN OPERATIONAL CONDITION ALL UTILITIES TRAVERSING THE WORK AREA. DAMAGE TO ANY UTILITY DUE TO WORK UNDER THIS CONTRACT SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT NO ADDITION COST TO THE OWNER. UTILITY SHUT DOWNS MUST BE COORDINATED WITH THE OWNER.
- EACH BIDDER WILL BE HELD TO HAVE EXAMINED THE PREMISES AND SATISFIED HIMSELF WITH THE CONDITIONS WHICH WOULD IN ANY MANNER AFFECT THE WORK UNDER THE CONTRACT AND NO LATER CLAIMS FOR EXTRA COMPENSATION FOR LABOR, MATERIALS AND EQUIPMENT WHICH COULD HAVE BEEN FORSEEN BY SUCH EXAMINATION WILL BE RECOGNIZED.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASUREMENTS FOR HIS WORK AT THE SITE AND SHALL VERIFY ALL MEASUREMENTS AND DIMENSION GIVEN ON THE DRAWINGS. DO NOT SCALE DRAWINGS.
- DO NOT PROCEED WITH CHANGE IN SCOPE OF WORK WITHOUT WRITTEN APPROVAL FROM OWNER OR ARCHITECT.
- ALL DEMOLITION SHOWN ON THESE DRAWINGS IS DIAGRAMMATIC. CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION AND RELOCATION WORK NECESSARY TO PROPERLY COMPLETE THE PROJECT, REGARDLESS IF DEMOLITION WORK IS SHOWN OR NOT ON DRAWINGS.
- THE CONTRACTOR IS RESPONSIBLE FOR LEGAL DISPOSAL OF ALL CONSTRUCTION WASTE AND REMOVED ELEMENTS, UNLESS NOTED OTHERWISE ON DRAWINGS. DEBRIS SHALL BE DISPOSED OF ON A DAILY BASIS.
- THE CONTRACTOR SHALL PROVIDE ALL STRUCTURAL SHORINGS, BRACING AND SHEATHING AS REQUIRED FOR SAFETY AND FOR PROPER EXECUTION OF WORK AND HAVE SAME REMOVED WHEN WORK IS COMPLETED.
- THE OWNER RETAINS THE RIGHT TO SALVAGE ANY DEMOLISHED OR CONTRACTOR REMOVED MATERIAL(S). CONTACT OWNER BEFORE REMOVAL FROM SITE

4 MATERIALS LEGEND



3 SYMBOLS LEGEND

NO SCALE

2 ABBREVIATIONS

NO SCALE

1 GENERAL CONSTRUCTION and DEMOLITION NOTES

NO SCALE

date	description	no.
revisions		

GENERAL INFORMATION

A-0.0

date	26 JUNE 2015
drawn	P5R
scale	AS SHOWN
checked	JP/DH
project no.	1341-11
application no.	1132

CONSTRUCTION NOTES

- 1 NEW GNB SOFFIT FOR DUCTWORK. SEE DETAIL 1/A-3.0. DRAFT STOP ALL WALL PENETRATIONS. PAINTED FINISH.
- 2 NEW WOOD PLATFORM FOR MEP EQUIPMENT. SEE DETAIL 2/A-3.0 PAINTED FINISH
- 3 NEW INFILL IN EXISTING OPENING. PROVIDE 2X WOOD BLOCKING AS REQUIRED, NEW GNB CEILING AND TEXTURED FINISH IN KITCHEN (1) LOCATION, NEW SUBFLOOR AND UNDERLAYMENT TO MATCH EXISTING ELEVATION AND NEW WOOD FLOOR FINISHED TO MATCH EXISTING MATERIALS. STAGGER JOINTS TO MINIMIZE PATCH APPEARANCE. FIRST FLOOR (1) LOCATIONS, SECOND FLOOR (1) LOCATION.
- 4 PATCH EXISTING WOOD PANEL WALL WITH MATCHING INFILL AT NEW PIPING INSTALLATION. DRAFTSTOP ALL PENETRATIONS. PAINT TO MATCH EXISTING FINISH.
- 5 NEW VENT PIPE PENETRATION AT ROOF. SEE DETAIL 3/A-3.0
- 6 NEW HVAC SUPPLY VENT. SEE MEP DRAWINGS FOR SIZE. DRAFTSTOP AROUND DUCT.
- 7 NEW ROOFING. REPLACE ANY DAMAGED SHEATHING WITH 3/8" MIN. EXTERIOR PLYWOOD TO MATCH SUBSTRATE. PROVIDE NEW ROLLED ROOFING PER ROOFING DETAILS. PROVIDE NEW ZCC STEP FLASHING AT BRICKWORK TO REPLACE EXISTING. PROVIDE NEW COATED ALUM Drip EDGE AT PERIMETER. SEE DETAIL 4/A-3.0

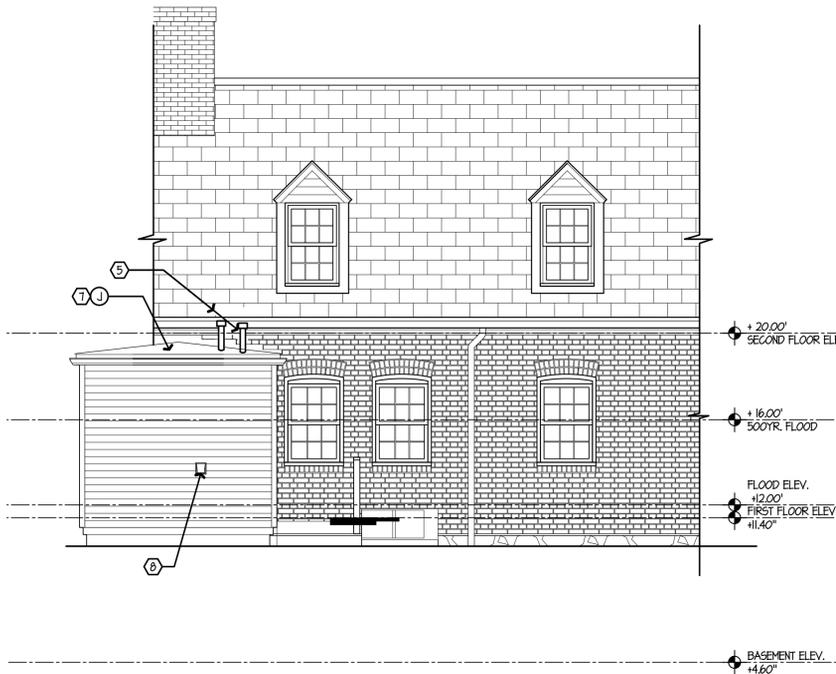
- 8 NEW HOODED VENT CAP. SEE MEP DRAWINGS
- 9 NEW 1/2" GNB CEILING ON EXISTING ROOF RAFTERS, NEW 1/2" GNB WALL FINISH. PROVIDE CLOSED CELL FOAM INSULATION BETWEEN RAFTERS AND JOISTS TO FILL CAVITY. PAINTED
- 10 NEW FLOOR INFILL. REMOVE EXISTING GRATE FOR REINSTALLATION. PROVIDE 3/4" PLYWOOD SUBFLOOR, UNDERLAYMENT AND ADHERED SMOOTH FINISH FRP OR PLASTIC PANEL ON TOP. CAULK ALL JOINTS AND REINSTALL GRATE FLUSH WITH EXISTING FLOOR.
- 11 PROVIDE NEW WATER, WASTE AND GAS HOOKUPS FOR STACKABLE WASHER/DRYER (BY OWNER) SEE MEP.
- 12 RELOCATE EXISTING REFRIGERATOR. PROVIDE NECESSARY ELECTRIC CONNECTIONS. SEE MEP.
- 13 PROVIDE NEW PLYWOOD AND MELAMINE PANTRY UNIT, 36" x 8" x 82"

DEMOLITION NOTES

- 1 REMOVE EXISTING MECHANICAL EQUIPMENT. SEE MEP DRAWINGS FOR EXTENTS, AND EQUIPMENT FOR SALVAGE.
- 2 REMOVE EXISTING SHELVES AND CABINETS AND SUPPORTING HARDWARE TO EXISTING WALLS.
- 3 REMOVE WOOD CEILING AND INTERIOR WALL PANELS TO BARE STUDS/RAFTERS.
- 4 REMOVE METAL GRILLE AT CEILING/FLOOR.
- 5 REMOVE BACK PANEL ON EXISTING LOUVERED DOOR AND RESTORE TO ORIGINAL OPERATION.
- 6 CUT WOOD PANEL WALL FOR NEW PIPING TO BASEMENT. PROVIDE CLEAN STRAIGHT CUTS TO PERMIT RESTORATION OF FINISH.
- 7 CUT NEW CEILING/FLOOR THRU OPENING FOR HVAC DUCTWORK. VIF LOCATION TO AVOID CUTTING FLOOR JOISTS.
- 8 CUT NEW THRU WALL OPENING FOR DUCTWORK PENETRATION (3) LOCATIONS. PROVIDE STEEL LITTLE AT REMOVED VENEER BRICK WALL PER SCHEDULE. (1) LOCATION.
- 9 NOT USED
- 10 REMOVE EXISTING ASPHALT SHINGLE ROOF TO EXISTING SHEATHING COMPLETE. REMOVE EXISTING FLASHING AND DRIP EDGES, COMPLETE. REMOVE ANY DAMAGED SHEATHING UNIT TO SUPPORT NEW ROOFING. EXISTING GUTTERS TO REMAIN.

CONSTRUCTION NOTES

SCALE: NT5

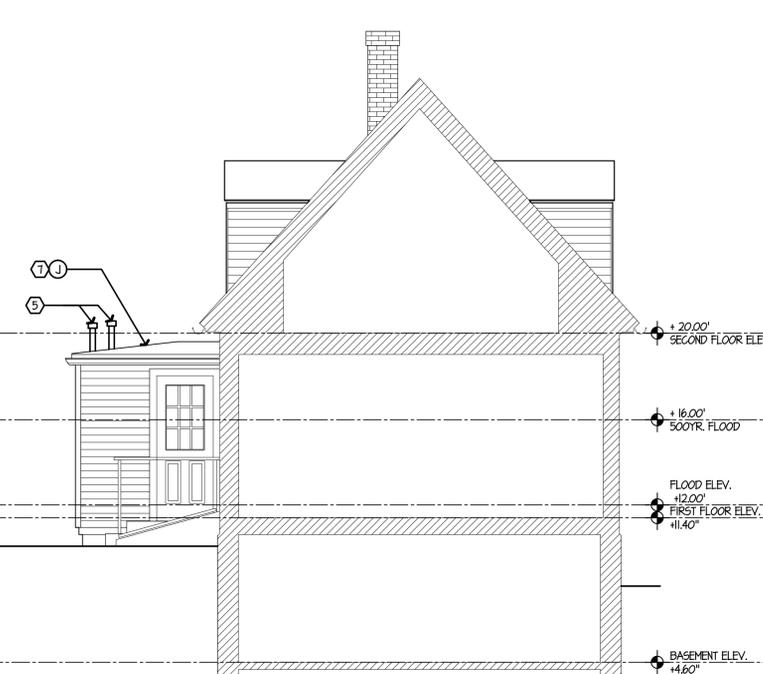


EAST ELEVATION

SCALE: 1/4" = 1'-0"

SECTION

SCALE: 1/4" = 1'-0"

