ARCHITECTURAL DRAWING LIST			
Sheet Number	Sheet Name	Sheet Issue Date	Current Revision Date
0-Cover			
A-000	COVER SHEET	11/05/2024	12/04/2024
2-CIVIL			
C-1	SITE PLAN	11/01/2024	
L-1	TREE REMOVAL PLAN	12/04/2024	
L-2	SITE LANDSCAPE PLAN	12/04/2024	
3-Architectural			
A-001	GENERAL NOTES & ABBREVIATIONS	11/05/2024	
A-010	CODE REVIEW & EGRESS CALCULATIONS	11/05/2024	
A-020	ARCHITECTURAL SITE PLAN	11/05/2024	12/04/2024
A-021	ARCHITECTURAL SITE PLAN - BACKYARD COTTAGE	11/05/2024	12/04/2024
A-022	GROSS FLOOR AREA	11/05/2024	
A-023	NET FLOOR AREA	11/05/2024	
EX-100	EXISTING CONDITIONS	11/05/2024	12/04/2024
EX-102	DEMO PLANS	11/05/2024	
A-100	BASEMENT & FIRST FLOOR PLAN	11/05/2024	12/04/2024
A-101	SECOND & THIRD FLOOR PLAN	11/05/2024	
A-102	ROOF PLAN	11/05/2024	
A-103	COTTAGE PLANS	11/05/2024	
A-300	FRONT & RIGHT SIDE ELEVATIONS	11/05/2024	11/19/2024
A-301	REAR & LEFT SIDE ELEVATIONS	11/05/2024	11/19/2024
A-302	COTTAGE ELEVATIONS	11/05/2024	
A-303	AVERAGE GRADE - PRIMARY STRUCTURE	11/19/2024	
A-304	AVERAGE GRADE - BACKYARD COTTAGE	11/19/2024	
A-400	MAIN BUILDING SECTION	11/05/2024	
A-401	BACKYARD COTTAGE SECTION	11/05/2024	11/19/2024
A-520	TYPICAL SLOPED ROOF DETAILS	11/05/2024	
A-630	TYPICAL ROOF DETAILS	11/05/2024	
A-710	STAIR DETAILS	11/05/2024	
A-900	DOOR & WINDOW SCHEDULE	11/05/2024	
A-901	DOOR, WINDOW & FINISH FLOOR DETAILS	11/05/2024	
A-910	PARTITION TYPES	11/05/2024	
AV-1	PERSPECTIVES	11/05/2024	

ARCHITECTURAL DRAWING LIST			
Sheet Number	Sheet Name	Sheet Issue Date	Current Revision Date
4-Structural			
S101	FOUNDATION PLAN/DETAILS	08/14/2024	
S102	FRAMING PLANS	08/14/2024	
S103	COTTAGE FRAMING PLANS	08/14/2024	
5-MEP			
H-100	HVAC PLANS	11/05/2024	
H-101	HVAC PLANS	11/05/2024	
H-103	HVAC PLANS	11/05/2024	
H-200	HVAC NOTES	11/05/2024	
H-201	HVAC SCHEDULES	11/05/2024	
H-202	HVAC DETAILS	11/05/2024	
H-203	HVAC DETAILS	11/05/2024	
E-100	ELECTRICAL FLOOR PLANS - POWER	11/05/2024	
E-101	ELECTRICAL FLOOR PLANS - POWER	11/05/2024	
E-102	ELECTRICAL FLOOR PLANS - POWER	11/05/2024	
E-103	POWER DETAILS	11/05/2024	
E-104	POWER CALCULATIONS & SCHEDULES	11/05/2024	
E-110	ELECTRICAL FLOOR PLANS - LIGHTING	11/05/2024	
E-111	ELECTRICAL FLOOR PLANS - LIGHTING	11/05/2024	
E-112	ELECTRICAL FLOOR PLANS - LIGHTING	11/05/2024	
E-113	ELECTRICAL LEGENDS & DETAILS	11/05/2024	
FA-100	ELECTRICAL FLOOR PLANS - FIRE ALARM	11/05/2024	
FA-101	ELECTRICAL FLOOR PLANS - FIRE ALARM	11/05/2024	
FA-102	ELECTRICAL FLOOR PLANS - FIRE ALARM	11/05/2024	
FA-103	FIRE ALARM RISER & DETAILS	11/05/2024	
FP-100	FIRE PROTECTION PLANS	11/05/2024	
FP-101	FIRE PROTECTION PLANS	11/05/2024	
FP-103	FIRE PROTECTION PLANS	11/05/2024	
FP-104	FIRE PROTECTION DETAILS	11/05/2024	
FP-105	FIRE PROTECTION NOTES	11/05/2024	

PROJECT: 21-23 KENT COURT RESIDENCES

PROJECT ADDRESS:
21-23 KENT COURT
SOMERVILLE, MASSACHUSETTS

ARCHITECT
KHALSA DESIGN INC.
ADDRESS:
17 IVALOO STREET, SUITE 400
SOMERVILLE, MA 02143

OWNER
BOSTON MASONRY
ADDRESS:
100 HANO STREET, UNIT 19
ALLSTON, MA 02134

CIVIL ENGINEER
NEPONSET VALLEY SURVEY ASSOCIATES
ADDRESS:
95 WHITE STREET
QUINCY,MA 02169

LANDSCAPE ARCHITECT
MARC MAZZARELLI ASSOCIATES
ADDRESS:
284 CONCORD AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER
BERDI CONSULTING
ADDRESS:
25 WAYLAND HILLS ROAD
WAYLAND, MA 01778

MEP ENGINEER
BERDI CONSULTING
ADDRESS:
1 BILLINGS ROAD, SUITE 306
QUINCY, MA 02171

LOCUS PLAN

SCALE: 1" = 100'

PERMIT SET

2024.11.05
REV 1: 2024.11.19
REV 2: 2024.12.04

PROJECT NAME
21-23 KENT COURT

PROJECT ADDRESS
21-23 KENT COURT
SOMERVILLE, MA

CLIENT
BOSTON MASONRY

ARCHITECT
KDI ARCHITECTURE

KHALSA DESIGN, INC.
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682

CONSULTANTS:

CIVIL ENGINEER
NEPONSET VALLEY SURVEY ASSOCIATES
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MARC MAZZARELLI ASSOCIATES
ADDRESS:
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25 WAYLAND HILLS ROAD
WAYLAND, MA 01778

MEP ENGINEER
BERDI CONSULTING
ADDRESS:
1 BILLINGS ROAD, SUITE 306
QUINCY, MA 02171

REGISTRATION

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	1" = 100'-0"

REVISIONS

No.	Description	Date
1	ISD COMMENTS	11/19/2024
2	ISD COMMENTS	12/04/2024

COVER SHEET

A-000

21-23 KENT COURT

\\TKG-SERVER\Data\24\24043_Tigran Yesayan_21-23 Kent Court Somerville\03_DRAWINGS\00_ARCH\03_CD\24043_21-23 Kent Court -CDModel.rvt

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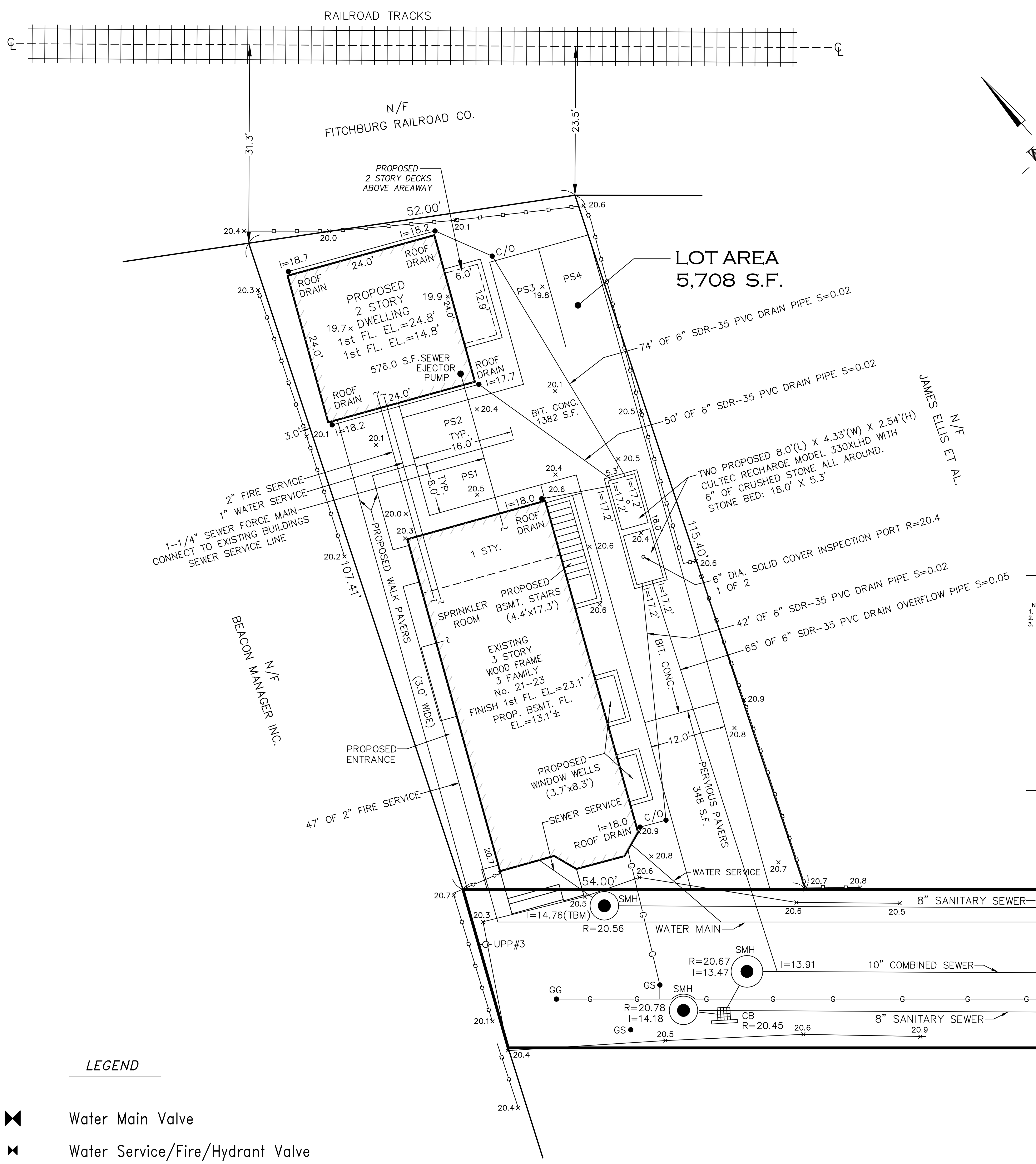
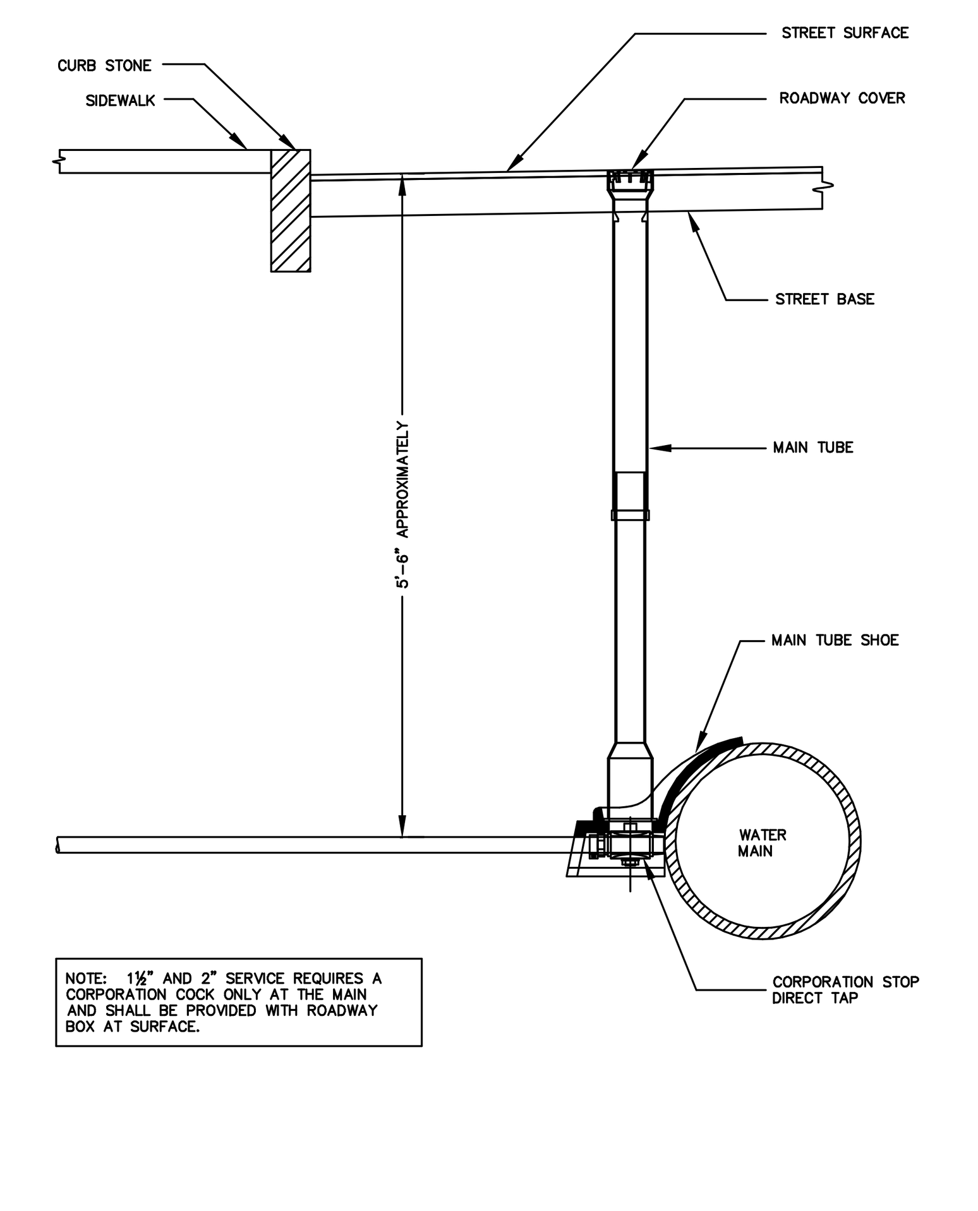


LEGEND

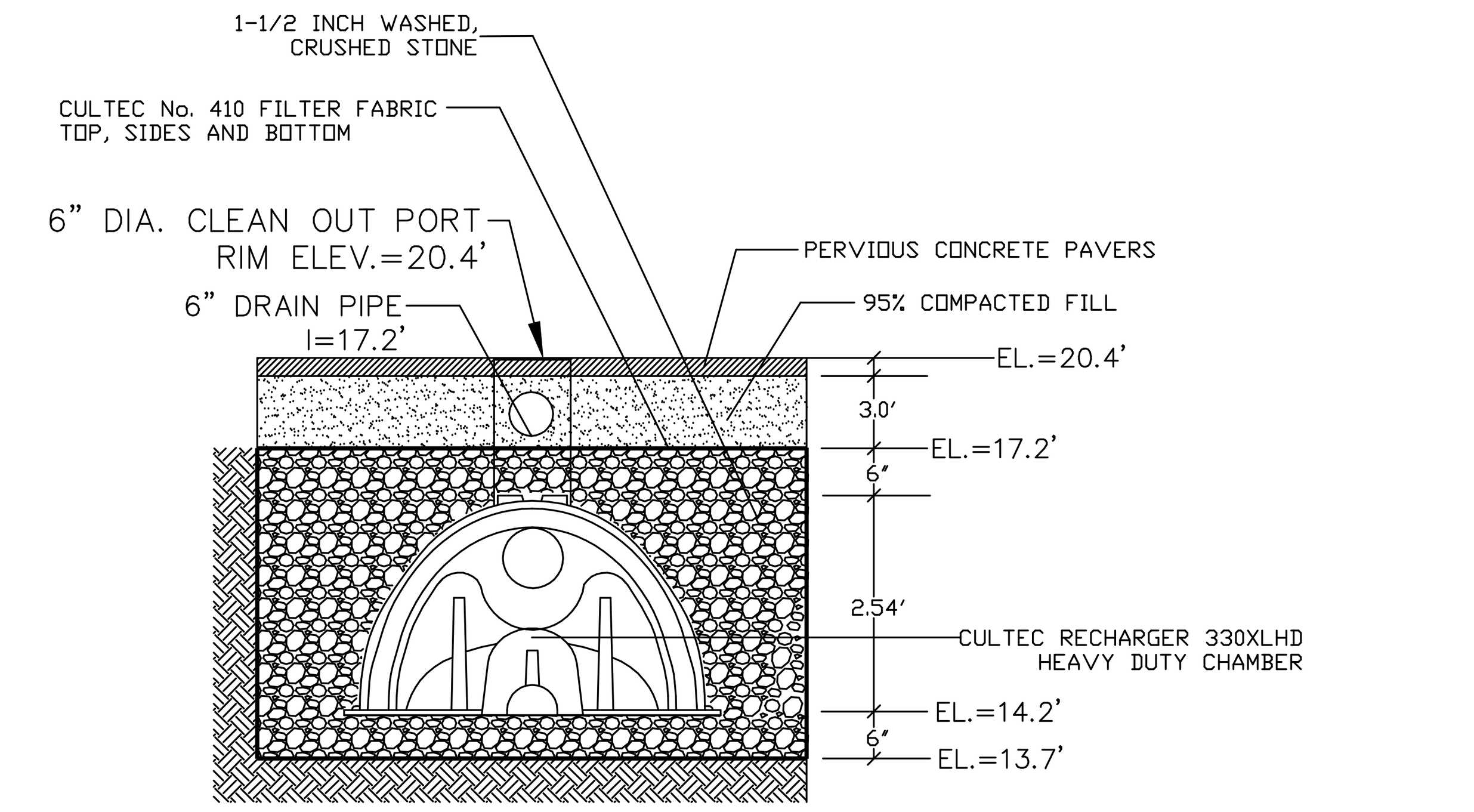
- Water Main Valve
- Water Service/Fire/Hydrant Valve
- Hydrant
- Water Meter
- Drain Manhole
- Catch Basin
- Sewer Manhole

0 5 10 20 30



1 1/2" TO 2" WATER CONNECTION DETAIL

NOT TO SCALE



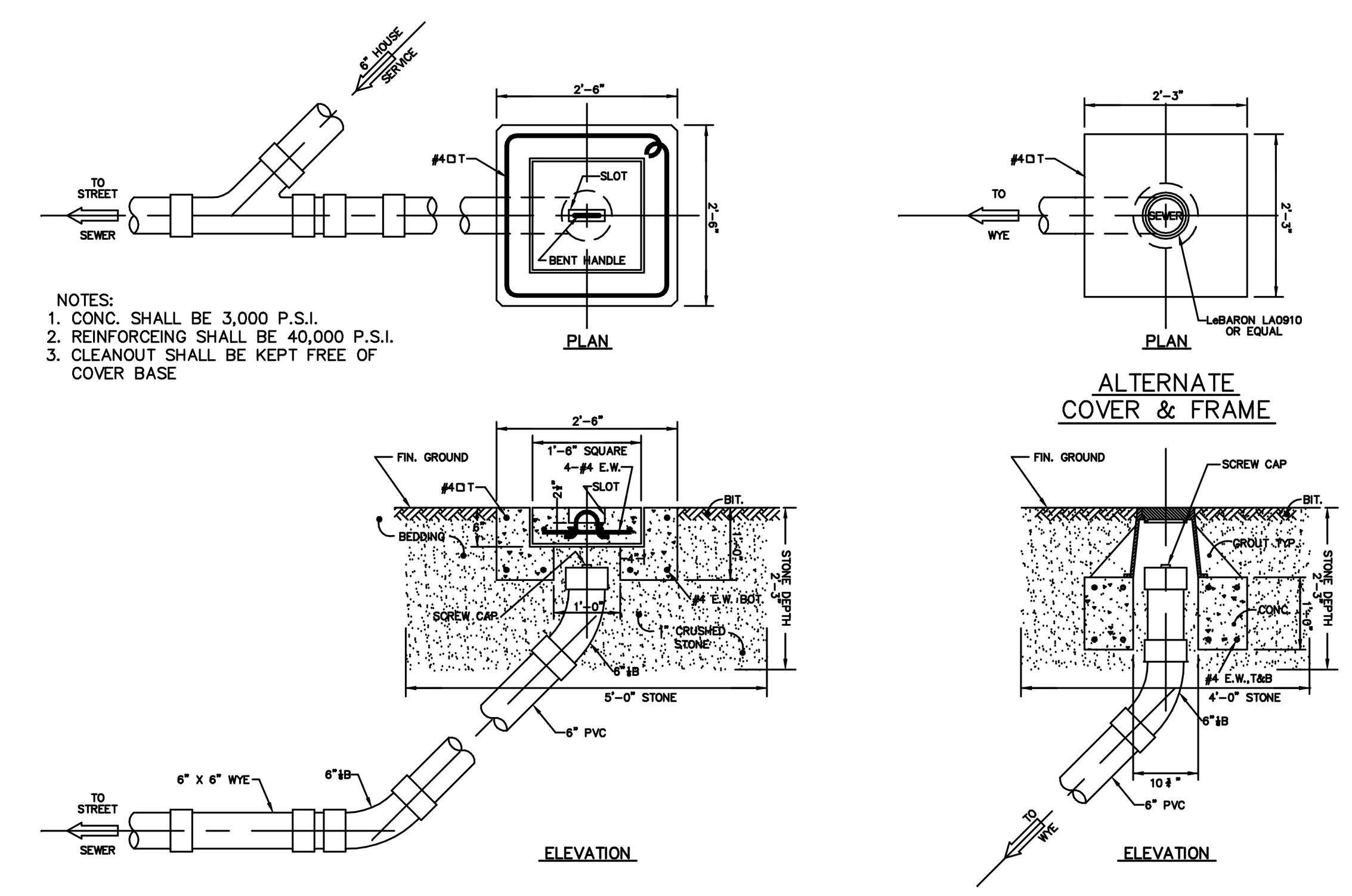
GENERAL NOTES
RECHARGER 330XLHD BY CULTEC, INC. OF BROOKFIELD, CT.
ALL RECHARGER 330XLHD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
ALL RECHARGER 330XLHD HEAVY DUTY UNITS ARE MARKED WITH A COLOR STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.

CULTEC RECHARGER 330XLHD CHAMBER SYSTEM
TYPICAL CROSS SECTION DETAIL

INFILTRATION SYSTEM CALCULATIONS

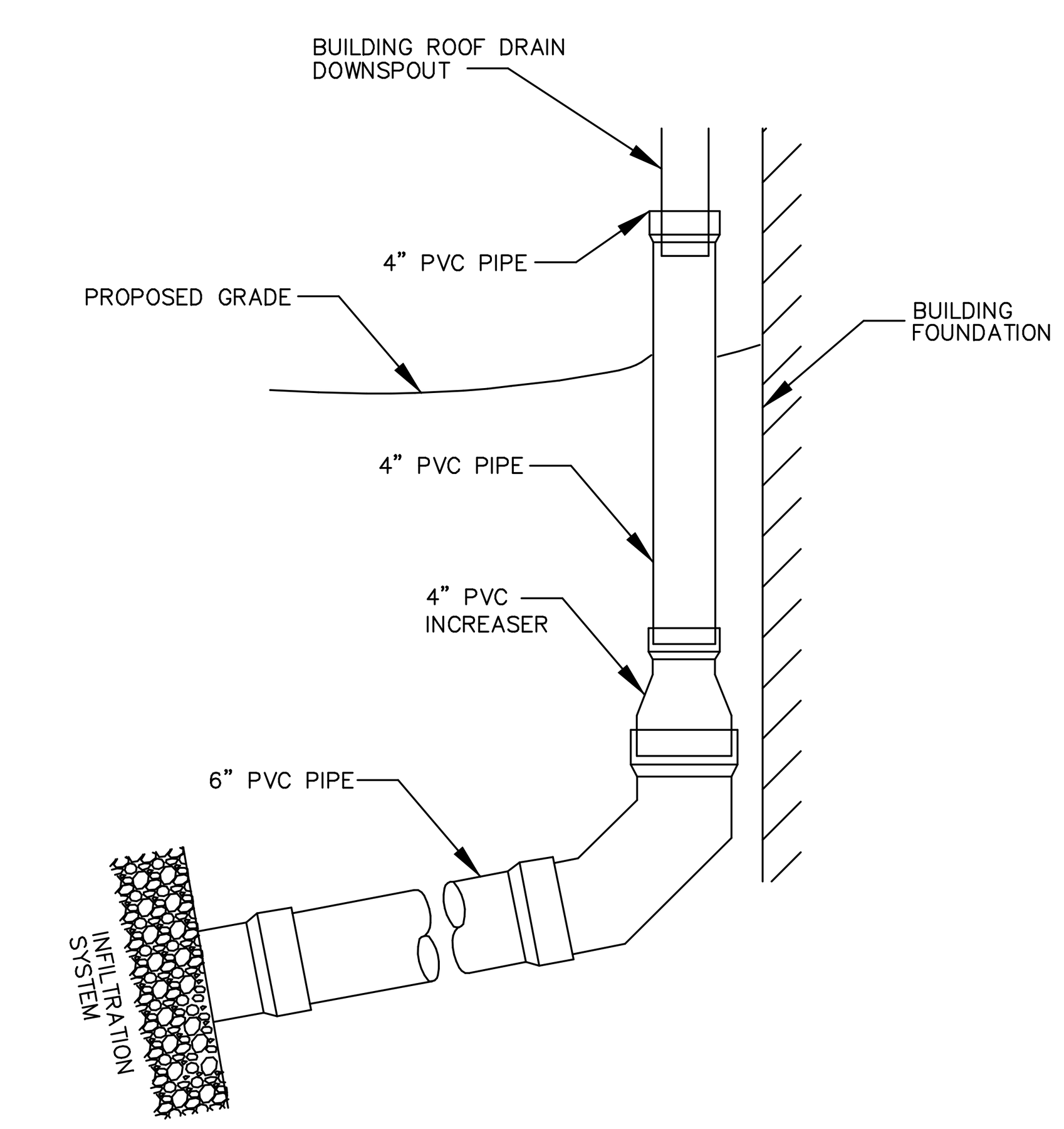
IMPERVIOUS AREA = 2,136.6 SQ. FT. X 1/12 = 178.1 C.F. TO BE INFILTRATED
INFILTRATION BED AREA = 5.33' X 18.0' X 3.54' = 339.6 C.F.
CULTEC PIPE CAPACITY = 7.46 C.F./FT X 16 FT = 119.4 C.F.
STONE CAPACITY = 339.6 C.F. – 119.4 C.F. = 220.2 C.F. X 0.3 = 66.1 C.F.
TOTAL INFILTRATION CAPACITY = 119.4 C.F. + 66.1 C.F. = 185.5 C.F. > 178.1 C.F. OK



NOTES:
1. CONC. SHALL BE 3,000 P.S.I.
2. REINFORCING SHALL BE 40,000 P.S.I.
3. CLEANOUT SHALL BE KEPT FREE OF COVER BASE

SEWER AND DRAIN CLEANOUT DETAILS

NO SCALE



ROOF DRAIN DETAIL

NOT TO SCALE

NOTES

1. ALL ELEVATIONS ARE BASED ON THE CITY OF SOMERVILLE SEWER DATUM. TBM – SMH INV.=14.76'.
2. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE AND ARE BASED UPON A FIELD SURVEY AND COMPILATION OF RECORD UTILITY PLANS. N.V.S.A. , INC. DOES NOT WARRANTY NOR GUARANTEE THE LOCATION OF ALL OR ANY OF THE UTILITIES DEPICTED. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES BY CONTACTING "DIG SAFE" AT (800) 322-4844 PRIOR TO COMMENCEMENT

COMMONWEALTH OF MASSACHUSETTS WAYNE H. PITTS # 29955 REGISTERED PROFESSIONAL ENGINEER

SITE PLAN
AT
21-23 KENT COURT
IN
SOMERVILLE, MASS.

PREPARED BY:
NEPONSET VALLEY SURVEY ASSOC., INC.
95 WHITE STREET
QUINCY, MA 02169

SCALE:	DATE:	SHEET
1"=10'	~~OCTOBER 23, 2024~~ NOVEMBER 1, 2024	1 OF 1

JAH (24-0388)

TREE #1
7” MULTISTEM
ARBORVITAE SP.
TO BE REMOVED

TREE #2
3” ARBORVITAE SP.
TO BE REMOVED

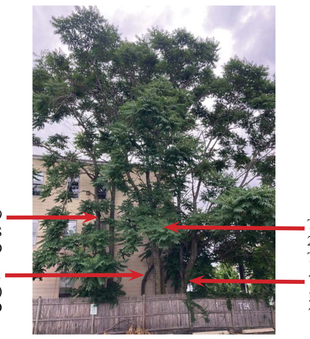
TREE #3
8” MULTISTEM
AILANTHUS
TO BE REMOVED

TREE #4
12” CHOKECHERRY
TO BE REMOVED

TREE #6
5” HOLLY
TO BE REMOVED

TREE #7
12” NORWAY MAPLE
TO BE REMOVED

TREE #5
18” AILANTHUS
TO BE REMOVED



TREE #9
12” MULTISTEM AILANTHUS
TO BE REMOVED

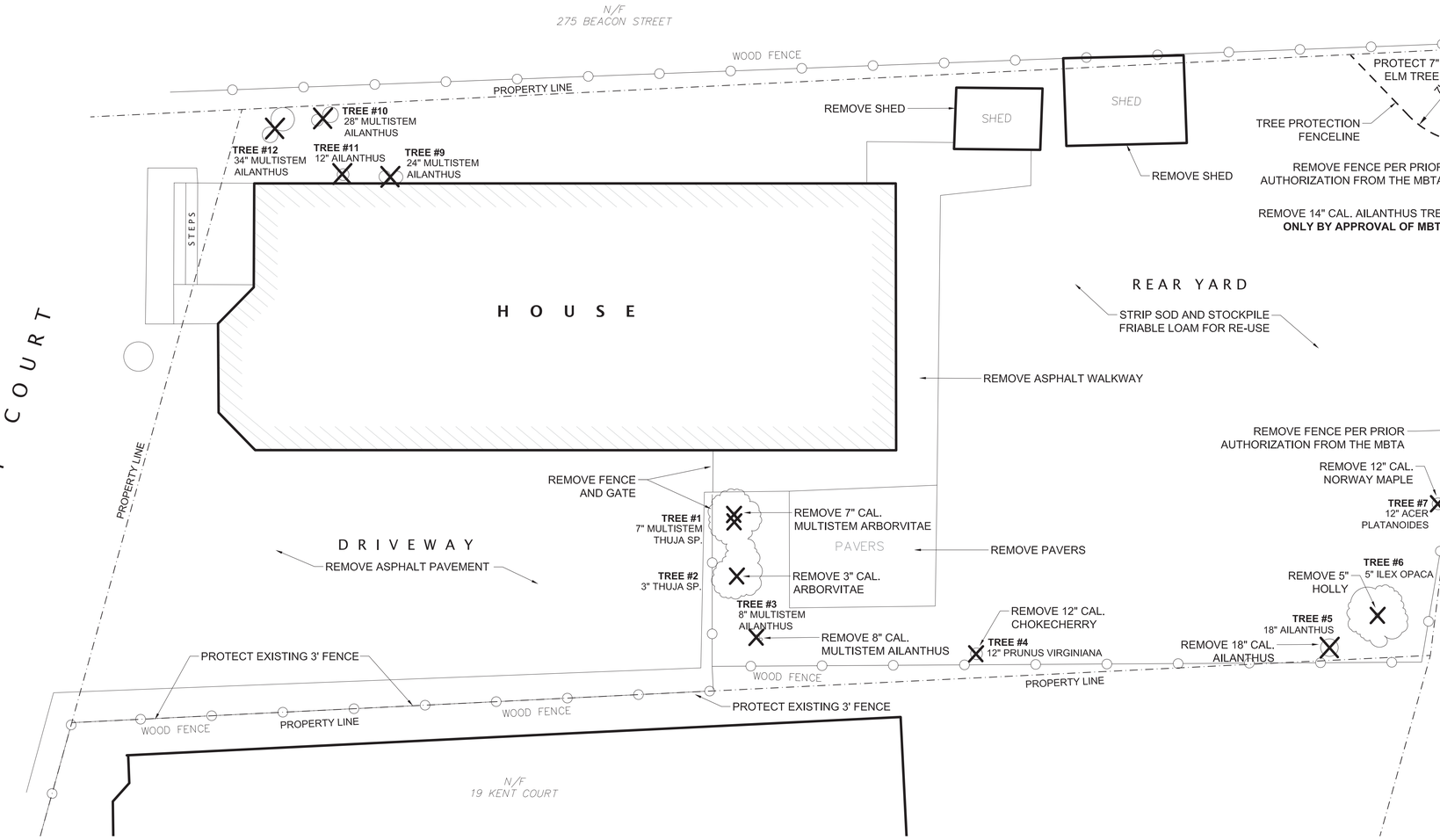
TREE #11
12” AILANTHUS (DEAD)
TO BE REMOVED

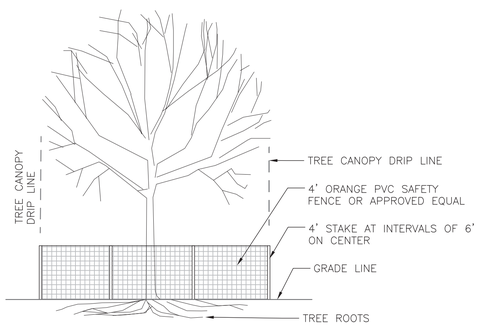
TREE #10
28” MULTISTEM AILANTHUS
TO BE REMOVED

TREE #12
34” MULTISTEM AILANTHUS
TO BE REMOVED

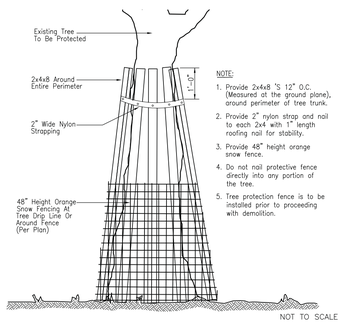
3/16”=1’-0”

0’ 16’





Tree Root Zone Protection Fence



Tree Protection Detail

Tree Removal Schedule

Tree #	Botanical Name	Common Name	DBH
1	Thuja species - multistem	Arborvitae	7" caliper
2	Thuja species	Arborvitae	3" caliper
3	Ailanthus altissima - multistem	Tree of Heaven	8" caliper
4	Prunus virginiana	Chokecherry	12" caliper
5	Ailanthus altissima - multistem	Tree of Heaven	18" caliper
6	Ilex opaca	American Holly	5" caliper
7	Acer platanoides	Norway Maple	12" caliper
9	Ailanthus altissima - multistem	Tree of Heaven	24" caliper
10	Ailanthus altissima - multistem	Tree of Heaven	28" caliper
11	Ailanthus altissima (dead)	Tree of Heaven	12" caliper
12	Ailanthus altissima - multistem	Tree of Heaven	34" caliper

Total DBH for Mitigation = 12" caliper inches

Tree Mitigation Schedule

New Plants

Quan	Botanical Name	Common Name	Caliper In.
6	Carpinus betulus 'Fastigiata'	Fastigiate Hornbeam	2" caliper

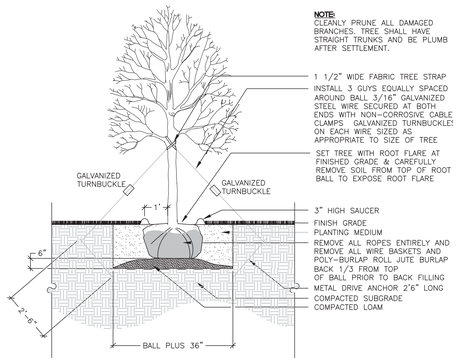
Proposed Mitigation = 12" caliper inches
Required Mitigation = 12" caliper inches

Marc Mazzarelli Associates LLC
Landscape Architecture + Planning
284 Concord Avenue
Cambridge, MA 02138 USA
617-460-7913
www.mmazz.com

21-23 Kent Court | Somerville, Massachusetts

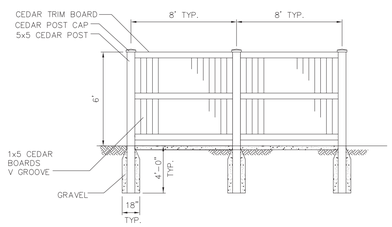
TREE REMOVAL PLAN L-1

December 4, 2024



Typical Tree Planting Section

NOTE: Measure the height of the root ball and subtract 2 inches from this. Dig your planting hole to this depth. DO NOT go deeper than this measurement, as a hole too deep will bury the root flare and prevent your tree from taking root and growing successfully. Dig your hole 2 – 5 times wider than the size of the root ball as well to allow roots to spread once planted.



Typical Cedar Fence

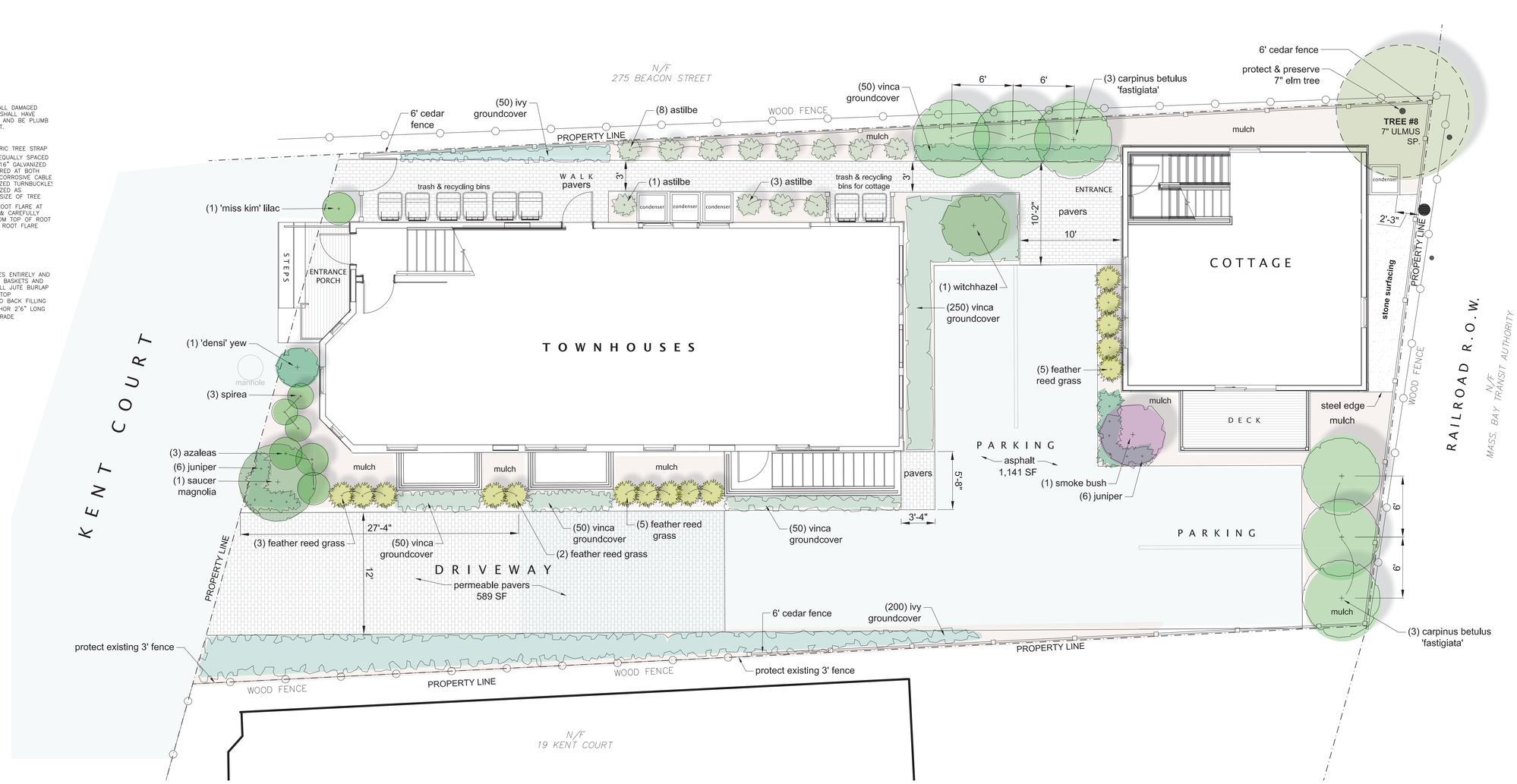
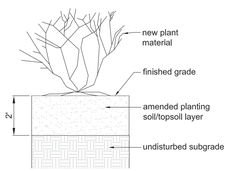
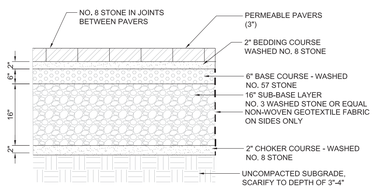


Table 10.4.1 Green Score Calculation

	Credit	Multiplier	Qty./Area	Value
Soils				
Landscaped area with a soil depth < 24 inches	actual sf	0.3	0	0
Landscaped area with a soil depth => 24 inches	actual sf	0.6	0	0
Pervious Paving with 6 to 24 inches of subsurface soil or gravel	actual sf	0.2	0	0
Pervious Paving with more than 24 inches of subsurface soil or gravel	actual sf	0.5	589	294.5
Groundcovers				
Turfgrass, mulch, and inorganic surfacing materials	actual sf	0.1	0	0
Plants				
Vegetation less than two (2) feet tall at maturity	actual sf	0.2	0	0
Vegetation at least two (2) feet tall at maturity	12 sf/plant	0.3	0	0
Trees				
Small Tree	50 sf/tree	0.6	0	0
Large Tree	450 sf/tree	0.6	2,700	1,620
Preserved Tree	65 sf/tree	0.8	455	364 - 7" caliper inches preserved (Ulmus sp.)
			subtotal =	2,278.5 divided by 5,710 (lot area S.F.)
			GREEN SCORE =	.39



Typical Plant Bed Section



Permeable Paver Section

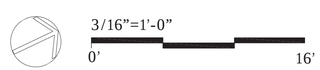
TREE #8
7" ULMUS SP.
TO BE PROTECTED

Tree to be Protected and Preserved

Plant List

NEW PLANTS

Quantity	Botanical Name	Common Name	Size	Notes
12	Astilbe chinensis	Tall Astilbe	1 Gallon	Grows more than 2' + tall
3	Azalea x 'Delaware Valley White'	DVW Azalea	5 Gallon	Grows more than 2' + tall
3	Carpinus betulus 'Fastigiata'	Fastigiate Hornbeam	2" caliper - 10' HT. Min.	LARGE TREE, B&B, Grows more than 30' + tall
15	Calamagrostis x 'Karl Foerster'	Feather Reed Grass	3 Gallon	Grows more than 2' + tall
1	Cotinus coggygria 'Royal Purple'	Smoke Bush	4'-5' HT.	Grows more than 2' + tall
1	Hamamellis virginana	Witchhazel	4'-5' HT.	Grows more than 2' + tall
250	Hedera helix 'Baltica'	Ivy Groundcover	In flats of 50	Grows less than 2' + tall
11	Juniperus horizontalis 'Blue Chip'	Blue Chip Juniper	3 Gallon	Grows less than 2' + tall
1	Magnolia soulangeana	Otto Luyken Laurel	5 Gallon	SMALL TREE, B&B, Grows less than 30' + tall
3	Spirea x 'Anthony Waterer'	Anthony Waterer Spirea	5 Gallon	Grows more than 2' + tall
1	Syringa x 'Miss Kim'	Miss Kim Lilac	7 Gallon	Grows more than 2' + tall
1	Taxus x 'Densiformis'	Densi Yew	30"-36" Spread	Grows more than 2' + tall
1	Viburnum trilobum 'Wentworth'	Wentworth Viburnum	7 Gallon	Grows more than 2' + tall
450	Vinca minor	Myrtle groundcover	In flats of 50	Grows less than 2' + tall



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21-23 Kent Court | Somerville, Massachusetts

SITE LANDSCAPE PLAN L-2

December 4, 2024

ARCHITECTURAL ABBREVIATIONS

& AND

A
AB ANCHOR BOLT
ACFL ACCESS FLOOR
ACOUS ACOUSTICAL
ACT ACOUSTICAL CEILING TILE
AD AREA DRAIN
ADD ADDENDUM
ADDL ADDITIONAL
ADJ ADJUST/ABLE
ADJ ADJACENT
ADMIN ADMINISTRATION
AFF ABOVE FINISH FLOOR
AHU AIR HANDLING UNIT
ALT ALTERNATE
ALUM ALUMINUM
ANUN ANNUNCIATOR
AP ACCESS PANEL
APC ARCHITECTURAL PRECAST CONCRETE
APROX APPROXIMATE
ARCH ARCHITECTURAL
AUTO AUTOMATIC
AWT ACOUSTICAL WALL TREATMENT

B
BA BUILDING ACCESSORY
BBD BULLETIN BOARD
BC BRICK COURSES
BD BOARD
BFE BOTTOM FOOTING ELEVATION
BG BUMPER GUARD
BIT BITUMINOUS
BKT BRACKET
BLDG BUILDING
BLKG BLOCKING
BLT BORROWED LIGHT
BLW BELOW
BM BEAM
BO BY OWNER
BOF BY OWNER FUTURE
BOT BOTTOM
BR BRICK
BRG BEARING
BRL BRICK LEDGE
BSMT BASEMENT
BTWN BETWEEN
BUR BUILT-UP ROOFING

C
C CHANNEL
C DISP CUP DISPENSER
CAB CABINET
CG CORNER GUARD
CH COAT HOOK
CJT CONTROL JOINT
CCTV CLOSED CIRCUIT TELEVISION

C
CD COILING DOOR
CG COILING GRILLE
CL CENTER LINE
CL CLASS
CLG CEILING
CLR CLEAR
CM CONSTRUCTION MANAGER
CMU CONCRETE MASONRY UNIT
CO CLEANOUT
CO CASED OPENING
COL COLUMN
COMB COMBINATION/-ED
CONC CONCRETE
CONF CONFERENCE
CONN CONNECT/-ED/-ION
CONST CONSTRUCTION
CONT CONTINUE/OUS
CONTR CONTRACT/OR
COORD COORDINATE
CORR CORRIDOR
CPT CARPET
CT CERAMIC TILE
CTR CENTER
CTSK COUNTERSUNK
CUH CABINET UNIT HEATER
CW CURTAIN WALL
CW COLD WATER
CYL CYLINDER

D
D DEPTH OR DEEP
DEMO DEMOLITION
DEPR DEPRESSION
DEPT DEPARTMENT
DET DETAIL/S
DF DRINKING FOUNTAIN
DIA DIAMETER
DIAG DIAGONAL
DIFF DIFFUSER
DIM DIMENSION
DISP DISPENSER
DIST DISTRIBUTION
DIV DIVISION
DJT DUMMY JOINT
DN DOWN
DP DEMOUNTABLE PARTITION
DP DATA PROCESSING
DR DOOR
DS DOWNSPOUT
DW DUMBWAITER
DWG DRAWING
DWLS DOWELS

E
E EXISTING
EXIST EXISTING
EC ELECTRIC CABINET
EF EXHAUST FAN
EIFS EXTERIOR INSULATION AND FINISH SYSTEM

E
EJT EXPANSION JOINT
EL ELEVATION
ELEC ELECTRICAL
ELEV ELEVATOR
EMERG EMERGENCY
ENCL ENCLOSURE
ENTR ENTRANCE
EO ELECTRICAL OUTLET
EP EXPLOSION PROOF
EQ EQUAL
EQUIP EQUIPMENT
ES END SECTION
EWC ELECTRIC WATER COOLER
EXA EXHAUST AIR
EXC EXCAVATE/-ED/-ION
EXH EXHAUST HOOD
EXIST EXISTING
EXP EXPANSION
EXT EXTERIOR
E EXISTING
EC ELECTRIC CABINET
EF EXHAUST FAN
EIFS EXTERIOR INSULATION AND FINISH SYSTEM
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EL ELEVATION
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EWC ELECTRIC WATER COOLER
EXA EXHAUST AIR
EXC EXCAVATE/-ED/-ION
EXH EXHAUST HOOD
EXIST EXISTING
EXP EXPANSION
EXT EXTERIOR

F
FA FIRE ALARM
FB FIRE BLANKET
FD FLOOR DRAIN
FDN FOUNDATION
FDV FIRE DEPARTMENT VALVE
FE FIRE EXTINGUISHER
FGS FOAM GASKET SEAL
FH FIRE HOSE
FHP FULL HEIGHT PARTITION
FHV FIRE HOSE VALVE
FIN FINISH
FIXT FIXTURE
FL FLOOR
FL FLOW LINE
FLASH FLASHING
FLEX FLEXIBLE
FLG FLANGE
FLUOR FLUORESCENT
FP FIRE PROOFING

F
FRMG FRAMING
FS FULL SIZE
FS FLOOR SINK
FSTOP FIRESTOPPING
FT FOOT/FEET
FTG FOOTING
FTR FIN TUBE RADIATION
FURR FURRING
FUT FUTURE

G
GA GAUGE
GAL GALLONS
GALV GALVINIZED
GB GRAB BAR
GB GRADE BEAM
GC GENERAL CONTRACTOR
GEN GENERATOR
GEN GENERAL
GL GLASS
GMU GLASS MASONRY UNIT
GR GRADE
GWB GYPSUM BOARD
GWB/SK GYPSUM BLUE BOARD W/ PLASTER SKIM COAT
GYP SHGT GYPSUM SHEATHING

H
H HIGH
HB HOSE BIB
HD HAND DRYER
HDCP HANDICAP
HDR HEADER
HDW HARDWARE
HM HOLLOW METAL
HORIZ HORIZONTAL
HPT HIGHPOINT
HR HANDRAIL
HT HEIGHT
HTR HEATER
HVAC HEATING, VENTILATING, AIR CONDITIONING
HW HOT WATER
HWD HARDWOOD

I
IC INTERCOM
ID INSIDE DIAMETER
IN INCH
INSUL INSULATION
INT INTERIOR
ISO ISOLATION

J
JAN JANITOR
JB JUNCTION BOX
JST JOIST
JT JOINT

K
KO KNOCK OUT

L
L ANGLE
L LAVATORY
LAV LAVATORY
LB POUND
LCD LINEAR CEILING DIFFUSER
LF LINE FIGURED
LIN LINEAR
LKR LOCKER
LLH LONG LEG HORIZONTAL
LLV LONG LEG VERTICAL
LMC LINEAR METAL CEILING
LOC LOCATION OR LOCATE
LPT LOW POINT
LS LAWN SPRINKLING
LT LIGHT
LTG LIGHTING
LVR LOUVER
LWC LINEAR WOOD CEILING

M
M MIDDLE
MAN MANUAL
MATL MATERIAL
MAX MAXIMUM
MBD MARKER BOARD
MC MEDICINE CABINET
MCU MODULAR COOLING UNIT
MECH MECHANICAL
MEMB MEMBRANE
MET METAL
MEZZ MEZZANINE
MFR MANUFACTURER
MH MANHOLE
MHC MATERIAL HANDLING CONVEYOR
MIN MINIMUM
MIR MIRROR
MISC MISCELLANEOUS
MO MASONRY OPENING
MONO MONOLITHIC
MPC METAL PAN CEILING
MPU MULTI-PURPOSE UNIT
MTD MOUNTED
MTR MOTOR
MULL MULLION

N
NA NOT APPLICABLE
NIC NOT IN CONTRACT
NO NUMBER
NOM NOMINAL
NRC NOISE REDUCTION COEFFICIENT
NT NOTE
NTS NOT TO SCALE

O
OC ON CENTER
OD OUTSIDE DIAMETER
OFF OFFICE
OH OVERHEAD
OP OPERABLE PARTITION
OPER OPERATOR
OPNG OPENING
OPP OPPOSITE
ORD OVERFLOW ROOF DRAIN

P
PART PARTITION
PB PUSH BUTTON
PC PRECAST CONCRETE
PCD PAPER CUP DISPENSER
PED PEDESTAL
PL PLATE
PL PROPERTY LINE
PLAM PLASTIC LAMINATE
PLBG PLUMBING
PLS PLASTER
PLW PLYWOOD
PNL PANEL
PR PAIR
PRELIM PRELIMINARY
PRES PLASTIC RESIN
PRESS PRESSURE
PRIM PRIMARY
PROJ PROJECTION
PRV POWER ROOF VENTILATOR
PT PAINT
PTC PAPER TOWEL CABINET
PTR PRINTER
PVC POLYVINYL CHLORIDE

Q
QT QUARRY TILE

R
R RADIUS
R RISER
RA RETURN AIR
RAD RADIATION
RB RESILIENT BASE
RD ROOF DRAIN
RE RELOCATE EXISTING
REC RECESSED
REF REFERENCE
REFR REFRIGERATOR
REG REGISTER
REINF REINFORCE/-ED/-ING
REM REMOVE
REQD REQUIRED
RET RETAINING
REV REVERSE
REV REVISE
RF RESILIENT FLOOR
RH ROOF HATCH
RM ROOM
RO ROUGH OPENING
RS ROUGH SLAB
RWC RAIN WATER CONDUCTOR

S
S SINK
SCHED SCHEDULE
SD SHOWER DRAIN
SD SMOKE DAMPER
SDISP SOAP DISPENSER
SECT SECTION
SECY SECRETARY
SF STORE FRONT
SF SQUARE FOOT
SH SHOWER
SHD SHOWER HEAD
SHT SHEET
SHTG SHEATHING
SIM SIMILAR
SL SEALER
SLNT SEALANT
SLV SLEEVE
SM SURFACE MOUNTED
SNC SANITARY NAPKIN CABINET
SND SANITARY NAPKIN DISPOSER
SOG SLAB ON GRADE
SP STANDPIPE
SPEC SPECIFICATIONS
SPR SINGLE PLY ROOF
SQ SQUARE
SQ YD SQUARE YARD
SR SERVICE RECEPTOR
SS SERVICE SINK
SST STAINLESS STEEL
ST STREET
ST STONE TILE
STC SOUND TRANSMISSION
STD STANDARD
STL STEEL
STN STONE
STNL STONE LEDGE
STOR STORAGE
STRUCT STRUCTURAL

S
STS STEEL STRUCTURE
SUPV SUPERVISOR
SUSP SUSPENDED
SW STEEL WINDOWS
SW SWITCH
SWD SOFTWOOD
SYM SYMMETRICAL

T
T TOP
TAN TANGENT
TBD TACKBOARD
TC TIME CLOCK
TCAB TOWEL CABINET
TDISP TISSUE DISPENSER
TDR TRENCH DRAIN
TEL TELEPHONE
TEMP TEMPERATURE
TER TERRAZZO
TG TONGUE & GROOVE
THRES THRESHOLD
TPG TEMPERED PLATE GLASS
TPH TOILET PAPER HOLDER
TR TREAD
TRANSF TRANSFORMER
TS TUBE SECTION
TV TELEVISION
TYP TYPICAL

U
U URINAL
UC UNDERCUT
UFD UNDER FLOOR DUCT
UG UNDERGROUND
UH UNIT HEATER
UNFIN UNFINISHED
UNO UNLESS NOTED OTHERWISE
US UTILITY SHELF
UTIL UTILITY

V
VC VALVE CABINET
VENT VENTILATION
VERT VERTICAL
VEST VESTIBULE
VR VAPOR RETARDER
VTR VENT THROUGH ROOF

W
W WIDTH/WIDE
W WIDE FLANGE
W/ WITH
W/O WITHOUT
WC WATER CLOSET
WC WALL COVERING
WD WOOD
WDW WINDOW
WG WALL GUARD
WH WALL HYDRANT
WHCH WHEELCHAIR
WHTR WATER HEATER
WP WATERPROOF
WR WASTE RECEPTACLE
WS WEATHERSTRIP
WSCT WAINSCOT
WT WINDOW TREATMENT
WT WEIGHT
WW WOOD WINDOW
WWF WELDED WIRE FABRIC

SYMBOLS

- LEVEL LINE, CONTROL OR DATUM ELEVATION
- DETAIL REFERENCE DRAWING NUMBER (X / AX.X)
- REVISION NUMBER (A)
- EXTERIOR ELEVATION NUMBER (X / AX.X)
- PARTITION TYPE (6)
- INTERIOR ELEVATION KEY (1 / 4AX.X2 / 3)
- CASEWORK TYPE (C)
- ROOM/SPACE NUMBER (141)
- INTERIOR WINDOW TYPE (W)
- DOOR NUMBER (111B)
- WINDOW TYPE (W)
- SEALANT AND BACKER ROD JOINT (S)
- COLUMN REFERENCE GRID (A)
- DASH AND DOT CENTER LINE
- BUILDING SECTION REFERENCE DRAWING NUMBER (X / AX.X)
- DASH AND DOUBLE DOT LINES PROPERTY LINES, BOUNDARY LINES
- WALL SECTION REFERENCE DRAWING NUMBER (X / AX.X)
- SECTION DETAIL REFERENCE DRAWING NUMBER (X / AX.X)
- DIMENSION LINE (1 1/2")
- BREAK LINE TO BREAK OFF PARTS OF A DRAWING
- DOTTED LINE HIDDEN OR CONSTRUCTION ABOVE, BEYOND

INDICATION OF MATERIALS

EARTH	EARTH/ COMPACT FILL	POROUS FILL/ GRAVEL
CONCRETE	CONCRETE	SAND MORTAR
MASONRY	BRICK	CONCRETE MASONRY UNIT
STONE	RUBBLE	MARBLE
METAL	STEEL/IRON	ALUMINUM
WOOD	WOOD SHIM	CONTINUOUS BLOCKING
	PLYWOOD	FINISH
GLASS	GLASS	GLASS BLOCK
INSULATION	BATT/ LOOSE FILL	RIGID
	FIRE SAFING	
FINISHES	GYPSUM WALL BOARD	ACOUSTICAL TILE

GENERAL NOTES

1. GENERAL CONDITIONS : THE GENERAL CONDITIONS FOR THIS CONTRACT SHALL BE AIA DOCUMENT A201 (1987 EDITION) EXCEPT AS HEREIN AMENDED.
2. SCOPE : WORK TO INCLUDE DEMOLITION AND CONSTRUCTION AS INDICATED ON THE DRAWINGS NECESSARY FOR A COMPLETE INSTALLATION. EACH CONTRACTOR SHALL RESPECT THE WORK OF OTHER CONTRACTORS AND ARE RESPONSIBLE FOR AND LIABLE TO REPAIR OR REPLACE ANY DAMAGE CAUSED BY THEIR WORK.
3. CODES : ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH LOCAL AND STATE CODES AND REGULATIONS HAVING JURISDICTION. THE CONTRACTOR SHALL PROTECT AND INDEMNIFY THE OWNER AND ARCHITECT AGAINST ANY CLAIM OR LIABILITY ARISING FROM ANY SUCH CODE OR REGULATION.
4. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS, INSPECTIONS AND APPROVALS.
5. QUALITY : WORKMANSHIP SHALL BE OF THE HIGHEST TYPE, AND MATERIALS USED OR SPECIFIED OF THE BEST QUALITY THAT THE MARKET AFFORDS. ALL INSTALLATIONS AND APPLICATIONS SHALL CONFORM TO THE MANUFACTURERS SPECIFICATIONS.
6. COORDINATION OF THE WORK : THE GENERAL CONTRACTOR SHALL COORDINATE THE WORK CONTRACT FROM THE CONTRACTOR OR THE OWNER. THE CONTRACTORS INSTRUCTIONS SHALL BE FOLLOWED BY ALL TRADES.
7. MECHANICAL TRADES : THE MECHANICAL AND ELECTRICAL TRADES SHALL INSTALL THEIR WORK AS RAPIDLY AS THE OTHER WORK PERMITS AND SHALL COMPLETE THIS WORK BY THE TIME THE OTHER TRADES HAVE FINISHED.
8. EXAMINATION OF THE SITE AND DOCUMENTS : THE CONTRACTOR, BEFORE SUBMITTING HIS PROPOSAL, SHALL VISIT THE SITE AND EXAMINE FOR HIMSELF ALL CONDITIONS AND LIMITATIONS WHICH EFFECT THE CONTRACT. THE CONTRACTOR SHALL CAREFULLY EXAMINE ALL CONTRACT DOCUMENTS. TITLES AND SUBDIVISIONS IN THESE DOCUMENTS ARE FOR CONVENIENCE, AND NO ERROR OR ALLEGED ERRORS IN ARRANGEMENT OF MATTER SHALL BE REASON FOR OMISSION OR DUPLICATION BY ANY CONTRACTOR.
9. SEPARATE CONTRACTS : THE OWNER RESERVES THE RIGHT TO LET OTHER CONTRACTS IN CONNECTION WITH THE WORK. THE GENERAL CONTRACTOR SHALL AFFORD OTHER CONTRACTORS REASONABLE OPPORTUNITY FOR THE EXECUTION OF THEIR WORK AND SHALL PROPERLY CONNECT AND COORDINATE HIS WORK WITH THEIRS.
10. GUARANTEE : ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE UNLESS SPECIFIED OTHERWISE FOR A LONGER PERIOD OF TIME ON CERTAIN ITEMS.
11. TRASH REMOVAL : PRIOR TO STARTING WORK, THE GENERAL CONTRACTOR SHALL PROVIDE A CONSTRUCTION DUMPSTER AND PICKUP SERVICE FOR ALL CONSTRUCTION DEBRIS (DUMPSTER LOCATION TO BE COORDINATED WITH THE OWNER). AT THE END OF EACH DAY, THE GENERAL CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE AND OR WITHIN THE BUILDING. IF TRASH AND DEBRIS ARE NOT REMOVED, THE OWNER MAY (AT HIS OPTION) PAY FOR THE REMOVAL AND BACK CHARGE THE CONTRACTOR.
12. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE AND REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
13. ALL SECTIONS, DETAILS, MATERIALS, METHODS, ETC. SHOWN AND/OR NOTED ON ANY PLAN OR SECTION SHALL APPLY TO ALL OTHER SIMILAR LOCATIONS UNLESS OTHERWISE NOTED.
14. THE GENERAL CONTRACTOR SHALL SAFELY SHORE, BRACE, OR SUPPORT ALL WORK AS REQUIRED. THIS WORK SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR AND NO ACT, DIRECTION, OR REVIEW OF ANY SYSTEM OR METHOD BY THE ARCHITECT SHALL RELIEVE THE CONTRACTOR OF THIS RESPONSIBILITY.
15. IT IS NOT THE INTENT OF THESE DRAWINGS TO SHOW NOR INDICATE ANY OR ALL FASTENING OR FRAMING TECHNIQUES /DEVICES, NOR BE ABLE TO SHOW ALL CONDITIONS PRESENT.
16. ALL WORK IS NEW UNLESS OTHERWISE NOTED.
17. ALL WALLS AND CEILINGS TO BE 5/8in FIRE CODE OR 1/2in GYPSUM BOARD, 5/8in MOISTURE RESISTANT TYPE X OR 5/8in CEMENT BOARD. FINISH AND TEXTURE TO BE SELECTED BY OWNER. MATERIAL AS MANUFACTURED BY U.S. GYPSUM OR EQUAL FINISH (CEMENT ACCESSORIES AND TAPE OR SKIM COAT). ALL JOINTS AND NAIL HEADS READY FOR PAINT, TILE, WOOD TRIM, VWC, OR PANELING.
18. STORAGE : THE CONTRACTOR SHALL PROVIDE ON SITE WEATHER PROTECTED STORAGE SPACE, I.E.: TRAILER. STORAGE OF CONSTRUCTION MATERIALS IN THE EXISTING BUILDING WILL NOT BE PERMITTED.
19. PROTECTION : THE CONTRACTOR SHALL PROTECT ALL PUBLIC AND ADJACENT AREAS FROM DAMAGE DURING CONSTRUCTION.
20. TEMPORARY SERVICES : THE CONTRACTOR WILL PAY FOR EXISTING SERVICES (WATER, TELEPHONE AND ELECTRICITY) AND WILL TURN OVER THESE SERVICES TO THE OWNER UPON FINAL ACCEPTANCE OF THIS PROJECT.
21. THE CONTRACTOR SHALL VERIFY LOCATION AND ACTUAL DEPTH OF ALL EXISTING SANITARY PIPING, STORM DRAINS, GAS AND WATER MAINS, ELECTRIC LINES AND PIPES. HE IS ALSO ADVISED TO VERIFY ACTUAL INVERTS OF SANITARY AND STORM LINES BY HAND DUG TEST PITS WELL IN ADVANCE OF TRENCHING AND CONSTRUCTION. ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE ARCHITECT. ALL NECESSARY PERMITS AND APPROVALS MUST BE OBTAINED FROM PROPER AUTHORITIES.
22. ARCHITECTURAL, MECHANICAL, ELECTRICAL, ELEVATOR, & SPRINKLER : EACH CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT FOR APPROVAL PRIOR TO FABRICATION.
23. ALL WORK IS NEW UNLESS OTHERWISE NOTED.
24. DAMAGE : THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING BUILDING, WALLS, CEILINGS, FLOORS, FURNITURE AND FURNISHINGS. DAMAGED SURFACES DUE TO CONSTRUCTION TO BE PATCHED, REPAIRED AND/OR REPLACED AS REQUIRED AND BLEND TO MATCH EXISTING ADJACENT SURFACES AT NO ADDITIONAL COST TO OWNER.
25. THE GENERAL CONTRACTOR SHALL PREPARE A BOOKLET CONTAINING : LIST OF SUBCONTRACTORS USED ON THIS JOB WITH NAMES, ADDRESSES AND TELEPHONE NUMBERS. ALL WARRANTIES AND INSTRUCTION MANUALS FOR EQUIPMENT AND MATERIALS INSTALLED WILL BE ISSUED TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF BUILDING, AND PRESENT BOOKLET TO OWNER PRIOR TO FINAL ACCEPTANCE OF WORK.
26. CARPET AND/OR TILE : CARPET AND/OR TILE AS SELECTED AS PER DRAWINGS.
27. HANDICAPPED REQUIREMENTS : THE GENERAL CONTRACTOR WILL ACQUAINT HIMSELF WITH THE ARCHITECTURAL ACCESS BOARD (AAB) CODE FOR THE STATE OF MASSACHUSETTS AND THE ADA (AMERICANS WITH DISABILITIES ACT) TO ENSURE THAT THIS FACILITY WILL BE ACCESSIBLE.
28. SPRINKLER HEAD LOCATION : REFER TO N.F.P.A. STANDARDS. SPRINKLER HEADS TO BE LOCATED PER CODE. SHOP DRAWINGS ARE REQUIRED TO BE SUBMITTED TO THE CONTRACTOR FOR APPROVAL PRIOR TO INSTALLATION.
29. THE GENERAL CONTRACTOR SHALL COORDINATE THE LOCATION AND SIZE OF OPENINGS FOR VENTS, PIPES, INSERTS, BOXES, HANGERS, ETC.
30. ALL INTERIOR FINISHES AND FURNISHINGS FOR CEILINGS, WALL AND FLOORS SHALL BE CLASS 1in WITH A FLAME SPREAD RATING OF 0 TO .25.
31. SUBMIT SAMPLES OF ALL PAINTS AND STAINS FOR APPROVAL PRIOR TO APPLICATION.
32. BEFORE COMMENCING WORK, THE GENERAL CONTRACTOR WILL MEET WITH THE APPOINTED COMPANY REPRESENTATIVE TO OUTLINE PHASING OF CONSTRUCTION AND DISPOSITION OF EXISTING CONSTRUCTION MATERIALS AND/OR EQUIPMENT.
33. ALL WOODS BLOCKING TO BE PRESSURE TREATED, FIRE RETARDANT.

PROJECT NAME
21-23 KENT COURT

PROJECT ADDRESS
21-23 KENT COURT
SOMERVILLE, MA

CLIENT
BOSTON MASONRY

ARCHITECT
KDI ARCHITECTURE
KHALSA DESIGN, INC.
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SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682

CONSULTANTS:

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LANDSCAPE ARCHITECT
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STRUCTURAL ENGINEER
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MEP ENGINEER
BERDI CONSULTING
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QUINCY, MA 02171

REGISTRATION
REGISTERED ARCHITECT EVAN STELLAS No. 954027 SOMERVILLE MA COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	12" = 1'-0"

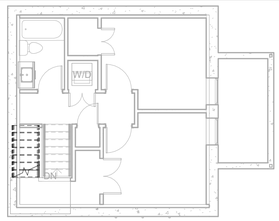
REVISIONS

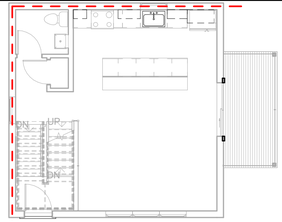
No.	Description	Date

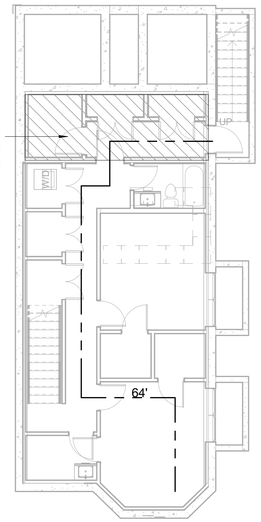
GENERAL NOTES & ABBREVIATIONS

A-001

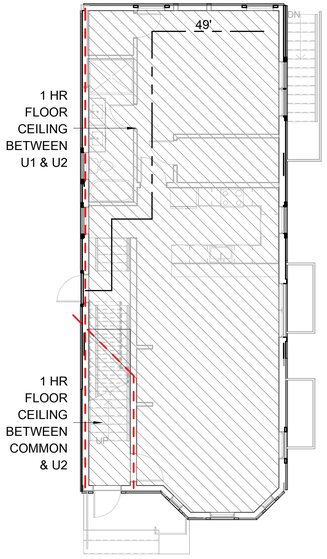
21-23 KENT COURT



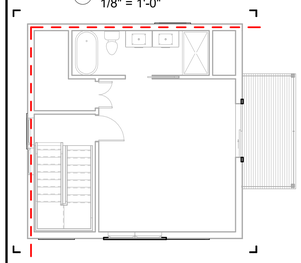


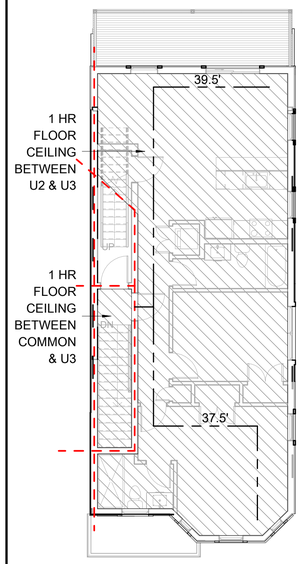


3 CODE REVIEW - BASEMENT
1/8" = 1'-0"

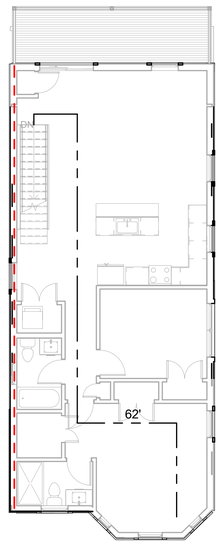


2 CODE REVIEW - 1ST FL
1/8" = 1'-0"





4 CODE REVIEW - 2ND FL
1/8" = 1'-0"



5 CODE REVIEW - 3RD FL
1/8" = 1'-0"

FIRE PROTECTION LEGEND

- 1HR FIRE RATED WALL/ PARTITION
- EXIT PATH
- 1 HR FIRE RATED CEILING
- EXIT — EXIT

SECTION 1006.3.1

All spaces within each story shall have access to the minimum number of approved independent exits as specified in Table 1006.3.1 based on the occupant load of the story. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories.

SECTION 1006.3.2

A single exit or access to a single exit shall be permitted from any story or occupied roof where on of the following conditions existis:

5.Individual single-story or multistory dwelling units shall be permitted to have a single exit or access to a single exit from the dwelling unit provided that both of the following criteria are met:
- 5.1. The dwelling unit complies with section 1006.2.1 as a space with one means of egress
- 5.2. Either the exit from the dwelling unit discharges directly to the exterior at the level of exit discharge, or the exit access outside the dwelling unit's entrance door provides access to not less than two apporved independent exits.

TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (FEET)		
		WITHOUT SRINKLER SYSTEM (FEET)		WITH SPRINKLER SYSTEM (FEET)
		OCCUPANT LOAD		
		OL ≤ 30	OL ≥ 30	
R-2	10	NP	NP	125[a]

TABLE 1006.3.2(1) STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOORAND TRAVEL DISTANCE
FIRST, SECOND & THIRD STORY	R-2	(UNIT 1,2, &3) 4 DWELLING UNITS AND 125 FEET TRAVEL DISTANCE

MAX TRAVEL DISTANCE= 55'

BUILDING CODE REVIEW
INTERNATIONAL BUILDING CODE-2015 EDITION

INTRODUCTION:
This report documents the code compliance review for the proposed gut renovation/new construction project located at 21-23 Kent Court (the Building), located in Somerville, MA. The compliance review is limited to the fire protection, life safety and accessibility of the applicable codes.

PROJECT DESCRIPTION
The proposed construction project resides in Somerville, MA. The existing structure on the lot will be gut renovated and a new rear structure will be constructed The proposed development consists of a new, 3 Unit, Triple Decker Style structure & a 2 story, single unit Backyard Cottage Structure.

INDIVIDUAL FLOOR AREA REVIEW
PRIMARY STRUCTURE
Basement has a building area of 1,222 square feet.
Floor 1 has a building area of 1,348 square feet.
Floor 2 has a building area of 1,388 square feet.
Floor 3 has a building area of 1,388 square feet
Roof has a building area of 166 square feet
Total Primary Building Gross Area= 5,511 square feet.

INDIVIDUAL FLOOR AREA REVIEW
BACKYARD COTTAGE:
Basement has a building area of 377 square feet.
Floor 1 has a building area of 389 square feet.
Floor 2 has a building area of 389 square feet.
Total Backyard Cottage Gross Area=1,156
Total Gross Area=6,667

USE GROUP - RESIDENTIAL R-2

TABLE 503: TYPE OF CONSTRUCTION

NO	FLOOR	USE GROUP				ALLOWED AREA S.F.	ALLOWED STORIES/ HEIGHT	INCREASE AREA S.F.	INCREASE STORIES	TOTAL ALLOWED	PROVIDED AREA S.F.	PROVIDED STORIES/ HEIGHT	REMARKS
BUILDING A (DETACHED TRIPLE DECKER)													
0	BASEMENT	"R2"	RESIDENTIAL MULTIFAMILY	"VB"	COMBUSTIBLE UNPROTECTED	7,000	2	NOT USED	1	7,000	1054	0	
1	FIRST	"R2"	RESIDENTIAL MULTIFAMILY	"VB"	COMBUSTIBLE UNPROTECTED	7,000	2	NOT USED	1	7,000	1249	1	
2	SECOND	"R2"	RESIDENTIAL MULTIFAMILY	"VB"	COMBUSTIBLE UNPROTECTED	7,000	2	NOT USED	1	7,000	1153	1	
3	THIRD	"R2"	RESIDENTIAL MULTIFAMILY	"VB"	COMBUSTIBLE UNPROTECTED	7,000	2	NOT USED	1	7,000	1153	1	
	SUBTOTAL								3		4608	3	
BUILDING B (BACKYARD COTTAGE)													
0	BASEMENT	"R2"	RESIDENTIAL MULTIFAMILY	"VB"	COMBUSTIBLE UNPROTECTED	7,000	2	NOT USED	1	7,000	570	1	
1	FIRST	"R2"	RESIDENTIAL MULTIFAMILY	"VB"	COMBUSTIBLE UNPROTECTED	7,000	2	NOT USED	1	7,000	576	1	
2	SECOND	"R2"	RESIDENTIAL MULTIFAMILY	"VB"	COMBUSTIBLE UNPROTECTED	7,000	2	NOT USED	1	7,000	576	1	
	SUBTOTAL					28,000	8		2	28,000	1722	2	
	GRAND TOTAL										6330	3	

FIRE RESISTANCE OF STRUCTURAL ELEMENTS:

TABLE 601:

STRUCTURAL ELEMENTS	TYPE OF CONSTRUCTION VB	FIRE RATING FILE #
1. EXTERIOR FRAME: INCLUDING COLUMNS, GIRDERS, TRUSSES	0HR	
2. BEARING WALLS EXTERIOR	0HR	
INTERIOR	0HR	
3. NONBEARING WALLS AND PARTITIONS: EXTERIOR (table 602)	SEE BELOW	
4. NONBEARING WALLS AND PARTITIONS: INTERIOR	0HR	
5. FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS	0HR	
6. ROOF CONSTRUCTION: INCLUDING SUPPORTING BEAMS AND JOISTS	0HR	

FIRE RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS

TABLE 602:

Fire Separation Distance = X (feet)	TYPE OF CONSTRUCTION	Occupancy R / Type VB	FIRE RATING FILE #
x < 5 (c)	VB	1	UL #U305
5 ≤ x <10)	VB	1	UL #U305
10 ≤ x <30	VB	0	N/A
x ≥ 30	VB	0	N/A

Dwelling Unit Separations

Dwelling units must be separated from each other (horizontally and vertically) and the rest of the building by construction that provides at least a one half (1/2) hour FRR (780 CMR Sections 709.3 & 712.3). Corridors in Use Group R-2 are required to provide a 30 minute FRR per Table 1018.1.

Concealed Spaces
Fire-blocking and draft-stopping shall be installed in combustible concealed locations in accordance with 780 CMR 717.0

EGRESS CALCULATIONS:

TABLE 1004.1.1:
RESIDENTIAL 1/200 SF GROSS

#	FLOOR / USE GROUP	AREA/200	OCCUPANT/ FLOOR
0	BASEMENT/ R2	1054/ 200	6
1	FIRST/ R2	1249/ 200	7
2	SECOND/ R2	1153/ 200	6
3	THIRD/ R2	1153/ 200	6
	TOTAL PRIMARY BUILDING		28
0	BASEMENT/ R2	377/ 200	3
1	FIRST/ R2	389/ 200	3
2	SECOND/ R2	389/ 200	3
	TOTAL BACKYARD COTTAGE		9

SECTION 1005.1

STAIR WIDTH
WIDTH IN INCHES
STAIRS 0.3/PERSON

#	STAIR	EGRESS CAPACITY 0.3 * OCCUPANTS	WIDTH IN INCH ALLOWED	WIDTH PROVIDED
1	STAIR #1	8.4"	44"	44"

EGRESS WIDTH (OTHER THAN STAIRS)
WIDTH IN INCHES
0.2/OCCUPANT

#	DOOR / CORRIDOR	EGRESS CAPACITY 0.2 * OCCUPANTS		WIDTH IN INCH ALLOWED		WIDTH PROVIDED	
1	CORRIDOR	5.6"	5.6"	32"	36"	36"	36"
EXTERIOR EGRESS DOOR		5.6"		32"		36"	

PROJECT NAME
21-23 KENT COURT

PROJECT ADDRESS
21-23 KENT COURT
SOMERVILLE, MA

CLIENT
BOSTON MASONRY

ARCHITECT
KDI ARCHITECTURE
KHALSA DESIGN, INC.
17 IVALOO STREET SUITE 400
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CONSULTANTS:

CIVIL ENGINEER
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LANDSCAPE ARCHITECT
MARC MAZZARELLI ASSOCIATES
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CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER
BERDI CONSULTING
ADDRESS:
25 WAYLAND HILLS ROAD
WAYLAND, MA 01778

MEP ENGINEER
BERDI CONSULTING
ADDRESS:
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QUINCY, MA 02171

REGISTRATION
REGISTERED ARCHITECT TYLAN STELLWAGEN SOMERVILLE MA COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	As indicated

REVISIONS

No.	Description	Date

CODE REVIEW & EGRESS CALCULATIONS

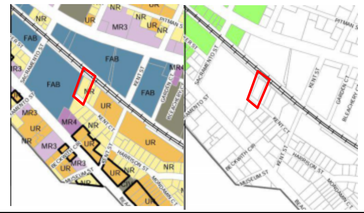
A-010

21-23 KENT COURT

\\TKG-SERVER\Data\24\24043_Tigran Yesayan_21-23 Kent Court Somerville\03_DRAWINGS\00_ARCH\03_CD\24007_21-23 Kent Court -CDModelnf.rvt
11/19/2024 5:24:00 PM

ZONING DIMENSIONAL TABLE

	ALLOWED / REQUIRED	EXISTING	PROPOSED	COMPLIANCE
ZONE	NR ZONE			
BUILDING TYPE	DETACHED HOUSE	DETACHED TRIPLE DECKER	DETACHED TRIPLE DECKER	COMPLIES
LOT SIZE		5,710 SF ±	5,710 SF ±	
LOT DIMENSIONS				
LOT WIDTH (MIN.)				
FRONT DRIVEWAY ACCESS	34 FT	54.0'	54.0'	COMPLIES
LOT DEVELOPMENT				
LOT COVERAGE (MAX.)	60% / 3,426 SF	40% / 2,303 SF	57% / 3,260 SF	COMPLIES
GREEN SCORE				
MINIMUM	0.35			VERIFY W/ LANDSCAPE PLAN
IDEAL	0.40			
BUILDING SETBACKS				
PRIMARY FRONT (MIN./ MAX.)	10 FT / 20 FT	2.7'	2.7'	COMPLIES
SECONDARY FRONT (MIN./ MAX.)	10 FT / 20 FT			
SIDE SETBACK (MIN.)				
FRONT DRIVEWAY ACCESS	3 FT	19' 8.5" (RIGHT) 6' 5.5"(LEFT)	**19' 6.5" (RIGHT)** **6' 3.5" (LEFT)**	COMPLIES COMPLIES
SUM OF SIDE SETBACK (MIN.)				
FRONT DRIVEWAY ACCESS	12 FT	25.9'	25.9'	COMPLIES
REAR SETBACK (MIN.)	20 FT	47.0'	47.0'	COMPLIES
BUILDING SEPERATION (MIN.)	10 FT	N/A	21.4'	COMPLIES
PARKING SETBACKS				
PRIMARY FRONT SETBACK (MIN.)	20 FT	20'	59'	COMPLIES
SECONDARY FRONT SETBACK (MIN.)	10 FT	N/A	N/A	N/A
MAIN MASSING				
FACADE BUILD OUT (MIN.)	60%	25'-11" (48%)	25'-11" (48%)	DOES NOT COMPLY / NO CHANGE
WIDTH (MIN./ MAX.)	24 FT / 30 FT	22.4'	**22.75'**	DOES NOT COMPLY
DEPTH (MIN./MAX.)	36 FT / 50 FT	54.3'	54.3'	DOES NOT COMPLY / NO CHANGE
GROUND STORY ELEVATION (MIN.)	2 FT	3'-5 1/2"	3'-5 1/2"	COMPLIES
STORY HEIGHT (MIN. / MAX.)	10 FT / 12 FT	10'	10'	COMPLIES
NUMBER OF STORIES (MAX.)	3 STORIES	3 STORIES	3 STORIES	COMPLIES
ROOF TYPE	FLAT	FLAT	FLAT	COMPLIES
FACADE COMPOSITION				
GROUND STORY FENESTRATION (MIN. / MAX.)	15% / 50%	30.6% (1ST FL)	20.8% (1ST FL)	COMPLIES
UPPER STORY FENESTRATION (MIN. / MAX.)	15% / 50%	17.3% (2ND FL) 17.3% (3RD FL)	17.3% (2ND FL) 17.3% (3RD FL)	COMPLIES COMPLIES
USE & OCCUPANCY				
OUTDOOR AMENITY SPACE (MIN.)	1 / DU	1 / DU	1 / DU	COMPLIES
PARKING REQUIREMENTS (OUTSIDE A TRANSIT ZONE)				
BICYCLE				
SHORT-TERM	NONE	NONE	NONE	COMPLIES
LONG -TERM	NONE	NONE	NONE	COMPLIES
MOTOR VEHICLE	1.0/ DU	2 SPACES (EXISTING DRIVEWAY)	4 SPACES	COMPLIES
*14.1.5 NONCONFORMING STRUCTURES a. DESCRIPTION: A NONCONFORMING STRUCTURE IS A PRINCIPAL BUILDING TYPE, BUILDING COMPONENT, ACCESSORY BUILDING TYPE, OR ACCESSORY STRUCTURE THAT WAS LAWFULLY BUILT, BUT THAT NO LONGER COMPLIES WITH THE PROVISIONS OF THIS ORDINANCE DUE TO ITS ADOPTION OR AMENDMENT ... c. MODIFICATIONS: ii.ANY MODIFICATION TO A PERMITTED PRINCIPAL BUILDING TYPE, BUILDING COMPONENT, OR ACCESSORY BUILDING TYPE THAT IS NONCONFORMING TO ANY STANDARD FOR THAT SPECIFIC PRINCIPAL BUILDING TYPE, BUILDING COMPONENT, OR ACCESSORY BUILDING TYPE IS PERMITTED, SUBJECT TO THE FOLLOWING: a. THE CREATION OF A NEW NONCONFORMITY IS PROHIBITED b. ANY INCREASE IN EXISTING NONCONFORMITY IS PROHIBITED				***PROPOSED STRUCTURE DOES NOT CREATE ANY NEW NONCONFORMITIES OR INCREASE ANY EXISTING NONCONFORMITIES; THEREFORE IS COMPLIANT PER SECTION 14.1.5.c.ii**



SITE PLAN LEGEND

BUILDING FOOTPRINT	1248+576=1824 SF
PORCHES	123 SF
AREAWAYS	137 SF
PERVIOUS SURFACES	0% RUNOFF COEFFICIENT
IMPERVIOUS SURFACES	1176 SF
LANDSCAPE	
REQUIRED SETBACKS	
BUILDING SEPARATION SETBACK	

NOTE:

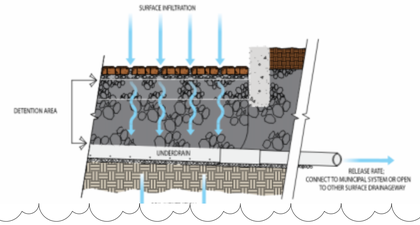
THIS PLAN IS FOR INFORMATIONAL AND ILLUSTRATIVE PURPOSES ONLY. THE PREPARER OF THIS PLAN MAKES NO CLAIM TO ITS ACCURACY. THIS PLAN SHALL NOT BE USED OR RELIED UPON IN ANY CIRCUMSTANCE. A CERTIFIED LAND SURVEYOR SHALL PROVIDE AN OFFICIAL CERTIFIED PLOT PLAN.

