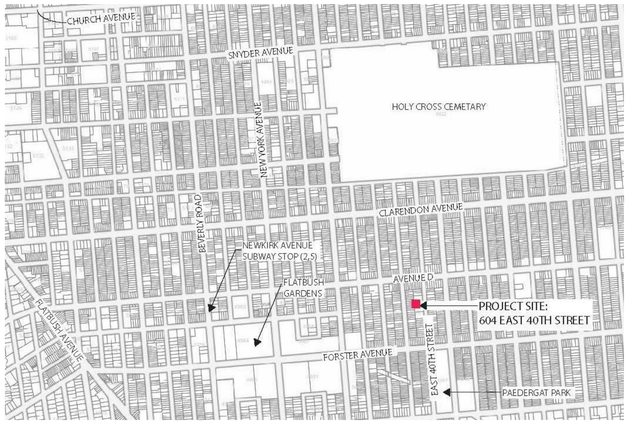


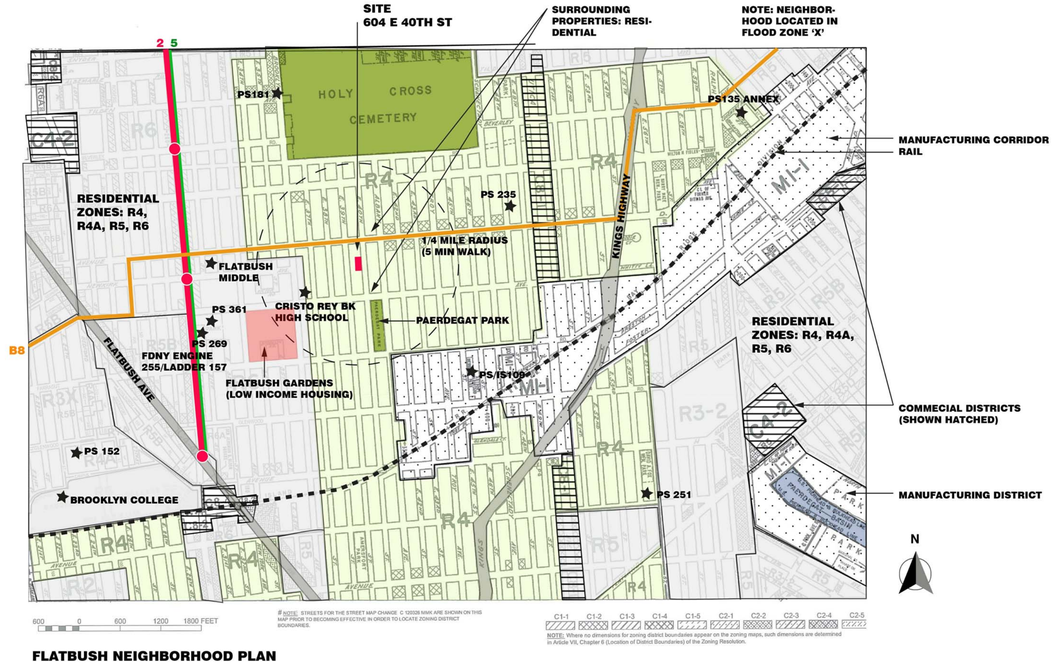
PROJECT RENDERING



LOCATION MAP:

PROJECT DISCRIPTION:

NEW 4 STORY + CELLAR COMMUNITY FACILITY AND SENIOR HOUSING (AIRS) BUILDING.



FLATBUSH NEIGHBORHOOD PLAN
(BROOKLYN, NY)

PROJECT:

BETHANY TERRACES

PROJECT ADDRESS:

604 EAST 40TH STREET

CLIENT:

RISEBORO COMMUNITY PARTNERSHIP

SHEET NUMBER	SHEET NAME
T-001.00	COVER SHEET
T-002.00	LEGEND, PLOT PLAN, ZONING & TAX MAPS
T-003.00	SURVEY
T-004.00	SITE PHOTOS
T-006.00	FLOOD MAP
T-008.00	BUILDING CODE ANALYSIS
T-009.00	EGRESS DIAGRAM
T-010.00	EGRESS ANALYSIS, CONT'D, OPENING IN EXT. WALL DIAGRAM
T-011.00	GENERAL HANDICAP DETAILS
T-012.00	GENERAL HANDICAP DETAILS
T-013.00	GENERAL HANDICAP DETAILS
BPP-1.00	BUILDERS PAVEMENT PLAN
BPP-2.00	BPP PHOTOS
BPP-3.00	BPP PHOTOS
CC-001.00	CURB CUT
EN-001.00	COMCHECK ANALYSIS - ENVELOPE
EN-002.00	COMCHECK ANALYSIS - ENVELOPE
EN-003.00	ENERGY INSPECTIONS
EN-005.00	THERMAL BOUNDARY DIAGRAMS
EN-006.00	ENERGY ANALYSIS ELEVATIONS
Z-001.00	ZONING ANALYSIS
Z-002.00	GROSS FLOOR AREA DIAGRAMS
Z-003.00	ZONING DEDUCTION DIAGRAMS
Z-004.00	ELEVATION AREA DIAGRAMS, ZONE GREEN CHART
A-001.00	SITE PLAN
A-100.00	CELLAR PLAN AND 1ST FLOOR PLAN
A-101.00	2ND AND 3RD FLOOR PLANS
A-102.00	4TH FLOOR AND ROOF PLANS
A-103.00	BULKHEAD PLAN
A-105.00	UNIT PLANS
A-106.00	UNIT PLANS
A-120.00	CELLAR & 1ST FLOOR RCP
A-121.00	2ND & 3RD FLOOR RCP
A-122.00	4TH FLOOR RCP AND LIGHTING SCHEDULE
A-130.00	DETAIL PLANS
A-200.00	EXTERIOR ELEVATION
A-201.00	EXTERIOR ELEVATION
A-210.00	INTERIOR ELEVATION - LOBBY
A-211.00	INTERIOR ELEVATION - CELLAR
A-213.00	INTERIOR ELEVATIONS - HALLWAYS
A-214.00	GREENHOUSE GARDEN ELEVATIONS
A-215.00	GREENHOUSE INTERIOR ELEVATIONS
A-300.00	BUILDING SECTION
A-350.00	EXTERIOR WALL DETAILS
A-351.00	EXTERIOR WALL DETAILS, CONT'D
A-352.00	PORCH AND TERRACE STAIR DETAIL
A-354.00	ROOF, BULKHEAD AND SOLAR CANOPY DETAIL
A-355.00	COMMUNITY FACILITY SKYLIGHT DETAIL
A-356.00	GREENHOUSE SECTION
A-400.00	DETAIL BATHROOM PLANS & ELEVATIONS
A-401.00	DETAIL BATH AND KITCHEN PLANS AND ELEVATIONS
A-402.00	DETAIL KITCHEN PLANS AND ELEVATIONS
A-403.00	MISC. CELLAR DETAIL PLANS
A-404.00	TYPICAL UNIT TILE LAYOUT PLAN
A-405.00	TYPICAL UNIT ELEVATIONS
A-406.00	TYPICAL UNIT ELEVATIONS
A-408.00	GARDEN TERRACE SECTIONS
A-450.00	ELEVATOR DETAIL PLANS AND SECTIONS
A-460.00	STAIR 1 AND STAIR 2 PLANS AND SECTIONS
A-461.00	LOBBY AND COMM. FACILITY STAIR PLANS AND SECTIONS
A-462.00	EXTERIOR CONCRETE STAIR PLANS AND SECTIONS
A-463.00	STAIR DETAILS
A-500.00	THERMAL DIAGRAMS, AIR SEALING SCHEDULES
A-501.00	FOUNDATION DETAILS
A-502.00	FOUNDATION DETAILS
A-503.00	FOUNDATION DETAILS
A-504.00	ENTRY DOOR DETAILS
A-505.00	TYPICAL WINDOW DETAILS
A-506.00	SKYLIGHT SECTION DETAIL
A-507.00	TYPICAL PARAPET AND SETBACK DETAILS
A-508.00	GUTTER, SPLASHBLOCK & DRAIN DETAILS
A-509.00	SOLAR CANOPY & PARAPET DETAILS
A-510.00	PORCH DOOR AND WINDOW DETAILS
A-511.00	TRANSITION AND TRIM DETAILS
A-600.00	INTERIOR PARTITION TYPES
A-601.00	FLOOR, SLAB AND ROOF TYPES
A-602.00	EXTERIOR WALL DETAILS
A-603.00	FIRESTOPPING, AIR SEALING & EXT PENETRATION DETAILS
A-604.00	FIRESTOPPING DETAILS
A-610.00	WINDOW AND EXTERIOR DOOR SCHEDULES, ELEVATIONS
A-611.00	SKYLIGHT AND OPAQUE EXTERIOR DOOR SCHEDULE
A-612.00	INTERIOR DOOR SCHEDULES
A-613.00	INTERIOR DOOR SCHEDULES, CONT'D
A-614.00	APPLIANCE & FIXTURE SCHEDULE
A-615.00	FINISHES SCHEDULE
A-700.00	MILLWORK DETAILS
A-701.00	MILLWORKS DETAILS
L-100.00	LANDSCAPE PLAN

Grand total: 88

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email@castrucciarchitect.com

FILED IN CONJUNCTION WITH:
STRUCTURAL APP: DOB NOW# B00235703-I1
MECHANICAL APP: DOB NOW# B00235775-I1
PLUMBING, STANDPIPE & SPRINKLER APP: DOB NOW# B00235891-I1

Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

ADDRESS:
604 EAST 40TH STREET, BROOKLYN

FOR:
RISEBORO COMMUNITY PARTNERS

Drawing Tile:

COVER SHEET

Date: 03.5.2020

Seal/Signature:

Drawing #: T-001.00

DOB #: 321595083 **Sheet #:** of

ABBREVIATIONS

AC	AIR CONDITIONER
ACOUST	ACOUSTICAL
AFF	ABOVE FINISH FLOOR
ALUM	ALUMINUM
APPROX	APPROXIMATE
BC	BRICK COURSE
BD	BOARD
BTWIN	BETWEEN
BIT	BITUMINOUS
BLDG	BUILDING
BM	BEAM
BSMT	BASEMENT
BOT	BOTTOM
BP	BEARING PLATE
CAB	CABINET
CEM	CEMENT
CFM	CUBIC FEET PER MINUTE
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLOS	CLOSET
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOS
C TILE	CERAMIC TILE
DET	DETAIL
DH	DOUBLE HUNG
DHW	DOMESTIC HOT WATER
DIA	DIAMETER
DIS	DISPENSER
DL	DEAD LOAD
DW	DUMBWAITER
DWG	DRAWING
DWL	DOWEL
EA	EACH
ELEC	ELECTRICAL
EL	ELEVATION
ELEV	ELEVATOR
EQUIP	EQUIPMENT
EP	ELECTRICAL PANEL
EXP	EXPANSION
EXT	EXTERIOR
FAI	FRESH AIR INLET
FC	FIRE CODE
FE	FIRE EXTINGUISHER
FIN	FINISH
FL	FLOOR
FLFD	FUSIBLE LINK FIRE DAMPER
FD	FLOOR DRAIN
FLASH	FLASHING
FLUO	FLUORESCENT
FOUND	FOUNDATION
FP	FIREPROOF
FPSC	FIRE PROOF SELF CLOSING
FWG	FIXED WINDOW GATE
GA	GAUGE
GALV	GALVANIZED
GL	GLASS
GYP	GYPSUM
HORIZ	HORIZONTAL
HM	HOLLOW METAL
HT	HOUSE TRAP
INSUL	INSULATION
INT	INTERIOR
JT	JOINT
KW	KILOWATT
LAM	LAMINATED
LAV	LAVATORY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MTD	MOUNTED
MTL	METAL
MS	MARBLE SADDLE
MTLS	METAL SADDLE
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPP	OPPOSITE
OWG	OPERABLE WINDOW GATE
PART	PARTITION
PL	PLASTIC
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
PLYWD	PLYWOOD
QT	QUARRY TILE
QUAN	QUANTITY
R	RISER
RD	ROOF DRAIN
REF	REFER TO
RELOC	RELOCATE
REQ	REQUIRED
REV	REVISED
RM	ROOM
RO	ROUGH OPENING
SAFB	SOUND ATTENUATION FIRE BLANKET
SIM	SIMILAR
ST STL	STAINLESS STEEL
SCH	SCHEDULE
SECT	SECTION
SPEC	SPECIFICATIONS
SF	SQUARE FOOT
STD	STANDARD
STL	STEEL
SVT	SOLID VINYL TILE
SUSP	SUSPENDED
SW	SWITCH
T	TREAD
THK	THICKNESS
TS	TUBULAR STEEL
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W	WATTS
W/	WITH
WC	WATER CLOSET
WD	WOOD
WD C R	WOOD CHAIR RAIL
WIN	WINDOW
WP	WATERPROOF
WR	WATER RESISTANT
WWF	WELDED WIRE-FABRIC
W/O	WITHOUT
WS	WOOD SADDLE
YD	YARD

DIMENSIONING NOTE:

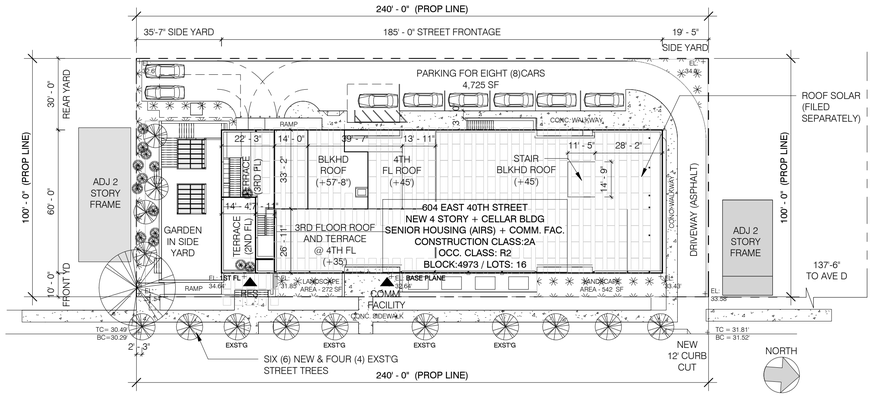
INTERIOR PARTITIONS DIMENSIONED TO FINISHED GYP BRD FACE

LEGENDS

- PROPERTY LINE
- INDICATES NEW PARTITION LINE
- INDICATES NEW CEILING TYPE
- GYPSUM PARTITION
- FERROUS METAL
- BATT INSULATION
- RIGID BOARD INSULATION
- ROUGH WOOD
- FINISH WOOD
- PLYWOOD
- NEW FACE BRICK TO MATCH ADJACENT
- NEW POURED IN PLACE CONCRETE
- POROUS FILL
- NEW CMU WALL
- INDICATED THAT UNIT IS H'CAP ADAPTABLE PER ANSI A117.1
- DETAIL NUMBER / DRAWING NAME
- SCALE / SHEET NUMBER
- SECTION OR ELEVATION DRAWING & SHEET NUMBER
- DRAWING #
- ASSEMBLY ON NOTE SIDE OF BULLET INCLUDED IN TYPICAL DETAIL
- SHEET #
- MATERIAL TYPE
- WINDOW TYPE
- DOOR NUMBER
- FLOOR DRAIN
- ROOF DRAIN
- REVISION NUMBER
- LOCATION OF ELEVATION / ELEVATION TAG TYPE 1
- ELEVATION FROM BASE PLANE
- SHAFT; SEE PTN. TYPES
- DETAIL / DRAWING & SHEET NUMBER
- ALIGN
- SOFFIT ABOVE
- SMOKE DETECTOR
- SMOKE/CARBON MONOXITE DETECTOR
- HARDWIRED EMERGENCY EXIT SIGN W/ EMERGENCY LIGHTS AND BATTERY BACKUP. ARROW INDICATES DIRECTION. WALL MOUNTED
- HARDWIRED EMERGENCY EXIT SIGN W/ EMERGENCY LIGHTS AND BATTERY BACKUP. ARROW INDICATES DIRECTION. CEILING MOUNTED
- EMERGENCY EXIT SIGN. ARROW INDICATES DIRECTION. WALL MOUNTED
- EMERGENCY EXIT SIGN. ARROW INDICATES DIRECTION. CEILING MOUNTED
- HARDWIRED EMERGENCY EXIT LIGHT W/ BATTERY BACKUP
- HOSE BIBB
- MECH. VENTILATION RISER. SEE MECH. DWGS.
- FIRE EXTINGUISHER CABINET
- ELECTRIC PANEL
- LIGHTING CONTROL PANEL
- PROGRAMMABLE THERMOSTAT W/ SETTINGS PER ECCNYC REQUIREMENTS

WELD SYMPOL NOTE:

ALL WELD SYMBOLS SHOWN ON ARCHITECTURAL PLANS REFER TO AMERICAN WELDING SOCIETY WELDING SYMBOLS. REFER TO STRUCTURAL PLANS FOR WELDING NOTES



1 SITE PLOT PLAN
SCALE: 1" = 30'-0"

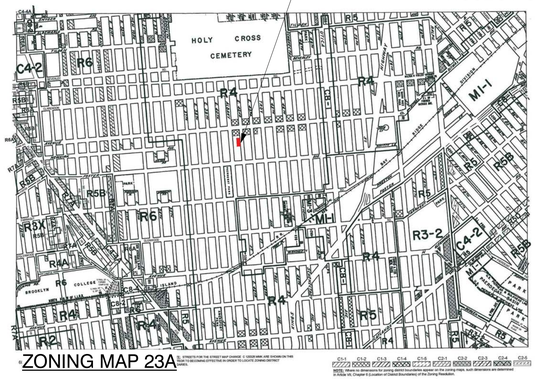
EAST 40TH STREET

BUILDING DATA:

BOROUGH:	BROOKLYN
COMMUNITY BOARD:	17
BLOCK:	4973
LOT(s):	16
LOT AREA:	24,000 SF
ZONING MAP:	23A
ZONING DISTRICT:	R4
SPECIAL ZONING DISTRICT:	NA
NO. OF STORIES:	4 + CELLAR (PROPOSED)
ZONING FLOOR AREA:	31,550 SF
GROSS FLOOR AREA:	44,896 SF
BUILDING HEIGHT:	45'-0"
USE GROUP:	UG 2 AND UG 4
OCCUPANCY CLASS:	R-2 (58 AFFORDABLE INDEPENDENT RESIDENCES FOR SENIOR (AIRS) UNITS)
	B OCCUPANCY AT 1ST FLOOR
CONSTRUCTION CLASS:	TYPE 2-A
FLOOD ZONE:	ZONE 'X'
'e' DESIGNATIONS:	NA
LANDMARKS:	NA

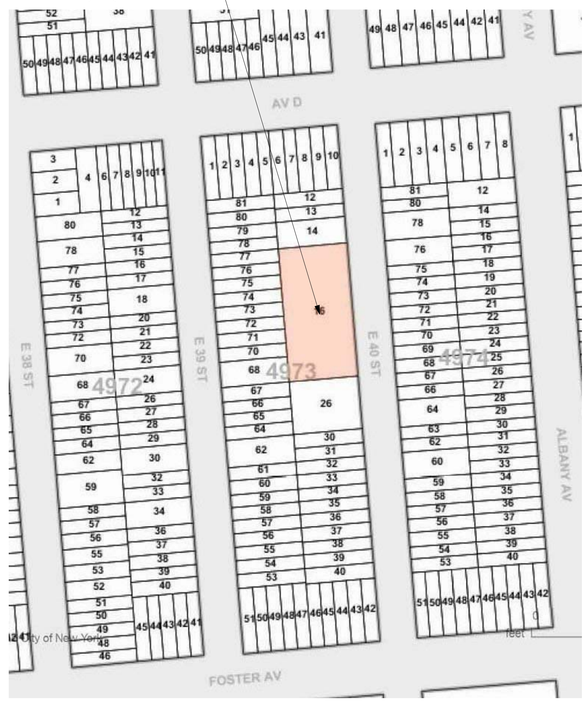
BASE PLANE CALCULATION
PER ZR 12-10, BASE PLANE SET AT AVG HEIGHT OF GRADE AT STREET WALL (EXCLUSIVE OF STEPS, DRIVEWAYS ETC)
33.43' (HEIGHT AT NORTH) + 31.85' (HEIGHT AT SOUTH) = 65.28' /2 = 32.64'
BASE PLANE = 32.64'

PROJECT SITE: 604 EAST 40TH STREET (R4)



ZONING MAP 23A





TAX MAP

ITEMS FOR SPECIAL, PROGRESS AND ENERGY INSPECTION

THE SPECIAL INSPECTOR (HIRED BY THE OWNER) WILL PERFORM THE FOLLOWING INSPECTIONS:

STRUCTURAL STEEL WELDING (BC 1704.3.1)	SPECIAL INSPECTOR
STRUCTURAL STEEL DETAILS (BC 1704.3.2)	SPECIAL INSPECTOR
STRUCTURAL STEEL BOLTING (BC 1704.3.3)	SPECIAL INSPECTOR
STRUCTURAL COLD FORMED STEEL (BC 1704.3.4)	SPECIAL INSPECTOR
CONCRETE - CAST IN PLACE (BC 1704.4)	SPECIAL INSPECTOR
SUB-GRADE INSPECTION (BC 1704.7)	SPECIAL INSPECTOR
SPRAYED FIRE RESISTIVE MATERIALS (BC 1704.11)	SPECIAL INSPECTOR
SUB-SURFACE CONDITIONS - FILL PLACEMENT AND IN-PLACE DENSITY (BC 1704.7.2, BC 1704.7.3)	SPECIAL INSPECTOR
EXCAVATION: SHEETING/SHORING/BRACING (BC 1704.20.2)	SPECIAL INSPECTOR
SOIL PERCOLATION TEST - PRIVATE ON-SITE STORM WATER DRAINAGE DISPOSAL SYSTESM AND DETENTION FACILITIES (BC 1704.21.1.2)	SPECIAL INSPECTOR
MECHANICAL SYSTEMS (BC 1704.16)	SPECIAL INSPECTOR
PRIVATE ON-SITE STORM WATER DRAINAGE DISPOSAL SYSTEMS AND DETENTION FACILITES INSTALLATION (BC 1704.21.2)	SPECIAL INSPECTOR
SPRINKLER SYSTEMS (BC 1704.23)	SPECIAL INSPECTOR
STANDPIPE SYSTEMS (BC 1704.24)	SPECIAL INSPECTOR
FIRE RESISTANT PENETRATIONS AND JOINTS (BC 1704.27)	SPECIAL INSPECTOR
POST INSTALLED ANCHORS (BC 1704.32)	SPECIAL INSPECTOR

THE CONCRETE TESTING AGENCY (HIRED BY OWNER) WILL PERFORM THE FOLLOWING INSPECTIONS:

CONCRETE SAMPLING AND TESTING - TR2 (BC 1905.6, BC 1913.10)	CONCRETE TESTING LAB

THE CONCRETE SUPPLIER (HIRED BY GC) WILL PERFORM THE FOLLOWING INSPECTIONS:

CONCRETE DESIGN MIX - TR3 (BC 1905.3, BC 1913.5)	CONCRETE TESTING LAB

THE PROGRESS INSPECTOR (HIRED BY THE OWNER) WILL PERFORM THE FOLLOWING INSPECTIONS:

PRELIMINARY (28-116.2.1 AND BC 110.2)	PROGRESS INSPECTOR
FOOTING AND FOUNDATION (BC 110.3.1)	PROGRESS INSPECTOR
ENERGY CODE COMPLIANCE INSPECTIONS - TR8 (BC 110.3.5)	PROGRESS INSPECTOR
FIRE RESISTANCE RATED CONSTRUCTION (BC 110.3.4)	PROGRESS INSPECTOR

THE ENERGY CODE COMPLIANCE INSPECTOR (HIRED BY THE OWNER) WILL PERFORM THE FOLLOWING INSPECTIONS:

PROTECTION OF EXPOSED FOUNDATION AND INSULATION (IIA1)	ENERGY CODE COMPLIANCE INSPECTOR
INSULATION PLACEMENT AND R VALUES (IIA2)	ENERGY CODE COMPLIANCE INSPECTOR
FENESTRATION U-FACTOR AND PRODUCT RATING (IIA3)	ENERGY CODE COMPLIANCE INSPECTOR
FENESTRATION AIR LEAKAGE (IIA4)	ENERGY CODE COMPLIANCE INSPECTOR
FENESTRATION AREAS (IIA5)	ENERGY CODE COMPLIANCE INSPECTOR
AIR SEALING AND INSULATION - TESTING (IIA7)	ENERGY CODE COMPLIANCE INSPECTOR
SHUTOFF DAMPERS (IIB2)	ENERGY CODE COMPLIANCE INSPECTOR
HVAC AND SERVICE WATER HEATING EQUIPMENT (IIB3)	ENERGY CODE COMPLIANCE INSPECTOR
HVAC AND SERVICE WATER HEATING SYSTEM CONTROLS (IIB4)	ENERGY CODE COMPLIANCE INSPECTOR
HVAC INSULATION AND AIR SEALING (IIB5)	ENERGY CODE COMPLIANCE INSPECTOR
ELECTRICAL ENERGY CONSUMPTION (IIC1)	ENERGY CODE COMPLIANCE INSPECTOR
LIGHTING IN DWELLING UNITS (IIC2)	ENERGY CODE COMPLIANCE INSPECTOR
INTERIOR LIGHTING POWER (IIC3)	ENERGY CODE COMPLIANCE INSPECTOR
EXTERIOR LIGHTING POWER (IIC4)	ENERGY CODE COMPLIANCE INSPECTOR
LIGHTING CONTROLS (IIC5)	ENERGY CODE COMPLIANCE INSPECTOR
MAINTENANCE INFORMATION (IID1)	ENERGY CODE COMPLIANCE INSPECTOR
PERMANENT CERTIFICATE (IID2)	ENERGY CODE COMPLIANCE INSPECTOR

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10002
TEL 212.254.7060
FAX 212.260.7199
email@castrucciarchitect.com

NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

LEGEND, PLOT PLAN, ZONING & TAX MAPS

Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI NEW YORK STATE

DOB #: 321595083

Scale: As indicated

Drawn By #: Author

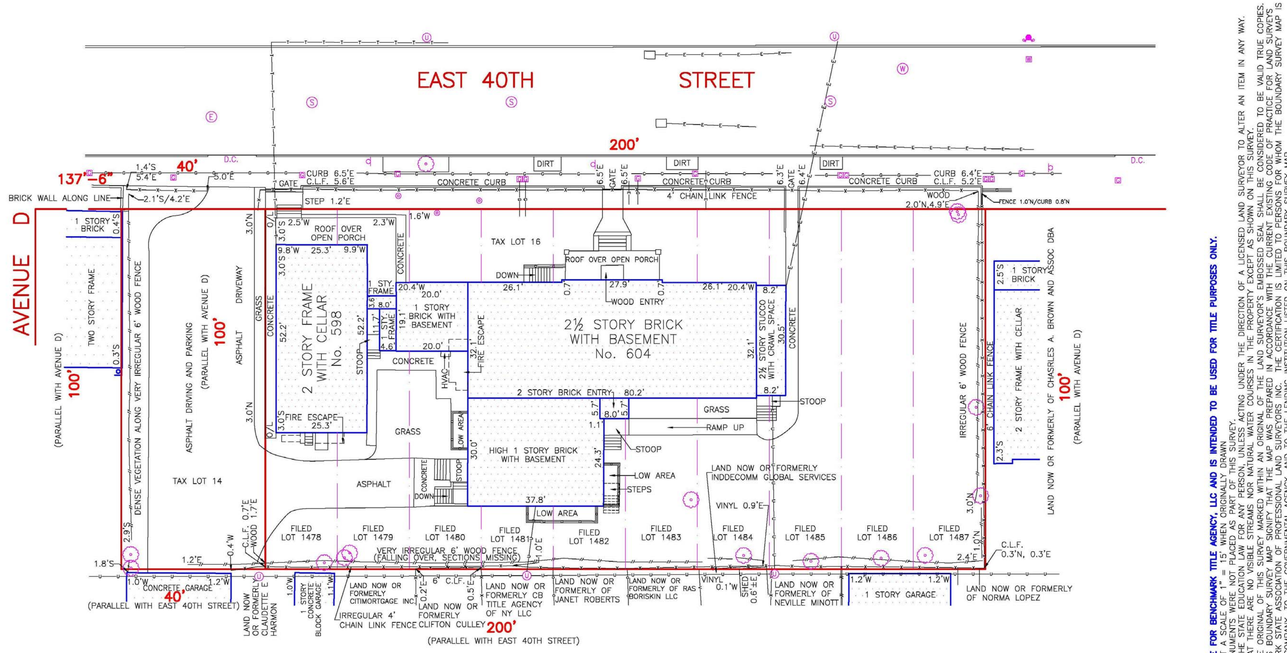
Chkd By #: Checker

Drawing #: T-002.00

Sheet #: of

LEGEND

- BENCH
- C.B. – CATCH BASIN
- C.D. – CELLAR DOOR
- DRAIN INLET
- D.C. – DROP CURB
- E.B. – ELECTRIC BOX
- (E) – ELECTRIC MANHOLE
- E.V. – ELECTRIC VAULT
- FIRE ALARM
- F.E. – FIRE ESCAPE
- FIRE HYDRANT
- FIRE HYDRANT WITH BUMPERS
- (F) – FIRE MANHOLE
- (G) – GAS MANHOLE
- GAS VALVE
- HANDICAP PARKING SPACE
- LIGHT POLE
- LOLLI COLUMN
- M.B. – MAILBOX
- OIL FILLER
- O.P. – OPEN PORCH
- PEDESTRIAN RAMP
- PEDESTRIAN SIGNAL
- P.M. – PARKING METER
- (S) – SEWER MANHOLE
- SIGN
- STANDPIPE
- TELEPHONE BOOTH
- (T) – TELEPHONE MANHOLE
- T.V. – TELEPHONE VAULT
- T.B. – TRAFFIC CONTROL BOX
- TRAFFIC SIGNAL
- TR. – TRANSFORMER
- TREE
- UNKNOWN MANHOLE
- (U) – UTILITY POLE
- (W) – WATER MANHOLE
- WATER VALVE



ALTA/ACSM LAND TITLE SURVEY

SURVEYOR'S CERTIFICATE

SAID DESCRIBED PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION X BY THE SECRETARY OF HOUSING AND URBAN DEVELOPMENT, ON FLOOD INSURANCE RATE MAP NO. 3604970214F, WITH A DATE OF IDENTIFICATION OF SEPTEMBER 5, 2007, FOR COMMUNITY NUMBER 360497, IN KINGS COUNTY, STATE OF NEW YORK, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED."

REQUIRED CERTIFICATION

TO AMALGAMATED BANK, ISAOA, ATIMA; BMH AFFILIATES, LLC, NEW YORK CITY ACQUISITION FUND LLC, ENTERPRISE COMMUNITY LOAN FUND, INC., FIRST AMERICAN TITLE INSURANCE COMPANY, BENCHMARK TITLE AGENCY, LLC AND EACH OF THEIR RESPECTIVE SUCCESSORS AND/OR ASSIGNS:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE ON AUGUST 15, 2016, UNDER THE UNDERSIGNED'S SUPERVISION AND IN ACCORDANCE WITH 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS," JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 6, 7(A) AND (C), 7(8)(1), 8, 9, 10, 11 (AS TO UTILITIES, SURFACE MATTERS ONLY), 13, 14, 16, AND 17 OF TABLE A THEREOF.

DONAL A. O'BUCKLEY
PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 050641
DATE: AUGUST 15, 2016
SURVEY UPDATED JULY 17, 2018

LEGAL DESCRIPTION

TAX LOT 16
ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE CITY AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:
THE FIRST PARCEL BEING DESIGNATED BY LOTS 1478, 1479, 1480 AND 1481 IN BLOCK 24 ON A CERTAIN MAP ENTITLED, "ADDITION #3 TO VANDERVEER PARK BELONGING TO GERMENIA REAL AND IMPROVEMENT CO., SURVEYED APRIL 18, 1893 BY CHARLES CROOKE, ENGINEER AND SURVEYOR AND FILED IN THE KINGS COUNTY REGISTER'S OFFICE, BOUNDED AND DESCRIBED AS FOLLOWS:
BEGINNING AT A POINT ON THE WESTERLY SIDE OF EAST 40th STREET DISTANT 177 FEET, SIX INCHES SOUTHERLY FROM THE CORNER FORMED BY THE INTERSECTION OF THE WESTERLY SIDE OF EAST 40th STREET AND THE SOUTHERLY SIDE OF AVENUE D;
RUNNING THENCE WESTERLY, PARALLEL WITH AVENUE D, 100 FEET;
THENCE SOUTHERLY, PARALLEL WITH EAST 40th STREET, 80 FEET;
THENCE EASTERLY AGAIN PARALLEL WITH AVENUE D, 100 FEET TO THE WESTERLY SIDE OF EAST 40th STREET;
THENCE NORTHERLY ALONG THE WESTERLY SIDE OF EAST 40th STREET 80 FEET TO THE POINT OR PLACE OF BEGINNING
THE SECOND PARCEL BEING DESIGNATED ON SAID MAP AS LOT NOS. 1486 AND 1487 AND IS BOUNDED AND DESCRIBED AS FOLLOWS:
BEGINNING AT A POINT ON THE WESTERLY SIDE OF EAST 40th STREET, DISTANT 337 FEET, SIX INCHES FROM THE CORNER FORMED BY THE INTERSECTION OF THE WESTERLY SIDE OF EAST 40th STREET AND THE SOUTHERLY SIDE OF AVENUE D;
RUNNING THENCE SOUTHERLY ALONG THE WESTERLY SIDE OF EAST 40th STREET, 40 FEET;
THENCE WESTERLY, PARALLEL WITH AVENUE D, 100 FEET TO THE CENTER LINE OF THE BLOCK BETWEEN EAST 40th STREET AND EAST 39th STREETS;
THENCE NORTHERLY ALONG SAID CENTER LINE AND PARALLEL WITH EAST 40th STREET, 40 FEET, AND;
THENCE EASTERLY AGAIN PARALLEL WITH AVENUE D, 100 FEET TO THE POINT OR PLACE OF BEGINNING.
THE THIRD PARCEL BEING DESIGNATED AS LOTS NOS. 1482 AND 1483 IN BLOCK 24 ON THE SAID MAP DESCRIBED AS FOLLOWS;
BEGINNING AT A POINT ON THE WESTERLY SIDE OF EAST 40th STREET, 257 FEET SIX INCHES SOUTHERLY FROM THE CORNER FORMED BY THE INTERSECTION OF THE WESTERLY SIDE OF EAST 40th STREET AND THE SOUTHERLY SIDE OF AVENUE D;
RUNNING THENCE WESTERLY, PARALLEL WITH AVENUE D, 100 FEET;
THENCE SOUTHERLY, PARALLEL WITH EAST 40th STREET, 40 FEET;
THENCE EASTERLY AGAIN PARALLEL WITH AVENUE D, 100 FEET TOT EH WESTERLY SIDE OF EAST 40th STREET, AND;
THENCE NORTHERLY ALONG THE WESTERLY SIDE OF EAST 40th STREET TOT EH POINT OR PLACE OF BEGINNING.
THE FOURTH PARCEL BEING DESIGNATED AS LOTS NOS. 1484 AND 1485 ON SAID MAP AND IS DESCRIBED AS FOLLOWS:
BEGINNING AT A POINT ON THE WESTERLY SIDE OF EAST 40th STREET DISTANT 297 FEET SIX INCHES FROM THE CORNER FORMED BY THE INTERSECTION OF THE WESTERLY SIDE OF EAST 40th STREET AND THE SOUTHERLY SIDE OF AVENUE D;
RUNNING THENCE SOUTHERLY ALONG THE WESTERLY SIDE OF EAST 40th STREET, 40 FEET;
THENCE WESTERLY PARALLEL WITH AVENUE D, 100 FEET TO THE CENTER LINE OF THE BLOCK BETWEEN EAST 40th STREET AND EAST 39th STREET;
THENCE NORTHERLY ALONG SAID CENTER LINE AND PARALLEL WITH EAST 40th STREET 40 FEET, AND
THENCE EASTERLY AGAIN PARALLEL WITH AVENUE D, 100 FEET TO THE POINT OR PLACE OF BEGINNING

TAX LOT 14
ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE COUNTY OF KINGS, CITY AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:
BEGINNING AT A POINT ON THE WESTERLY SIDE OF EAST 40TH STREET DISTANT 137 FEET 6 INCHES SOUTHERLY FROM THE CORNER FORMED BY THE INTERSECTION OF THE WESTERLY SIDE OF EAST 40TH STREET WITH THE SOUTHERLY SIDE OF AVENUE D;
RUNNING THENCE SOUTHERLY ALONG THE WESTERLY SIDE OF EAST 40TH STREET 40 FEET;
THENCE WESTERLY PARALLEL WITH AVENUE D 100 FEET TO THE CENTERLINE OF THE BLOCK BETWEEN EAST 40TH STREET AND EAST 39TH STREET;
THENCE NORTHERLY ALONG THE CENTERLINE OF THE BLOCK AND PARALLEL WITH EAST 40TH STREET 40 FEET;
THENCE EASTERLY PARALLEL WITH AVENUE D 100 FEET TO THE WESTERLY SIDE OF EAST 40TH STREET AND THE POINT OR PLACE OF BEGINNING.

N

NOTES:
1. THIS SURVEY WAS DONE FOR BENCHMARK TITLE AGENCY, LLC AND IS INTENDED TO BE USED FOR TITLE PURPOSES ONLY.
2. THIS MAP WAS MADE AT A SCALE OF 1" = 10' AND IS NOT TO BE ENLARGED OR REDUCED IN ANY WAY.
3. THIS MAP IS NOT VALID UNLESS IT BEARS THE ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE SURVEYOR.
4. IT IS A VIOLATION OF THE STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY.
5. ONLY COPIES FROM THE ORIGINAL MAP MARKED WITH AN ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE SURVEYOR SHALL BE CONSIDERED TO BE VALID TRUE COPIES.
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7. CERTIFICATIONS ON THIS BOUNDARY SURVEY MAP SIGNIFY THAT THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. CERTIFICATIONS INDICATED HEREON SIGNIFY THAT THIS SURVEY MAP WAS PREPARED IN ACCORDANCE WITH THE CURRENT EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS. CERTIFICATIONS ON THIS BOUNDARY SURVEY MAP SIGNIFY THAT THIS SURVEY WAS PREPARED FOR THE BENEFIT OF THE INDIVIDUAL OR ENTITY FOR WHOM THE SURVEY MAP IS PREPARED, TO THE TITLE COMPANY, TO THE GOVERNMENTAL AGENCY, AND TO THE LENDING INSTITUTION LISTED ON THIS BOUNDARY SURVEY MAP.

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION ONLY. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM FIELD DATA AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

0 1 2 3
ORIGINAL SIZE IN INCHES

DONAL A. O'BUCKLEY
LAND SURVEYOR
167-17 45TH AVENUE, FLUSHING N.Y. 11358
TEL. (718) 358-8114 FAX (718) 353-0938
EMAIL: DOBUCKLEY@TWCMETROBIZ.COM

SHEET

604 EAST 40TH STREET BOROUGH OF BROOKLYN
COUNTY OF KINGS, STATE OF NEW YORK
TAX MAP BLOCK 4973, LOTS 14 & 16

TITLE NO.:BTA74457
GROSS ACREAGE:
24,000 SQ. FT.

PAUL A. CASTRUCCI ARCHITECT

179 RIVINGTON STREET
SUITE 1A
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email@castrucciarchitect.com

NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

SURVEY

Date: 03.5.2020

Scale:

Seal/Signature:

Drawn By #: Author

Chkd By #: Checker

Drawing #:

T-003.00

DOB #: 321595083

Sheet #: of



1. INTERSECTION AVE D & E 40TH



2. LOOKING NORTH DOWN E 40TH TOWARD AVE D



3. NORTHERN EDGE OF SITE



4. EASTERN EDGE OF SITE



5. SOUTHERN EDGE OF SITE LOOKING SOUTH



6. VIEW OF NEIGHBORS LOOKING EAST ACROSS E 40TH ST



7. SOUTHERN VIEW DOWN E 40TH ST



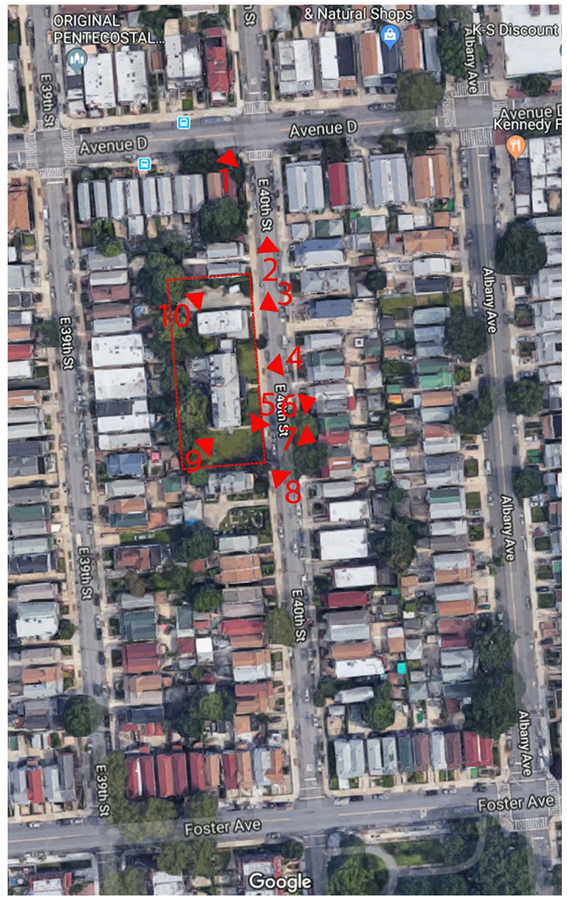
8. SOUTHERN EDGE OF SITE LOOKING NORTH



9. SOUTHERN SIDE YARD VIEW FROM REAR OF SITE



10. NORTHERN SIDE YARD VIEW FROM REAR OF SITE



SITE MAP - NTS

PAUL A. CASTRUCCI ARCHITECT

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

SITE PHOTOS

Date: 03.5.2020

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Scale:

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Chkd By #: Checker

Drawing #:

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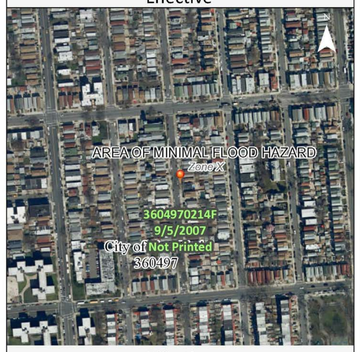
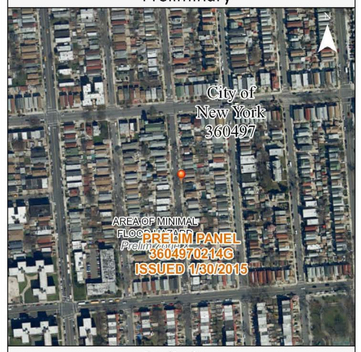
DOB #: 321595083

Sheet #: of

Comparison of Flood Hazard

Effective & Preliminary Flood Hazards

FEMA

Effective	Preliminary
	

Effective	
POI Longitude/Latitude	-73.9407, 40.6406
Effective FIRM Panel	3604970214F
Effective Date	9/5/2007
Flood Zone	X
Static BFE*	Not Available
Flood Depth	Not Available
Vertical Datum	Not Available

Preliminary	
POI Longitude/Latitude	-73.9407, 40.6406
Preliminary FIRM Panel	3604970214G
Preliminary Issue Date	1/30/2015
Flood Zone	X
Estimated Static BFE*	Not Available
Estimated Flood Depth	Not Available
Vertical Datum	Not Available

* A **Base Flood Elevation** is the expected elevation of flood water during the 1% annual chance storm event. Structures below the estimated water surface elevation may experience flooding during a base flood event.

Hazard Level	Flood Hazard Zone
High Flood Hazard	**AE, A, AH, AO, VE and V Zones.** Properties in these flood zones have a 1% chance of flooding each year. This represents a 26% chance of flooding over the life of a 30-year mortgage.
Moderate Flood Hazard	**Shaded Zone X.** Properties in the moderate flood risk areas also have a chance of flooding from storm events that have a less than 1% chance of occuring each year. Moderate flood risk indicates an area that may be provided flood risk reduction due to a flood control system or an area that is prone to flooding during a 0.2% annual chance storm event. These areas may have been indicated as areas of shallow flooding by your community. **Unshaded Zone X.** Properties on higher ground and away from local flooding sources have a reduced flood risk when compared to the Moderate and High Flood Risk categories. Structures in these areas may be affected by larger storm events, in excess of the 0.2% annual chance storm event.
Low Flood Hazard	**Insurance Note:** High Risk Areas are called 'Special Flood Hazard Areas' and flood insurance is mandatory for federally backed mortgage holders. Properties in Moderate and Low Flood Risk areas may purchase flood insurance at a lower-cost rate, known as Preferred Risk Policies. See your local insurance agent or visit https://www.fema.gov/national-flood-insurance-program for more information.

Disclaimer: This report is for informational purposes only and is not authorized for official use. The positional accuracy may be compromised in some areas. Please contact your local floodplain administrator for more information or go to msc.fema.gov to view an official copy of the Flood Insurance Rate Maps.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

10/22/2018 10:01:41 PM

National Flood Hazard Layer FIRMette

FEMA



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- SPECIAL FLOOD HAZARD AREAS
  - Without Base Flood Elevation (BFE) Zone A, V, A99
  - With BFE or Depth Zone AE, AO, AH, VE, AR
  - Regulatory Floodway
- OTHER AREAS OF FLOOD HAZARD
  - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
  - Future Conditions 1% Annual Chance Flood Hazard Zone X
  - Area with Reduced Flood Risk due to Levee. See Notes. Zone X
  - Area with Flood Risk due to Levee Zone D
- OTHER AREAS
  - NO SCREEN Area of Minimal Flood Hazard Zone X
  - Effective LOMRs
  - Area of Undetermined Flood Hazard Zone D
- GENERAL STRUCTURES
  - Channel, Culvert, or Storm Sewer
  - Levee, Dike, or Floodwall
- OTHER FEATURES
  - 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
  - Coastal Transect
  - 513 Base Flood Elevation Line (BFE)
  - Limit of Study
  - Jurisdiction Boundary
  - Coastal Transect Baseline
  - Profile Baseline
  - Hydrographic Feature
- MAP PANELS
  - Digital Data Available
  - No Digital Data Available
  - Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/22/2018 at 10:07:38 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPLICANT'S NOTE: Property is not located in Special Flood Hazard Area

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10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

FLOOD MAP

Date: 03.5.2020

Scale:

Seal/Signature:

Drawn By #: Author

Chkd By #: Checker

Drawing #:

T-006.00

DOB #: 321595083

Sheet #: of

2014 BUILDING CODE ANALYSIS

CHAPTER 3: USE AND OCCUPANCY CLASSIFICATIONS
BC 304.1 GROUP B MERCANTILE
BC 310.1.2: GROUP R-2 OCCUPANCY CLASS

CHAPTER 4: SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY
BC 420.2: WALLS SEPARATING DWELLING UNITS SHALL BE FIRE BARRIERS IN ACCORDANCE WITH BC 707 AND HAVE A MIN. 1 HOUR FIRE RATING

BC 420.3: HORIZONTAL ASSEMBLIES SEPARATING DWELLING UNITS AND SEPARATING DWELLING UNITS FROM OTHER SPACES SHALL CONFORM TO BC 712

CHAPTER 5: GENERAL BUILDING HEIGHTS AND AREAS

TABLE 503: ALLOWABLE HEIGHT AND BUILDING AREAS

OCCUPANCY GROUP	CONSTRUCTION TYPE	MAX HEIGHT (FEET)	MAX HEIGHT (STORIES)	MAX AREA (SQ. FEET)
R-2	II-A	65'	6	UNLIMITED
B	II-A	65'	6	37,500 SF

PROPOSED = 4 STORIES, 45'-0", LARGEST FLOOR = 10,603 SF

TABLE 508.4: SEPARATION OF OCCUPANCIES

OCCUPANCY GROUPS	SPRINKLERED?	RATING REQ'D
R-2, B	YES	1 HR

TABLE 509: INCIDENTAL USES

SPACE DESCRIPTION	RATING REQUIRED
FURNACE ROOM, EQUIP < 350K BTU	1 HOUR OR BUILDING FULLY SPRINKLERED
LAUNDRY ROOMS OVER 100 SF	1 HOUR OR BUILDING FULLY SPRINKLERED
WASTE ROOMS OVER 100 SF	1 HOUR OR BUILDING FULLY SPRINKLERED
FIRE PUMP ROOMS (NON HIGH-RISE)	1 HOUR WITH BUILDING FULLY SPRINKLERED

CHAPTER 6: TYPES OF CONSTRUCTION

TABLE 601: FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS

CONSTRUCTION TYPE	STRUCTURAL FRAME	EXTERIOR BEARING WALLS	INTERIOR BEARING WALLS	EXTERIOR NON-LOAD BEARING WALLS	INTERIOR NON-LOAD BEARING WALLS
II-A	1 HOUR	1 HOUR	1 HOUR	SEE TABLE 602	0 HOURS

TABLE 601 - CONTINUED

CONSTRUCTION TYPE	FLOOR CONSTRUCTION	ROOF CONSTRUCTION
II-A	1 HOUR	1 HOUR

TABLE 602: FIRE RESISTIVE RATINGS FOR EXTERIOR WALLS BASED ON SEPARATION DISTANCE

CONSTRUCTION TYPE	OCCUPANCY TYPE	< 5' SEPARATION	>5'<10' SEPARATION	>10'<30' SEPARATION	>30' SEPARATION
II-A	R-2, B	1 HOUR	1 HOUR	1 HOUR	0 HOURS

CHAPTER 7: FIRE RESISTANCE RATED CONSTRUCTION

TABLE 705.8: MAXIMUM AREA OF EXTERIOR WALL OPENINGS (SPRINKLERED)

CLASSIFICATION OF OPENING	0' TO 3' SEPARATION	3' TO 5' SEPARATION	5' TO 10' SEPARATION	10' TO 15' SEPARATION	15' TO 20' SEPARATION	20' TO 25' SEPARATION
UNPROTECTED	NP	15%	25%	45%	75%	NO LIMIT
PROTECTED	NP	15%	25%	45%	75%	NO LIMIT

TABLE 705.8: MAXIMUM AREA OF EXTERIOR WALL OPENINGS - CONT'D

CLASSIFICATION OF OPENING	25' TO 30' SEPARATION	GREATER THAN 30' SEPARATION
UNPROTECTED	NO LIMIT	NO LIMIT
PROTECTED	NO LIMIT	NO LIMIT

PROTECTED OPENINGS IN WALLS WITH LESS THAN 3' SEPERATION ARE PERMITTED IN R-2 AND R-3 OCCUPANCIES UP TO 10 PERCENT OF THE AREA OF THAT STORY. SUCH OPENINGS SHALL COMPLY WITH BC 705.8 AND SHALL NOT BE CREDITED TOWARDS MANDATORY NATURAL LIGHT AND VENTILATION REQUIREMENTS

TABLE 706.4, 707.3.9, 707.4, 708.4, 709.3, & 710.3: FIRE RATINGS OF CERTAIN WALLS

OCCUPANCY CLASS	FIRE WALL	FIRE BARRIER	SHAFT ENCLOSURE 3 OR MORE STORIES	SHAFT ENCLOSURE LESS THAN 3 STORIES	FIRE PARTITION	SMOKE BARRIER	SMOKE PARTITIONS
R-2, B	3 HOURS	2 HOURS	2 HOURS	1 HOUR	1 HOUR	1 HOUR	0 HOURS

TABLE 715.4: FIRE DOOR AND FIRE SHUTTER FIRE PROTECTION RATINGS

TYPE OF ASSEMBLY	REQUIRED ASSEMBLY RATING (HRS)	REQUIRED ASSEMBLY RATING (HRS)
FIRE WALLS & FIRE BARRIERS HAVING REQ'D FIRE RATING GREATER THAN 1 HR	4	3
	3	3
	2	1.5
	1.5	1.5
FIRE BARRIERS HAVING REQ'D RATING OF 1 HOUR: - SHAFT, EXIT ENCLOSURE, & EXIT PASSAGEWAY WALLS - OTHER FIRE BARRIERS	1	1
	1	3/4
FIRE PARTITIONS: - CORRIDOR WALLS - OTHER PARTITIONS	1	3/4
	1	3/4
EXTERIOR WALLS	3	1-1/2
	2	1-1/2
	1	3/4

TABLE 715.5: FIRE WINDOW ASSEMBLY FIRE PROTECTION RATINGS

TYPE OF ASSEMBLY	REQUIRED ASSEMBLY RATING (HRS)	MIN. FIRE WINDOW ASSEMBLY RATING (HRS)
INTERIOR WALLS: - FIRE WALLS	ALL	NP
	>1	NP
- FIRE BARRIERS AND FIRE PARTITIONS	1	3/4
- SMOKE BARRIERS	1	3/4
EXTERIOR WALLS:	>1	1-1/2
	1	3/4
PARTY WALLS:	ALL	NP

TABLE 715.5.4: FIRE DOOR AND SHUTTER FIRE RATINGS (MAX WIRE GLASS PANELS)

OPENING FIRE PROTECTION RATING	MAXIMUM AREA (SQUARE INCHES)	MAXIMUM HEIGHT (SQUARE INCHES)	MAXIMUM WIDTH (SQUARE INCHES)
3 HOURS	0	0	0
1-1/2 HOUR DOORS IN EXTERIOR WALLS	0	0	0
1 & 1-1/2 HOURS	100	33	10
3/4 HOUR	1,296	54	54
FIRE WINDOW ASSEMBLIES	1,296	54	54

CHAPTER 8: INTERIOR FINISHES

FLAME SPREAD	
CLASS A	FLAME SPREAD 0-25
CLASS B	FLAME SPREAD 26-75
CLASS C	FLAME SPREAD 76-200

TABLE 803.1.1: SMOKE DEVELOPED RATING

EXITS, CORRIDORS	25 OR LESS
OCCUPANCY GROUP I	50
ROOMS IN WHICH NET FLOOR AREA PER OCCUPANT IS 10 SF OR LESS	100

TABLE 803.1: INTERIOR WALL AND CEILING FINISH CLASS REQUIREMENTS SPRINKLERED BUILDINGS

OCCUPANCY GROUP	VERTICAL EXITS/ EXIT PASSAGEWAYS	EXIT ACCESS CORRIDORS AND OTHER EXITWAYS	ROOMS AND ENCLOSED SPACES
R-2	B	B	C
B	B	B	B

CHAPTER 9: FIRE PROTECTION SYSTEMS
BUILDING FULLY SPRINKLERED AND FIRE PROTECTED PER CHAPTER 9 - FILED SEPARATELY.

CHAPTER 10: MEANS OF EGRESS

TABLE 1004.1.1:MAX FLOOR AREA PER OCCUPANT

USE OF SPACE	FLOOR AREA IN SF PER OCCUPANT
BUSINESS	100 GROSS
RESIDENTIAL	200 GROSS WITHIN DWELLING UNITS
AIRS SOCIAL SPACES	20 NET (SIM. TO CLASSROOMS)
RESIDENTIAL RECREATION	200 GROSS (REFER TO DOB BULLETIN 2018-002)
ACCESSORY STORAGE	300 GROSS

FLOOR	OCCUPANCY (SEE EGRESS ANALYSIS FOR SPACE AREAS)	# OF PERSONS COMM. FACILITY	# OF PERSONS RESIDENTIAL
CELLAR	ACC. RES. (R2)	-	83
CELLAR	COMM. FACILITY (B)	8	-
1	RESIDENTIAL	-	32
1	COMM. FACILITY	5	-
2	RESIDENTIAL	-	38
2	RES. TERRACE	-	2
3	RESIDENTIAL	-	36
3	RES. TERRACES	-	2
4	RESIDENTIAL	-	25
4	RES. TERRACES	-	9
	TOTAL	13	227

TABLE 1005.1: EGRESS WIDTH PER OCCUPANT SERVED

OCCUPANCY	STAIRWAYS (INCHES PER OCCUPANT)	OTHER COMPONENTS (INCHES PER OCCUPANT)
R-2, B	0.3	0.2

REQUIRED EGRESS COMPONENT WIDTH

COMPONENT DESCRIPTION	COMPONENT SIZE LIMITING FACTOR	REQUIRED WIDTH	CODE CITATION
STAIRS	MAX STAIR = 42 PERSONS EACH. 2 STAIRS SERVE 21 TOTAL PERSONS	21x0.3" = 6.3" USE 36" WIDTH	BC 1009.1 EXCEPTION 1 FOR RES. AND EXCEPTION 1.1 FOR CELLAR
GROUP B CORRIDOR (CELLAR)	42 PERSONS (CELLAR)	0.2x42 = 8.4" USE 44" WIDTH	BC 1018.2
GROUP R CORRIDORS	40 PERSONS (FLOOR W/ HIGHEST OCCUPANCY)	0.2x40 = 8.0" USE 36' WIDTH	BC 1008.1.1.1 EXCEPTION 2
GROUP B DOORS	15 PERSONS (50% HIGHEST OCCUPANCY)	0.2x15 = 3.0" USE 36' WIDTH	BC 1008.1.1.1
GROUP R DOORS	36 PERSONS (50% OF 71 PERSONS)	0.2x36 = 7.2" USE 36" WIDTH	BC 1008.1.1.1

TABLE 1007.1: ACCESSIBLE MEANS OF EGRESS

OCCUPANCY	# OF ACCESSIBLE MEANS OF EGRESS REQUIRED
R-2. B	1

ACCESSIBLE MEANS OF EGRESS: EXIT STAIR
EXCEPTION 2: 48" BETWEEN HANDRAILS NOT REQUIRED FOR FULLY SPRINKLERED BUILDING
EXCEPTION 3: AREA OF RESCUE OF ASSISTANCE NOT REQUIRED FOR FULLY SPRINKLERED BUILDING

TABLE 1009: EXIT STAIRWAY

OCCUPANCY	RISER	TREAD	NOSING	MIN. HEADROOM
R2 (PRIMARY STAIR)	7-3/4" MAX*	9-1/2" MAX*	3/4"-1-1/4"	80"
R2 (WITHIN UNITS)	8-1/4" MAX*	9" MAX*	3/4"-1-1/4"	80"
B	4" - 7"	11" MIN.	-	84"

* SUM OF TWO RISERS PLUS ONE TREAD MUST NOT BE LESS THAN 24" OR MORE THAN 25.5"

TABLE 1014.3: COMMON PATH OF EGRESS TRAVEL

OCCUPANCY	MAXIMUM OCCUPANT LOAD
R (EXCEPTION 4)	125'
B (EXCEPTION 1)	100'

TABLE 1015.1: SPACES WITH 1 MEANS OF EGRESS

OCCUPANCY	MAXIMUM OCCUPANT LOAD
R	20 PERSONS
B	74 PERSONS

TABLE 1016.1: EXIT ACCESS TRAVEL DISTANCE

OCCUPANCY	WITHOUT SPRINKLER SYSTEM	WITH SPRINKLER SYSTEM
R	150' MAX	200' MAX
B	200' MAX	300' MAX

BUILDING FULLY SPRINKLERED - MAX PERMITTED TRAVEL = 200' (RES)

TABLE 1018.1.2: PUBLIC CORRIDOR FIRE RESISTIVE RATING

OCCUPANCY	REQUIRED FIRE RESISTIVE RATING (HOURS)
B, R (NON-COMBUSTIBLE)	1

1018.4: MAX DEAD ENDS

OCCUPANCY	MAX DEAD END CORRIDOR
B*	50'
R-2	40' (80'**)

* FOR GROUP B OCCUPANCY, FULLY SPRINKLERED BUILDING
** FOR GROUP R-2 OCCUPANCY, WHERE THE CORRIDOR IS 2 HR RATED AND ALL DOORS ON THE CORRIDOR ARE 1.5 HR FPSC

CHAPTER 11: ACCESSIBILITY
100% OF DWELLING UNITS FULLY ADAPTABLE

100% OF COMMERCIAL SPACES FULLY ACCESSIBLE

CHAPTER 12: INTERIOR ENVIRONMENT
BC 1203.4.1.2.1 - ALL HABITABLE SPACES SHALL BE PROVIDED WITH OPERABLE WINDOWS (OR DOORS), CONSTITUTING 5% OF THE FLOOR AREA OF THE ROOM AND 6 SF MINIMUM.
BC 1205.2.1 - ALL HABITABLE SPACES SHALL BE PROVIDED WITH NET GLAZED AREA OF 10% OF THE FLOOR AREA OF THE ROOM AND 12 SF MINIMUM.

1207.2 & 1207.3: SOUND TRANSMISSION

COMPONENT	AIR-BORNE SOUND	STRUCTURE-BORNE SOUND
WALLS, PARTITIONS AND FLOOR CEILING ASSEMBLIES BTWN DWELLING UNITS. & BTWN DWELLING UNITS AND PUBLIC OR SERVICE AREAS (INCLUDING BOILER RMS ELEVATOR OR SERVICE SHAFTS)	50 STC MIN. PER ASTM E 90-OR-45 STC PER MIN. ASTM E 336	IIC RATING OF 50 MIN. PER ASTM E 492-OR-IIC RATING OF 45 ASTM E 10007
D.U. ENTRY DOORS	35 STC MIN. PER ASTM E 408	N/A
PENETRATIONS OR OPENINGS	SEALED, LINED, INSULATED OR OTHERWISE TREATED TO MAINTAIN REQUIRED RATINGS	N/A

CHAPTER 13: ENERGY EFFICIENCY
BUILDING IS DESIGNED PER THE ECCNYC - SEE EGRESS ANALYSIS

2014 PLUMBING CODE ANALYSIS

TABLE 403.1: MININUM PLUMBING FACILITIES REQUIRED

OCCUPANCY GROUP	TOILETS	LAVATORIES	BATHTUBS/ SHOWERS	DRINKING FOUNTAINS	OTHER
B*	7 MEN, 7 WOMEN - 1 TOILET REQ'D	7 MEN, 7 WOMEN - 1 LAVS REQ'D EACH SEX	.	1 PER 100 PERSONS 13 PERSONS - 1 DRINKING FOUNTAIN REQ'D	1 SERVICE SINK
R-2	1 PER DWELLING UNIT	1 PER DWELLING UNIT	1 PER DWELLING UNIT	.	1 KITCHEN SINK PER DWELLING UNIT; 1 CLOTHES WASHING CONNECTION PER 20 UNITS

* TO BE FITTED OUT BY FUTURE TENANT

FIRE RESISTIVE RATED CONSTRUCTION NOTES

1) EXTERIOR WALLS, INCLUDING ALLOWABLE OPENING AND PROTECTION OF OPENINGS TO BE AS PER BC 704
2) FIRE WALLS, IF REQUIRED, TO BE AS PER BC 705
3) FIRE BARRIERS TO BE AS PER BC 706
4) SHAFT ENCLOSURES TO BE AS PER BC 707, INCLUDING BUT NOT LIMITED TO:
   - SHAFTS PENETRATING FEWER THAN 3 STORIES SHALL BE 1 HOUR RATED MINIMUM
   - SHAFTS PENETRATING 3 OR MORE STORIES SHALL BE 2 HOUR RATED MINIMUM
   - CONTINUITY PER BC 707.5
   - ENCLOSURE AT TOP AND BOTTOM PER BC 707.11 AND 707.12
5) FIRE PARTITIONS SHALL BE AS PER BC 708
6) SMOKE BARRIERS, IF REQUIRED, SHALL BE AS PER BC 709
7) SMOKE PARTITIONS, IF REQUIRED, SHALL BE AS PER BC 710
8) FLOOR AND ROOF ASSEMBLIES SHALL BE AS PER BC 711
9) PENETRATIONS SHALL BE AS PER BC 712, INCLUDING BUT NOT LIMITED TO:
   - SLEEVES INSTALLED SECURELY AND TIGHT PER BC 712.2
   - THROUGH PENETRATION FIRE STOP REQUIREMENTS, INCLUDING BUT NOT LIMITED TO:
     - FIRE STOPS TESTED IN ASSEMBLY PER BC 712.3.1.1; AND
     - FIRE STOPS TESTED/APPROVED PER ASTM E 814 OR UL 1479 PER BC 712.3.1.2
     - EXCEPTIONS 1 & 2 APPLY FOR CERTAIN SMALL PENETRATIONS
     - MEMBRANE PENETRATION FIRE STOP REQUIREMENTS PER BC 712.3.2
   - HORIZONTAL ASSEMBLY PENETRATION PER BC 712.4, INCLUDING BUT NOT LIMITED TO:
     - FIRE STOPS TESTED IN ASSEMBLY PER BC 712.3.1.1; AND
     - FIRE STOPS TESTED/APPROVED PER ASTM E 814 OR UL 1479 PER BC 712.3.1.2
     - EXCEPTIONS 1 & 2 APPLY FOR CERTAIN SMALL PENETRATIONS
     - MEMBRANE PENETRATION FIRE STOP REQUIREMENTS PER BC 712.4.2
10) FIRE RESISTANT JOINT SYSTEMS TO BE AS PER BC 713
11) FIRE RESISTIVE RATING OF STRUCTURAL MEMBERS TO BE AS PER BC 714
12) OPENING PROTECTIVES TO BE AS PER BC 715
13) DUCTS AND AIR TRANSFER OPENINGS TO BE AS PER BC 716
14) CONCEALED SPACES TO BE AS PER BC 717, INCLUDING BUT NOT LIMITED TO:
   - FIREBLOCKING OF CONCEALED SPACES AS PER BC 717.2 AT:
     - AREAS INDICATED IN CODE, INCLUDING BUT NOT LIMITED TO:
     - STUD WALLS: VERTICALLY AT THE CEILING AND FLOOR LEVELS
     - FURRED WALLS: HORIZONTALLY AT INTERVALS NOT EXCEEDING 10'-0"
     - CONNECTION OF CONCEALED HORIZONTAL AND VERTICAL SYSTEMS
     - CONCEALED SPACES BTWN STAIR STRINGERS AT TOP AND BTTM OF RUN
     - PROTECTED CHIMNEY SHAFT OPENINGS PER BC 717.2.5
     - ARCHITECTURAL TRIM PER BC 717.2.6
     - CONCEALED FLOOR SLEEPER AREAS, IN MAX 20 SF AREAS
   - DRAFTSTOPPING OF CONCEALED SPACES IN FLOORS AS PER BC 717.3 AT:
     - AREAS INDICATED IN CODE, INCLUDING BUT NOT LIMITED TO:
     - ABOVE AND IN LINE WITH DWELLING UNIT SEPARATIONS
       - SEE CODE FOR EXCEPTIONS
     - IN OTHER OCCUPANCIES, IN AREAS NOT TO EXCEED 3000 SF
       - SEE CODE FOR EXCEPTIONS
     - ATTICS PER BC 717.4
   - COMBUSTIBLES IN CONCEALED SPACES TO BE AS PER BC 717
15) FIRE RESISTIVE PLASTER TO BE AS PER BC 718
16) THERMAL AND SOUND-INSULATING MATERIALS TO BE AS PER BC 719
17) PRESCRIPTIVE FIRE RESTIVE ASSEMBLIES/MATERIALS TO BE AS PER BC 720 AND:
   - BC TABLES 720.1(1), 720.1(2), 720.13)
18) CALCULATED FIRE RESISTIVE ASSEMBLIES/MATERIALS TO BE AS PER BC 721

CONSTRUCTION STANDARDS FOR THE CONTROL OF NOISE (MDL 84)

ON OR BEFORE JANUARY FIRST, NINETEEN HUNDRED SIXTY-NINE, THE DEPARTMENT SHALL FORMULATE, ADOPT, PROMULGATE AND THEREAFTER FROM TIME TO TIME AMEND STANDARDS OF SOUND RETARDATION FOR THE WALLS, PARTITIONS AND FLOORS AND DWELLINGS BETWEEN APARTMENTS AND BETWEEN APARTMENTS AND PUBLIC SPACES SITUATED THEREIN BASED ON THE DIRECT MEASUREMENT OF SOUND TRANSMISSION LOSS DETERMINED IN DECIBELS FOR VARIOUS FREQUENCIES OR IN ACCORDANCE WITH THE ASTM SOUND TRANSMISSION CLASS SYSTEM OR IN ACCORDANCE WITH SUCH OTHER RECOGNIZED METHOD OR SYSTEM FOR MEASURING REDUCTION OF SOUND TRANSMISSION AS THE DEPARTMENT MAY DETERMINE TO BE APPROPRIATE. ANY CONSTRUCTION OF A MULTIPLE DWELLING COMMENCED AFTER JANUARY FIRST, NINETEEN HUNDRED SEVENTY SHALL COMPLY WITH THE STANDARDS PROMULGATED PURSUANT TO THIS SECTION IN EFFECT AT THE TIME OF COMMENCEMENT OF SUCH CONSTRUCTION.

MEANS OF EGRESS NOTES

1) CEILING HEIGHT IN MEANS OF EGRESS TO BE 7'-6" MINIMUM; EXCEPT
   - CEILINGS PERMITTED TO BE LESS THAN 7'-6" PER BC 1208.2
   - CEILINGS IN DWELLING/SLEEPING UNITS PER BC 1208.2
   - ALLOWABLE PROJECTIONS PER BC 1003.3
   - STAIR HEADROOM PER BC 1009.2
   - DOOR HEIGHT PER BC 10081.1.3
2) PROTRUDING OBJECTS TO BE AS PER BC 1003.3
3) WALKING SURFACES SHALL BE SLIP RESISTANT AND SECURELY ATTACHED.
4) CHANGES IN ELEVATION TO BE AS PER BC 1003.5
5) MEANS OF EGRESS TO BE CONTINUOUS AND NOT INTERRUPTED BY ANY BUILDING ELEMENT
6) EXIT COMPONENTS SHALL BE ILLUMINATED PER BC 1006, INCLUDING BUT NOT LIMITED TO:
   - ILLUMINATION TO BE 2 FOOTCANDLES AT FLOOR IN EXITS, DISCHARGE AND CORRIDORS
   - ILLUMINATINON TO BE 1 FOOTCANDLE IN OTHER EXIT ACCESS AREAS WHERE REQ'D
   - EXIT ILLUMINATION TO BE OFF BUILDING ELECTRIC. EMERGENCY BACK UP PROVIDED:
     - EXIT ACCESS CORRIDORS, AISLES, PASSAGEWAYS AND SPACES THAT REQUIRE 2 OR MORE MEANS OF EGRESS.
     - EXIT ACCESS CORRIDORS, EXIT PASSAGEWAYS AND EXIT STAIRWAYS IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
     - EXTERIOR EGRESS COMPONENTS AT OTHER THE LEVEL OF EXIT DISCHARGE
     - INTERIOR EXIT DISCHARGE ELEMENTS PERMITTED BY BC 1023.1 IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS
     - THE PORTION OF THE EXTERIOR EXIT DISCHARGE IMMEDIATELY ADJACENT TO EXIT DISCHARGE DOORWAYS IN BUILDINGS REQUIRED TO HAVE TWO MEANS OF EGRESS.
     - EMERGENCY POWER SHALL BE CAPABLE OF 90 MINUTES DURATION MIN AND PERFORM PER BC 1006.3.2
7) ACCESSIBLE MEANS OF EGRESS TO BE PER BC 1007
8) IN HIGH RISE BUILDINGS AT LEAST ONE MEANS OF EGRESS SHALL BE AN ELEVATOR PER BC 1007.4
9) EGRESS DOORS SHALL BE AS PER BC 1008, INCLUDING BUT NOT LIMITED TO:
   - DOOR WIDTH SHALL BE AS REQUIRED FOR THE OCCUPANT LOAD AND 32" CLEAR MIN. DOOR LEAFS SHALL NOT BE WIDER THAN 48"
   - DOORS SHALL BE 80" TALL MIN.
   - DOORS SHALL BE SIDE-HINGED SWINGING DOORS EXCEPT AS PER CODE EXCEPTIONS
   - DOORS SHALL SWING IN THE DIRECTION OF TRAVEL WHEN SERVING:
     - GROUP F OR H OCCUPANCY
     - ROOMS OR SPACES WITH AN OCCUPANT LOAD OF 50 OR MORE PERSONS
     - ROOMS OR SPACES REQUIRING MORE THAN ONE EXIT DOOR
     - AUTOMATIC TELLER MACHINES
     - DOORS NEED NOT SWING IN THE DIRECTION OF TRAVEL FOR EXTERIOR STREET FLOOR EXITS FROM LOBBIES SERVING R-2 OR R-3
   - OPENING FORCE FOR INTERIOR SIDE-SWINGING DOORS WITHOUT CLOSERS SHALL NOT EXCEED 5 POUNDS
   - FOR OTHER SIDE-SWINGING, SLIDING OR FOLDING DOORS, THE DOOR LATCH SHALL RELEASE WHEN SUBJECTED TO 15 POUND FORCE, BE SET IN MOTION BY 30 POUND FORCE, AND SWING TO FULLY OPEN WITH A 15 POUND FORCE.
   - THERE SHALL BE A LEVEL FLOOR LANDING AT EACH SIDE OF THE DOOR
   - LANDINGS SHALL HAVE A WIDTH NOT LESS THAN THE STAIRWAY OR THE DOOR, WHICHEVER IS GREATER
   - THRESHOLDS SHALL NOT EXCEED 3/4" FOR SLIDING DOORS SERVING DWELLING UNITS AND 1/2" FOR ALL OTHER DOORS. THRESHOLDS OVER 1/4" SHALL HAVE A BEVELED EDGE
   - DOORS SHALL RE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE OR EFFORT
   - DOOR HARDWARE REQUIRED TO BE ACCESSIBLE BY CHAPTER 11 SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING TO OPERATE
   - DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES SHALL BE INSTALLED 34" MINIMUM AND 48" MAXIMUM ABOVE THE FLOOR
   - FLUSH BOLTS AND SURFACE BOLTS NOT PERMITTED ON ANY EGRESS DOOR
   - UNLATCHING OF ANY DOOR LEAF SHALL NOT REQUIRE MORE THAN ONE OPERATION
   - PANIC HARDWARE SHALL BE INSTALLED ON DOORS IN GROUP A OR E WITH AN OCCUPANT LOAD OF MORE THAN 75 PERSONS AND GROUP H-1, H-2, H-3, OR H-5
10) STAIRS SHALL COMPLY WITH BC 1009, INCLUDING BUT NOT LIMITED TO:
   - STAIRS TO BE 44" WIDE EXCEPT FOR AS SPECIFIED IN BUILDING CODE EXCEPTIONS
   - STAIRS HEADROOM TO BE 84" MINIMUM, EXCEPT THAT R-2 AND R-3 STAIRWAYS MAY BE 80" AND SPIRAL STAIRWAYS PER 1009.9 MAY BE 78"
   - STAIR TREADS TO BE 7" MAX, 4" MIN. WITH 11" MINIMUM TREADS
     - IN GROUP R-2, THE SUM OF TWO RISERS PLUS ONE TREAD MUST BE NOT LESS THAN 24 AND NOT GREATER THAN 25.5, WITH 7.75" MAX RISERS, 9.5" MIN TREADS.
     - SEE CODE FOR FURTHER EXCEPTIONS
   - STAIR TREADS TO BE UNIFORM IN SIZE AND SHAPE. THE TOLERANCE BETWEEN THE LARGEST AND SMALLEST RISER (OR TREAD) SHALL NOT EXCEED 0.375"
   - RISER PROFILES TO BE PER BC 1009.3.2
   - HANDRAILS TO BE PROVIDED ON BOTH SIDES OF THE STAIR
     - STAIRWAYS LESS THAN 44" WIDE MAY HAVE A HANDRAIL ON ONE SIDE ONLY
     - SEE CODE FOR FURTHER EXCEPTIONS
   - HANDRAILS TO BE INSTALLED AT NOT LESS THAN 34" AND NOT MORE THAN 38" ABOVE THE FLOOR, NOSING OR RAMP
   - ALL PORTIONS OF THE STAIR MUST BE WITHIN 30" OF A HANDRAIL. PROVIDE INTERMEDIATE HANDRAILS AS REQUIRED
   - HANDRAILS SHALL BE CONTINUOUS EXCEPT AS SPECIFICALLY EXCEPTED BY CODE.
   - HANDRAILS SHALL RETURN TO A WALL, GUARD, OR WALKING SURFACE OR BE CONTINUOUS TO THE HANDRAIL OF AN ADJACENT FLIGHT.
   - WHERE NOT CONTINUOUS BETWEEN FLIGHTS, HANDRAILS TO EXTEND 12" BEYOND THE TOP RISER AND CONTINUE TO SLOPE FOR THE DEPTH OF ONE TREAD BEYOND BOTTOM RISER.
   - CLEARANCE BETWEEN THE HANDRAIL AND THE OPPOSITE SURFACE SHALL BE 1.5" MIN. HANDRAILS MAY PROJECT 4.5" INTO THE REQUIRED STAIRWAY WIDTH.
11) RAMPS TO COMPLY WITH BC 1010
12) EXIT SIGNS TO COMPLY WITH BC 1011, INCLUDING BUT NOT LIMITED TO:
   - EXIT SIGNS SHALL BE PLACED WHERE THE PATH TO THE EXIT IS NOT READILY VISIBLE.
   - EXIT SIGNS SHALL BE PLACED SO THAT NO POINT IN AN EXIT ACCESS CORRIDOR SHALL BE MORE THAN 100' FROM A SIGN, OR THE LISTED DISTANCE OF THE SIGN, WHICHEVER IS LESS.
13) GUARDS TO BE LOCATED AT ANY SURFACE 30" OR MORE ABOVE ADJACENT GRADE PER BC 1012
14) EXIT ACCESS TO BE PER BC 1013
15) EXIT AND EXIT ACCESS DOORWAYS TO BE PER BC 1014
16) EXIT TRAVEL DISTANCE TO BE PER BC 1015
17) CORRIDORS TO BE PER BC 1016
18) EXITS TO BE PER BC 1017
19) NUMBER OF EXITS AND CONTINUITY TO BE PER BC 1018
20) VERTICAL EXIT ENCLOSURES TO BE PER BC 1019; INCLUDING BUT NOT LIMITED TO:
   - ENCLOSURE REQUIREMENTS PER BC 1019
   - DISCHARGE IDENTIFICATION PER BC 1019.1.6
   - STAIRWAY FLOOR NUMBER AND IDENTIFICATION SIGNS PER BC 1019.1L7
21) EXIT PASSAGEWAYS TO BE PER BC 1020
22) HORIZONTAL EXITS TO BE PER BC 1021
23) EXTERIOR EXIT RAMPS AND STAIRWAYS TO BE PER BC 1022
24) EXIT DISCHARGE TO BE PER BC 1023
25) ASSEMBLY OCCUPANCIES TO BE PER BC 1024

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NOTES:

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#	Description	Date
3	ISSUED TO DOB	10.01.19
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6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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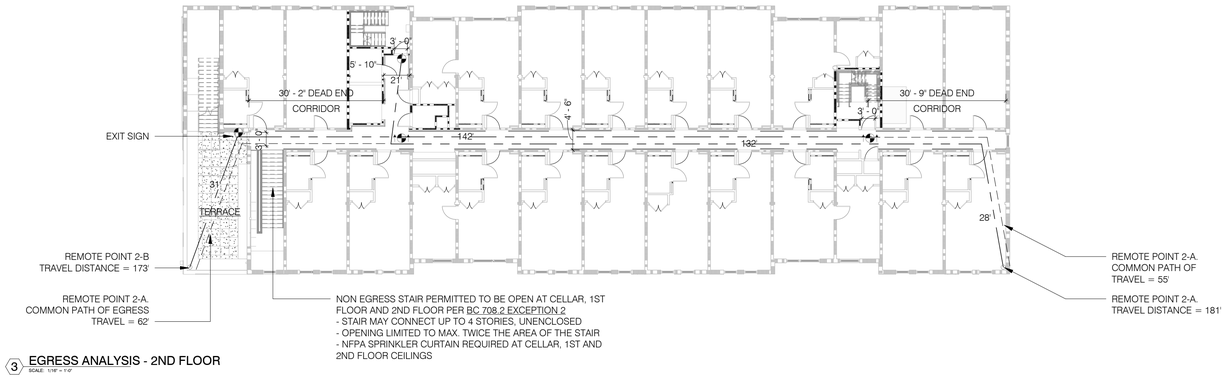
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BUILDING CODE ANALYSIS

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OCCUPANCY LOAD CHART- 2ND FLOOR

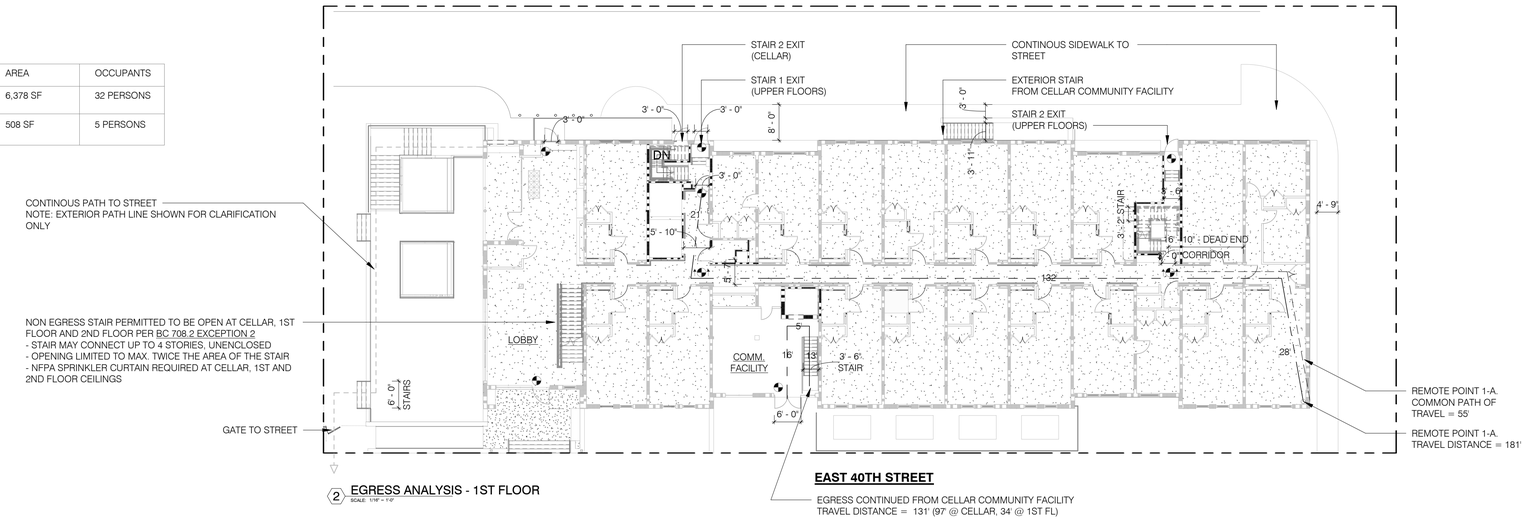
SPACE NAME	OCCUPANCY	FACTOR	AREA	OCCUPANTS
DWELLING UNITS	R-2	200, GROSS WITHIN D.U.	7,538 SF	38 PERSONS
TERRACE	R-2	200 GROSS	417 SF	2 PERSONS



3 EGRESS ANALYSIS - 2ND FLOOR
SCALE: 1/16" = 1'-0"

OCCUPANCY LOAD CHART- 1ST FLOOR

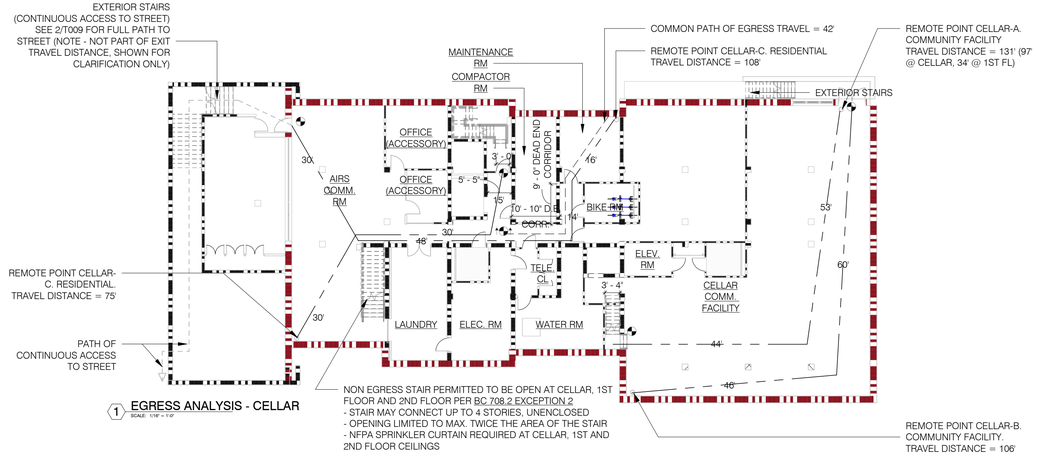
SPACE NAME	OCCUPANCY	FACTOR	AREA	OCCUPANTS
DWELLING UNITS	R-2	200, GROSS WITHIN D.U.	6,378 SF	32 PERSONS
COMMUNITY FACILITY	B	100 GROSS	508 SF	5 PERSONS



2 EGRESS ANALYSIS - 1ST FLOOR
SCALE: 1/16" = 1'-0"

OCCUPANCY LOAD CHART - CELLAR

SPACE NAME	OCCUPANCY	FACTOR	AREA	OCCUPANTS
CELLAR STORAGE	B	300 GROSS	2498 SF	8 PERSONS
AIRS COMM. ROOM	R-2	20 NET	1340 SF	67 PERSONS
OFFICE	R-2	100 GROSS	162 SF	2 PERSONS
OFFICE	R-2	100 GROSS	161 SF	2 PERSONS
LAUNDRY	R-2	100 GROSS	326 SF	3 PERSONS
BIKE RM	R-2	300 GROSS	90 SF	1 PERSON
ELEC ROOM	R-2	300 GROSS	241 SF	1 PERSON
TELE CL	R-2	300 GROSS	265 SF	1 PERSON
WATER ROOM	R-2	300 GROSS	47 SF	1 PERSON
MAINT. RM	R-2	300 GROSS	196 SF	1 PERSON
COMPACTOR RM	R-2	300 GROSS	215 SF	1 PERSON
TENANT STORAGE	R-2	300 GROSS	824 SF	3 PERSONS



1 EGRESS ANALYSIS - CELLAR
SCALE: 1/16" = 1'-0"

LEGEND

- ILLUMINATED EXIT SIGN. HARDWIRED W/ BATTERY BACK UP
- PATH OF EXIT TRAVEL DISTANCE
- PATH OF COMMON PATH OF EGRESS TRAVEL
- 1 HR RATED WALL
- 2 HR RATED WALL
- 3 HR RATED WALL

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8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

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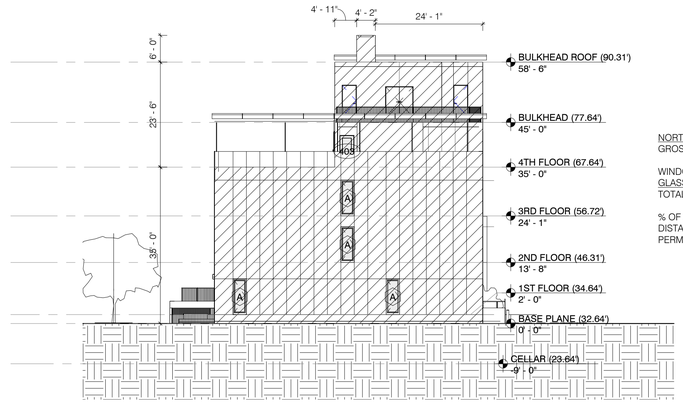
EGRESS DIAGRAM

Date: 03.5.2020

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Scale: As indicated
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Chkd By #: Checker
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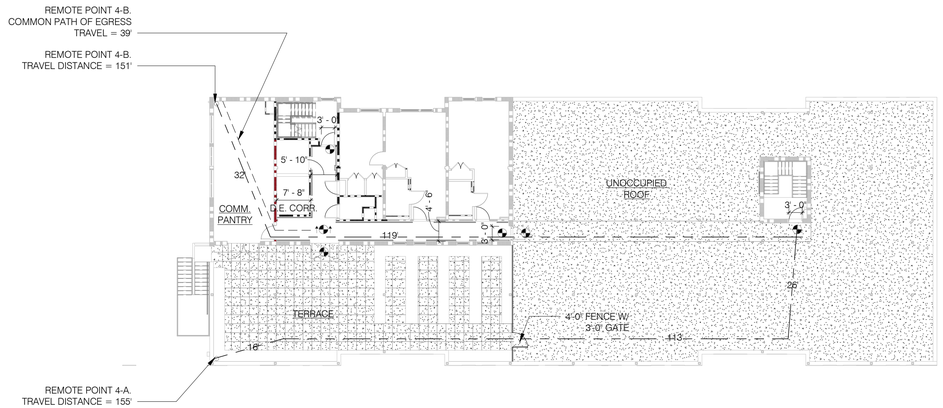


NORTH (SIDE) FACADE
GROSS ABOVE GRADE WALL AREA = 2,876 SF

WINDOW TYPE A = 24 SF X 4 = 96 SF
GLASS DOOR 403= 21 SF X 1 = 21 SF
TOTAL FENESTRATION AREA = 117 SF

% OF OPENING = 4%
DISTANCE TO PROPERTY LINE = 19'-5"
PERMITTED OPENING % PER BC 705.8 = 75% -> OK

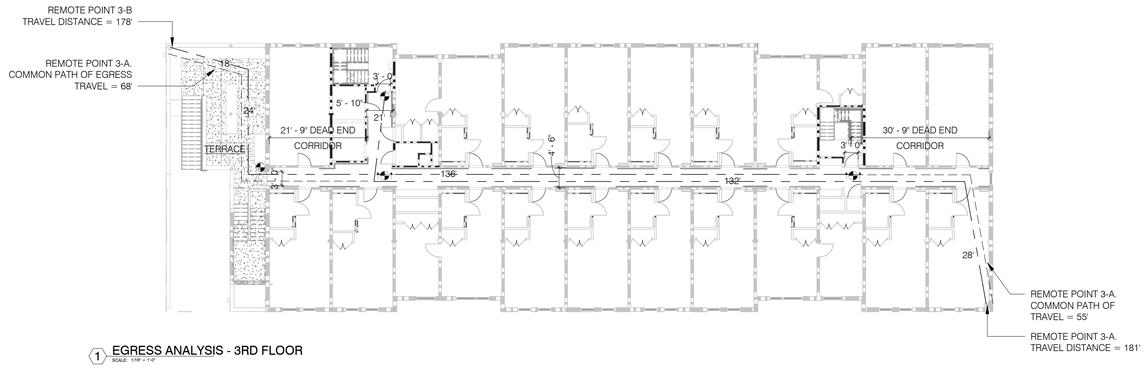
3 OPENING AREA DIAGRAM - NORTH
SCALE: 1/16" = 1'-0"



2 EGRESS ANALYSIS - 4TH FLOOR
SCALE: 1/16" = 1'-0"

OCCUPANCY LOAD CHART- 4TH FLOOR

SPACE NAME	OCCUPANCY	FACTOR	AREA	OCCUPANTS
DWELLING UNITS	R-2	200, GROSS WITHIN D.U.	850 SF	4 PERSONS
COMM. PANTRY	R-2	20 NET	424 SF	21 PERSONS
TERRACE	R-2	200 GROSS	1741 SF	9 PERSONS



1 EGRESS ANALYSIS - 3RD FLOOR
SCALE: 1/16" = 1'-0"

OCCUPANCY LOAD CHART- 3RD FLOOR

SPACE NAME	OCCUPANCY	FACTOR	AREA	OCCUPANTS
DWELLING UNITS	R-2	200, GROSS WITHIN D.U.	7,188 SF	36 PERSONS
TERRACE	R-2	200 GROSS	511 SF	2 PERSONS

LEGEND

- ILLUMINATED EXIT SIGN. HARDWIRED W/ BATTERY BACK UP
- PATH OF EXIT TRAVEL DISTANCE
- PATH OF COMMON PATH OF EGRESS TRAVEL
- 1 HR RATED WALL
- 2 HR RATED WALL
- 3 HR RATED WALL

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10	100% CD	06.03.20

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DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
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Drawing Title:

EGRESS ANALYSIS, CONT'D, OPENING IN EXT. WALL DIAGRAM

Date: 03.5.2020
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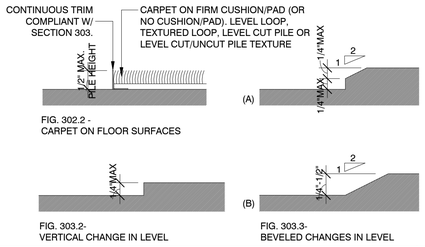


FIG. 302.2 - CARPET ON FLOOR SURFACES

FIG. 303.2- VERTICAL CHANGE IN LEVEL

FIG. 303.3- BEVELED CHANGES IN LEVEL

CHANGES IN LEVEL | SCALE NONE | 1

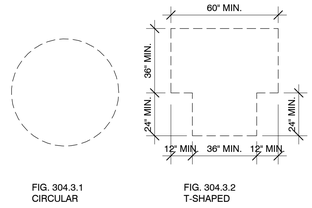


FIG. 304.3.1 CIRCULAR

FIG. 304.3.2 T-SHAPED

TURNING SPACE. 'T' TURNAROUND | SCALE NONE | 2

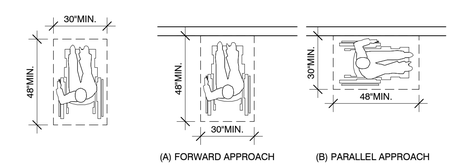
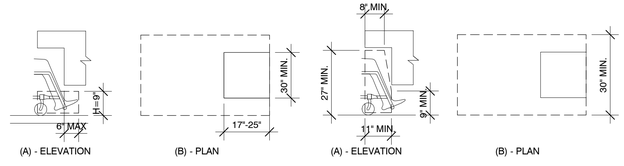


FIG. 305.3 - CLEAR FLOOR OR GROUND SPACE

(A) FORWARD APPROACH (B) PARALLEL APPROACH

FIG. 305.5 - POSITION OF CLEAR FLOOR OR GROUND SPACE

MINIMUM CLEAR FLOOR SPACE | SCALE NONE | 3



(A) - ELEVATION (B) - PLAN

FIG. 306.2 - TOE CLEARANCE

(A) - ELEVATION (B) - PLAN

FIG. 306.3 - KNEE CLEARANCE

TOE & KNEE CLEARANCE | SCALE NONE | 4

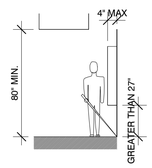


FIG. 307.2 - LIMITS OF PROTRUDING OBJECTS

PROTRUDING OBJECTS | SCALE NONE | 5

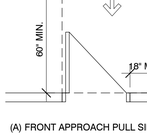
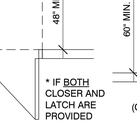
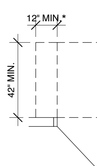


FIG. 308.2.1 - UNOBSTRUCTED FORWARD REACH





NOTES:
1. X SHALL BE < 25 INCHES; Z SHALL BE > X
2. WHEN X < 20", THEN Y SHALL BE 48".
3. WHEN 20"<X<25", THEN Y SHALL BE 44" MAX.

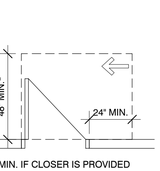


FIG. 308.2.2 - OBSTRUCTED HIGH FORWARD REACH

FORWARD REACH | SCALE NONE | 6

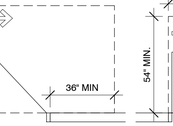


FIG. 308.3.1 - UNOBSTRUCTED SIDE REACH

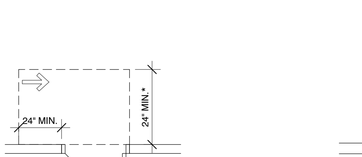
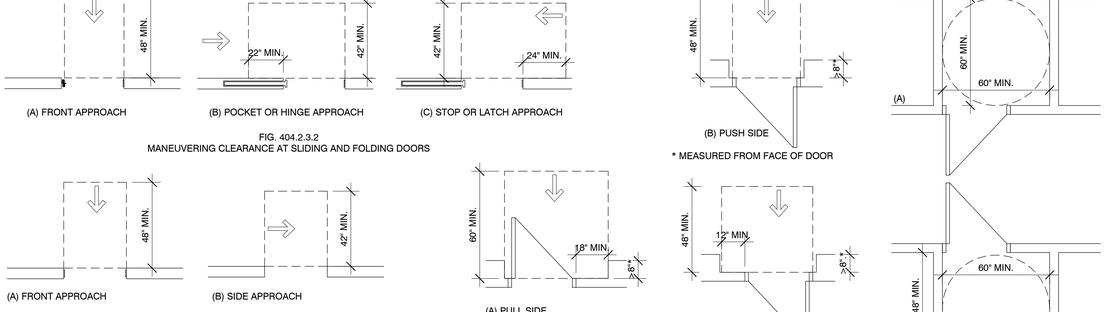


FIG. 308.3.2 OBSTRUCTED HIGH SIDE REACH

SIDE REACH | SCALE NONE | 7

NOTE: ALL RAMPS MUST MEET HANDRAIL AND CURB REQUIREMENTS.