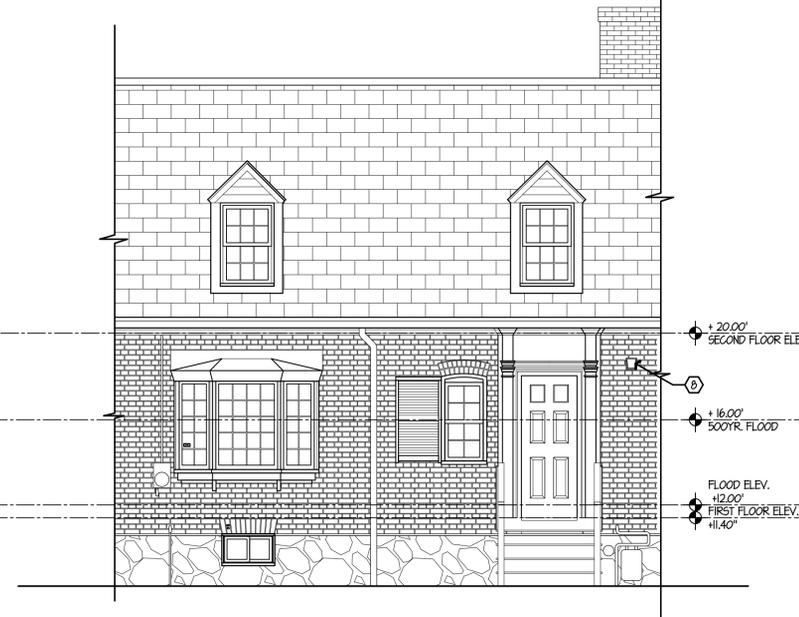


SECTION

SCALE: 1/4" = 1'-0"

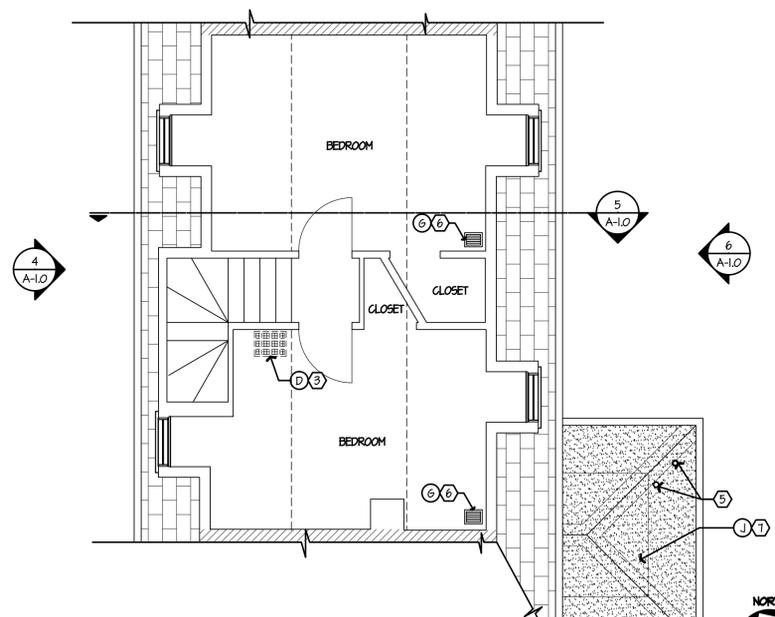
DEMOLITION NOTES

SCALE: NT5



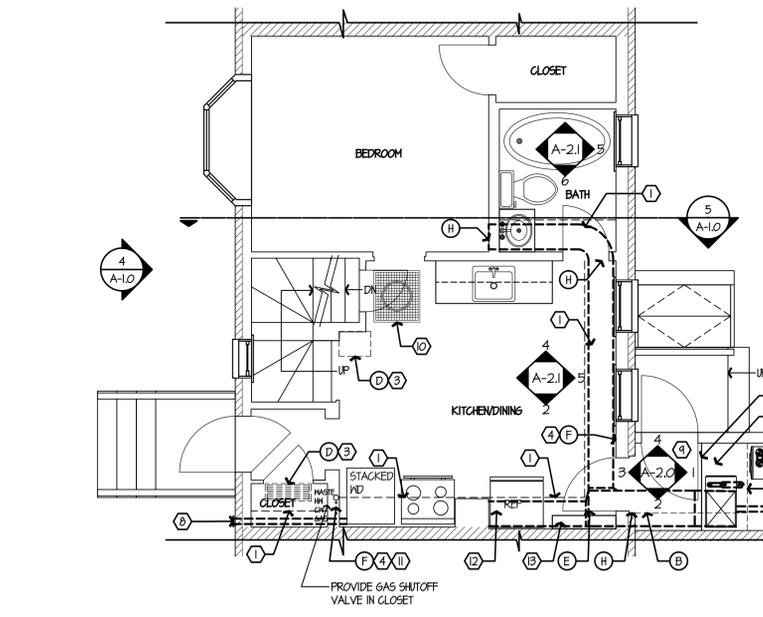
WEST ELEVATION

SCALE: 1/4" = 1'-0"



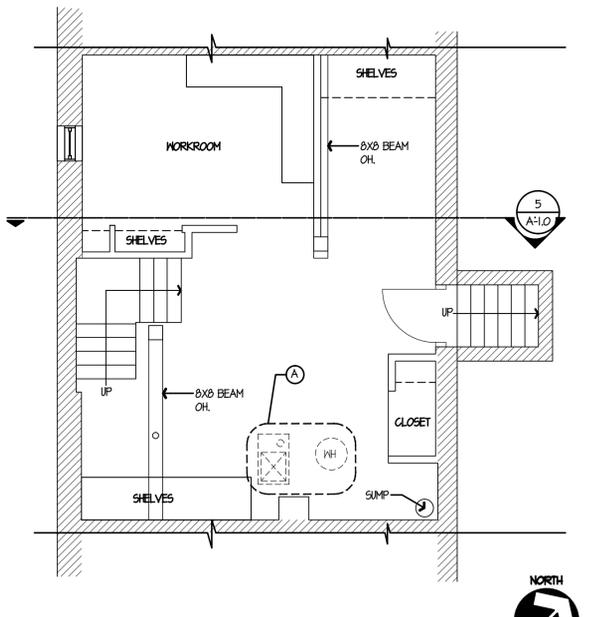
SECOND FLOOR

SCALE: 1/4" = 1'-0"



FIRST FLOOR

SCALE: 1/4" = 1'-0"



BASEMENT

SCALE: 1/4" = 1'-0"



THE STATE OF CONNECTICUT DEPARTMENT OF HOUSING (DOH) COMMUNITY DEVELOPMENT BLOCK GRANT - DISASTER RECOVERY (CDBG-DR) OWNER OCCUPIED REHABILITATION and REBUILDING PROGRAM (OOR)

GENERAL RENOVATIONS for the CURWEN RESIDENCE APPLICATION No. 1732 16 Little Street Bridgeport, CT 06604

date	description	no.
revisions		

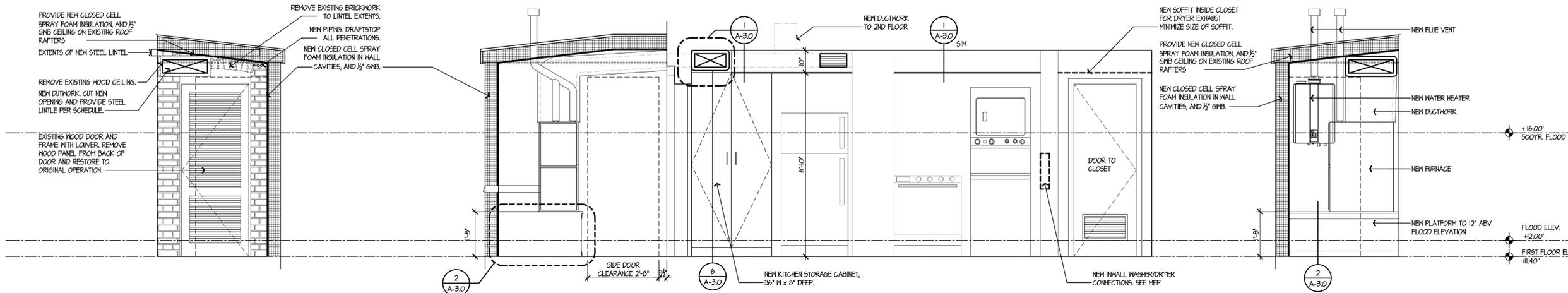
FLOOR PLANS

A-1.0

date	26 JUNE 2015
drawn	P5R
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project no.	1341-17
application no.	1732

THE STATE OF CONNECTICUT
DEPARTMENT OF HOUSING (DOH)
COMMUNITY DEVELOPMENT BLOCK GRANT - DISASTER RECOVERY (CDBG-DR)
OWNER OCCUPIED REHABILITATION and REBUILDING PROGRAM (OOR)

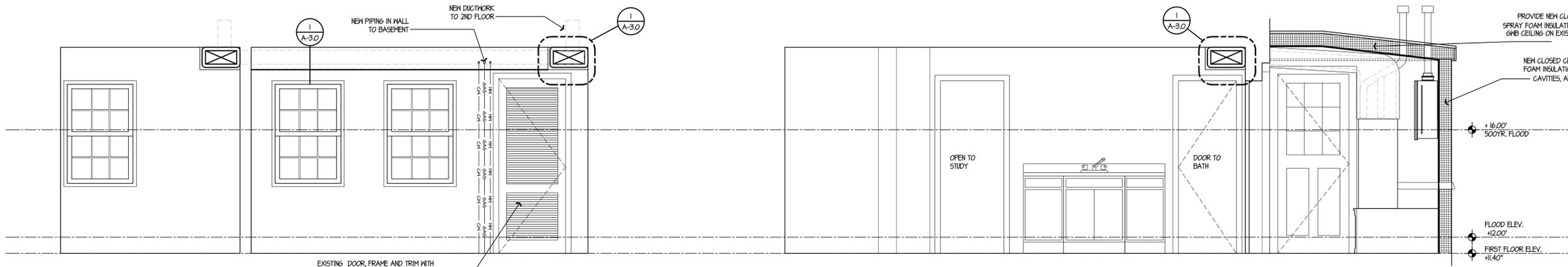
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16 Little Street
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3 PANTRY WEST ELEVATION
SCALE: 1/2" = 1'-0"

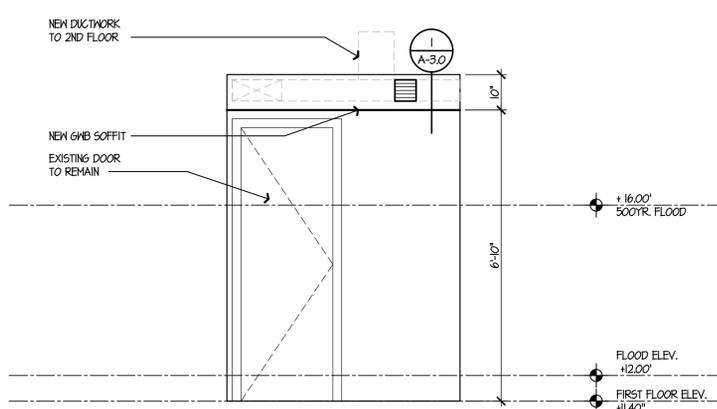
2 KITCHEN/PANTRY SOUTH ELEVATION
SCALE: 1/2" = 1'-0"

1 PANTRY EAST ELEVATION
SCALE: 1/2" = 1'-0"



5 KITCHEN/BATH EAST ELEVATION
SCALE: 1/2" = 1'-0"

4 KITCHEN/PANTRY NORTH ELEVATION
SCALE: 1/2" = 1'-0"



6 BATH SOUTH ELEVATION
SCALE: 1/2" = 1'-0"

SIZE OF STEEL ANGLE a, d (inches)	NO STORY ABOVE	ONE STORY ABOVE	TWO STORIES ABOVE	NO. OF 1/2" OR EQUIVALENT REINFORCING BARS IN REINFORCED LINTEL b, d
3 x 3 x 1/4	6'-0"	4'-6"	3'-0"	1
4 x 3 x 1/4	8'-0"	6'-0"	4'-6"	1
5 x 3/2 x 3/8	10'-0"	8'-0"	6'-0"	2
6 x 3/2 x 3/8	14'-0"	9'-6"	7'-0"	2
2 - 6 x 3/2 x 3/8	20'-0"	12'-0"	9'-6"	4

For S1: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
a. LONG LEG OF THE ANGLE SHALL BE PLACED IN A VERTICAL POSITION.
b. DEPTH OF REINFORCING LINTELS SHALL NOT BE LESS THAN 8 INCHES AND ALL CELLS OF HOLLOW MASONRY LINTELS SHALL BE GROUTED SOLID. REINFORCING BARS SHALL EXTEND NOT LESS THAN 8 INCHES INTO THE SUPPORT.
c. STEEL MEMBERS INDICATED ARE ADEQUATE TYPICAL EXAMPLES; OTHER STEEL MEMBERS MEETING STRUCTURAL DESIGN REQUIREMENTS MAY BE USED.
d. EITHER STEEL ANGLE OR REINFORCED LINTEL SHALL SPAN OPENING.