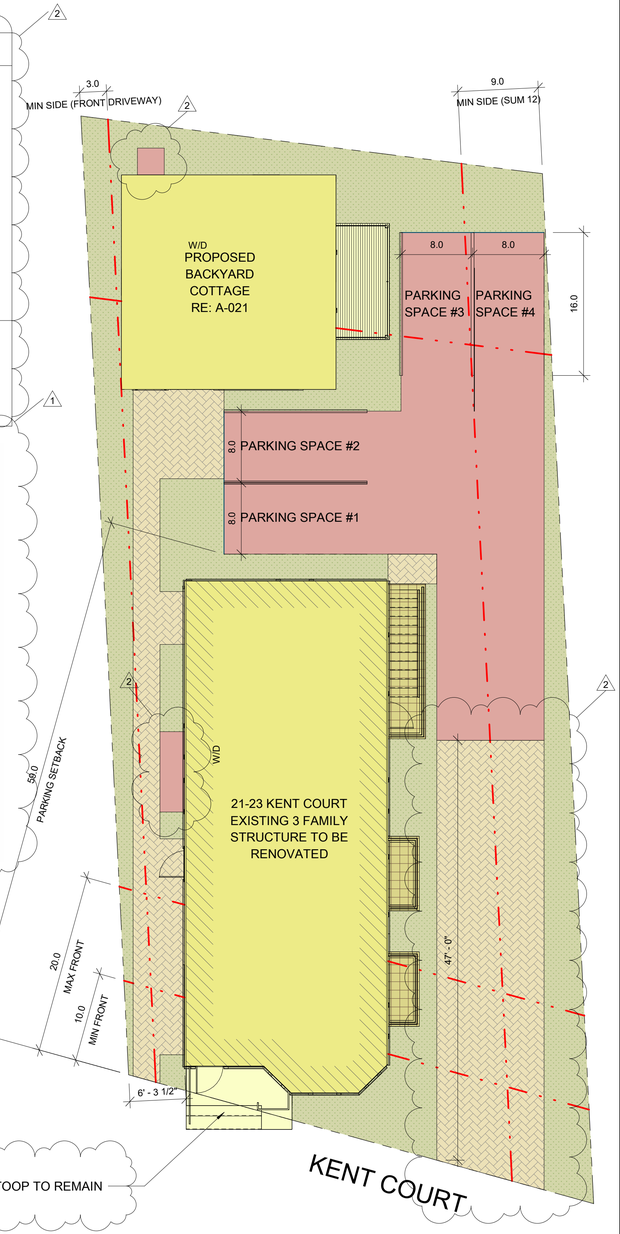
3,260 SF TOTAL LOT COVERAGE (57%)

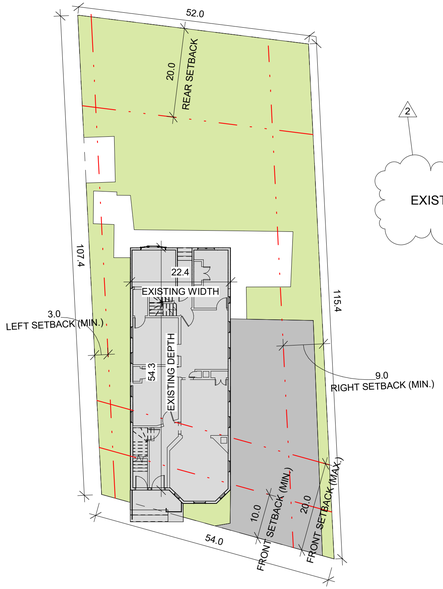
RUNOFF COEFFICIENT (C VALUE) is used to measure the percentage of water that runs off different surface types. For example, bituminous asphalt has a C value of 0.85. This means that during a rainfall, 85 percent of the water will run off the surface. (Source: Design and Construction of Sanitary and Storm Sewers, American Society of Civil Engineers, New York, p. 332, 1969). In comparison, turf has a C value of 0.15 or 15 percent. The C value of permeable paving, with up to a 5 percent slope, is actually zero, unless the rainfall intensity exceeds the surface infiltration rate or the entire open-graded base reaches capacity. With a properly designed permeable paver system, capacity will rarely be reached. To achieve maximum surface infiltration, maintenance of the joints may be necessary.

SOIL INFILTRATION is another way to absorb runoff. During the site investigation project phase, conducting a geotechnical or porosity test will determine the soil infiltration rate, which will establish stormwater design requirements. Typical industry recommendations suggest installing an underdrain for soil with less than 0.5" (13 mm) per hour of infiltration. It is possible for underdrain systems to be eliminated for soils with infiltration rates greater than 0.5" (13 mm) per hour.

RELEASE RATE refers to the volume of water that is allowed to be discharged into a municipal system or waterway, usually measured in cubic feet per second. Many stormwater regulatory agencies require that the post-development release rate not exceed pre-development conditions. Permeable paving slows and detains stormwater in the open-graded base so that it can be gradually released. Local jurisdictions should be contacted for required release rates.

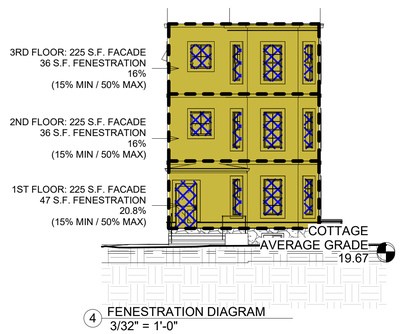






1 EXISTING - SITE PLAN
1/16" = 1'-0"

3 SITE PLAN
1/8" = 1'-0"



4 FENESTRATION DIAGRAM
3/32" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE

KHALSA DESIGN, INC.
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ADDRESS:
1 BILLINGS ROAD, SUITE 306
QUINCY, MA 02171

REGISTRATION

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	As indicated

REVISIONS

No.	Description	Date
1	ISD COMMENTS	11/19/2024
2	ISD COMMENTS	12/04/2024

ARCHITECTURAL SITE PLAN

A-020

21-23 KENT COURT

12/4/2024 4:15:57 PM \\TKG-SERVER\Data\24\24043_Tigran Yesayan_21-23 Kent Court Somerville\03_DRAWINGS\00_ARCH\03_CD\24043_21-23 Kent Court -CDModel.rvt

ZONING DIMENSIONAL TABLE

	ALLOWED / REQUIRED	EXISTING	PROPOSED	COMPLIANCE
ZONE	NR ZONE			
BUILDING TYPE	BACKYARD COTTAGE	BACKYARD COTTAGE	BACKYARD COTTAGE	COMPLIES
LOT SIZE		7,666.8 SF ±	7,666.8 SF ±	
LOT DIMENSIONS				
LOT WIDTH (MIN.)				
FRONT DRIVEWAY ACCESS	34 FT	58' - 6"	58' - 6"	COMPLIES
LOT DEVELOPMENT				
LOT COVERAGE (MAX.)	PER PRINCIPAL BUILDING			RE: A-020
GREEN SCORE				RE: A-020
MINIMUM	PER PRINCIPAL BUILDING			RE: LANDSCAPE PLAN
IDEAL	PER PRINCIPAL BUILDING			
BUILDING SETBACKS				
PRIMARY FRONT (MIN.)	60 FT	N/A	73.7'	COMPLIES
SECONDARY FRONT (MIN.)	10 FT	N/A		
SIDE SETBACK (MIN.)	3 FT	N/A	3 FT	COMPLIES
REAR SETBACK (MIN.)	3 FT	N/A	3 FT	COMPLIES
BUILDING SEPARATION (MIN.)	10 FT	N/A		
MAIN MASSING				
WIDTH (MAX.)	24 FT	N/A	24 FT	COMPLIES
DEPTH (MAX.)	32 FT	N/A	24 FT	COMPLIES
FLOOR PLATE (MAX.)	576 SF	N/A	576 SF	COMPLIES
STORY HEIGHT (MAX.)	12 FT	N/A	12 FT	COMPLIES
NUMBER OF STORIES (MAX.)	1.5 STORIES	N/A	1.5 STORIES	COMPLIES
ROOF TYPE	FLAT, GABLE	N/A	GABLE	COMPLIES
FACADE COMPOSITION				
GROUND STORY FENESTRATION (MIN. / MAX.)				
RESIDENTIAL USE	15% / 50%	N/A	24.5%	COMPLIES
VEHICULAR PARKING	0% / 50%	N/A	N/A	N/A
UPPER STORY FENESTRATION (MIN. / MAX.)	15% / 50%	N/A	18.6%	COMPLIES

SITE PLAN LEGEND

BUILDING FOOTPRINT	1248+576=1824 SF
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AREAWAYS	137 SF
PERVIOUS SURFACES	0% RUNOFF COEFFICIENT
IMPERVIOUS SURFACES	1176 SF
LANDSCAPE	
REQUIRED SETBACKS	
BUILDING SEPARATION SETBACK	

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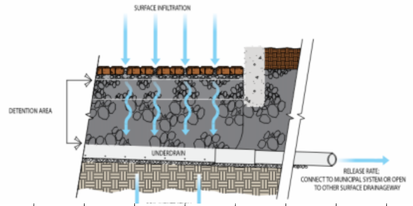
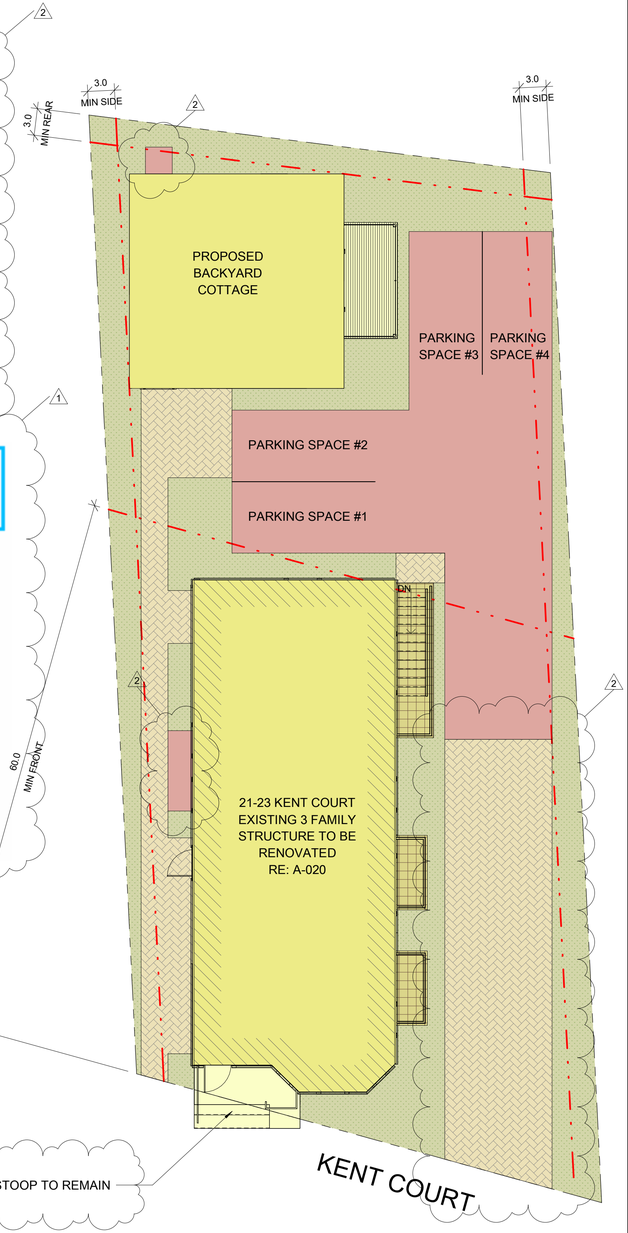
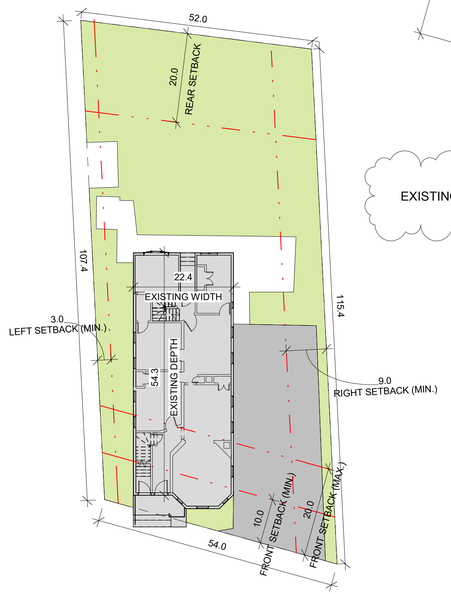
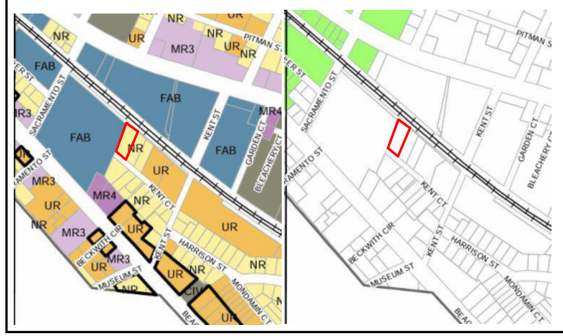


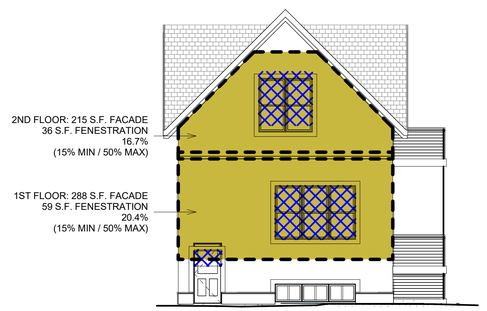


3 SITE PLAN-BACKYARD COTTAGE
1/8" = 1'-0"



1 EXISTING - SITE PLAN Copy 1
1/16" = 1'-0"





4 COTTAGE- FENESTRATION DIAGRAM
1/8" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE

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REGISTRATION

REGISTERED ARCHITECT · EVAN STELLMACH · No. 35437 · SOMERVILLE, MA · COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	As indicated

REVISIONS

No.	Description	Date
1	ISD COMMENTS	11/19/2024
2	ISD COMMENTS	12/04/2024

ARCHITECTURAL SITE PLAN - BACKYARD COTTAGE

A-021

21-23 KENT COURT

12/4/2024 4:15:58 PM

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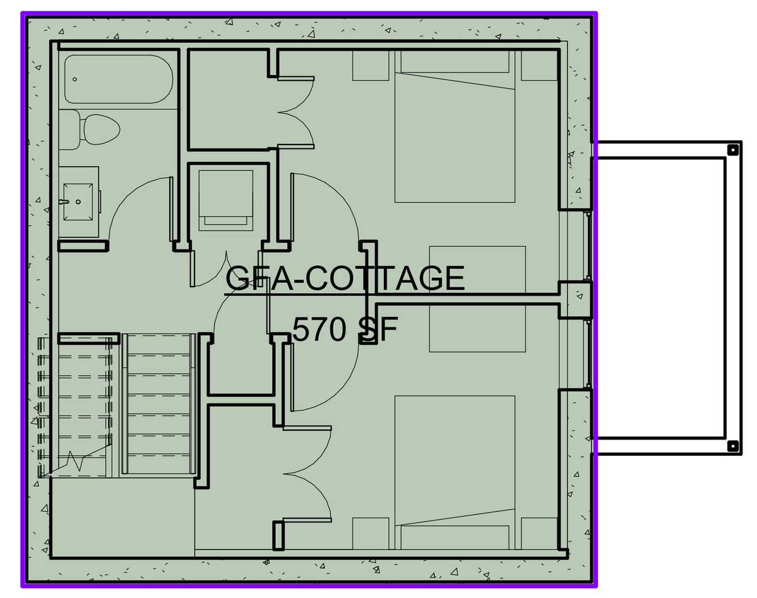
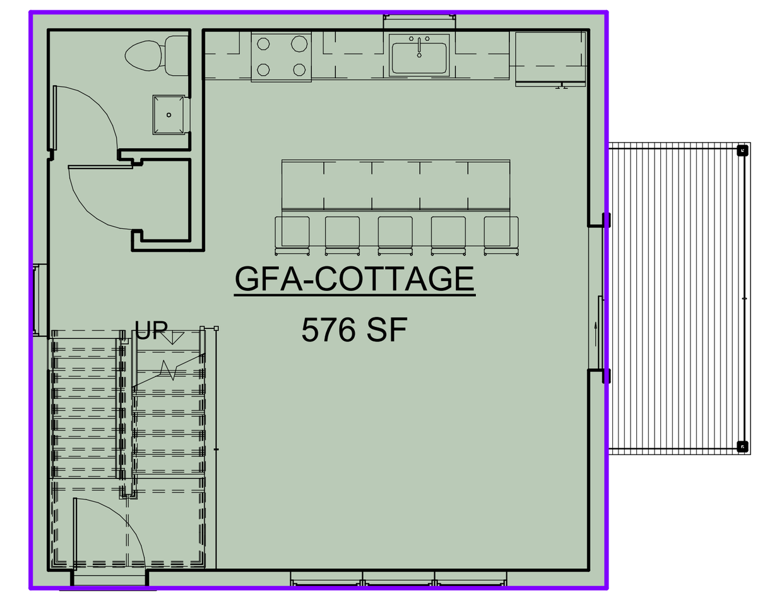
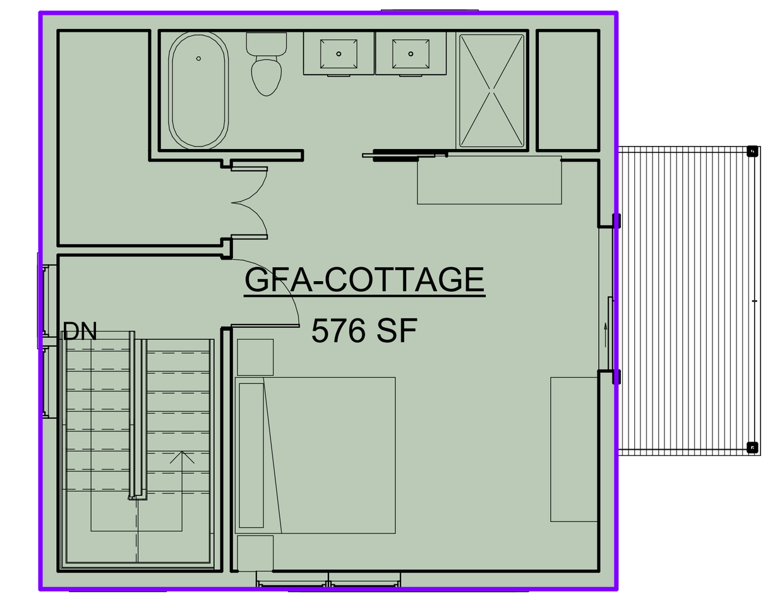
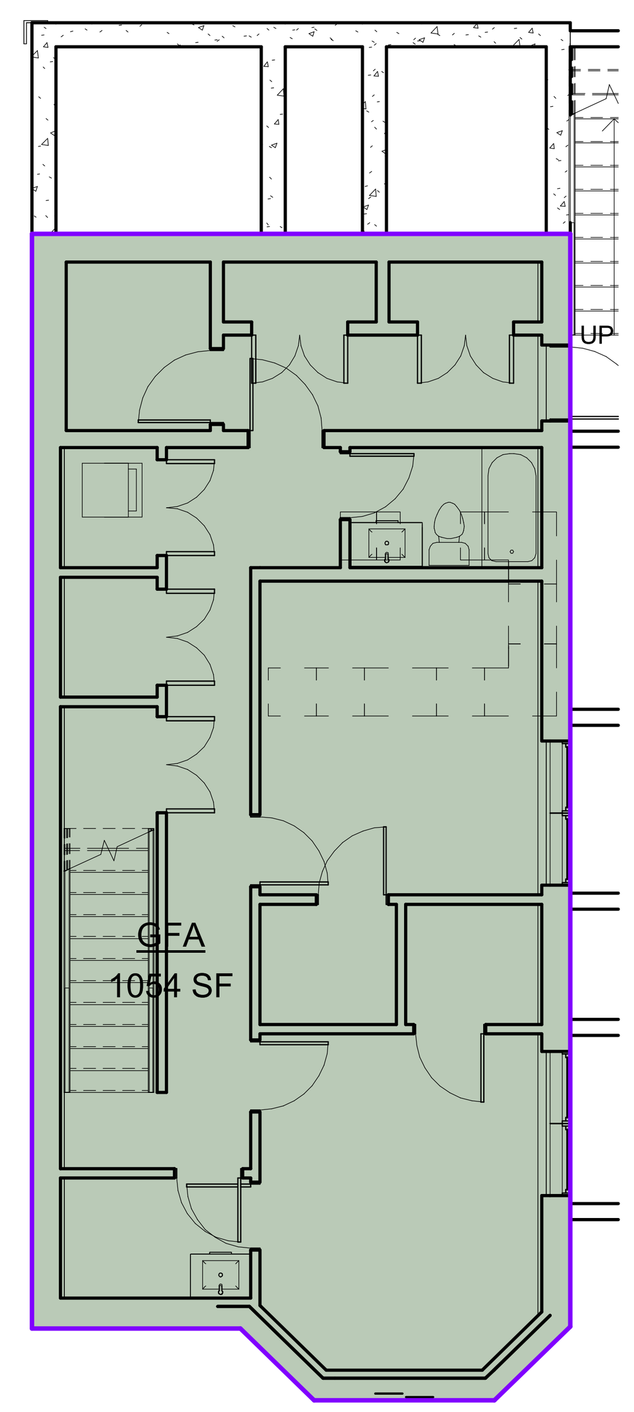
Area Schedule (EXISTING FAR)

Level	Name	Area
BASEMENT	GFA	1054 SF
1ST FLOOR	GFA	1249 SF
2ND FLOOR	GFA	1153 SF
3RD FLOOR	GFA	1153 SF
GFA: 4		4608 SF
BASEMENT	GFA-COTTAGE	570 SF
1ST FLOOR	GFA-COTTAGE	576 SF
2ND FLOOR	GFA-COTTAGE	576 SF
GFA-COTTAGE: 3		1722 SF
		6330 SF

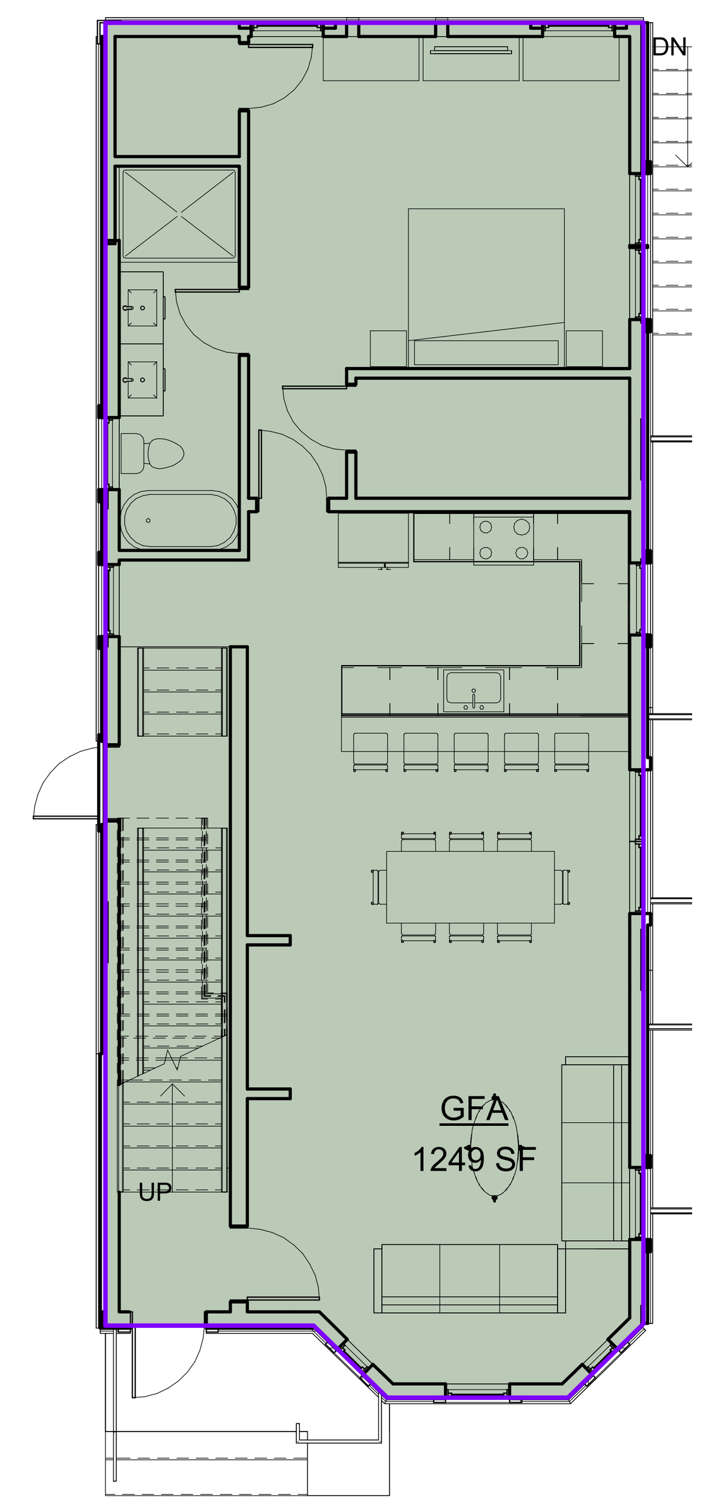




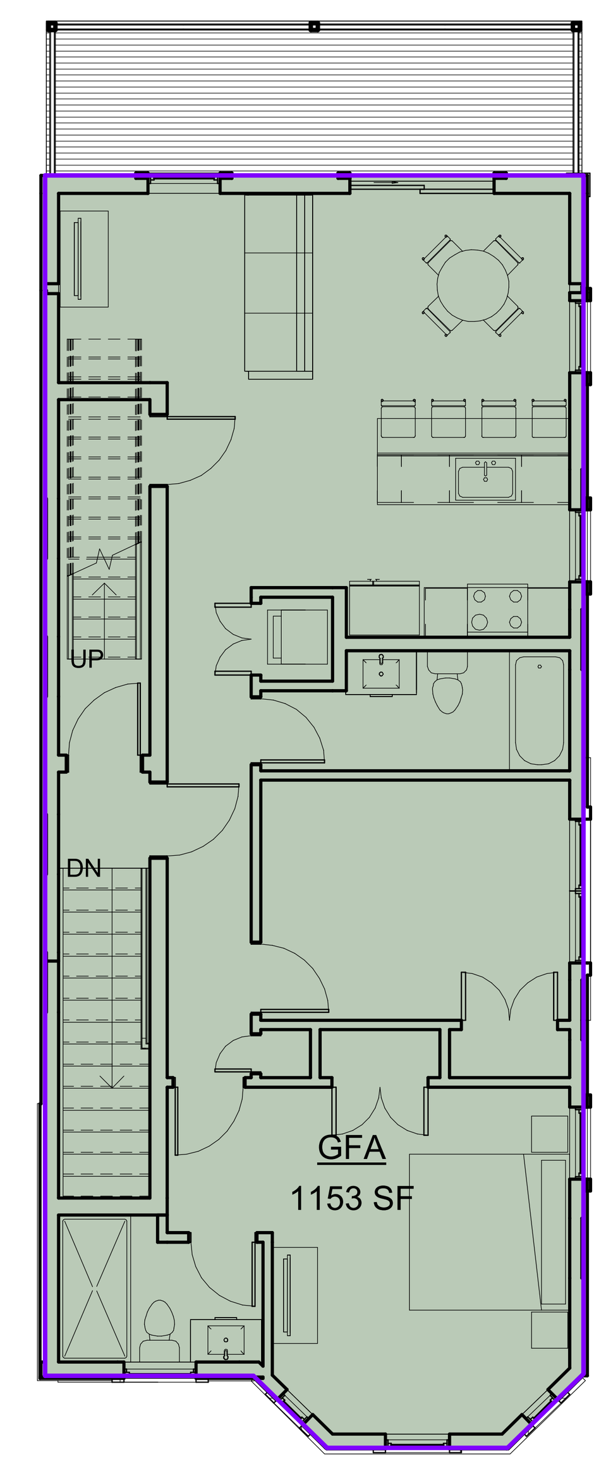




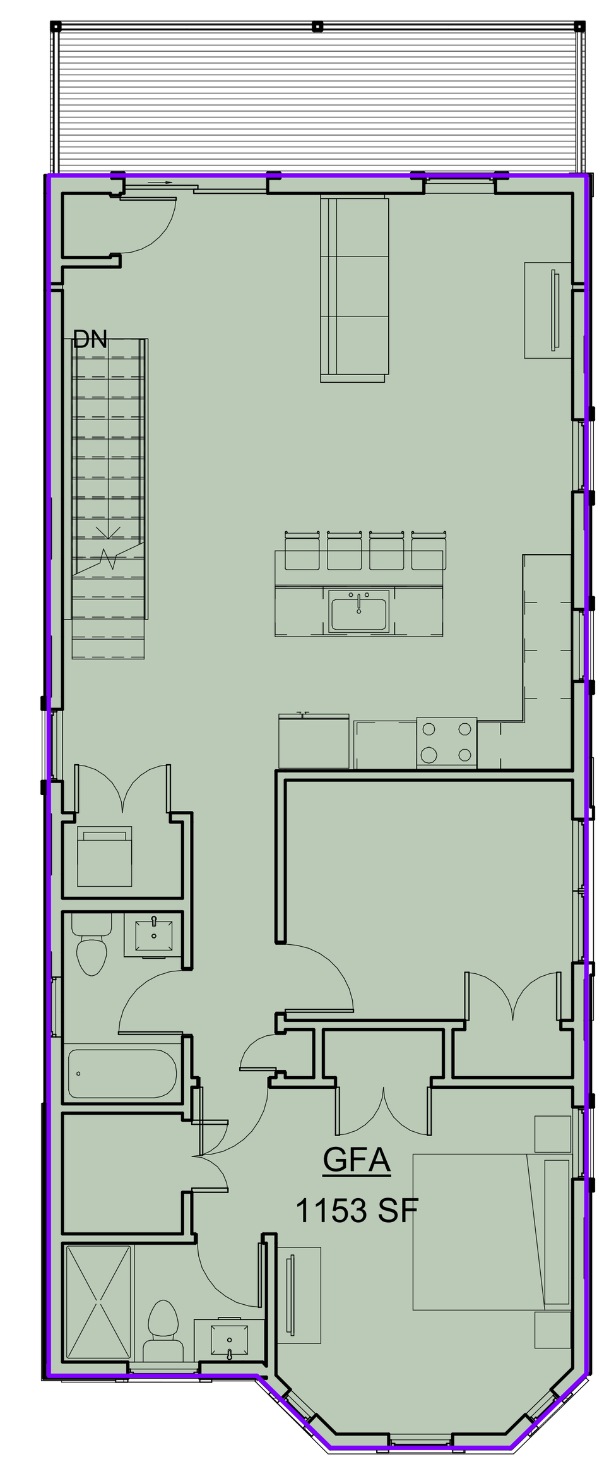
1 BASEMENT
1/8" = 1'-0"



2 1ST FLOOR
1/8" = 1'-0"



3 2ND FLOOR
1/8" = 1'-0"



4 3RD FLOOR
1/8" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

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QUINCY, MA 02171

REGISTRATION

REGISTERED ARCHITECT EVAN STELLMAN No. 954047 SOMERVILLE MA COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	1/8" = 1'-0"

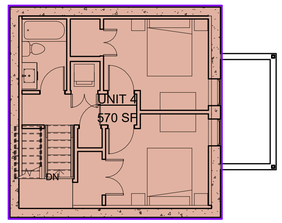
REVISIONS

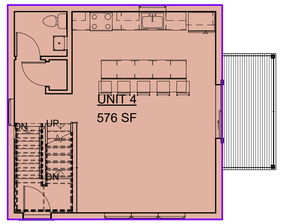
No.	Description	Date

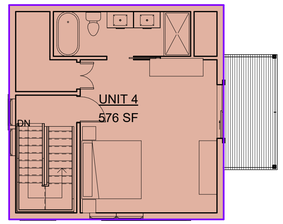
GROSS FLOOR AREA

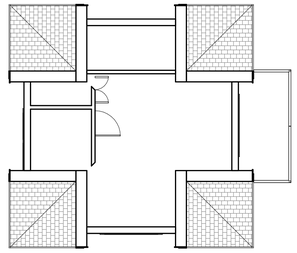
A-022

21-23 KENT COURT

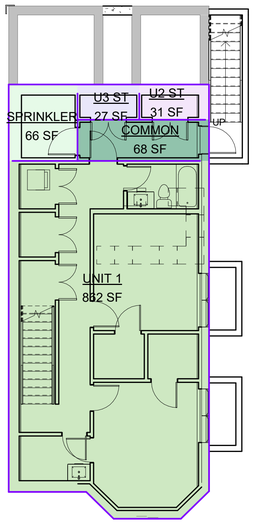




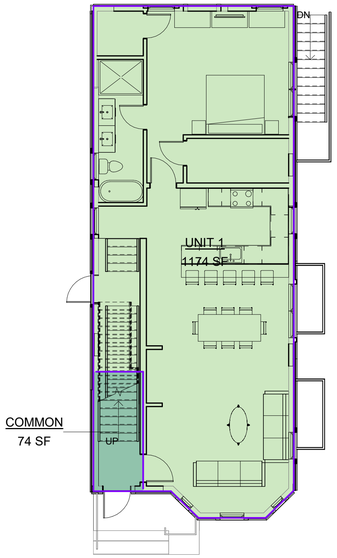




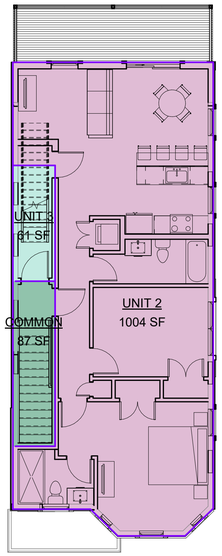
AREA SCHEDULE (UNIT AREA)		
Area	Name	Level
COMMON		
74 SF	COMMON	1ST FLOOR
87 SF	COMMON	2ND FLOOR
68 SF	COMMON	BASEMENT
229 SF		
SPRINKLER		
66 SF	SPRINKLER	BASEMENT
66 SF		
U2 ST		
31 SF	U2 ST	BASEMENT
31 SF		
U3 ST		
27 SF	U3 ST	BASEMENT
27 SF		
UNIT 1		
862 SF	UNIT 1	BASEMENT
1174 SF	UNIT 1	1ST FLOOR
2036 SF		
UNIT 2		
1004 SF	UNIT 2	2ND FLOOR
1004 SF		
UNIT 3		
61 SF	UNIT 3	2ND FLOOR
1153 SF	UNIT 3	3RD FLOOR
1214 SF		
UNIT 4		
570 SF	UNIT 4	BASEMENT
576 SF	UNIT 4	1ST FLOOR
576 SF	UNIT 4	2ND FLOOR
1722 SF		
6330 SF		



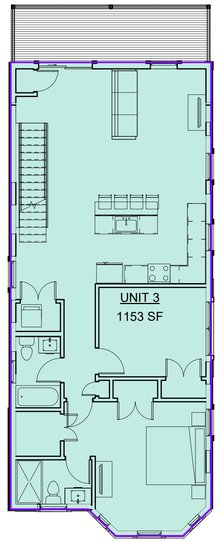
1 BASEMENT
1/8" = 1'-0"



2 1ST FLOOR
1/8" = 1'-0"



3 2ND FLOOR
1/8" = 1'-0"



4 3RD FLOOR
1/8" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE

KHALSA DESIGN, INC.
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MEP ENGINEER
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REGISTRATION

REGISTERED ARCHITECT
EVAN STELLMACH
SOMERVILLE
COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	1/8" = 1'-0"

REVISIONS

No.	Description	Date

NET FLOOR AREA

A-023

21-23 KENT COURT

1 EXISTING - BASEMENT
1/8" = 1'-0"

2 EXISTING - 1ST FLOOR
1/8" = 1'-0"

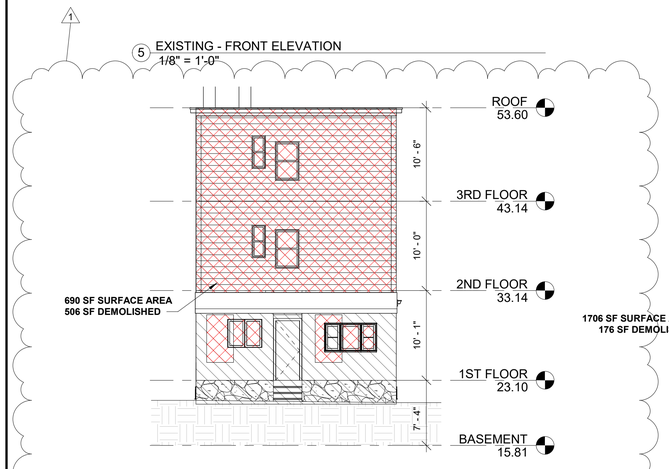
3 EXISTING - 2ND FLOOR
1/8" = 1'-0"

4 EXISTING - 3RD FLOOR
1/8" = 1'-0"

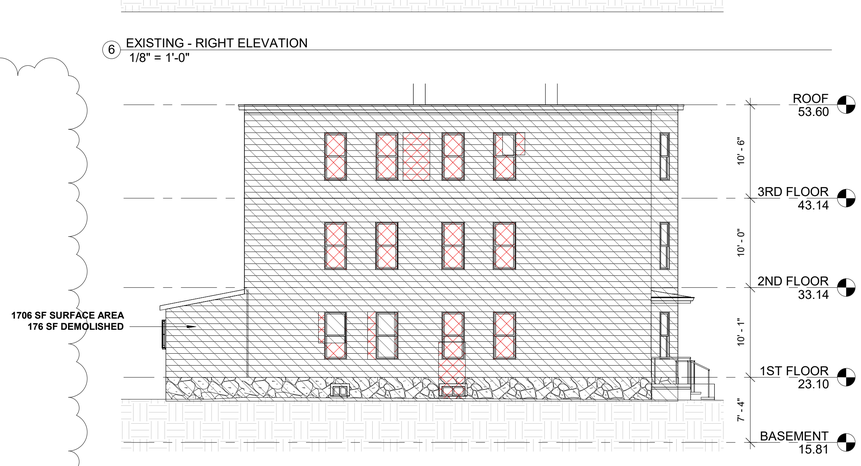
9 EXISTING - ROOF
1/8" = 1'-0"

5 EXISTING - FRONT ELEVATION
1/8" = 1'-0"

6 EXISTING - RIGHT ELEVATION
1/8" = 1'-0"



7 EXISTING - REAR ELEVATION
1/8" = 1'-0"



8 EXISTING - LEFT ELEVATION
1/8" = 1'-0"

SURFACE AREA DEMOLITION %

	EXISTING S.F.	DEMO S.F.
FRONT ELEVATION	743 S.F.	22 S.F.
LEFT ELEVATION	1706 S.F.	328 S.F.
REAR ELEVATION	690 S.F.	506 S.F.
RIGHT ELEVATION	1706 S.F.	283 S.F.
ROOF	1359 S.F.	262 S.F.
TOTAL	6204 S.F.	1401 S.F.

PROPOSED DEMOLITION IS 22.5% OF EXISTING SURFACE AREA

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE

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REGISTRATION

REGISTERED ARCHITECT
EVAN STELLMACH
No. 35437
SOMERVILLE, MA
COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	1/8" = 1'-0"

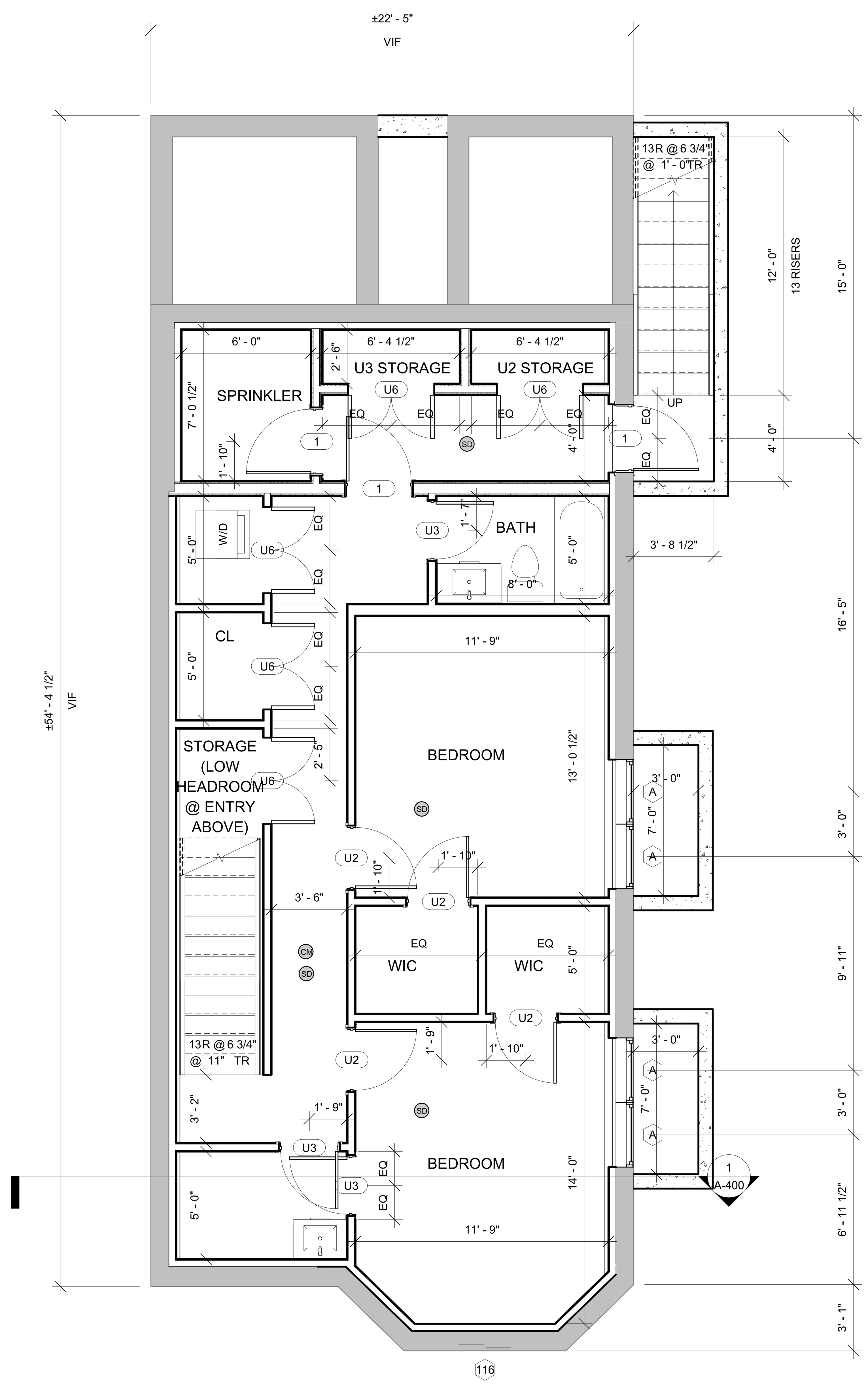
REVISIONS

No.	Description	Date
1	ISD COMMENTS	11/19/2024
2	ISD COMMENTS	12/04/2024

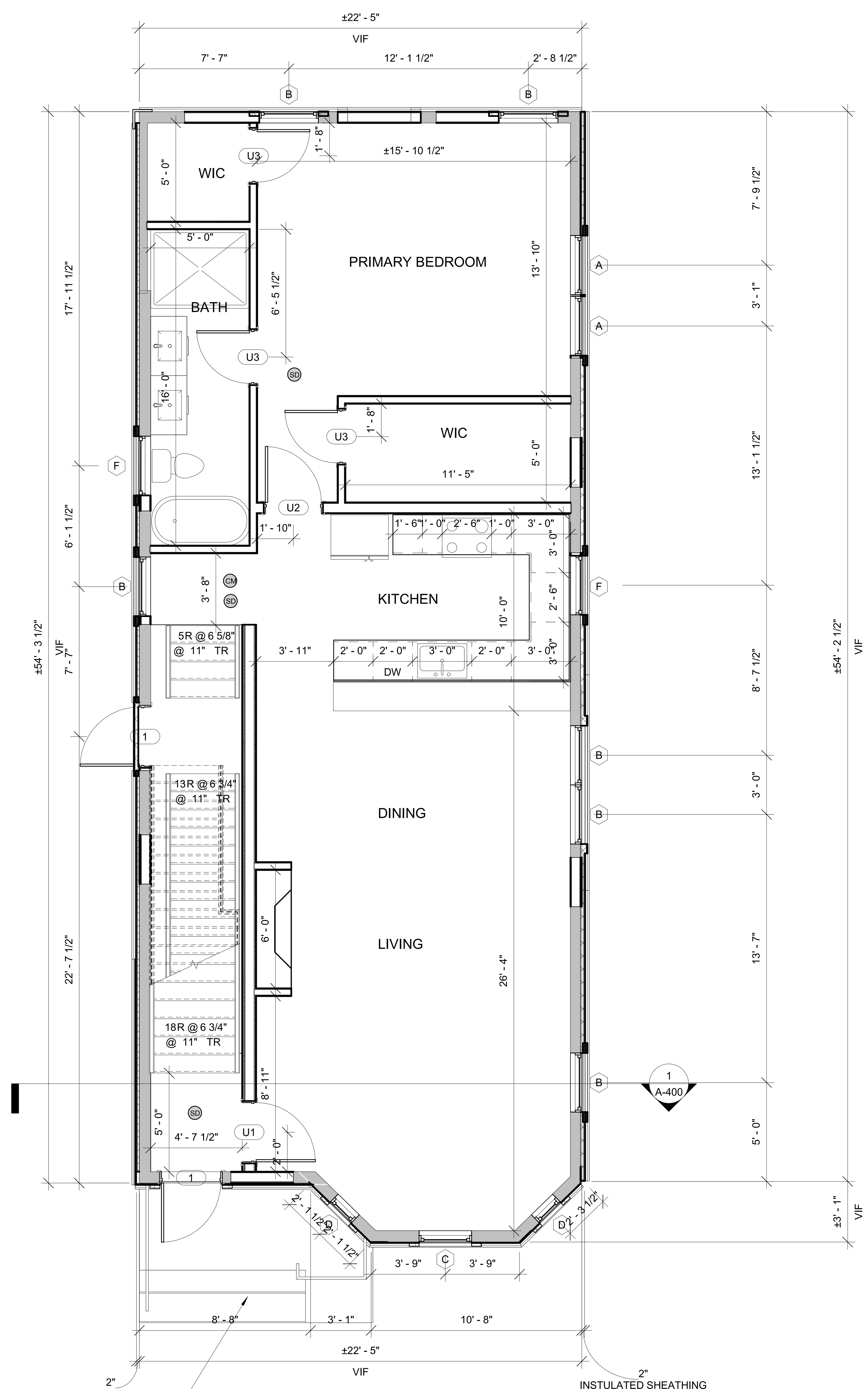
EXISTING CONDITIONS

EX-100

21-23 KENT COURT



1 BASEMENT
1/4" = 1'-0"



EXISTING STOOP TO REMAIN

2 1ST FLOOR
1/4" = 1'-0"

GENERAL FLOOR PLAN NOTES

1. ALL SMOKE ALARMS TO BE INTERCONNECTED AND HARD WIRED. SEE FLOOR PLANS FOR LOCATIONS.
2. FINAL KITCHEN LAYOUT TO BE DETERMINED BY OWNER.
3. ALL INTERIOR FINISHES TO BE DETERMINED BY OWNER.
4. UNLESS OTHERWISE NOTED ALL INTERIOR WALL SHALL BE TYPE "1"
5. UNLESS OTHERWISE NOTED ALL EXTERIOR WALLS SHALL BE TYPE "5"
6. SEE A-910 FOR PARTITION TYPES.
7. MOISTURE RESISTANT GWB. TO BE USED IN ALL BATHROOMS AND KITCHENS
8. SEE EXTERIOR ELEVATIONS FOR WINDOW TYPES & CLADDING MATERIALS
9. ALL INTERIOR DIMENSIONS ARE FROM FACE OF GWB TO FACE GWB
10. ALL EXTERIOR DIMENSIONS ARE FROM EXTERIOR FACE OF PLYWOOD SHEATHING, TYP., U.N.O.
11. ELECTRICAL OUTLETS ON OPPOSITE SIDE OF WALL SHOULD BE INSTALLED AT LEAST 2'-0" FROM EACH OTHER.
12. CONTRACTOR TO VERIFY EXISTING CONDITIONS IN THE FIELD PRIOR CONSTRUCTION.
13. SEE STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION & CIVIL PLAN FOR ADDITIONAL INFORMATION
14. UNLESS OTHERWISE NOTED CENTER CLOSET DOOR ON CLOSET.
15. MECHANICAL, ELECTRICAL, & PLUMBING TO BE DESIGN BUILD BY CONTRACTOR
16. CONTRACTOR TO COORDINATE ALL TRADES PRIOR TO CONSTRUCTION

LEGEND

- NEW WALL
- EXISTING TO REMAIN
- WALL TYPE
- CARBON MONOXIDE DETECTOR
- SMOKE DETECTOR

PROJECT NAME
21-23 KENT COURT

PROJECT ADDRESS
21-23 KENT COURT
SOMERVILLE, MA

CLIENT
BOSTON MASONRY

ARCHITECT
KDI ARCHITECTURE

KHALSA DESIGN, INC.
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REGISTRATION
REGISTERED ARCHITECT EVAN STELLMAN No. 954287 SOMERVILLE MA COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	1/4" = 1'-0"

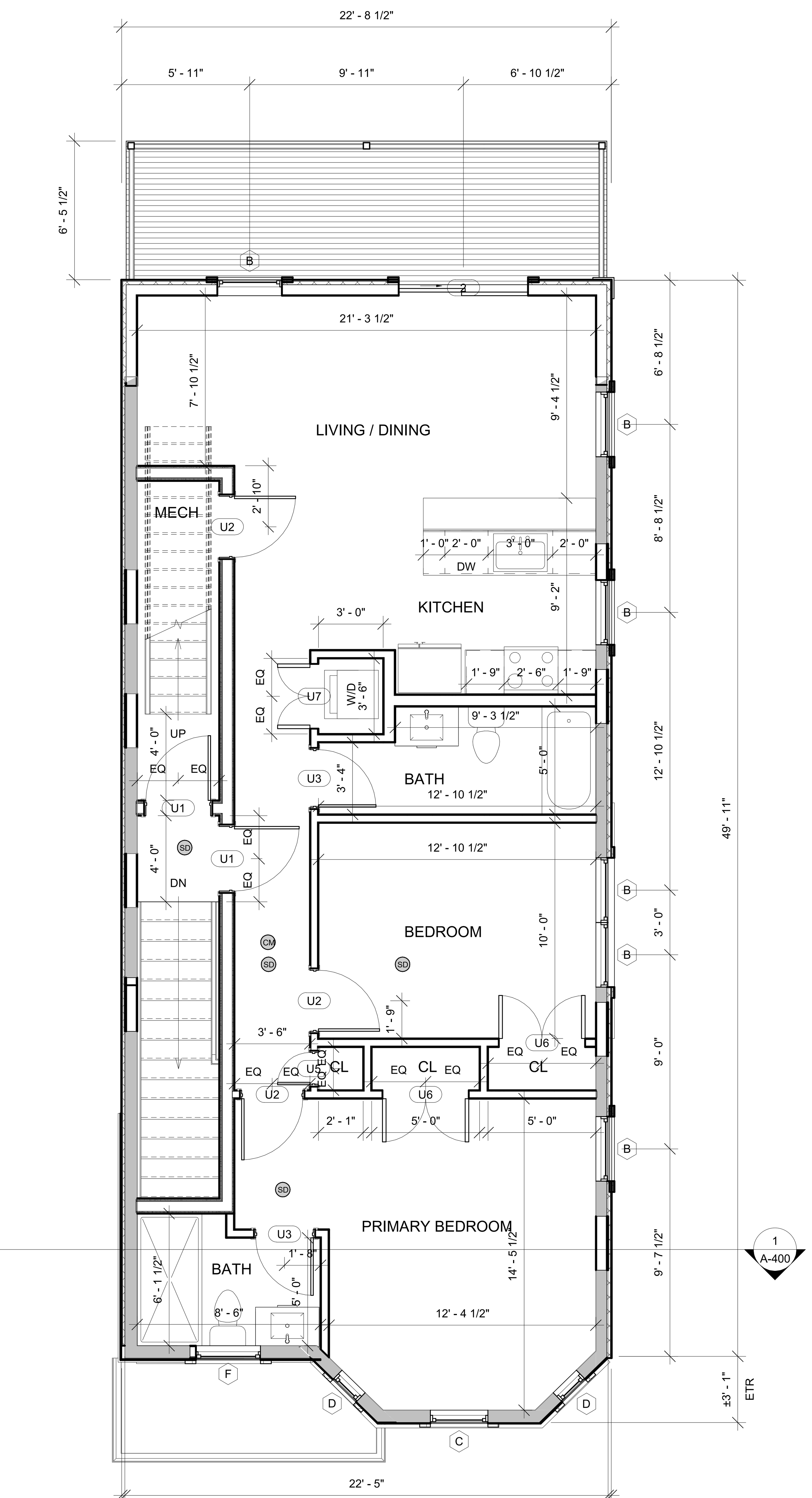
REVISIONS

No.	Description	Date
2	ISD COMMENTS	12/04/2024

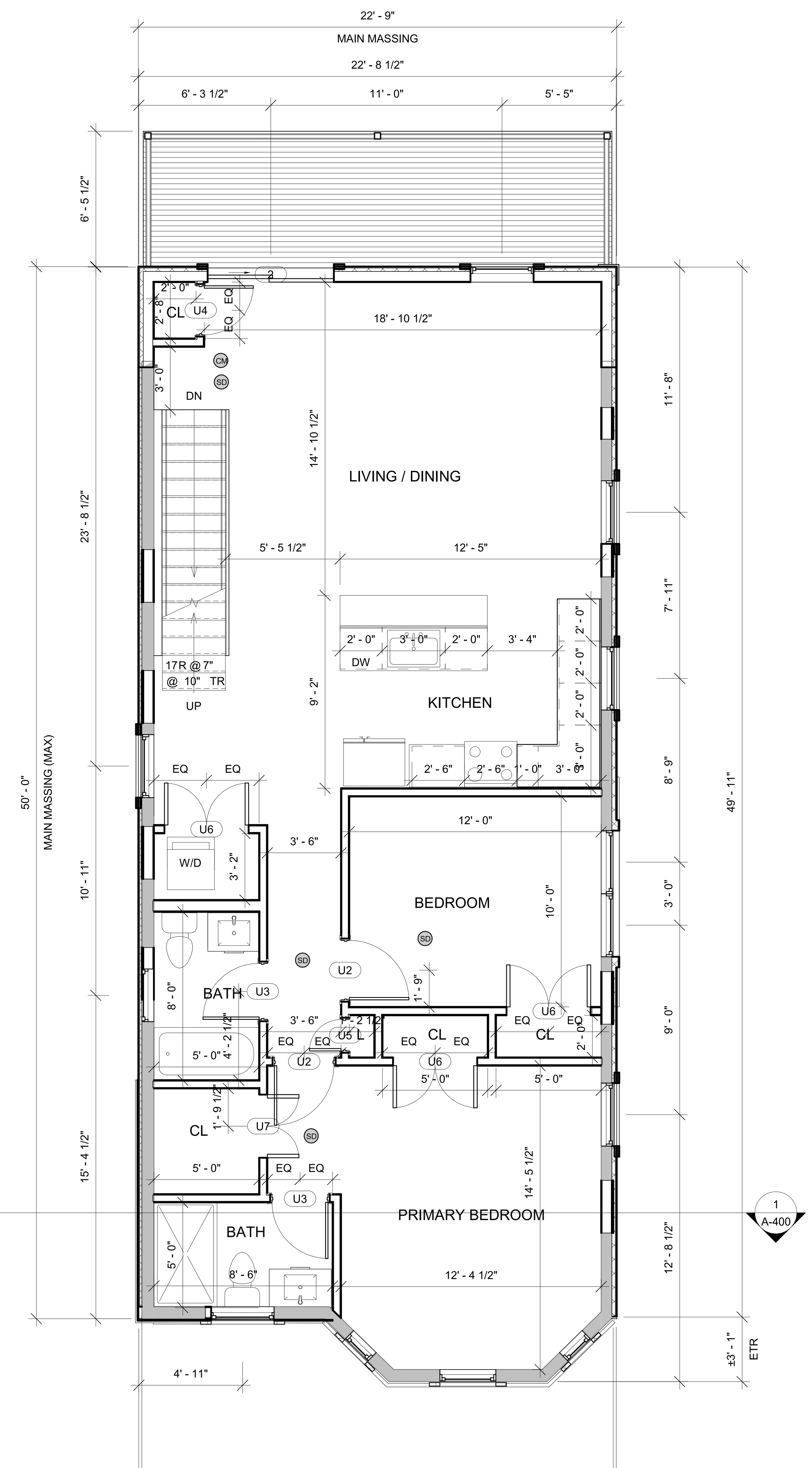
BASEMENT & FIRST FLOOR PLAN

A-100

21-23 KENT COURT



1 2ND FLOOR
1/4" = 1'-0"



2 3RD FLOOR
1/4" = 1'-0"

±22' - 5"
EX BLDG WIDTH
2"
INSULATED SHEATHING
2"
INSULATED SHEATHING

GENERAL FLOOR PLAN NOTES

1. ALL SMOKE ALARMS TO BE INTERCONNECTED AND HARD WIRED. SEE FLOOR PLANS FOR LOCATIONS.
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15. MECHANICAL, ELECTRICAL, & PLUMBING TO BE DESIGN BUILD BY CONTRACTOR
16. CONTRACTOR TO COORDINATE ALL TRADES PRIOR TO CONSTRUCTION

LEGEND

- NEW WALL
- EXISTING TO REMAIN
- WALL TYPE
- CARBON MONOXIDE DETECTOR
- SMOKE DETECTOR

PROJECT NAME
21-23 KENT COURT

PROJECT ADDRESS
21-23 KENT COURT
SOMERVILLE, MA

CLIENT
BOSTON MASONRY

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REGISTRATION

REGISTERED ARCHITECT
EVAN STELLMAN
SOMERVILLE, MA
COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	1/4" = 1'-0"

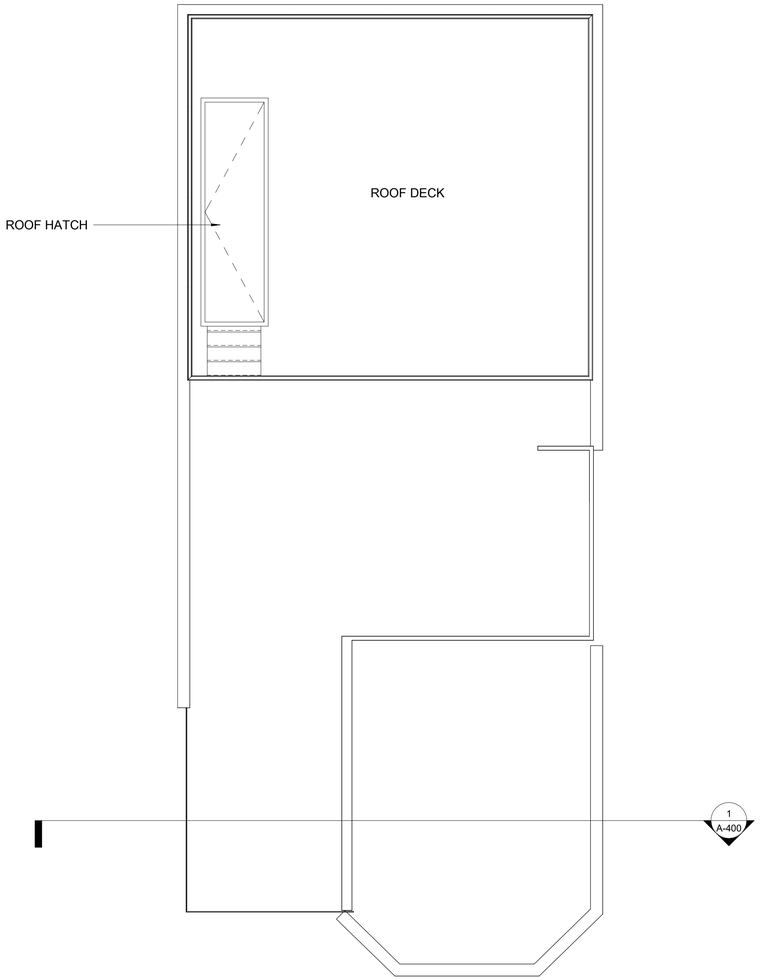
REVISIONS

No.	Description	Date

SECOND & THIRD FLOOR PLAN

A-101

21-23 KENT COURT



1 ROOF
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

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BERDI CONSULTING
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REGISTRATION

REGISTERED ARCHITECT
EVAN STELLER
SOMERVILLE, MA
COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
Drawn by	Author
Checked by	Checker
Scale	1/4" = 1'-0"

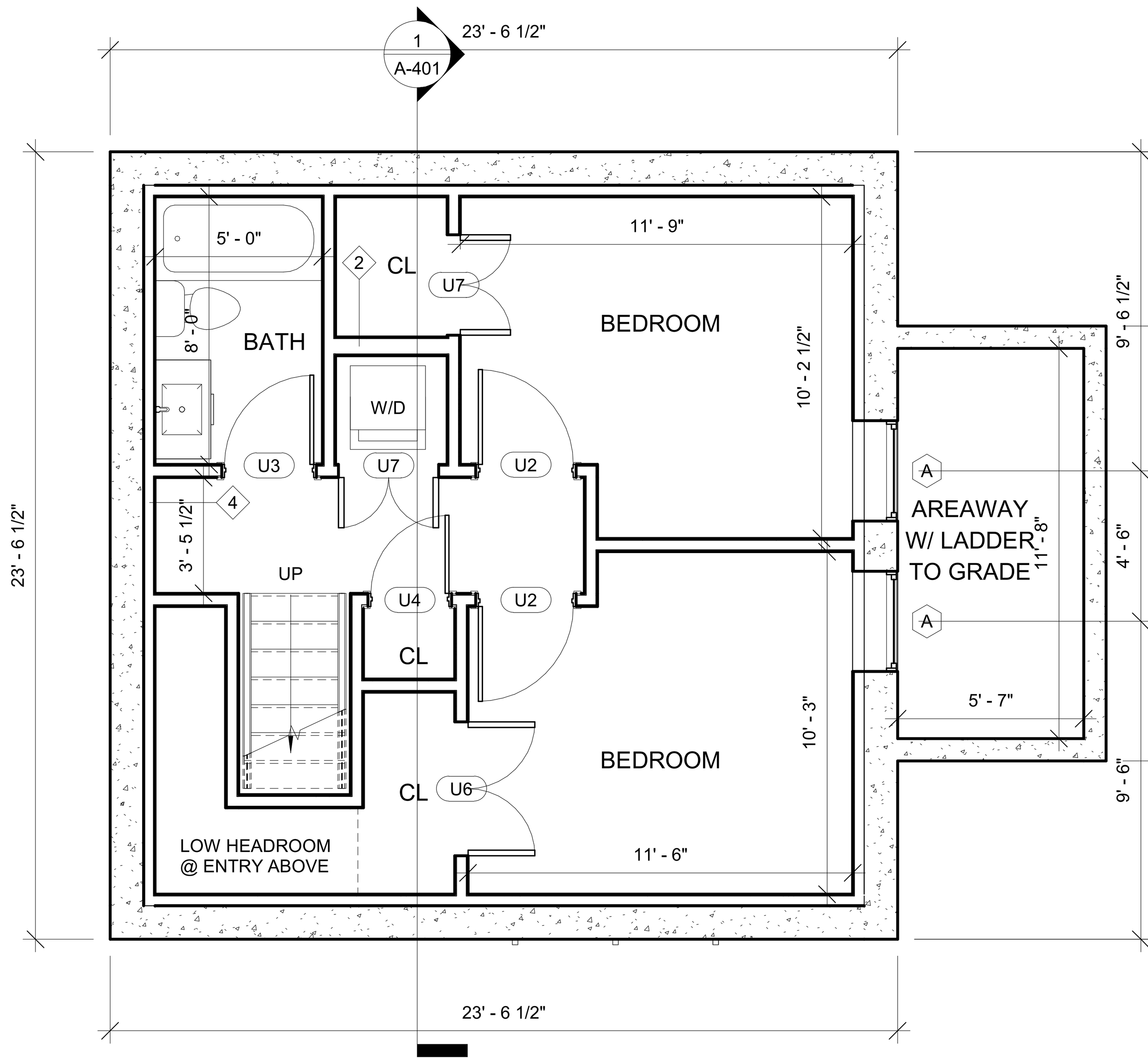
REVISIONS

No.	Description	Date

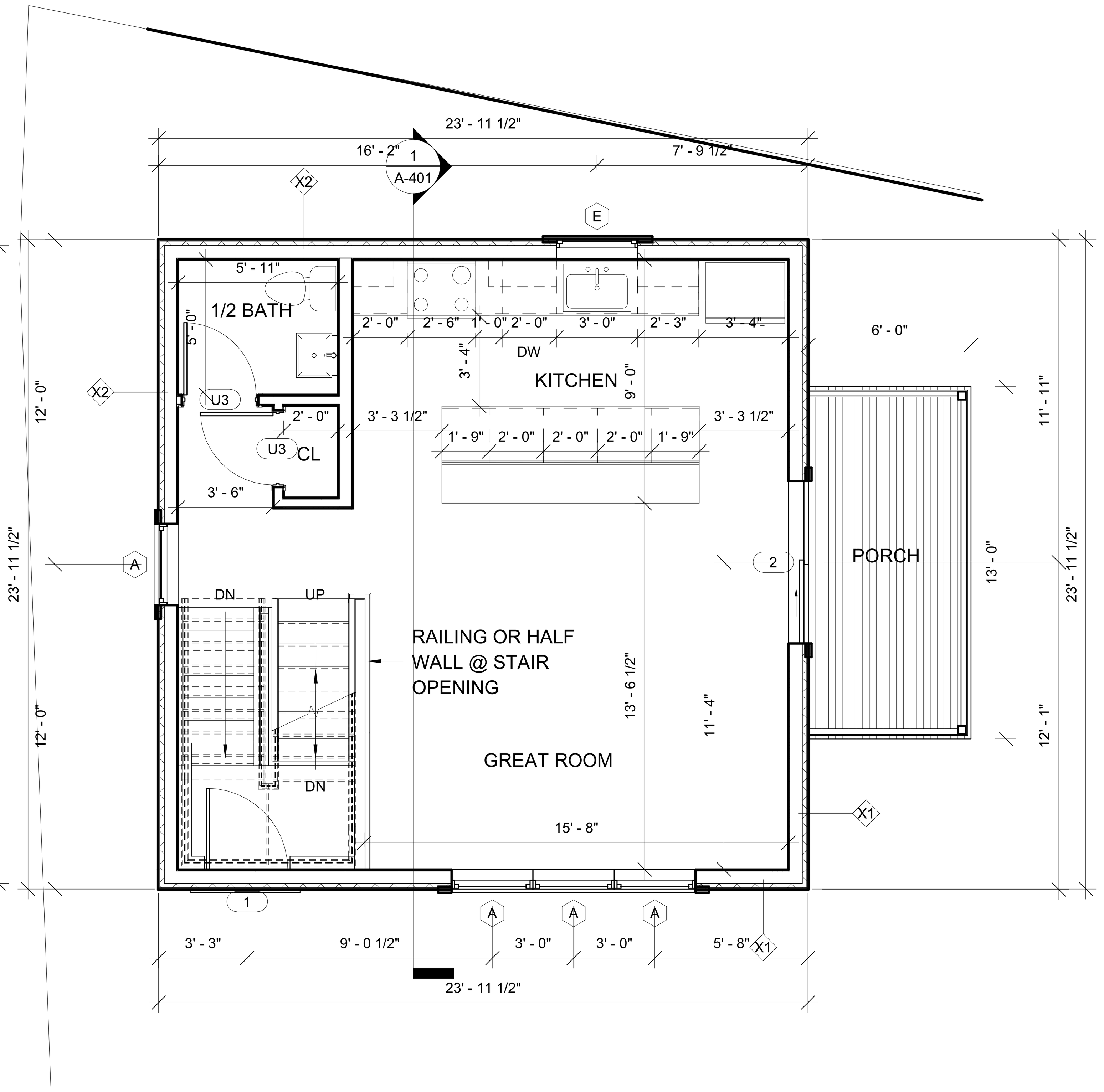
ROOF PLAN

A-102

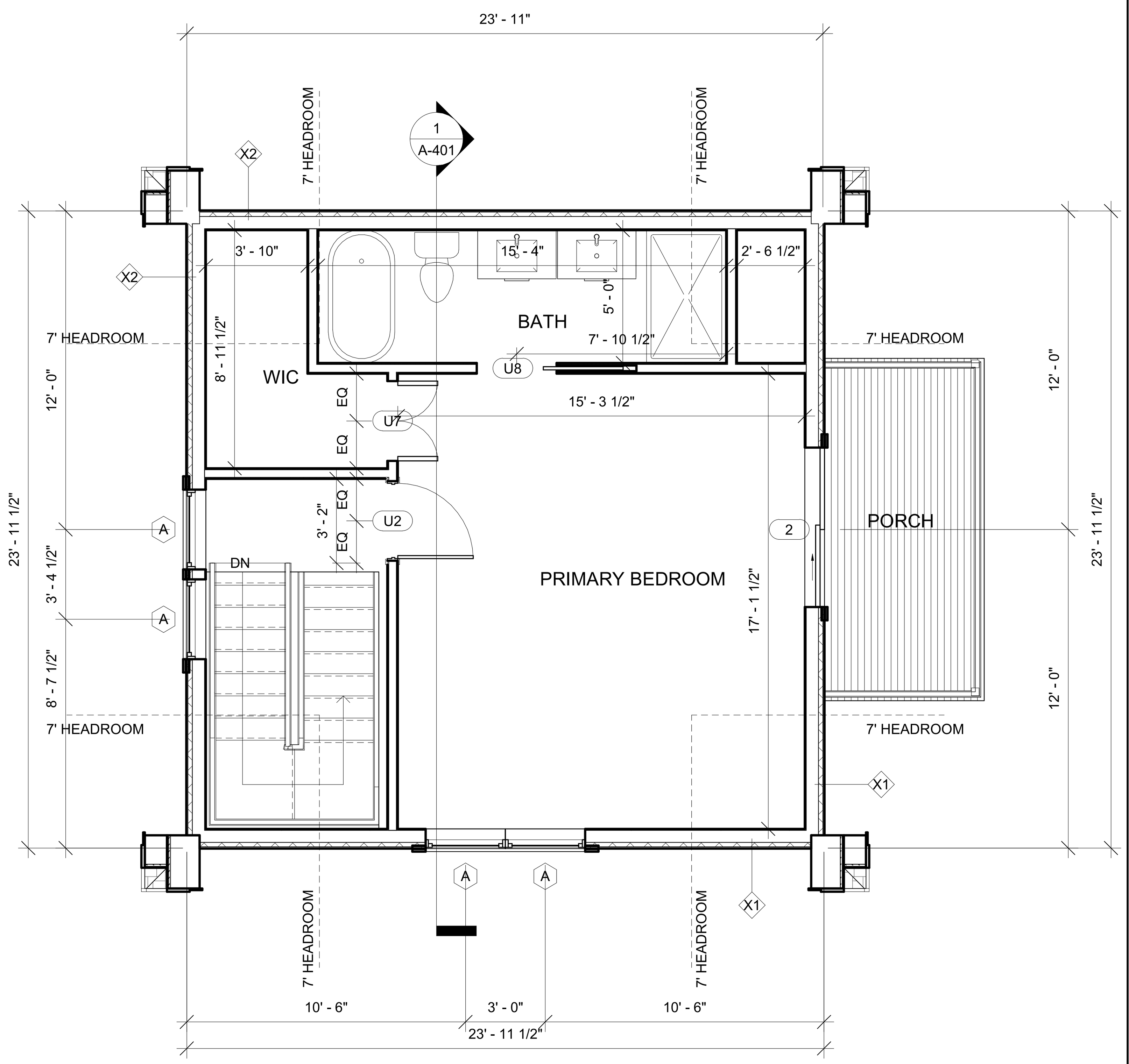
21-23 KENT COURT



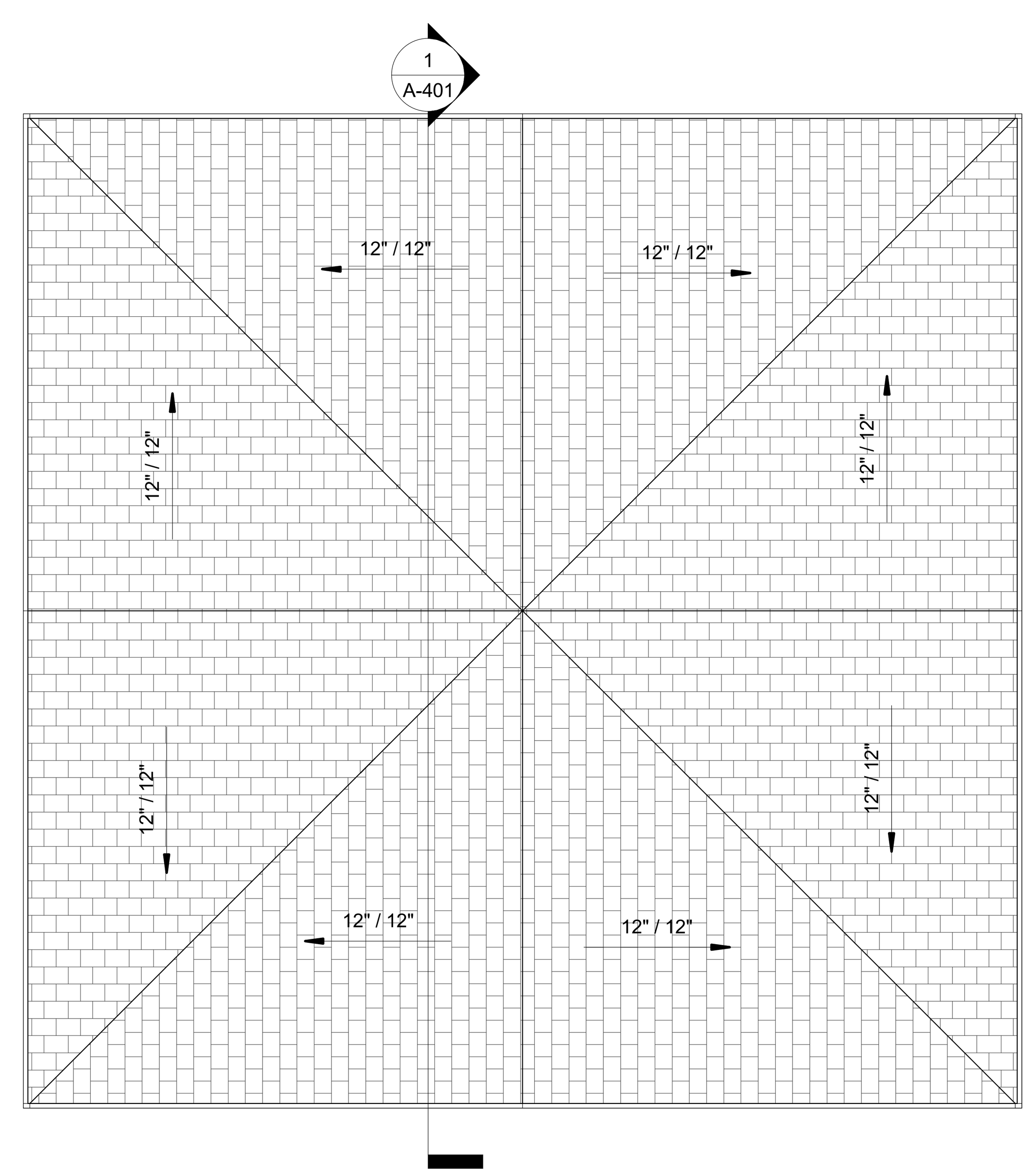
1 COTTAGE BASEMENT
1/4" = 1'-0"



2 COTTAGE 1ST FLOOR
1/4" = 1'-0"



3 COTTAGE 2ND FLOOR
1/4" = 1'-0"



4 COTTAGE ROOF
1/4" = 1'-0"

GENERAL FLOOR PLAN NOTES

1. ALL SMOKE ALARMS TO BE INTERCONNECTED AND HARD WIRED. SEE FLOOR PLANS FOR LOCATIONS.
2. FINAL KITCHEN LAYOUT TO BE DETERMINED BY OWNER.
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16. CONTRACTOR TO COORDINATE ALL TRADES PRIOR TO CONSTRUCTION

LEGEND

NEW WALL
EXISTING TO REMAIN
WALL TYPE
CARBON MONOXIDE DETECTOR
SMOKE DETECTOR

PROJECT NAME
21-23 KENT COURT

PROJECT ADDRESS
21-23 KENT COURT
SOMERVILLE, MA

CLIENT
BOSTON MASONRY

ARCHITECT
KDI ARCHITECTURE
KHALSA DESIGN, INC.
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TELEPHONE: 617-591-8682

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QUINCY, MA 02171

REGISTRATION

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

COTTAGE PLANS

A-103

21-23 KENT COURT

\\TKG-SERVER\Data\24\24043_Tigran Yesayan_21-23 Kent Court Somerville\03_DRAWINGS\00_ARCH\03_CD\24007_21-23 Kent Court -CDModel.rvt
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1 FRONT ELEVATION
1/4" = 1'-0"

2 RIGHT ELEVATION
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE

KHALSA DESIGN, INC.
17 IVALOO STREET SUITE 400
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TELEPHONE: 617-591-8682

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WAYLAND, MA 01778

MEP ENGINEER
BERDI CONSULTING
ADDRESS:
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QUINCY, MA 02171

REGISTRATION

REGISTERED ARCHITECT EVAN STELLMAN No. 954097 SOMERVILLE MA COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date
1	ISD COMMENTS	11/19/2024
2	ISD COMMENTS	12/04/2024

FRONT & RIGHT SIDE ELEVATIONS

A-300

21-23 KENT COURT

\\TKG-SERVER\Data\24\24043_Tigran Yesayan_21-23 Kent Court Somerville\03_DRAWINGS\00_ARCH\03_CD\24043_21-23 Kent Court -CDModel.rvt

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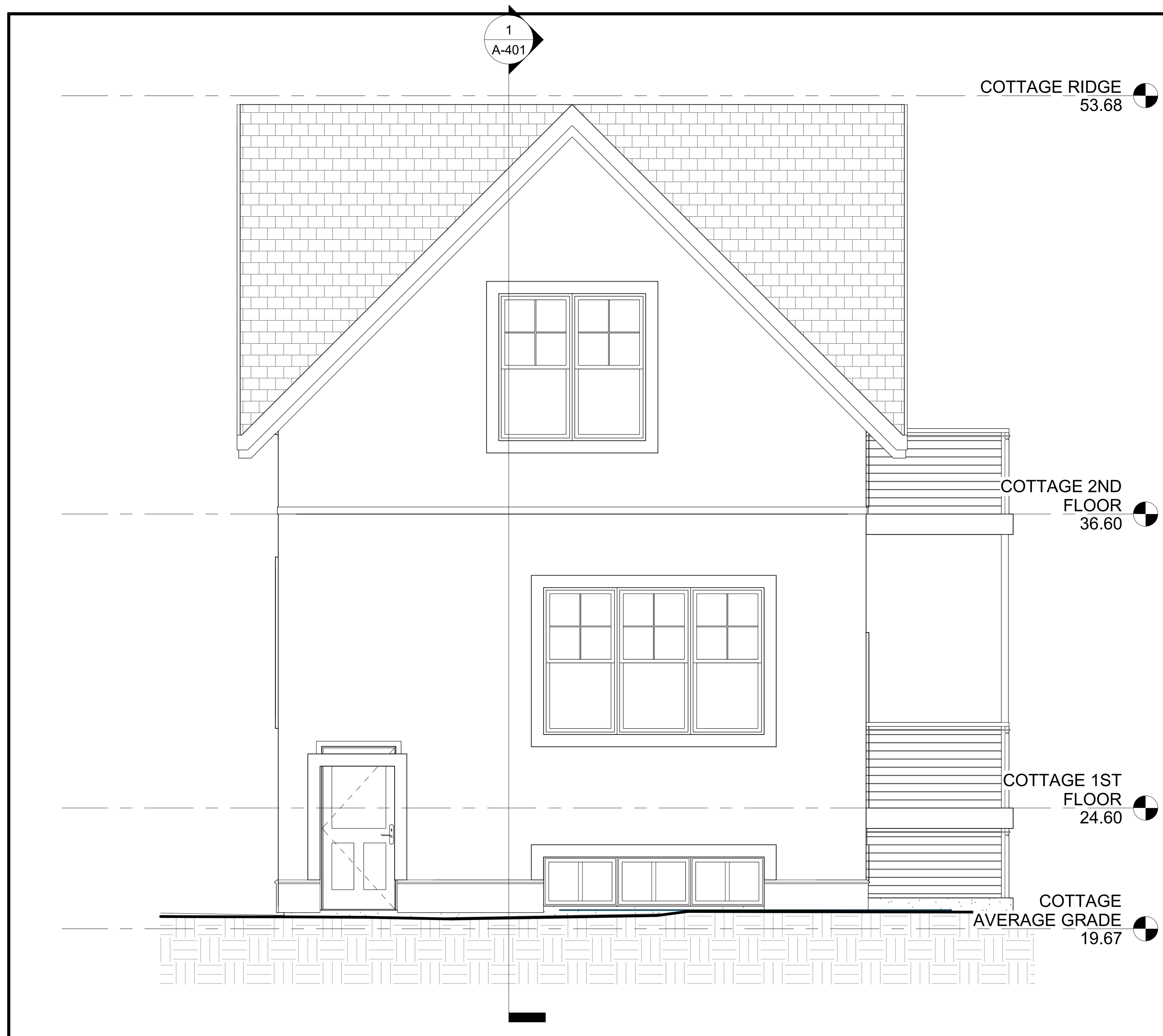
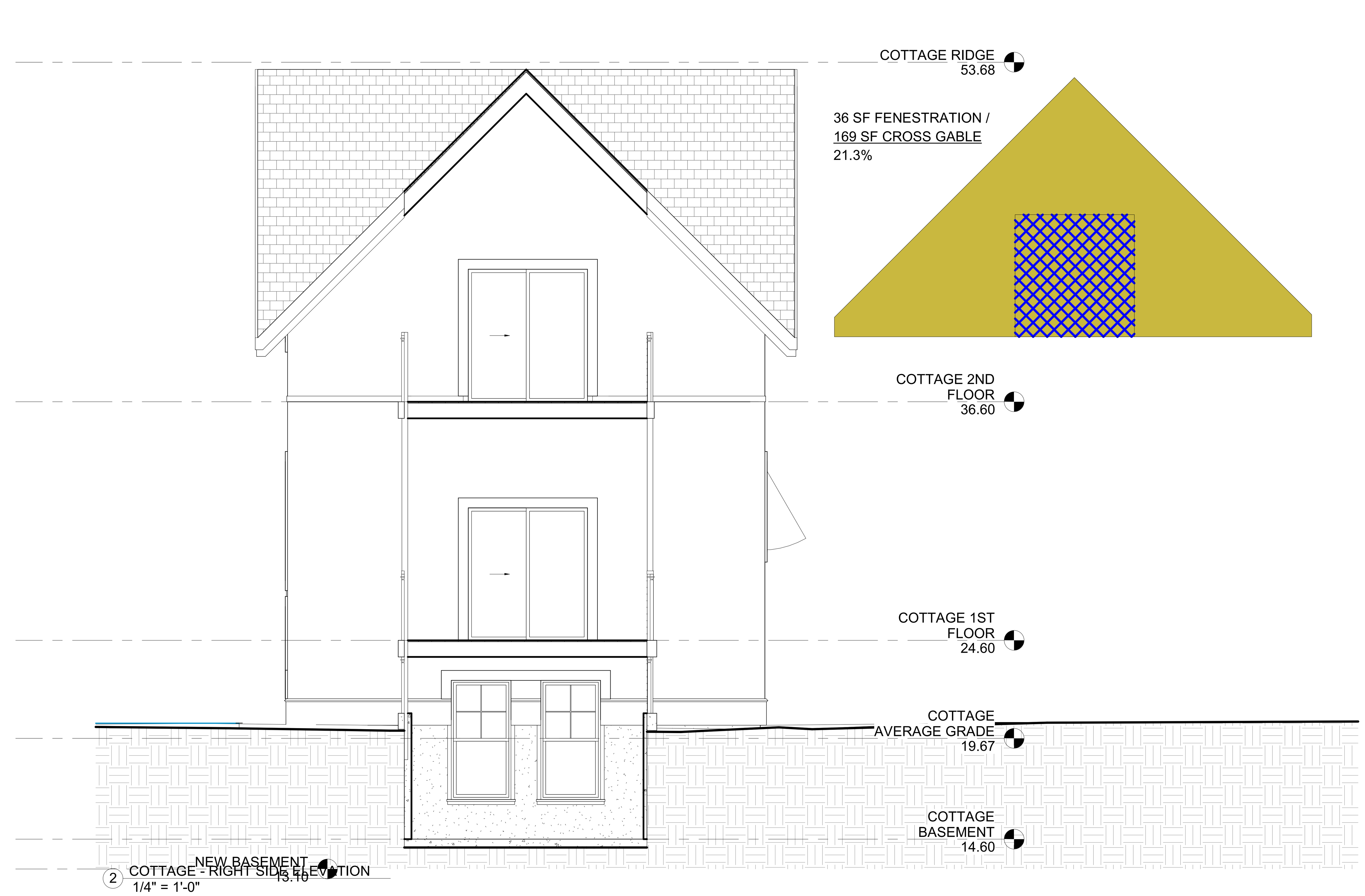
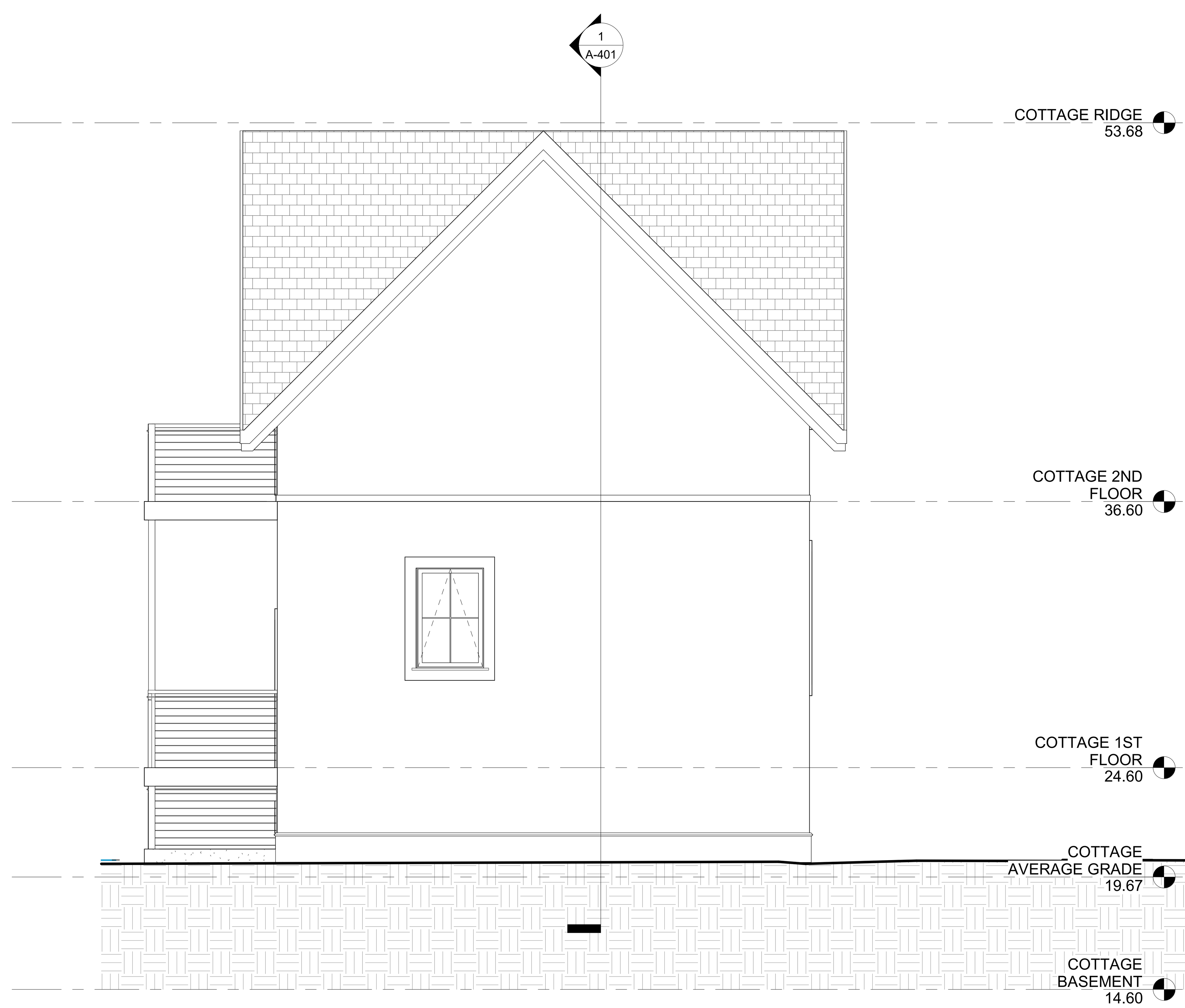