ACCESIBLE RAMPS AND HANDRAIL DETAILS | SCALE NONE | 8

HANDRAILS ON RAMPS | SCALE NONE | 9

FIG. 504.5 - STAIR NOSINGS

TREADS AND NOSINGS | SCALE NONE | 10

FIG. 505.4 - HANDRAIL HEIGHT &
FIG. 505.10.2 - TOP HANDRAIL EXTENSION @ STAIRS &
FIG. 505.10.3 - BOTTOM HANDRAIL EXTENSION @ STAIRS

FIG. 505.5 - HANDRAIL CLEARANCE &
FIG. 505.7 - HANDRAIL CROSS SECTIONS

STAIR AND HANDRAIL DETAILS | SCALE NONE | 11

FIG. 404.2.2
CLEAR WIDTH AT DOORWAYS

CLEAR WIDTH OF DOORWAYS | SCALE NONE | 12

FIG. 404.2.3.2
MANEUVERING CLEARANCE AT SLIDING AND FOLDING DOORS

FIG. 404.2.5
TWO DOORS IN A SERIES

FIG. 404.2.3.1
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS

FIG. 404.2.3.3
MANEUVERING CLEARANCE AT DOORWAYS WITHOUT DOORS

FIG. 404.2.3.4
MANEUVERING CLEARANCE AT RECESSED DOORS

MANEUVERING CLEARANCES AT DOORS AND OPENINGS | SCALE NONE | 13

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NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
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7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

GENERAL HANDICAP DETAILS

Date: 03.5.2020

Seal/Signature:

Scale: 1" = 3'-4"

Drawn By #: Author

Chkd By #: Checker

Drawing #: T-011.00

DOB #: 321595083

Sheet #: of

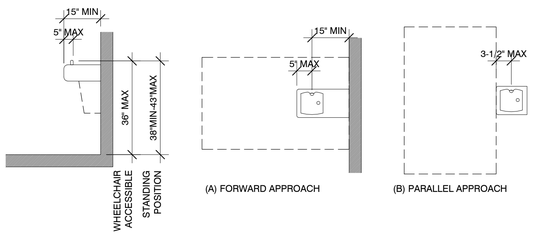


FIG. 602.4
DRINKING FOUNTAIN
SPOUT OUTLET HEIGHT

FIG. 602.5
DRINKING FOUNTAIN
SPOUT LOCATION

DRINKING FOUNTAINS (602)

SCALE NONE — 1

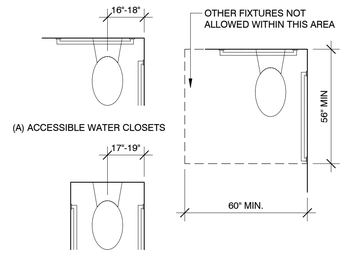


FIG. 604.2
WATER CLOSET LOCATION

FIG. 604.3
CLEAR FLOOR SPACE

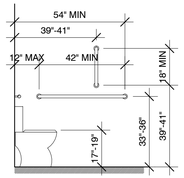


FIG. 604.4.4 & 604.5.1
WATER CLOSET HEIGHT &
SIDE WALL GRAB BAR FOR
WATER CLOSET

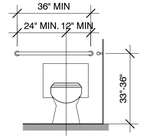


FIG. 604.5.2
REAR WALL GRAB BAR
FOR WATER CLOSET

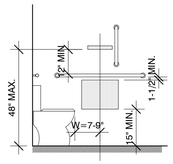
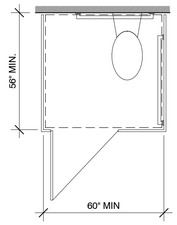
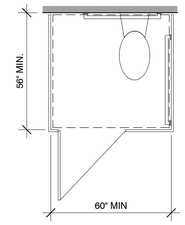


FIG. 604.7 (a & b)
PROTRUDING DISPENSER
LOCATIONS



(A) WALL-HUNG WATER CLOSET



(B) FLOOR-MOUNTED WATER CLOSET

FIG. 604.8.2
WHEELCHAIR ACCESSIBLE TOILET COMPARTMENTS

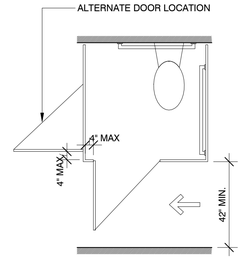


FIG. 604.8.3
WHEELCHAIR ACCESSIBLE
COMPARTMENT DOORS

DIMENSIONS AT WATER CLOSETS (604)

SCALE NONE — 2

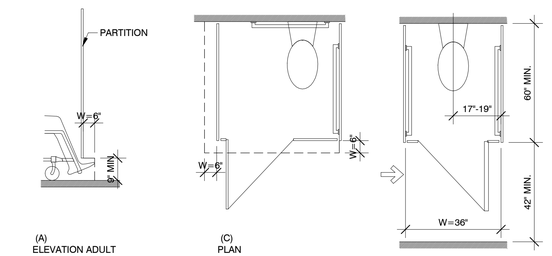


FIG. 604.8.5 WHEELCHAIR ACCESSIBLE
COMPARTMENT TOE CLEARANCE

FIG. 604.9 AMBULATORY
ACCESSIBLE COMPARTMENT

DIMENSIONS AT CLOSETS (CONT'D 604)

SCALE NONE — 2

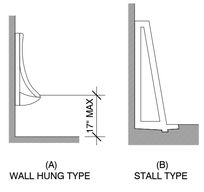


FIG. 605.2
HEIGHT OF URINALS

URINAL HEIGHT (605)

SCALE NONE — 3

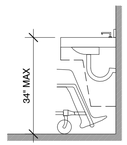


FIG. 606.3
HEIGHT OF LAVATORIES
AND SINKS

SINK HEIGHT

SCALE NONE — 4

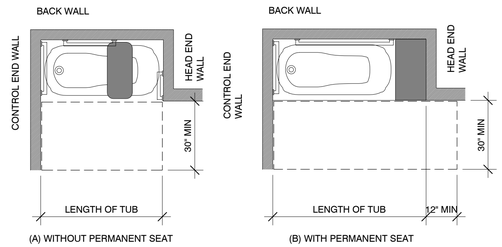
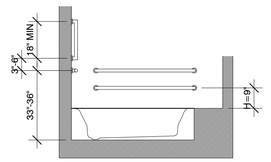


FIG. 607.2
CLEARANCE FOR BATHTUBS



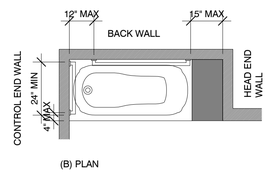
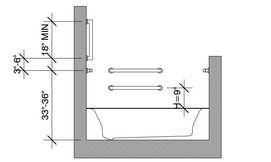


FIG. 607.4.1
GRAB BARS FOR BATHTUBS WITH
PERMANENT SEATS



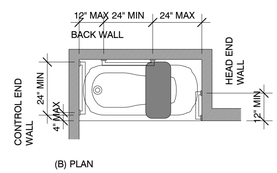


FIG. 607.2
GRAB BARS FOR BATHTUBS WITHOUT
PERMANENT SEATS

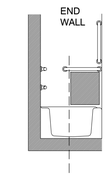
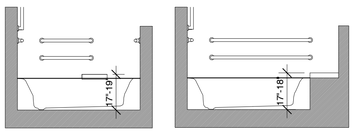


FIG. 607.5
LOCATION OF BATHTUB
CONTROLS

BATHTUB DETAILS (607)

SCALE NONE — 5



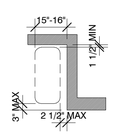


FIG. 610.3.1
RECTANGULAR SHOWER
COMPARTMENT SEAT

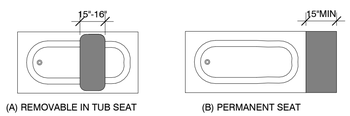


FIG. 610.2
BATHTUB SEATS (A) (B)

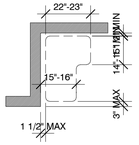


FIG. 610.3.2
L-SHAPED SHOWER
COMPARTMENT SEAT

SEAT (610)

SCALE NONE — 8

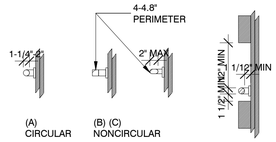


FIG. 609.2
SIZE OF GRAB BARS

FIG. 609.3
SPACING OF GRAB BARS

GRAB BARS (609)

SCALE NONE — 7

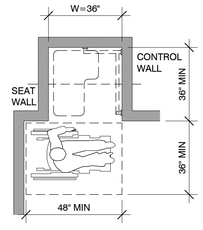


FIG. 608.2.1
TRANSFER TYPE SHOWER
COMPARTMENT SIZE AND CLEARENCE

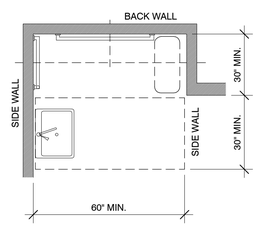


FIG. 608.2.2
STANDARD ROLL-IN-TYPE SHOWER
COMPARTMENT SIZE AND CLEARANCE

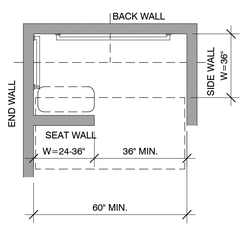


FIG. 608.2.3
ALTERNATE ROLL-IN-TYPE SHOWER
COMPARTMENT SIZE AND CLEARANCE

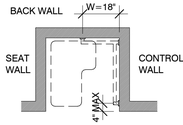


FIG. 608.3.1
GRAB BARS IN
TRANSFER-TYPE SHOWERS

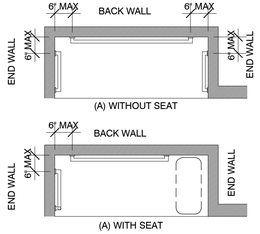


FIG. 608.3.2
GRAB BARS IN STANDARD
ROLL-IN-TYPE SHOWERS

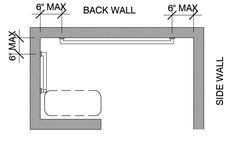


FIG. 608.3.3
GRAB BARS IN ALTERNATE
ROLL-IN-TYPE SHOWERS

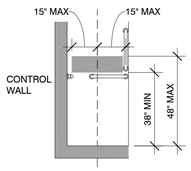


FIG. 608.5.1
TRANSFER-TYPE SHOWER CONTROLS
AND HANDSHOWER LOCATION

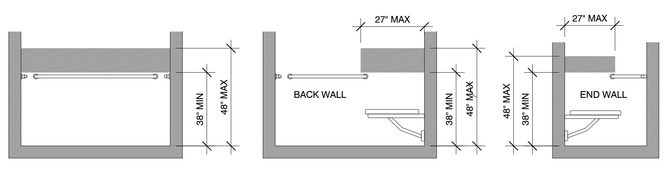


FIG. 608.5.2
STANDARD ROLL-IN-TYPE SHOWER CONTROL
AND HANDSHOWER LOCATION WITH SEAT

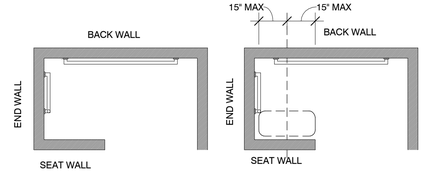


FIG. 608.5.3
ALTERNATE ROLL-IN-TYPE SHOWER
CONTROL AND HANDSHOWER LOCATION

SHOWER COMPONENTS (608)

SCALE NONE — 6

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SOLAR TO BE FILED UNDER SEPARATE APPLICATION

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9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

GENERAL HANDICAP DETAILS

Date: 03.5.2020

Seal/Signature:



Scale:1" = 2'-11"

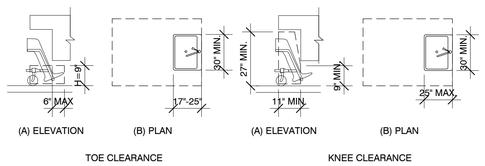
Drawn By #: Author

Chkd By #: Checker

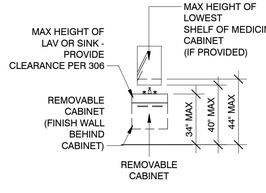
Drawing #:
T-012.00

DOB #: 321595083

Sheet #: of



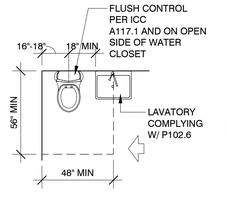
P102.4 & P102.6 - KNEE AND TOE CLEARANCE AT LAVATORY



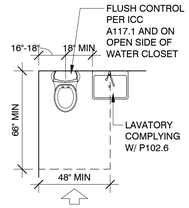
P102.6 & P102.7 - LAVATORY AND MIRROR HEIGHTS

RESIDENTIAL LAVATORIES

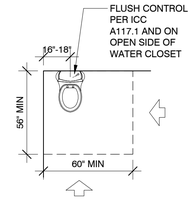
SCALE NONE 1



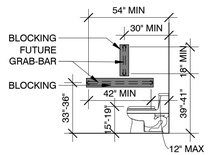
P102.8.2.1 - WATER CLOSET PARALLEL APPROACH



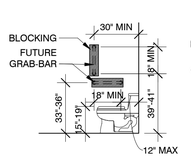
P102.8.2.2 - WATER CLOSET FORWARD APPROACH



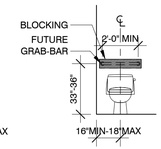
P102.8.2.3 - WATER CLOSET FORWARD AND PARALLEL APPROACH



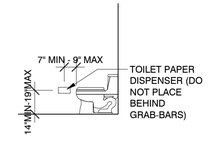
P102.8.3.1 - TOILET SIDEWALL GRAB BARS



P102.8.3.1 -EXCEPTION TOILET SIDEWALL GRAB BARS WHERE SIDEWALL LENGTH FOR 42" GRAB BAR IS NOT AVAILABLE



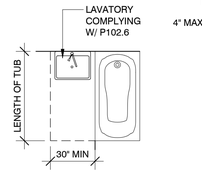
P102.8.3.2 - TOILET REAR GRAB BARS



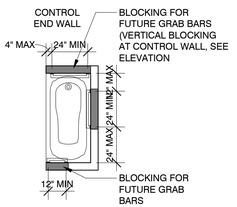
P102.8.3.6 - DISPENSERS

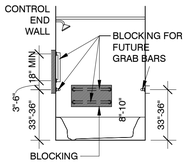
RESIDENTIAL WATER CLOSETS

SCALE NONE 2



P102.9.1 - BATHTUB CLEAR FLOOR SPACE

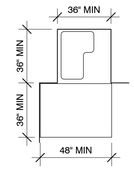




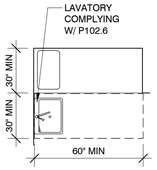
P102.9.1.1 - BATHTUB GRAB-BARS

RESIDENTIAL BATHTUBS

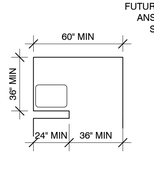
SCALE NONE 3



TRANSFER TYPE SHOWER

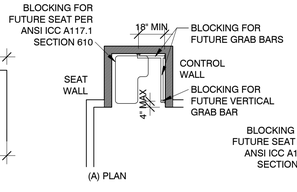


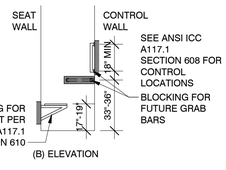
STANDARD ROLL-IN SHOWER



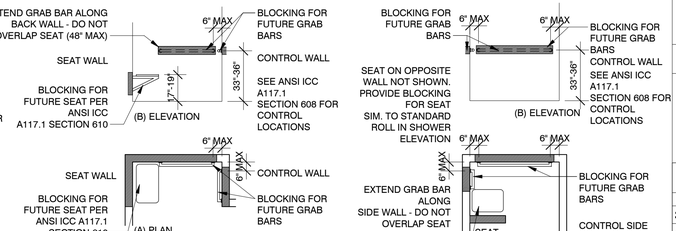
ALTERNATE ROLL-IN SHOWER

P102.9.2 - SHOWER CLEAR FLOOR SPACE





TRANSFER TYPE SHOWER GRAB-BARS



P102.9.2.1 - SHOWER GRAB BARS

STANDARD ROLL-IN TYPE SHOWER GRAB-BARS

ALTERNATE ROLL-IN TYPE SHOWER GRAB-BARS

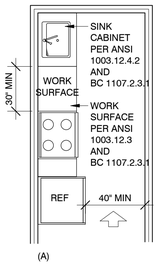
RESIDENTIAL SHOWERS

SCALE NONE 4

ADAPATABLE KITCHEN NOTES:

1) APPLIANCES SHALL COMPLY WITH ICC ANSI A117.1, SECTION 1003.12.5. EXCEPTION: WHERE APPLICANCE CONTROLS ARE NOT IN COMPLIANCE WITH SECTION 309.4 OF ICC A117.1, THE OWNER SHALL PROVIDE APPLIANCES IN COMPLIANCE WITH 309.4 WITHIN 10 DAYS OF A REQUEST BY A TENANT WITH PHYSICAL DISABILITIES, AT THE OWNER'S EXPENSE.

2) COMBINATION REFRIGERATORS & FREEZERS SHALL COMPLY WITH ICC A117.1. IN ADDITION, WHERE LESS THAN 100% OF THE STORAGE VOLUME OF A FREEZER IS LOCATED WITHIN 54" AFF, SUCH FREEZER SHALL BE SELF-DEFROSTING TYPE.
EXCEPTION: WHERE REFRIGERATORS AND FREEZER ARE NOT IN COMPLIANCE WITH THIS SECTION, THE OWNER SHALL PROVIDE SUCH APPLIANCES IN COMPLIANCE WITH THIS SECTION WITHIN 10 DAYS OF A REQUEST BY A TENANT WITH PHYSICAL DISABILITIES, AT THE OWNER'S EXPENSE.



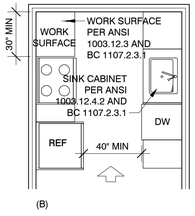


FIG. 1003.12.1.1
MIN. CLEARANCE IN TYPE 'A' KITCHENS

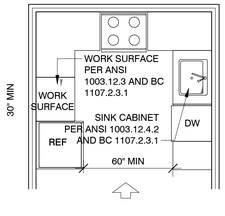
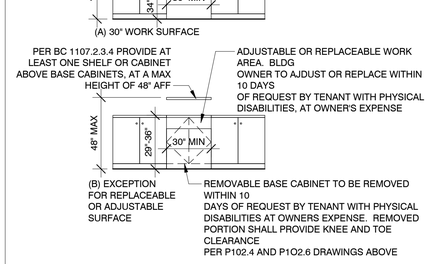


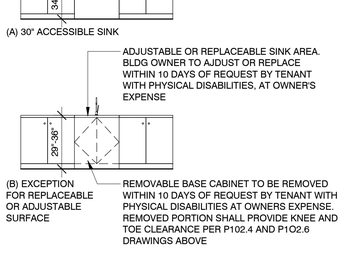
FIG. 1003.12.1.2
U-SHAPED KITCHEN CLEARANCE IN TYPE 'A' UNITS

PRIMARY KITCHEN CLEARANCES (TYPE 'A' AND 'B' UNITS)

SCALE NONE 5



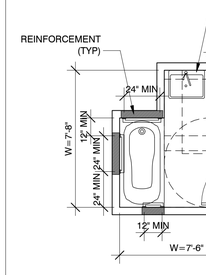
BC 1107.3.2.1 & ANSI 1003.12.3
KITCHEN WORK SURFACE



BC 1107.3.2.1 & ANSI 1003.12.4
ACCESSIBLE SINK AREA

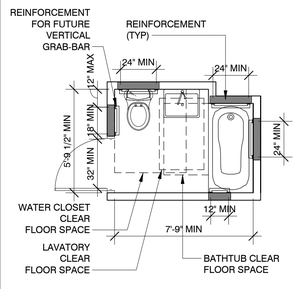
KITCHEN WORK AND SINK SURFACES

SCALE NONE 6



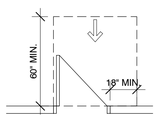
SAMPLE TYPE 'A' BATHROOM

SCALE NONE 7

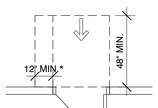


SAMPLE TYPE 'B' BATHROOM

SCALE NONE 8

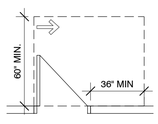


(A) FRONT APPROACH PULL SIDE

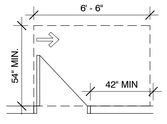


(B) FRONT APPROACH PUSH SIDE

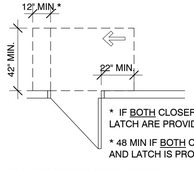
* IF BOTH CLOSER AND LATCH ARE PROVIDED



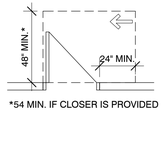
(C) HINGE SIDE, PULL SIDE



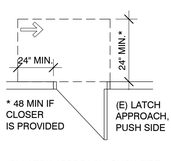
(D) HINGE SIDE, PULL SIDE



(E) HINGE APPROACH, PUSH SIDE



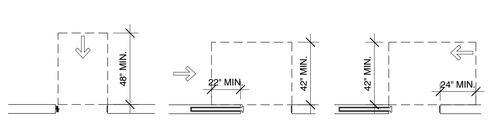
(F) LATCH APPROACH, PUSH SIDE



(G) LATCH APPROACH, PUSH SIDE

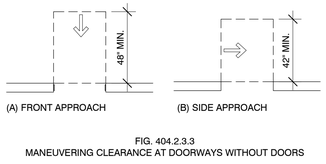
(E) LATCH APPROACH, PUSH SIDE

FIG. 404.2.3.1
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS



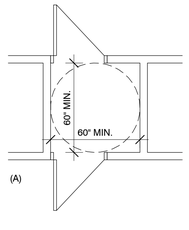
(A) FRONT APPROACH (B) POCKET OR HINGE APPROACH (C) STOP OR LATCH APPROACH

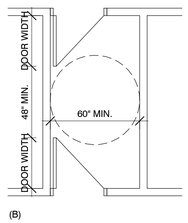
FIG. 404.2.3.2
MANEUVERING CLEARANCE AT SLIDING AND FOLDING DOORS



(A) FRONT APPROACH (B) SIDE APPROACH

FIG. 404.2.3.3
MANEUVERING CLEARANCE AT DOORWAYS WITHOUT DOORS





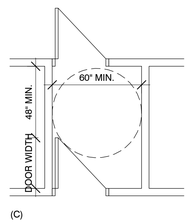


FIG. 404.2.5
TWO DOORS IN A SERIES

MANEUVERING CLEARANCES AT DOORS AND OPENINGS

SCALE NONE 9

PAUL A. CASTRUCCI ARCHITECT

179 RIVINGTON STREET
SUITE 1A
NEW YORK, NEW YORK
10002
TEL 212.254.7060
FAX 212.260.7199
email@castrucciarchitect.com

NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

GENERAL HANDICAP DETAILS

Date: 03.5.2020

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

Seal/Signature:

Drawn By #: Author

Chkd By #: Checker

Drawing #: T-013.00

DOB #: 321595083

Sheet #: of

LIST OF ESTIMATED QUANTITIES

NOTE: ALL QUANTITIES TO BE VERIFIED BY THE CONTRACTORS

MATERIAL	NYC DOT STANDARD DETAIL	QUANTITY
NEW CURB	(H-1044)	240 LIN. FT.
NEW SIDEWALK	(H-1045)	1,200 SQ. FT.
NEW ROADWAY	(H-1034)	540 SQ. YARDS
NEW TREES	PIT A&B, GUARD STYLE K	6 EACH
NEW CBS		___ EACH
NEW DIP		___ LIN. FT.
NEW MANHOLES		___ EACH

STREET STATUS

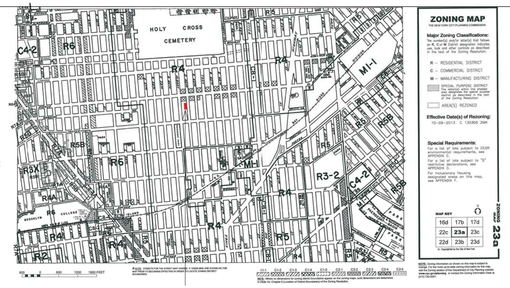
E 40TH STREET:
FINAL MAPPED 30.2'
RECORD WIDTH 30.2'
TITLE VESTED TO THE CITY OF NEW YORK
40'+/- AS IN USE

TREES

6 NEW TREES REQUIRED AS PER ZR 26-41
REFERENCE GUIDELINE FOR LOCATING PLANTING SITES:
- DO NOT PLANT IN FRONT OF ENTRANCE.
- MINIMUM DISTANCE BETWEEN TREES IS 20' - 40'.
- MINIMUM DISTANCE FROM OTHER SIGN 6'
- MINIMUM DISTANCE FROM DRIVEWAY IS 7'

RELATED APPLICATIONS

MAIN BUILDING FILE UNDER DOB JOB #321595083
BPP FILED UNDER DOB JOB #
CURB CUT FILED UNDER DOB NOW# B00348176-11



SITE 604 E 40TH STREET

BUILDERS PAVING PLAN NOTES

GENERAL REQUIREMENTS
1. ALL DESIGNS, MATERIALS, CONSTRUCTION METHODS AND WORKMANS SHALL COMPLY WITH THE FOLLOWING PUBLICATIONS OF THE BUREAU OF HIGHWAYS STANDARD SPECIFICATIONS, STANDARD DETAILS OF CONSTRUCTION RULES AND THE BUREAU OF HIGHWAYS OPERATIONS; GUIDELINES FOR THE DESIGN OF INFRASTRUCTURE COMPONENTS.
2. ALL NON STANDARD MATERIALS AND CONSTRUCTION PROCEDURES SHALL BE SPECIFICALLY APPROVED IN WRITING BY THE DOB.
3. ANY WORK NOT COMPLYING WTTH THE REQUIREMENTS OF THE DOT SHALL BE REMOVED AND REPLACED.
4. THIS PLAN SHALL BE VALID FOR ISSUANCE OF CONSTRUCTION PERMITS FOR A PERIOD OF ONE YEAR FROM THE DATE OF APPROVAL OR SELF-CERTIFICATION, AS APPLICABLE.
5. ALL SIDEWALK AND STREET AREAS CONSTRUCTED UNDER THIS PLAN SHALL REMAIN OPEN TO THE PUBLIC AT ALL TIMES.

ISSUANCE OF PERMITS
6. NO SIDEWALK, CURB OR ROADWAY WORK SHALL BE DONE WITHOUT A PERMIT FROM THE BOROUGH HIGHWAY SUPERINTENDANT. APPLICATION SHALL BE MADE THREE DAYS BEFORE STARTING CONSTRUCTION. THE CONTRACTOR SHALL HAVE ALL REQUIRED INSURANCE COVERAGE ON FILE.
7. NO WORK ON DRAINAGE STRUCTURES SHALL BE DONE WITHOUT A PERMIT FROM THE BOROUGH OFFICE OF THE THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
8. ANY VAULT WORK AT THE SITE SHALL BE DONE AS PER THE APPLICABLE RULES OF THE DOT AND THE DEPT. OF BUILDINGS.

CONSTRUCTION ACTIVITY
9. A CONSTRUCTION PLAN SHOWING MAINTENANCE AND PROTECTION OF TRAFFIC, INCLUDING PLACEMENT OF SIDEWALK BRIDGES, BARRIERS AND SIGNAGE, SHALL BE SUBMITTED TO BOROUGH HIGHWAY OFFICE BEFORE CONSTRUCTION BEGINS.
10. NO SIDEWALK SHALL BE CLOSED WITHOUT A PERMIT. PEDESTRIAN AND TRAFFIC SAFETY SHALL BE PROTECTED AT ALL TIMES. ROADWAY CLOSINGS SHALL BE AS DIRECTED.
11. THE SITE SHALL BE MAINTAINED IN CLEAN AND SAFE CONDITION.

FINAL SIGN-OFF
12. PERMITS SHALL BE PRESENTED FROM ALL PUBLIC AGENCIES AND UTILITIES HAVING OWNERSHIP OF STRUCTURES RELOCATED OR REMOVED DURING CONSTRUCTION.
13. ALL PAVEMENT MARKINGS INCLUDING THERMOPLASTIC LANE DIVIDERS, REMOVED DURING CONSTRUCTION SHALL BE REPLACED IN KIND TO THE BUREAU OF TRAFFIC STDS.
14. ALL EXISTING CATCH BASINS ON SITE SHALL BE CLEANED AND MADE OPERABLE.
15. ALL DAMAGE CAUSED BY CONSTRUCTION ON THIS PROJECT OUTSIDE THE PROJECT LIMITS SHALL BE REPAIRED AS DIRECTED.
16. THE ROADWAY SHALL BE PAVED TO THE REQUIREMENTS OF THE DOB AND AS DIRECTED.

PARKS DEPT. NOTES

·TOTAL NUMBER OF TREES REQUIRED BY NYC DOB: 10
- · EXISTING TREES TO PROTECT 4
- · PROPOSED TREES TO REMOVE OR TRANSPLANT 0 (MUST HAVE DPR APPROVAL AND DOCUMENTATION)
- · PROPOSED TREES TO PLANT ONSITE 6
- · PROPOSED TREES TO PLANT OFFSITE 0
- · TREES TO PAY INTO TREE FUND AS ONSITE TREE PLANTINGS 0
- · TREES TO PAY INTO TREE FUND AS OFFSITE TREE PLANTINGS 0

· WILL FOLLOW ALL NYC PARKS TREE PLANTING SPECIFICATIONS. ALL PIT SIZES INDICATED ARE TO BE FULLY EXCAVATED TO THE DIMENSIONS LABELLED AND REPLACED WITH NEW TOPSOIL TO NYC PARKS STANDARDS.
· NYC PARKS RESERVES THE RIGHT TO REVOKE AN APPROVED PLAN AT ANY TIME. ANY SUBSEQUENT CHANGES (I.E. UTILITIES AND/OR INFRASTRUCTURE - GAS/WATER/ELECTRIC ETC.) TO THE SITE AFTER PLAN APPROVAL, NULLIFIES APPROVAL. CHANGES MUST BE DISCLOSED TO NYC PARKS AND THE APPLICANT MUST SUBMIT AMENDED PLANS FOR REAPPROVAL.
· PLAN APPROVAL BY NYC PARKS DOES NOT CONSTITUTE PERMISSION TO PLANT, REMOVE, TRANSPLANT, OR TO WORK AROUND EXISTING TREES UNDER PARKS JURISDICTION. ANY WORK DONE ON OR NEAR A CITY TREE REQUIRES A PERMIT FROM NYC PARKS. THIS INCLUDES UTILITY, SIDEWALK, TREE PRUNING, TREE REMOVAL OR ANY OTHER WORK WITHIN THE CRITICAL ROOT ZONE OF A TREE UNDER NYC PARKS JURISDICTION. ALL TREES WITHIN 50 FT. OF CONSTRUCTION MUST BE PROTECTED IN ACCORDANCE WITH PARKS STANDARDS THROUGHOUT THE DURATION OF CONSTRUCTION. PROPER PERMIT(S) AND WORK ORDER(S) MUST BE OBTAINED FROM THE CENTRAL FORESTRY OFFICE.

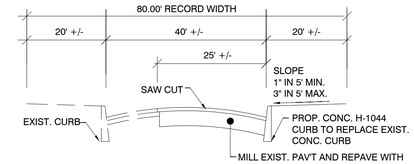
LEGEND/ SYMBOLS

PTC PROPOSED TOP OF CURB
TC TOP OF CURB
BC BOTTOM OF CURB

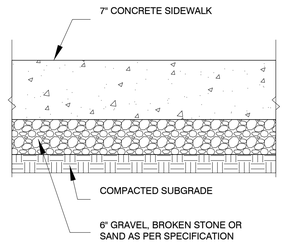
PL PROPERTY LINE

PROPOSED CONCRETE WALKWAY

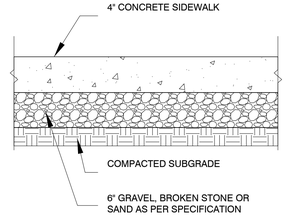
PROPOSED CONCRETE DRIVEWAY



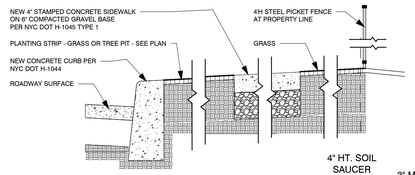
6 SECTION A-A
1 1/2" = 1'-0"



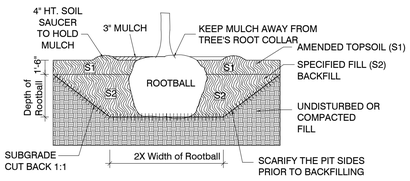
TYPE-2 (DRIVEWAY)



TYPE-1 (PEDESTRIAN WALKWAY)

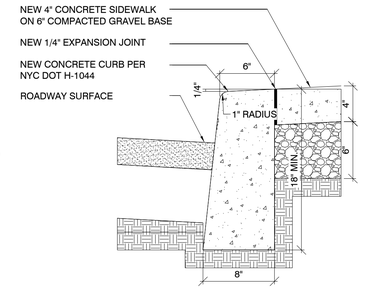


10 SIDEWALK SECTION
3/4" = 1'-0"

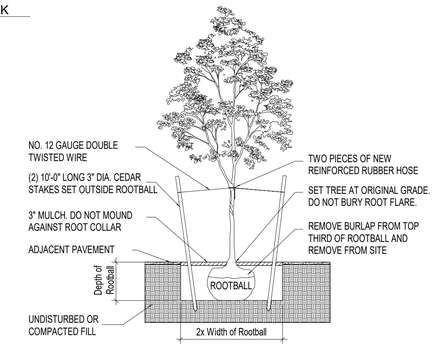


9 Tree Pit Detail 'B'
3/16" = 1'-0"

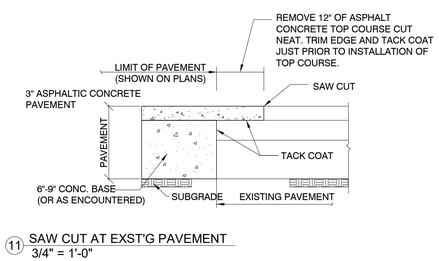
5 NYC DOT H-1045 CONCRETE SIDEWALK
1 1/2" = 1'-0"



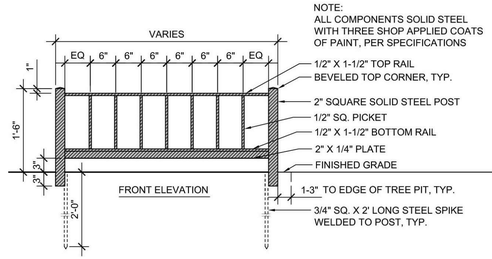
8 NYC DOT H-1044 CONCRETE CURB
1 1/2" = 1'-0"



7 TREE PIT DETAIL 'A'
3/16" = 1'-0"



11 SAW CUT AT EXST'G PAVEMENT
3/4" = 1'-0"



12 Tree Pit Guard Detail
3/16" = 1'-0"

| | | |



PHOTO 1 - FROM EXISTING DRIVEWAY TO STREET



PHOTO 2 - FROM DRIVEWAY DOWN E 40TH ST TO NORTH



PHOTO 3 - FROM SIDEWALK TOWARD NORTH LOT LINE



PHOTO 4 - FROM ACROSS STREET TO NORTH LOT LINE



PHOTO 8 - SIDEWALK DETAIL LOOKING WEST @ ETG' BUILDING EDGE



PHOTO 7 - VIEW SOUTH FROM SIDEWALK @ EXT'G BLG ENTRY



PHOTO 6 - VIEW SOUTH FROM SIDEWALK



PHOTO 5 - VIEW SOUTH FROM SIDEWALK NORTH



PHOTO 9 - SIDEWALK DETAIL SE CORNER LOT LINE



PHOTO 10 - SIDEWALK FROM EAST TOWARD SOUTHERN LOT LINE

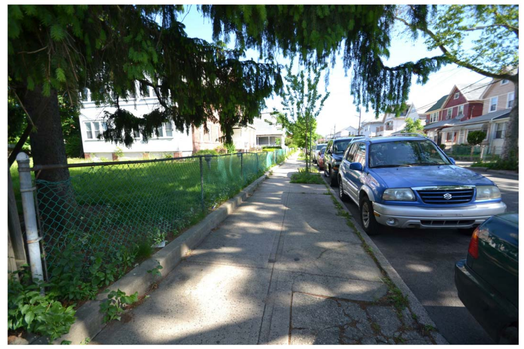


PHOTO 11 - SIDEWALK LOOKING NORTH WEST



PHOTO 11 - SIDEWALK LOOKING NORTH WEST

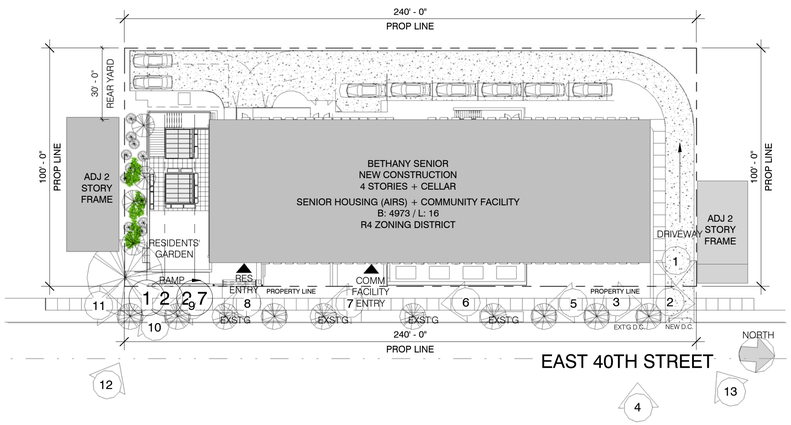


PHOTO 12 - VIEW ACROSS STREET SOUTHEAST CORNER



PHOTO 13 - VIEW FROM ACROSS STREET NORTHEAST CORNER

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NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

BPP PHOTOS

Date: 03.5.2020
Seal/Signature:

Scale: 1" = 30'-0"
Drawn By: Author
Chkd By: Checker
Drawing #: BPP-2.00

DOB #: 321595083
Sheet #: OF -



PHOTO 1



PHOTO 2



PHOTO 3



PHOTO 4



PHOTO 5



PHOTO 6



PHOTO 7



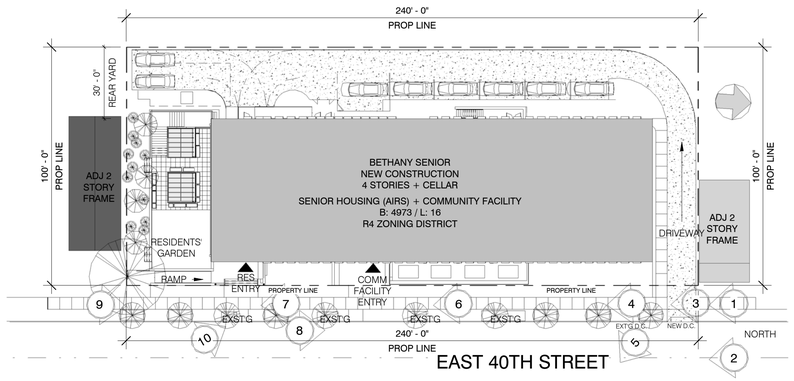
PHOTO 8



PHOTO 9



PHOTO 10



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Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI NEW YORK STATE

DOB #: 321595083

Scale: 1" = 30'-0"

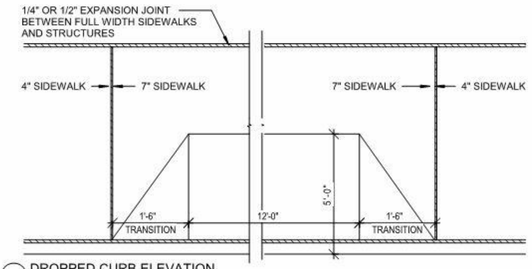
Drawn By: Author

Chkd By: Checker

Drawing #:

BPP-3.00

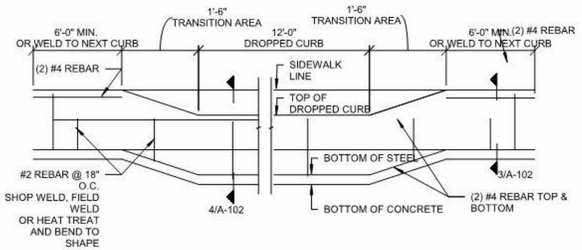
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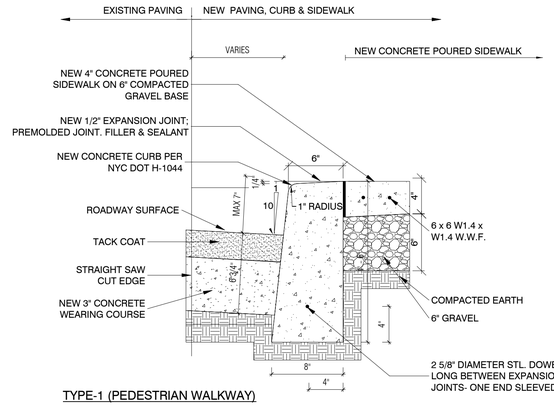
DROPPED CURB ELEVATION
NTS

GENERAL NOTES:

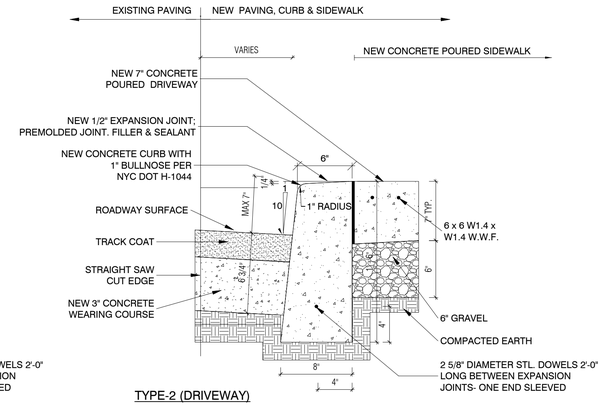
1. CONCRETE SHALL BE CLASS A-40, 4000 P.S.I. AS PER SECTION 3.05 OF HIGHWAY STANDARDS SPECIFICATIONS
2. STEEL REINFORCEMENT SHALL BE AS PER ASTM A615. SEE PROVISION 24, PAGE AA19 OF ADDENDUM NO. 1 TO STANDARD SPECIFICATION.
3. THE SLOPE OF THE TOP OF CURB SHALL CONFORM TO SLOPE OF SIDEWALK IN ALL CASES.
4. EXPANSION JOINTS IN CURB SHALL NOT EXCEED 20'-0" O.C.
5. THE EXPANSION JOINTS OF THE CURB SHOULD LINE UP WITH THE EXPANSION JOINTS IN THE CONCRETE SIDEWALK.
6.RESTORE SIDEWALK AND CURB TO BE IN COMPLIANCE WITH DOT STANDARDS AS PER BC 3201.9 - DOT SLOPE SECTION VIII(F)(2) AND DOT 2-09(F)(4)(XI) AND GUTTER SLOPE SECTION X (F)(3)



DROPPED CURB ELEVATION
NTS

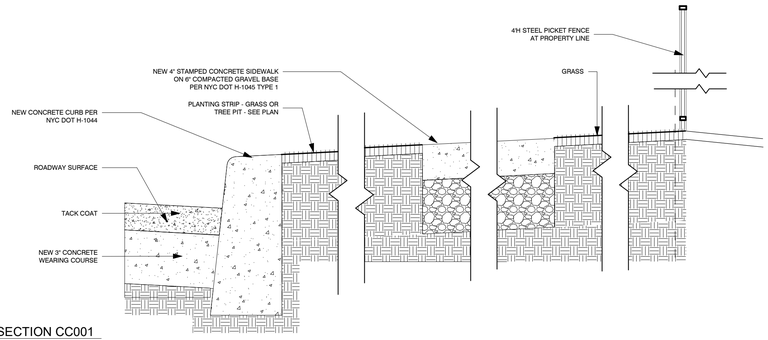


TYPE-1 (PEDESTRIAN WALKWAY)



TYPE-2 (DRIVEWAY)

5 NYC DOT H-1044 CONCRETE CURB DETAIL
1 1/2" = 1'-0"



6 SIDEWALK SECTION CC001
1 1/2" = 1'-0"

GENERAL NOTES
1. ALL DESIGNS, MATERIALS, CONSTRUCTION METHODS AND WORKMANSHIP SHALL COMPLY WITH THE FOLLOWING PUBLICATIONS OF THE BUREAU OF HIGHWAYS: STANDARD SPECIFICATIONS, STANDARD DETAILS OF CONSTRUCTION; RULES OF THE BUREAU OF HIGHWAYSOPERATIONS; GUIDELINES FOR THE DESIGN OF INFRASTRUCTURE COMPONENTS.
2. ALL NON STANDARD MATERIALS AND CONSTRUCTION PROCEEDURESSHALL BE SPECIFICALLY APPROVED IN WRITING BY DOT.
3. ANY WORK NOT COMPLYING WITH THE REQUIREMENTS OF THE DOT SHALL BE REMOVED AND REPLACED.
4. THIS PLAN SHALL BE VALID FOR THE ISSUANCE OF CONSTRUCTION PERMITS FOR A PEROID OF ONE YEAR FROM THE DATE OF APPROVAL OR SELF-CERTIFICATION, AS APPLICABLE.
5. ALL SIDEWALK AND STREET AREAS CONSTRUCTED UNDER THIS PLAN SHALL REMAIN OPEN TO THE PUBLIC AT ALL TIMES

ISSUANCE OF PERMITS
6. NO SIDEWALK, CURB OR ROADWAY WORK SHALL BE DONE WITHOUT A PERMIT FROM THE BOROUGH HIGHWAY SUPERINTENDANT. APPLICATION SHALL BE MADE THREE DAYS BEFORE STARTING CONSTRUCTION. THE CONTRACTOR SHALL HAVE ALL REQUIRED INSURANCE COVERAGE ON FILE.
7. NO WORK ON DRAINAGE STRUCTURES SHALL BE DONE WITHOUT A PERMIT FROM THE BOROUGH OFFICE OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
8. ANY VAULT WORK AT THE SITE SHALL BE DONE AS PER THE APPLICABLE RULES OF THE DOT AND THE DEPT. OF BUILDINGS.

CONSTRUCTION ACTIVITY
9. A CONSTRUCTION PLAN SHOWING MAINTENANCE AND PROTECTION OF TRAFFIC, INCLUDING PLACEMENT OF SIDEWALK BRIDGES, BARRIERS AND SIGNAGE, SHALL BE SUBMITTED TO THE BOROUGH HIGHWAY OFFICE BEFORE CONSTRUCTION BEGINS.
10. NO SIDEWALK SHALL BE CLOSED WITHOUT A PERMIT. PEDESTRIAN AND TRAFFIC SAFETY SHALL BE PROTECTED AT ALL TIMES. ROADWAY CLOSINGS SHALL BE AS DIRECTED.
11. THE SITE SHALL BE MAINTAINED IN A CLEAN AND SAFE CONDITION.

FINAL SIGN-OFF
12. PERMITS SHALL BE PRESENTED FROM ALL PUBLIC AGENCIES AND UTILITIES HAVING OWNERSHIP OF STRUCTURES RELOCATED OR REMOVED DURING CONSTRUCTION.
13. ALL PAVEMENT MARKINGS INCLUDING THERMOPLASTIC LAND DIVIDERS, REMOVED DURING CONSTURCTION SHALL BE REPLACED IN KIND TO THE BUREAU OF TRAFFIC STDS.
14. ALL EXISTING CATCH BASINS ON SITE SHALL BE CLEANED AND MADE OPERABLE.
15. ALL DAMAGE COUSED BY CONSTRUCTION ON THIS PROJECT OUTSIDE THE PROJECT LIMITS SHALL BE REPAIRED AS DIRECTED.
16. THE ROADWAY SHALL BE PAVED TO THE REQUIREMENTS OF THE DOT AS DIRECTED.

PROTECTION OF PEDESTRIANS
17. PEDESTRIANS SHALL BE PROTECTED PER SECTION BC2008 3307.3.

ADDITIONAL NOTES
18. ALL NEW SIDEWALKS, EXCEPT AT DRIVEWAYS AND CORNER QUADRANTS, SHALL BE AT LEAST 4 INCHES THICK B-3200 CONCRETE LAID ON 6 INCHES MINIMUM COMPACTED SAND, GRAVEL, OR BROKEN STONE BASE, IN ACCORDANCE WITH THE LATEST HIGHWAY SPECIFICATIONS. ALL DRIVEWAYS AND CORNER QUADRANTS SHALL BE 7 INCH B-3200 CONCRETE.
19. SIDEWALKS SHALL BE SCORED IN PATTERNS OF 5 FOOT SQUARES WITH EXPANSION JOINTS AT 20 FEET MAXIMUM ON CENTER. CURBS AND SIDEWALKS SHALL NOT BE POURED MONOLITHICALLY AND ALL EXPANSION JOINTS SHALL BE 1/4 INCH IN WIDTH. EXPANSION JOINTS IN CURBS SHALL BE LOCATED NOT TO EXCEED TWENTY-FOUR (24') FEET OR AS DIRECTED BY THE BOROUGH ADMINISTRATIVE SUPERINTENDENT.
20. WHERE A NEW PAVEMENT IS INSTALLED, THE CONTRACTOR IS RESPONSIBLE FOR THE ADJUSTMENT OF ALL MANHOLE COVERS, GAS AND WATER BOXES, ETC.. AS REQUIRED TO MEETTHE NEW ROADWAY.
21. ALL CURB RETURNS ARE TO HAVE 12 FOOT RADIUS. THE CONTRACTOR IS ADVISED THAT IN ORDER TO MEET THE REQUIRED MAXIMUM 8% SLOPE ON PEDESTRIAN RAMPS, THE CONSTRUCTION METHOD EMPLOYED TO BUILD UP PEDESTRIAN RAMPS MUST ADHERE TO THE LATEST SPECIFICATIONS OF HIGHWAY STANDARD DRAWING H-1011-SS(2). ANY AND ALL VARIATIONS FROM THIS DETAIL OF CONSTRUCTION MUST HAVE THE JOINT APPROVAL OF BOTH THE CHIEF ENGINEER OF DESIGN AND THE CHIEF ENGINEER OF CONSTRUCTION.
22. ALL EXISTING AND/OR PROPOSED GUTTER FLOW SHALL BE MAINTAINED SO AS NOT TO CAUSE ANY PONDING CONDITIONS ABUTTING OR ADJACENT TO THE SITE.
23. WHERE NEW OR EXISTING HYDRANTS ARE IN DIRT AREAS, A CONCRETE SLAB, 6 INCHES THICK ON 3 INCHES OF BROKEN STONE, TWO (2) FEET IN LEAST DIMENSION FROM THE OUTER PERIMETER OF THE HYDRANT, SHALL BE CONSTRUCTED FROM THE CURB TO THE FRONT EDGE OF THE EXISTING OR PROPOSED SIDEWALK. ALL NEW OR RELOCATED OR RESET HYDRANTS SHALL REQUIRE STEEL HYDRANT FENDERS. CONSTRUCTED IN ACCORDANCE WITH THE BUREAU OF WATER SUPPLY STANDARDS.
24. NEW SIDEWALK AND CURB INSTALLATIONS ARE TO MEET EXISTING CONDITIONS AT ADJACENT PROPERTY LINES WITH NO TRIP HAZARDS.
25. ALL NEW TREES, TREE PLANTERS, SPACING, SPECIES, TREE PIT SIZES AND DESIGNS ARE SUBJECT TO THE PARKS DEPARTMENT APPROVAL. A PERMIT FROM THE PARKS DEPARTMENT MUST BE OBTAINED AND SUBMITTED TO THE HIGHWAY BOROUGH OFFICE PRIOR TO INSTALLATION.
26. WHEN FIRE HYDRANTS ARE TO BE REMOVED OR RELOCATED, A WRITTEN APPROVAL MUST BE OBTAINED FROM THE FIRE DEPARTMENT AND THE BUREAU OF WATER SUPPLY PRIOR TO ANY APPROVALS BEING ISSUED BY THE BUREAU OF HIGHWAY OPERATIONS. ALL FIRE HYDRANT RELOCATIONS ARE TO BE DONE AT THE EXPENSE OF THE BUILDER.
27. ANY APPROVED BUILDER'S PAVEMENT PLAN DOES NOT CONSTITUTE AN APPROVAL FOR VAULT CONSTRUCTION AND/OR ALTERATION. SEPARATE PLANS MUST BE SUBMITTED TO THE RESPECTIVE BOROUGH OFFICE FOR REVIEW AND APPROVAL.

NOTES:
1. ALL MATERIALS AND CONSTRUCTION METHODS USED ARE TO CONFORM TO SECTION # 4.16 OF THE BUREAU OF HIGHWAY OPERATIONS SPECIFICATIONS, LATEST EDITION.
2. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL OBTAIN THE NECESSARY PERMIT FROM THE DEPT. OF PARKS AND RECREATION FROM THE REMOVAL AND PLANTING OF TREES.
3. TREE PITS SHOULD BE LOCATED TWO (2) FEET MINIMUM FROM GAS, OIL OR WATER BOZES.
4. TREE STAKES ARE TO BE REMOVED BY THE TREE SUBCONTRACTOR NOTLESS THAN ONE YEAR AFTER PLANTHING OF SAID TREES AND PRIOR TO THE FINAL ACCEPTANCE OF THE WORK.
5.USE OF SIDEWALK PAVEMENT MATERIALS OTHER THAN GRANITE BLOCK MUST BE SPECIFICALLY APPROVED. IN WRITING, BY THE BUREAU OF HIGHWAY OPERATIONS.
6. GRANITE BLOCK IN TREE PIT SHALL BE PAID FOR UNDER ITEM No. 6.06.
7. EXACT LOCATIONS OF TREES TO BE DETERMINED BY THE DEPARTMENT OF PARKS AND RECREATION.
8. ALL PIT SIZES ARE TO BE FULLY EXCAVATED TO THE DIMENSIONS LABELED AND REPLACED WITH NEW TOPSOIL TO NYC PARKS STANDARDS.

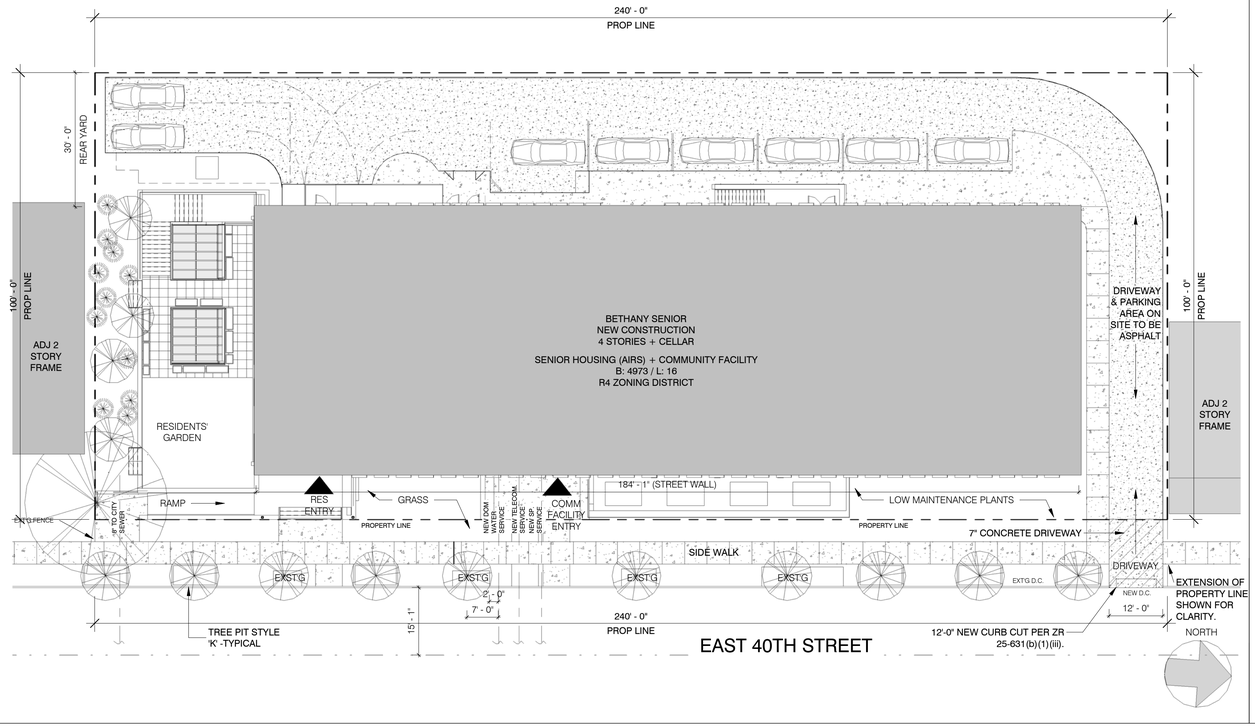
LIST OF STANDARDS

1. NEW CONCRETE CURB PER	H-1044
2. NEW PEDESTRIAN RAMP PER	H-1011-R09/06
3. NEW CURB DROP PER	H-1015-R79
4.CONCRETE CURB PER	H-1044
5. 4" CONC. SIDEWALK PER	H-1045 TYPE I
6. 7" CONC. SIDEWALK PER	H-1045 TYPE II
7. NEW TREES IN TREE PITS PER	H-1046
8. ASPHALTIC CONCRETE	H-1032 R79
9. NEW CATCH BASINS	
10. NEW PAVEMENTS	
11. EXIST. ADJACENT CONC. SIDEWALK AND CURB	

FENDER GUARDS FOR F,H, PER DEP STD 45161Z WHICHEVEI IS APPLICABLE

NOTE: THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND USING
THE LATEST DEPT. OF TRANSPORTATION CONSTRUCTION DETAILS AND SPECIFICATIONS.

WILL CONTACT NYC PARKS IF ANY UNDERGROUND INFRASTRUCTURE (GAS/WATER/ELECTRIC ETC.) AFFECTS ANY PROPOSED/EXISTING TREES ON SITE. PROJECT MANAGER IS AWARE THAT ANY WORK DONE ON OR NEAR A CITY TREE REQUIRES A PERMIT FROM NYC PARKS. THIS INCLUDES UTILITY, SIDEWALK, PRUNING OR ANY OTHER WORK WITHIN THE DRIPLINE OF A TREE (WITHIN THE RIGHT OF WAY) DONE BY THE GENERAL CONTRACTOR OR ANY SUBCONTRACTORS. WILL FOLLOW NYC PARKS PLANTING & FORESTRY SPECIFICATIONS. UTILITIES MAY NOT BE LABELED. IF UNKNOWN, THE PROJECT MANAGER MUST AMEND PLAN WITH NYC PARKS IN THE FUTURE.



CURB CUT APPLICATION

LOCATION: 604 EAST 40TH STREET

BLOCK: 4973
ZONE: R4
MAP #23A

OWNER: RISEBORO COMMUNITY PARTNERSHIP

RELATED APPLICATIONS

MAIN BUILDING FILE UNDER DOB JOB #321595083
BPP FILED UNDER DOB JOB # _
CURB CUT FILED UNDER DOB NOW# B00348176-I1

LIST OF ESTIMATED QUANTITIES

NOTE: ALL QUANTITIES TO BE VERIFIED BY THE CONTRACTORS

MATERIAL	NYC DOT STANDARD DETAIL	QUANTITY
NEW CURB	(H-1044)	240 LIN. FT.
NEW SIDEWALK	(H-1045)	1,200 SQ. FT.
NEW ROADWAY	(H-1034)	540 SQ. YARDS
NEW TREES	PIT A&B, GUARD STYLE K	6 EACH
NEW CBS		EACH
NEW DIP		LIN. FT.
NEW MANHOLES		EACH

TREES

6 NEW TREES REQUIRED AS PER ZR 26-41
REFERENCE GUIDELINE FOR LOCATING PLANTING SITES:
- DO NOT PLANT IN FRONT OF ENTRANCE.
- MINIMUM DISTANCE BETWEEN TREES IS 20' - 40'.
- MINIMUM DISTANCE FROM OTHER SIGN 6'
- MINIMUM DISTANCE FROM DRIVEWAY IS 7'

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9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

CURB CUT

Date: 03.5.2020
Seal/Signature:
LICENSED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

Scale: As indicated
Drawn By: Author
Chkd By: Checker
Drawing #: CC-001.00
DOB #: 321595083
Sheet #: OF -

COMcheck Software Version COMcheckWeb

Envelope Compliance Certificate

Project Information

Energy Code:	2016 New York City Energy Conservation Code
Project Title:	Bethany Senior Copy 2
Location:	New York, New York
Climate Zone:	4a
Project Type:	New Construction
Vertical Glazing / Wall Area:	22%
Skylight / Roof Area	1%

Construction Site: Owner/Agent: Designer/Contractor:

Additional Efficiency Package(s)

High efficiency HVAC Systems that do not meet the performance requirement will be identified in the mechanical requirements checklist report.

Building Area	Floor Area
1-Residential area (Multifamily) : Residential	36099
2-Community Facility Offices (Office) : Nonresidential	2931

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor[a]
R_Roof: Other Metal Building Roof, [Bldg. Use 1 - Residential area] (b)	12136	---	---	0.021	0.035
Skylight: Metal Frame: Glass, with Curb, Perf. Specs.: Product ID TBD, SHGC 0.39, [Bldg. Use 1 - Residential area] (c)	80	---	---	0.125	0.500
F_2nd Floor Overhang: Other (U-Factor option), [Bldg. Use 1 - Residential area] (b)	39	---	---	0.024	0.033
S_Floor Slab Residential: Other (U-Factor option), [Bldg. Use 1 - Residential area] (b)	9497	---	---	0.125	0.033
S_Floor Slab Community: Other (U-Factor option), [Bldg. Use 2 - Community Facility Offices] (b)	1733	---	---	0.125	0.033
NORTH					
W1_North: Other (U-Factor option), Normal Density, Furring: None, Wall Ht 9.0, Depth B.G. 9.0, Heat capacity 0.0, [Bldg. Use 1 - Residential area] (b)	212	---	---	0.042	0.119
W3_north: Other Metal Building Wall, [Bldg. Use 1 - Residential area] (b)	2876	---	---	0.032	0.052
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	96	---	---	0.150	0.380
Door: , Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	21	---	---	0.280	0.770
EAST					
W1_East: Other (U-Factor option), Normal Density, Furring: None, Wall Ht 9.0, Depth B.G. 9.0, Heat capacity 0.0, [Bldg. Use 1 - Residential area] (b)	1377	---	---	0.042	0.119
W3_east: Other Metal Building Wall, [Bldg. Use 1 - Residential area] (b)	7568	---	---	0.032	0.052
Door: , Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 -	48	---	---	0.280	0.770

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor[a]
Residential area] (c)					
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	1667	---	---	0.150	0.380
Window: Metal Frame Curtain Wall/Storefront, Fixed, Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	192	---	---	0.280	0.380
Window: Metal Frame Curtain Wall/Storefront, Operable, Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	200	---	---	0.280	0.450
SOUTH					
W1_South: Other (U-Factor option), Normal Density, Furring: None, Wall Ht 9.0, Depth B.G. 9.0, Heat capacity 0.0, [Bldg. Use 1 - Residential area] (b)	191	---	---	0.042	0.119
W3_south: Other Metal Building Wall, [Bldg. Use 1 - Residential area] (b)	2876	---	---	0.032	0.052
Glass Doors: , Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	96	---	---	0.260	0.770
window: Metal Frame Curtain Wall/Storefront, Fixed, Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	416	---	---	0.280	0.380
Window: Metal Frame Curtain Wall/Storefront, Operable, Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	18	---	---	0.280	0.450
WEST					
W1_West: Other (U-Factor option), Normal Density, Furring: None, Wall Ht 9.0, Depth B.G. 9.0, Heat capacity 0.0, [Bldg. Use 1 - Residential area] (b)	1123	---	---	0.042	0.119
W2_south: Other Metal Building Wall, [Bldg. Use 1 - Residential area] (b)	348	---	---	0.031	0.052
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	120	---	---	0.150	0.380
Door: , Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	21	---	---	0.280	0.770
W3_west: Other Metal Building Wall, [Bldg. Use 1 - Residential area] (b)	7568	---	---	0.032	0.052
Door: , Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	21	---	---	0.280	0.770
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	1802	---	---	0.150	0.380
W2_west: Other Metal Building Wall, [Bldg. Use 1 - Residential area] (b)	279	---	---	0.031	0.052
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	54	---	---	0.150	0.380
Door: , Perf. Specs.: Product ID TBD, SHGC 0.30, [Bldg. Use 1 - Residential area] (c)	60	---	---	0.280	0.770

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) 'Other' components require supporting documentation for proposed U-factors.
(c) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.

Envelope PASSES: Design 20% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2016 New York City Energy Conservation Code requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Paul A. Castrucci — Name - Title
P. A. Castrucci — Signature
04/22/2020 — Date

COMcheck Software Version COMcheckWeb

Inspection Checklist

Energy Code: 2016 New York City Energy Conservation Code

Requirements: 0.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR1][1]	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.1 [PR10][1]	The vertical fenestration area <= 30 percent of the gross above-grade wall area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.1 [PR11][1]	The skylight area <= 3 percent of the gross roof area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.2 [PR14][1]	In enclosed spaces > 2,500 ft2 directly under a roof with ceiling heights >15 ft. and used as an office, lobby, atrium, concourse, corridor, storage, gymnasium/exercise center, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distribution/sorting area, transportation, or workshop, the following requirements apply: (a) the daylight zone under skylights is >= half the floor area; (b) the skylight area to daylight zone is >= 3 percent with a skylight VT >= 0.40; or a minimum skylight effective aperture >= 1 percent.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	
C402.4.2.2 [PR15][1]	Skylights in office, storage, automotive service, manufacturing, non-refrigerated warehouse, retail store, and distribution/sorting area have a measured haze value > 90 percent unless designed to exclude direct sunlight.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.1 [PR17][1]	PTAC/PTHP penetration through thermal envelope - When penetrations from mechanical equipment listed in Table C403.2.3(3) exceeds 1 percent of the opaque above-grade wall area, the penetration area is represented as an envelope wall assembly of similar type having size equal to penetration area and proposed U-0.5.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C303.2 [FO2][1]	Below-grade wall insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2.1 [FO6][1]	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.1.4 [FO1][2]	Below-grade wall insulation R-value.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Complies?	Comments/Assumptions
C303.1.3 [FR12][2]	Fenestration products rated in accordance with NFRC.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.1.3 [FR13][1]	Fenestration products are certified as to performance labels or certificates provided.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.3 [FR10][1]	Vertical fenestration SHGC value.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.3 [FR11][1]	Skylight SHGC value.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.3, C402.4.3.4 [FR8][1]	Vertical fenestration U-Factor.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.3.4 [FR9][1]	Skylight fenestration U-Factor.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.4 [FR14][2]	U-factor of opaque doors associated with the building thermal envelope meets requirements.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.7 [FR17][1]	Vestibules are installed on all building entrances. Doors have self-closing devices.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.5.5, C403.2.4.3 [ME3][3]	Stair and elevator shaft vents have motorized dampers that automatically close.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	FILED UNDER MECH. APPLICATION
C402.5.5, C403.2.4.3 [ME58][3]	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	FILED UNDER MECH. APPLICATION

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

COMMISSIONING IS REQUIRED FOR THIS JOB. SEE ELECTRICAL, PLUMBING AND MECHANICAL ENERGY ANALYIS FOR SPECIFIC REQUIREMENTS RELATED TO EACH TRADE

PROFESSIONAL STATEMENT:
THIS PROJECT/BUILDING COMPLIES WITH NYCECC 2016

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4.7.2020

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NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
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Drawing Title:

COMCHECK ANALYSIS - ENVELOPE

Date: 03.5.2020
Scale:
Seal/Signature:
Drawn By: Author
Chkd By: Checker
Drawing #: EN-001.00
DOB #: 321595083
Sheet #: OF -

Section # & Req.ID	Insulation Inspection	Complies?	Comments/Assumptions
C303.1 [IN3][1]	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.1 [IN10][2]	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2 [IN7][1]	Above-grade wall insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2, C402.2.4 [IN9][2]	Floor insulation installed per manufacturer's instructions. Cavity or structural slab insulation installed in permanent contact with underside of decking or structural slabs.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2.1 [IN14][2]	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.2.1 [IN4][1]	Skylight curbs are insulated to the level of roofs with insulation above deck or R-5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.2.1 [IN17][2]	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement compliant if insulation is installed accordingly.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C104 [IN6][1]	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C104 [IN8][2]	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.6 [IN18][2]	Radiant panels and associated components, designed for heat transfer from the panel surfaces to the occupants or indoor space are insulated with a minimum of R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.1.1 [IN1][1]	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Insulation Inspection	Complies?	Comments/Assumptions
C402.5.1.3 [IN20][1]	Air barrier testing: New buildings comply with following requirements: 1. New buildings 25,000 ft2 and greater, but less than 50,000 ft2, and less than or equal to 75 feet in height show compliance through testing in accordance with ASTM E 779 and department rules. 2. New buildings 50,000 ft2 and greater, will test or inspect each type of unique air barrier joint or seam in the building envelope for continuity and defects, as per an Air Barrier Continuity Plan developed by a registered design professional and department rules. 3. Rules governing air barrier testing promulgated by the department	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C402.5 [FI55][1]	Building envelope contains a continuous air barrier that has been tested and deemed to limit air leakage <= 0.40 cfm/ft2.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.6 [FI37][1]	Weatherseals installed on all loading dock cargo doors.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	
C402.2.7 [FI100][2]	Wood-burning fireplaces have tight fitting flue dampers and outdoor air for combustion.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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COMMERCIAL BUILDINGS. THE PROGRESS INSPECTIONS AND TESTS DESCRIBED IN TABLE II SHALL BE PERFORMED FOR BUILDINGS PER ECC CHAPTER 4.

PROGRESS INSPECTIONS TABLE II - FOR ENERGY CODE COMPLIANCE - COMMERCIAL BUILDNGS

	INSPECTION / TEST	FREQUENCY (MINIMUM)	REFERENCE STANDARD (SEE ECC CHAPTER 6) OR OTHER CRITERIA	ECC OR OTHER CITATION	STATUS FOR THIS JOB
IIA	**ENVELOPE INSPECTIONS**				
IIA1	PROTECTION OF EXPOSED FOUNDATION INSULATION: INSULATION SHALL BE VISUALLY INSPECTED TO VERIFY PROPER PROTECTION WHERE APPLIED TO THE EXTERIOR OF BASEMENT OR CELLAR WALLS, CRAWL-SPACE WALLS AND/OR THE PERIMETER OF SLAB-ON-GRADE FLOORS.	AS REQUIRED DURING FOUNDATION WORK AND PRIOR TO BACKFILL	APPROVED CONSTRUCTION DOCUMENTS	C303.2.1; ASHRAE 90.1 - 5.8.1.7	REQUIRED
IIA2	INSULATION PLACEMENT AND R-VALUES: INSTALLED INSULATION FOR EACH COMPONENT OF THE CONDITIONED SPACE ENVELOPE AND AT JUNCTIONS BETWEEN COMPONENTS SHALL BE VISUALLY INSPECTED TO ENSURE THAT THE R-VALUES ARE MARKED, THAT SUCH R-VALUES CONFORM TO THE R-VALUES IDENTIFIED IN THE CONSTRUCTION DOCUMENTS AND THAT THE INSULATION IS PROPERLY INSTALLED. CERTIFICATIONS FOR UNMARKED INSULATION SHALL BE SIMILARLY VISUALLY INSPECTED.	AS REQUIRED TO VERIFY CONTINUOUS ENCLOSURE WHILE WALLS, CEILINGS AND FLOORS ARE OPEN	APPROVED CONSTRUCTION DOCUMENTS	C303.1, C303.1.1, C303.1.2, C402.1, C402.2; ASHRAE 90.1 -5.5, 5.6 OR 11; 5.8.1	REQUIRED
IIA3	FENESTRATION THERMAL VALUES AND PRODUCT RATINGS: U-FACTORS AND SHGC VALUES OF INSTALLED FENESTRATION SHALL BE VISUALLY INSPECTED FOR CONFORMANCE WITH THE U-FACTORS AND SHGC VALUES IDENTIFIED IN THE CONSTRUCTION DRAWINGS BY VERIFYING THE MANUFACTURER'S NFRC LABELS OR, WHERE NOT LABELED, USING THE RATINGS IN ECC TABLES 303.1.3(1), (2) AND (3). WHERE ASHRAE 90.1 IS USED, VISIBLE LIGHT TRANSMITTANCE VALUES SHALL ALSO BE VERIFIED.	AS REQUIRED DURING INSTALLATION	AS REQUIRED DURING INSTALLATION	C303.1, C303.1.3, C402.3; ASHRAE 90.1 -5.5; 5.6 OR 11; 5.8.2	REQUIRED
IIA4	FENESTRATION AND DOOR ASSEMBLY PRODUCT RATINGS FOR AIR LEAKAGE: WINDOWS AND SLIDING OR SWINGING DOOR ASSEMBLIES, EXCEPT SITE-BUILT WINDOWS AND/OR DOORS, SHALL BE VISUALLY INSPECTED TO VERIFY THAT INSTALLED ASSEMBLIES ARE LISTED AND LABELED BY THE MANUFACTURER TO THE REFERENCED STANDARD. FOR CURTAIN WALL, STOREFRONT GLAZING, COMMERCIAL ENTRANCE DOORS AND REVOLVING DOORS, THE TESTING REPORTS SHALL BE REVIEWED TO VERIFY THAT THE INSTALLED ASSEMBLY COMPLIES WITH THE STANDARD CITED IN THE APPROVED PLANS.	AS REQUIRED DURING INSTALLATION; PRIOR TO FINAL CONSTRUCTION INSPECTION	NFRC 400, AAMA/WDMA/ CSA 101/I.S.2/A440 ASTM E283; ANSI/DASMA 105	C402.4.3; ASHRAE 90.1 -5.4.3.2	REQUIRED
IIA5	FENESTRATION AREAS: DIMENSIONS OF WINDOWS, DOORS AND SKYLIGHTS SHALL BE VERIFIED BY VISUAL INSPECTION.	PRIOR TO FINAL CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	C402.3; ASHRAE 90.1 - 5.5.4.2, 5.6 OR 11	REQUIRED
IIA6	SEALING: OPENINGS AND PENETRATIONS IN THE BUILDING ENVELOPE, INCLUDING SITE-BUILT FENESTRATION AND DOORS, SHALL BE VISUALLY INSPECTED TO VERIFY THAT A CONTINUOUS AIR BARRIER AROUND THE ENVELOPE FORMS AN AIR-TIGHT ENCLOSURE. THE PROGRESS INSPECTOR SHALL VISUALLY INSPECT TO VERIFY THAT MATERIALS AND/OR ASSEMBLIES HAVE BEEN TESTED AND MEET THE REQUIREMENTS OF THE RESPECTIVE STANDARDS, OR THAT THE BUILDING IS TESTED AND MEETS THE REQUIREMENTS OF THE STANDARD, IN ACCORDANCE WITH THE STANDARD(S) CITED IN THE APPROVED PLANS.	AS REQUIRED DURING CONSTRUCTION	APPROVED CONSTRUCTION DOCUMENTS: ASTM E2178, ASTM2357, ASTM E1677, ASTM E779, ASTM E283	C402.4; ASHRAE 90.1 - 5.4.3.1	REQUIRED
IIA7	PROJECTION FACTORS: WHERE THE ENERGY ANALYSIS UTILIZED A PROJECTION FACTOR > 0, THE PROJECTION DIMENSIONS OF OVERHANGS, EAVES OR PERMANENTLY ATTACHED SHADING DEVICES SHALL BE VERIFIED FOR CONFORMANCE WITH APPROVED PLANS BY VISUAL INSPECTION.	PRIOR TO FINAL CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS, INCLUDING ENERGY ANALYSIS	C402.3; ASHRAE 90.1 - 5.5.4, 5.6 OR 11	N\A
IIA8	LOADING DOCK WEATHERSEALS: WEATHERSEALS AT LOADING DOCKS SHALL BE VISUALLY VERIFIED.	PRIOR TO FINAL CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	C402.4.6; ASHRAE 90.1 - 5.4.3.3	N/A
IIA9	BUILDING ENTRANCE VESTIBULES: REQUIRED ENTRANCE VESTIBULES SHALL BE VISUALLY INSPECTED FOR PROPER OPERATION.	PRIOR TO FINAL CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	C402.4.7; ASHRAE 90.1 - 5.4.3.4	N/A

	IIB MECHANICAL AND SERVICE WATER INSPECTIONS				
IIB1	FIREPLACES: PROVISION OF COMBUSTION AIR AND TIGHT-FITTING FIREPLACE DOORS SHALL BE VERIFIED BY VISUAL INSPECTION.	PRIOR TO FINAL CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS; ANSI Z21.60 (SEE ALSO MC 904), ANSI Z21.50	C402.2.9; BC 2111; MC CHAPTERS 7, 9; FGC CHAPTER 6	N/A (FILED SEPARATELY)
IIB2	SHUTOFF DAMPERS: OUTDOOR AIR INTAKES AND EXHAUST OPENINGS: DAMPERS FOR STAIR AND ELEVATOR SHAFT VENTS AND OTHER...	AS REQUIRED DURING INSTALLATION	APPROVED CONSTRUCTION DOCUMENTS; AMCA 500D	C403.2.4.4; ASHRAE 90.1 - 6.4.3.4	REQUIRED
IIB3	HVAC, SERVICE WATER HEATING AND POOL EQUIPMENT SIZING AND PERFORMANCE:...	PRIOR TO FINAL PLUMBING AND CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	C403.2, C404.2, C404.7, C406.2; ASHRAE 90.1 - 6.3, 6.4.1, 6.4.2, 6.8; 7.4, 7.8	REQUIRED
IIB4	HVAC SYSTEM CONTROLS AND ECONOMIZERS AND SERVICE HOT WATER SYSTEM CONTROLS:...	AFTER INSTALLATION AND PRIOR TO FINAL ELECTRICAL AND CONSTRUCTION INSPECTION...	APPROVED CONSTRUCTION DOCUMENTS, INCLUDING CONTROL SYSTEM NARRATIVES...	C403.2.4, C403.2.5.1, C403.2.11, C403.3, C403.4, C404.3, C404.6, C404.7; ASHRAE 90.1 – 6.3, 6.4, 6.5, 7.4.4, 7.4.5	REQUIRED
IIB5	DUCT AND PIPING INSULATION AND DUCT SEALING:...	AFTER INSTALLATION AND PRIOR TO CLOSING SHAFTS, CEILINGS AND WALLS	APPROVED CONSTRUCTION DOCUMENTS...	C403.2.7, C403.2.8; C404.5, MC603.9; ASHRAE 90.1 - 6.3, 6.4.4.2, 6.8.2, 6.8.3; 7.4.3	REQUIRED
IIB6	AIR LEAKAGE TESTING FOR HIGH-PRESSURE DUCT SYSTEMS: FOR DUCT SYSTEMS DESIGNED TO OPERATE AT STATIC PRESSURES IN EXCESS OF 3 INCHES W.G. (746 PA), REPRESENTATIVE SECTIONS...	AFTER INSTALLATION AND SEALING AND PRIOR TO CLOSING SHAFTS, CEILINGS AND WALLS	APPROVED CONSTRUCTION DOCUMENTS; SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL	C403.2.7.1.3; ASHRAE 90.1 - 6.4.4.2	REQUIRED

	IIC ELECTRICAL POWER AND LIGHTING SYSTEMS				
IIC1	ELECTRICAL ENERGY CONSUMPTION: THE PRESENCE AND OPERATION OF INDIVIDUAL METERS OR OTHER MEANS OF MONITORING INDIVIDUAL APARTMENTS SHALL BE VERIFIED BY VISUAL INSPECTION FOR ALL APARTMENTS AND WHERE REQUIRED IN A COVERED TENANT SPACE.	PRIOR TO FINAL ELECTRICAL AND CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	C405.7	REQUIRED
IIC2	LIGHTING IN DWELLING UNITS: LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE VISUALLY INSPECTED TO VERIFY COMPLIANCE WITH HIGH-EFFICACY REQUIREMENTS.	PRIOR TO FINAL ELECTRICAL AND CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	C405.1; ASHRAE 90.1 - 9.1.1	REQUIRED
IIC3	INTERIOR LIGHTING POWER: INSTALLED LIGHTING SHALL BE VERIFIED FOR COMPLIANCE WITH THE LIGHTING POWER ALLOWANCE BY VISUAL INSPECTION OF FIXTURES, LAMPS, BALLASTS AND TRANSFORMERS.	PRIOR TO FINAL ELECTRICAL AND CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	C405.5, C406.3; ASHRAE 90.1 -9.1, 9.2, 9.5, 9.6; 1RCNY §101-07(C)(3)(V)(C)4	REQUIRED
IIC4	EXTERIOR LIGHTING: INSTALLED LIGHTING SHALL BE VERIFIED FOR COMPLIANCE WITH SOURCE EFFICACY AND/OR THE LIGHTING POWER ALLOWANCE BY VISUAL INSPECTION OF FIXTURES, LAMPS, BALLASTS AND RELEVANT TRANSFORMERS.	PRIOR TO FINAL ELECTRICAL AND CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	C405.6; ASHRAE 90.1 - 9.4.4, 9.4.5; 1RCNY §101-07(C)(3)(V)(C)4	REQUIRED
IIC5	LIGHTING CONTROLS: EACH TYPE OF REQUIRED LIGHTING CONTROLS, INCLUDING: -OCCUPANT SENSORS -MANUAL INTERIOR LIGHTING CONTROLS -LIGHT-REDUCTION CONTROLS -AUTOMATIC LIGHTING SHUT-OFF -DAYLIGHT ZONE CONTROLS -SLEEPING UNIT CONTROLS -EXTERIOR LIGHTING CONTROLS SHALL BE VERIFIED BY VISUAL INSPECTION AND TESTED FOR FUNCTIONALITY AND PROPER OPERATION.	PRIOR TO FINAL ELECTRICAL AND CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS, INCLUDING CONTROL SYSTEM NARRATIVES	C405.2; ASHRAE 90.1 - 9.4.1, 9.4.1.2 (AS MODIFIED BY SECTION ECC A102)	REQUIRED
IIC7	ELECTRIC MOTORS (INCLUDING BUT NOT LIMITED TO FAN MOTORS): WHERE REQUIRED BY THE CONSTRUCTION DOCUMENTS FOR ENERGY CODE COMPLIANCE, MOTOR LISTING OR LABELS SHALL BE VISUALLY INSPECTED TO VERIFY THAT THEY COMPLY WITH THE RESPECTIVE ENERGY REQUIREMENTS IN THE CONSTRUCTION DOCUMENTS.	PRIOR TO FINAL ELECTRICAL AND CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	C403.2.10; ASHRAE 90.1 - 10.4	REQUIRED
IID	**OTHER**				
IID1	MAINTENANCE INFORMATION: MAINTENANCE MANUALS FOR MECHANICAL, SERVICE HOT WATER AND ELECTRICAL EQUIPMENT AND SYSTEMS REQUIRING PREVENTIVE MAINTENANCE SHALL BE REVIEWED FOR APPLICABILITY TO INSTALLED EQUIPMENT AND SYSTEMS BEFORE SUCH MANUALS ARE PROVIDED TO THE OWNER. LABELS REQUIRED FOR SUCH EQUIPMENT OR SYSTEMS SHALL BE INSPECTED FOR ACCURACY AND COMPLETENESS.	PRIOR TO SIGN-OFF OR ISSUANCE OF FINAL CERTIFICATE OF OCCUPANCY	APPROVED CONSTRUCTION DOCUMENTS, INCLUDING ELECTRICAL DRAWINGS WHERE APPLICABLE; ASHRAE GUIDELINE 4: PREPARATION OF OPERATING AND MAINTENANCE DOCUMENTA-TION FOR BUILDING SYSTEMS	C303.3, C408.2.5.2; ASHRAE 90.1 –4.2.2.3, 6.7.2.2, 8.7.2, 9.7.2.2	N/A

COMMISSIONING IS REQUIRED FOR THIS JOB.
SEE ELECTRICAL, PLUMBING AND MECHANICAL ENERGY ANALYIS FOR SPECIFIC REQUIREMENTS RELATED TO EACH TRADE

PROFESSIONAL STATEMENT:
THIS PROJECT/BUILDING COMPLIES WITH NYCECC 2016

PAUL A. CASTRUCCI, ARCHITECT
4.7.2020

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NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

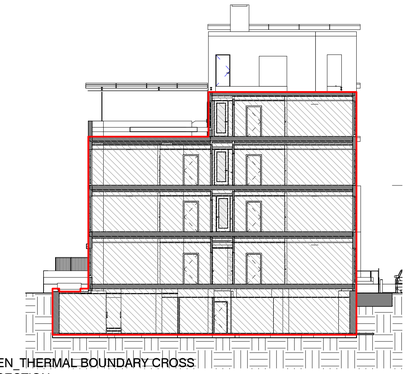
BETHANY TERRACES

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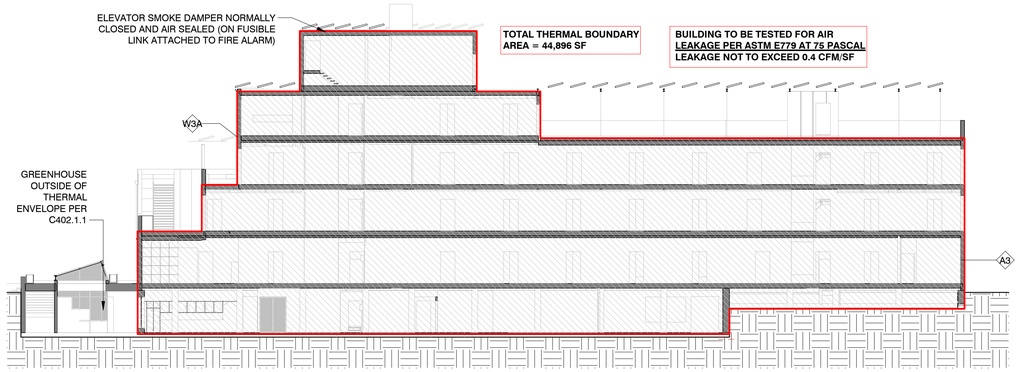
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ENERGY INSPECTIONS

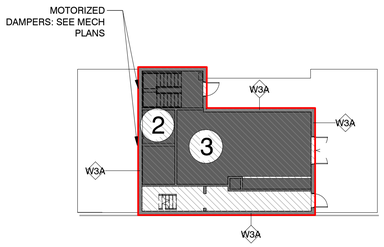
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Drawn By: Author
Chkd By: Checker
Drawing #: EN-003.00
DOB #: 321595083
Sheet #: OF -



8 EN_THERMAL BOUNDARY CROSS SECTION
SCALE: 1/16" = 1'-0"



7 EN_THERMAL BOUNDARY SECTION
SCALE: 1/16" = 1'-0"



6 EN_BLKHD THERM BNDRY (1089 SF)
SCALE: 1/16" = 1'-0"

INTERIOR AIR SEALING REQUIREMENTS

1 CELLAR TRASH ROOM

1) AIR SEAL ALL CMU AND CONC. WALLS W/ STO GOLD OR EQUAL.
2) AIR SEAL GYP BD PARTITION W/ SOLITEX MENTO AIR MEMBRANE.
3) TAPE WALLS TO FLOORS W/ AIR SEALING TAPE.
4) AIR SEAL GASKET ALL DOORS. SEE HARDWARE SCHEDULE.
5) REVIEW ALL AIR SEALING IN FIELD WITH ARCHITECT.

2 ELEVATOR AND STAIR SHAFTS

1) AIR SEAL ALL CMU AND CONC. WALLS W/ STO GOLD OR EQUAL.
2) AIR SEAL GYP BD PARTITION W/ SOLITEX MENTO AIR MEMBRANE.
3) TAPE WALLS TO FLOORS W/ AIR SEALING TAPE.
4) AIR SEAL GASKET ALL DOORS
5) MOCK UP ONE FLOOR OF ELEVATOR SHAFT AND ONE FLOOR OF ONE STAIR SHAFT IN FIELD FOR ARCHITECT REVIEW.

3 HWH RM/REFUSE ROOM/MECH SHAFT/ JANITOR'S CLOSET - TYP

1) AIR SEAL ALL CMU AND CONC. WALLS W/ STO GOLD OR EQUAL.
2) AIR SEAL GYP BD PARTITION W/ SOLITEX MENTO AIR MEMBRANE.
3) TAPE WALLS TO FLOORS W/ AIR SEALING TAPE.
4) AIR SEAL GASKET ALL DOORS
5) AIR SEAL GASKET AT TRASH CHUTE DOOR
6) MOCK UP ROOM(S) AT ONE FLOOR IN FIELD FOR ARCHITECT REVIEW.

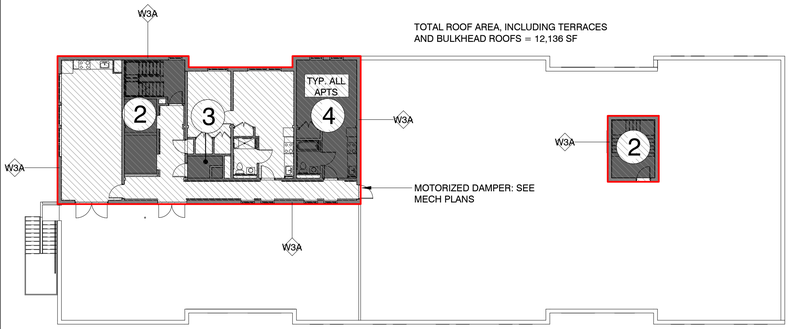
4 APARTMENT AIR SEALING - TYPICAL

1) AIR SEAL ALL PENETRATIONS IN DEMISING WALLS (E.G. AIR SEALED OUTLETS IN DEMISING WALLS).
2) GASKET APARTMENT ENTRY DOORS.
3) MOCK UP ONE APARTMENT IN FIELD FOR ARCHITECT REVIEW.

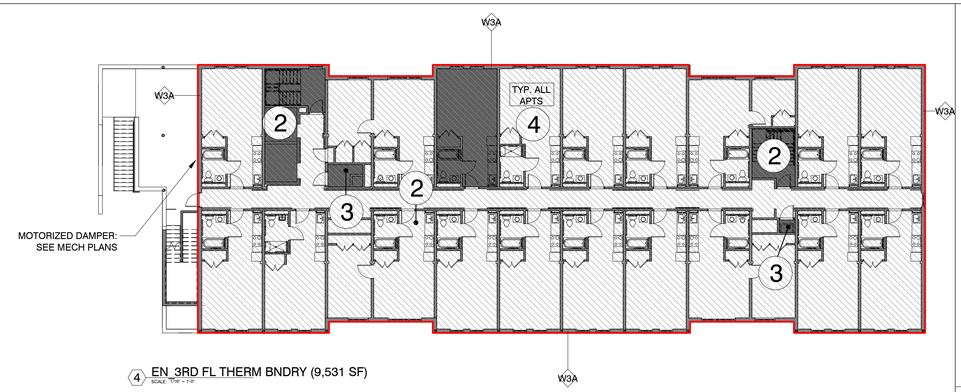
GENERAL AIR SEALING NOTES:

1) APARTMENTS SHALL BE SEALED TO REUCE AIR EXCHANGE BETWEEN THE APARTMENT AND OUTSIDE AS WELL AS THE APARTMENT AND OTHER ADJACENT SPACES. DWELLING UNIT AIR INFILTRATION SHALL NOT EXCEED 0.30 CFM50 PER SF OF ENCLOSURE.