1 LINTLE SCHEDULE
SCALE: NTS

date	description	no.
	revisions	

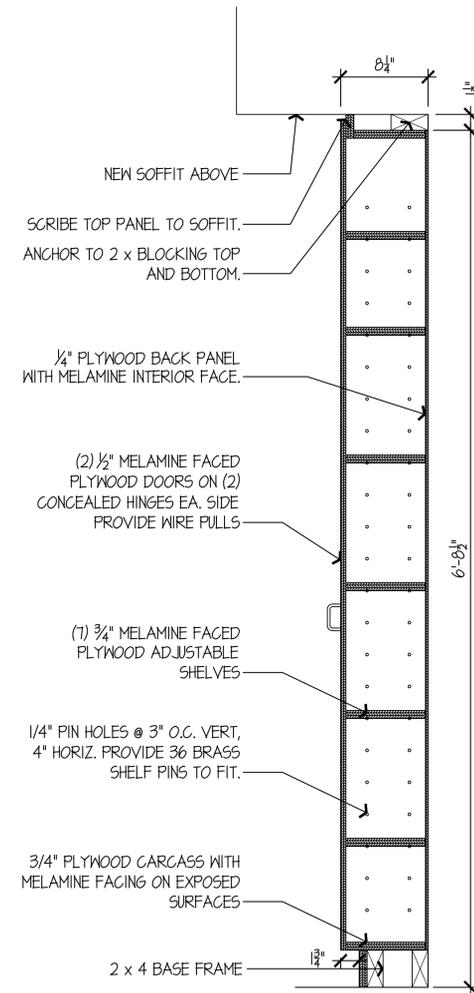
INTERIOR ELEVATIONS

A-2.0

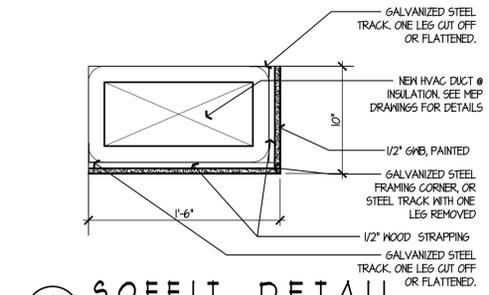
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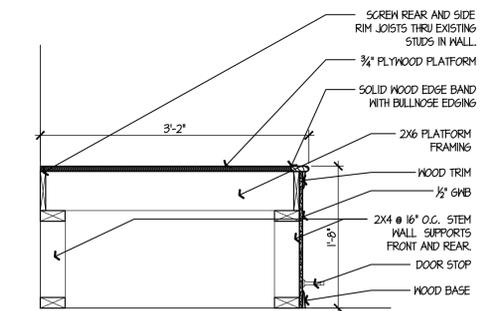
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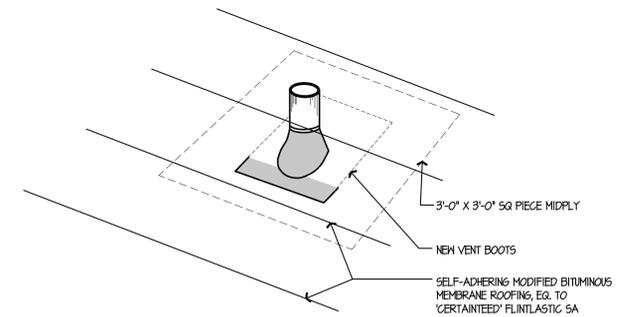
6 CABINET DETAIL
A-3.0 1-1/2" = 1'-0"



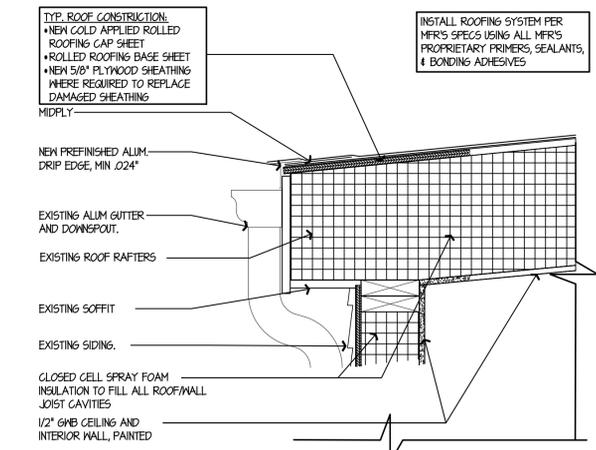
1 SOFFIT DETAIL
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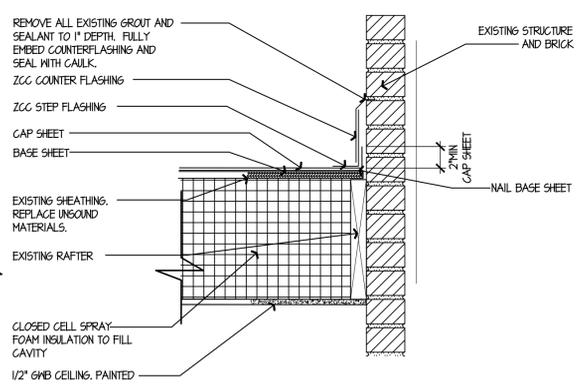
2 MECH. PLATFORM DETAIL
A-3.0 1" = 1'-0"



3 ROOF PIPE PENT. DETAIL
A-3.0 N.T.S.



5 ROOFING DETAIL
A-3.0 1-1/2" = 1'-0"



4 ROOFING DETAIL
A-3.0 1-1/2" = 1'-0"

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	revisions	

DETAILS

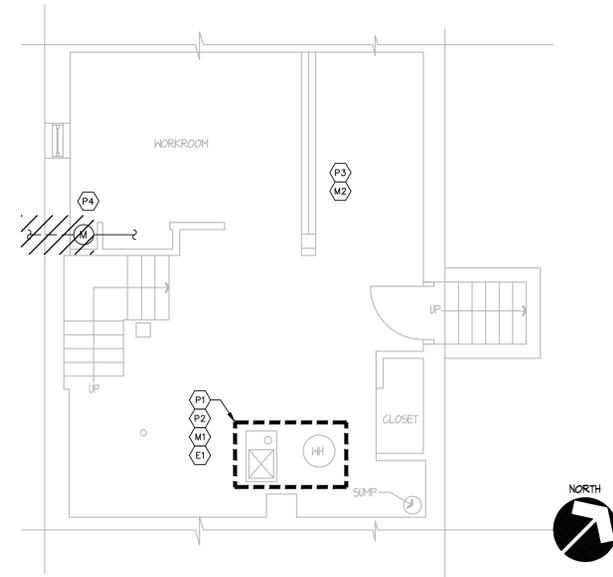
A-3.0

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**THE STATE OF
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HOUSING (DOH)
COMMUNITY
DEVELOPMENT BLOCK
GRANT - DISASTER
RECOVERY (CDBG-DR)
OWNER OCCUPIED
REHABILITATION and
REBUILDING PROGRAM
(OOR)**

**GENERAL
RENOVATIONS for the
CURWEN RESIDENCE
APPLICATION No. 1732
16 Little Street
Bridgeport, CT 06604**

PLUMBING DEMOLITION KEY NOTES	
(P1)	REMOVE EXISTING WATER HEATER, ASSOCIATED PIPING AND SPECIALTIES. CW, HW AND NG PIPING SHALL BE REMOVED BACK TO NEAREST ACTIVE MAIN. WATER HEATER TO BE SALVAGED AND GIVEN TO OWNER.
(P2)	REMOVE NG PIPING SERVING FURNACE BACK TO NEAREST ACTIVE MAIN.
(P3)	REMOVE CW, HW, SANITARY, AND NG PIPING SERVING WASHING MACHINE AND DRYER BACK TO NEAREST ACTIVE MAIN. REMOVE WASHING MACHINE AND DRYER.
(P4)	REMOVE WATER METER AND ALL ASSOCIATED PIPING BACK TO STREET. CW PIPING AFTER METER TO REMAIN.
MECHANICAL DEMOLITION KEY NOTES	
(M1)	REMOVE EXISTING FURNACE, ASSOCIATED PIPING, DUCTWORK, AND SPECIALTIES. FURNACE TO BE SALVAGED AND GIVEN TO OWNER.
(M2)	REMOVE DRYER VENT.
ELECTRICAL DEMOLITION KEY NOTES	
(E1)	REMOVE EXISTING ELECTRICAL CONNECTION TO FURNACE AND WATER HEATER. REMOVE ALL ASSOCIATED WIRING BACK TO THE PANEL OF ORIGIN. CIRCUIT BREAKER PREVIOUSLY POWERING THE UNIT SHALL REMAIN IN PLACE FOR FUTURE REUSE.



1 BASEMENT
MEP1.0 SCALE: 1/4" = 1'-0"



CES
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Fax: 860) 632-1768
CES #2014064.00

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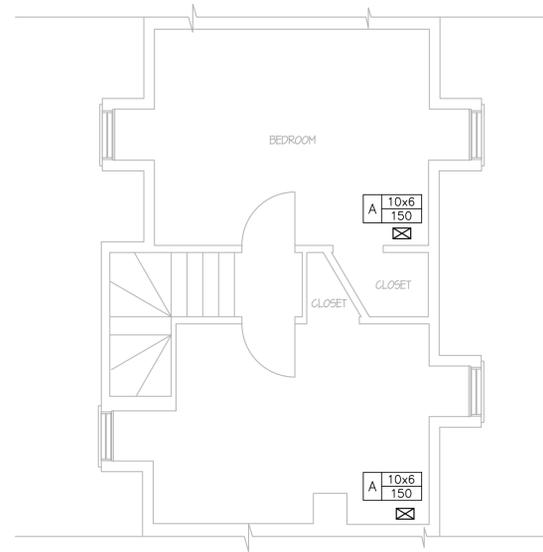
**MEP
DEMOLITION
FLOOR PLAN**

MEP-1.0

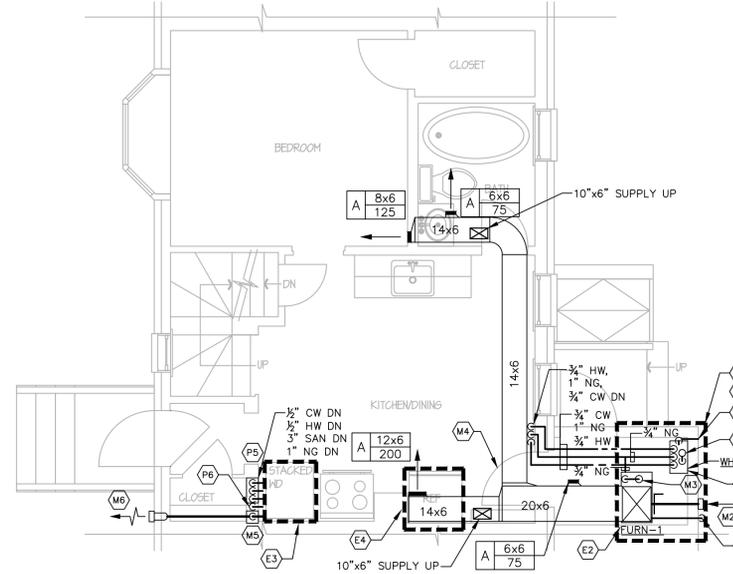
date	JUNE 26, 2015
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OWNER OCCUPIED REHABILITATION and REBUILDING PROGRAM (OOR)