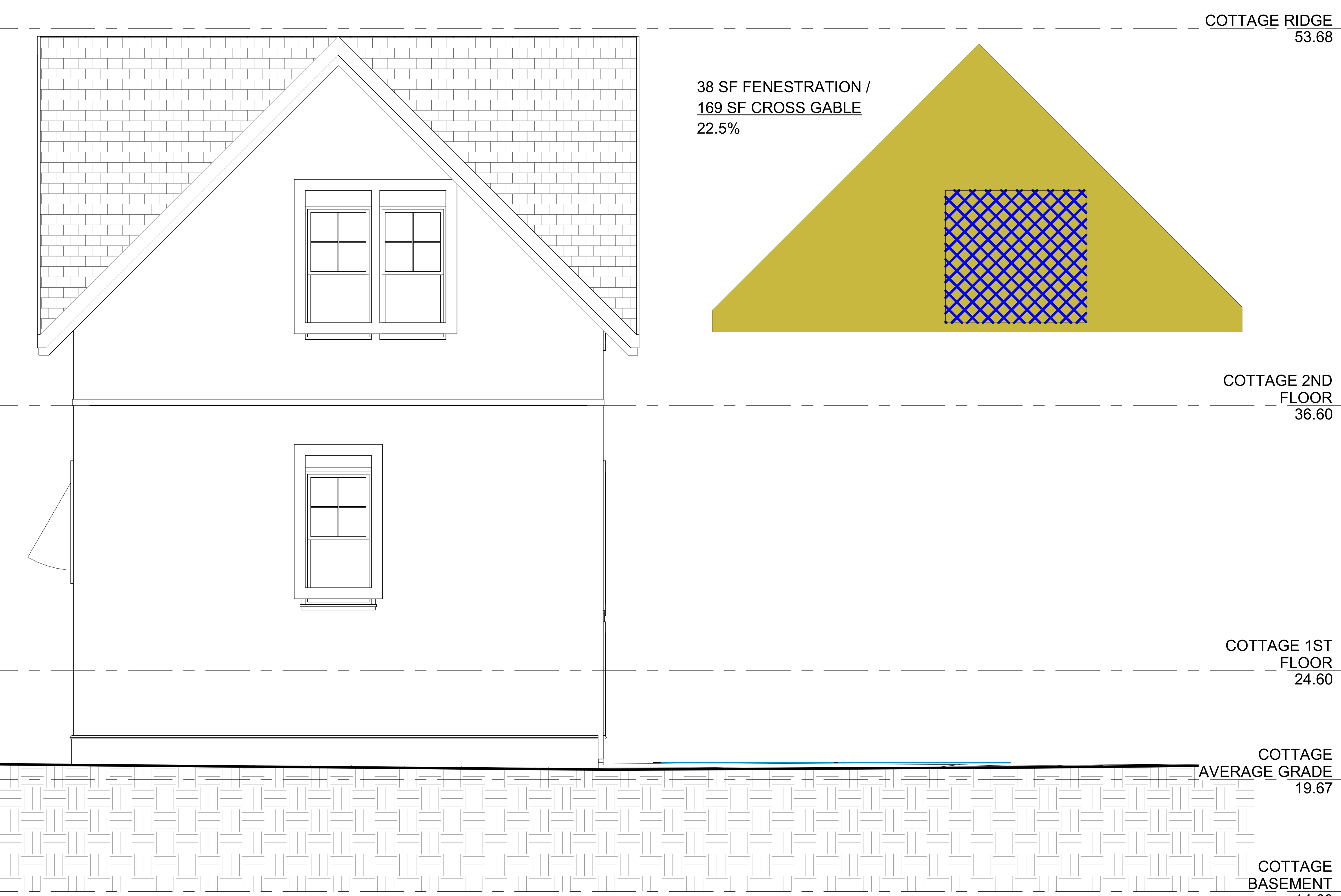
1 COTTAGE- FRONT ELEVATION
1/4" = 1'-0"



2 COTTAGE - RIGHT SIDE ELEVATION
1/4" = 1'-0"



3 COTTAGE - REAR ELEVATION
1/4" = 1'-0"



4 COTTAGE - LEFT SIDE ELEVATION
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE

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BERDI CONSULTING
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QUINCY, MA 02171

REGISTRATION

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

COTTAGE
ELEVATIONS

A-302

21-23 KENT COURT

\\TKG-SERVER\Data\24\24043_Tigran Yesayan_21-23 Kent Court Somerville\03_DRAWINGS\00_ARCH\03_CD\24007_21-23 Kent Court -CDModel.rvt

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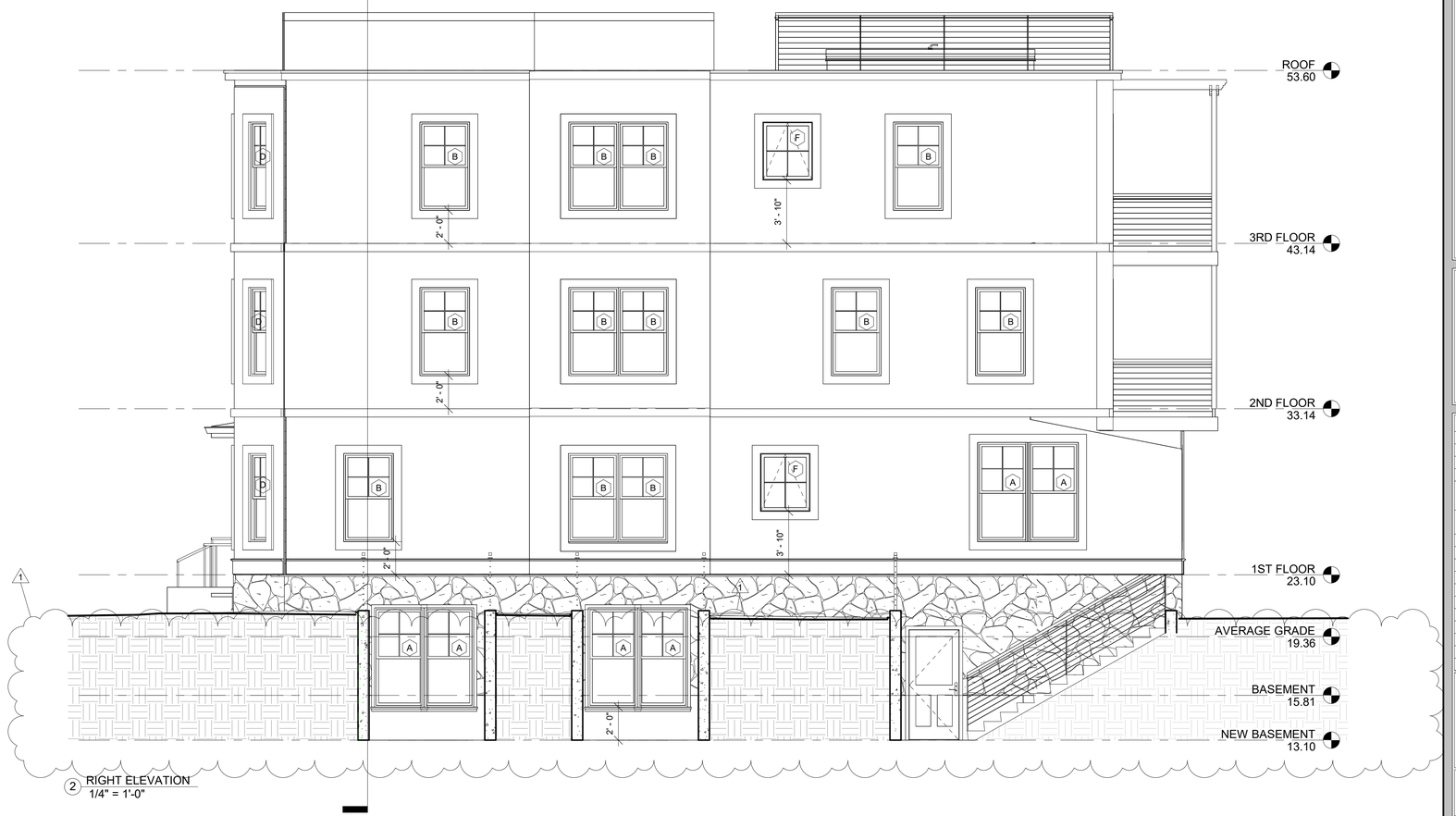
1 FRONT ELEVATION
1/4" = 1'-0"



2 RIGHT ELEVATION
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE
KHALSA DESIGN, INC.
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682

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MARC MAZZARELLI ASSOCIATES
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STRUCTURAL ENGINEER
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MEP ENGINEER
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QUINCY, MA 02171

REGISTRATION

REGISTERED ARCHITECT
IVAN STELLOS
SOMERVILLE
COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	1/4" = 1'-0"

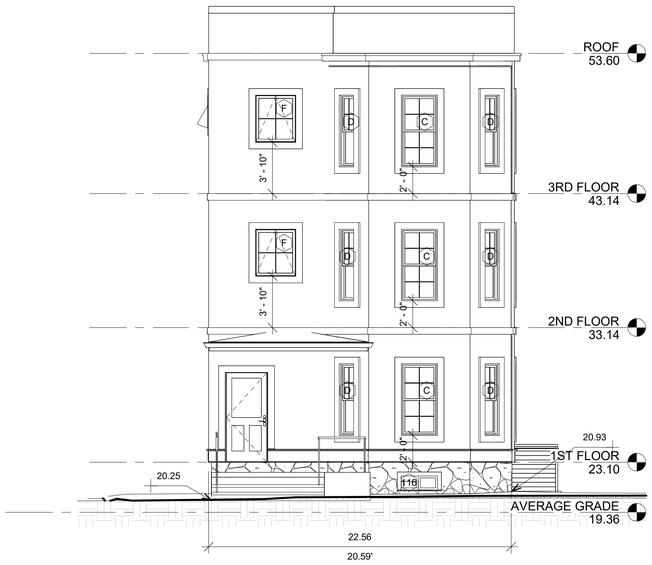
REVISIONS

No.	Description	Date
1	ISD COMMENTS	11/19/2024

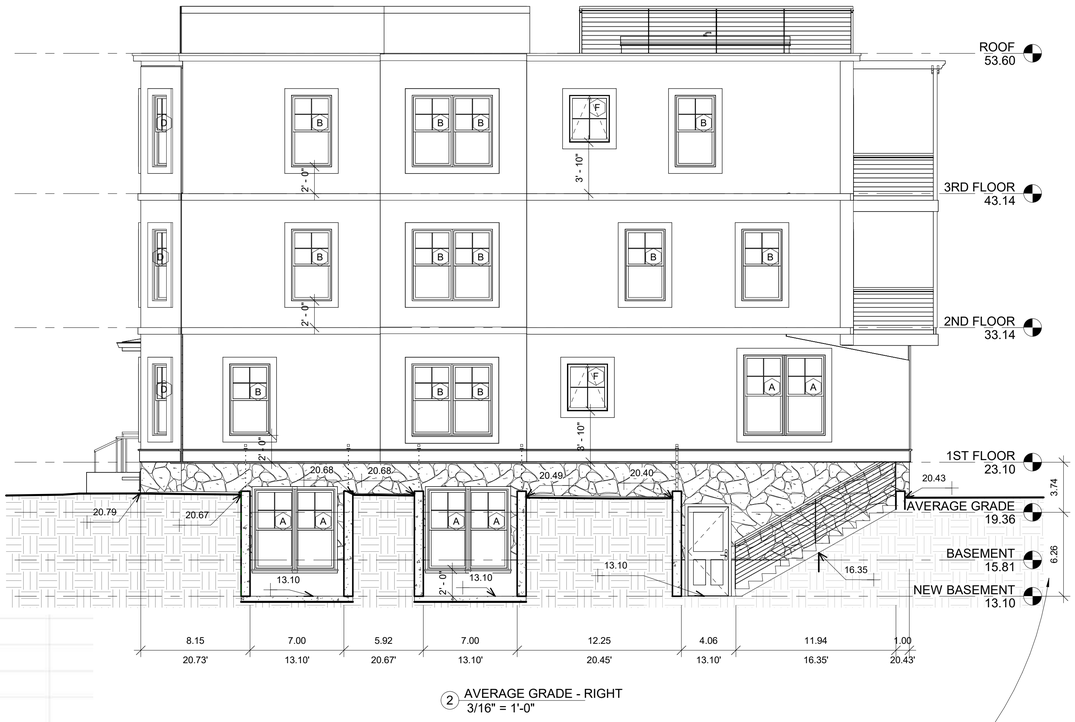
FRONT & RIGHT SIDE ELEVATIONS

A-300

21-23 KENT COURT



1 AVERAGE GRADE - FRONT
3/16" = 1'-0"

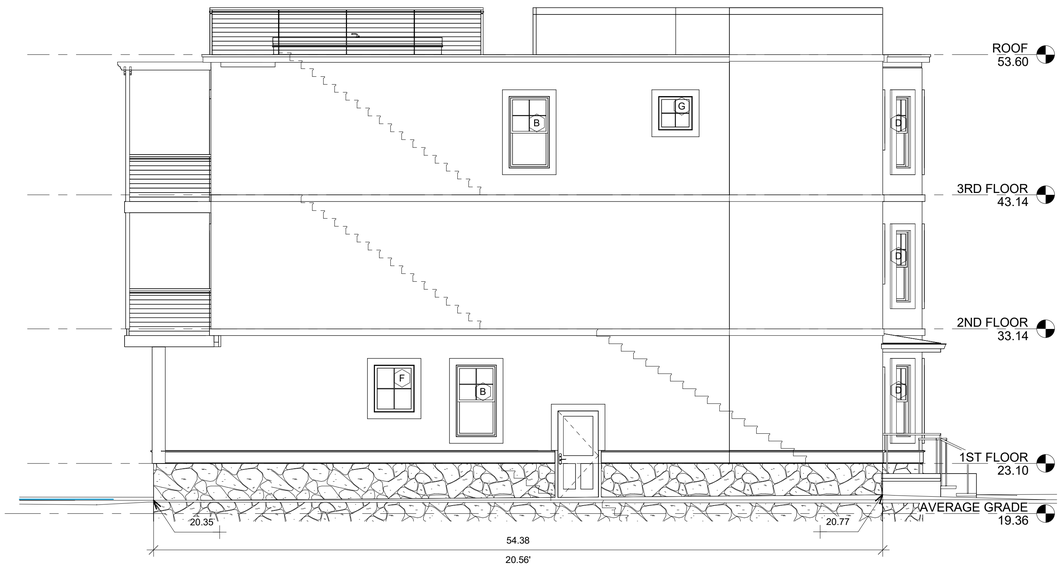


2 AVERAGE GRADE - RIGHT
3/16" = 1'-0"

	LENGTH	ELEVATION	LXEL			
FRONT	22.56	20.59	464.51			
RIGHT	8.15	20.73	168.95			
	7	13.1	91.70			
	5.92	20.67	122.37			
	7	13.1	91.70			
	12.25	20.45	250.51			
	4.06	13.1	53.19			
	11.94	16.35	195.22			
	1	20.43	20.43			
REAR	22.94	20.39	467.75			
LEFT	54.38	20.56	1118.05			
TOTAL:	157.2		3044.37			
	3044.37	/	157.2	=	19.3662	Average Grade

BASEMENT IS 62% BELOW AVERAGE GRADE

3 AVERAGE GRADE - REAR
3/16" = 1'-0"



4 AVERAGE GRADE - LEFT
3/16" = 1'-0"

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REGISTRATION

REGISTERED ARCHITECT · EVAN STELLOH · SOMERVILLE, MA · COMMONWEALTH OF MASSACHUSETTS

Project number	24007
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Scale	3/16" = 1'-0"

REVISIONS

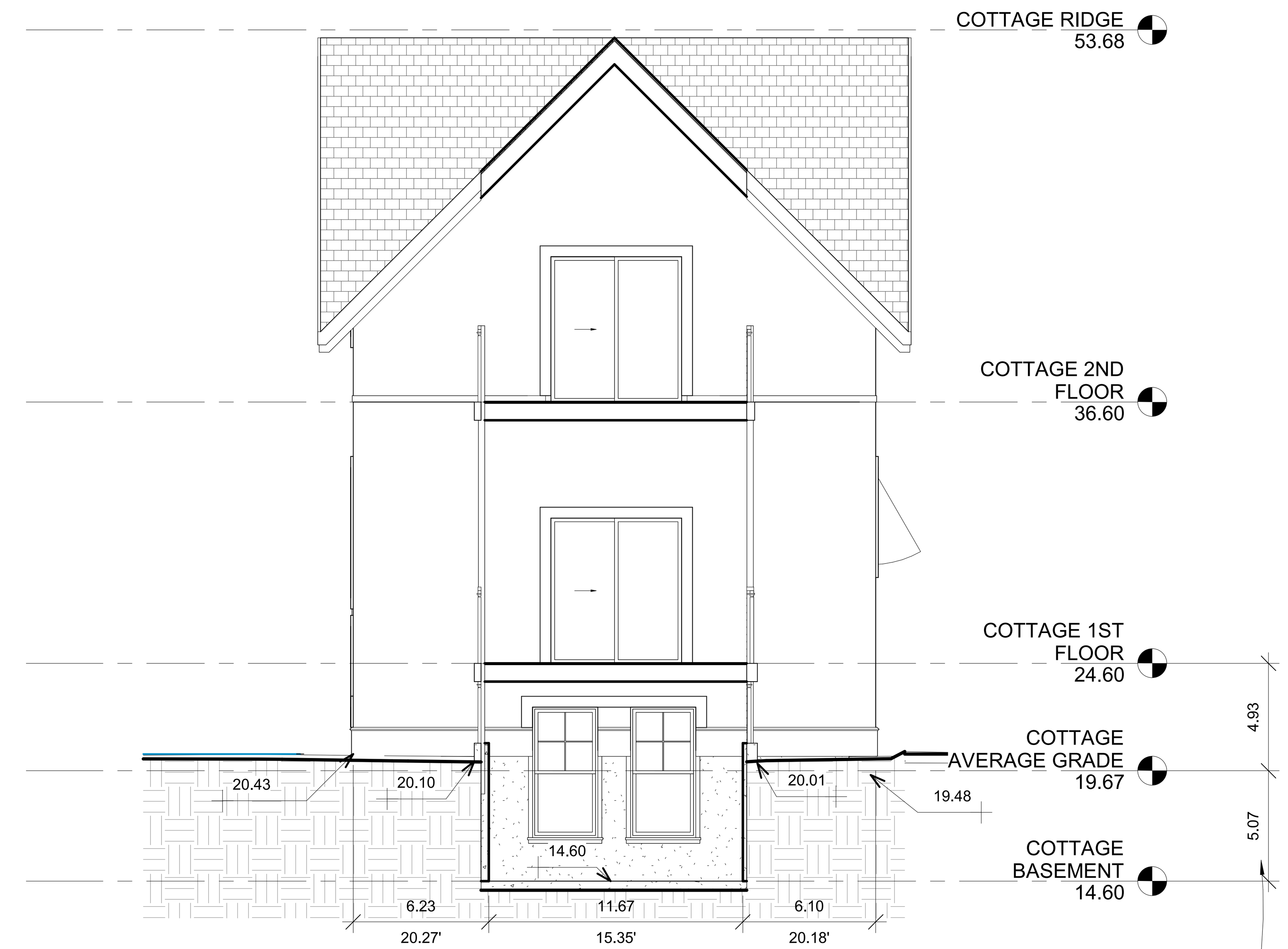
No.	Description	Date

AVERAGE GRADE - PRIMARY STRUCTURE

A-303

21-23 KENT COURT

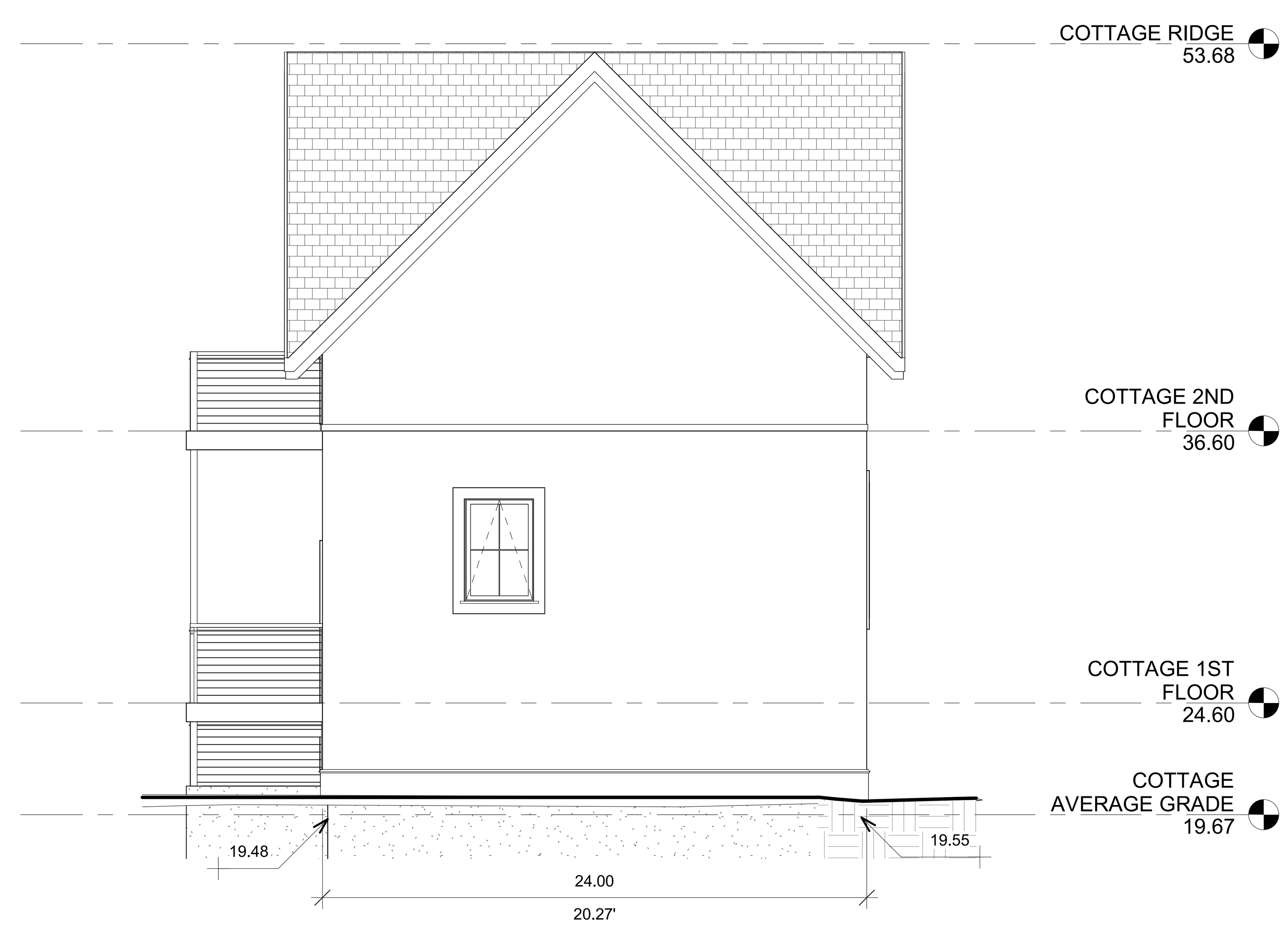
1 AVERAGE GRADE - COTTAGE - FRONT
3/16" = 1'-0"



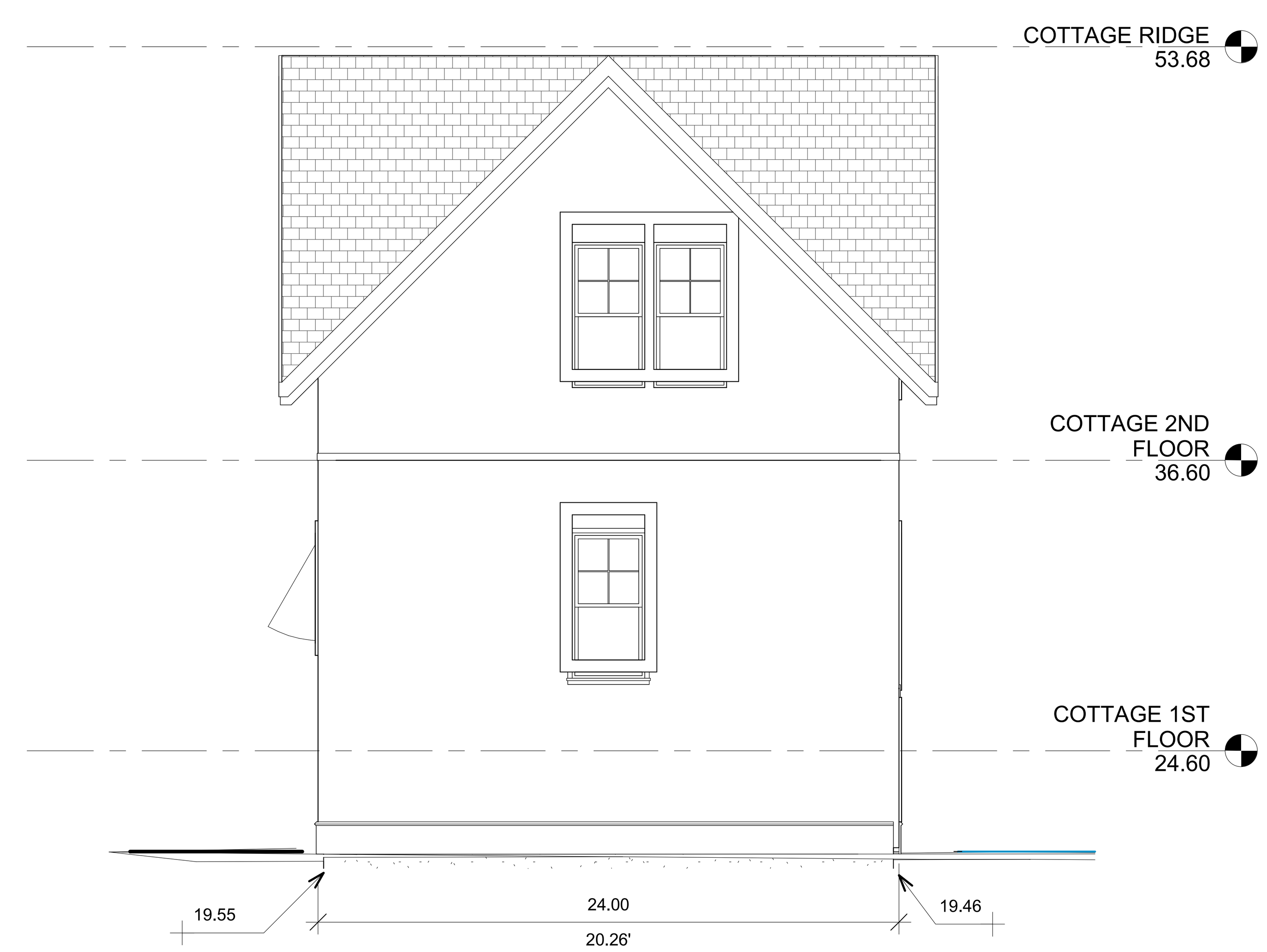
2 AVERAGE GRADE - COTTAGE - RIGHT
3/16" = 1'-0"

	LENGTH	ELEVATION	LXEL			
FRONT	24	20.32	487.68			
RIGHT	6.23	20.27	126.28			
	11.67	15.35	179.13			
	6.1	20.18	123.10			
REAR	24	20.27	486.48			
LEFT	24	20.26	486.24			
TOTAL:	96		1888.91			
	1888.91	/	96	=	19.6762	Average Grade

BASEMENT IS 51% BELOW AVERAGE GRADE



3 AVERAGE GRADE - COTTAGE - REAR
3/16" = 1'-0"



4 AVERAGE GRADE - COTTAGE - LEFT
3/16" = 1'-0"

PROJECT NAME
21-23 KENT COURT

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21-23 KENT COURT
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ARCHITECT
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KHALSA DESIGN, INC.
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REVISIONS

No.	Description	Date

AVERAGE GRADE - BACKYARD COTTAGE

A-304

21-23 KENT COURT

\\TKG-SERVER\Data\24\24043_Tigran Yesayan_21-23 Kent Court Somerville\03_DRAWINGS\00_ARCH\03_CD\24007_21-23 Kent Court -CDModel.rvt

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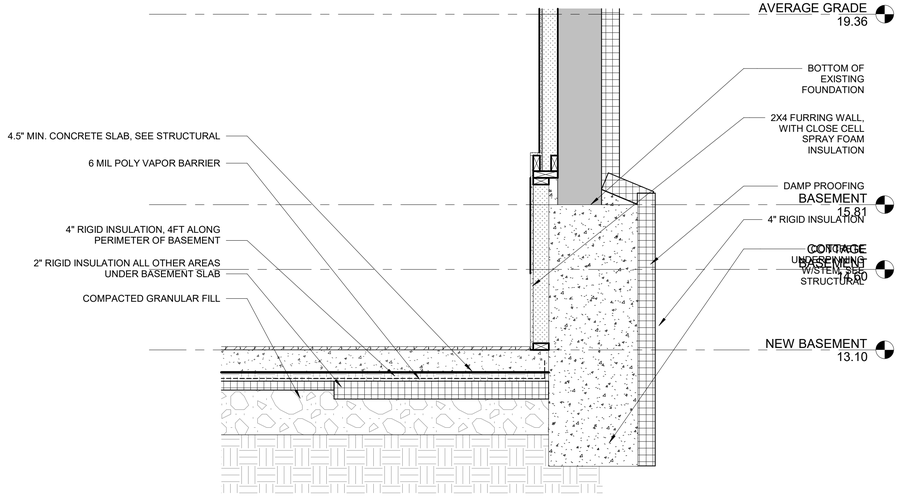
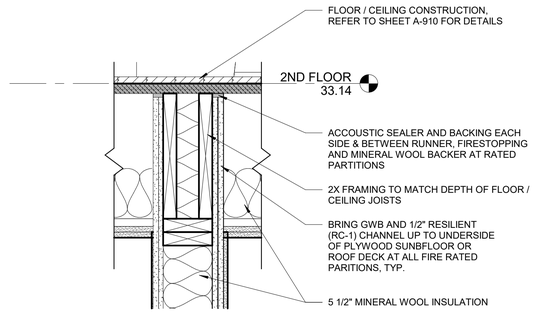
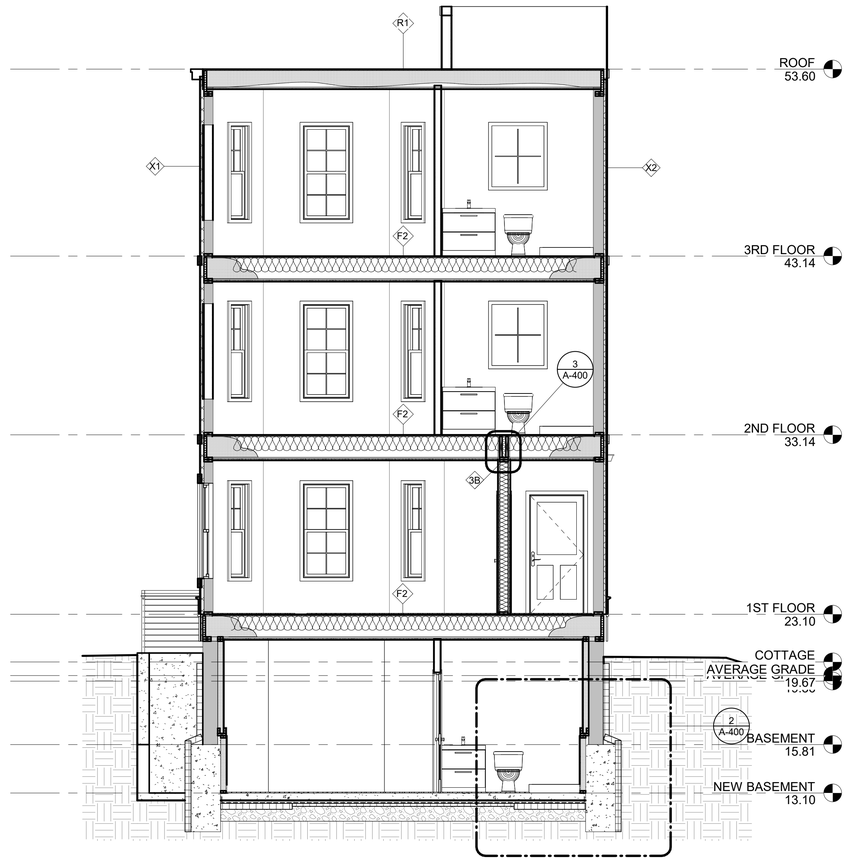


2 UNDERPINNING DETAIL
3/4" = 1'-0"



3 DEMISING WALL TERMINATION
1 1/2" = 1'-0"



SECTION THROUGH EXISTING BUILIDING
1 1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

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BOSTON MASONRY

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REGISTRATION

REGISTERED ARCHITECT
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SOMERVILLE
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COMMONWEALTH OF MASSACHUSETTS

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Scale	As indicated

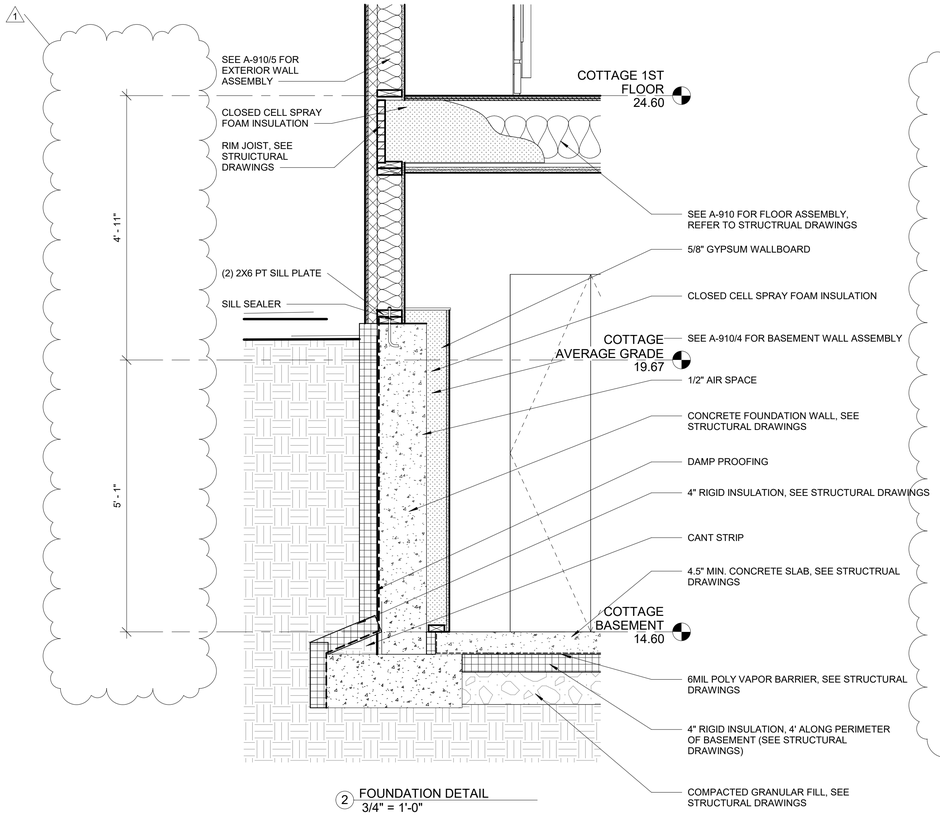
REVISIONS

No.	Description	Date

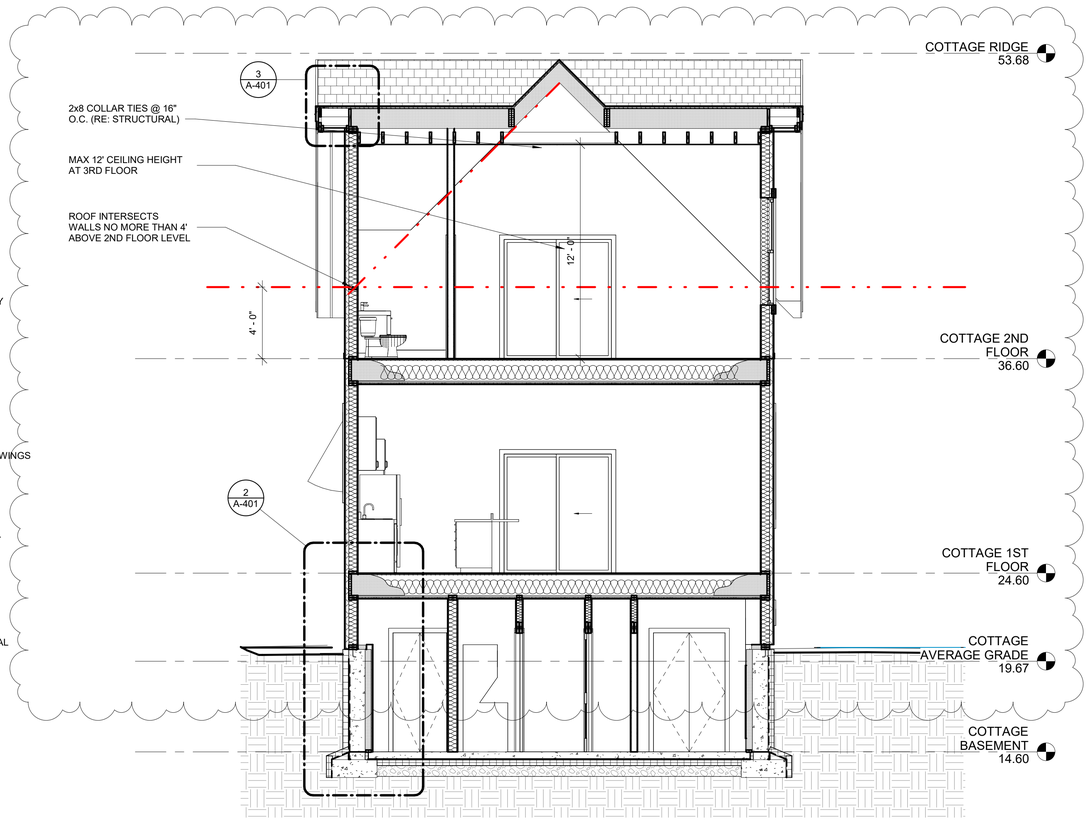
MAIN BUILDING SECTION

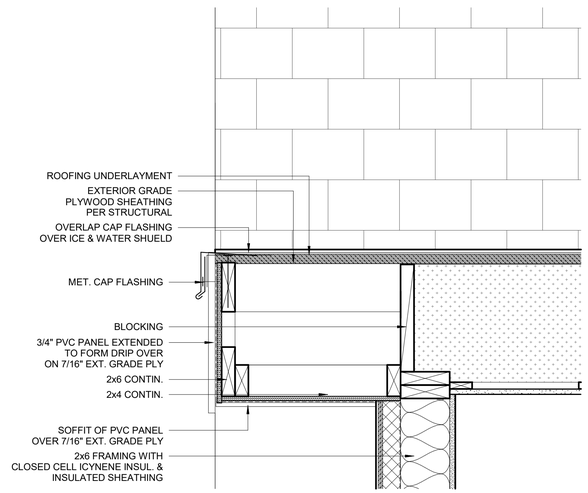
A-400

21-23 KENT COURT



2 FOUNDATION DETAIL
3/4" = 1'-0"





3 ROOF EAVE DETAIL
1 1/2" = 1'-0"

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REGISTRATION

REGISTERED ARCHITECT
RYAN STELLA
SOMERVILLE, MA
COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	As indicated

REVISIONS

No.	Description	Date
1	ISD COMMENTS	11/19/2024

BACKYARD COTTAGE SECTION

A-401

21-23 KENT COURT

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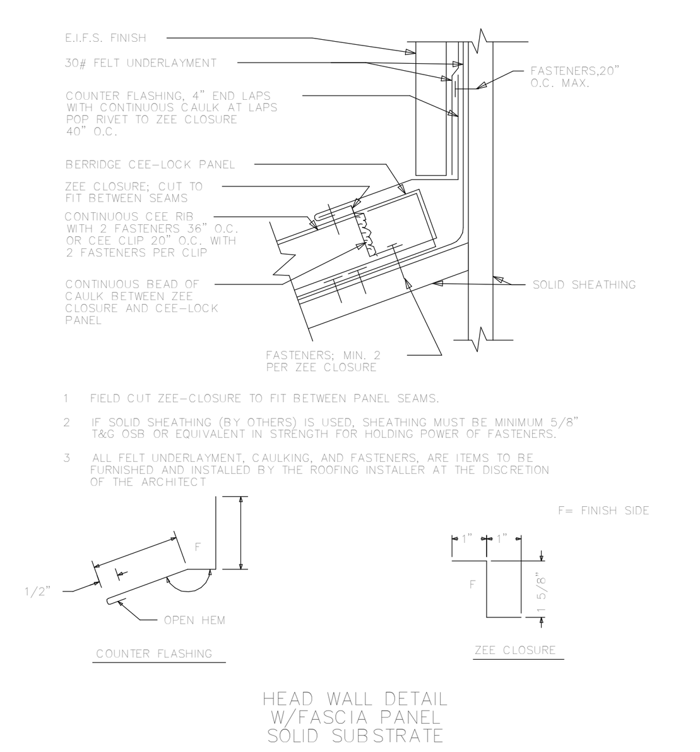
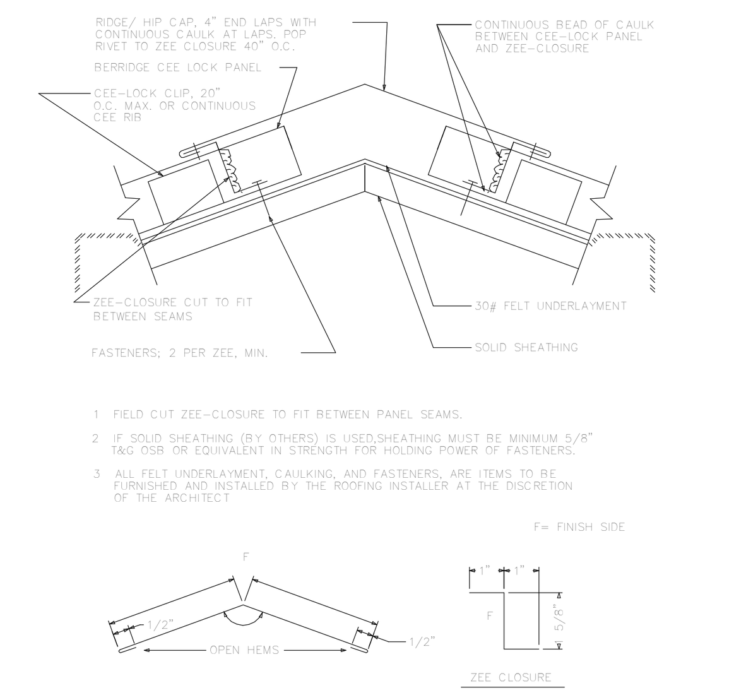
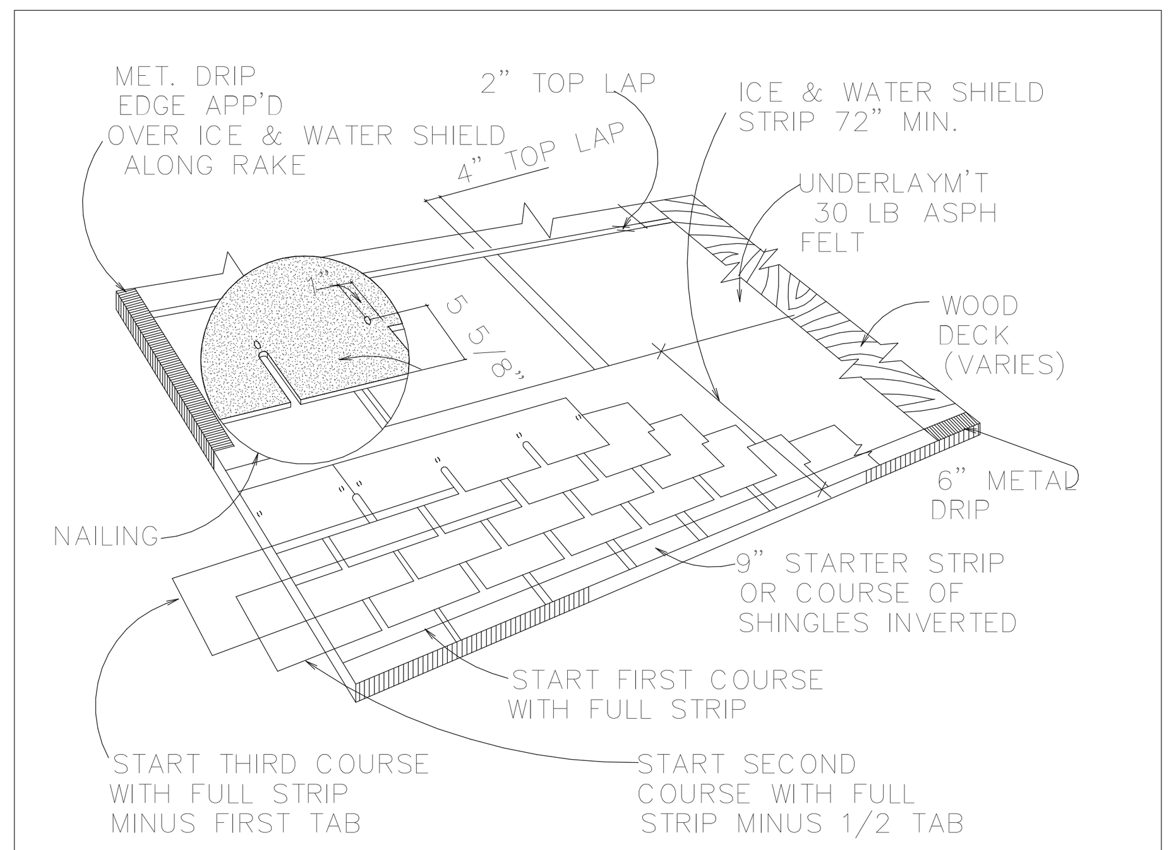


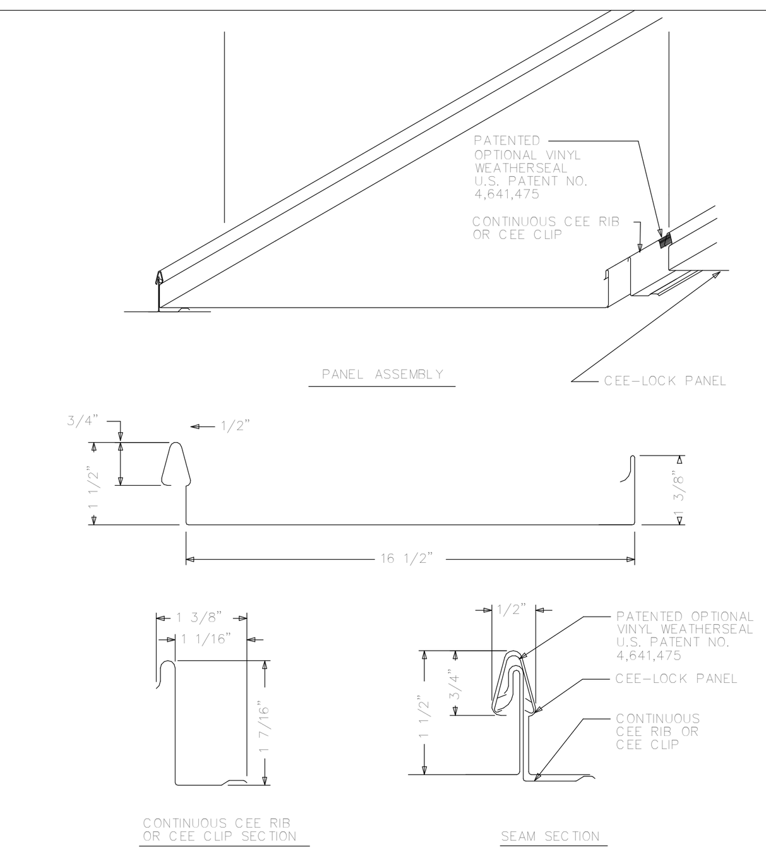
12 CEE-RIB EXPANSION JOINT
A-520 Scale:N.T.S



9 RIDGE/HIP DETAIL
A-520 Scale:N.T.S

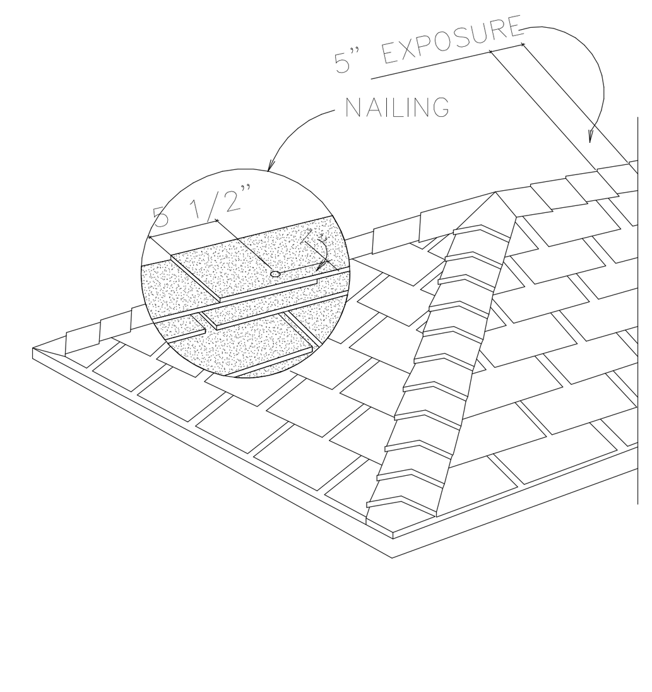


5 TYPICAL ROOF LAYOUT
A-520 Scale:N.T.S

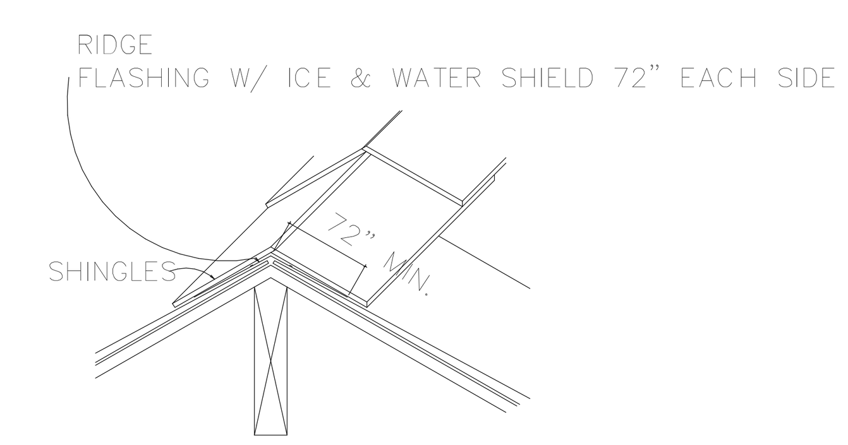


1 PANEL OVERVIEW
A-520 Scale:N.T.S

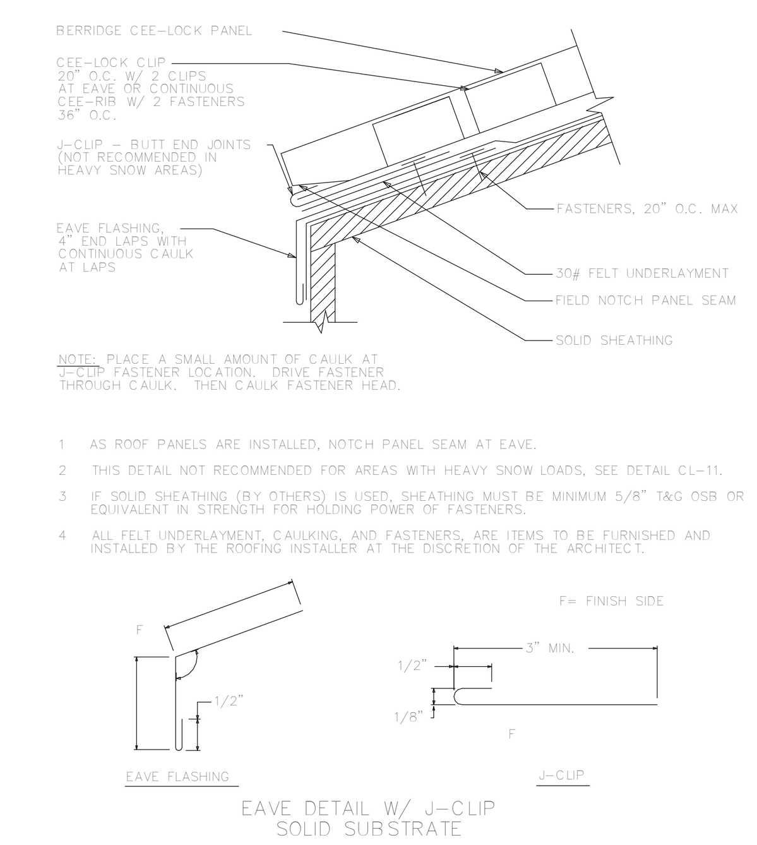
13 NOT USED
A_520 Scale:N.T.S



10 HIP AND RIDGE
A-520 Scale:N.T.S

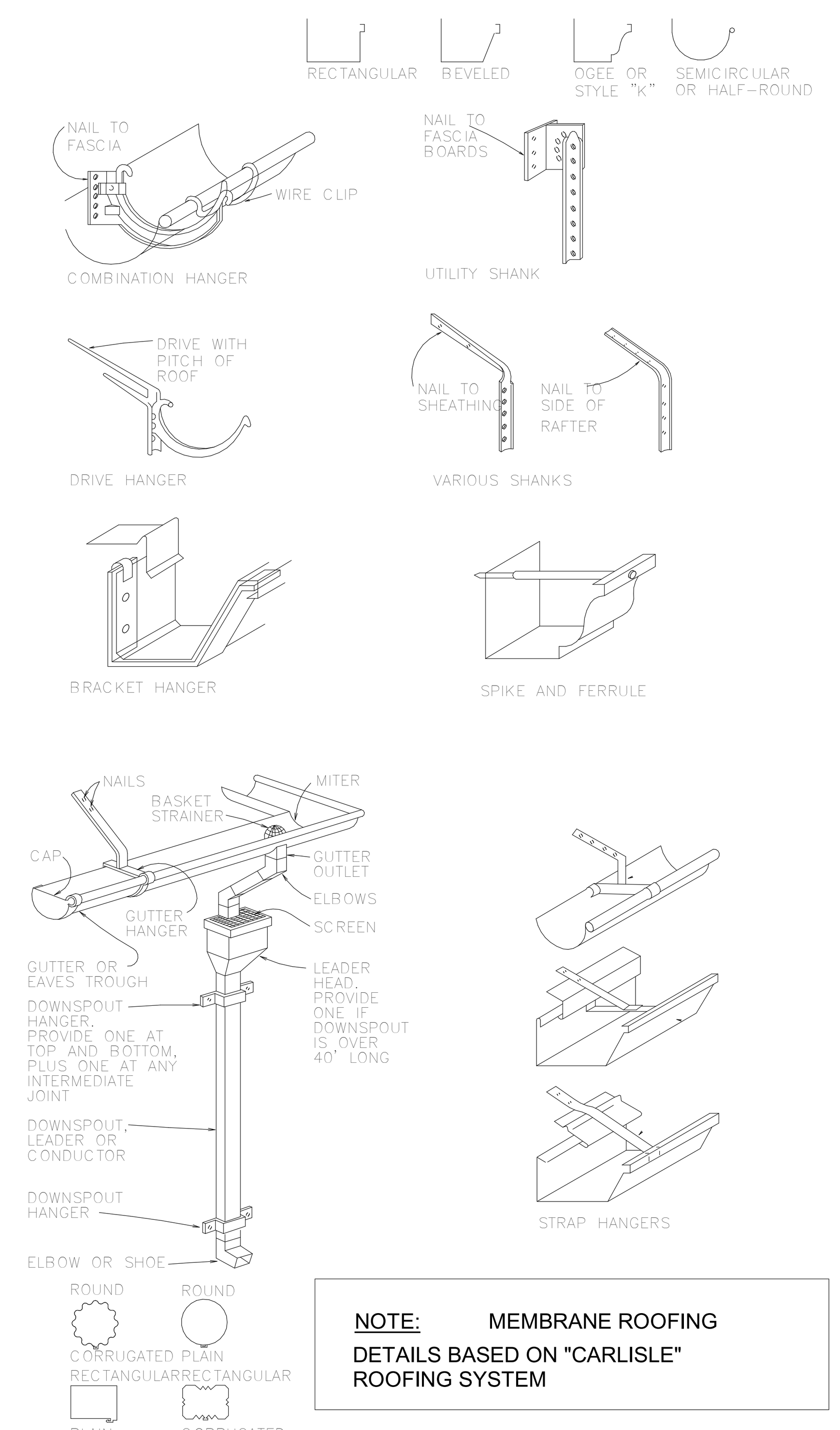


6 CONCEALED RIDGE FLASHING
A-520 Scale:N.T.S



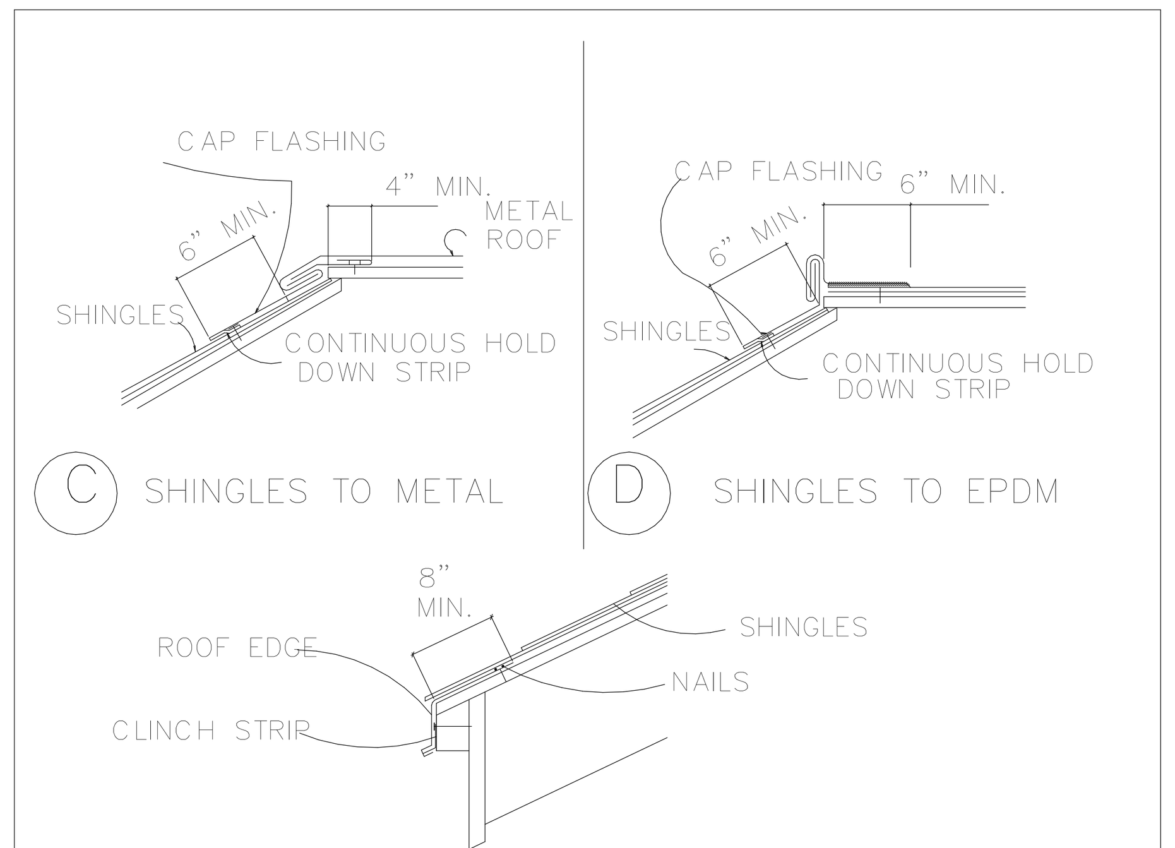
2 EAVE DETAIL W/ J-CLIP
A-520 Scale:N.T.S

14 NOT USED
A-520 Scale:N.T.S

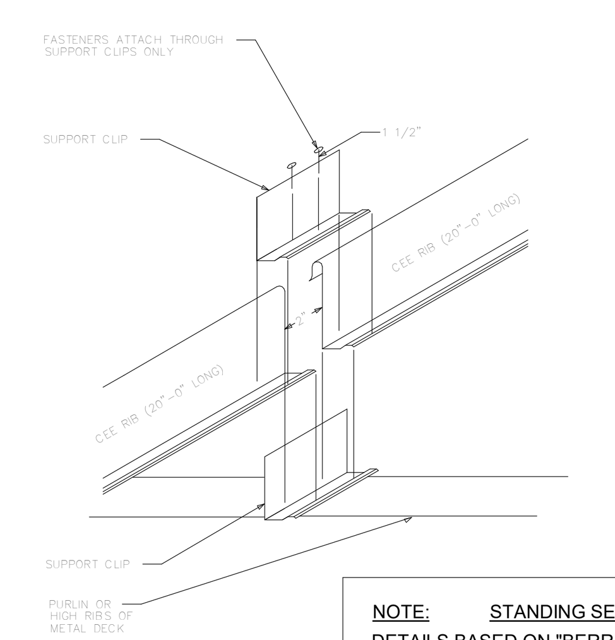


NOTE: MEMBRANE ROOFING
DETAILS BASED ON "CARLISLE" ROOFING SYSTEM

11 GUTTER & DOWN SPOUT
A-520 Scale:N.T.S



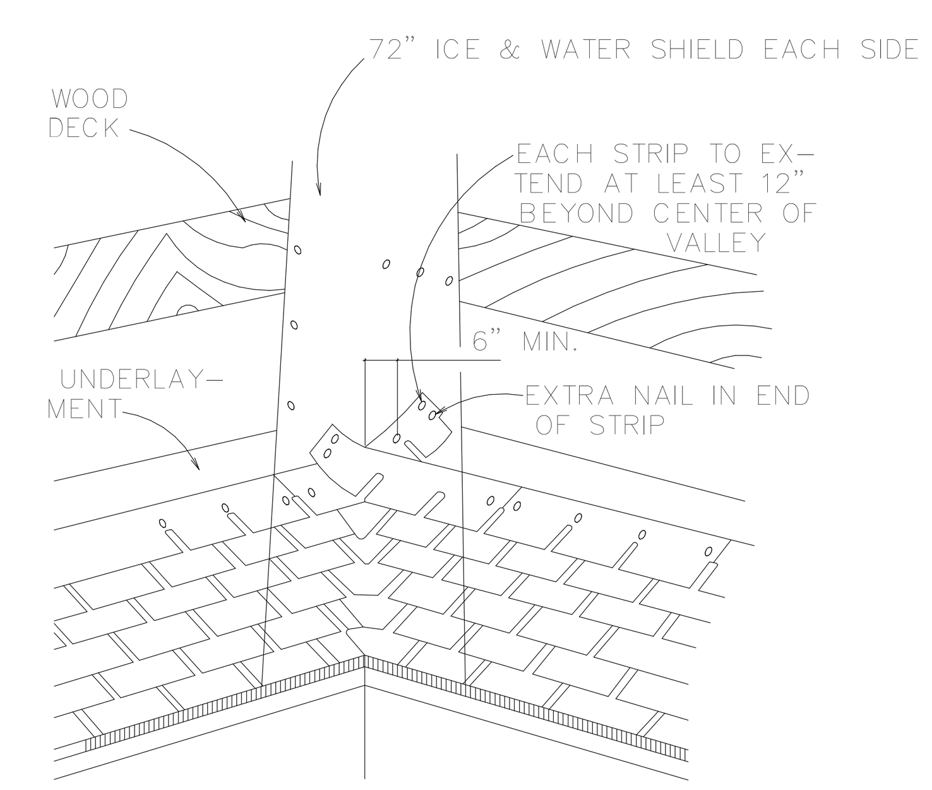
7 GENERIC DRIP EDGE
A-520 Scale:N.T.S



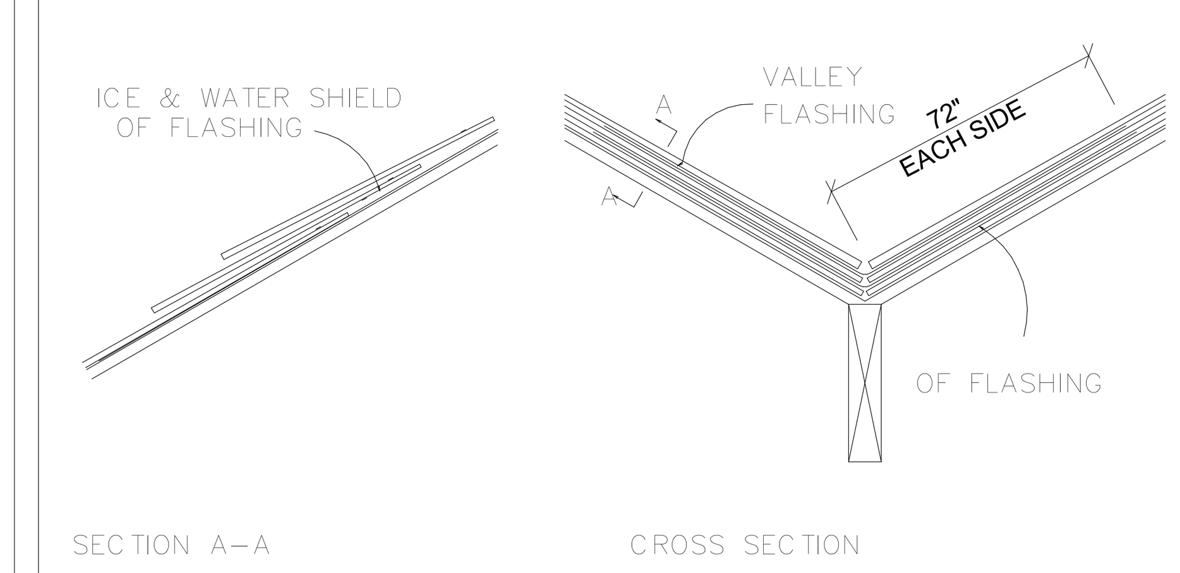
NOTE: STANDING SEAM METAL ROOFING
DETAILS BASED ON "BERRIDGE" ROOFING SYSTEM

3 CEE-RIB EXPANSION JOINT
A-520 Scale:N.T.S

15 NOT USED
A-520 Scale:N.T.S



8 CLOSED VALLEY
A-520 Scale:N.T.S



4 VALLEY FLASHING
A-520 Scale:N.T.S

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE

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REGISTRATION

REGISTERED ARCHITECT
EVAN STELLMAN
No. 354387
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MA
COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
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Scale	1" = 1'-0"

REVISIONS

No.	Description	Date

TYPICAL SLOPED ROOF DETAILS

A-520

21-23 KENT COURT

\\TKG-SERVER\Data\24\24043_Tigran Yesayan_21-23 Kent Court Somerville\03_DRAWINGS\00_ARCH\03_CD\24007_21-23 Kent Court -CDModel.rvt

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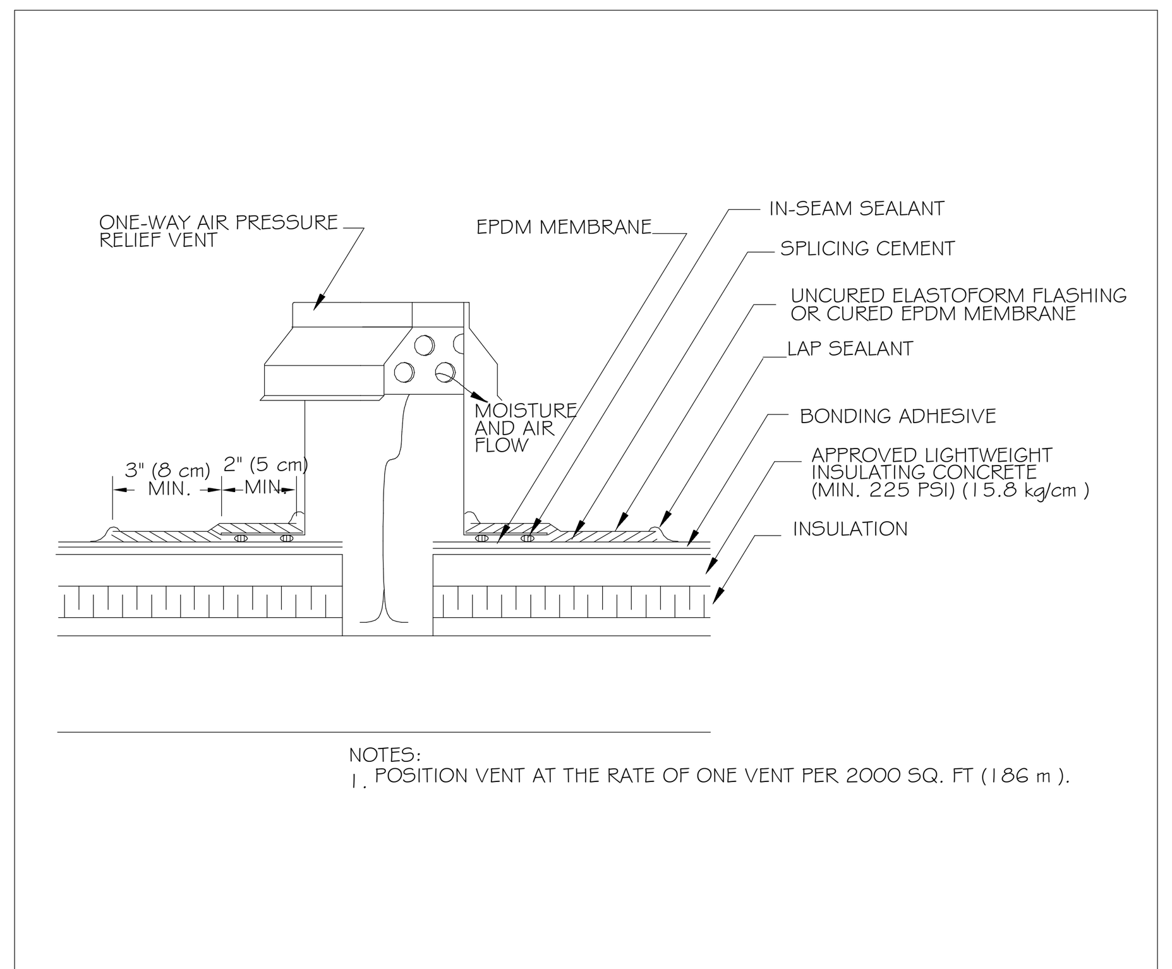
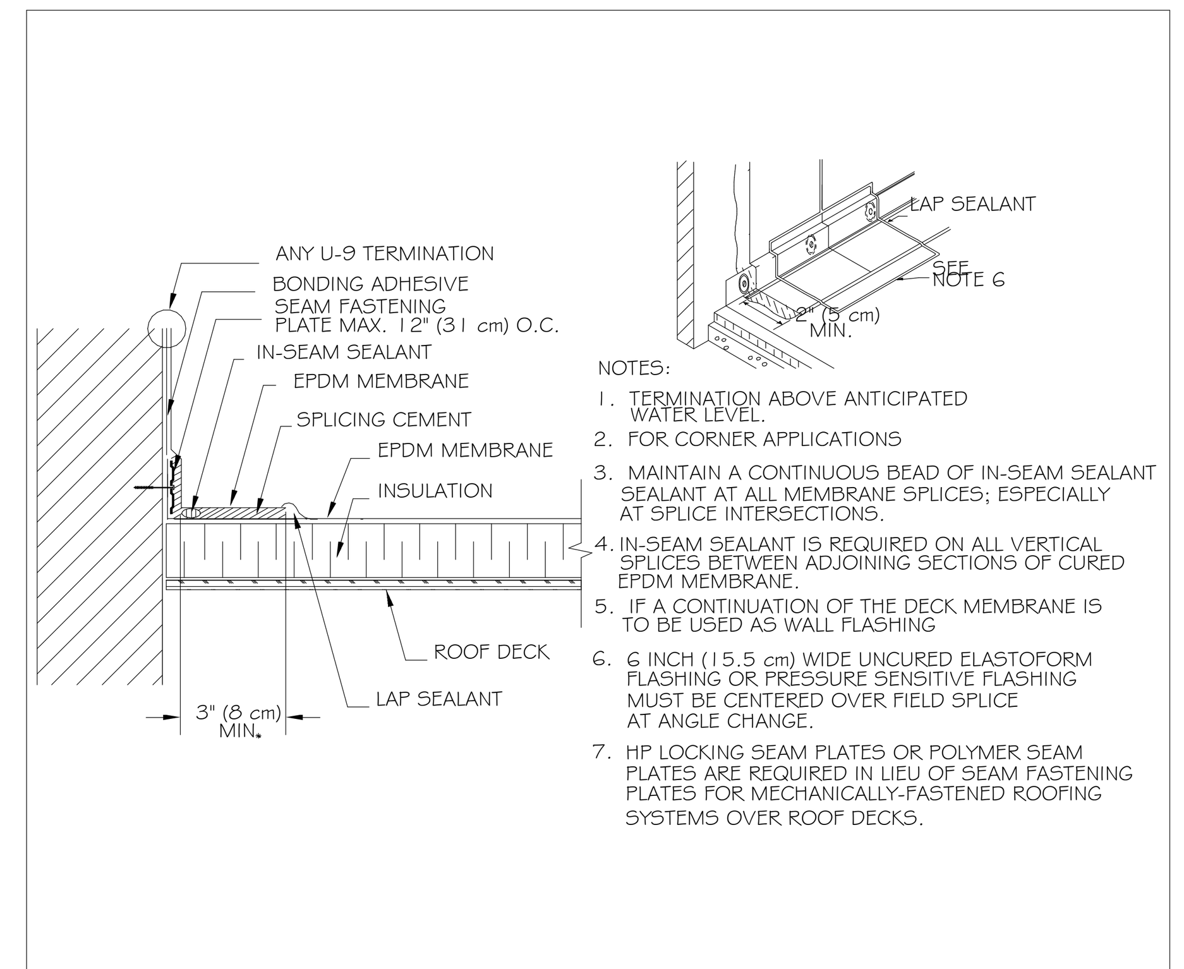
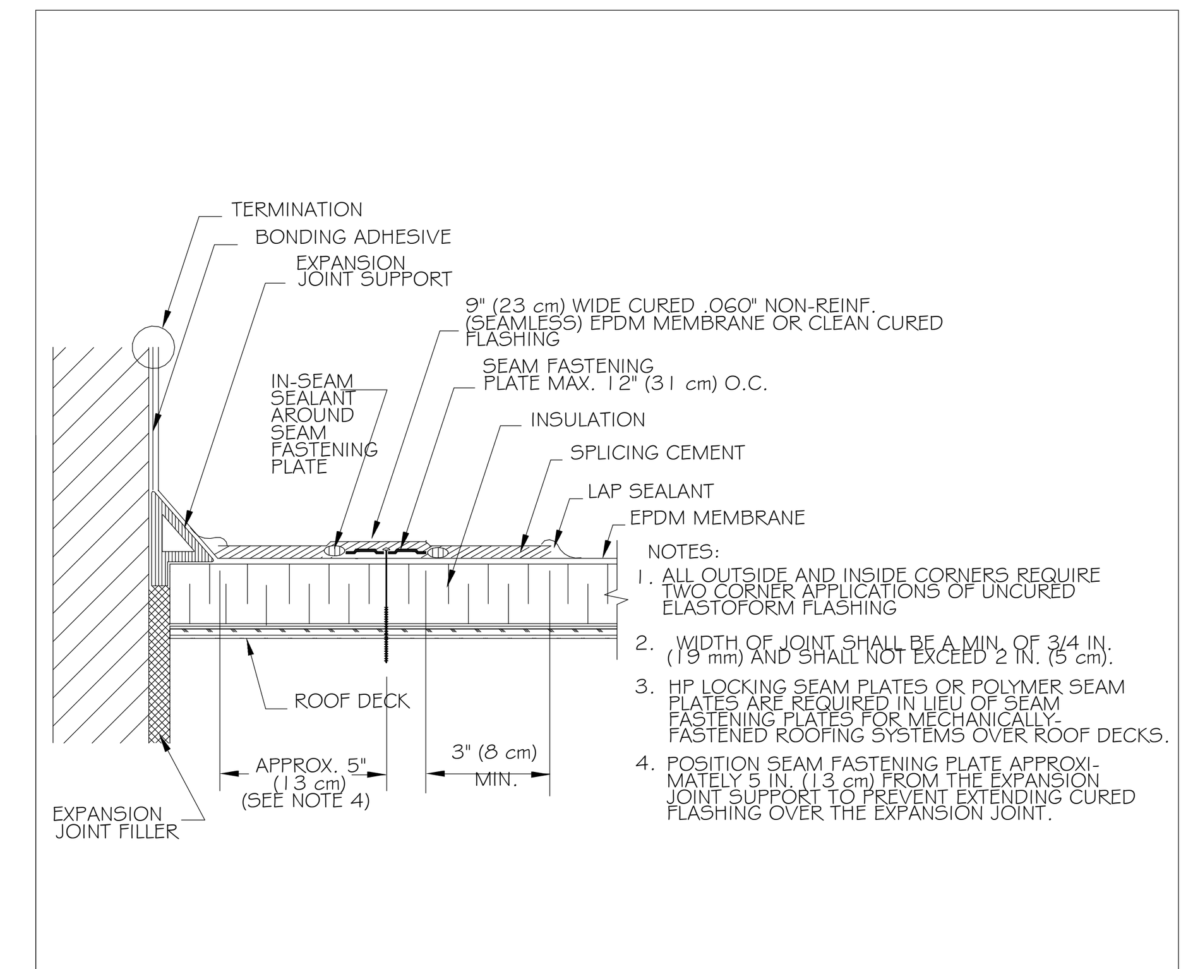


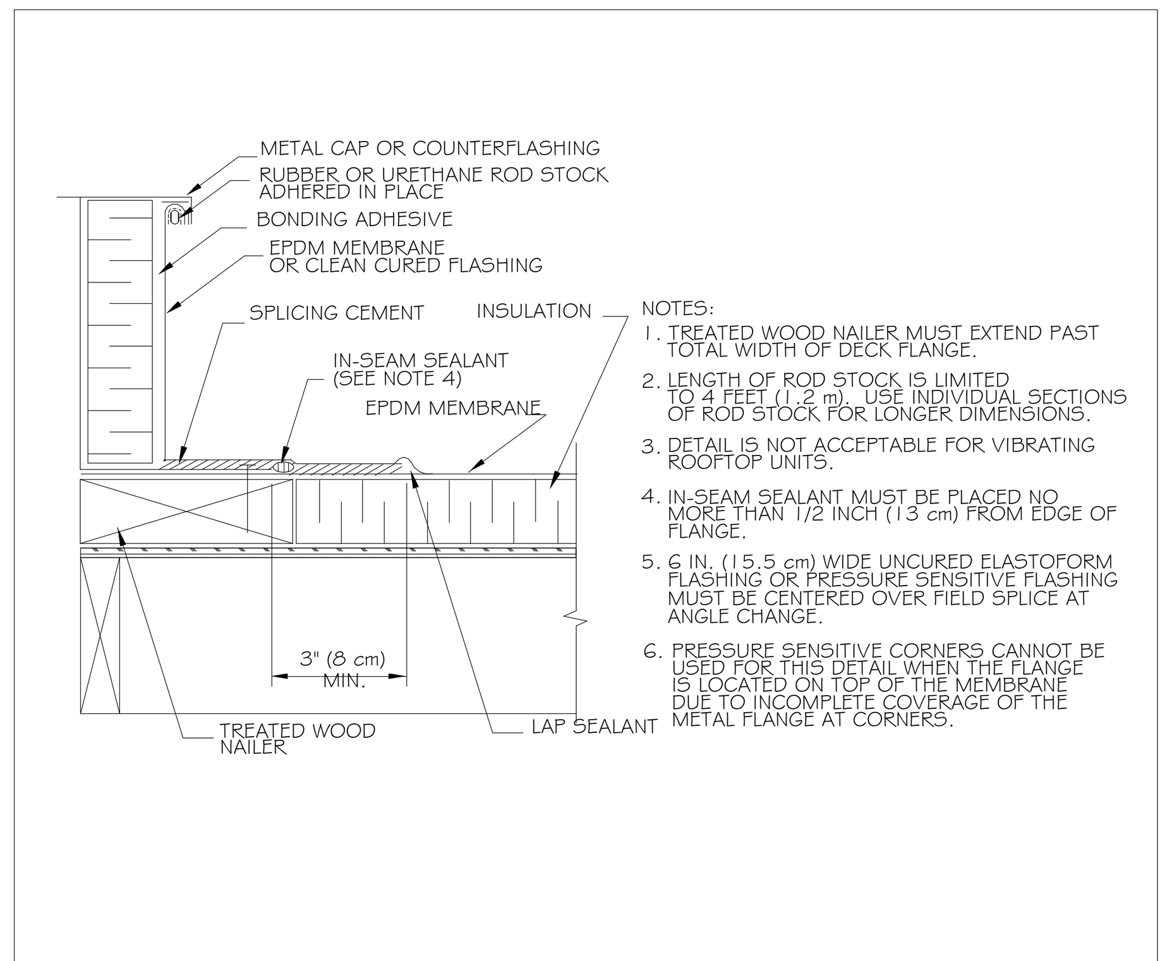
1 ONE-WAY AIR PRESSURE RELIEF VENT
A-630 Scale:N.T.S.