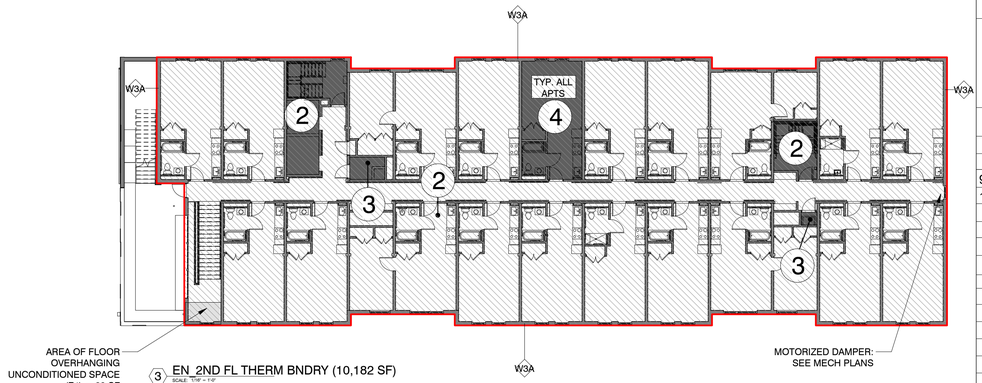
2) THE EXTERIOR BUILDING ENVELOPE SHALL BE SEALED TO REDUCE AIR EXCHANGE BETWEEN THE CONDITIONED FLOOR AREA AND EXTERIOR AND UNCONDITIONED BUILDING SPACES. WHOLE BUILDING AIR INFILTRATION SHALL NOT EXCEED 0.08 CFM/75 PER SF ENCLOSURE



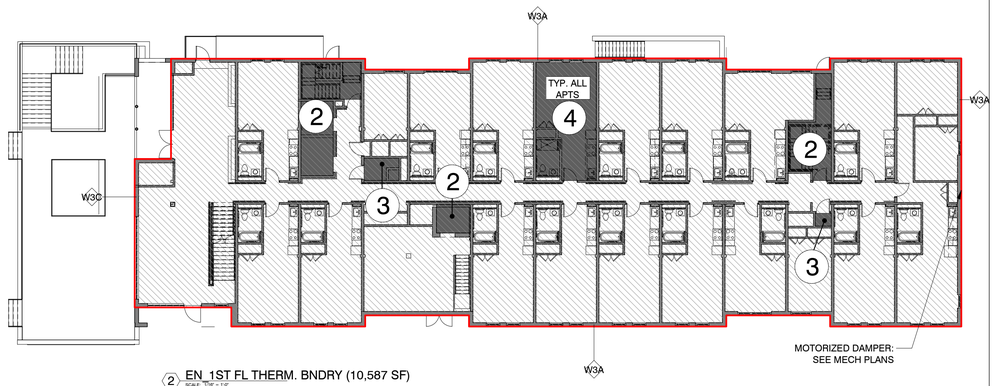
5 EN_4TH FL THERM BNDRY (2357 SF)
SCALE: 1/16" = 1'-0"



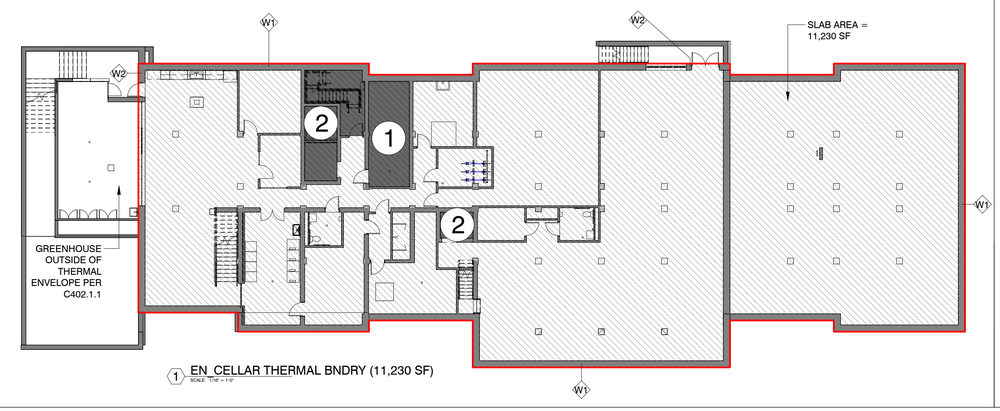
4 EN_3RD FL THERM BNDRY (9,531 SF)
SCALE: 1/16" = 1'-0"



3 EN_2ND FL THERM BNDRY (10,182 SF)
SCALE: 1/16" = 1'-0"



2 EN_1ST FL THERM. BNDRY (10,587 SF)
SCALE: 1/16" = 1'-0"



1 EN_CELLAR THERMAL BNDRY (11,230 SF)
SCALE: 1/16" = 1'-0"

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NOTES:

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MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

THERMAL BOUNDARY DIAGRAMS

Date: 03.5.2020
Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

Scale: 1/16" = 1'-0"
Drawn By: Author
Chkd By: Checker
Drawing #:

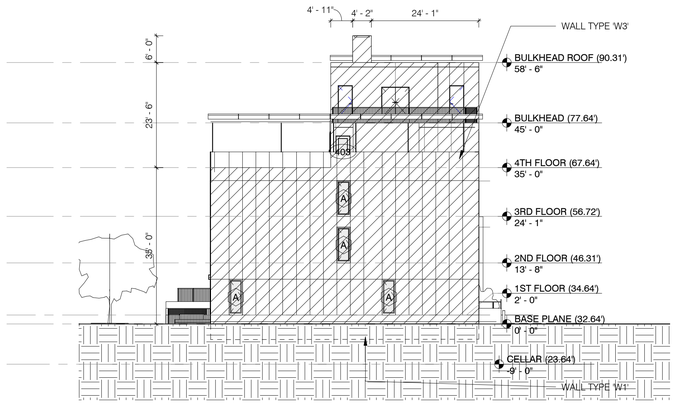
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DOB #: 321595083
Sheet #: OF -

% OF GLAZING FOR ABOVE GRADE WALLS
TOTAL AREA (WALL AND FENESTRATION) = 21,515 SF
GLAZING AREA = 4807 SF
GLAZING % = 21% < 30% -> OKAY

THERMAL ENVELOPE TABLE								
	TYPE NAME	NOMINAL CAVITY INSUATION R VALUE	ADJUSTED CAVITY INSUATION R VALUE	CONTINUOUS INSULATION R VALUE	TOTAL TRUE R VALUE	U-FACTOR	GROSS AREA	NOTES
SLAB	S	NA	NA	R-8	R-8	U-0.125	11,230 SF	SEE A601 DETAILS. INCLUDES S1 AND S2 (NO CHANGE IN INSULATION STRATEGY)
BELOW GRADE WALL	W1	NA	NA	R-24	R-24	U-0.0417	2,903 SF	SEE A602 DETAILS. INCLUDES W1A AND W1B (NO CHANGE IN INSULATION STRATEGY)
ABOVE GRADE WALL	W2	NA	NA	R-32	R-32	U-0.0312	627 SF	SEE A602 DETAILS.
	W3	R-16	R-15	R-26	R-31	U-0.032	20,888 SF	SEE A602 DETAILS. INCLUDES W3A AND W3C (NO CHANGE IN INSULATION STRATEGY)
FLOOR	F	R-48	R-15	R-36	R-41	U-0.024	39 SF	SEE A601 DETAILS. F4 TYPE. USED AT 2ND FLOOR AREAS THAT OVERHANG SETBACKS BELOW.
ROOF	R	R-32	R-8	R-39	R-47	U-0.021	12,136 SF	SEE A601 DETAILS. INCLUDES R1 AND R2 (NO CHANGE IN INSULATION STRATEGY)

NOTE: ONLY INSULATION USED TO CALCULATE U-FACTOR. R-VALUE CONTRIBUTED BY OTHER CONSTRUCTION ELEMENTS NOT REQUIRED TO MEET ENERGY CODE REQUIREMENTS



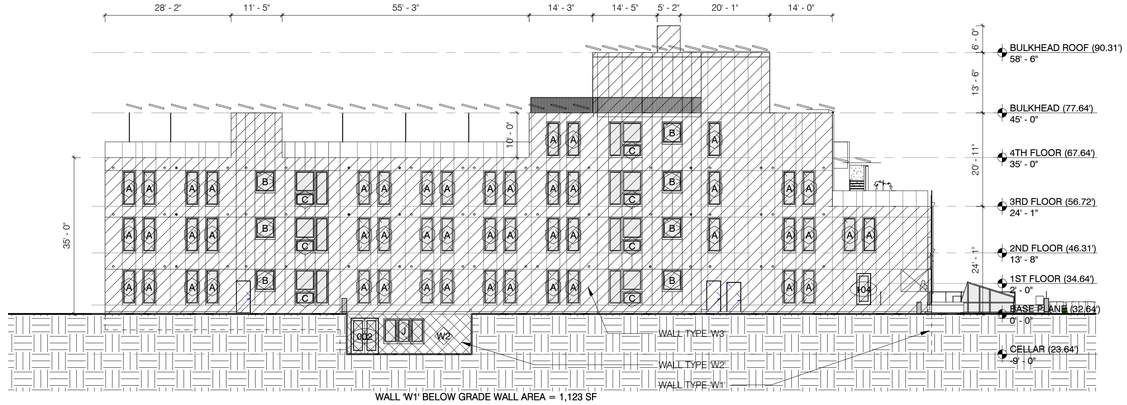
WALL 'W1' BELOW GRADE WALL AREA = 212 SF

NORTH (SIDE) FACADE
GROSS ABOVE GRADE WALL AREA TYPE 'W3' = 2,876 SF

WINDOW TYPE A = 24 SF X 4 = 96 SF
GLASS DOOR 403 = 21 SF X 1 = 21 SF
TOTAL FENESTRATION AREA = 117 SF

WALL 'W3' ABOVE GRADE WALL AREA (EXCLUDES FENESTRATION AREA) = 2,759 SF

4 EN ELEVATION DIAGRAM - NORTH
SCALE: 1/16" = 1'-0"



WALL 'W1' BELOW GRADE WALL AREA = 1,123 SF

WEST (REAR) FACADE
GROSS ABOVE GRADE WALL AREA TYPE 'W2' = 279 SF

WINDOW TYPE J = 59 SF X 1 = 59 SF
GLASS DOOR 002 = 48 SF X 1 = 48 SF
TOTAL FENESTRATION AREA = 107 SF

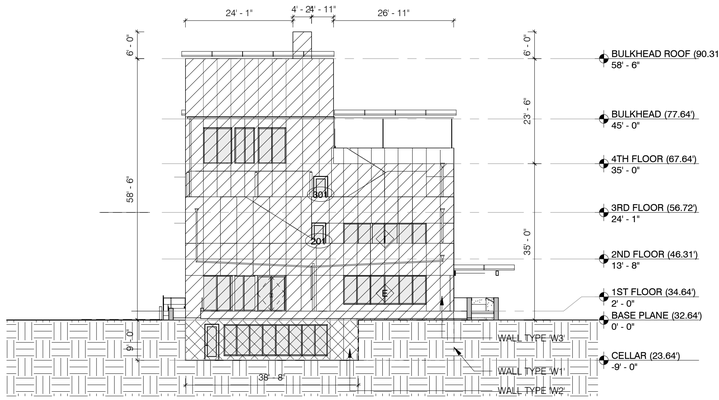
WALL 'W2' ABOVE GRADE WALL AREA (EXCLUDES FENESTRATION AREA) = 172 SF

GROSS ABOVE GRADE WALL AREA TYPE 'W3' = 7,568 SF

WINDOW TYPE A = 24 SF x 51 = 1,224 SF
WINDOW TYPE B = 22.5 SF X 7 = 158 SF
WINDOW TYPE C = 60 SF X 7 = 420 SF
GLASS DOOR 105 = 21 SF X 1 = 21 SF
TOTAL FENESTRATION AREA (W3 WALL) = 1,823 SF

WALL 'W3' ABOVE GRADE WALL AREA (EXCLUDES FENESTRATION AREA) = 5,745 SF

2 EN ELEVATION DIAGRAM - WEST
SCALE: 1/16" = 1'-0"



WALL 'W1' BELOW GRADE WALL AREA = 191 SF

SOUTH (SIDE) FACADE
GROSS ABOVE GRADE WALL AREA TYPE 'W2' = 348 SF

GLASS DOOR/STOREFRONT 001 = 129 SF
DOOR AREA = 21 SF
FIXED AREA = 120 SF
TOTAL FENESTRATION AREA = 141 SF

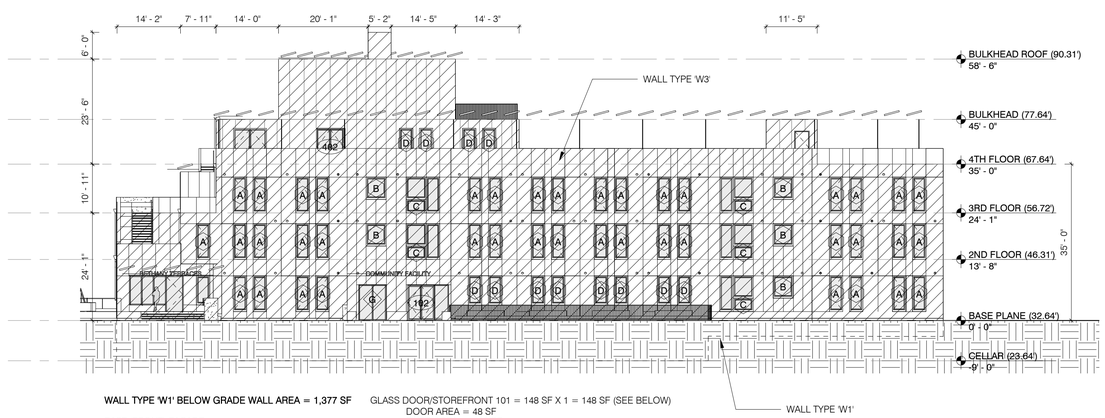
WALL 'W2' ABOVE GRADE WALL AREA (EXCLUDES FENESTRATION AREA) = 207 SF

GROSS ABOVE GRADE WALL AREA TYPE 'W3' = 2,876 SF

STOREFRONT TYPE E = 148 SF X 1 = 148 SF
OPERABLE AREA = 9 SF
FIXED AREA = 139 SF
STOREFRONT TYPE H = 148 SF X 1 = 148 SF
OPERABLE AREA = 9 SF
FIXED AREA = 139 SF
FIXED STOREFRONT TYPE I = 120 SF X 1 = 120 SF
GLASS DOOR 104 = 48 SF X 1 = 48 SF
GLASS DOOR 201 = 24 X 1 = 24 SF
GLASS DOOR 301 = 24 SF X 1 = 24 SF
TOTAL FENESTRATION AREA (W3 WALL) = 512 SF

WALL 'W3' ABOVE GRADE WALL AREA (EXCLUDES FENESTRATION AREA) = 2,364 SF

3 EN ELEVATION DIAGRAM - SOUTH
SCALE: 1/16" = 1'-0"



WALL TYPE 'W1' BELOW GRADE WALL AREA = 1,377 SF

EAST (FRONT) FACADE
GROSS ABOVE GRADE WALL TYPE 'W3' = 7,568 SF

WINDOW TYPE A = 24 SF x 49 = 1,176 SF
WINDOW TYPE B = 22.5 SF X 5 = 113 SF
WINDOW TYPE C = 60 SF X 5 = 300 SF
WINDOW TYPE D = 19.5 SF X 4 = 78 SF
FIXED STOREFRONT TYPE G = 48 SF X 1 = 48 SF

GLASS DOOR/STOREFRONT 101 = 148 SF X 1 = 148 SF (SEE BELOW)
DOOR AREA = 48 SF
FIXED AREA = 100 SF
GLASS DOOR/STOREFRONT 102 = 98 SF X 1 = 98 SF (SEE BELOW)
DOOR AREA = 48 SF
FIXED AREA = 50 SF
GLASS DOOR/STOREFRONT 401 = 98 SF X 1 = 98 SF (SEE BELOW)
DOOR AREA = 48 SF
FIXED AREA = 50 SF
GLASS DOOR 402 = 48 SF X 1 = 48 SF
TOTAL FENESTRATION AREA = 2,107 SF

WALL TYPE 'W3' ABOVE GRADE WALL AREA (EXCLUDES FENESTRATION AREA) = 5,461 SF

1 EN ELEVATION DIAGRAM - EAST
SCALE: 1/16" = 1'-0"

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STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
9	75% CD	04.22.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

ENERGY ANALYSIS ELEVATIONS

Date: 03.5.2020
Seal/Signature:
REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

Scale: 1/16" = 1'-0"
Drawn By: Author
Chkd By: Checker
Drawing #: EN-006.00
DOB #: 321595083
Sheet #: OF -

ZONING ANALYIS
BUILDING DATA:

BOROUGH:	BROOKLYN
COMMUNITY BOARD:	17
BLOCK:	4973
LOT(s):	16
LOT AREA:	24,000 SF
ZONING MAP:	23A
ZONING DISTRICT:	R4
SPECIAL ZONING DISTRICT:	NA
NO. OF STORIES:	4 + CELLAR (PROPOSED)
ZONING FLOOR AREA:	31,550 SF
GROSS FLOOR AREA:	44,896 SF
BUILDING HEIGHT:	45'-0"
USE GROUP:	UG 2 AND UG 4
OCCUPANCY CLASS:	R-2 (58 AFFORDABLE INDEPENDENT RESIDENCES FOR SENIOR (AIRS) UNITS) B OCCUPANCY AT 1ST FLOOR
CONSTRUCTION CLASS:	TYPE 2-A
FLOOD ZONE:	ZONE 'X'
'e' DESIGNATIONS:	NA
LANDMARKS:	NA

USE REGULATIONS

ZR 22-12 — IN R4 DISTRICTS, USE GROUP 2 RESIDENCES, INCLUDING AFFORDABLE INDEPENDENT RESIDENCES FOR SENIORS (AIRS) PERMITTED AS OF RIGHT.

ZR 12-10 — SENIOR SERVICE FLOOR AREA TO BE PROVIDED. AREA TO BE 4% MININUM OF TOTAL AIRS FLOOR AREA.
30,960 SF x 0.04 = 1,239 SF REQUIRED. 1,764 SF PROVIDED -> OKAY
(1,340 SF @ CELLAR AIRS COMM. RM, 424 SF @ 4TH FL AIRS COMMUNITY PANTRY)

ZR 22-14 — IN R4 DISTRICTS, USE GROUP 4 NON-PROFIT INSTITUTION WITHOUT SLEEPING ACCOMODATIONS PERMITTED AS OF RIGHT.

BULK REGULATIONS, RESIDENTIAL

ZR 12-10 — PERMITTED FLOOR AREA DEDUCTIONS:
(8) MECHANICAL EQUIPMENT/SPACE UP TO 50 SF FOR FIRST D.U., 30 SF FOR 2ND D.U. AND 10 SF FOR EACH ADDITIONAL D.U. (640 SF MAX)
(10) TERRACES, NOT MORE THAN 67% ENCLOSED
(12) UP TO 8" OF EXTERIOR WALL THICKNESS, FOR WALLS GREATER THAN 8" THAT
- HAVE AN AREA WEIGHTED U-FACTOR OF OPAQUE ABOVE GRADE WALLS OF 80% OR LESS THAN NYECC PRESCRIBED WALL; AND
- HAVE A TOTAL AREA WEIGHTED U-FACTOR (INCLUDING FENESTRATION) OF ABOVE GRADE WALL OF 90% OR LESS THAN NYECC PRESCRIBED WALL

ZR 23-144 — MAX LOT COVERAGE (AIRS) = 0.45
0.45 x 24,000 = 10,800 SF PERMITTED
10,682 SF PROPOSED -> OKAY

NOTE: PER ZR 12-10, COVERED TERRACES NOT INCLUDED IN FLOOR AREA ARE NOT INCLUDED IN LOT COVERAGE

ZR 23-144 — MAX FLOOR AREA (AIRS) = 1.29
1.29 x 24,000 = 30,960 SF
30,960 SF PROPOSED -> OK

ZR 23-22 — NO DENSITY REQUIRMENT FOR AIRS UNITS. 58 UNITS PROPOSED

ZR 23-23 — MIN. SIZE OF DWELLING UNIT, AIRS = 325 SF
PROPOSED MIN. SIZE = 350 SF -> OKAY

ZR 23-32 — MIN LOT AREA = 1,700 SF
PROPOSED = 24,0000 SF -> OK
MIN LOT WIDTH = 18'
PROPOSED = 240' -> OK

BULK REGULATIONS, COMMUNTY FACILITY

ZR 24-11 — MAX LOT COVERAGE (AIRS) = 0.55
0.55 x 24,000 = 13,200 SF PERMITTED
590 SF PROPOSED -> OKAY

ZR 24-11
ZR 24-162 — MAX FLOOR AREA (CF *PORTION OF BLDG*), IF TOTAL FA EXCEEDS 0.75) =0.4
0.4 x 24,000 = 9,600
PROPOSED CF FLOOR AREA = 590 SF -> OK

BULK REGULATIONS, TOTAL BUILDING

ZR 24-162 — MAX FLOOR AREA OF MIXED BUILDINGS. RESIDENTIAL REGULATIONS APPLY TO RESIDENTIAL PORTION AND COMM. FACILITY SECTION 24-11 TO COMM. FACILITY PORTION SO LONG AS EACH PORTION DOES NOT EXCEED THE ALLOWABLE FOR THAT USE, AND THAT THE TOTAL FAR DOESN'T EXCEED THE GREATEST FAR ALLOWABLE ON THE SITE
MAX BLDG FAR = 2.0 (CF)
MAX FAR, RESIDENTIAL = 1.29 -> COMPLIES, SEE ABOVE
MAX FAR, CF PORTION = 0.4 -> COMPLIES, SEE ABOVE
MAX FAR, COMBINED = 1.69 < 2.0 -> OK
1.69 x 24,000 = 40,560 SF
PROPOSED TOTAL FLOOR AREA = 31,550 SF -> OK

YARDS

ZR 23-44 — PERMITTED OBSTRUCTIONS IN YARDS:
(5) CANOPIES, (13) PARKING SPACES, OPEN, WITHIN SIDE OR REAR YARDS, (17) STEPS TO CELLAR, AND (19) TERRACES

ZR 24-31 — APPLICABILITY:
FRONT YARDS TO BE PER CHAPTER II ARTICLE 3, SIDE AND REAR YARDS TO BE PER CHAPTER II, ARTICLE 4

ZR 23-45 — FRONT YARD, RESIDENTIAL = 10' MINIMUM
PROPOSED = 10'-0" -> OK

ZR 23-463 — MAX. AGGREGATE STREET WALL 185'
PROPOSED = 185' -> OK

ZR 24-35 — SIDE YARDS: FOR BUILDINGS GREATER THAN 80' WIDE, TWO SIDE YARDS REQUIRED, EACH 10% OF THE BUILDING WIDTH MIN.
PROPOSED # OF SIDE YARDS = 2 -> OK
PROPOSED BUILDING WIDTH = 185' x 10% = 18.5' MIN. SIDE YARDS
PROPOSED = 19.42' AND 35.58' -> OK

ZR 24-36 — MIN. REAR YARD = 30'
PROPOSED = 30'-0" -> OK

HEIGHT, RESIDENTIAL

ZR 23-62 — PERMITTED HEIGHT OBSTRUCTIONS:
(g): STAIR & ELEVATOR BULKHEADS AND MECH. EQUIPMENT
(1) ALL OBSTRUCTIONS 10' MIN. FROM STREET WALL; AND
(2) ALL MECH. EQUIPMENT MUST BE SCREENED ON ALL SIDES; AND
(3)(i) AVG WIDTH TIMES HEIGTH OF ALL OBSTRUCTIONS DOES NOT EXCEED 1480 SF (8xSTREET FRONTAGE) - SEE ZONING SECTION
(j): PARAPET WALLS NOT MORE THAN 4'-0"
(m)(1): SOLAR PANELS, 48" MAX ABOVE ROOF OR MAX BLDG HEIGHT

ZR 23-631(j)(1) — MAX HEIGHT:IF NO ONE OR TWO FAMILY BUILDINGS EXISTED ON THE SITE WITHIN THE LAST 3 YEARS, AIRS BUILDINGS MAY BE A MAXIMUM OF 45' TALL
EXISTING STRUCTURES ARE INSTITUTIONAL ADULT CARE FACILITY PER NYC DOF RECORDS (NO C/O ON FILES0
PROPOSED = 45'-0" -> OK

ZR 23-632 (b)(1) — NO REAR SETBACK REQUIRED FOR AIRS BUILDING

ZR 23-632 (b)(2) — SIDE SETBACK: EVERY PORTION OF A BUILDING ABOVE 33' MUST BE SETBACK 6" FOR EVERY FOOT ABOVE 33'.
SEE ZONING SECTION - SIDE SETBACKS PROVIDED BELOW SIDE SETBACK LINE ON BOTH SIDE YARDS

ZONING ANALYSIS, CONTINUED

HEIGHT, COMMUNITY FACILITY

ZR 24-521 — MAX BASE HEIGHT (CF PORTION) = 35'
SKY EXPOSURE PLANE = 1:1
PROPOSED HEIGHT OF CF = 13'-8" -> OK

PARKING, RESIDENTIAL

ZR 25-252 — MIN. PARKING FOR AIRS, NOT IN A TRANSIT ZONE = 10% OF D.U.
58 UNITS * 0.10 = 6 SPOTS REQUIRED
8 SPOTS PROPOSED -> OK

ZR 25-811 — MIN. BICYCLE PARKING = 1 SPOT PER EACH 10,000 SF OF FLOOR AREA
30,882 /10,000 = 3 SPOTS REQUIRED
PROPOSED = 3 SPOTS -> OK

PARKING, COMMUNITY FACILITY

ZR 25-31 — MIN. PARKING = 1 SPOT PER EACH 500 SF OF FLOOR AREA
3600 SF ELIGIBLE FLOOR AREA (INCLUDES CELLAR) / 500 = 7 SPOTS

ZR 25-33 — PARKING CAN BE WAIVED IF 10 OR LESS SPOTS REQ'D -> OK TO WAIVE C.F. PARKING

ZR 25-811 — MIN. BICYCLE PARKING = 1 SPOT PER EACH 10,000 SF OF FLOOR AREA
3600 SF /10,000 = 1 SPOTS REQUIRED

ZR 25-8111(d) — WAIVER OF BICICYCLE PARKING IF 3 OR LESS SPACES ARE REQUIRED
OF SPACES REQ'D = 1 < 3 -> OK TO WAIVE BICYCLE PARKING

URBAN DESIGN GUIDELINES

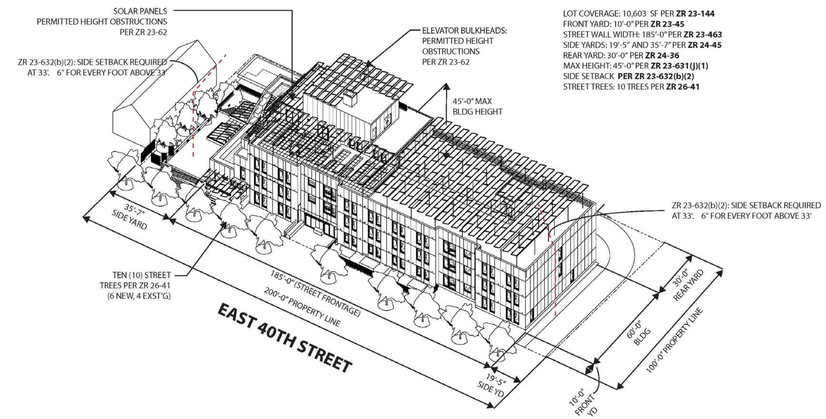
ZR 26-41 — 1 STREET TREE REQ'D FOR EACH 25' OF STREET FRONTAGE
240' / 25' = 10 STREET TREES REQ'D
10 STREET TREES PROVIDED (SIX (6) NEW, FOUR (4) EXISTING) -> OK

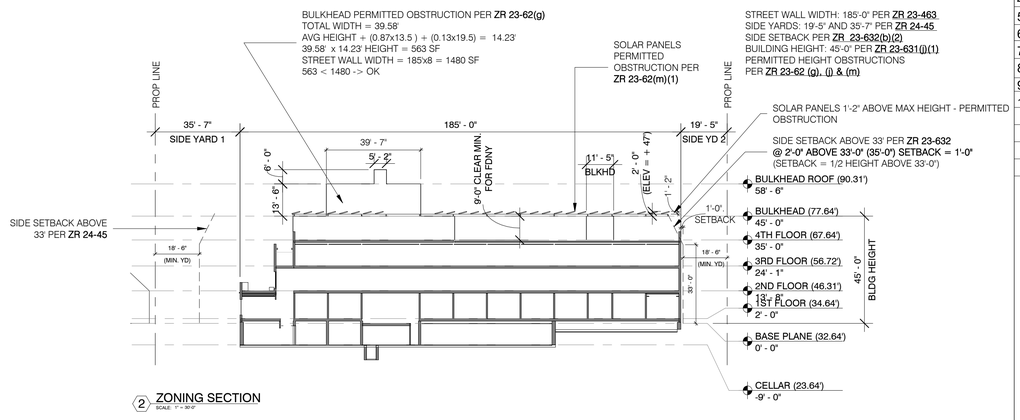
ZR 26-42 — STREET TREES TO BE PLANTED IN COMPLIANT PLANTING STRIPS

PROPOSED FLOOR AREA

FLOOR	RESIDENTIAL AREA (GROSS)	ZONE GREEN DEDUCTION	MECHANICAL DEDUCTION (TOTAL < 640 SF)	RESIDENTIAL AREA (ZONING)	COMMUNITY FACILITY AREA (GROSS)	COMMUNITY FACILITY AREA (ZONING)
CELLAR	5,018 SF	NA	NA	NA	3,010 SF	NA
1ST FL	10,000 SF	121 SF	151 SF	9,728 SF	590 SF	590 SF
2ND FL	10,182 SF	123 SF	179 SF	9,880 SF	0	0
3RD FL	9,531 SF	116 SF	173 SF	9,242 SF	0	0
4TH FL	2,189 SF	51 SF	28 SF	2,110 SF	0	0
	36,920 SF GROSS AREA - RESIDENTIAL			**30,960 SF ZONING AREA - RESIDENTIAL**	**3,600 SF GROSS AREA - COMM. FACILITY**	**590 SF ZONING AREA - COMM. FACILITY**

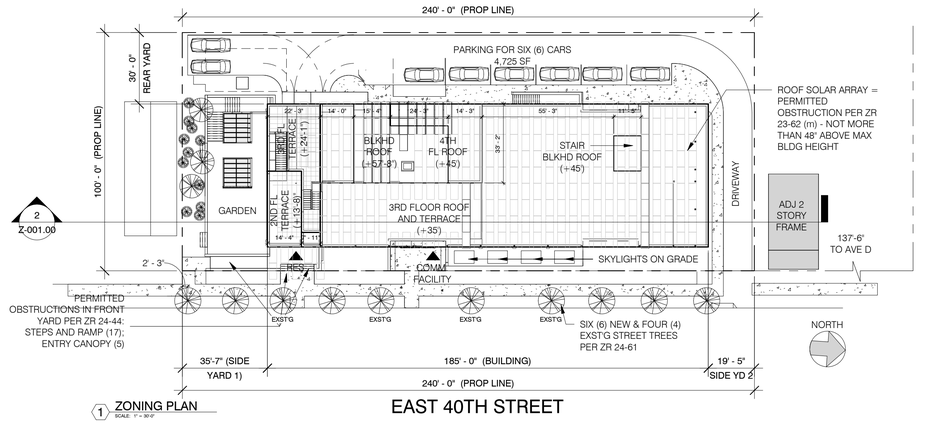
TOTAL GROSS BUILDING AREA = 40,520 SF
TOTAL ZONING AREA = 31,550 SF





2 ZONING SECTION
SCALE: 1" = 30'-0"

LOT COVERAGE (RES): 10,603 SF PER ZR 23-144
LOT COVERAGE (COMM. FACILITY): 590 SF PER ZR 24-11
FRONT YARD: 10'-0" PER ZR 23-45
STREET WALL WIDTH: 185'-0" PER ZR 23-463
SIDE YARDS: 19'-5" AND 35'-7" PER ZR 24-45
REAR YARD: 30'-0" PER ZR 24-36
STREET TREES: 10 STREET TREES PER ZR 26-41
PERMITTED OBSTRUCTIONS IN YARDS PER ZR 23-44 (5), (13), (17) & (19)



1 ZONING PLAN
SCALE: 1" = 30'-0"

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NOTES:

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MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
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8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

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PROJECT:

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FOR:
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ZONING ANALYSIS

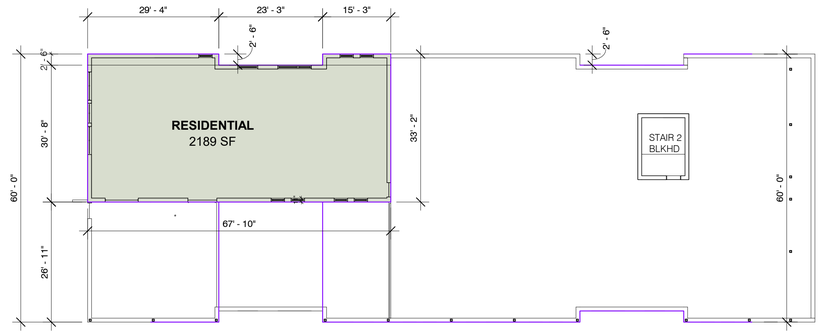
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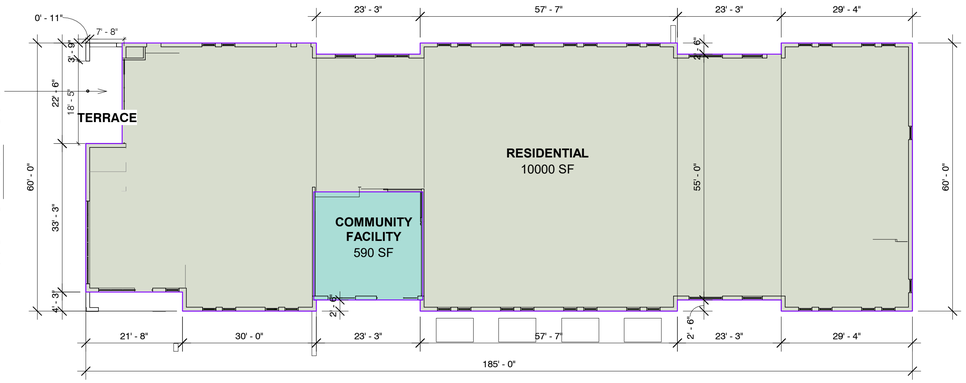
6 4TH FLOOR GROSS AREA DIAGRAM
SCALE: 1/16" = 1'-0"

TERRACE IS LESS THAN 67% ENCLOSED: NOT FLOOR AREA PER ZER 12-10

TOTAL PERIMETER = (22'-6" X 2) + (8'-2" X 2) = 61.32'

ENCLOSED AREA = 22'-6" + 8'-2" + 3'-9" + 11" = 35.33'

35.33'/61.32' = 58% ENCLOSED < 67% -> **OKAY**



3 1ST FLOOR GROSS AREA DIAGRAM
SCALE: 1/16" = 1'-0"

5 3RD FLOOR GROSS AREA DIAGRAM
SCALE: 1/16" = 1'-0"

2 CELLAR GROSS AREA DIAGRAM
SCALE: 1/16" = 1'-0"

4 2ND FLOOR GROSS AREA DIAGRAM
SCALE: 1/16" = 1'-0"

1 LOT COVERAGE & LOT AREA DIAGRAM
SCALE: 1/16" = 1'-0"

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GROSS FLOOR AREA DIAGRAMS

Date: 03.5.2020

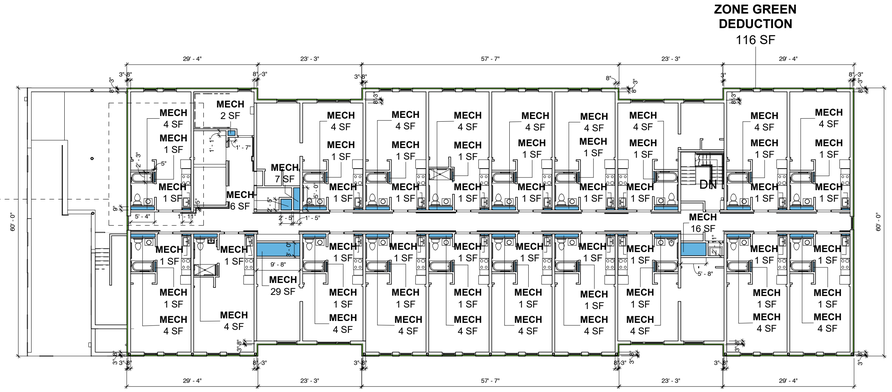
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PAUL A. CASTRUCCI
STATE OF NEW YORK

Scale: 1/16" = 1'-0"
Drawn By: Author
Chkd By: Checker
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Sheet #: OF -

3RD FLOOR ZONING DEDUCTIONS:
ZONE GREEN = 116 SF
MECHANICAL = 173 SF

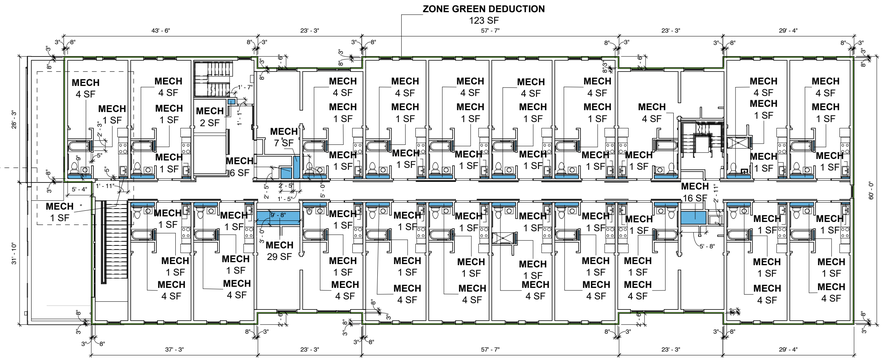
NOTE:
SHAFT DIMENSIONS IN BATHROOM AND KITCHEN THE SAME IN ALL RES. UNITS



3 3RD FLOOR DEDUCTION DIAGRAM
SCALE: 1/16" = 1'-0"

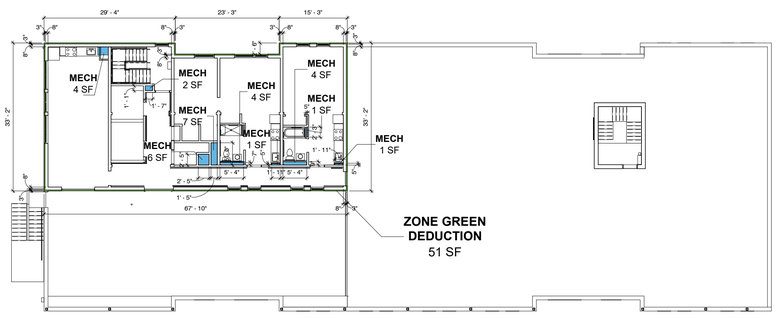
2ND FLOOR ZONING DEDUCTIONS:
ZONE GREEN = 123 SF
MECHANICAL = 179 SF

NOTE:
SHAFT DIMENSIONS IN BATHROOM AND KITCHEN THE SAME IN ALL RES. UNITS



2 2ND FLOOR DEDUCTION DIAGRAM
SCALE: 1/16" = 1'-0"

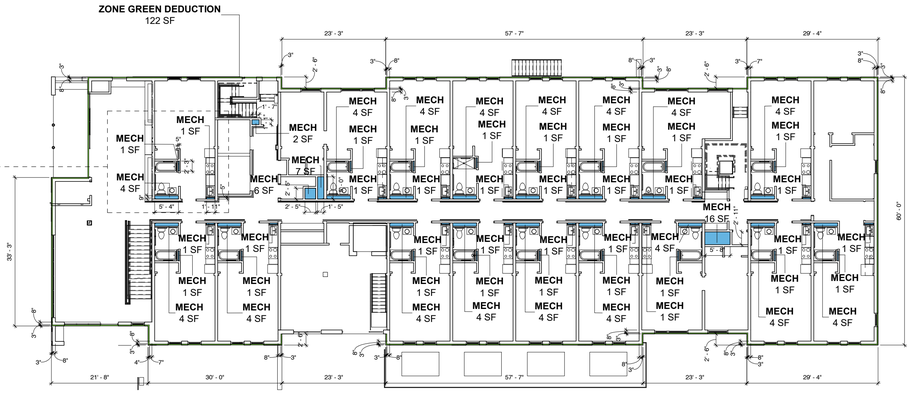
4TH FLOOR ZONING DEDUCTIONS:
ZONE GREEN = 51 SF
MECHANICAL = 30 SF



4 4TH FLOOR DEDUCTION DIAGRAM
SCALE: 1/16" = 1'-0"

1ST FLOOR ZONING DEDUCTIONS:
ZONE GREEN = 121 SF
MECHANICAL = 151 SF

NOTE:
SHAFT DIMENSIONS IN BATHROOM AND KITCHEN THE SAME IN ALL RES. UNITS



1 1ST FLOOR DEDUCTION DIAGRAM
SCALE: 1/16" = 1'-0"

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ZONING DEDUCTION DIAGRAMS

Date: 03.5.2020

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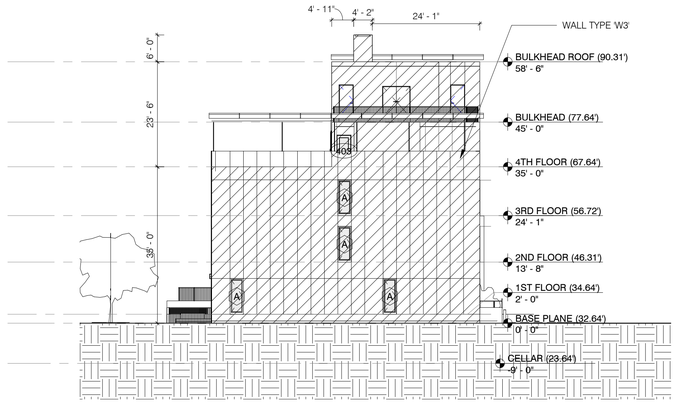
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WEIGHTED U-FACTOR ANALYSIS

	TOTAL OPAQUE WALL AREA	CODE U-FACTOR (FRAME WALL - TABLE R402.1.4)	AREA WEIGHTED U-FACTOR 'CODE' WALL	PROPOSED U-FACTOR (SEE A600)	AREA WEIGHTED U-FACTOR PROPOSED WALL	% (PROPOSED/CODE)
WALL TYPE 'W3'	16,329 SF	0.064	1045	0.041	669	
WALL TYPE 'W2'	379 SF	0.076	29	0.053	20	
		TOTAL	**1,074**	**TOTAL**	**689**	**689/ 1074 = 64% < 80% -> COMPLIES**
	FIXED FENESTRATION	U-FACTOR (FENESTRATION - TABLE R402.1.4)	AREA WEIGHTED U-FACTOR 'CODE' FENESTRATION	PROPOSED U-FACTOR	AREA WEIGHTED U-FACTOR FENESTRATION	% (PROPOSED/CODE)
	766 SF	0.38	291	0.16	123	
	OPERABLE FENESTRATION	U-FACTOR (FENESTRATION - TABLE R402.1.4)	AREA WEIGHTED U-FACTOR 'CODE' FENESTRATION	PROPOSED U-FACTOR	AREA WEIGHTED U-FACTOR FENESTRATION	% (PROPOSED/CODE)
	3,642 SF	0.45	1639	0.16	583	
	ENTRANCE DOORS	U-FACTOR (FENESTRATION - TABLE R402.1.4)	AREA WEIGHTED U-FACTOR 'CODE' FENESTRATION	PROPOSED U-FACTOR	AREA WEIGHTED U-FACTOR FENESTRATION	% (PROPOSED/CODE)
	399 SF	0.45	180	0.23	92	
			TOTAL = 3,184		**TOTAL = 1,487**	**1487/3184 = 47% < 90% -> COMPLIES**

% OF GLAZING FOR ABOVE GRADE WALLS
TOTAL AREA (WALL AND FENESTRATION) = 21,515 SF
GLAZING AREA = 4807 SF
GLAZING % = 21% < 30% -> OKAY



NORTH (SIDE) FACADE

4 ELEVATION AREA DIAGRAM - NORTH
SCALE: 1/16" = 1'-0"

NORTH (SIDE) FACADE
GROSS ABOVE GRADE WALL AREA TYPE 'W3' = 2,876 SF

WINDOW TYPE A = 24 SF X 4 = 96 SF
GLASS DOOR 403= 21 SF X 1 = 21 SF
TOTAL FENESTRATION AREA = 117 SF

WALL 'W3' ABOVE GRADE WALL AREA (EXCLUDES FENESTRATION AREA) = 2,759 SF



WEST (REAR) FACADE

2 ELEVATION AREA DIAGRAM - WEST
SCALE: 1/16" = 1'-0"

WEST (REAR) FACADE
GROSS ABOVE GRADE WALL AREA TYPE 'W2' = 279 SF

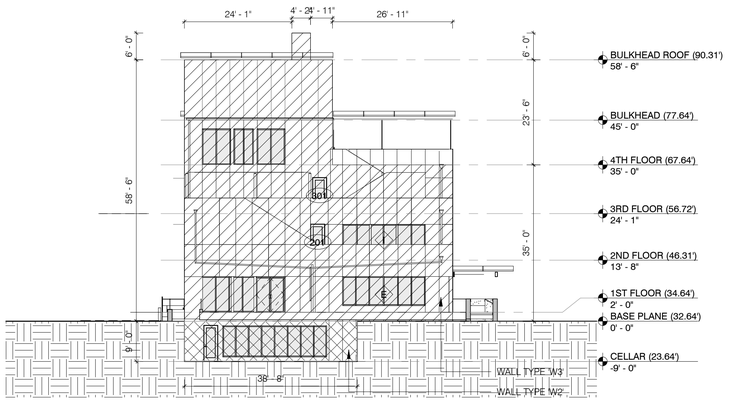
WINDOW TYPE J = 59 SF X 1 = 59 SF
GLASS DOOR 002 = 48 SF X 1 = 48 SF
TOTAL FENESTRATION AREA = 107 SF

WALL 'W2' ABOVE GRADE WALL AREA (EXCLUDES FENESTRATION AREA) = 172 SF

GROSS ABOVE GRADE WALL AREA TYPE 'W3' = 7,568 SF

WINDOW TYPE A = 24 SF x 51 = 1,224 SF
WINDOW TYPE B = 22.5 SF X 7 = 158 SF
WINDOW TYPE C = 60 SF X 7 = 420 SF
GLASS DOOR 105 = 21 SF X 1 = 21 SF
TOTAL FENESTRATION AREA (W3' WALL) = 1,823 SF

WALL 'W3' ABOVE GRADE WALL AREA (EXCLUDES FENESTRATION AREA) = 5,745 SF



3 ELEVATION AREA DIAGRAM - SOUTH
SCALE: 1/16" = 1'-0"

SOUTH (SIDE) FACADE
GROSS ABOVE GRADE WALL AREA TYPE 'W2' = 348 SF

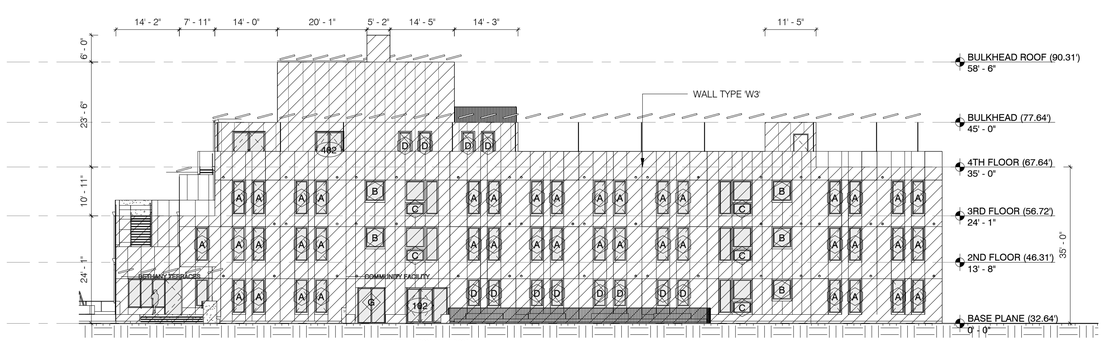
GLASS DOOR/STOREFRONT 001 = 129 SF
DOOR AREA = 21 SF
FIXED AREA = 120 SF
TOTAL FENESTRATION AREA = 141 SF

WALL 'W2' ABOVE GRADE WALL AREA (EXCLUDES FENESTRATION AREA) = 207 SF

GROSS ABOVE GRADE WALL AREA TYPE 'W3' = 2,876 SF

STOREFRONT TYPE E = 148 SF X 1 = 148 SF
OPERABLE AREA = 9 SF
FIXED AREA = 139 SF
STOREFRONT TYPE H = 148 SF X 1 = 148 SF
OPERABLE AREA = 9 SF
FIXED AREA = 139 SF
FIXED STOREFRONT TYPE I = 120 SF X 1 = 120 SF
GLASS DOOR 104 = 48 X 1 = 48 SF
GLASS DOOR 201 = 24 X 1 = 24 SF
GLASS DOOR 301 = 24 SF X 1 = 24 SF
TOTAL FENESTRATION AREA (W3' WALL) = 512 SF

WALL 'W3' ABOVE GRADE WALL AREA (EXCLUDES FENESTRATION AREA) = 2,364 SF



1 ELEVATION AREA DIAGRAM - EAST
SCALE: 1/16" = 1'-0"

EAST (FRONT) FACADE
GROSS ABOVE GRADE WALL TYPE 'W3' = 7,568 SF

WINDOW TYPE A = 24 SF x 49 = 1,176 SF
WINDOW TYPE B = 22.5 SF X 5 = 113 SF
WINDOW TYPE C = 60 SF X 5 = 300 SF
WINDOW TYPE D = 19.5 SF X 4 = 78 SF
FIXED STOREFRONT TYPE G = 48 SF X 1 = 48 SF
GLASS DOOR/STOREFRONT 101 = 148 SF X 1 = 148 SF (SEE BELOW)
DOOR AREA = 48 SF
FIXED AREA = 100 SF
GLASS DOOR/STOREFRONT 102 = 98 SF X 1 = 98 SF (SEE BELOW)
DOOR AREA = 48 SF
FIXED AREA = 50 SF
GLASS DOOR/STOREFRONT 401 = 98 SF X 1 = 98 SF (SEE BELOW)
DOOR AREA = 48 SF
FIXED AREA = 50 SF
GLASS DOOR 402 = 48 SF X 1 = 48 SF
TOTAL FENESTRATION AREA = 2,107 SF

WALL TYPE 'W3' ABOVE GRADE WALL AREA (EXCLUDES FENESTRATION AREA) = 5,461 SF

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10	100% CD	06.03.20

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DOB JOB STICKERS:

PROJECT:

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FOR:
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Drawing Title:

ELEVATION AREA DIAGRAMS, ZONE GREEN CHART

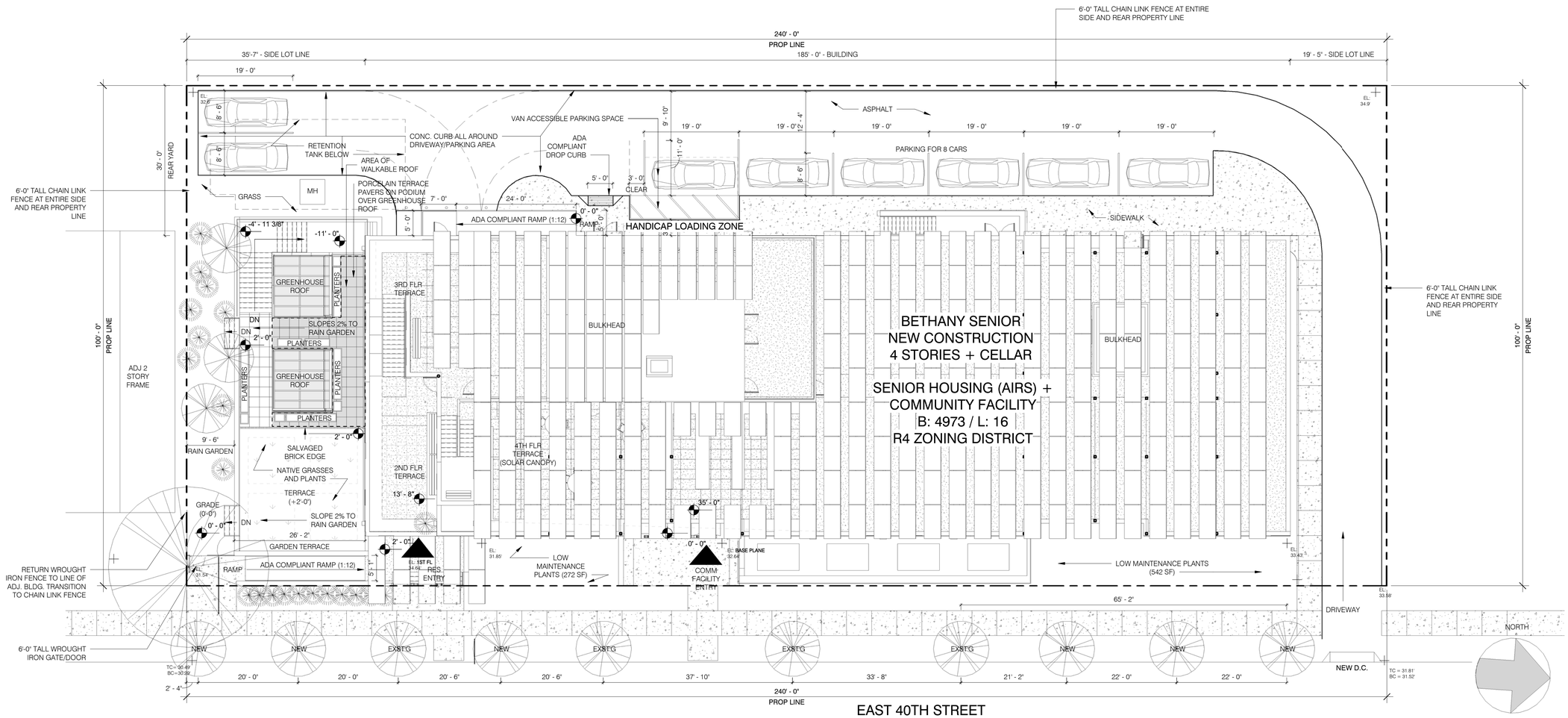
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EAST 40TH STREET

ITEM	QUANTITY	TYPE	SIZE	SPEC/NOTES
SITE TREE	2	(MALUS SYLVESTRIS) COMMON APPLE	8' - 12' HT	
STREET TREE	6 (NEW)	(AMELANCHIER SP.) SERVICE BERRY	2.5 - 3.5" CALIPER LIMBED TO 5' MIN	REQUIRED AS PER ZR 26-41
TREE PITS	10 (NEW)	GUARD STYLE K	5' X 10' TYP	REQUIRED AS PER ZR 26-41
NEW SIDEWALK	2900 SF	NA	NA	PER NYC DOT STANDARD DETAIL - H-1045
NEW CONCRETE WALKWAY	200 SF	NA	NA	
NEW ASPHALT DRIVE & PARK	5500 SF	NA	NA	
NEW CURB	920 LF	NA	NA	PER NYC DOT STANDARD DETAIL - H-1044
GRASS	4200 SF	NA	NA	
UNIT PAVER	1000 SF	PRECAST CONCRETE	4" X 8" X 3"	AQUA-BRIC PAVERS OR EQUAL ADA COMPLIANT
ROOF PAVER	2190 SF	PRECAST CONCRETE	24" X 24" X 2"	STEPSTONE, INC OR EQUAL ICEBERG GREEN - LIGHT SANDBLAST
GARDEN PLANTER	$55,000	FORMED ALUMINUM	VARIES	ORE DESIGNS OR EQUAL

SYMBOL	BOTANICAL NAME	COMMON NAME	QTY	HEIGHT	CONDITION	SPACING	NOTES
A	PHLOX SUBULATA ROSESHELL AZALEA	CREEPING PHLOX ROSESHELL AZALEA	APPROX. 1500 SF	4" - 6" HT 3' - 4' HT	CONTAINER	SEE DETAIL, 1" ON CENTER PHLOX 80%, AZALEA 20%	GROUND COVER STEEP SLOPING AREAS SMALL SHRUB, GROUND COVER ALONG SLOPING AREAS
B	Polypodium virginanum Asarum canadense VINCA MINOR	COMMON POLYPODY FERN WILD GINGER PERIWINKLE (CREEPING MYRTLE)	APPROX. 1000 SF	6" - 12" HT	CONTAINER	SEE DETAIL, 1' ON CENTER VINCA 70%, GINGER 15%, FERN 15%,	HERBACEOUS MIX; GROUND COVER SLOPING & WET AREAS
C	MORELLA CERIFERA	WAX MYRTLE, BAYBERRY	9	3' - 4' HT	CONTAINER	ARCHITECT TO LOCATE ON SITE	LARGE SHRUB NEAR WALLS ON UPPER TERRACE & GARDEN
1	ACER PALMATUM	JAPANESE MAPLE	1	3' - 4' HT	BALLED & BURLAPPED	ARCHITECT TO LOCATE ON SITE	SMALL DECIDUOUS TREE, GARDEN
2	MALUS SYLVESTRIS	COMMON APPLE	1	8' - 12' HT	BALLED & BURLAPPED	ARCHITECT TO LOCATE ON SITE	FLOWERING, FRUIT BEARING TREE, GARDEN
3	CORNUS FLORIDA	DOGWOOD (CULTIVAR, SALMON PINK)	1	6' - 10' HT	BALLED & BURLAPPED	ARCHITECT TO LOCATE ON SITE	FLOWERING TREE, GARDEN
4	AMELANCHIER SP.	SERVICEBERRY	4	2.5 - 3.5" CALIPER LIMBED TO 5' MIN	BALLED & BURLAPPED	SEE STREET TREE PLAN	NEW STREET TREE TYPE B
5	SYRINGA RETICULATA	JAPANESE TREE LILAC	1	2.5 - 3.5" CALIPER LIMBED TO 5' MIN	BALLED & BURLAPPED	SEE STREET TREE PLAN	NEW STREET TREE TYPE C

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NOTES:

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STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

SITE PLAN

Date: 03.5.2020

Scale: As indicated

Seal/Signature:

Drawn By #: Author

Chkd By #: Checker

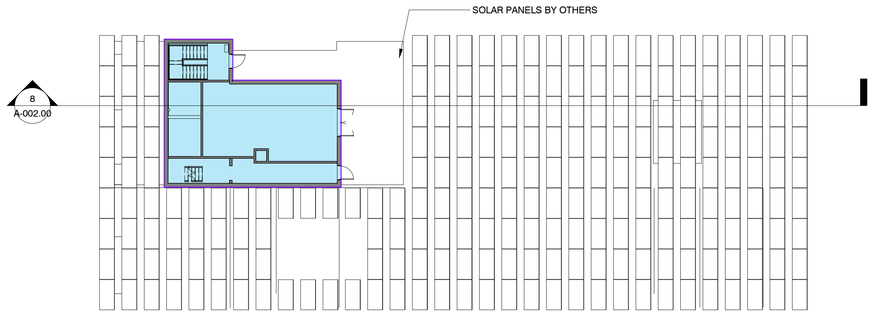
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DOB #: 321595083

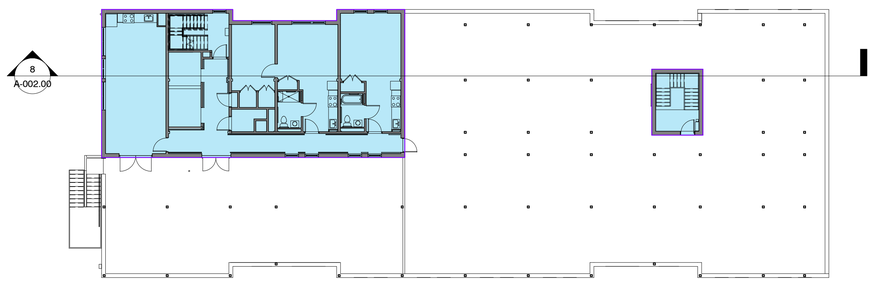
Sheet #: of



8 SCOPE DELINEATION SECTION
SCALE: 1/16" = 1'-0"



6 SCOPE DELINEATION BULKHEAD
SCALE: 1/16" = 1'-0"



5 SCOPE DELINEATION 4TH FL
SCALE: 1/16" = 1'-0"

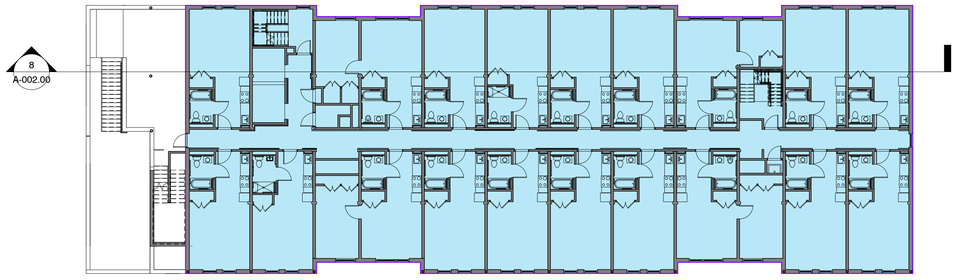
LEGEND

SITE BUILT

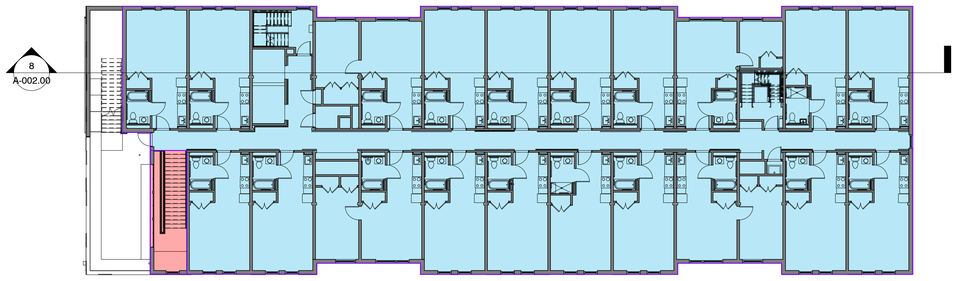
MODULAR

SCOPE DELINEATION NOTES

1) EXCEPT AS SPECIFICALLY NOTED, EXTERIOR SITE WORK TO BE 'SITE BUILT'
2) SOLAR CANOPY STEEL FRAME TO BE 'MODULAR'
3) SOLAR PANELS BY OTHERS
4) PARAPETS TO BE 'MODULAR' AND FLAT PACK SHIPPED WITH MODS



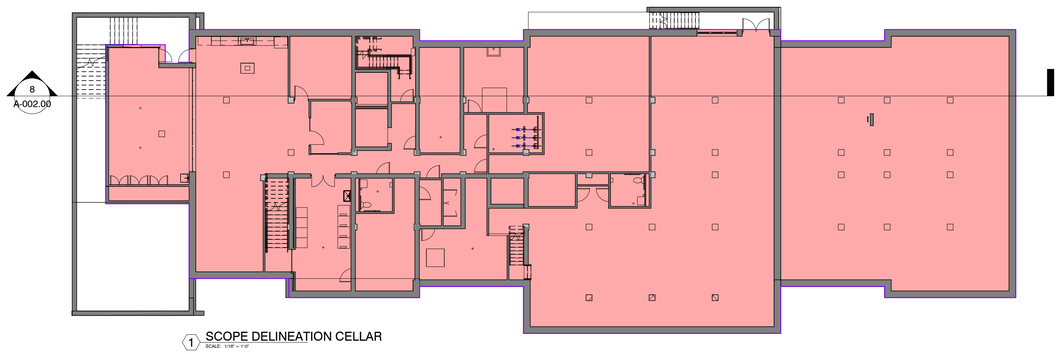
4 SCOPE DELINEATION 3RD FL
SCALE: 1/16" = 1'-0"



3 SCOPE DELINEATION 2ND FL
SCALE: 1/16" = 1'-0"



2 SCOPE DELINEATION 1ST FL
SCALE: 1/16" = 1'-0"



1 SCOPE DELINEATION CELLAR
SCALE: 1/16" = 1'-0"

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Revision Schedule

#	Description	Date
8	50% CD	03.20.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

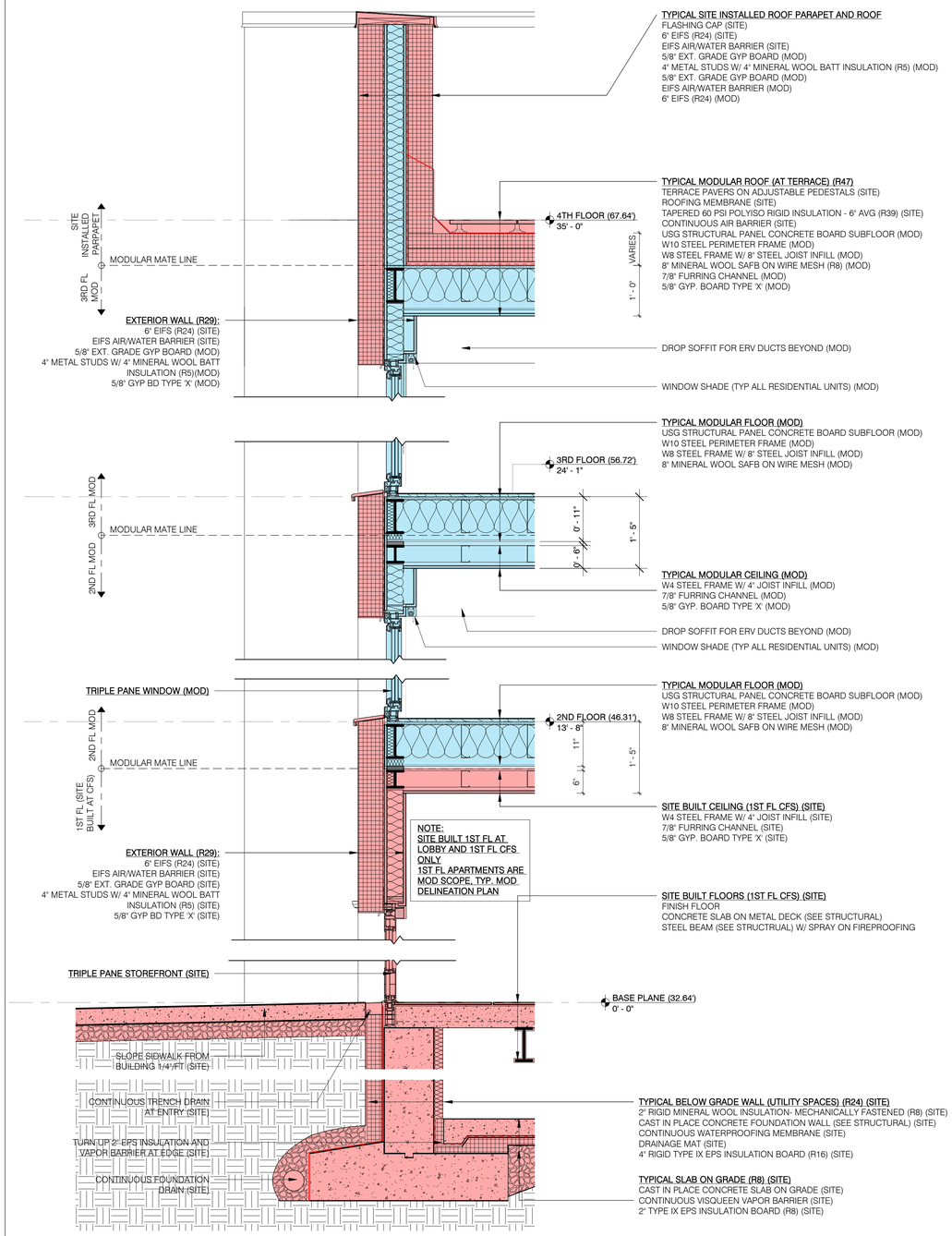
SCOPE DELINEATION

Date: 03.5.2020

Seal/Signature:

Scale: 1/16" = 1'-0"
Drawn By: Author
Chkd By: Checker
Drawing #: A-002.00

DOB #: 321595083
Sheet #: OF -



1 DETAIL WALL SECTION -SCOPE DELINEATION
SCALE: 3/4" = 1'-0"

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10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

SCOPE DELINEATION DETAIL & ALT BID WALL SECTION

Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

DOB #: 321595083

Scale: 3/4" = 1'-0"

Drawn By: Author

Chkd By: Checker

Drawing #:

A-003.00

Sheet #: OF -



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BPP FILED UNDER # 340729938
CURB CUT FILED UNDER # B00348176
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

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9	75% CD	04.22.20
10	100% CD	06.03.20
11	RFI CLARIFICATIONS	06.18.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
–

Drawing Tile:

CELLAR PLAN AND 1ST FLOOR PLAN

Date: 03.5.2020
Seal/Signature:
Scale: 1/8" = 1'-0"
Drawn By #: Author
Chkd By #: Checker
Drawing #: A-100.00
DOB #: 321595083
Sheet #: of



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11	RFI CLARIFICATIONS	06.18.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

2ND AND 3RD FLOOR PLANS

Date: 03.5.2020

Seal/Signature:

Scale: 1/8" = 1'-0"

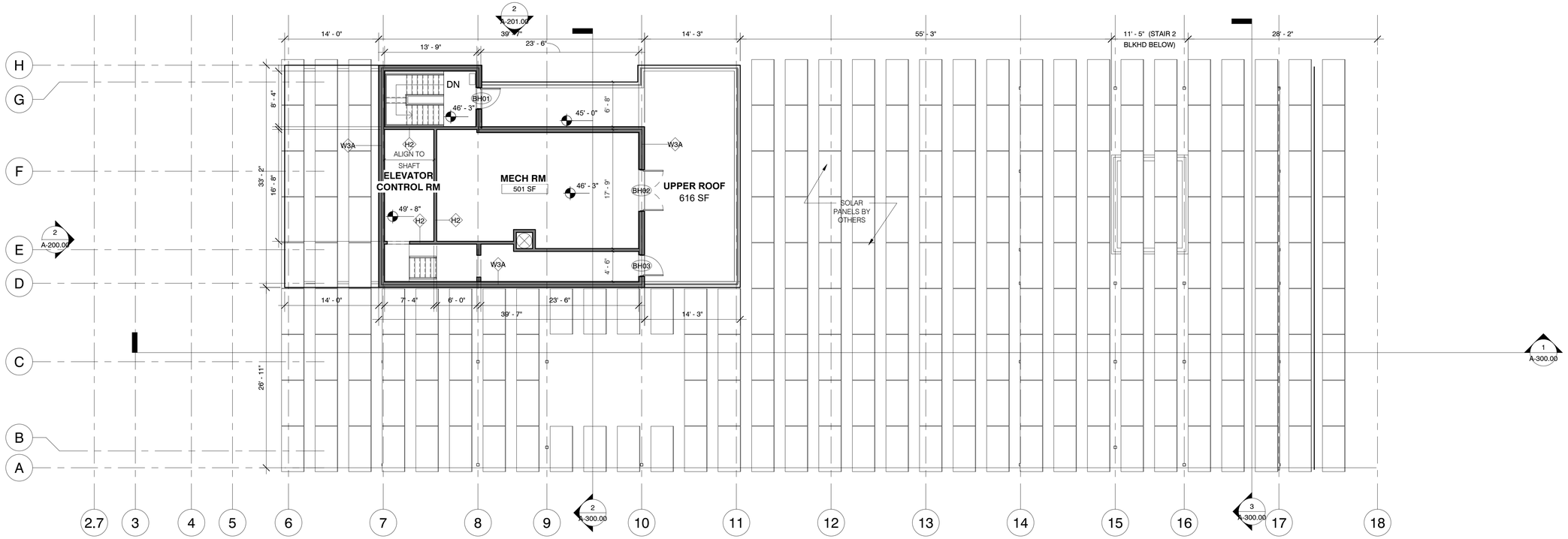
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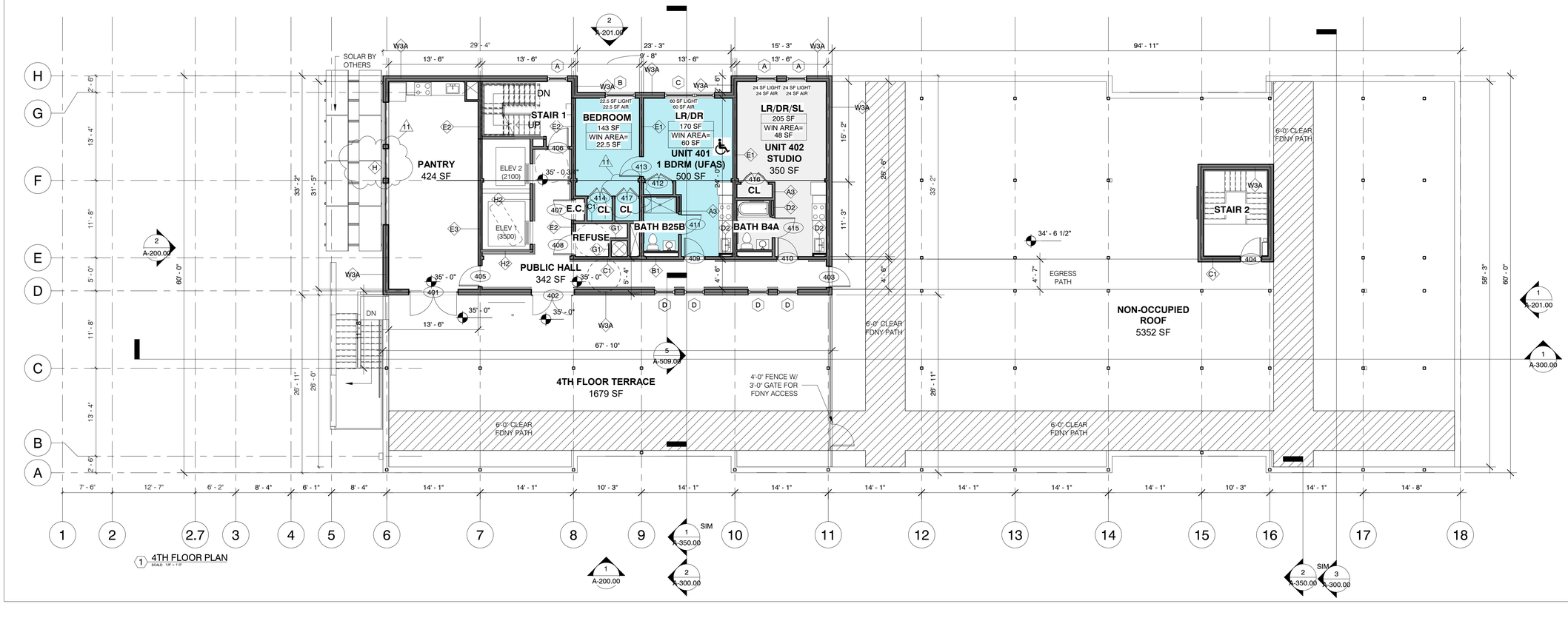
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DOB #: 321595083

Sheet #: of



2 BULKHEAD PLAN
SCALE: 1/8" = 1'-0"



1 4TH FLOOR PLAN
SCALE: 1/8" = 1'-0"

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10	100% CD	06.03.20
11	RFI CLARIFICATIONS	06.18.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
–

Drawing Tile:

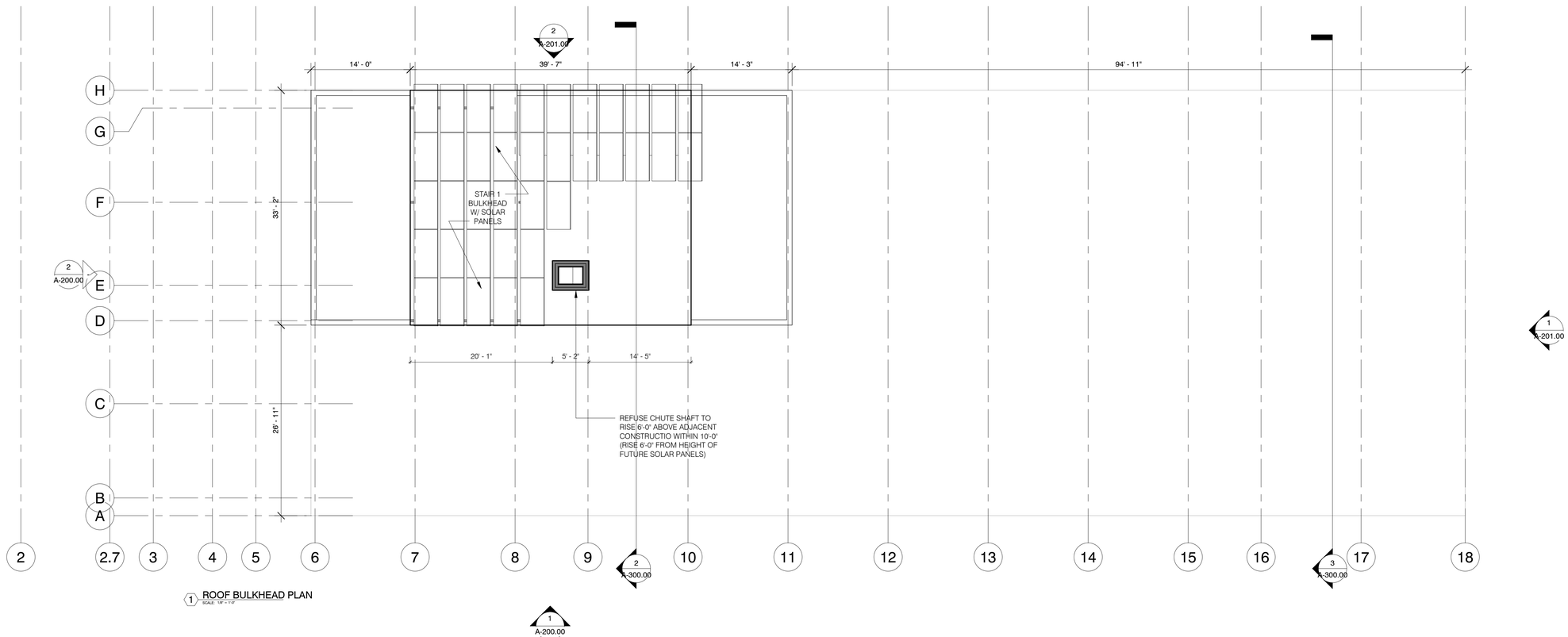
4TH FLOOR AND ROOF PLANS

Date: 03.5.2020
Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

DOB #: 321595083

Scale: 1/8" = 1'-0"
Drawn By #: Author
Chkd By #: Checker
Drawing #: A-102.00
Sheet #: of



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

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

BULKHEAD PLAN

Date: 03.5.2020

Scale: 1/8" = 1'-0"

Seal/Signature:

Drawn By #: Author

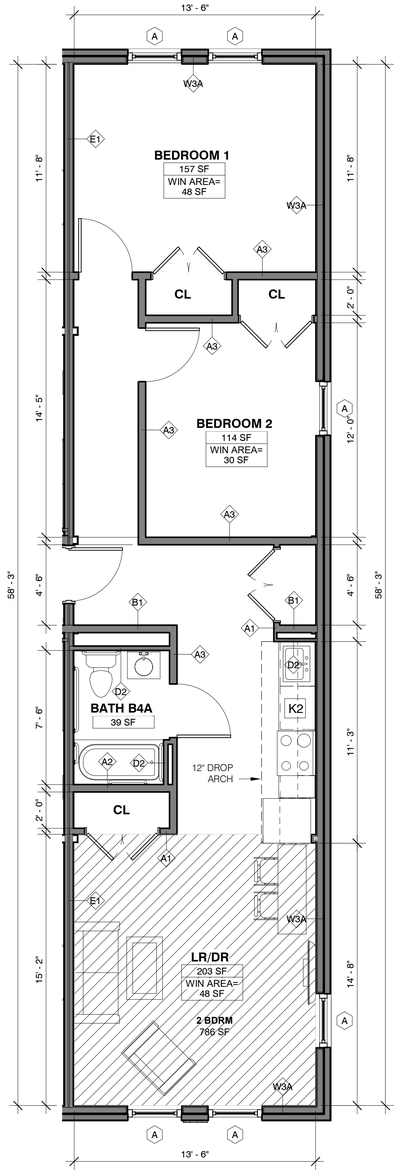
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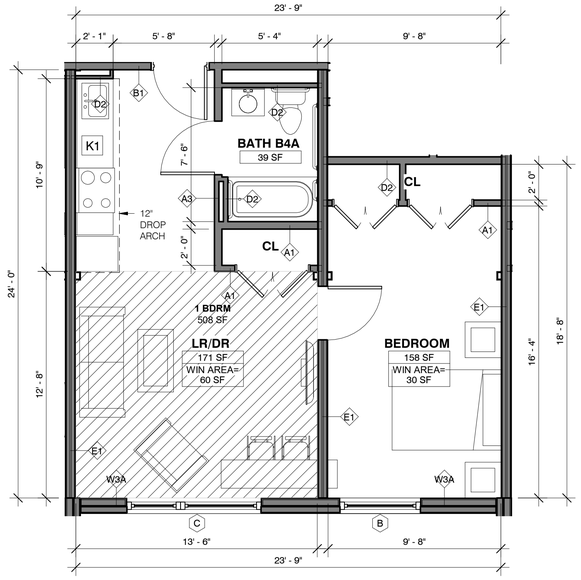
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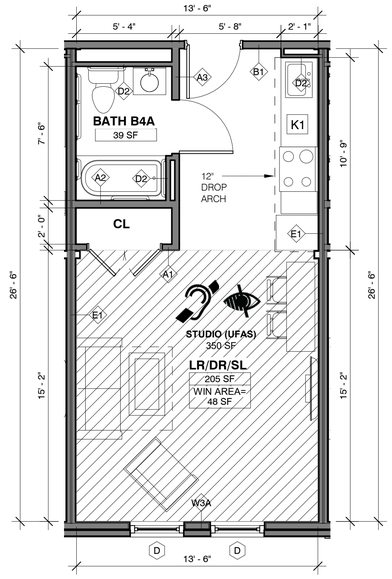
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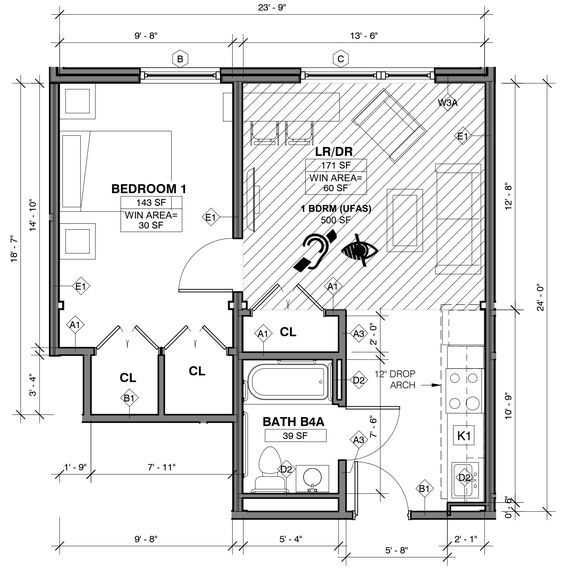
UNIT DETAIL PLAN - 2 BDRM (109)
5 SUPER'S UNIT
SCALE: 1/4" = 1'-0"



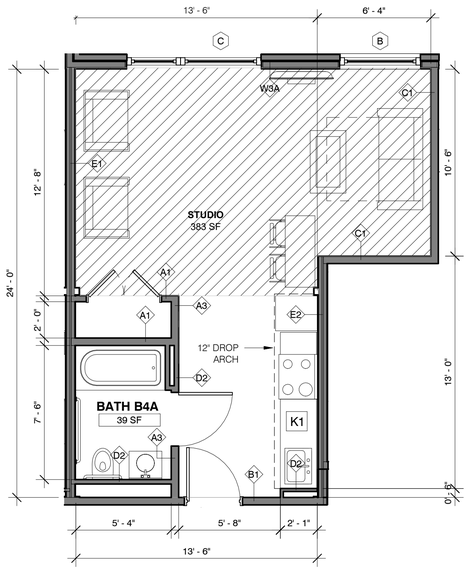
UNIT DETAIL PLAN - 1 BDRM (111, 213, 312)
7 SCALE: 1/4" = 1'-0"



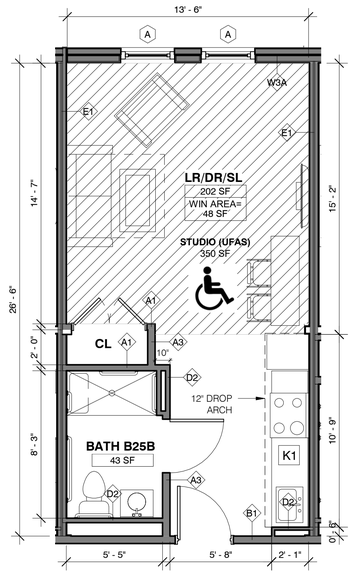
UNIT DETAIL PLAN - STUDIO (113) UFAS VISION/HEARING
4 SCALE: 1/4" = 1'-0"



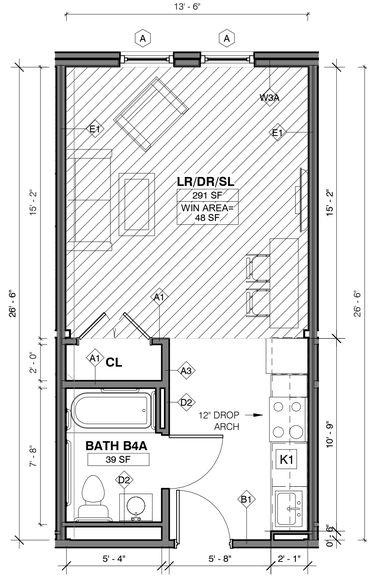
UNIT DETAIL PLAN - 1 BDRM (102) UFAS VISION/HEARING
6 SCALE: 1/4" = 1'-0"



UNIT DETAIL PLAN - STUDIO (107)
3 SCALE: 1/4" = 1'-0"



UNIT DETAIL PLAN - STUDIO (104, 209, 304) UFAS MOBILITY
2 SCALE: 1/4" = 1'-0"



UNIT DETAIL PLAN - STUDIO (101, 103, 105-106, 108, 201-202, 204-207, 210, 301, 303, 305-306, 308-309, 402)
1 SCALE: 1/4" = 1'-0"

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

UNIT PLANS

Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI NEW YORK STATE

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

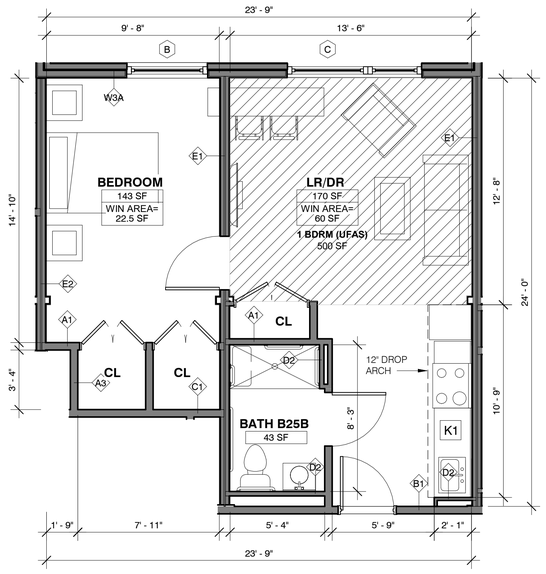
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Chkd By #: Checker

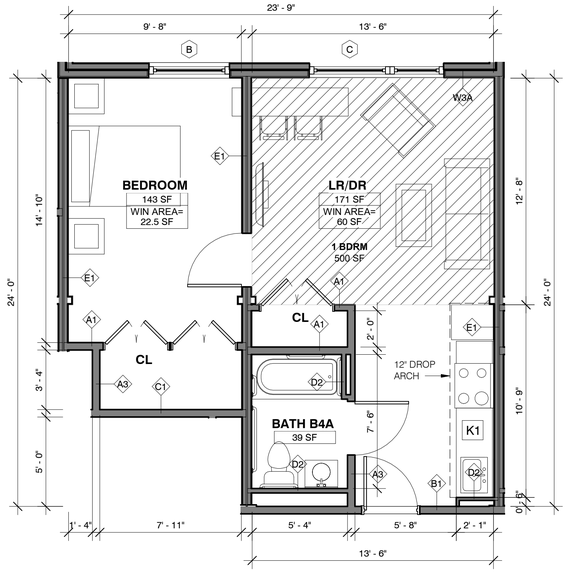
Drawing #: A-105.00

DOB #: 321595083

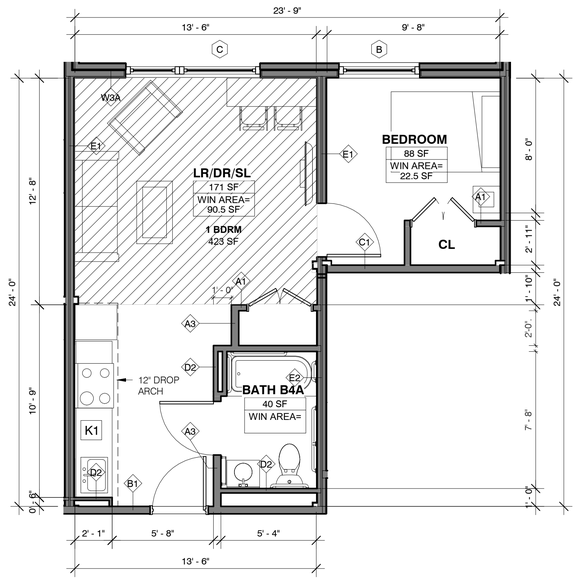
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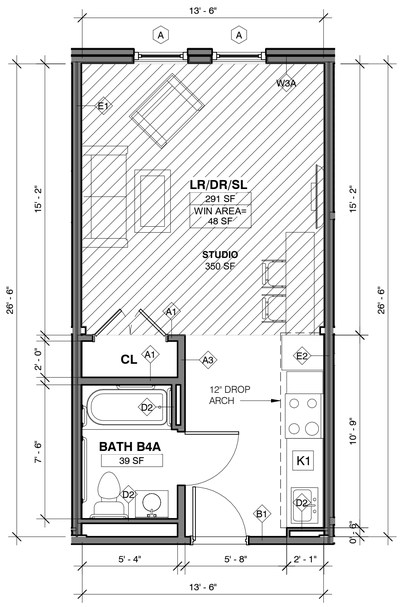
UNIT DETAIL PLAN - 1 BDRM (401) UFAS MOBILITY
8 SCALE: 1/4" = 1'-0"



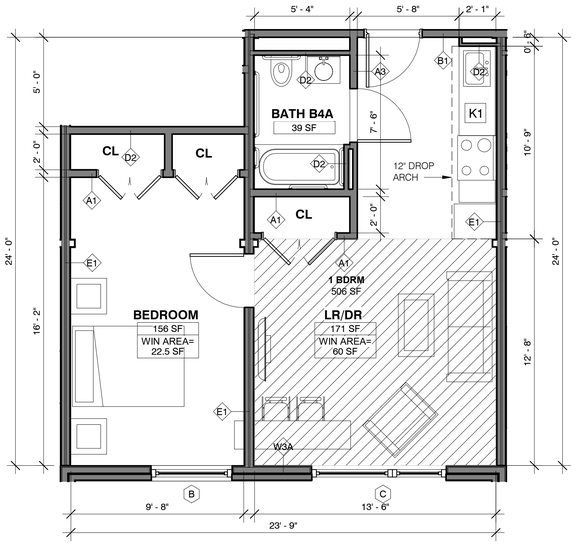
UNIT DETAIL PLAN - 1 BDRM (203, 302)
2 SCALE: 1/4" = 1'-0"



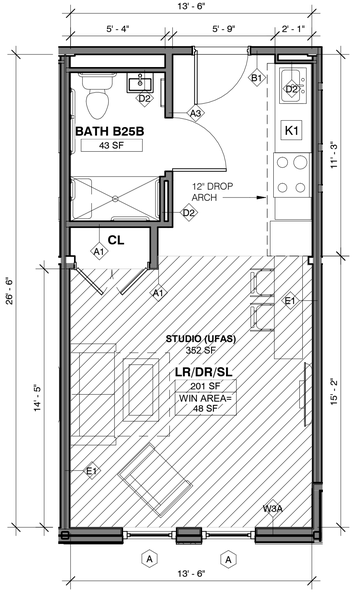
UNIT DETAIL PLAN -1 BDRM (208, 307)
3 SCALE: 1/4" = 1'-0"



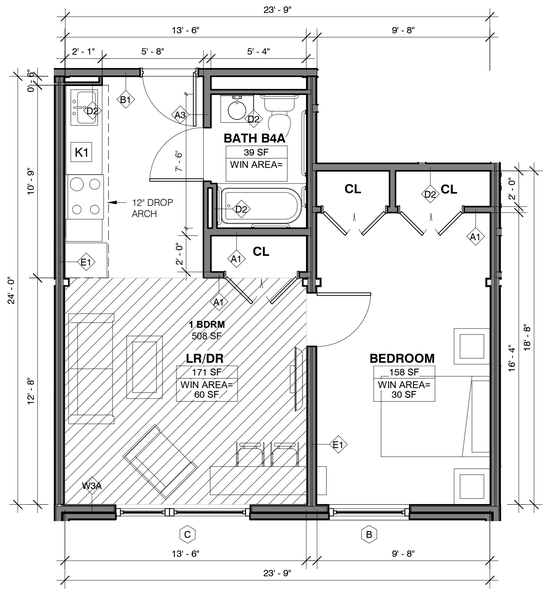
UNIT DETAIL PLAN - STUDIO (110, 112, 114-116, 211-212, 214, 216-217, 219-220, 310-311, 313-316)
1 SCALE: 1/4" = 1'-0"



5 UNIT DETAIL PLAN - 1 BDRM (218, 317)
SCALE: 1/4" = 1'-0"



UNIT DETAIL PLAN - STUDIO (215, 318) UFAS MOBILITY
7 SCALE: 1/4" = 1'-0"



4 UNIT DETAIL PLAN - 1 BDRM (213, 312)
SCALE: 1/4" = 1'-0"

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10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
DOB FILING

Drawing Title:

UNIT PLANS

Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

DOB #: 321595083

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

Drawn By: Author

Chkd By: Checker

Drawing #:

A-106.00

Sheet #: OF 45



2 RCP_1ST FLOOR



1 RCP_CELLAR
SCALE: 1/8" = 1'-0"

PAUL A. CASTRUCCI ARCHITECT

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NEW YORK, NEW YORK
10002
TEL 212.254.7060
FAX 212.260.7199
email@castrucciarchitect.com

NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

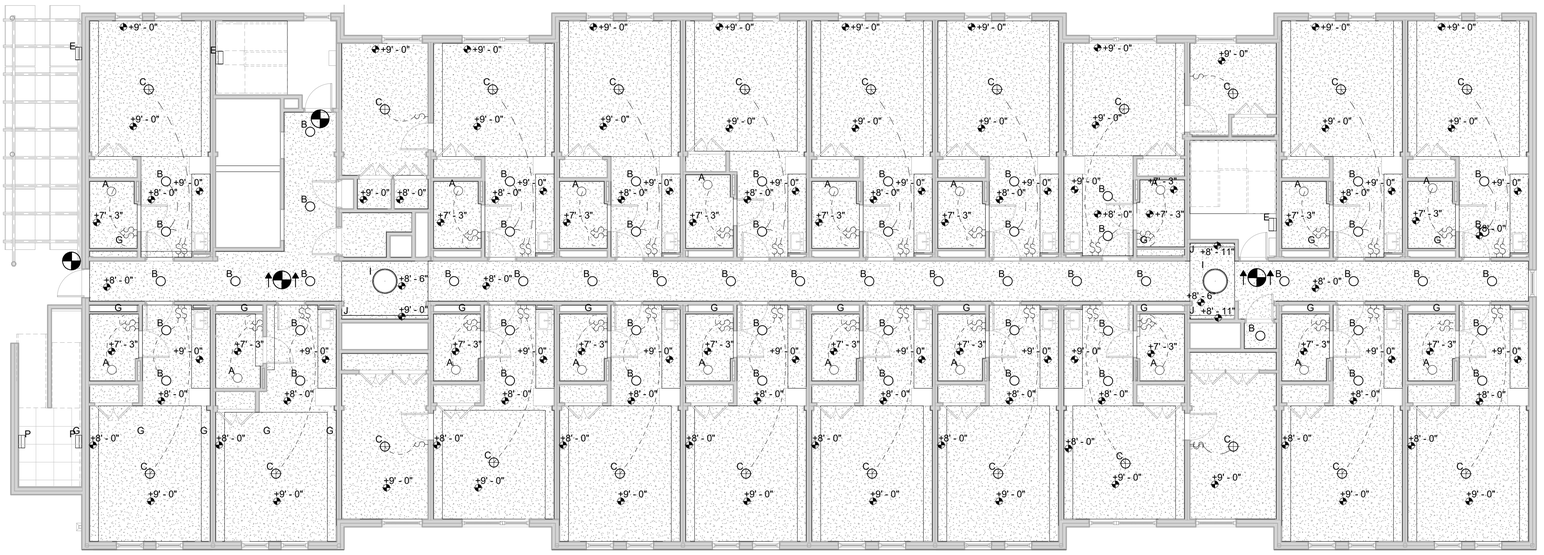
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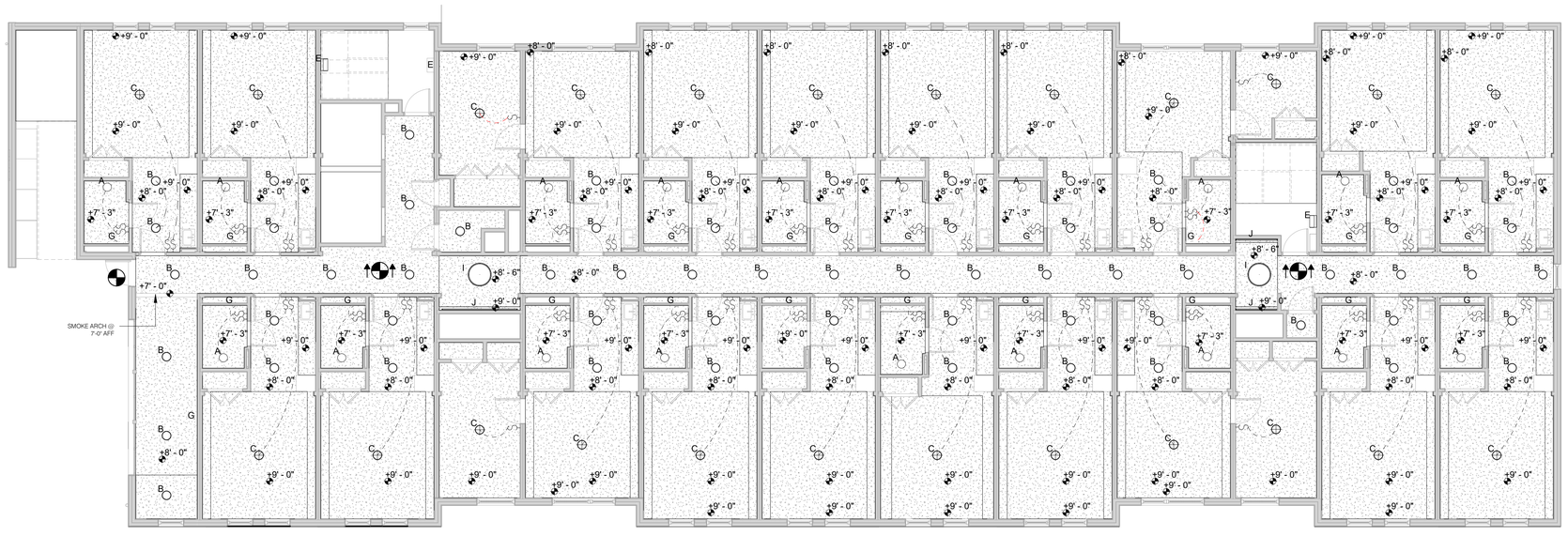
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CELLAR & 1ST FLOOR RCP

Date: 03.5.2020
Scale: 1/8" = 1'-0"
Seal/Signature:
Drawn By #: Author
Chkd By #: Checker
Drawing #: A-120.00
DOB #: 321595083
Sheet #: of



2 RCP 3RD FLOOR



1 RCP 2ND FLOOR

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10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

2ND & 3RD FLOOR RCP

Date: 03.5.2020

Scale: 1/8" = 1'-0"

Seal/Signature:

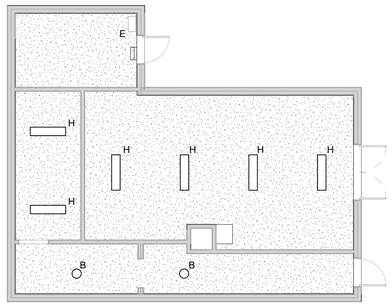
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Chkd By #: Checker

Drawing #: A-121.00

DOB #: 321595083

Sheet #: of

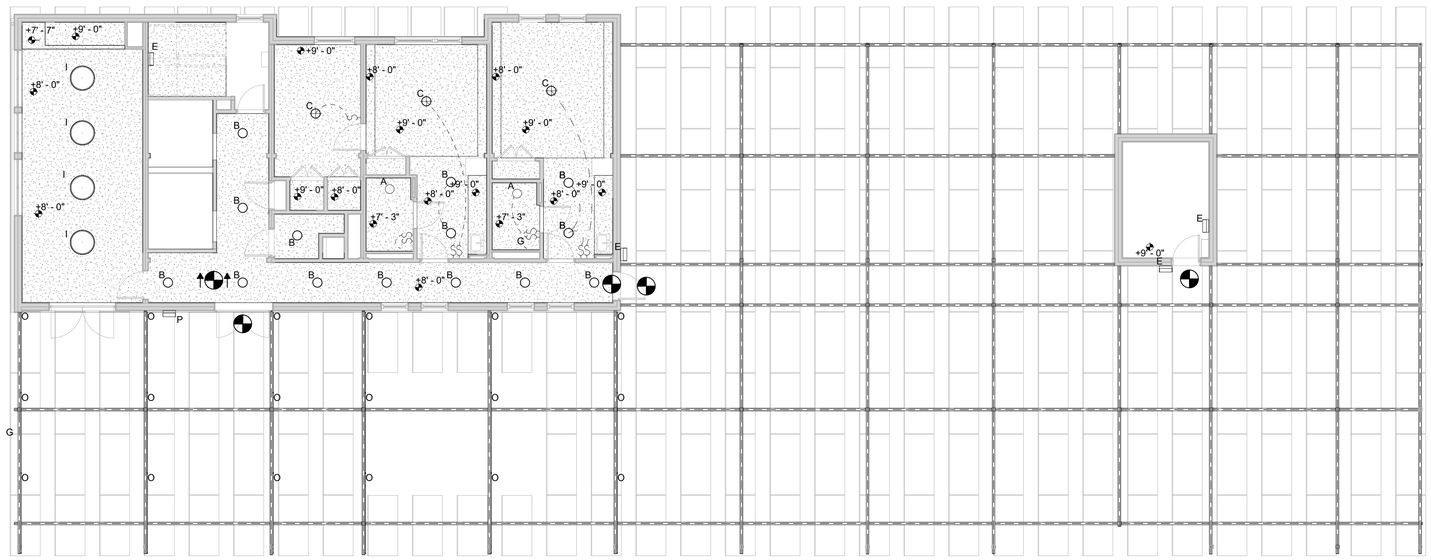


2 RCP_BULKHEAD
SCALE: 1/8" = 1'-0"

Lighting Fixture Schedule				
Type Mark	Count	Lamp	Manufacturer	Comments
A	57	NDLED3 (Wet Location)	RAB	
B	253	NDLED3 (Dry Location)	RAB	
C	71	SK16XL20RDY (Surface Mount)	RAB	
E	20	WPLED52 (Wall Pack)	RAB	
G	67	BOA2-10D10	RAB	
H	43	GUS4-36YW/D10 (Cellar Basic)	RAB	UPDATED 2/26
I	16	Smithfield Flos (Fluorescent lamping)	Smithfield	
J	9	FLEXICOVE	RAB	
L	8	NDLED3 Wall Wash	RAB	UPDATED 2/26
M	6	VXBRLED13DG (Crawlspace)	RAB	UPDATED 2/26
N	21	TBD GREENHOUSE LIGHT		UPDATED 4/22
O	20	9' EXTERIOR LENSED STRIP LED		
P	15	BRISKM Wallpack	RAB	
Q	1	MSCR1C Rotating Sconce	France&Son	UPDATED 4/22