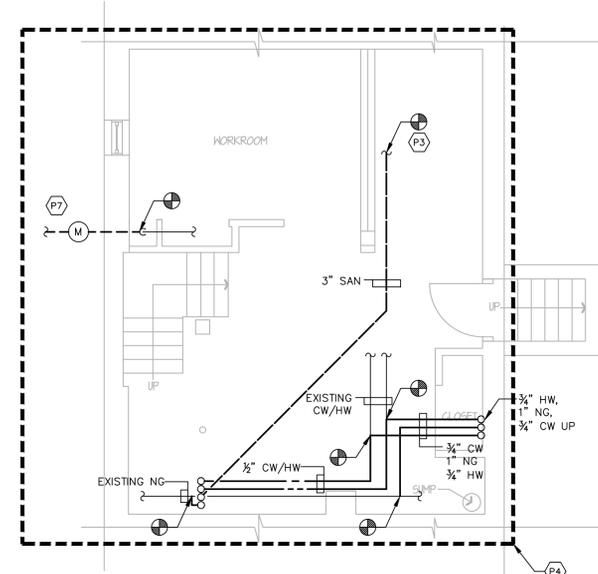
GENERAL RENOVATIONS for the CURWEN RESIDENCE
APPLICATION No. 1732
16 Little Street
Bridgeport, CT 06604



3 SECOND FLOOR
MEP-1.1 SCALE: 1/4" = 1'-0" NORTH



2 FIRST FLOOR
MEP-1.1 SCALE: 1/4" = 1'-0" NORTH



1 BASEMENT
MEP-1.1 SCALE: 1/4" = 1'-0" NORTH

GENERAL NOTES

- ALL MECHANICAL ITEMS SHALL BE INSTALLED ABOVE THE FLOOD PLANE AS INDICATED ON THE ARCHITECTURAL PLANS.
- ALL PLUMBING ITEMS SHALL BE INSTALLED ABOVE THE FLOOD PLANE AS INDICATED ON THE ARCHITECTURAL PLANS.
- WORK SHALL BE COORDINATED WITH ARCHITECTURAL PLANS INCLUDING ACCESS PANELS FOR VALVES AND EQUIPMENT, DIFFUSER LOCATIONS, THERMOSTAT AND SENSOR LOCATIONS, ETC.
- CONTRACTOR SHALL FIELD VERIFY ACTUAL CONDITIONS PRIOR TO PROVIDING ALL EQUIPMENT AND PIPING.

PLUMBING KEY NOTES

- P1 PROVIDE NEW WATER HEATER. REFER TO SCHEDULES FOR MORE DETAILS. CONNECT NEW PIPING AS INDICATED ON FLOOR PLANS AND DETAILS.
- P2 1" COND SPILL TO OUTSIDE OF HOUSE.
- P3 CONNECT NEW SANITARY TO EXISTING SANITARY WASTE STACK.
- P4 ALL NEW AND EXISTING DOMESTIC COLD WATER SUPPLY PIPING EXPOSED BELOW THE PROPERTY SHALL BE INSULATED WITH 1/2" FIBERGLASS INSULATION WITH CONTINUOUS PVC JACKETING. ALL HOT AND COLD WATER PIPING EXPOSED BELOW THE PROPERTY SHALL BE HEAT TRACED WITH SELF REGULATION HEAT TRACE CABLE MODEL H612 AS MANUFACTURED BY PENTAIR. CABLE SHALL BE 120V INPUT AND HAVE AN OUTPUT OF 6W PER FOOT. PROVIDE ONE HEAT TAPE FOR HOT WATER PIPING AND ONE HEAT TAPE FOR COLD WATER PIPING. PROVIDE ALL NECESSARY ACCESSORIES NEEDED FOR COMPLETE AND OPERATIONAL SYSTEM. PROVIDE ONE 20A/120V DEDICATED POWER CIRCUIT FOR EVERY 150 FEET OF HEAT TRACE CABLE.
- P5 PROVIDE WATER-TITE MODEL #W2700 HA WASHING MACHINE OUTLET BOX.
- P6 PROVIDE GAS SHUT-OFF FOR NG PIPING SERVING WASHING MACHINE EXPOSED IN CLOSET FOR ACCESS.
- P7 PROVIDE NEW WATER METER NEAR PROPERTY LINE ON STREET. METER SHALL BE INSTALLED IN METER PIT. VERIFY ALL INSTALLATION LOCATIONS AND PIT REQUIREMENTS WITH UTILITY COMPANY PRIOR TO BIDDING AND INSTALLATION. NEW CW PIPING TO MATCH EXISTING SIZE. CONTRACTOR TO FIELD VERIFY EXACT SIZE AND LOCATION PRIOR TO FABRICATION AND INSTALLATION.

MECHANICAL KEY NOTES

- M1 PROVIDE NEW FURNACE. REFER TO SCHEDULES FOR MORE DETAILS. CONNECT NEW PIPING AND DUCTS AS INDICATED ON FLOOR PLANS AND DETAILS. WIRE EXISTING THERMOSTAT TO NEW FURNACE.
- M2 PROVIDE HOODED WALL CAP WITH BUILT IN BIRD SCREEN FOR VENTILATION AIR INTAKE.
- M3 PROVIDE 3" PVC INTAKE AND VENT. TERMINATE THROUGH ROOF MANUFACTURER'S CONCENTRIC VENT.
- M4 RETURN AIR THROUGH LOUVERED DOOR. SEE ARCHITECTURAL PLANS FOR MORE DETAIL.
- M5 PROVIDE IN-O-VATE TECHNOLOGIES INC. MODEL #425 22 GAUGE ALUMINIZED STEEL DRYERBOX.
- M6 DRYER VENT TERMINATION HEIGHT MUST BE MINIMUM 1' ABOVE TOP OF DOOR HEIGHT.

ELECTRICAL KEY NOTES

- E1 PROVIDE ELECTRICAL CONNECTION TO "WH-1" VIA THE FOLLOWING:
 - PROVIDE 120V/1P/3-PRONG GFCI RECEPTACLE ADJACENT TO WATER HEATER. APPROXIMATE MOUNTING HEIGHT OF RECEPTACLE SHALL BE ±48" AFF. RECEPTACLE SHALL BE DEDICATED TO THE WATER HEATER ONLY.
 - PROVIDE ELECTRICAL CONNECTION USING 12-2 TYPE/NM-B WIRING BACK TO ELECTRICAL PANEL.
 - PROVIDE CONNECTION TO EXISTING CIRCUIT BREAKER IN ELECTRICAL PANEL AND LABEL APPROPRIATELY.
- E2 PROVIDE ELECTRICAL CONNECTION TO "FURN-1" VIA THE FOLLOWING:
 - PROVIDE JUNCTION BOX ENCLOSURE AT UNIT LOCATION.
 - PROVIDE ELECTRICAL CONNECTION USING 14-2 TYPE/NM-B WIRING BACK TO ELECTRICAL PANEL.
 - PROVIDE 15A/1P CIRCUIT BREAKER IN ELECTRICAL PANEL AND LABEL APPROPRIATELY.
 - PROVIDE 15A/1P "KILL SWITCH" AT UNIT LOCATION.
- E3 PROVIDE ELECTRICAL CONNECTION TO "STACKED WASHER AND DRYER" VIA THE FOLLOWING:
 - PROVIDE 20A/1P 120V GFCI TYPE RECEPTACLE. PROVIDE 12-2 WIRE CONNECTION TO EXISTING C/B IN ELECTRICAL PANEL PREVIOUSLY USED FOR WASHER IN BASEMENT.
 - PROVIDE 30A/2P 240V NEMA 6-30R RECEPTACLE. PROVIDE 10-3 WIRE CONNECTION TO EXISTING C/B IN ELECTRICAL PANEL PREVIOUSLY USED FOR DRYER IN BASEMENT.
- E4 PROVIDE ELECTRICAL CONNECTION TO "FRIDGE" VIA THE FOLLOWING:
 - PROVIDE 20A/1P 120V GFCI TYPE RECEPTACLE. PROVIDE NEW 20A/1P AFCI C/B IN EXISTING ELECTRICAL PANEL. PROVIDE 12-2 WIRE CONNECTION TO NEW 20A/1P C/B IN ELECTRICAL PANEL.

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date	description	no.
	revisions	

MEP NEW WORK FLOOR PLAN

MEP-1.1

date	JUNE 26, 2015
drawn	ANK
scale	AS SHOWN
checked	DTB
project no.	2014064.00
application no.	1732