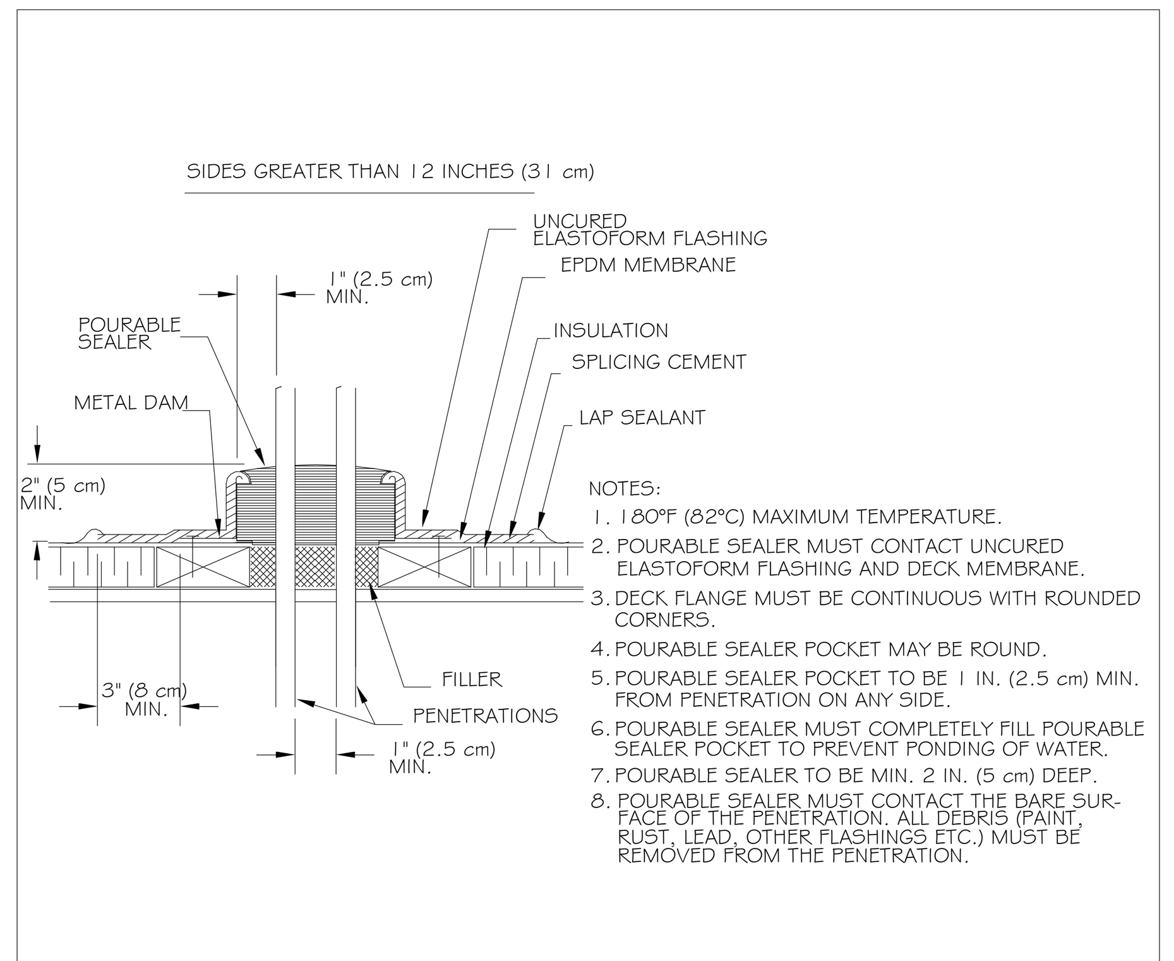
2 PARAPET/CURB CURED EPDM
A-630 Scale:N.T.S.



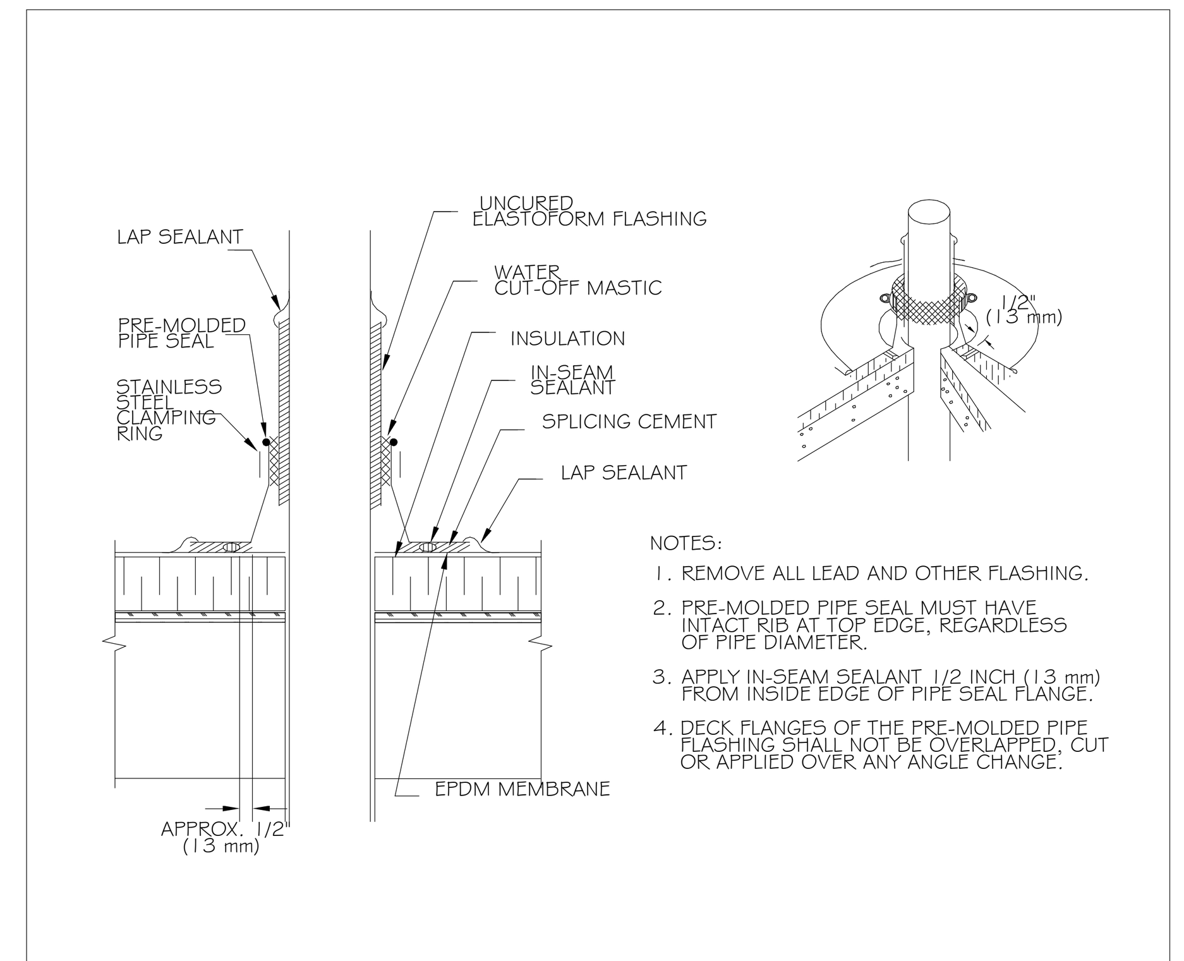
3 DECK TO WALL
A-630 Scale:N.T.S.



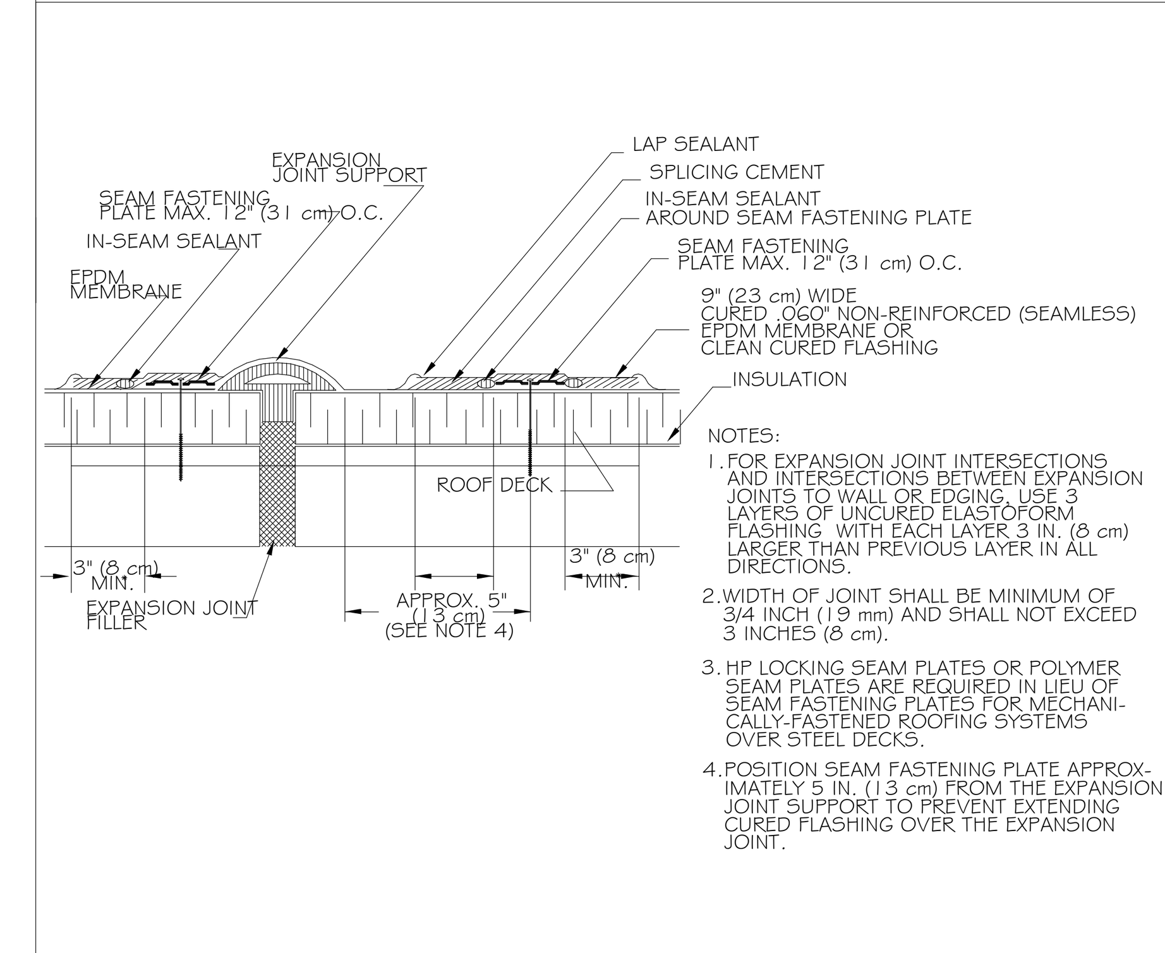
4 SELF-FLASHING CURB
A-630 Scale:N.T.S.



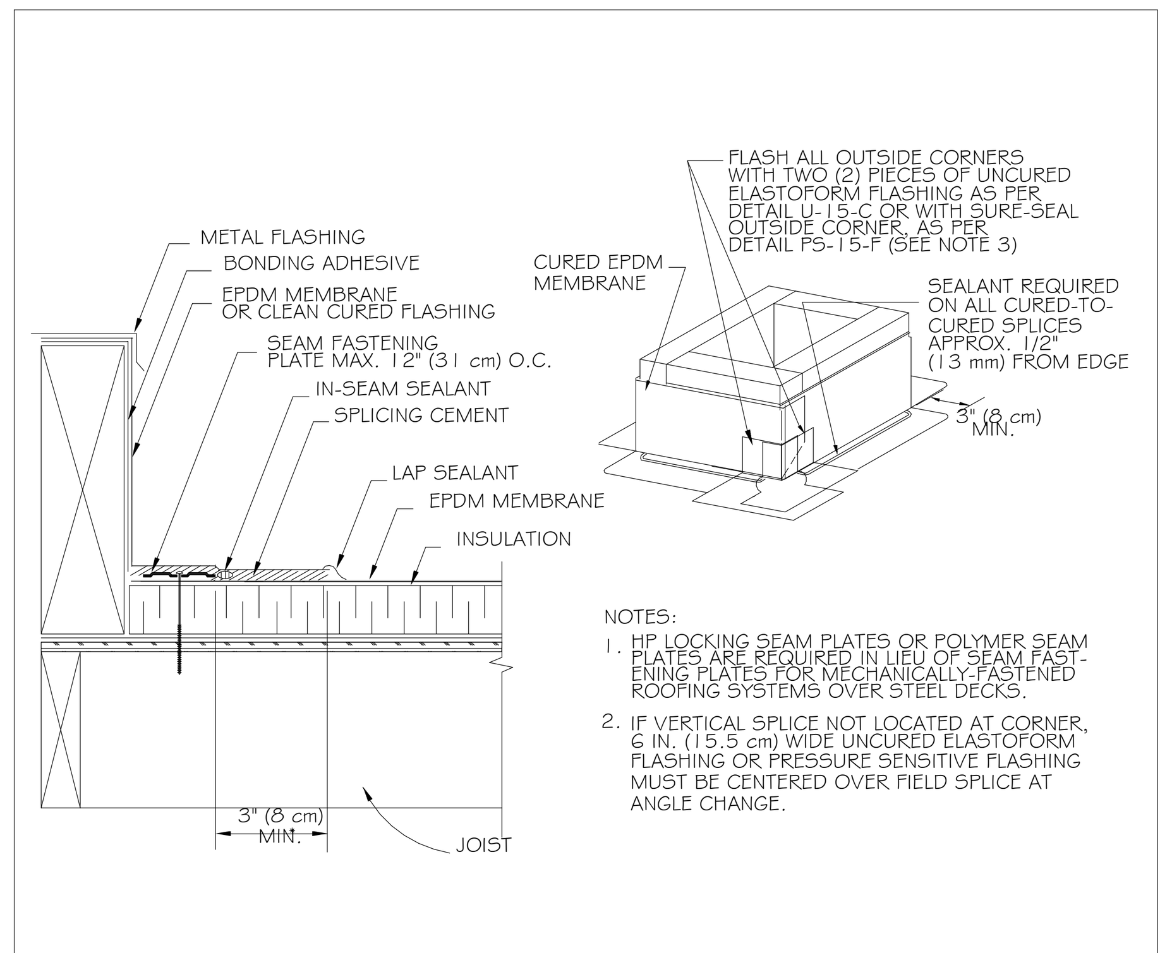
5 FIELD FAB. POURABLE SEALER POCKET
A-630 Scale:N.T.S.



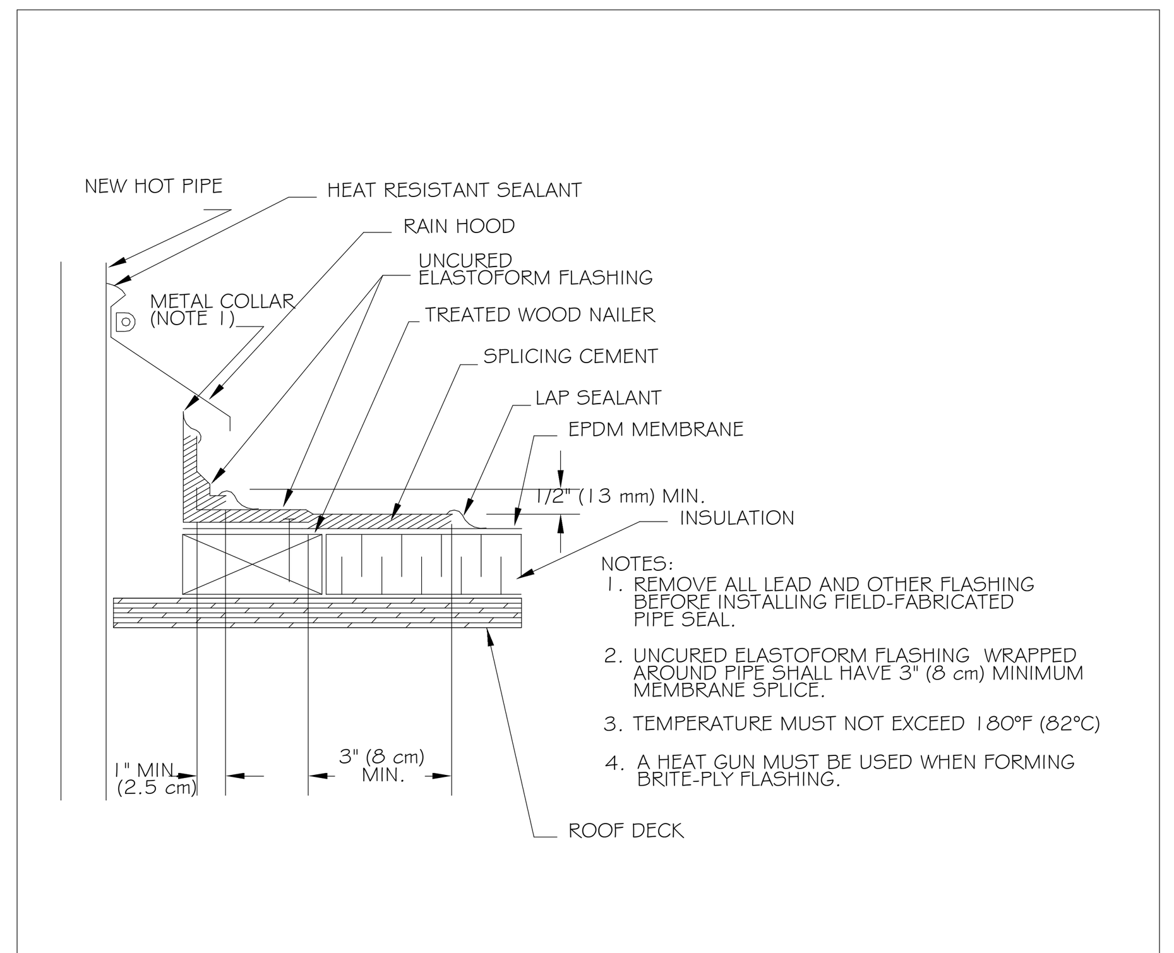
6 PRE-MOLDED VENT PIPE & EXTENSION
A-630 Scale:N.T.S.



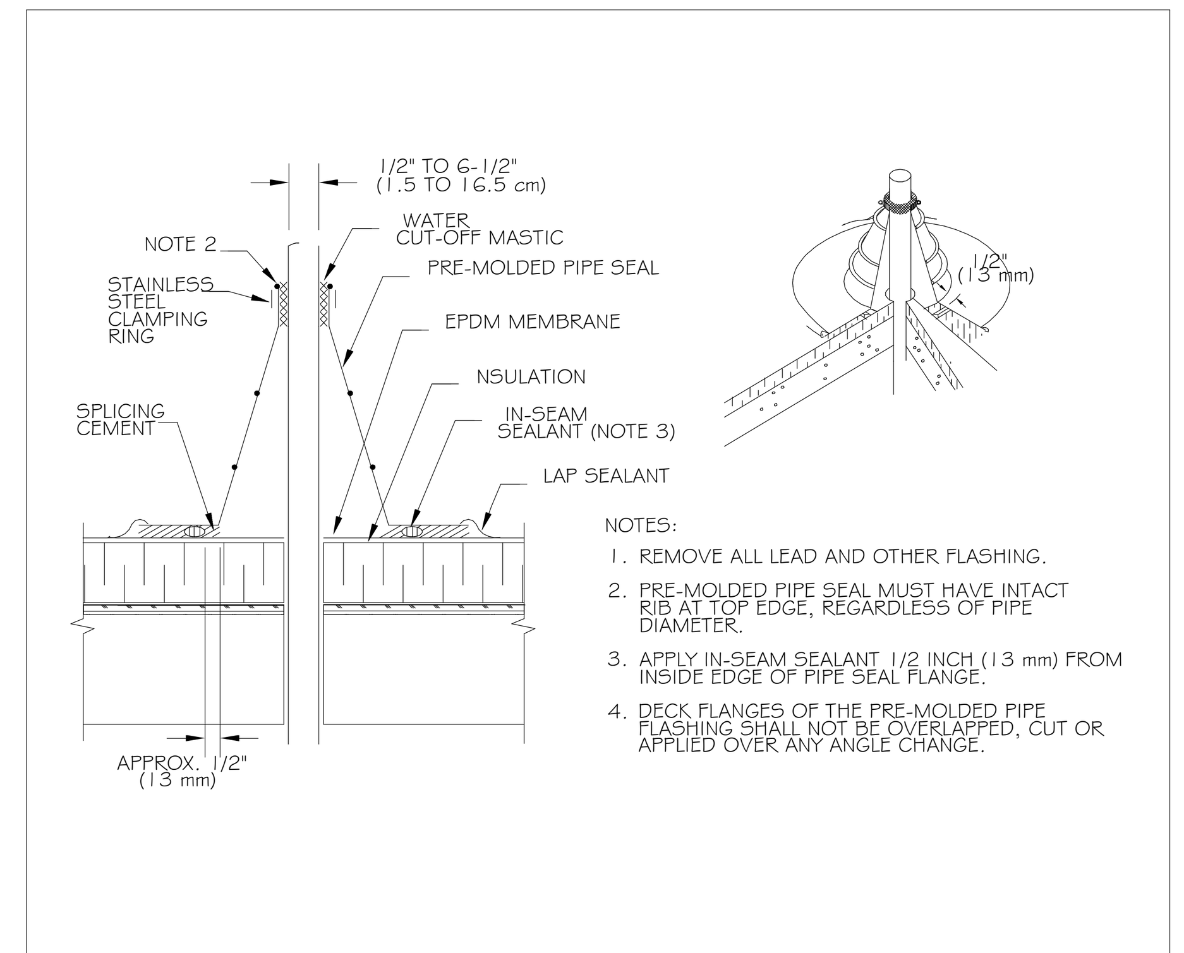
7 DECK TO DECK EXPANSION JOINT
A-630 Scale:N.T.S.



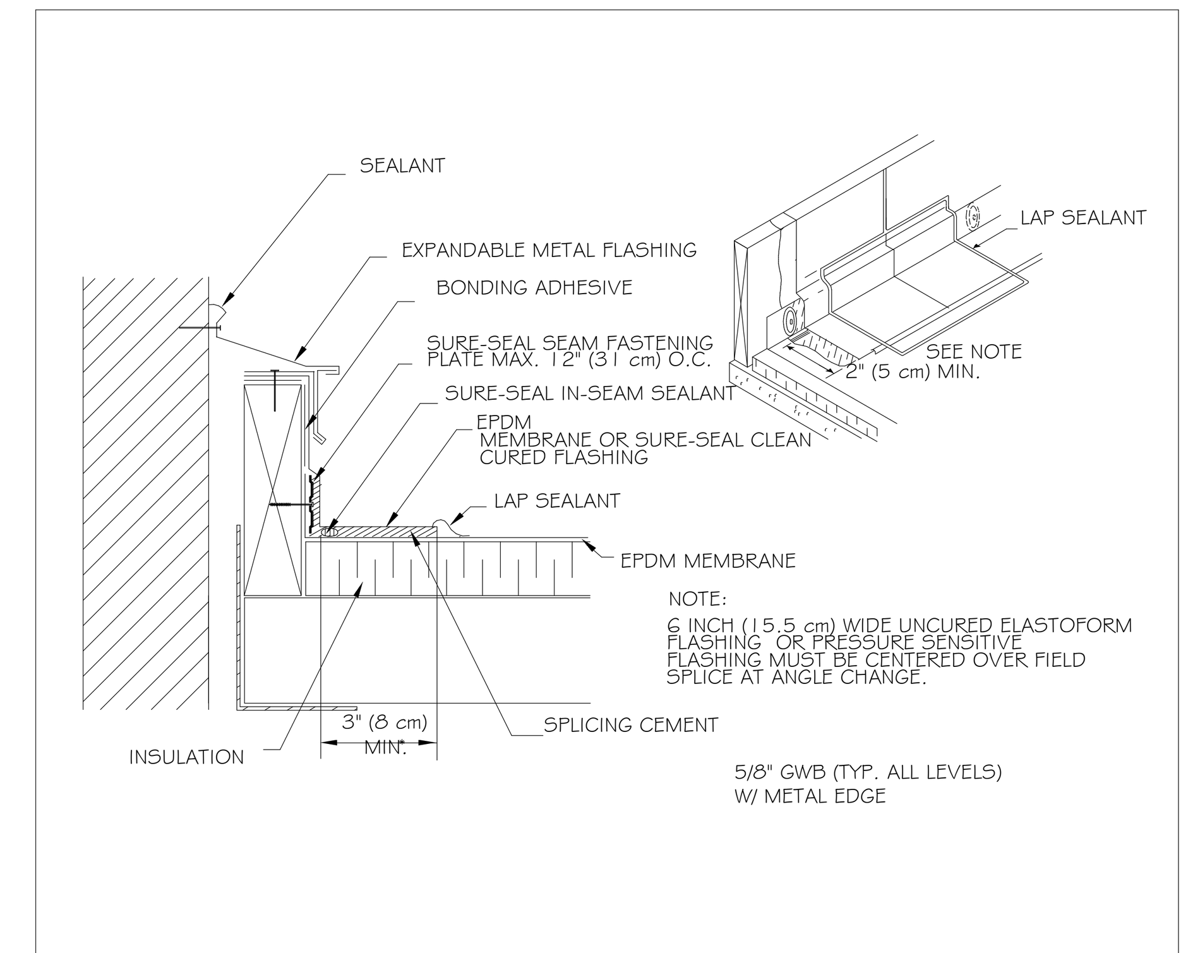
8 CURB FLASING (OPTION #2)
A-630 Scale:N.T.S.



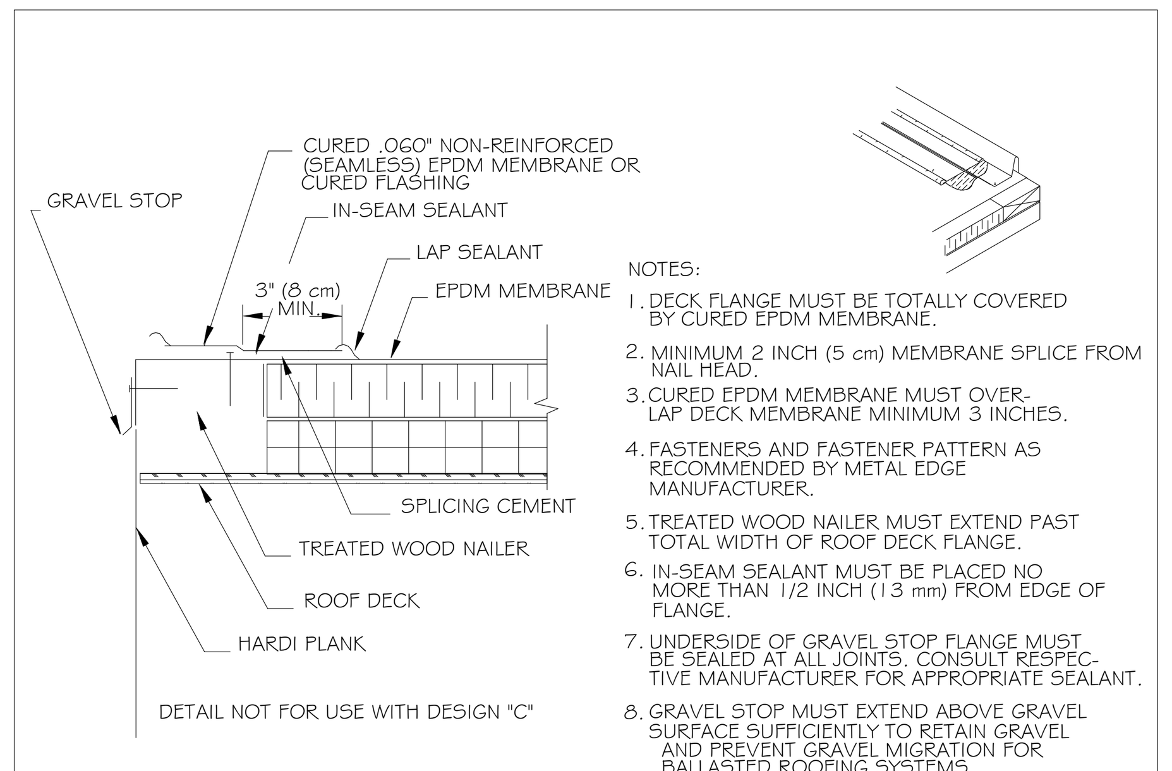
9 FIELD FABRICATED NEW HOT STACK
A-630 Scale:N.T.S.



10 PRE-MOLDED VENT PIPE FLASHING
A-630 Scale:N.T.S.

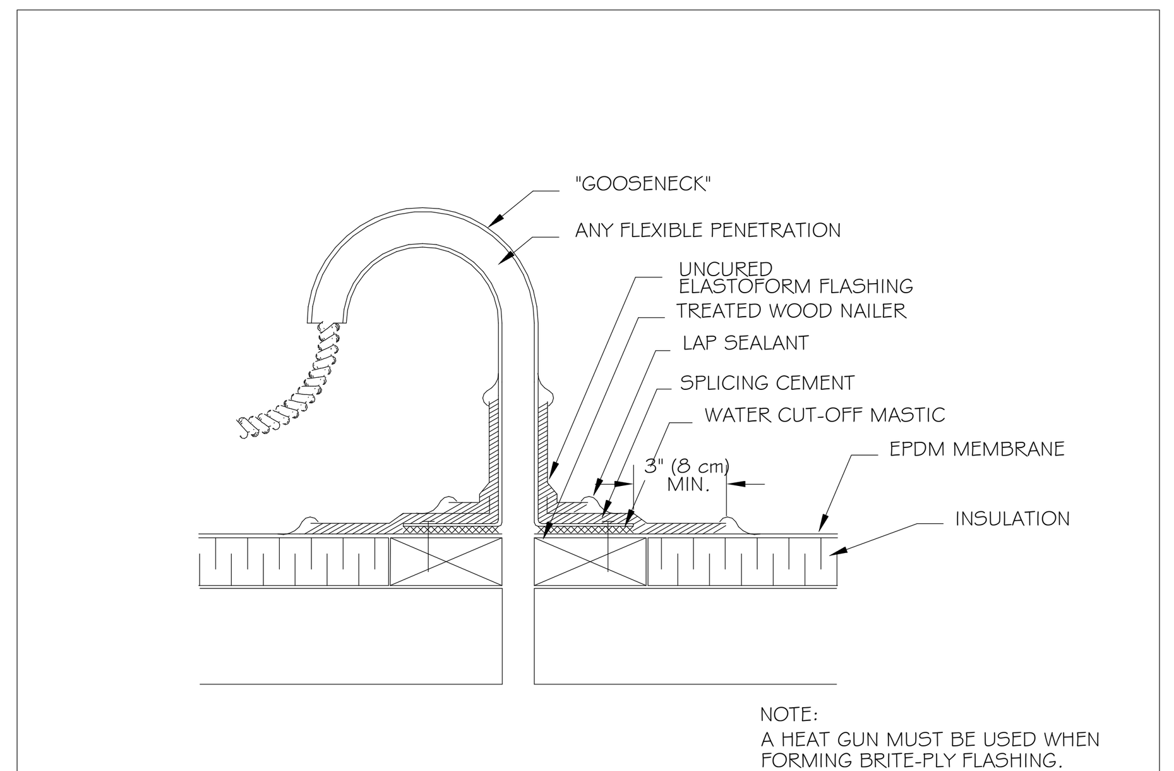


11 SHEAR AND EXPANSION COVER
A-630 Scale:N.T.S.

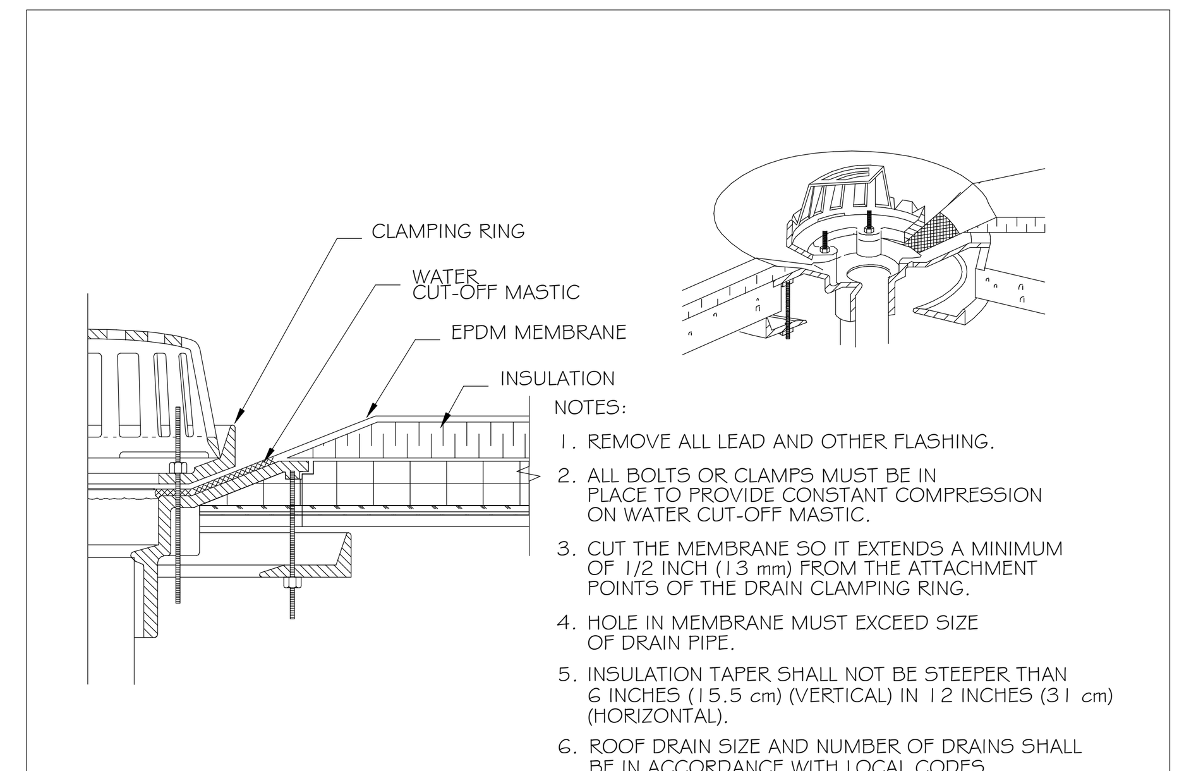


NOTE:	MEMBRANE ROOFING
DETAILS BASED ON "CARLISLE" ROOFING SYSTEM	

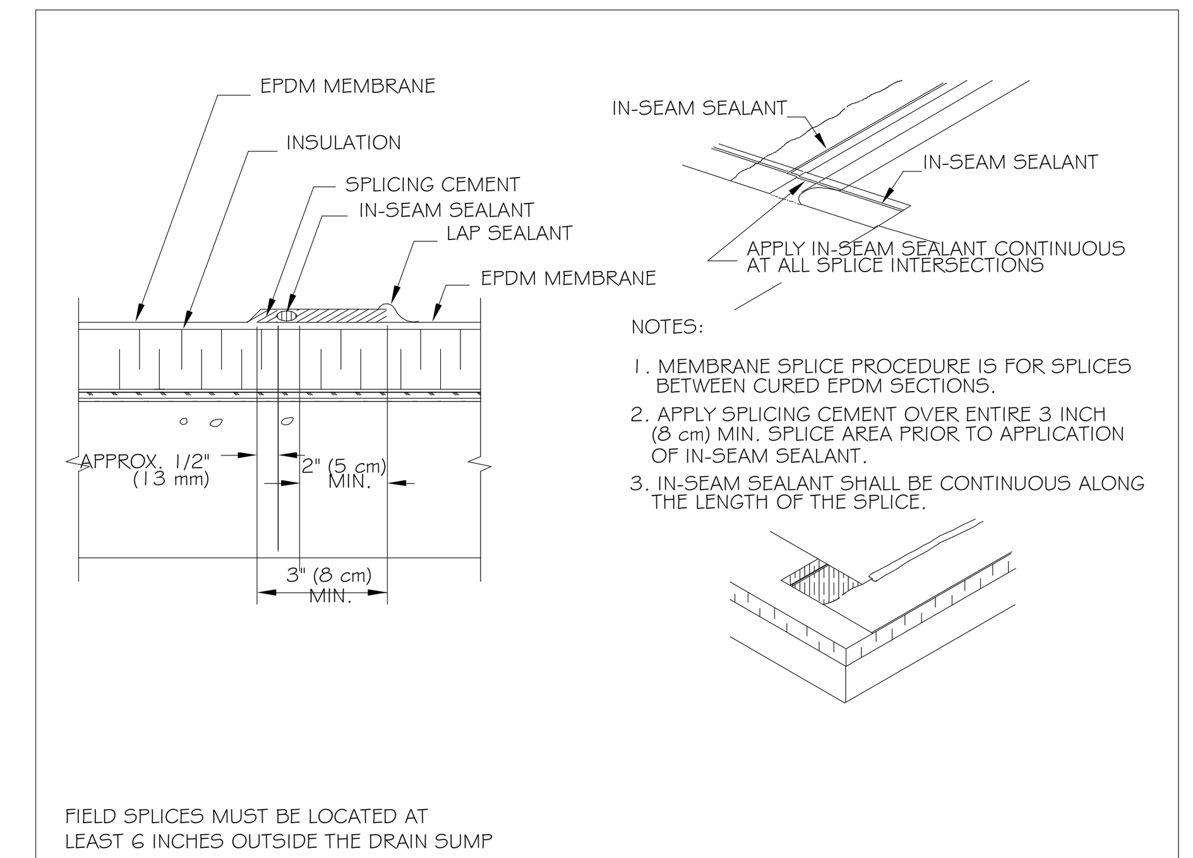
12 METAL EDGE TERMINATION
A-630 Scale:N.T.S.



13 FLEXIBLE PENETRATION
A-630 Scale:N.T.S.



14 ROOF DRAIN
A-630 Scale:N.T.S.



15 MEMBRANE SPLICE
A-630 Scale:N.T.S.

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE

KHALSA DESIGN, INC.
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WAYLAND, MA 01778

MEP ENGINEER
BERDI CONSULTING
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QUINCY, MA 02171

REGISTRATION

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	1/8" = 1'-0"

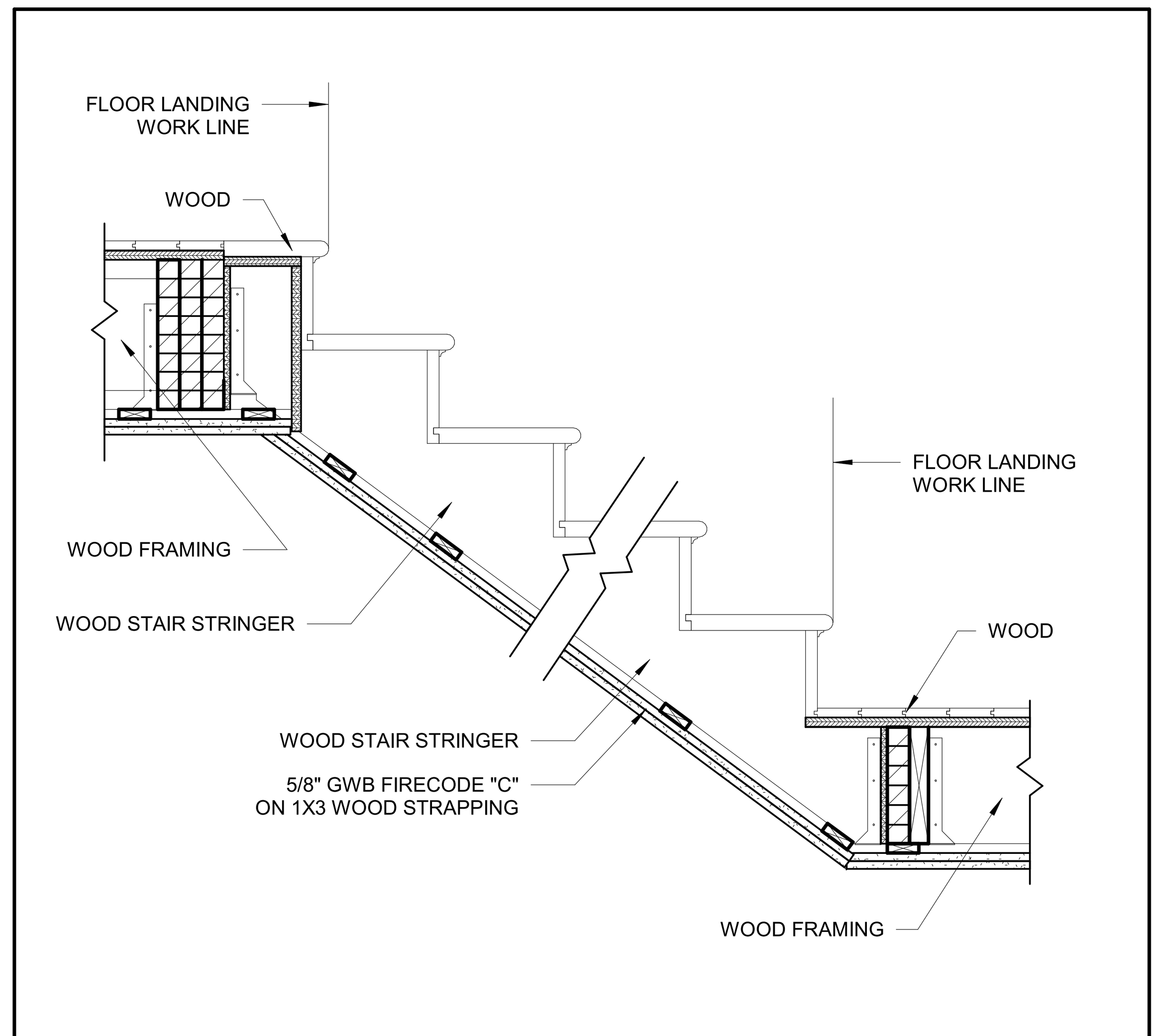
REVISIONS

No.	Description	Date

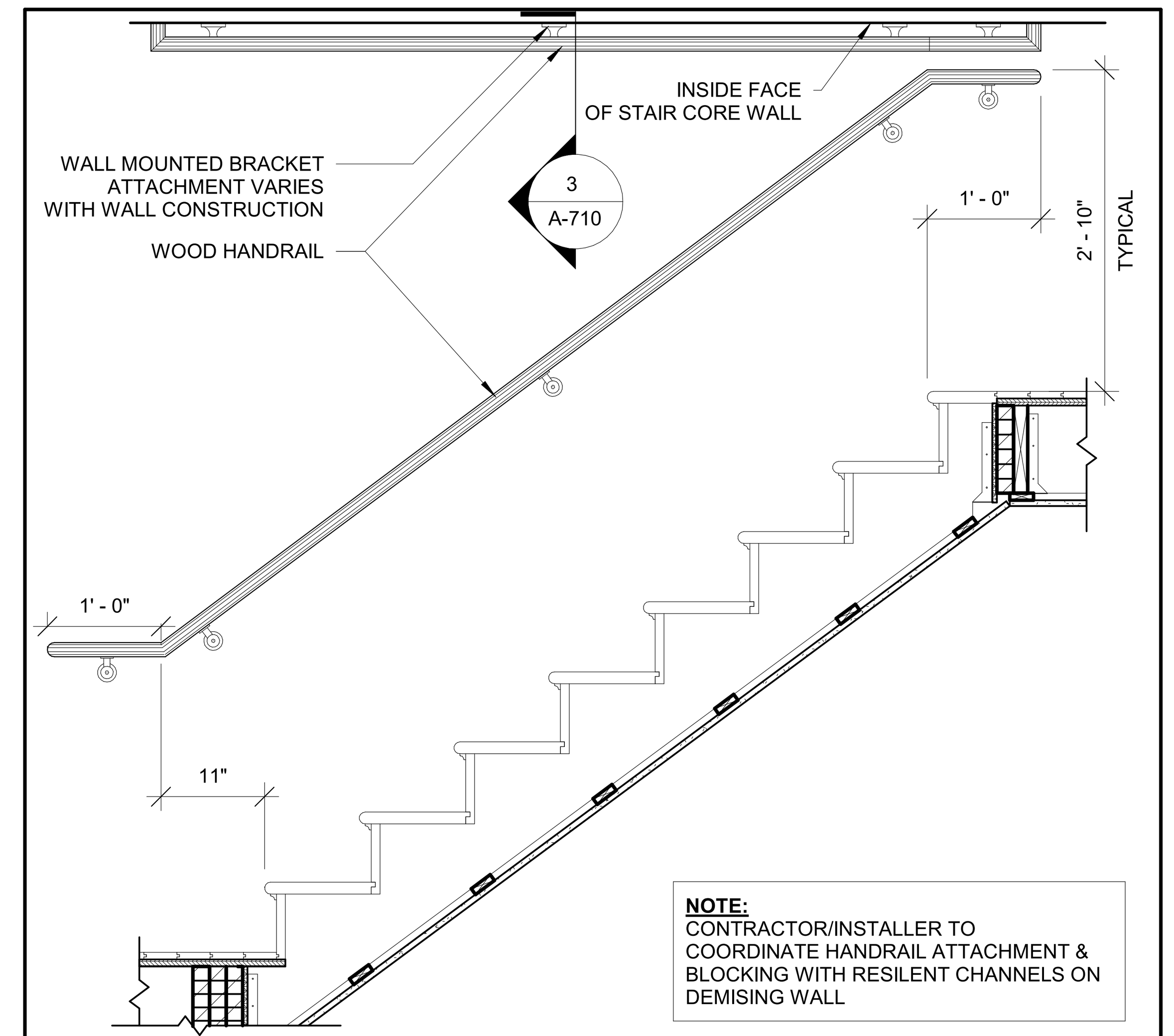
TYPICAL ROOF DETAILS

A-630

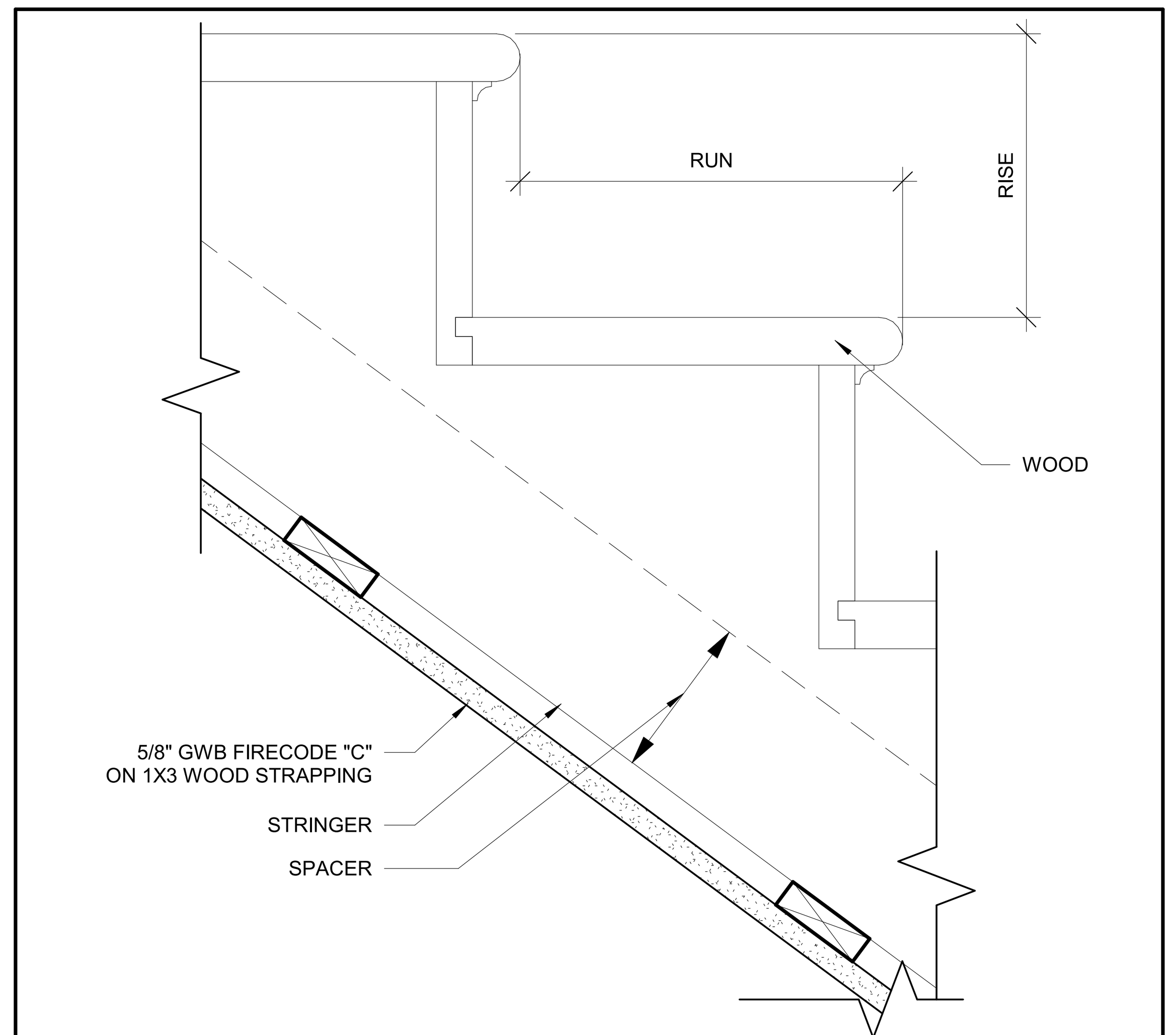
21-23 KENT COURT



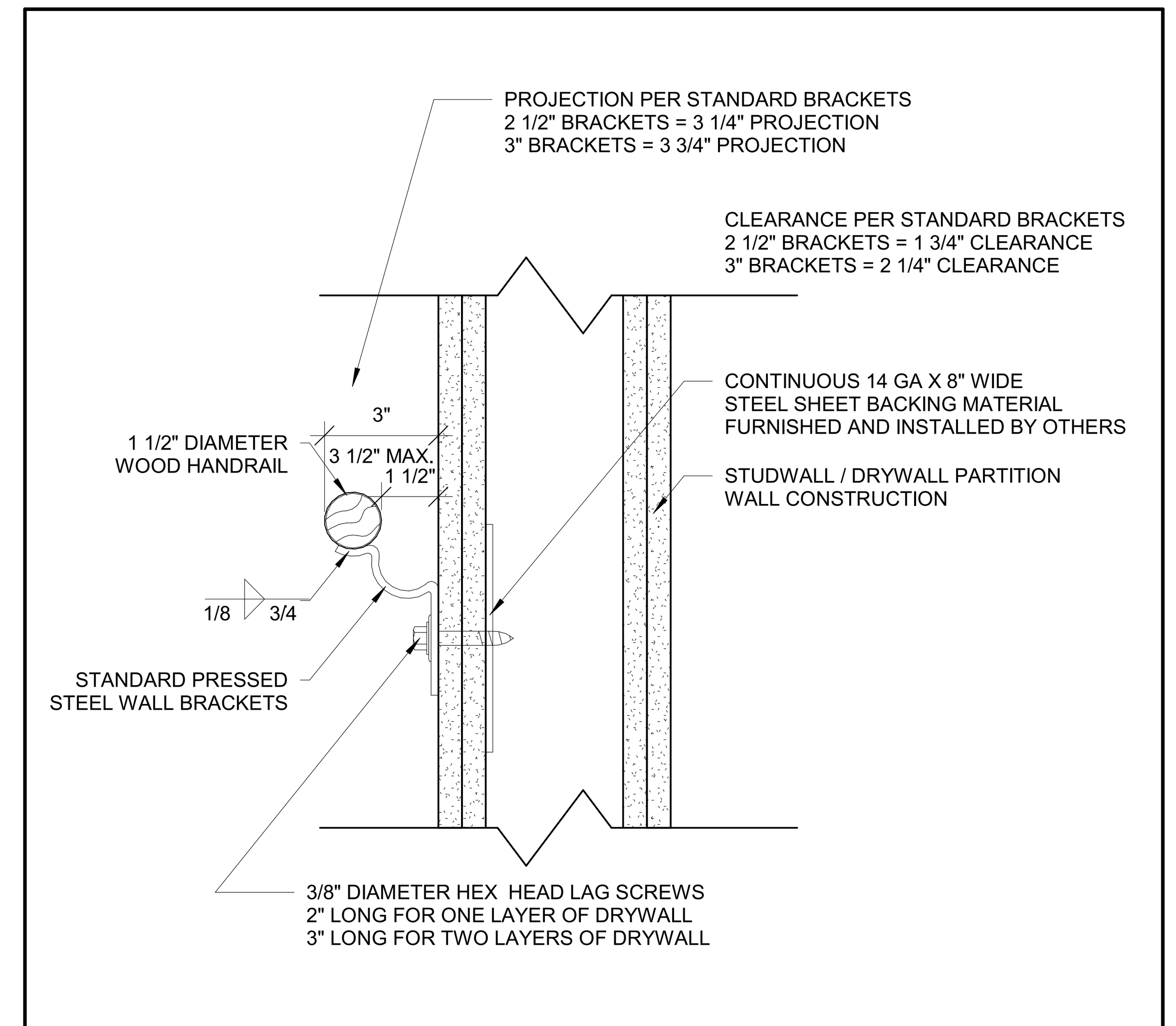
6 A-710 TYPICAL STAIR SECTION
SCALE: 1" = 1'-0"



3 A-710 WALL HANDRAIL BRACKET MOUNTING DETAIL
SCALE: 3" = 1'-0"



5 A-710 WOOD STAIR DETAIL
SCALE: 3" = 1'-0"



2 A-710 TYPICAL WALL RAIL
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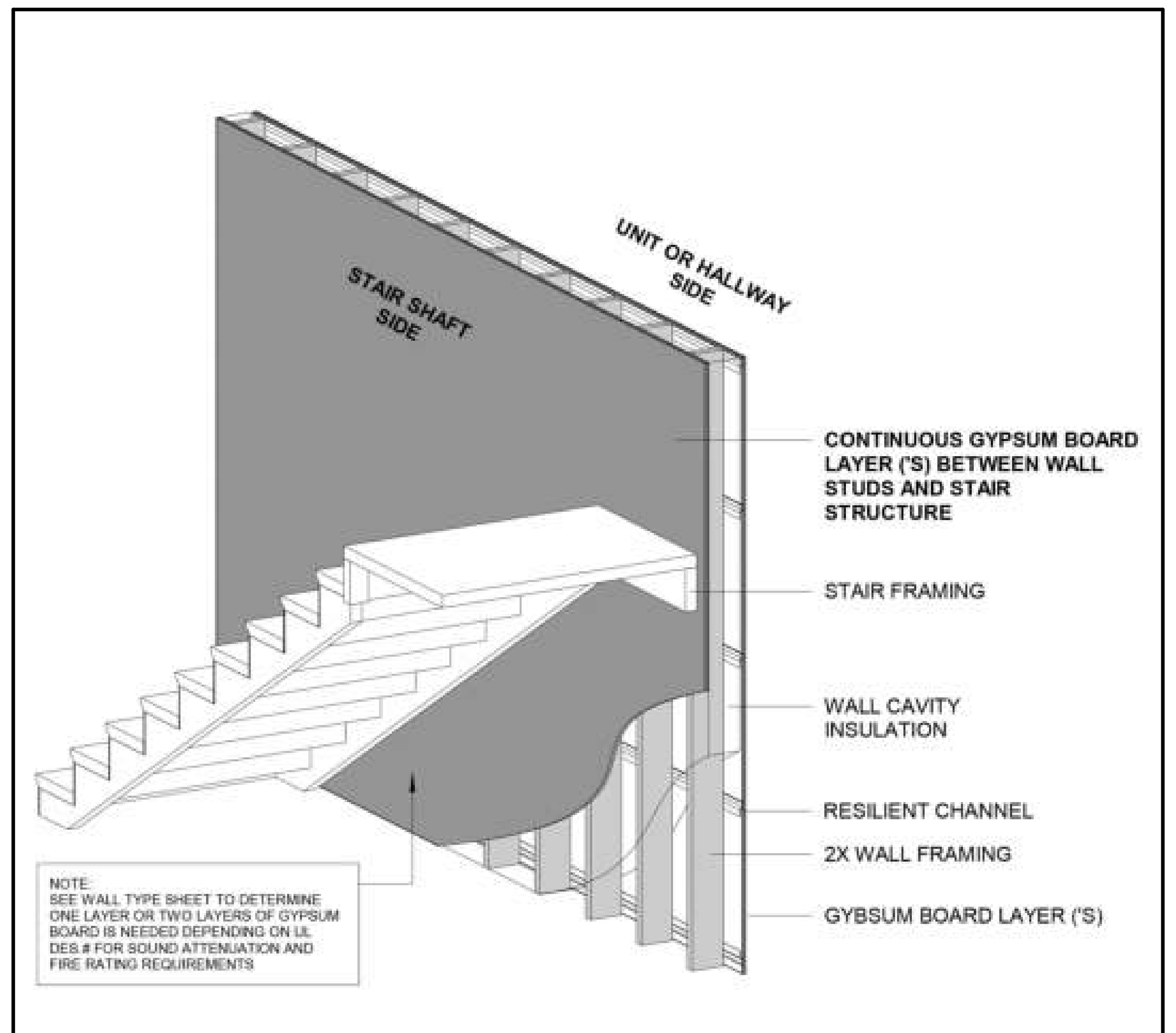
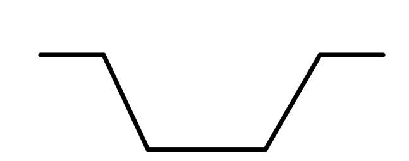
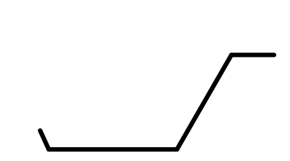
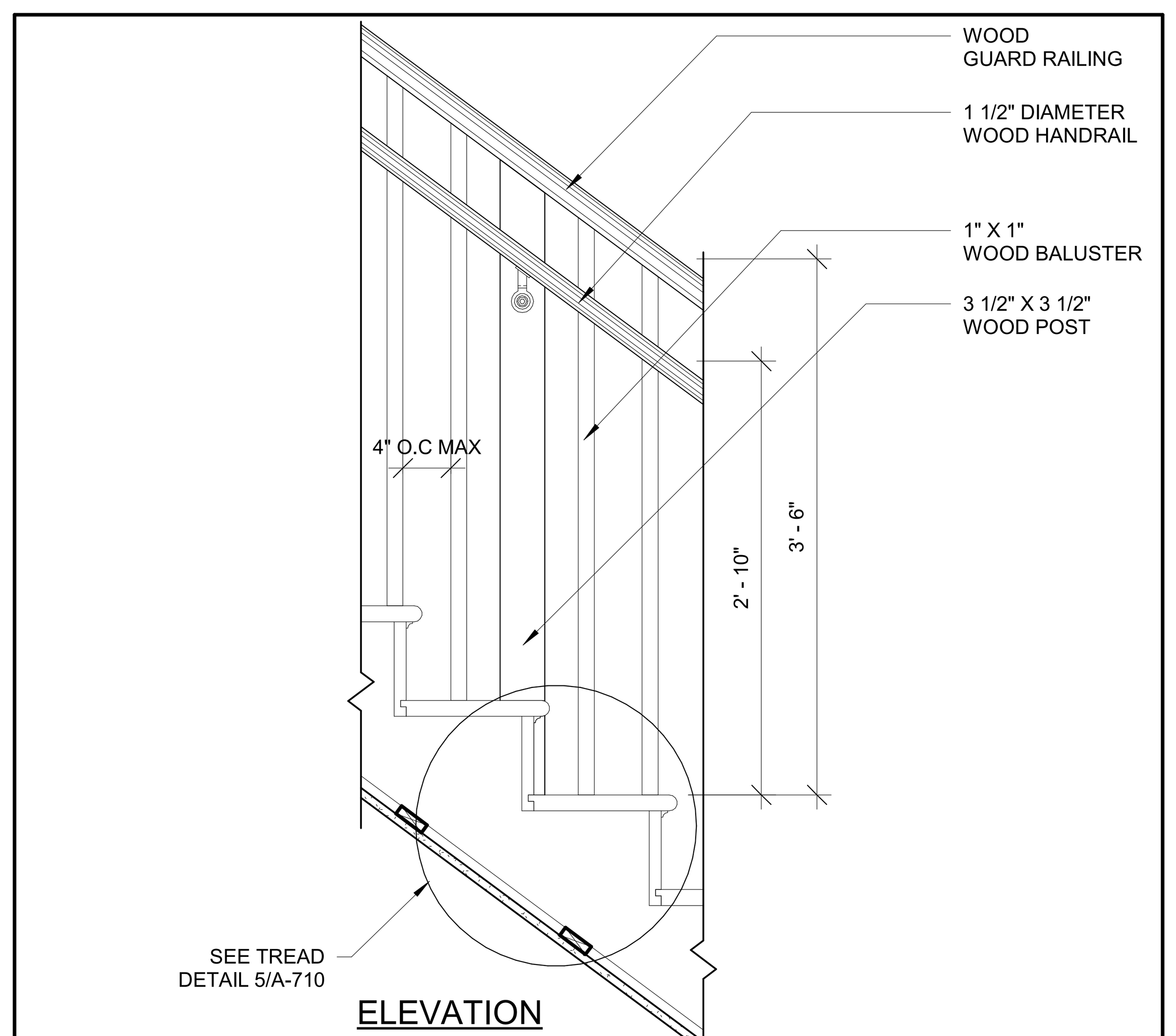


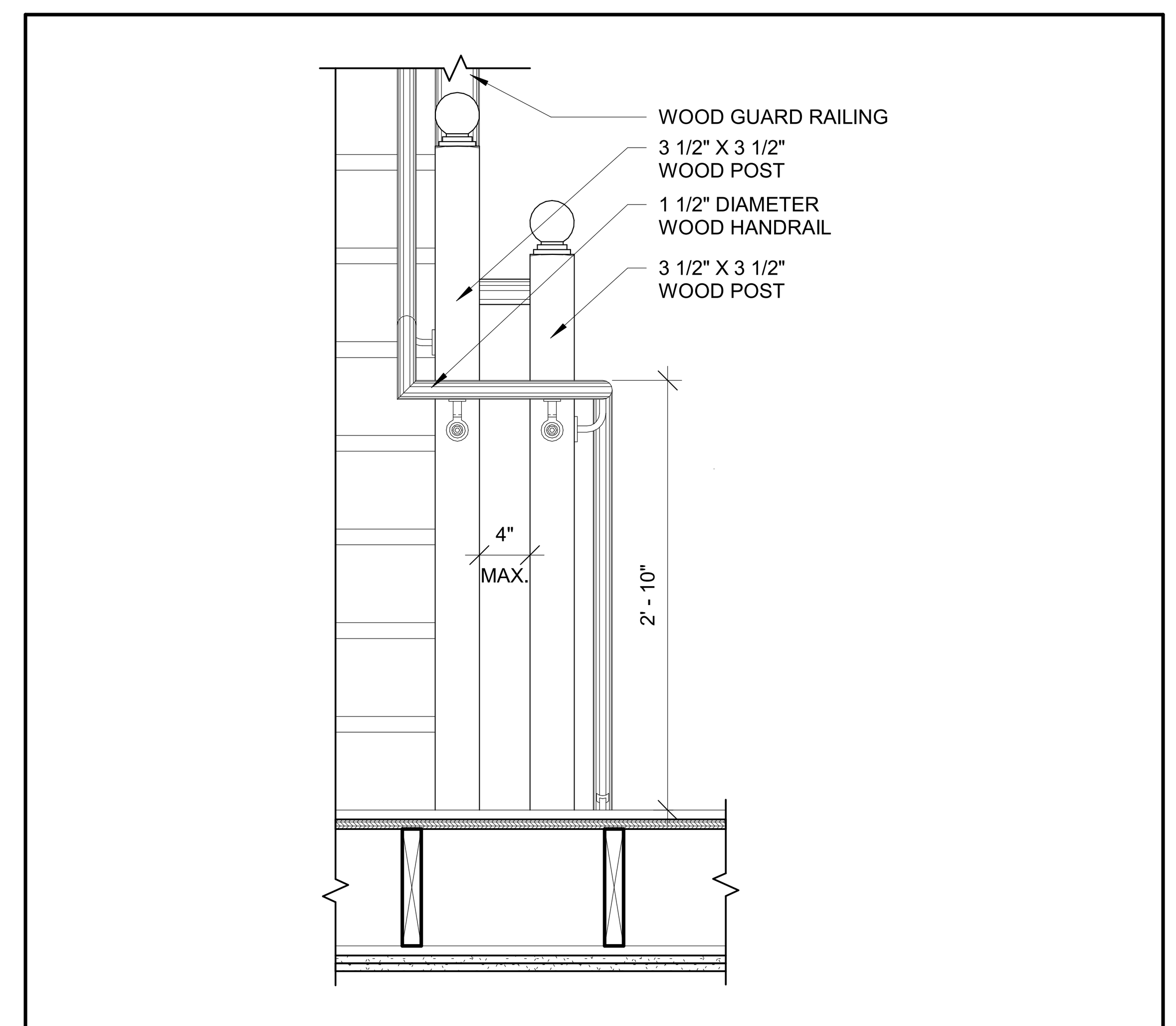
7 A-710 STAIR FRAMING 3D DIAGRAM
SCALE: NOT TO SCALE

NOTE: HAT CHANNELS DO NOT SUFFICE FOR STC PURPOSES. USE RC-1 DELUXE CHANNELS, PROFILE SHOWN BELOW.

HAT CHANNEL	RC-1 DELUXE CHANNEL
	
NOT PERMITTED (EXCEPT FOR USE WITH GENIE CLIPS)	PERMITTED



4 A-710 PICKET RAIL INTERMEDIATE POST
SCALE: 1" = 1'-0"



1 A-710 PICKET RAIL TRANS. BETWEEN LANDINGS
SCALE: 1" = 1'-0"

PROJECT NAME
21-23 KENT COURT

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REGISTRATION

Project number	24007
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Drawn by	ES
Checked by	TC
Scale	As indicated

REVISIONS

No.	Description	Date

STAIR DETAILS

A-710

21-23 KENT COURT

\\TKG-SERVER\Data\24\24043_Tigran Yesayan_21-23 Kent Court Somerville\03_DRAWINGS\00_ARCH\03_CD\24007_21-23 Kent Court -CDModel.rvt
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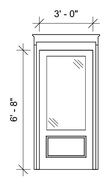
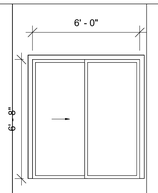
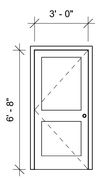
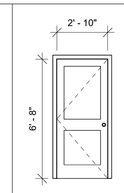
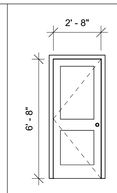
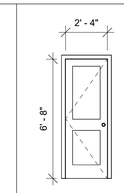
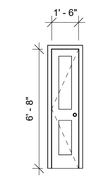
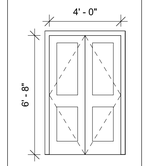
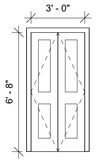
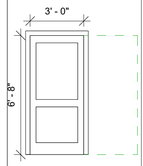
DOOR SCHEDULE

Type Mark	LOCATION	DOOR STYLE	DOOR MATERIAL	WIDTH	HEIGHT	FIRE RATING
1	ENTRY DOOR	SINGLE - HINGED	FIBERGLASS	3' - 0"	6' - 8"	
2	BALCONY DOOR	SLIDER	WOOD CLAD	6' - 0"	6' - 8"	
U1	UNIT ENTRY DOOR	SINGLE - HINGED	WOOD	3' - 0"	6' - 8"	20 MIN
U2	BEDROOMS / CLOSETS	SINGLE - HINGED	HC WOOD	2' - 10"	6' - 8"	
U3	BATHROOMS / CLOSETS	SINGLE - HINGED	HC WOOD	2' - 8"	6' - 8"	
U4	CLOSETS	SINGLE - HINGED	HC WOOD	2' - 4"	6' - 8"	
U5	LIN CLOSET	SINGLE - HINGED	HC WOOD	1' - 6"	6' - 8"	
U6	CLOSETS	DOUBLE - HINGED	HC WOOD	4' - 0"	6' - 8"	
U7	LAUNDRY / CLOSETS	DOUBLE - HINGED	HC WOOD	3' - 0"	6' - 8"	
U8	BATHROOM	POCKET	HC WOOD	3' - 0"	6' - 8"	

DOOR LEGEND

ELEVATION- FRONT VIEW						
STYLE	SINGLE HINGED	SLIDING	SINGLE HINGED	SINGLE HINGED	SINGLE HINGED	SINGLE HINGED
MARK	01	02	U1	U2	U3	U4
ELEVATION- FRONT VIEW						
STYLE	SINGLE HINGED	DOUBLE HINGED	DOUBLE HINGED	POCKET		
MARK	U5	U6	U7	U8		

DOOR NOTES:

1) VERIFY DOOR STYLE WITH OWNER PRIOR TO ORDERING.

2) UNIT ENTRY DOORS SHALL BE 20 MINUTE FIRE RATED. SEE SCHEDULE

3) EXTERIOR & VESTIBULE DOORS TO BE FIBERGLASS OR ALUMINUM & INSULATED

4) VERIFY EXTERIOR DOOR COLORS WITH OWNER.

5) PROVIDE TRIM/CASING AROUND INTERIOR DOORS. STYLE TBD BY OWNER.

6) POCKET DOOR TO HAVE APPROVED SLIDING DOOR HARDWARE TO ENSURE STRENGTH AND STABILITY OF DOOR.

7) ALL DOORS WITHIN 1-HR RATED ASSEMBLY SHALL BE 60 MINUTE w/ RATED CLOSURES AND REQUIRED HARDWARE AS PER IBC 2015.

8) DOOR THICKNESS OF ALL DOORS TO BE 1-3/4" UNLESS NOTED OTHERWISE.

9) TOPS AND BOTTOMS OF ALL HOLLOW METAL DOORS EXPOSED TO WEATHER SHALL BE PAINTED.

10) ALLOW FOR PLASTIC LAMINATE FACES AT DOOR FRAMES. ADJUST HINGES AS REQUIRED.

11) SAFETY GLASS WHERE REQUIRED BY CODE.

12) DOOR HARDWARE TO BE CENTERED ON RAIL OF PANEL DOORS.

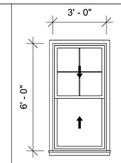
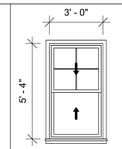
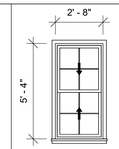
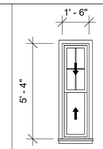
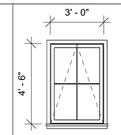
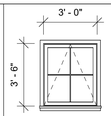
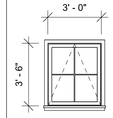
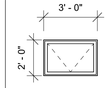
13) ALL FIRE RATED DOORS TO HAVE SMOKE SEAL, CLOSERS AND LATCHING HARDWARE

14) INSTALL PANIC EXIT HARDWARE WHERE REQUIRED.

WINDOW SCHEDULE

TYPE MARK	STYLE	ROUGH OPENING WIDTH	ROUGH OPENING HEIGHT	MATERIAL	DETAIL HEAD	DETAIL JAMB	DETAIL SILL
A	DOUBLE HUNG	3' - 0"	6' - 0"				
B	DOUBLE HUNG	3' - 0"	5' - 4"				
C	DOUBLE HUNG	2' - 8"	5' - 4"				
D	DOUBLE HUNG	1' - 6"	5' - 4"				
E	CASEMENT OR AWNING	3' - 0"	4' - 6"				
F	CASEMENT OR AWNING	3' - 0"	3' - 6"				
G	CASEMENT OR AWNING	2' - 6"	2' - 6"				
H	HOPPER	3' - 0"	2' - 0"				

WINDOW LEGEND

ELEVATION- FRONT VIEW						
STYLE	CASEMENT	CASEMENT	CASEMENT	CASEMENT	CASEMENT OR AWNING	CASEMENT OR AWNING
MARK	A	B	C	D	E	F
ELEVATION- FRONT VIEW						
STYLE	CASEMENT OR AWNING	HOPPER				
MARK	G	H				

WINDOW NOTES:

1.) CONTRACTOR TO VERIFY SIZES OF EXISTING WINDOW OPENINGS TO REMAIN, PRIOR TO ORDERING OF WINDOWS

2.) BEDROOM WINDOWS TO COMPLY WITH EMERGENCY ESCAPE AND RESCUE MINIMUM OPENING AREA, HEIGHT & WIDTH AS REQUIRED BY THE IBC 2015 (MA AMENDMENTS). WINDOW TO COMPLY w/ MIN. NET CLEAR OPENING DIMENSIONS OF 20" X 24" & 5.7 NET S.F. SILL HEIGHT OF OPENING TO BE A MAXIMUM OF 3'-8" ABOVE THE FINISHED FLOOR.

3). ALL WINDOWS THAT HAVE OPENINGS LESS THAN 36" ABOVE THE FINISHED FLOOR AND MORE THAN 72" ABOVE FINISHED GRADE SHALL HAVE A WINDOW OPENING CONTROL DEVICE. THE WINDOW OPENING CONTROL DEVICE, AFTER OPERATION TO RELEASE. THE CONTROL DEVICE ALLOWING THE WINDOW TO FULLY OPEN, SHALL NOT REDUCE THE MINIMUM NET CLEAR OPENING AREA OF TH WINDOW UNIT TO LESS THAN THE AREA REQUIRED FOR EMERGENCY ESCAPE AND RESCUE OPENING.

4) WINDOWS SHALL HAVE EXTERIOR MUNTINS AS SHOWN ON THE ELVATIONS & HALF SCREENS ON ALL WINDOWS.

5) WINDOW SUBMITALL TO BE SUBMITTED TO ARCHITECT PRIOR TO ORDERING OF WINDOWS.

6) ALL FINISHES AND HARDWARE TO BE SELECTED BY OWNER.

7) LOCATIONS REQUIRING TEMPERED GLASS TO BE VERIFIED PRIOR TO ORDERING WINDOWS.