Grand total: 607 607

NOTE:
REFERENCE MECHANICAL ENGINEER'S LIGHTING
DRAWING TO IDENTIFY LIGHTS WITH EMERGENCY WIRING



1 RCP_4TH FLOOR

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9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

4TH FLOOR RCP AND LIGHTING SCHEDULE

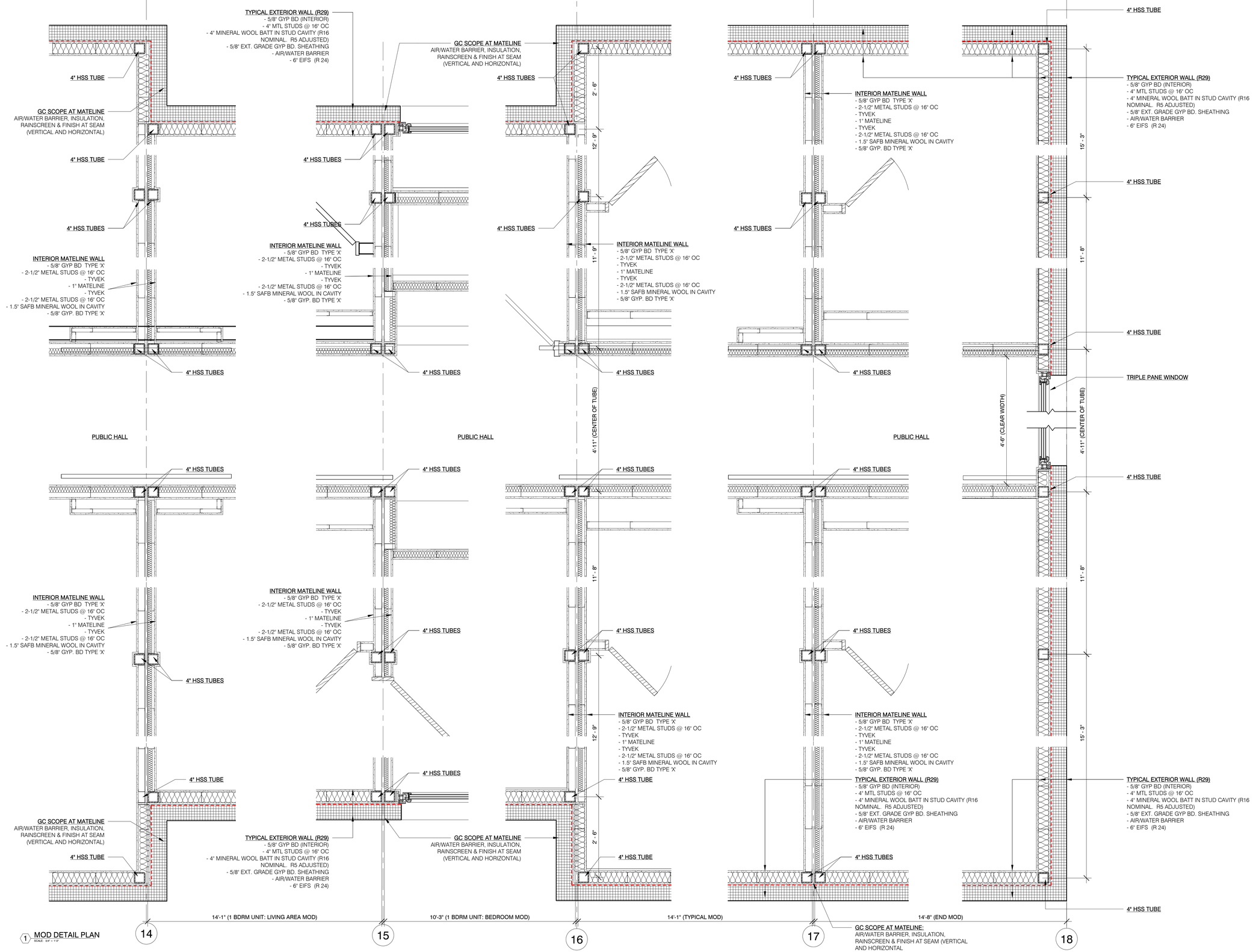
Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

DOB #: 321595083

Scale: 1/8" = 1'-0"
Drawn By: Author
Chkd By: Checker
Drawing #: A-122.00
Sheet #: OF -



1 MOD DETAIL PLAN
SCALE: 3/4" = 1'-0"

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10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
DOB FILING

Drawing Title:

DETAIL PLANS

Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT — STATE OF NEW YORK

Scale: 3/4" = 1'-0"

Drawn By: Author

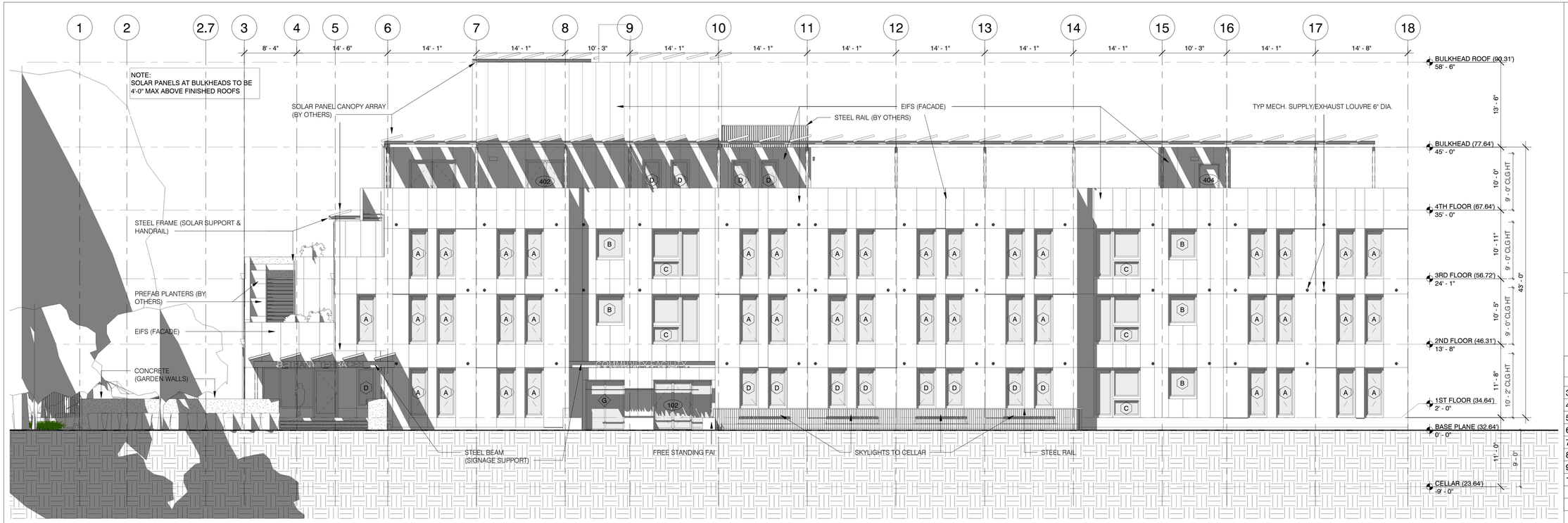
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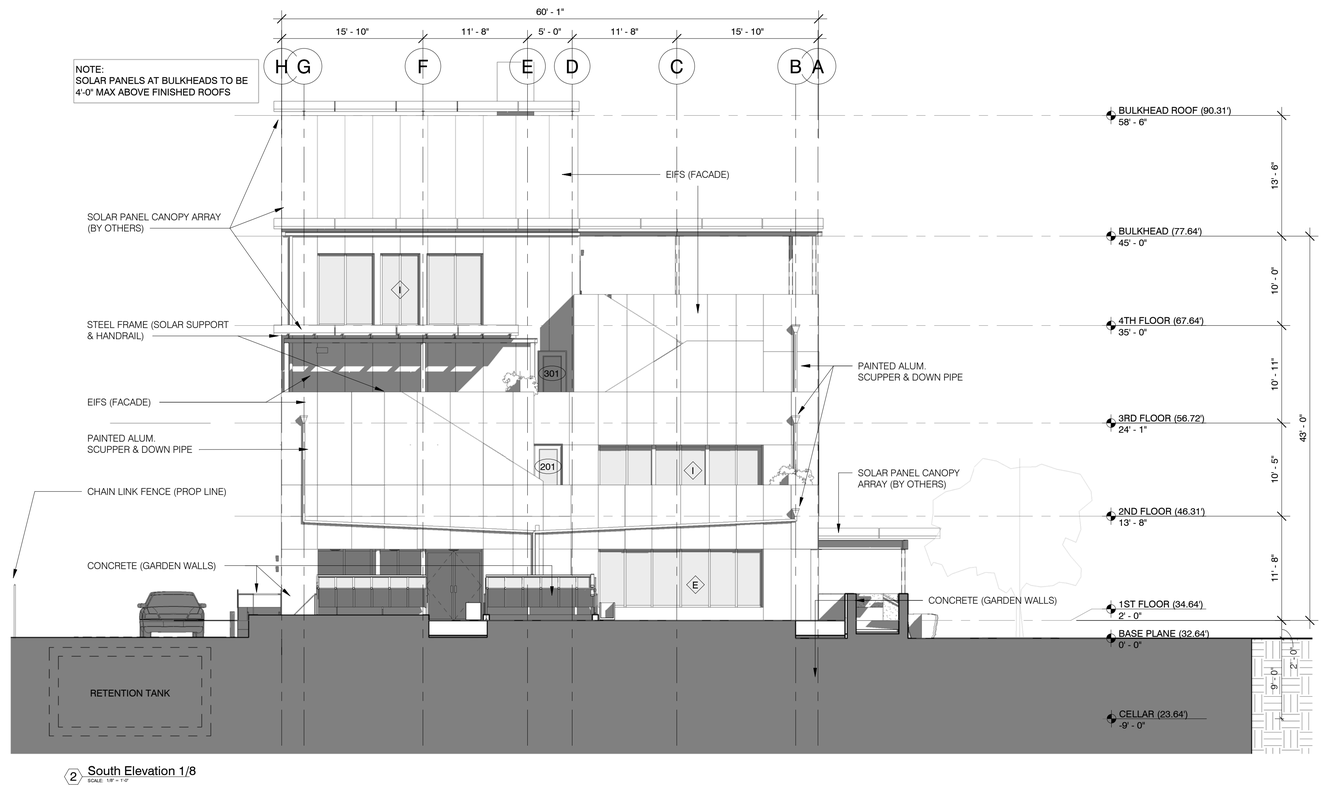
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DOB #: 321595083

Sheet #: OF 45



1 East Elevation 1/8
SCALE: 1/8" = 1'-0"



2 South Elevation 1/8
SCALE: 1/8" = 1'-0"

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9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

EXTERIOR ELEVATION

Date: 03.5.2020

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #: Author

Chkd By #: Checker

Drawing #:

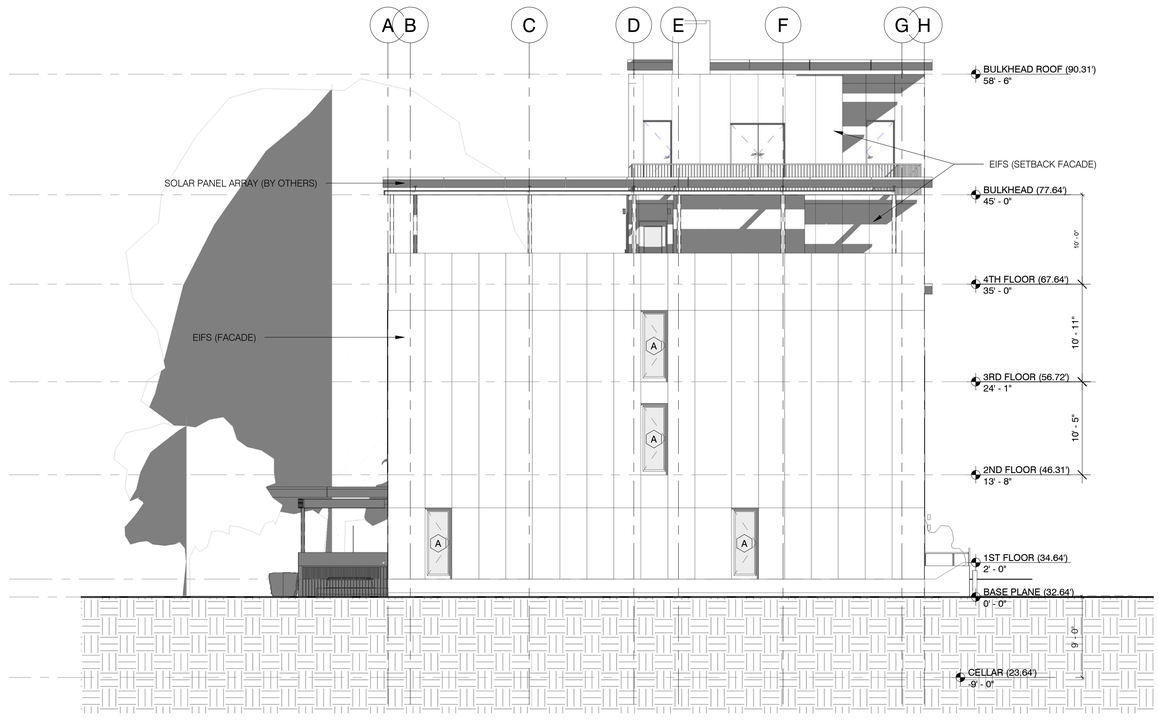
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DOB #: 321595083

Sheet #: of



2 West Elevation 1/8
SCALE: 1/8" = 1'-0"



1 North Elevation 1/8
SCALE: 1/8" = 1'-0"

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

EXTERIOR ELEVATION

Date: 03.5.2020

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #: Author

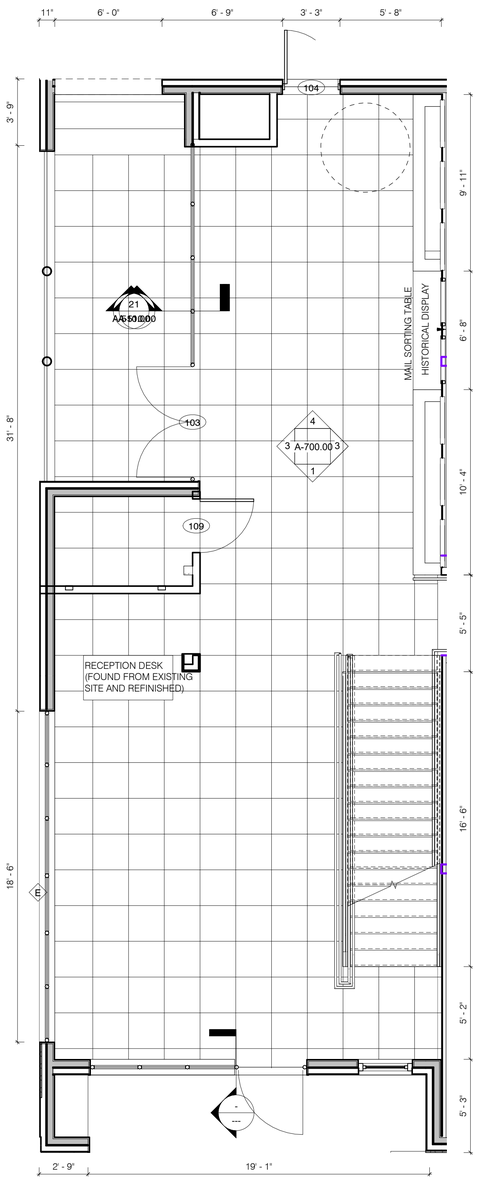
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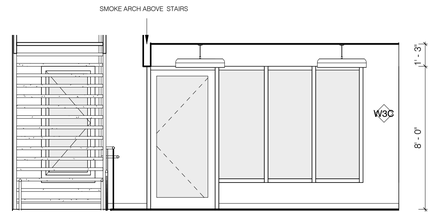
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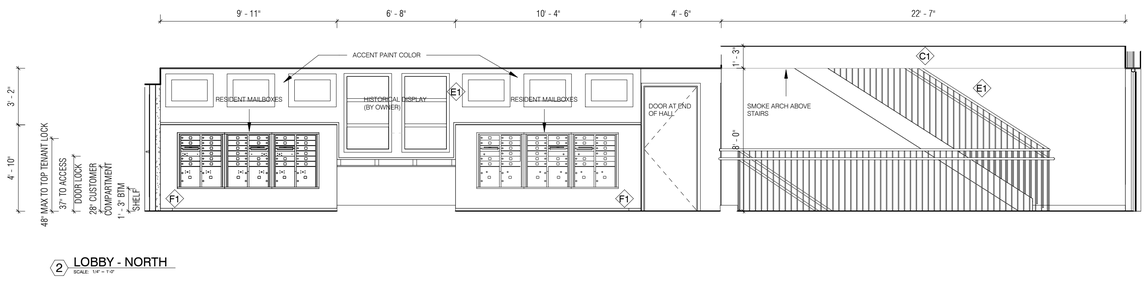
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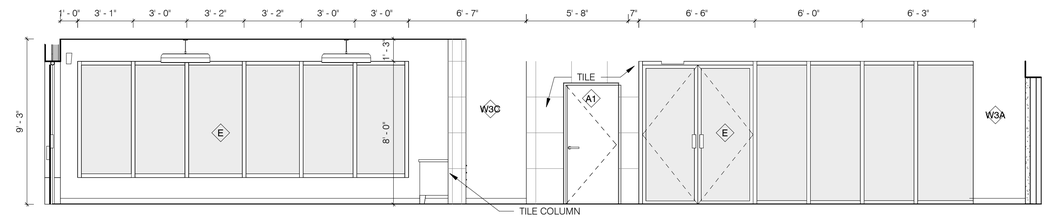
10 1ST FLOOR/BASE PLANE_1/8" - DETAIL PLAN
SCALE: 1/8" = 1'-0"



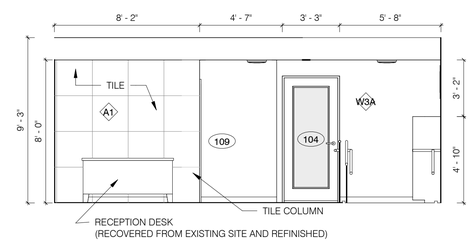
1 LOBBY - EAST
SCALE: 1/4" = 1'-0"



2 LOBBY - NORTH
SCALE: 1/4" = 1'-0"



3 LOBBY - SOUTH
SCALE: 1/4" = 1'-0"



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

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10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

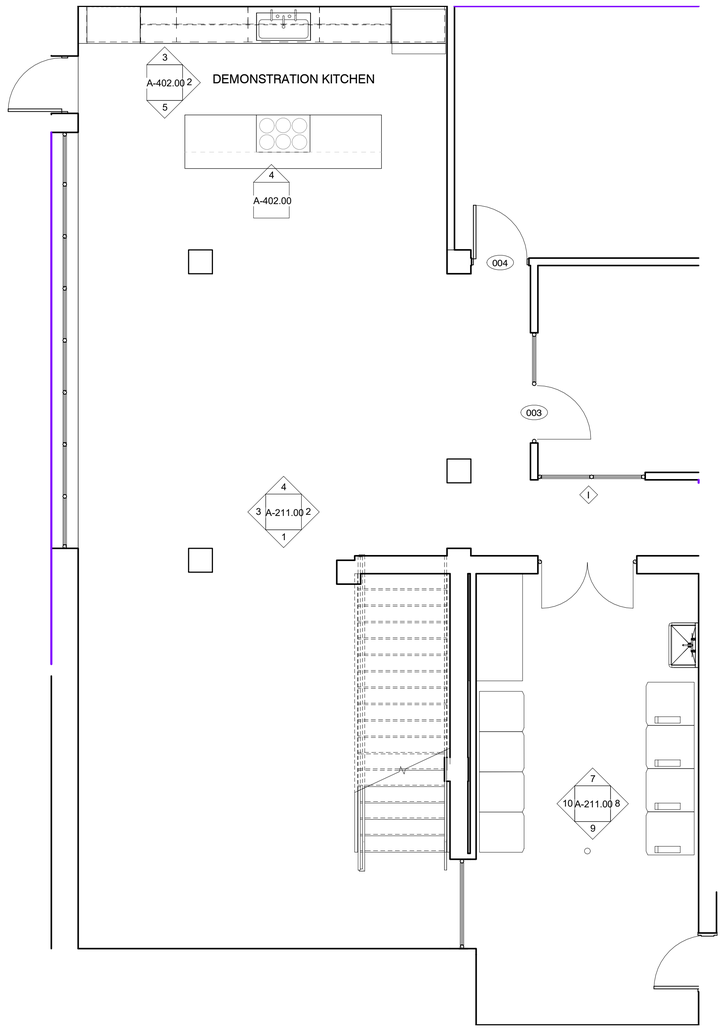
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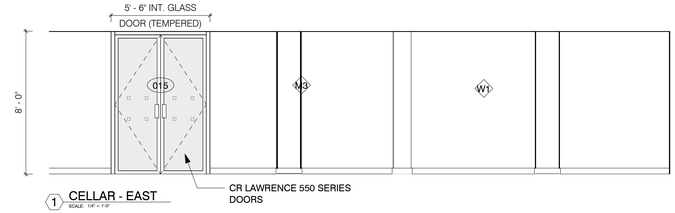
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INTERIOR ELEVATION - LOBBY

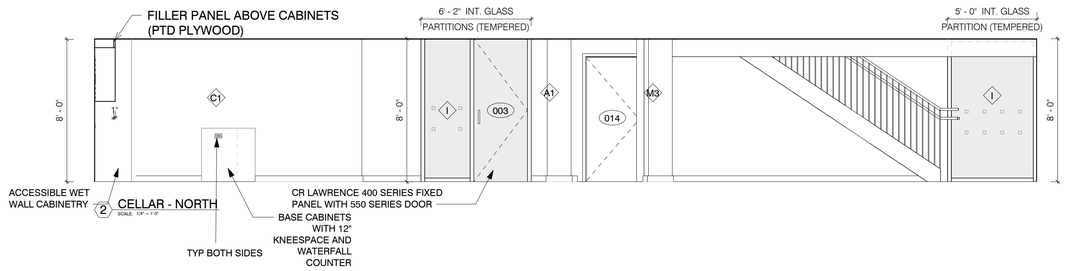
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Drawn By #: Author
Chkd By #: Checker
Drawing #: A-210.00
DOB #: 321595083
Sheet #: of



5 CELLAR_1/8" - DETAIL PLAN
SCALE: 1/8" = 1'-0"

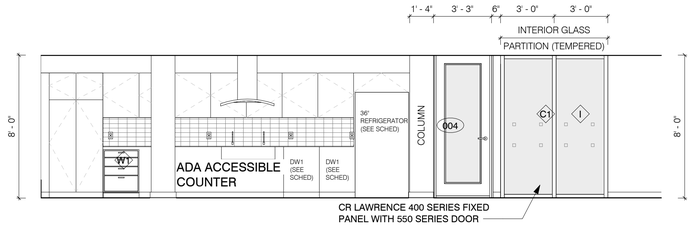


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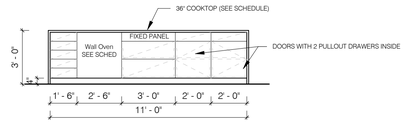


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SCALE: 1/4" = 1'-0"

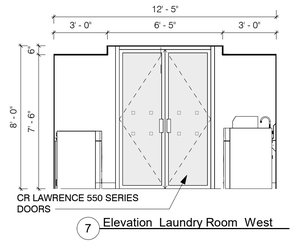
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SCALE: 1/4" = 1'-0"



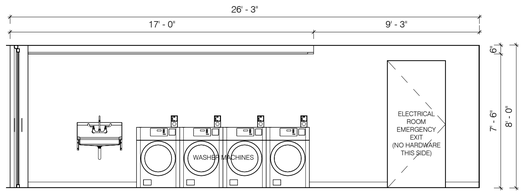
4 CELLAR - WEST
SCALE: 1/4" = 1'-0"



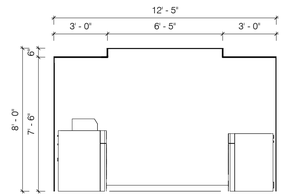
6 CELLAR DEMO KITCHEN ISLAND
SCALE: 1/4" = 1'-0"



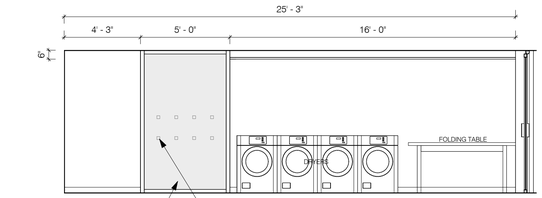
7 Elevation_Laundry Room_West



8 Elevation_Laundry Room_North



9 Elevation_Laundry Room_East



10 Elevation_Laundry Room_South

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10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

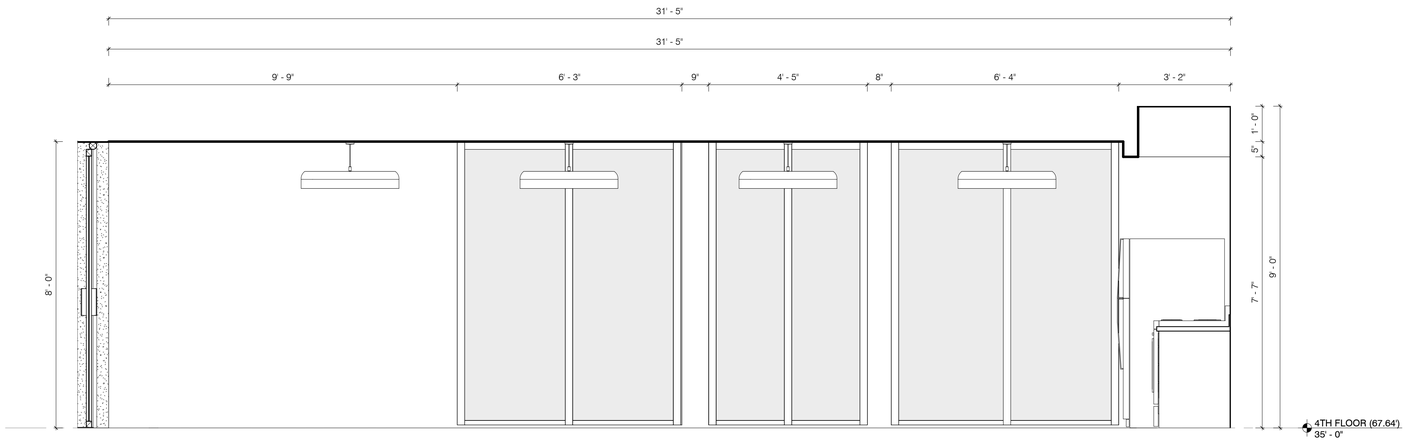
Drawing Title:

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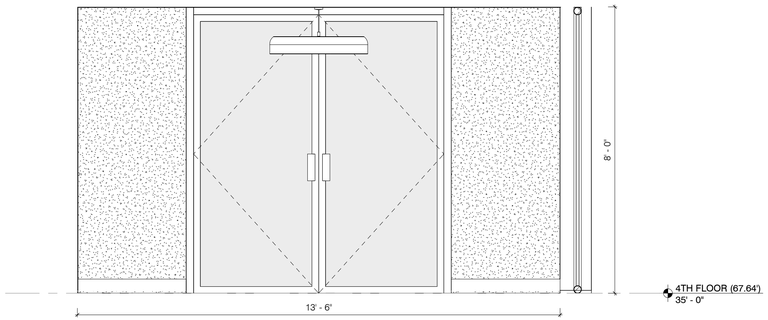
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Chkd By: Checker
Drawing #:
A-211.00

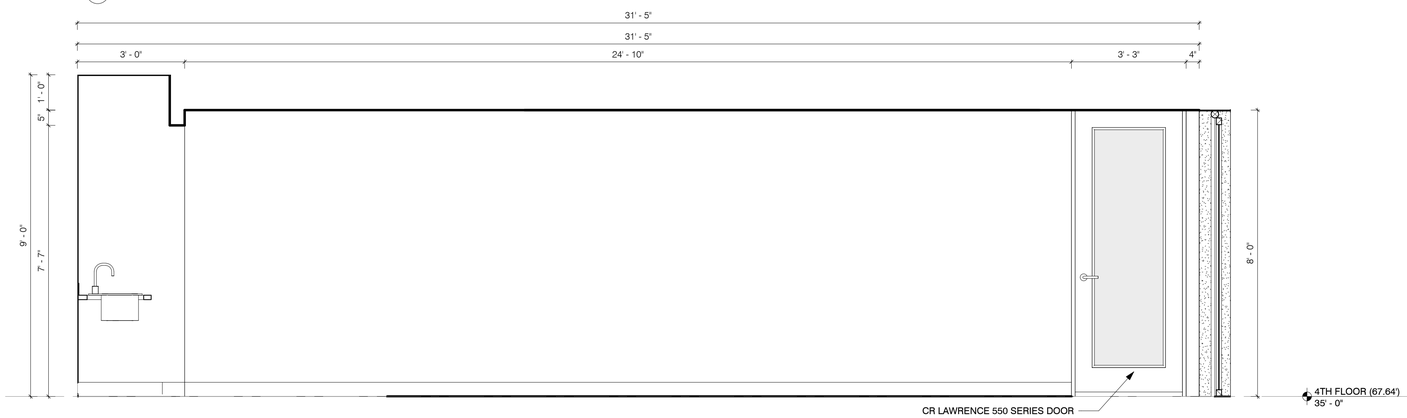
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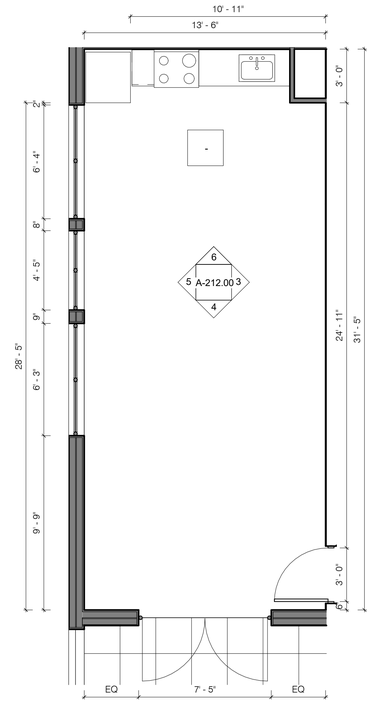
5 ELEVATION_COMMUNITY PANTRY_SOUTH



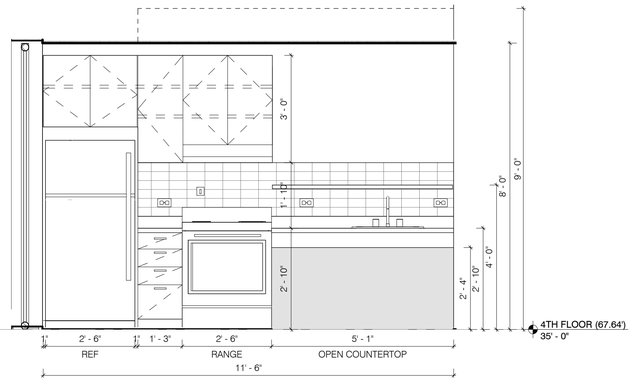
4 ELEVATION_COMMUNITY PANTRY_EAST



3 ELEVATION_COMMUNITY PANTRY_NORTH



1 4TH FLOOR_1/8" - Callout 1



6 ELEVATION_COMMUNITY PANTRY - WEST

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9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

INTERIOR ELEVATIONS - COMMUNITY PANTRY

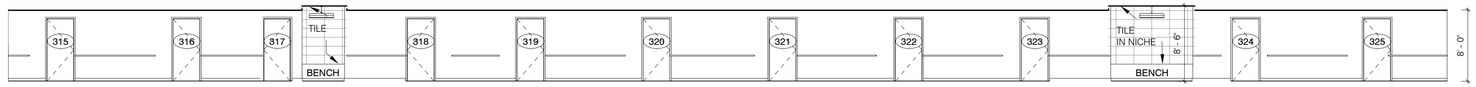
Date: 03.5.2020
Seal/Signature:



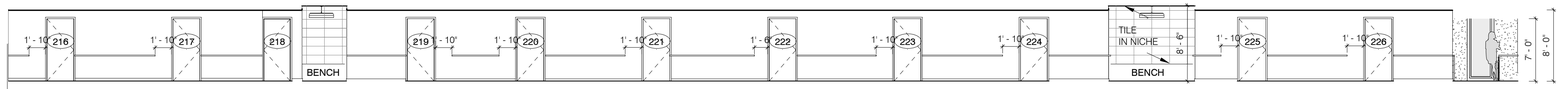
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Drawn By: Author
Chkd By: Checker
Drawing #:
A-212.00
DOB #: 321595083
Sheet #: OF -



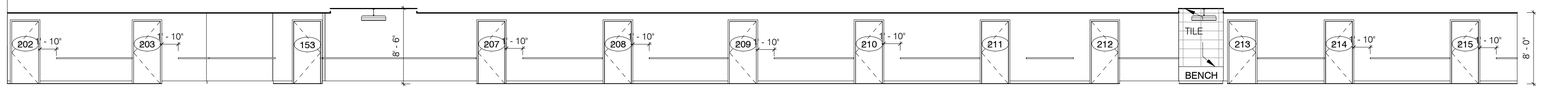
6 ELEVATION - 3RD FLR - HALLWAY WEST
SCALE: 1/8" = 1'-0"



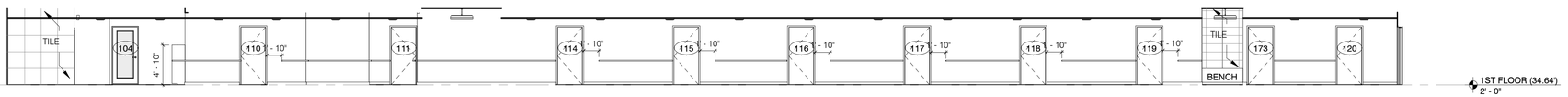
5 ELEVATION - 3RD FLR - HALLWAY EAST
SCALE: 1/8" = 1'-0"



4 ELEVATION - 2ND FLR - HALLWAY EAST
SCALE: 1/8" = 1'-0"



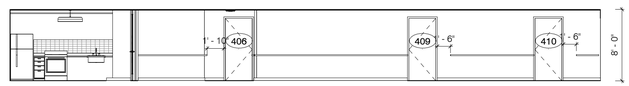
3 ELEVATION - 2ND FLR - HALLWAY WEST
SCALE: 1/8" = 1'-0"



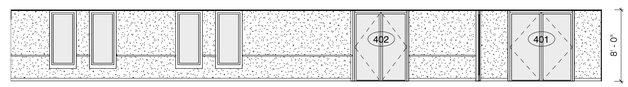
2 1ST FL - HALLWAY - WEST
SCALE: 1/8" = 1'-0"



1 1ST FL - HALLWAY - EAST
SCALE: 1/8" = 1'-0"



7 ELEVATION - 4TH FLR - HALLWAY WEST
SCALE: 1/8" = 1'-0"



8 ELEVATION - 4TH FLR - HALLWAY EAST
SCALE: 1/8" = 1'-0"

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NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

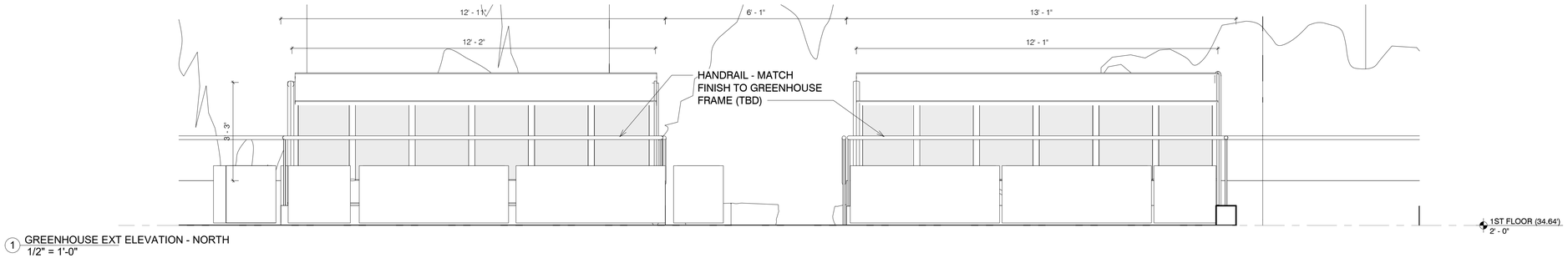
INTERIOR ELEVATIONS - HALLWAYS

Date: 03.5.2020
Seal/Signature:

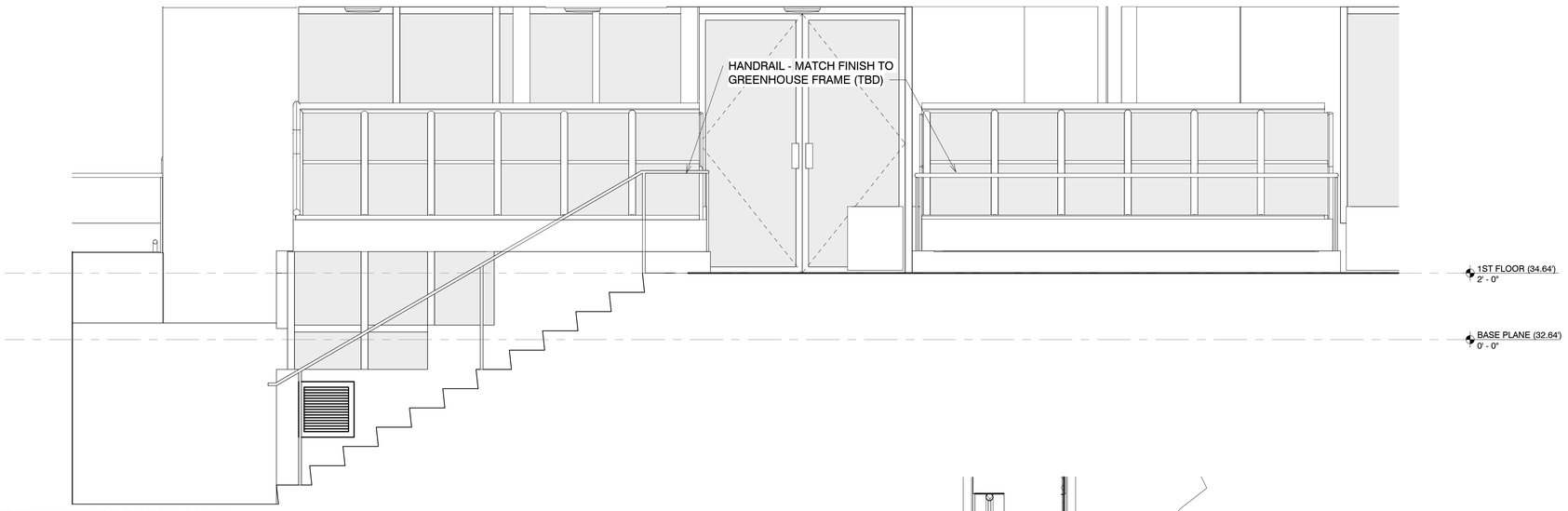
REGISTERED ARCHITECT
PAUL A. CASTRUCCI
STATE OF NEW YORK
No. 026890

DOB #: 321595083

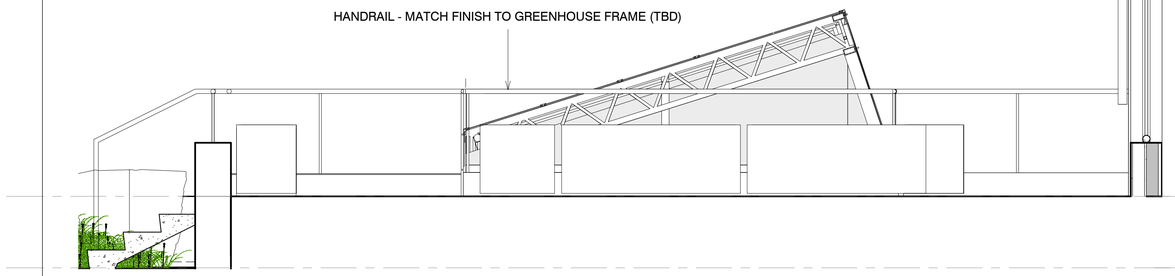
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Chkd By: Checker
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Sheet #: OF -



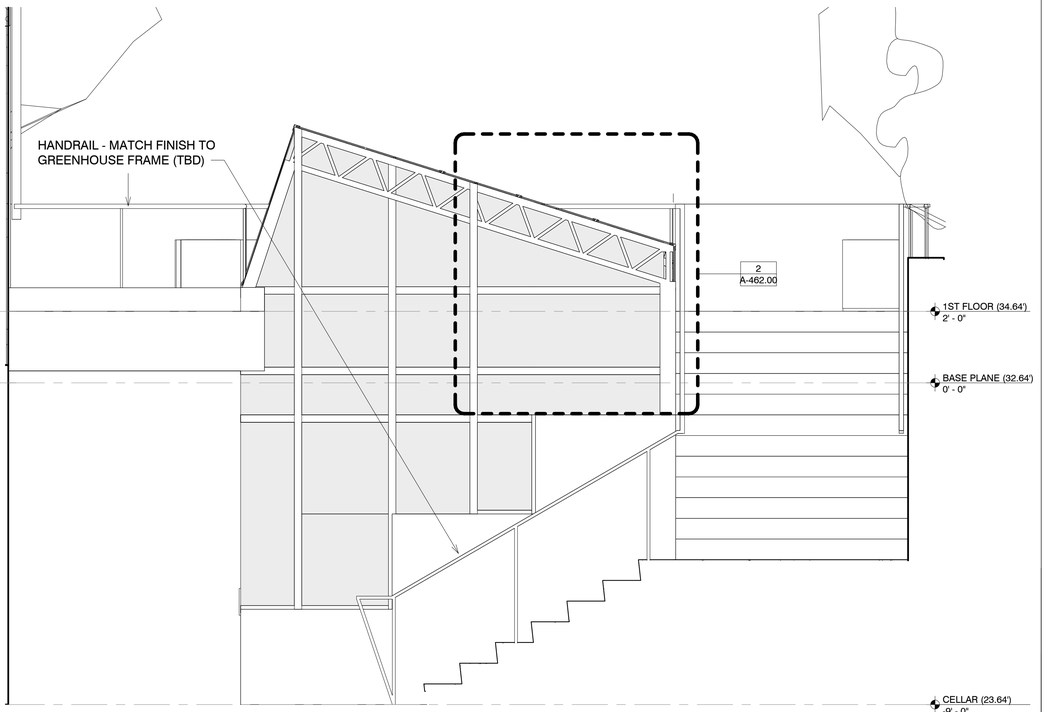
1 GREENHOUSE EXT ELEVATION - NORTH
1/2" = 1'-0"



3 GREENHOUSE EXT ELEVATION - SOUTH
1/2" = 1'-0"



2 GREENHOUSE EXT ELEVATION - EAST
1/2" = 1'-0"



4 GREENHOUSE EXT ELEVATION - WEST
1/2" = 1'-0"

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10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

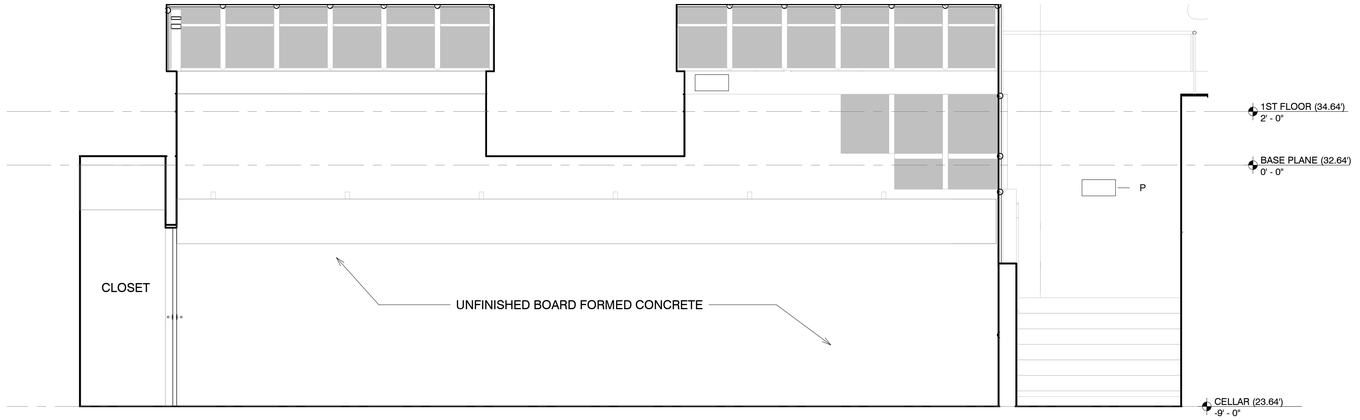
GREENHOUSE GARDEN ELEVATIONS

Date: 03.5.2020
Seal/Signature:

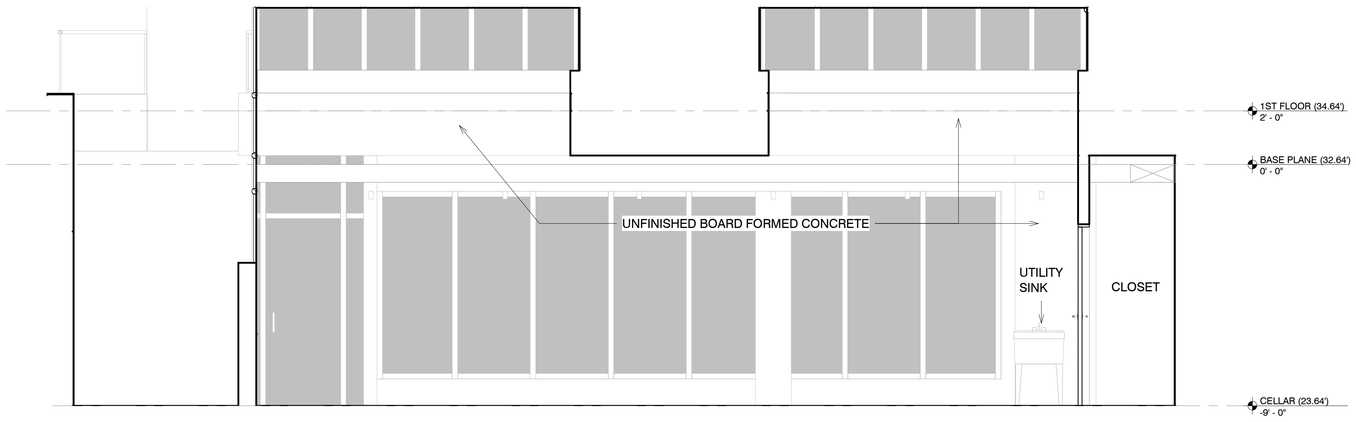


DOB #: 321595083

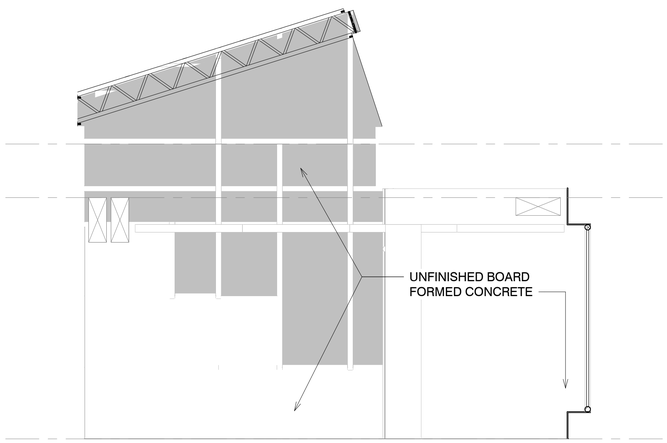
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Drawn By: Author
Chkd By: Checker
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A-214.00
Sheet #: OF -



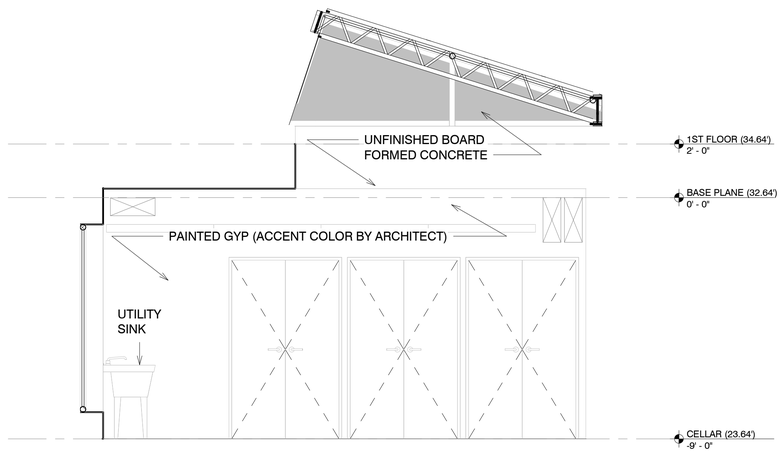
1 GREENHOUSE INTERIOR - SOUTH
3/8" = 1'-0"



3 GREENHOUSE INTERIOR - NORTH
3/8" = 1'-0"



2 GREENHOUSE INTERIOR - WEST
3/8" = 1'-0"



4 GREENHOUSE INTERIOR - EAST
3/8" = 1'-0"

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10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

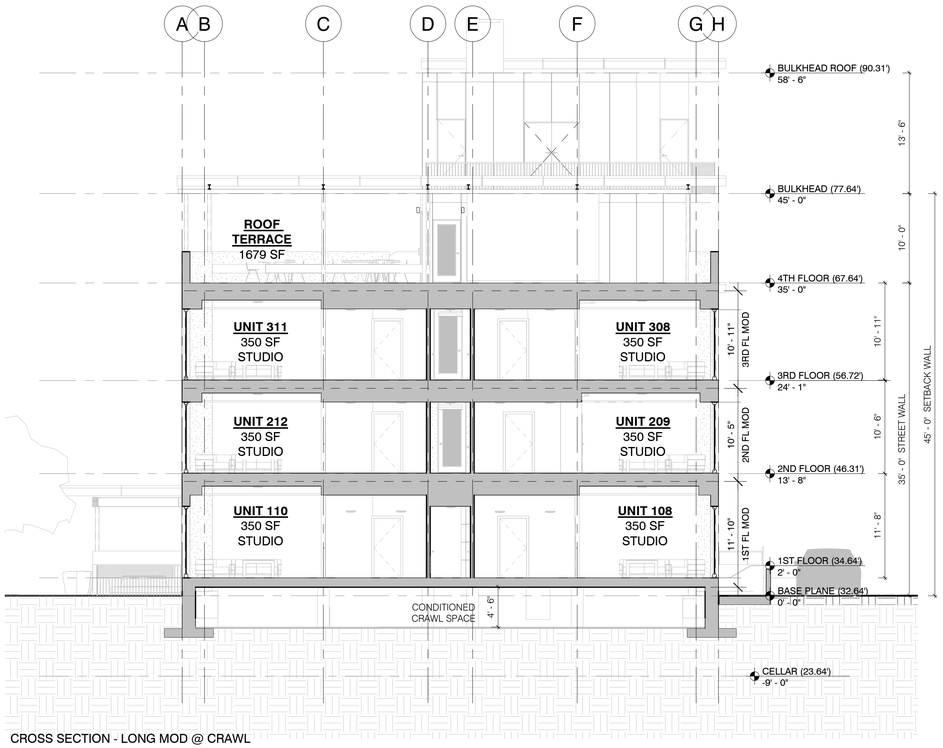
Drawing Title:

GREENHOUSE INTERIOR ELEVATIONS

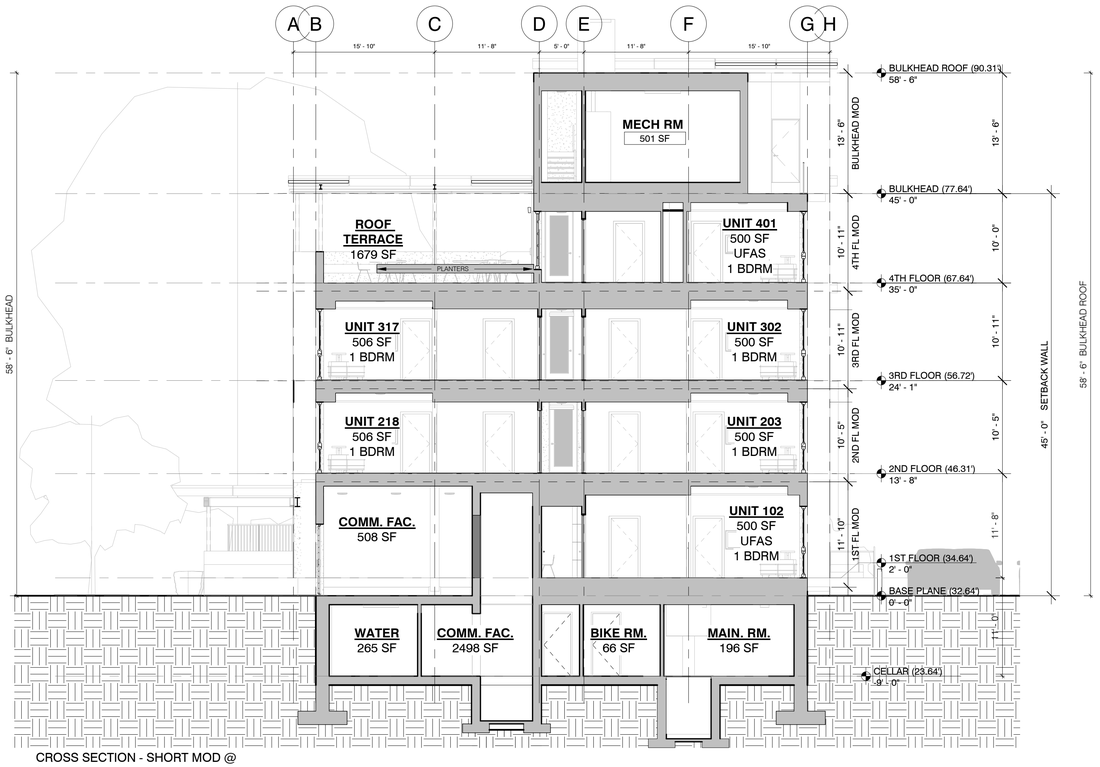
Date: 03.5.2020
Seal/Signature:

Scale: 3/8" = 1'-0"
Drawn By: Author
Chkd By: Checker
Drawing #:
A-215.00

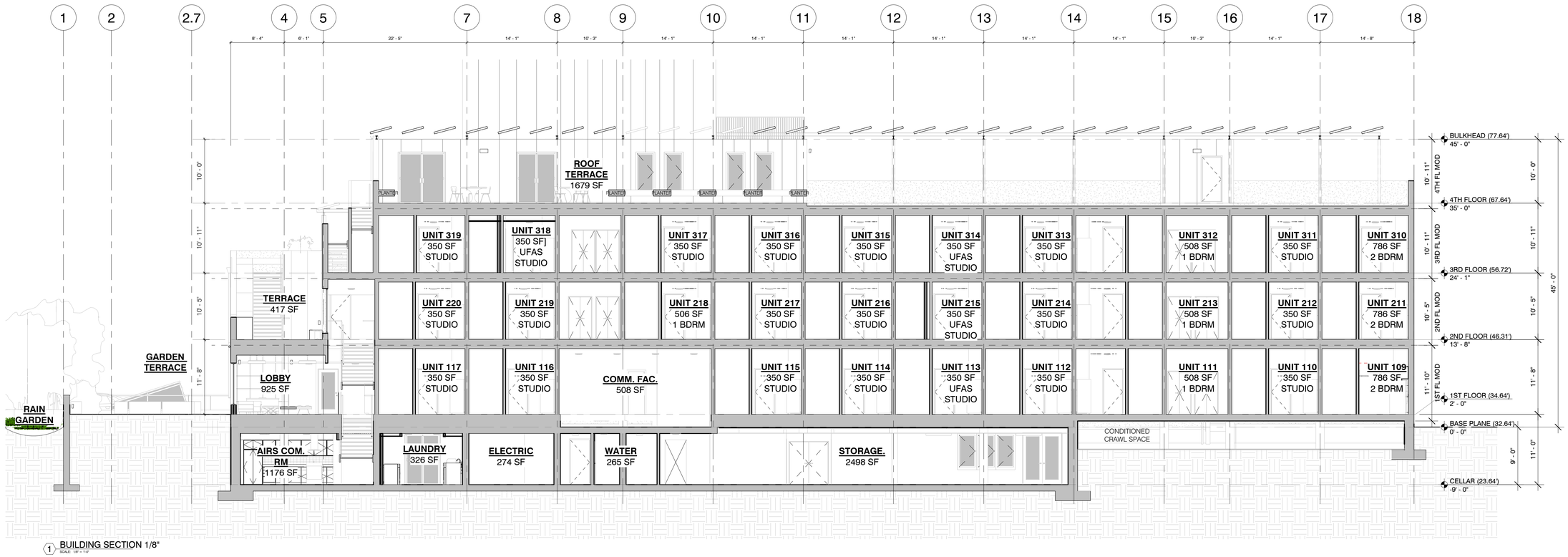
DOB #: 321595083
Sheet #: OF -



3 CROSS SECTION - LONG MOD @ CRAWL SPACE
SCALE: 1/8" = 1'-0"



2 CROSS SECTION - SHORT MOD @ CELLAR
SCALE: 1/8" = 1'-0"



1 BUILDING SECTION 1/8"
SCALE: 1/8" = 1'-0"

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6	100% DD	11.14.19
7	HPD BLDS	01.10.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

BUILDING SECTION

Date: 03.5.2020

Scale: 1/8" = 1'-0"

Seal/Signature:

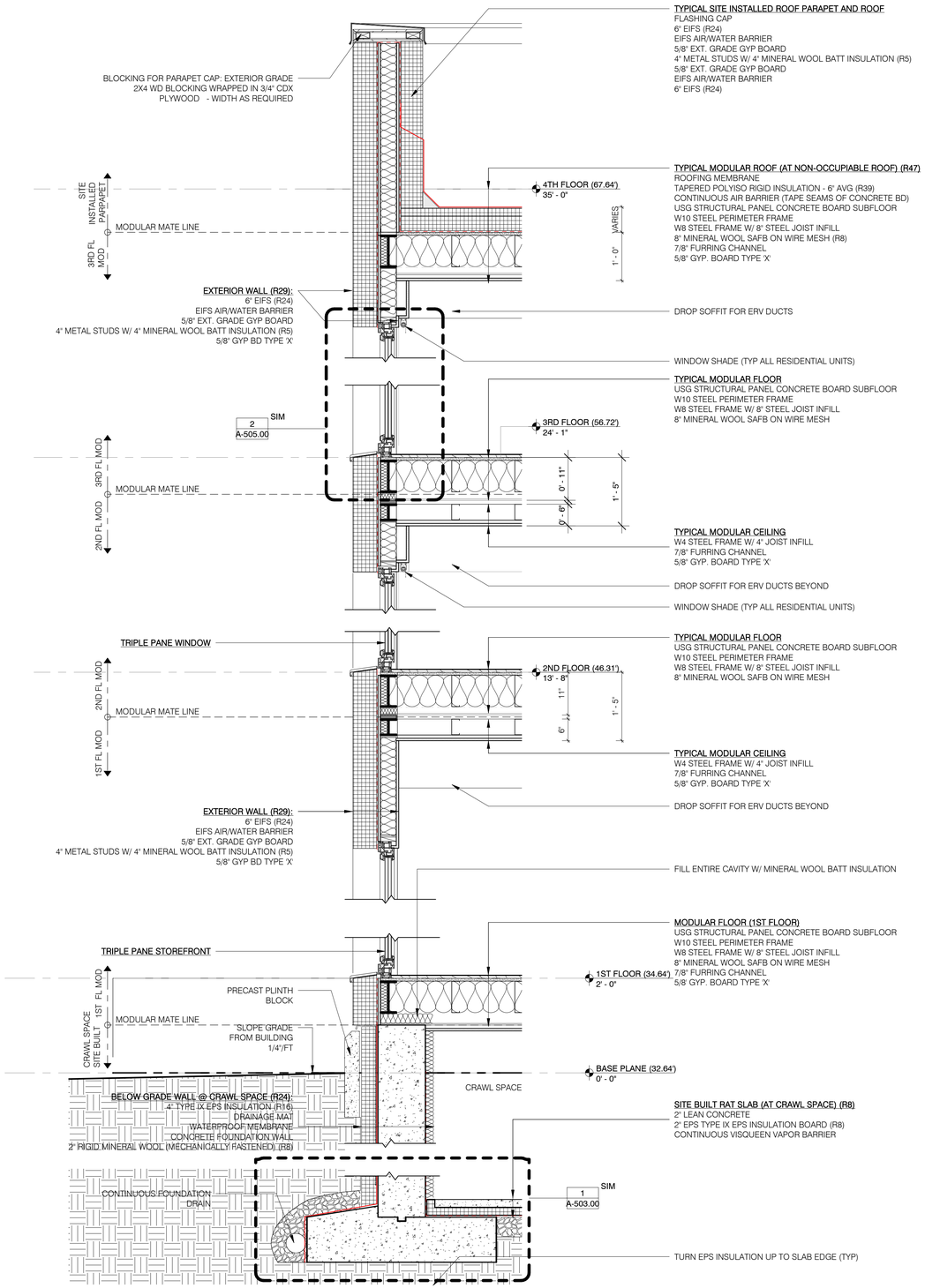
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Chkd By #: Checker

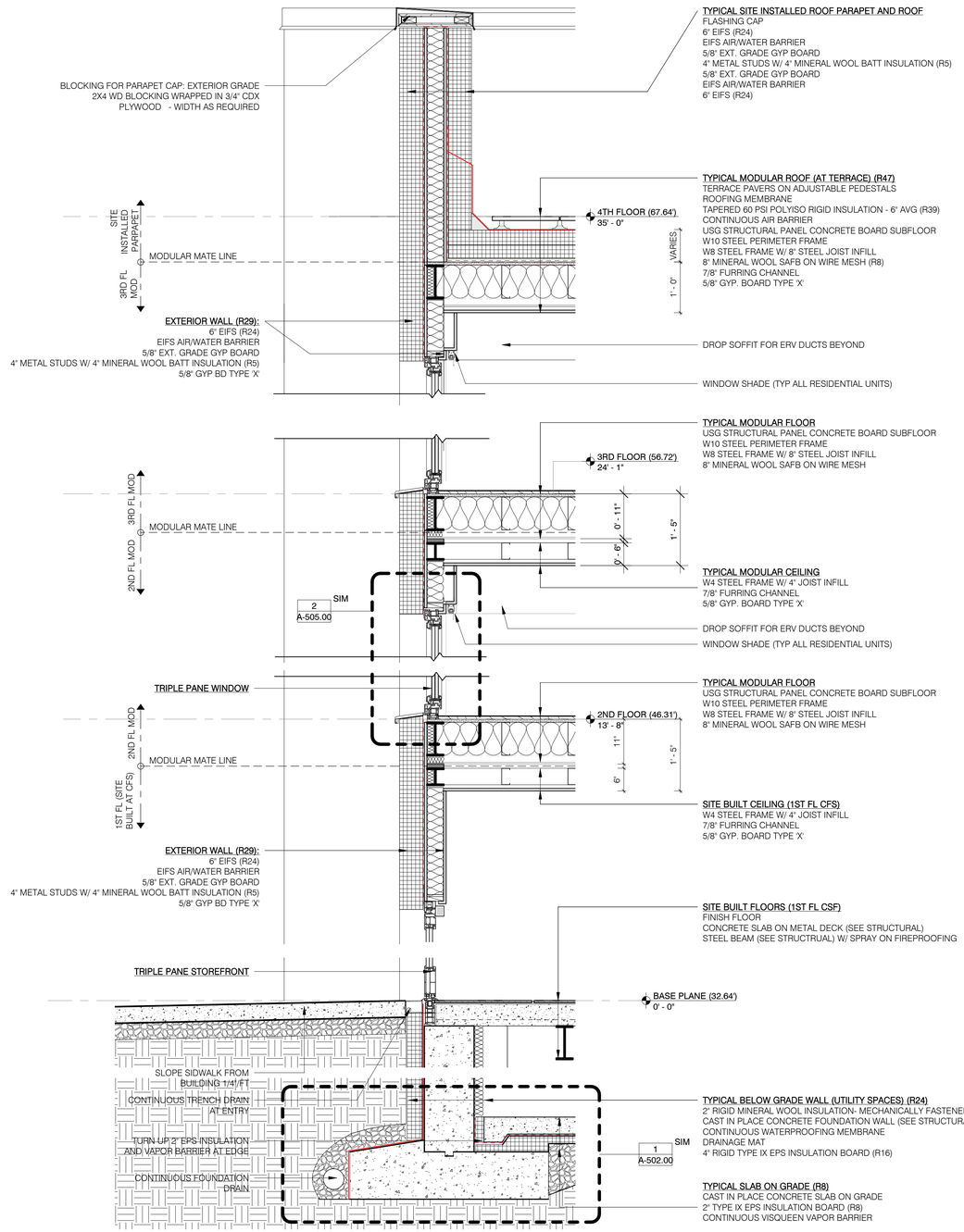
Drawing #: A-300.00

DOB #: 321595083

Sheet #: of



2 DETAIL WALL SECTION - EW @ CRAWL SPACE
SCALE: 3/4" = 1'-0"



1 DETAIL WALL SECTION - EW @ CSF
SCALE: 3/4" = 1'-0"

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10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

EXTERIOR WALL DETAILS

Date: 03.5.2020

Scale: 3/4" = 1'-0"

Seal/Signature:

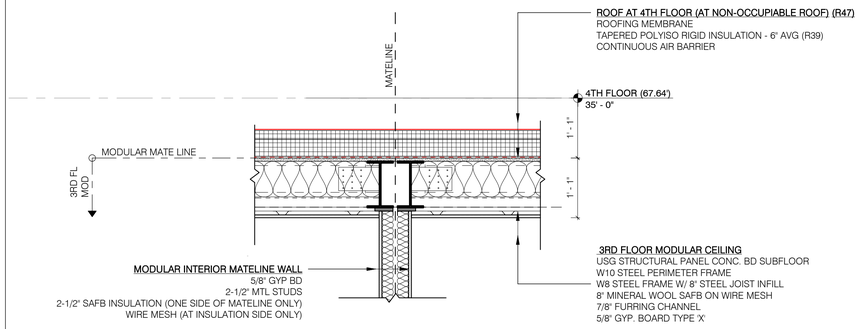
Drawn By #: Author

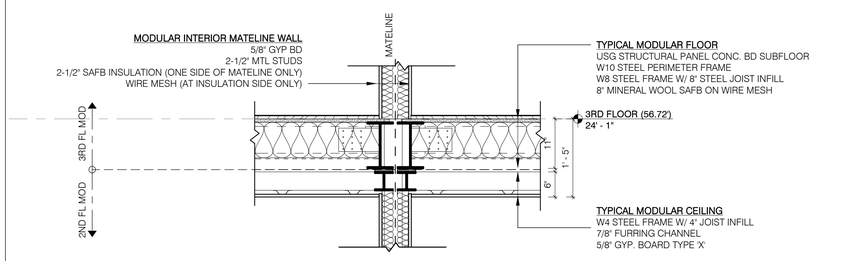
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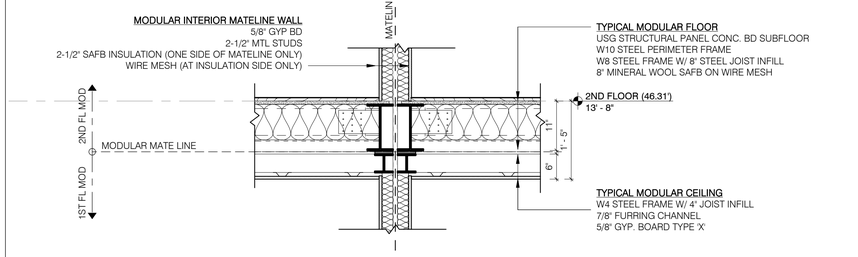
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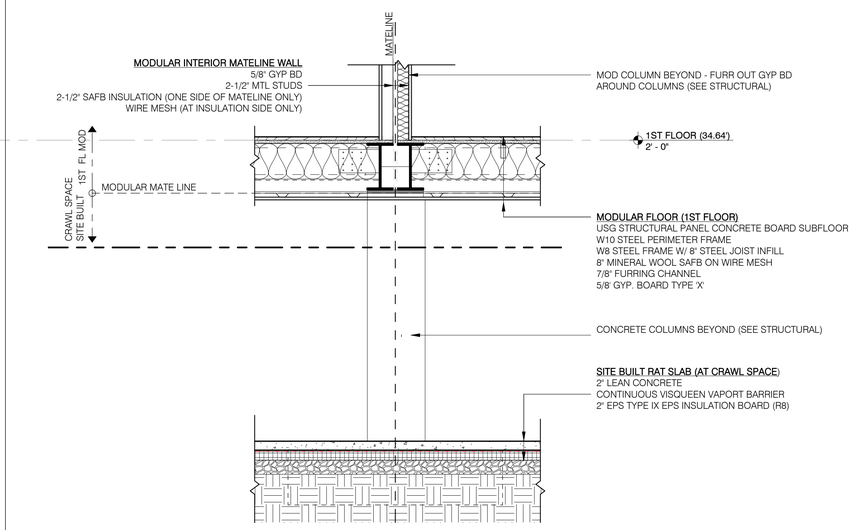
DOB #: 321595083

Sheet #: of

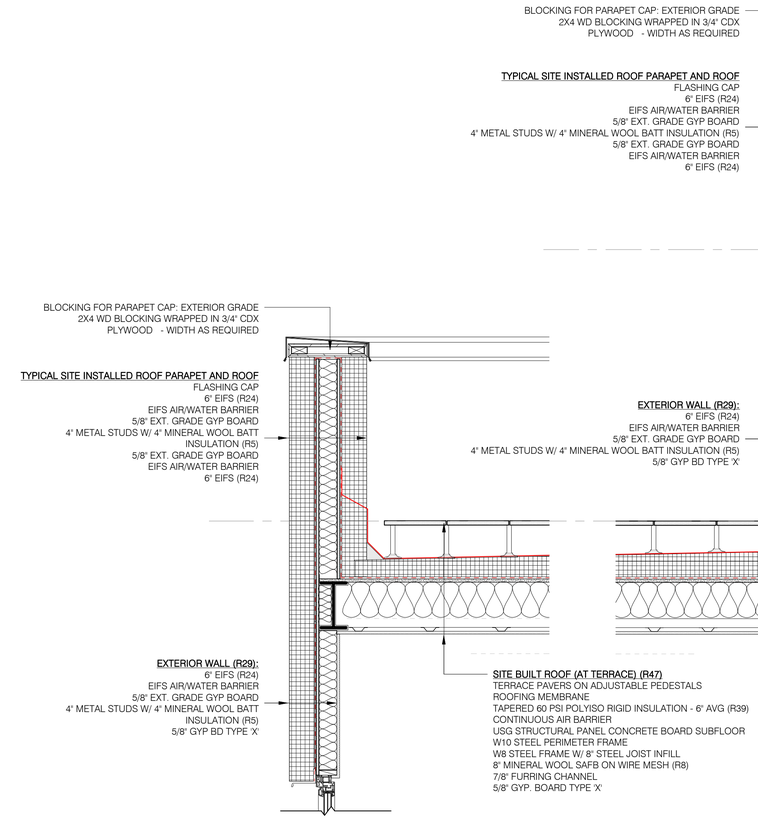




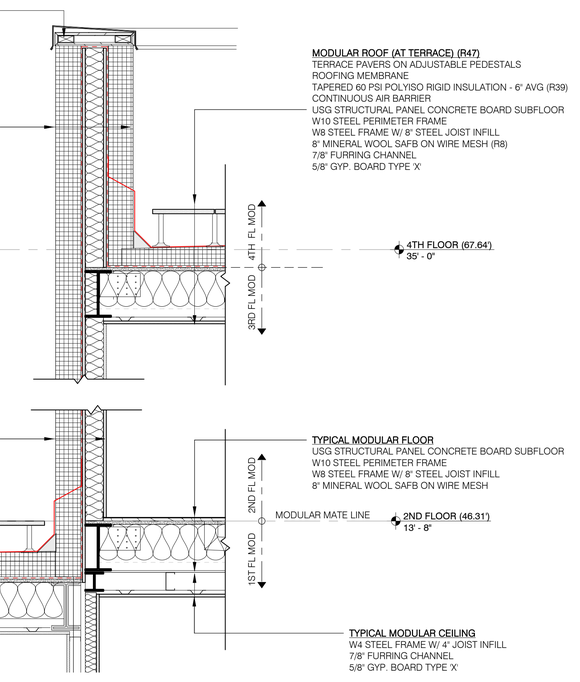




3 DETAIL WALL SECTION - MATELINES



1 DETAIL WALL SECTION - NS TYPICAL



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6	100% DD	11.14.19
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9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

EXTERIOR WALL DETAILS, CONT'D

Date: 03.5.2020

Seal/Signature:

Scale: 3/4" = 1'-0"

Drawn By: Author

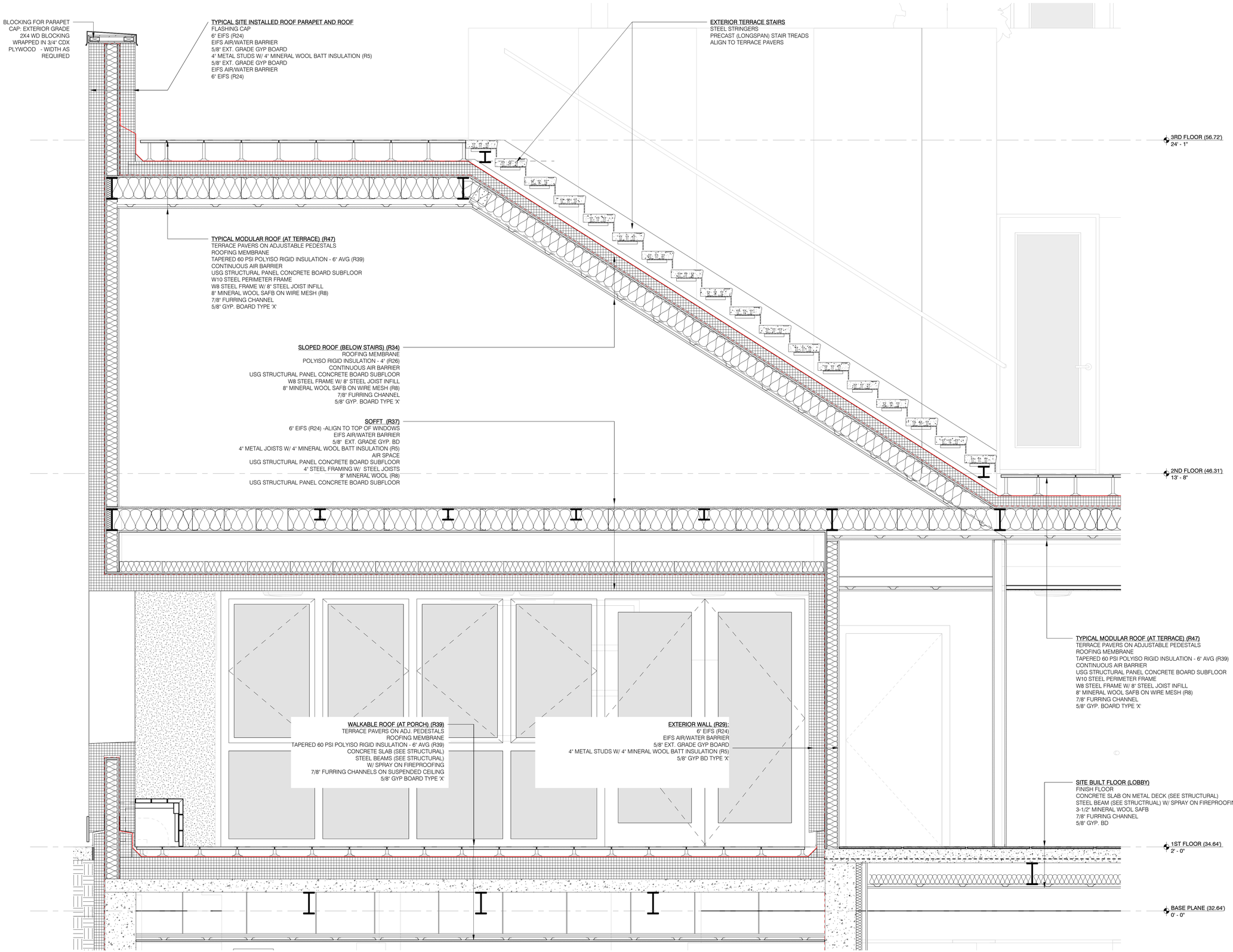
Chkd By: Checker

Drawing #:

A-351.00

DOB #: 321595083

Sheet #: OF -



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9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

PORCH AND TERRACE STAIR DETAIL

Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

Scale: 3/4" = 1'-0"

Drawn By: Author

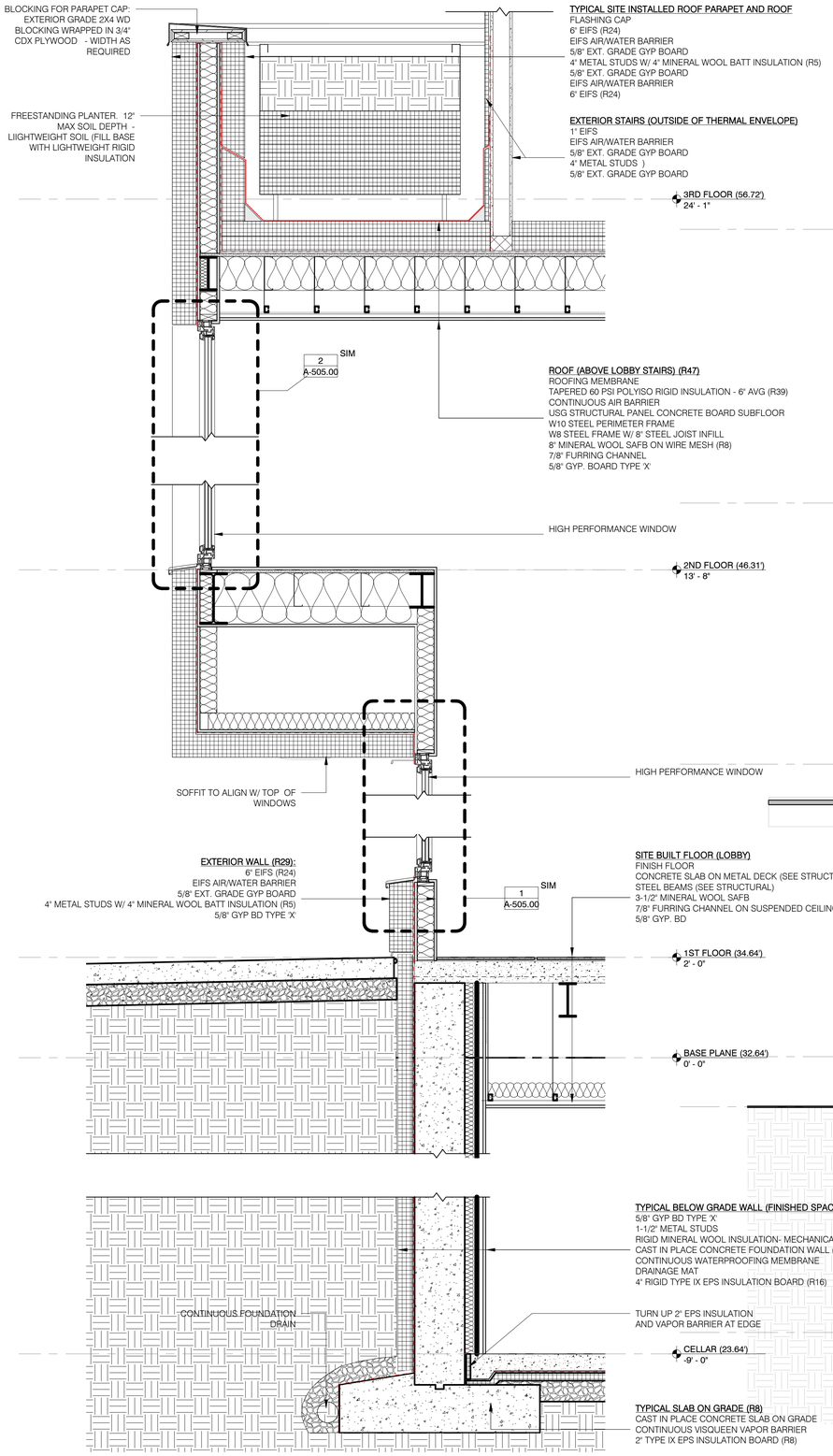
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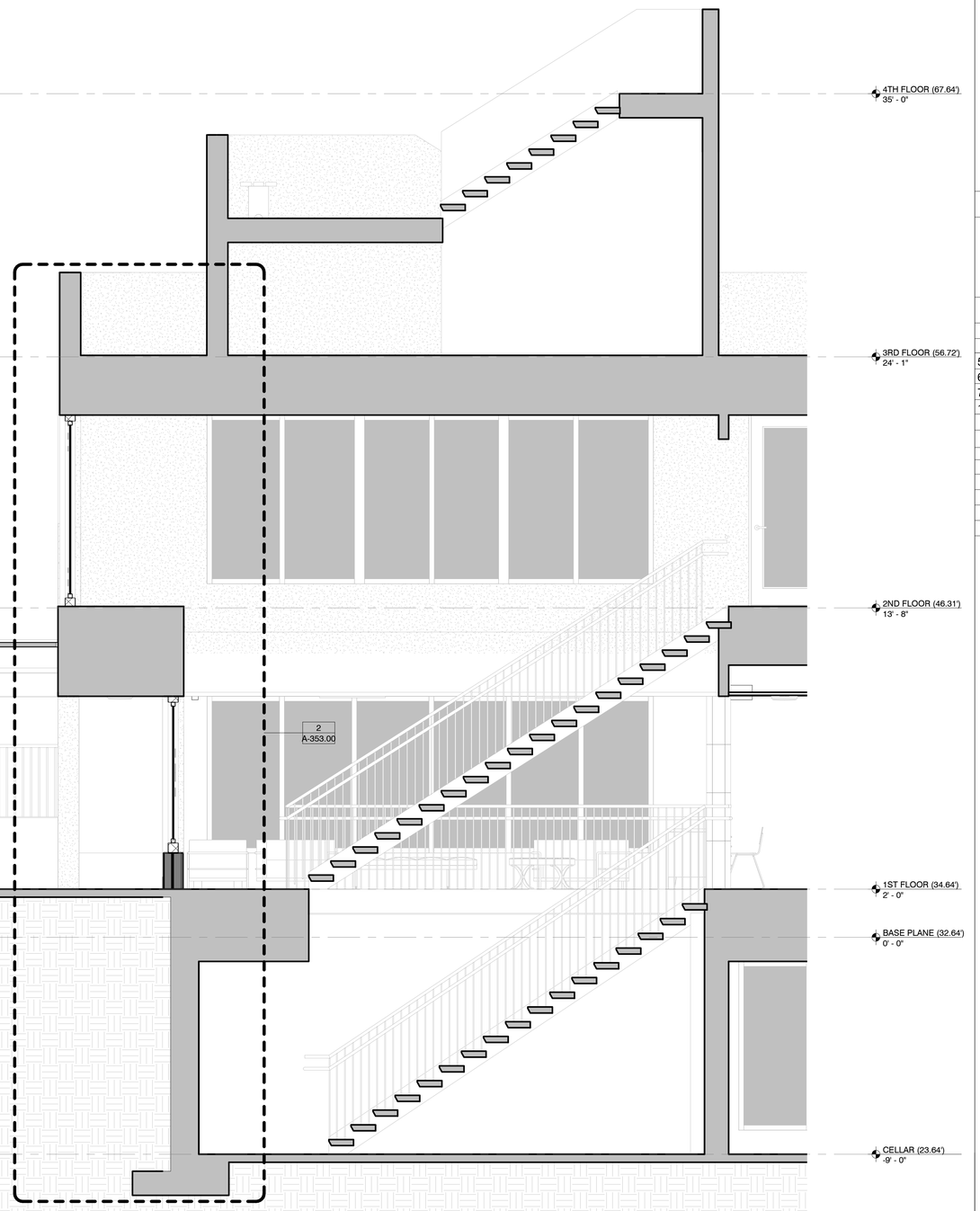
A-352.00

DOB #: 321595083

Sheet #: OF -



2 DETAIL WALL SECTION - LOBBY STAIR
SCALE: 3/8" = 1'-0"



1 SECTION AT LOBBY STAIR
SCALE: 3/8" = 1'-0"

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DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
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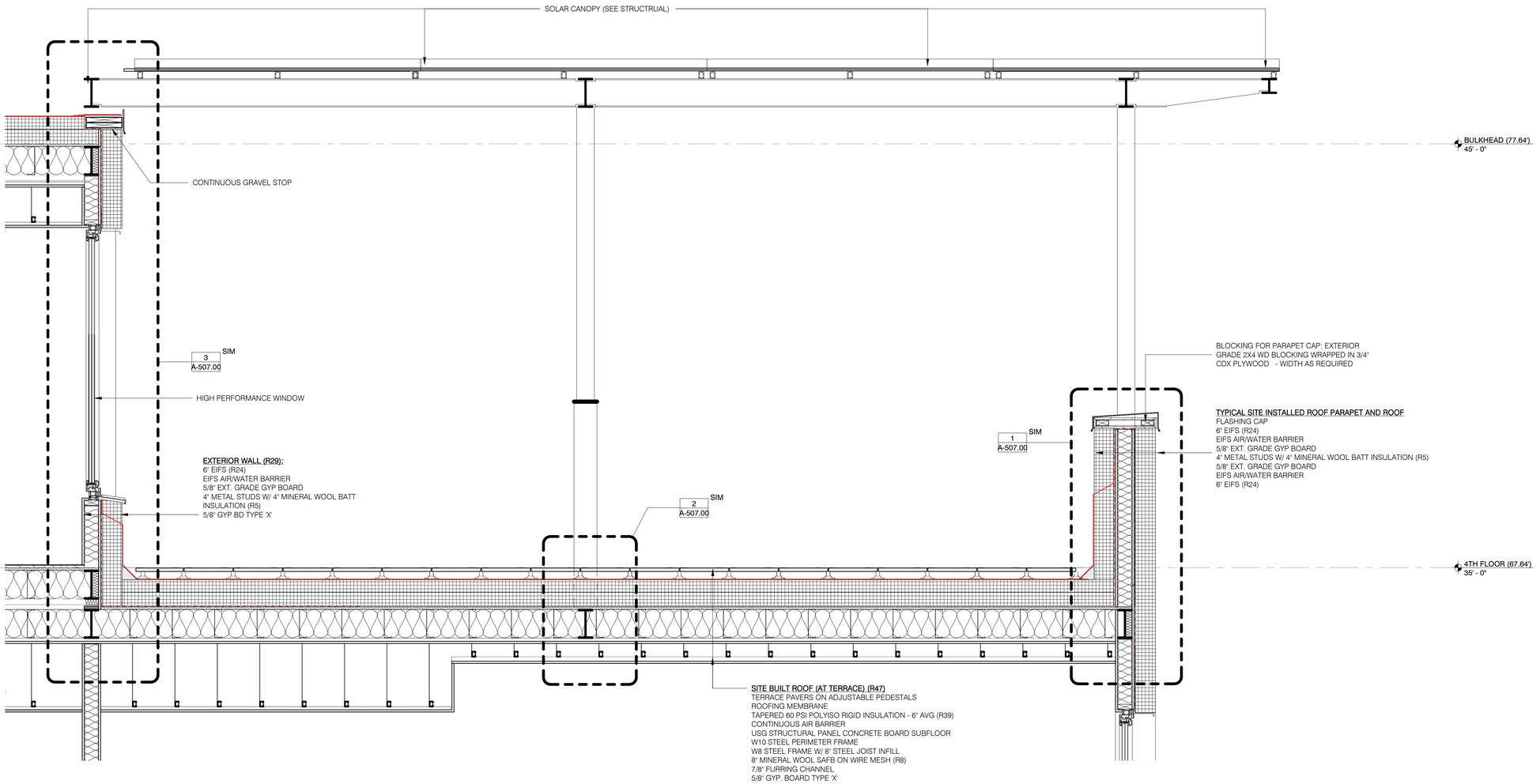
Drawing Title:

ENTRY AND PLANTER SETBACKS DETAIL

Date: 03.5.2020
Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

Scale: As indicated
Drawn By: Author
Chkd By: Checker
Drawing #: A-353.00
DOB #: 321595083
Sheet #: OF -



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DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

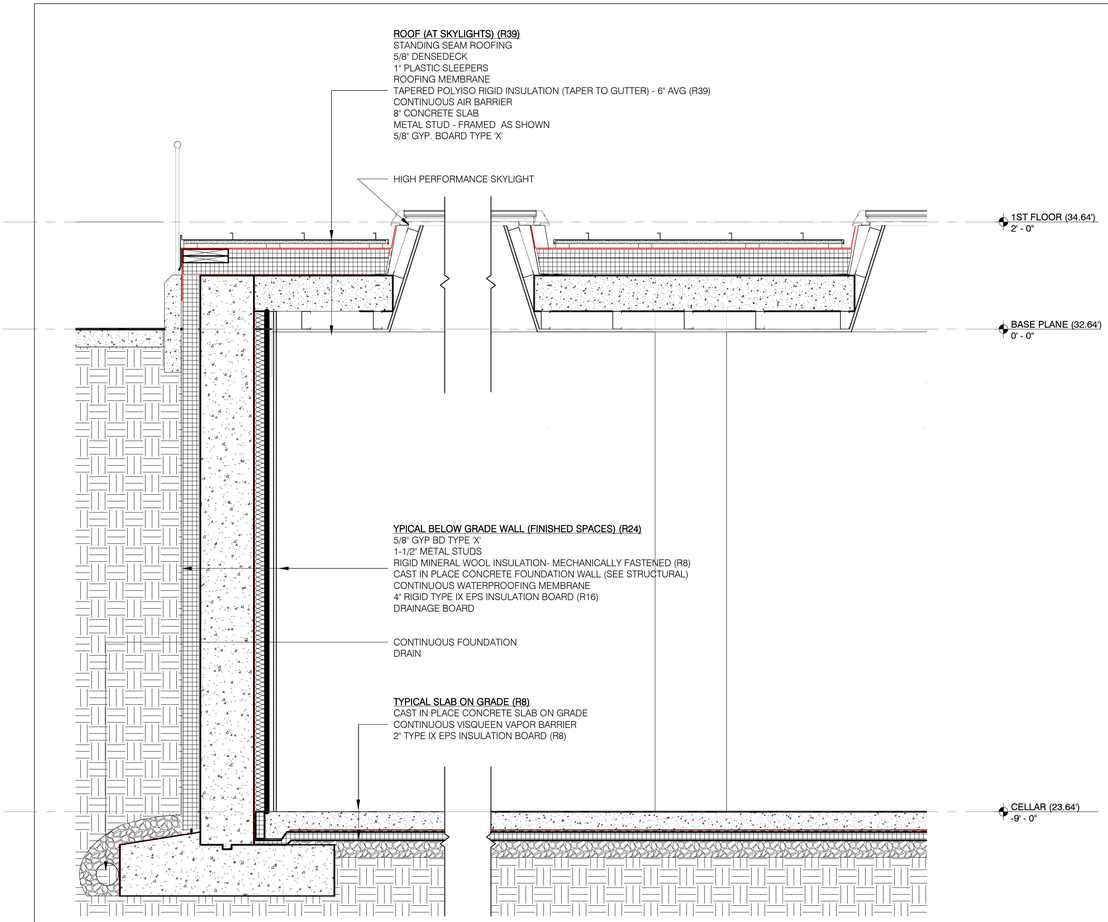
Drawing Title:

ROOF, BULKHEAD AND SOLAR CANOPY DETAIL

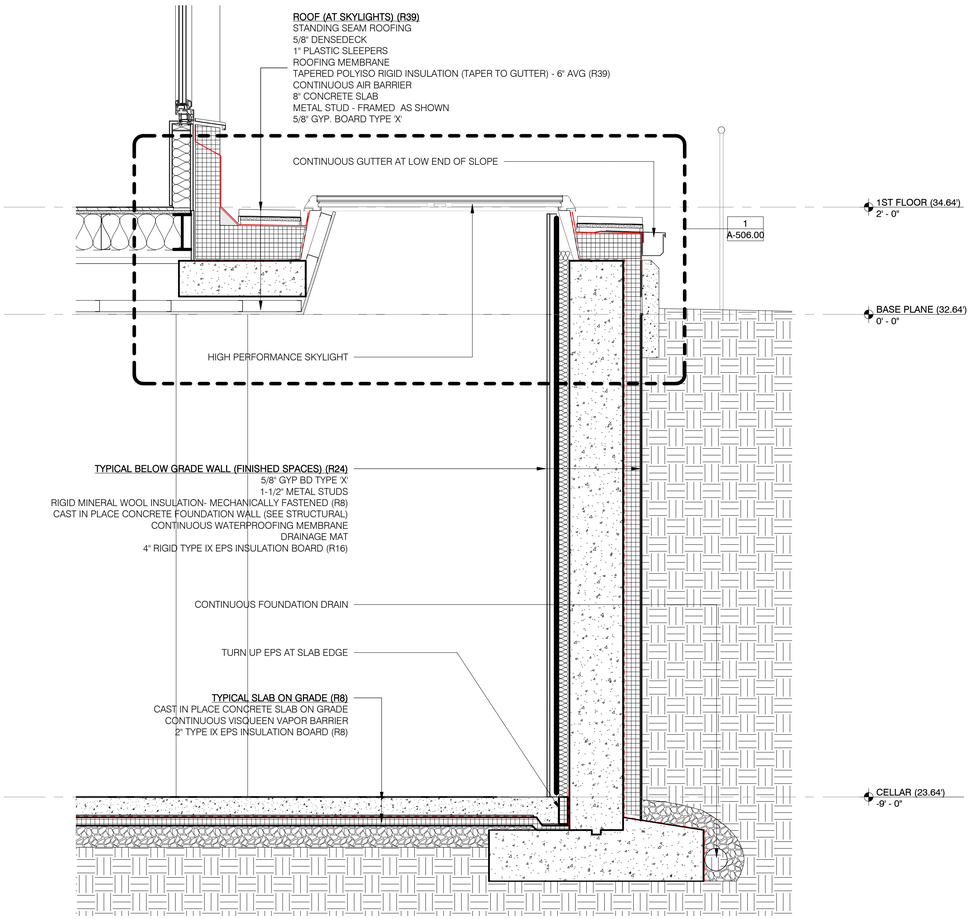
Date: 03.5.2020
Seal/Signature:
REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

DOB #: 321595083

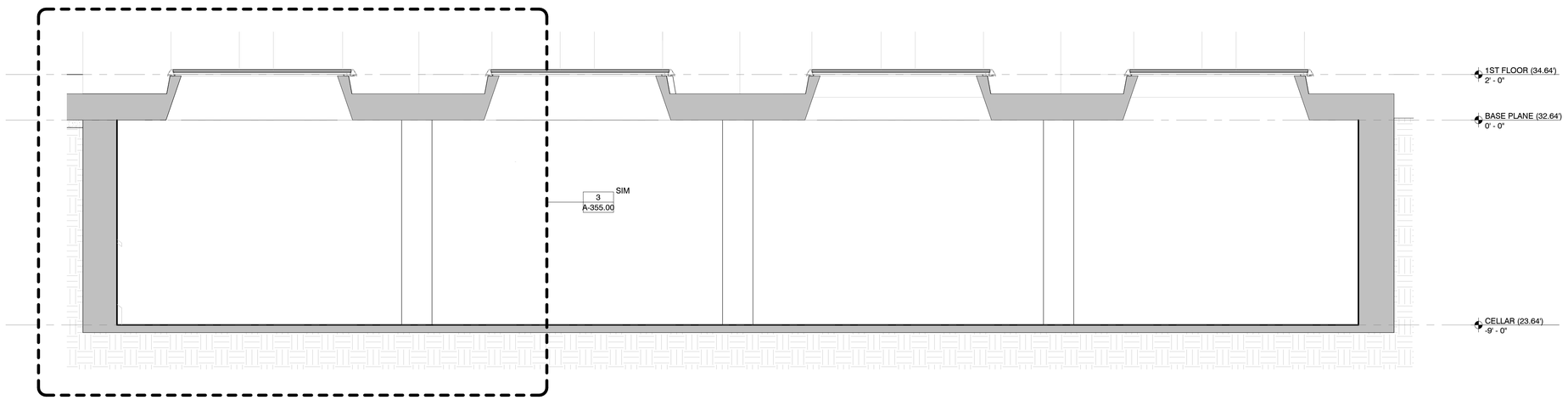
Scale: 3/4" = 1'-0"
Drawn By: Author
Chkd By: Checker
Drawing #: A-354.00
Sheet #: OF -