GENERAL PROCEDURES ALL TRADES

- THESE SPECIFICATIONS ARE APPLICABLE TO ALL PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS UNLESS NOTED OTHERWISE.
- DESCRIPTION
 - THIS PROJECT COMPRISES ALTERATIONS AND RENOVATIONS TO THE EXISTING BUILDING. THE EXISTING BUILDING IS CURRENTLY OCCUPIED AND THE PROJECT WILL PROCEED IN A MANNER WHICH WILL MINIMIZE ANY INCONVENIENCE TO THE BUILDING OCCUPANTS.
 - 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, SETTING, ERECTION, ERECTION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS. NECESSARY AND/OR INCIDENTAL TO PROPERLY COMPLETE ALL WORK AS SHOWN ON THE DRAWINGS AND AS DESCRIBED HEREIN.
- DEFINITIONS: THE FOLLOWING DEFINITIONS APPLY TO THIS CONTRACT
 - FURNISH: THE TERM "FURNISH" MEANS TO "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."
 - 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."
 - PROVIDE: THE TERM "PROVIDE" MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."
 - REMOVE: THE TERM REMOVE MEANS TO DISCONNECT/FROM ITS PRESENT POSITION, REMOVE FROM THE PREMISES AND TO DISPOSE OF IN A LEGAL MANNER.
 - SUBSTITUTIONS: "SUBSTITUTIONS" ARE REQUESTS FOR CHANGES IN PRODUCTS, MATERIALS AND METHODS OF CONSTRUCTION AS PROPOSED BY THE CONTRACTOR AFTER AWARD OF THE CONTRACT.
- DRAWINGS
 - 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 DIAGRAMATIC ONLY AND THAT FINAL PLACEMENT OF EQUIPMENT OR DEVICES IN THE FIELD MAY NOT DIRECTLY CORRESPOND TO THAT WHICH IS SHOWN ON DRAWINGS. IN A CONFLICT IN POSITIONING OCCURS THE CONTRACTOR IS TO NOTIFY THE ENGINEER IMMEDIATELY TO ASCERTAIN WHAT THE INTENT WAS BY THE DESIGN PROFESSIONAL.
 - SURVEY AND MEASUREMENTS:
 - PRIOR TO SUBMITTING BID, VISIT SITE 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 IDENTIFIED BY EXPERIENCED OBSERVERS. INCLUDE IN THE BID ALL DEMOLITION WORK REQUIRED.
 - DO NOT SCALE DRAWINGS. SCALE INDICATED ON DRAWINGS IS FOR ESTABLISHING REFERENCE POINTS ONLY. ACTUAL FIELD CONDITIONS SHALL GOVERN ALL DIMENSIONS.
 - PRIOR TO ORDERING ANY MATERIALS AND EQUIPMENT, THOROUGHLY REVIEW THE SITE CONDITIONS TO DETERMINE IF ADEQUATE CLEARANCES AND ACCESS IS ALLOWED TO INSTALL THE COMPONENTS. ORDER EQUIPMENT BROKEN DOWN AS NECESSARY TO ALLOW FOR PROPER RIGGING THROUGH THE PROJECT AREA. PROVIDE ALL NECESSARY ALTERATIONS TO THE STRUCTURE OF THE BUILDING AS NECESSARY TO RIG THE EQUIPMENT IN PLACE.
 - ARRANGE INSTALLATION TO PROVIDE ACCESS TO EQUIPMENT FOR EASY MAINTENANCE AND REPAIR.
 - CODES AND STANDARDS: ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST STATE OF CONNECTICUT ACCEPTED VERSION OF THE FOLLOWING
 - INTERNATIONAL RESIDENTIAL CODE
 - INTERNATIONAL BUILDING CODE
 - INTERNATIONAL PLUMBING CODE
 - INTERNATIONAL MECHANICAL CODE
 - NATIONAL ELECTRIC CODE (NFPA 70)
 - THE LIFE SAFETY CODE (NFPA 101)
 - PERMITS AND FEES: THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS, AND PAY ALL GOVERNMENT AND STATE SALES TAXES AND FEES WHERE APPLICABLE, AND OTHER COSTS, INCLUDING UTILITY CONNECTIONS OR EXTENSIONS IN CONNECTION WITH THE WORK. FILE ALL NECESSARY DRAWINGS, PREPARE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL GOVERNMENTAL AND STATE DEPARTMENTS HAVING JURISDICTION, OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK, AND DELIVER A COPY TO THE OWNER AND ENGINEER BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK.
 - SHOP DRAWINGS:
 - SUBMIT NEWLY PREPARED INFORMATION, DRAWN TO ACCURATE SCALE OF 1/4"=1'-0". HIGHLIGHT, ENCIRCLE, OR OTHERWISE INDICATE DEVIATIONS FROM THE CONTRACT DOCUMENTS. DO NOT REPRODUCE CONTRACT DOCUMENTS OR COPY STANDARD INFORMATION AS THE BASIS OF SHOP DRAWINGS. STANDARD INFORMATION PREPARED WITHOUT SPECIFIC REFERENCE TO THE PROJECT IS NOT CONSIDERED SHOP DRAWINGS.
 - SHOP DRAWINGS INCLUDE EQUIPMENT SUBMITTALS, FABRICATION AND INSTALLATION DRAWINGS, SETTING DIAGRAMS, SCHEDULES, PATTERNS, TEMPLATES AND SIMILAR DRAWINGS. INCLUDE THE FOLLOWING INFORMATION:
 - DIMENSIONS.
 - IDENTIFICATION OF PRODUCTS AND MATERIALS INCLUDED.
 - COMPLIANCE WITH SPECIFIED STANDARDS AND PERFORMANCE DATA AS INDICATED.
 - NOTATION OF COORDINATION REQUIREMENTS.
 - NOTATION OF DIMENSIONS ESTABLISHED BY FIELD MEASUREMENT.
 - SUBMIT 3 BLACK-LINE PRINTS AND 2 ADDITIONAL PRINTS WHERE REQUIRED FOR MAINTENANCE MANUALS, PLUS THE NUMBER OF PRINTS NEEDED BY THE ENGINEER FOR DISTRIBUTION. ONE PRINT WILL BE RETAINED; THE REMAINDER RETURNED. ONE OF THE PRINTS RETURNED SHALL BE MARKED-UP AND MAINTAINED AS A "RECORD DOCUMENT."
 - DO NOT USE SHOP DRAWINGS WITHOUT AN APPROPRIATE FINAL STAMP INDICATING ACTION TAKEN IN CONNECTION WITH CONSTRUCTION.
 - DO NOT ORDER ANY MATERIALS OR EQUIPMENT PRIOR TO RECEIVING FINAL APPROVED SHOP DRAWINGS.
 - PROVIDE SUBMITTALS AS INDICATED IN SPECIFIC SPECIFICATION SECTIONS.
 - 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.
 - THE CONTRACTOR SHALL COORDINATE ALL INTERRUPTIONS OF SERVICES AND LIMITATIONS OF ACCESS WITH THE OWNER NO LESS THAN 5 DAYS PRIOR TO THE INTERRUPTION.
 - OPERATION AND MAINTENANCE
 - UPON COMPLETION OF ALL WORK AND TESTS, THE CONTRACTOR SHALL INSTRUCT THE OWNER OR THE OWNER'S REPRESENTATIVE IN THE OPERATION, ADJUSTMENT AND MAINTENANCE OF ALL EQUIPMENT FURNISHED. THE CONTRACTOR SHALL GIVE AT LEAST SEVEN (7) DAYS NOTICE TO THE OWNER AND THE ENGINEER IN ADVANCE OF THIS PERIOD.
 - THE CONTRACTOR SHALL PREPARE THREE (3) COPIES OF A COMPLETE OPERATION AND MAINTENANCE MANUAL, BOUND IN BOOKLET FORM. ORGANIZE OPERATING AND MAINTENANCE DATA INTO SUITABLE SETS OF MANAGEABLE SIZE. BIND PROPERLY INDEXED DATA IN INDIVIDUAL HEAVY-DUTY 3-RING VINYL-COVERED BINDERS, WITH POCKET FOLDERS FOR FOLDED SHEET INFORMATION AND DESIGNATION PARTITIONS WITH IDENTIFICATION TABS. MARK APPROPRIATE IDENTIFICATION ON FRONT AND SPINE OF EACH BINDER.
 - OPERATION AND MAINTENANCE MANUAL SHALL INCLUDE THE FOLLOWING:
 - MANUFACTURER'S PRINTED OPERATING AND MAINTENANCE PROCEDURES.
 - MAINTENANCE PROCEDURES FOR ROUTINE PREVENTATIVE MAINTENANCE AND TROUBLESHOOTING.
 - COPIES OF WARRANTIES.
 - APPROVED SHOP DRAWINGS AND PRODUCT DATA.
 - BALANCE REPORTS.
 - INCLUDE IN THE MANUAL, A TABULATED EQUIPMENT SCHEDULE FOR ALL EQUIPMENT. SCHEDULE SHALL INCLUDE PERTINENT DATA SUCH AS: MAKE, MODEL NUMBER, SERIAL NUMBER, VOLTAGE, NORMAL OPERATING CURRENT, BELT SIZE, FILTER QUANTITIES AND SIZES, BEARING NUMBER, ETC. SCHEDULE SHALL INCLUDE MAINTENANCE TO BE DONE AND FREQUENCY.
 - MAINTENANCE AND INSTRUCTION MANUALS SHALL BE SUBMITTED TO THE OWNER AT THE SAME TIME AS THE SEVEN (7) DAY NOTICE IS GIVEN PRIOR TO THE INSTRUCTION PERIOD.
 - AS-BUILT DRAWINGS
 - PREPARE AS-BUILT DRAWINGS TO A SCALE OF 1/4"=1'-0" OR LARGER; DETAILING THE ACTUAL INSTALLATION OF MAJOR ELEMENTS, COMPONENTS, AND SYSTEMS OF MECHANICAL EQUIPMENT AND MATERIALS. WHERE SHOP DRAWINGS ARE USED, RECORD A CROSS-REFERENCE AT THE CORRESPONDING LOCATION ON THE AS-BUILT DRAWINGS TO GIVE PARTICULAR ATTENTION TO CONCEALED ELEMENTS THAT WOULD BE DIFFICULT TO MEASURE AND RECORD AT A LATER DATE.
 - MARK NEW INFORMATION THAT IS IMPORTANT TO THE OWNER, BUT WAS NOT SHOWN ON CONTRACT DRAWINGS OR SHOP DRAWINGS.
 - NOTE RELATED CHANGE ORDER NUMBERS WHERE APPLICABLE.
 - ORGANIZE AS-BUILT DRAWINGS INTO MANAGEABLE SETS, BIND WITH DURABLE PAPER COVER SHEETS, AND PRINT SUITABLE TITLES, DATES AND OTHER IDENTIFICATION ON THE COVER OF EACH SET.
 - OBTAIN IN OWNER'S NAME WRITTEN EQUIPMENT AND MATERIAL WARRANTIES OFFERED

IN MANUFACTURER'S PUBLISHED PRODUCT DATA WITHOUT EXCLUSION OR LIMITATION.

- GUARANTEE WORK OF THESE CONTRACT DOCUMENTS IN WRITING FOR NOT LESS THAN ONE (1) 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 SMOOTH DAMAGE RESISTANT FINISH. PROVIDE INSULATION FOR THE FOLLOWING DUCTWORK SYSTEMS:
 - SUBMIT TO THE OWNER AN OFFICIAL CERTIFICATE OF INSURANCE FOR THEIR RECORDS.
- MEANS AND METHODS ALL TRADES
 - INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
 - DO NOT BURN WASTE MATERIALS. DO NOT BURY DEBRIS OR EXCESS MATERIALS ON THE OWNER'S PROPERTY. DO NOT DISCHARGE VOLATILE, HARMFUL OR DANGEROUS MATERIALS INTO DRAINAGE SYSTEMS. REMOVE AND DISPOSE OF ALL WASTE MATERIALS, PACKAGING MATERIAL, SKIDS, ETC. FROM THE SITE AND DISPOSE OF IN A LAWFUL MANNER IN ACCORDANCE WITH MUNICIPAL, STATE AND FEDERAL REGULATIONS.
 - MATERIALS AND EQUIPMENT SHALL BE UL LISTED WHERE STANDARD HAS BEEN ESTABLISHED
 - CAREFULLY INSPECT ALL BUILDING ELEMENTS PRIOR TO CUTTING OR DRILLING INTO WALL, FLOORS OR CEILINGS. PATCH AND PAINT SURFACES DISTURBED BY WORK UNDER THIS CONTRACT AS REQUIRED TO RESTORE THEM TO THEIR ORIGINAL CONDITION.
 - SCAFFOLDING, RIGGING, HOISTING: THE CONTRACTOR SHALL FURNISH ALL SCAFFOLDING, RIGGING, HOISTING AND SERVICES NECESSARY FOR ERECTION AND DELIVERY INTO THE PREMISES ANY EQUIPMENT AND APPARATUS FURNISHED UNDER THIS DIVISION. PROVIDE SAFETY MEASURES WHEN NO LONGER REQUIRED.
 - EXCAVATION AND BACKFILLING: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE SIZES, DEPTHS, FILL AND BEDDING REQUIREMENTS AND ANY OTHER EXCAVATION WORK REQUIRED UNDER THESE SPECIFICATIONS
 - WATERPROOFING: WHERE ANY WORK PIERCES WATERPROOFING, INCLUDING WATERPROOF CONCRETE, ROOFS, EXTERIOR WALL AND FLOORS IN WET AREAS, THE METHOD OF INSTALLATION SHALL BE REVIEWED BY THE ENGINEER BEFORE WORK IS DONE. THE CONTRACTOR SHALL FURNISH ALL NECESSARY SLEEVES, CAULKING AND FLASHING REQUIRED TO MAKE OPENINGS ABSOLUTELY WATERTIGHT.
 - PROVIDE FIRESTOPPING AROUND ALL FIRE PROTECTION, PLUMBING, MECHANICAL AND ELECTRICAL 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.
 - 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.
 - SEISMIC RESTRAINTS SHALL BE INSTALLED AS REQUIRED PER 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.