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
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REGISTRATION

Project number	24007
Date	11/05/2024
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Checked by	TC
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REVISIONS

No.	Description	Date

DOOR & WINDOW SCHEDULE

A-900

21-23 KENT COURT

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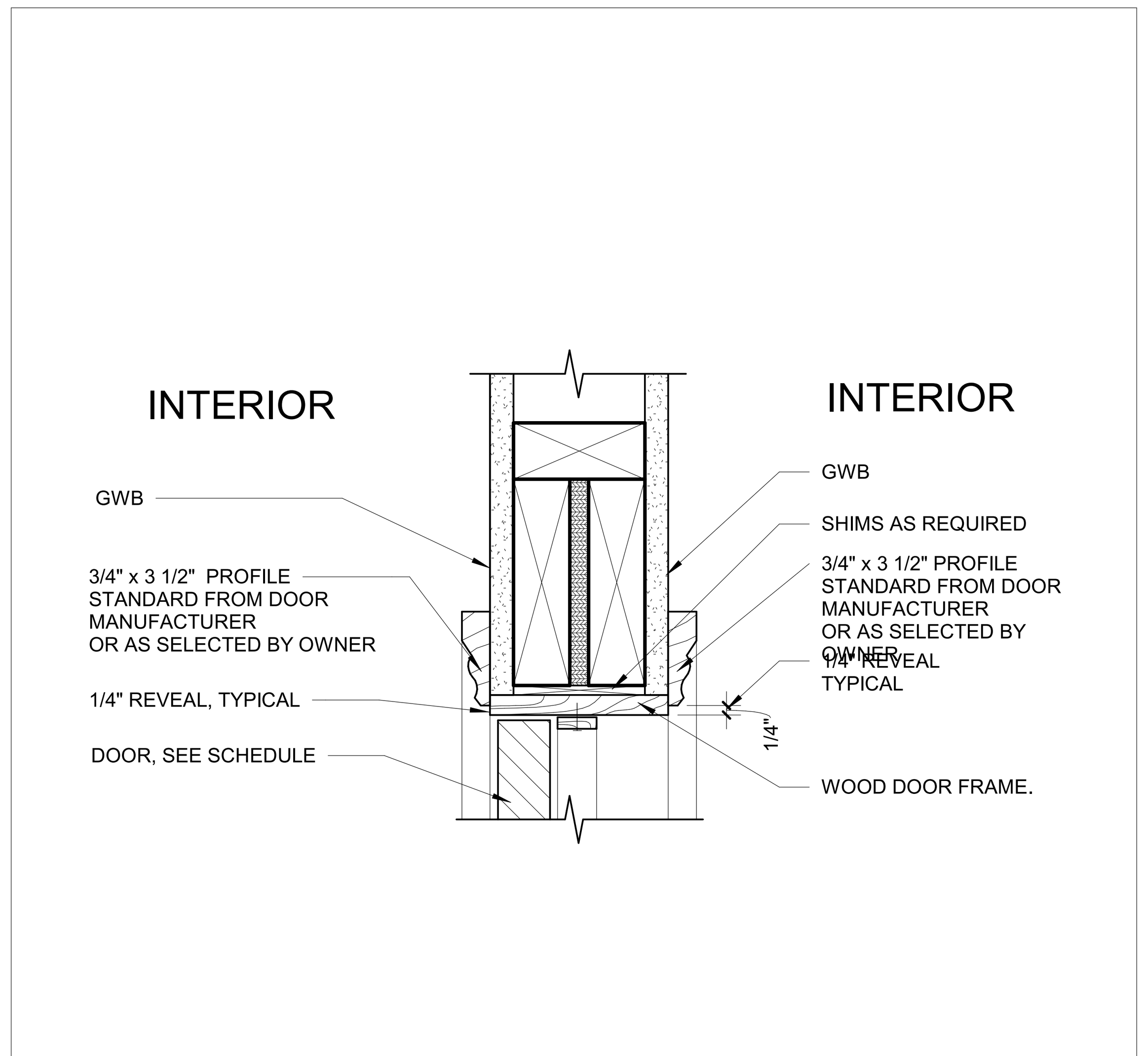
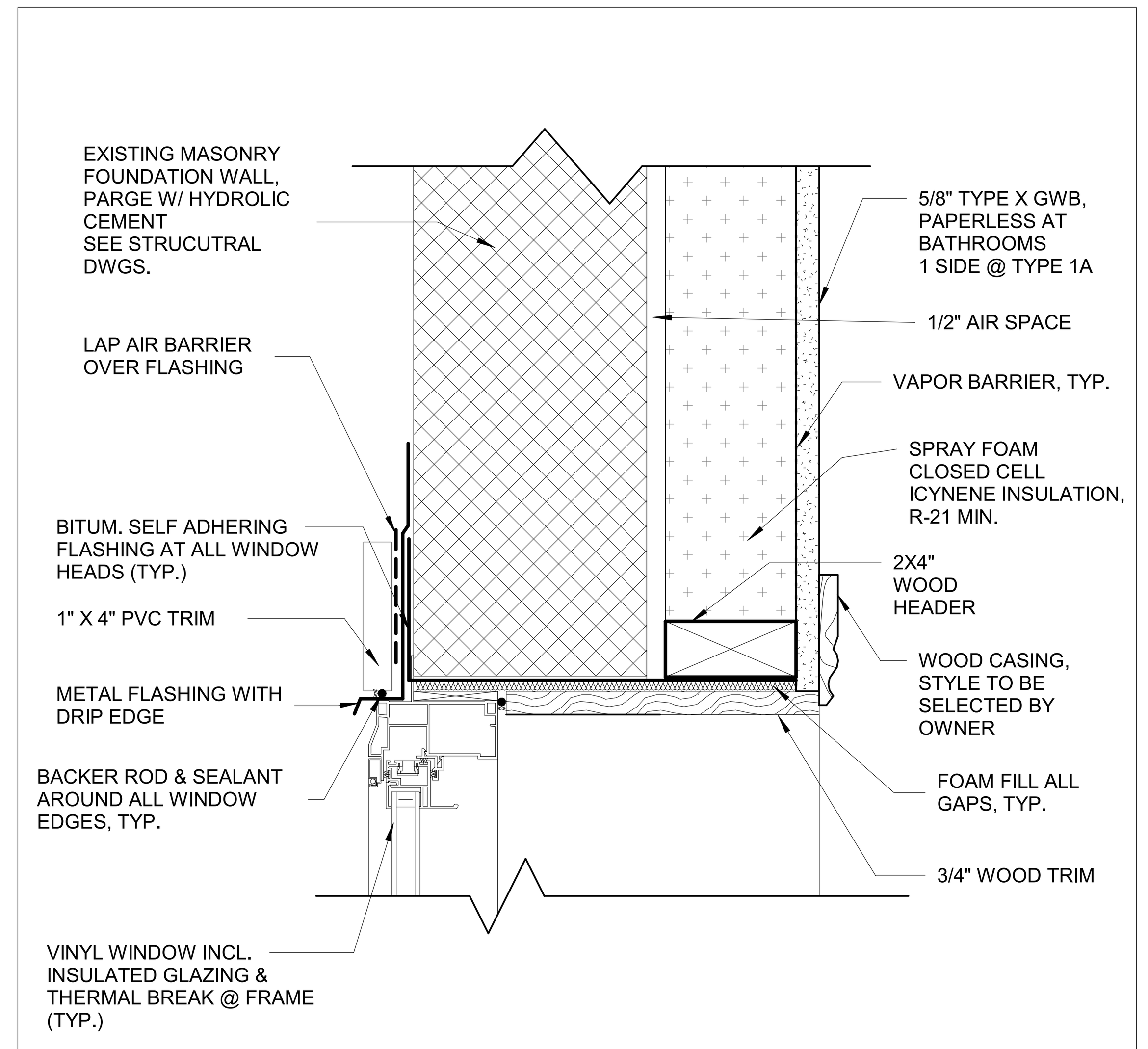
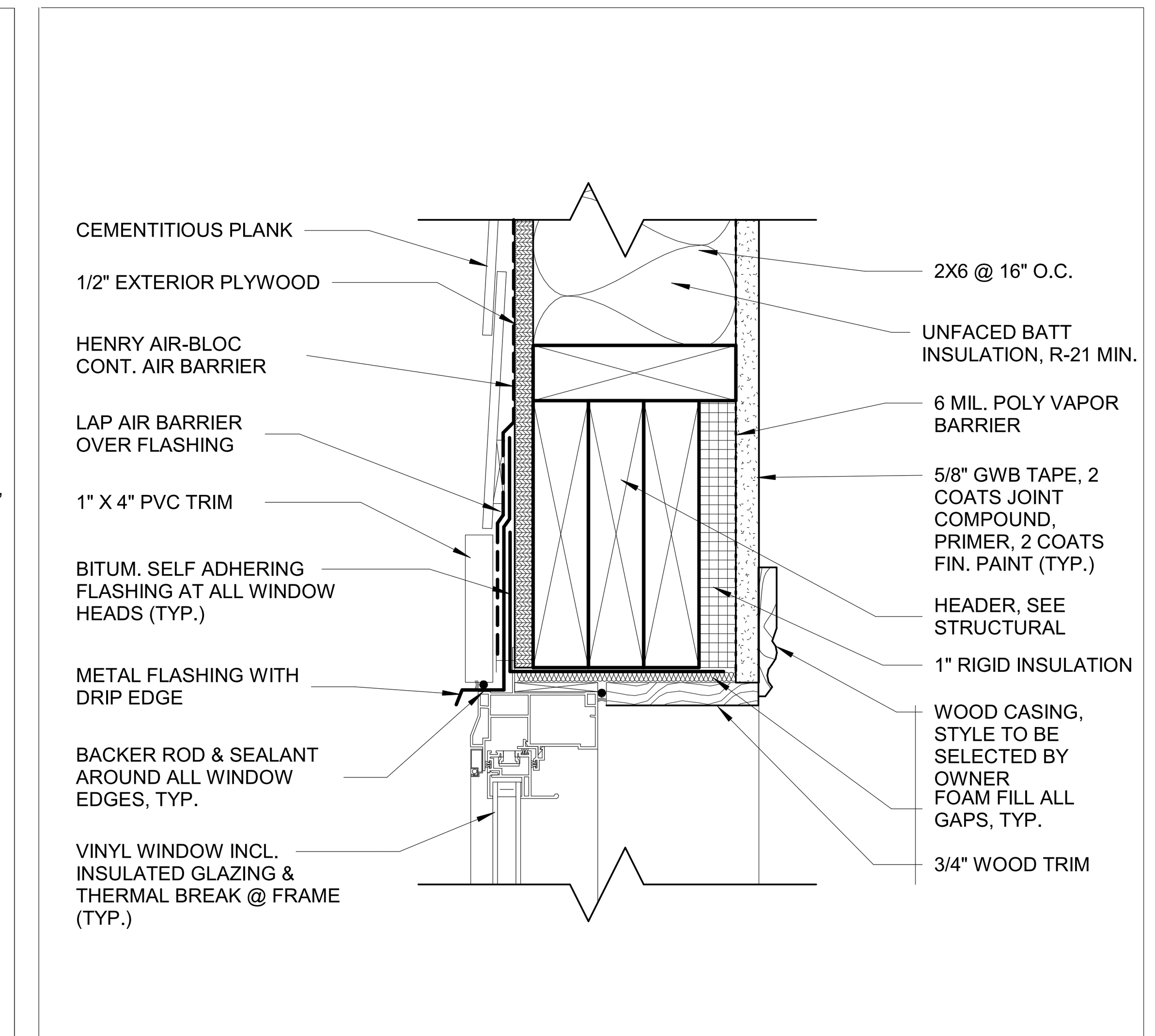


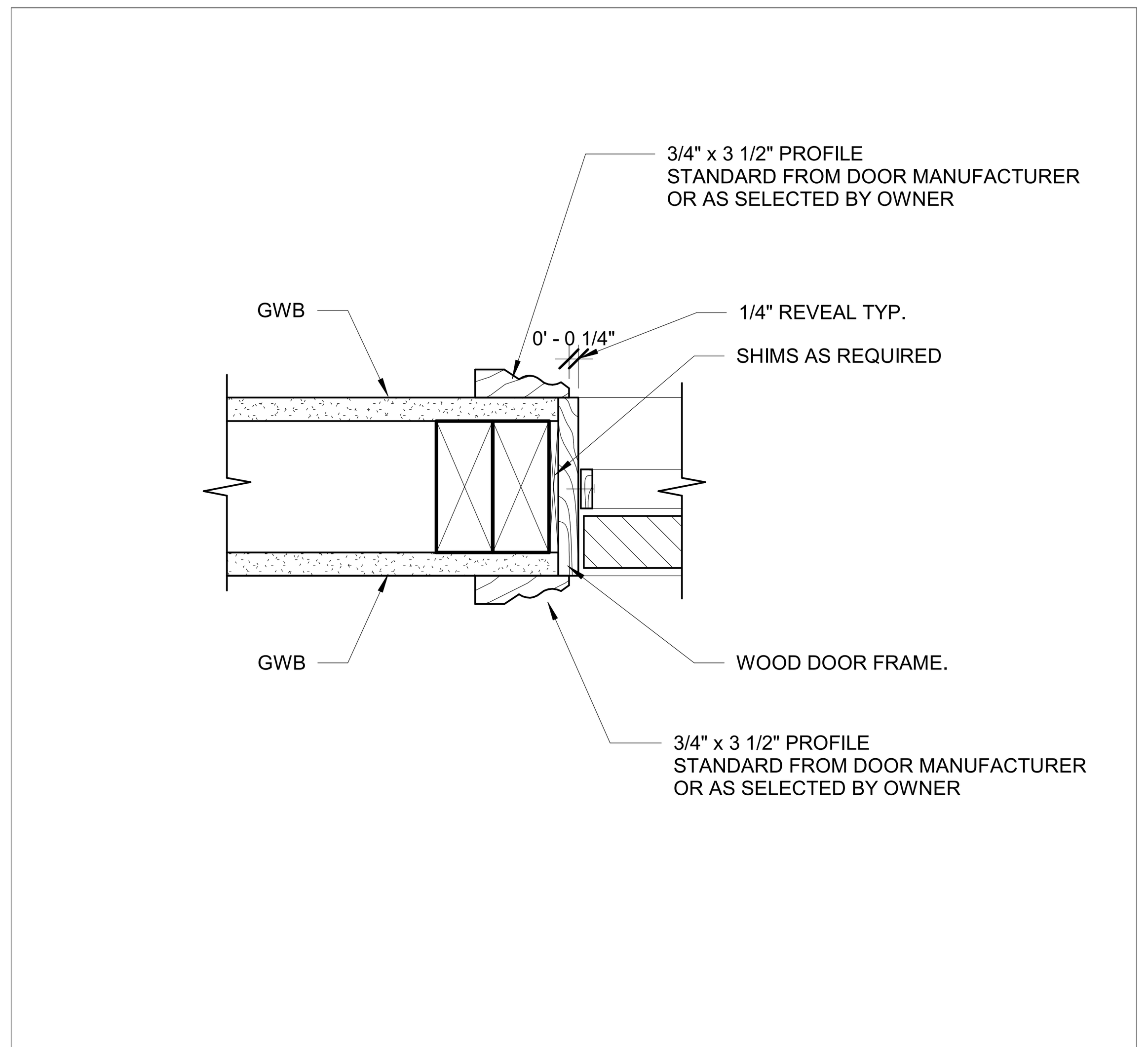
9 INTERIOR WOOD FRAME- DOOR HEAD DETAIL
A-900 Scale: 3"=1'-0"



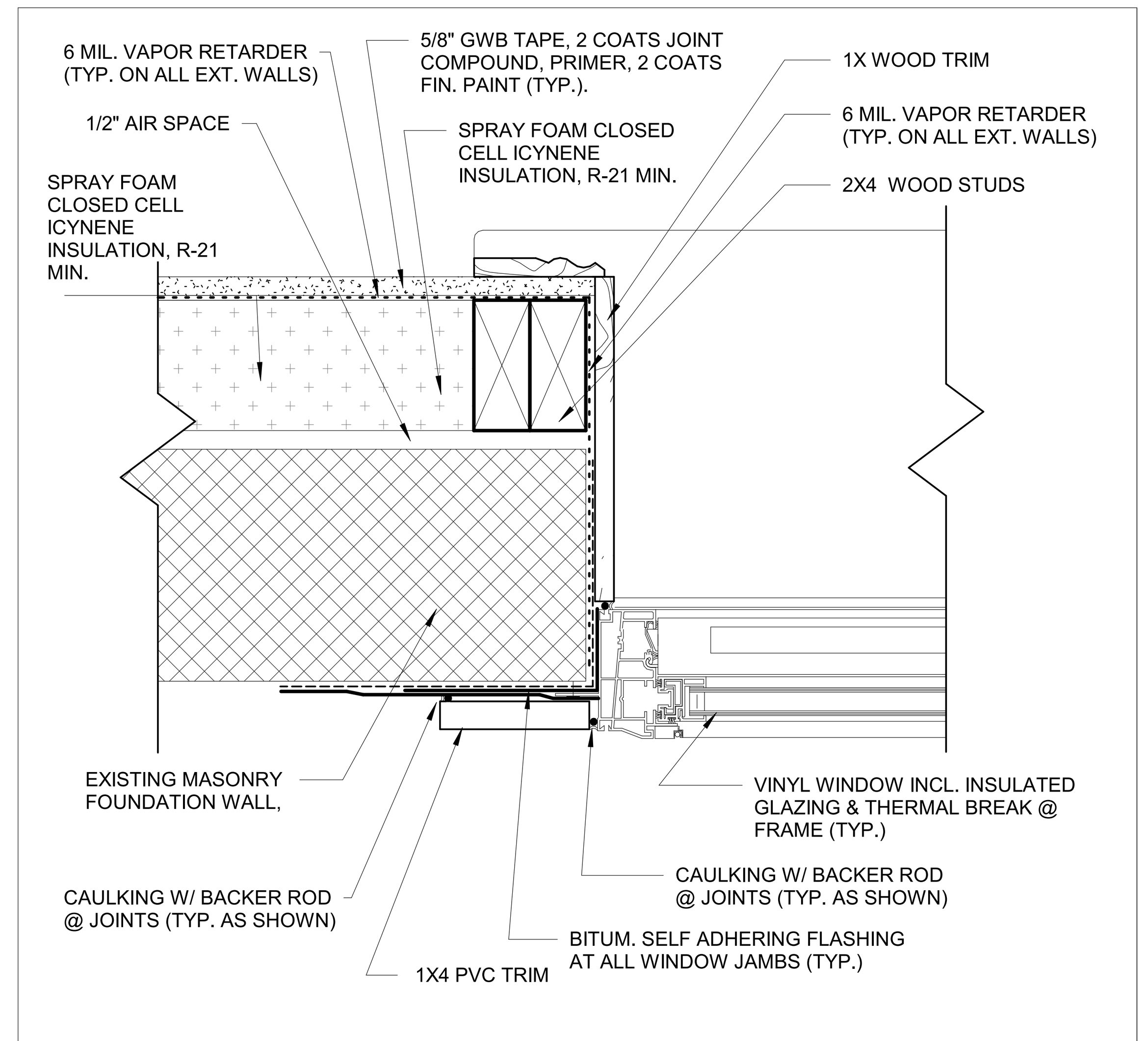
6 WINDOW HEAD DETAIL- BASEMENT WALL
A-900 Scale: 3"=1'-0"



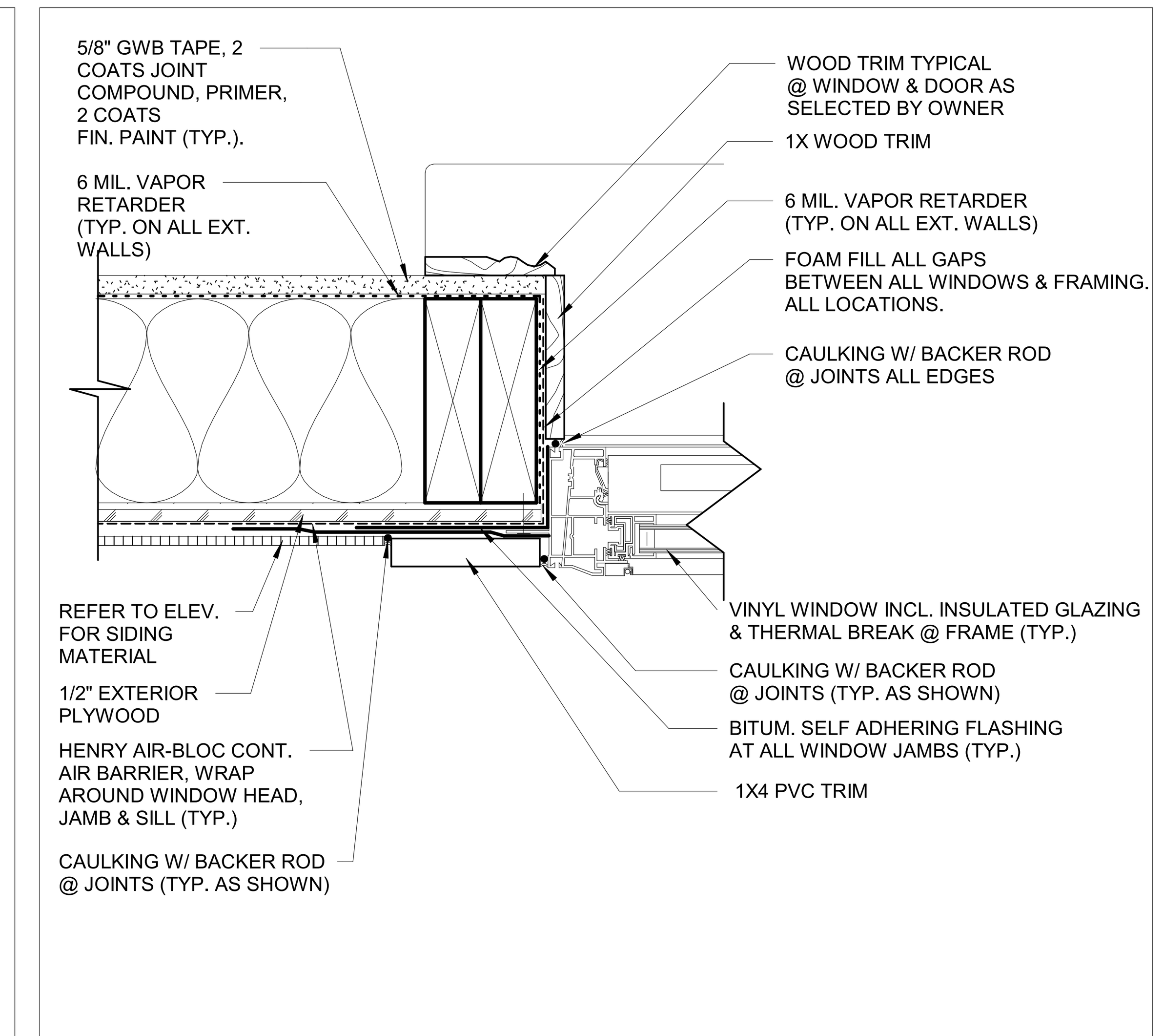
3 WINDOW HEAD DETAIL- NEW WALL
A-900 Scale: 3"=1'-0"



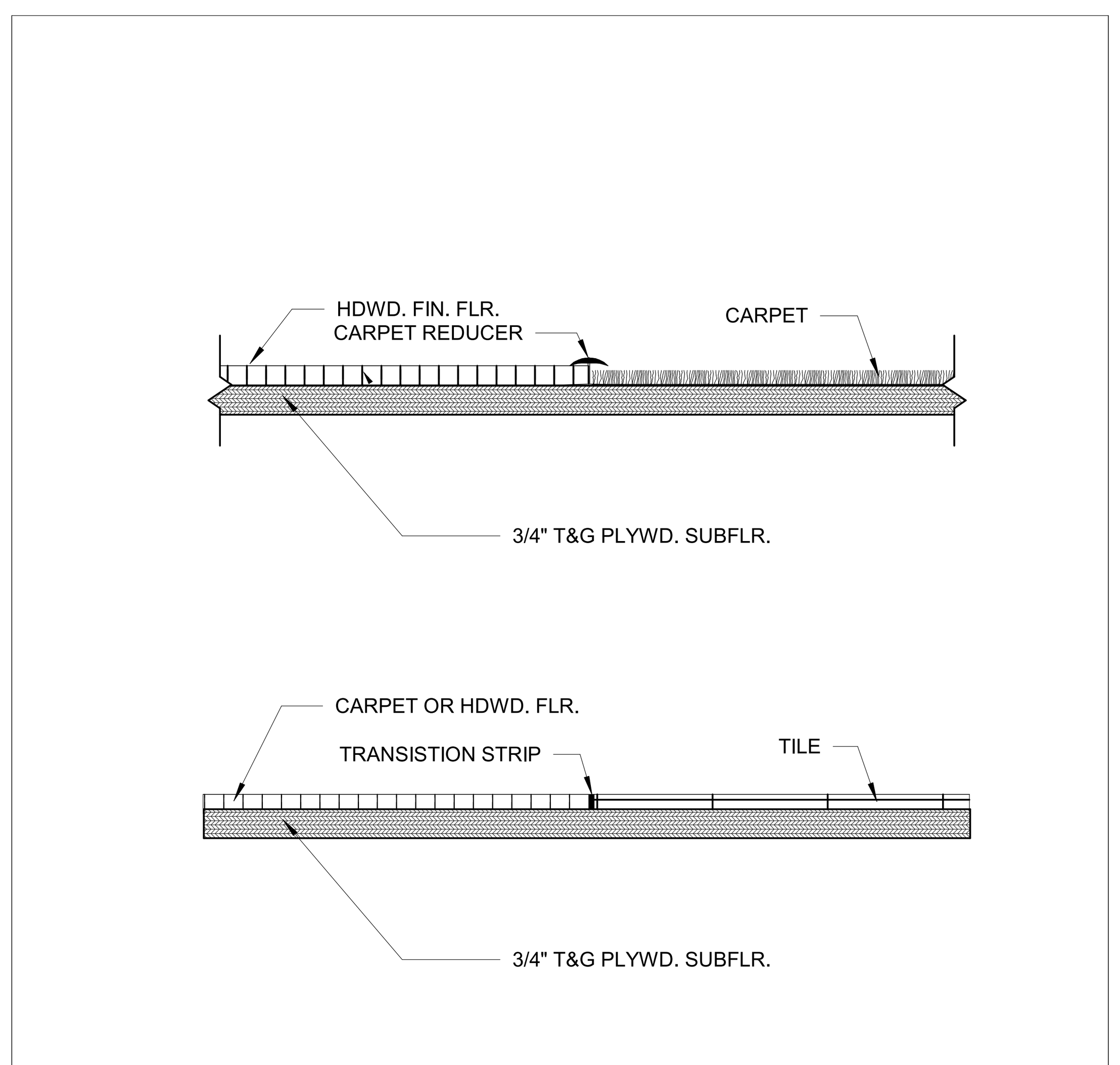
8 INTERIOR WOOD FRAME- DOOR JAMB DETIAL
A-900 Scale: 3"=1'-0"



5 WINDOW JAMB DETAIL- BASEMENT WALL
A-900 Scale: 3"=1'-0"



2 WINDOW JAMB DETAIL- NEW WALL
A-900 Scale: 3"=1'-0"



10 FINISH FLOOR DETAILS
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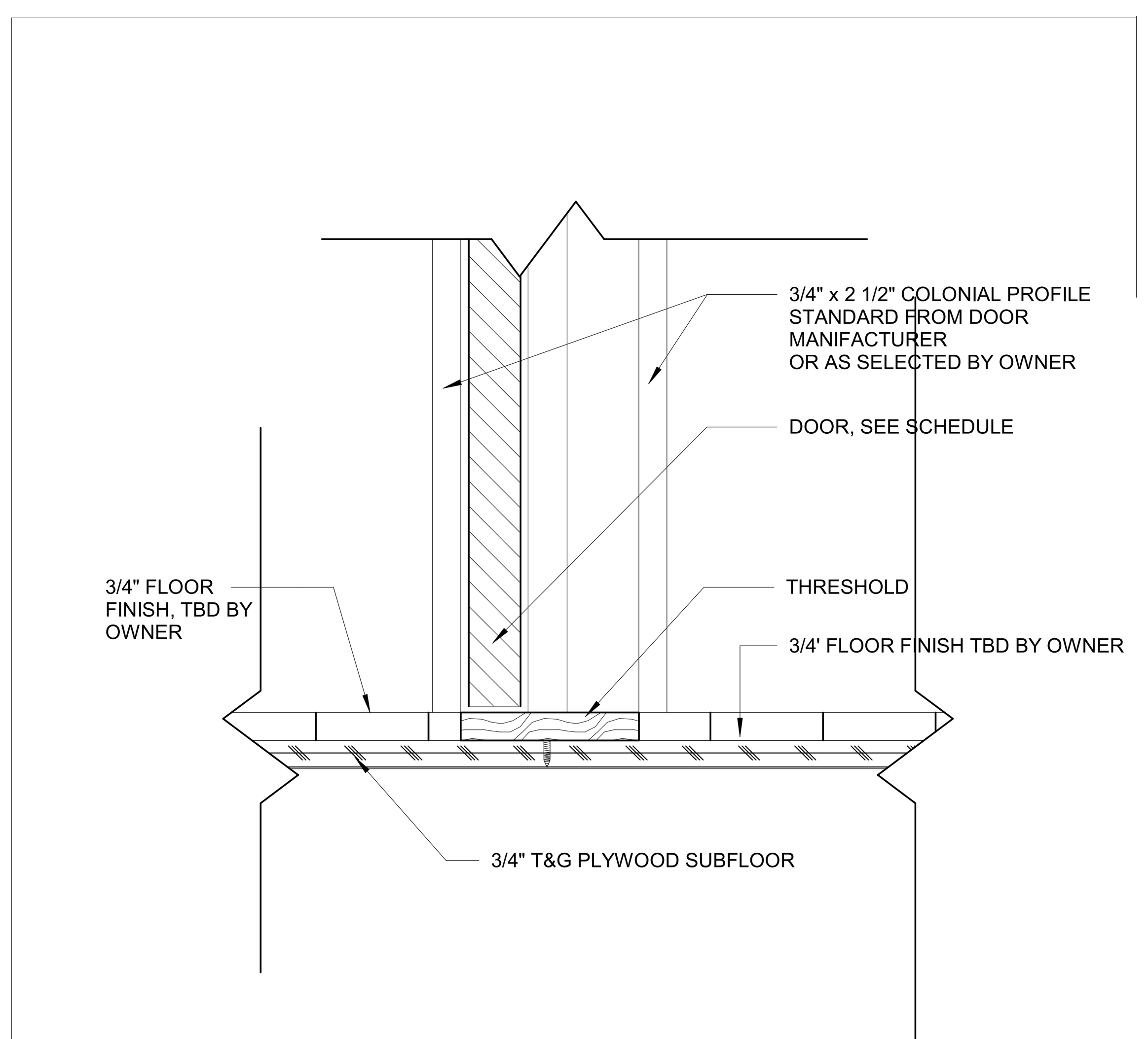
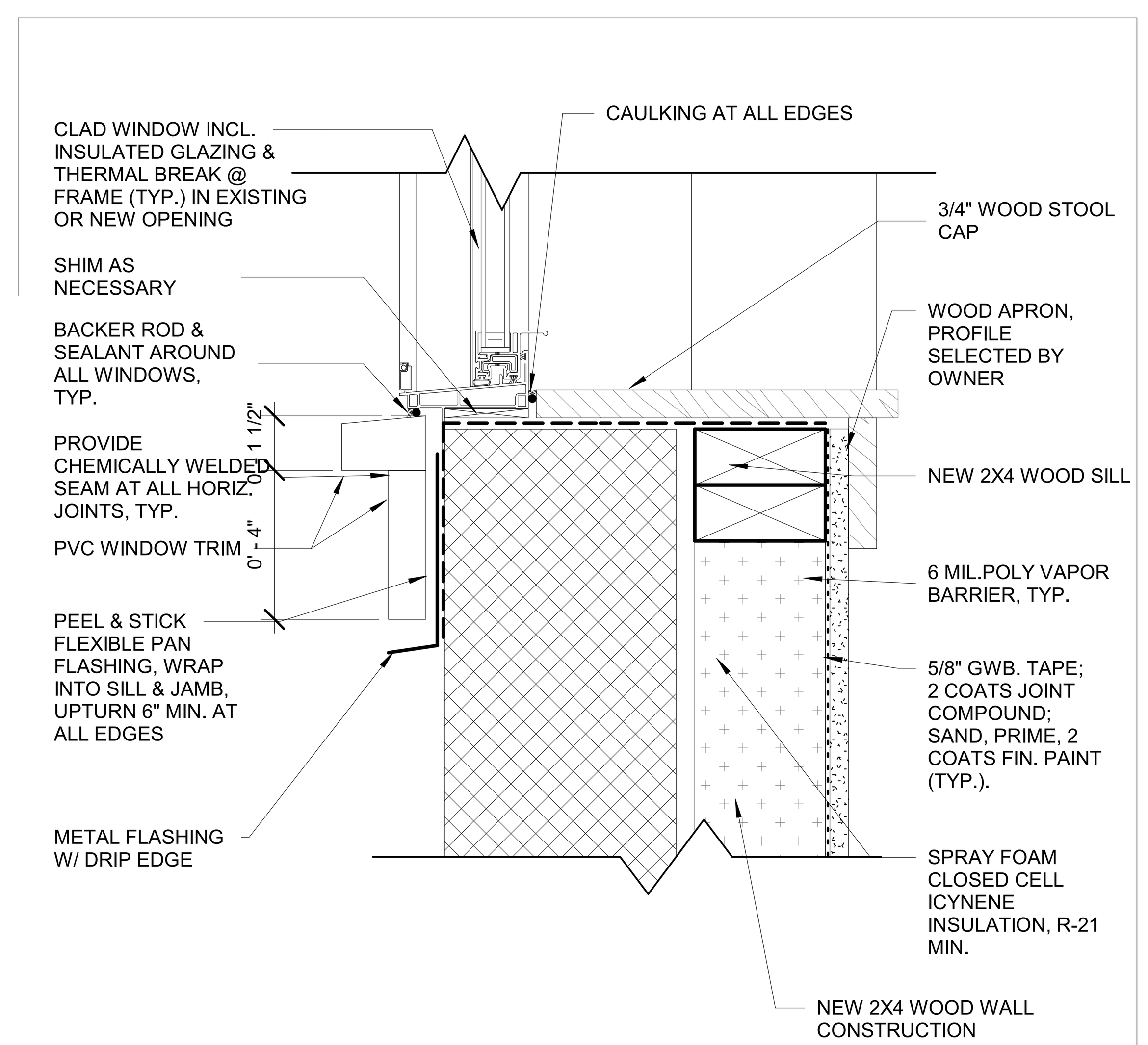
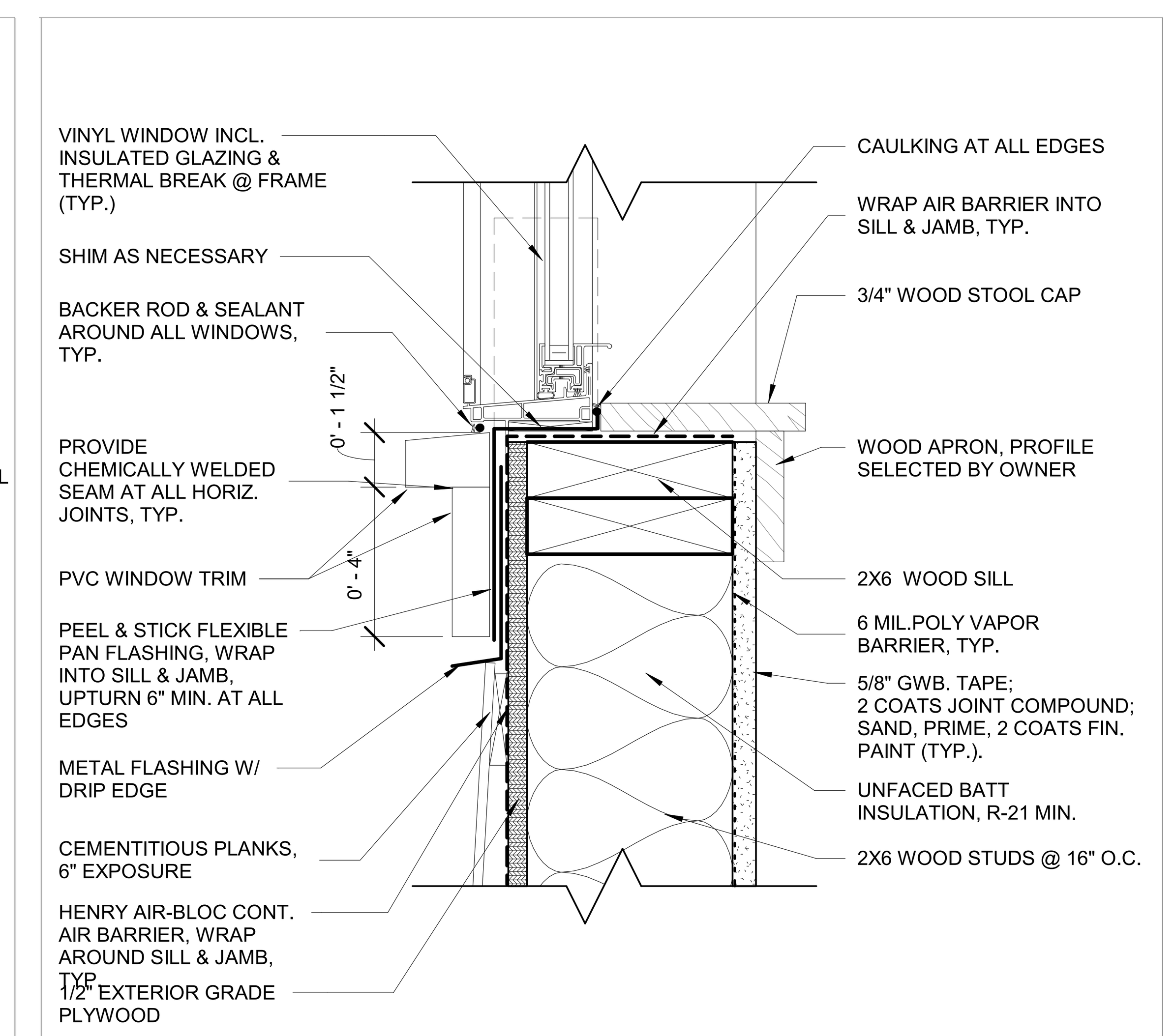


7 INTERIOR WOOD FRAME- DOOR THRESHOLD DETAIL
A-900 Scale: 3"=1'-0"



4 WINDOW SILL DETAIL- BASEMENT WALL
A-900 Scale: 3"=1'-0"



1 WINDOW SILL DETAIL- NEW WALL
A-900 Scale: 3"=1'-0"

PROJECT NAME

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PROJECT ADDRESS

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284 CONCORD AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER
BERDI CONSULTING
ADDRESS:
25 WAYLAND HILLS ROAD
WAYLAND, MA 01778

MEP ENGINEER
BERDI CONSULTING
ADDRESS:
1 BILLINGS ROAD, SUITE 306
QUINCY, MA 02171

REGISTRATION

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	3" = 1'-0"

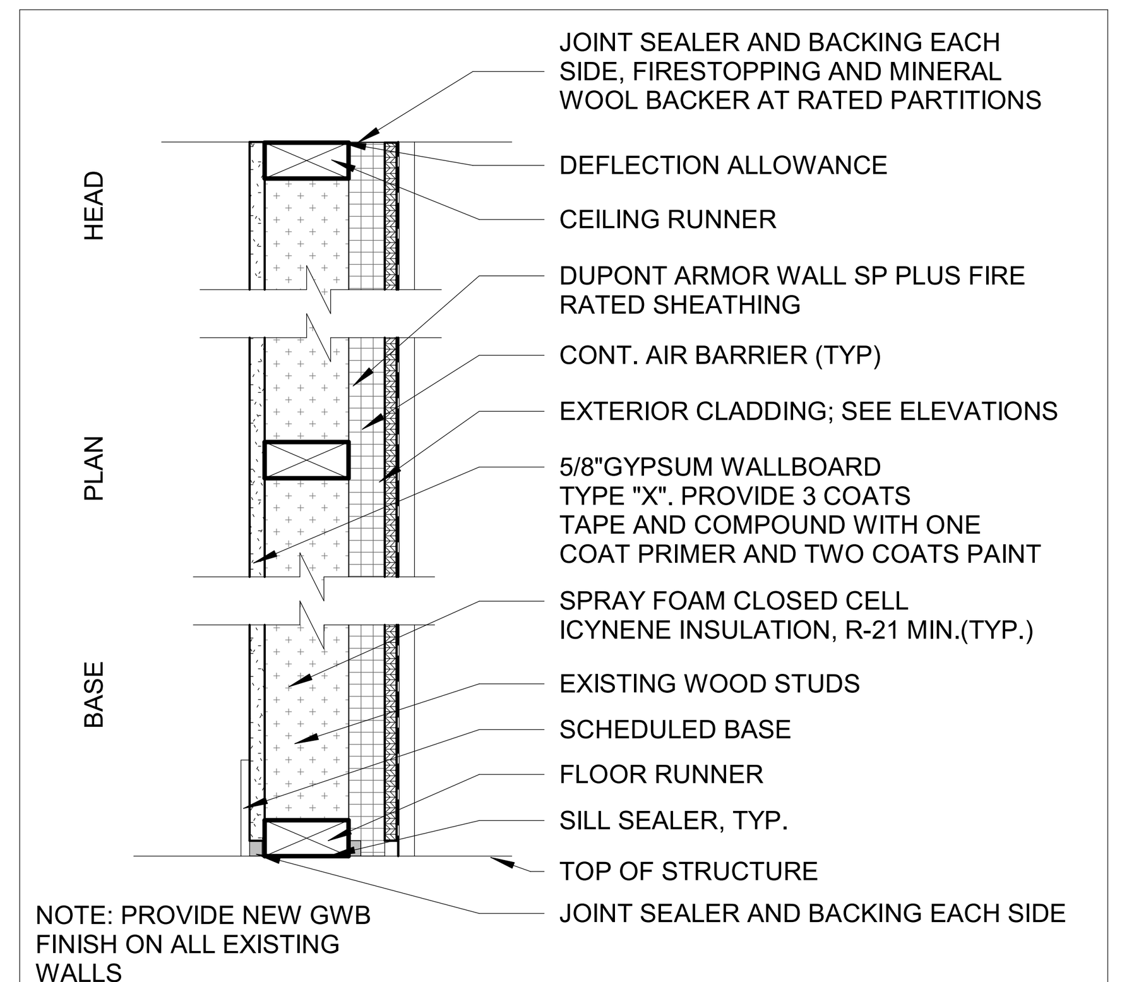
REVISIONS

No.	Description	Date

DOOR, WINDOW & FINISH FLOOR DETAILS

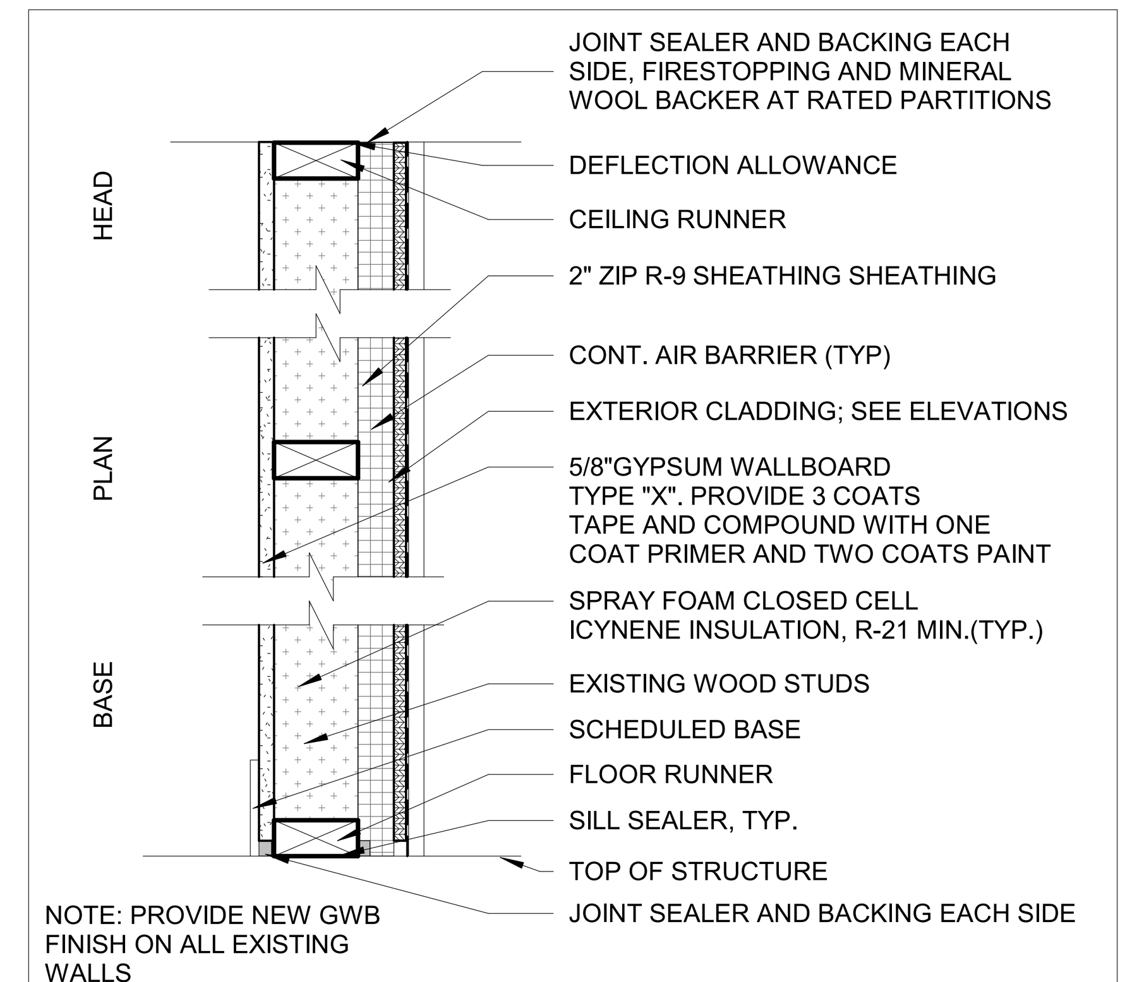
A-901

21-23 KENT COURT



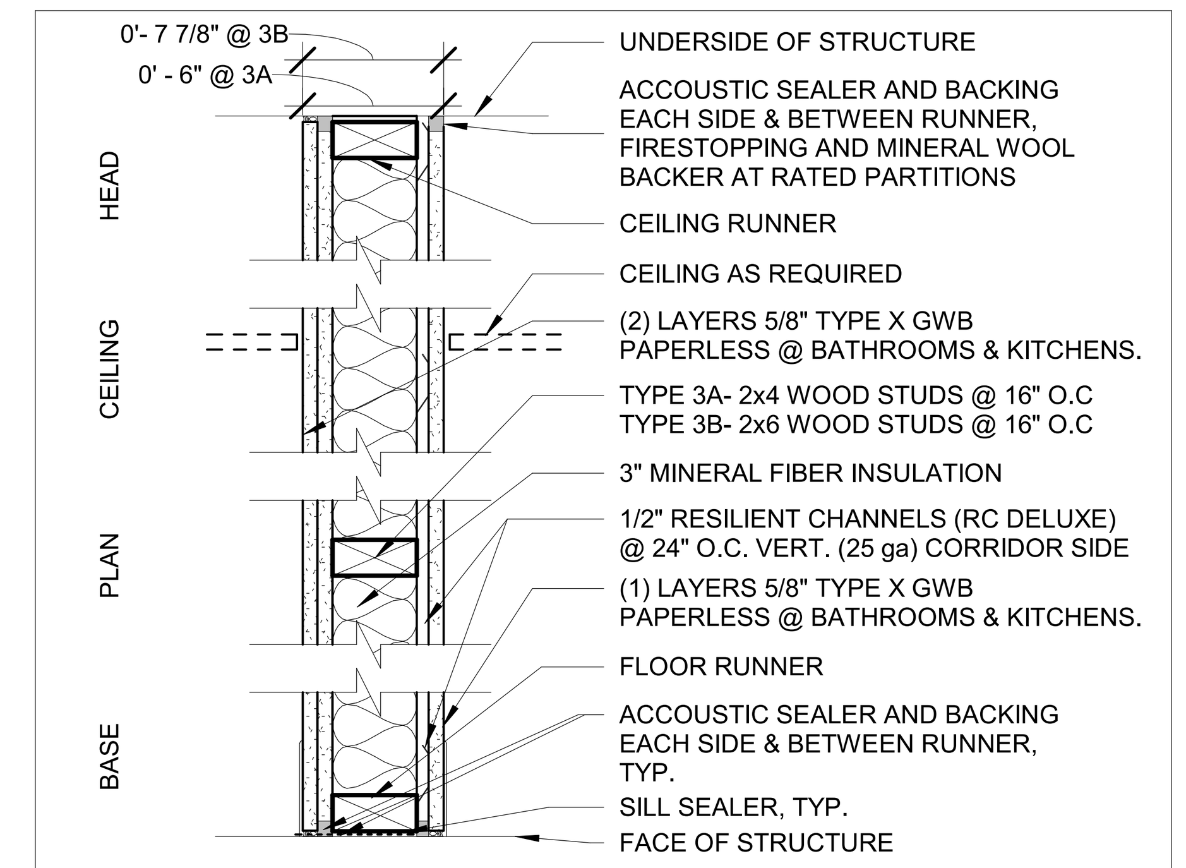
NOTE: PROVIDE NEW GWB FINISH ON ALL EXISTING WALLS

X2 EXTERIOR WALL TYPE-FIRE RATED
SCALE: 1-1/2" = 1'-0"



NOTE: PROVIDE NEW GWB FINISH ON ALL EXISTING WALLS

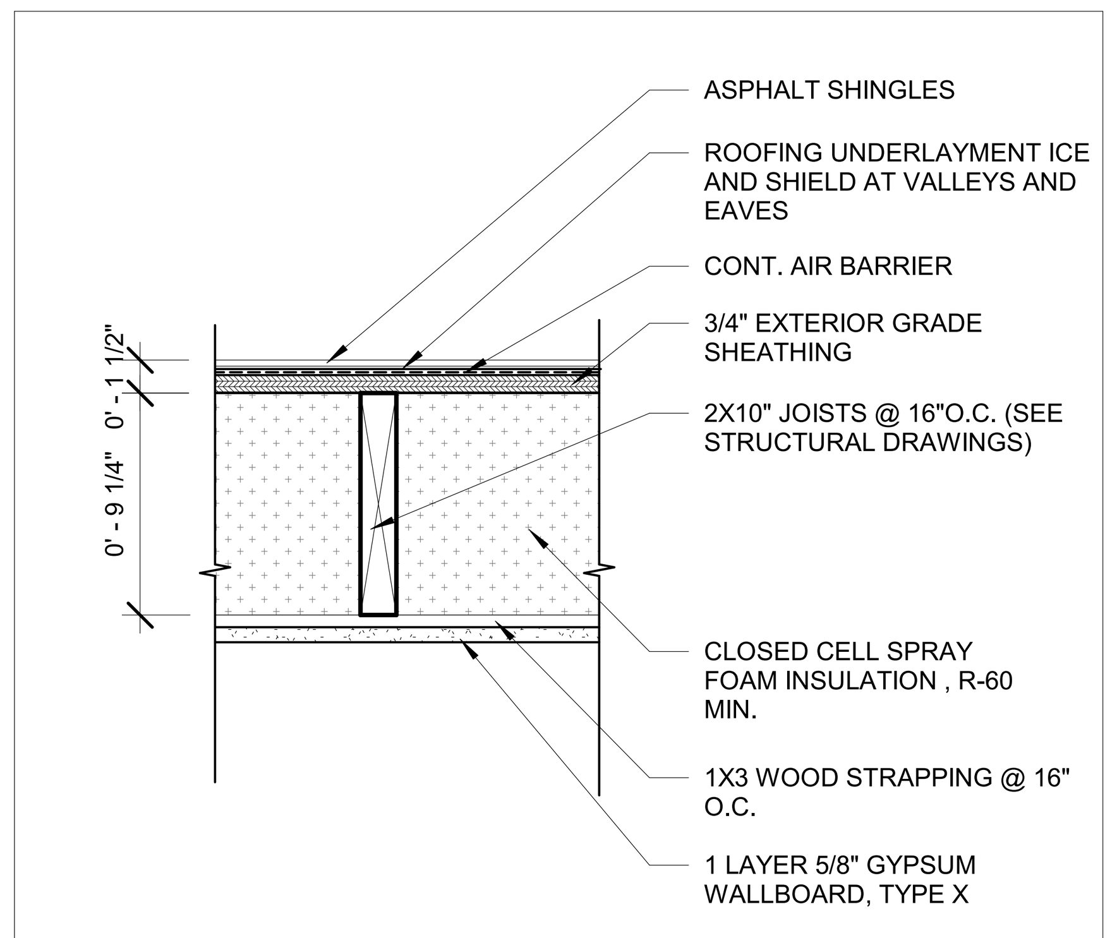
X1 EXTERIOR WALL TYPE
SCALE: 1-1/2" = 1'-0"



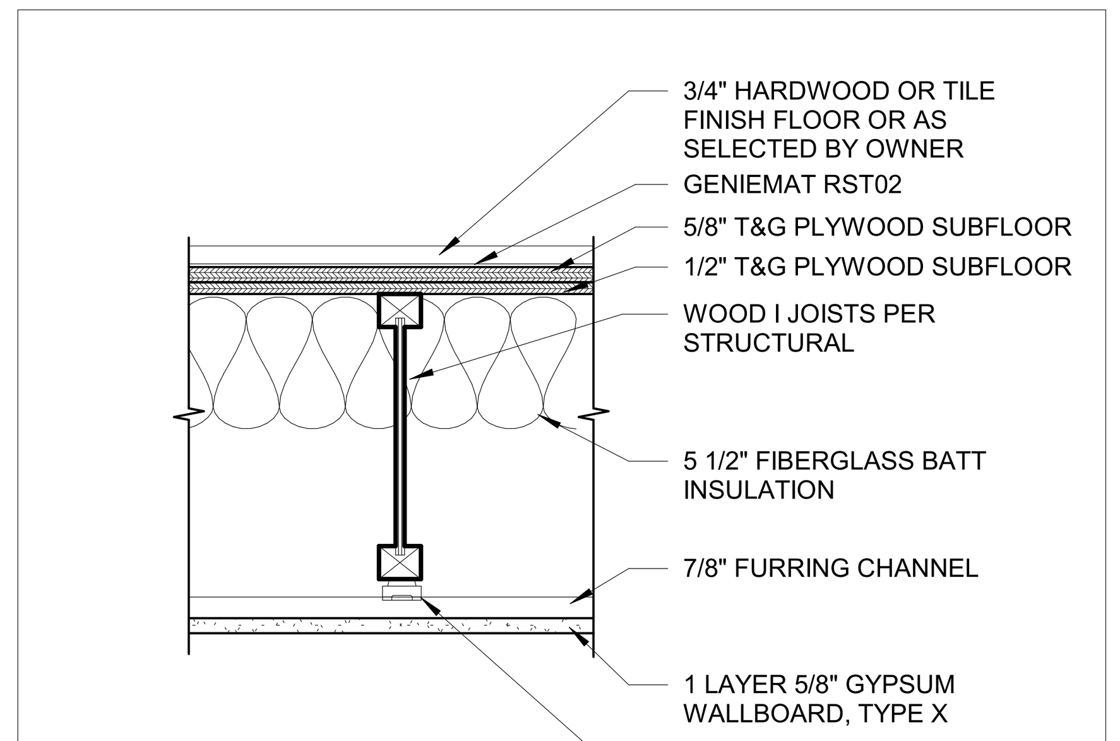
3A DEMISING - 2X4" WOOD STUD WALL. 1 HOUR RATED UL# DES U305 STC: 50-54

3B DEMISING - 2X6" WOOD STUD WALL. 1 HOUR RATED UL# DES U305 STC: 50-54

3 DEMISING PARTITION TYPE

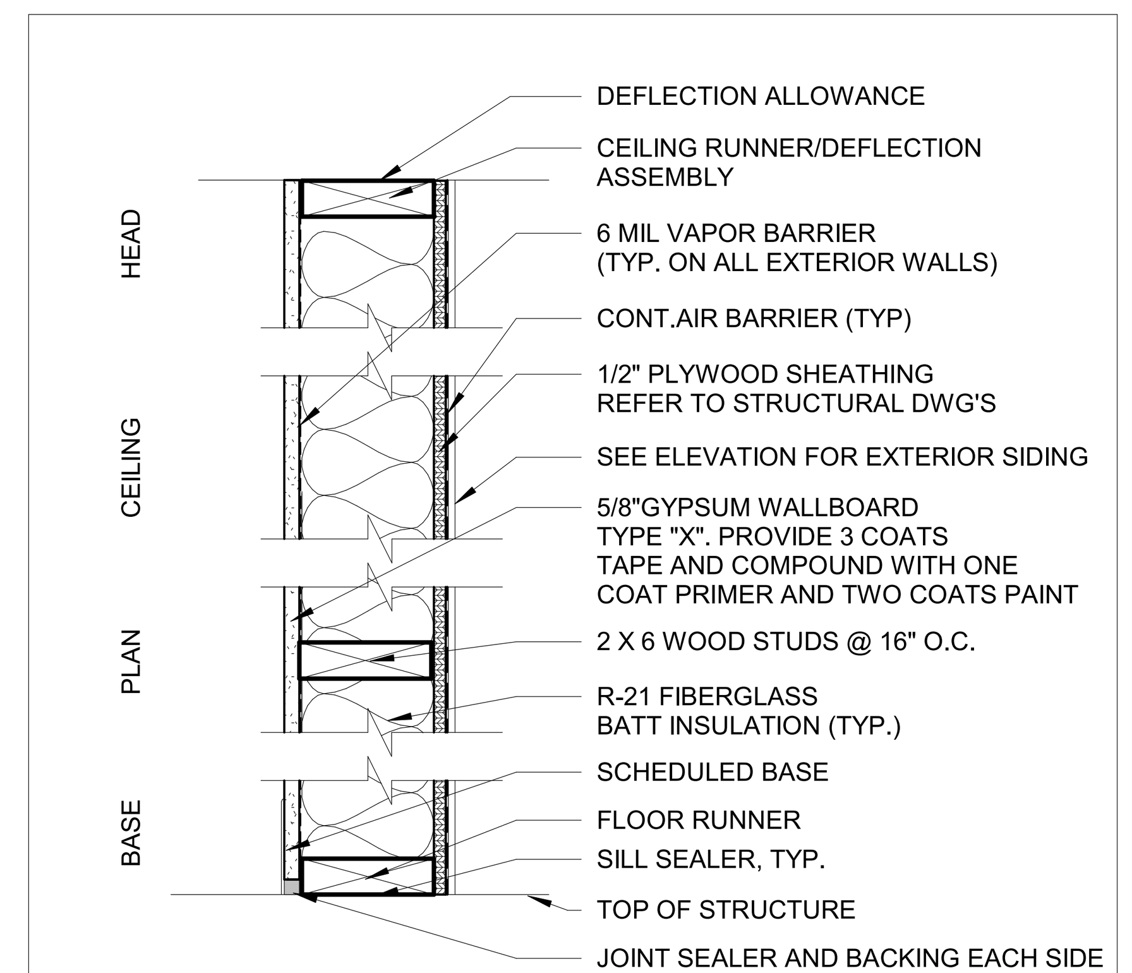


R2 NEW ROOF/CEILING ASSEMBLY (2X10 JOIST RAFTERS)
SCALE: 1-1/2" = 1'-0"

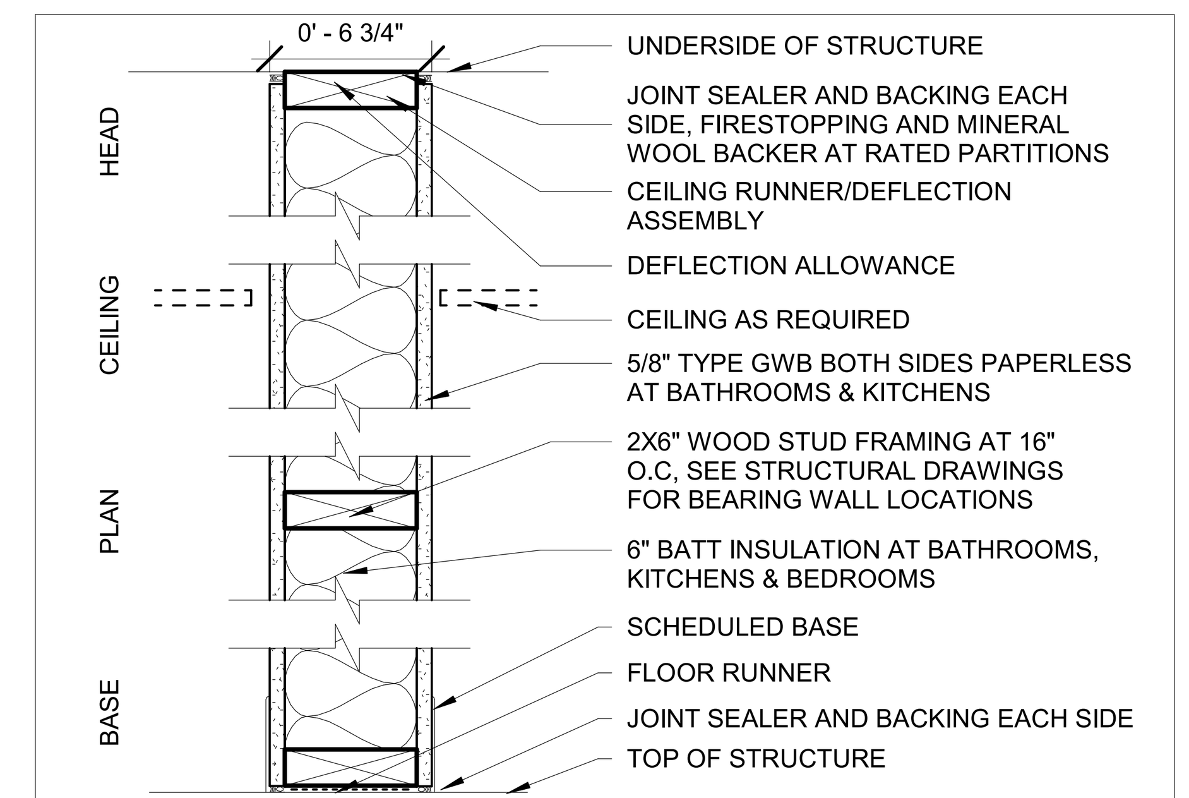


UL L502
1 HOUR FIRE RATING
STC: 55
IIC: 50

F2 1 HOUR RATED FLOOR/CEILING ASSEMBLY
SCALE:1-1/2" = 1'-0"



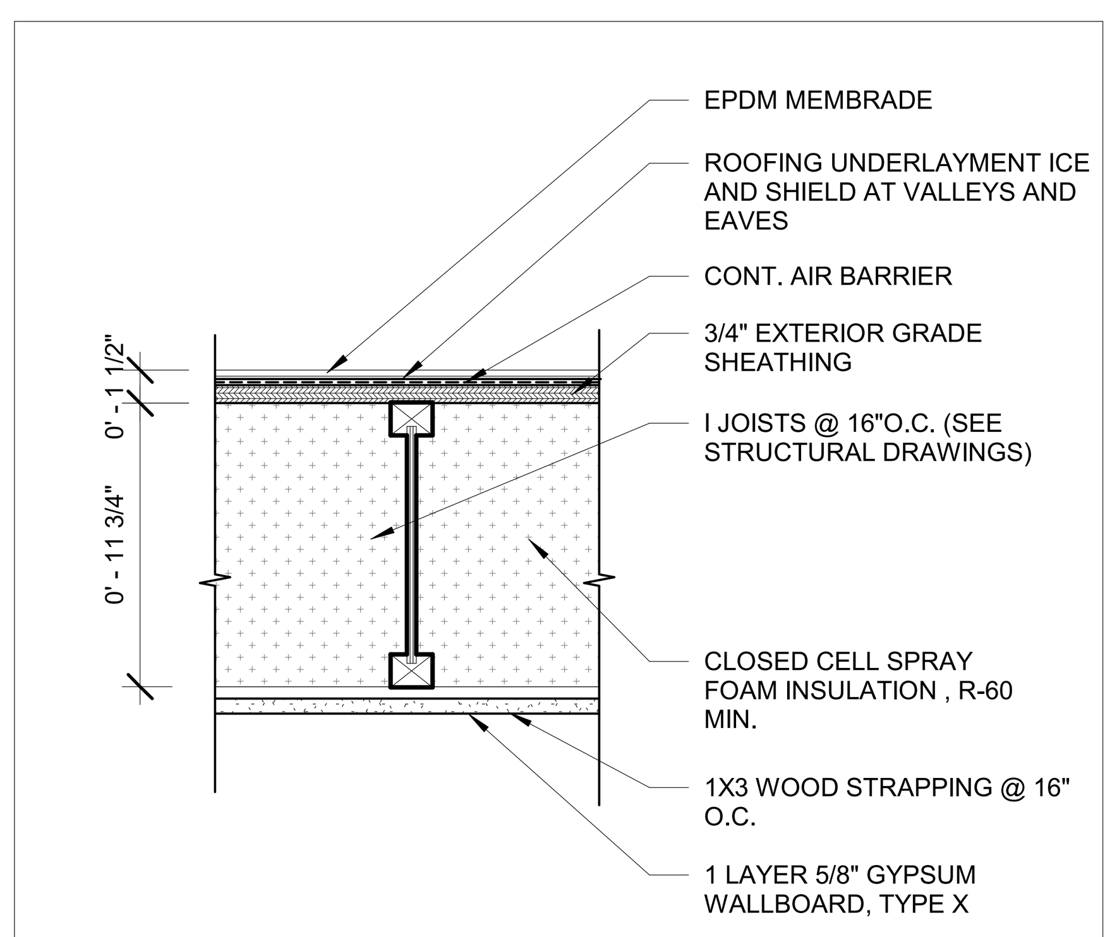
5 EXTERIOR WALL TYPE- NEW WALL
SCALE: 1-1/2" = 1'-0"



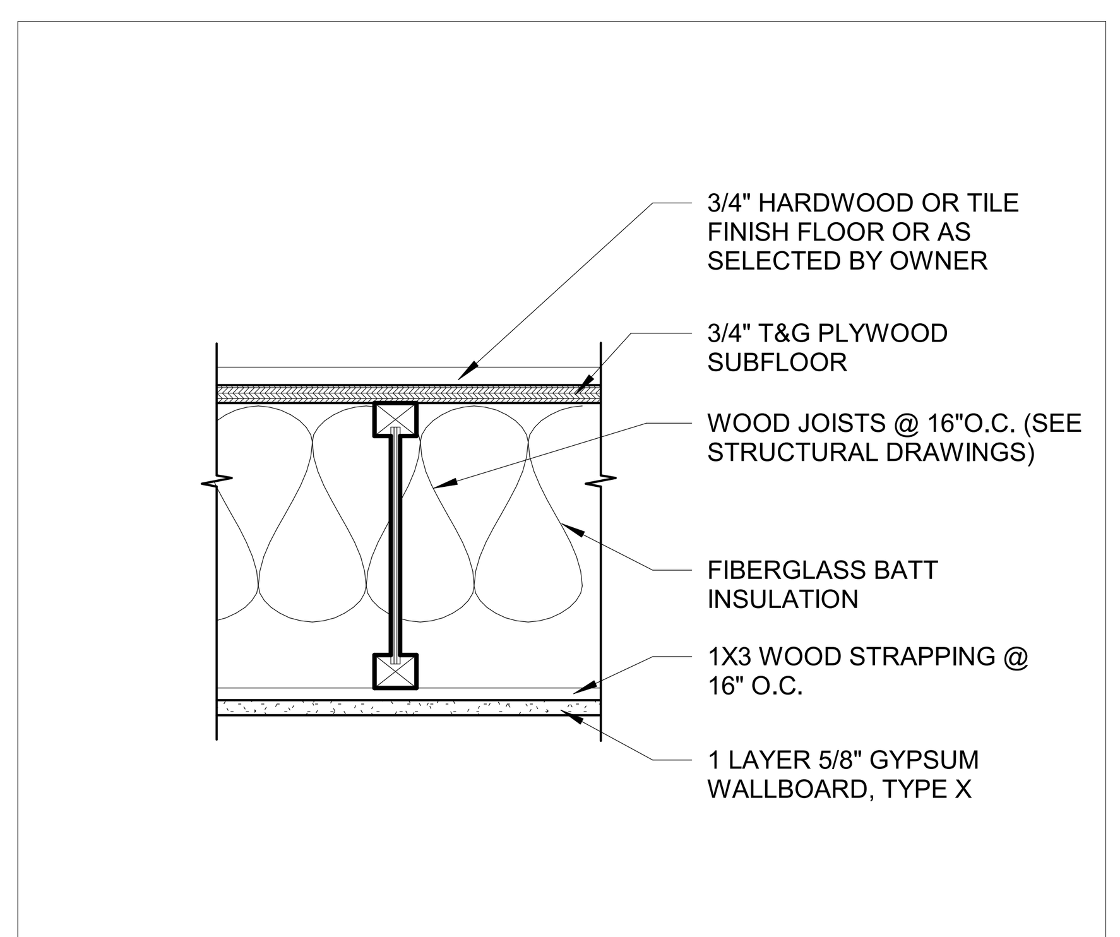
2 INTERIOR - 2X6" WOOD STUD WALL WITH 1 LAYER OF GWB ON BOTH SIDES. BATH, KITCHEN & LAUNDRY SIDE SHALL BE M.R. UL # U305, STC: 34+

2A INTERIOR - 2X6" WOOD STUD WALL WITH GWB 1 SIDE. GWB AT BATH SHALL BE M.R. UL # U305, STC: N/A

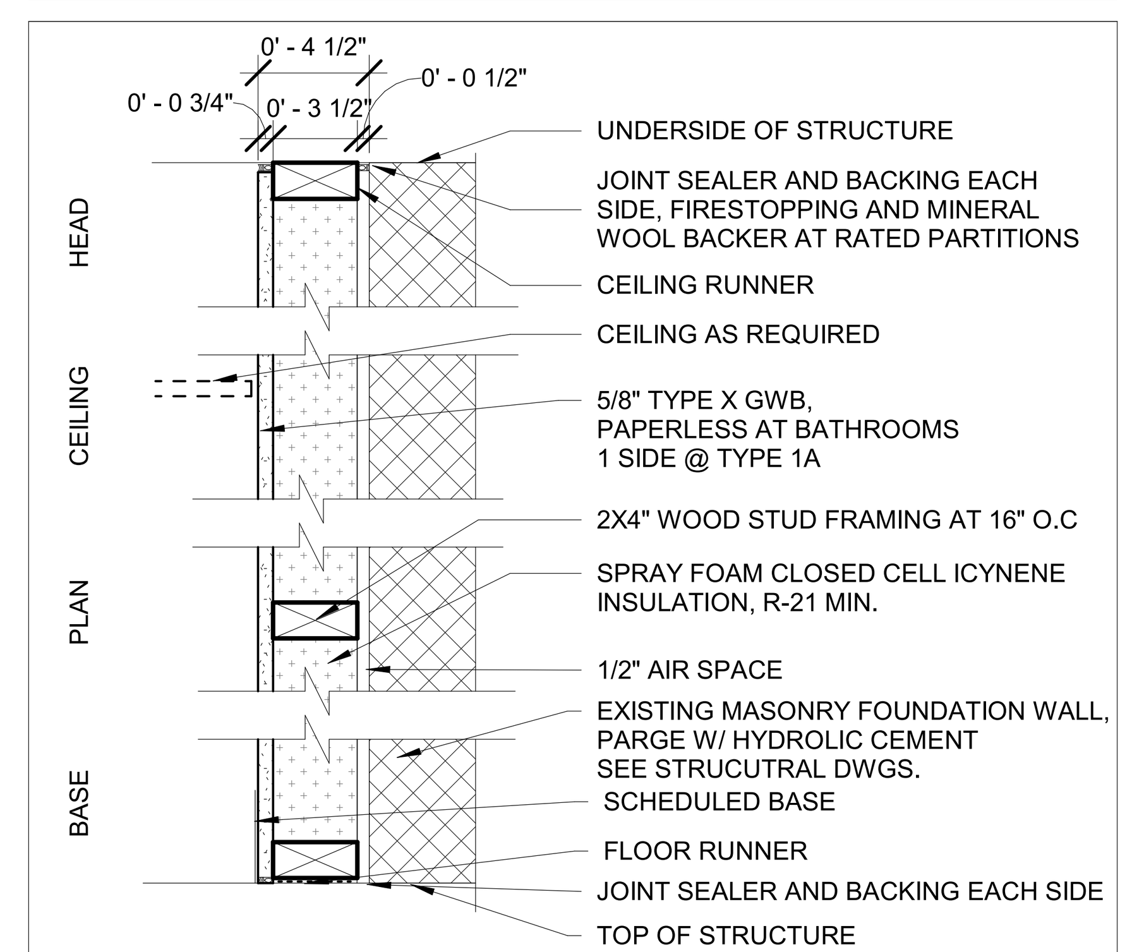
2 6" STUD PARTITION TYPE
SCALE: 1-1/2" = 1'-0"



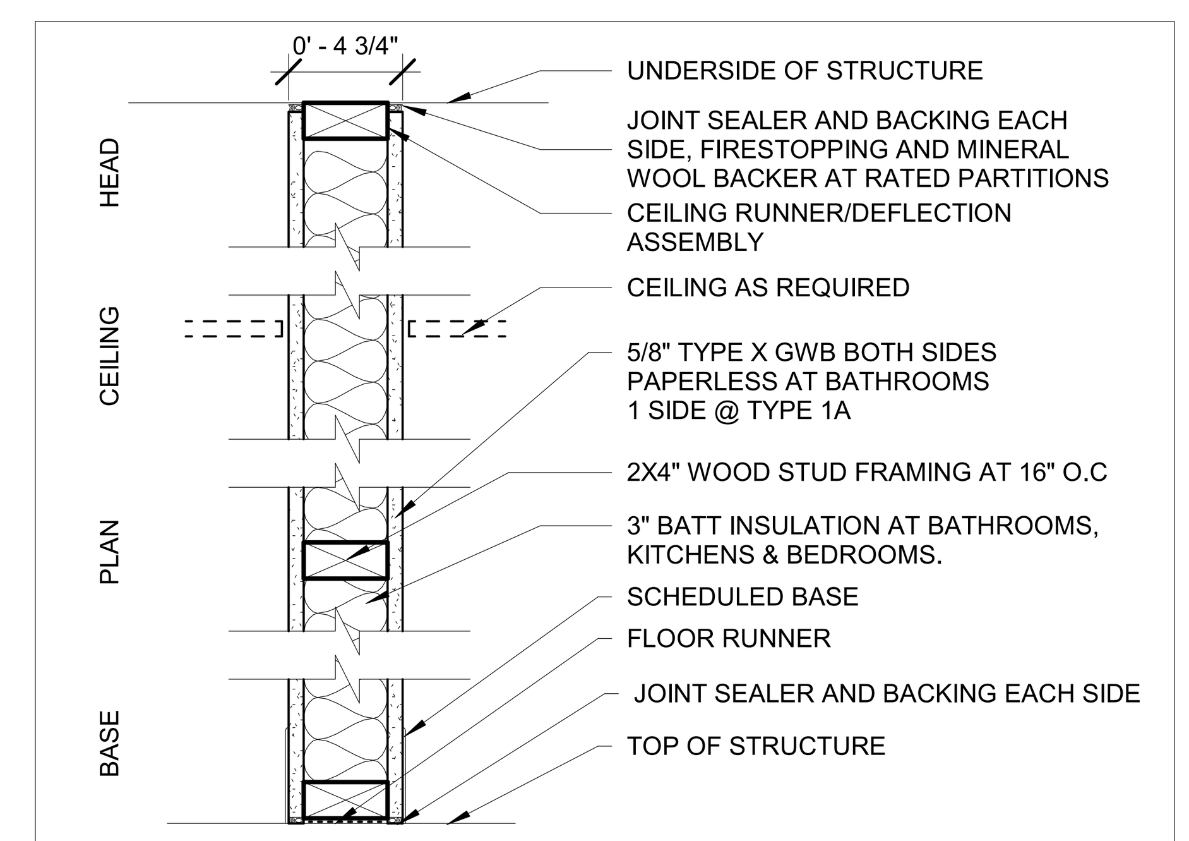
R1 NEW ROOF/CEILING ASSEMBLY (2X10 JOIST RAFTERS)
SCALE: 1-1/2" = 1'-0"



F1 NEW FLOOR/CEILING ASSEMBLY BETWEEN SAME DWELLING UNITS
SCALE: 1-1/2" = 1'-0"



4 FURRED MASONRY WALL
SCALE: 1-1/2" = 1'-0"



1A INTERIOR - 2X4" WOOD STUD WALL WITH GWB 1 SIDE. GWB AT BATH SHALL BE M.R.

1 INTERIOR - 2X4" WOOD STUD WALL WITH 1 LAYER OF GWB ON BOTH SIDES. BATH, KITCHEN & LAUNDRY SIDE SHALL BE M.R.

1 TYPICAL 2X4" STUD PARTITION TYPE
SCALE: 1-1/2" = 1'-0"

PROJECT NAME
21-23 KENT COURT

PROJECT ADDRESS
21-23 KENT COURT
SOMERVILLE, MA

CLIENT
BOSTON MASONRY

ARCHITECT
KDI ARCHITECTURE
KHALSA DESIGN, INC.
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682

CONSULTANTS:

CIVIL ENGINEER
NEPONSET VALLEY SURVEY ASSOCIATES
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95 WHITE STREET
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LANDSCAPE ARCHITECT
MARC MAZZARELLI ASSOCIATES
ADDRESS:
284 CONCORD AVENUE
CAMBRIDGE, MA 02138

STRUCTURAL ENGINEER
BERDI CONSULTING
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WAYLAND, MA 01778

MEP ENGINEER
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1 BILLINGS ROAD, SUITE 306
QUINCY, MA 02171

REGISTRATION

Project number	24007
Date	11/05/2024
Drawn by	ES
Checked by	TC
Scale	1 1/2" = 1'-0"

REVISIONS

No.	Description	Date

PARTITION TYPES

A-910

21-23 KENT COURT

\\TKG-SERVER\Data\24\24043_Tigran Yesayan_21-23 Kent Court Somerville\03_DRAWINGS\00_ARCH\03_CD\24007_21-23 Kent Court -CDModel.rvt
11/19/2024 5:24:38 PM

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KHALSA DESIGN, INC.
17 IVALOO STREET SUITE 400
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WAYLAND, MA 01778

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BERDI CONSULTING
ADDRESS:
1 BILLINGS ROAD, SUITE 306
QUINCY, MA 02171

REGISTRATION

REGISTERED ARCHITECT
EVAN STELLWAGEN
SOMERVILLE, MA
COMMONWEALTH OF MASSACHUSETTS

Project number	24007
Date	11/05/2024
Drawn by	Author
Checked by	Checker
Scale	

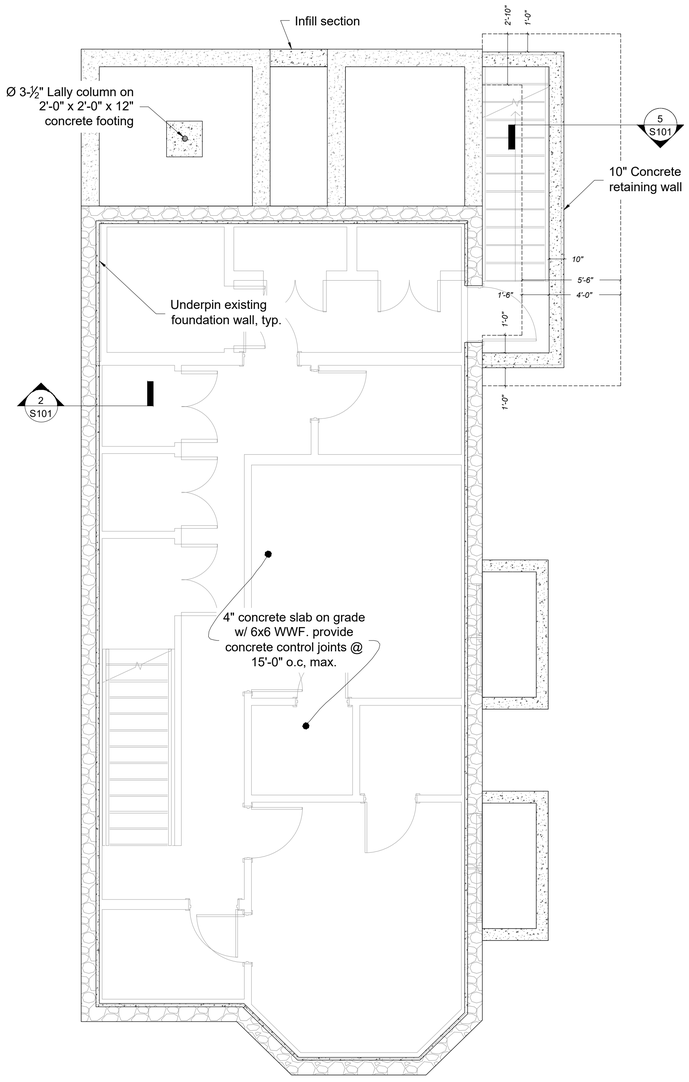
REVISIONS

No.	Description	Date

PERSPECTIVES

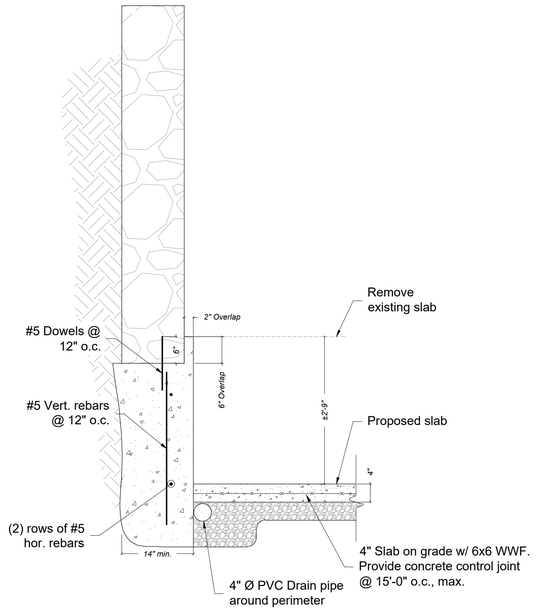
AV-1

21-23 KENT COURT

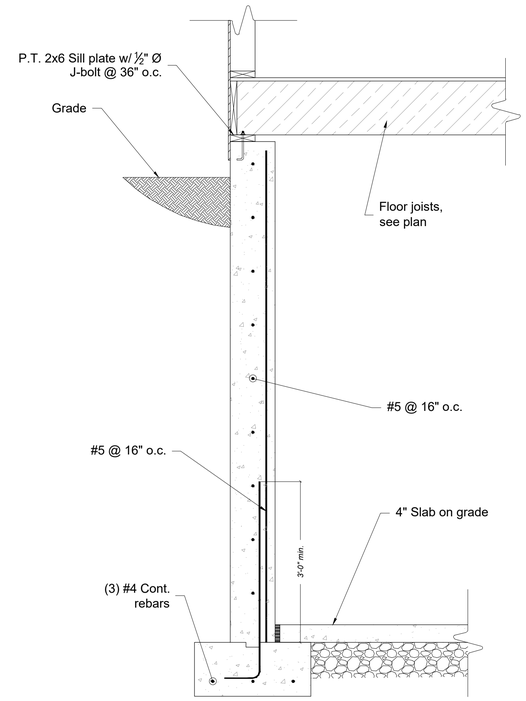


1 Foundation Plan

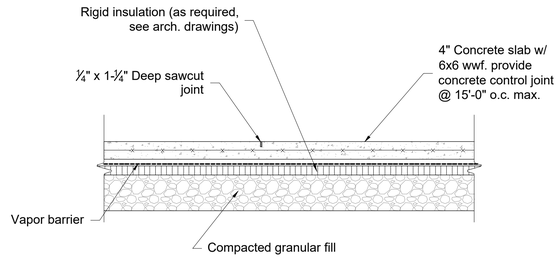
¼" = 1'-0"



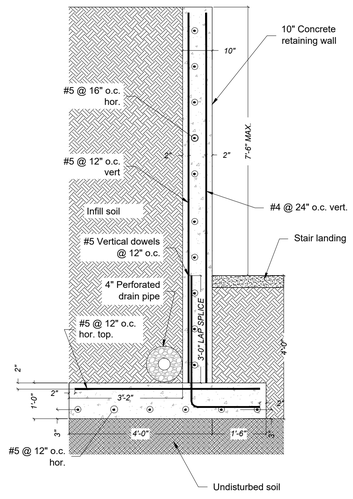
2 Underpinning Detail



3 Foundation Wall



4 Slab on Grade



5 Retaining Wall

STANISLAV BEDICHEVSKIY STRUCTURAL No. 38362 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

Berdi Consulting
Structural Engineering
25 Wayland Hills Rd. Wayland, MA 01778
Tel: (508) 308-9012

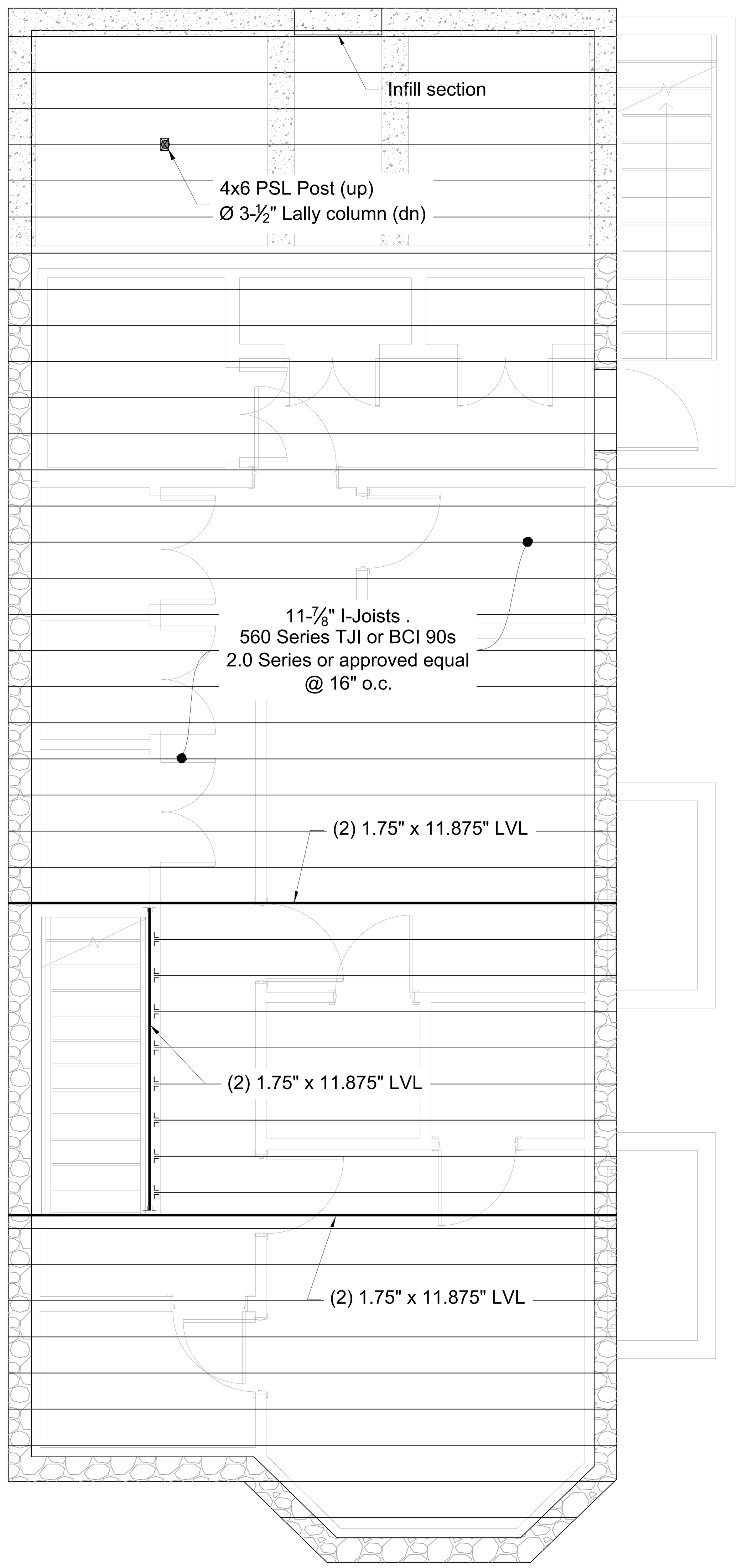
21-23 Kent Ct
Somerville, MA

Foundation Plan / Details

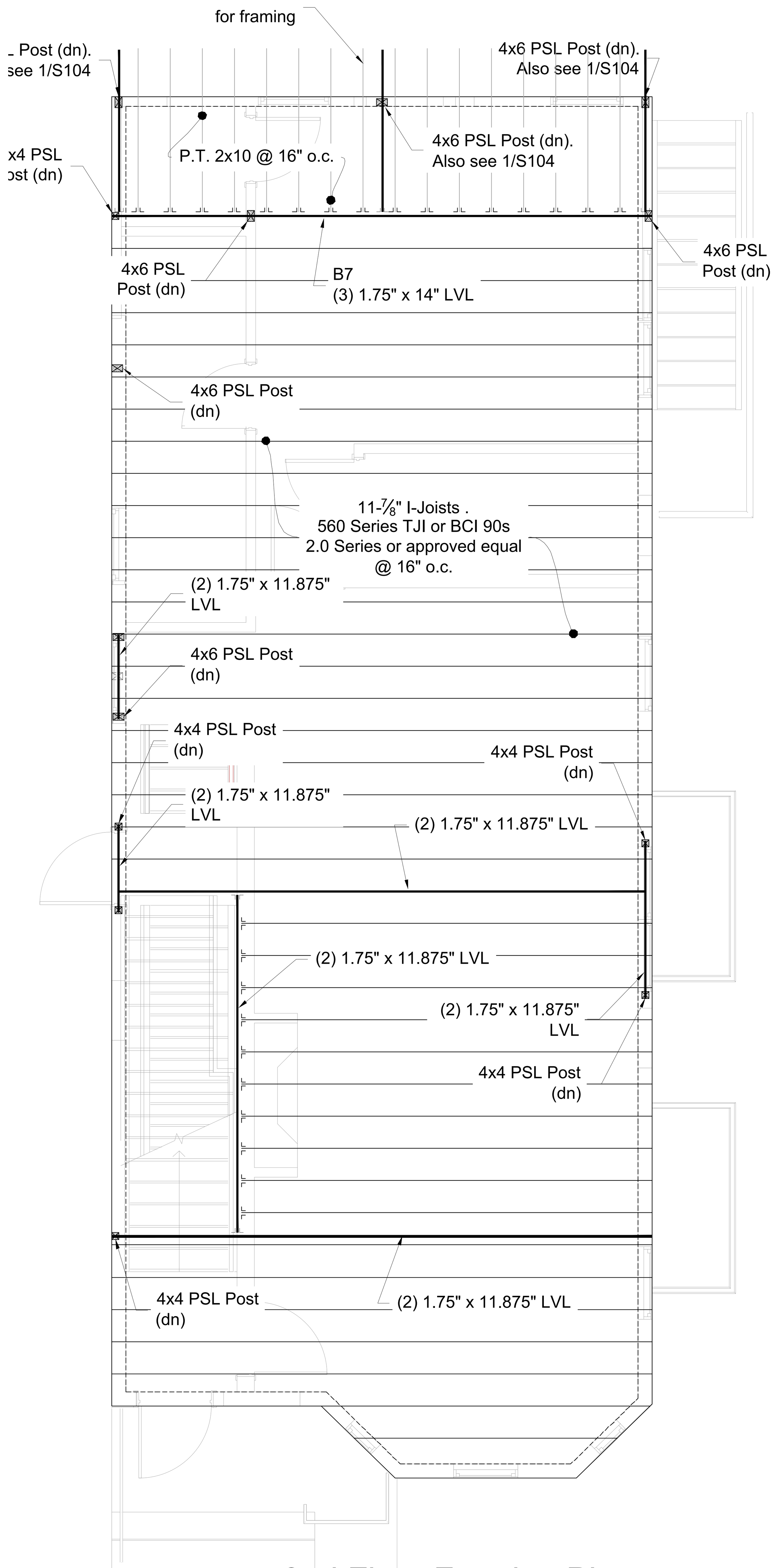
Scale: ¼" = 1'-0"

Date: 2024-08-15

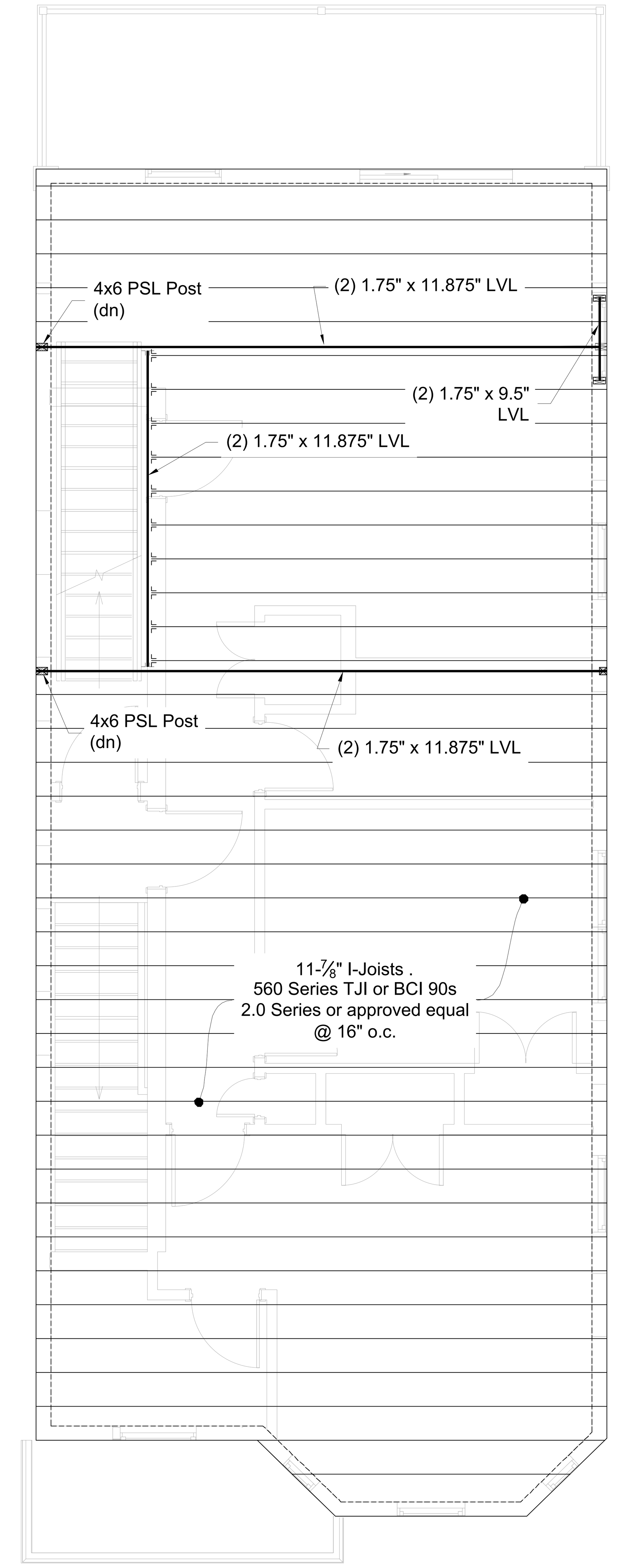
S101



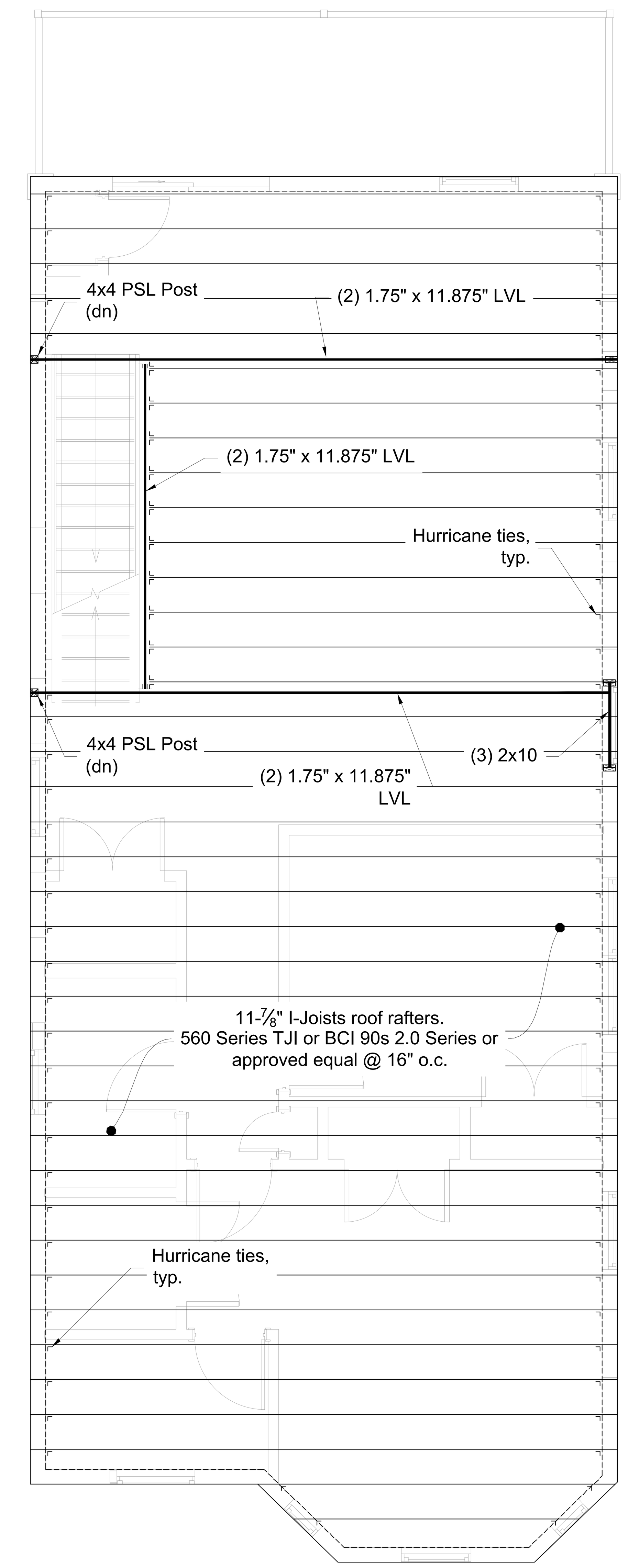
1 1st Floor Framing Plan
¼" = 1'-0"



2 2nd Floor Framing Plan
¼" = 1'-0"



3 3rd Floor Framing Plan
¼" = 1'-0"



4 Roof Framing Plan
¼" = 1'-0"

Fastener Installation Requirements

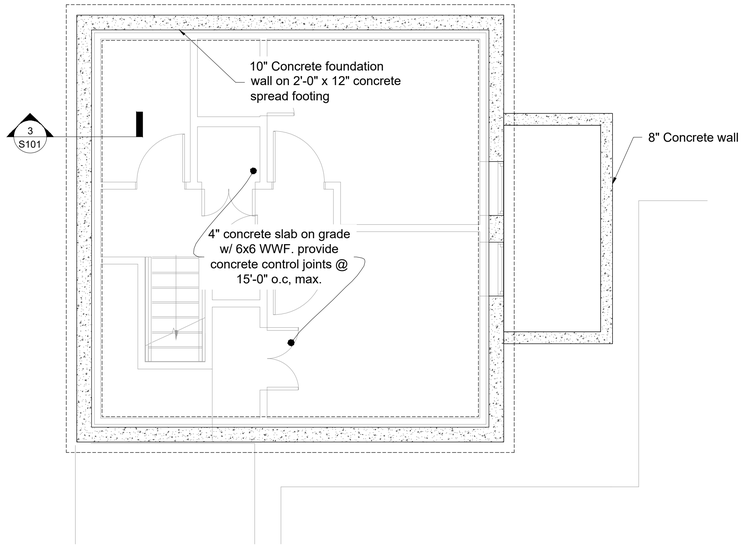
Piece Width	Number of Plies	Fastener Type(1)	Min. Length	# Rows	O.C. Spacing	Location
1¾"	2	10d nails	3"	3(2)	12"	One side
		12d–16d nails	3¼"	2(2)		
		Screws	3⅜" or 3½"	2	24"	
	3	10d nails	3"	3(2)	12"	Both sides
		12d–16d nails	3¼"	2(2)		
		Screws	3⅜" or 3½"	2	24"	Both sides
			5"			One side
	4	10d nails(3)	3"	3(2)	12"	One side (per ply)
		12d–16d nails(3)	3¼"	2(2)		
		Screws	5" or 6"	2	24"	Both sides
			6¾"			One side
3½"	2	Screws	5" or 6"	2	24"	Both sides
			6¾"			One side
		½" bolts	8"	2	24"	–

(1) 10d nails are 0.128" diameter; 12d–16d nails are 0.148"–0.162" diameter; screws are SDS, USP WS, TrussLOK-EWP™ or SDW.
(2) An additional row of nails is required with depths of 14" or greater.
(3) When connecting 4-ply members, nail each ply to the other and offset nail rows by 2" from rows in the ply below.