3 DETAIL WALL SECTION - SKYLIGHT 2
SCALE: 3/4" = 1'-0"



2 DETAIL WALL SECTION_SKYLIGHT SECTION
SCALE: 3/4" = 1'-0"



1 SECTION AT SKYLIGHTS
SCALE: 3/8" = 1'-0"

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9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

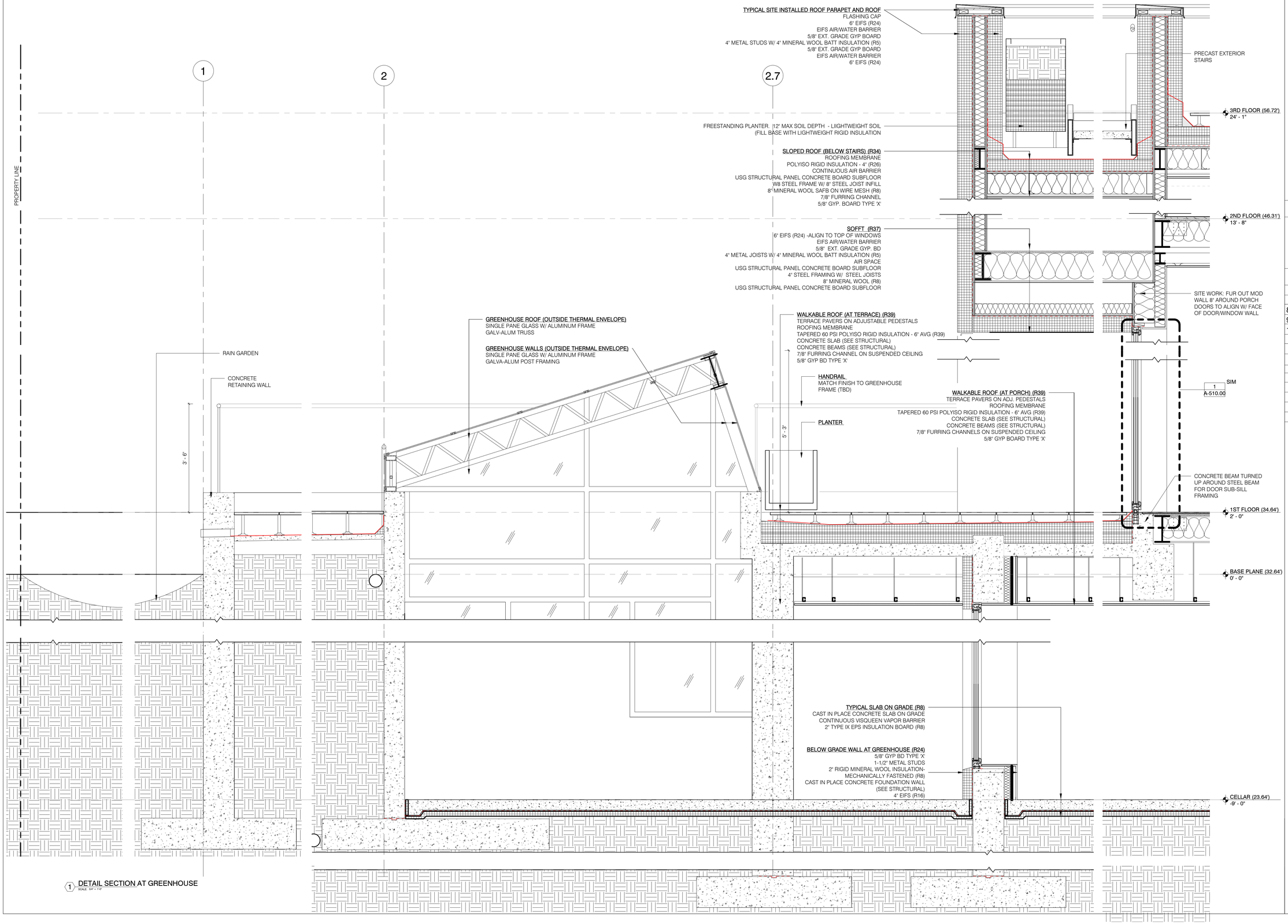
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COMMUNITY FACILITY SKYLIGHT DETAIL

Date: 03.5.2020
Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

Scale: As indicated
Drawn By: Author
Chkd By: Checker
Drawing #:
A-355.00
DOB #: 321595083
Sheet #: OF -



1 DETAIL SECTION AT GREENHOUSE
SCALE: 3/4" = 1'-0"

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NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

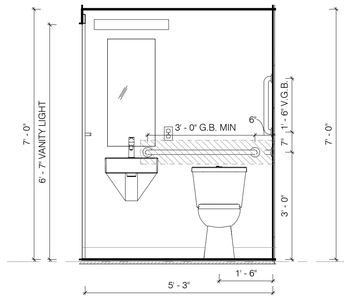
GREENHOUSE SECTION

Date: 03.5.2020
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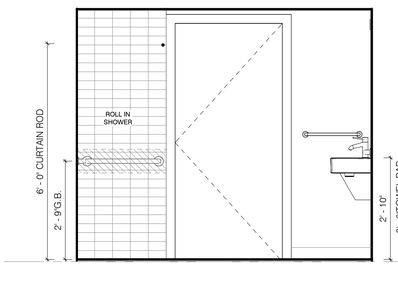
REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

DOB #: 321595083

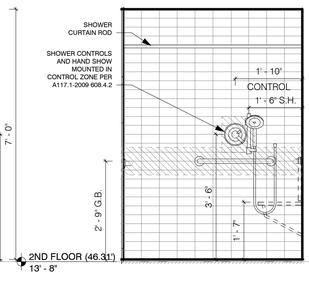
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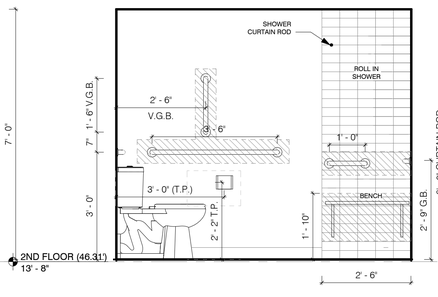
10 ACCESSIBLE BATH B25B_SOUTH ELEVATION
SCALE: 1/2" = 1'-0"



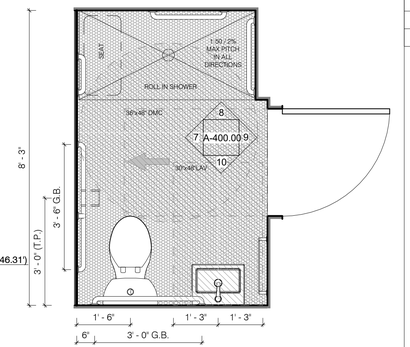
9 ACCESSIBLE BATH B25B_EAST ELEVATION
SCALE: 1/2" = 1'-0"



8 ACCESSIBLE BATH B25B_NORTH ELEVATION
SCALE: 1/2" = 1'-0"

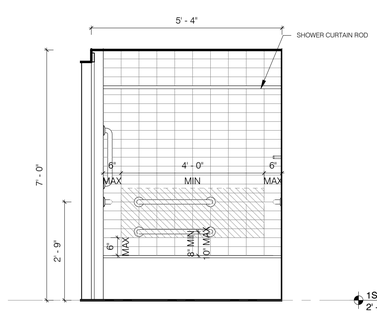


7 ACCESSIBLE BATH B25B_WEST ELEVATION
SCALE: 1/2" = 1'-0"

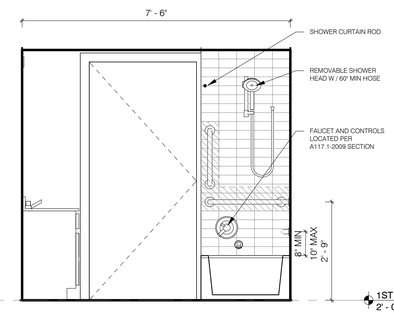


6 ACCESSIBLE BATH B25B DETAIL PLAN
SCALE: 1/2" = 1'-0"

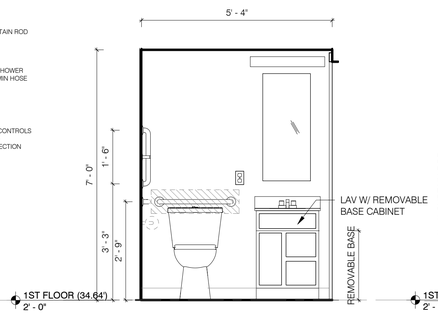
NOTE:
DOOR MANEUVERING CLEARANCE IS ONLY REQUIRED OUTSIDE OF THE BATHROOM



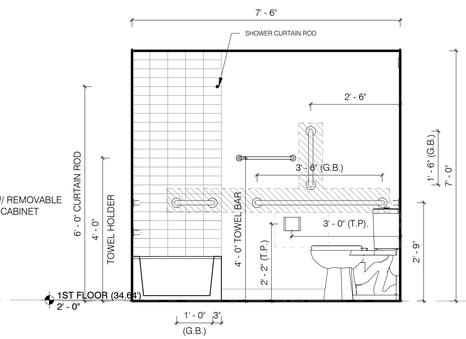
5 ADAPTABLE BATH B4A_EAST ELEVATION
SCALE: 1/2" = 1'-0"



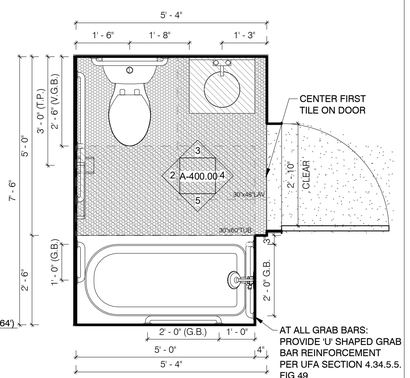
4 ADAPTABLE BATH B4A_NORTH ELEVATION
SCALE: 1/2" = 1'-0"



3 ADAPTABLE BATH B4A_WEST ELEVATION
SCALE: 1/2" = 1'-0"



2 ADAPATABLE BATH B4A_SOUTH ELEVATION
SCALE: 1/2" = 1'-0"



1 ADAPTABLE BATH B4A DETAIL PLAN
SCALE: 1/2" = 1'-0"

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NOTES:

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9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

DETAIL BATHROOM PLANS & ELEVATIONS

Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI NEW YORK

Scale: 1/2" = 1'-0"

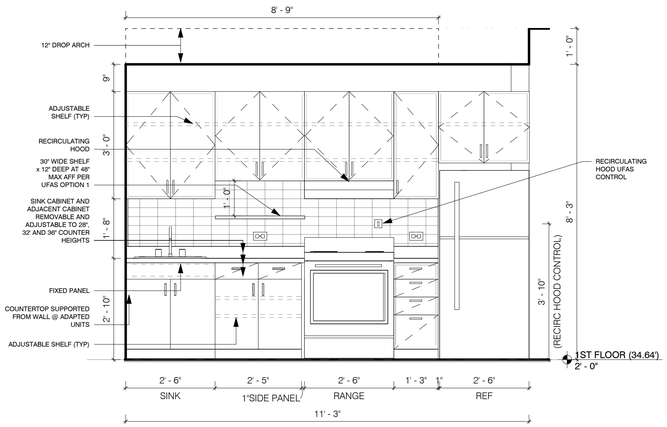
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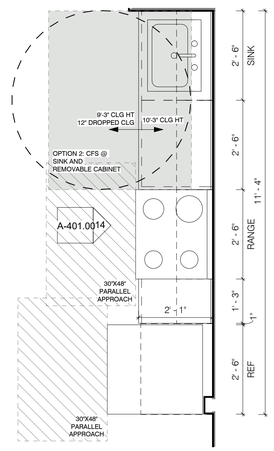
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DOB #: 321595083

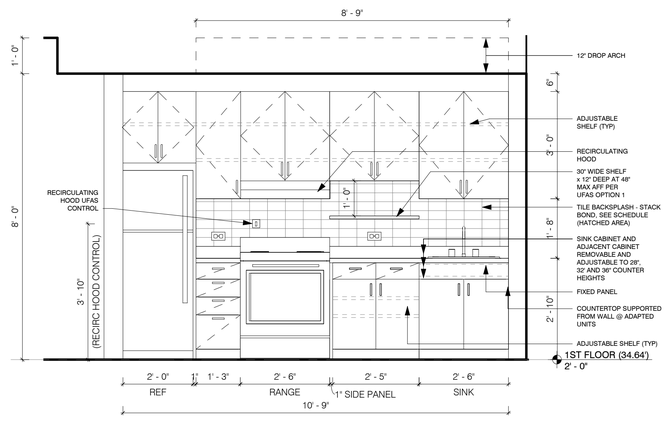
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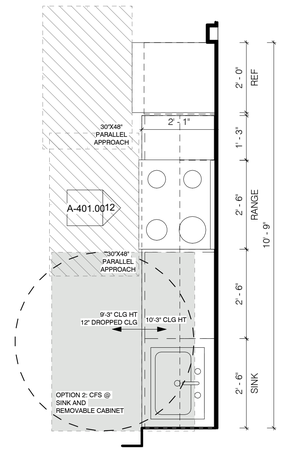
14 ACCESSIBLE KITCHEN K1 2-BR ELEVATION
SCALE: 1/2" = 1'-0"



13 ACCESSIBLE KITCHEN K1 2BR DETAIL PLAN
SCALE: 1/2" = 1'-0"

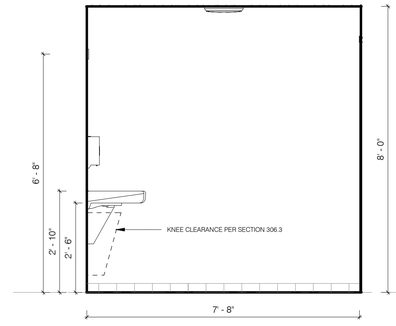


12 ACCESSIBLE KITCHEN K1 ELEVATION
SCALE: 1/2" = 1'-0"

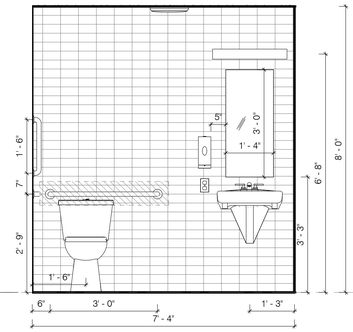


11 ACCESSIBLE KITCHEN K1 DETAIL PLAN
SCALE: 1/2" = 1'-0"

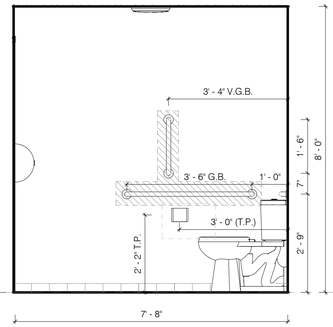
NOTE: ALL K1 KITCHENS ARE UFAS ADAPTABLE



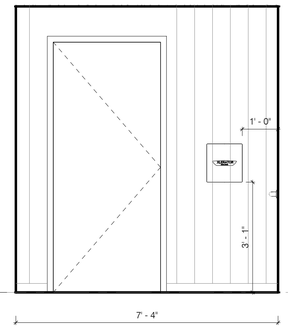
10 ACCESSIBLE CELLAR WC 2_EAST ELEVATION
SCALE: 1/2" = 1'-0"



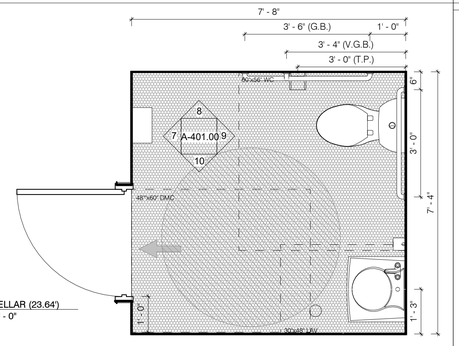
9 ACCESSIBLE CELLAR WC 2_NORTH ELEVATION
SCALE: 1/2" = 1'-0"



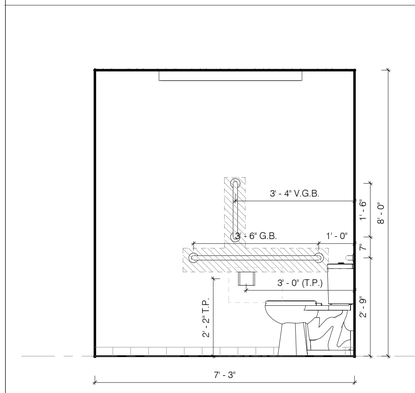
8 ACCESSIBLE CELLAR WC 2_WEST ELEVATION
SCALE: 1/2" = 1'-0"



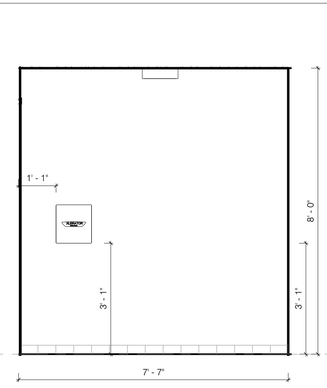
7 ACCESSIBLE CELLAR WC 2_SOUTH ELEVATION
SCALE: 1/2" = 1'-0"



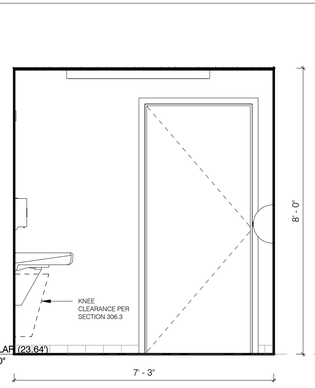
6 ACCESSIBLE CELLAR WC 2 DETAIL PLAN
SCALE: 1/2" = 1'-0"



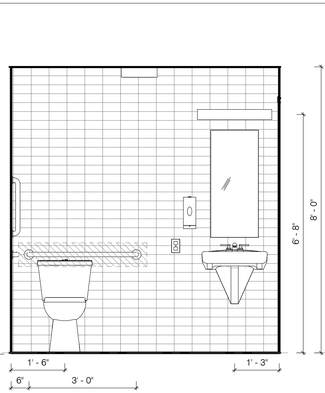
5 ACCESSIBLE CELLAR WC 1_EAST ELEVATION
SCALE: 1/2" = 1'-0"



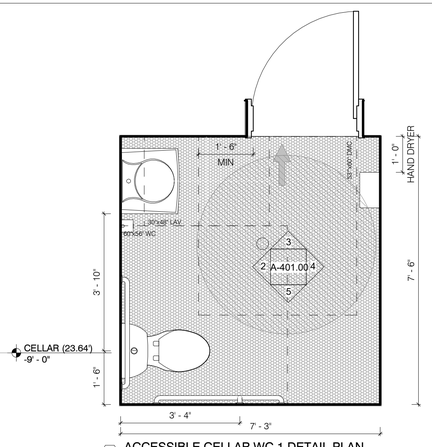
4 ACCESSIBLE CELLAR WC 1_NORTH ELEVATION
SCALE: 1/2" = 1'-0"



3 ACCESSIBLE CELLAR WC 1_WEST ELEVATION
SCALE: 1/2" = 1'-0"



2 ACCESSIBLE CELLAR WC 1_SOUTH ELEVATION
SCALE: 1/2" = 1'-0"



1 ACCESSIBLE CELLAR WC 1 DETAIL PLAN
SCALE: 1/2" = 1'-0"

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#	Description	Date
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

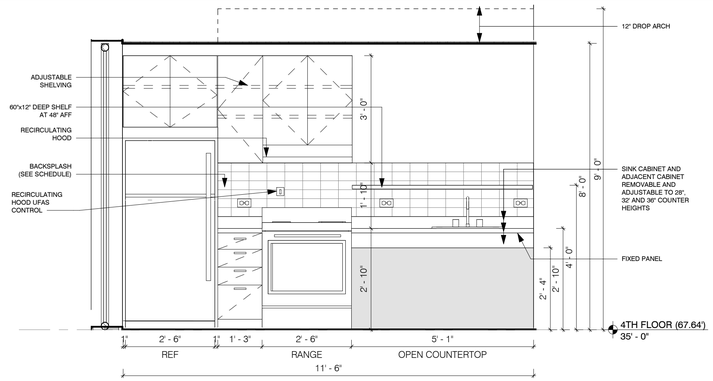
DETAIL BATH AND KITCHEN PLANS AND ELEVATIONS

Date: 03.5.2020
Seal/Signature:

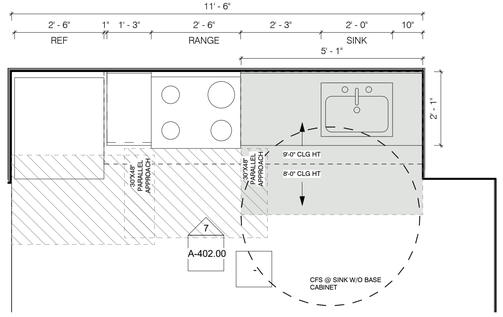


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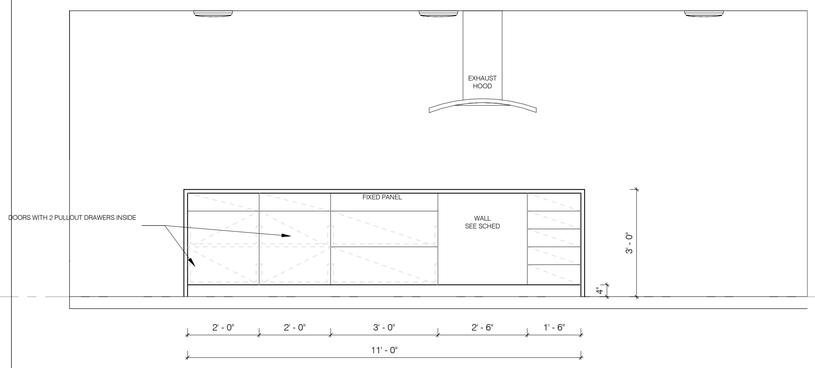
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Sheet #: OF -



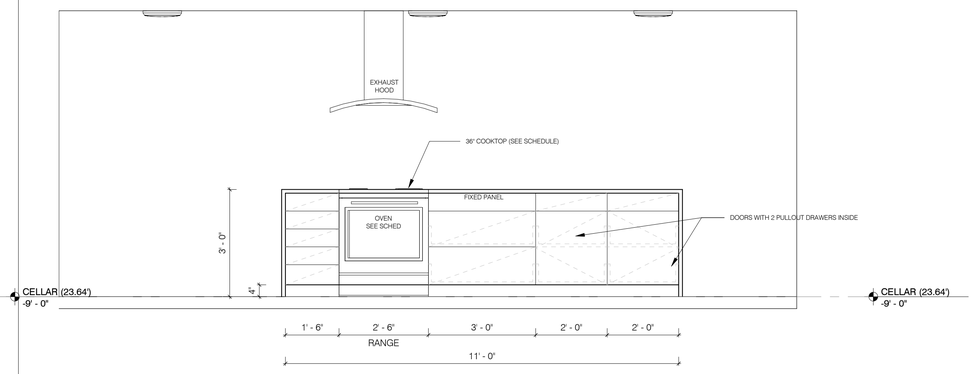
7 ELEVATION_COMMUNITY PANTRY_WEST
SCALE: 1/2" = 1'-0"



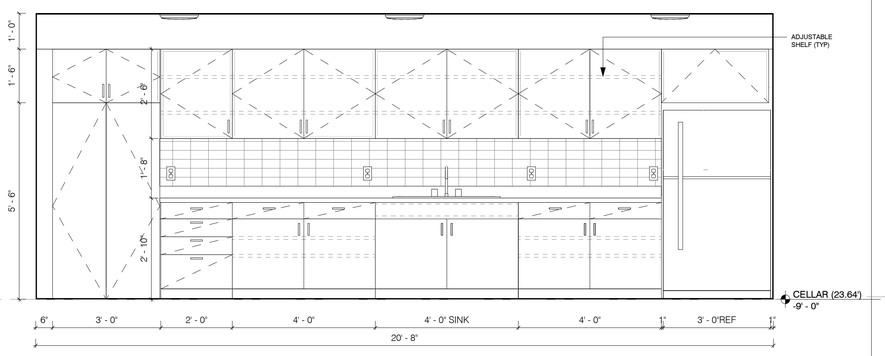
6 ACCESSIBLE - COMMUNITY PANTRY DETAIL PLAN
SCALE: 1/2" = 1'-0"



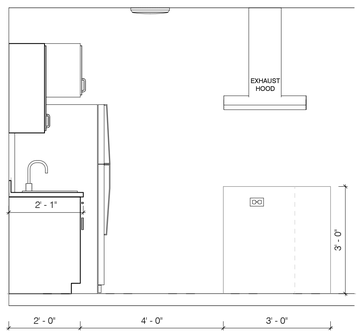
4 ACCESSIBLE KITCHEN COMMUNITY NORTH ELEVATION 2
SCALE: 1/2" = 1'-0"



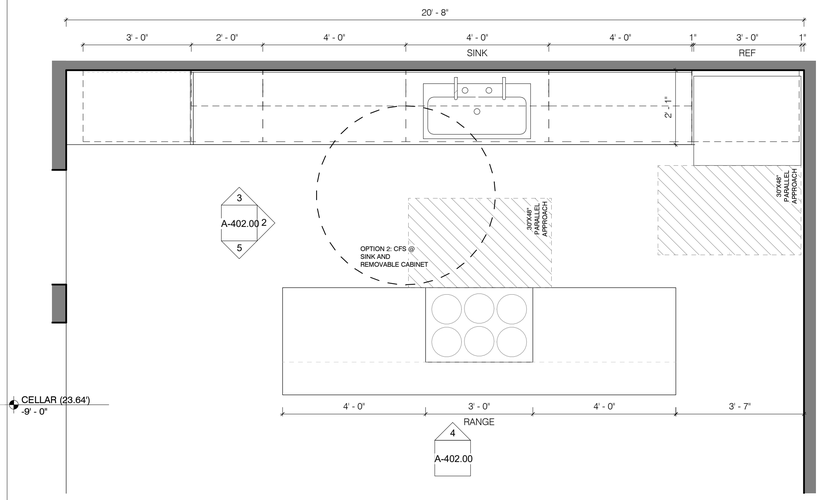
5 ACCESSIBLE KITCHEN COMMUNITY SOUTH ELEVATION
SCALE: 1/2" = 1'-0"



3 ACCESSIBLE KITCHEN COMMUNITY NORTH ELEVATION
SCALE: 1/2" = 1'-0"



2 ACCESSIBLE KITCHEN COMMUNITY EAST ELEVATION
SCALE: 1/2" = 1'-0"



1 ACCESSIBLE KITCHEN COMMUNITY DETAIL PLAN
SCALE: 1/2" = 1'-0"

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10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

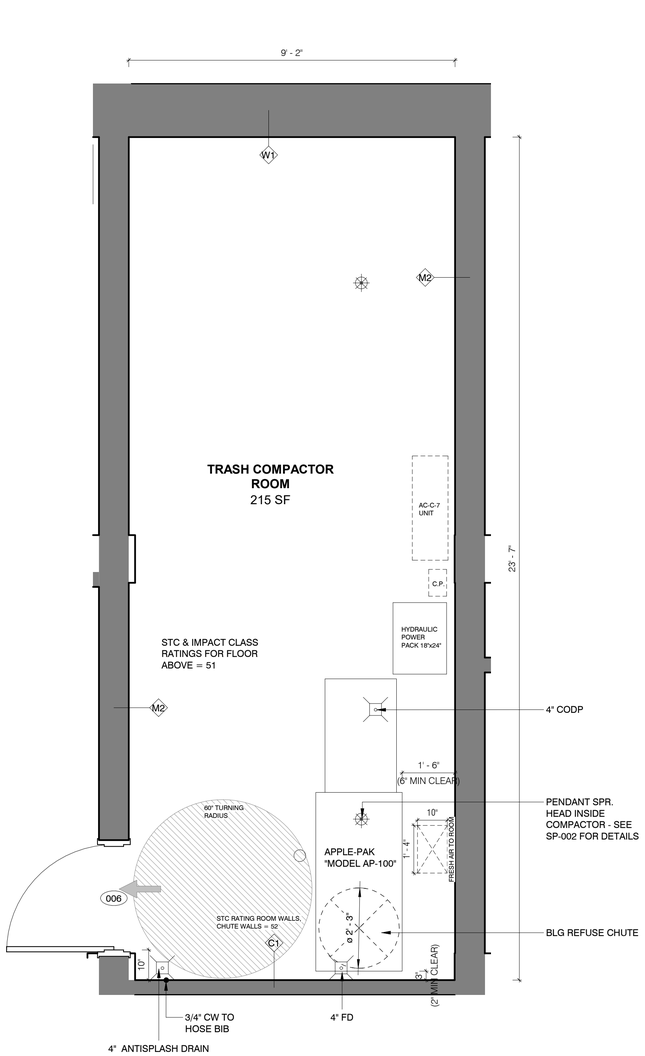
DETAIL KITCHEN PLANS AND ELEVATIONS

Date: 03.5.2020
Seal/Signature:

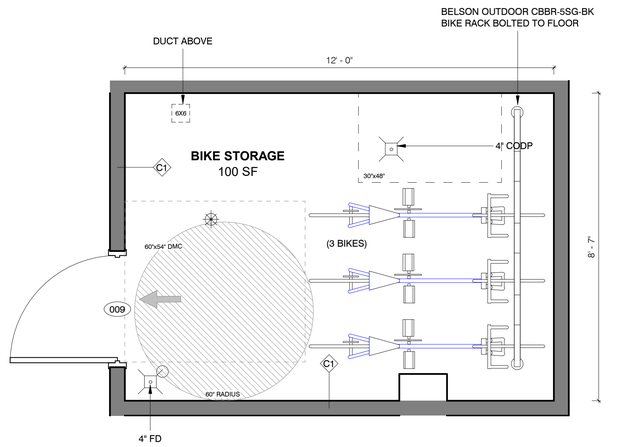
REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

DOB #: 321595083

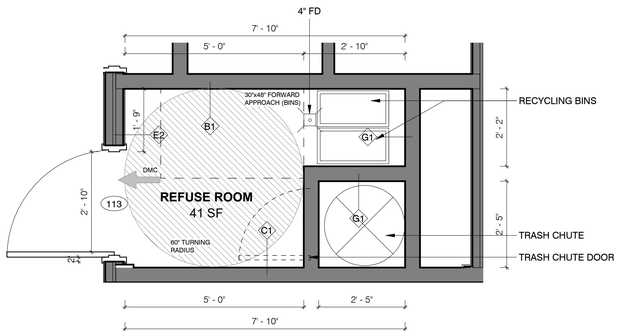
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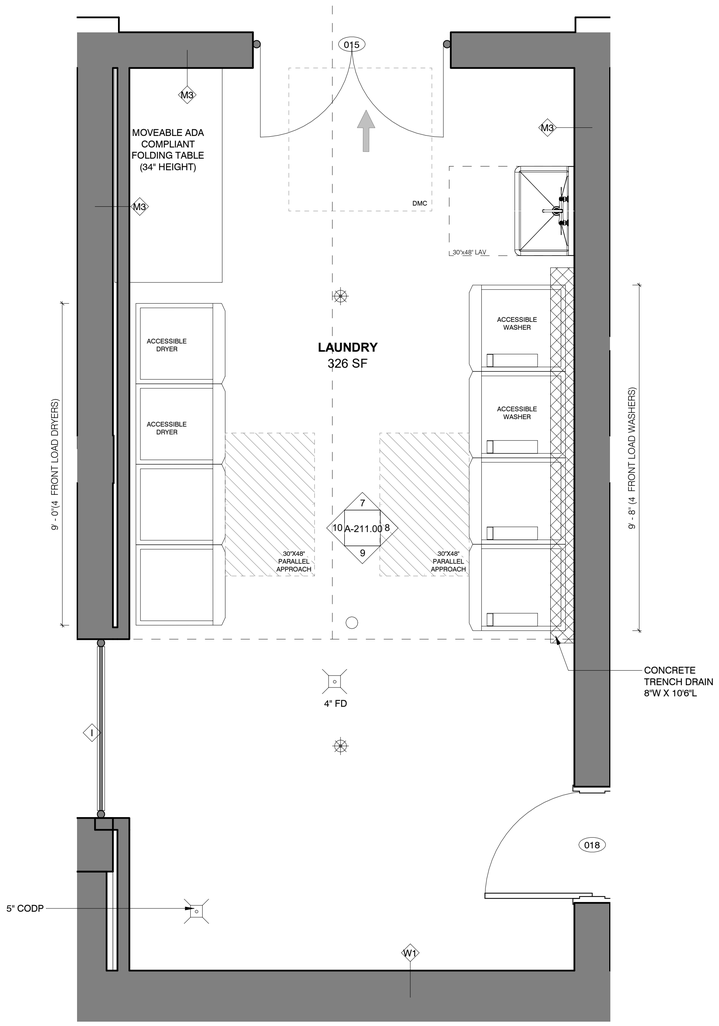
1 ACCESSIBLE - TRASH COMP. RM - DET. PLAN
SCALE: 1/2" = 1'-0"



2 ACCESSIBLE - BIKE RM - DET. PLAN
SCALE: 1/2" = 1'-0"



4 ACCESSIBLE - REFUSE RM. - DET. PLAN
SCALE: 1/2" = 1'-0"



3 ACCESSIBLE - LAUNDRY RM - DET. PLAN
SCALE: 1/2" = 1'-0"

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DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

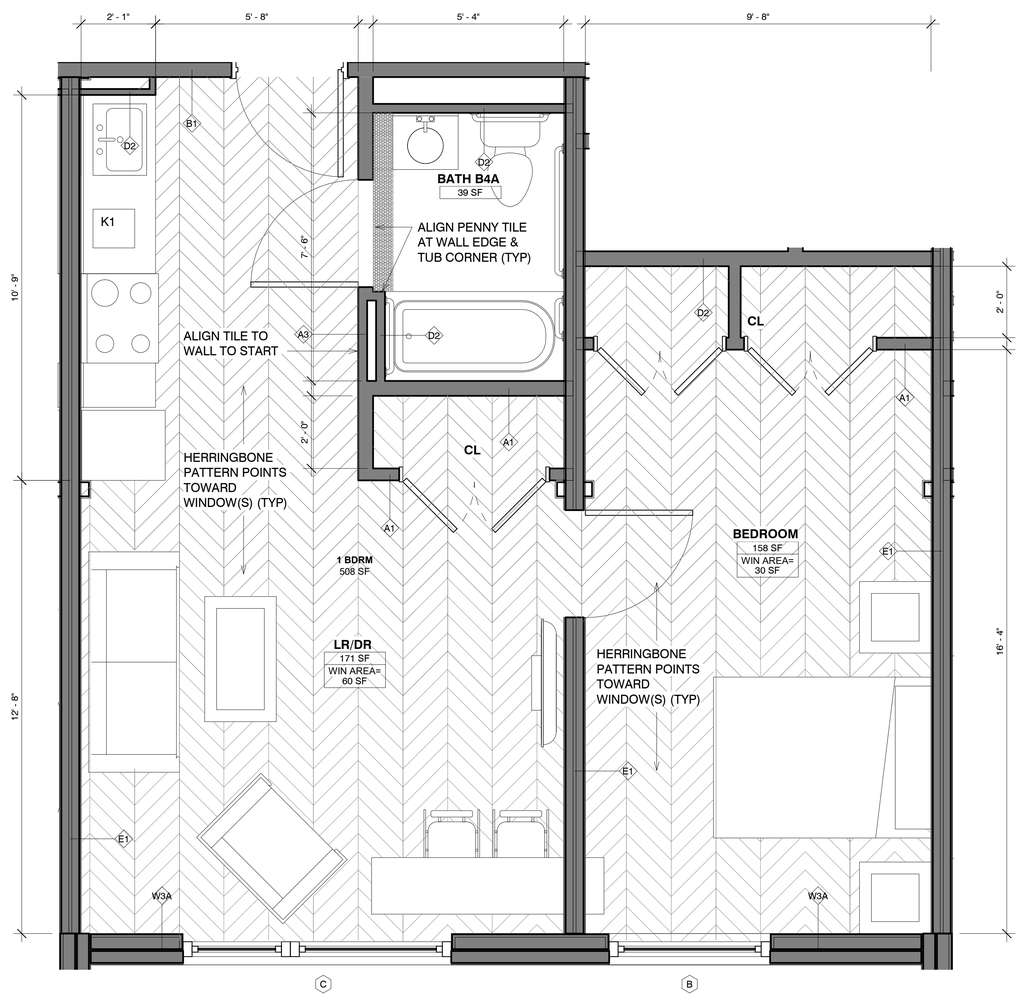
BETHANY TERRACES

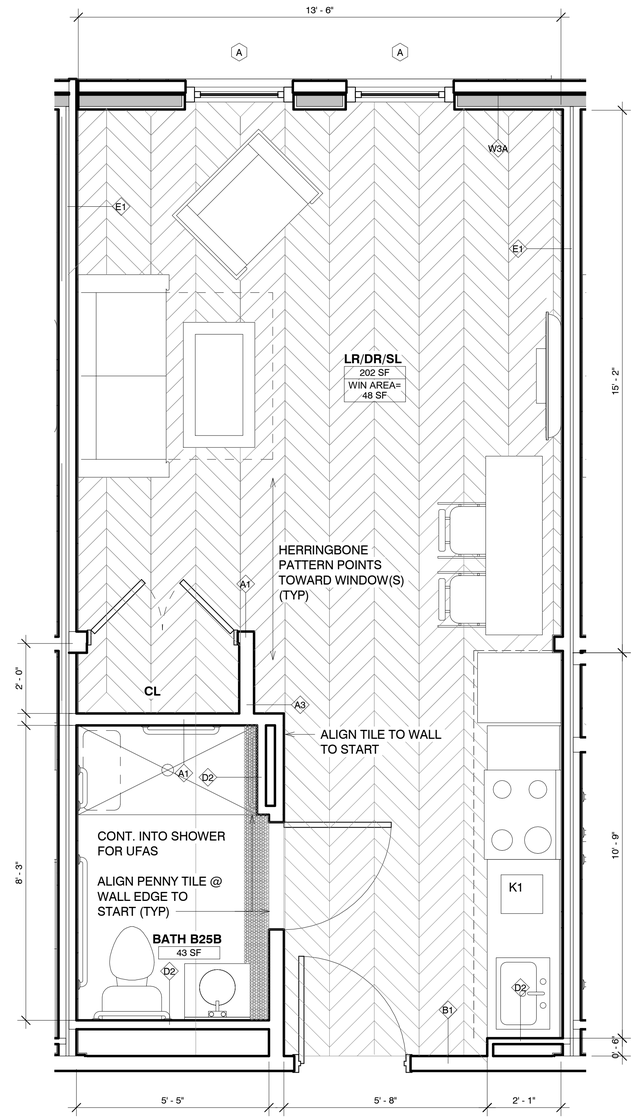
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Drawing Title:

MISC. CELLAR DETAIL PLANS

Date: 03.5.2020
Scale: 1/2" = 1'-0"
Seal/Signature:
Drawn By: Author
Chkd By: Checker
Drawing #:
A-403.00
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NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

TYPICAL UNIT TILE LAYOUT PLAN

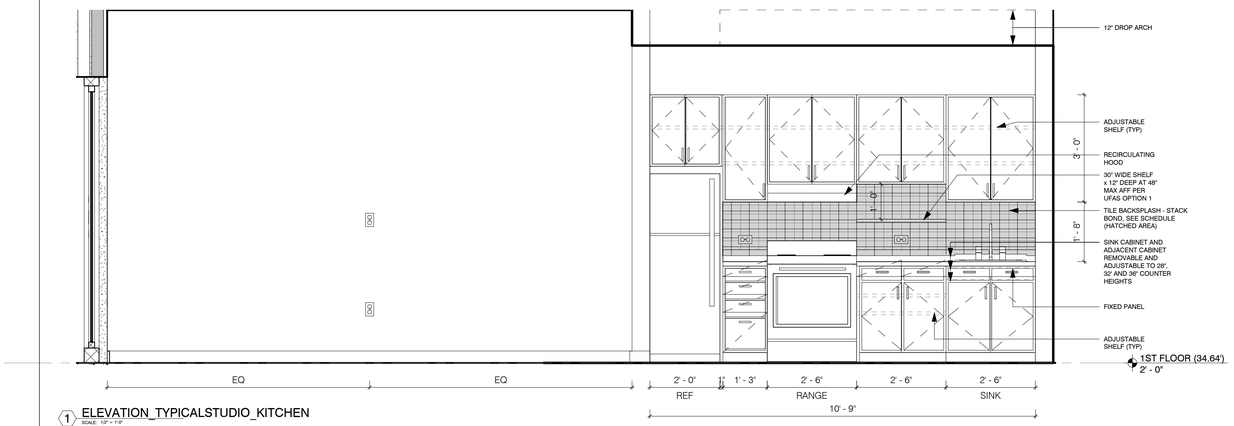
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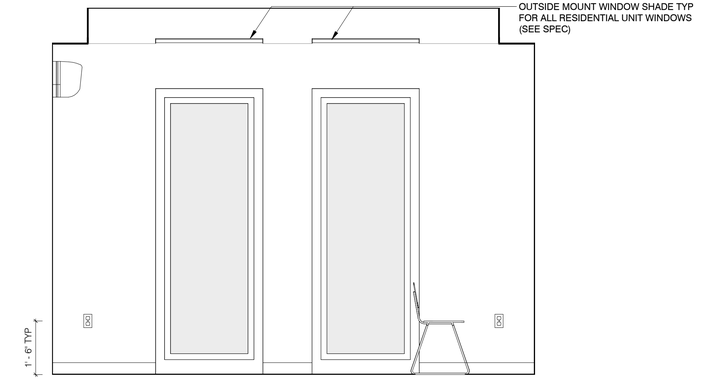
REGISTERED ARCHITECT PAUL A. CASTRUCCI NEW YORK STATE

DOB #: 321595083

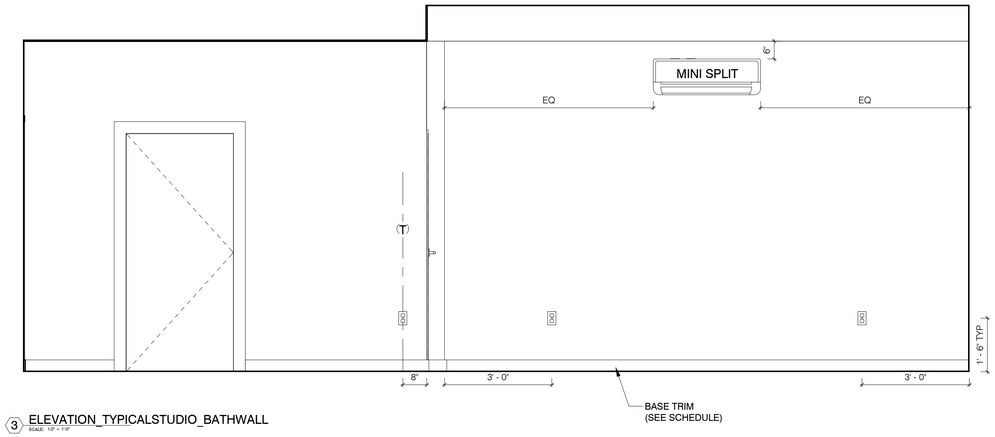
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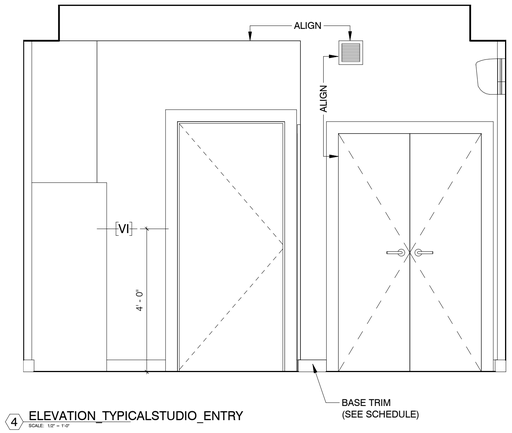
1 ELEVATION_TYPICALSTUDIO_KITCHEN
SCALE: 1/2" = 1'-0"



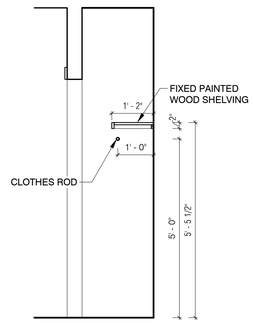
2 ELEVATION_TYPICALSTUDIO_WINDOWS
SCALE: 1/2" = 1'-0"



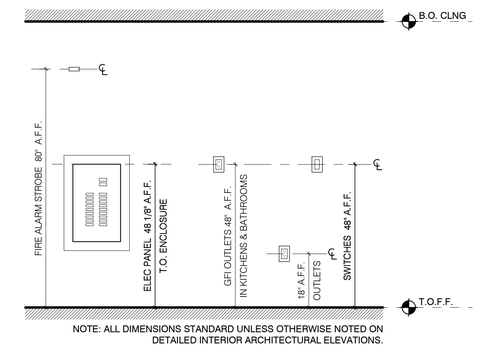
3 ELEVATION_TYPICALSTUDIO_BATHWALL
SCALE: 1/2" = 1'-0"



4 ELEVATION_TYPICALSTUDIO_ENTRY
SCALE: 1/2" = 1'-0"



5 CLOSET - TYPICAL
SCALE: 1/2" = 1'-0"



NOTE: ALL DIMENSIONS STANDARD UNLESS OTHERWISE NOTED ON DETAILED INTERIOR ARCHITECTURAL ELEVATIONS.

6 INTERIOR ELEVATION RULES - TYPICAL
SCALE: 1/2" = 1'-0"

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Revision Schedule

#	Description	Date
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

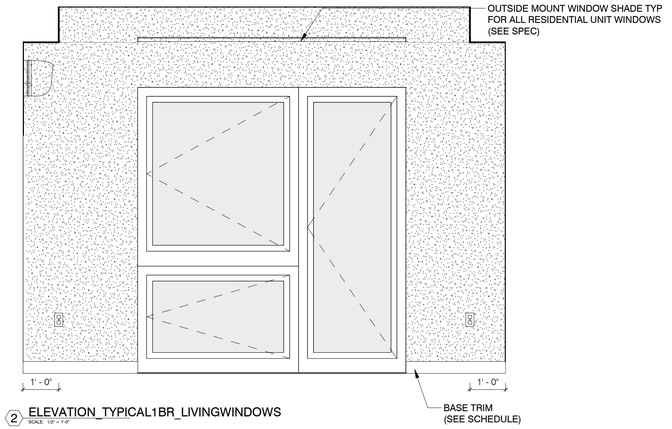
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TYPICAL UNIT ELEVATIONS

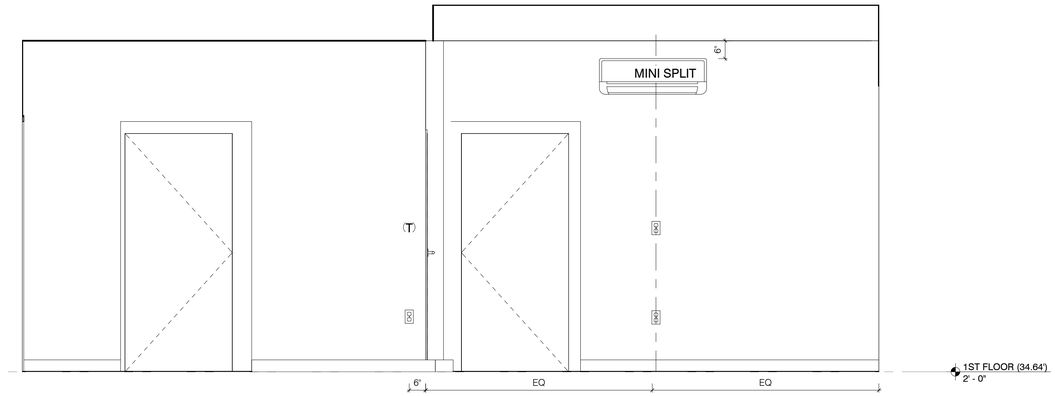
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Drawn By: Author
Chkd By: Checker
Drawing #: A-405.00
DOB #: 321595083
Sheet #: OF -



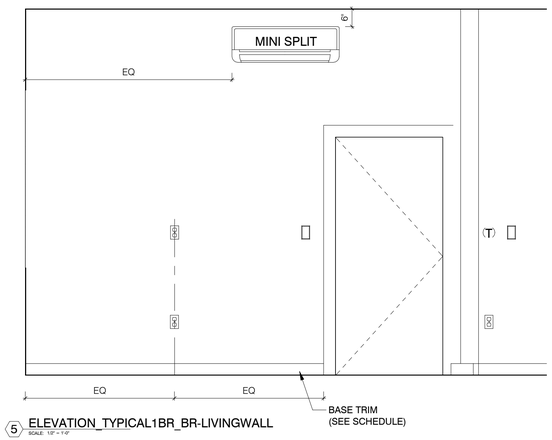
1 ELEVATION_TYPICAL1BR_LIVINGKITCHEN
SCALE: 1/2" = 1'-0"



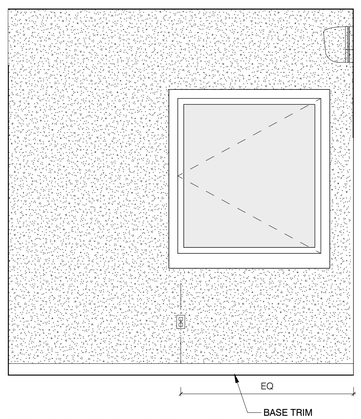
2 ELEVATION_TYPICAL1BR_LIVINGWINDOWS
SCALE: 1/2" = 1'-0"



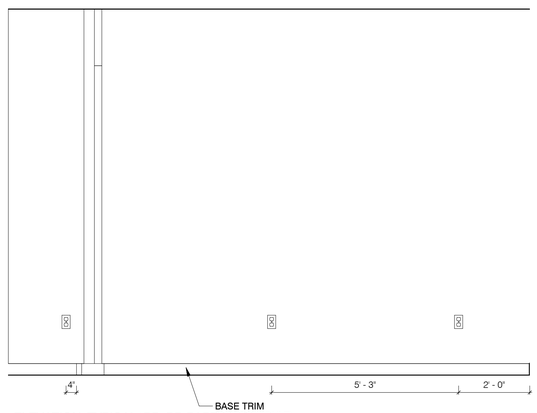
3 ELEVATION_TYPICAL1BR_BATHWALL
SCALE: 1/2" = 1'-0"



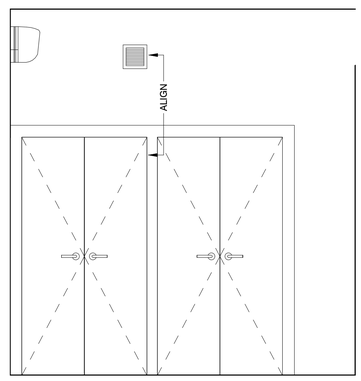
5 ELEVATION_TYPICAL1BR_BR-LIVINGWALL
SCALE: 1/2" = 1'-0"



6 ELEVATION_TYPICAL1BR_BR-WINDOWS
SCALE: 1/2" = 1'-0"



7 ELEVATION_TYPICAL1BR_BR-PARTYWALL
SCALE: 1/2" = 1'-0"



4 ELEVATION_TYPICAL1BR_BR-CLOSETS
SCALE: 1/2" = 1'-0"

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Revision Schedule

#	Description	Date
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

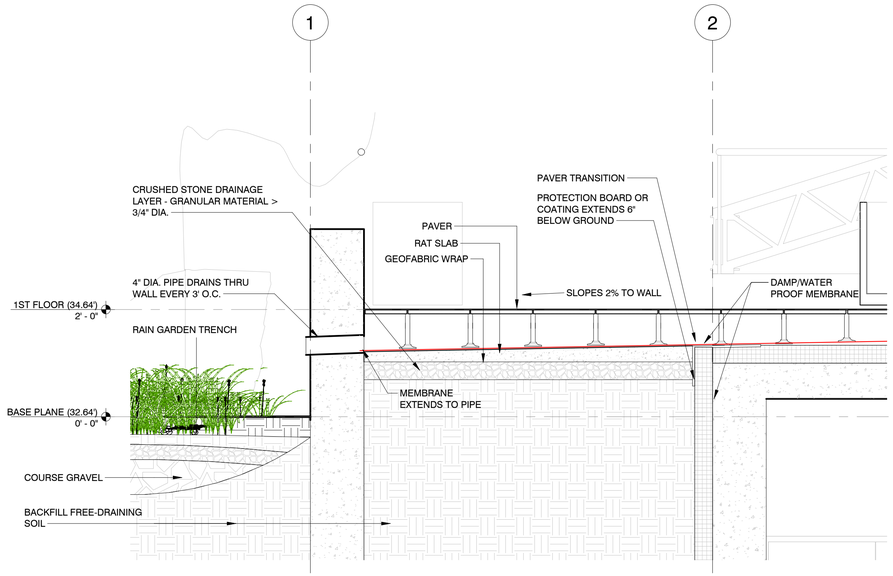
Drawing Title:

TYPICAL UNIT ELEVATIONS

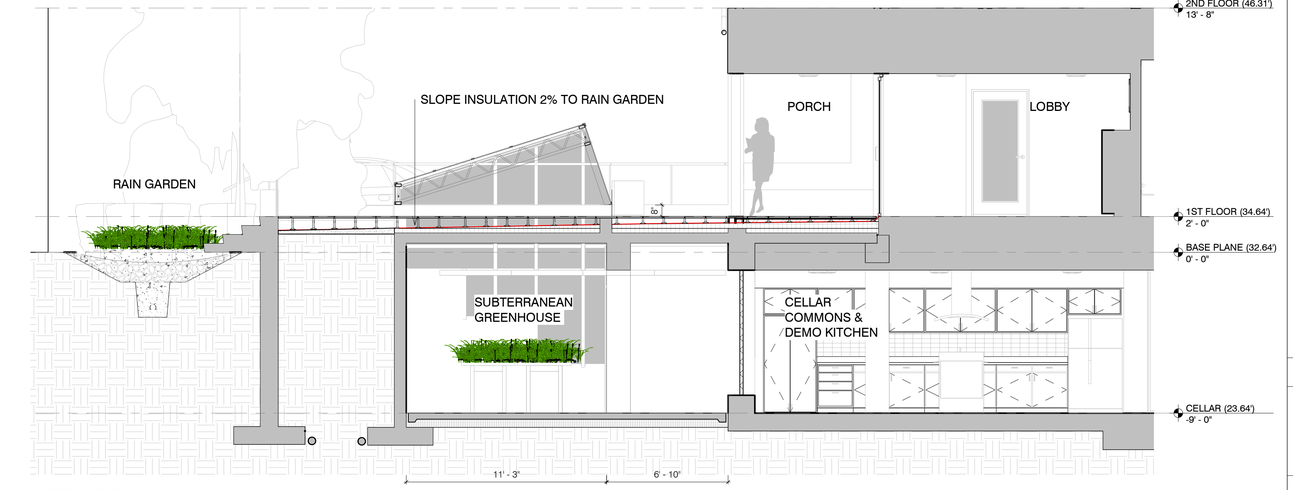
Date: 03.5.2020
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Chkd By: Checker
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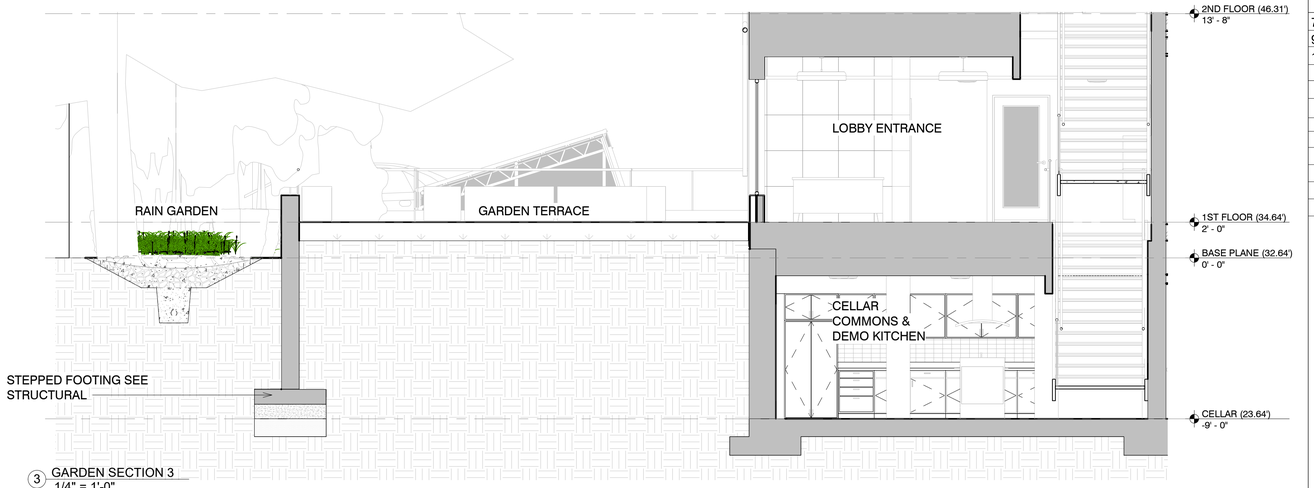
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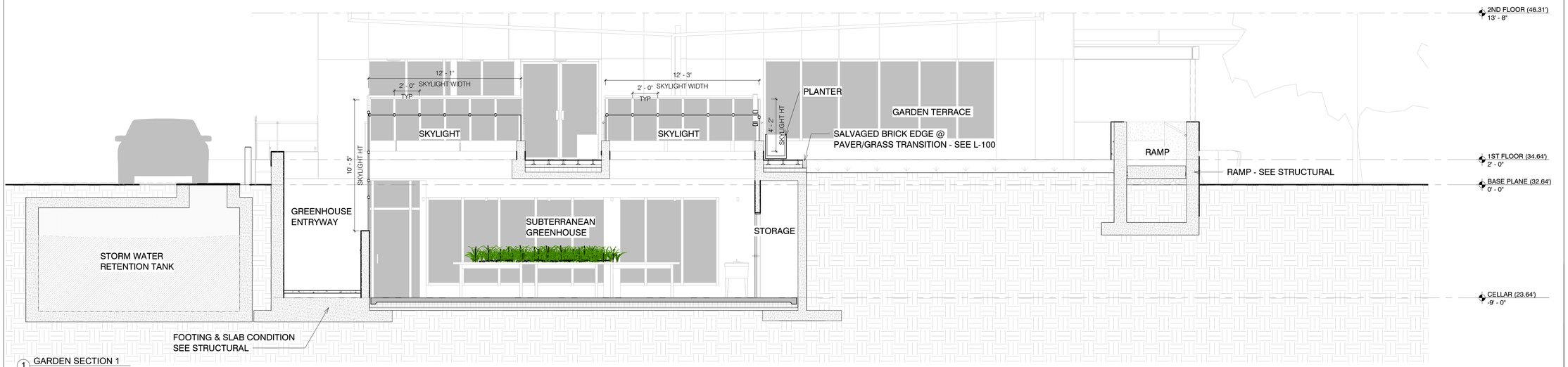
4 DETAIL SECTION - PAVER DRAINAGE
3/4" = 1'-0"



2 GARDEN SECTION 2
1/4" = 1'-0"



3 GARDEN SECTION 3
1/4" = 1'-0"



1 GARDEN SECTION 1
1/4" = 1'-0"

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Revision Schedule

#	Description	Date
7	HPD BLDS	01.10.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

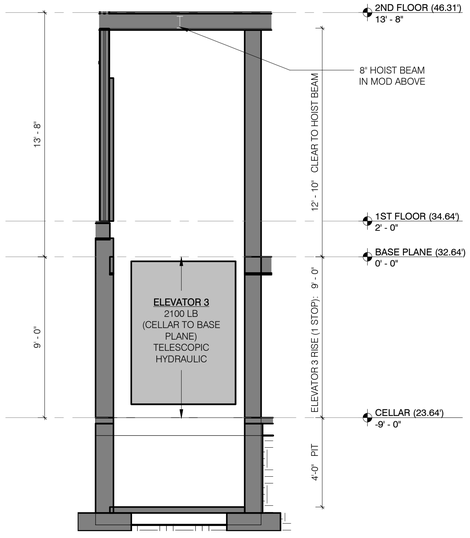
GARDEN TERRACE SECTIONS

Date: 03.5.2020
Seal/Signature:

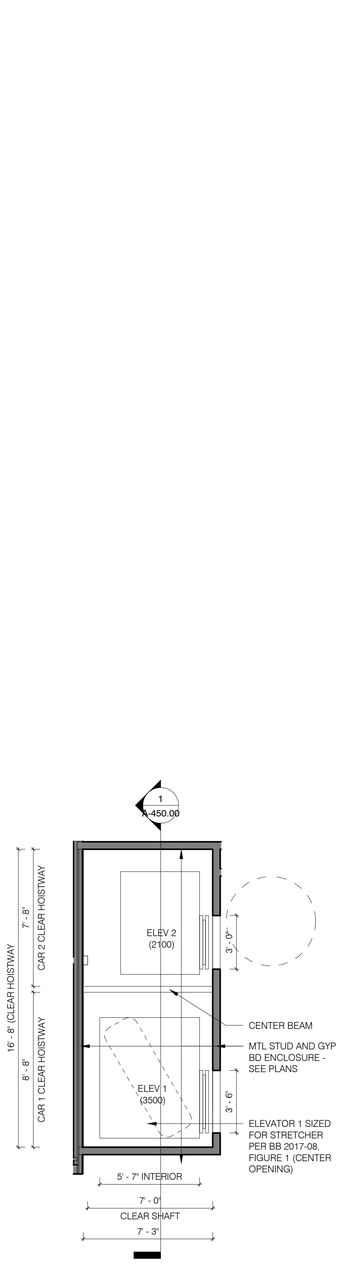
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Chkd By: Checker
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A-408.00

DOB #: 321595083
Sheet #: OF -

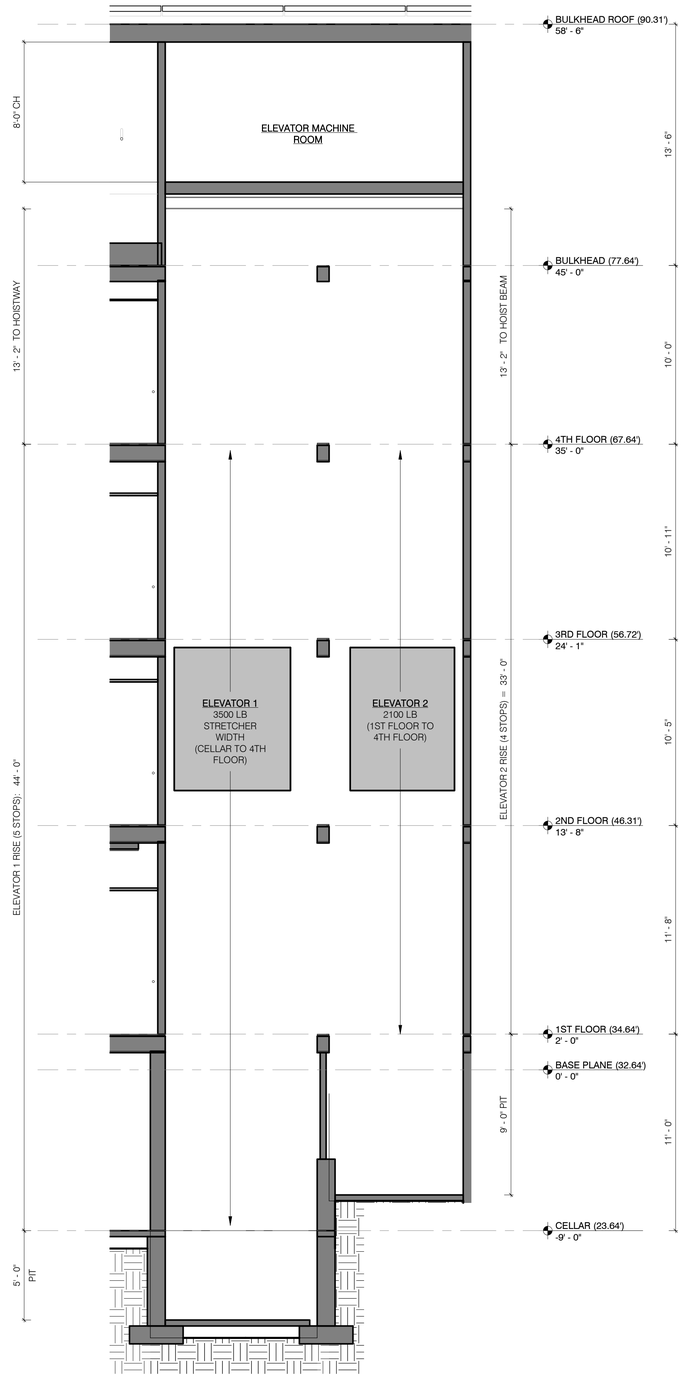
4 ELEVATOR 3_DETAIL PLAN
SCALE: 1/4" = 1'-0"



3 ELEVATOR 3 SECTION
SCALE: 1/4" = 1'-0"



2 ELEVATORS 1 AND 2_DETAIL PLAN
SCALE: 1/4" = 1'-0"



1 ELEVATORS 1&2 SECTION
SCALE: 1/4" = 1'-0"

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Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

ELEVATOR DETAIL PLANS AND SECTIONS

Date: 03.5.2020

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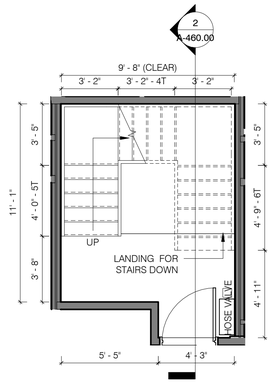
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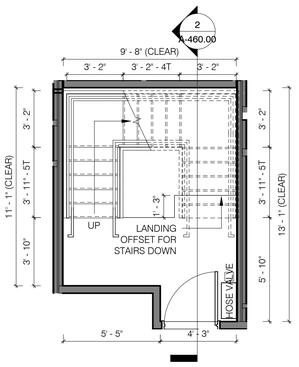
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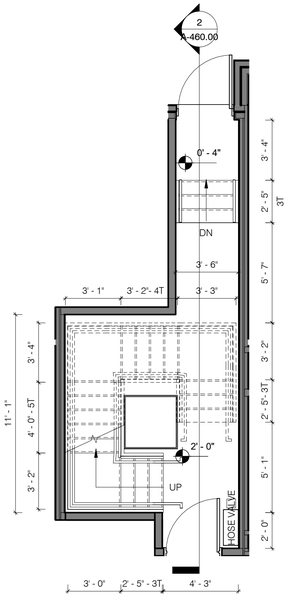
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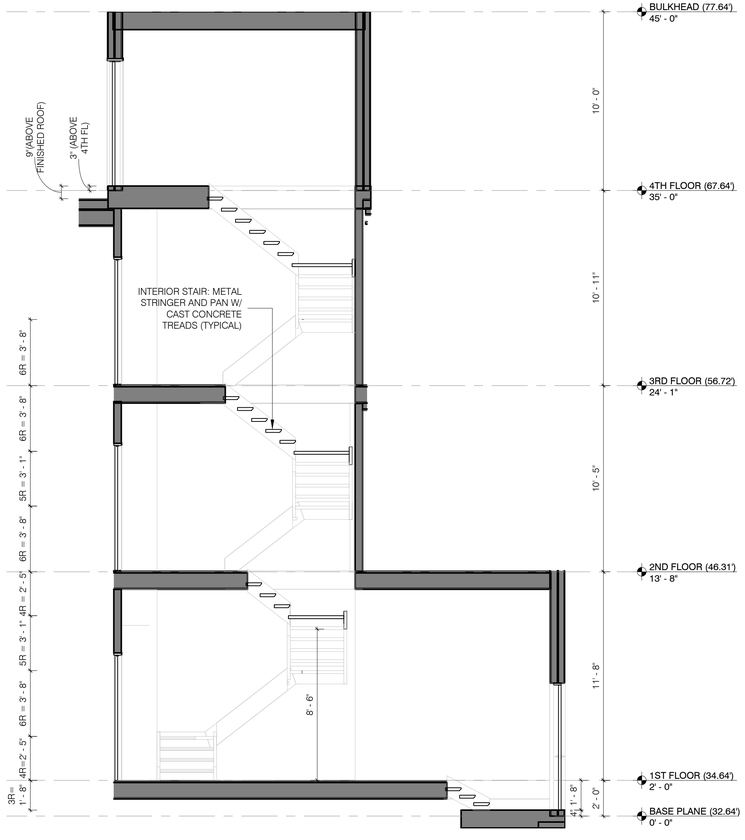
8 STAIR 2_3RD FL TO ROOF PLAN
SCALE: 1/4" = 1'-0"



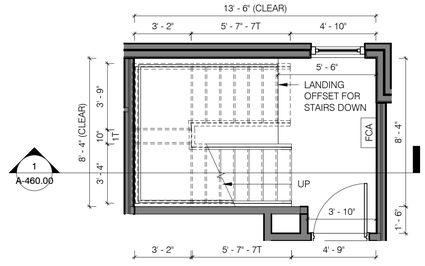
6 STAIR 2_2ND FL TO 3RD FL PLAN
SCALE: 1/4" = 1'-0"



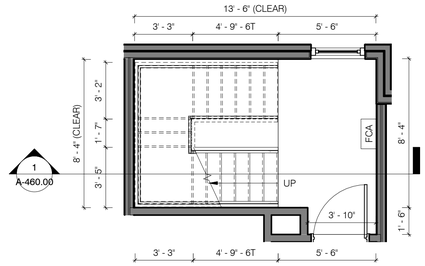
7 STAIR 2_1ST FL TO 2ND FL PLAN
SCALE: 1/4" = 1'-0"



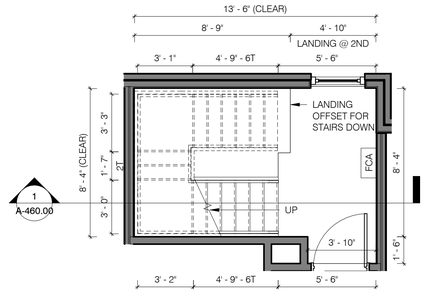
2 STAIR 2 SECTION
SCALE: 1/4" = 1'-0"



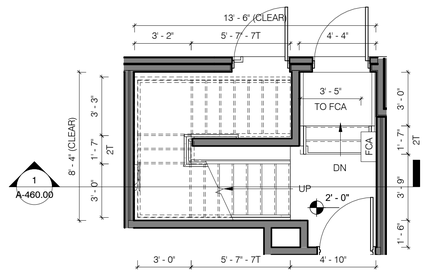
11 STAIR 1_4TH FL TO BLKHD PLAN
SCALE: 1/4" = 1'-0"



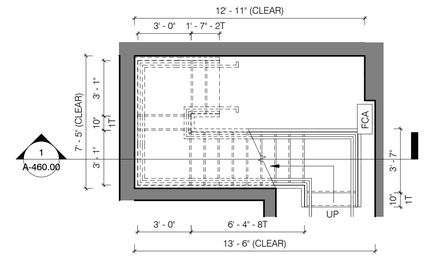
9 STAIR 1_3RD FLTO 4TH FL PLAN
SCALE: 1/4" = 1'-0"



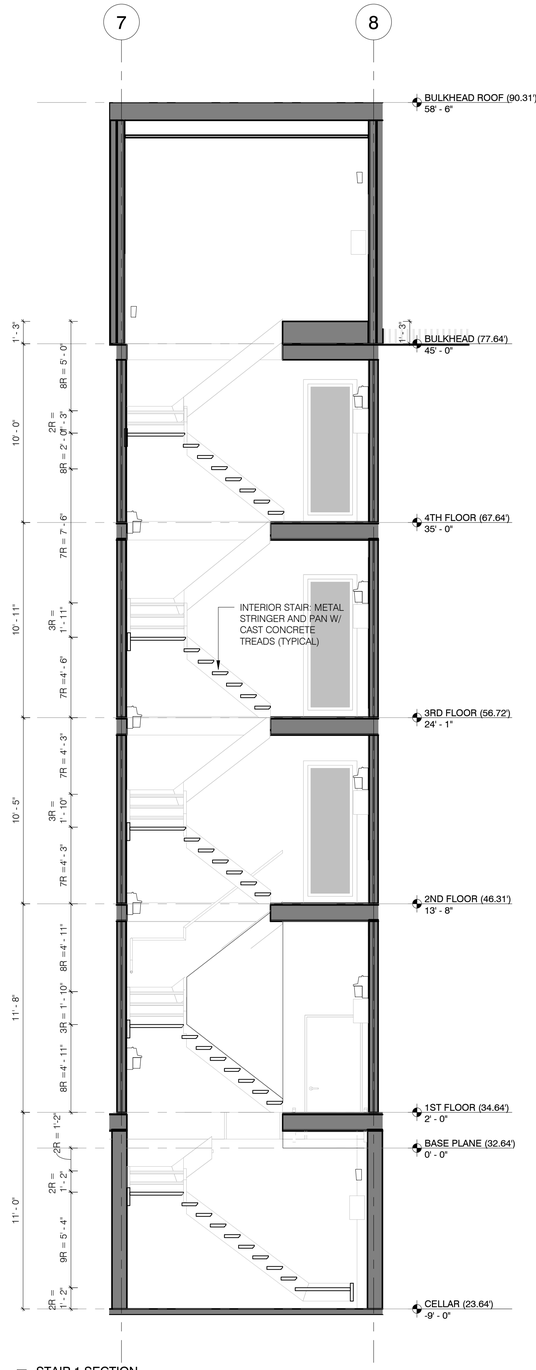
5 STAIR 1_2ND FL TO 3RD FL PLAN
SCALE: 1/4" = 1'-0"



4 STAIR 1_1ST FL TO 2ND FL PLAN
SCALE: 1/4" = 1'-0"



3 STAIR 1_CELLAR TO 1ST FL PLAN
SCALE: 1/4" = 1'-0"



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

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6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

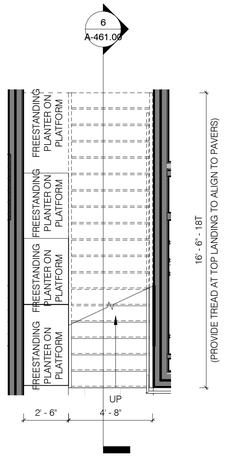
STAIR 1 AND STAIR 2 PLANS AND SECTIONS

Date: 03.5.2020
Seal/Signature:

REGISTERED ARCHITECT CASTRUCCI PAUL A. NEW YORK

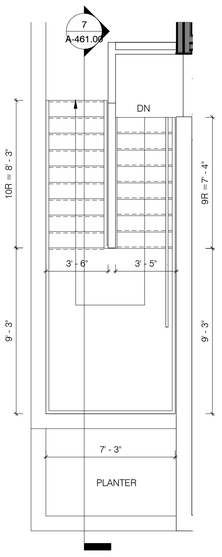
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DOB #: 321595083
Sheet #: of



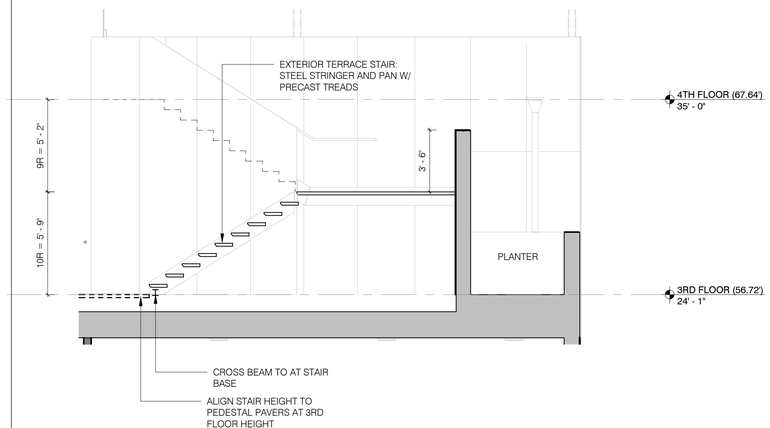
EXTERIOR TERRACE STAIR_2ND FL DETAIL PLAN

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



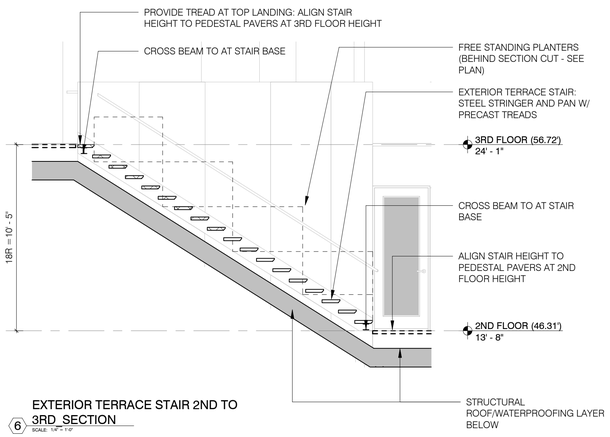
EXTERIOR TERRACE STAIR_3RD FL DETAIL PLAN

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



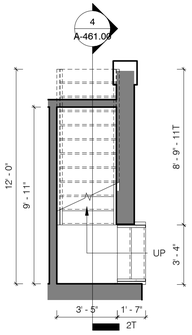
EXTERIOR TERRACE STAIR 3RD TO 4TH SECTION

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



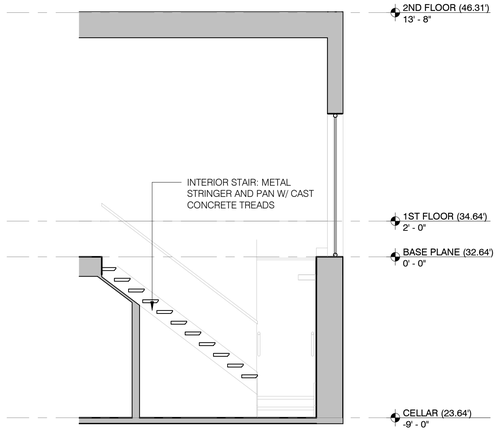
EXTERIOR TERRACE STAIR 2ND TO 3RD_SECTION

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



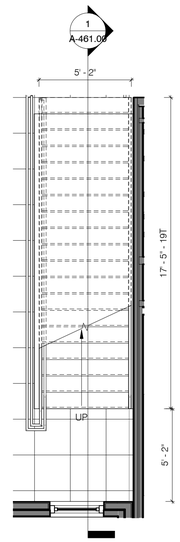
STAIR @ COMM. FACILITY_CELLAR PLAN

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



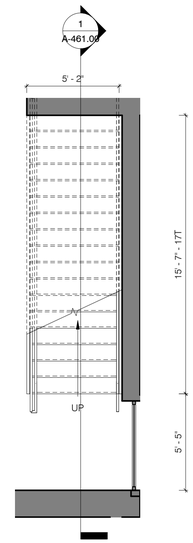
STAIR @ COMM FACILITY_SECTION

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



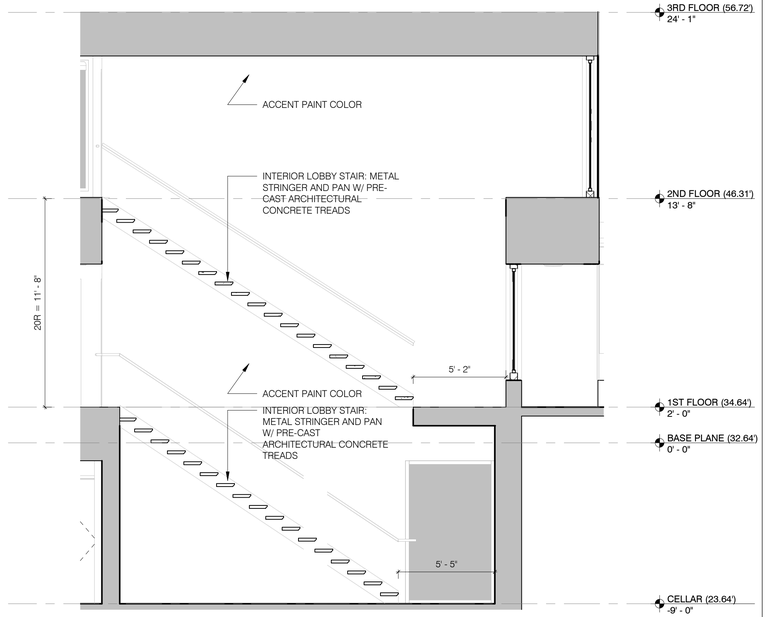
STAIR @ LOBBY_1ST FL DETAIL PLAN

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



STAIR @ LOBBY_CELLAR DETAIL PLAN

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



STAIR @ LOBBY SECTION

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

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NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
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8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

LOBBY AND COMM. FACILITY STAIR PLANS AND SECTIONS

Date: 03.5.2020

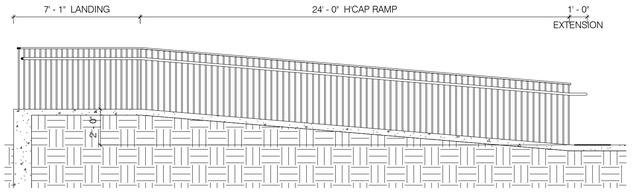
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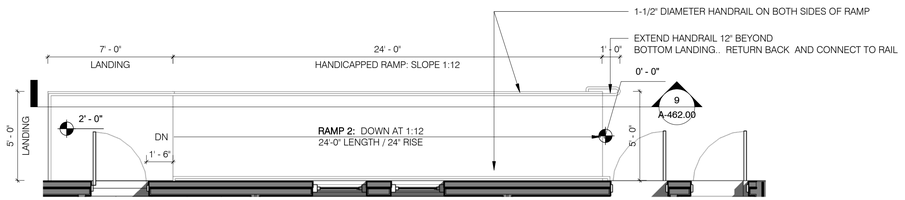
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A-461.00

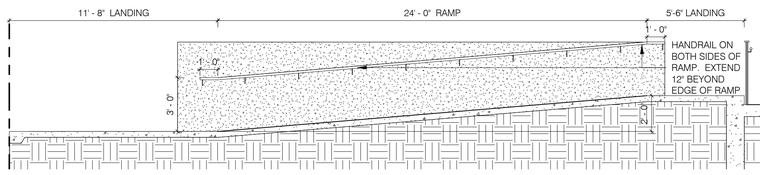
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Sheet #: OF -



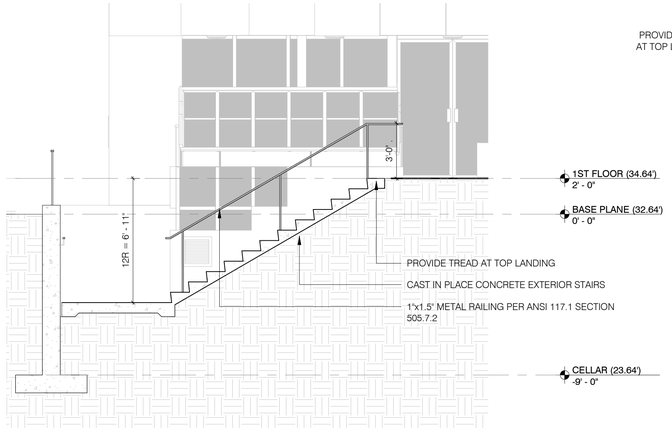
9 H'CAP RAMP 2 SECTION
SCALE: 1/4" = 1'-0"



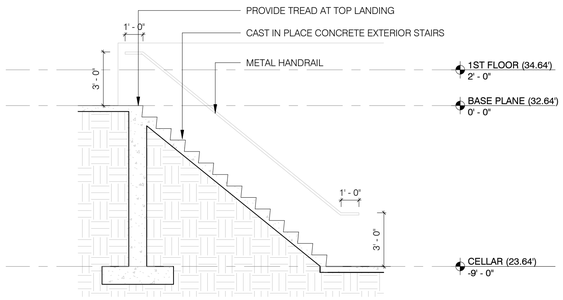
8 EXTERIOR RAMP 2 PLAN
SCALE: 1/4" = 1'-0"



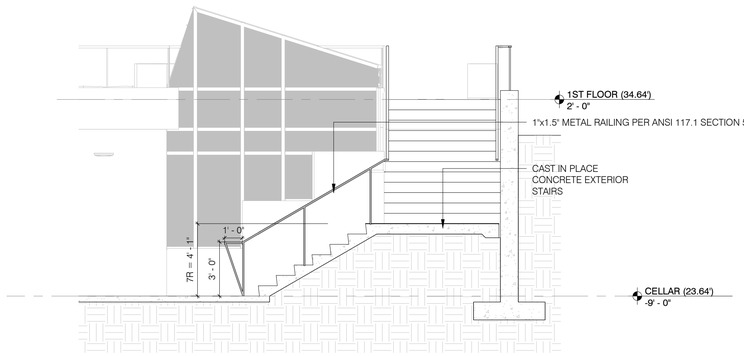
7 H'CAP RAMP 1 SECTION
SCALE: 1/4" = 1'-0"



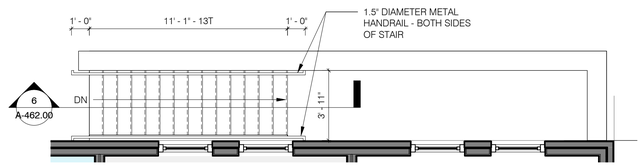
4 DETAIL SECTION AT GREENHOUSE EW
SCALE: 1/4" = 1'-0"



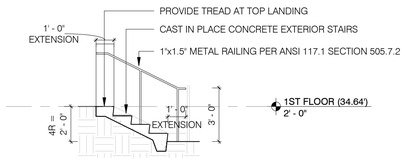
EXTERIOR CONCRETE STAIR_COMM.
6 FACILITY SECTION
SCALE: 1/4" = 1'-0"



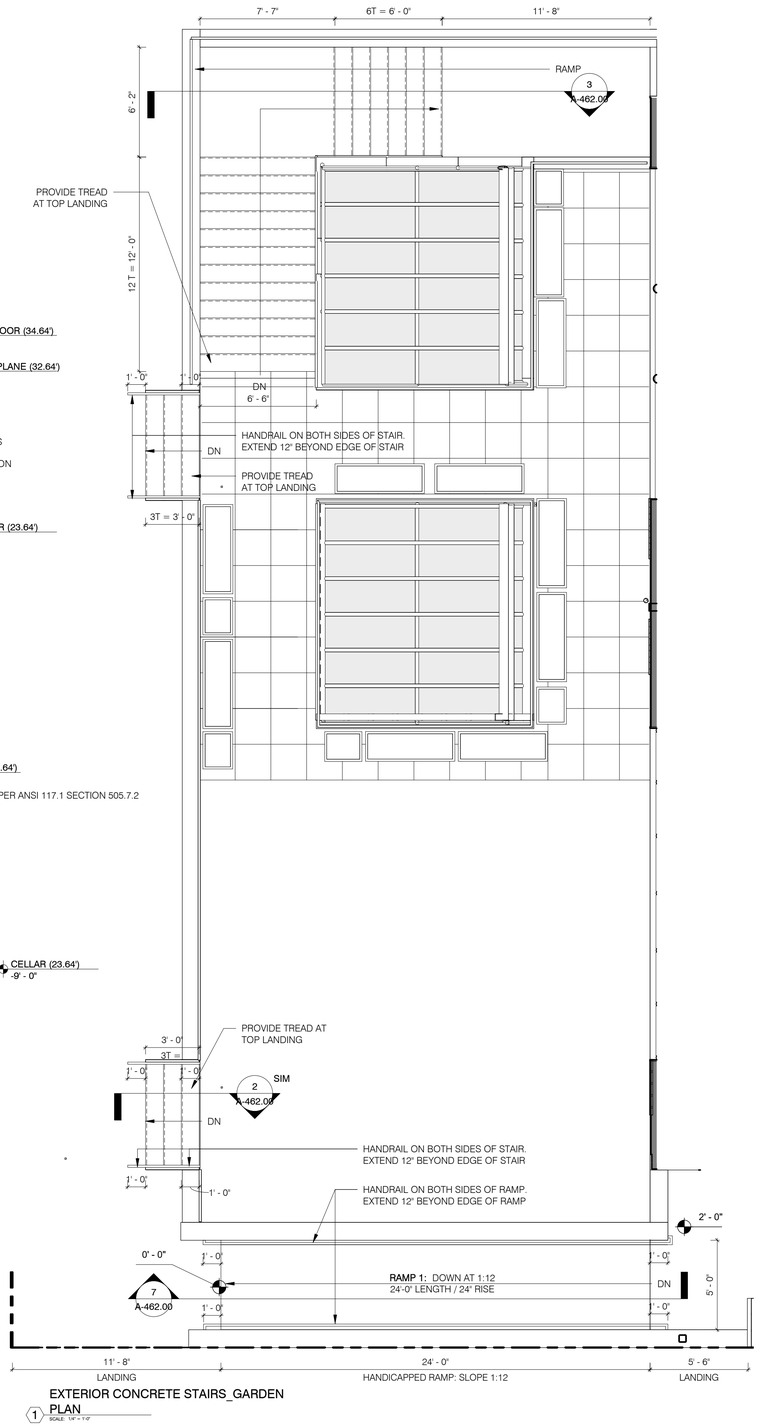
3 EXTERIOR HANDICAPPED RAMP SECTION
SCALE: 1/4" = 1'-0"



EXTERIOR CONCRETE STAIR
5 PLAN_COMM. FACILITY
SCALE: 1/4" = 1'-0"



EXTERIOR CONCRETE STAIR SECTION 2
2 (TYPICAL)
SCALE: 1/4" = 1'-0"



EXTERIOR CONCRETE STAIRS_GARDEN
1 PLAN
SCALE: 1/4" = 1'-0"

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Drawing Title:

EXTERIOR CONCRETE STAIR PLANS AND SECTIONS

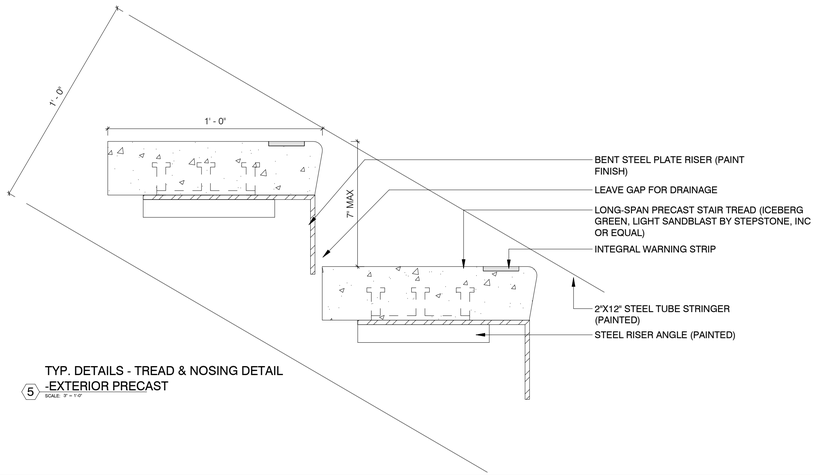
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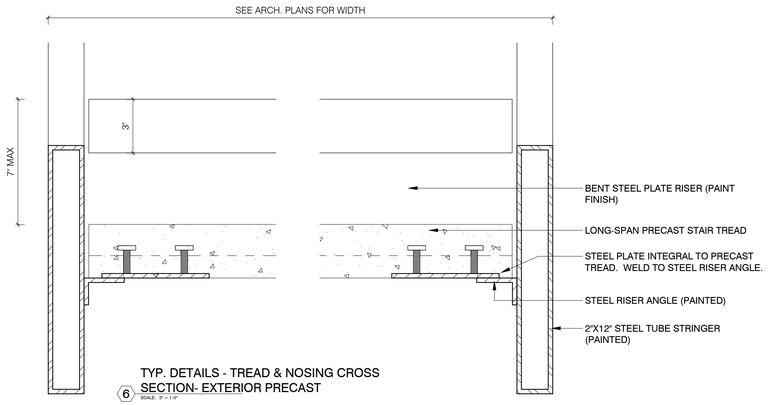
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Drawn By: Author
Chkd By: Checker
Drawing #: A-462.00
Sheet #: OF -

DOB #: 321595083

TYPICAL EXTERIOR PRECAST STAIR DETAILS

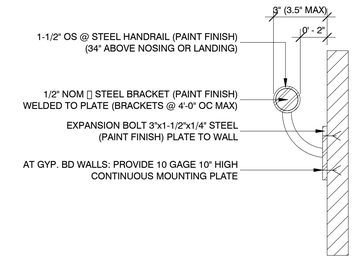


TYP. DETAILS - TREAD & NOSING DETAIL -EXTERIOR PRECAST
5 SCALE: 3" = 1'-0"



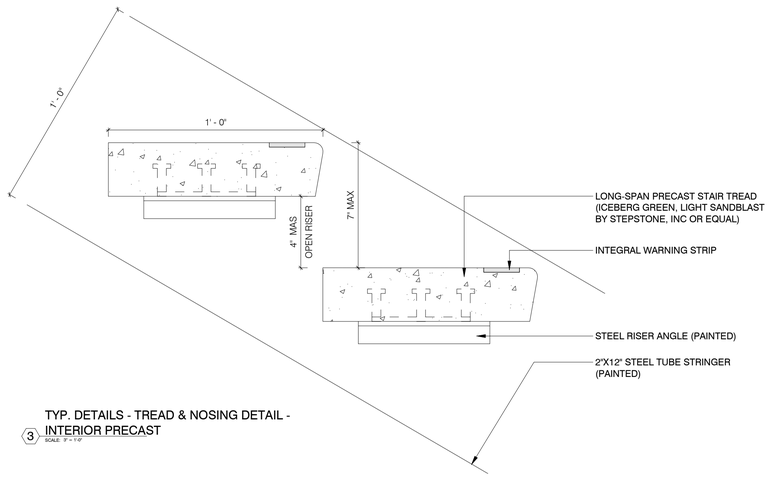
TYP. DETAILS - TREAD & NOSING CROSS SECTION- EXTERIOR PRECAST
6 SCALE: 3" = 1'-0"

GENERAL NOTE:
ALL EXPOSED STEEL TO BE PAINT FINISH

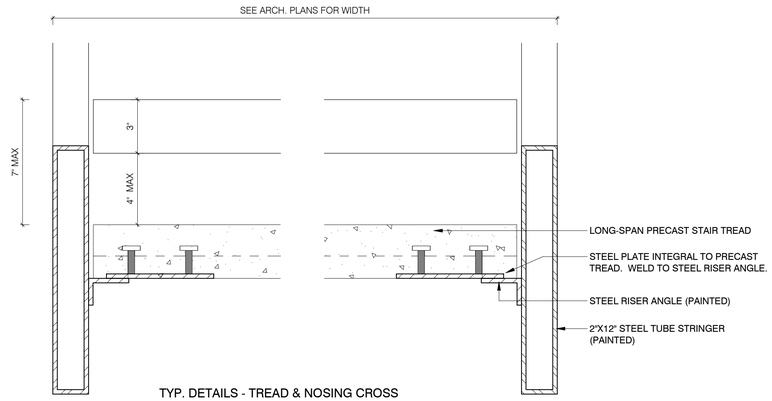


TYP. DETAILS - RAIL & BRACKET DETAIL
7 SCALE: 3" = 1'-0"

TYPICAL INTIEROR PRECAST STAIR DETAILS



TYP. DETAILS - TREAD & NOSING DETAIL - INTERIOR PRECAST
3 SCALE: 3" = 1'-0"



TYP. DETAILS - TREAD & NOSING CROSS SECTION- INTERIOR PRECAST
4 SCALE: 3" = 1'-0"

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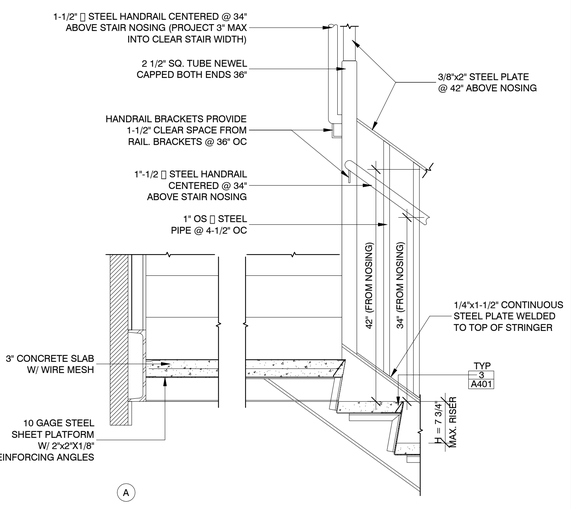
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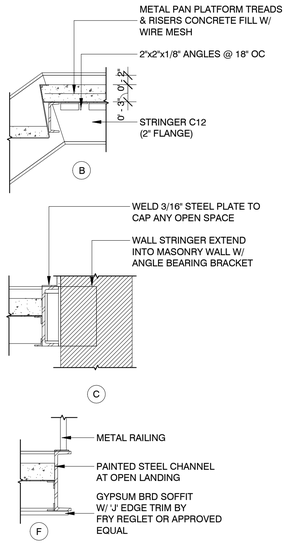
STAIR DETAILS

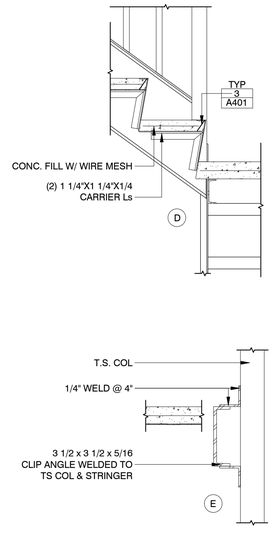
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Drawing #: A-463.00
DOB #: 321595083
Sheet #: of

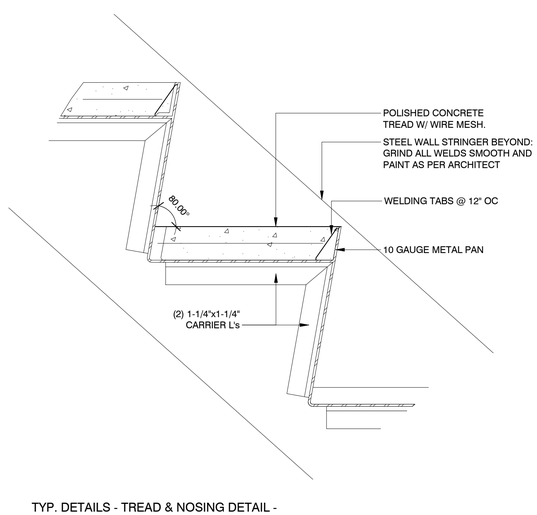
TYPICAL INTIEROR EGRESS STAIR DETAILS



TYP. DETAILS - TYPICAL EGRESS STAIR DETAILS
1 SCALE: 1" = 1'-0"







TYP. DETAILS - TREAD & NOSING DETAIL - EGRESS STAIRS
2 SCALE: 3" = 1'-0"

AIR SEALING COMPONENT SCHEDULE			
COMPONENT	PRIMARY AIR BARRIER(S)	SECONDARY AIR BARRIER(S)	NOTES
ABOVE GRADE WALLS (EXTERIOR - EIFS)	CONCRETE OR EXT. GYP BD W/ STO GOLD ON EXTERIOR FACE	INTERIOR GYP. BD	
CMU WALLS INTERIOR (CELLAR) *	CMU BLOCK W/ STO GOLD	NA	SEE THERMAL BOUNDARY PLANS FOR INTERIOR SPACES TO BE AIR SEALED
INTERIOR GYP BD WALLS*	INTELLOS MENTOS AIR BARRIER	NA	SEE THERMAL BOUNDARY PLANS FOR INTERIOR SPACES TO BE AIR SEALED
BELOW GRADE WALLS (EXTERIOR)	POURED IN PLACE CONCRETE WALL	PROCOR WATERPROOF MEMBRANE	
SLAB ON GRADE	SUB-SLAB VAPOR BARRIER	SLAB ON GRADE	
ROOF	TAPE SEAMS OF ALL DENSEDECK	ROOF MEMBRANE	
* FOR INTERIOR SPACES TO BE AIR SEALED (I.E. REFUSE ROOMS AND STAIRS). REFER TO THERMAL ENVELOPE DIAGRAMS			

AIR SEALING TAPE SCHEDULE

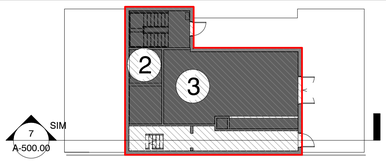
DETAIL	MATERIAL 1	MATERIAL 2	GASKET	AIR SEALING TAPE	PRIMER	NOTES
WINDOW/DOOR AT EIFS	STO GOLD (DENSE GLASS) OR CONCRETE WALL	DOOR/WINDOW	NA	SIGA FENTRIM IS2	PER MFG	WRAP STO GOLD & STO RAPID GUARD INTO JAMB, ALL AROUND
FRAME WALL TO CONC. WALL	STO GOLD	CONCRETE WALL	NA	STO TRANSITION MEMBRANE		EMBED WATERPROOF MEMBRANE W/ STO RAPID GUARD
CONC. WALL TO CONC. SLAB	CONCRETE WALL	SUB-SLAB VAPOR BARRIER	NA	TESCON VANA	TESCON PRIMER RP	PERFORM ADHESION TEST W/ ARCH
FLASHING @ WATERPROOF MEMBRANE	ALUM. FLASHING	PROCOR WATERPROOF MEMBRANE	NA	EMBED IN STO RAPID GUARD	NA - PERFORM ADHESION TEST W/ ARCH	
ROOF MEMBRANE AT PARAPET	ROOF MEMBRANE	STO GOLD (DENSE GLASS)	NA	EMBED IN STO RAPID GUARD	NA - PERFORM ADHESION TEST W/ ARCH	
PIPE PENETRATIONS	PIPE PENETRATION	ROOF MEMBRANE	ROFLEX SOLIDO	NA	NA	GASKET SIZED PER PIPE DIAMETER.
WIRE PENETRATIONS	WIRE PENETRATION	CMU WALL (STO GOLD)	ROFLEX SOLIDO	NA	NA	AIR SEAL @ INTERIOR AND EXTERIOR OF WALL. GASKET SIZED PER WIRE SIZE AIR SEAL @ INTERIOR AND EXTERIOR OF WALL.