PLUMBING

- PIPING:
 - DOMESTIC WATER PIPING SHALL BE COPPER TUBING TYPE L. SOLDER FILLER METALS SHALL BE 95-5 TIN-ANTIMONY SOLDER JOINTS.
 - WASTE AND VENT PIPING SHALL BE PVC, TYPE DWV PIPE AND FITTINGS WITH SOLVENT CEMENTED JOINTS.
 - WASTE AND VENT PIPING SHALL BE HUBLESS, SERVICE WEIGHT, CAST-IRON SOIL PIPE AND FITTINGS, WITH NEOPRENE GASKETS. BURIED PIPING SHALL BE HUB AND SPIGOT FITTINGS.
 - NATURAL GAS PIPING SHALL BE SCHEDULE 40, CARBON STEEL PIPE, WITH THREADED JOINTS AND FITTINGS OR TYPE L COPPER TUBING.
- INSULATION:
 - INSULATION SHALL BE IN ACCORDANCE WITH LATEST EDITION OF THE IECC EXCEPT THAT PIPE INSULATION SHALL NOT BE LESS THAN 1" 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 METHOD). ALL INSULATION MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA AND ASHRAE STANDARDS.
 - PIPE INSULATION SHALL BE FIBERGLASS WITH VAPOR BARRIER JACKET. PROVIDE INSULATION FOR THE FOLLOWING PIPING SYSTEMS:
 - DOMESTIC COLD WATER PIPING
 - DOMESTIC HOT WATER PIPING
 - ALL EXPOSED DOMESTIC WATER PIPE SHALL BE WRAPPED WITH A PVC VAPOR BARRIER JACKET AS MANUFACTURED BY ZESTON OR APPROVED EQUAL. PVC JACKETING SHALL BE FINISHED TO BE WATER TIGHT.
- PIPING INSTALLATION:
 - INSTALL PIPING IN ACCORDANCE WITH ALL APPLICABLE CODES AND GOOD PRACTICES.
 - INSTALL UNIONS OR FLANGES IN PIPES ADJACENT TO EACH VALVE, CONTROL DEVICE AND AT FINAL CONNECTIONS EACH PIECE OF EQUIPMENT.
 - INSTALL DIELECTRIC UNIONS TO JOIN DISSIMILAR METALS.
 - INSTALL AND ANCHOR PIPING TO ENSURE PROPER EXPANSION AND CONTRACTION.
 - ANCHOR PIPING TO ENSURE PROPER DIRECTION OF EXPANSION AND CONTRACTION.
 - SUPPORT PIPING TO PREVENT VIBRATION OR SAGGING. PROVIDE HANGER SPACING ACCORDING TO DISTANCES LISTED IN APPLICABLE CODES AND REGULATIONS.
- PLUMBING IDENTIFICATION
 - PLUMBING IDENTIFICATION WORK SHALL COMPLY WITH ANSI A13.1, NAMES, ABBREVIATIONS AND OTHER DESIGNATIONS USED IN MECHANICAL IDENTIFICATION WORK, SHALL CORRESPOND WITH DESIGNATIONS SHOWN, SPECIFIED OR SCHEDULED.
 - VALVE TAGS SHALL BE 1-1/2" DIAMETER, 19-GAGE POLISHED BRASS WITH STAMP-ENGRAVED LETTERING ATTACH VALVES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - PROVIDE VALVE TAG ON EVERY VALVE, EXCLUDING DRAIN VALVES.
 - PIPE IDENTIFICATION, PLASTIC PIPE MARKERS, FACTORY FABRICATED, FLEXIBLE, SEMI-RIGID PLASTIC, PERFORMED TO FIT AROUND PIPE OR PIPE COVERING. MINIMUM INFORMATION INDICATING FLOW DIRECTION ARROW AND IDENTIFICATION OF FLUID BEING CONVEYED.
- TESTING AND ADJUSTING
 - ALL WATER PIPING SHALL BE TESTED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE, THE SYSTEM SHALL BE PROVED TIGHT UNDER WATER PRESSURE OF 100 PSIG; THE PRESSURE SHALL BE APPLIED GRADUALLY AND THEN HELD FOR A MINIMUM OF TWO HOURS.
 - ALL WASTE PIPING 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.
 - THE CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT FOR ALL TESTING.

HVAC SPECIFICATIONS

- DUCTWORK AND ACCESSORIES
 - 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 RADIOUS DUCT ELBOWS SHALL HAVE MINIMUM CENTER LINE RADIUS EQUAL TO 1-1/2 TIMES THE DUCT WIDTH.
 - FLEXIBLE DUCT RUNOUTS SHALL NOT EXCEED 10 FEET IN LENGTH, SHALL BE PREINSULATED WITH VAPOR BARRIER, CPE INNER LINER, FACTORY FABRICATED, CONDUCTOR SHALL COMPLY WITH NFPA 90A AND UL 181. THE INSULATION MATERIAL SURFACE SHALL NOT BE EXPOSED TO THE AIR STREAM. FLEXIBLE DUCT RUNOUTS SHALL BE INSTALLED FULLY EXTENDED AND SUPPORTED TO MINIMIZE BENDS. FLEXIBLE DUCT SHALL BE AS MANUFACTURED BY THERMALEX, TUTTLE AND BAILEY OR APPROVED EQUAL. FLEXIBLE DUCT CONNECTORS APPROXIMATELY 48 INCHES IN LENGTH SHALL BE PROVIDED WHERE SHEET METAL CONNECTIONS ARE MADE TO AIR HANDLING EQUIPMENT.
- DUCT ACCESS DOORS SHALL BE PROVIDED IN DUCTWORK AT ALL:
 - AUTOMATIC DAMPERS, COLS, CONTROL DEVICES, AND OTHER APPARATUS REQUIRING SERVICE AND INSPECTION.
 - MANUAL BALANCING DAMPERS SHALL BE PROVIDED FOR EACH DIFFUSER, GRILLE AND REGISTER, EACH BRANCH OF THE MAIN TRUNK DUCT AND AS INDICATED ON THE DRAWINGS.
- INSTALLATION OF DIFFUSERS GRILLES AND REGISTERS SHALL BE COORDINATED WITH AND SUITABLE FOR INSTALLATION IN, ON, OR FROM CEILING, WALL OR FLOORS SPECIFIED ON THE ARCHITECTURAL PLANS. THE CONTRACTOR MUST VERIFY THE CEILING OR WALL TYPES PRIOR TO ORDERING.
- PIPING AND FITTINGS
 - ALL NATURAL GAS FIRED EQUIPMENT COMBUSTION AIR PIPING, FLUE AND JOINTS SHALL BE SCHEDULE 40 POLYVINYL CHLORIDE (PVC). JOINTS SHALL BE SOLVENT WELD.
- INSULATION:
 - INSULATION THICKNESS SHALL BE IN ACCORDANCE WITH LATEST EDITION OF THE IECC 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 MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE LATEST EDITION

OF SMACNA AND ASHRAE STANDARDS.

- INTERIOR DUCT INSULATION MATERIALS SHALL BE FLEXIBLE FIBERGLASS DUCTWORK INSULATION WITH VAPOR BARRIER JACKET. DUCT INSULATION INSTALLED WITHIN MECHANICAL ROOMS SHALL BE RIGID BOARD TYPE, MINIMUM 1" THICK. DUCTWORK ACOUSTIC LINING SHALL BE CELLULAR GLASS WITH FACE BONDED TO PROVIDE A SMOOTH DAMAGE RESISTANT FINISH. PROVIDE INSULATION FOR THE FOLLOWING DUCTWORK SYSTEMS:
 - SUPPLY AIR DUCTWORK
 - RETURN AIR DUCTWORK IN UNCONDITIONED SPACES (WHERE SPACE TEMPERATURE IS MORE THAN10 DEGREES F DIFFERENT FROM DUCT TEMPERATURE)
 - OUTSIDE AIR INTAKE DUCTWORK
 - OUTSIDE AIR AND EXHAUST PLENUMS AT LOUVER CONNECTIONS
 - COMBUSTION AIR DUCTWORK
 - EXTERIOR DUCTWORK INSULATION MATERIALS SHALL BE 2" RIGID POLYSTYRENE (R-8 MINIMUM) WITH PVC JACKETING SEALED WATER TIGHT. DUCTWORK INSULATION SHALL BE WATER TIGHT.
 - SUPPLY AIR DUCTWORK
 - RETURN AIR DUCTWORK
 - OUTSIDE AIR INTAKE DUCTWORK
 - OUTSIDE AIR AND EXHAUST PLENUMS AT LOUVER CONNECTIONS
 - COMBUSTION AIR DUCTWORK
- PIPING INSTALLATIONS
 - INSTALL PIPING IN ACCORDANCE WITH ALL APPLICABLE CODES AND GOOD PRACTICES.
 - INSTALL UNIONS OR FLANGES IN PIPES ADJACENT TO EACH VALVE, CONTROL DEVICE AND AT FINAL CONNECTIONS EACH PIECE OF EQUIPMENT.
 - INSTALL DIELECTRIC UNIONS TO JOIN DISSIMILAR METALS.
 - INSTALL AND ANCHOR PIPING TO ENSURE PROPER EXPANSION AND CONTRACTION.
 - PROVIDE MANUAL AIR VENTS AT ALL HIGH POINTS AND DRAIN VALVES AT ALL LOW POINTS.
 - ANCHOR PIPING TO ENSURE PROPER DIRECTION OF EXPANSION AND CONTRACTION.
 - SUPPORT PIPING TO PREVENT VIBRATION OR SAGGING. PROVIDE HANGER SPACING ACCORDING TO DISTANCES LISTED IN APPLICABLE CODES AND REGULATIONS.
- TESTING , ADJUSTING AND BALANCING
 - THE MECHANICAL CONTRACTOR SHALL PROVIDE THE SERVICES OF AN INDEPENDENT TESTING, ADJUSTING, AND BALANCING (TAB) ENGINEER TO PROVIDE TAB SERVICES FOR THE MECHANICAL SYSTEMS. THE TAB AGENCY SHALL BE CERTIFIED BY NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) OR THE ASSOCIATED AIR BALANCE COUNCIL (AABC) IN THOSE TESTING AND BALANCING DISCIPLINES REQUIRED FOR THIS PROJECT. THE TAB AGENCY SHALL HAVE AT LEAST ONE PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE SERVICES ARE TO BE PERFORMED AND CERTIFIED BY NEBB OR AABC AS A TEST AND BALANCE ENGINEER.
 - PRIOR TO TESTING, ADJUSTING, AND BALANCING, THE MECHANICAL CONTRACTOR SHALL VERIFY THAT THE SYSTEMS HAVE BEEN INSTALLED AND ARE OPERATING AS SPECIFIED. APPROVED SHOP DRAWINGS, AS BUILT DRAWINGS, AND ALL OTHER DATA REQUIRED FOR EACH SYSTEM AND/OR COMPONENT TO BE TESTED SHALL BE MADE AVAILABLE AT THE JOB SITE DURING THE ENTIRE TAB EFFORT. THE OWNER SHALL BE NOTIFIED IN WRITING OF ALL EQUIPMENT, COMPONENTS, OR BALANCING DEVICES, THAT ARE DAMAGED, INCORRECTLY INSTALLED, OR MISSING, AS WELL AS ANY DESIGN DEFICIENCIES THAT WILL PREVENT PROPER TESTING, ADJUSTING, AND BALANCING. TESTING, ADJUSTING, AND BALANCING SHALL NOT COMMENCE UNTIL APPROVED BY THE OWNER.
 - PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM IDENTIFIED, IN ACCORDANCE WITH THE DETAILED PROCEDURES OUTLINED IN EITHER NEBB: "PROCEDURAL STANDARDS FOR TESTING, ADJUSTING, AND BALANCING OF ENVIRONMENTAL SYSTEMS" OR AABC: "NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE". THE TAB AGENCY SHALL TEST, ADJUST, AND BALANCE THE FOLLOWING MECHANICAL SYSTEMS:
 - ALL AIR HANDLING EQUIPMENT
 - ALL PUMPING SYSTEMS
 - ALL SUPPLY AIR SYSTEMS
 - ALL RETURN AIR SYSTEMS
 - VERIFY OPERATION OF ALL TEMPERATURE CONTROL SYSTEMS
 - TEST SYSTEMS FOR PROPER SOUND AND VIBRATION LEVELS
 - SUBMIT TESTING, ADJUSTING, AND BALANCING REPORTS BEARING THE SEAL AND SIGNATURE OF THE TAB PROFESSIONAL ENGINEER. PREPARE A REPORT OF RECOMMENDATIONS FOR CORRECTING UNSATISFACTORY MECHANICAL PERFORMANCES WHEN A SYSTEM CANNOT BE SUCCESSFULLY BALANCED.
 - PROVIDE ALL NECESSARY CONTROL DEVICES, EQUIPMENT, MATERIALS, LABOR, WIRE AND CONDUIT TO PERFORM THE SEQUENCES OF OPERATION AS INDICATED. WIRING AND CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 16. ALL CONTROL WIRING INSTALLED WITHIN AIR PLENUM SPACES TO BE TEFLON COATED RATED FOR PLENUM CELINGS.