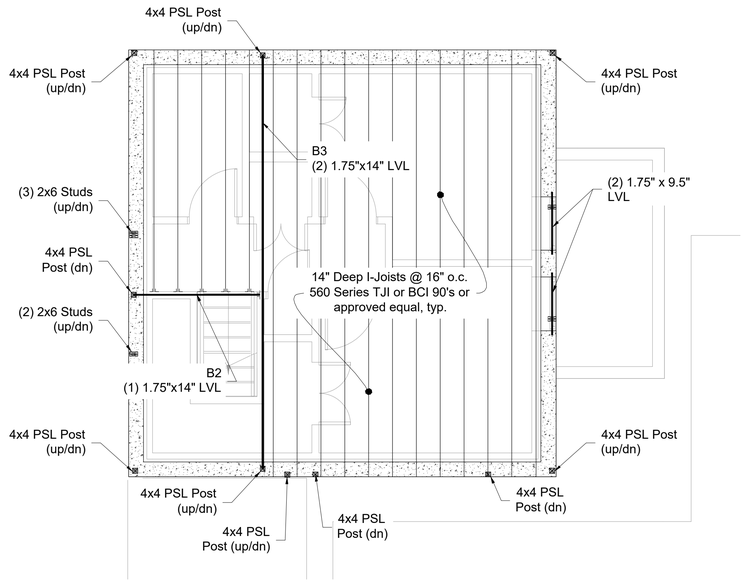
Berdi Consulting
Structural Engineering
25 Wayland Hills Rd. Wayland, MA 01778
Tel: (508) 308-9012

21-23 Kent Ct
Somerville, MA

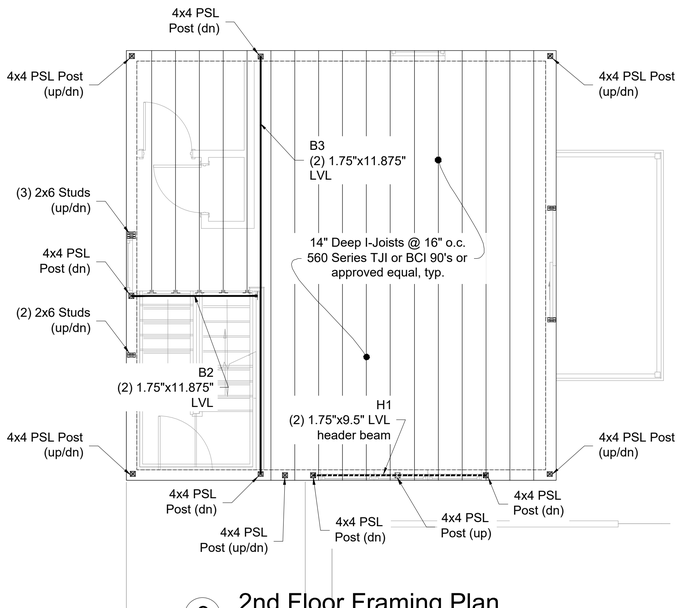
Framing Plans
Scale: ¼" = 1'-0"
Date: 2024-08-15
S102



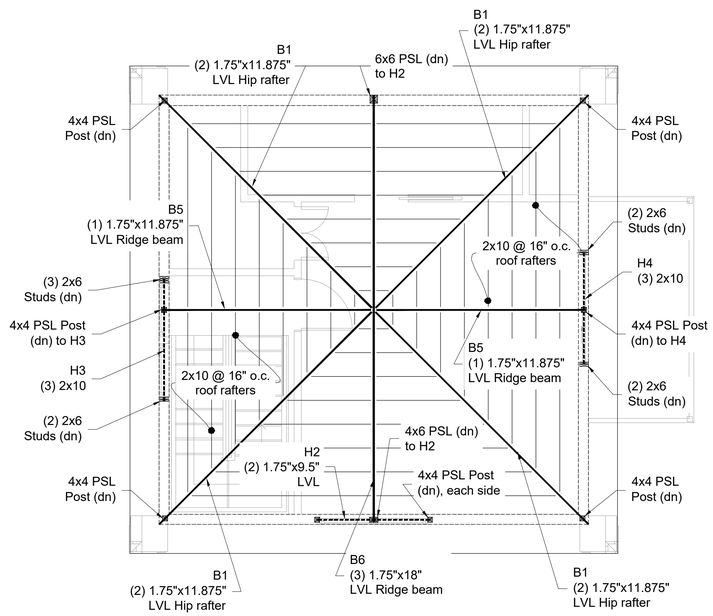
1 Foundation Plan
1/4" = 1'-0"



2 1st Floor Framing Plan
1/4" = 1'-0"



3 2nd Floor Framing Plan
1/4" = 1'-0"



4 Roof Framing Plan
1/4" = 1'-0"

GENERAL NOTES:

1. All work shall conform to Massachusetts Building Code and all Federal, State and Town of Somerville laws, codes and regulations as each may apply.
2. The total liability of Berdi Consulting for any claims arising out of the services performed under this contract shall be limited to a maximum of the net fees received by Berdi Consulting.
3. All existing conditions must be verified in field. If discrepancies are found, they have to be reported to the Engineer prior to start of work. Omissions or conflicts between the various elements of the working drawings and/or the specifications shall be brought to the attention of the Engineer prior to the start of such work.
4. The contractor shall be responsible for coordinating the scheduling and work of all trades and shall check all dimensions. All discrepancies shall be called to the attention of the Engineer and shall be resolved prior to proceeding with the work.
5. The Contractor shall supervise and direct the work and shall be solely responsible for the construction means, methods, techniques, sequences and procedures, including but not limited to bracing and shoring.
6. The Contractor agrees that in accordance with generally accepted construction practices, the Contractor shall assume sole and complete responsibility for the job site conditions during the course of construction, including the safety of all persons and property, and that this requirement shall apply continuously and not be limited to normal working hours.
7. All work shall be performed in a first class and workmanlike manner in conformity with the plans and specifications, and shall be in good usable condition at the completion of the Project.
8. The Contractor shall field verify all existing conditions, utility locations and structure placement, prior to start of the work. The Contractor will observe all possible precautions to avoid damage to same. Any damage to existing structures and utilities, whether shown or not on the drawings, shall be repaired or replaced at the Contractor's expense.
9. Prior to bidding the work the Contractor shall visit the site and thoroughly review the actual conditions and quantities, if any. No claim against the Owner or Engineer will be allowed for any excess or deficiency therein, actual or relative.
10. Contractor is responsible for all demolition and relocation works, if any.

STRUCTURAL NOTES:

1. All loads and loading conditions are per IRC 2015 (9th Edition of Massachusetts Building Code).
2. Contractor shall verify all dimensions.
3. Concrete shall be f'_c = 3000 psi.
4. Foundation designed based on assumed allowable soil bearing pressure of 2000 psf.
5. All rebar shall be f_y = 60 ksi.
6. All exterior walls shall 2x6 @ 16" o.c.
7. All members designated as 1.75" x ___" shall be LVL beams.
8. All members designated as 2x ___ shall be dimensional lumber.
9. All dimensional lumber shall be spruce-pine-fir:
   - 9.1. F_b = 875 psi.
   - 9.2. F_v = 135 psi.
   - 9.3. $F_{c(par)}$ = 425 psi.
   - 9.4. No. 1/ No. 2 or better
10. LVL plies shall be F_b = 3100 psi, PSL's shall be F_b = 2650 psi, min.
11. All header sizes shall be in accordance with 2015 IRC, U.N.O.
12. Number of jack studs shall be in accordance with 2015 IRC, U.N.O.
13. Exterior walls shall be sheathed w/ 7/16" plywood or OSB.
14. All floors shall be sheathed w/ 23/32" plywood or OSB, U.N.O.
15. Roof shall be sheathed with 5/8" plywood or OSB, U.N.O.
16. All LVL headers shall be supported by 4x6 PSL posts, U.N.O.
17. All LVL girders shall be supported by 4x6 PSL posts, U.N.O..
18. Apply (2) 2x joists under new partition walls which are parallel to framing.
19. Provide blocking under partition walls which are perpendicular to direction of framing.
20. Provide hurricane ties at roof rafters.
21. PSL posts which extend multiple floors shall be braced on all sides at each level.

COMMONWEALTH OF MASSACHUSETTS
STANISLAV DOICHEVSKY
STRUCTURAL
No. 38362
REGISTERED PROFESSIONAL ENGINEER

Berdi Consulting
Structural Engineering
25 Wayland Hills Rd. Wayland, MA 01778
Tel: (508) 308-9012

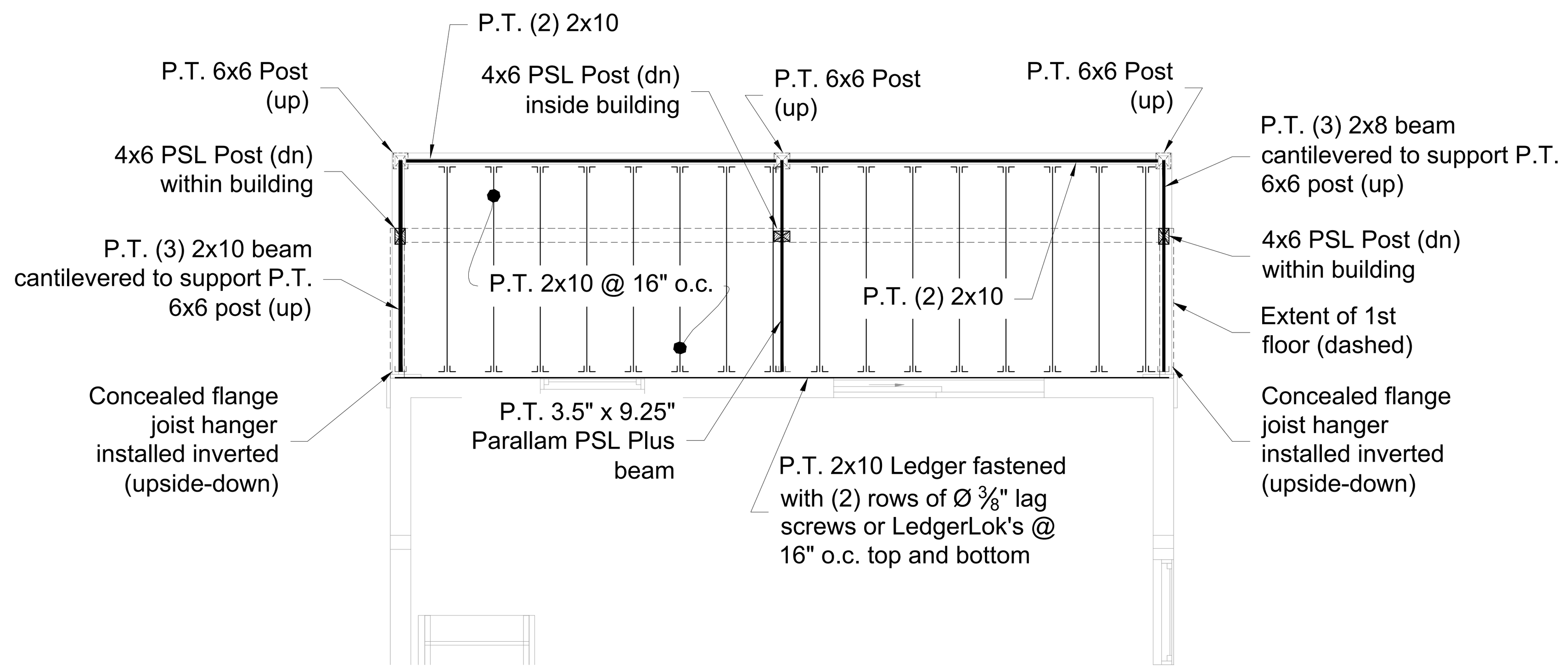
21-23 Kent Ct
Somerville, MA

Cottage Framing Plans

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

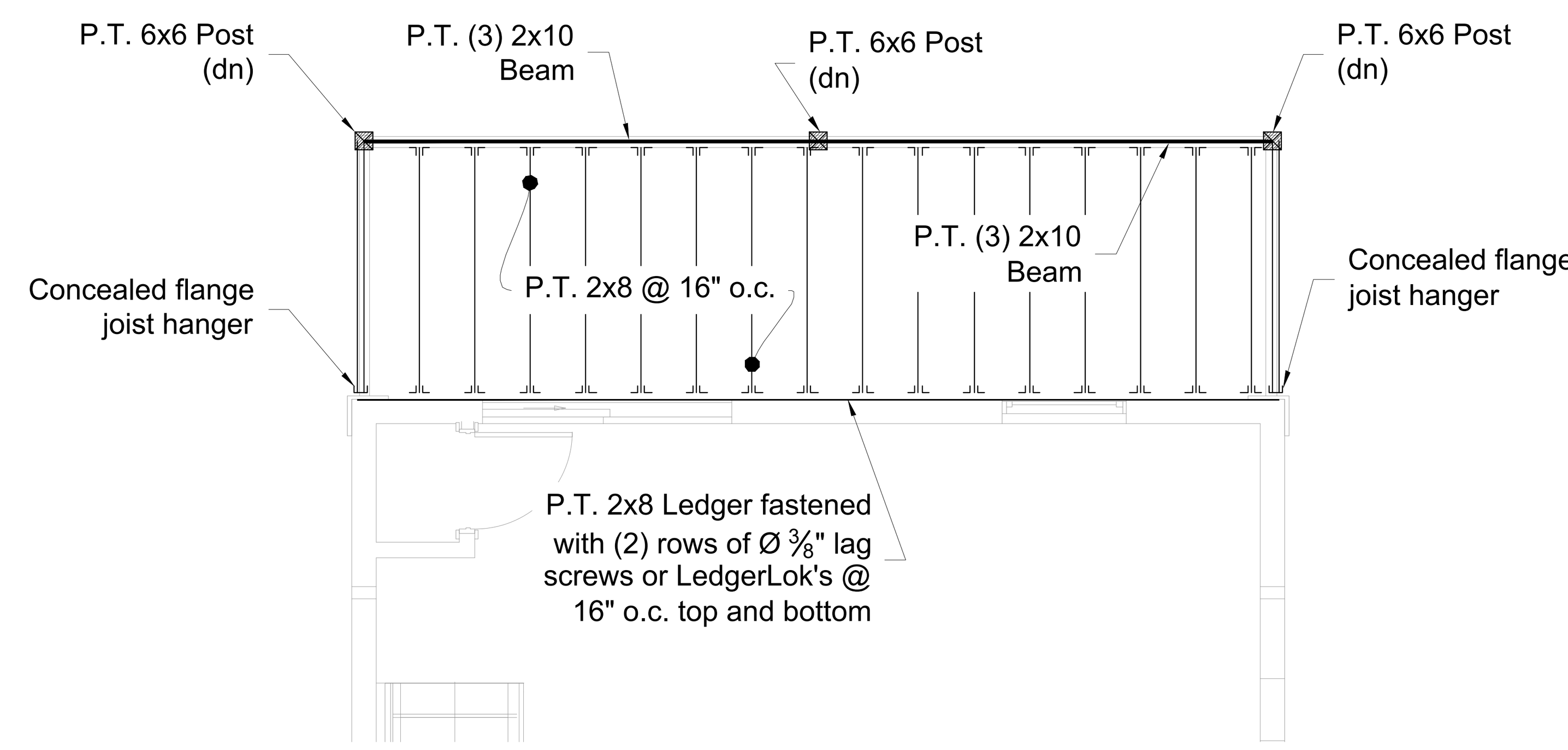
Date: 2024-08-15

S103



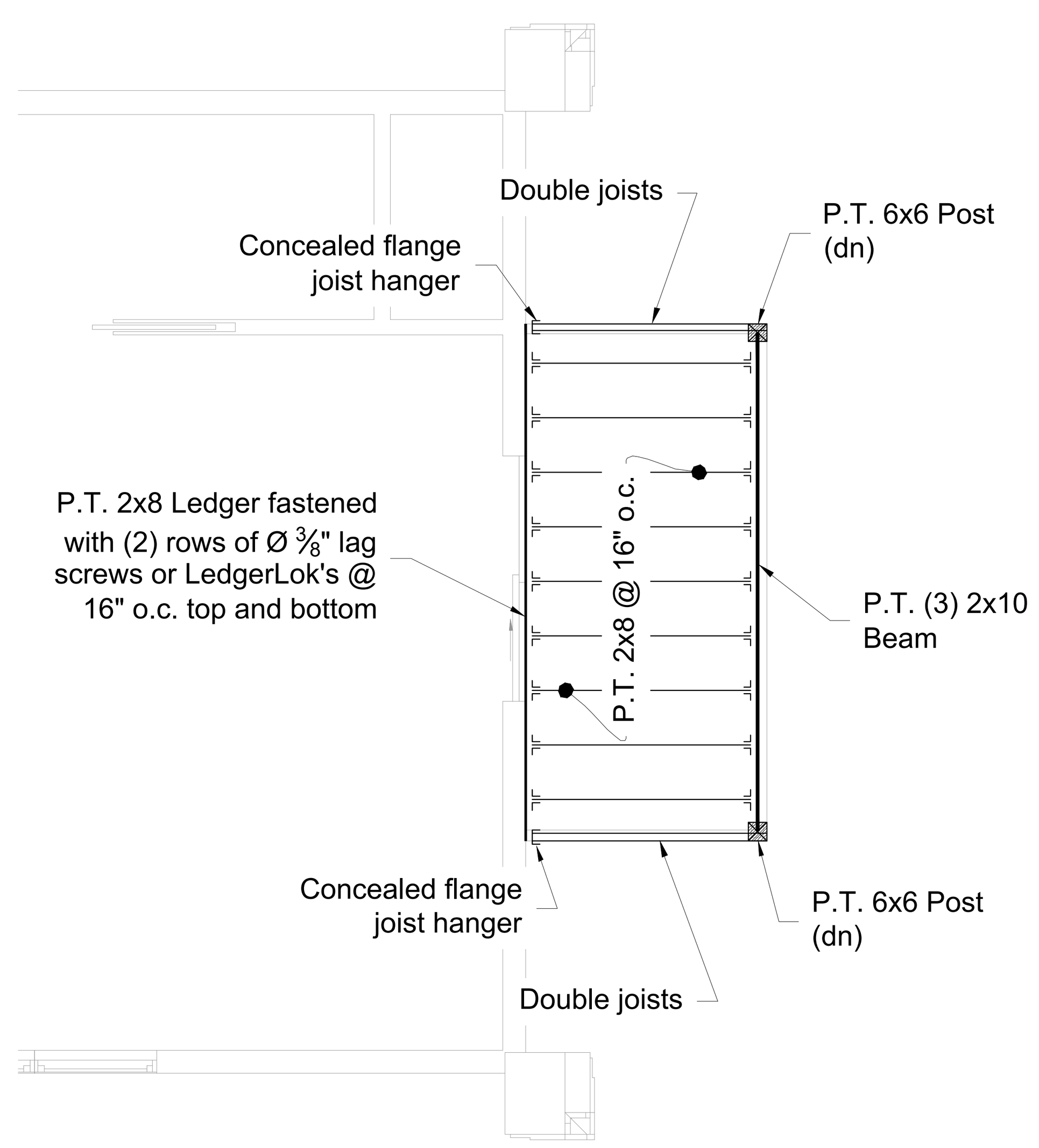
1 2nd Floor Deck Framing Plan (Main Building)

1/4" = 1'-0"



2 3rd Floor Framing Plan (Main Building)

1/4" = 1'-0"



3 Cottage Decks Framing Plan

1/4" = 1'-0"

DECK NOTES:

1. Contractor is responsible for all demolition, shoring, and relocation works, if any.
2. All wood to be pressure treated, construction grade or better.
3. All connectors to be galvanized.
4. Concrete shall be f'c = 3000 psi.
5. Contractor to verify all existing deck members to remain are structurally sound. Replace any damaged members with equivalent size element.
6. Deck boards shall be attached to each joist with two nails or deck screws.
7. Provide hold-down tension device min. capacity 750 lb. at 4 locations evenly distributed along each side of the deck with 1 within 2' of each end of the ledger.

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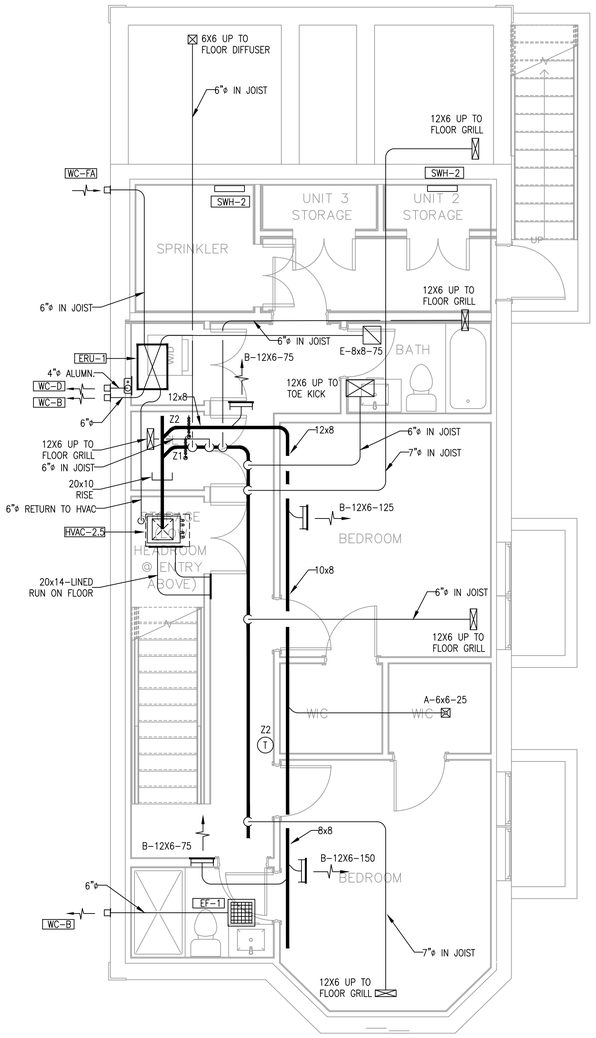
Somerville, MA

Deck Framing Plans

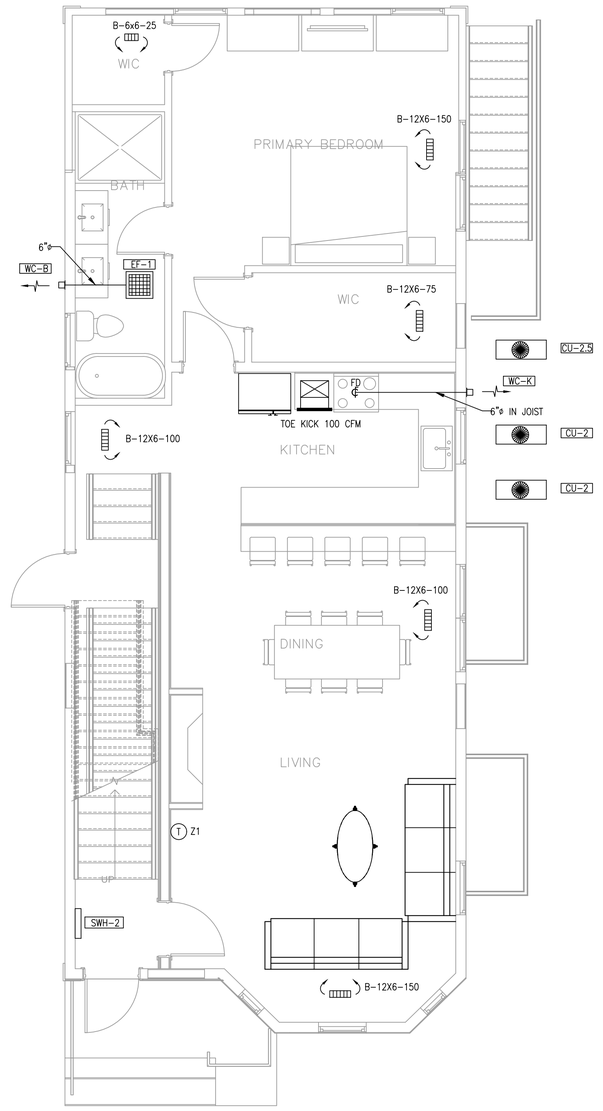
Scale: 1/4" = 1'-0"

Date: 2024-08-15

S104



1 BASEMENT HVAC PLAN
1/4" = 1'-0"



2 FIRST FLOOR HVAC PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE

KHALSA DESIGN, INC.
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682

CONSULTANTS:

REGISTRATION

COMMONWEALTH OF MASSACHUSETTS
MOHAMMED ZADE
No. 27233
REGISTERED PROFESSIONAL ENGINEER

Project number	24007
Date	11/05/2024
Drawn by	
Checked by	
Scale	1/4" = 1'-0"

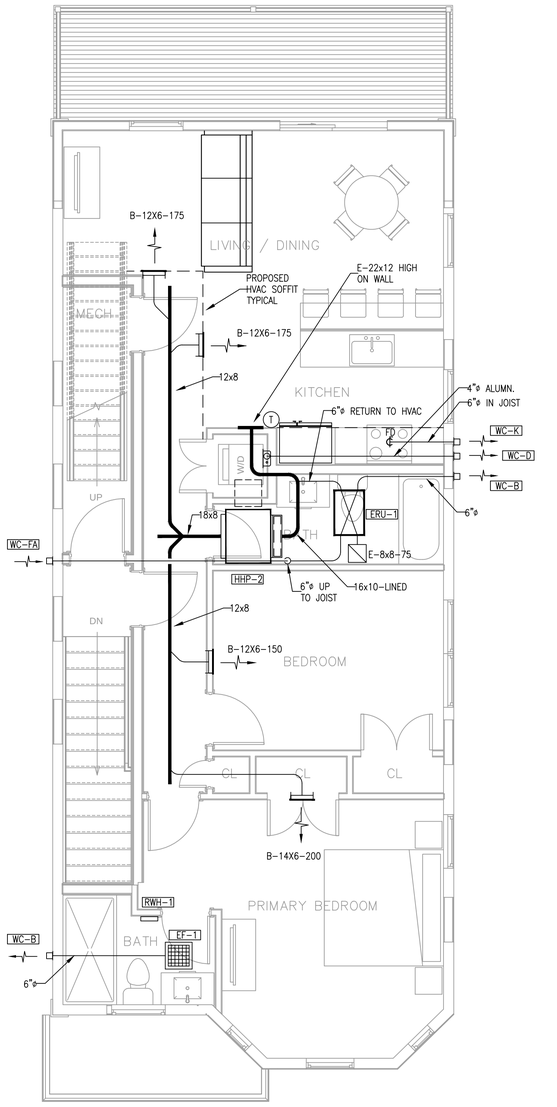
REVISIONS

No.	Description	Date

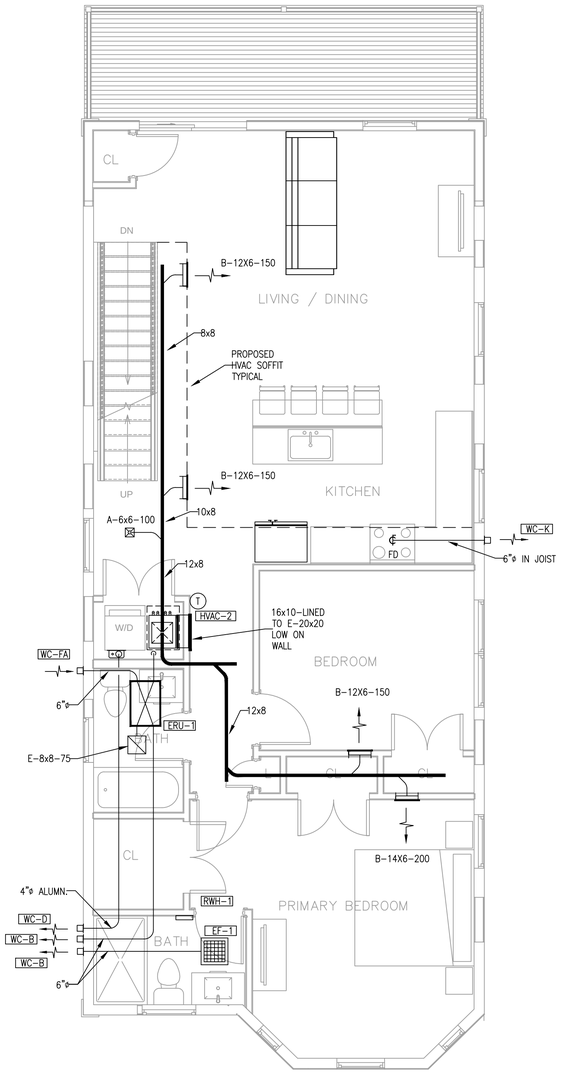
HVAC PLANS

H-100

21-23 KENT COURT



1 SECOND FLOOR HVAC PLAN
1/4" = 1'-0"



2 THIRD FLOOR HVAC PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE

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CONSULTANTS:

REGISTRATION

COMMONWEALTH OF MASSACHUSETTS
MOHAMMED ZADE
No. 27233
REGISTERED PROFESSIONAL ENGINEER
Mohammed Zade

Project number	24007
Date	11/05/2024
Drawn by	
Checked by	
Scale	1/4" = 1'-0"

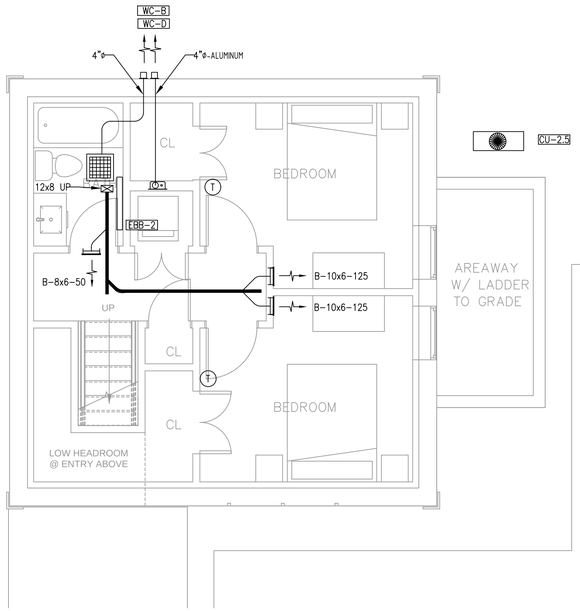
REVISIONS

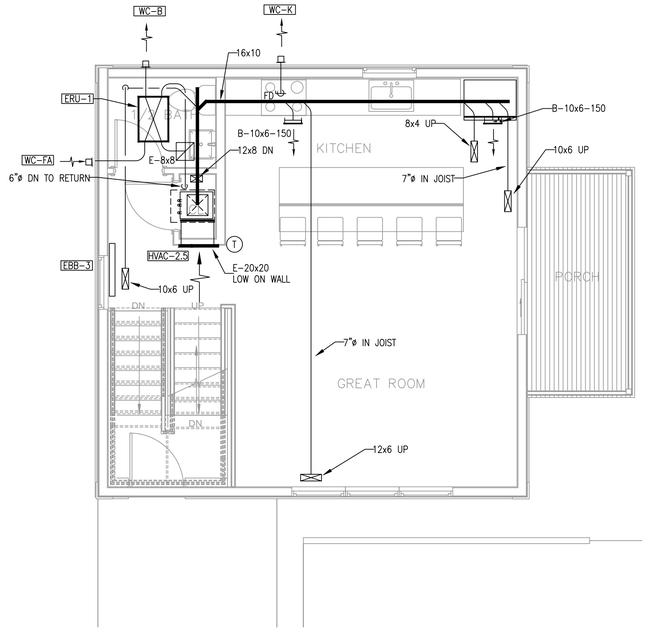
No.	Description	Date

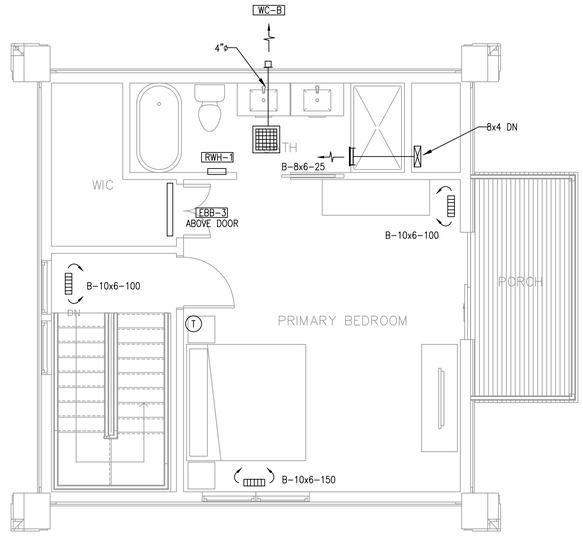
HVAC PLANS

H-101

21-23 KENT COURT







1 COTTAGE HVAC PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE

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CONSULTANTS:

REGISTRATION

COMMONWEALTH OF MASSACHUSETTS
MOHAMMED ZADE
No. 27233
REGISTERED PROFESSIONAL ENGINEER

Mohammed Zade

Project number	24007
Date	11/05/2024
Drawn by	
Checked by	
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

HVAC PLANS

H-103

21-23 KENT COURT

LEGEND

SUPPLY AIR DUCT UP	HOT WATER RETURN PIPE
SUPPLY AIR DUCT DOWN	HOT WATER SUPPLY PIPE
RETURN AIR DUCT UP	CONDENSATE DRAIN PIPE
RETURN AIR DUCT DOWN	PIPE UP
VOLUME DAMPER	PIPE DOWN
MOTORIZED DAMPER	BALL VALVE
FIRE DAMPER	GATE VALVE
1" LINED DUCTWORK	CHECK VALVE
SUPPLY AIR REGISTER	STRAINER
RETURN OR EXHAUST AIR REGISTER	UNION
SUPPLY AIR DIFFUSER	3-WAY CONTROL VALVE
	2-WAY CONTROL VALVE
CEILING TRANSFER GRILL	BALANCING VALVE
ACCESS DOOR	THERMOMETER
SELF BALANCING AIR VALVE	PRESSURE GAUGE
CEILING FIRE DAMPER	FLEXIBLE PIPE CONNECTION

EQUIPMENT TAG NUMBERS

EF-#	EXHAUST FAN
CU-#	CONDENSING UNIT
AC-#	SPLIT SYSTEM AC UNIT
HVAC-#	AIR HANDLER UNIT
UH-#	UNIT HEATER UNIT

E = EXHAUST RISER
# = REFERS TO RISER DIAGRAM

VS = SUPPLY VENTILATION RISER
# = REFERS TO RISER DIAGRAM

VR = RETURN VENTILATION RISER
# = REFERS TO RISER DIAGRAM

R = CONDENSER WATER RISER
# = REFERS TO RISER DIAGRAM

AIR OUTLET + INLET DESIGNATION

EXAMPLE:
TYPE OF GRILLE, DIFFUSER SEE SCHEDULE FOR SPECIFIC INFORMATION ABOUT THIS OUTLET/INLET TYPE — A-6x6-50 — SIZE OF GRILLE, DIFFUSER / AIRFLOW

THIS DESIGNATION FORMAT IS TYPICAL FOR ALL DIFFUSERS, GRILLES, AND REGISTERS, LAY-IN OR SURFACE MOUNTED, FOR SUPPLY, RETURN OR EXH.

EQUIPMENT SYMBOLS

- ROOFTOP UNIT
- ROOFTOP UPBLAST EXHAUST FAN
- EXHAUST CONTROL VALVE
- ROOFTOP UPBLAST EXHAUST FAN
- CONSTANT AIRFLOW REGULATOR DEVICE
- FIRE AND SMOKE DAMPER
- VD — VOLUME DAMPERS
- CABINET UNIT HEATER IN CEILING
- HORIZONTAL HVAC UNIT
- VERTICAL HVAC UNIT
- ROOF MOUNTED CONDENSING UNIT

CONTROL SYMBOLS

WALL MOUNTED THERMOSTAT/SENSOR

HUMIDISTAT/SENSOR

LOCAL CONTROL PANEL

GENERAL NOTES

1. PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO EXECUTE THE WORK SHOWN AND DESCRIBED. INSTALLATION OF MATERIALS SHALL MEET ALL APPLICABLE STATE, FEDERAL AND MUNICIPAL REQUIREMENTS.
2. OBTAIN PERMITS AND PAY ALL FEES FOR WORK AND REQUIRED INSPECTIONS.
3. MAINTAIN LIABILITY INSURANCE TO PROTECT OWNER AND THE CONTRACTOR FROM ANY AND ALL CLAIMS UNDER THE WORKER'S COMPENSATION ACT.
4. THE DRAWINGS SHALL CONSIDERED DIAGRAMMATIC ONLY. ALL MEASUREMENTS SHALL BE TAKEN FROM BUILDING SITE AND ARCHITECT'S DRAWINGS.
5. PROVIDE TEMPORARY MATERIAL STORAGE AS REQUIRED AND BE RESPONSIBLE FOR ANY LOSS OR DAMAGE THERETO.
6. SUBMIT DIGITAL COPIES OF SHOP DRAWINGS FOR REVIEW COVERING MAJOR MANUFACTURED ITEMS, IE. AIR HANDLING UNITS, REGISTERS & DIFFUSERS, WIRING DIAGRAMS, ETC.
7. KEEP ACCURATE RECORD OF "AS-BUILT" DRAWINGS AND SUBMIT THESE BEFORE FINAL CERTIFICATE OF COMPLETION.
8. ON COMPLETION OF THE WORK, REMOVE FROM THE PREMISES ALL TOOLS, DEBRIS, SURPLUS AND WASTE MATERIALS RESULTING FROM OPERATIONS UNDER THIS SECTION. CLEAN ALL EQUIPMENT AND LEAVE ALL ITEMS IN PERFECT ORDER READY FOR OPERATION.
9. AFTER ACCEPTANCE, INSTRUCT OWNER IN EQUIPMENT OPERATION AND PROVIDE HIM WITH OPERATING AND MAINTENANCE MANUALS STANDARDS AND EXTENDED WARRANTY DOCUMENTS, INSPECTION CERTIFICATES AND COPIES OF SHOP DRAWINGS OF INSTALLED EQUIPMENT.
10. THE CONTRACTOR SHALL, BEFORE FINAL PAYMENT IS MADE, GUARANTEE ALL MATERIALS AND WORKMANSHIP SUPPLIED BY HIM IN THE PERFORMANCE OF THIS CONTRACT FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE AND SHALL, WHEN CALLED UPON, MAKE GOOD WITHOUT FURTHER COST TO THE OWNER SUCH DEFECTS AS MAY APPEAR WITHIN THIS PERIOD.
11. SUPPLY AND INSTALL DUCTWORK AS INDICATED ON DRAWING. DUCTWORK SHALL BE FABRICATED AND INSTALLED IN STRICT ACCORDANCE WITH LATEST ASHRAE & SMACNA STANDARDS AND SHALL BE MANUFACTURED OF GALVANIZED STEEL UNLESS SPECIFICALLY NOTED OTHERWISE.
12. ADJUST ALL FAN SPEEDS TO DELIVER SHOWN AIR QUANTITIES. BALANCE ALL AIR SYSTEMS AND SUPPLY WRITTEN AIR BALANCING REPORTS IN TRIPLICATE. INCLUDE NECESSARY SPARE BELTS AND PULLEYS FOR FIELD ADJUSTMENT.
13. ALL VALVES AND FITTINGS SHALL BE SUITABLE FOR THIS PARTICULAR PIPING APPLICATION AND MINIMUM 150LBS PRESSURE RATING.
14. ALL DUCTWORK SHALL BE: 24 GAUGE UP TO 36 INCHES WIDE, 22 GAUGE 31 INCHES WIDE TO 60 INCHES WIDE, ROUND DUCT SHALL BE 24 GAUGE UO TO 10 INCHES DIAMETER, 22 GAUGE 11 TO 20 INCHES DIAMETER, 20 GAUGE ABOVE 20 INCHJES DIAMETER; ALL GALVINIZED SHEETMETAL. SEAL ALL JOINTS AND SLIPS WITH EC 800 OR OTHER SUITABLE SEALANT. ALL LONGITUDINAL SEAMS SHALL BE PITTSBURG LOCKING TAPE. ALL SLIPS SHALL BE REINFORCED BAR TYPE. FABRICATE AND INSTALL ALL DUCTS IN COMPLIANCE WITH SMACNA STANDARDS FOR LOW PRESURE DUCT CONSTRUCTION.
15. ALL DUCT CONNECTIONS TO FAN DRIVEN UNITS SHALL BE MADE WITH A FIREPROOF FLEXIBLE DUCT CONNECTOR.
16. BEFORE THE H.V.A.C. SYSTEM IS OPERATED, ALL DUCTS SHALL BE BLOWN OUT & THOUGHLY CLEANED. SYSTEM SHALL BE TEST AT FULL PRESSURE & ALL LEAKS & FAULTS CORRECTED.
17. INSTALL ALL PIPING AND VALVES AS HIGH AS POSSIBLE.
18. BALANCE THE AIR SYSTEM AS PER ASSOCIATED AIR BALANCING COUNCILS LATEST STANDARDS. SUBMIT BALANCING REPORT FOR ENGINEERS APPROVAL.
19. THESE DRAWINGS ARE DIAGRAMMATIC. FIELD CONDITIONS SHALL DETERMINE ACTUAL LOCATION OF ALL PIPING AND DUCTWORK.
20. ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.
21. DUCT CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOCAL MECHANICAL CODE AND THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION DUCT CONSTRUCTION STANDARDS UNLESS OTHERWISE INDICATED IN THESE DRAWINGS OR IN THE SPECIFICATIONS.
22. ALL DUCT SUPPORTS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS UNLESS OTHERWISE NOTED.

GENERAL NOTES

SHOULD ANY CONTRADICTION, AMBIGUITY, ERROR, INCONSISTENCY, OMISSION OR INCOMPLETE SYSTEM APPEAR IN OR BETWEEN ANY OF CONTRACT DOCUMENTS THE CONTRACTOR SHALL, BEFORE SUBMITTING THE FINAL BID AND SIGNING THE CONTRACT FOR CONSTRUCTION, NOTIFY THE ARCHITECT AND REQUEST A WRITTEN RESOLUTION AS TO WHICH METHODS OR MATERIALS WILL BE REQUIRED. IN THE EVENT OF CONFLICTING REQUIREMENTS OF STANDARDS , DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL COMPLY WITH THE MORE STRINGENT REQUIREMENTS. BEFORE SUBMITTING THE FINAL BID AND THE SIGNING THE CONTRACT FOR THE CONSTRUCTION THE CONTRACTOR SHALL OBTAIN A WRITTEN INTERPRETATION FROM THE ARCHITECT, IN NO CASE SHALL THE CONTRACTOR PROCEED WITH THE AFFECTED WORK UNTIL ADVISED BY THE ARCHITECT.

IF THE CONTRACTOR FAILS TO MAKE A REQUEST FOR INTERPRETATION OR RESOLUTION NO EXCUSE WILL BE ACCEPTED FOR FAILURE TO CARRY OUT THE WORK IN A SATISFACTORY MANNER, AS INTERPRETED BY THE ARCHITECT. THIS GENERALLY MEANS THE USE OF THE HIGHEST QUALITY MATERIAL, MOST EXPENSIVE WAY OF PERFORMING WORK AND PROVIDING COMPLETE FUNCTIONING SYSTEM FOR PROPER OPERATION.

EACH AND EVERY TRADE OR SUBCONTRACTOR WILL BE DEEMED TO HAVE FAMILIARIZED THEMSELVES WITH ALL THE CONTRACT DOCUMENTS OF THIS PROJECT, INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND SITE WORK, AND TO HAVE VISITED THE SITE, SO AS TO AVOID ERROR, OMISSIONS AND MISINTERPRETATIONS. RELATED INFORMATION MAY BE PROVIDED ON CONTRACT DOCUMENTS OTHER THAN THOSE ASSOCIATED WITH THE SUBCONTRACTOR'S TRADE. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RELATED WORK OF ALL THE CONTRACT DOCUMENTS. NO ADDITIONAL COMPENSATION WILL BE AUTHORIZED FOR ALLEGED ERRORS, OMISSIONS AND MISINTERPRETATIONS WHETHER THEY ARE A RESULT OF FAILURE TO OBSERVE THIS REQUIREMENT OR NOT.

ENERGY CODE 2021 REQUIREMENTS

APPLICABILITY (CONTRACTOR SHALL PROVIDE ALL ITEMS LISTED BELOW)

RESIDENTIAL BUILDING. FOR THIS CODE, INCLUDES DETACHED ONE- AND TWO-FAMILY DWELLINGS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) AS WELL AS GROUP R-2, R-3 AND R-4 BUILDINGS THREE STORIES OR LESS IN HEIGHT ABOVE GRADE PLANE.

R401.2 COMPLIANCE.
PROJECTS SHALL COMPLY WITH SECTIONS IDENTIFIED AS "MANDATORY" AND WITH EITHER SECTIONS IDENTIFIED AS "PRESCRIPTIVE" OR THE PERFORMANCE APPROACH IN SECTION R405. (PRESCRIPTIVE METHOD IS CHOSEN)

R403.1.1 PROGRAMMABLE THERMOSTAT.

PROVIDE, AT LEAST ONE THERMOSTAT PER DWELLING UNIT. THERMOSTAT SHALL BE CAPABLE OF CONTROLLING THE HEATING AND COOLING SYSTEM ON A DAILY SCHEDULE TO MAINTAIN DIFFERENT TEMPERATURE SET POINTS AT DIFFERENT TIMES OF THE DAY. THIS THERMOSTAT SHALL INCLUDE THE CAPABILITY TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55°F (13°C) OR UP TO 85°F (29°C). THE THERMOSTAT SHALL INITIALLY BE PROGRAMMED WITH A HEATING TEMPERATURE SET POINT NO HIGHER THAN 70°F (21°C) AND A COOLING TEMPERATURE SET POINT NO LOWER THAN 78°F (26°C).

PROVIDE PER R403.2.1 INSULATION (PRESCRIPTIVE).
ANY SUPPLY DUCT IN ATTIC SHALL BE INSULATED TO A MINIMUM OF R-12. ALL OTHER DUCTS SHALL BE INSULATED TO A MINIMUM OF R-6.

PROVIDE PER R403.2.2 SEALING (MANDATORY).
ALL DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH EITHER THE INTERNATIONAL MECHANICAL CODE OR INTERNATIONAL RESIDENTIAL CODE, AS APPLICABLE.

DO NOT USE BUILDING CAVITIES PER R403.2.3. (MANDATORY).
BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR PLENUMS.

PROVIDE VENTILATION R403.5 AS SHOWN (MANDATORY).
THE BUILDING SHALL BE PROVIDED WITH VENTILATION THAT MEETS THE REQUIREMENTS OF THE INTERNATIONAL RESIDENTIAL CODE OR INTERNATIONAL MECHANICAL CODE, AS APPLICABLE, OR WITH OTHER APPROVED MEANS OF VENTILATION. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENTILATION SYSTEM IS NOT OPERATING.

R403.2 HOT WATER BOILER OUTDOOR TEMPERATURE SETBACK.
HOT WATER BOILERS THAT SUPPLY HEAT TO THE BUILDING THROUGH ONE- OR TWO-PIPE HEATING SYSTEMS SHALL HAVE AN OUTDOOR SETBACK CONTROLL THAT LOWERS THE BOILER WATER TEMPERATURE BASED ON THE OUTDOOR TEMP.

R403.3.2 SEALING (MANDATORY)
DUCTS, AT HANDLERS AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH EITHER THE INTERNATIONAL MECHANICAL CODE OR IRC, AS APPLICABLE

EXCEPTIONS:
1. AIR-IMPERMEABLE SPRAY FOAM PRODUCTS SHALL BE PERMITTED TO BE APPLIED WITHOUT ADDITONAL JOINT SEALS
2. FOR DUCTS HAVING A STATIC PRESSURE CLASSIFICATION OF LESS THAN 2 INCHES OF WATER COLUMN (500 PA) , ADDITIONAL CLOSURE SYSTEMS SHALL NOT BE REQUIRED TO CONTINUOUSLY WELDED JOINTS AND SEAMS, LOCKING TYPE JOINTS AND SEAMS OF OTHER THAN THE SNAP-LOCK AND BUTTON-LOCK TYPES.

403.3.2.1- SEALED AIR HANDLER
AIR HANDLERS SHALL HAVE A MANUFACTURERS DESIGNATION OF AIR LEAKAGE OF NO MORE THAN 2 PERCENT OF THE DESIGN AIR FLOW RATE WHEN TESTED IN ACCORDANCE WITH ASHRAE 193.

R403.3.3 DUCT TESTING
DUCRS SHALL BE PRESSURE TESTED THROUGH ROUGH IN TEST, POST CONSTRUCTION TEST

EXCEPTION- NOT REQUIRED WHERE DUCTS AND AIR HANDLERS ARE LOCATED ENITRLEY THROUGH THE BUILING THERMAL ENVELOPE

MAIN/BRANCH DUCT SCHEDULE

SIZE	MAX. CFM	SIZE	MAX. CFM
6" DIA	100	12x8	350
7" DIA	150	12x8	400
8" DIA	200	12x8	450
9" DIA	300	14x8	500
10" DIA	400	16x8	600
8x6	200	18x8 OR 16x10	700
8x8	250	20x8 OR 18x10	800
10x8	300	24x8 OR 20x10	1000
		30x8 OR 24x10	1200

NOTE: MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 4'
USE INSULATED SEMI RIGID BUCK DUCT.

MINIMUM RETURN DUCT PER HERS

CAPACITY	RETURN	FILTER
1.5 TON	ø16"	500 INCH2
2.0 TON	ø18"	600 INCH2
2.5 TON	ø20"	500 INCH2

MAXIMUM RETURN DUCT 30FT

INSULATION NOTES

CONTRACTOR SHALL FOLLOW THE MOST STRINGENT INSULATION REQUIREMENT FOR EACH ITEM

THE FOLLOWING SYSTEMS SHALL BE INSULATED.
DUCT LINER SHALL BE CLOSED CELL TYPE, GERM PROOF

IECC 2015 REQUIREMENTS:

1. HEATING HOT WATER MAINS AND BRANCHES:
   PIPING < 1" REQUIRES 1 1/2" INSULATION
   PIPING > 1½" REQUIRES 2" INSULATION
2. SUPPLY & RETURN DUCTWORK FROM HVAC UNITS:
   1 1/2" INSULATION MIN. R-6

LEED/ASHRAE 2013 REQUIREMENTS:

1. HEATING HOT WATER MAINS AND BRANCHES:
   PIPING < 1 1/2" REQUIRES 1½" INSULATION
   PIPING > 1½" REQUIRES 2" INSULATION
2. SUPPLY & RETURN DUCTWORK FROM HVAC UNITS:
   1" INSULATION MIN. R-6

GENERAL INSULATION REQUIREMENTS:

1: ALL LINED SUPPLY, RETURN AND TRANSFER DUCTWORK SHALL BE 1" DUCT LINER
   -DUCT INSUALTION SHALL CONTINUE OVER DUCT AT LINED POINT
   -FIRST 10' OF SUPPLY AND RETURN FOR ALL ERU'S AND HVAC UNITS
2. CONDENSATE DRAIN: 1"
3. ALL DUCTWORK IN CEILING SPACE SHALL HAVE R-6 INSULATION,
4. REFRIGERANT PIPING ¾" ARAMFLEX

ALL DUCTWORK ON ROOF OR UNCONDITIONED SPACE SHALL BE INSULATED WITH R-12 INSULATION AND COVERED WITH EPDM ROOFING MATERIAL FOR WATER TIGHT INSTALLATION.

APARTMENT EXHAUST NOTES

I) EACH APARTMENT SHALL BE PROVIDED WITH A CONNECTION POINT FOR A CLOTHES WASHER VENT.
II) PROVIDE AND INSTALL THEDRYERBOX ®, SIZED TO THE WALL THICKNESS, SHALL BE PROVIDED AT EACH SCHEDULED DRYER LOCATION
III) DRYER VENT PIPE SHALL BE MINIMUM 28 GAUGE RIGID METAL, WITH NO SCREWS FOR ATTACHMENT, AND CONSTRUCTED AND INSTALLED PER SMACNA STANDARDS.
IV) DRYER VENTING SHALL USE THE DRYER ELL FOR THE FIRST ELBOW, LOCATED AND COORDINATED TO MINIMIZE ANY ADDITONAL BENDS. DUCTWORK SHALL HAVE THE LAST (5) FEET MINIMUM PITCHED TO THE EXTERIOR EXHAUST POINT.
V) DUCTWORK SHALL EXHAUST TO THE EXTERIOR TO A NON-SCREENED VINYL SIDEWALL HOOD PROVIDED UNDER THIS SCOPE AND COLORED TO MATCH THE ADJACENT EXTERIOR FINISH.
VI)INSULATE WITH R-4 MINIMUM LAST 10' OF EXHAUST SEAL AGAINST EXTERIOR WALL
VII)LAUNDRY VENT DUCT SHALL BE ALUMINUM TYPE TO PREVENT CORROSION AND TAPE SHALL BE IN COMPLIANCE WITH UL FOR DRYER DUCT CONNECTIONS

KITCHEN EXHAUST
I) EACH APARTMENT SHALL BE PROVIDED WITH A CONNECTION POINT FOR EXHAUSTING A RANGE HOOD.
II) COORDINATE SIZE AND CONNECTION POINT WITH THE GENERAL CONTRACTOR, APPLIANCE SUPPLIER AND CABINET SUPPLIER.
III) EXHAUST PIPE SHALL BE MINIMUM 26 GAUGE RIGID METAL, WITH NO SCREWS FOR ATTACHMENT, AND CONSTRUCTED AND INSTALLED PER SMACNA STANDARDS. DUCTWORK SHALL HAVE THE LAST (5) FEET MINIMUM PITCHED TO THE EXTERIOR EXHAUST POINT.
IV) DUCTWORK SHALL EXHAUST TO THE EXTERIOR TO A SCREENED VINYL SIDEWALL HOOD PROVIDED UNDER THIS SCOPE AND COLORED TO MATCH THE ADJACENT EXTERIOR FINISH.
V)INSULATE WITH R-4 MINIMUM LAST 10' OF EXHAUST SEAL AGAINST EXTERIOR WALL

BATHROOM EXHAUST
I) EACH APARTMENT SHALL BE PROVIDED WITH A CONNECTION POINT FOR EXHAUSTING A BATHROOM
II) COORDINATE SIZE AND LOCATION WITH THE GENERAL CONTRACTOR AND ARCHITECT
I) EXHAUST PIPE SHALL BE MINIMUM 26 GAUGE RIGID METAL, CONSTRUCTED AND INSTALLED PER SMACNA STANDARDS. DUCTWORK SHALL HAVE THE LAST (5) FEET MINIMUM PITCHED TO THE EXTERIOR EXHAUST POINT.
IV) DUCTWORK SHALL EXHAUST TO THE EXTERIOR TO A SCREENED VINYL SIDEWALL HOOD PROVIDED UNDER THIS SCOPE AND COLORED TO MATCH THE ADJACENT EXTERIOR FINISH.
V)INSULATE WITH R-4 MINIMUM LAST 10' OF EXHAUST SEAL AGAINST EXTERIOR WALL

PROJECT NAME
21-23 KENT COURT

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Project number	24007
Date	11/05/2024
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REVISIONS

No.	Description	Date

HVAC NOTES

H-200

21-23 KENT COURT

DIFFUSER/REGISTER SCHEDULE

LEGEND: (N)- #x# - ###
- CFM
- DIMENSIONS
- TYPE

TYPE	DESCRIPTION	MODEL (BASED ON TITUS)
A	LOUVER FACE CEILING DIFFUSER FOR SHEET ROCK CEILING INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR. WITH OPPOSIBLE BLADE DAMPER	TITUS TDCA, BORDER 1
A1	LOUVER FACE CEILING DIFFUSER FOR 2'x2' LAY-IN CEILING INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR. WITH OPPOSIBLE BLADE DAMPER	TITUS TDCA, BORDER 3
B	DOUBLE DEFLECTION REGISTER FOR SHEET ROCK INSTALLATION. PROVIDE ROUND TO SQUARE ADAPTOR.	TITUS 272RS
E	DOUBLE DEFLECTION GRILLE FOR SHEET ROCK NSTALLATION. WITH OPPOSIBLE BLADE DAMPER	TITUS 25 RS
E1	DOUBLE DEFLECTION GRILLE FOR SHEET ROCK NSTALLATION. WITH OPPOSIBLE BLADE DAMPER ALUMINUM TYPE	TITUS 25 RS
F	PERFORATED SIGHT PROOF EGGCRATE GRILLE FOR SHEET ROCK CEILING INSTALLATION.	TITUS 45F
G	LINEAR DIFFUSER, LINEAR STYLE 1 1/2" SLOT SPACING WIDITH, 4 SLOT FOR SHEET ROCK CEILING INSTALLATION. 100 CFM/FT WITH DAMPER, INSULATED PLENUM	TITUS MLR-40, BORDER TYPE 22

FIRE SAFE THROUGH FLOORS

TYPE	SIZE	HILTI	MATERIAL	RATING	BOTTOM	TOP	CHASE WALL
STEEL/CAST COPPER/EMT	MAX 4"	FS-ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	REQUIRED
STEEL/CAST 4" EMT/ 2" FLEX	MAX 6" –	FS-ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
STEEL/CAST COPPER/EMT	MAX 4"	CP-620	FIRE FOAM	1HRS	FIRE STOP	FIRE STOP	REQUIRED
PEX	MAX 1"	CP 645	INTUMESCENT STRIP W/COLLAR	1HRS	BOTH SIDES	BOTH SIDES	NOT REQUIRED
PVC PIPE	MAX 2"	FS-ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
PVC PIPE	MAX 4"	FS-ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	REQUIRED
PVC PIPE	MAX 4"	CP 645	INTUMESCENT STRIP W/COLLAR	1HRS	COLLAR	FIRE STOP	NOT REQUIRED
REFRIGERANT	–	FS-ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
4" DUCT	MAX 4"	FS-ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
INSULATED COPPER/STEEL	MAX 2"	FS-ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
CABLES	MAX 2"	FS-ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED

CONSTRUCTION NOTES

-ALL CEILING MOUNTED HVAC UNITS SHALL BE HUNG FROM STRUCTURAL STEEL WITH SPRING ISOLATORS,
-PROVIDE FLEXIBLE DUCT CONNECTIONS AT HVAC UNIT, AND ALL FANS
-PROVIDE ISOLATION VALVES, CONTROL VALVES, DRAIN AND STRAINER FOR ALL WATER BASED HVAC UNITS.
-PROVIDE SECONDARY DRAIN PAN WITH LEAK DETECTOR TO SHUT DOWN HVAC UNIT.
-MAINTAIN ACCESS DOORS AND CODE REQUIRED CLEARANCES FOR ALL FILTER REPLACEMENT, EQUIPMENT REPAIR AND ELECTRICAL CONTROLS,
-PRIOR TO ANY INSTALLATION, COORDINATE CLEARANCES WITH ALL TRADES.
-ALL CONDENSATE DRAINS SHALL RUN TO NEAREST STORM CONNECTION PROVIDED BY P.C. REFER TO PLUMBING DRAWINGS
-ALL CONDENSING UNITS SHALL BE MOUNTED ON CONCRETE PAD ON VIBRATION PADS, OR MOUNTED ON SLEEPERS ANCHORED TO ROOF.
-ALL SPLIT SYSTEM CONDENSER UNITS IF LOCATED AWAY FROM THE BUILDING SHALL BE PIPED UNDERGROUND UP TO BUILDING, PROVIDE MINIMUM 18" COVER.
-PROVIDE MAINTENANCE PADS MINIMUM 4" HIGH FOR ALL FLOOR-MOUNTED EQUIPMENT PUMPS AND BOILERS.
-PROVIDE 13 FILTERS FOR ALL INDOOR UNITS, MERV 8 FOR ESTAR/LEED BUILDINGS
-PROVIDE 11 FILTERS FOR ALL OUTSIDE AIR UNITS, MERV 8 FOR ESTAR/LEED BUILDINGS
-ALL PIPING CONNECTED TO VIBRATION-ISOLATED EQUIPMENT TO BE ISOLATED BY MEANS OF VIBRATION ISOLATORS, RESILIENT LATERAL SUPPORTS AND RESILIENT PENETRATION SLEEVE /SEALS. THIS APPLIES TO FIRST 50 FEET OF TOTAL PIPE LENGTH OR THE ENTIRE PIPE WITHIN MECH. ROOM (WHICHEVER IS LONGER). PIPES THAT ARE 4" DIAMETER OR LARGER TO BE ISOLATED THROUGHT THE BUILDING REFER TO SPEC SECTION 230548 FOR ADDITIONAL INFORMATION
-PROVIDE EXPANSION LOOPS AS REQIRED
-ALL FRESH AIR DUCTS SHALL HAVE MOTORIZED DAMPERS INTERLOCKED WITH UNIT AND HAVE VOLUME DAMPERS

LOUVER NOTES

LOUVER DIMENSIONS SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS AND FIELD CONDITIONS
LOUVERS SHALL BE AMCA CERTIFIED FOR WIND DRIVEN RAINS
BLADES SHALL BE 4" DEEP MOUNTED BETWEEN 35-45 DEGREES WITH DRAINABLE BLADE AND DRAINABLE HEAD
PROVIDE BIRD SCREENS IN COMPLIANCE WITH IMC 401
PROVIDE CLOR ANODIZED LOUVER PER ARCHITECTS DIRECTION
LOUVERS SHALL BE AS MANUFACTURED BY GREENHECK MODEL EHH 401 SERIES

CEILING RADIATION DAMPERS

CEILING RADIATION DAMPERS SHALL BE AS MANUFACTURED BY GREENHECK
MODEL CRD-1WT FOR SIDE INLET
MODEL CRD-2WT FOR TOP INLET

CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE UL LISTED DAMPER WITH THE UL LISTING OF THE CEILING

APPROVED CEILING RATINGS ARE
L-528,546,558,562,574,576,581,583,585,592
M-501,503,508
P-533,538,545,547,548,554

FIRE RATED CEILING NOTES:

WHEN DUCT PENETRATE RATED CEILING:

-ALL RECESSED DIFFUSERS AND REGISTERS SHALL HAVE RADIATION DAMPERS.
-ALL UNITS DUCTED TO PLENUM SPACE SHALL HAVE CEILING FIRE DAMPERS TO MEET UL 555C -ALL RETURN DUCTS SHALL BE BELOW THE RATED CEILING, DROPPED CEILING AREAS SHALL NOT BE RATED CEILING UNLESS SHOWN OTHERWISE
-ALL RETURN AIR GRILLES IN RATED CEILING SHALL HAVE CEILING FIRE DAMPERS
-ALL UNIT DISCHARGES SHALL BE OFFSET TO GET INTO PROPER JOIST SPACES, CARRY TRANSITION PIECE AS NEEDED
-ALL DUCTS LARGER THAN 4"ø DIAMETER SHALL HAVE FIRE DAMPERS AT CEILING PENETRATIONS

FIRE/SMOKE DAMPER REQUIREMENTS

IMC 607.5.5 REQUIRES FIRE/SMOKE DAMPER AT ALL SHAFT PENETRATIONS

IMC 607.6.1. REQUIRES DAMPER EXCEPT
-DUCT CAN PENETRATE UP TO THREE FLOORS IF, 26 GAUGE, OPEN FROM ONE UNIT TO OUTSIDE, 4" ROUND AND SEALED AROUND AND CEILING GRILLES HAVE RADIATION DAMPERS

IMC 6075.3 REQUIRES FIRE PARTITION PENETRATIONS TO HAVE FIRE DAMPERS EXCEPT
-BUILDING IS SPRINKLED OR
-DUCT IS MINIMUM 26 GAUGE, LESS THAN 100 SQ-INCH AND
-DUCT IS ABOVE CEILING AND,
-DUCT IS NOT TERMINATED AT FIRE RATED WALL AND
-MINIMUM 12" SLEEVE IS PROVIDED

MULTIZONE HEAT PUMP UNIT SCHEDULE (NON-SIMULTANE HEAT AND COOL)

TAG NO.	TON	REFRIG	OUTDOOR UNIT HEAT	OUTDOOR UNIT COOL	OUTDOOR UNIT VOLT/PHS	OUTDOOR UNIT AMP	OUTDOOR UNIT MCA	OUTDOOR UNIT KW	DUCTED/NON-DUCTED SEER	DUCTED/NON-DUCTED EER	DUCTED/NON-DUCTED HSPF	DUCTED/NON-DUCTED CAP/17F	MAX # OF INDOOR	NOISE @3.5" PRESSURE	MITSUBISHI MODEL#	DIMENSIONS	MAX REF LENGHT EACH/TOTAL/HEIGHT	ESTAR
CU-3	3.0	R410A	40,000	36,000	208/1	29.5	40	4.3	15.0 19.0	10.8 13.4	10.1 11.0	2.50 2.85		54 DBA	MXZ-3C36NAHZ4-U1	42"WX13"DX53"H-275 LBS	130 BELOW/164 ABOVE 262/492	YES

WITH EACH UNIT PROVIDE
-3R RATED FUSED DISCONNECT SWITCH
-SEACOST PROTECTION OPTION,
-HEATING VALUES ARE AT 5F, USE 95% FACTOR FOR RUNS MORE THAN 50FT
-85% AT -13F
-PROVIDE CLEARANCES OF 6" BEHIND, 15" ON THE RIGHT SIDE AND 20" ON THE FRONT AND ABOVE
-PROVIDE BRANCH BOX FOR MORE THAN 3 UNIT CONNECTIONS
--208/1/.5A POWER TO EACH BC CONTROLLER,
-PROVIDE COLD TEMPERATURE BAFFLE

MULTIZONE HEAT PUMP UNIT SCHEDULE (NON-SIMULTANE HEAT AND COOL)

TAG NO.	TON	CFM	INDOOR UNIT HEAT	INDOOR UNIT COOL	INDOOR UNIT VOLT/PHS	INDOOR UNIT SP	INDOOR UNIT KW		NOISE	MITSUBISHI MODEL#	DIMENSIONS
WHP-2	.75	300	10,000	9,000	208/1	0.1"	.6		45 DBA	MSZ-GL09NA-U1	39"WX12"DX10"H-150LBS
WHP-1	1	400	15,000	12,000	208/1	0.1"	.6		45 DBA	MSZ-GL12NA-U1	39"WX12"DX10"H-150LBS

NOTE
UNITS ARE BASED ON HIGH EXTERNAL STATIC PRESSURE OPTION, STANDARD PRESSURE IS 0.1"
HEATING VALUES ARE AT %75 WHEN OUTDOORS IS -13 DEGREE F
WITH EACH UNIT PROVIDE ME PROGRAMMABLE CONTROLLER

WALL CAP SCHEDULE

TAG	BRAND	SIZE	DIMENSIONS	LOCATION	DUCT
WC-B	X-VENT THVB	4" VENT	7.5"X7.5"X1.5"	BATHROOM EXHAUST	ø4"-NO FLEX
WC-K	X-VENT THVB	6" VENT	10"x9"X5"	KITCHEN EXHAUST	ø6" W/FD AT CEILING PENETRATION
WC-D	X-VENT THVB	4" VENT	7.5"X7.5"X1.5"	DRYER EXHAUST-REMOVE SCREEN	ø4" AL WITH HARD ELBOW
WC-FA	X-VENT TEVB	6" VENT	7.5"X7.5"X1.5"	FRESH AIR INTAKE	ø6"-INSULATED

VYNIL COLOR TO MATCH SIDING,
MATCH DUCT SIZE CONNECTED TO UNIT.
ALL EXHAUST DUCTS SHALL HAVE R-6 INSULATION FIRST 10FT FROM EXTERIOR WALL IN
ALL FRESH AIR INTAKE DUCTS SHALL HAVE MOTORIZED DAMPER AT ENVELOPE PENETRATION WITH ACCESS PANEL.
DAMPER SHALL BE INTERLOCKED WITH HVAC UNIT
FOR COMBINED BATHROOMS, USE 6" DUCT AFTER COMBINE AND USE WC-K WALL CAP
COMBINE EXHAUST TO ONE WALL CAP WITH SEPARATE DUCT CONNECTIONS IF LOCATED NEXT TO EACH OTHER COORDINATE WITH ARCHITECT

SPLIT SYSTEM HEAT PUMP UNIT INDOOR SCHEDULE

TAG NO.	TON	CFM	REFRIG	INDOOR UNIT HEAT	INDOOR UNIT COOL	INDOOR UNIT VOLT/PHS	INDOOR UNIT AMP	NOISE	MITSUBISHI MODEL#	DIMENSIONS	NOISE
HHP-2	2	800	R410A	27,000	24,200	208/230/1	15	34/30/49 DBA	PEAD-KP18NA	30" X 27" X 10"	40 DBA
HVAC-2	2	800	R410A	27,000	24,200	208/230/1	15	34/30/49 DBA	SVZ-KP24NA	22" X 22" X 50"	40 DBA
HVAC-2.5	2.5	1000	R410A	34,000	30,000	208/230/1	15	34/30/49 DBA	SVZ-KP30NA	22" X 22" X 50"	40 DBA

PROVIDE ENERGY STAR THERMOSTAT WITH CO2 SENSOR/ALARM, SECONDARY DRAIN PAN WITH LEAK SENSOR

ELECTRIC HEATER SCHEDULE

TYPE	KW	VOLT/PH	DIMENSIONS	MODEL NUMBER-COLOR BY ARCH
RWH-1	1	120/1		Q'MARK#CRA 1512-T2
RWH-2	2	120/1	19"HX16"WX4"D	Q'MARK# MCSSARWH1802/HTWHS1
RWH-4	4	208/1	19"HX16"WX4"D	Q'MARK# MCSSARWH4808/HTWHS1
SWH-4	4	208/1	19"HX16"WX4"D	Q'MARK# MCSSARWH4808/HTWHSM
EBB-2	0.4	120/1		Q'MARK#QMK-2512W-W/T'STAT
EBB-3	0.75	120/1		Q'MARK#QMK-2513W-W/T'STAT
EBB-4	1	120/1		Q'MARK#QMK-2514W-W/T'STAT
EBB-6	1.5	120/1		Q'MARK#QMK-2516W-W/T'STAT
UH-5	5	208/1		Q'MARK#MUH-35-W/T'STAT
CCH-4	4	208/1		Q'MARK#CDF548-W/T'STAT

SOME HEATERS MAY NOT NOTED/USED ON PLANS

SPLIT SYSTEM HEAT PUMP UNIT OUTDOOR SCHEDULE

TAG NO.	TON		REFRIG	OUTDOOR UNIT HEAT	OUTDOOR UNIT COOL	OUTDOOR UNIT VOLT/PHS	OUTDOOR UNIT AMP		MITSUBISHI MODEL#	DIMENSIONS	NOISE
CU-2.0	2		R410A	27,000	24,000	208/1	30		SUZ-KA24NAHZ	43"WX10"DX12"H-37LBS	33 DBA
CU-2.5	2.5		R410A	34,000	30,000	208/1	40		SUZ-KA30NAHZ	43"WX10"DX12"H-37LBS	33 DBA

WITH EACH UNIT PROVIDE
-3R RATED FUSED DISCONNECT SWITCH
-PROVIDE AIR PROTECT GUIDE

CEILING MOUNTED EXHAUST FAN

TAG	LOCATION	TYPE	DRIVE	CFM	V/ø	LAMP	SP	NOISE SONES	DIMENSIONS	PANASONIC MODEL	ESTAR	CONTROLS
EF-1	BATHROOM	CEILING	DIRECT	110	120/1	(2)PL18	0.1"	0.3	14.5"X17"X11.5"H-16LBS-6" DUCT	FV-05-11VKSL1	YES	HIGH/LOW FAN REQUIRES TWO WALL SWITCHES (HAS LIGHT)

PROVIDE PANASONIC FIRE DAMPER ENCLOSURE FOR ALL CEILING BATHROOM FANS.

ENERGY RECOVERY UNITS

TAG #	EQUIPMENT PERFORMANCE CFM	EFF HEAT	EFF COOL	ESP (IN WG)	VOLT	FLA (AMP)	MODEL	DB	ESTAR	HVI	DESIGN	DIMENSIONS
ERU-1	95	%60	%80	0.40	120/1	1.4	PANASONIC-FV-10VEC2	–	YES	YES	IN/OUT OPPOSITE SIDE	28"LX23"WX9-6" DUCT

PROVIDE CONTROLS AS FOLLOWS
-PROVIDE BOOST SWITCH IN BATHROOM
-PROVIDE MERV 8 FILTER FOR STANDARD DESIGN

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

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No. 27233
REGISTERED PROFESSIONAL ENGINEER
Mohammed Zade

Project number	24007
Date	11/05/2024
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REVISIONS

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HVAC SCHEDULES

H-201

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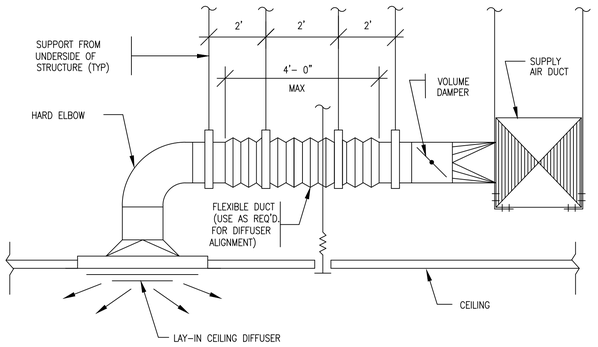
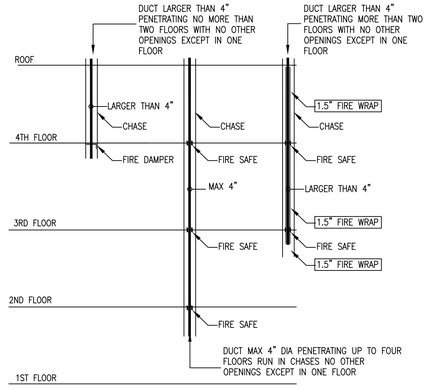


NOTES:

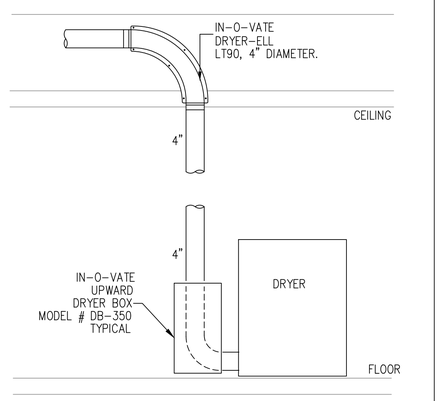
(1) MAXIMUM SAG 1/2" PER FOOT.

CEILING DIFFUSER BRANCH DUCTS | N.T.S.

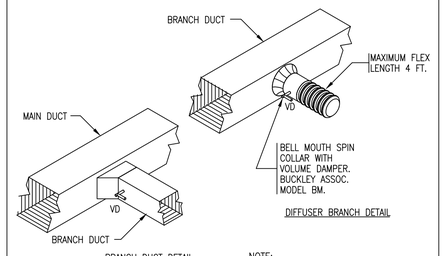


PER IMC 2015 FIGURE 607.6.1(2)

DUCT RISER THROUGH FLOORS | NTS

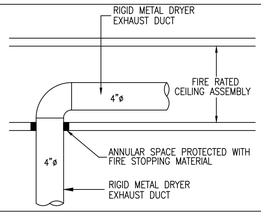


TYPICAL DRYER BOX AND DRYER ELL DETAIL | NTS

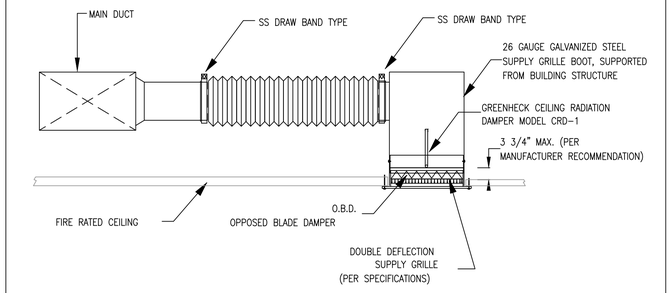


NOTE:
IN AREAS WITH SHEETROCK CEILINGS PROVIDE REMOTELY OPERATED VOLUME DAMPERS.

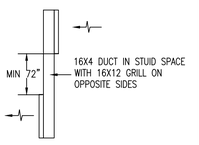
DUCT DETAILS | NTS

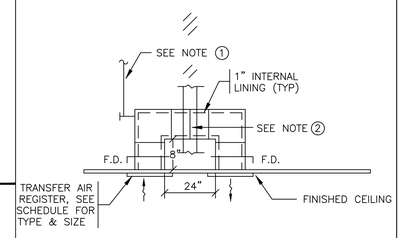


FLOOR/CEILING DUCT PROTECTION DETAIL | NTS



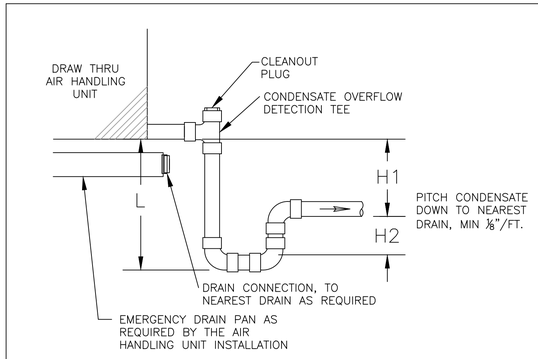
SUPPLY GRILLE/CRD INSTALLATION DETAIL | NTS





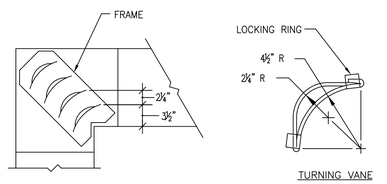
NOTES:
(1) TRANSFER DUCTS TO BE SUPPORTED FROM STRUCTURE ABOVE.
(2) FIRE DAMPER WHERE APPLICABLE, SEE PLANS FOR LOCATION.
(3) OPEN END DUCT WxH.

CEILING AND WALL TRANSFER DUCT DETAIL | N.T.S.



H1 = MAX NEGATIVE STATIC PRESSURE PLUS 1"
H2 = H1/2
L = H1 + H2 + PIPE DIAMETER + INSULATION THICKNESS

CONDENSATE DRAIN DETAIL | NTS



NOTES:
1. LOCKING LUGS INTEGRAL WITH VANE.
2. MAXIMUM UNSUPPORTED VANE LENGTH 48".
3. FRAMES-BOLTED OR RIVETED TO ELBOW.
4. VANES AND FRAMES-SAME GAUGE AS ELBOW.

DOUBLE THICKNESS TURNING VANES FOR SQUARE ELBOW | N.T.S.