NOTE: SUBSTRATES FOR AIR SEALING MUST BE CLEAN, FREE OF OIL AND DUST. PROVIDE SAMPLE ADHESIVE TESTS FOR ALL TAPES. PROVIDE PRIMERS WHERE REQUIRED.

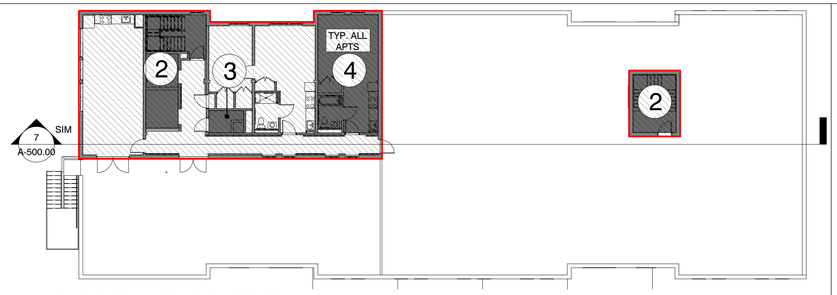
MOCK-UP SCHEDULE

#	DESCRIPTION
1	PARAPET
2	WINDOW @ RAINSCREEN
3	MOD TO FOUNDATION TRANSITION
4	EXTERIOR WALL AT CELLAR SLAB (ON GRADE)
5	ROOF DRAIN
6	EXTERIOR DOOR
7	WINDOW AT EIFS
8	SKYLIGHT (ROOF WINDOW)
9)	ROOF PENETRATIONS

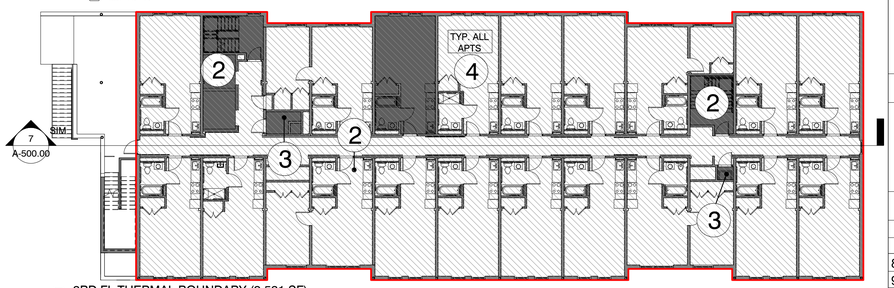
NOTES
1. SEE DETAILS, A500 SERIES DRAWINGS
2. PROVIDE IN-PLACE MOCK-UPS FOR ARCHITECT REVIEW PRIOR TO START OF EACH TASK ACCEPTED MOCK-UPS TO BECOME PART OF WORK.
3. FOR MOD INSPECTIONS, SCHEDULE DETAIL REVIEW FOR ARCH AND ENERGY CONSULTANT OBSERVATION VISIT



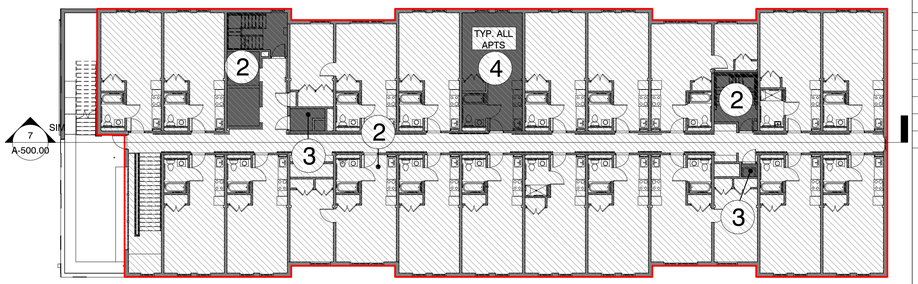
6 BLKHD THERMAL BOUNDARY (1089 SF)
SCALE: 1/16" = 1'-0"



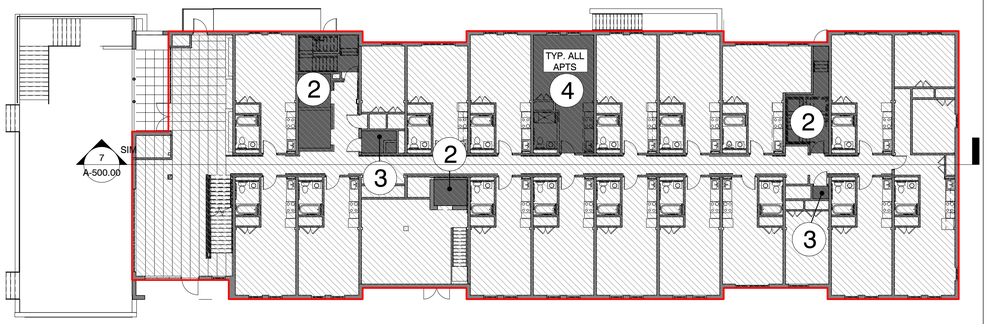
5 4TH FL THERMAL BOUNDARY (2357 SF)
SCALE: 1/16" = 1'-0"



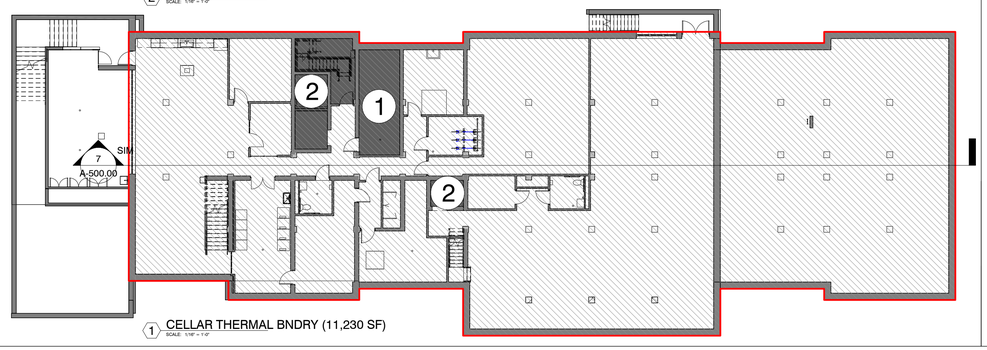
4 3RD FL THERMAL BOUNDARY (9,531 SF)
SCALE: 1/16" = 1'-0"



3 2ND FL THERMAL BOUNDARY (10,182 SF)
SCALE: 1/16" = 1'-0"

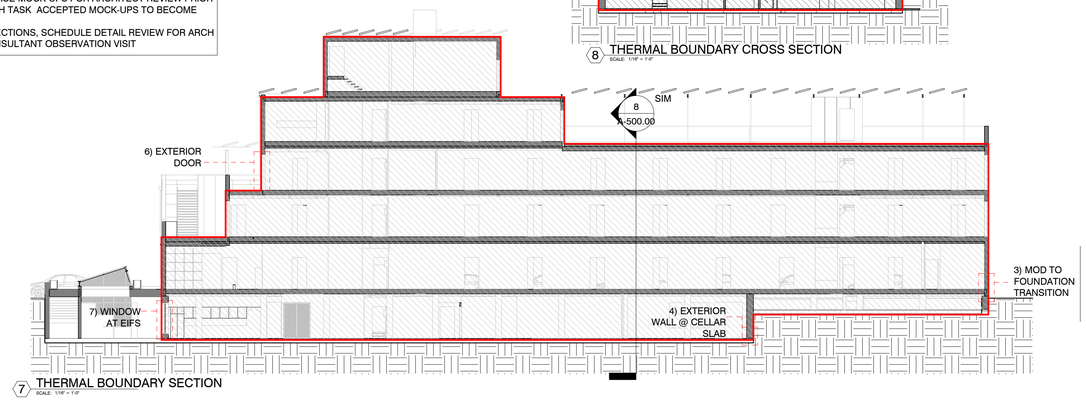


2 1ST FL THERMAL BOUNDARY (10,587 SF)
SCALE: 1/16" = 1'-0"



1 CELLAR THERMAL BNDRY (11,230 SF)
SCALE: 1/16" = 1'-0"

8 THERMAL BOUNDARY CROSS SECTION
SCALE: 1/16" = 1'-0"



7 THERMAL BOUNDARY SECTION
SCALE: 1/16" = 1'-0"

INTERIOR AIR SEALING REQUIREMENTS

1 CELLAR TRASH ROOM

1) AIR SEAL ALL CMU AND CONC. WALLS W/ STO GOLD OR EQUAL.
2) AIR SEAL GYP BD PARTITION W/ SOLITEX MENTO AIR MEMBRANE.
3) TAPE WALLS TO FLOORS W/ AIR SEALING TAPE.
4) AIR SEAL GASKET ALL DOORS. SEE HARDWARE SCHEDULE.
5) REVIEW ALL AIR SEALING IN FIELD WITH ARCHITECT.

2 ELEVATOR AND STAIR SHAFTS

1) AIR SEAL ALL CMU AND CONC. WALLS W/ STO GOLD OR EQUAL.
2) AIR SEAL GYP BD PARTITION W/ SOLITEX MENTO AIR MEMBRANE.
3) TAPE WALLS TO FLOORS W/ AIR SEALING TAPE.
4) AIR SEAL GASKET ALL DOORS
5) MOCK UP ONE FLOOR OF ELEVATOR SHAFT AND ONE FLOOR OF ONE STAIR SHAFT IN FIELD FOR ARCHITECT REVIEW.

3 HWH RM/REFUSE ROOM/MECH SHAFT/ JANITOR'S CLOSET - TYP

1) AIR SEAL ALL CMU AND CONC. WALLS W/ STO GOLD OR EQUAL.
2) AIR SEAL GYP BD PARTITION W/ SOLITEX MENTO AIR MEMBRANE.
3) TAPE WALLS TO FLOORS W/ AIR SEALING TAPE.
4) AIR SEAL GASKET ALL DOORS
5) AIR SEAL GASKET AT TRASH CHUTE DOOR
6) MOCK UP ROOM(S) AT ONE FLOOR IN FIELD FOR ARCHITECT REVIEW.

4 APARTMENT AIR SEALING - TYPICAL

1) AIR SEAL ALL PENETRATIONS IN DEMISING WALLS (E.G. AIR SEALED OUTLETS IN DEMISING WALLS).
2) GASKET APARTMENT ENTRY DOORS.
3) MOCK UP ONE APARTMENT IN FIELD FOR ARCHITECT REVIEW.

GENERAL AIR SEALING NOTES:

1) APARTMENTS SHALL BE SEALED TO REUCE AIR EXCHANGE BETWEEN THE APARTMENT AND OUTSIDE AS WELL AS THE APARTMENT AND OTHER ADJACENT SPACES. DWELLING UNIT AIR INFILTRATION SHALL NOT EXCEED 0.30 CFM50 PER SF OF ENCLOSURE.

2) THE EXTERIOR BUILDING ENVELOPE SHALL BE SEALED TO REDUCE AIR EXCHANGE BETWEEN THE CONDITIONED FLOOR AREA AND EXTERIOR AND UNCONDITIONED BUILDING SPACES. WHOLE BUILDING AIR INFILTRATION SHALL NOT EXCEED 0.08 CFM75 PER SF ENCLOSURE

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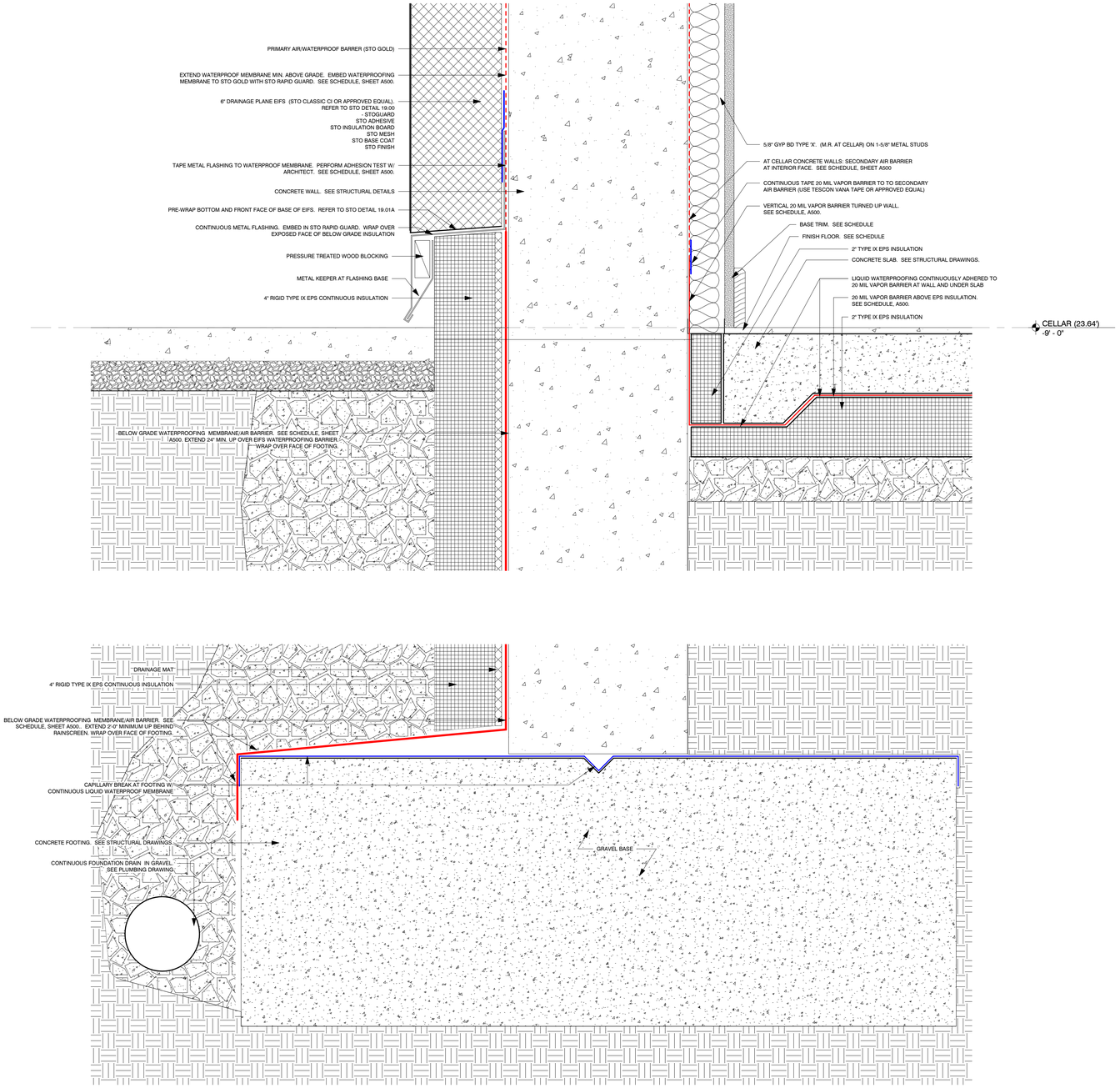
THERMAL DIAGRAMS, AIR SEALING SCHEDULES

Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

Scale: 1/16" = 1'-0"
Drawn By: Author
Chkd By: Checker
Drawing #: A-500.00
DOB #: 321595083
Sheet #: OF -



1 DETAIL FOUNDATION WALL SECTION @ OCCUPIABLE SPACE AND COURTYARD
SCALE: 3" = 1'-0"

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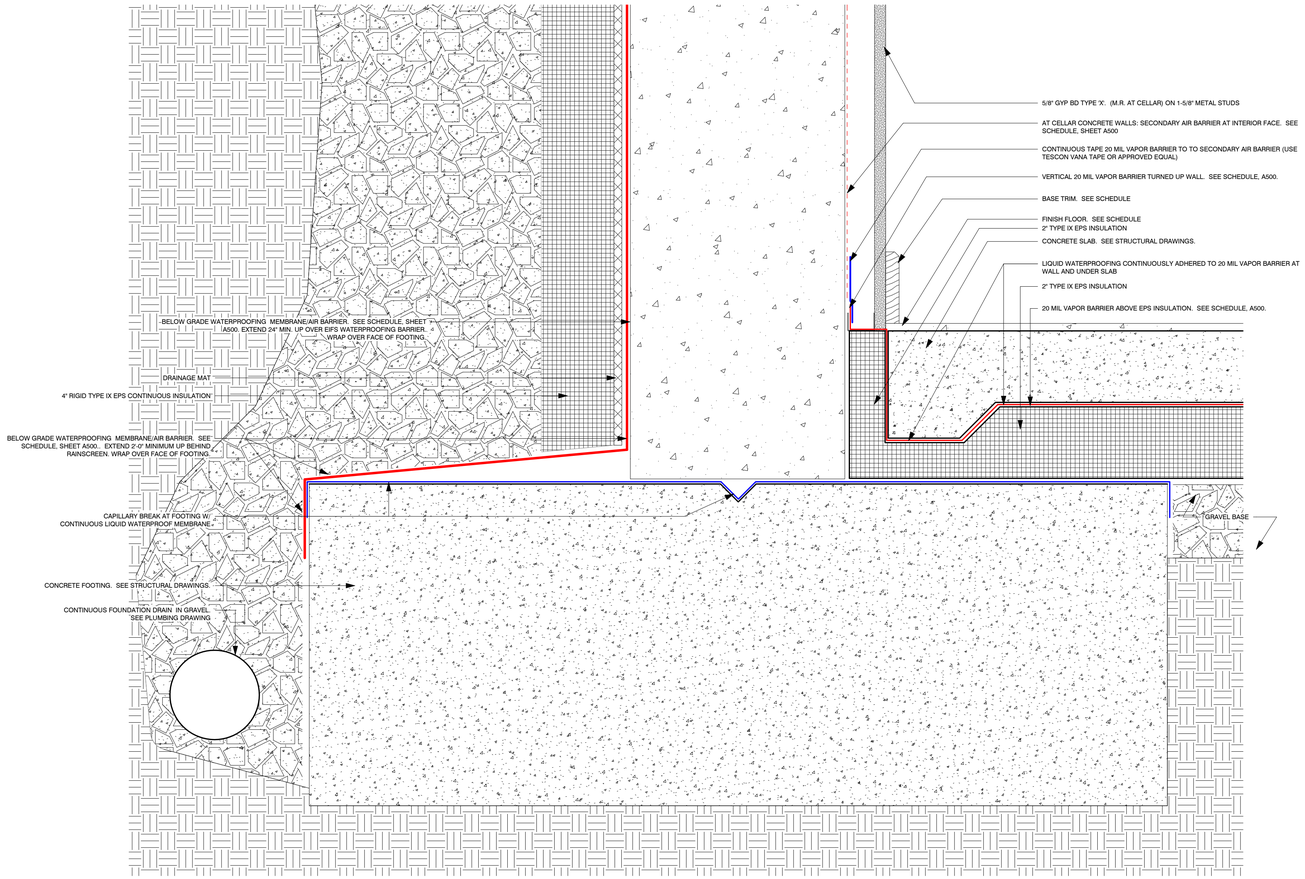
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A-501.00

Sheet #: OF -



1 DETAIL FOUNDATION WALL SECTION @ OCCUPIABLE SPACE
SCALE: 3" = 1'-0"

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NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

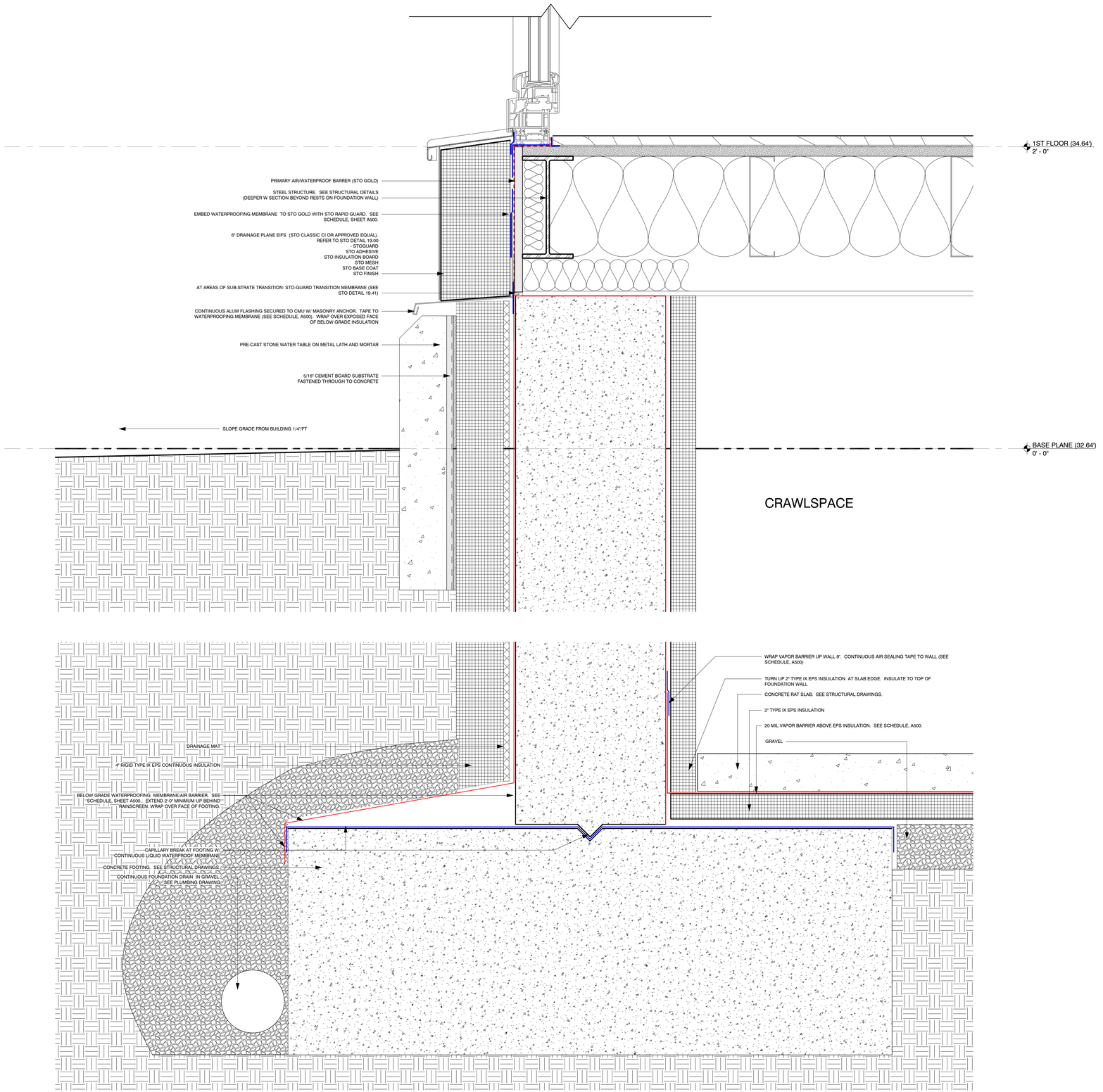
FOUNDATION DETAILS

Date: 03.5.2020
Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI NEW YORK

DOB #: 321595083

Scale: 3" = 1'-0"
Drawn By: Author
Chkd By: Checker
Drawing #:
A-502.00
Sheet #: OF -



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PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

FOUNDATION DETAILS

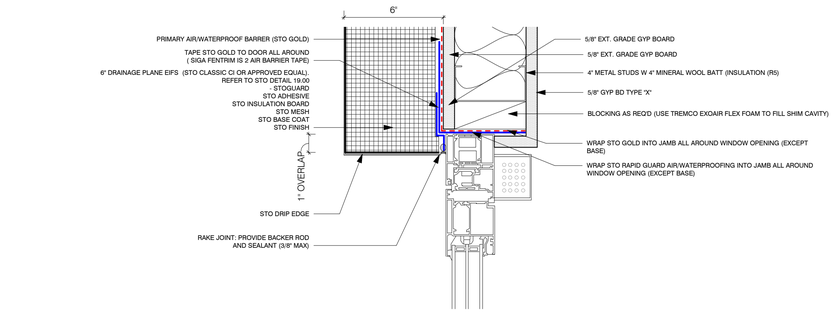
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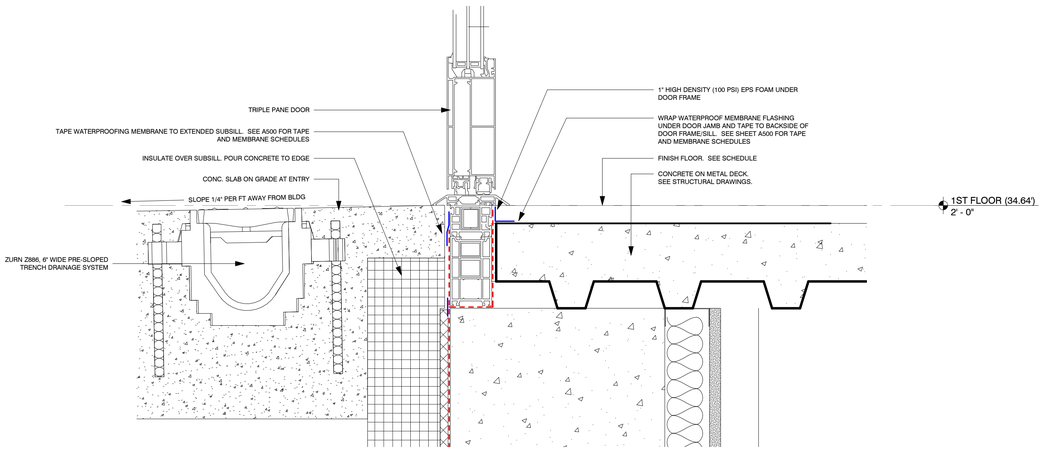
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REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

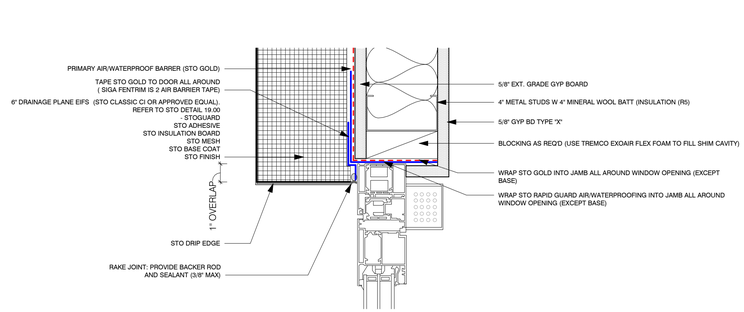
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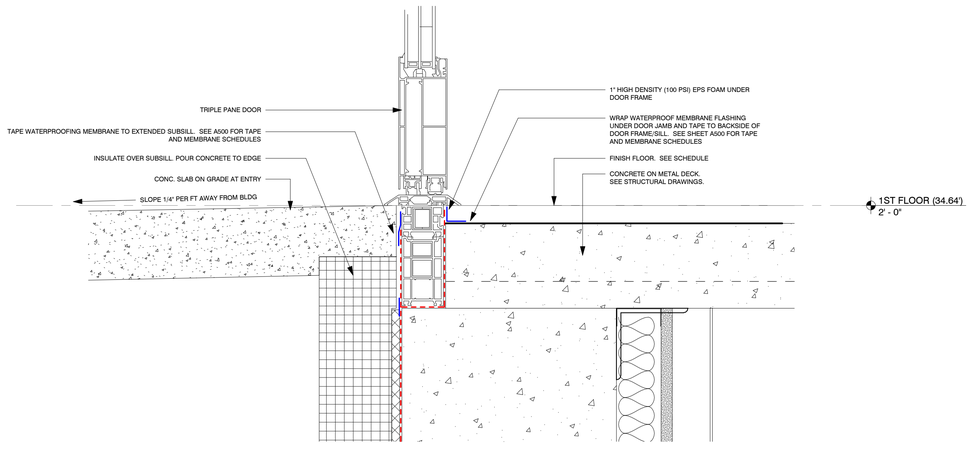
Scale: 3" = 1'-0"
Drawn By: Author
Chkd By: Checker
Drawing #: A-503.00
Sheet #: OF -





2 DETAIL @ LOBBY SIDE DOOR
SCALE: 3" = 1'-0"





1 DETAIL @ ENTRY DOOR
SCALE: 3" = 1'-0"

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10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

ENTRY DOOR DETAILS

Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI ST. NEW YORK

Scale: 3" = 1'-0"

Drawn By: Author

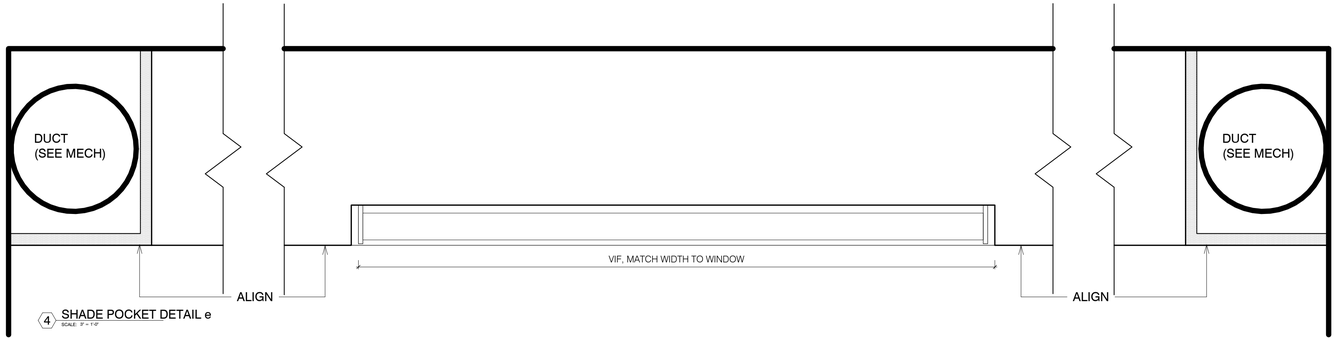
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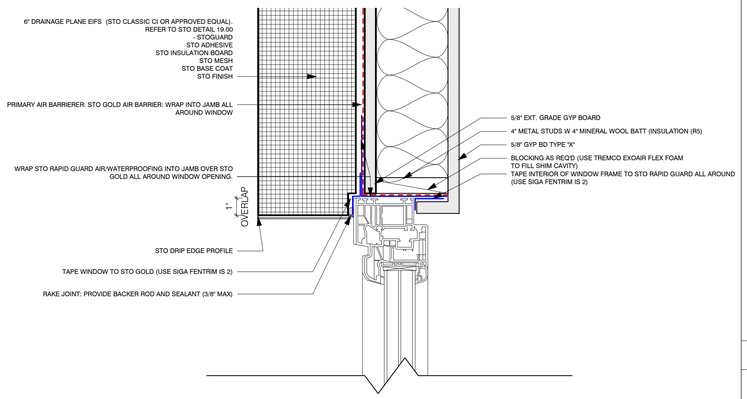
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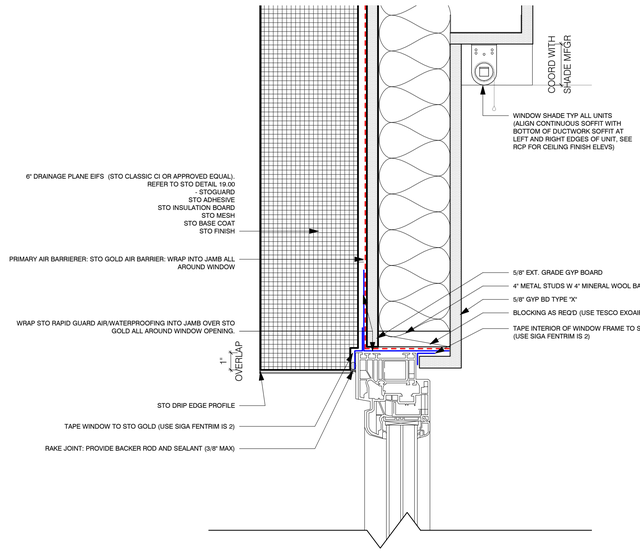
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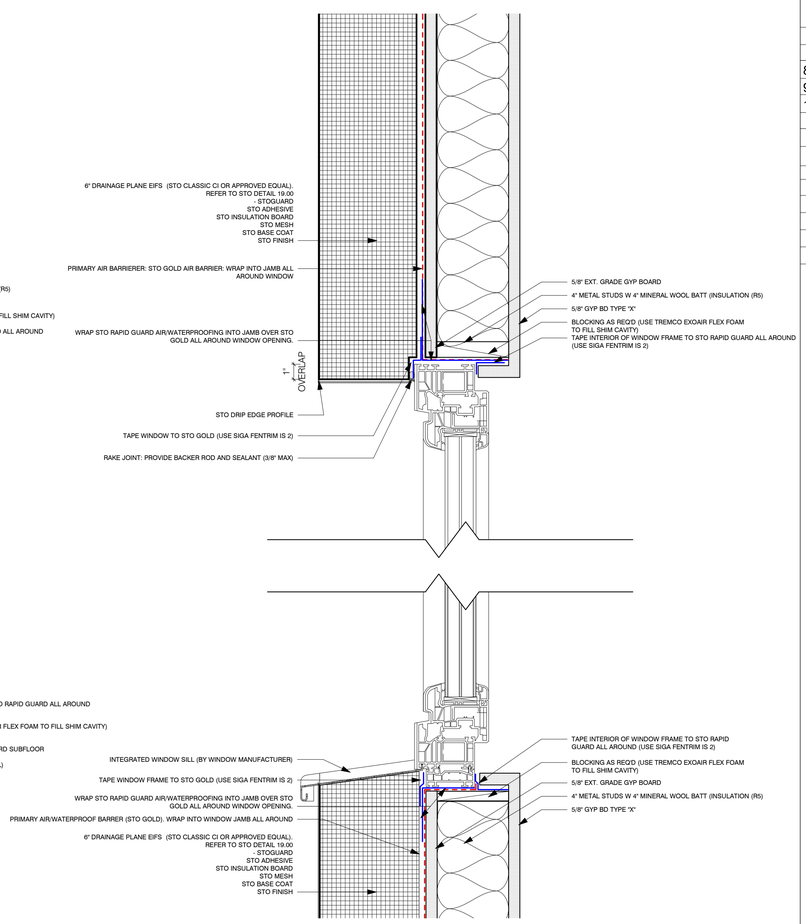
4 SHADE POCKET DETAIL e
SCALE: 3" = 1'-0"



3 WINDOW JAMB DETAIL
SCALE: 3" = 1'-0"



2 WINDOW FLOOR TO WALL DETAIL
SCALE: 3" = 1'-0"



1 WINDOW IN WALL DETAIL
SCALE: 3" = 1'-0"

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DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

TYPICAL WINDOW DETAILS

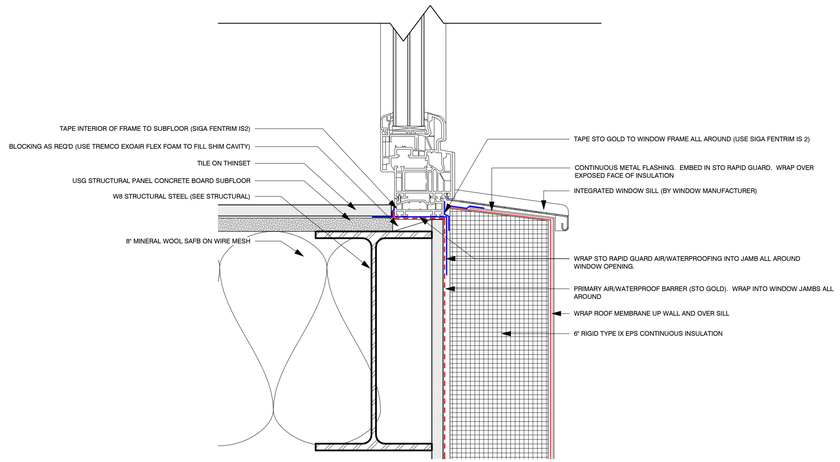
Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT
CASTRUCCI
STATE OF NEW YORK

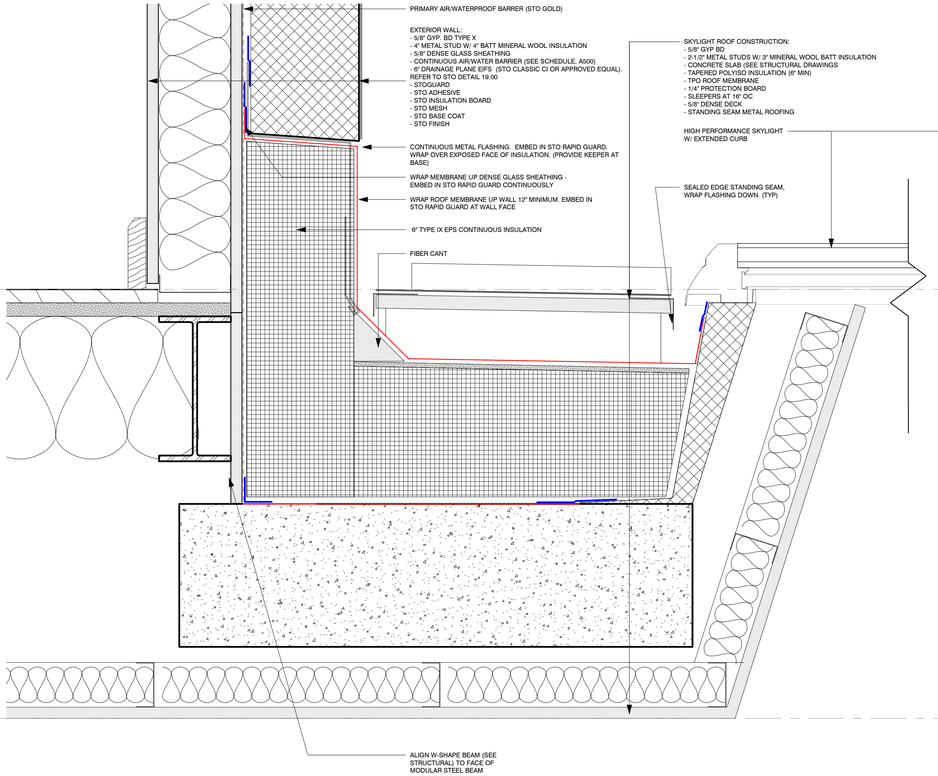
Scale: 3" = 1'-0"
Drawn By: Author
Chkd By: Checker
Drawing #:
A-505.00

DOB #: 321595083
Sheet #: OF -



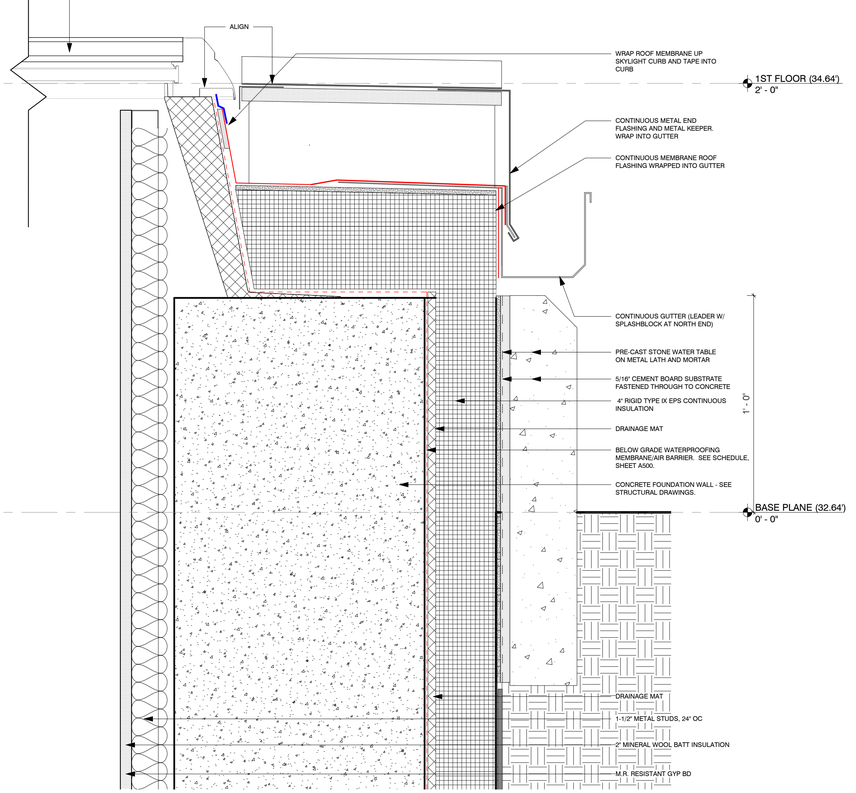
WINDOW SILL DETAIL UNITS 112, 113, 114, 115

2 SCALE: 3" = 1'-0"



1 SKYLIGHT DETAIL

SCALE: 3" = 1'-0"



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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

SKYLIGHT SECTION DETAIL

Date: 03.5.2020

Seal/Signature:

Scale: 3" = 1'-0"

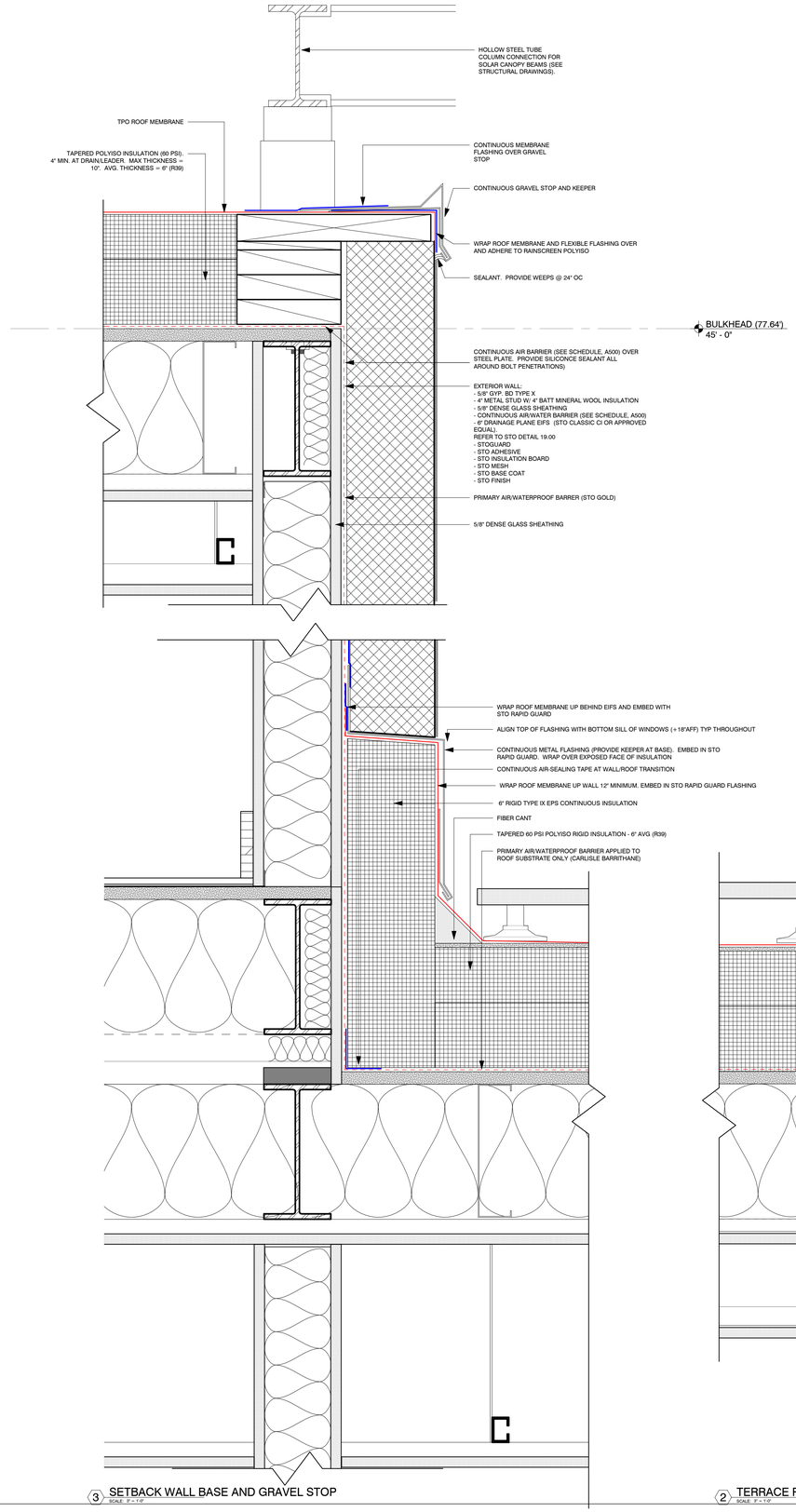
Drawn By #: Author

Chkd By #: Checker

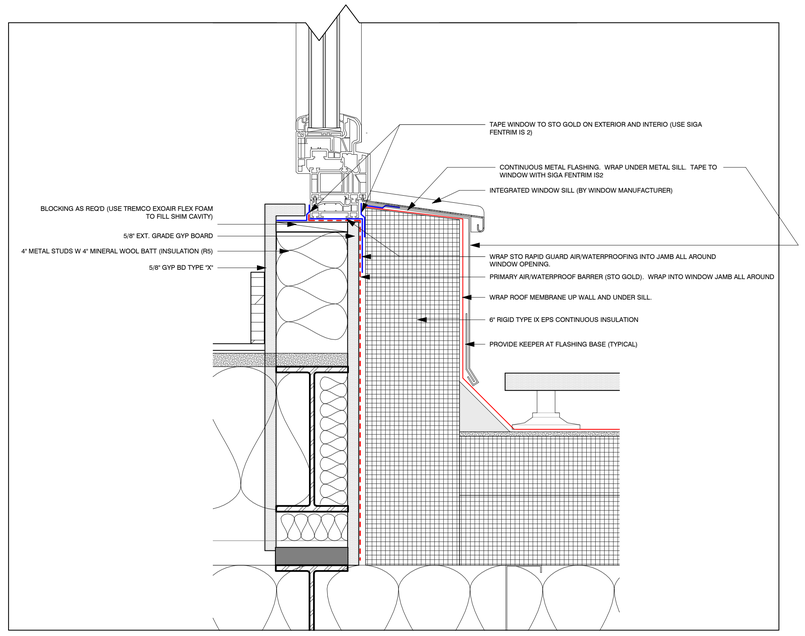
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DOB #: 321595083

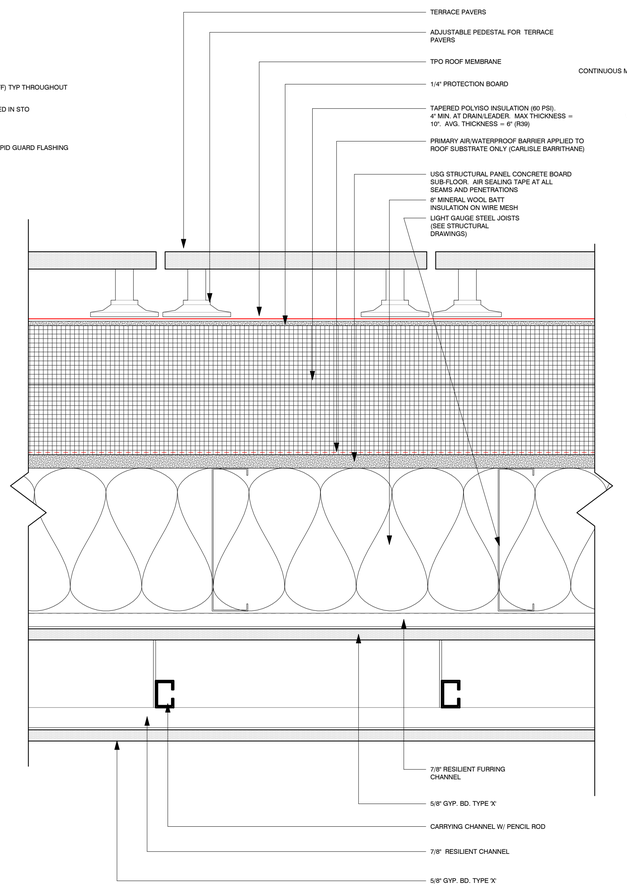
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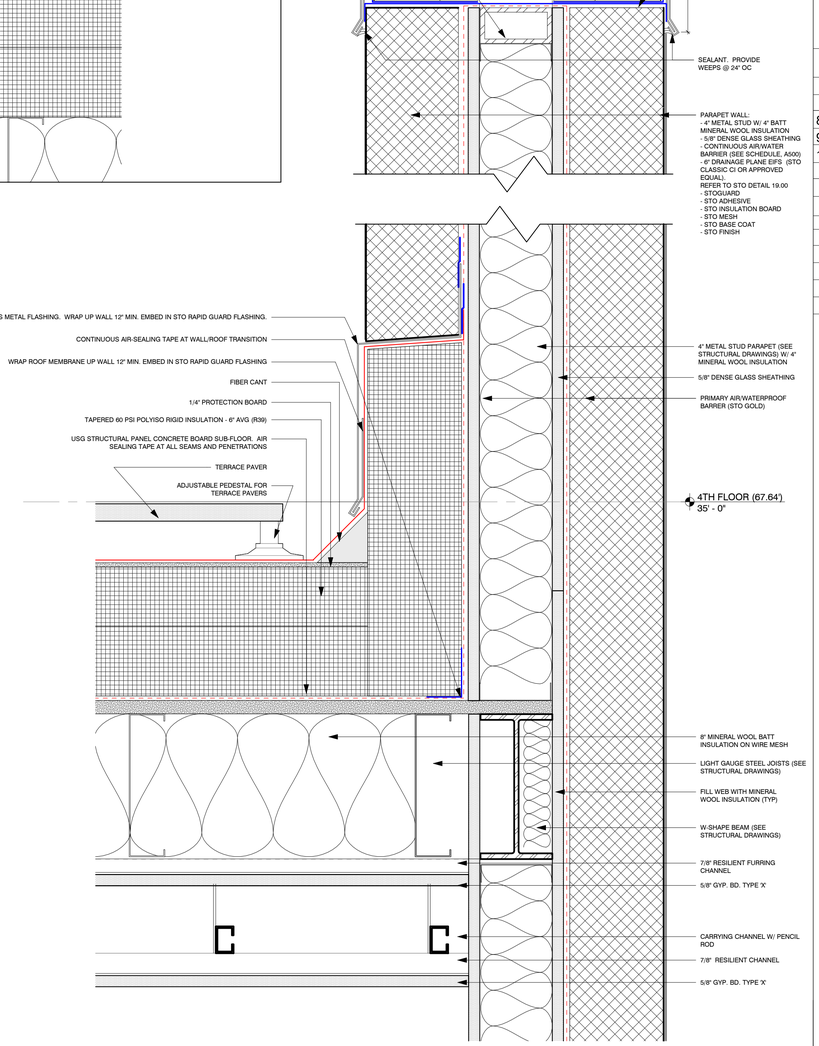
3 SETBACK WALL BASE AND GRAVEL STOP
SCALE: 3" = 1'-0"



5 WINDOW SILL DETAIL @ 4TH FL HALL
SCALE: 3" = 1'-0"



2 TERRACE ROOF DETAIL
SCALE: 3" = 1'-0"



1 PARAPET SECTION DETAIL
SCALE: 3" = 1'-0"

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DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

TYPICAL PARAPET AND SETBACK DETAILS

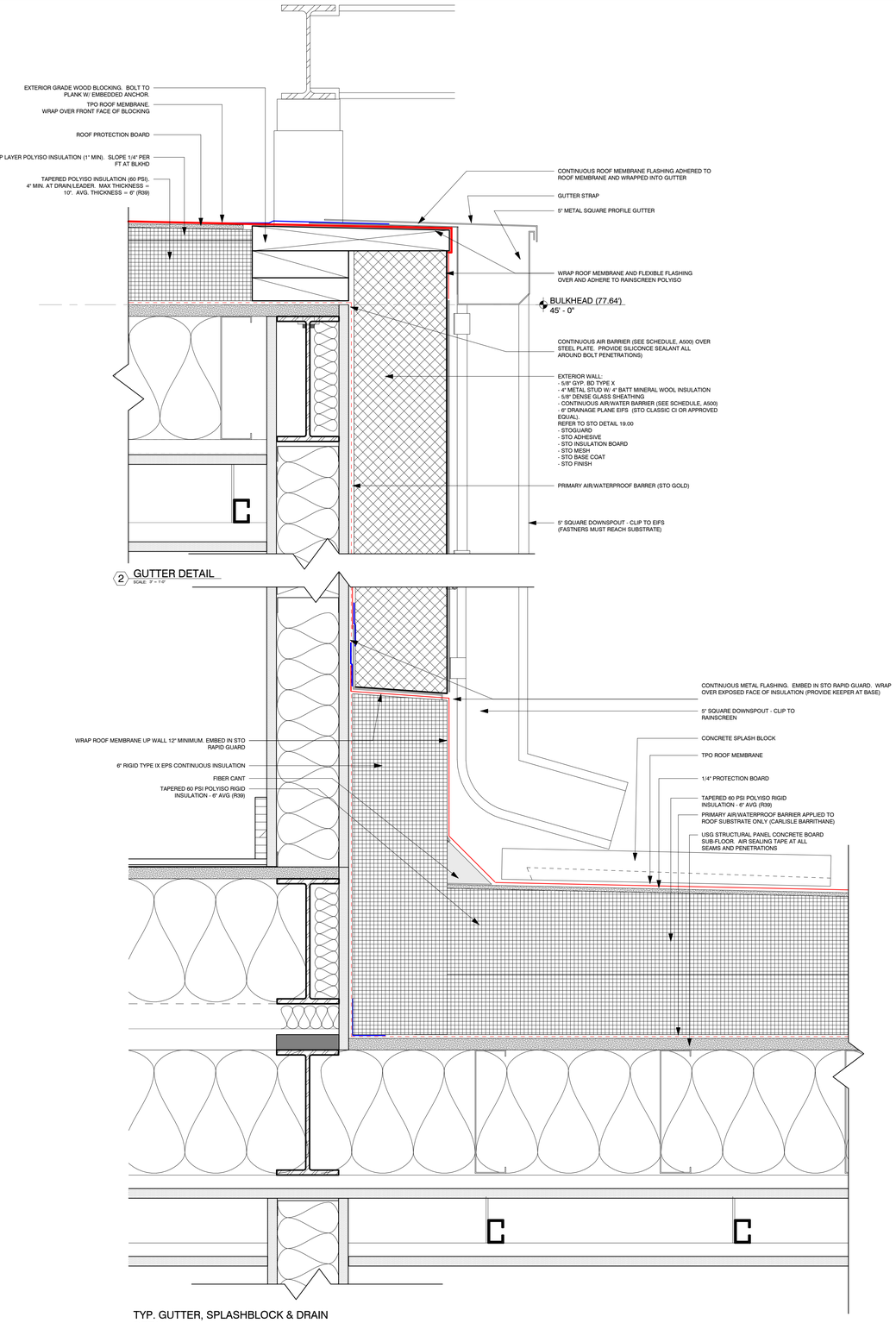
Date: 03.5.2020

Seal/Signature:

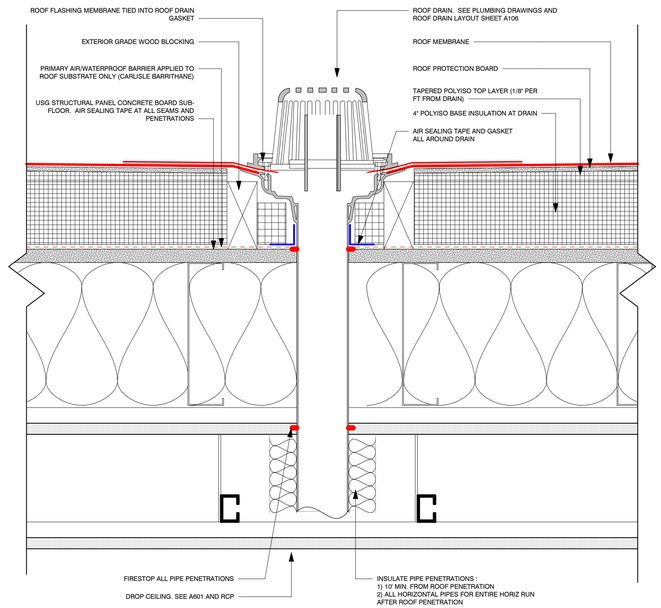
REGISTERED ARCHITECT — CASTRUCCI — STATE OF NEW YORK

DOB #: 321595083

Scale: 3" = 1'-0"
Drawn By: Author
Chkd By: Checker
Drawing #:
A-507.00
Sheet #: OF -



2 GUTTER DETAIL
SCALE: 3" = 1'-0"



1 TYP. GUTTER, SPLASHBLOCK & DRAIN DETAIL
SCALE: 3" = 1'-0"

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DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

GUTTER, SPLASHBLOCK & DRAIN DETAILS

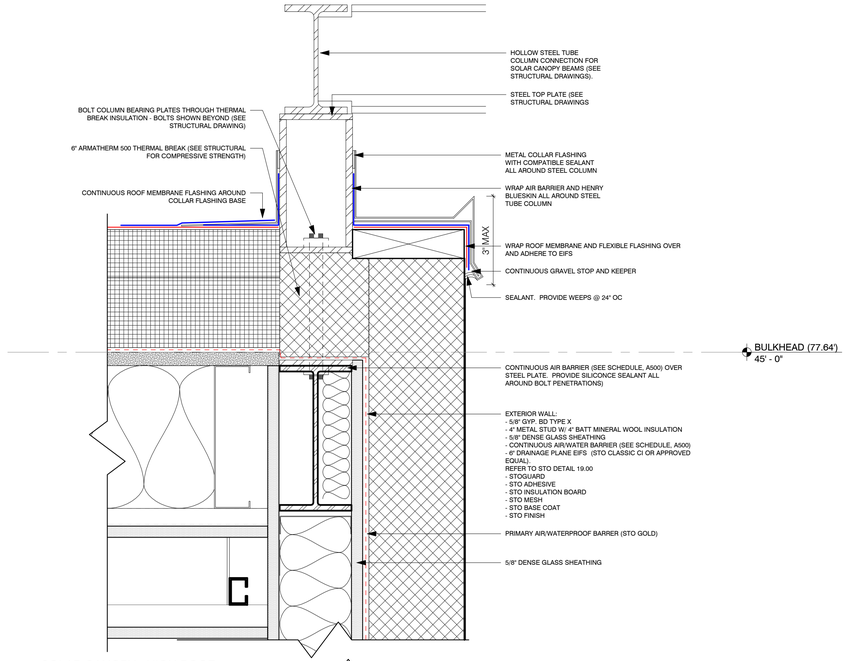
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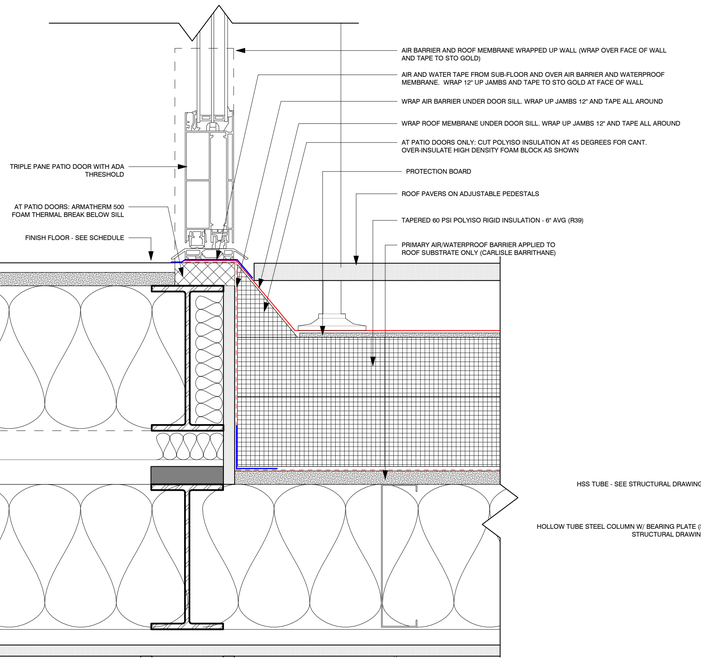
REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

DOB #: 321595083

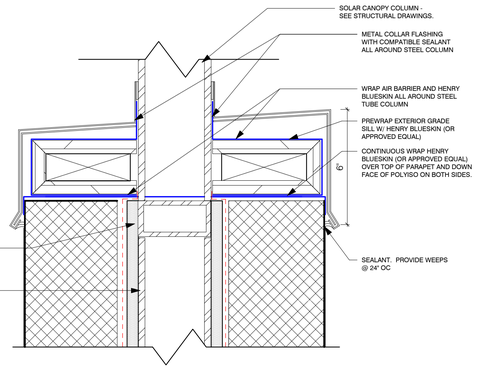
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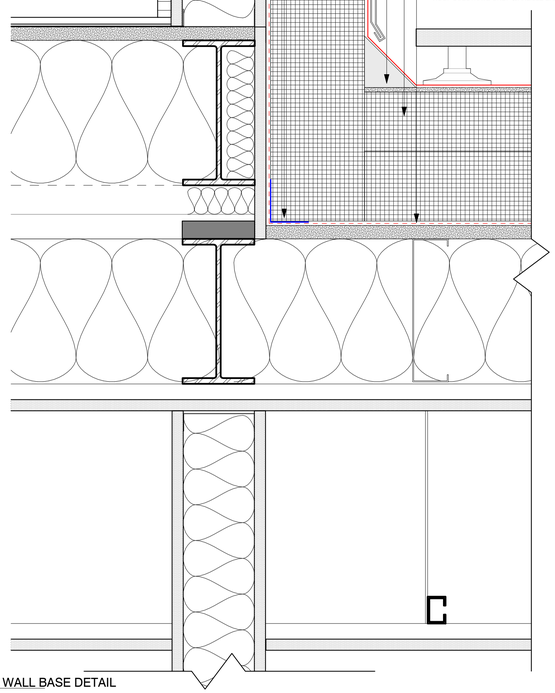


4 SOLAR CANOPY - HIGH ROOF CONNECTION DETAIL
SCALE: 3" = 1'-0"

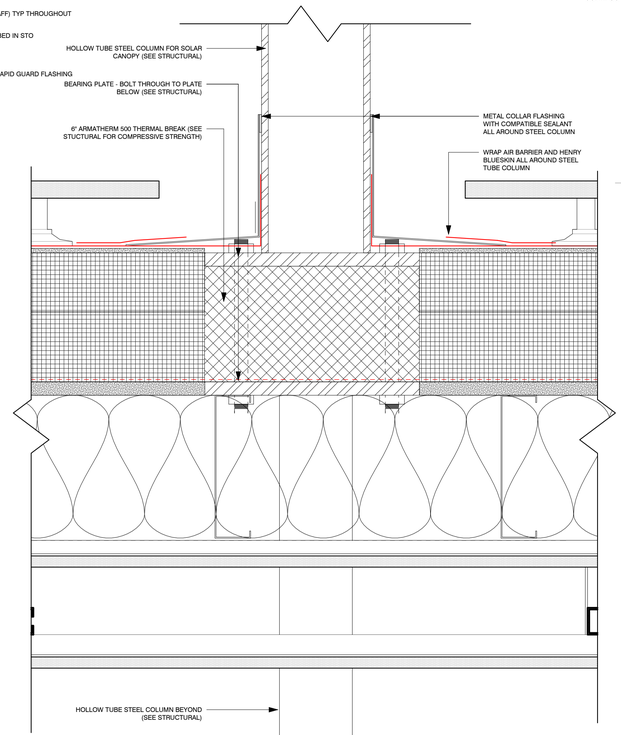


5 DOOR DETAIL AT TERRACE
SCALE: 3" = 1'-0"

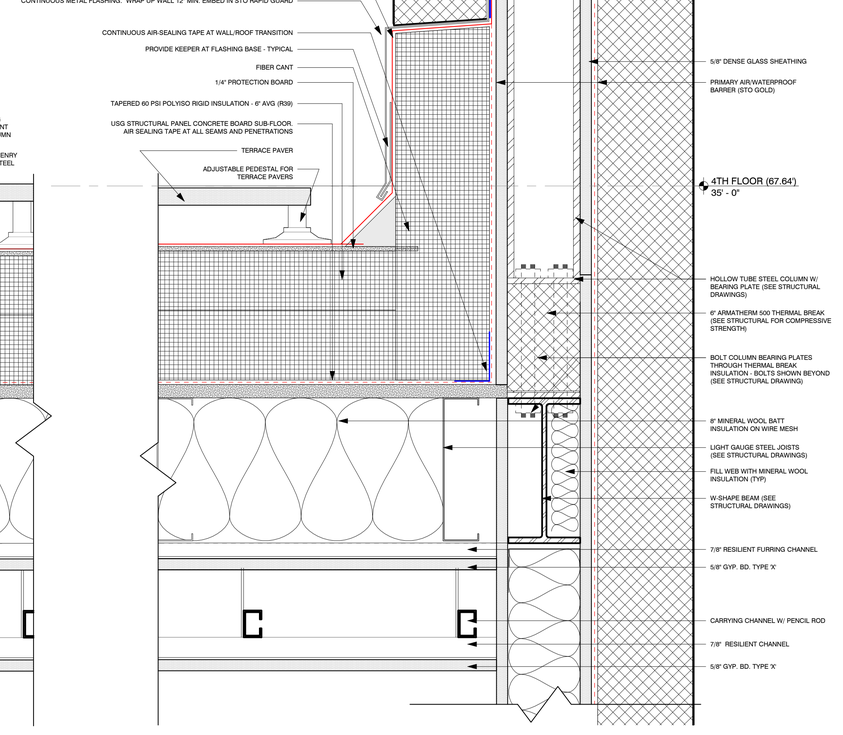




3 SETBACK WALL BASE DETAIL
SCALE: 3" = 1'-0"



2 SOLAR CANOPY - LOW ROOF CONNECTION DETAIL
SCALE: 3" = 1'-0"



1 PARAPET SECTION @ SOLAR COLUMN DETAIL
SCALE: 3" = 1'-0"

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DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

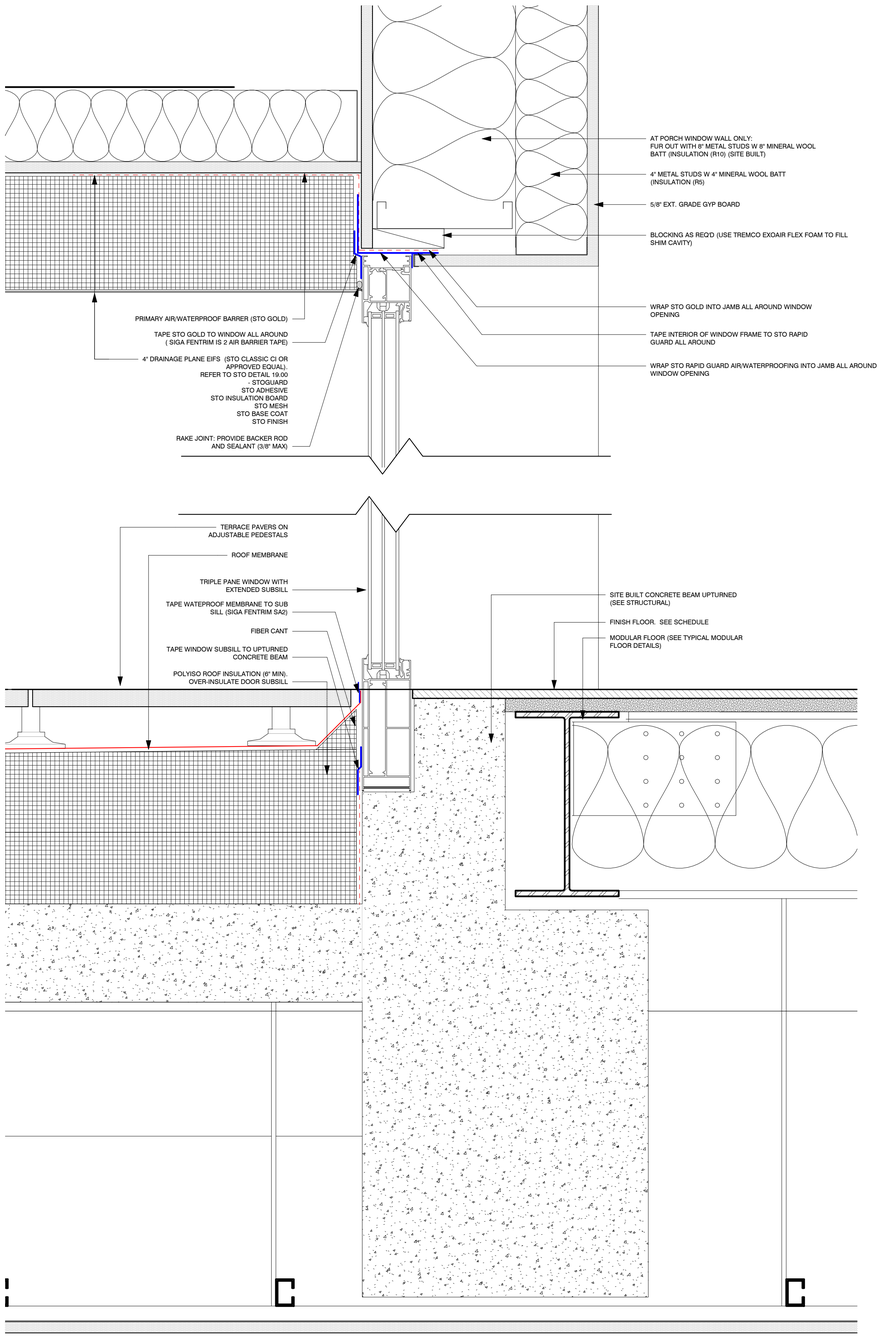
SOLAR CANOPY & PARAPET DETAILS

Date: 03.5.2020

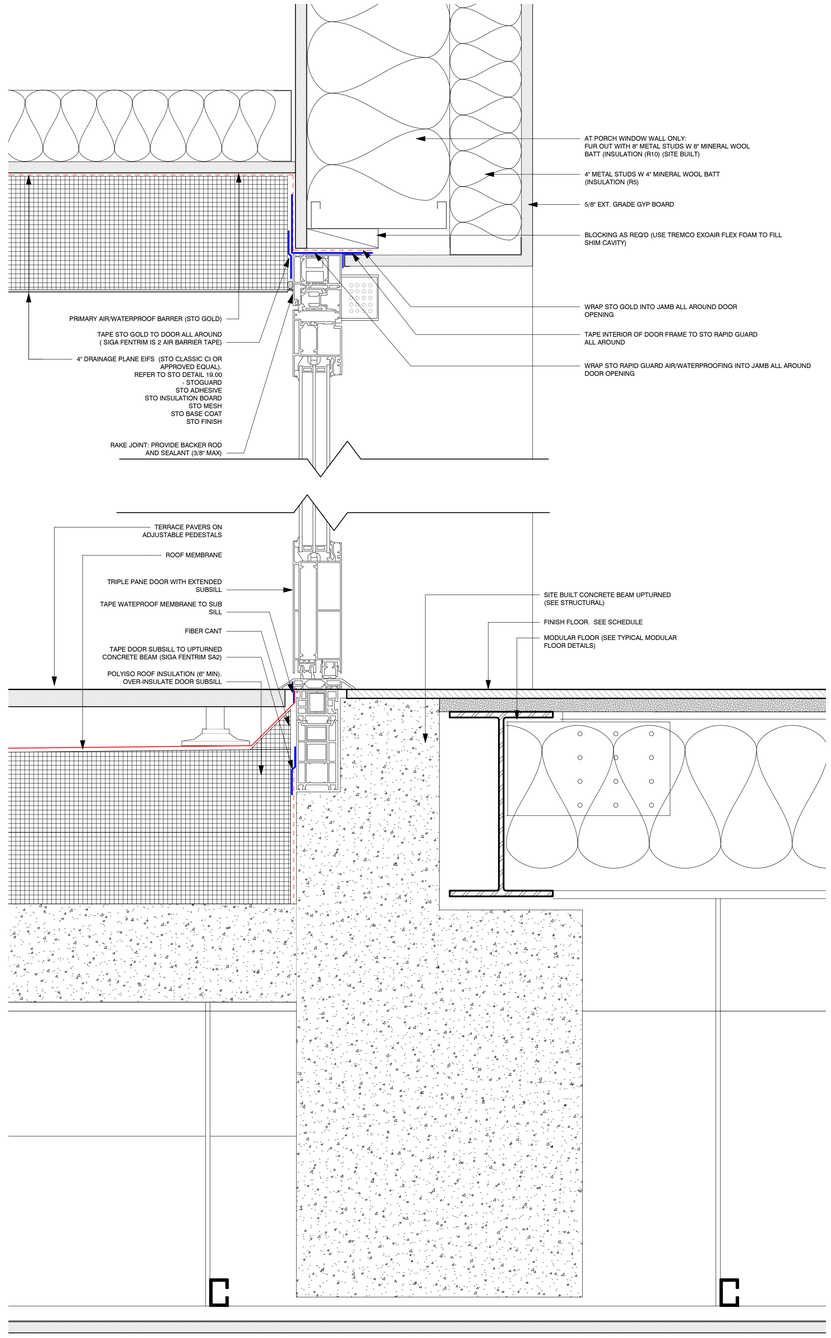
Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

Scale: 3" = 1'-0"
Drawn By: Author
Chkd By: Checker
Drawing #:
A-509.00
DOB #: 321595083
Sheet #: OF -



2 DETAIL AT PORCH WINDOW
SCALE: 3" = 1'-0"



1 DETAIL AT PORCH DOOR
SCALE: 3" = 1'-0"

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10	100% CD	06.03.20

DOB APPROVAL STAMPS:

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PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

PORCH DOOR AND WINDOW DETAILS

Date: 03.5.2020

Seal/Signature:

Scale: 3" = 1'-0"

Drawn By: Author

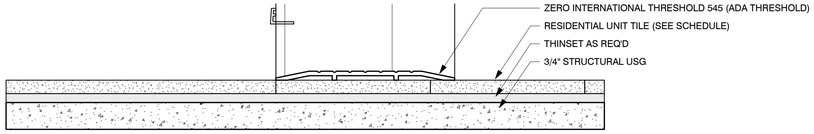
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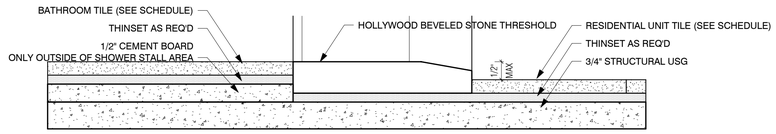
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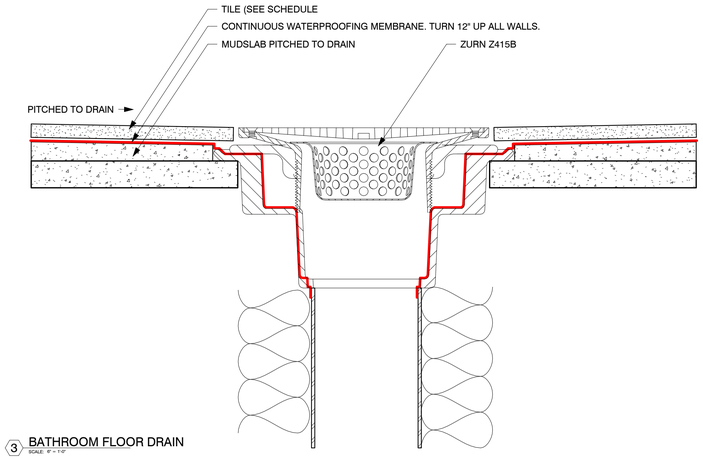
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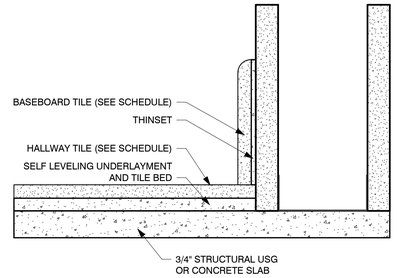
1 UNIT ENTRY DETAIL
SCALE: 6" = 1'-0"



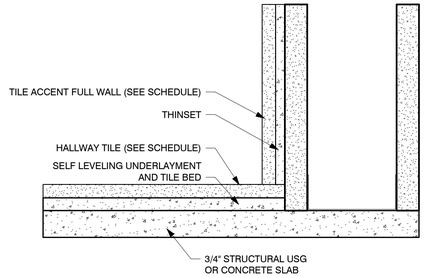
2 BATHROOM THRESHOLD
SCALE: 6" = 1'-0"



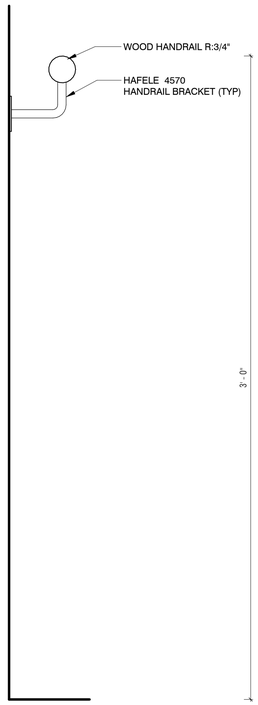
3 BATHROOM FLOOR DRAIN
SCALE: 6" = 1'-0"



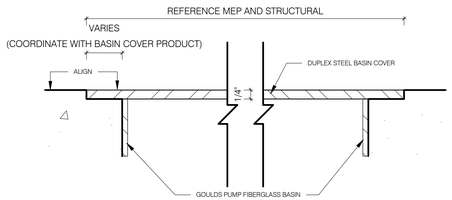
4 TILE FLOOR WITH TILE BASEBOARD
SCALE: 6" = 1'-0"



5 TILE FLOOR WITH TILE ACCENT WALL
SCALE: 6" = 1'-0"



6 TYPICAL HALLWAY HANDRAIL DETAIL
SCALE: 3" = 1'-0"



7 SUMP PUMP BASIN COVER DETAIL
SCALE: 6" = 1'-0"

PAUL A. CASTRUCCI, ARCHITECT PLLC

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NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

TRANSITION AND TRIM DETAILS

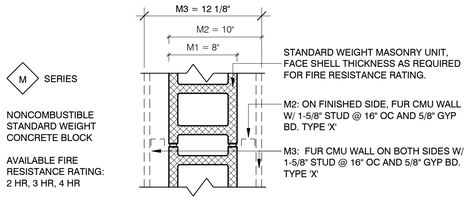
Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT
CASTRUCCI, PAUL A.
STATE OF NEW YORK

DOB #: 321595083

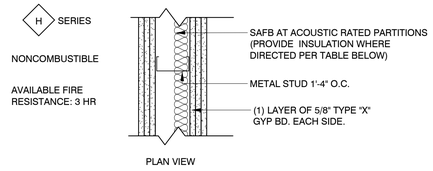
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Drawn By: Author
Chkd By: Checker
Drawing #:
A-511.00
Sheet #: OF -



PLAN VIEW

PTN MARK	HOURLY RATING	HOURLY CONSTRUCTION TEST	NOTES	STC	
				HOLLOW	SOLID
M1	2 HR	BC TABLE 721		44	52
M2	2 HR	BC TABLE 721		44	52
M3	2 HR	BC TABLE 721		44	52
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.					
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.					

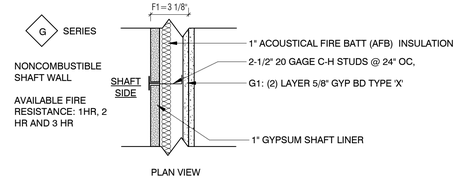
7 INTERIOR PARTITION TYPE - M SERIES
SCALE: 1 1/2" = 1'-0"



PLAN VIEW

PTN MARK	PTN WIDTH	PTN STUD WIDTH	3 HOUR CONSTRUCTION TESTS	NOTES	STC	
					W/O INSUL	W/ INSUL
H1	5 3/8"	1-5/8"	UL DES NO U419	-	48	-
H2	5 3/8"	1-5/8"	UL DES NO U419	1 1/2" SAFB INSULATION	NA	59
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.						
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.						

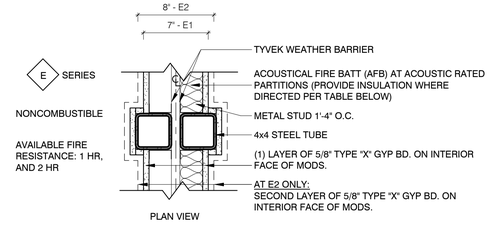
8 INTERIOR PARTITION TYPE - W SERIES
SCALE: 1 1/2" = 1'-0"



PLAN VIEW

PTN MARK	PTN WIDTH	HOURLY RATING	HOURLY CONSTRUCTION TESTS	NOTES	STC	
					W/O INSUL	W/ INSUL
G1	3 5/8"	2 HR	UL DES U415	1" AFB INSULATION	NA	49
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.						
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.						

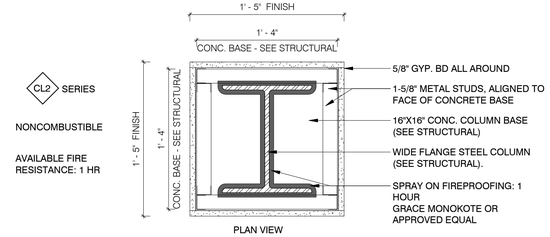
6 INTERIOR PARTITION TYPE - G SERIES
SHAFT WALL
SCALE: 1 1/2" = 1'-0"



PLAN VIEW

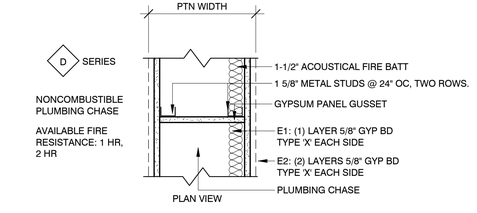
PTN MARK	PTN WIDTH	PTN STUD WIDTH	HRLY RATING	HOURLY RATED CONSTRUCTION TESTS	NOTES	STC	
						W/O INSUL	W/ INSUL
E1	7"	2 1/2"	1 HR	UL U419	1-1/2" SAFB INSULATION	NA	47
E2	8"	2 1/2"	2 HR	UL U419	1-1/2" SAFB INSULATION	NA	47
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.							
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.							

5 INTERIOR PARTITION TYPE - F SERIES
MATE LINE WALL
SCALE: 1 1/2" = 1'-0"



PLAN VIEW

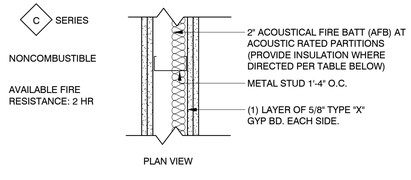
CLM MARK	FINISH WIDTH	HRLY RATING	HOURLY RATED CONSTRUCTION TESTS	NOTES	STC	
					W/O INSUL	W/ INSUL
CL2	+/- 17" SQUARE	1 HR	UL DES X854	-	NA	NA
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.						
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.						



PLAN VIEW

PTN MARK	PTN WIDTH	GYP BD LAYERS, EA SIDE	HOURLY RATING	HOURLY CONSTRUCTION TESTS	NOTES	STC	
						W/O INSUL	W/ INSUL
D1	10"	1	1 HR	UL DES NO U493	1 1/2" ACOUSTICAL FIRE BATT	NA	52
D2	11"	2	2 HR	UL DES NO U420	1 1/2" ACOUSTICAL FIRE BATT	NA	57
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.							
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.							

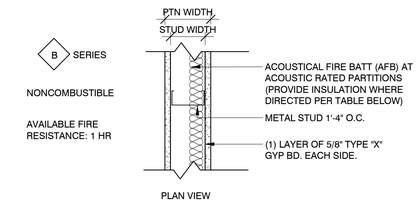
4 INTERIOR PARTITION TYPE - E SERIES
(PLUMBING SHAFT)
SCALE: 1 1/2" = 1'-0"



PLAN VIEW

PTN MARK	PTN WIDTH	PTN STUD WIDTH	2 HOUR CONSTRUCTION TESTS	NOTES	STC	
					W/O INSUL	W/ INSUL
C1	6"	3 1/2"	UL DES NO U419	2" AFB INSULATION	NA	56
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.						
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.						

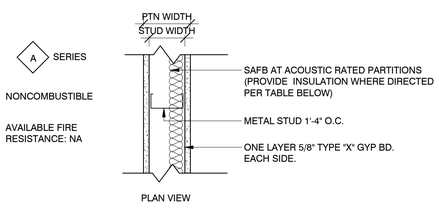
3 INTERIOR PARTITION TYPE - C SERIES
(2 HR PARTITION)
SCALE: 1 1/2" = 1'-0"



PLAN VIEW

PTN MARK	PTN WIDTH	PTN STUD WIDTH	1 HOUR CONSTRUCTION TESTS	NOTES	STC	
					W/O INSUL	W/ INSUL
B1	4 3/4"	3 1/2"	UL DES NO U419	1-1/2" SAFB INSULATION	NA	47
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.						
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.						

2 INTERIOR PARTITION TYPE - B SERIES
(1 HR PARTITION)
SCALE: 1 1/2" = 1'-0"



PLAN VIEW

PTN MARK	PTN WIDTH	PTN STUD WIDTH	CONSTRUCTION TESTS	NOTES	STC	
					W/O INSUL	W/ INSUL
A1	3 3/4"	2 1/2"	NA	-	41	-
A2	3 3/4"	2 1/2"		1-1/2" SAFB BATT INSULATION	-	47
A3	4 3/4"	3 1/2"		1-1/2" SAFB BATT INSULATION	-	47
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.						
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.						

1 INTERIOR PARTITION TYPE - A SERIES
(TYP PARTITIONS)
SCALE: 1 1/2" = 1'-0"

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Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

INTERIOR PARTITION TYPES

Date: 03.5.2020

Seal/Signature:

Scale: 1 1/2" = 1'-0"

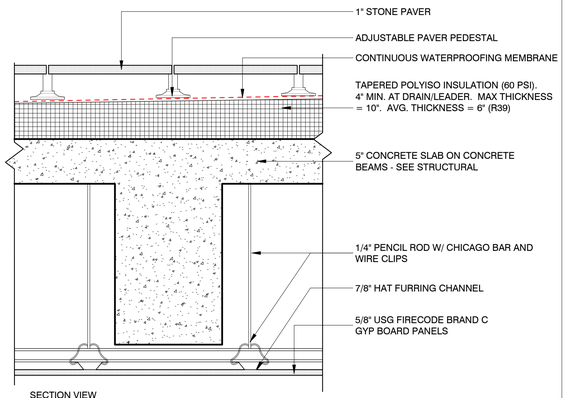
Drawn By #: Author

Chkd By #: Checker

Drawing #: A-600.00

DOB #: 321595083

Sheet #: of

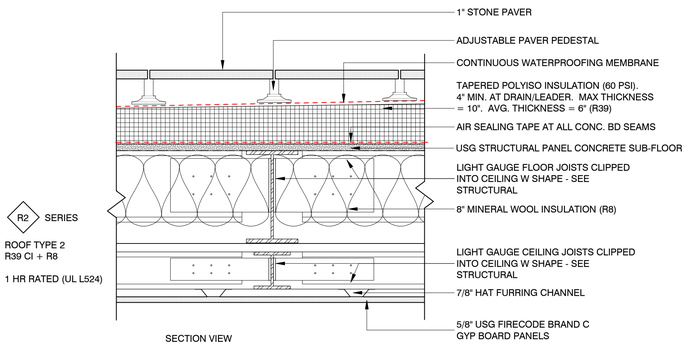


R3 SERIES

ROOF TYPE 1
R39 CI
2 HR RATED (TABLE 722)

SECTION VIEW

PTN MARK	THICKNESS	2 HOUR FIRE RATING TEST	NOTES	U-VALUE
R3	VARIES	2 HR - TABLE 722	WALKABLE ROOF ABOVE GREENHOUSE	0.026
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.				
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.				



R2 SERIES

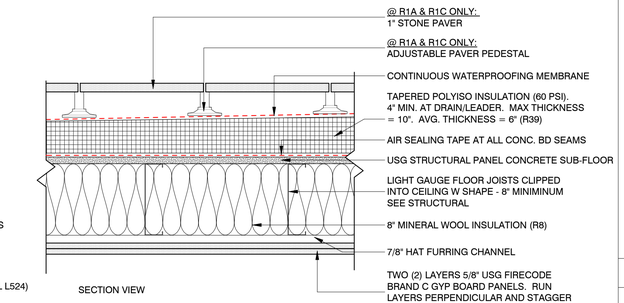
ROOF TYPE 2
R39 CI + R8

1 HR RATED (UL L524)

SECTION VIEW

PTN MARK	THICKNESS	1 HOUR FIRE RATING TEST	NOTES	U-VALUE
R2	VARIES	1 HR - UL H501	MODULAR @ TERRACES	0.021
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.				
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.				

5 ROOF TYPE 2 - ROOF TYPE 2
SCALE: 1 1/2" = 1'-0"



R1 SERIES

ROOF TYPE 1
R39 CI + R8

1 HR RATED (UL L524)

SECTION VIEW

PTN MARK	THICKNESS	1 HOUR FIRE RATING TEST	NOTES	U-VALUE
R1A	VARIES	1 HR - UL L524	MODULAR @ TERRACES	0.021
R1B	VARIES	1 HR - UL L524	MODULAR - NO TERRACE OMIT PAVERS & PEDESTALS	0.021
R1C	VARIES	1 HR - UL L524	SITE BUILT @ TERRACES	0.021
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.				
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.				

4 ROOF TYPE 1 - ROOF TYPE 1
SCALE: 1 1/2" = 1'-0"

B SERIES

STEEL BEAM
FIREPROOFING

1 HR RATED
(UL DESIGN X854)

NOTES:
1. FIREPROOFING THICKNESS VARIES BY BEAM SIZE. REFER TO STRUCTURAL DWGS.
2. ALL STEEL BEAMS TO BE TYPE B1 UNLESS OTHERWISE NOTED

SECTION VIEW

BEAM MARK	BEAM SIZE	HOURLY RATED CONSTRUCTION TESTS	NOTES	R-VALUE
B1	VARIES - SEE STRUCTURAL DWGS	UL DES X854	1 HR	VARIES - SEE ARCH DWG

F4 SERIES

NONCOMBUSTIBLE
MODULAR FLOOR/CEILING
CONSTRUCTION

1 HR RATED (UL H501)

SECTION VIEW

PTN MARK	THICKNESS	1 HOUR FIRE RATING TEST	R-VALUE	U-VALUE
F4	VARIES	1 HR - UL H501	R-41	0.024
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.				
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.				

F3 SERIES

NONCOMBUSTIBLE
MODULAR FLOOR/CEILING
CONSTRUCTION

1 HR RATED (UL H501)

SECTION VIEW

PTN MARK	THICKNESS	1 HOUR FIRE RATING TEST	NOTES	STC / ITC
F3	VARIES	1 HR - UL H501	-	57 / 52
F3A	VARIES	1 HR - UL H501	CONC. W/ MTL DECK	57 / 52
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.				
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.				

F2 SERIES

NONCOMBUSTIBLE
FLOOR/CEILING
CONSTRUCTION

1 HR RATED (UL L524)

SECTION VIEW

PTN MARK	THICKNESS	1 HOUR FIRE RATING TEST	NOTES	STC
F2A	VARIES	1 HR - UL L524	MODULAR FLOOR	43
F2B	VARIES	1 HR - UL L524	SITE BUILT FLOOR	43
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.				
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.				

3 FLOOR TYPE 2 - 1 HR (1ST FL)
SCALE: 1 1/2" = 1'-0"

F1 SERIES

NONCOMBUSTIBLE
MODULAR FLOOR/CEILING
CONSTRUCTION

1 HR RATED (UL H501)

SECTION VIEW

PTN MARK	THICKNESS	1 HOUR FIRE RATING TEST	NOTES	STC / ITC
F1	VARIES	1 HR - UL H501	-	57 / 52
F1A	VARIES	1 HR - UL H501	CONC. W/ MTL DECK	57 / 52
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.				
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.				

2 FLOOR TYPE 1 - MODULAR 1 HR
SCALE: 1 1/2" = 1'-0"

S SERIES

NONCOMBUSTIBLE
CONCRETE SLAB ON GRADE

SECTION VIEW

PTN MARK	SLAB THICKNESS	NOTES	R-VALUE
S1	5"	-	R-8 (U-0.125)
S2	2"	RAT SLAB AT CRAWL SPACE	R-8 (U-0.125)
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.			
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.			