ELECTRICAL SPECIFICATIONS

- CONTACT THE POWER COMPANY FOR NECESSARY COORDINATION OF SERVICE REQUIREMENTS AND PAY FOR ALL RELATED CHARGES FOR THE SERVICE INSTALLATION. PROVIDE ALL NECESSARY EQUIPMENT, GROUNDING, CONDUITS, WIRE, TRENCHING, SAND AND BACKFILL ETC., FOR THE POWER COMPANY SERVICE CONNECTIONS AND ACTIVATION OF SERVICE FOR THE PROJECT. ALL EQUIPMENT SHALL MEET THE POWER COMPANIES REQUIREMENTS AND SHALL BE SUBMITTED TO THE POWER COMPANY PRIOR TO ORDERING OR INSTALLATION.
- CONTACT THE TELEPHONE COMPANY FOR NECESSARY COORDINATION OF SERVICE REQUIREMENTS AND PAY FOR ALL RELATED CHARGES FOR THE SERVICE INSTALLATION. PROVIDE ALL BOXES, TERMINATIONS, CONDUITS AND WIRING PER DRAWINGS.
- CONTACT THE CABLE TELEVISION COMPANY FOR NECESSARY COORDINATION OF SERVICE REQUIREMENTS AND PAY FOR ALL RELATED CHARGES FOR THE SERVICE INSTALLATION. PROVIDE ALL BOXES, TERMINATION, CONDUITS AND WIRING PER DRAWINGS.
- SERVICE-DISCONNECTING MEANS SHALL BE OF THE TYPE AS INDICATED WITH EXTERNAL HANDLE FOR MANUAL OPERATION. WHEN SERVICE DISCONNECTING MEANS IS A PART OF AN ASSEMBLY, THE ASSEMBLY SHALL BE LISTED AS SUITABLE FOR SERVICE ENTRANCE EQUIPMENT. ENCLOSURES SHALL BE SHEET METAL WITH HINGED COVER FOR SURFACE MOUNTING UNLESS OTHERWISE INDICATED.
- PANELBOARD/LOAD CENTER
 - PROVIDE CIRCUIT BREAKER TYPE PANELBOARD/LOAD CENTER WITH BUS RATING AS INDICATED ON DRAWINGS.
 - MINIMUM INTEGRATED SHORT CIRCUIT RATING: 10,000 RMS SYMMETRICAL.
 - MOLDED CASE CIRCUIT BREAKER; NEMA AB, PLUG ON TYPE THERMAL MAGNETIC TRIP CIRCUIT BREAKERS, WITH COMMON TRIP HANDLES PER POLES, LISTED AS TYPE SWD FOR LIGHTING CIRCUITS, CLASS A GROUND FAULT INTERRUPTER CIRCUIT BREAKER AS INDICATED ON DRAWINGS, ARC-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKERS AS INDICATED ON DRAWINGS.
 - ENCLOSURE: GENERAL PURPOSE.
 - BOX: [FLUSH] [SURFACE] TYPE WITH DOOR AND PULL RING LATCH, FINISH IN MANUFACTURER STANDARD GRAY ENAMEL.
- MOUNT PANELBOARDS, CIRCUIT BREAKERS, AND DISCONNECTING SWITCHES SO HEIGHT OF OPERATING HANDLE AT ITS HIGHEST POSITION IS MAXIMUM 78 INCHES ABOVE FLOOR.
- ALL BACKBOARDS SHALL UTILIZE FIRE RETARDANT 3/4" INCH PLYWOOD, SIZED AS INDICATED ON THE DRAWINGS.
- GROUNDING SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 70.
 - GROUND EXPOSED, NON-CURRENT-CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, GROUNDING CONDUCTOR IN NONMETALLIC RACEWAYS, GROUNDING CONDUCTOR SHALL COMPLY WITH NFPA 90A AND UL 181. THE INSULATION MATERIAL SURFACE SHALL NOT BE EXPOSED TO THE AIR STREAM.
 - MAKE GROUND CONNECTION AT MAIN SERVICE EQUIPMENT, AND EXTEND GROUNDING CONDUCTOR TO POINT OF ENTRANCE OF METALLIC WATER SERVICE. MAKE CONNECTION TO WATER PIPE BY SUITABLE GROUND CLAMP WITH METER JUMPER OR LUG CONNECTION TO PLUGGED TEE. IF FLANGED PIPES ARE ENCOUNTERED, MAKE CONNECTION WITH LUG BOLTED TO STREET SIDE OF FLANGED CONNECTION. SUPPLEMENT METALLIC WATER SERVICE GROUNDING SYSTEM WITH ADDITIONAL MADE ELECTRODE IN COMPLIANCE WITH NFPA 70. MAKE GROUND CONNECTION TO DRIVEN GROUND RODS ON EXTERIOR OF BUILDING. GROUND RODS SHALL BE OF COPPER-CLAD STEEL CONFORMING TO UL 467 NOT LESS THAN 19.3 MM (3/4 INCH) IN DIAMETER BY 2.4 METER (8 FEET) IN LENGTH OF THE SECTIONAL TYPE DRIVEN FULL LENGTH INTO THE EARTH WHERE GROUND FAULT PROTECTION IS EMPLOYED, ENSURE THAT CONNECTION OF GROUND AND NEUTRAL DOES NOT INTERFERE WITH CORRECT OPERATION OF FAULT PROTECTION.
- WIRING SHALL BE COMPLETED IN ACCORDANCE WITH NFPA 70.
 - CONDUCTORS NO. 8 AWG AND LARGER DIAMETER SHALL BE STRANDED ANNEALED COPPER. CONDUCTORS NO. 10 AWG AND SMALLER DIAMETER SHALL BE SOLID ANNEALED COPPER. CONDUCTOR SIZES AND AMPACITIES SHOWN ARE BASED ON COPPER UNLESS INDICATED OTHERWISE UNLESS SPECIFIED OR INDICATED OTHERWISE OR REQUIRED BY NFPA 70. UNLESS OTHERWISE INDICATED WIRING METHODS SHALL BE:
 - SERVICE ENTRANCE WIRING AND WIRING TO DISTRIBUTION PANELS. WIRES SHALL BE IN PVC CONDUIT AND SHALL BE 600-VOLT, TYPE THW/THHN ANNEALED COPPER.
 - BRANCH CIRCUITING INSIDE THE BUILDING IN DRY AREAS SHALL BE 600 VOLT, TYPE NM-B.
 - BRANCH CIRCUITING OUTSIDE THE BUILDING AND IN WET/DAMP AREAS SHALL BE 600 VOLT, TYPE UF-8.
 - WIRES SUBJECT TO DAMAGE SHALL BE IN PVC CONDUIT.

- 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 EQUIVALENT TO CONDUIT INSULATION.
- PHASE CONDUCTORS SHALL BE IDENTIFIED BY COLOR CODING. THE COLOR OF THE INSULATION ON PHASES A AND B RESPECTIVELY (FOR SINGLE PHASE) OF DIFFERENT VOLTAGE SYSTEMS SHALL BE AS FOLLOWS: 120/240 VOLT, SINGLE/PHASE: BLACK AND RED.

9. BOXES:

- ALL OUTLETS, SWITCH AND JUNCTION BOXES SHALL BE NONMETALLIC BOXES.
 - BOXES SHALL BE SIZED IN ACCORDANCE WITH NFPA 70.
 - EXTERIOR BOXES SHALL BE GASKETED AND WATER TIGHT.
10. OUTLETS AND SWITCHES:
- ALL OUTLETS AND SWITCHES SHALL BE WHITE.
 - MOUNT LIGHTING SWITCHES 48 INCHES ABOVE FINISHED FLOOR, RECEPTACLES 18 INCHES ABOVE FINISHED FLOOR, AND OTHER DEVICES AS INDICATED, MEASURE MOUNTING HEIGHTS OF WIRING DEVICES AND OUTLETS TO TOP OF DEVICE OR OUTLET.
 - SINGLE AND DUPLEX RECEPTACLES SHALL BE RATED 15 AMPERES, 125 VOLTS, TWO-POLE, THREE-WIRE, GROUNDING TYPE WITH POLARIZED PARALLEL SLOTS. RECEPTACLE SHALL BE SIDE OR BACK WIRED WITH TWO SCREWS PER TERMINAL. THE THIRD GROUNDING POLE SHALL BE CONNECTED TO THE METAL MOUNTING YOKE.
 - SWITCHED RECEPTACLES SHALL BE THE SAME AS OTHER RECEPTACLES SPECIFIED EXCEPT THAT THE UNGROUNDED POLE OF EACH SUITABLE RECEPTACLE SHALL BE PROVIDED WITH A SEPARATE TERMINAL. ONLY THE TOP RECEPTACLE OF A DUPLEX RECEPTACLE SHALL BE WIRED FOR SWITCHING APPLICATION.
 - RECEPTACLES WITH GROUND FAULT CIRCUIT INTERRUPTERS SHALL HAVE THE CURRENT RATING AS INDICATED, AND SHALL BE UL CLASS A TYPE UNLESS OTHERWISE SHOWN. GROUND FAULT CIRCUIT PROTECTION SHALL BE PROVIDED AS REQUIRED BY NFPA 70 AND AS INDICATED ON THE DRAWINGS.
 - WEATHERPROOF RECEPTACLES SHOWN SHALL BE MOUNTED IN A BOX WITH A GASKETED, WEATHERPROOF, WATERPROOF COVER PLATE AND GASKETED CAP OVER EACH RECEPTACLE OPENING.
 - WALL SWITCHES SHALL BE OF THE TOTALLY ENCLOSED TUMBLER TYPE. WIRING TERMINALS SHALL BE OF THE SCREW TYPE OR OF SOLDERLESS PRESSURE TYPE HAVING SUITABLE CONDUCTOR-RELEASE ARRANGEMENT. SWITCHES SHALL BE RATED 15 AMPERE 120/277-VOLT FOR USE ON ALTERNATING CURRENT ONLY.
 - DIMMING SWITCHES SHALL BE SLIDE TYPE, SOLID-STATE, FLUSH MOUNTED, AND SIZED FOR THE LOADS.
 - DEVICE PLATES SHALL BE ONE-PIECE TYPE AND BE PROVIDED FOR ALL RECEPTACLES, OUTLETS, SWITCHES AND FITTINGS. PLATES ON UNFINISHED WALLS AND ON FITTINGS SHALL BE OF IMPACT RESISTANT PLASTIC HAVING ROUNDED OR BEVELED EDGES. PLATES ON FINISHED WALLS SHALL BE IMPACT-RESISTANT PLASTIC. PLATES SHALL BE INSTALLED WITH ALL FOUR EDGES IN CONTINUOUS CONTACT WITH FINISHED WALL SURFACES WITHOUT THE USE OF MATS OR SIMILAR DEVICES. PLATES SHALL BE INSTALLED WITH AN ALIGNMENT TOLERANCE OF 1/16 INCH. THE USE OF SECTIONAL-TYPE DEVICE PLATES WILL NOT BE PERMITTED. PLATES INSTALLED IN WET LOCATIONS SHALL BE GASKETED AND PROVIDED WITH A HINGED, GASKETED COVER, UNLESS OTHERWISE SPECIFIED.