PROJECT NAME

21-23 KENT COURT

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No. 27233
REGISTERED PROFESSIONAL ENGINEER

Mohammed Zade

Project number	24007
Date	11/05/2024
Drawn by	
Checked by	
Scale	1/4" = 1'-0"

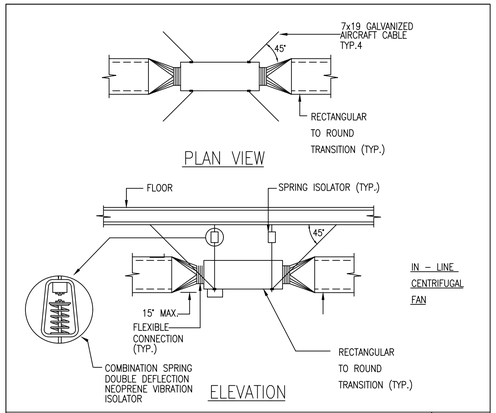
REVISIONS

No.	Description	Date

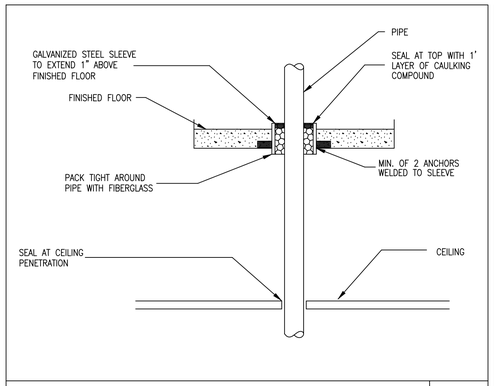
HVAC DETAILS

H-202

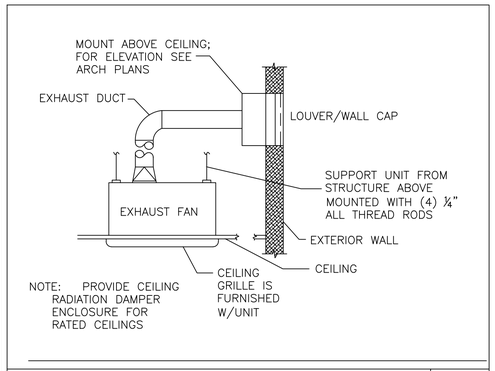
21-23 KENT COURT



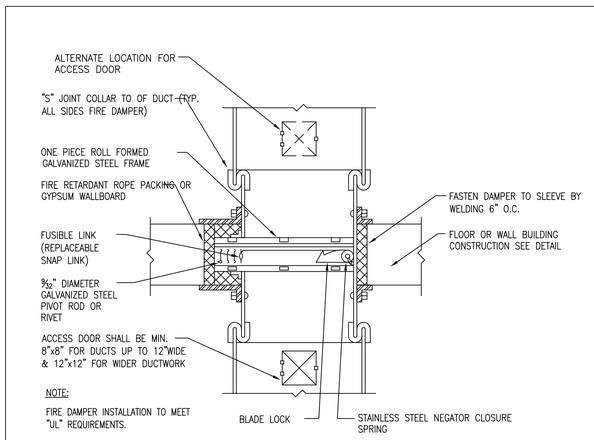
IN LINE FAN HANGER DETAIL | NTS



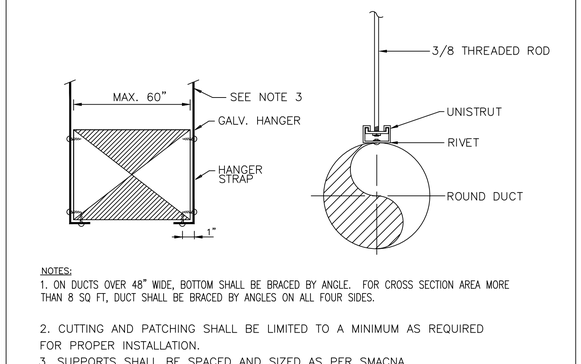
PIPE SLEEVE THRU FLOOR PENTRATION DETAIL | NTS



CEILING EXHAUST FAN DETAIL | NTS



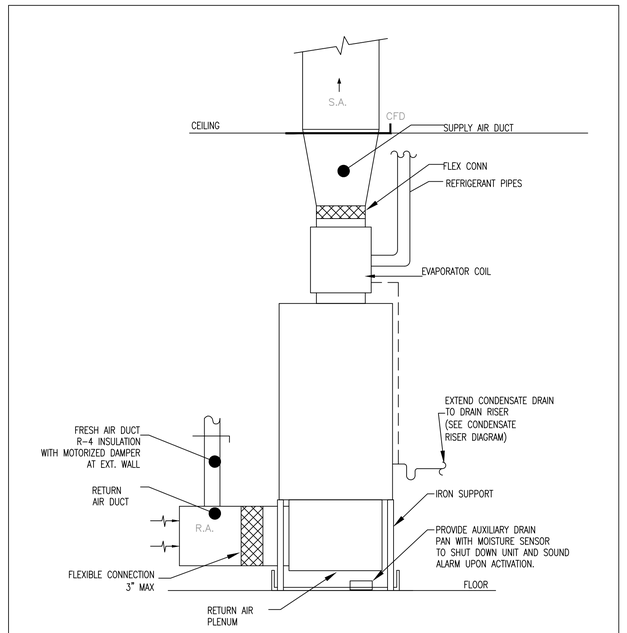
FIRE DAMPER W/BLADES OUTSIDE THE AIR STREAM | N.T.S.



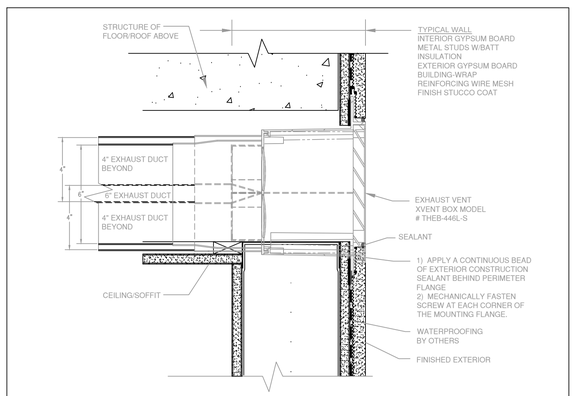
NOTES:
1. ON DUCTS OVER 48" WIDE, BOTTOM SHALL BE BRACED BY ANGLE. FOR CROSS SECTION AREA MORE THAN 8 SQ FT, DUCT SHALL BE BRACED BY ANGLES ON ALL FOUR SIDES.

2. CUTTING AND PATCHING SHALL BE LIMITED TO A MINIMUM AS REQUIRED FOR PROPER INSTALLATION.
3. SUPPORTS SHALL BE SPACED AND SIZED AS PER SMACNA.

DUCT HANGER SUPPORT | NTS



VERTICAL UNIT DETAIL WITH BOTTOM AIR RETURN | N.T.S.



TYPICAL WALL CAP PENETRATION XVENT BOX | NTS

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
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REGISTERED PROFESSIONAL ENGINEER

Project number	24007
Date	11/05/2024
Drawn by	
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Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

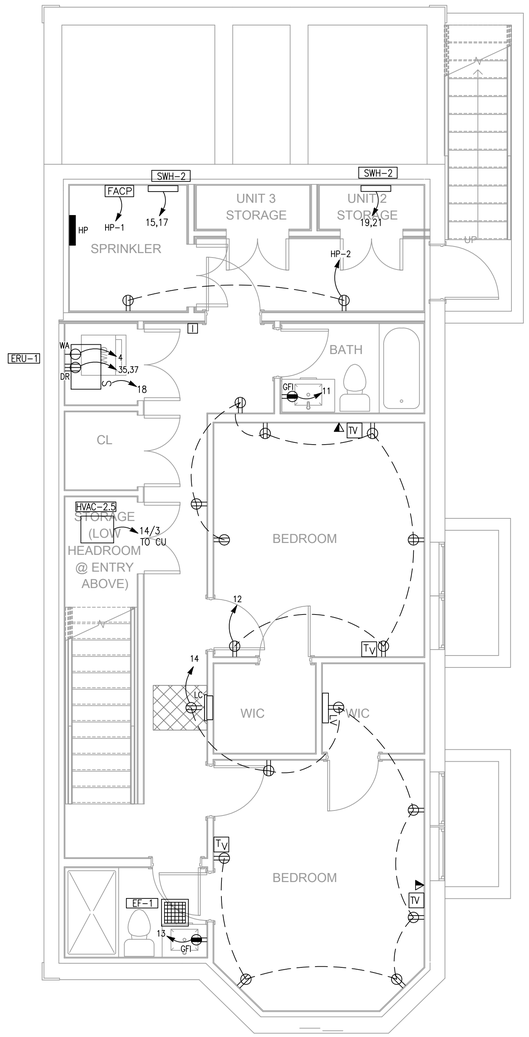
HVAC DETAILS

H-203

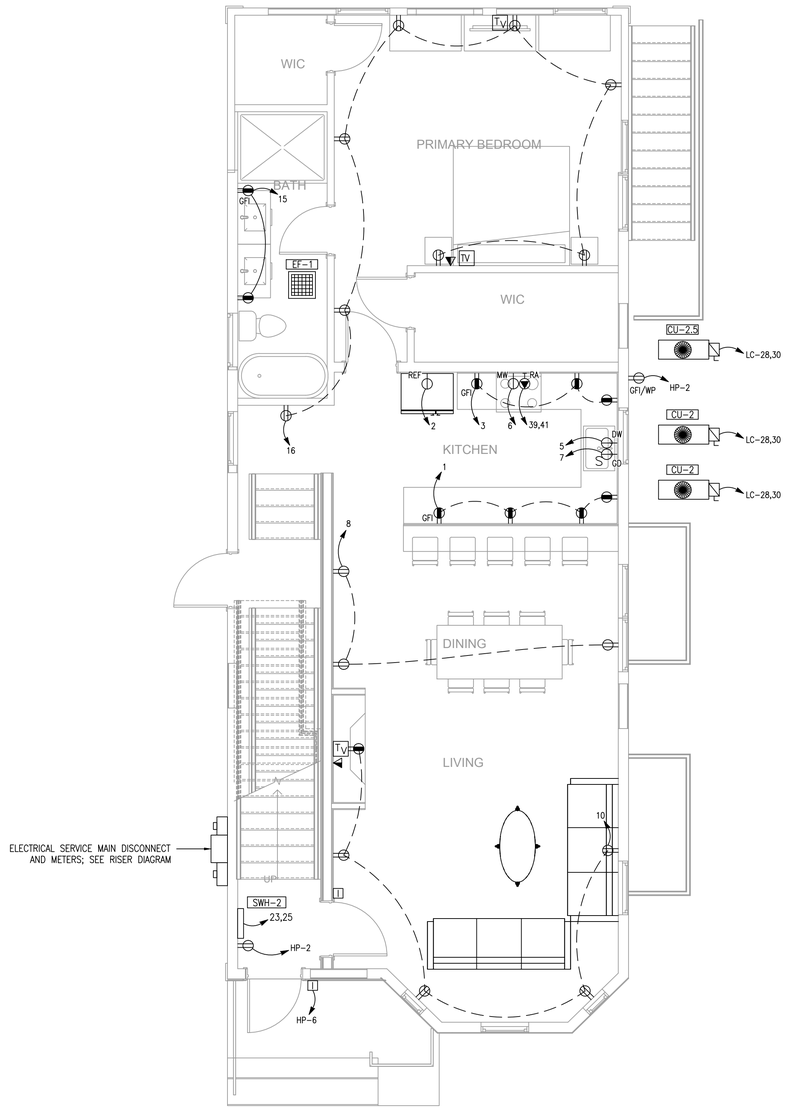
21-23 KENT COURT

POWER NOTES

1. ALL BASEMENT RECEPTACLES SHALL HAVE GROUND FAULT PROTECTION.
2. PROVIDE A 15A/1P TOGGLE DISC. SW. FOR ENERGY RECOVERY UNITS AND BATHROOM HEATERS.
3. INTER-CONNECT LIGHT SWITCH CONTROLLING THE SHOWER LIGHT WITH THE HIGH SETTING OF BATHROOM EXHAUST FAN. PROVIDE DEDICATED SWITCH FOR LOW SETTING. PROVIDE POWER FROM LOCAL BATHROOM BRANCH CIRCUIT.



1 BASEMENT POWER PLAN
1/4" = 1'-0"



2 FIRST FLOOR POWER PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

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21-23 KENT COURT
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Project number	24007
Date	07/25/2024
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REVISIONS

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ELECTRICAL FLOOR PLANS - POWER

E-100

21-23 KENT COURT

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POWER NOTES

1. ALL BASEMENT RECEPTACLES SHALL HAVE GROUND FAULT PROTECTION.
2. PROVIDE A 15A/1P TOGGLE DISC. SW. FOR ENERGY RECOVERY UNITS AND BATHROOM HEATERS.
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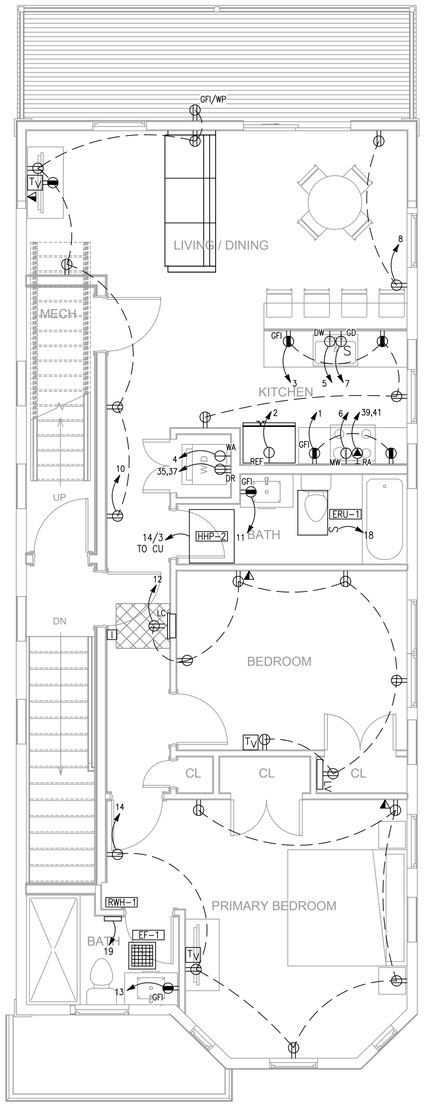
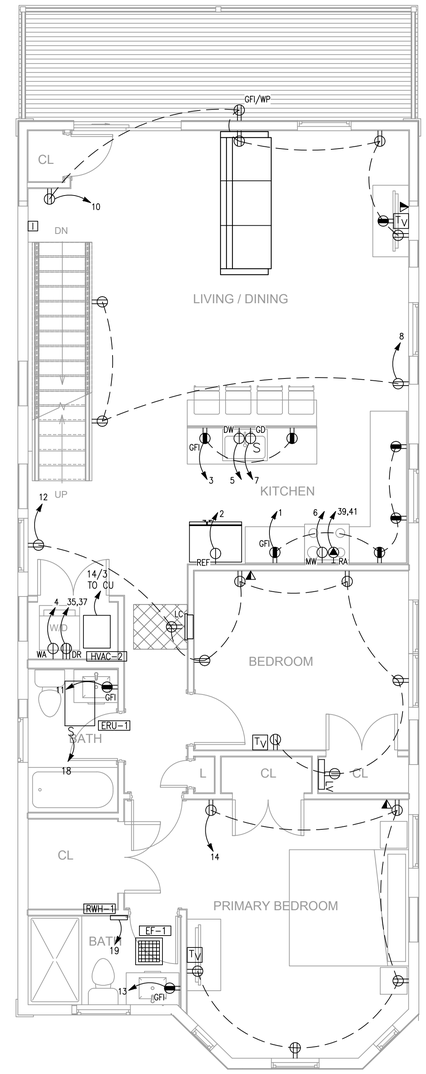


1 SECOND FLOOR POWER PLAN
1/4" = 1'-0"



2 THIRD FLOOR POWER PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

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No.	Description	Date

ELECTRICAL FLOOR PLANS - POWER

E-101

21-23 KENT COURT

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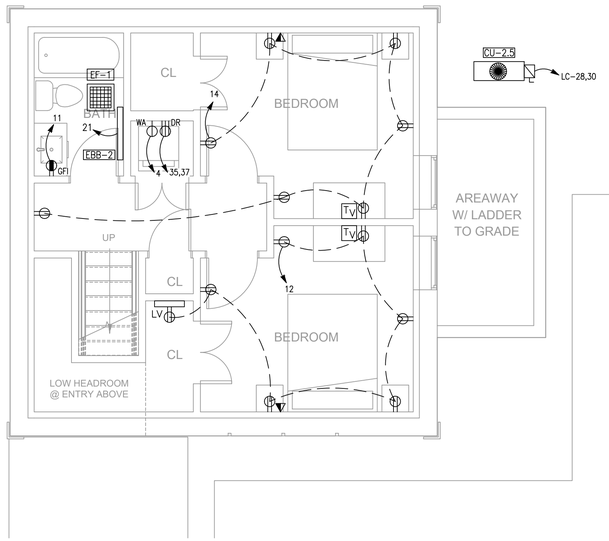
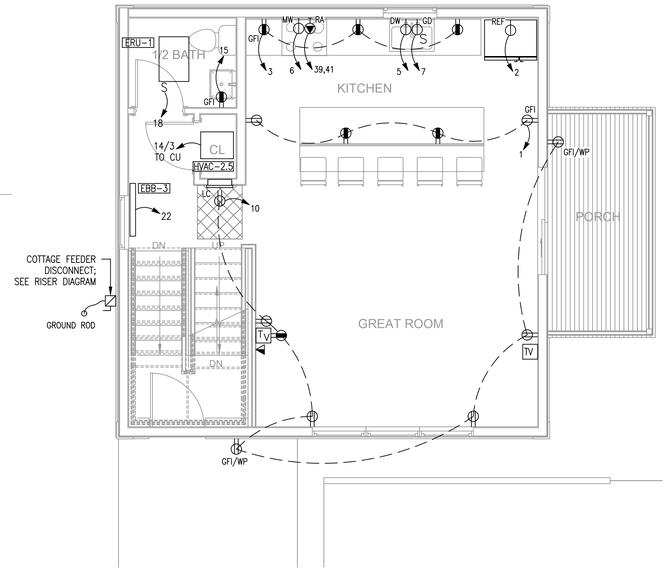
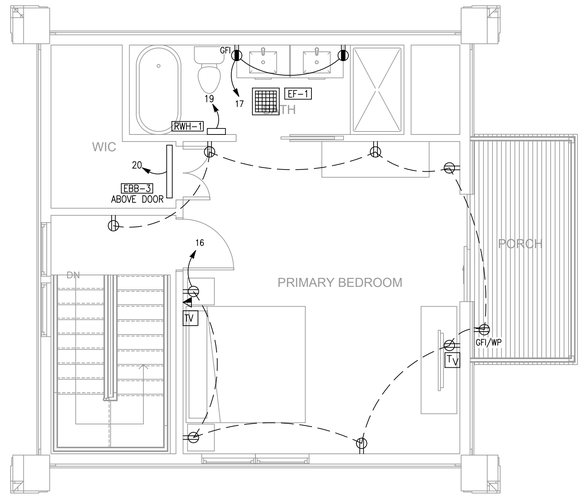
2. PROVIDE A 15A/1P TOGGLE DISC. SW. FOR ENERGY RECOVERY UNITS AND BATHROOM HEATERS.
3. INTER-CONNECT LIGHT SWITCH CONTROLLING THE SHOWER LIGHT WITH THE HIGH SETTING OF BATHROOM EXHAUST FAN. PROVIDE DEDICATED SWITCH FOR LOW SETTING. PROVIDE POWER FROM LOCAL BATHROOM BRANCH CIRCUIT.



1 COTTAGE BASEMENT POWER PLAN
1/4" = 1'-0"



2 COTTAGE FIRST FLOOR POWER PLAN
1/4" = 1'-0"



3 COTTAGE SECOND FLOOR POWER PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

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CONSULTANTS:

REGISTRATION

COMMONWEALTH OF MASSACHUSETTS
MUZAFFER
HALTEMIZADE
ELECTRICAL
No. 37579
REGISTERED
PROFESSIONAL ENGINEER

Project number	24007
Date	07/25/2024
Drawn by	
Checked by	
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

ELECTRICAL FLOOR PLANS - POWER

E-102

21-23 KENT COURT

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CONSTRUCTION NOTES

-LOCAL SMOKE DETECTORS SHALL BE WIRED FROM ARC-FAULT CIRCUITS, VERIFY WITH ELECTRICAL INSPECTOR.

-BACK TO BACK OUTLETS ON FIRE RATED WALLS SHALL BE INSTALLED TO MAINTAIN FIRE RATINGS, IF NECESSARY, USE FIRE RATED OUTLET BOXES.

-ALL FLOOR PENETRATIONS BY CABLES AND CONDUITS SHALL BE SEALED TO MAINTAIN FIRE RATINGS.

-RECESSED LIGHT FIXTURES INSTALLED ON FIRE RATED CEILINGS SHALL HAVE FIRE RATED HOODS ON TOP TO MAINTAIN FIRE RATING. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATED AREAS.

-ALL WIRING WITHIN UNITS SHALL BE ROMEX. WIRING OUTSIDE UNITS SHALL BE METAL CLAD.

FOR EACH APARTMENT PROVIDE DEDICATED CIRCUITS

-(3) 20A/1P KITCHEN COUNTER OUTLETS GFCI AND AFCI PROTECTION
-(1) 20A/1P FOR REFRIGERATOR GFCI AND AFCI PROTECTON
-(1) 20A/1P FOR DISHWASHER AFCI/GFCI PROTECTION
-(1) 20A/1P FOR DISPOSAL RECEPTACLE AFCI/GFCI PROTECTION
-(1) 20A/1P FOR MICROWAVE-HOOD AFCI/GFCI PROTECTION
-(1) 50A/2P FOR ELECTRIC RANGE, GFCI
-(1) 20A/1P FOR DINING ROOM OUTLETS AFCI PROTECTION IF THEY ARE COMBINED WITH KITCHEN COUNTER OUTLETS GFCI AND AFCI PROTECTION.
-(1) 30A/2P FOR ELECTRIC WATER HEATER, GFCI
-(1) 20A/1P FOR WASHER, AFCI/GFI
-(1) 30A/2P FOR DRYER, GFCI
-(1) 30A/2P FOR EACH A/C CONDENSER UNIT, GFCI
-(1) 15A/1P FOR EACH A/C INDOOR UNIT (VERIFY)
-(1) 20A/1P FOR EACH BATHROOM GFCI PROTECTION
-(1) 15A/1P FOR LIGHTING AFCI PROTECTION
-(1) 15A/1P FOR LIVING ROOM AFCI PROTECTION
-(1) 15A/1P FOR EACH BEDROOM AFCI PROTECTION
-(1) 20A/1P FOR EACH BATHROOM WALL HEATER, GFCI/AFCI

-RECEPTACLES INSTALLED WITHIN 6 FEET OF SINK SHALL BE GFCI PROTECTED IN ADDITION TO AFCI PROTECTION.

ACCESSIBLE UNIT WIRING NOTES

SEE ARCHITECTURAL PLANS FOR NUMBER OF HC UNITS AND LOCATIONS.
CARRY MINIMUM OF 5% OF UNITS AS ACCESIBLE
IN EACH UNIT PROVIDE
-LOCAL TYPE SMOKE DETECTOR WITH BUILT IN STROBE EACH BEDROOM, OUTSIDE BEDROOM
-SYSTEM TYPE STROBE IN EACH BEDROOM AND LIVING ROOM
-LOCAL TYPE CO DETECTORS OUTSIDE BEDROOMS AND EVERY HABITABLE FLOOR LEVEL, STROBES ARE TO BE LOCATED IN BEDROOMS AND HABITABLE SPACES
-MOUNTING HEIGHTS OF ANY CONTROL SWITCH SHALL BE NO HIGHER THAN 48" AFF.
-HOOD CONTROL SWITCHES (LIGHT/FAN) SHALL BE MOUNTED ON WALL AT COUNTER
-PROVIDE WALL OVEN AND COOK TOP WIRING ON SAME CIRCUIT, 50A/2P
-ALL OUTLETS AND CONTROL SWITCHES SHALL BE MINIMUM 18" AWAY FROM AN INTERIOR CORNER REGARDLESS HOW IT IS SHOWN

-PROVIDE STROBE LIGHT FOR INTERCOM SYSTEM IN LIVING ROOM AND IN EACH BEDROOM

-ALL ELECTRICAL OUTLETS HEIGHTS TO BE A MINIMUM OF 15" TO THE CENTERLINE OF THE LOWEST RECEPTACLE AND MAXIMUM OF 48" TO THE CENTERLINE OF THE HEIGHEST RECEPTACLE.

-ALL ELECTRICAL OUTLETS ARE LOCATED OVER COUNTERTOPS, SHALL BE NO HIGHER THAN 44" TO THE CENTERLINE OF THE HIGHEST RECEPTACLE.

-ALL CIRCUIT BREAKER PANELS MUST BE CENTERED ON A 30" BY 48" CLEAR FLOOR SPACE AND IF A PARALLEL APPROACH IS USED, THE HIGHEST CONTROL CAN BE NO HIGHER THAN 54" A.F.F.
IF A FRONT APPROACH IS USED, THE HIGHEST CONTROL CAN BE NO HIGHER THAN 48" A.F.F.

-PROVIDE STROBE FOR INTERCOM FOR THE HEARING IMPAIRED.

COMMON AREA LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	CATALOG NUMBER	VOLTS	LIGHTING SYSTEM	INPUT WATTS	NOTES
C1	GENERAL AREA CEILING DOWNLIGHT	CARRY $150	120V	LED	20W MAX	
C2	1x4 UTILITY LINEAR LED	CARRY $150	120V	LED	20W MAX	
S-1	EXTERIOR SCONCE	CARRY $150	120V	LED	30W MAX	
⊠	EXIT SIGN - UNIVERSAL MOUNTING LED TYPE WITH BATTERY BACKUP	CARRY $100	120/12V	LED	1W	
	BATTERY POWERED EMERGENCY LIGHTING UNIT WITH TWO LIGHTING HEADS AND SPARE BATTERY CAPACITY FOR REMOTE LIGHTING HEADS	CARRY $100	120/6V	LED	11W	
WP	TWIN REMOTE LIGHTING HEADS FOR BATTERY POWERED EMERGENCY LIGHTING UNIT, WET LOCATION LISTED	CARRY $100	120/6V	LED	3W	

SWITCHGEAR AND PANELBOARDS SHALL BE MANUFACTURED BY SQUARE D, SIEMENS OR GENERAL ELECTRIC

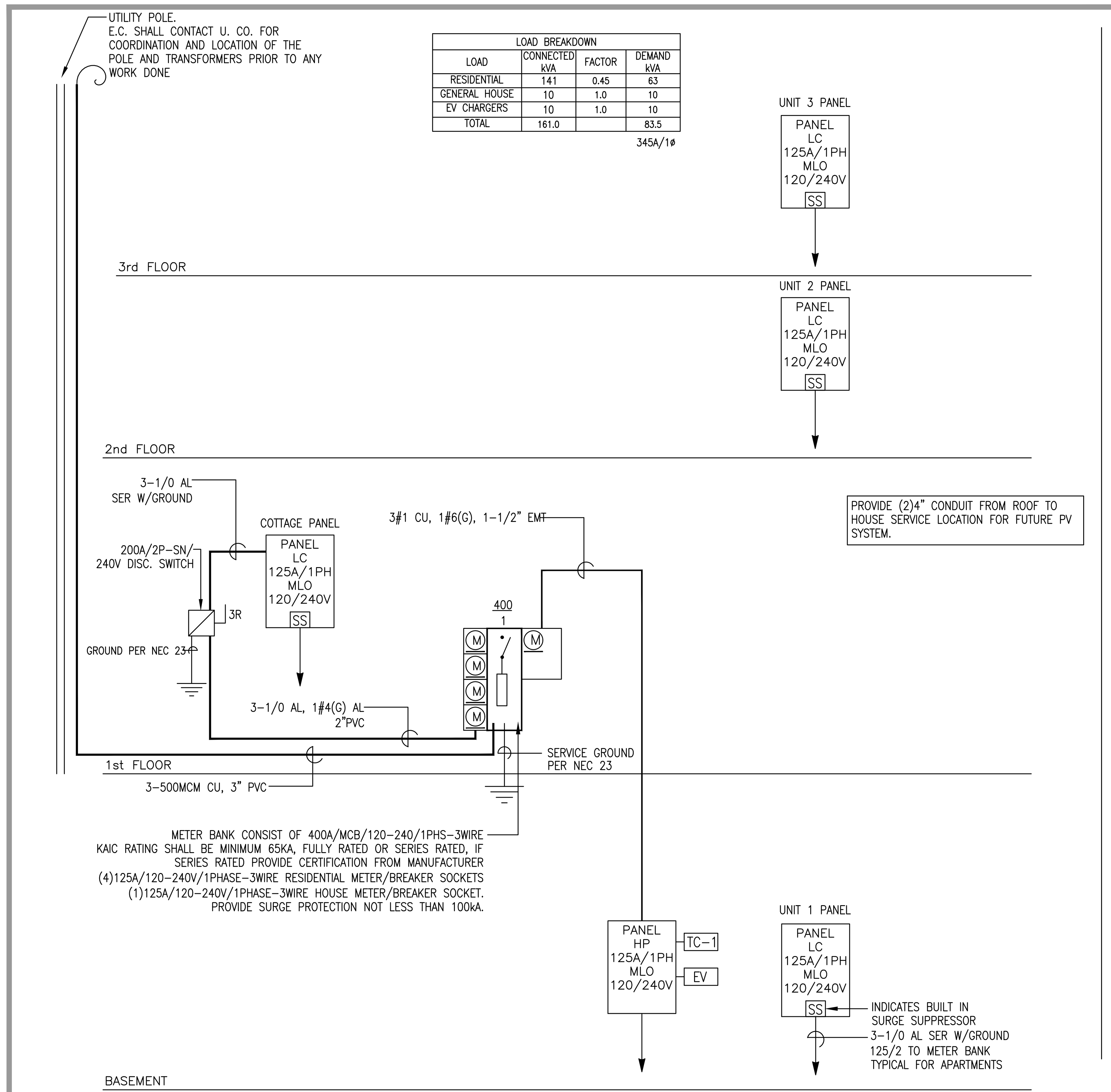
MAIN SWITCH AND MAIN DISTRIBUTION PANEL AND ALL CONSECUTIVE PANELS UP TO LAST TWO PANELS IN THE DISTRIBUTION GRID SHALL BE FULLY RATED AND LAST TO PANELS MAY BE SERIES RATED FOR AVAILABLE SHORT CIRCUIT RATINGS.
IF SERIES RATINGS ARE APPLIED SUPPLIER SHALL BE RESPONSIBLE FOR PROVIDING PROPER SERIES RATED EQUIPMENT AS REQUIRED.
AVAILABLE SHORT CIRCUIT CURRENT FOR THE MAIN SERVICE IS 42KA.

SEE RISER DIAGRAM FOR CONNECTION DIAGRAM OF THE PANELS. NO LINE IMPEDANCES ARE TO BE CONSIDERED IN SERIES RATING APPLICATIONS.

FOR ALL RESIDENTIAL LOAD CENTERS, 15A AND 20A CIRCUITS SERVING THE UNIT EXCEPT BATHROOMS CIRCUITS SHALL BE ARC FAULT INTERRUPTER TYPE AS REQUIRED PER NEC 210-12(B)

DWELLING UNIT LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	CATALOG NUMBER	VOLTS	LIGHTING SYSTEM	INPUT WATTS	NOTES
U1	GENERAL ENTRY/HALL DOWNLIGHT	CARRY $100	120V	LED	13W	
U2	KITCHEN CEILING DOWNLIGHT	CARRY $100	120V	LED	13W	
U3	KITCHEN PENDANT	CARRY $100	120V	LED	13W	
U4	LIVING/DINING ROOM	CARRY $100	120V	LED	20W	
U5	BEDROOM FIXTURE	CARRY $100	120V	LED	25W	
U6	BATHROOM VANITY	CARRY $100	120V	LED	20W	
U7	SHOWER FIXTURE	CARRY $100	120V	LED	13W	
U8	CLOSET FIXTURE	CARRY $100	120V	LED	13W	PROVIDED WITH JAM SWITCH
U9	EXTERIOR SCONCE FIXTURE	CARRY $100	120V	LED	13W	



LOAD BREAKDOWN			
LOAD	CONNECTED kVA	FACTOR	DEMAND kVA
RESIDENTIAL	141	0.45	63
GENERAL HOUSE	10	1.0	10
EV CHARGERS	10	1.0	10
TOTAL	161.0		83.5

POWER RISER DIAGRAM

NTS

GENERAL POWER DISTRIBUTION NOTES

-BEFORE ORDERING ANY EQUIPMENT AND/OR START ANY CONSTRUCTION OR EXCAVATION ELECTRICAL CONTRACTOR AND/OR GENERAL CONTRACTOR SHALL CONTACT ELECTRIC/TELEPHONE/CATV COMPANIES FOR SERVICE POINT AND ROUTING, SERVICE AVAILABILITY.
THIS ENGINEER HAS MADE APPLICATION TO UTILITY COMPANY BUT YET NO CONFIRMATION HAS BEEN MADE BY THE UTILITY COMPANY. CONTRACTOR SHALL NOT PROCEED WITHOUT SUCH CONFIRMATION.

-FEEDERS ARE SIZED BASED ON %3 VD.
CONTRACTOR SHALL FOLLOW THE FOLLOWING CRITERIA.

50A, UP TO 100FT #6, INCREASE BY ONE SIZE FOR EVERY 30FT.
100A, UP TO 100FT #3, INCREASE BY ONE SIZE FOR EVERY 30FT.
200A, UP TO 150FT #3/0, INCREASE BY ONE SIZE FOR EVERY 50 FT.
400A, UP TO 200FT #500, INCREASE BY ONE SIZE FOR EVERY 50FT.

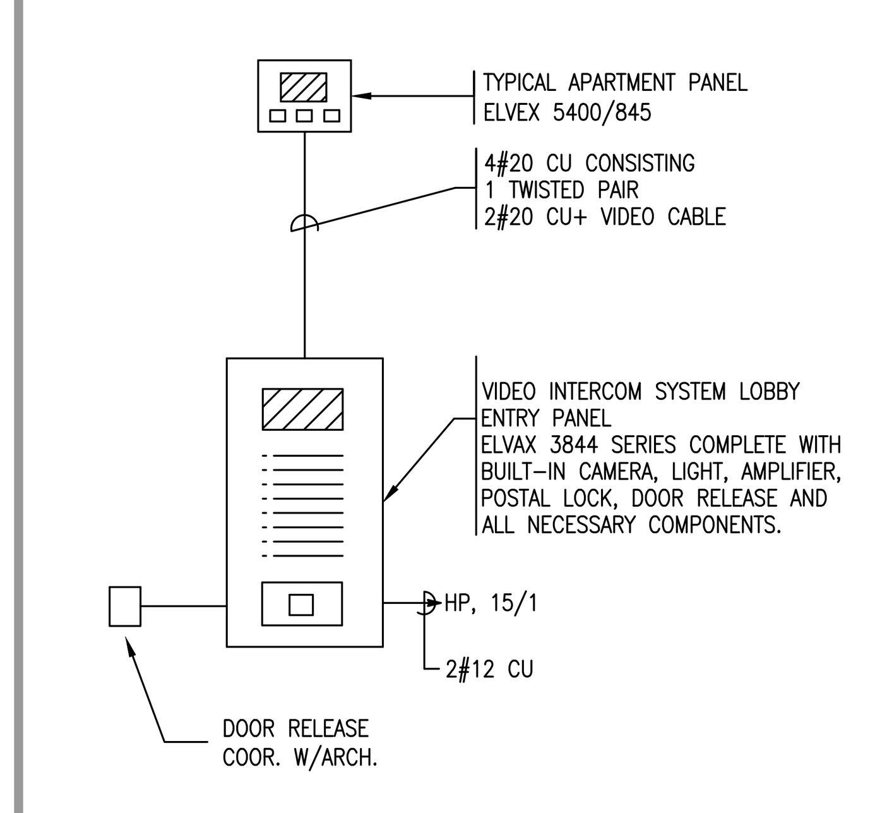
GENERAL POWER DISTRIBUTION NOTES

-FOR SWITCHGEAR SHORT CIRCUIT RATINGS, SEE NOTES UNDER PANEL SCHEDULES.

-PRIOR TO ORDERING ANY SWITCHGEAR ELECTRICAL CONTRACTOR SHALL CONFIRM CIRCUIT BREAKER SIZES WITH HVAC AND OTHER MECHANICAL EQUIPMENT SHOP DRAWINGS. DUE TO SUBMITTAL TIMING FROM VARIOUS CONTRACTORS, ENGINEERS APPROVAL IS GIVEN FOR QUALITY ONLY.

-CONTRACTOR SHALL COORDINATE WITH OTHER TRADES SO THAT NO OTHER TRADE SHALL PASS THROUGH ELECTRIC ROOM OR ABOVE DEDICATES SPACES. INFORM ARCHITECT/ENGINEER ABOUT ANY INFRINGEMENTS PRIOR SUCH INSTALLATIONS OCCUR.

-ELECTRIC ROOM DIMENSIONS ARE BASED ON CERTAIN MANUFACTURER EQUIPMENT DIMENSIONS, CONTRACTOR SHALL CONFIRM ROOM DIMENSIONS PRIOR TO ORDERING EQUIPMENT



VIDEO INTERCOM RISER DIAGRAM

NOTE CEILING IS FIRE RATED, UNLESS RATED FIXTURES ARE USED ALL RECESSED FIXTURES AND EXHAUST FANS SHALL BE INSTALLED WITH FIRE RATED ENCLOSURES 3" MINIMUM LARGER THAN FIXTURES TO MAINTAIN INTEGRITY OF CEILING FIRE RATING AND COOLING OF THE FIXTURES.

(CU) WIRE SCHEDULE

AMPS/CB	CONDUCTOR SIZE	CMILS	MAX LENGTH
20	#12	6,530	70 FT
30	#10	10,380	70 FT
40	#8	16,510	90 FT
50	#6	26,240	110 FT
60	#6	26,240	95 FT
70	#4	41,740	120 FT
80	#3	52,620	125 FT
100	#2	66,360	140 FT
125	#1	83,690	145 FT
150	1/0	105,600	145 FT
200	3/0	167,800	165 FT
225	4/0	211,600	175 FT
300	300	300,000	200 FT
350	400	400,000	225 FT
400	500	500,000	250 FT

FIXTURE NOTES

ALL LIGHT FIXTURES MODELS, FINISH COLORS SHALL BE VERIFIED BY ARCHITECT.
REGARDLESS HOW MODEL NUMBERS ARE WRITTEN ALL FLUORESCENT & PL FIXTURES SHALL HAVE HPF ENERGY SAVINGS BALLAST/ENERGY STAR LABEL.
LAMPS AND BALLASTS SHALL BE IN COMPLIANCE WITH LOCAL UTILITY COMPANY REBATE PROGRAMS, SPECIFICATIONS ABOVE FOR THE FIXTURE TYPE ONLY.
FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS THD LESS THAN %15.
FIXTURES MOUNTED IN INSULATED CEILINGS, EC SHALL PROVIDE HOODS TO KEEP INSULATION AWAY. FIXTURES MOUNTED IN RATED CEILINGS (SEE ARCHITECTURAL DRAWINGS), EC SHALL PROVIDE HOODS TO MAINTAIN RATINGS.
SHADED FIXTURE INDICATES EMERGENCY LIGHT WITH BUILT IN BODINE BALLAST, 700 LUMEN OUTPUT. EMERGENCY LIGHTS SHALL HAVE INTEGRAL TEST SWITCHES BUILT INTO FIXTURE (NOT SEPARATE SWITCH). PROVIDE CONSTANT FEED TO BUILT-IN EMERGENCY BATTERY AS REQUIRED.

EXACT LOCATION AND TYPES OF ALL LIGHTING FIXTURES, MOUNTING HEIGHTS AND MOUNTING DETAILS SHALL BE COORDINATED WITH ARCHITECTURAL REFLECTED CEILING PLANS AND ANY CONFLICTS SHALL BE BROUGHT TO ARCHITECT'S ATTENTION PRIOR TO ANY WORK DONE. OBTAIN LATEST COPY OF THE CEILING PLAN FROM ARCHITECT PRIOR TO ANY WORK DONE.

IN AREAS WHERE FIXTURES ARE MOUNTED INTO INSULATED CEILINGS, THIS CONTRACTOR SHALL PROVIDE HOODS, 3" LARGER THAN FIXTURES TO KEEP INSULATION AWAY FROM THE FIXTURES AND TO MAINTAIN INSULATION INTEGRITY OF THE CEILING, SEE ARCHITECTURAL DRAWINGS FOR AREAS WHERE THESE HOODS MAY BE REQUIRED.

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

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CONSULTANTS:

REGISTRATION

Project number	24007
Date	07/25/2024
Drawn by	
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Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

POWER DETAILS

E-103

21-23 KENT COURT

TYPICAL DWELLING UNIT PANEL 'LC' SCHEDULE

VOLTS		120/240V, 1ø, 3W		AIC	22,000; VERIFY WITH UTILITY		
MAINS		125A MLO		LOCATED	UNIT		
CIR NO	LOAD	DESC	BRKR	BRKR	DESC	LOAD	CIR NO
1	1,500	KITCHEN	*20/1	**15/1	REFRIGERATOR	500	2
3	1,500	KITCHEN	*20/1	**20/1	LAUNDRY	1,500	4
5	1,200	DISHWASHER	**20/1	**20/1	MICROWAVE	1,200	6
7	1,200	GARBAGE DISPOSAL	**20/1	*20/1	DINING ROOM	1,500	8
9	500	LIGHTING/FA	*15/1	*15/1	LIVING ROOM	1,440	10
11	500	BATHROOM	*20/1	*15/1	BEDROOM	1,440	12
13	500	BATHROOM	*20/1	*15/1	BEDROOM	1,440	14
15	500	BATHROOM	*20/1	*15/1	BEDROOM	1,440	16
17	500	BATHROOM	*20/1	*15/1	ENERGY RECOVERY UNIT	200	18
19	1,000	RWH-1	*15/1	*15/1	EBB-3	750	20
21	400	EBB-2	*15/1	*15/1	EBB-3	750	22
23		SPARE	*15/1	*15/1	SPARE		24
25		SPACE			SPACE		26
27		SPACE			SPACE		28
29		SPACE			SPACE		30
31		INDOOR HVAC SPACE		SURGE PROTECTION SPACE			32
33							34
35	5,000	ELECTRIC DRYER	&30/2	^30/2	ELECTRIC WATER HEATER	4,500	36
37							38
39	10,000	ELECTRIC RANGE	&50/2	30/2 40/2	CU-2 CU-2.5	4,600	40
41							42
TOTAL LOAD			21.5 kVA				
DEMAND LOAD			23 kVA				

* - INDICATES AFCI TYPE CIRCUIT BREAKER
** - INDICATES COMBINATION AFCI/GFCI TYPE CIRCUIT BREAKER
& - INDICATES GFCI TYPE CIRCUIT BREAKER
^ - INDICATES LOCKABLE OPEN CIRCUIT BREAKER; TO ACT AS DISCONNECTING MEANS
NOTE: NOT ALL CIRCUITS APPLY TO EVERY UNIT.

PANEL 'HP' SCHEDULE

VOLTS		120/240V, 1ø, 3W		AIC	22,000; VERIFY WITH UTILITY		
MAINS		125A MLO		LOCATED			
CIR NO	LOAD	DESC	BRKR	BRKR	DESC	LOAD	CIR NO
1	200	FACP	^20/1	&20/1	RECEPTACLES	540	2
3	200	LIGHTING	20/1	&20/1	HVAC SERVICE RECEPTACLES	180	4
5	200	EXTERIOR LIGHTING	20/1	20/1	INTERCOM SYSTEM	100	6
7		SPARE	20/1	20/1	SPARE		8
9		SPARE	20/1	20/1	SPARE		10
11		SPARE	20/1	20/1	SPARE		12
13		SPARE	20/1	20/1	SPARE		14
15	2,000	SWH-2	15/2		SPACE		16
17					SPACE		18
19	2,000	SWH-2	15/2		SPACE		20
21					SPACE		22
23	2,000	SWH-2	15/2		SPACE		24
25					SPACE		26
27	9,600	EV CHARGER	50/2	SOLAR READY SPACE			28
29							30
TOTAL LOAD			17.0 kVA				
DEMAND LOAD			25 kVA				

& - INDICATES GFCI TYPE CIRCUIT BREAKER
^ - INDICATES RED, LOCKABLE CLOSED CIRCUIT BREAKER

NEC ARTICLE 220, PART IV, MULTI-FAMILY BUILDING SERVICE CALCULATION

UNIT TYPE	SQUARE FEET EACH UNIT	NO OF UNITS	TOTAL SQ FT THIS TYPE	AC/HT LOAD	AC/HT TOTAL
UNIT-1	1,790	1	1,790	4,600	4,600
UNIT-2	1,080	1	1,080	3,200	3,200
UNIT-3	1,215	1	1,215	3,200	3,200
COTTAGE	1,570	1	1,570	4,300	4,300
	TOTAL UNITS	4	5,655		15,300

	VA, EA UNIT		SF/NO OF UNITS		DEMAND FACTOR		VA
Geneeral Lighting @ 3 VA/Ft²	3.00	x	5,655	x	100%	=	16,965
Kitchen Circuits (2 @ 1500VA)	3,000	x	4	x	100%	=	12,000
Laundry Circuit (1 @ 1500VA)	1,500	x	4	x	100%	=	6,000
Microwaves	1,000	x	4	x	100%	=	4,000
Dishwashers	1,200	x	4	x	100%	=	4,800
Garbage Disposals	1,200	x	4	x	100%	=	4,800
Water Heaters	4,500	x	4	x	100%	=	18,000
Dryers	5,000	x	4	x	100%	=	20,000
Ranges	10,000	x	4	x	100%	=	40,000
EV Chargers Included in House Load	0	x	0	x	100%	=	0
Air Conditioning							15,300
					SUB-TOTAL	=	141,865
Demand Factor (Table 220.84)					45%	=	63,839
General House Loads						=	5,000
Space Heating						=	6,000
EV Charger						=	9,600
House Load (100% of Non-Continuous + 125% of Continuous)						=	24,500
					TOTAL (VA)	=	88,339
			SERVICE VOLTAGE				240 V, 1 Ø
			SERVICE DEMAND (AMPS)				368 Amps
			SERVICE SIZE (AMPS)				**400 Amps**

NEC ARTICLE 220, PART IV, OPTIONAL DWELLING UNIT SERVICE CALCULATION

UNIT TYPE	UNIT-1
SQUARE FEET	1,790
GENERAL LIGHTING @ 3 VA/Ft²	5,370
KITCHEN CIRCUITS (2 @ 1500VA)	3,000
LAUNDRY CIRCUIT (1 @ 1500 VA)	1,500
DISHWASHER	1,200
GARBAGE DISPOSAL	1,200
RANGE	10,000
DRYER	5,000
WATER HEATER	4,500
SUB-TOTAL	**31,770**
FIRST 10 kVA @ 100 %	10,000
REMAINDER @ 40%	8,708
AIR CONDITIONING	4,600
TOTAL	**23,308**

SYSTEM VOLTAGE	**240 Volts, 1Ø**
SYSTEM AMPS	**97 Amps**
ELECTRIC SERVICE AMPS	**125 Amps**

NEC ARTICLE 220, PART IV, OPTIONAL DWELLING UNIT SERVICE CALCULATION

UNIT TYPE	UNIT-2
SQUARE FEET	1,080
GENERAL LIGHTING @ 3 VA/Ft²	3,240
KITCHEN CIRCUITS (2 @ 1500VA)	3,000
LAUNDRY CIRCUIT (1 @ 1500 VA)	1,500
DISHWASHER	1,200
GARBAGE DISPOSAL	1,200
RANGE	10,000
DRYER	5,000
WATER HEATER	4,500
SUB-TOTAL	**30,720**
FIRST 10 kVA @ 100 %	10,000
REMAINDER @ 40%	8,288
AIR CONDITIONING	3,200
TOTAL	**21,488**

SYSTEM VOLTAGE	**240 Volts, 1Ø**
SYSTEM AMPS	**90 Amps**
ELECTRIC SERVICE AMPS	**125 Amps**

NEC ARTICLE 220, PART IV, OPTIONAL DWELLING UNIT SERVICE CALCULATION

UNIT TYPE	UNIT-3
SQUARE FEET	1,215
GENERAL LIGHTING @ 3 VA/Ft²	3,645
KITCHEN CIRCUITS (2 @ 1500VA)	3,000
LAUNDRY CIRCUIT (1 @ 1500 VA)	1,500
DISHWASHER	1,200
GARBAGE DISPOSAL	1,200
RANGE	10,000
DRYER	5,000
WATER HEATER	4,500
SUB-TOTAL	**30,045**
FIRST 10 kVA @ 100 %	10,000
REMAINDER @ 40%	8,018
AIR CONDITIONING	3,200
TOTAL	**21,218**

SYSTEM VOLTAGE	**240 Volts, 1Ø**
SYSTEM AMPS	**88 Amps**
ELECTRIC SERVICE AMPS	**125 Amps**

NEC ARTICLE 220, PART IV, OPTIONAL DWELLING UNIT SERVICE CALCULATION

UNIT TYPE	COTTAGE
SQUARE FEET	1,570
GENERAL LIGHTING @ 3 VA/Ft²	4,710
KITCHEN CIRCUITS (2 @ 1500VA)	3,000
LAUNDRY CIRCUIT (1 @ 1500 VA)	1,500
DISHWASHER	1,200
GARBAGE DISPOSAL	1,200
RANGE	10,000
DRYER	5,000
WATER HEATER	4,500
SUB-TOTAL	**32,680**
FIRST 10 kVA @ 100 %	10,000
REMAINDER @ 40%	9,072
AIR CONDITIONING	4,300
TOTAL	**23,372**

SYSTEM VOLTAGE	**240 Volts, 1Ø**
SYSTEM AMPS	**97 Amps**
ELECTRIC SERVICE AMPS	**125 Amps**

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CONSULTANTS:

REGISTRATION

COMMONWEALTH OF MASSACHUSETTS — MUZAFFER MUCTEHITZADE — ELECTRICAL — No. 32575 — REGISTERED PROFESSIONAL ENGINEER

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POWER CALCULATIONS & SCHEDULES

E-104

21-23 KENT COURT

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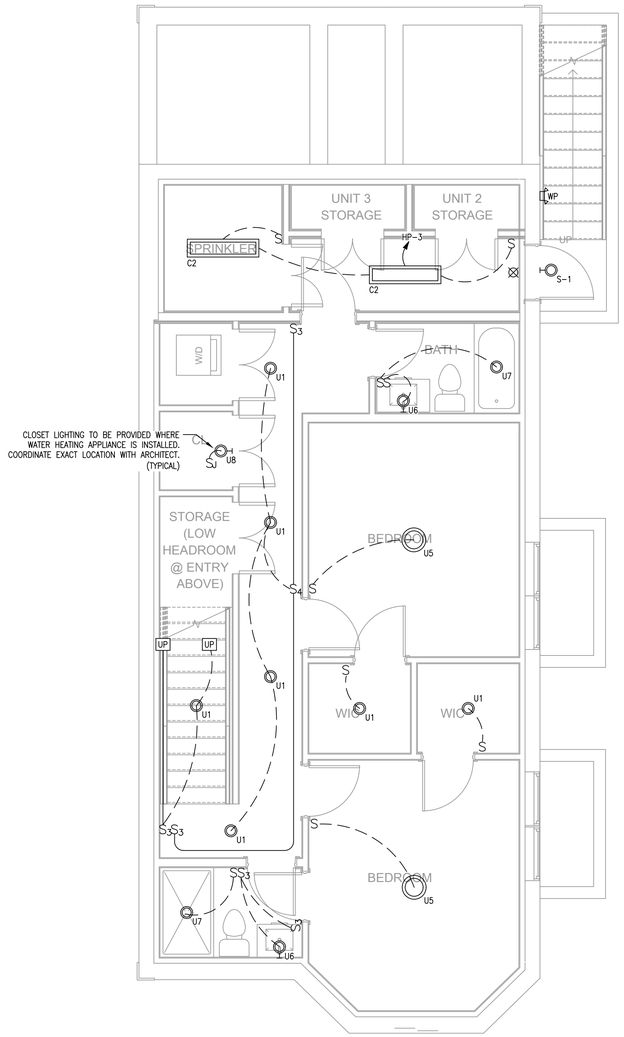
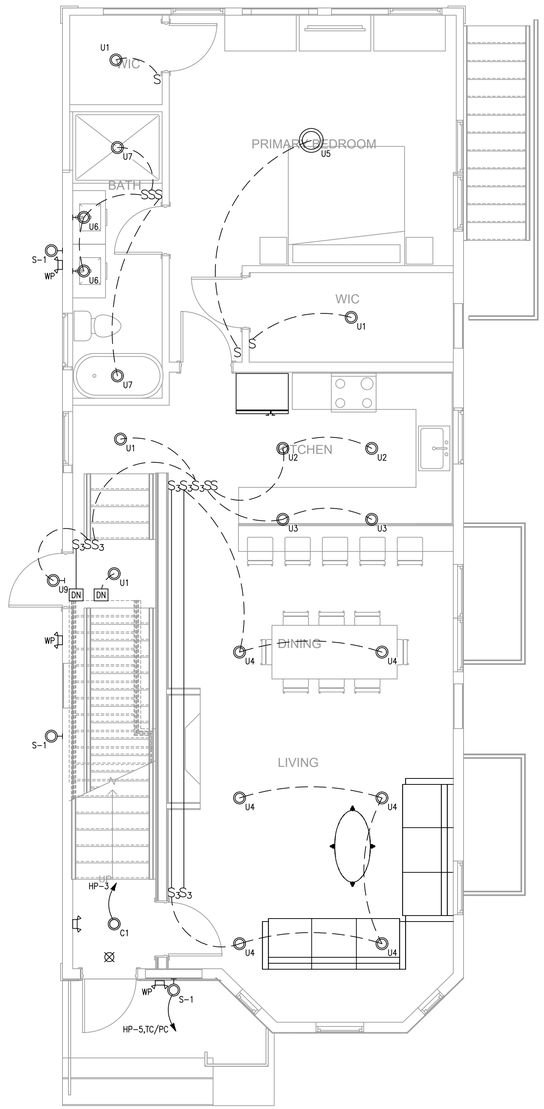
LIGHTING NOTES

1. ALL LIGHTING INSIDE BATHROOMS SHALL BE FED FROM THE LOCAL BATHROOM BRANCH CIRCUIT.
2. ALL LIGHTING OUTSIDE BATHROOMS SHALL BE LOOPED ON A SINGLE CIRCUIT; SEE PANEL SCHEDULE.
3. EXTERIOR COMMON AREA LIGHTING SHALL BE CONNECTED TO PHOTOCELL AND TIME-CLOCK CONTROL SYSTEM. COORDINATE SCHEDULED OFF/ON POINTS WITH OWNERSHIP. WIRE TO CIRCUIT HP-5.
4. NON-SWITCHED INTERIOR COMMON AREA LIGHTING SHALL REMAIN ON 24/7 FOR LIFE-SAFETY. WIRE TO CIRCUIT HP-3.



1 BASEMENT LIGHTING PLAN
1/4" = 1'-0"



2 FIRST FLOOR LIGHTING PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE

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TELEPHONE: 617-591-8682

CONSULTANTS:

REGISTRATION

COMMONWEALTH OF MASSACHUSETTS — JENNIFER MUETZELFELDT — ELECTRICAL — No. 37579 — REGISTERED PROFESSIONAL ENGINEER

Project number	24007
Date	07/25/2024
Drawn by	
Checked by	
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

ELECTRICAL FLOOR PLANS - LIGHTING

E-110

21-23 KENT COURT

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LIGHTING NOTES

1. ALL LIGHTING INSIDE BATHROOMS SHALL BE FED FROM THE LOCAL BATHROOM BRANCH CIRCUIT.
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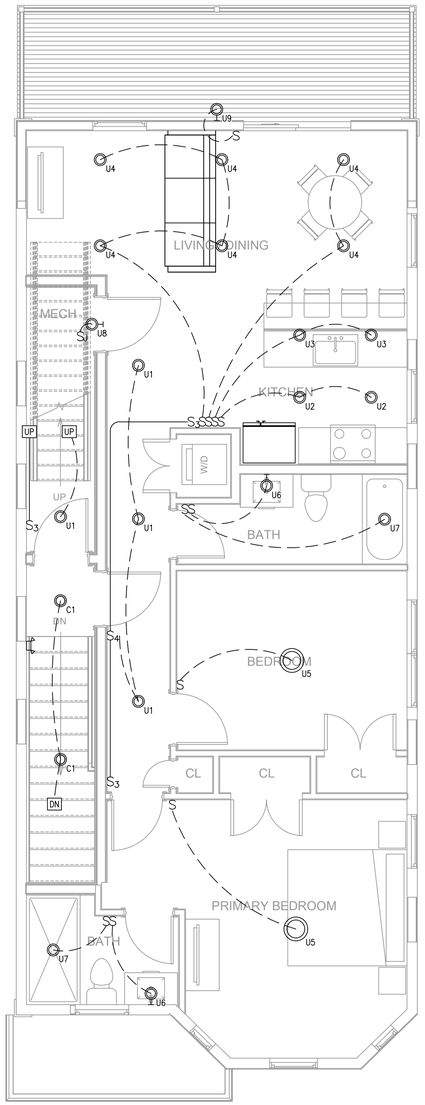
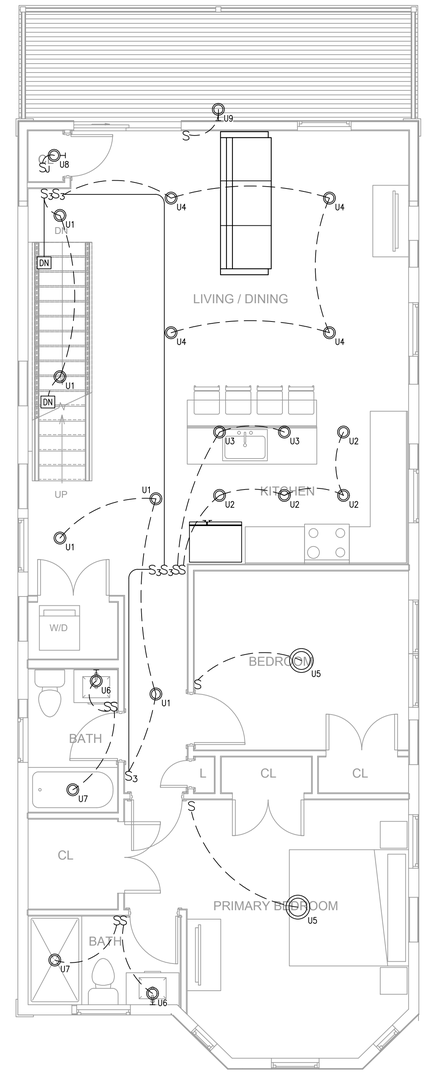


1 SECOND FLOOR LIGHTING PLAN
1/4" = 1'-0"



2 THIRD FLOOR LIGHTING PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

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CONSULTANTS:

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COMMONWEALTH OF MASSACHUSETTS
MUZAFFER MUCTEHITZADE
ELECTRICAL
No. 37579
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ELECTRICAL FLOOR PLANS - LIGHTING

E-111

21-23 KENT COURT

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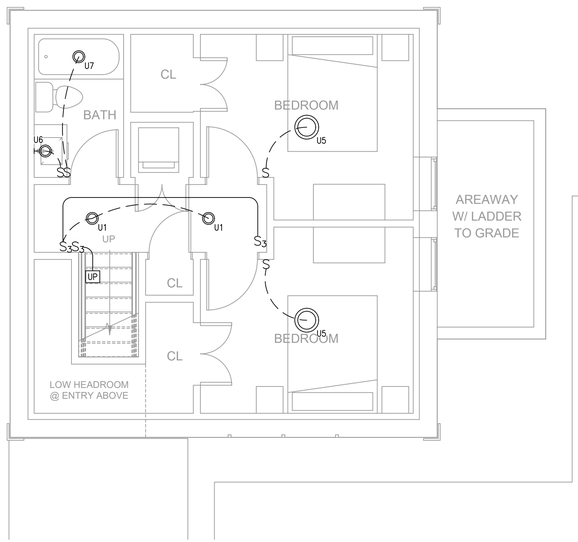
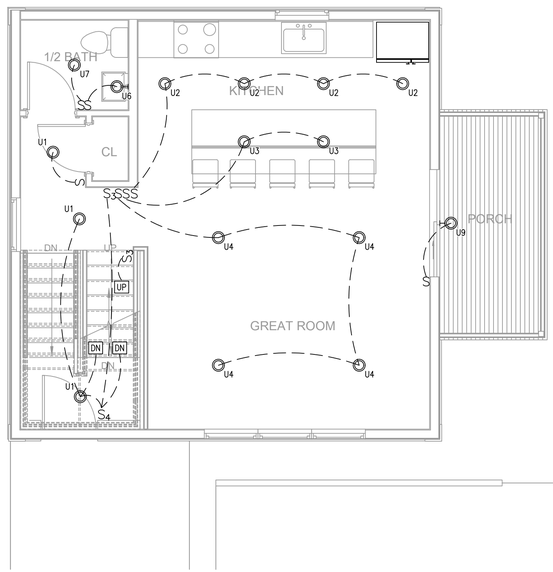
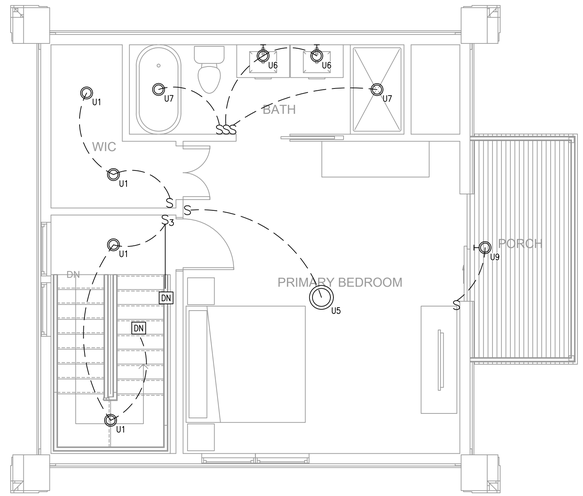


1 COTTAGE BASEMENT LIGHTING PLAN
1/4" = 1'-0"



2 COTTAGE FIRST FLOOR LIGHTING PLAN
1/4" = 1'-0"



3 COTTAGE SECOND FLOOR LIGHTING PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
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CONSULTANTS:

REGISTRATION

COMMONWEALTH OF MASSACHUSETTS
MUZAFFER MUCTEHITZADE
ELECTRICAL
No. 32579
REGISTERED
PROFESSIONAL ENGINEER

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ELECTRICAL FLOOR PLANS - LIGHTING

E-112

21-23 KENT COURT

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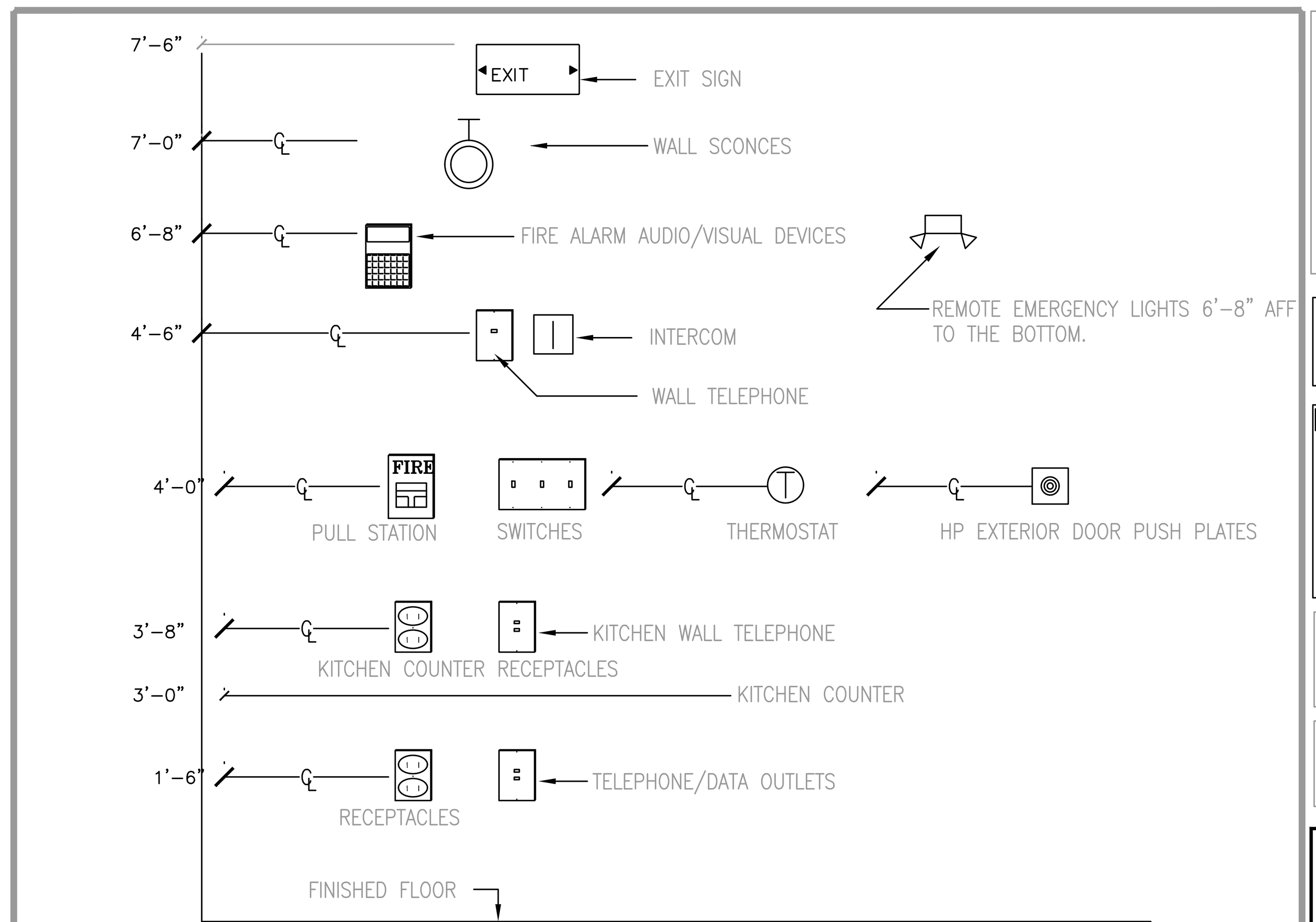
SYMBOL LIST

- CEILING MOUNTED LIGHT FIXTURE.
- WALL MOUNTED LIGHT FIXTURE.
- 2'X2' OR 2'X4' FLUORESCENT LIGHT FIXTURE.
- 1'x4' FLUORESCENT WALL/CEILING MOUNTED LIGHT FIXTURE.
- TRACK LIGHT
- S — SINGLE POLE LIGHT SWITCH
- S3 — THREE-WAY LIGHT SWITCHES
- S4 — FOUR-WAY LIGHT SWITCHES
- SD — DIMMER SWITCH MINIMUM 1000W OR AS REQUIRED PER CIRCUIT
- S3D — THREE-WAY DIMMER SWITCHES
- S4D — FOUR-WAY DIMMER SWITCHES
- ST — TIMER SWITCH
- DUPLEX RECEPTACLE, 120V,18" AFF.
- GFI — DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER 8" ABOVE COUNTER TO CL
- DUPLEX RECEPTACLE, 120V,18" AFF., ONE OUTLET SWITCHED
- 120V DOUBLE DUPLEX CONVENIENCE RECEPTACLE
- DUPLEX RECEPTACLE ABOVE COUNTER, 8" ABOVE COUNTER TO CL
- 208V/1P/30A RECEPTACLE
- USB — DUPLEX RECEPTACLE WITH USB PORT
- 208V/1P/50A RANGE OUTLET
- W — TELEPHONE JACK COMPLETE W/JACK AND COVER, ('W' WALL MOUNTED @ 4'-0" A.F.F)
- TEL/DATA COMBINATION OUTLET, COMPLETE W/JACK AND COVER, HEIGHT @18" TO C AFF.
- MOTOR
- 3R — FUSED DISCONNECT SWITCH, (3R RAIN-PROOF).
- HOMERUN TO PANEL WITH CONDUCTOR.(HOT, NEUTRAL, GROUND)
- J — JUNCTION BOX
- LIGHTING & POWER PANEL
- LC — APARTMENT LOAD CENTER, RECESSED
- LV — LOW VOLTAGE BOX
- RACEWAY CONCEALED IN CEILING, PLENUM OR WALLS
- RACEWAY CONCEALED IN SLAB (FLOOR)
- TC — TIME SWITCH
- T — DRY TYPE TRANSFORMER
- UNIVERSAL MOUNTING EXIT SIGN (DOUBLE FACED), ARROWS AS INDICATED.
- EMERGENCY BATTERY UNIT WITH MOUNTING BRACKET AND VOLTMETER.
- SO — OCCUPANCY SENSOR SWITCH
- MS — OCCUPANCY SENSOR
- AORC — AREA OF REFUGE CENTRAL BASE UNIT
- AOR — AREA OF REFUGE FLOOR ELEVATOR LOBBY UNIT.



TYPICAL DEVICE MOUNTING HEIGHTS DETAIL

NOTES

1. DEVICES SHALL BE INSTALLED ON A COMMON VERTICAL CENTERLINE WHEREVER POSSIBLE.
2. IN ACCESSIBLE UNITS ANY PUBLIC AREAS CONTROL SWITCHES MOUNTING HEIGHT NO HIGHER THAN 48" AFF. HOOD CONTROL SWITCHES (LIGHT/FAN) SHALL BE MOUNTED ON WALL AT COUNTER. KITCHEN COUNTER OUTLETS 2" LOWER THAN REGULAR UNITS
3. ALL DEVICES SHALL BE INSTALLED AT MOUNTING HEIGHTS AS INDICATED ON THIS DETAIL, UNO IN THESE CONTRACT DOCUMENTS, BY ARCHITECT OR BY OWNER.
4. FIRE ALARM PULL STATION MOUNTING HEIGHT SHALL BE COMPLY WITH NFPA 72. (NOT LESS THAN 42 INCHES AND NOT MORE THAN 48 INCHES ABOVE FINISHED FLOOR.)
5. FIRE ALARM HORN/STROBE OR STROBE ONLY THE ENTIRE STROBE LENS TO BE LOCATED NOT LESS THAN 80 INCHES ABOVE FINISHED FLOOR AND NOT MORE THAN 96 INCHES ABOVE FINISHED FLOOR AND COMPLY WITH NFPA 72.

WP INDICATES EXTERIOR MOUNTED EMERGENCY LIGHT.CONNECT ALL REMOTE EMERGENCY LIGHTS ON CIRCUITS SO THAT (WATTSXFT) IS LESS THAN 3200 UNITS AND WIRE WITH #10 CU TO REMOTE BATTERY PROVIDE 12V SEALED CALCIUM BATTERY UNIT AS REQUIRED OR AS SPECIFIED. BATTERY SHALL BE LOCATED IN A WARM ROOM AND FED FROM LIGHTING CIRCUIT SERVING THE AREA WHERE REMOTE HEADS ARE LOCATED
BATTERY SHALL BE EMERGI-LITE 12LSM 220V
OUTDOOR LIGHTS SHALL BE EMERGI-LITE EF11D

LOOP EVERY 8 EXTERIOR BUILDING MOUNTED LIGHT FIXTURE ON ONE CIRCUIT AND FEED FROM TC-S VIA 20A/1PCB. WIRE SHALL RUN INSIDE BUILDING

MS INDICATES CEILING MOUNTED OCCUPANCY SENSOR. IN EACH SPACE EXCEPT CLOSETS, BATHROOMS, CORRIDORS AND UTILITY ROOMS, PROVIDE CEILING MOUNTED OCCUPANCY SENSOR SHOWN OR OTHERWISE TO COMPLY WITH MASS ENERGY CODE. UNITS SHALL BE SIZED PER CIRCUIT REQUIREMENTS. EQUIPMENT SHALL BE AS MANUFACTURED BY NOVITAS 01-087 OR 01-077 OR EQUAL, AIR FLOW COMPENSATED TYPE.

SHADED AND HALF SHADED FIXTURE INDICATES LIGHT FIXTURE ON NIGHT LIGHT CIRCUIT, LOOP UP TO 1200W/120V ON ONE CIRCUIT AND FEED FROM LIGHTING PANEL

CONNECT ALL EXIT SIGNS AND EMERGENCY BATTERIES TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS TYPICAL FOR ALL AREAS

CARBON MONOXIDE DETECTORS
IN ALL RESIDENTIAL UNITS
PROVIDE CARBON MONOXIDE DETECTORS AT
-OUTSIDE EACH BEDROOM WIRED TO SMOKE DETECTOR CIRCUIT AND
-ON EVERY HABITABLE LEVEL AT LEAST ONE AND
-FOR ALL GAS FIRED UNITS WITH UNIT SHUT DOWN INTERLOCK AND NEAR ALL GAS FIRED FIRE PLACES

WIRING IN ALL EXPOSED AREAS SHALL BE IN METALLIC RACEWAYS AS WIREMOLD OR EQUAL. RACEWAYS SHALL BE PAINTED AS DIRECTED BY THE ARCHITECT. SURFACE RACEWAYS SHALL CLOSELY FOLLOW THE SURFACE AND WRAP AROUND THE BEAMS AS REQUIRED. PRIOR TO ANY INSTALLATION, SUBMIT LAYOUT SKETCH INDICATING PROPOSED ROUTING FOR APPROVAL. ARCHITECT HAS THE RIGHT TO MODIFY OR CHANGE LAYOUT AS NEEDED. ANY CHANGES PRIOR TO ANY INSTALLATION SHALL BE AT NO CHANGE TO CONTRACT PRICE.

▼: INDICATES TEL/DATA COMBINATION OUTLET WITH CAT 6 TEL/DATA JACK. E.C. SHALL WIRE EACH OUTLET HOME RUN 2 PAIR CAT 6 CLP FOR TELEPHONE TO TELEPHONE TERMINATION BOARDS RESPECTIVELY. TERMINATE AT PUNCH DOWN BLOCKS. ALL WIRING AND TERMINATION'S SHALL BE PER CAT 6 SPECIFICATIONS, ALL WIRES SHALL BE PROPERLY LABELED AND RINGED OUT. KEEP WIRES MINIMUM 18" FROM POWER FEEDS AND FIXTURE BALLASTS

TELEPHONE SYSTEM

A. FURNISH AND INSTALL A COMPLETE SYSTEM OF CONDUITS AND BACKBOARDS FOR TELEPHONE INSTRUMENTS AS SHOWN ON THE PLANS.

B. TELEPHONE TERMINAL LOCATIONS AS SHOWN ON THE PLANS SHALL BE 30" X 48" X 3/4" PLYWOOD. GROUND CONNECTIONS SHALL BE MADE BY THE TELEPHONE COMPANY. ELECTRICAL CONTRACTOR SHALL PROVIDE PRIMARY ARRRESTER WITH FUSE AND I#6CU GROUNDING WIRE AND GROUND BOLT CONNECTED TO SERVICE GROUND

C. A NYLON FISH WIRE SHALL BE LEFT IN ALL CONDUITS TO FACILITATE PULLING-IN TELEPHONE WIRES. FURNISH AND INSTALL ONE NYLON PULL WIRE FOR PULLING IN TELEPHONE SERVICE IN ALL CONDUITS. SEE SITE PLAN FOR SERVICE ENTRANCE.

D. LOCAL TELEPHONE COMPANY SHALL BE RESPONSIBLE FOR TELEPHONE WIRING FROM THEIR OUTDOOR TERMINATION CABINET TO A NETWORK INTERFACE LOCATED IN THE TELEPHONE ROOM.

F. EACH TELEPHONE OUTLET SHALL BE WIRED TO DATA INTERFEACE TERMINATION BOARD WITH PLENUM RATED CAT 6 , #20/8 TWISTED DATA WIRE TERMINATED IN TESTED AND CERTIFIED CAT 6 TERMINATION STYLE AT BOTH ENDS AND CLEARLY RINGED AND TAGGED.

CONSTRUCTION AND TEST REQUIREMENTS (NEC REQUIREMENTS)

800.50 PREVENTS LAYING TELEPHONE WIRES ON CEILING TILES.

800.50 REQUIRES PRIMARY PROTECTOR FOR MOST UNDERGROUND AND ALL OVERHEAD SERVICES

800.30 (2) REQUIRES FUSED TYPE PRIMARY PROTECTOR AT SERVICE ENTRANCE

800.50 REQUIRES ALL METAL SHIELDS TO BE GROUNDED

800.50 REQUIRES INSULATED GROUNDING CONDUCTOR TO BE MINIMUM #14, NO LONGER THAN 20FT AND CONNECTED TO BUILDING GROUND SYSTEM. WITH MINIMUM #6 BONDING CABLE.

800.50 REQUIRES TYPE CMP FOR PLENUM, CMR FOR RISER APPLICATIONS,

800.51 REQUIRES MINIMUM 2" BETWEEN POWER LINES AND COMMUNICATION LINES,
RECOMMENDED PRACTICE 6" FROM BALLASTS AND 6FT FROM LIGHTNING WIRES.
ALSO KEEP DISTANCE FROM HEAT SOURCES.
KEEP MINIMUM 6" FROM 20A/2KW CIRCUITS
KEEP MINIMUM 12" FROM 30A/5KW CIRCUITS
KEEP MINIMUM 24" FROM ANY FEEDER.
FOR SHIELDED CABLES THESE VALUES MAY BE TAKEN IN 1/3.

CAT 6 INSTALLATION RECOMMENDATIONS INCLUDE

CAT 6 INSTALLATION REQUIRES MINIMUM ½" UNTWIST
MINIMUM 1" BENDING RADIUS FOR FOUR PAIR OR 4X. FOR 25 PAIR 10XDIA.
PROVIDE MINIMUM TWO LINES AT EACH LOCATION ONE FOR TELEPHONE OTHER FOR DATA
WATCH FOR THAT A KINKED CABLE REDUCES 2.5DB; A SINGLE 1" RADIUS BEND REDUCES 2

-WIRE MAP TEST (TO IDENTIFY INSTALLATION ERRORS)
-LENGTH TEST (TO VERIFY MAXIMUM OPERATIONAL LENGTH IS 300FT)
-ATTENUATION TEST (TO MEASURE MAXIMUM SIGNAL LOSS AT 100MHZ LESS THAN 22)
-NEXT (TO MEASURE SIGNAL COUPLING BETWEEN THE PAIRS AT 100MHZ LESS THAN 32)
-PROPAGATION TEST (TO MEASURE TIME IT TAKES SIGNAL FROM ONE POINT TO OTHER)

CATV INTERNAL UNIT WIRING SPECIFICATIONS

COAXIAL CABLE

ALL COAXIAL CABLE WITHIN THE UNIT, INCLUDING THE DROP CABLES BACK TO THE COMMON DISTRIBUTION ROOM SHOULD MEET OR EXCEED THE FOLLOWING REQUIREMENTS:

RG-6 QUAD SHIELD FOR DROP LENGTHS OF UP TO 150 FEET.

RG-11QUAD SHIELD FOR DROP LENGTHS BETWEEN 151 FEET AND 250 FEET. (DROP LENGTHS SHOULD NOT EXCEED 250 FEET.)

INTERNAL UNIT WIRING

EACH APARTMENT SHALL HAVE IT'S OWN SEPARATE HOME-RUN WIRE. PROVIDE A DUAL CABLE TO BE USED FOR ALL DROP WIRING.

EACH APARTMENT THAT HAS MORE THAN ONE OUTLET MUST HAVE AN INTERFACE ENCLOSURE. THE INTERFACE ENCLOSURE SHALL BE PLACED IN A CENTRAL LOCATION IN THE UNIT, TYPICALLY THE CLOSET. THE ENCLOSURE SHOULD BE LOCATED AS CLOSE AS POSSIBLE TO THE PHONE INTERFACE WITHIN THE UNIT.

NO OUTLET SHOULD BE LOOP-WIRED (NO DAISY CHAIN WIRING.) EVERY OUTLET IN THE UNIT SHOULD BE WIRED BACK TO AN INTERFACE ENCLOSURE WITHIN THE UNIT.

ALL OUTLET LOCATIONS SHOULD HAVE A MINIMUM OF 12 " OF EXTRA CABLE BEHIND THE WALLPLATE.

MUD RINGS SHOULD BE USED AS OPPOSED TO CLOSED BOXES.

THE COAXIAL HOME RUN AND TWISTED PAIR HOME RUN SHALL BE WIRED TO THE SAME DISTRIBUTION CLOSET ON EACH FLOOR.

DO NOT KINK, FORM TIGHT NINETY-DEGREE ANGLES, PIERCE THE OUTER JACKET, DAMAGE OR MISHANDLE THE COAXIAL CABLE IN ANY WAY. USE APPROVED COAXIAL FASTENERS ONLY. METAL STUDS REQUIRE THAT PLASTIC BUSHINGS BE INSTALLED PRIOR TO PULLING THE CABLE.

CONDENSING UNIT SHALL BE WIRED TO APARTMENT PANEL UNIT IS SERVING. CONTRACTOR SHALL COORDINATE WITH HVAC SUB CONTRACTOR FOR EXACT UNIT, CORRESPONDING APARTMENT AND ELECTRICAL CHARACTERISTICS PRIOR TO ANY WORK DONE
WITHIN 25FT OF EACH CONDENSING UNIT PROVIDE WP/GFI OUTLET WIRED TO HOUSE PANEL. LOOP UP TO 8 SUCH ROOF OUTLETS ON ONE CIRCUIT

LOCATION OF ALL MECHANICAL EQUIPMENTS AND ELECTRICAL CHARACTERISTICS SHALL BE COORDINATED WITH MECHANICAL CONTRACTOR PRIOR TO ANY WORK DONE. ALL EQUIPMENT RELATING TO MECHANICAL COMPONENTS SHALL BE ORDERED ONLY AFTER THE APPROVAL OF MECHANICAL EQUIPMENT SHOP DRAWINGS

PER NEW DEFINITION OF READILY ACCESSIBLE, ALL APPLIANCE CONNECTION POINT WILL BE LOCATED IN THE NEXT BAY OF THE KITCHEN COUNTER OR SIMILAR SO THAT PLUGGING/UNPLUGGING OF THE APPLIANCES WILL NOT REQUIRE REMOVAL OR PULLING OUT OR TAKING PANELS OF THE FRONT FACE OF THE APPLIANCE.
PROVIDE GFI BREAKER FOR DISHWASHER

IN RESIDENTIAL BUILDINGS ALL EXTERIOR WALL MOUNTED OUTLETS SHALL HAVE DRAFT BARRIERS
-ALL OUTLETS MOUNTED ON FIRE RATED WALLS (UNIT SEPERATION WALLS SHALL HAVE) FIRE BLANKETS ON THEM

AIR TIGHT ELECTRICAL BOXES SHALL BE " ALLIED MOULDED PRODUCTS, INC" VAPOR SEAL SINGLE GANG 22.5 CU.IN., PART#1099-NV2 TWO GANG 37.0 CU.IN., PART#2302-HNKV2 4" ROUND 22.5 CU.IN., PART#9350-BHKV2 KV2 HN 4" ROUND 22.5 CU.IN., PART#9350-

ALL WIRES IN DWELLING ENCLOSURE WALLS SHALL BE FOAM SEALED TO THE BOXES AND THE BOXES SHALL BE FOAM SEALED TO THE DRYWALL.

ALL 120V RECEPTACLES INSTALLED WITHIN A RESIDENTIAL UNIT SHALL BE SHALL BE SAFETY TYPE AS MANUFACTURED BY LEVITON "5262-SG" OR APPROVED EQUAL.

UNLESS NOTED OTHERWISE ALL WIRING SHALL BE #12AWG, Cu, AND FED FROM PANEL LP VIA 20A/1P C.B. CIRCUITS LONGER THAN 100FT SHALL BE #10 CU

NO EXPOSED WIRING IS ALLOWED,
ALL CONCEALED WIRING SHALL BE IN "MC".
ALL WIRING IN BLOCK WALLS SHALL BE CONCEALED, RUN IN CONDUIT.

TV INDICATES CATV JACK COMPLETE.
EC SHALL HOME RUN EACH CATV OUTLETS WITH RG 6 COAX CABLE AND CONNECT TO CATV SPLITTER WITHIN EACH UNIT CLOSET AND CONNECT UNIT WITH DOUBLE COAX TO CATV ENTRANCE BOX LOCATED IN ELECTRIC ROOM.

PRIOR TO CONSTRUCTION, CONTRACTOR SHALL LOCATE BOXES FOR EACH TYPICAL UNIT FOR OWNER/ARCHITECT REVIEW.

IN RESIDENTIAL BUILDINGS, UNLESS NOTED OTHERWISE -ALL LIGHT FIXTURES WITHIN BEDROOMS SHALL BE WIRED TO BEDROOM CIRCUIT
-ALL OPEN AREA LIGHTS SHALL BE WIRED TO A SINGLE LIGHTING CIRCUIT (DINING ROOM, KITCHEN, HALL WAY)
-BATHROOM LIGHTS SHALL BE WIRED TO OPEN AREA CIRCUITS.