1 SLAB TYPE 1 - CONCRETE SLAB WITH ROCKWOOL
SCALE: 1 1/2" = 1'-0"

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3	ISSUED TO DOB	10.01.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

FLOOR, SLAB AND ROOF TYPES

Date: 03.5.2020

Seal/Signature:

Scale: 1 1/2" = 1'-0"

Drawn By #: Author

Chkd By #: Checker

Drawing #:

A-601.00

DOB #: 321595083

Sheet #: of

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Revision Schedule

#	Description	Date
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

EXTERIOR WALL DETAILS

Date: 03.5.2020

Seal/Signature:



DOB #: 321595083

Scale: 1 1/2" = 1'-0"
Drawn By: Author
Chkd By: Checker
Drawing #: A-602.00
Sheet #: OF -

CL1 SERIES

NONCOMBUSTIBLE
HSS STEEL COLUMN

1 HR RATED (ASTM E119)



PLAN VIEW

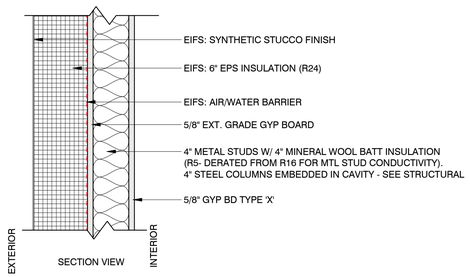
MARK	WIDTH	1 HOUR FIRE RATING TEST	NOTES	R-VALUE	U-VALUE
CL1	SEE STRUCTURAL	ASTM E-119	GC TO SUBMIT UL TEST DATA	NA	.NA

W3 SERIES

NONCOMBUSTIBLE
METAL STUD W/ CEMENT BOARD RAINSCREEN

1HR RATED (UL U404)

MODULAR = W3A, W3B
SITE-BUILT = W3C, W3D



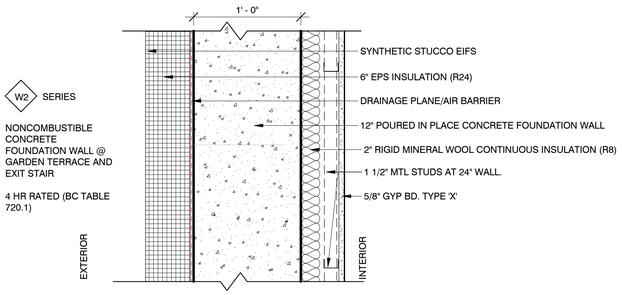
SECTION VIEW

PTN MARK	PTN WIDTH	PTN STUD WIDTH	1 HOUR CONSTRUCTION TESTS	NOTES	R-VALUE	U-VALUE
W3A	11"	4"	UL DES NO U404	**MODULAR** STUD WALL /W EIFS	R24 CI + R16 BATT	0.034
W3C	11"	4"	UL DES NO U404	**SITE-BUILT** STUD WALL /W EIFS	R24 CI + R16 BATT	0.034
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.						
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.						

W2 SERIES

NONCOMBUSTIBLE CONCRETE FOUNDATION WALL @ GARDEN TERRACE AND EXIT STAIR

4 HR RATED (BC TABLE 720.1)



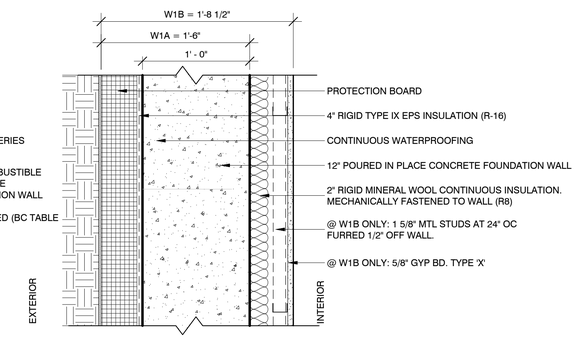
SECTION VIEW

PTN MARK	WIDTH	4 HOUR FIRE RATING TEST	NOTES	R-VALUE	U-VALUE
W2	1'-6 1/2"	4 HOUR - BC TABLE 720.1		R32 CI	0.0312
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.					
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.					

W1 SERIES

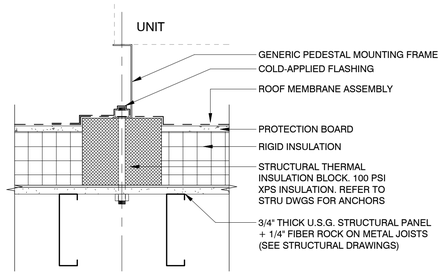
NONCOMBUSTIBLE CONCRETE FOUNDATION WALL

4 HR RATED (BC TABLE 720.1)

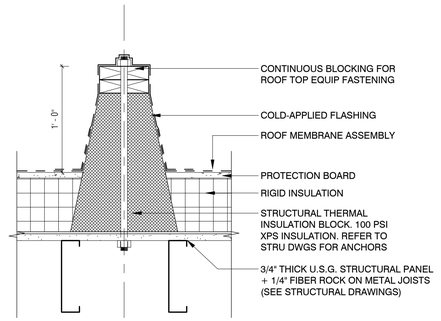


PLAN VIEW

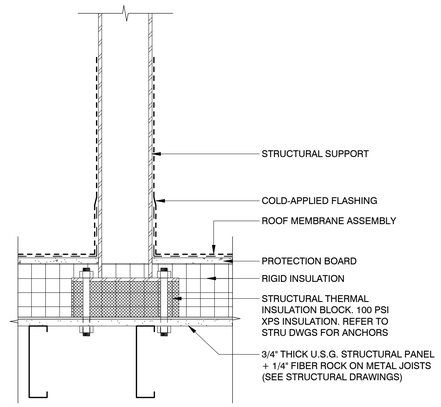
PTN MARK	WIDTH	4 HOUR FIRE RATING TEST	NOTES	R-VALUE	U-VALUE
W1A	1'-4"	4 HOUR - BC TABLE 720.1	-	R24 CI	.0417
W1B	1'-6 1/2"	4 HOUR - BC TABLE 720.1		R24 CI	.0417
REFER TO PARTITION TYPE SUBSCRIPT LEGEND FOR WALL HEAD AND BASE CONDITIONS.					
NOTE: SOME PARTITION TYPES DESCRIBED ABOVE MAY NOT BE REQUIRED ON THIS PROJECT.					



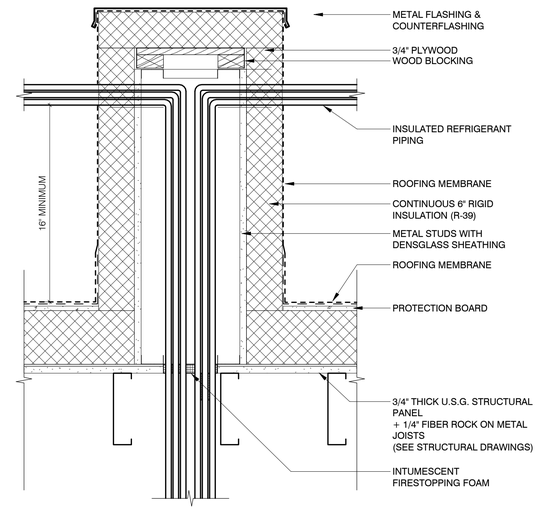
11 ROOF PENETRATION - ROOF TOP VINTACITY CURB
1 1/2" = 1'-0"



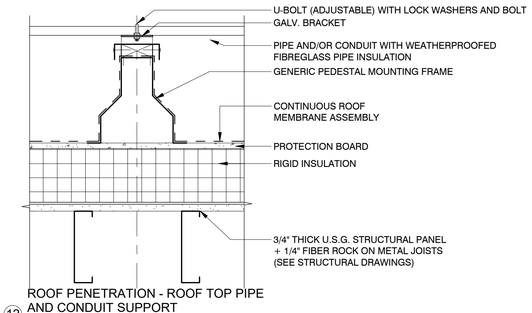
10 ROOF PENETRATION - ROOF TOP EQUIPMENT DUNNAGE
1 1/2" = 1'-0"



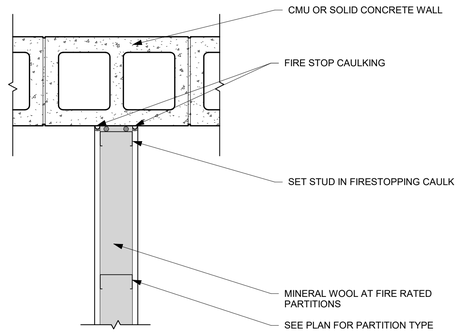
9 ROOF PENETRATION - POST
1 1/2" = 1'-0"



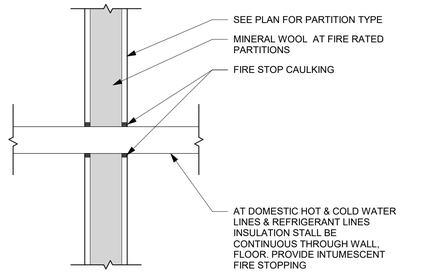
8 ROOF PENETRATION - PIPE
1 1/2" = 1'-0"



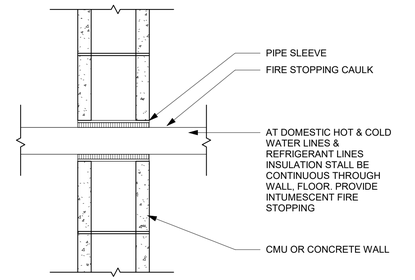
12 ROOF PENETRATION - ROOF TOP PIPE AND CONDUIT SUPPORT
1 1/2" = 1'-0"



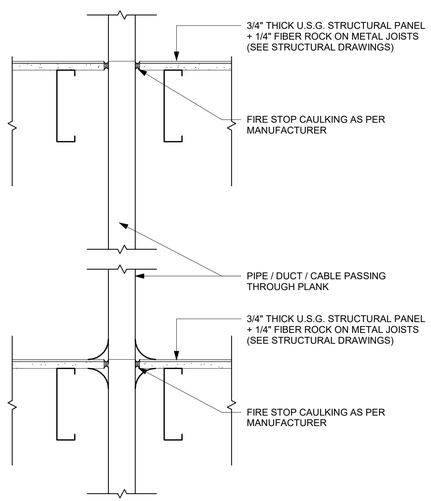
6 PLAN @ FIRE-RATED PARTITION CMU OR CONC. WALL (AIR SEALING)
1 1/2" = 1'-0"



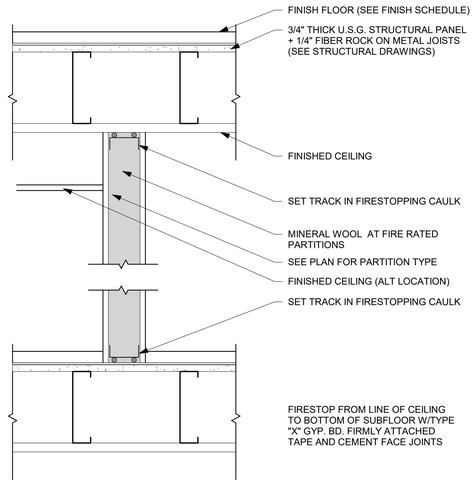
5 FIRE STOPPING AT FIRE RATED WALL CONDITION (AIR SEALING)
SCALE: 1 1/2" = 1'-0"



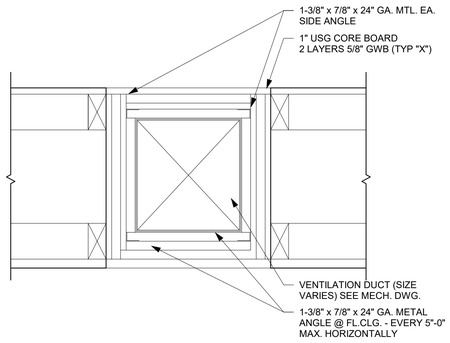
4 FIRE STOPPING AT CMU/CONC WALL (AIR SEALING)
1 1/2" = 1'-0"



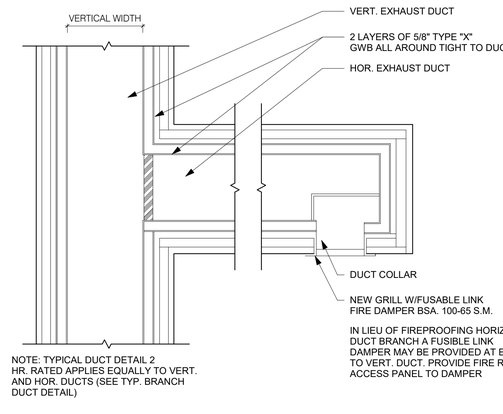
7 FIRESTOPPING AT PLANK PENETRATIONS (CONC. SLAB OR SIMILAR) (AIR SEALING DETAIL)
1 1/2" = 1'-0"



3 TYP WALL FIRESTOPPING
1 1/2" = 1'-0"



2 TYP FIRESTOPPING AT DUCT - PLAN
1 1/2" = 1'-0"



1 TYP FIRESTOPPING AT DUCT - SECTION
1 1/2" = 1'-0"

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NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

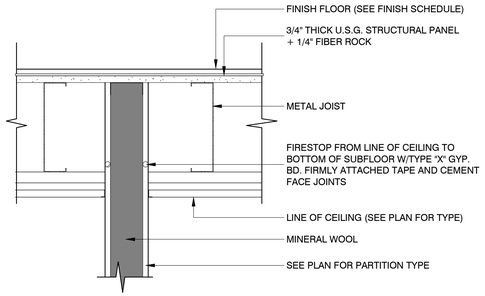
FIRESTOPPING, AIR SEALING & EXT PENETRATION DETAILS

Date: 03.5.2020

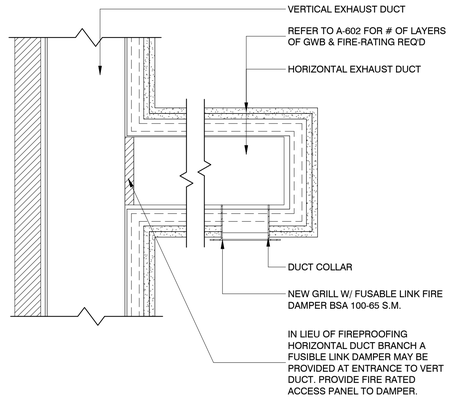
Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI 031795 STATE OF NEW YORK

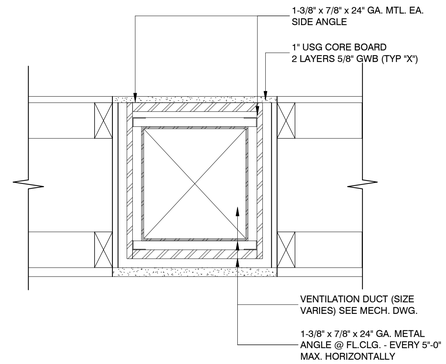
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Drawn By: Author
Chkd By: Checker
Drawing #:
A-603.00
DOB #: 321595083
Sheet #: OF -



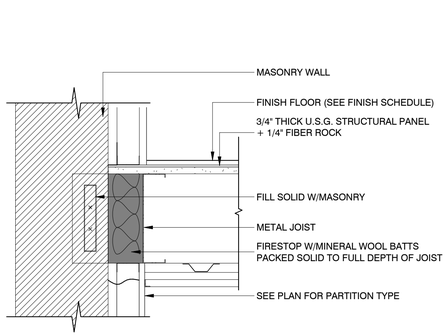
FIRESTOPPING DTL. - FIRE RATED PARTITIONS PARALLEL TO BEAM/JOIST
1 SCALE: 1 1/2" = 1'-0"



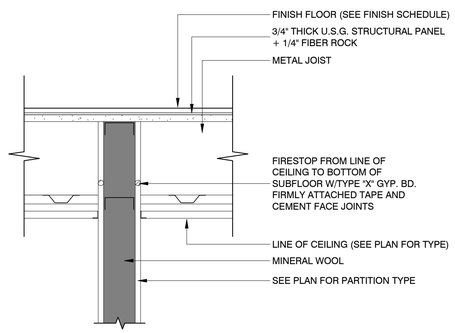
FIRESTOPPING DTL. - TYP. BRANCH DUCT SECTION
6 SCALE: 1 1/2" = 1'-0"



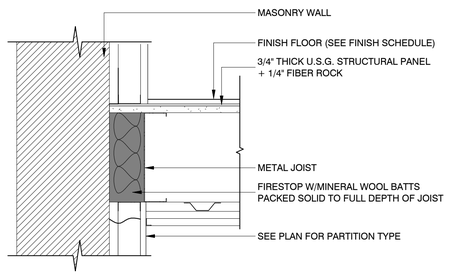
FIRESTOPPING DTL. - TYP DUCT DETAIL - 2 HR RATED
3 SCALE: 1 1/2" = 1'-0"



FIRESTOPPING DTL. - TYP WALL - FIRESTOPPING@BEAM/JOIST PERPENDICULAR TO MASONRY WALL
5 SCALE: 1 1/2" = 1'-0"



FIRESTOPPING DTL. - FS - FIRE RATED PARTITIONS PERPENDICULAR TO BEAM/JOIST
2 SCALE: 1 1/2" = 1'-0"



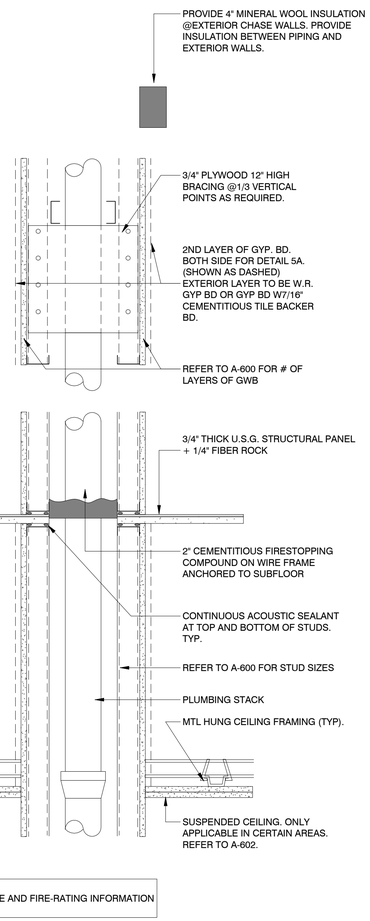
FIRESTOPPING DTL. - TYP WALL - FIRESTOPPING@BEAM/JOIST PARALLEL TO MASONRY WALL
4 SCALE: 1 1/2" = 1'-0"

NOTE:
PROVIDE 1-1/2" MINERAL WOOL INSULATION AT ONE SIDE OF CHASE WALL.

NOTE:
PROVIDE 1-1/2" MINERAL WOOL INSULATION AT ONE SIDE OF CHASE WALL.

NOTE:
AT TILE BACKER BD @OUTSIDE LAYER SEE FINISH SCHEDULE.

NOTE:
AT TILE BACKER BD @OUTSIDE LAYER SEE FINISH SCHEDULE.



FIRE RATING
REFER TO A-600 FOR PARTITION TYPE AND FIRE-RATING INFORMATION

FIRESTOPPING DTL. - TYP. PLUMBING CHASE
7 SCALE: 1 1/2" = 1'-0"

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10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

FIRESTOPPING DETAILS

Date: 03.5.2020

Seal/Signature:

Scale: 1 1/2" = 1'-0"

Drawn By #: Author

Chkd By #: Checker

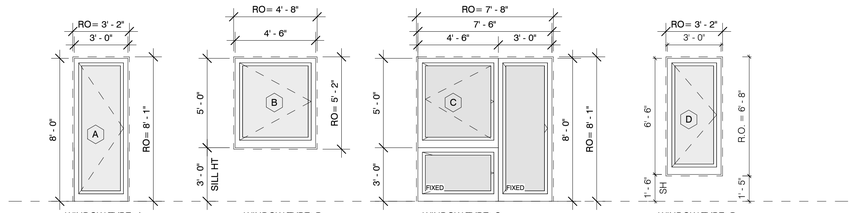
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DOB #: 321595083

Sheet #: of

WINDOWS

NUMBER	TYPE	QTY.	OPERATION	U-FACTOR	SHGC	AIR LEAKAGE	REMARK
1ST FLOOR (34.64')							
A	3'-0"x8'-0"	24	CASEMENT	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
B	4'-6" x 5'-0"	3	CASEMENT	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
C	7'-6"x8'-0"	3	SEE ELEVATION	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
D	3'-0"x6'-6"	9	CASEMENT	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
2ND FLOOR (46.31')							
A	3'-0"x8'-0"	35	CASEMENT	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
B	4'-6" x 5'-0"	4	CASEMENT	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
C	7'-6"x8'-0"	4	SEE ELEVATION	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
3RD FLOOR (56.72')							
A	3'-0"x8'-0"	32	CASEMENT	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
B	4'-6" x 5'-0"	4	CASEMENT	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
C	7'-6"x8'-0"	4	SEE ELEVATION	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
4TH FLOOR (67.64')							
A	3'-0"x8'-0"	3	CASEMENT	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
B	4'-6" x 5'-0"	1	CASEMENT	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
C	7'-6"x8'-0"	1	SEE ELEVATION	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
D	3'-0"x6'-6"	4	CASEMENT	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	
Grand total: 131		131					



WINDOW TYPE: A

DESCRIPTION:
SCHUCO PH UPVC W/ ALUM. CLADDING IN-SWING CASEMENT

WINDOW TYPE: B

DESCRIPTION:
SCHUCO PH UPVC W/ ALUM. CLADDING IN-SWING CASEMENT

WINDOW TYPE: C

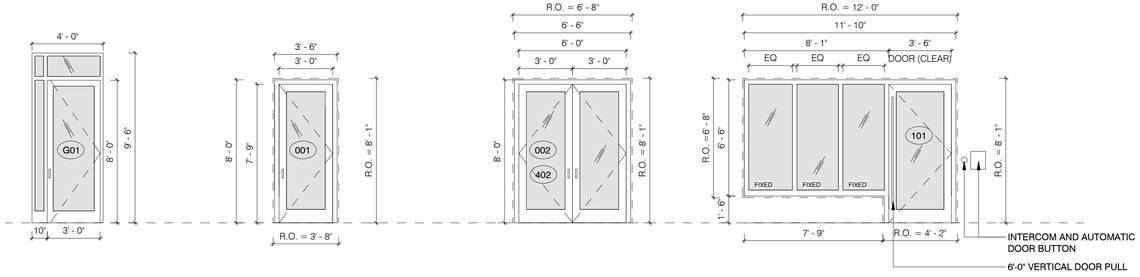
DESCRIPTION:
SCHUCO PH UPVC W/ ALUM. CLADDING IN-SWING CASEMENT

WINDOW TYPE: D

DESCRIPTION:
HIGH PERFORMANCE IN-SWING CASEMENT

EXTERIOR DOORS AND STOREFRONTS

EXTERIOR DOOR AND STOREFRONT SCHEDULE							
NUMBER	TYPE	QTY	OPERATION	U-FACTOR	SHGC	AIR LEAKAGE	REMARK
G01	GREENHOUSE DOOR	1	SEE ELEVATION	NA - OUTSIDE THERMAL ENVELOPE	NA	NA	GREENHOUSE DOOR - OUTSIDE THERMAL ENVELOPE
001	DOOR	1	SEE ELEVATION	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 (GLASS)	0.30	0.2	DOOR AREA = 24 SF
002, 402	DOOR	2	DOUBLE SWING DOOR	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 GLASS)	0.30	0.2	DOOR AREA = 60 SF
101	DOOR AND STOREFRONT	1	SEE ELEVATION	U-0.28 INSTALLED (U-0.41 FRAME/U-0.106 GLASS	0.30	0.2	DOOR AREA = 28 SF / FIXED AREA = 53 SF
102	DOOR AND STOREFRONT	1	SEE ELEVATION	U-0.28 INSTALLED (U-0.41 FRAME/U-0.106 GLASS	0.30	0.2	DOOR AREA = 28 SF / FIXED AREA = 58 SF
103	DOOR AND STOREFRONT	1	SEE ELEVATION	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 GLASS)	0.30	0.2	DOOR AREA = 50 SF / OPERABLE AREA = 98 SF
104	DOOR	1	SINGLE SWING DOOR	U-0.28 INSTALLED (U-0.41 FRAME/U-0.106 GLASS	0.30	0.2	DOOR AREA = 21 SF
201 & 301	DOOR	2	SINGLE SWING DOOR	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 GLASS)	0.30	0.2	DOOR AREA = 24 SF
401	DOOR	1	SEE ELEVATION	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 GLASS)	0.30	0.2	DOOR AREA = 60 SF
403	DOOR	1	SINGLE SWING DOOR	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 GLASS)	0.30	0.2	DOOR AREA = 24 SF
E	STOREFRONT	1	SEE ELEVATION	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 GLASS)	0.30	0.2	OPERABLE AREA = 40 SF / FIXED AREA = 80 SF
G	STOREFRONT	1	SEE ELEVATION	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 GLASS)	0.30	0.2	FIXED AREA = 24 SF
H	STOREFRONT	1	SEE ELEVATION	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 GLASS)	0.30	0.2	OPERABLE AREA = 18 SF / FIXED AREA = 119 SF
I	STOREFRONT	2	SEE ELEVATION	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 GLASS)	0.30	0.2	FIXED AREA = 120 SF
J	STOREFRONT	1	SEE ELEVATION	U-0.15 INSTALLED (U-0.13 FRAME/ U-01.06 GLASS)	0.30	0.2	FIXED AREA = 59 SF



EXTERIOR DOOR : G01

DESCRIPTION:
GREENHOUSE ENTRY DOOR

EXTERIOR DOOR : 001

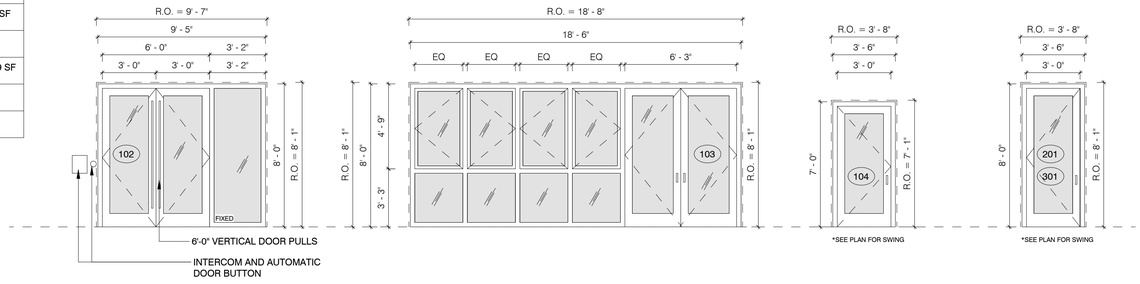
DESCRIPTION:
SCHUCO AWS65 ALUMINUM ENTRY DOOR

EXTERIOR DOORS : 002, 402

DESCRIPTION:
SCHUCO AWS65 DOOR

EXTERIOR DOOR/STOREFRONT : 101

DESCRIPTION:
SCHUCO AWS65 ALUMINUM STOREFRONT AND ENTRY DOOR



EXTERIOR DOOR/STOREFRONT : 102

DESCRIPTION:
SCHUCO AWS65 ALUMINUM STOREFRONT AND ENTRY DOOR

EXTERIOR DOOR/STOREFRONT : 103

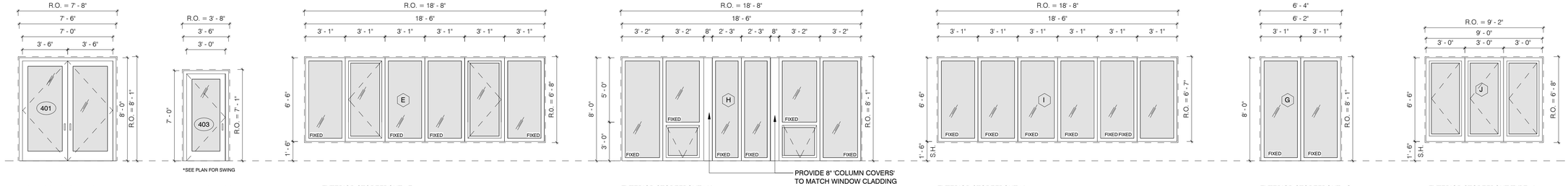
DESCRIPTION:
SCHUCO AWS65 ALUMINUM STOREFRONT AND DOOR

EXTERIOR DOOR: 104

DESCRIPTION:
SCHUCO AWS65 DOOR

EXTERIOR DOORS: 201, 301

DESCRIPTION:
SCHUCO AWS65 DOOR



EXTERIOR DOOR/STOREFRONT : 401

DESCRIPTION:
SCHUCO AWS65 DOOR

EXTERIOR DOOR: 403

DESCRIPTION:
SCHUCO AWS65 DOOR

EXTERIOR STOREFRONT : E

DESCRIPTION:
SCHUCO PH UPVC GANGED STOREFRONT W/ ALUM. CLADDING

EXTERIOR STOREFRONT : H

DESCRIPTION:
SCHUCO PH UPVC GANGED STOREFRONT W/ ALUM. CLADDING

EXTERIOR STOREFRONT : I

DESCRIPTION:
SCHUCO PH UPVC GANGED STOREFRONT W/ ALUM. CLADDING

EXTERIOR STOREFRONT : G

DESCRIPTION:
SCHUCO PH UPVC GANGED STOREFRONT W/ ALUM. CLADDING

EXTERIOR STOREFRONT TYPE: J

DESCRIPTION:
SCHUCO PH UPVC GANGED STOREFRONT W/ ALUM. CLADDING

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10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

WINDOW AND EXTERIOR DOOR SCHEDULES, ELEVATIONS

Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI NEW YORK

DOB #: 321595083

Scale: As indicated

Drawn By #: Author

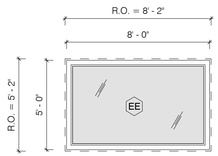
Chkd By #: Checker

Drawing #: A-610.00

Sheet #: of

SKYLIGHTS

SKYLIGHT SCHEDULE							
NUMBER	TYPE	QTY	OPERATION	U-FACTOR	SHGC	AIR LEAKAGE	REMARK
EE	5'-0"X8'-0" SKYLIGHT	4	FIXED	0.123	0.39	0.2 CFM/SF	

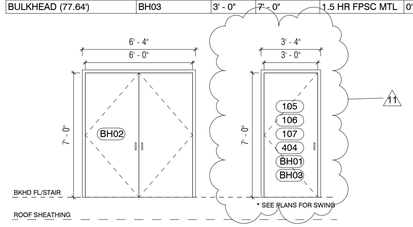


SKYLIGHT : EE

DESCRIPTION:
HIGH PERFORMANCE ALUMINUM SKYLIGHT

OPAQUE EXTERIOR DOORS

Level	DOOR NUMBER	DOOR W	DOOR H	DOOR MATERIAL	THICKNESS	REMARK	U-FACTOR
BASE PLANE (32.64')							
BASE PLANE (32.64')	107	3' - 0"	7' - 0"	1.5 HR FPSC MTL	0' - 1 3/4"	OPAQUE EXTERIOR DOOR. PROVIDE AIR SEALING GASKETS AND THRESHOLD	0.16 (CORE)
1ST FLOOR (34.64')							
1ST FLOOR (34.64')	105	3' - 0"	7' - 0"	1.5 HR FPSC MTL	0' - 1 3/4"	OPAQUE EXTERIOR DOOR. PROVIDE AIR SEALING GASKETS AND THRESHOLD	0.16 (CORE)
1ST FLOOR (34.64')	106	3' - 0"	7' - 0"	1.5 HR FPSC MTL	0' - 1 3/4"	OPAQUE EXTERIOR DOOR. PROVIDE AIR SEALING GASKETS AND THRESHOLD	0.16 (CORE)
4TH FLOOR (67.64')							
4TH FLOOR (67.64')	404	3' - 0"	7' - 0"	1.5 HR FPSC MTL	0' - 1 3/4"	OPAQUE EXTERIOR DOOR. PROVIDE AIR SEALING GASKETS AND THRESHOLD	0.16 (CORE)
BULKHEAD (77.64')							
BULKHEAD (77.64')	BH01	3' - 0"	7' - 0"	1.5 HR FPSC MTL	0' - 1 3/4"	OPAQUE EXTERIOR DOOR. PROVIDE AIR SEALING GASKETS AND THRESHOLD	0.16 (CORE)
BULKHEAD (77.64')	BH02	6' - 0"	6' - 8"	1.5 HR FPSC MTL	0' - 1 3/4"	OPAQUE EXTERIOR DOUBLE DOOR. PROVIDE AIR SEALING GASKETS AND THRESHOLD	0.16 (CORE)
BULKHEAD (77.64')	BH03	3' - 0"	7' - 0"	1.5 HR FPSC MTL	0' - 1 3/4"	OPAQUE EXTERIOR DOOR. PROVIDE AIR SEALING GASKETS AND THRESHOLD	0.16 (CORE)



DOOR TYPE: BH02

DESCRIPTION:
HIGH PERFORMANCE
INSULATED METAL DOOR
(DOUBLE DOOR)

DOOR TYPE: 106, 107, 108, BH01, BH03

DESCRIPTION:
HIGH PERFORMANCE
INSULATED METAL DOOR

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4	ISSUED FOR BID	10.21.19
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6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20
11	RFI CLARIFICATIONS	06.18.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Title:

SKYLIGHT AND OPAQUE EXTERIOR DOOR SCHEDULE

Date: 03.5.2020

Seal/Signature:

REGISTERED ARCHITECT PAUL A. CASTRUCCI STATE OF NEW YORK

DOB #: 321595083

Scale: As indicated

Drawn By: Author

Chkd By: Checker

Drawing #:

A-611.00

Sheet #: OF -

DOOR NUMBER	DOOR WIDTH	DOOR HEIGHT	THICKNESS	Fire Rating	HARDWARE	Room	DOOR MATERIAL	REMARK
CELLAR (23.64')								
003	3' - 0"	8' - 0"	0' - 2"		16	OFFICE	GLASS	INTERIOR GLASS PARTITION AND DOOR (6'-0"x8'-0")
004	3' - 0"	8' - 0"	0' - 1 3/4"		18	OFFICE	S.C. WD	INTERIOR WD AND GLASS DOOR
005	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	14	STAIR 1	1.5 HR FPSC MTL	
006	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	20	COMPACTOR RM	1.5 HR FPSC MTL	
007	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	15	MAINTENANCE RM	1.5 HR FPSC MTL	
008	3' - 0"	7' - 0"	0' - 1 3/4"	SELF-CLOSING	18	WC	S.C. WD	SELF-CLOSING
009	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	19	BIKE RM	1.5 HR FPSC MTL	
010	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	17	HALL	1.5 HR FPSC MTL	
012	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	15	ELEC RM	1.5 HR FPSC MTL	
013	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	15	WATER SERVICE	1.5 HR FPSC MTL	
014	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	15	MAINTENANCE RM	1.5 HR FPSC MTL	
015	5' - 1 13/32"	7' - 9 1/2"			16	LAUNDRY	GLASS	INTERIOR GLASS DOOR
016	3' - 0"	7' - 0"	0' - 1 3/4"	SELF-CLOSING	18	WC	S.C. WD	SELF-CLOSING
017	3' - 0"	7' - 0"	0' - 1 3/4"	SELF-CLOSING	18	WC	S.C. WD	SELF-CLOSING
018	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	15	ELEC RM	1.5 HR FPSC MTL	NO HARDWARE ON LAUNDRY ROOM SIDE OF DOOR (BLANK)
1ST FLOOR (34.64')								
101	3' - 7 1/4"	7' - 9 1/2"	0' - 2"					
109	3' - 0"	6' - 8"	0' - 1 3/4"		19	PACKAGE RM	S.C. WD	TYPE 9 TRIM SEE A613
110	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
111	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	14	STAIR 1	1.5 HR FPSC MTL	
112	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	15	ELEC CL	1.5 HR FPSC MTL	
113	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	13	REFUSE RM	1.5 HR FPSC MTL	
114	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
115	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
116	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
117	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
118	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
119	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
120	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
121	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
122	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
123	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	15	JANITOR CL	1.5 HR FPSC MTL	
124	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
125	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
126	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
127	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
128	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
129	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
130	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
131	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
132	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
133	3' - 6"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
134	3' - 6"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
135	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
136	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
137	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
138	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
139	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
140	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
141	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
142	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
143	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
144	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
145	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
146	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
147	3' - 0"	6' - 8"	0' - 1 3/4"		11	BEDROOM	S.C. WD	
148	3' - 0"	6' - 8"	0' - 1 3/4"		11	BEDROOM	S.C. WD	
149	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
150	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
151	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
152	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
153	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
154	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
155	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
156	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
157	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
158	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
159	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
160	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
161	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
162	3' - 0"	6' - 8"	0' - 1 3/4"		12	BATHROOM	S.C. WD	
163	4' - 0"	6' - 8"	0' - 1 3/8"		11	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
164	3' - 0"	6' - 8"	0' - 1 3/4"		12	BATHROOM	S.C. WD	
165	4' - 0"	6' - 8"	0' - 1 3/8"		11	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
166	2' - 6"	6' - 8"	0' - 2"		12	CLOSET	H.C. WD	
167	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
168	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
169	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
170	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
171	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
172	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
173	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	14	STAIR 2	1.5 HR FPSC MTL	
174	3' - 0"	6' - 8"	0' - 1 3/4"		11	BEDROOM	S.C. WD	
175	3' - 0"	6' - 8"	0' - 1 3/4"		11	BEDROOM	S.C. WD	
176	3' - 0"	3' - 0"						2 HOUR RATED BILCO FLOOR HATCH FR-4. 36"X36"
177	3' - 6"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
178	3' - 6"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR

DOOR NUMBER	DOOR WIDTH	DOOR HEIGHT	THICKNESS	Fire Rating	HARDWARE	Room	DOOR MATERIAL	REMARK
2ND FLOOR (46.31')								
202	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
203	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
204	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	14	STAIR 1	1.5 HR FPSC MTL	
205	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	15	ELEC CL	1.5 HR FPSC MTL	
206	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	13	REFUSE RM	1.5 HR FPSC MTL	
207	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
208	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
209	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
210	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
211	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
212	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
213	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	14	STAIR 2	1.5 HR FPSC MTL	
214	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
215	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
216	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
217	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
218	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	15	JANITOR CL	1.5 HR FPSC MTL	
219	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
220	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
221	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
222	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
223	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
224	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
225	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
226	3' - 0"	7' - 0"	0' - 1 3/4"	1.5 HR FPSC	10	APT ENTRY	1.5 HR FPSC MTL	
227	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
228	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
229	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
230	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
231	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
232	3' - 0"	6' - 8"	0' - 1 3/4"		11	BEDROOM	S.C. WD	
233	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
234	3' - 6"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
235	3' - 6"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
236	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
237	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
238	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
239	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
240	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
241	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
242	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
243	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
244	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
245	3' - 6"	6' - 8"	0' - 1 3/8"		12	CLOSET	S.C. WD	
246	3' - 0"	6' - 8"	0' - 1 3/4"		11	BEDROOM	S.C. WD	
247	3' - 6"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
248	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
249	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
250	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
251	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
252	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
253	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
254	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
255	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
256	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
257	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
258	3' - 0"	6' - 8"	0' - 1 3/4"		11	BEDROOM	S.C. WD	
259	3' - 6"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
260	3' - 6"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
261	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
262	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
263	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
264	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
265	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
266	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
267	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
268	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
269	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
270	3' - 0"	6' - 8"	0' - 1 3/4"		11	BEDROOM	S.C. WD	
271	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
272	3' - 6"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
273	3' - 6"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
274	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
275	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
276	3' - 0"	6' - 8"	0' - 1 3/4"		11	BATHROOM	S.C. WD	
277	4' - 0"	6' - 8"	0' - 1 3/8"		12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR

Grand total: 162

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NOTES:

NORTH:

Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20
11	RFI CLARIFICATIONS	06.18.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
DOB FILING

Drawing Title:

INTERIOR DOOR SCHEDULES

Date: 03.5.2020

Seal/Signature:

Scale:

Drawn By: Author

Chkd By: Checker

Drawing #:

A-612.00

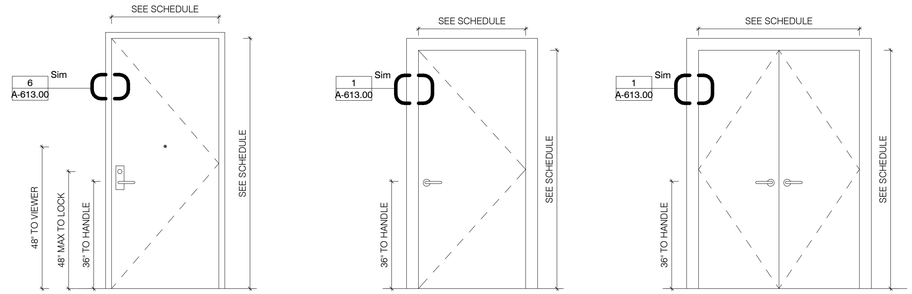
DOB #: 321595083

Sheet #: OF 45

DOOR NUMBER	DOOR W	DOOR H	THICK	HARDWARE	RM	DOOR MATERIAL	REMARK
3RD FLOOR (56.72')							
302	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
303	3' - 0"	7' - 0"	0' - 1 3/4"	14	STAIR 1	1.5 HR FPSC MTL	
304	3' - 0"	7' - 0"	0' - 1 3/4"	15	ELEC CL	1.5 HR FPSC MTL	
305	3' - 0"	7' - 0"	0' - 1 3/4"	13	REFUSE RM	1.5 HR FPSC MTL	
306	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
307	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
308	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
309	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
310	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
311	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
312	3' - 0"	7' - 0"	0' - 1 3/4"	14	STAIR 2	1.5 HR FPSC MTL	
313	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
314	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
315	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
316	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
317	3' - 0"	7' - 0"	0' - 1 3/4"	15	JANITOR CL	1.5 HR FPSC MTL	
318	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
319	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
320	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
321	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
322	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
323	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
324	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
325	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
326	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
327	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
328	3' - 0"	6' - 8"	0' - 1 3/4"	11	BEDROOM	S.C. WD	
329	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
330	3' - 6"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
331	3' - 6"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
332	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
333	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
334	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
335	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
336	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
337	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
338	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
339	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
340	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
341	3' - 0"	6' - 8"	0' - 1 3/4"	11	BEDROOM	H.C. WD	
342	3' - 6"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
343	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
344	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
345	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
346	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
347	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
348	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
349	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
350	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
351	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
352	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
353	3' - 0"	6' - 8"	0' - 1 3/4"	11	BEDROOM	S.C. WD	
354	3' - 6"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
355	3' - 6"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
356	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
357	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
358	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
359	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
360	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
361	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
362	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
363	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
364	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
365	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
366	3' - 0"	6' - 8"	0' - 1 3/4"	11	BEDROOM	S.C. WD	
367	3' - 6"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
368	3' - 6"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
369	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
370	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	
371	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
372	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
373	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
374	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR

DOOR NUMBER	DOOR W	DOOR H	THICK	HARDWARE	RM	DOOR MATERIAL	REMARK
4TH FLOOR (67.64')							
405	3' - 0"	8' - 0"	0' - 1 3/4"	17	COMM. PANTRY		INTERIOR WD AND GLASS DOOR
406	3' - 0"	7' - 0"	0' - 1 3/4"	14	STAIR 1	1.5 HR FPSC MTL	
407	3' - 0"	7' - 0"	0' - 1 3/4"	15	ELEC CL	1.5 HR FPSC MTL	
408	3' - 0"	7' - 0"	0' - 1 3/4"	13	REFUSE RM	1.5 HR FPSC MTL	
409	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
410	3' - 0"	7' - 0"	0' - 1 3/4"	10	APT ENTRY	1.5 HR FPSC MTL	
411	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
412	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	
413	3' - 0"	6' - 8"	0' - 1 3/4"	11	BEDROOM	S.C. WD	
414	3' - 6"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
415	3' - 0"	6' - 8"	0' - 1 3/4"	11	BATHROOM	S.C. WD	
416	4' - 0"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
417	3' - 6"	6' - 8"	0' - 1 3/8"	12	CLOSET	H.C. WD	DOUBLE SWING CLOSET DOOR
Grand total: 86							

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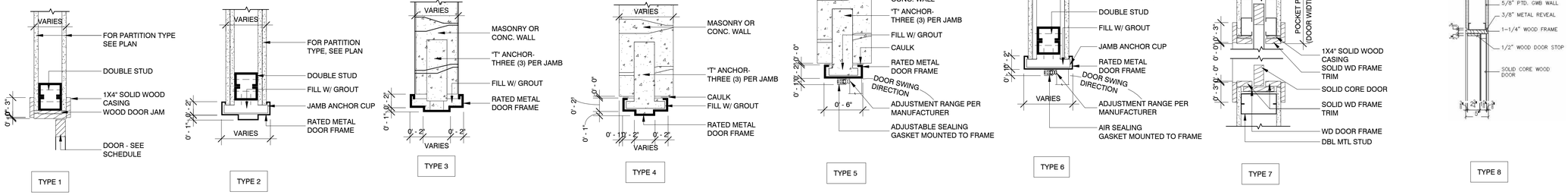


APARTMENT ENTRY DOOR (VIEWED FROM CORRIDOR SIDE

SINGLE SWING INTERIOR UNIT DOOR

DOUBLE SWING INTERIOR UNIT DOOR

9 INTERIOR DOOR ELEVATIONS
SCALE: 1/2" = 1'-0"



1 TYP. DOOR DTL. - TYP WOOD DOOR BUCK
SCALE: 1 1/2" = 1'-0"

2 TYP. DOOR DTL. - TYP. METAL DOOR BUCK AT RATED WALL
SCALE: 1 1/2" = 1'-0"

3 TYP. DOOR DTL. - METAL DOOR BUCK @ MASONRY WALL
SCALE: 1 1/2" = 1'-0"

4 TYP. DOOR DTL. - METAL DOOR BUCK @ MASONRY WALL TYP 4
SCALE: 1 1/2" = 1'-0"

5 TYP. DOOR DTL. - METAL DOOR BUCK, ACOUSTIC GASKET @ MASONRY WALL
SCALE: 1 1/2" = 1'-0"

6 TYP. DOOR DTL. - METAL DOOR BUCK W/ AIR SEALING GASKET
SCALE: 1 1/2" = 1'-0"

7 TYP. DOOR DTL. - POCKET DOOR
SCALE: 1 1/2" = 1'-0"

8 LOBBY PACKAGE ROOM DOOR JAMB DETAIL
SCALE: 1 1/2" = 1'-0"

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NOTES:

SPRINKLER PLUMBING & STANDPIPE FILED UNDER # B00235891
MECHANICAL FILED UNDER #B00235775
STRUCTURAL FILED UNDER # B00235703
BPP FILED UNDER # 340729938
CURB CUT FILED UNDER # B00348176
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
3	ISSUED TO DOB	10.01.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20
11	RFI CLARIFICATIONS	06.18.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

INTERIOR DOOR SCHEDULES, CONT'D

Date: 03.5.2020
Scale: As indicated
Seal/Signature:
Drawn By #: Author
Chkd By #: Checker
Drawing #: A-613.00
DOB #: 321595083
Sheet #: of

KITCHEN APPLIANCE AND FIXTURE SCHEDULE

ROOM NAME	REFRIGERATOR	RANGE	HOOD	FAUCET	SINK	AERATOR	SINK DRAIN FITTING	DISHWASHER
KITCHEN (TYP UNIT)	GE GPE12FSKSB 24" TOP-MOUNT REFRIGERATOR	GE 30" FREE-STANDING ELECTRIC RANGE W/ GLASS COOKTOP. MODEL #JB645RKSS	GE JVX5300DJWW 30" UNDER CABINET RANGE HOOD	KOHLER KOI KITCHEN SINK FAUCET WITH SIDESPRAY K-R22141 - VIBRANT STAINLESS	ELKAY ELUHAD211555 23.5"x18.25"x5.375" ADA SINGLE BOWL SINK	NIAGARA TAMPERPROOF FIXED MOUNT AERATOR	ELKAY LK35 33-1/2" DRAIN 304 STAINLESS	NONE
KITCHEN (SUPERS UNIT)	GE GTE18ISHSS 30" TOP FREEZER REFRIGERATOR	GE 30" FREE-STANDING ELECTRIC RANGE W/ GLASS COOKTOP. MODEL #JB645RKSS	GE JVX5300DJWW 30" UNDER CABINET RANGE HOOD	KOHLER KOI KITCHEN SINK FAUCET WITH SIDESPRAY K-R22141 - VIBRANT STAINLESS	ELKAY ELUHAD211555 23.5"x18.25"x5.375" ADA SINGLE BOWL SINK	NIAGARA TAMPERPROOF FIXED MOUNT AERATOR	ELKAY LK35 33-1/2" DRAIN 304 STAINLESS	NONE
COMMUNITY PANTRY (4TH FL)	GE GTE18ISHSS 30" TOP FREEZER REFRIGERATOR	GE 30" FREE-STANDING ELECTRIC RANGE W/ GLASS COOKTOP. MODEL #JB645RKSS	GE JVX5300DJWW 30" UNDER CABINET RANGE HOOD	KOHLER KOI KITCHEN SINK FAUCET WITH SIDESPRAY K-R22141 - VIBRANT STAINLESS	ELKAY ELUHAD211555 23.5"x18.25"x5.375" ADA SINGLE BOWL SINK	NIAGARA TAMPERPROOF FIXED MOUNT AERATOR	ELKAY LK35 33-1/2" DRAIN 304 STAINLESS	NONE
CELLAR DEMONSTRATION KITCHEN	Bosch 800 Series French Door Bottom Mount Refrigerator36" Easy clean stainless steel B36CL80ENS	Bosch - Benchmark Induction Cooktop36" Black NITP668UC + BenchmarK Single Wall Oven30" SS, Left Side Door HBLP451LUC	GE Profile 36" Island-Mount Chimney Hood PV977NSS	(2) KOHLER KOI KITCHEN SINK FAUCET WITH SIDESPRAY K-R22141 - VIBRANT STAINLESS	Elkay ECTRU35179T 36-1/2" x 18-1/2" x 9", Single Bowl Undermount Sink	NIAGARA TAMPERPROOF FIXED MOUNT AERATOR	ELKAY LK35 33-1/2" DRAIN 304 STAINLESS	(2) Bosch 500 Series Dishwasher24" Stainless steel SHPM65W55N

BATHROOM FIXTURE SCHEDULE

ROOM NAME	BATHTUB	VALVE	TUB AND SHOWER FAUCET TRIM	HANDHELD SHOWER SET	TOILET	LAVATORY	FAUCET
BATHROOM (TYP UNIT)	AMERICAN STANDARD PRINCETON RECESS BATH W/ INTEGRAL OVERFLOW (BARRIER FREE). WHITE	DELTA TRANSITIONAL TEMP20 14 SERIES VALVE ONLY TRIM LESS HANDLE T14003-SST2O-LHP	DELTA 2-IN-1 MULTI FUNCTION SHOWER HEAD/ HANDSHOWER 58569-SS-PK DELTA TUB SPOUT - PULL UP DIVERTER RP73371SS	NA	NIAGARA 0.95 GPF SINGLE FLUSH N7799 ELONGATED BACK OUTLET TOILET	KOHLER BRYANT OVAL SINK. K-2669-4. PROVIDE IN VANITY WITH REMOVABLE BASE CABINET AS REQUIRED FOR HANDICAPPED ADAPTABILITY	DELTA TRINSIC SINGLE HANDLE BATHROOM FAUCET 559LF-SSMPU
BATHROOM (ROLL IN SHOWER UNIT)	NA	DELTA TRANSITIONAL TEMP20 14 SERIES VALVE ONLY TRIM LESS HANDLE T14003-SST2O-LHP	NA	DELTA PREMIUM 3-SETTING SLIDE BAR HAND SHOWER 57021-SS	NIAGARA 0.95 GPF SINGLE FLUSH N7799 ELONGATED BACK OUTLET TOILET	KOHLER PINOIR WALL MOUNTED BATHROOM SINK K-2035-4. WHITE	DELTA TRINSIC SINGLE HANDLE BATHROOM FAUCET 559LF-SSMPU
BATHROOM (SUPERS UNIT)	AMERICAN STANDARD PRINCETON RECESS BATH W/ INTEGRAL OVERFLOW (BARRIER FREE). WHITE	DELTA TRANSITIONAL TEMP20 14 SERIES VALVE ONLY TRIM LESS HANDLE T14003-SST2O-LHP	DELTA 2-IN-1 MULTI FUNCTION SHOWER HEAD/ HANDSHOWER 58569-SS-PK DELTA TUB SPOUT - PULL UP DIVERTER RP73371SS	NA	NIAGARA 0.95 GPF SINGLE FLUSH N7799 ELONGATED BACK OUTLET TOILET	KOHLER BRYANT OVAL SINK. K-2669-4. PROVIDE IN VANITY WITH REMOVABLE BASE CABINET AS REQUIRED FOR HANDICAPPED ADAPTABILITY	DELTA TRINSIC SINGLE HANDLE BATHROOM FAUCET 559LF-SSMPU
CELLAR BATHROOMS	NA	NA	NA	NA	NIAGARA 0.95 GPF SINGLE FLUSH N7799 ELONGATED BACK OUTLET TOILET	KOHLER PINOIR WALL MOUNTED BATHROOM SINK K-2035-4. WHITE	DELTA TRINSIC SINGLE HANDLE BATHROOM FAUCET 559LF-SSMPU

UTILITY ROOM SINK SCHEDULE

ROOM NAME	UTILITY SINK	UTILITY FAUCET
JANITOR'S CLOSETS	AMERICAN STANDARD LAKEWELL SERVICE SINK. ENAMELED CAST IRON	AMERICAN STANDARD EXPOSED YOKE WALL-MOUNTED UTILITY FAUCET
MAINTENANCE ROOM	AMERICAN STANDARD LAKEWELL SERVICE SINK. ENAMELED CAST IRON	AMERICAN STANDARD EXPOSED YOKE WALL-MOUNTED UTILITY FAUCET

BATHROOM ACCESSORIES SCHEDULE

ROOM NAME	MEDICINE CABINET	MIRROR	TOWEL	TOILET PAPER HOLDER	GRAB BARS
BATHROOMS - APT	KOHLER K-2913-PG-SAA CATALAN 15"X36" SIGNLE DOOR MEDICINE CABINET WITH 107 DEGREE HINGE	-	KOHLER ELATE 18" VIBRANT BRUSHED NICKLE TOWEL BAR	KOHLER ELATE VIBRANT NICKLE TOILET PAPER HOLDER	BOBRIC 1-1/4" STAINLESS STEEL, SATIN FINISH, PEENED GRIP - SEE PLAN FOR LENGTHS
RESTROOMS - CELLAR	NA	ASI FIXED ANGLE TILT MIRROR 18"X36 0535-1836	NA	KOHLER ELATE VIBRANT NICKLE TOILET PAPER HOLDER	BOBRIC 1-1/4" STAINLESS STEEL, SATIN FINISH, PEENED GRIP - SEE PLAN FOR LENGTHS

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NOTES:

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STRUCTURAL FILED UNDER # B00235703
BPP FILED UNDER # 340729938
CURB CUT FILED UNDER # B00348176
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
2	SCHEMATIC BID	07.18.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20
11	RFI CLARIFICATIONS	06.18.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

APPLIANCE & FIXTURE SCHEDULE

Date: 03.5.2020
Scale: 3/4" = 1'-0"
Seal/Signature:
Drawn By #: Author
Chkd By #: Checker
Drawing #: A-614.00
DOB #: 321595083
Sheet #: of

FINISH SCHEDULE - COMMON SPACES					
ROOM NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	WALL - OTHER	COMMENTS
HALLWAYS	ATLAS CONCORDE- MARVEL TERRAZZO CREAM MATTE 24x24 STACKED	ATLAS CONCORDE- MARVEL TERRAZZO CREAM MATTE BATTISCOPA 23-5/8" x 2-7/8"	G.B. / (WHITE) PAINT	NICHES: ATLAS CONCORDE- MARVEL TERRAZZO CREAM POLISHED 24x24 STACKED TO FLOOR	TILE SUPPLIER: TINA SERPICO, TILES BY TINA, 732.539.465511, RIFKIN CT, MANALAPAN, NJ 07726
4TH FLOOR PANTRY	ATLAS CONCORDE- MARVEL TERRAZZO CREAM MATTE 24x24	ATLAS CONCORDE- MARVEL TERRAZZO CREAM MATTE BATTISCOPA 23-5/8" x 2-7/8"	G.B. / (WHITE) PAINT	(BACKSPLASH) 3x6 SUBWAY TILE (FIELD)	KITCHEN COUNTER: 1-1/2" RICHLITE (COLOR/STYLE TBD). KITCHEN CABINETS: ADVANTA CABINETS, CALIBRA II MODEL IN ALPINE WHITE HIGH-GLOSS FLAT SLAB CABINET FRONTS HARDWARE: DOUG MOCKET DP55 SERIES PULL. BRUSHED STAINLESS. SEE KITCHEN ELEVATIONS
CELLAR LAUNDRY	ATLAS CONCORDE- MARVEL TERRAZZO CREAM MATTE 24x24	ATLAS CONCORDE- MARVEL TERRAZZO CREAM MATTE BATTISCOPA 23-5/8" x 2-7/8"	G.B. / (WHITE) PAINT	NA	TILE SUPPLIER: TINA SERPICO, TILES BY TINA, 732.539.465511, RIFKIN CT, MANALAPAN, NJ 07726
LOBBY	ATLAS CONCORDE- MARVEL TERRAZZO CREAM MATTE 24x24	ATLAS CONCORDE- MARVEL TERRAZZO CREAM MATTE BATTISCOPA 23-5/8" x 2-7/8"	G.B. / (WHITE) PAINT	3 WALLS OF PACKAGE STORAGE AND 3x HEIGHT STAIR: G.B. / ACCENT CONTRAST COLOR MAILBOX WALL: ACCENT PAINT COLOR	TILE SUPPLIER: TINA SERPICO,-TILES BY TINA, 732.539.465511, RIFKIN CT, MANALAPAN, NJ 07726 ACCENT WALL PAINT COLOR: "CHURLISH GREEN" FARROW & BALL OR APPROVED EQUAL
LOBBY, CELLAR, AND EXTERNAL TERRACE STAIRS (GRNHOUSE STAIR EXCLUDED)	STEPSTONE INC- LONG SPAN STEP TREADS ALMOND 1406	NA	NA	NA	TILE SUPPLIER: TINA SERPICO, TILES BY TINA, 732.539.465511, RIFKIN CT, MANALAPAN, NJ 07726
SOUTH TERRACES AND COURTYARD PAVERS	TILE TECH PAVER SYSTEM- QUARTZITE WHITE	NA	NA	NA	CONTACT: RONNIE TABIBNIA, SALES@TILETECHPAVERS.com, 213-380-5560 x701
CELLAR STORAGE	UNFINISHED SLAB	NA	G.B. / (WHITE) PAINT	NA	-
CELLAR OFFICES	ATLAS CONCORDE- MARVEL TERRAZZO CREAM MATTE 24x24	ATLAS CONCORDE- MARVEL TERRAZZO CREAM MATTE BATTISCOPA 23-5/8" x 2-7/8"	G.B. / (WHITE) PAINT	NA	TILE SUPPLIER: TINA SERPICO,-TILES BY TINA, 732.539.465511, RIFKIN CT, MANALAPAN, NJ 07726
EGRESS STAIR	CONCRETE IN STEEL PAN	NA	CMU / (WHITE) PAINT	NA	-
EQUIP/UTILITY ROOMS (CELLAR)	CONCRETE SLAB PAINTED	NA	G.B. / (WHITE) PAINT	NA	-
EQUIP/UTILITY ROOMS (TYP FLR) J.C./E.C.	CONCRETE SLAB PAINTED	NA	G.B. / (WHITE) PAINT	NA	-
GREENHOUSE	POLISHED CONCRETE	NA	UNFINISHED BOARD FORMED CONCRETE	NA	

FINISH SCHEDULE - ALL APARTMENTS						
ROOM NAME	FLOOR FINISH	BASE FINISH	WALL - BATH SURROUND	WALL - KITCHEN BACKSPLASH	WALL - OTHER	COMMENTS
BATHROOM	TEDI - PENNY ROUND TILES 3/4" (SPM-720, GREEN)	DAL TILE, 3x6, WHITE TILE, GLOSSY, LONG EDGE BULLNOSE - DAL TILE	DAL TILE, 3x6, WHITE TILE, GLOSSY (FIELD) 3x6, WHITE TILE, GLOSSY, SHORT EDGE BULLNOSE (EDGE)	NA	M.R. G.B. / (WHITE) PAINT	WALL GROUT:MAPEI AVALANCHE FLOOR GROUT: MAPEI BISCUIT TILE SUPPLIER: TINA SERPICO, TILES BY TINA, 732.539.465511, RIFKIN CT, MANALAPAN, NJ 07726
KITCHEN	OLYMPIA TILE - TREVERKSOUL (NEUTRAL) FINISH: CHEVRON 4x21, CHEVRON PATTERN (CONTINUOUS IN LIVING)	4"x0.75" PAINTED WOOD BASE	NA	DALTILE 3x6 WHITE SUBWAY (FIELD)	G.B. / (WHITE) PAINT	KITCHEN COUNTER: 1-1/2" WILSONART HIGH PRESSURE LAMINATE (COLOR/STYLE TBD) KITCHEN CABINETS: ADVANTA CABINETS, CALIBRA II MODEL IN ALPINE WHITE HIGH-GLOSS FLAT SLAB CABINET FRONTS HARDWARE: DOUG MOCKET DP55 SERIES PULL. BRUSHED STAINLESS. SEE KITCHEN ELEVATIONS
LIVING ROOMS/ DINING SPACES/ SLEEPING SPACES/ BEDROOMS	OLYMPIA TILE - TREVERKSOUL (NEUTRAL) FINISH: CHEVRON 4x21, CHEVRON PATTERN (CONTINUOUS IN KITCHEN)	4"x0.75" PAINTED WOOD BASE	NA	NA	G.B. / (WHITE) PAINT	FLOOR GROUT: TBD BY ARCHITECT TILE SUPPLIER: TINA SERPICO, TILES BY TINA, 732.539.465511, RIFKIN CT, MANALAPAN, NJ 07726

FINISH SCHEDULE - COMMUNITY KITCHENS						
ROOM NAME	FLOOR FINISH	BASE FINISH	WALL - BATH SURROUND	WALL - KITCHEN BACKSPLASH	WALL - OTHER	COMMENTS
KITCHEN	ATLAS CONCORDE- MARVEL TERRAZZO CREAM MATTE 24x24 STACKED	ATLAS CONCORDE- MARVEL TERRAZZO CREAM MATTE BATTISCOPA 23-5/8" x 2-7/8"	NA	DALTILE 3x6 WHITE SUBWAY (FIELD)	G.B. / (WHITE) PAINT	KITCHEN COUNTER: 1-1/2" RICHLITE (COLOR/STYLE TBD) KITCHEN CABINETS: ADVANTA CABINETS, CALIBRA II MODEL IN ALPINE WHITE HIGH-GLOSS FLAT SLAB CABINET FRONTS HARDWARE: DOUG MOCKET DP55 SERIES PULL. BRUSHED STAINLESS. SEE KITCHEN ELEVATIONS

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NOTES:

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MECHANICAL FILED UNDER # B00235775
STRUCTURAL FILED UNDER # B00235703
SOLAR TO BE FILED UNDER SEPARATE APPLICATION

NORTH:

Revision Schedule

#	Description	Date
2	SCHEMATIC BID	07.18.19
4	ISSUED FOR BID	10.21.19
5	HCR SUBMISSION	11.07.19
6	100% DD	11.14.19
7	HPD BLDS	01.10.20
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

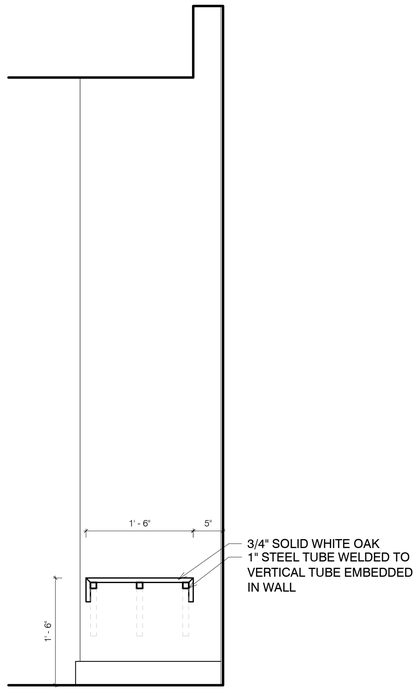
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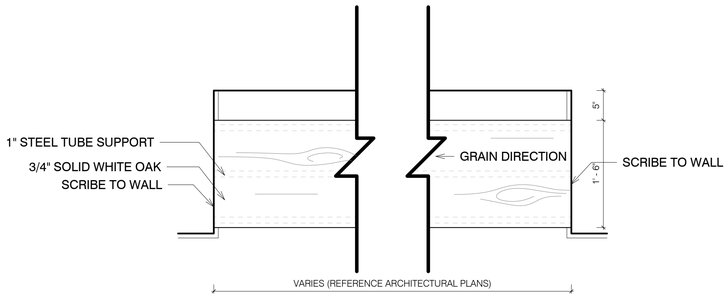
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FINISHES SCHEDULE

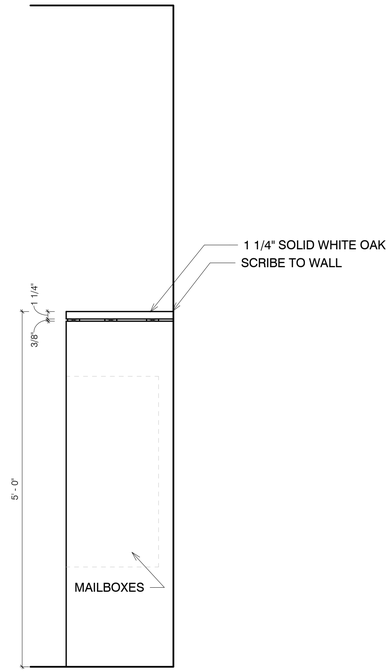
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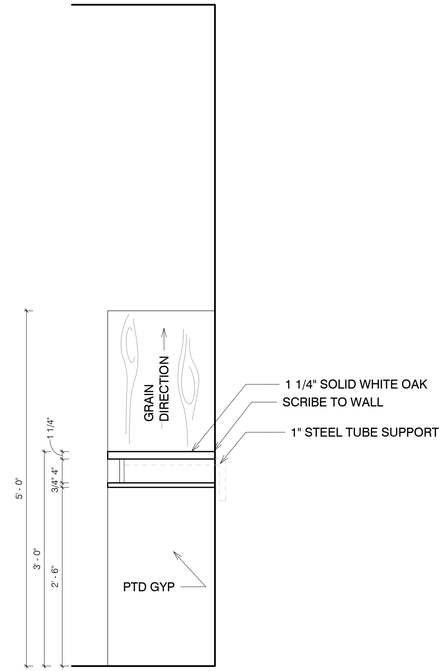
1 HALLWAY BENCH DETAIL
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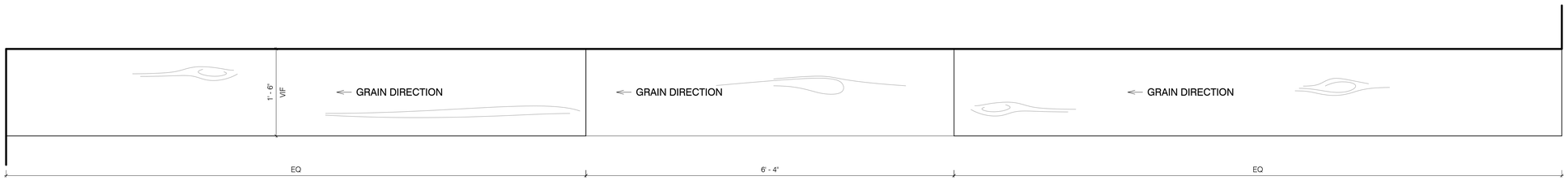
2 HALLWAY BENCH PLAN DETAIL
SCALE: 1" = 1'-0"



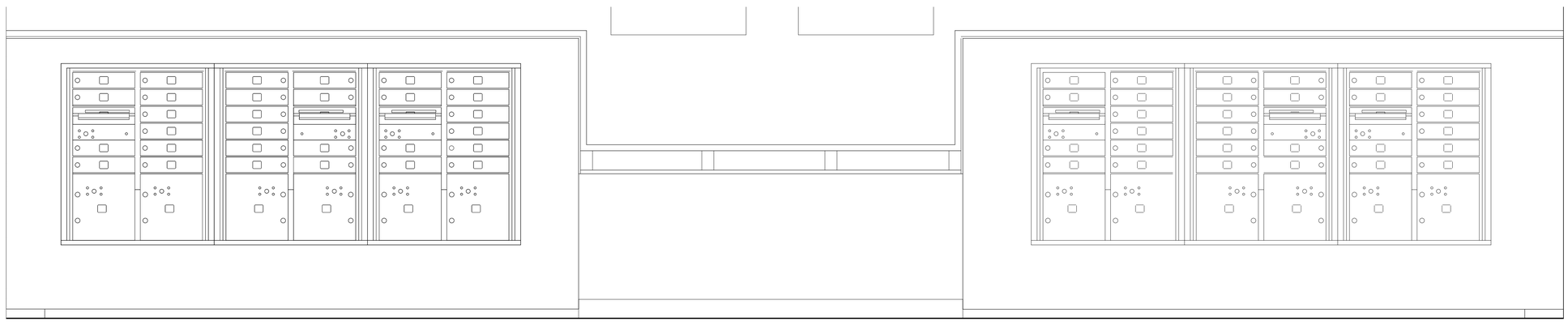
6 LOBBY MAILBOX SECTION @ BOXES
SCALE: 1" = 1'-0"



4 LOBBY MAILBOX SECTION @ CUBBY
SCALE: 1" = 1'-0"



5 LOBBY MAILBOX PLAN
SCALE: 1" = 1'-0"



3 LOBBY MAILBOX ELEVATION
SCALE: 1" = 1'-0"

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Revision Schedule

#	Description	Date
10	100% CD	06.03.20

DOB APPROVAL STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
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Drawing Title:

MILLWORK DETAILS

Date: 03.5.2020

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DOB #: 321595083

Scale: 1" = 1'-0"

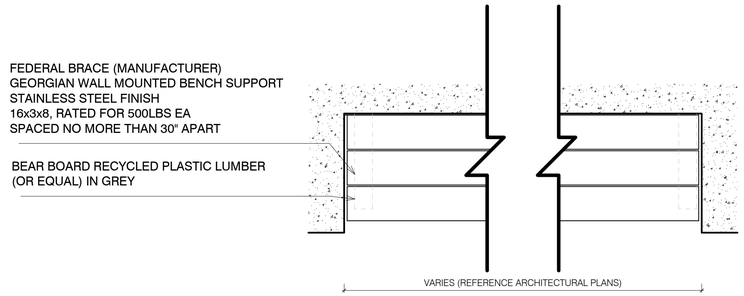
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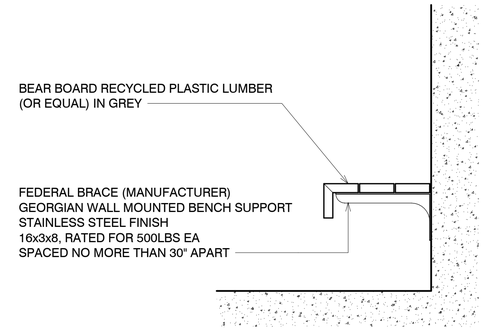
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1 EXTERIOR BENCH @ ENTRY TYP PLAN DETAIL
SCALE: 1" = 1'-0"



2 EXTERIOR BENCH @ ENTRY TYP SECTION DETAIL
SCALE: 1" = 1'-0"

3 EXTERIOR BENCH @ PRIVATE LOBBY PORCH
SCALE: 1" = 1'-0"

4 EXTERIOR BENCH @ PRIVATE LOBBY PORCH TYP SECTION DETAIL
SCALE: 1" = 1'-0"

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10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

MILLWORKS DETAILS

Date: 03.5.2020

Seal/Signature:

Scale: 1" = 1'-0"

Drawn By #: Author

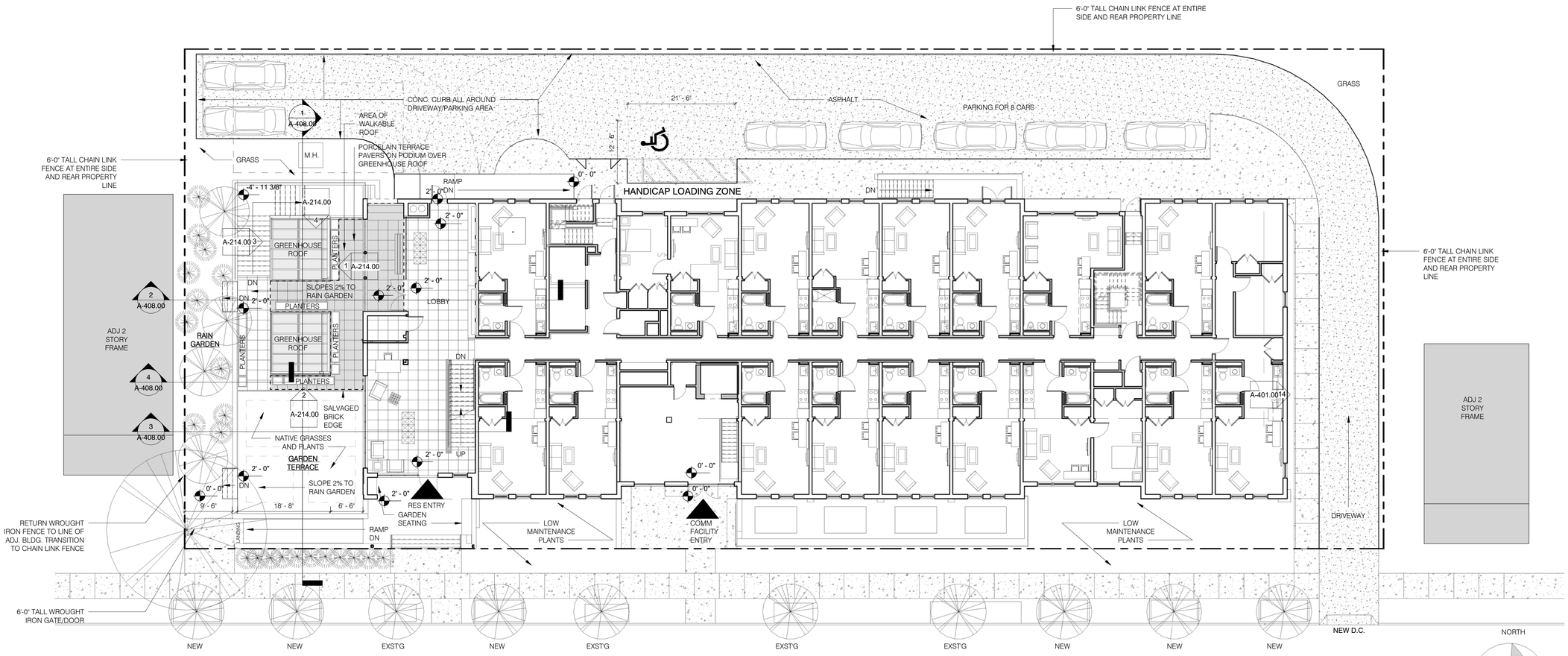
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DOB #: 321595083

Sheet #: of



1 LANDSCAPE 3/32
SCALE: 3/32" = 1'-0"

EAST 40TH STREET

SYMBOL	BOTANICAL NAME	COMMON NAME	QTY	HEIGHT	CONDITION	SPACING	NOTES
A	PHLOX SUBULATA ROSESHELL AZALEA	CREEPING PHLOX ROSESHELL AZALEA	APPROX. 1500 SF	4" - 6" HT 3' - 4' HT	CONTAINER	SEE DETAIL, 1" ON CENTER PHLOX 80%, AZALEA 20%	GROUND COVER STEEP SLOPING AREAS SMALL SHRUB, GROUND COVER ALONG SLOPING AREAS
B	Polypodium virginanum Asarum canadense VINCA MINOR	COMMON POLYPODY FERN WILD GINGER PERIWINKLE (CREEPING MYRTLE)	APPROX. 1000 SF	6" - 12" HT	CONTAINER	SEE DETAIL, 1' ON CENTER VINCA 70%, GINGER 15%, FERN 15%,	HERBACEOUS MIX; GROUND COVER SLOPING & WET AREAS
C	MORELLA CERIFERA	WAX MYRTLE, BAYBERRY	9	3' - 4' HT	CONTAINER	ARCHITECT TO LOCATE ON SITE	LARGE SHRUB NEAR WALLS ON UPPER TERRACE & GARDEN
1	ACER PALMATUM	JAPANESE MAPLE	1	3' - 4' HT	BALLED & BURLAPPED	ARCHITECT TO LOCATE ON SITE	SMALL DECIDUOUS TREE, GARDEN
2	MALUS SYLVESTRIS	COMMON APPLE	1	8' - 12' HT	BALLED & BURLAPPED	ARCHITECT TO LOCATE ON SITE	FLOWERING, FRUIT BEARING TREE, GARDEN
3	CORNUS FLORIDA	DOGWOOD (CULTIVAR, SALMON PINK)	1	6' - 10' HT	BALLED & BURLAPPED	ARCHITECT TO LOCATE ON SITE	FLOWERING TREE, GARDEN
4	AMELANCHIER SP.	SERVICEBERRY	4	2.5 - 3.5" CALIPER LIMBED TO 5' MIN	BALLED & BURLAPPED	SEE STREET TREE PLAN	NEW STREET TREE TYPE B
5	SYRINGA RETICULATA	JAPANESE TREE LILAC	1	2.5 - 3.5" CALIPER LIMBED TO 5' MIN	BALLED & BURLAPPED	SEE STREET TREE PLAN	NEW STREET TREE TYPE C

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#	Description	Date
1	HCR SUBMISSION	12.13.18
8	50% CD	03.20.20
9	75% CD	04.22.20
10	100% CD	06.03.20

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

LANDSCAPE PLAN

Date: 03.5.2020
Scale:3/32" = 1'-0"
Seal/Signature:
Drawn By #: Author
Chkd By #: Checker
Drawing #: L-100.00
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EXCAVATION NOTES

1. ALL EXCAVATION SHALL COMPLY WITH OSHA REQUIREMENTS.
2. ALL EXCAVATION AND SHALL BE BASED ON ENGINEERS DRAWINGS PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW YORK AND RETAINED BY THE CONTRACTOR. SUBMIT THESE DRAWINGS TO THE OWNER'S REPRESENTATIVE.
3. COMPLY WITH ALL NEW YORK CITY REQUIREMENTS FOR UNDERPINNING.
4. GROUND WATER MAY BE ENCOUNTERED. PROVIDE DEWATERING AS NECESSARY
5. THE PERIMETER OF THE GENERAL EXCAVATION SHALL BE RETAINED BY A TEMPORARY SOIL RETENTION SYSTEM AS REQUIRED.
6. THE DESIGN, INSTALLATION, MAINTENANCE AND REMOVAL (WHERE REQUIRED) SHALL BE THE COMPLETE AND SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR SHALL PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO PREVENT DAMAGE AND SETTLEMENT OF EXISTING OR NEW CONSTRUCTION INSIDE OR OUTSIDE OF THE PROJECT LIMITS.
8. ANY DAMAGE TO NEW OR EXISTING CONSTRUCTION INSIDE OR OUTSIDE OF THE PROJECT LIMITS, CAUSED BY CONSTRUCTION TECHNIQUES OR MOVEMENTS OF THE SOIL RETENTION SYSTEM, IS THE RESPONSIBILITY OF THE CONTRACTOR.
9. THE CONTRACTOR SHALL COORDINATE ALL ELEMENTS OF THE SOIL RETENTION SYSTEM WITH ALL ELEMENTS OF THE PERMANENT BUILDING.
10. THE DRAWINGS SHALL INCLUDE PLANS AND SECTIONS OF EXCAVATION SEQUENCES. THE EXCAVATION SEQUENCES SHALL BE CONTROLLED TO MATCH THE REQUIREMENTS OF THE DESIGN OF THE SOIL RETENTION SYSTEM. THE DESIGN EARTH AND HYDRAULIC PRESSURES WILL BE REVIEWED BY THE OWNER'S GEOTECHNICAL REPRESENTATIVE.
11. THE EXCAVATIONS FOR, STRIP FOOTING AND SLAB ON GRADE, SHALL BE EXCAVATED ON AN INDIVIDUAL, LOCALIZED BASIS DOWN FROM THE SUBGRADE LEVEL. EACH EXCAVATION SHALL BE A TRIM, LEVEL SURFACE.
12. THE CONTRACTOR SHALL PROVIDE, SUMPS AND SUMP PUMPS TO PROTECT ALL EXCAVATIONS FROM FLOODING. FLOODING OF ANY EXCAVATION AFTER APPROVAL OF THE SUBGRADE WILL BE CAUSE FOR COMPLETE REDOING OF THE SUBGRADE AND WILL REQUIRE APPROVAL OF THE SUBGRADE.
13. SUBMIT THE RETENTION SYSTEM DESIGN, EXCAVATION SEQUENCES AND TECHNIQUES AND DEWATERING SYSTEM FOR REVIEW BY THE OWNER'S GEOTECHNICAL ENGINEER.
14. ALL EXCAVATIONS ADJACENT AND UNDER EXISTING FOOTINGS SHALL BE INSPECTED BY THE CONTRACTOR'S NY P.E. GEOTECHNICAL ENGINEER DURING EXCAVATION. HE SHALL OBSERVE THE SOIL TO DETERMINE IF UNDERPINNING IS REQUIRED. PROVIDE UNDERPINNING AS REQUIRED. SUBMIT TO THE OWNER'S GEOTECHNICAL ENGINEER THE UNDERPINNING DESIGN FOR HIS REVIEW.
15. ALL ITEMS RELATING TO THE EXCAVATION, UNDERPINNING, ETC. ARE SUBJECT TO THE REVIEW OF THE OWNER'S GEOTECHNICAL ENGINEER.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONDITIONS OF PUBLIC AND WORKER SAFETY DURING EXECUTION OF THE WORK. THIS SHALL INCLUDE COMPLIANCE WITH ARTICLE 7, SUBCHAPTER 3 OF THE NEW YORK CITY BUILDING CODE: SAFETY IN BUILDING OPERATIONS.
17. THE CONTRACTOR SHALL PROVIDE SIDEWALK PROTECTION AND PROTECTION OF ADJOINING BUILDINGS AND PROPERTIES.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND FILING A SITE SAFETY PLAN AND/OR PROVIDING OTHER WRITTEN ASSURANCES OF SAFE OPERATIONS AS MAY BE REQUIRED BY THE AUTHORITIES HAVING JURISDICTION.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SAFE WORKING ENVIRONMENT FOR ALL WORKERS. THIS SHALL INCLUDE COMPLIANCE WITH ALL OSHA, STATE, AND LOCAL LABOR LAWS WHICH MAY GOVERN THIS TYPE OF WORK.
20. THE CONTRACTOR SHALL PROVIDE REGULAR PERIODIC INSPECTION OF CONSTRUCTION OPERATIONS AS REQUIRED TO ENSURE ONGOING MAINTENANCE OF ALL SAFETY OPERATIONS AND EQUIPMENT. SUCH INSPECTIONS SHALL BE UNDERTAKEN BY AN AGENT OF THE CONTRACTOR WHO IS QUALIFIED TO EVALUATE. THIS INSPECTOR SHALL PREPARE WRITTEN SAFETY REPORTS WHICH SHALL BE MAINTAINED AT THE JOB SITE FOR REVIEW BY THE AUTHORITIES' JURISDICTION.

SUPPORT OF EXCAVATION NOTES

1. THIS SUPPORT OF EXCAVATION DESIGN IS RESTRICTED TO MAXIMUM EXCAVATIONS SHOWN.
2. SOIL PORTION OF THE EXCAVATION TO BE SLOPED AWAY FROM THE EXCAVATION PERIMETER AT 1.5:1 (H,V) SLOPE.
3. BEDROCK TO BE EXCAVATED AT A VERTICAL FACE (90°) WHEN STABLE.
4. LINE DRILLING, JACK HAMMER AND OTHER MECHANICAL MEANS OF EXCAVATION TO BE USED FOR ROCK EXCAVATION.
5. BLASTING WILL NOT BE PERMITTED AT THE SITE.
6. EXCAVATED ROCK SURFACE TO BE INSPECTED DAILY FOR SIGNS OF INSTABILITY OR DETERIORATION BY A PROFESSIONAL ENGINEER OR GEOLOGIST.
7. IF ROCK CONDITIONS OBSERVED DOES NOT CONFORM TO DESIGN ASSUMPTIONS, THEN WORK SHALL BE STOPPED AND ADDITIONAL ROCK SUPPORT INSTALLED AS REQUIRED.
8. LOCAL CONCRETE FILLING AND / OR ROCK DOWELS TO BE USED AS REQUIRED TO ENSURE STABILITY OF EXPOSED ROCK SURFACE. PATTERN ROCK DOWELS AND SHOTCRETE MAY ALSO BE REQUIRED BUT ARE NOT ANTICIPATED. USE 1-1/4" DIAMETER GRADE 75, 10'-0" LONG ROCK DOWELS AS REQUIRED. INSTALL AT AN ANGLE OF 15° FROM HORIZONTAL.
9. WORK LOAD FOR 1-1/4" DIAMETER GRADE 75 ROCK DOWEL IS 57.2 KIP, HOWEVER, DOWELS DO NOT REQUIRE PRE-TENSIONING.
10. NO SURCHARGE GREATER THAN 200 PSF SHALL EXIST WITHIN 25' OF THE EXCAVATION & EDGES OF EXCAVATION SHALL BE CUT BACK AS INDICATED.
11. ALL STRUCTURAL STEEL, IF REQUIRED, TO BE ASTM A992 OR ASTM A572, GRADE 50; SHEET PILES TO BE A572.
12. WELDS, IF REQUIRED, DEPOSITED WITH E70XX ELECTRODES AND 1/4" THICK UNLESS OTHERWISE NOTED.
13. STEEL, IF REQUIRED, IS ASSUMED TO BE FY=60 KSI, CONCRETE FOR REACTION BLOCK IS ASSUMED TO BE 3000 PSI.
14. ALL CONCRETE UNLESS OTHERWISE NOTED SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF f'c = 3000 PSI.
15. ALL GROUT UNLESS OTHERWISE NOTED SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI.
16. SUPPORT OF EXCAVATION SYSTEM, IF REQUIRED, TO BE FULLY ASSEMBLED BEFORE BEING SUBJECTED TO GROUND PRESSURE.
17. INSTALLATION OF SUPPORT OF EXCAVATION SYSTEM TO BE IN ACCORDANCE WITH O.S.H.A. REGULATIONS.
18. ALL WALER SPLICE CONNECTIONS, IF REQUIRED, TO BE LOCATED AT POINT OF INTERSECTION WITH STEEL RAKERS ONLY.
19. TIMBER LAGGING, IF REQUIRED, TO BE DOUGLAS FIR OR SOUTHERN PINE, NO. 1. NOMINAL 3" THICK, NEW OR USED, WITH A MIN. FY=1950 PSI, FB=1200 PSI, E=1,600,000 PSI IN GOOD SERVICEABLE CONDITION (ALL TIMBER TO BE LEFT IN PLACE AFTER COMPLETION OF PROJECT TO BE PRESSURE TREATED) BACKFILL, IF REQUIRED, MATER WILL BE FREE OF ORGANIC MATERIAL, CONSTRUCTION DEBRIS, COBBLES, AND BOULDERS.
20. TIMBER LAGGING, IF REQUIRED, WILL BE FULLY IN CONTACT WITH THE SOIL.. THE UNSUPPORTED HEIGHT OF THE EXCAVATED SOIL FOR TIMBER LAGGING WILL NOT BE MORE THAN 3 FEET.
21. NO UNSUPPORTED EXCAVATED SOIL WILL BE LEFT AT THE END OF EACH DAY. ALL EXCAVATED SOIL AND ROCK SLOPED AS SHOWN IN THE DRAWINGS.
22. IF GROUNDWATER IS ENCOUNTERED, PROVIDE DEWATERING AS NECESSARY.
23. THE CONTRACTOR SHALL MAINTAIN CONTINUAL OVERSIGHT OF WORK AND PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO PREVENT DAMAGE AND SETTLEMENT OF EXISTING OR NEW CONSTRUCTION INSIDE OUR OUTSIDE OF THE PROJECT LIMITS.
24. DAMAGE TO NEW OR EXISTING CONSTRUCTION INSIDE OR OUTSIDE OF THE PROJECT LIMITS CAUSED BY CONSTRUCTION TECHNIQUES OR MOVEMENTS OF THE SOIL RETENTION SYSTEM, IS RESPONSIBILITY OF THE CONTRACTOR.
25. THE CONTRACTOR SHALL COORDINATE ALL ELEMENTS OF THE SOIL RETENTION SYSTEM WITH ALL ELEMENTS OF THE PERMANENT BUILDING.
26. SHOULD THE CONTRACTOR BECOME AWARE OF ANY SITUATION THAT REQUIRES FURTHER EVALUATION (ADDITIONAL DEFLECTION, ETC.). THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
27. THE CONTRACTOR SHALL PROVIDE POSITIVE PROTECTION (MAT/SHEET COVERING) FOR ALL EXCAVATION SLOPES FROM INSTABILITY AND DETERIORATION DUE TO RAIN.
28. A WRITTEN NOTICE OF THE PERMIT APPLICATION SHALL BE PROVIDED TO THE OWNERS OF ADJACENT BUILDINGS AND SERVICE FACILITIES WHICH MAY BE AFFECTED BY THE SHORING.
29. THE CONSENT FROM OWNERS OF ADJACENT PROPERTIES SHALL BE OBTAINED IF REQUIRED WORK EXTENDS BEYOND PROPERTY LINE.
30. SIDEWALK CLOSING PERMIT FROM THE NYC SHALL BE OBTAINED TO OVER CUT THE SIDEWALK OR TO PLACE SOLDIER PILES IN THE SIDEWALKS / STREET.
31. THE CONTRACTOR SHALL ENSURE THAT PILES WILL NOT INTERSECT EXISTING UTILITIES.
32. NOTICE SHALL BE GIVEN TO ADJACENT PROPERTIES OWNERS AT LEAST 48 HOURS PRIOR TO START OF WORK.
33. NOTIFICATION TO DOB 24-48 HOURS PRIOR TO COMMENCEMENT OF EARTHWORK AS PER NYC BC3304.3.1.
34. WRITTEN NOTICE TO OWNERS OF ADJOINING PROPERTY NOT LESS THAN 10 DAYS PRIOR TO COMMENCEMENT OF EXCAVATION AS PER NYC BC3304.3.2.

VIBRATION MONITORING / CRACK MONITORING NOTES:

1. PRIOR TO THE START OF WORK, A PRE-CONSTRUCTION CONDITIONS SURVEY MUST BE PERFORMED AT ADJACENT PROPERTIES TO DOCUMENT THE EXISTING CONDITIONS OF THE STRUCTURES. IF SIGNIFICANT DAMAGE(S) OR CRACKS ARE DISCOVERED DURING THE SURVEY, THE ENGINEER OF RECORD MAY DETERMINE THAT CRACK MONITORING BE PERFORMED.
2. CRACK MONITORING SHALL BE 2 TIMES PER MONTH, IF REQUIRED.
3. OPTICAL MONITORING POINTS SHALL BE INSTALLED AT THE ADJACENT PROPERTIES AT THE DESIGNATED LOCATIONS DETERMINED IN CONSULTATION WITH THE ENGINEER OF RECORD (EOR), AND ANY OTHER AGENCIES HAVING JURISDICTION. THE SURVEY POINTS SHALL BE INSTALLED ON THE EXISTING BUILDINGS AT MAXIMUM HORIZONTAL INTERVALS OF 25 FT, BUT NOT LESS THAN TWO SETS OF POINTS PER WALL.
4. OPTICAL MONITORING SHALL BE PERFORMED AT A MINIMUM OF ONCE EVERY TWO WEEKS DURING EXCAVATION AND FOUNDATION WORK.
5. ALL OPTICAL MONITORING POINTS PLACED AT THE ADJACENT PROPERTIES SHALL BEAR A UNIQUE IDENTIFICATION. AS-BUILT PLANS SHALL BE PREPARED FOR ALL SURVEY MONITORING POINTS INSTALLED. PLANS SHALL BE AMENDED AS REQUIRED DURING CONSTRUCTION FOR THE ABANDONMENT, REPLACEMENT, OR ADDITION OF NEW POINTS.
6. BASELINE READINGS OF THE MONITORING POINTS SHALL BE OBTAINED PRIOR TO CONSTRUCTION.
7. SEISMOGRAPHS SHALL BE INSTALLED AT ALL ADJACENT PROPERTIES DETERMINED TO BE IN THE RANGE OF SUSCEPTIBILITY. THE ACTUAL NUMBER AND LOCATION OF THE SEISMOGRAPHS SHALL BE DETERMINED IN CONSULTATION WITH THE ENGINEER OF RECORD, AND ANY OTHER AGENCIES HAVING JURISDICTION.
8. THE MAXIMUM PERMISSIBLE VIBRATION LEVEL FOR ALL CONSTRUCTION ACTIVITIES SHALL BE 0.5 INCHES PER SECOND AS MEASURED AT THE NEAREST OCCUPIED BUILDING WALL FOR ALL RELEVANT STRUCTURES. THE MAXIMUM PERMISSIBLE LEVELS SHALL BE CALCULATED AS THE PEAK VELOCITY MEASUREMENTS TAKEN IN ANY OF THE THREE ORTHOGONAL DIRECTIONS.
9. VIBRATION MONITORING SHALL BE CONTINUOUS AND TAKE REAL TIME READINGS.
10. IN THE EVENT THAT MONITORING INDICATES MOVEMENT THAT MEETS A ALERT LIMITS THRESHOLD DEFINED BELOW, THE CONTRACTOR SHALL CEASE CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL PROVIDE STABILIZATION OF THE EXCAVATION OF SUPPORT SYSTEM VIA INSTALLATION OF TEMPORARY EARTHEN BERMS AND/OR ADDITIONAL BRACING. ADDITIONAL EXCAVATION ACTIVITIES SHALL NOT PROCEED WITHOUT THE AUTHORIZATION OF THE OWNER'S ENGINEER AND ANY OTHER AGENCIES HAVING JURISDICTION.
    - 10.1. REVIEW LIMIT THRESHOLDS
        - 10.1.1. VERTICAL OR HORIZONTAL MOVEMENT
            - 10.1.1.1. BUILDINGS OR OTHER STRUCTURES: THREE CONSECUTIVE READINGS OF 1/16 INCH OF MOVEMENT, OR ONE CONFIRMED READING OF 3/16 INCH.
        - 10.1.2. CRACK GAUGES
            - 10.1.2.1. THREE CONSECUTIVE READINGS OF 1-MILLIMETER OF INCREASE IN CRACK-WIDTH, OR ONE CONFIRMED READING OF 2-MILLIMETERS.
        - 10.1.3. VIBRATIONS
            - 10.1.3.1. BUILDINGS AND OTHER STRUCTURES PEAK PARTICLE VELOCITY EXCEEDING 0.5 IN/SEC.
    - 10.2. ALERT LIMIT THRESHOLDS
        - 10.2.1. VERTICAL OR HORIZONTAL MOVEMENT
            - 10.2.1.1. BUILDINGS OR OTHER STRUCTURES: ¼ INCH TOTAL VERTICAL OR ½ INCH TOTAL HORIZONTAL MOVEMENT
        - 10.2.2. CRACK GAUGES
            - 10.2.2.1. 3- MILLIMETERS OF INCREASE IN CRACK WIDTH
        - 10.2.3. VIBRATIONS
            - 10.2.3.1. BUILDINGS AND OTHER STRUCTURES PEAK PARTICLE VELOCITY EXCEEDING 2.0 IN/SEC.
11. MONITORING SHALL BE PERFORMED THROUGH THE ENTIRE DURATION OF BELOW GRADE WORK.
12. THE ENGINEER OF RECORD, PROPERTY OWNER AND CONTRACTOR MUST BE NOTIFIED IN THE EVENT OF AN EXCEEDANCE.
13. THE ENGINEER OF RECORD MAY ALTER THE FREQUENCY IN WHICH MONITORING IS EXECUTED.
14. MONITORING SHALL BE IN COMPLIANCE WITH 2014 NEW YORK CITY BUILDING CODE (NYBC), SECTIONS 1814.3, 1704.20.7.1, 3309.4.4, 3309.6 AND 3309.16.