- 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.
- PROVIDE ALL NECESSARY WIRE, CONDUIT AND EQUIPMENT TO SUPPLY POWER TO THE HEATING, VENTILATION AND AIR CONDITIONING EQUIPMENT, PLUMBING EQUIPMENT AND FIRE PROTECTION EQUIPMENT. CONTROL WIRING AND CONDUIT SHALL BE PROVIDED UNDER DIVISION 15.
- COORDINATE ALL WORK WITH OTHER TRADES AND ARRANGE INSTALLATION TO AVOID CLASHES BETWEEN EQUIPMENT, WORK OF OTHER TRADES AND BUILDING STRUCTURE.



THE STATE OF
CONNECTICUT
DEPARTMENT OF
HOUSING (DOH)
COMMUNITY
DEVELOPMENT BLOCK
GRANT - DISASTER
RECOVERY (CDBG-DR)
OWNER OCCUPIED
REHABILITATION and
REBUILDING PROGRAM
(OORR)

GENERAL
RENOVATIONS for the
CURWEN RESIDENCE
APPLICATION No. 1732
16 Little Street
Bridgeport, CT 06604



date	description	no.
	revisions	

MEP
SPECIFICATIONS

MEP-5.0

date	JUNE 26, 2015
drawn	ANK
scale	NOT TO SCALE
checked	DTEB
project no.	2014064.00
application no.	1732

DIFFUSER AND REGISTER SCHEDULE

SYMBOL	MANUFACTURER/MODEL	DUTY	TYPE	BORDER TYPE	CONSTRUCTION			REMARKS
					OBD	FRAME	BLADES	
A	SUPPLY GRILLE KRUEGER 880 SERIES	SUPPLY	D.D.	FLUSH	YES	STEEL TO PAINT	STEEL	1

TYPES:
D.D. - DIRECTIONAL DIFFUSER

REMARKS:
1. 3/4" SPACING
2. RETURN GRILLE PLENUM.
3. 0" DEFLECTION 3/4" SPACING

GAS FIRED FURNACE SCHEDULE

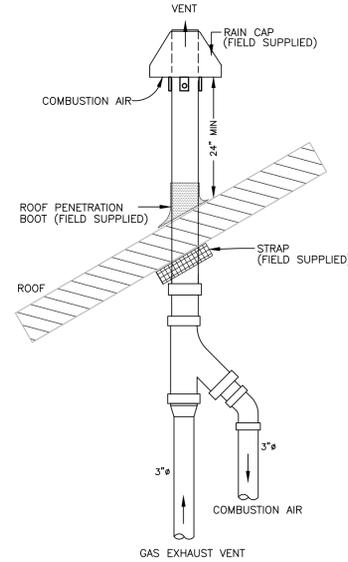
SYMBOL	MANUFACTURER/MODEL NUMBER	TYPE	LOCATION	FUEL	FLUE SIZE	IGNITION TYPE	INPUT MBH	OUTPUT MBH	AFUE (%)	CFM	MIN. CFM O.A.	ESP IN. WG	EAT DEG F	LAT DEG F	FILTER	ELEC. DATA AMP-VOLT-PH	OPERATING WEIGHT, LBS	REMARKS
FURN-1	TRANE TUH2B060A9V3VA	U	PANTRY	NG	2"	HOT SURFACE IGNITOR	60.0	58.0	97	775	45	0.5	48	95	ELECTRONIC HIGH EFFICIENCY	11.1-115-1	146	ALL

TYPES: U=UP-FLOW
NOTE: PROVIDE WITH RESIDENTIAL INTEGRATED ZONE SYSTEM BY TRANE.
REMARKS:
1. VARIABLE SPEED ECM MOTOR
2. PROVIDE WITH COMBINATION MOTOR STARTER/FUSED DISCONNECT SWITCH.
3. MAXIMUM COIL FACE VELOCITY SHALL BE 500 FPM.
4. WATER LEVEL DETECTION SENSOR IN PRIMARY DRAIN PAN.
5. PROVIDE FACTORY CONCENTRIC VENT TERMINAL.

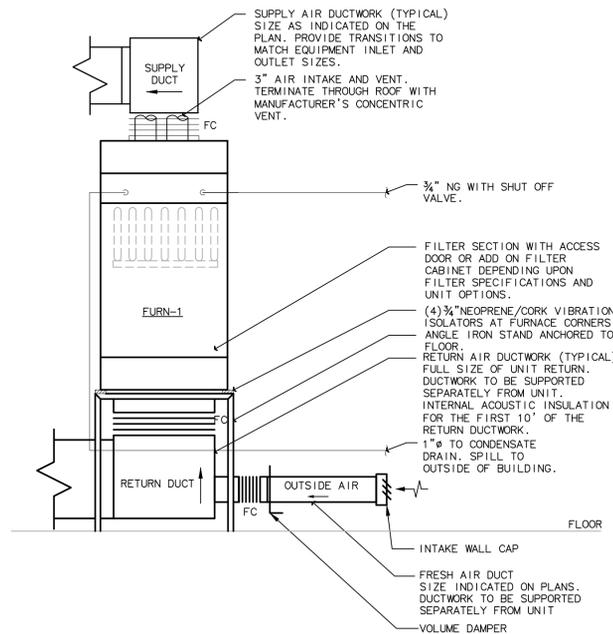
WATER HEATER SCHEDULE-GAS FIRED

SYMBOL	MANUFACTURER/MODEL NUMBER	TYPE	LOCATION	FUEL TYPE	BTUH INPUT	GPM	EWT (F)	LWT (F)	ELEC. DATA AMPS-VOLTS-PH	REMARKS
WH-1	RINNAI/RUC90i	I	PANTRY	PROPANE	180,000	5.0	45	105	8A-120V-1	ALL

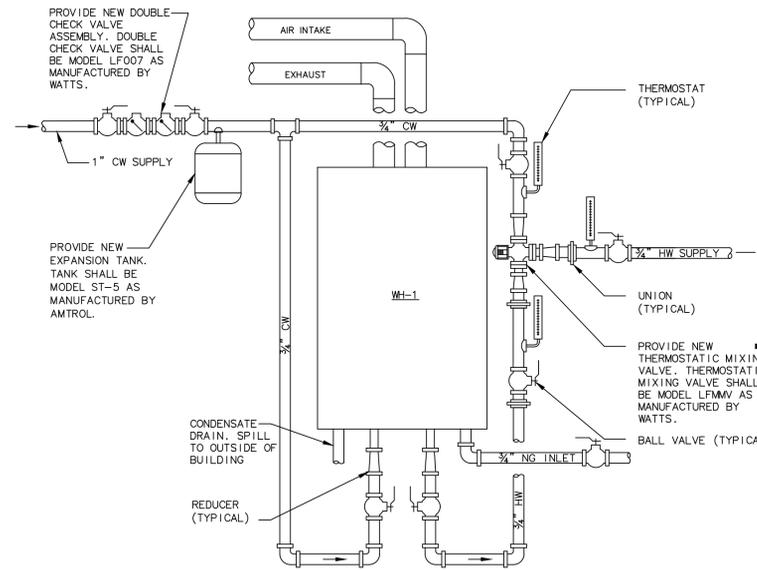
NOTES:
I = INSTANTANEOUS TYPE HEATER
REMARKS:
1. REFER TO DETAIL FOR PIPING ARRANGEMENT.
2. PROVIDE PVC INTAKE AND VENT. INSTALL INTAKE AND VENTING PER INSTALLATION INSTRUCTION.
3. PROVIDE FACTORY CONCENTRIC VENT TERMINAL.



3 CONCENTRIC VENT TERMINAL DETAIL THROUGH ROOF
SCALE: NONE



2 VERTICAL MOUNTED DOWN FLOW UNIT DETAIL
SCALE: N.T.S.



1 WATER HEATER PIPING DIAGRAM
N.T.S.

PLUMBING PIPING LEGEND

SYMBOL	DESCRIPTION
---	NEW CW BURRIED
---	NEW CW
---	EXISTING CW
---	NEW SAN BURRIED
---	NEW SAN
---	EXISTING SAN
---	NEW HW
---	EXISTING HW
---	NEW NG BURRIED
---	NEW NG
---	EXISTING NG
---	NEW V
---	EXISTING V
---	NEW COND
---	DETAIL LINE
○	90° ELBOW DOWN
○	90° ELBOW UP
+	TEE UP
-	TEE DOWN
+	DROP AND RUN
+	TEE OFF TOP OF PIPE
-	TEE OFF BOTTOM OF PIPE
+	CLEANOUT
+	HOSE BIBB

PLUMBING SYMBOL LEGEND

SYMBOL	DESCRIPTION
Ⓜ	WATER METER
⊕	THERMOMETER
⊕	PRESSURE REGULATOR
+	CONNECT NEW TO EXISTING
+	VENT THRU ROOF

PLUMBING ABBREVIATIONS

ABBREVIATION	DESCRIPTION
BTU	BRITISH THERMAL UNIT
CO	CLEANOUT
CW	COLD WATER
COND	CONDENSATE
DN	DOWN
ET	EXPANSION TANK
HB	HOSE BIBB
HW	HOT WATER
LPG	LIQUIFIED PETROLEUM GAS
TYP	TYPICAL
V	VENT
VTR	VENT THRU ROOF

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	FLEXIBLE DUCTWORK
▭	NEW DUCTWORK (DOUBLE LINE)
▭	NEW DUCTWORK (SINGLE LINE)
▭	RETURN DUCT DROP (DOUBLE LINE)
▭	RETURN DUCT DROP (SINGLE LINE)
▭	RETURN DUCT RISE (DOUBLE LINE)
▭	RETURN DUCT RISE (SINGLE LINE)
▭	SUPPLY DUCT DROP (DOUBLE LINE)
▭	SUPPLY DUCT DROP (SINGLE LINE)
▭	SUPPLY DUCT RISE (DOUBLE LINE)
▭	SUPPLY DUCT RISE (SINGLE LINE)
▭	VOLUME DAMPER
→	RETURN/EXHAUST/OUTSIDE AIR ARROW
→	SUPPLY ARROW
⊕	CONNECTION TO EXISTING
⊕	THERMOSTAT
⊕	EXISTING TO REMAIN

MECHANICAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
ET-#	EXPANSION TANK ENTERING WATER TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
HD	HEAD
HP	HORSE POWER
LWT	LEAVING WATER TEMPERATURE
MIN	MINIMUM
N.T.S.	NOT TO SCALE
N/A	NOT APPLICABLE
NC	NOISE CRITERIA
NIC	NOT IN CONTRACT
NO.	NUMBER
NOM	NOMINAL
OA	OUTSIDE AIR
P-#	PUMP
SPEC	SPECIFICATION
TEMP	TEMPERATURE
TYP	TYPICAL



THE STATE OF CONNECTICUT DEPARTMENT OF HOUSING (DOH) COMMUNITY DEVELOPMENT BLOCK GRANT - DISASTER RECOVERY (CDBG-DR) OWNER OCCUPIED REHABILITATION and REBUILDING PROGRAM (OOR)

GENERAL RENOVATIONS for the CURWEN RESIDENCE APPLICATION No. 1732 16 Little Street Bridgeport, CT 06604



date description no. revisions

MEP SCHEDULES AND DETAILS

MEP-5.1

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