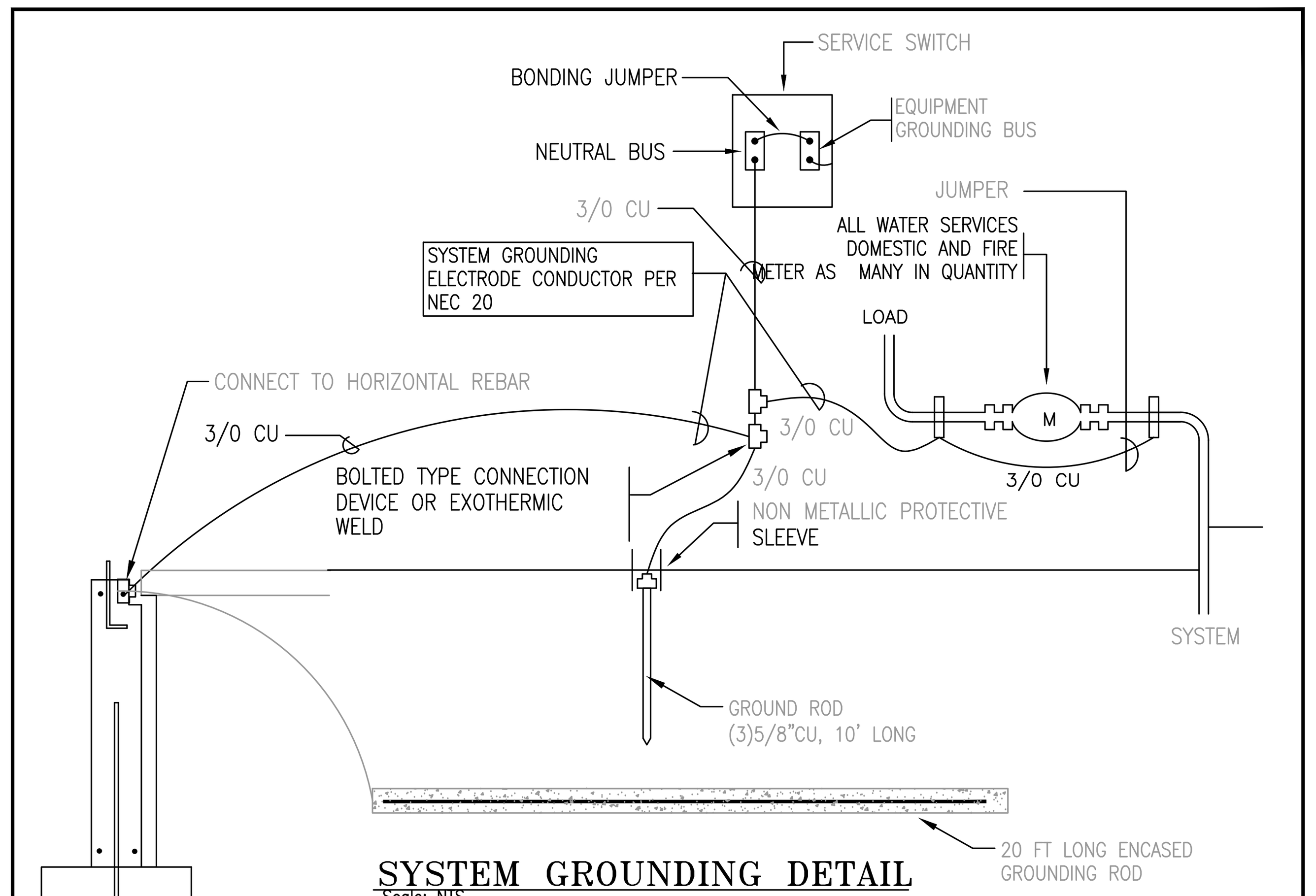
OUTLETS AT FOLLOWING LOCATIONS SHALL BE GFI TYPE REGARDLESS HOW THEY ARE SHOWN.
-RESIDENTIAL BATHROOMS, 210.8(A)(1)
-RESIDENTIAL KITCHENS, 210.8(A)
-LAUNDRY, 210.8(A)(10)
-DISHWASHERS, 210.8(D) (THROUGH GFI BREAKER)
-DRINKING FOUNTAIN, 422.52
-VENDING MACHINES, 422.51
-ROOF TOPS, 210.8(B)(2)(WP ALSO)
-BALCONY/EXTERIOR OUTLETS (WP ALSO)
-ELEVATOR MACHINE ROOMS AND PITS (WP ALSO)
-GARAGES
-FINISHED/UNFINISHED BASEMENT OUTLETS

REGARDLESS SHOWN ON PLANS OR NOT PROVIDE CARBON MONOXIDE DETECTORS AT
-OUTSIDE EACH BEDROOM WIRED TO SMOKE DETECTOR CIRCUIT AND
-IN THE ROOM HOUSING THE GAS APPLIANCE.
DETECTORS SHALL BE UL LISTED.
DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP
CO DETECTORS SHALL BE AS MANUFACTURED BY BRK CO 5120BN

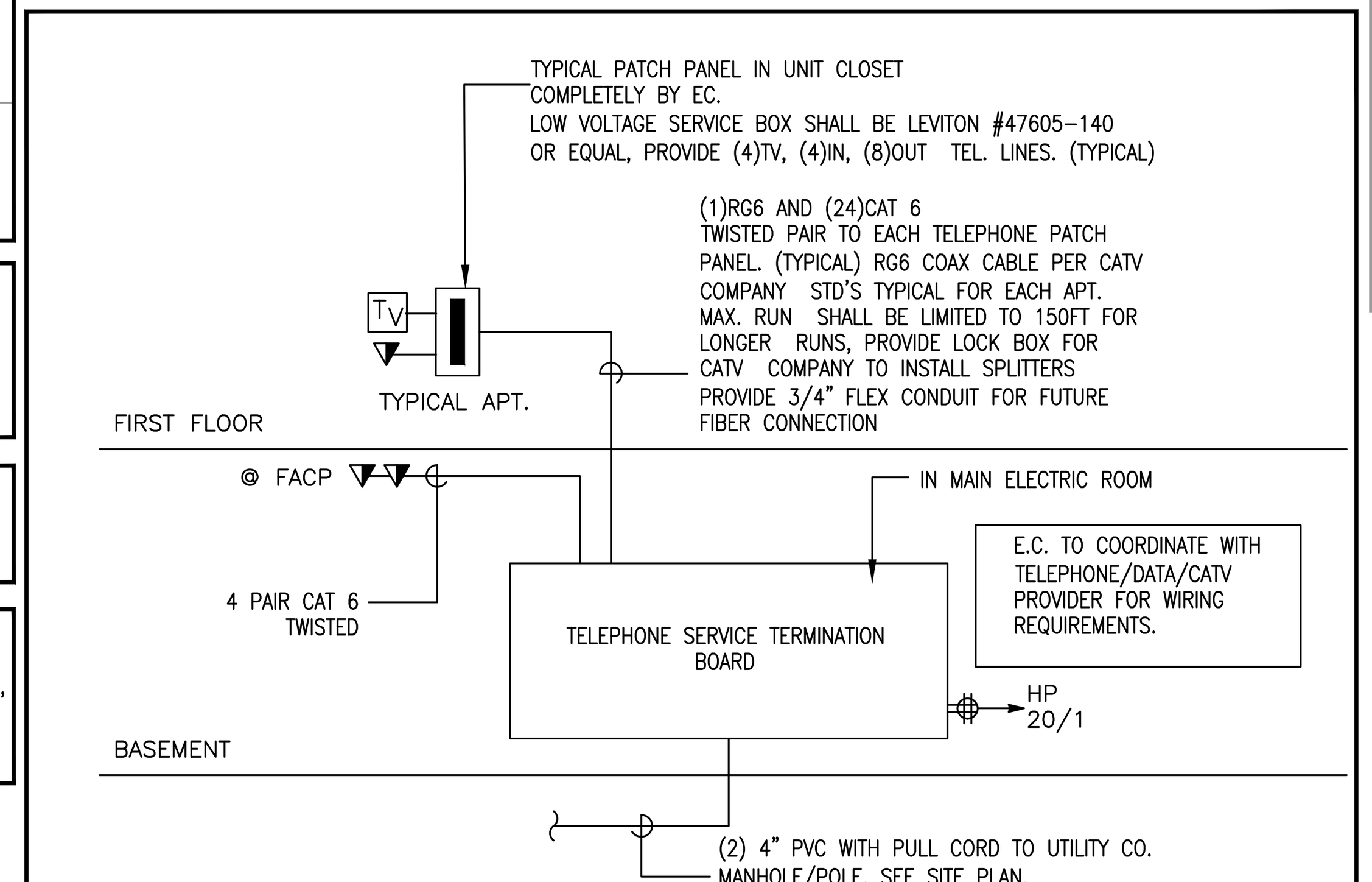
IN RESIDENTIAL BUILDINGS, FOR ALL GAS FIRED VENTILATION/AIR CIRCULATION EQUIPMENT, PROVIDE DUCT MOUNTED CO DETECTOR COMPLETE WITH HOUSING AND SAMPLING TUBE AS MANUFACTURED BY MACURCO CM 15A OR EQUAL AND CONNECT TO FIRE ALARM PANEL VIA MONITOR MODULE

ALL CO DETECTORS MUST "LATCH" AT THE PANEL; THAT IS TO SAY, THE RESPONDER TO A CO DETECTOR SUPERVISORY ALARM MUST BE LEAD TO MITIGATE THE CO ISSUE AT THE DETECTOR AND THEN CLEAR/RESET THE FIRE ALARM PANEL. THIS WILL MEAN THE CO SUPERVISORY ALARM CANNOT BE MITIGATED AT THE POINT LOCATION, BUT REQUIRES A COMPETENT RESPONDER TO ADDRESS THE PANEL IN THE FIRE COMMAND CENTER.

ALARM MONITORING SERVICE RECEIVES A SUPERVISORY CARBON MONOXIDE SIGNAL; THAT IS TO SAY, LITERALLY THE WORDS "CARBON MONOXIDE" MUST BE PRESENT AT ALARM COMPANY, THE LETTERS "CO" ARE NOT ACCEPTABLE.



SYSTEM GROUNDING DETAIL
Scale: NTS



CATV/TELEPHONE RISER DIAGRAM (NTS)

PROJECT NAME
21-23 KENT COURT

PROJECT ADDRESS
21-23 KENT COURT
SOMERVILLE, MA

CLIENT
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ELECTRICAL LEGEND & DETAILS

E-113

21-23 KENT COURT

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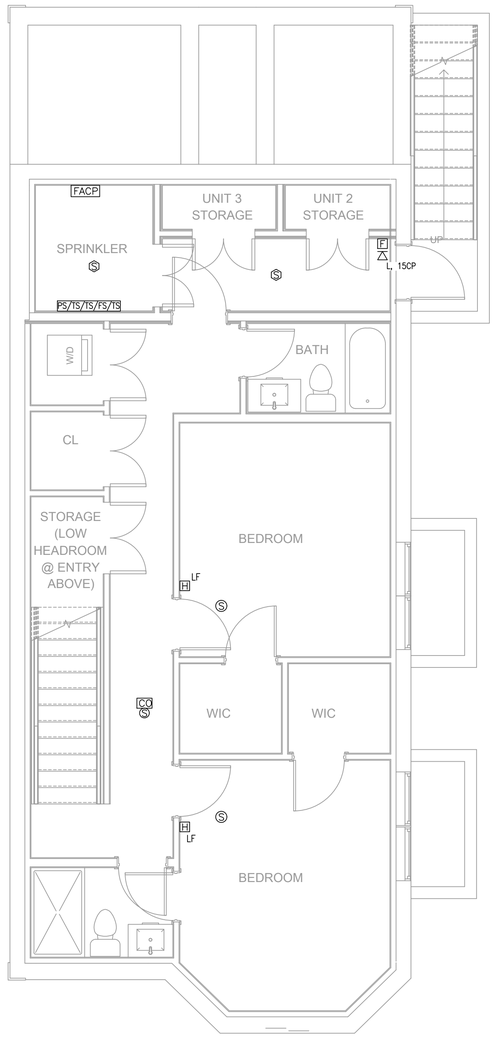
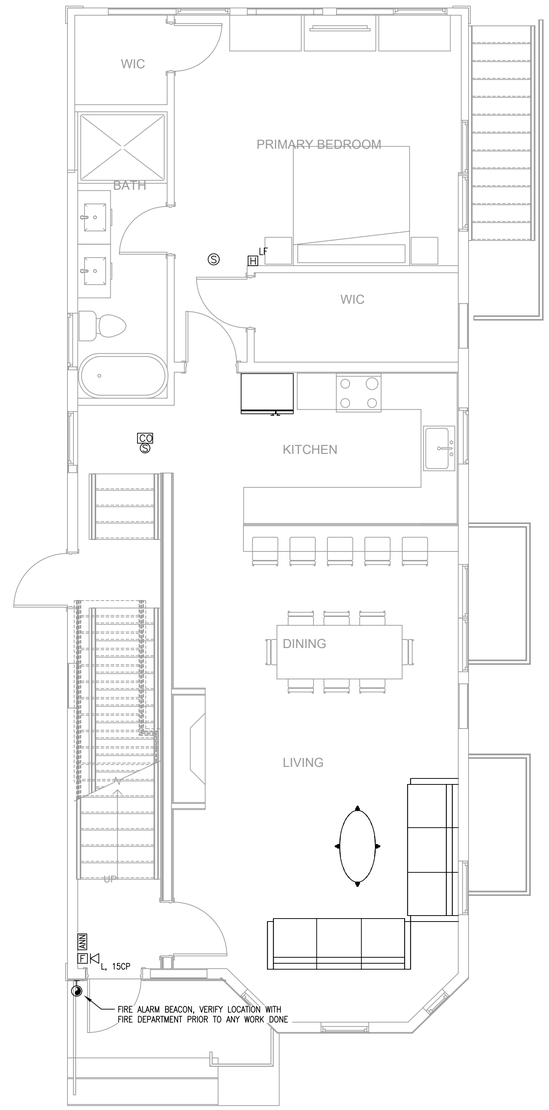
FIRE ALARM NOTES

1. LOCAL TYPE NOTIFICATION APPLIANCES, SMOKE DETECTORS, AND CO DETECTORS SHALL BE FED FROM THE DWELLING UNITS GENERAL LIGHTING BRANCH CIRCUIT.



1 BASEMENT FIRE ALARM PLAN
1/4" = 1'-0"



2 FIRST FLOOR FIRE ALARM PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

KDI ARCHITECTURE
KHALSA DESIGN, INC.
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682

CONSULTANTS:

REGISTRATION

COMMONWEALTH OF MASSACHUSETTS
MUZAFFER HACIEVLIAGIL
ELECTRICAL
No. 32579
REGISTERED PROFESSIONAL ENGINEER

Project number	24007
Date	07/25/2024
Drawn by	
Checked by	
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

ELECTRICAL FLOOR PLANS - FIRE ALARM

FA-100

21-23 KENT COURT

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FIRE ALARM NOTES

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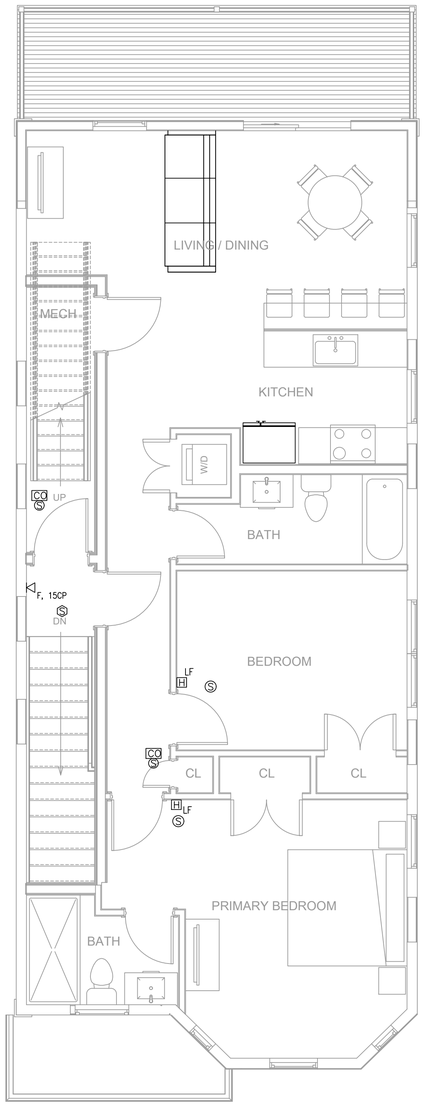
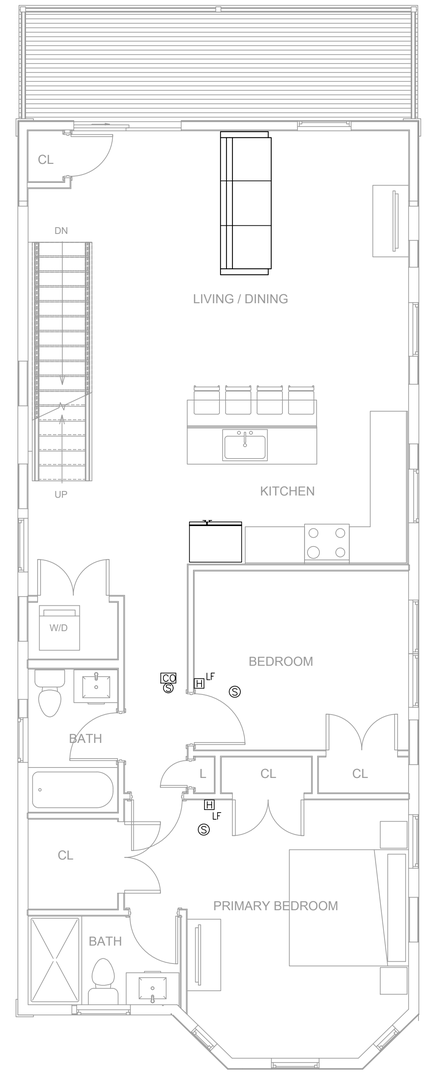


1 SECOND FLOOR FIRE ALARM PLAN
1/4" = 1'-0"



2 THIRD FLOOR FIRE ALARM PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

ARCHITECT

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KHALSA DESIGN, INC.
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TELEPHONE: 617-591-8682

CONSULTANTS:

REGISTRATION

COMMONWEALTH OF MASSACHUSETTS
MUZAFFER MUCTEHITZADE
ELECTRICAL
No. 37579
REGISTERED PROFESSIONAL ENGINEER

Project number	24007
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Scale	1/4" = 1'-0"

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ELECTRICAL FLOOR PLANS - FIRE ALARM

FA-101

21-23 KENT COURT

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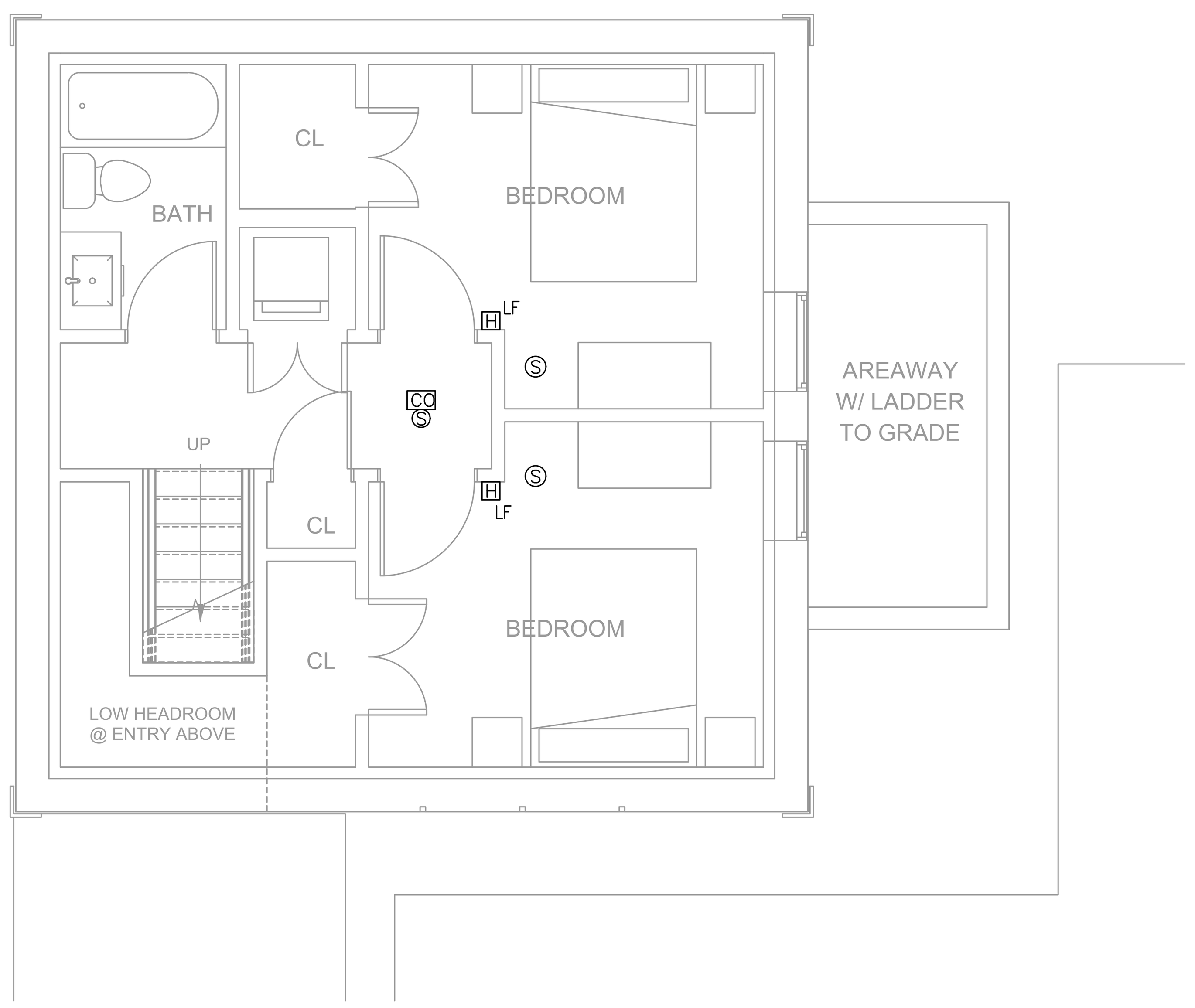
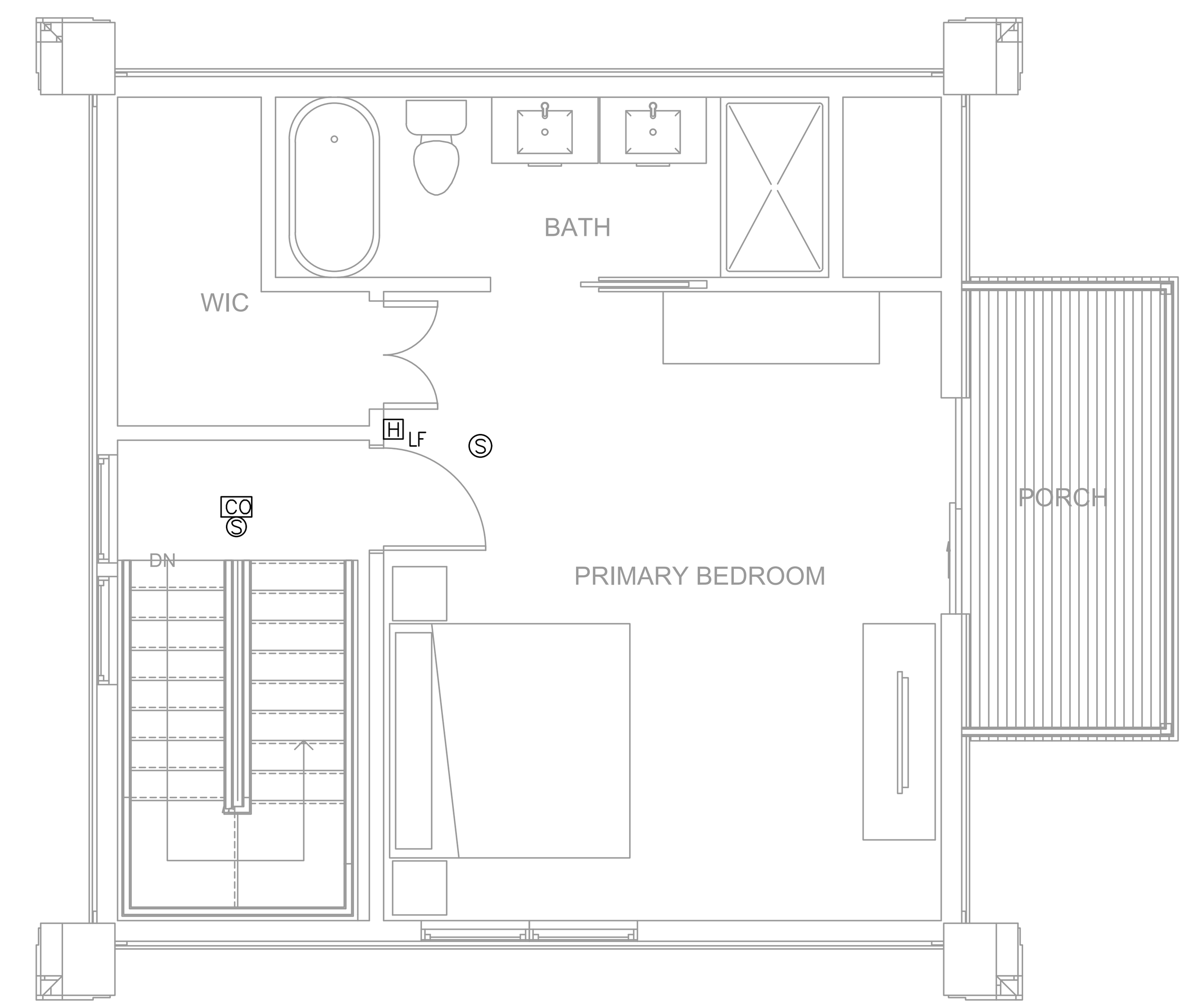


① COTTAGE BASEMENT FIRE ALARM PLAN
1/4" = 1'-0"

② COTTAGE FIRST FLOOR FIRE ALARM PLAN
1/4" = 1'-0"



③ COTTAGE SECOND FLOOR FIRE ALARM PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

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BOSTON MASONRY

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CONSULTANTS:

REGISTRATION

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Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

ELECTRICAL FLOOR PLANS - FIRE ALARM

FA-102

21-23 KENT COURT

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LEGEND

(S)	SYSTEM TYPE SMOKE DETECTOR. ANALOG ADDRESSABLE
(H)	HEAT DETECTOR. ADDRESSABLE TYPE
▽ F	FIRE ALARM PULL AND HORN/LIGHT DEVICE. PER NFPA 72/.SYCHRONIZED. 15CD IN CORR., 60CD IN COMMON AREAS
F	FIRE ALARM PULL STATION. ADDRESSABLE, MOUNTED AT 4'-0" AFF.
▽▽ F	FIRE ALARM HORN/LIGHT(SYCHRONIZED). MTD AT 6'-8" AFF 15 CD IN CORRIDORS, 60 CD IN COMMON AREAS
▽ L	FIRE ALARM LIGHT ONLY(SYCHRONIZED).MTD AT 6'-8"AFF 15 CD IN CORRIDORS, MIN 60 CD IN COMMON AREAS
F,110CP,CLG ▽	CEILING MOUNTED A/V DEVICE
FS	SPRINKLER SYSTEM FLOW SWITCH, WIRING ONLY.
TS	SPRINKLER SYSTEM TAMPER SWITCH, WIRING ONLY.
PS	LOW PRESSURE SWITCH WIRED AS SUPERVISORY
FACP	FIRE ALARM CONTROL PANEL.
ANN	FIRE ALARM REMOTE ANNUNCIATOR WITH TROUBLE BUZZER.
DIAL	DIALER BY E.C. WIRED TO UL LISTED ALARM CO.
(S)	LOCAL TYPE 110V SMOKE DETECTOR, PHOTOELECTRIC TYPE WITH BATTERY BACK-UP. "L" INDICATES BUILT-IN STROBE 177CD)TANDEM WIRED WITH OTHER LOCAL DETECTORS IN THE UNIT. WIRED TO LIGHTING CIRCUIT
H LF	LOW FREQUENCY MINI HORN
CO M	SYSTEM TYPE CO DETECTOR W/MONITOR MODULE
CO (S)	LOCAL TYPE SMOKE/CO COMBI DETECTOR, VOICE TYPE

-ALL SMOKE DETECTOR LOCATIONS SHALL BE COORDINATED WITH REFLECTED CEILING PLANS IN FIELD SO THAT DETECTORS SHALL BE MINIMUM 3FT AWAY FROM SUPPLY DIFFUSER.
-DUCT SMOKE DETECTORS SHALL BE INSTALLED IN HEATED AREAS AT THE SUPPLY SIDE BEFORE THE FIRST TAKE OFF, MINIMUM 5FT AWAY FROM THE UNIT COIL. REMOTE TEST/INDICATOR LOCATIONS SHALL BE NEXT TO FACP PANEL OR AS DIRECTED BY THE FIRE DEPARTMENT.
-A/V DEVICE LOCATIONS ARE SHOWN BASED ON DISTANCE REQUIREMENTS. CONTRACTOR SHALL COORDINATE PHYSICAL STRUCTURES SO THAT VISIBILITY WILL BE MAINTAINED. PROPOSED CHANGES SHALL BE FORWARDED TO ARCHITECT/ENGINEER FOR APPROVAL.

AUDIBLE APPLIANCES PROVIDED FOR THE SLEEPING AREAS TO AWAKEN OCCUPANTS SHALL PRODUCE A LOW FREQUENCY ALARM SIGNAL THAT COMPLIES WITH THE FOLLOWING.

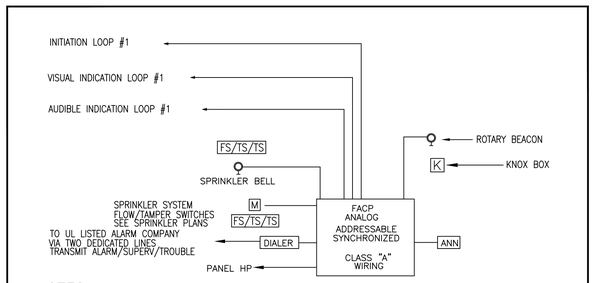
(1) THE ALARM SIGNAL SHALL BE A SQUARE WAVE OR PROVIDE EQUIVALENT AWAKENING ABILITY.
(2) THE WAVE SHALL HAVE A FUNDAMENTAL FREQUENCY OF 520 HZ +/- 10 PERCENT.

(S) 120V LOCAL SMOKE DETECTOR WITH BATTERY BACK-UP. COMBINATION TYPE 120V LOCAL SMOKE/CO DETECTOR WITH BATTERY BACK UP. SMOKE DETECTOR SHALL BE PHOTO ELECTRIC TYPE. TANDEM WIRE ALL COMBINATION TYPE SMOKE/CO AND SMOKE ONLY DETECTORS IN THE SAME UNIT AND FEED FROM BEDROOM RECEPTACLE CIRCUIT, (TYPICAL FOR ALL UNITS)

(CO) CARBON MONOXIDE DETECTOR MFG:BRK ELECTRONICS CAT#CO5120BN FEED FROM SMOKE DETECTOR.

FIRE ALARM CONSTRUCTION NOTES
-LOCAL SMOKE DETECTORS SHALL BE WIRED FROM ARC-FAULT CIRCUITS, VERIFY WITH ELECTRICAL INSPECTOR.
-BACK TO BACK OUTLETS ON FIRE RATED WALLS SHALL BE INSTALLED TO MAINTAIN FIRE RATINGS, IF NECESSARY, USE FIRE RATED OUTLET BOXES.
-ALL FLOOR PENETRATIONS BY CABLES AND CONDUITS SHALL BE SEALED TO MAINTAIN FIRE RATINGS.
-RECESSED LIGHT FIXTURES INSTALLED ON FIRE RATED CEILINGS SHALL HAVE FIRE RATED HOODS ON TOP TO MAINTAIN FIRE RATING. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATED AREAS.
-ALL WIRING WITHIN UNITS SHALL BE ROMEX. WIRING OUTSIDE UNITS SHALL BE METAL CLAD.

REGARDLESS HOW IT IS SHOWN ALL APARTMENT SMOKE AND CO DETECTORS SHALL BE LOCATED MINIMUM
-3 FT FROM AIR DIFFUSERS
-3FT FROM BATHROOM DOORS
-10FT FROM COOKING APPLIANCES



NOTES

PROVIDE ADDRESS MODULES FOR ALL FLOW & TAMPER SWITCHES SEE FLOOR PLANS FOR DETECTOR TYPES AND LOCATIONS AND QUANTITIES. SEE SPRINKLER DRAWINGS FOR FLOW/TAMPER SWITCH LOCATIONS AND QUANTITIES.
PROVIDE SMOKE DETECTORS AT EVERY BOOSTER PANEL LOCATIONS
CARRY MINIMUM OF (1)FLOW AND (4)TAMPER SWITCH AT SPRINKLER SERVICE LOCATION
PROVIDE BATTERY CALCULATIONS AND TIER 2 DRAWINGS
PROVIDE RADIO SIGNAL COVERAGE THROUGHOUT BUILDING AS REQUIRED PER 916.1,2,3
BEDROOM MINI HORNS SHALL COMPLY WITH NEW NFPA 72 SOUND FREQUENCY REQUIREMENTS

TIER 2 DRAWINGS SHALL COMPLY WITH IBC 901,
MINIMUM SHALL SHOW DEVICE LOCATIONS, WIRING DIAGRAMS WITH DEVICE IDENTIFICATIONS, BATTERY CALCULATIONS

SEQUENCE OF OPERATION

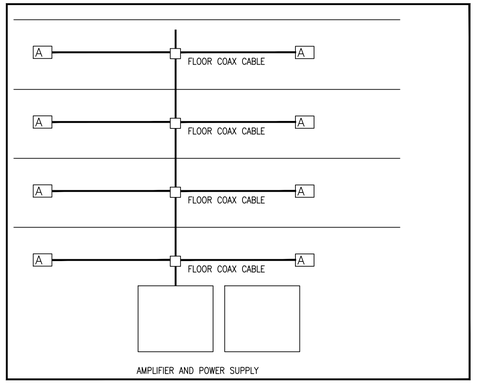
UPON ACTIVATION OF ANY FIRE DETECTOR, MANUAL PULL STATION OR FLOW SWITCH
-FIRE ALARM PANEL WILL TRIP AND CALL FIRE DEPARTMENT
-ALL AUDIO DEVICES WILL INITIATE ALARM SIGNAL TO ALERT ALL OCCUPANTS FOR ALARM CONDITION IN THE BUILDING FOR FULL EVACUATION.
-ALL VISUAL DEVICES WILL ACTIVATE, THEY SHALL BE SYNCHRONIZED TYPE.

A 24"x18" GRAPHICAL FLOOR PLAN SHALL BE POSTED INSIDE ALL BUILDING ENTRY POINTS AND BE APPROVED BY THE FIRE DEPARTMENT

ALL BEDROOMS AND LIVING ROOMS SHALL BE WIRED FOR FUTURE STROBE.

FIRE ALARM SYSTEM RISER DIAGRAM

PROVIDE ALL NECESSARY STRUCTURE AND RACEWAYS TO BE ABLE TO INSTALL BDA SYSTEM PER IBC 916.1.2&3 UPON COMPLETION OF THE BUILDING AND AFTER ESTABLISHING THE NEED TO INSTALL HEAD END EQUIPMENT OF A BDA SYSTEM TO MEET EMERGENCY SERVICES COMMUNICATION NEEDS AS TO BE DETERMINED BY THE FD. PROVIDE ADD ALTERNATE COST FOR ALL HARDWARE COMPONENTS AND INSTALLATION OF FOR EACH BUILDING (EACH BUILDING MAY HAVE DIFFERENT NEEDS) RUN CONDUITS IN 2HR RATED ENCLOSURE. IF EQUIPMENT IS TO BE INSTALLED IT WILL BE HOUSED IN 2HR ENCLOSURE CARRY THE COST OF TESTING THE BUILDING UPON COMPLETION OF INTERIOR PARTITIONS



SCHEMATIC BDA SYSTEM DIAGRAM

IN RESIDENTIAL BUILDINGS, FOR ALL GAS FIRED VENTILATION/AIR CIRCULATION EQUIPMENT, PROVIDE DUCT MOUNTED CO DETECTOR COMPLETE WITH HOUSING AND SAMPLING TUBE AS MANUFACTURED BY MACURCO CM 15A OR EQUAL AND CONNECT TO FIRE ALARM PANEL VIA MONITOR MODULE

ALL CO DETECTORS MUST "LATCH" AT THE PANEL; THAT IS TO SAY, THE RESPONDER TO A CO DETECTOR SUPERVISORY ALARM MUST BE LEAD TO MITIGATE THE CO ISSUE AT THE DETECTOR AND THEN CLEAR/RESET THE FIRE ALARM PANEL. THIS WILL MEAN THE CO SUPERVISORY ALARM CANNOT BE MITIGATED AT THE POINT LOCATION, BUT REQUIRES A COMPETENT RESPONDER TO ADDRESS THE PANEL IN THE FIRE COMMAND CENTER.

ALARM MONITORING SERVICE RECEIVES A SUPERVISORY CARBON MONOXIDE SIGNAL; THAT IS TO SAY, LITERALLY THE WORDS "CARBON MONOXIDE" MUST BE PRESENT AT ALARM COMPANY, THE LETTERS "CO" ARE NOT ACCEPTABLE.

REGARDLESS SHOWN ON PLANS OR NOT PROVIDE CARBON MONOXIDE DETECTORS AT
-OUTSIDE EACH BEDROOM WIRED TO SMOKE DETECTOR CIRCUIT AND
-IN THE ROOM HOUSING THE GAS APPLIANCE. DETECTORS SHALL BE UL LISTED. DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP CO DETECTORS SHALL BE AS MANUFACTURED BY BRK CO 5120BN

		CONTROL UNIT ANN								NOTIFICATION								FIRE SAFETY SYSTEM CONTROLS				
		ACTUATE COMMON ALARM SIGNAL	ACTUATE AUDIBLE ALARM-GLOBAL	ACTUATE COMMON SUPERVISORY SIGNAL ALARM	ACTUATE AUDIBLE SUPERVISORY ALARM	ACTUATE COMMON TROUBLE SIGNAL	ACTUATE AUDIBLE TROUBLE SIGNAL	ACTUATE APPROPIATE LOCATION INDICATOR	ACTUATE ALL AUDIBLE EVACUATION SIGNALS	ACTUATE ALL VISIBLE ALARM SIGNALS	DISPLAY CHANGE OF STATUS	TRANSMIT ALARM SIGNAL TO SUPERVISORY STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISORY STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISORY STATION				ACTUATE EXTERIOR BEACON			
1	COMMON AREA SMOKE DETECTORS	●	●					●	●	●	●	●						●			1
2	COMMON AREA HEAT DETECTORS	●	●					●	●	●	●	●						●			2
3	–																				3
4	COMMON AREA MANUAL PULL STATIONS	●	●					●	●	●	●	●						●			4
5	–																				5
6	SPRINKLER MAIN FLOW	●	●					●	●	●	●	●						●			6
7	SPRINKLER FLOOR FLOW SWITCH	●	●					●	●	●	●	●						●			7
8	SPRINKLER TAMPER SWITCH ACTUATION			●	●								●	●							8
9	PRESSURE SWITCH ACTUATION			●	●								●	●							9
10	BDA SYSTEM IF PRESENT			●	●								●	●							10
11	–																				11
12	FIRE ALARM AC POWER FAILURE					●	●				●		●								12
13	FIRE ALARM SYSTEM LOW BATTERY					●	●				●		●								13
14	OPEN CIRCUIT OR GROUND FAULT					●	●				●		●								14
15	–																				15
16	–																				16

PROJECT NAME
21-23 KENT COURT

PROJECT ADDRESS
21-23 KENT COURT
SOMERVILLE, MA

CLIENT
BOSTON MASONRY

ARCHITECT
KDI ARCHITECTURE
KHALSA DESIGN, INC.
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682

CONSULTANTS:

REGISTRATION

COMMONWEALTH OF MASSACHUSETTS MUZAFFER HUCTEMIZADE ELECTRICAL No. 32579 REGISTERED PROFESSIONAL ENGINEER

Project number	24007
Date	07/25/2024
Drawn by	
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Scale	1/4" = 1'-0"

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FIRE ALARM RISER & DETAILS

FA-103

21-23 KENT COURT

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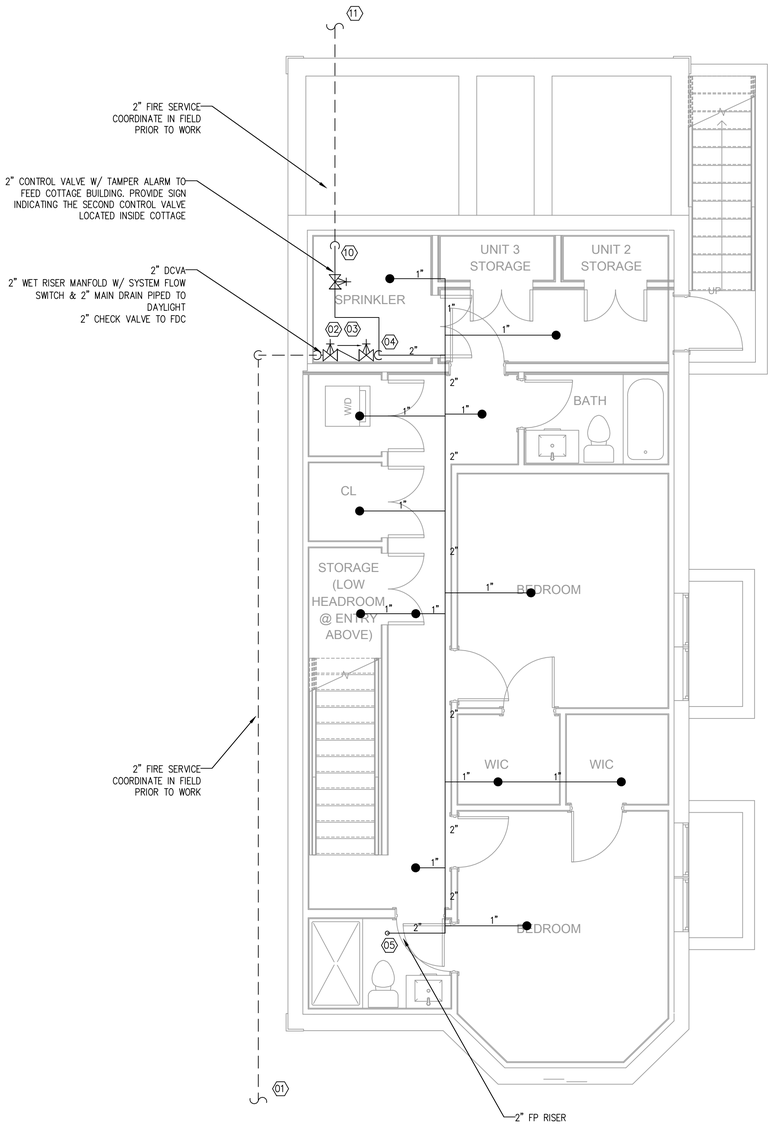
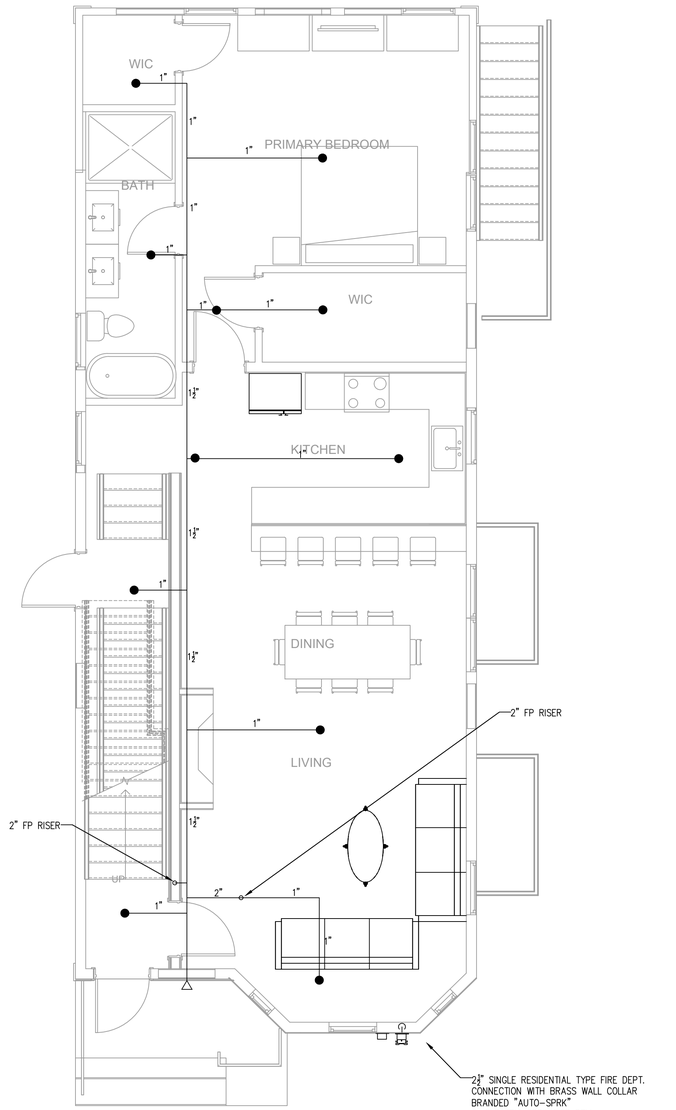


1 BASEMENT FIRE PROTECTION PLAN
1/4" = 1'-0"



2 FIRST FLOOR FIRE PROTECTION PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

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BOSTON MASONRY

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Scale	AS NOTED

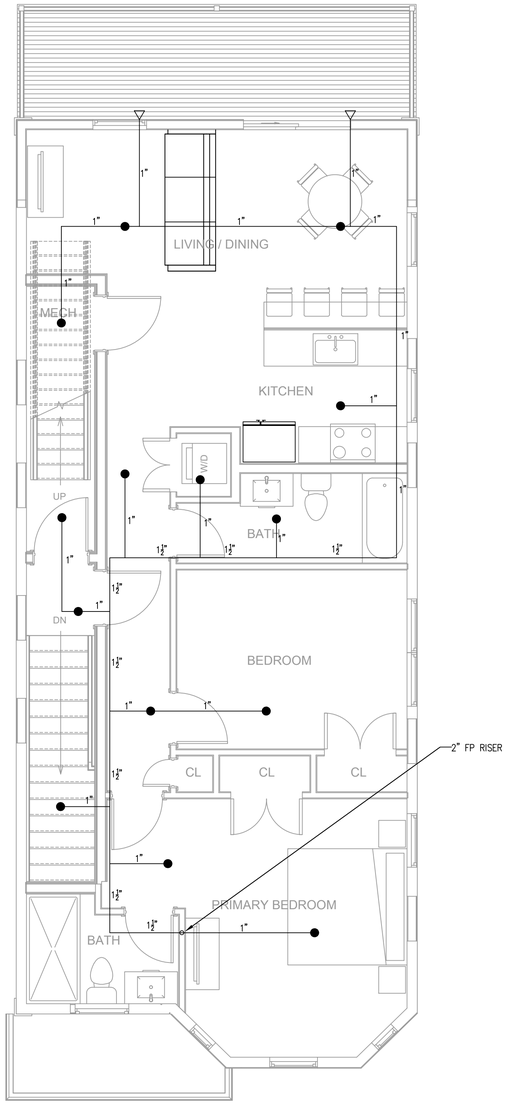
REVISIONS

No.	Description	Date

FIRE PROTECTION PLANS

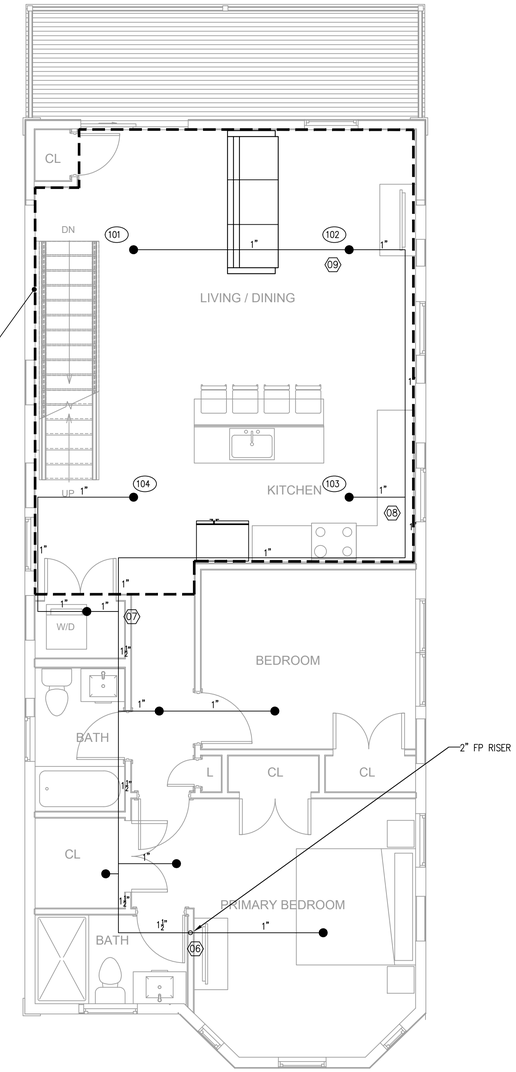
FP-100

21-23 KENT COURT



1 SECOND FLOOR FIRE PROTECTION PLAN
1/4" = 1'-0"

HYDRAULIC DESIGN AREA	
SYSTEM TYPE: AUTOMATIC–WET	
RESIDENTIAL NFPA–13R 2013	
DENSITY: .05 GPM/FT2	AREA OF APPLICATION: FOUR HEADS
PROTECTION AREA 16'x16'	HOSE ALLOWANCE 100 GPM



2 THIRD FLOOR FIRE PROTECTION PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

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SOMERVILLE, MA

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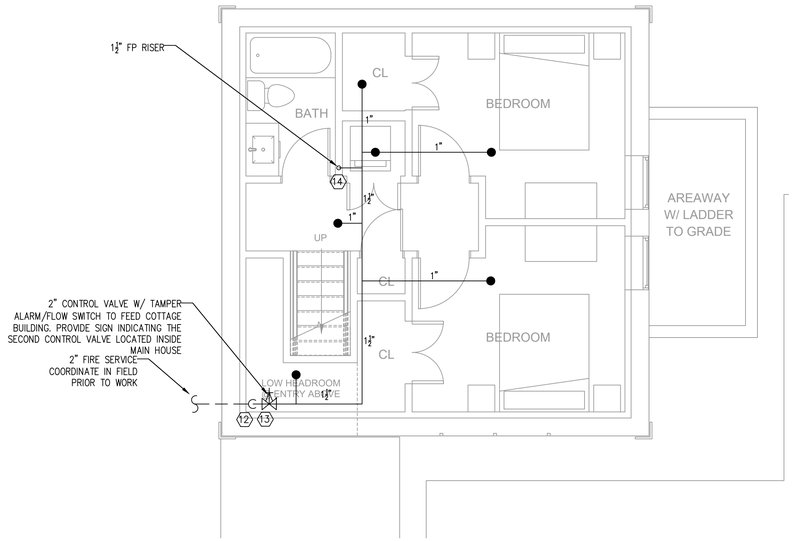
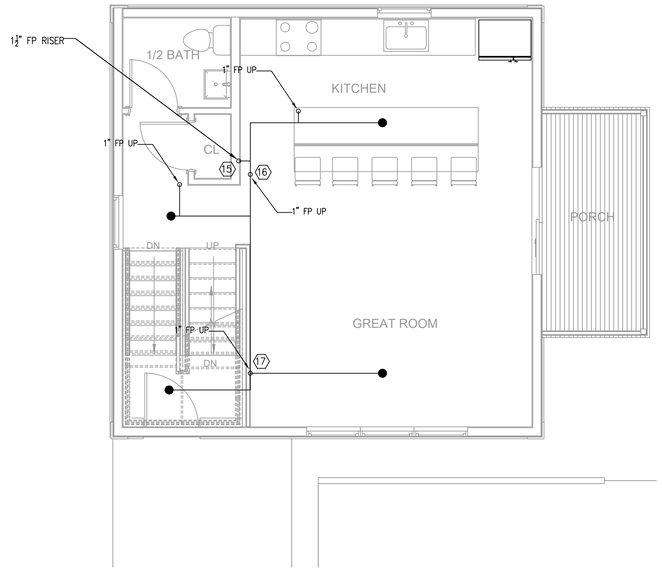
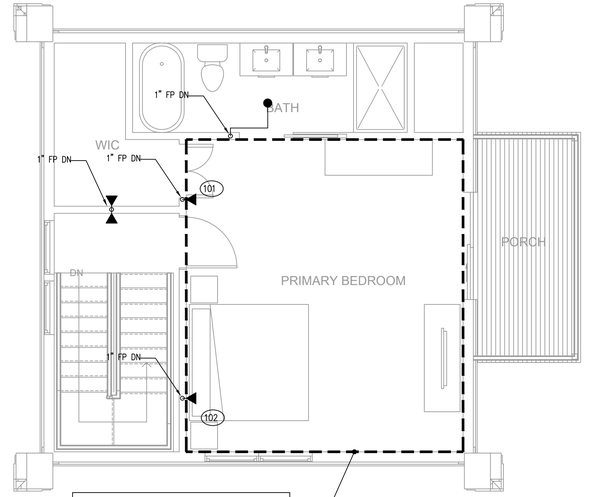
FIRE PROTECTION PLANS

FP-101

21-23 KENT COURT







HYDRAULIC DESIGN AREA	
SYSTEM TYPE: AUTOMATIC-WET	
RESIDENTIAL NFPA-13D 2013	
DENSITY: .05 GPM/FT2	AREA OF APPLICATION: TWO HEADS
PROTECTION AREA 16'x16'	HOSE ALLOWANCE N/A

1 COTTAGE FIRE PROTECTION PLAN
1/4" = 1'-0"

PROJECT NAME

21-23 KENT COURT

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SOMERVILLE, MA

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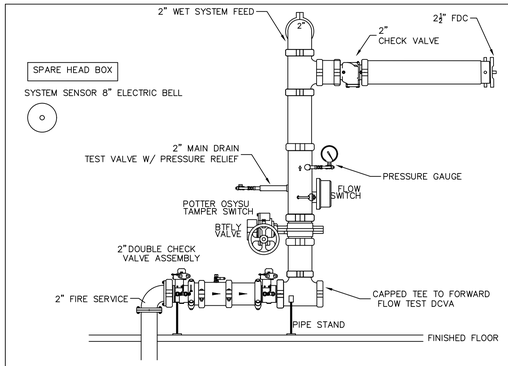
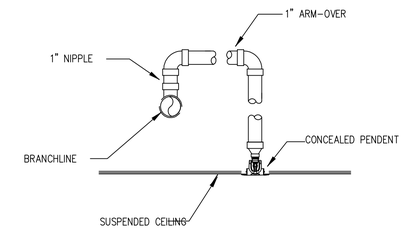
FIRE PROTECTION PLANS

FP-103

21-23 KENT COURT

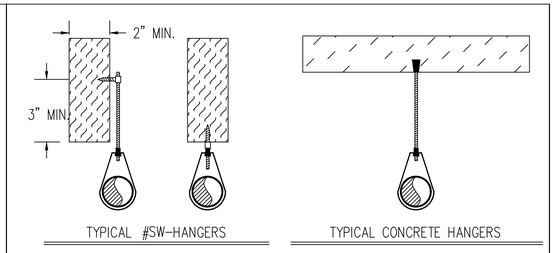


SPRINKLER SUPPLY MANIFOLD | NTS



**ALL NEW SPRINKLER PIPING TO BE 1" U.N.O.

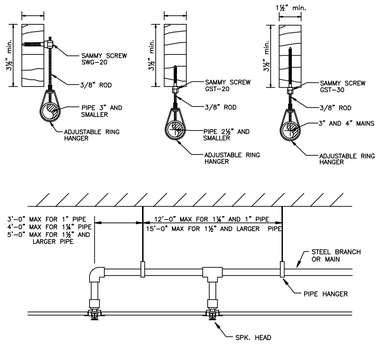
TYPICAL PENDENT SPRINKLER INSTALLATION | NTS



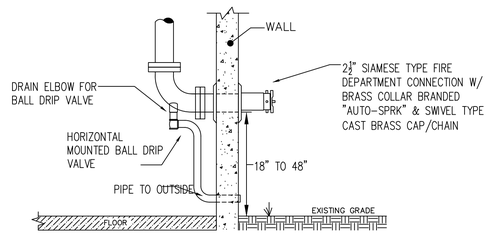
1 -- A.T.R.
1 -- RING
1 -- SIDE WINDER/ SPEEDY FASTENER

1 -- HILTI SHIELD
1 -- A.T.R.
1 -- RING

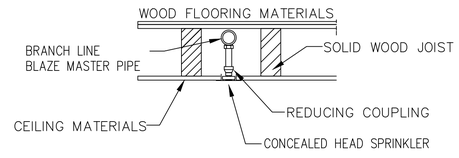
TYPICAL HANGER DETAILS | NTS



PIPE HANGER SPACING | NTS



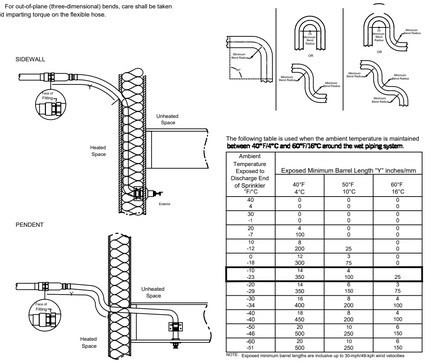
FIRE DEPARTMENT CONNECTION | NTS



SPRINKLER PIPING AT CEILING PLENUM | NTS

Flexible Hose Bend Characteristics:

NOTE: For out-of-plane (three-dimensional) bends, care shall be taken to avoid imparting torque on the flexible hose.

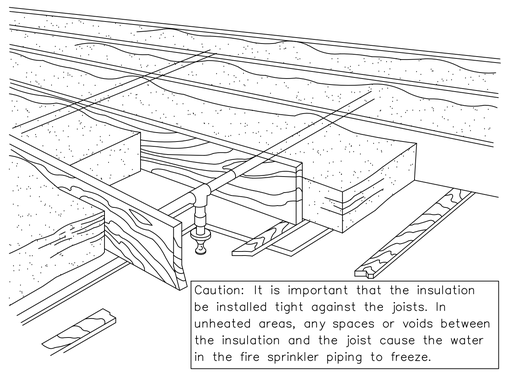


The following table is used when the ambient temperature is maintained between 40°F/4°C and 60°F/16°C around the wet piping system.

Ambient Temperature Exposed to Discharge End of Sprinkler °F/°C	Exposed Minimum Barrel Length "Y" inches/mm		
	40°F 4°C	50°F 10°C	60°F 16°C
40	0	0	0
4	0	0	0
30	0	0	0
-1	0	0	0
20	0	0	0
-7	100	0	0
10	0	0	0
-12	200	25	0
0	0	0	0
-18	300	75	0
-10	0	100	25
-23	350	100	25
-20	0	0	0
-29	350	150	75
-30	0	0	0
-34	400	200	100
-40	0	0	0
-40	450	200	100
-50	20	10	6
-46	500	250	150
-60	20	10	6
-51	500	250	150

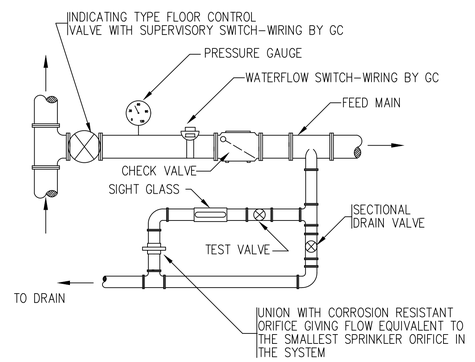
NOTE: Exposed minimum barrel lengths are inclusive up to 30-mph/48-kph wind velocities

DRY SIDEWALL SPRINKLER DETAIL | NTS



Caution: It is important that the insulation be installed tight against the joists. In unheated areas, any spaces or voids between the insulation and the joist cause the water in the fire sprinkler piping to freeze.

INSULATION DETAIL | NTS



UNIT CONTROL VALVE ASSEMBLY | NTS

PROJECT NAME

21-23 KENT COURT

PROJECT ADDRESS

21-23 KENT COURT
SOMERVILLE, MA

CLIENT

BOSTON MASONRY

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REGISTRATION

Project number	24007
Date	11/05/2024
Drawn by	
Checked by	
Scale	AS NOTED

REVISIONS

No.	Description	Date

FIRE PROTECTION DETAILS

FP-104

21-23 KENT COURT

DESIGN CRITERIA

1. THE AUTOMATIC FIRE SUPPRESSION SYSTEM HAS BEEN HYDRAULICALLY SIZED PER NFPA-13R 2013, CMR 780 (9TH) WITH AMENDMENTS

2. SPRINKLER COVERAGE SHALL BE REQUIRED IN AREAS OF THE BUILDING PER NFPA-13R

PIPE, FITTINGS AND JOINTS

1. PIPE AND FITTINGS SHALL CONFORM TO THE LATEST ANSI, ASTM, NFPA AND AWWA STANDARDS INCLUDING LATEST AMENDMENTS.

2. SPRINKLER MAINS AND BRANCHES MAY BE LIGHT WALL BLACK STEEL PIPE WITH ROLLED GROOVE TYPE MALLEABLE IRON PIPE COUPLINGS AND FITTINGS WITH GASKETS AND BOLTS AS APPROVED BY THE NATIONAL FIRE PROTECTION ASSOCIATION AND THE UNDERWRITERS' LABORATORIES. SCHEDULE 40 BLACK STEEL PIPE WITH STANDARD WEIGHT MALLEABLE IRON FITTINGS AS APPROVED BY NFPA AND UL MAY BE USED WITH, OR IN LIEU OF, THE SYSTEM DESCRIBED ABOVE. CPVC PIPING MAY BE USED WHERE ALLOWED BY LOCAL & NATIONAL LIFE SAFETY CODES

HANGERS AND SUPPORTS

1. HANGERS AND SWAY BRACING WHERE REQUIRED , SHALL BE INSTALLED TO MEET NFPA AND LOCAL STATE BUILDING CODE COMPLIANCE AS TO LOCATION, SPACING, AND MAXIMUM LOADS.

2. HANGER MATERIAL SHALL BE COMPATIBLE WITH PIPING MATERIALS WITH WHICH IT COMES INTO CONTACT.

3. HANGERS SHALL BE INSTALLED, IN ADDITION TO THE ABOVE, AT ALL CHANGES OF DIRECTION (HORIZONTAL AND VERTICAL), VALVES AND EQUIPMENT CONNECTIONS. HANGERS SHALL BE LOCATED SO THAT THEIR REMOVAL IS NOT REQUIRED TO SERVICE, ASSEMBLE OR REMOVE EQUIPMENT.

4. HORIZONTAL RUNS MAY USE BAND HANGERS UP TO 4" SIZE. PIPING LARGER THAN 4" SHALL BE PROVIDED WITH CLEVIS TYPE.

5. ALL RODS, CLAMPS, NUTS, WASHERS, SHIELDS AND HANGERS IN ALL AREAS SHALL BE ELECTRO-GALVANIZED COATED STEEL.

VALVES AND SUNDRIES

1. SHUTOFF VALVES ON THE ABOVEGROUND FIRE PROTECTION SYSTEM SHALL BE UL, FM BUTTERFLY OR OS&Y GATE VALVES, AS INDICATED, ON SIZES 2-1/2" AND LARGER, VALVES UP TO 2" SHALL BE UL, FM BALL VALVES. ALL ISOLATION / CONTROL VALVES SHALL BE MONITORED.

2. CHECK VALVES SHALL BE 175-POUND CLASS FOR FIRE PROTECTION.

3. VALVES SHALL BE PROVIDED WITH SEATS SUITABLE FOR THE SERVICE INTENDED.

4. VALVES SHALL BE AS MANUFACTURED BY NIBCO, VICTAULIC, WALLWORTH, MILWAUKEE OR APPROVED EQUAL. MANUFACTURERS MODEL NUMBERS REFERENCED BELOW ARE USED TO INDICATE A TYPE, MATERIAL AND QUALITY TO BE PROVIDED.

5. ALL VALVES SPECIFIED HEREIN SHALL BE UL/FM APPROVED, 175 PSI MINIMUM WORKING PRESSURE. ALL CONTROL VALVES SHALL BE PROVIDED WITH TAMPER SWITCH.

AUTOMATIC SPRINKLERS

1. SPRINKLER HEADS: QUICK RESPONSE, BULB TYPE, AND STYLE AS INDICATED OR REQUIRED BY THE APPLICATION. UNLESS OTHERWISE INDICATED.

2. IN ALL OPEN AREAS, WHERE ELECTRICAL EQUIPMENT IS LOCATED, AN APPROVED TYPE SHIELD, TO KEEP WATER OFF THE ELECTRICAL EQUIPMENT, SHALL BE PROVIDED.

3. PROVIDE ALL SPRINKLER HEADS WITH PROTECTIVE CAGE.

4. PROVIDE IN THE VALVE ROOM, A FINISHED STEEL CABINET SUITABLE FOR WALL MOUNTING, WITH HINGED COVER AND SPACE FOR 6 SPARE SPRINKLER HEADS PLUS SPRINKLER HEAD WRENCH.

SPRINKLER SHOP DRAWINGS

1. CONTRACTOR SHALL SUBMIT ENGINEERED TIER II SHOP DRAWINGS FOR REVIEW PRIOR TO INSTALLATION. SHOP DRAWINGS AND HYDRAULIC CALCULATIONS SHALL BE DETAILED PER NFPA-13D REQUIREMENTS FOR WORKING DRAWINGS-FINAL AFFIDAVITS CANNOT BE ISSUED WITHOUT APPROVED SHOP DRAWINGS

2. HYDRAULIC CALCULATIONS SHALL ACCOUNT FOR ALL OFFSETS IN THE SYSTEM BASED ON A 100% COORDINATED SET. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH ALL STRUCTURAL AND ARCHITECTURAL FEATURES PRESENT

FLUSHING AND TESTING

1. ALL LABOR, MATERIALS, INSTRUMENTS, DEVICES AND POWER REQUIRED FOR TESTING SHALL BE PROVIDED BY THIS CONTRACTOR. THE TESTS SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF THE ENGINEER, GENERAL CONTRACTOR AND THE LOCAL FIRE DEPARTMENT AND SUCH OTHER PARTIES, AS MAY HAVE LEGAL JURISDICTION. NO PIPING IN ANY LOCATION SHALL BE CLOSED UP, FURRED IN, OR COVERED BEFORE TESTING.

2. WHERE PORTIONS OF PIPING SYSTEMS ARE TO BE COVERED OR CONCEALED BEFORE COMPLETION OF THE PROJECT, THOSE PORTIONS SHALL BE TESTED SEPARATELY IN THE MANNER SPECIFIED HEREIN FOR THE RESPECTIVE ENTIRE SYSTEM.

3. ANY PIPING OR EQUIPMENT THAT HAS BEEN LEFT UNPROTECTED AND SUBJECT TO MECHANICAL OR OTHER INJURY IN THE OPINION OF THE GENERAL CONTRACTOR SHALL BE RE TESTED IN PART OR IN WHOLE AS DIRECTED.

4. THE ENGINEER RETAINS THE RIGHT TO REQUEST A RECHECK OR RESETTING OF ANY PUMP OR INSTRUMENT BY THIS CONTRACTOR DURING THE GUARANTEE PERIOD AT NO ADDITIONAL COST TO THE CONTRACTOR.

5. REPAIR, OR IF DIRECTED, REPLACE ANY DEFECTIVE WORK WITH NEW WORK WITHOUT EXTRA CHARGE TO THE CONTRACT. REPEAT TESTS AS DIRECTED, UNTIL THE WORK IS PROVEN TO MEET THE REQUIREMENTS SPECIFIED HEREIN.

6. RESTORE TO ITS FINISHED CONDITION ANY WORK, DAMAGED OR DISTURBED, PROVIDED BY OTHER CONTRACTORS AND ENGAGE THE ORIGINAL CONTRACTOR TO DO THE WORK OF RESTORATION TO THE DAMAGED OR DISTURBED WORK.

7. THIS CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR AND ANY INSPECTORS HAVING JURISDICTION, A MINIMUM OF 48 HOURS IN ADVANCE OF MAKING ANY REQUIRED TESTS SO THAT ARRANGEMENTS MAY BE MADE FOR THEIR PRESENCE TO WITNESS HIS SCHEDULED TESTS.

8. TESTING SHALL BE IN ACCORDANCE WITH NFPA-13D "STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS".

9. EACH SYSTEM SHALL BE TESTED TO A HYDROSTATIC PRESSURE OF 200 PSI FOR TWO HOURS.

10. FLUSHING OF ALL BURIED SUPPLY PIPING SHALL BE PERFORMED AT A MINIMUM RATE OF 680 GPM FOR SYSTEMS WITH A 4" SERVICE.

11. ALL WATER FLOW DETECTING DEVICES AND CIRCUITS SHALL BE FLOW TESTED THROUGH THE INSPECTOR'S TEST CONNECTION AND ACTIVATE WITHIN FIVE MINUTES OF INITIATION.

12. FIRE PROTECTION CONTRACTOR SHALL OBTAIN RECENT HYDRANT FLOW TEST RESULTS FOR THE USE OF PREPARING WORKING DRAWINGS PER NFPA-13D

13. SPRINKLER FLOW TEST DISCHARGE AND FLUSHING WATER DISCHARGE SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND THE LOCAL FIRE DEPARTMENT OR PUBLIC WORKS AS TO ACCEPTABLE DISCHARGE POINTS PRIOR TO SCHEDULING OF FLUSHING AND TESTS. THIS CONTRACTOR SHALL PROVIDE ALL HOSE AND EQUIPMENT NECESSARY TO PERFORM THE REQUIRED TESTING AND FLUSHING.

AS BUILT DRAWINGS AND CONTRACTOR CERTIFICATES

1. CONTRACTOR SHALL HAVE, ON HAND, AT TIME OF FINAL INSPECTION BY THE AUTHORITY HAVING JURISDICTION, FOR TEMPORARY / FINAL CERTIFICATE OF OCCUPANCY, ALL COMPLETED CERTIFICATES OF MATERIAL AND TESTING FOR ABOVEGROUND AND UNDERGROUND PIPING AS WELL AS THE AS- BUILT DRAWINGS OF THE FIRE PROTECTION INSTALLATION.

2. PROVIDE RED-LINE TIER III AS BUILT RECORD DRAWINGS TO ZADE ASSOCIATES FOR REVIEW & APPROVAL AS A CONDITION OF FINAL AFFIDAVIT

PATCHING, REPLACEMENT AND MODIFICATION OF EXISTING WORK

1. AFTER INSTALLATION OF PIPELINES, THE CONTRACTOR SHALL NEATLY PATCH, REPAIR, AND/OR REPLACE EXISTING WORK WHERE DAMAGED, REMOVED OR ALTERED FOR PIPE LINE INSTALLATION. THIS WORK SHALL BE SIMILAR AND EQUAL IN QUALITY TO THE WORK REMOVED OR DAMAGED, UNLESS OTHERWISE SHOWN OR SPECIFIED. SUCH WORK SHALL INCLUDE PATCHING AND REPLACEMENT OF EXISTING PIPING AT POINTS OF CONNECTION TO NEW PIPING, PATCHING OF INSULATION, AND WHEREVER ANY SUCH PATCHING WORK IS INDICATED ON THE DRAWINGS OR OTHERWISE REQUIRED.

INSTALLATION

1. GENERAL: INSTALL FIRE PROTECTION SPECIALTY VALVES, FITTINGS, AND SPECIALTIES IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, NFPA-13R (2013) AND THE AUTHORITY HAVING JURISDICTION.

2. USE PROPER TOOLS TO PREVENT DAMAGE DURING INSTALLATIONS.

3. ALL PENDENT MOUNTED SPRINKLERS SHALL BE INSTALLED ON RETURN BENDS.

4. ALL SPRINKLERS INSTALLED IN ACOUSTICAL CEILING TILES SHALL BE CENTERED IN TILES WHERE APPLICABLE.

5. COORDINATE AND VERIFY DRAFT CURTAINS ARE INSTALLED AS REQUIRED BY SPRINKLER HEAD SPECIFICATIONS

FIRE PROTECTION SPECIFICATION

FIRE PROTECTION SPECIFICATION

1. BEFORE BIDDING THE JOB, CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY EXISTING CONDITIONS. REPORT ADVERSE CONDITIONS IN WRITING TO ARCHITECT/ENGINEER

2. SPRINKLER PIPING SHALL BE
   A. SCH.10/40 BLACK STEEL WITH 125 LB. CAST IRON THREADED/GROOVED JOINTS WHERE EXPOSED, USED FOR VALVE TRIM, SYSTEM DRAINS OR OTHER ANCILLARY SYSTEM COMPONENT
   B. CPVC SHALL BE PERMITTED FOR USE WHERE INSTALLED CONCEALED AND IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS, BE LISTED FOR FIRE PROTECTION AND SHALL EMPLOY FITTINGS FROM THE SAME MANUFACTURER

3. SPRINKLER HEADS IN COMMON AREAS SHALL BE QUICK RESPONSE CONCEALED TYPE MANUFACTURED BY VIKING OR EQUAL. WITHIN UNITS THEY WILL BE RESIDENTIAL CONCEALED TYPE.

4. APPLY AND OBTAIN PERMIT AND APPROVAL FROM LANDLORD'S INSURANCE COMPANY, FIRE DEPARTMENT AND STATE AND LOCAL AUTHORITIES.

5. COORDINATE WITH ARCHITECT AND ARCHITECTURAL REFLECTED CEILING PLAN FOR THE LOCATION OF SPRINKLER HEADS.

6. COORDINATE SPRINKLER WORK WITH OTHER DISCIPLINES. SINCE PERFORMANCE OF SPRINKLER SYSTEM IS AFFECTED BY OBSTRUCTIONS AND NOT OTHER WAY AROUND, THIS CONTRACTOR SHALL COORDINATE ALL LIGHTING FIXTURE LOCATIONS AND TYPES AND OTHER OBSTRUCTIONS PRIOR TO ANY WORK DONE.

7. THE SYSTEM SHALL BE HYDROSTATICALLY TESTED AT NOT LESS THAN 200 PSI PRESSURE FOR 2 HOURS. THERE WILL BE NO VISIBLE LEAKAGE WHEN THE SYSTEM IS SUBJECTED TO THE HYDROSTATIC PRESSURE TEST.

8. GUARANTEE ALL WORK AND MATERIAL FOR ONE YEAR FROM THE DATE OF ACCEPTANCE.

PREPARATION OF SHOP DRAWINGS:

PER 780CMR 901.2.1
SPRINKLER CONTRACTOR SHALL PREPARE TIER ii SHOP DRAWINGS INCLUDING PIPING & HYDRAULIC CALCULATIONS, AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF WORK. ENGINEER SHALL CERTIFY SYSTEM INSTALLATION FOR CODE COMPLIANCE AT PROJECT COMPLETION.

FLOW TEST DATA

STATIC	-----	70 PSI
RESIDUAL	-----	65 PSI
FLOW	-----	855 GPM

LOCATION: KENT CT./KENT STREET
DATE: 10/22/2024

FIRE PROTECTION ABBREVIATIONS

DSW	DRY SIDEWALL
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DIA	DIAMETER
DR	DRAIN
ETR	EXISTING TO REMAIN
FHV	FIRE HOSE VALVE
IT	INTERMEDIATE TEMPERATURE
FP	FIRE PROTECTION
FS	FLOW SWITCH
SP	STANDPIPE
GV	GATE VALVE
GAL	GALLONS
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
MAX	MAXIMUM
MIN	MINIMUM
NTS	NOT TO SCALE
DN	PIPE DROP
PSI	POUNDS PER SQUARE INCH
PRV	PRESSURE REDUCING VALVE
RV	RELIEF VALVE
SPK	SPRINKLER
TS	TAMPER SWITCH
UP	PIPE RISE
VIF	VERIFY IN FIELD

FIRE PROTECTION LEGEND

SYMBOL	DESCRIPTION
	SUPERVISED BUTTERFLY VALVE
	DOUBLE CHECK VALVE ASSEMBLY
	SUPERVISED OS&Y GATE VALVE
FS	FLOW ALARM SWITCH
	SPRINKLER ZONE CONTROL ASSEMBLY (SEE DETAIL)
	PUMP (FIRE OR JOCKEY)
	DRY ALARM VALVE
	WET ALARM VALVE
	CHECK VALVE
	DRAIN VALVE
	FIRE VALVE ASSEMBLY 2-1/2"W X 2-1/2" X 1-1/2"
XX	HYDRAULIC JUNCTION POINT
XXX	HYDRAULIC DISCHARGE NODE
	BURIED SERVICE PIPING
	ABOVE GROUND FP SYSTEM PIPING

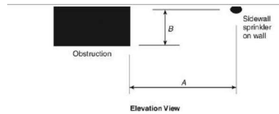

FIGURE 6.4.6.3.7.2(b) Positioning of Sprinkler to Avoid Obstruction Along Wall (Residential Sidewall Sprinklers).

Distance from Sidewall Sprinkler to Side of Obstruction (A)	Maximum Allowable Distance of Deflector Above Bottom of Obstruction (in.) (B)
Less than 8 ft	Not allowed
8 ft to less than 10 ft	1
10 ft to less than 11 ft	2
11 ft to less than 12 ft	3
12 ft to less than 13 ft	4
13 ft to less than 14 ft	6
14 ft to less than 15 ft	7
15 ft to less than 16 ft	9
16 ft to less than 17 ft	11
17 ft or greater	14

For SI units, 1 in. = 25.4 mm; 1 ft = 0.3048 m.
Note: For *A* and *B*, refer to Figure 6.4.6.3.7.2(a).

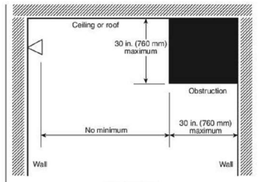

FIGURE 6.4.6.3.7.2(c) Positioning of Sprinkler to Avoid Obstruction Against Wall (Residential Sidewall Sprinklers).

Table 6.4.6.3.7.2(b) Positioning of Sprinklers to Avoid Obstructions Along Wall (Residential Sidewall Sprinklers)

Distance from Sidewall Sprinkler to Side of Obstruction (A)	Maximum Allowable Distance of Deflector Above Bottom of Obstruction (in.) (B)
Less than 1 ft 6 in.	0
1 ft 6 in. to less than 3 ft	1
3 ft to less than 4 ft	3
4 ft to less than 4 ft 6 in.	5
4 ft 6 in. to less than 6 ft	7
6 ft to less than 6 ft 6 in.	9
6 ft 6 in. to less than 7 ft	11
7 ft to less than 7 ft 6 in.	14

Table 6.4.6.3.6.2 Positioning of Sprinklers to Avoid Obstructions to Discharge (Residential Upright and Pendent Spray Sprinklers)

Distance from Sprinklers to Side of Obstruction (A)	Maximum Allowable Distance of Deflector Above Bottom of Obstruction (in.) (B)
Less than 1 ft	0
1 ft to less than 1 ft 6 in.	0
1 ft 6 in. to less than 2 ft	1
2 ft to less than 2 ft 6 in.	1
2 ft 6 in. to less than 3 ft	1
3 ft to less than 3 ft 6 in.	3
3 ft 6 in. to less than 4 ft	3
4 ft to less than 4 ft 6 in.	5
4 ft 6 in. to less than 5 ft	7
5 ft to less than 5 ft 6 in.	7
5 ft 6 in. to less than 6 ft	7
6 ft to less than 6 ft 6 in.	9
6 ft 6 in. to less than 7 ft	11
7 ft and greater	14

For SI units, 1 in. = 25.4 mm; 1 ft = 0.3048 m.
Note: For *A* and *B*, refer to Figure 6.4.6.3.6.2.

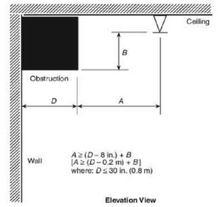

FIGURE 6.4.6.3.6.3 Positioning of Sprinkler to Avoid Obstruction Against Wall (Residential Upright and Pendent Spray Sprinklers).

RESIDENTIAL OBSTRUCTION CHART

SCALE: N.T.S.

FIRE SPRINKLER LEGEND

SOME SYMBOLS MAY NOT BE USED

SYM	POSITION	FINISH	TEMP	K	NPT	SIN
◎	UPRIGHT	BRASS	155°	5.60	1/2"	EQ
⊠	UPRIGHT	BRASS	200°	5.60	1/2"	EQ
●	PENDENT	CONCEALED	155°	5.60	1/2"	EQ
●	RES PENDENT	CONCEALED	155°	5.80	1/2"	VK494/EQ
A ●	RES PENDENT	CONCEALED	200°	5.80	1/2"	VK494/EQ
⊙	DRY PENDENT	CONCEALED	155°	5.60	1/2"	EQ
A ▶	STD SIDEWALL	CONCEALED	155°	5.60	1/2"	EQ
▶	RES SIDEWALL	CONCEALED	155°	4.00	1/2"	VK480
▷	DRY SIDEWALL	CONCEALED	155°	11.2	3/4"	TY5339

NFPA-13R 2013 DESIGN CRITERIA

THE SPRINKLER SYSTEM SHALL PROVIDE AT LEAST THE FLOW REQUIRED TO PRODUCE A MINIMUM DENSITY OF 0.05 gpm/sf OR THE LISTING OF THE SPRINKLER HEAD WHICHEVER IS GREATER, TO THE DESIGN SPRINKLERS.

THE NUMBER OF SPRINKLERS IN THE DESIGN AREA SHALL BE ALL OF THE SPRINKLERS WITHIN A COMPARTMENT, UP TO A MAXIMUM OF FOUR SPRINKLERS, THAT REQUIRE THE GREATEST HYDRAULIC DEMAND.

SPRINKLER HEADS IN KITCHENS AND W/D ROOMS TO BE 175°

RESIDENTIAL SPRINKLERS SPACED MAXIMUM 8' FROM ANY WALL

SPRINKLER COVERAGE REQUIREMENTS

BASED ON NFPA-13R

1) SPRINKLER SHALL NOT BE REQUIRED IN BATHROOMS OF 55 SF AND LESS.
2) SPRINKLER SHALL NOT BE REQUIRED IN CLOTHES CLOSETS, LINEN CLOSETS, AND PANTRY THAT MEET THE FOLLOWING CONDITIONS:
   A) THE AREA OF THE SPACE DOES NOT EXCEED 24 SF.
   B) THE SHORTEST DIMENSION DOES NOT EXCEED 3 FT.
   C) THE WALLS AND CEILINGS ARE SURFACED WITH NON-COMBUSTIBLE OR LIMITED COMBUSTIBLE AS DEFINED BY NFPA-220.
3) SPRINKLER SHALL NOT BE REQUIRED IN COVERED, UNHEATED PROJECTIONS OF THE BUILDING AT ENTRANCE/EXITS AS LONG AS THE DWELLING UNIT HAS ANOTHER MEANS OF EGRESS.
4) SPRINKLER SHALL NOT BE REQUIRED IN CLOSETS IN GARAGE AND EXTERIOR CLOSETS (REGARDLESS OF SIZE) LOCATED ON EXTERIOR BALCONIES, EXTERIOR BREEZEWAY/CORRIDORS, OR ACCESSED FROM OUTDOOR WHERE THE CLOSET DOES NOT HAVE DOORS OR UNPROTECTED PENETRATIONS DIRECTLY INTO THE DWELLING UNIT.
5) SPRINKLER SHALL BE INSTALLED IN ANY CLOSET USED FOR HEATING AND/OR AIR-CONDINONING EQUIPMENT, WASHERS AND/OR DRYERS, OR WATER HEATERS EXCEPT AS AS ALLOWED BY 8.3.8. (SEE NOTE #4 ABOVE)
6) SPRINKLERS SHALL NOT BE REQUIRED IN COMBUSTIBLE FLOOR/CEILING ASSEMBLIES

FIRE PROTECTION MATERIAL SCHEDULE

SYSTEM	PIPE									FITTINGS						JOINTS			
NOTES: 1. COMPONENT PRESSURE RATING PER MANUFACTURER 2. EXPOSED CPVC PROHIBITTED 3. ALL PIPE NOT NORMALLY FILLED WITH WATER SHALL BE SCH. 40 BLACK	BLAZEMASTER CPVC	COPPER UNDERGROUND	EXTRA HEAVY CAST IRON	STEEL SCHED 10	STEEL SCHED 30	STEEL SCHED 40	STEEL SCHED 80	BLACK	GALVANIZED	CEMENT LINED	MALLEABLE IRON	BLAZEMASTER CPVC	MECHANICAL	BLACK	GALVANIZED	VICTAULIC COPPER	LISTED COPPER	THREADED	MECH-JOINT-FLANGED	GROOVED	SLIP
BURIED BUILDING FIRE SERVICE		●						●		●											●
RESIDENTIAL CROSS MAINS	●											●				●					●
RESIDENTIAL BRANCH LINES	●											●				●					●
ARM-OVER & DROPS	●											●				●					●
SPRINKLER DRAIN PIPE						●				●				●				●		●	

PROJECT NAME
21-23 KENT COURT

PROJECT ADDRESS
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CONSULTANTS:

REGISTRATION

Project number	24007
Date	11/05/2024
Drawn by	
Checked by	
Scale	AS NOTED

REVISIONS

No.	Description	Date

FIRE PROTECTION NOTES

FP-105

21-23 KENT COURT