NYC DOB NOTES

1. UNLESS SPECIFICALLY NOTED OTHERWISE, GRANT ENGINEERING IS RETAINED SOLELY TO PROVIDE PLANS FOR THE SUBJECT PROJECT AND RESPONSIBILITY IS THEREBY LIMITED TO THE ACCURACY OF THESE DRAWINGS.
2. UNLESS OTHERWISE STATED, GRANT ENGINEERING IS NOT RETAINED FOR ANY JOB SUPERVISION, BUT MAY BE RETAINED FOR SPECIFIC SPECIAL / PROGRESS INSPECTIONS. CONTRACTOR TO CONTACT THE ENGINEER DESIGNATED ON THE TECHNICAL RESPONSIBILITY FORM (TR-1) IN WRITING AT LEAST 72 HRS. PRIOR TO START OF WORK TO ARRANGE FOR REQUIRED INSPECTIONS.
3. THE INSPECTING ENGINEER IS NOT RESPONSIBLE FOR ANY WORK PERFORMED WITHOUT PRIOR WRITTEN NOTICE TO THE ENGINEER NOR FOR ANY UNINSPECTED OR UNACCEPTABLE WORK.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED WORK PERMITS FOR ALL WORK SHOWN ON PLANS PRIOR TO START OF WORK. AS PER NYCDOB CODE, PERMITS FOR WORK DEPICTED IN THESE PLANS SHALL BE POSTED AT JOB SITE WITHIN 3 DAYS OF ISSUANCE.
5. COPIES OF SPECIAL INSPECTION FIELD LOGS {PERIODIC OR CONTINUOUS), TR-1 FORMS AND SPECIAL INSPECTION SIGN-IN LOGS SHALL BE KEPT ON SITE BY CONTRACTOR AND MADE AVAILABLE TO THE N.Y.C.D.O.B. UPON REQUEST.
6. OWNER SHALL OBTAIN WRITTEN CONSENT FROM ADJACENT PROPERTY OWNERS FOR ALL WORK THAT EXTENDS BEYOND PROPERTY LINE INTO ADJACENT PROPERTY.
7. CONTRACTOR SHALL OBTAIN N.Y.C.D.O.T. PERMITS FOR ANY WORK THAT EXTENDS INTO SIDEWALK AND/OR ROADWAY.

SAFETY DURING EXECUTION OF WORK

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONDITIONS OF PUBLIC AND WORKER SAFETY DURING EXECUTION OF THE WORK. THIS SHALL INCLUDE COMPLIANCE WITH ARTICLE 7, SUBCHAPTER 3 OF THE NEW YORK CITY BUILDING CODE: SAFETY IN BUILDING OPERATIONS.
2. THE CONTRACTOR SHALL PROVIDE SIDEWALK PROTECTION AND PROTECTION OF ADJOINING BUILDINGS AND PROPERTIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND FILING A SITE SAFETY PLAN AND/OR PROVIDING OTHER WRITTEN ASSURANCES OF SAFE OPERATIONS AS MAY BE REQUIRED BY THE AUTHORITIES HAVING JURISDICTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SAFE WORKING ENVIRONMENT FOR ALL WORKERS. THIS SHALL INCLUDE COMPLIANCE WITH ALL OSHA, STATE, AND LOCAL LABOR LAWS WHICH MAY GOVERN THIS TYPE OF WORK.
5. THE CONTRACTOR SHALL PROVIDE REGULAR PERIODIC INSPECTION OF CONSTRUCTION OPERATIONS AS REQUIRED TO ENSURE ONGOING MAINTENANCE OF ALL SAFETY OPERATIONS AND EQUIPMENT. SUCH INSPECTIONS SHALL BE UNDERTAKEN BY AN AGENT OF THE CONTRACTOR WHO IS QUALIFIED TO EVALUATE. THIS INSPECTOR SHALL PREPARE WRITTEN SAFETY REPORTS WHICH SHALL BE MAINTAINED AT THE JOB SITE FOR REVIEW BY THE AUTHORITIES' JURISDICTION.

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DOB JOB STICKERS:

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Drawing Tile:

SUPPORT OF EXCAVATION PLAN

Date: 03/20/2020
Seal/Signature:
DOB #: 00001

Scale: AS SHOWN
Drawn By #: MG
Chkd By #: GC
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SPECIAL INSPECTION NOTES

1. THE FOLLOWING MATERIALS AND METHODS OF CONSTRUCTION SHALL BE SUBJECT TO "SPECIAL INSPECTION' IN ACCORDANCE WITH CHAPTER 17 OF THE NEW YORK CITY BUILDING CODE:

A. EXCAVATIONS - SHEETING, SHORING, AND BRACING (BC 1704.20.2)

2. A SPECIAL INSPECTOR HIRED BY THE OWNER SHALL SUPERVISE THE TESTING AND INSPECTION OF THE ABOVE ITEMS. THE INSPECTOR SHALL HAVE QUALIFICATIONS IN ACCORDANCE WITH NYC CITY RULE 101-06.

3. THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE INSPECTOR FOR ALL ITEMS REQUIRING INSPECTION A MINIMUM OF 72 HOURS PRIOR TO COMMENCEMENT OF THAT PORTION OF WORK. FOR ON-GOING INSPECTIONS THE CONTRACTOR SHALL PROVIDE 24 HRS ADVANCE NOTICE BEFORE INSPECTION.

4. THE CONTRACTOR SHALL PROVIDE SAFE ACCESS AND MEANS TO ALLOW THE ABOVE TESTING AND/OR INSPECTION REQUIREMENTS TO BE COMPLETED IN A MANNER CONSISTENT WITH APPLICABLE OSHA, STATE, AND LOCAL DOB REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE SCAFFOLDING, PERSONNEL HOISTS DR ANY OTHER EQUIPMENT NECESSARY TO ACCESS AREAS SUBJECT TO INSPECTIONS.

5. INSPECTION DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO PROVIDE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND PROVIDE THE CONTRACTORS INDEPENDENT QUALITY CONTROL. THE INSPECTOR IS NOT RESPONSIBLE FOR PROVIDING "QUALITY CONTROL" SERVICES FOR THE CONTRACTOR.

TENANT PROTECTION PLAN

1. CONTRACTOR SHALL EMPLOY MEANS AND METHODS TO SAFEGUARD THE SAFETY AND HEALTH OF THE OCCUPANTS, INCLUDING TEMPORARY FIRE-RATED ASSEMBLIES, OPENING PROTECTIONS AND DUST CONTAINMENT PROCEDURES. CONTRACTOR SHALL PREPARE A TENANT PROTECTION PLAN IN ACCORDANCE WITH ADMINISTRATIVE CODE SECTION 28 – 104.8.4 THAT SHALL INCLUDE AT A MINIMUM THE FOLLOW PROVISIONS:

2. EGRESS: AT ALL TIMES IN THE COURSE OF CONSTRUCTION THE CONTRACTOR SHALL PROVIDE ADEQUATE EGRESS AS REQUIRED BY THE NYC BUILDING CODE. REQUIRED EGRESS SHALL NOT BE OBSTRUCTED AT ANY TIME EXCEPT WHERE APPROVED BY THE COMMISSIONER. ALL EXISTING MEANS OF EGRESS ARE TO BE MAINTAINED CLEAR AND FREE OF OBSTRUCTIONS. ALL MATERIALS BEING DELIVERED TO THE JOB SITE SHALL BE BROUGHT INTO THE WORK SPACE IMMEDIATELY AND SHALL NOT BE PLACED IN A MANNER THAT BLOCKS EGRESS CORRIDORS OR EXITS.

3. FIRE SAFETY: THE CONTRACTOR SHALL OBSERVE ALL NECESSARY FIRE-SAFETY LAWS AND CONTROLS, INCLUDING THOSE WITH RESPECT TO OCCUPIED DWELLINGS, AS WELL AS ADDITIONAL SAFETY MEASURES NECESSITATED BY THE CONSTRUCTION. ALL BUILDING MATERIALS STORED AT CONSTRUCTION AREA AND/OR ANY AREA OF THE BUILDING ARE TO BE SECURED IN A LOCKED AREA. THE OWNER AND GENERAL CONTRACTOR SHALL CONTROL ACCESS TO SUCH AREAS. ALL MATERIALS SHALL BE STORED IN AN ORDERLY FASHION. ALL FLAMMABLE MATERIALS SHALL BE KEPT TIGHTLY SEALED IN THE RESPECTIVE MANUFACTURERS' CONTAINERS. SUCH MATERIALS SHALL BE KEPT AWAY FROM HEAT, SPARKS, OR ANY OTHER DANGEROUS CONDITIONS. ALL FLAMMABLE MATERIALS SHALL BE USED AND STORED IN A WELL-VENTILATED SPACE. FIRE EXTINGUISHERS SHALL BE KEPT ON CONSTRUCTION SITE AT ALL TIMES. CONSTRUCTION OPERATIONS WILL NOT BLOCK FIRE STAIRS.

4. HEALTH REQUIREMENTS: CONTRACTOR SHALL COMPLY WITH ALL LAWS AND REGULATIONS RELATING TO LEAD & ASBESTOS PROTECTION. CONSTRUCTION WILL BE LIMITED TO THE AREAS SHOWN IN PLANS. CONTRACTOR SHALL ENSURE DEBRIS, DIRT, AND DUST IS KEPT TO A MINIMUM AND SHALL BE CONFINED TO IMMEDIATE CONSTRUCTION AREA USING BARRIERS, TARPS, AND OTHER ACCEPTABLE MEANS. GRINDERS AND SAWS GENERATING DUST SHALL HAVE VACUUM COLLECTION SYSTEMS. CONSTRUCTION OPERATION WILL NOT INVOLVE INTERRUPTION OF HEATING, ELECTRIC, AND TENANT WATER SERVICES TO OTHER TENANTS OF THE BUILDING DWELLING UNITS WITHOUT PRIOR NOTICE.

5. COMPLIANCE WITH HOUSING STANDARDS: THE REQUIREMENTS OF THE NEW YORK CITY HOUSING MAINTENANCE CODE, AND, WHERE APPLICABLE, THE NEW YORK STATE MULTIPLE DWELLING LAW SHALL BE STRICTLY OBSERVED BY THE CONTRACTOR.

6. STRUCTURAL SAFETY: CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY BRACING AND SHORING WHENEVER STRUCTURAL WORK IS INVOLVED. THIS SHALL INCLUDE PROVIDING TEMPORARY FIREPROOFING WHERE STRUCTURAL ELEMENTS ARE EXPOSED, UNLESS FINAL RATED ENCLOSURE CAN BE PROVIDED IMMEDIATELY UPON INSTALLATION. ALL DEMOLITION OPERATIONS, REPAIR OPERATIONS, AND ALTERATION OPERATIONS SHALL BE DONE IN ACCORDANCE WITH THE NEW YORK CITY BUILDING CODE AND SHALL POSE NO DANGER TO OCCUPANTS. CONTRACTOR SHALL PREPARE A TEMPORARY SHORING AND BRACING PLAN, PREPARED, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK TO THE ENGINEER OF RECORD PRIOR TO COMMENCING REMOVALS OF STRUCTURAL MEMBERS.

7. NOISE RESTRICTIONS: CONSTRUCTION WORK WILL BE CONFINED TO NORMAL WORKING HOURS PER NEW YORK CITY NOISE CONTROL CODE 8:00 AM TO 5:00 PM, MONDAY THRU FRIDAY, EXCLUDING LEGAL HOLIDAYS OR PER MORE RESTRICTIVE BUILDING RULES. NOISE SHALL BE KEPT TO A REASONABLE MINIMUM IN LEVEL AND DURATION. WEEKEND WORK PERMITS ARE ACCEPTABLE. SUBMIT TO OWNER PRIOR TO START OF WORK. POST PERMIT IN THE REQUIRE LOCATIONS

DRILLED IN SOLDIER PILE AND LAGGING

1. ALL SOLDIER PILES SHALL BE INSTALLED IN THE LOCATION SHOWN ON THESE DRAWINGS.
2. THE CONTRACTOR SHALL PERFORM UTILITY IDENTIFICATION AND EXPLORATION AS NECESSARY PRIOR TO THE DRILLING OPERATIONS.
3. SOLDIER PILE CASING SHALL BE INSTALLED USING INTERNAL FLUSH DUPLEX DRILLING METHOD.
4. NO LOSS OF MATERIAL FROM THE OUTSIDE OF THE SOLDIER PILE IS PERMITTED. THE CONTRACTOR SHALL ADOPT THE NECESSARY DRILLING PROCEDURES TO PREVENT LOSS OF MATERIAL BETWEEN ANNULUS AND THE SOLDIER PILE.
5. THE CONTRACTOR SHALL ADJUST DRILLING PROCEDURES AS REQUIRED TO PREVENT SETTLEMENT AND LATERAL MOVEMENT OF THE BUILDINGS, UTILITIES AND OTHER STRUCTURES.
6. STEEL CASING SHALL HAVE A MINIMUM THICKNESS OF 0.5 IN. SPLICES IN CASINGS SHALL BE THREADED AND FULLY TIGHTENED.
7. THE BOTTOM CASING OF EACH SOLDIER PILE SHALL BE PROTECTED BY A HIGH STRENGTH CUTTING SHOE WITH HARDENED CUTTING EDGE.
8. NO CONCRETE OR GROUT SHALL BE PLACED AT ANY SOLDIER PILE LOCATION UNTIL TIP ELEVATION HAS BEEN CONFIRMED, CLEANED OF MUD AND EXTRANEOUS MATERIAL, AND INSPECTED AND APPROVED BY THE SPECIAL INSPECTOR.
9. CONCRETE OR GROUT SHALL BE PLACED CONTINUOUSLY FOR THE FULL DEPTH OF THE SOLDIER PILE STARTING AT THE BOTTOM OF THE SOCKET AND UP TO THE DESIGNED CUTOFF ELEVATION. NO COLD JOINT IS ALLOWED.
10. THE ENGINEER MAY DIRECT AN INCREASE IN SOLDIER PILE LENGTH FROM THAT SPECIFIED ON THESE DRAWINGS IF INFERIOR SOIL OR ROCK IS ENCOUNTERED ABOVE THE ORIGINAL MINIMUM TIP ELEVATION.
11. NO SOLDIER PILE SHALL BE OUT OF PLUMB MORE THAN ONE PERCENT (1%) OF ITS EMBEDMENT LENGTH.
12. IF ANY OF THE ABOVE TOLERANCES ARE EXCEEDED, AND IN THE OPINION OF THE ENGINEER REQUIRES CORRECTIVE MEASURES, SUCH CORRECTIVE MEASURES, INCLUDING COSTS OF ENGINEERING AND REDESIGN SHALL BE PAID FOR BY THE CONTRACTOR.
13. BEFORE LATERAL BRACING (ANCHORS AND / OR RAKERS) IS INSTALLED, MAXIMUM EXCAVATION BELOW BRACING LEVEL IS 1.5 FT UNLESS NOTED ON THE DRAWINGS.
14. LATERAL BRACING AND SHEETING / SHORING SHALL NOT BE REMOVED UNTIL THE NEW GROUND FLOOR SLAB IS INSTALLED AND THE NEW CONCRETE HAS REACHED THE DESIGN COMPRESSIVE STRENGTH.
15. AT COMPLETION OF THE NEW STRUCTURE, BURN OFF SOLDIER PILES 1 FT BELOW PROPOSED FINISH GRADE.
16. INSTALL CONTROLLED BACKFILL IN ACCORDANCE WITH DESIGN DOCUMENTS AS REQUIRED.

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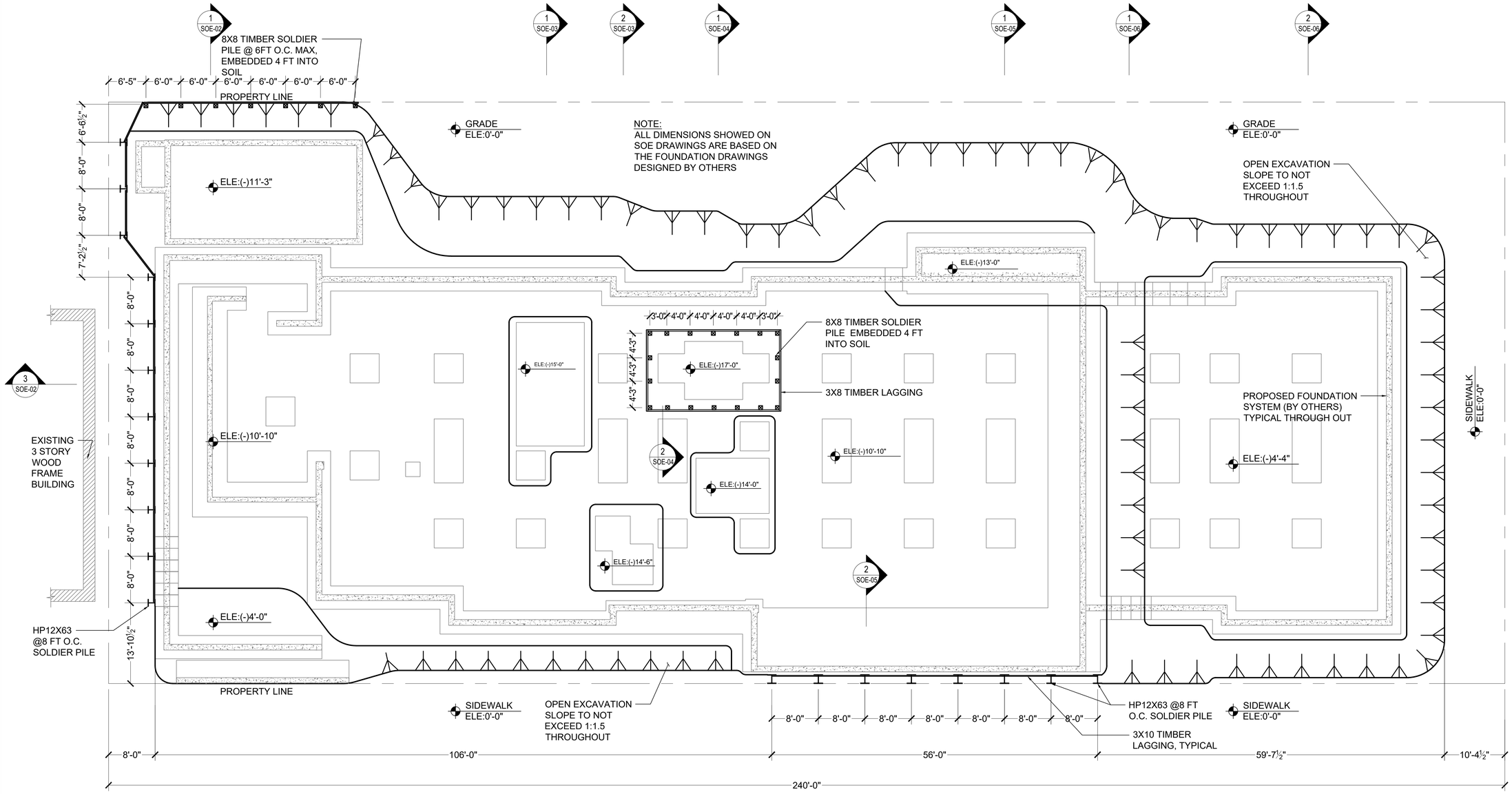
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SUPPORT OF EXCAVATION PLAN

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Chkd By #: GC
Drawing #: GN-002
DOB #: 00001
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1 SUPPORT OF EXCAVATION PLAN
Scale: 3/32"=1'

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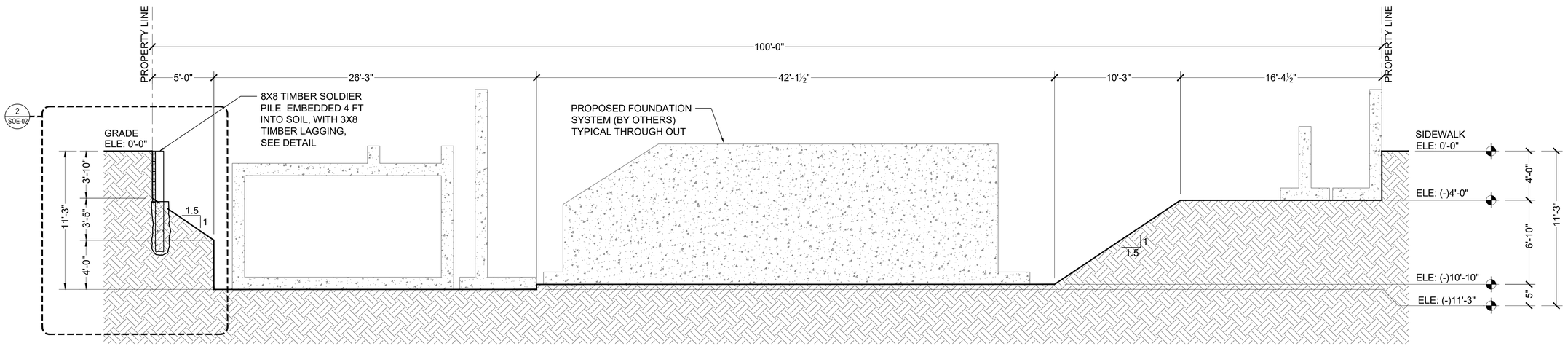
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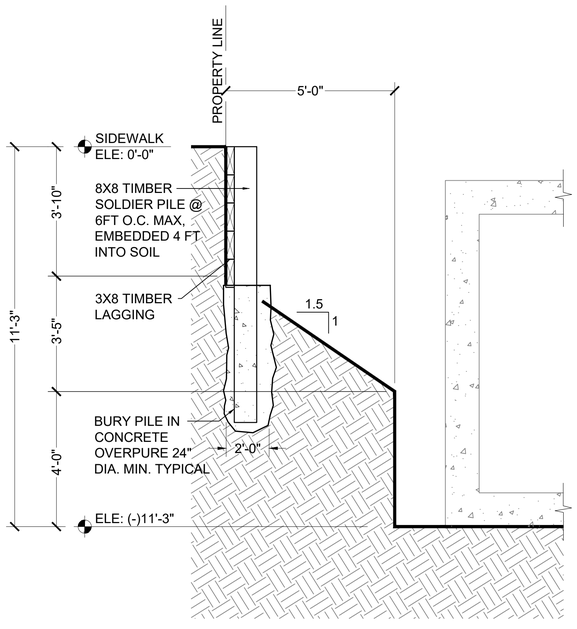
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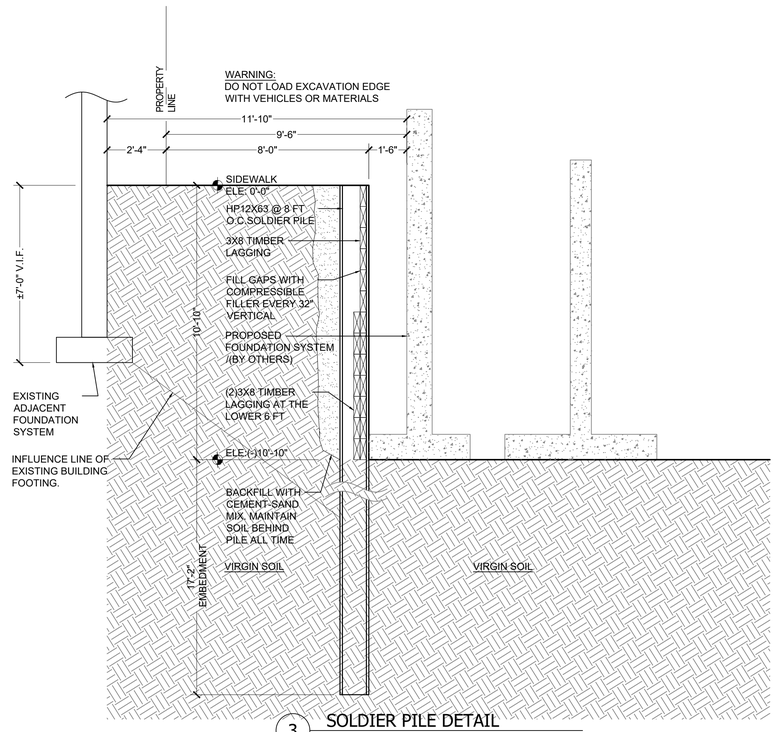
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1 SUPPORT OF EXCAVATION SECTION
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2 SUPPORT OF EXCAVATION SECTION
Scale: 1/2"=1'



3 SOLDIER PILE DETAIL
Scale: 1/4"=1'

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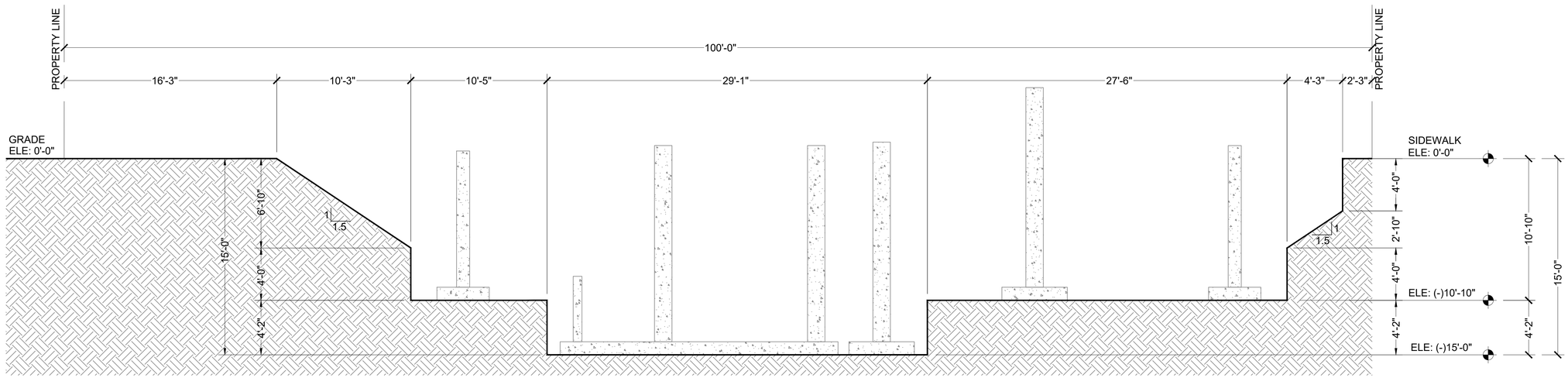
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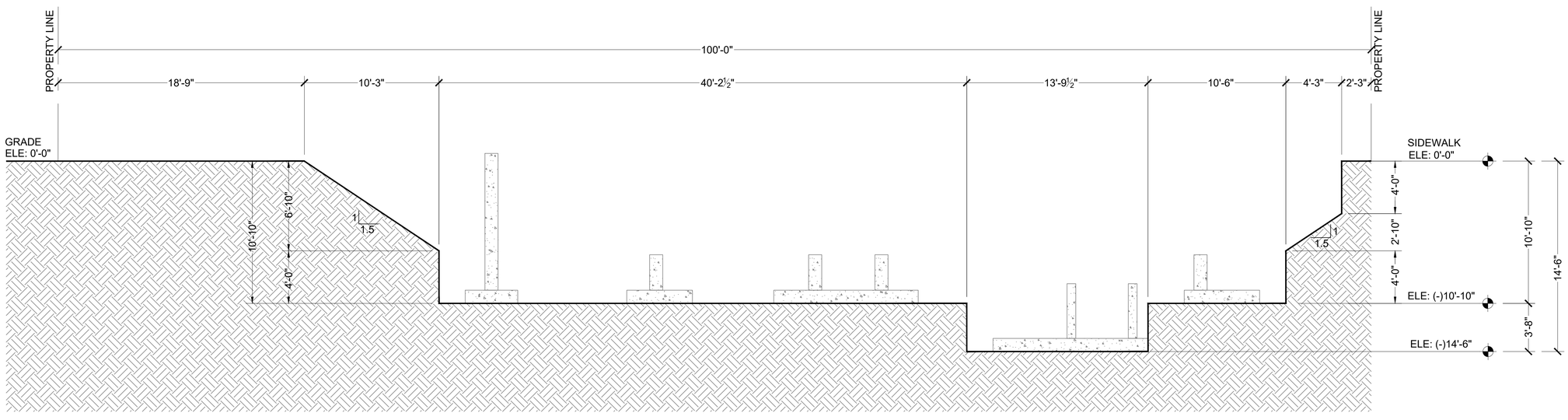
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1 SUPPORT OF EXCAVATION SECTION

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2 SUPPORT OF EXCAVATION SECTION

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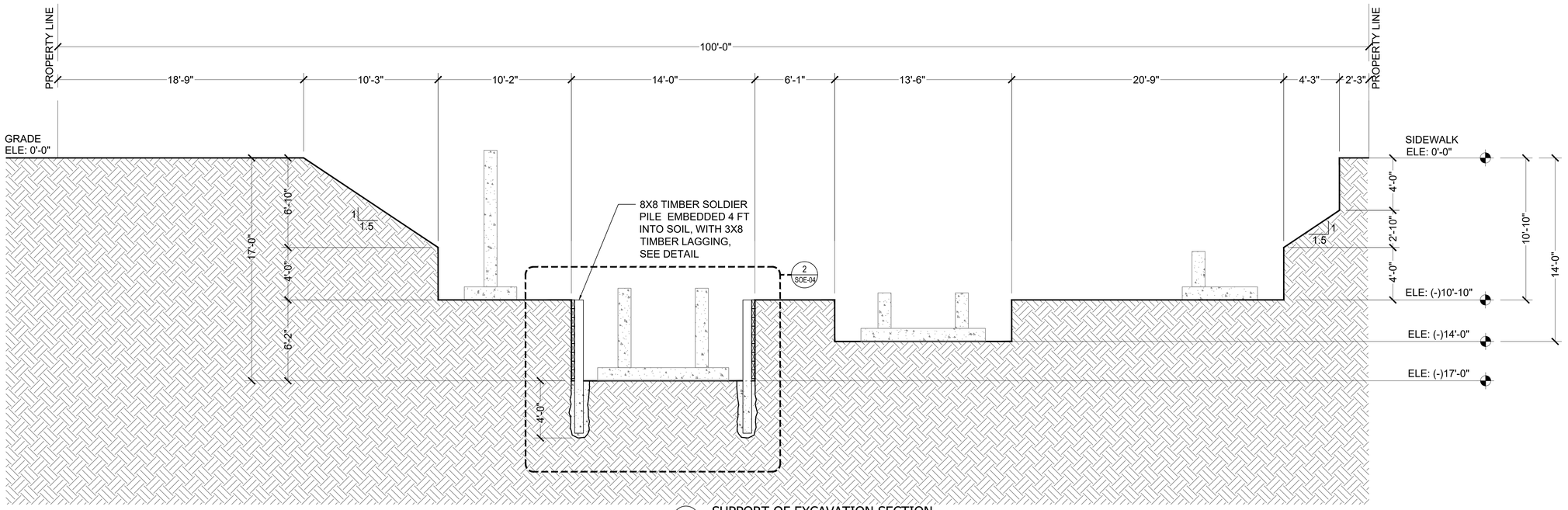
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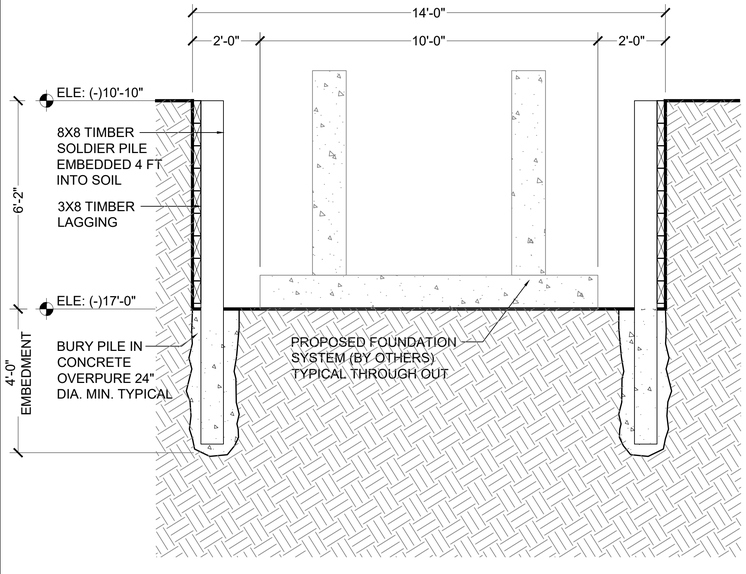
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1 SUPPORT OF EXCAVATION SECTION

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2 SUPPORT OF EXCAVATION SECTION

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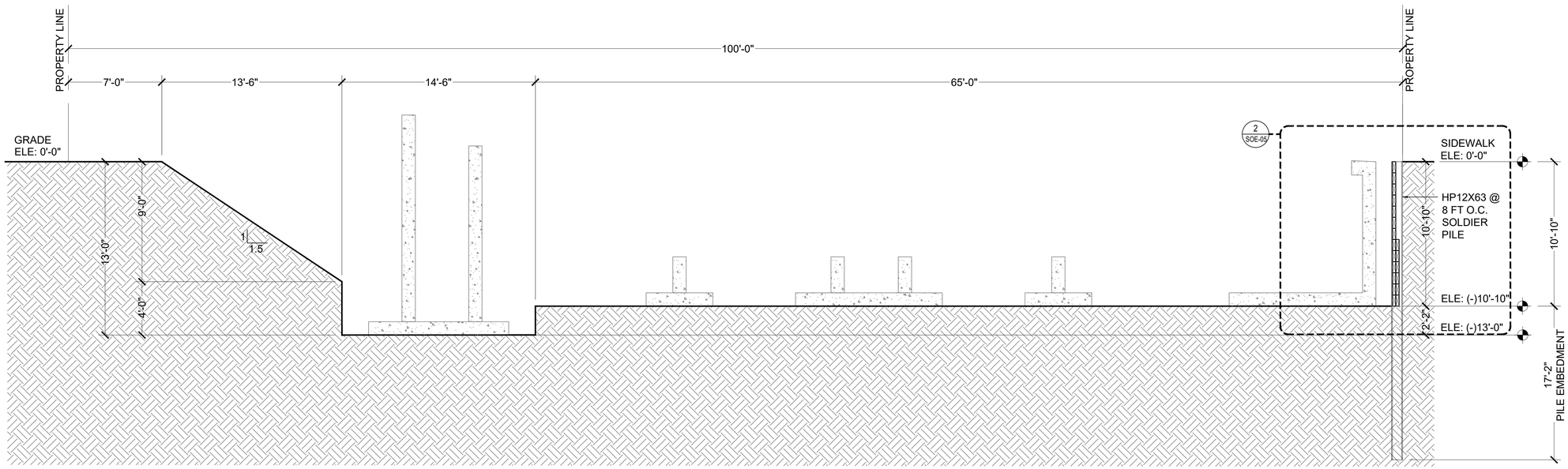
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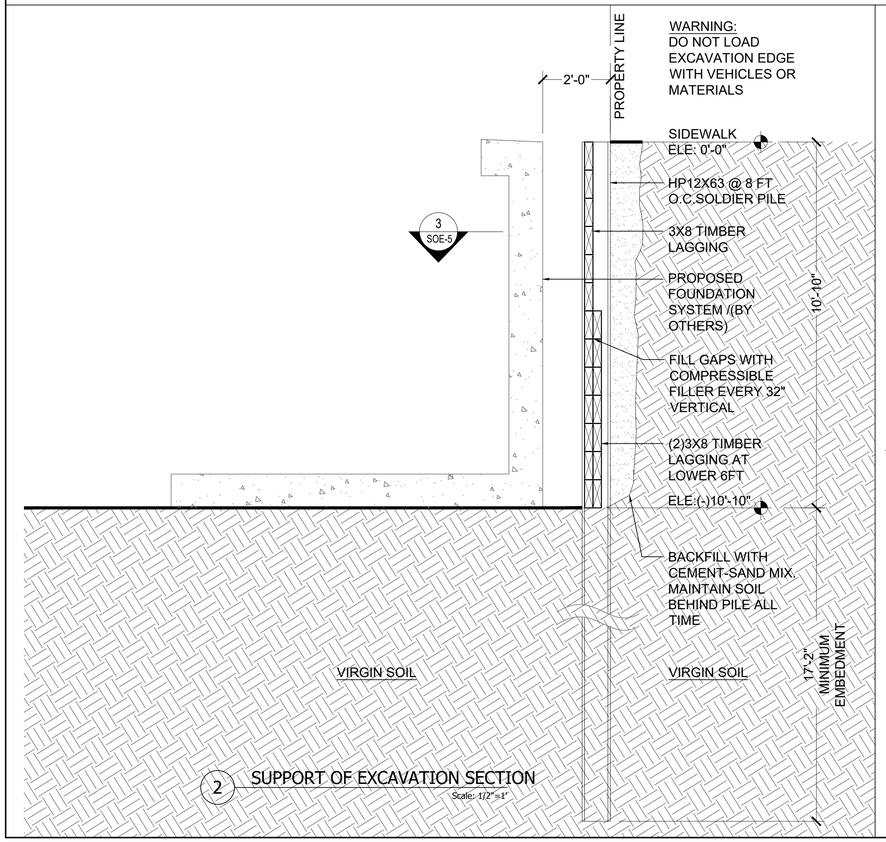
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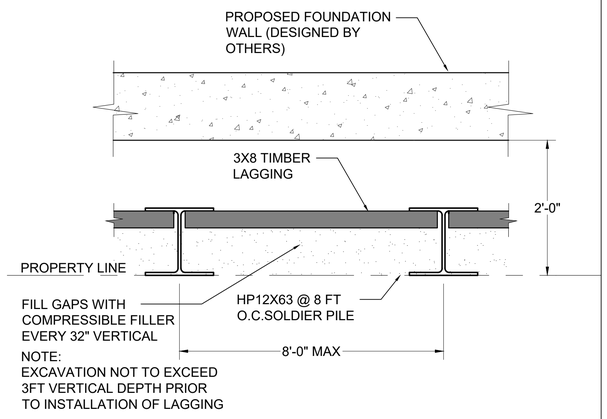
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2 SUPPORT OF EXCAVATION SECTION
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3 SOLDIER PILE DETAIL - PLAN VIEW
Scale: 1/2"=1'

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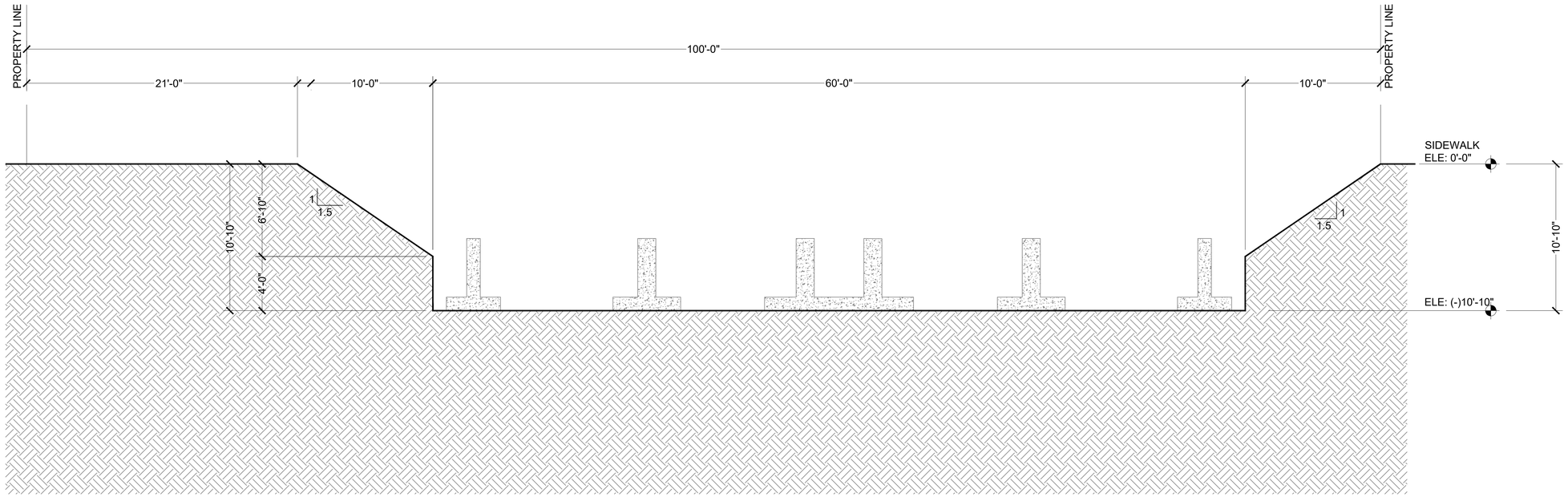
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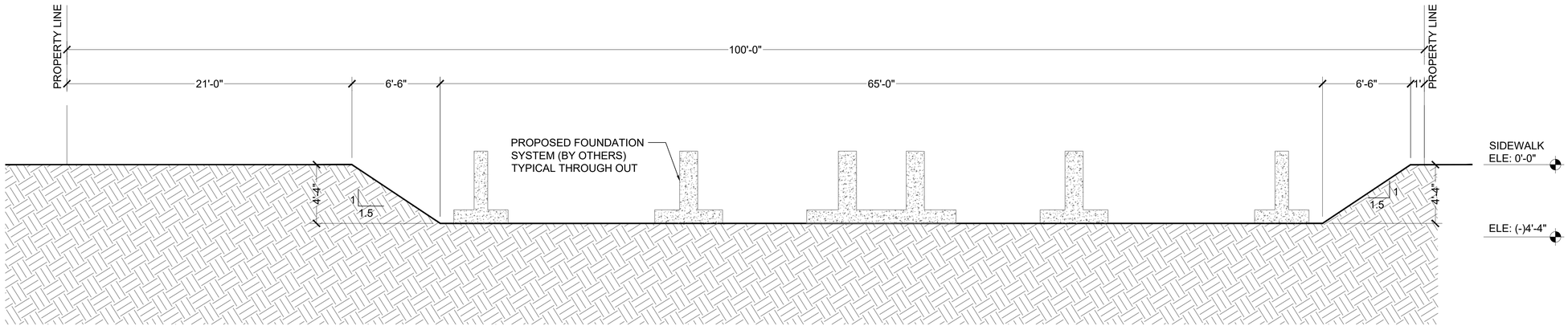
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1 SUPPORT OF EXCAVATION SECTION
Scale: 1/4"=1'



2 SUPPORT OF EXCAVATION SECTION
Scale: 1/4"=1'

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NOTES:

STRUCTURAL ENGINEER:

GRANT engineering
139 Fulton Street, Suite 907, New York, NY 10038
www.grantpllc.com - +1 (212) 464 8689

NORTH:

Revision Schedule

#	Description	Date
1	100% CD	06/03/2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACED

FOR:
–

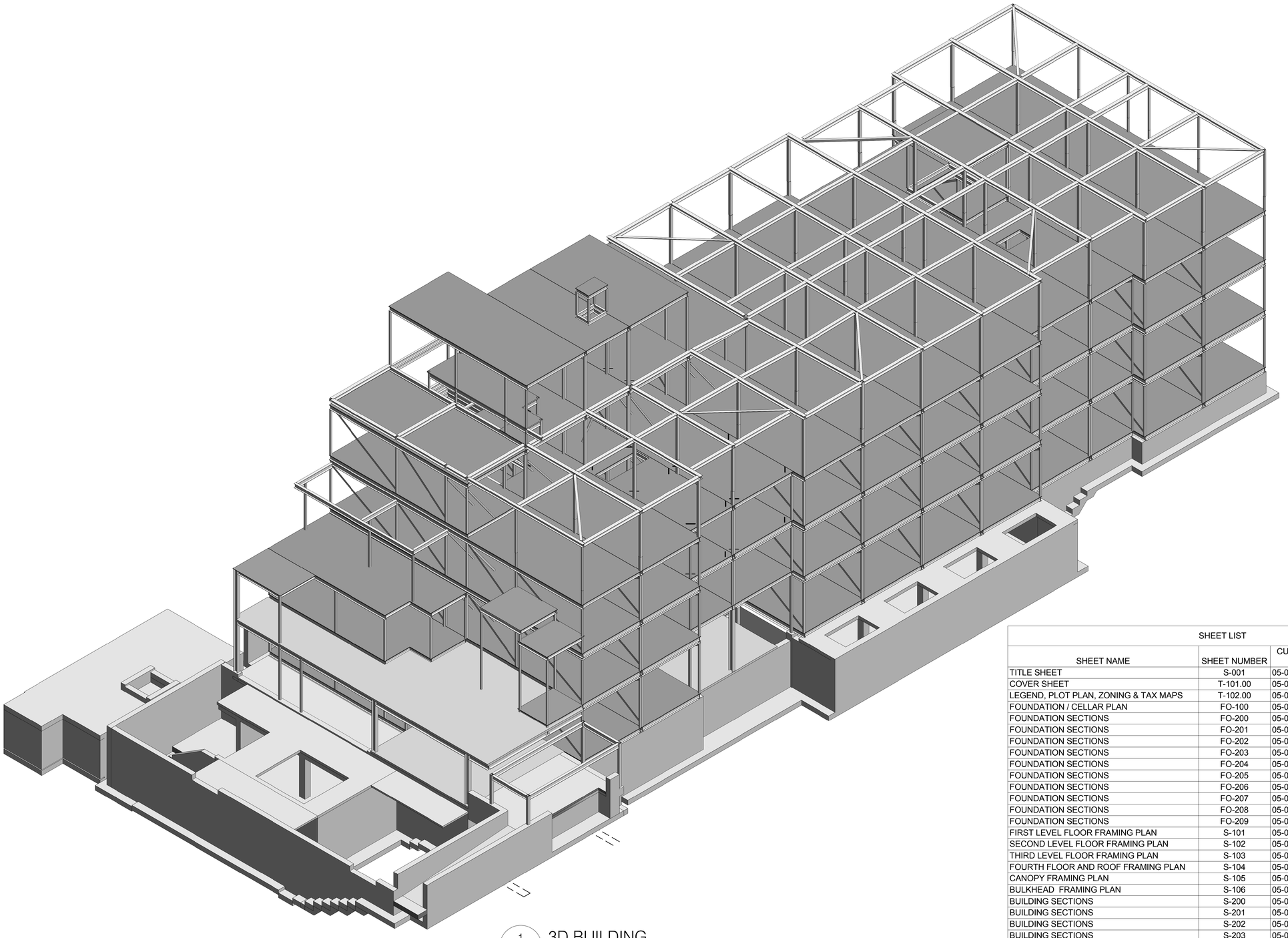
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Date: 03/20/2020
Seal/Signature:

Scale: AS SHOWN
Drawn By #: MG
Chkd By #: GC
Drawing #: SOE-006

DOB #: 00001
Sheet #: 8 of 8



1 S-001 3D BUILDING

SHEET LIST			
SHEET NAME	SHEET NUMBER	CURRENT REVISION DATE	CURRENT REVISION
TITLE SHEET	S-001	05-03-2020	6
COVER SHEET	T-101.00	05-03-2020	6
LEGEND, PLOT PLAN, ZONING & TAX MAPS	T-102.00	05-03-2020	6
FOUNDATION / CELLAR PLAN	FO-100	05-03-2020	6
FOUNDATION SECTIONS	FO-200	05-03-2020	6
FOUNDATION SECTIONS	FO-201	05-03-2020	6
FOUNDATION SECTIONS	FO-202	05-03-2020	6
FOUNDATION SECTIONS	FO-203	05-03-2020	6
FOUNDATION SECTIONS	FO-204	05-03-2020	6
FOUNDATION SECTIONS	FO-205	05-03-2020	6
FOUNDATION SECTIONS	FO-206	05-03-2020	6
FOUNDATION SECTIONS	FO-207	05-03-2020	6
FOUNDATION SECTIONS	FO-208	05-03-2020	6
FOUNDATION SECTIONS	FO-209	05-03-2020	6
FIRST LEVEL FLOOR FRAMING PLAN	S-101	05-03-2020	6
SECOND LEVEL FLOOR FRAMING PLAN	S-102	05-03-2020	6
THIRD LEVEL FLOOR FRAMING PLAN	S-103	05-03-2020	6
FOURTH FLOOR AND ROOF FRAMING PLAN	S-104	05-03-2020	6
CANOPY FRAMING PLAN	S-105	05-03-2020	6
BULKHEAD FRAMING PLAN	S-106	05-03-2020	6
BUILDING SECTIONS	S-200	05-03-2020	6
BUILDING SECTIONS	S-201	05-03-2020	6
BUILDING SECTIONS	S-202	05-03-2020	6
BUILDING SECTIONS	S-203	05-03-2020	6
FRAMING SECTIONS	S-204	05-03-2020	6
MODULAR DETAILS	S-300	05-03-2020	6
MODULAR DETAILS	S-301	05-03-2020	6
STRUCTURAL NOTES I	S-400	05-03-2020	6
STRUCTURAL NOTES II	S-401	05-03-2020	6

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murray-engineering.com

NORTH:

Revision Schedule

#	Description	Date
1	ISSUE FOR D.O.B. FILING	10-01-2019
2	75% D-D SET	10-21-2019
3	100% D-D SET	11-14-2019
4	50% CD SET	03-20-2020
5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

TITLE SHEET

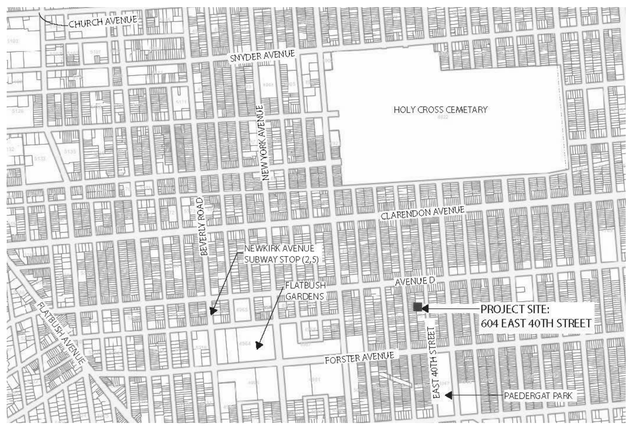
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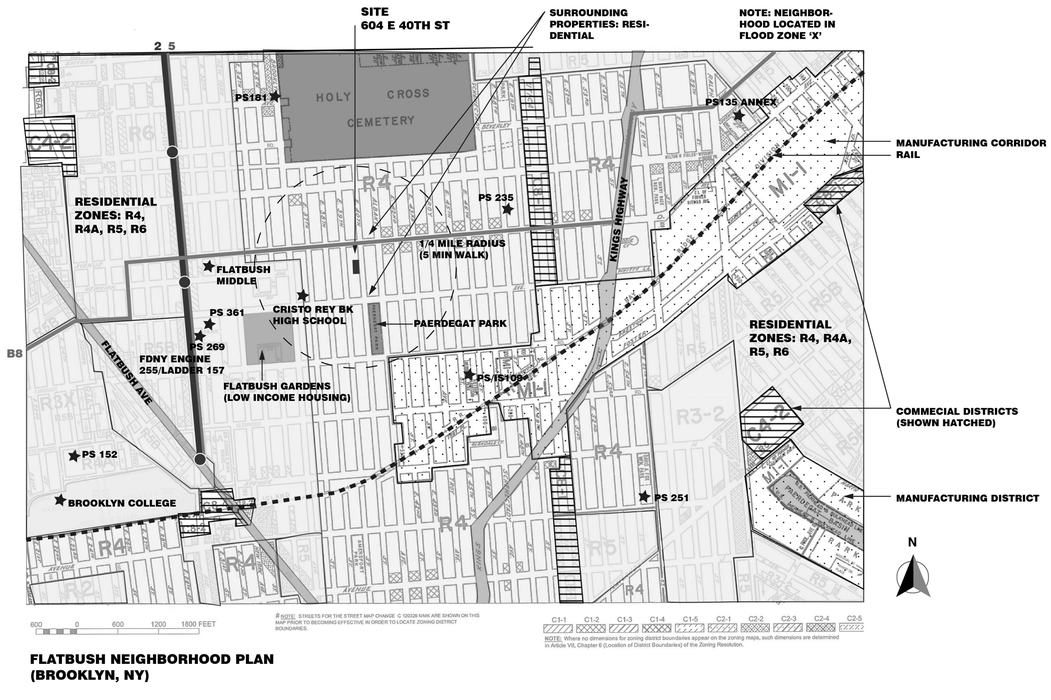
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Seal/Signature:
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: S-001
DOB #:
Sheet #: of



PROJECT RENDERING

SHEET LIST			
SHEET NAME	SHEET NUMBER	CURRENT REVISION DATE	CURRENT REVISION
TITLE SHEET	S-001	05-03-2020	6
COVER SHEET	T-101.00	05-03-2020	6
LEGEND, PLOT PLAN, ZONING & TAX MAPS	T-102.00	05-03-2020	6
FOUNDATION / CELLAR PLAN	FO-100	05-03-2020	6
FOUNDATION SECTIONS	FO-200	05-03-2020	6
FOUNDATION SECTIONS	FO-201	05-03-2020	6
FOUNDATION SECTIONS	FO-202	05-03-2020	6
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FIRST LEVEL FLOOR FRAMING PLAN	S-101	05-03-2020	6
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CANOPY FRAMING PLAN	S-105	05-03-2020	6
BULKHEAD FRAMING PLAN	S-106	05-03-2020	6
BUILDING SECTIONS	S-200	05-03-2020	6
BUILDING SECTIONS	S-201	05-03-2020	6
BUILDING SECTIONS	S-202	05-03-2020	6
BUILDING SECTIONS	S-203	05-03-2020	6
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MODULAR DETAILS	S-300	05-03-2020	6
MODULAR DETAILS	S-301	05-03-2020	6
STRUCTURAL NOTES I	S-400	05-03-2020	6
STRUCTURAL NOTES II	S-401	05-03-2020	6





FLATBUSH NEIGHBORHOOD PLAN (BROOKLYN, NY)

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5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

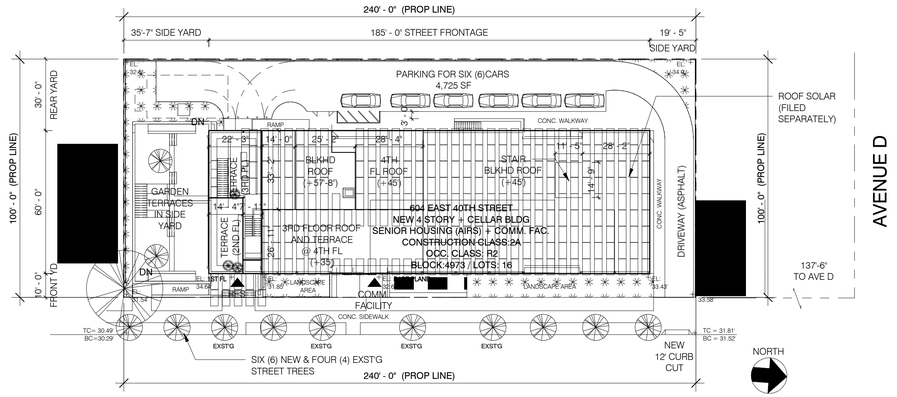
COVER SHEET

DOB NOW Job# B00235703-I1

Date: 10-01-2019
Seal/Signature:

Scale:
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: T-101.00
Sheet #: of

DOB #:



EAST 40TH STREET

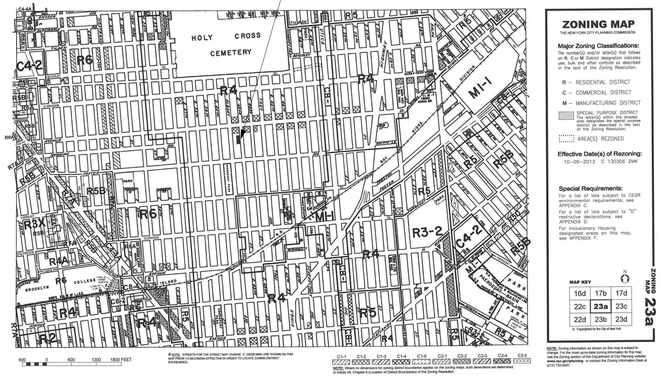
1 SITE PLOT PLAN
1" = 30'-0"

BASE PLANE CALCULATION
PER ZR 12-10, BASE PLANE SET AT AVG HEIGHT OF GRADE AT STREET WALL
(EXCLUSIVE OF STEPS, DRIVEWAYS ETC)
33.43' (HEIGHT AT NORTH) + 31.85' (HEIGHT AT SOUTH) = 65.28' /2 = 32.64'
BASE PLANE = 32.64'

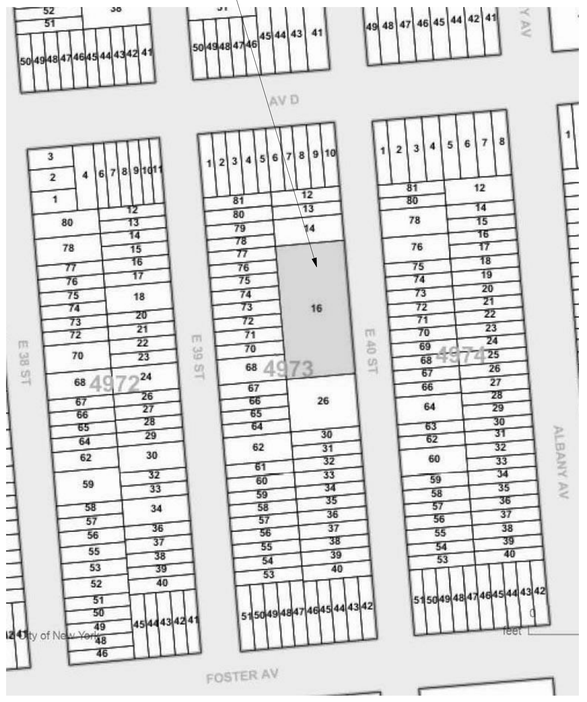
BUILDING DATA:

BOROUGH:	BROOKLYN
COMMUNITY BOARD:	17
BLOCK:	4973
LOT(s):	16
LOT AREA:	24,000 SF
ZONING MAP:	23A
ZONING DISTRICT:	R4
SPECIAL ZONING DISTRICT:	NA
NO. OF STORIES:	4 + CELLAR (PROPOSED)
ZONING FLOOR AREA:	31,550 SF
GROSS FLOOR AREA:	40,520 SF
BUILDING HEIGHT:	45'-0"
USE GROUP:	UG 2 AND UG 4
OCCUPANCY CLASS:	R-2 (58 AFFORDABLE INDEPENDENT
RESIDENCES FOR SENIOR (AIRS) UNITS)	
	B OCCUPANCY AT 1ST FLOOR
CONSTRUCTION CLASS:	TYPE 2-A
FLOOD ZONE:	ZONE 'X'
'e' DESIGNATIONS:	NA
LANDMARKS:	NA

PROJECT SITE: 604 EAST 40TH STREET (R4)



ZONING MAP 23A



TAX MAP

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DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

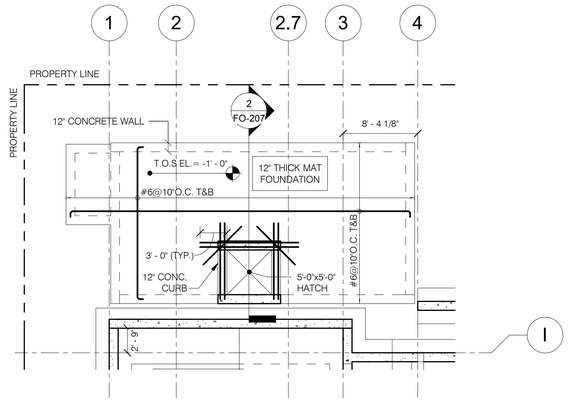
FOR:
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Drawing Tile:

LEGEND, PLOT PLAN, ZONING & TAX MAPS

DOB NOW Job# B00235703-I1

Date: 10-01-2019
Scale: As indicated
Seal/Signature:
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: T-102.00
DOB #:
Sheet #: of

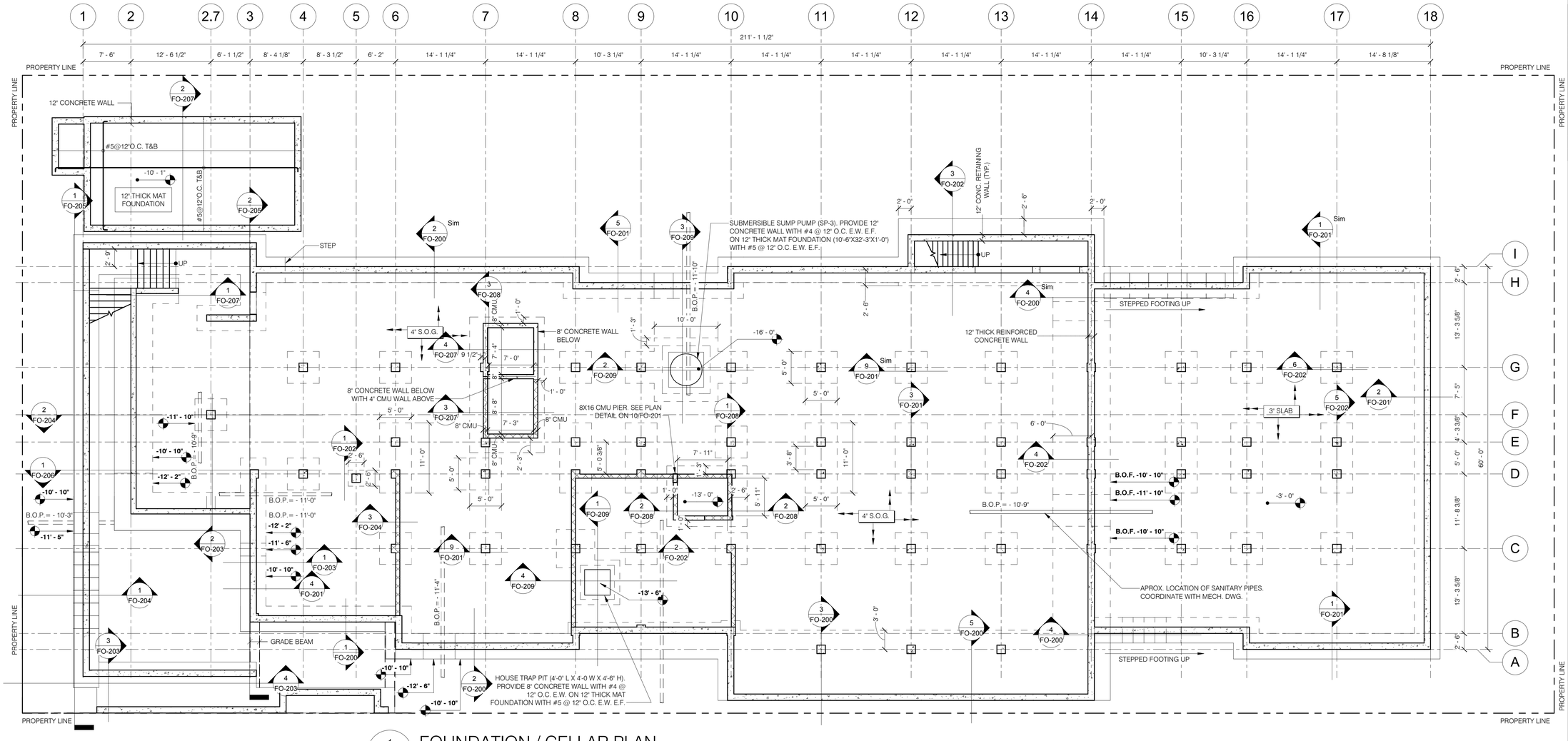


2 FO-100 TOP OF RETENTION TANK SLAB

1/8" = 1'-0"

FOUNDATION NOTES:

1. REFER TO THE GEOTECHNICAL REPORT PRODUCED BY GEO TECH CONSULTANTS, LLC, DATED 5/24/19 FOR ADDITIONAL INFORMATION REGARDING SUBGRADE, EXCAVATION, UNDERPINNING, GROUND WATER AND ALLOWABLE SOIL BEARING PRESSURE.
2. FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 3TSF.
3. 4" S.O.G. = TYPICAL 4" THICK CONCRETE SLAB ON GRADE (U.O.N) REINFORCED WITH 1 LAYER OF 6X6-W2.9XW2.9 WWF PLACED AT 1" BELOW T. O. S.. SLAB IS TO BE CAST ON 2" RIGID INSULATION WITH 6" OF 3/4"DIA GRAVEL SUB-BASE WITH VAPOR BARRIER. COORDINATE RIGID INSULATION WITH ARCHITECT.
4. 3" SLAB = TYPICAL 3" THICK CONCRETE SLAB REINFORCED WITH 1 LAYER OF 6X6-W2.9XW2.9 WWF PLACED AT 1" BELOW T. O. S..
5. REFER TO DRAWING S-0.1 FOR GENERAL NOTES.
6. ALL CONCRETE PIERS SHALL BE 16"X16" (TYP.) (U.O.N.). SEE DETAIL 8/FO-201 FOR ADDITIONAL INFORMATION.
7. COORDINATE WATERPROOFING AND FIREPROOFING REQUIREMENTS WITH ARCHITECT.
8. COORDINATE DIMENSIONS WITH ARCHITECT.
9. COORDINATE FLOORING REQUIREMENTS AND ELEVATION WITH ARCHITECT.
10. COORDINATE FOUNDATION DRAINAGE REQUIREMENTS WITH MECHANICAL ENGINEER.
11. CONTRACTOR SHALL PROVIDE AND IS RESPONSIBLE FOR ALL SHORING MEASURES REQUIRED.
12. (U.O.N.) = UNLESS OTHERWISE NOTED.
13. (V.I.F.) = VERIFY IN FIELD.
14. (TYP.) = TYPICAL.



1 FO-100 FOUNDATION / CELLAR PLAN

1/8" = 1'-0"

NOTE: EXPOSED CONCRETE SURFACES AT TERRACE TO BE BOARD-FORMED, COORDINATE WITH ARCHITECT

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6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

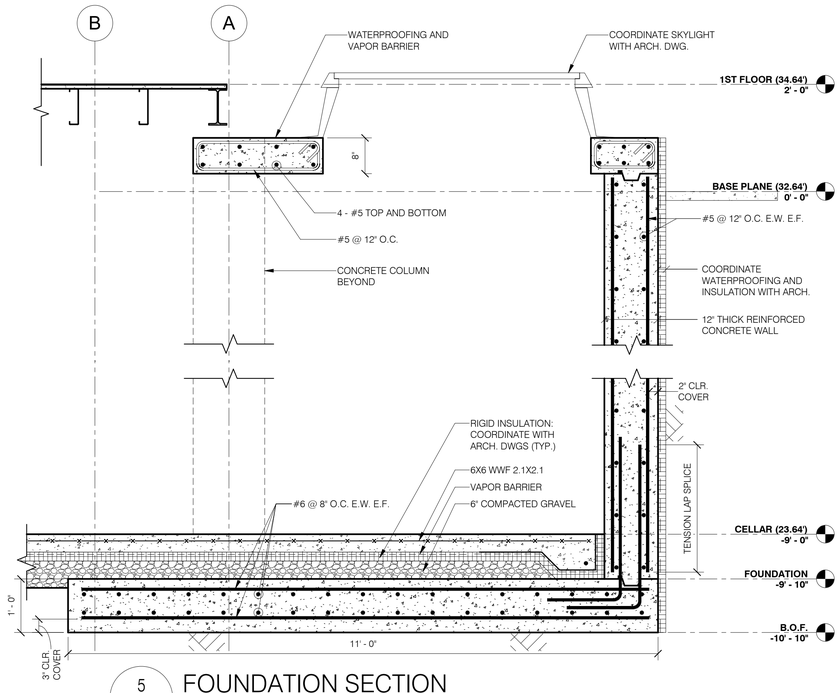
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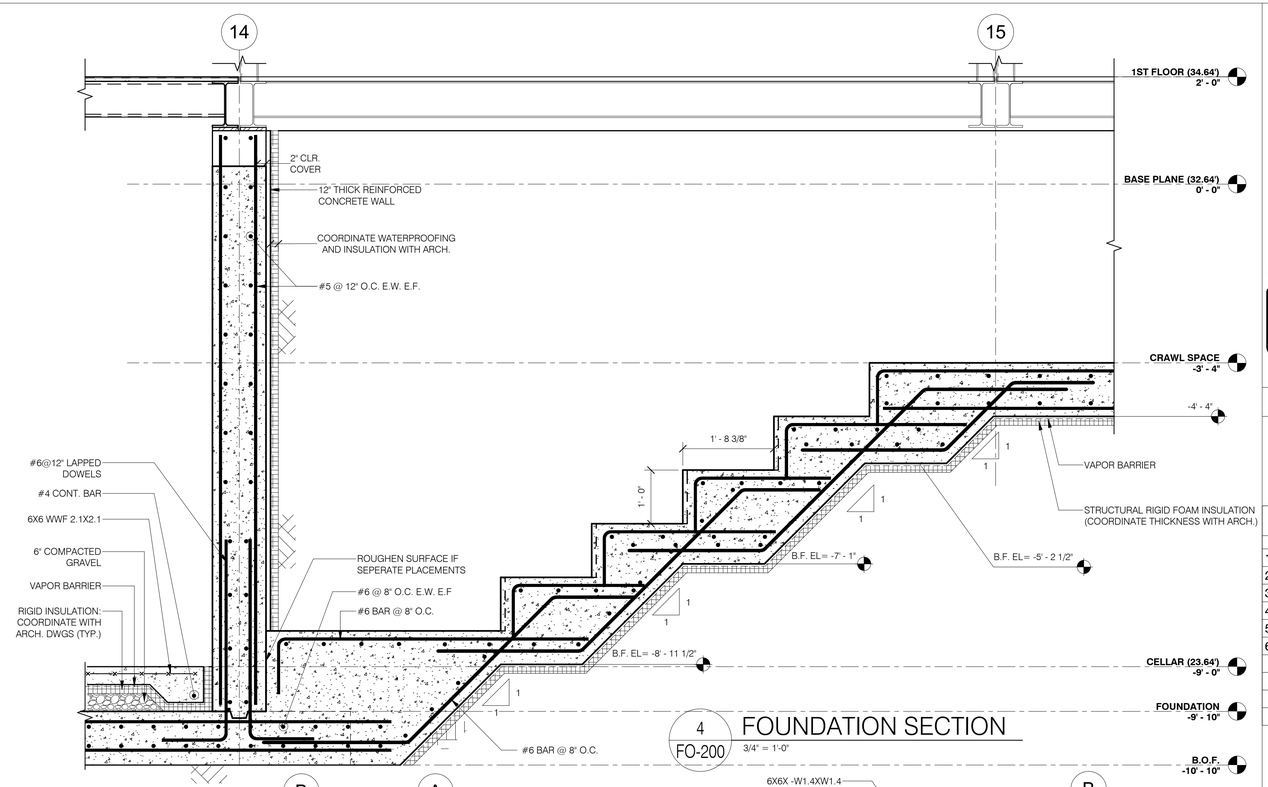
FOUNDATION / CELLAR PLAN

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DOB #:

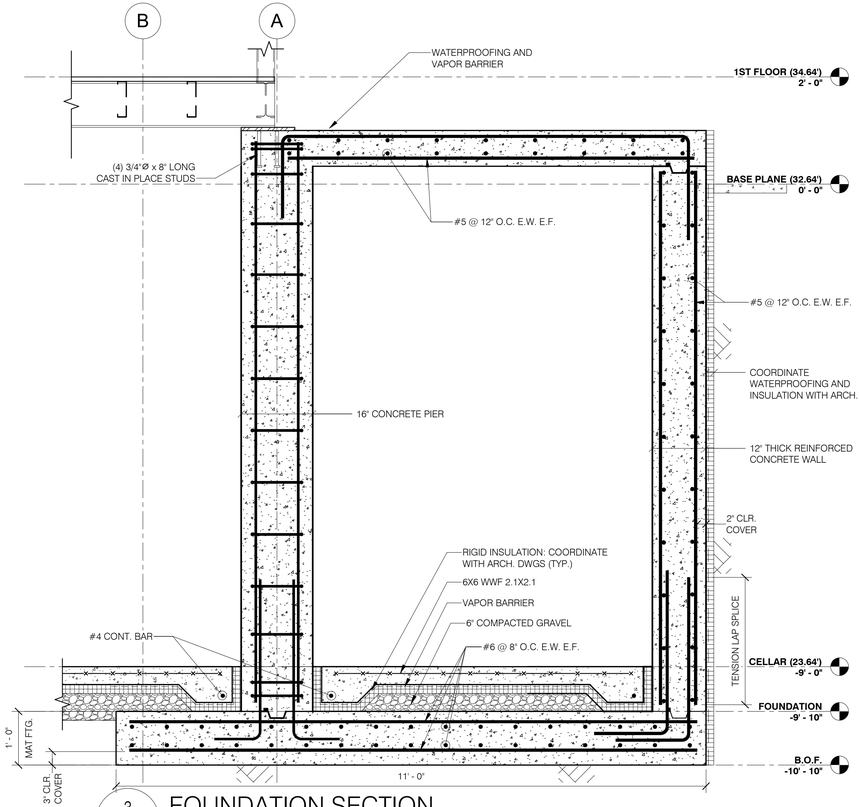
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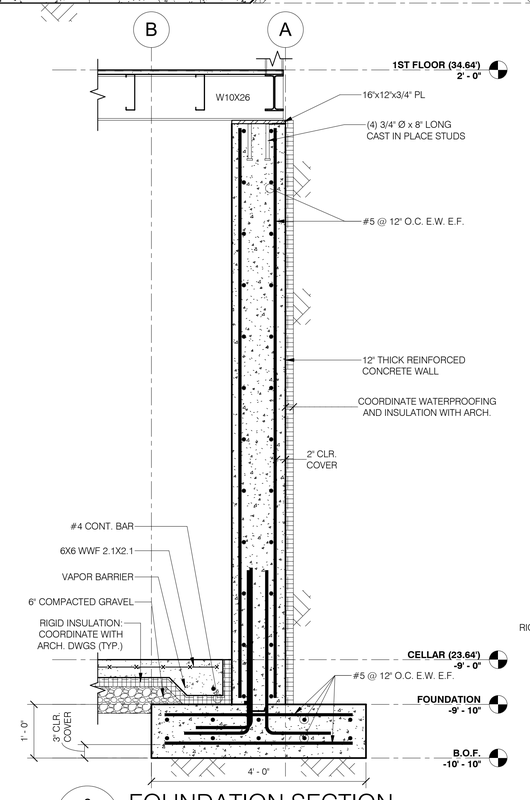
5 FO-200 FOUNDATION SECTION
3/4" = 1'-0"



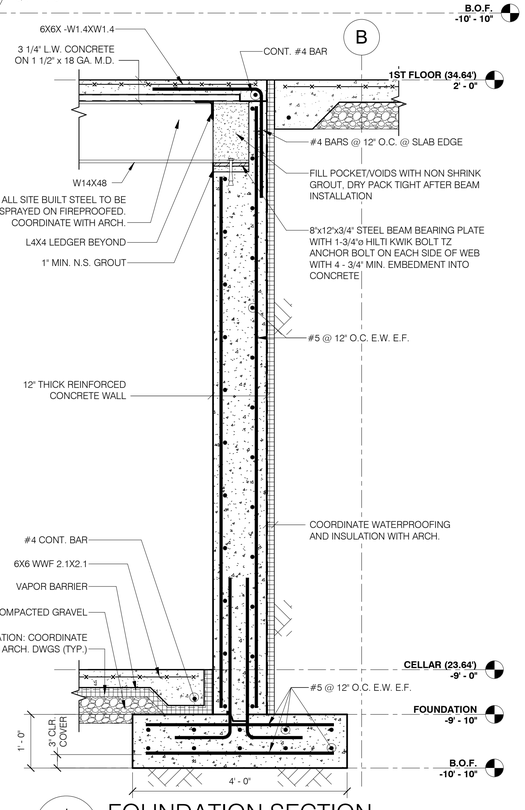
4 FO-200 FOUNDATION SECTION
3/4" = 1'-0"



3 FO-200 FOUNDATION SECTION
3/4" = 1'-0"



2 FO-200 FOUNDATION SECTION
3/4" = 1'-0"



1 FO-200 FOUNDATION SECTION
3/4" = 1'-0"

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
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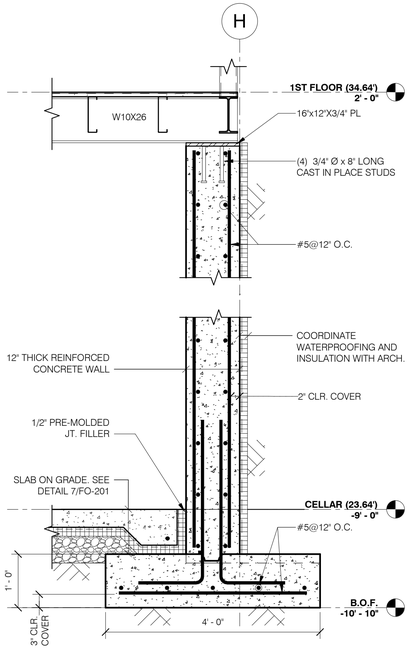
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FOUNDATION SECTIONS

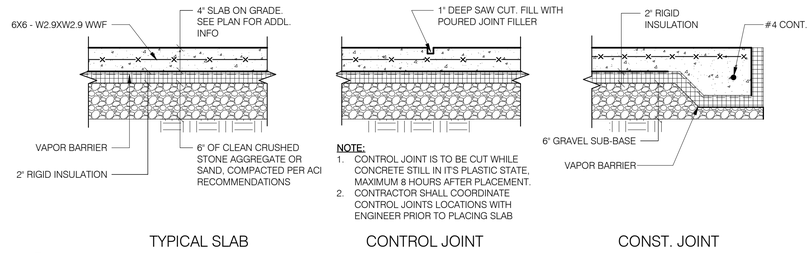
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Scale: 3/4" = 1'-0"
Drawn By #:E.L.
Chkd By #:M.L.
Drawing #: FO-200
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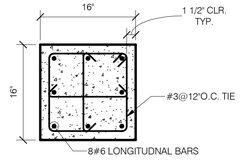
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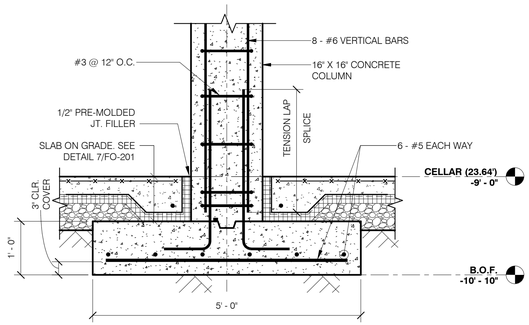
5 FO-201 FOUNDATION SECTION
3/4" = 1'-0"



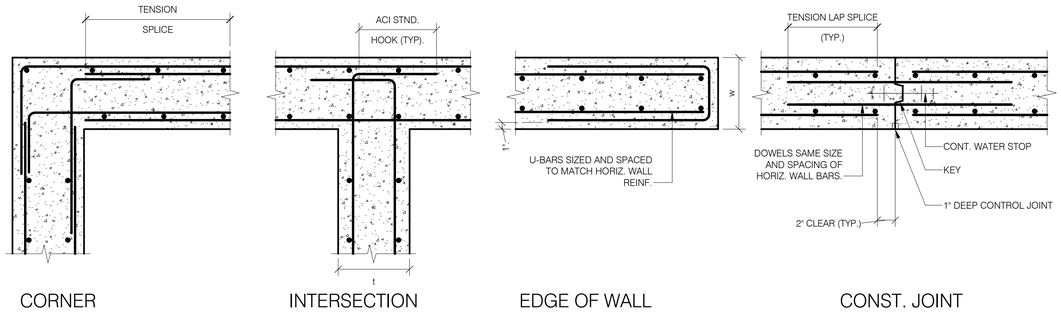
7 FO-201 TYPICAL SLAB ON GRADE DETAILS
1" = 1'-0"



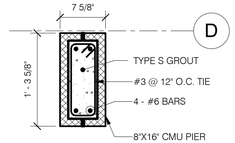
8 FO-201 TYPICAL CONCRETE PIER PLAN DETAIL
1" = 1'-0"



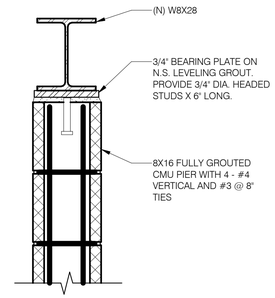
9 FO-201 FOUNDATION SECTION @ SHALLOW FOOTING
3/4" = 1'-0"



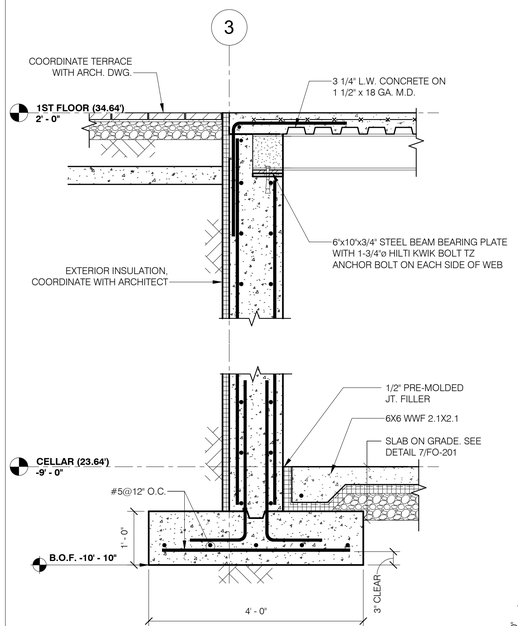
6 FO-201 TYPICAL CONCRETE WALL DETAILS
1" = 1'-0"



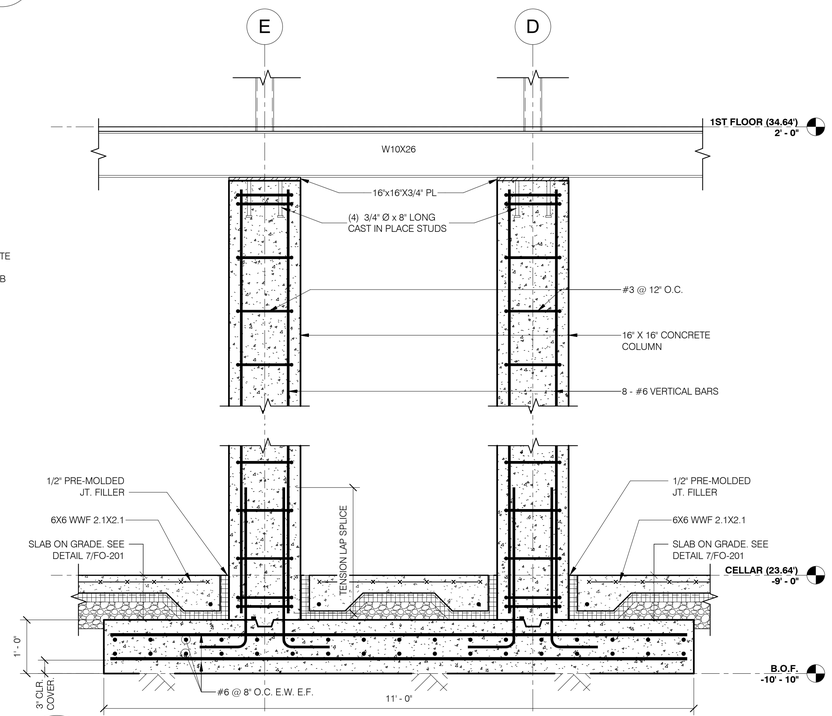
10 FO-201 CMU PIER PLAN DETAIL
1" = 1'-0"



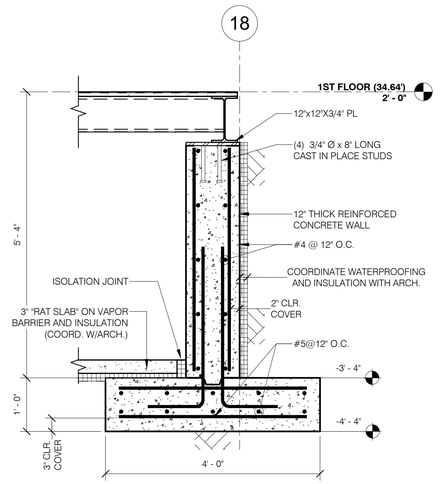
11 FO-201 CMU PIER
1 1/2" = 1'-0"



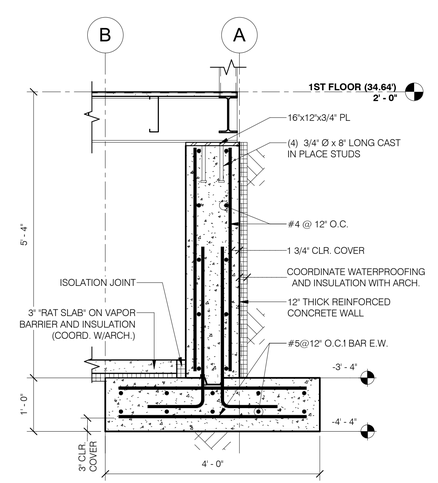
4 FO-201 FOUNDATION SECTION
3/4" = 1'-0"



3 FO-201 FOUNDATION SECTION
3/4" = 1'-0"



2 FO-201 FOUNDATION SECTION
3/4" = 1'-0"



1 FO-201 FOUNDATION SECTION
3/4" = 1'-0"

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Revision Schedule

#	Description	Date
1	ISSUE FOR D.O.B. FILING	10-01-2019
2	75% D-D SET	10-21-2019
3	100% D-D SET	11-14-2019
4	50% CD SET	03-20-2020
5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

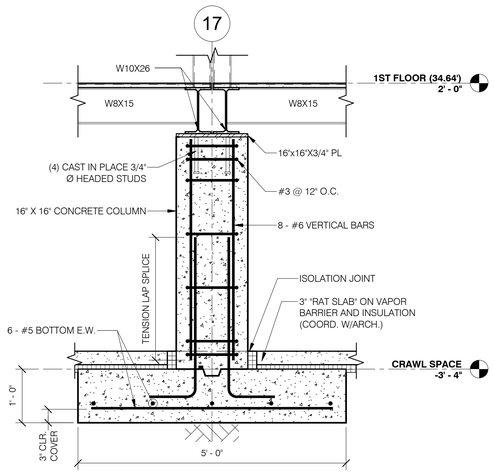
BETHANY TERRACES

FOR:
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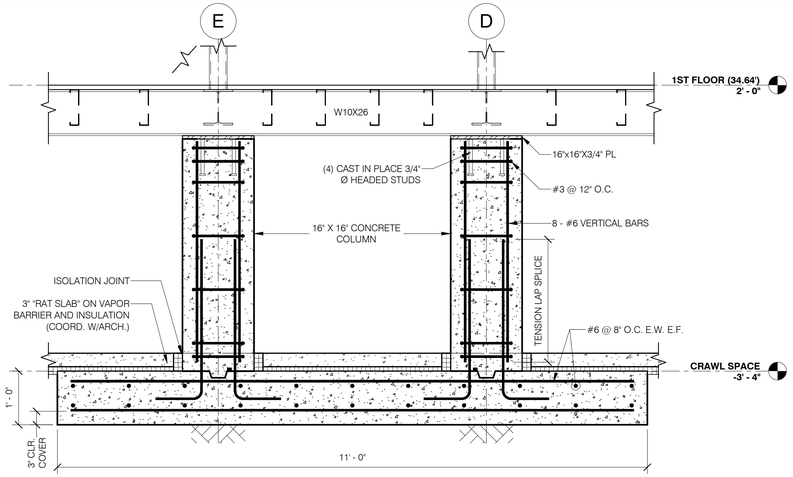
Drawing Tile:

FOUNDATION SECTIONS

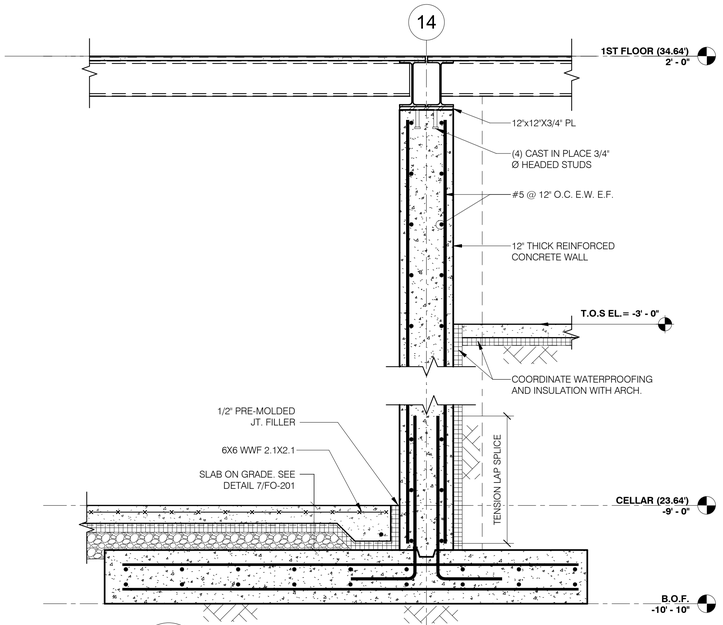
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Drawn By #:E.L.
Chkd By #:M.L.
Drawing #:
FO-201
DOB #:
Sheet #: of



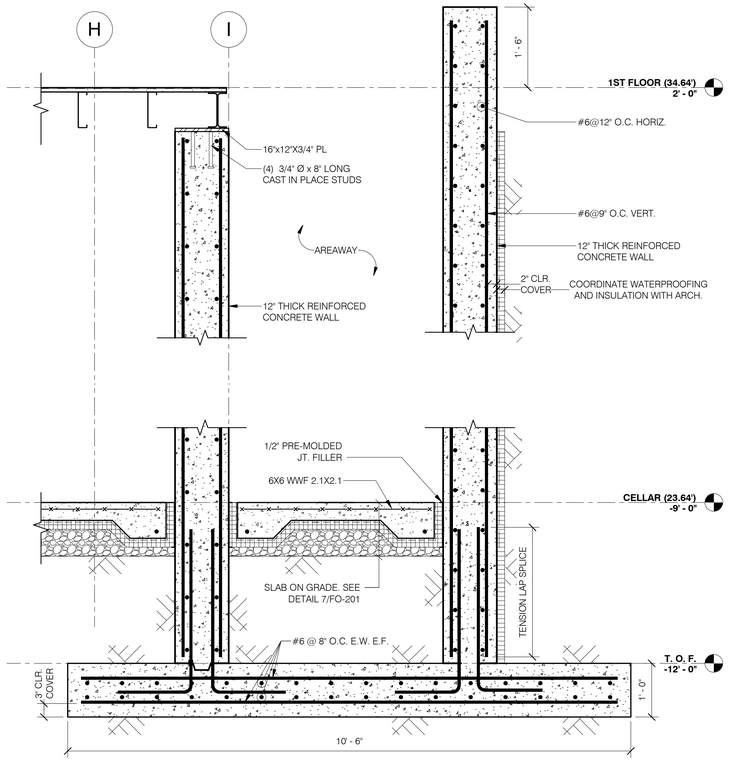
6 FO-202 FOUNDATION SECTION
3/4" = 1'-0"



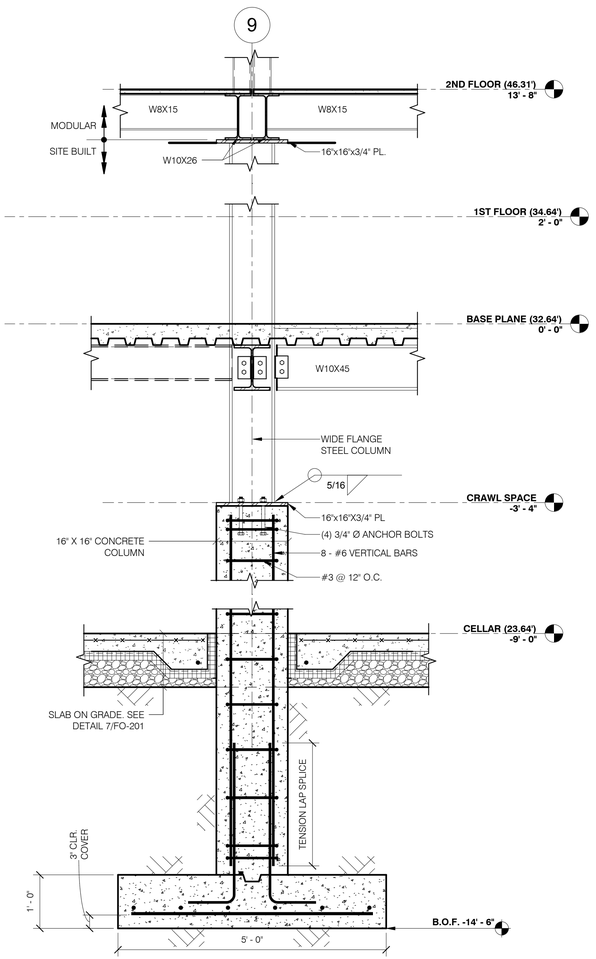
5 FO-202 FOUNDATION SECTION
3/4" = 1'-0"



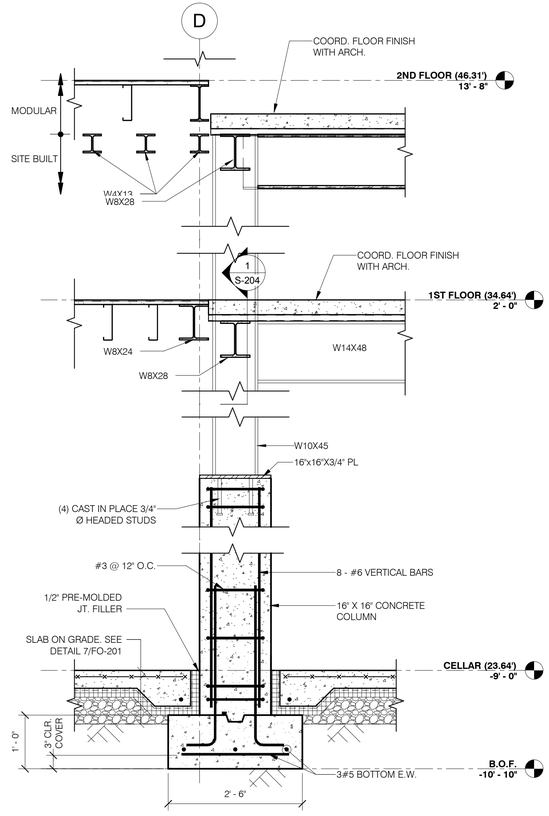
4 FO-202 FOUNDATION SECTION
3/4" = 1'-0"



3 FO-202 FOUNDATION SECTION
3/4" = 1'-0"



2 FO-202 FOUNDATION SECTION @ GRID C5-F5
3/4" = 1'-0"



1 FO-202 FOUNDATION SECTION
3/4" = 1'-0"

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
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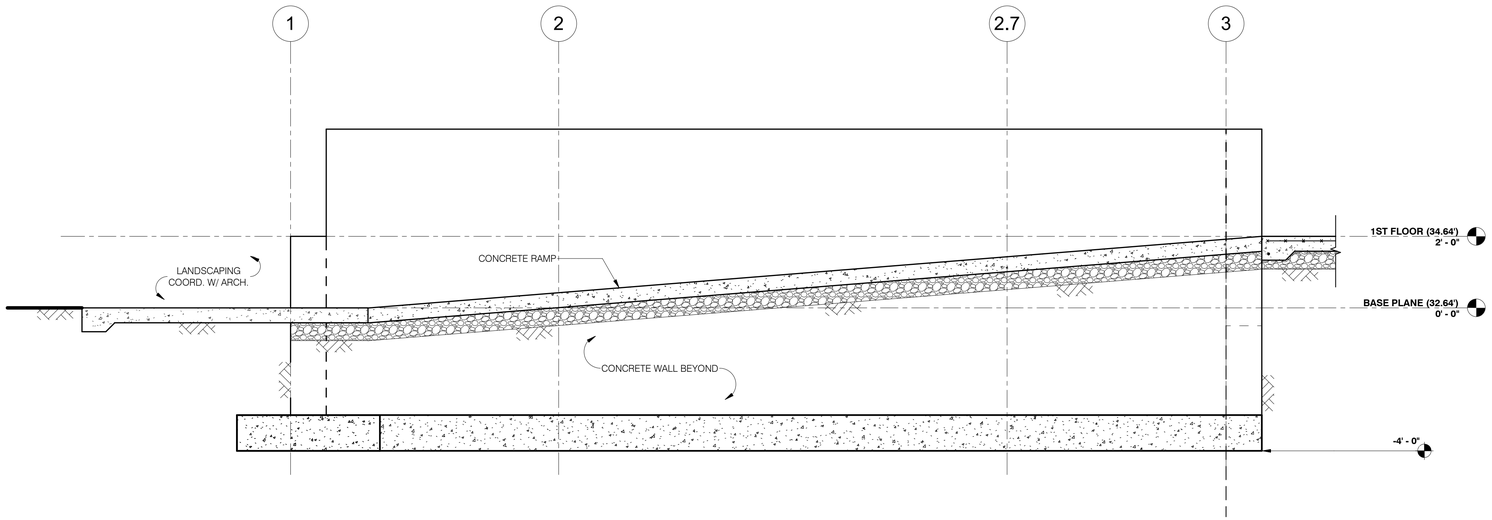
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FOUNDATION SECTIONS

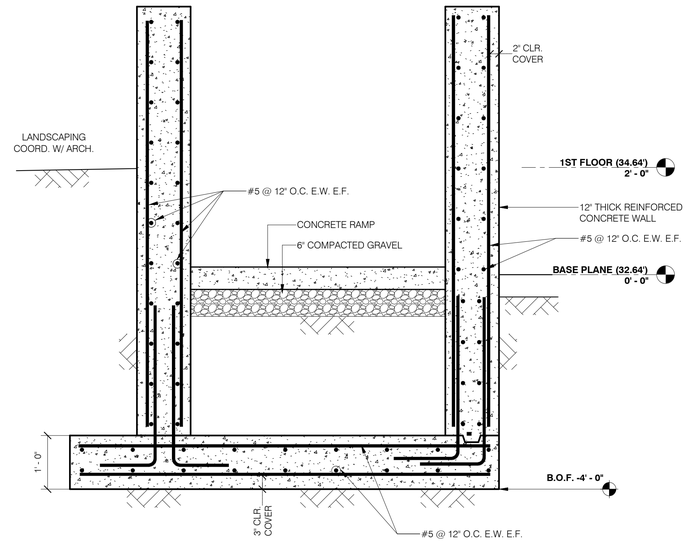
Date: 10-01-2019
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Scale: 3/4" = 1'-0"
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: FO-202

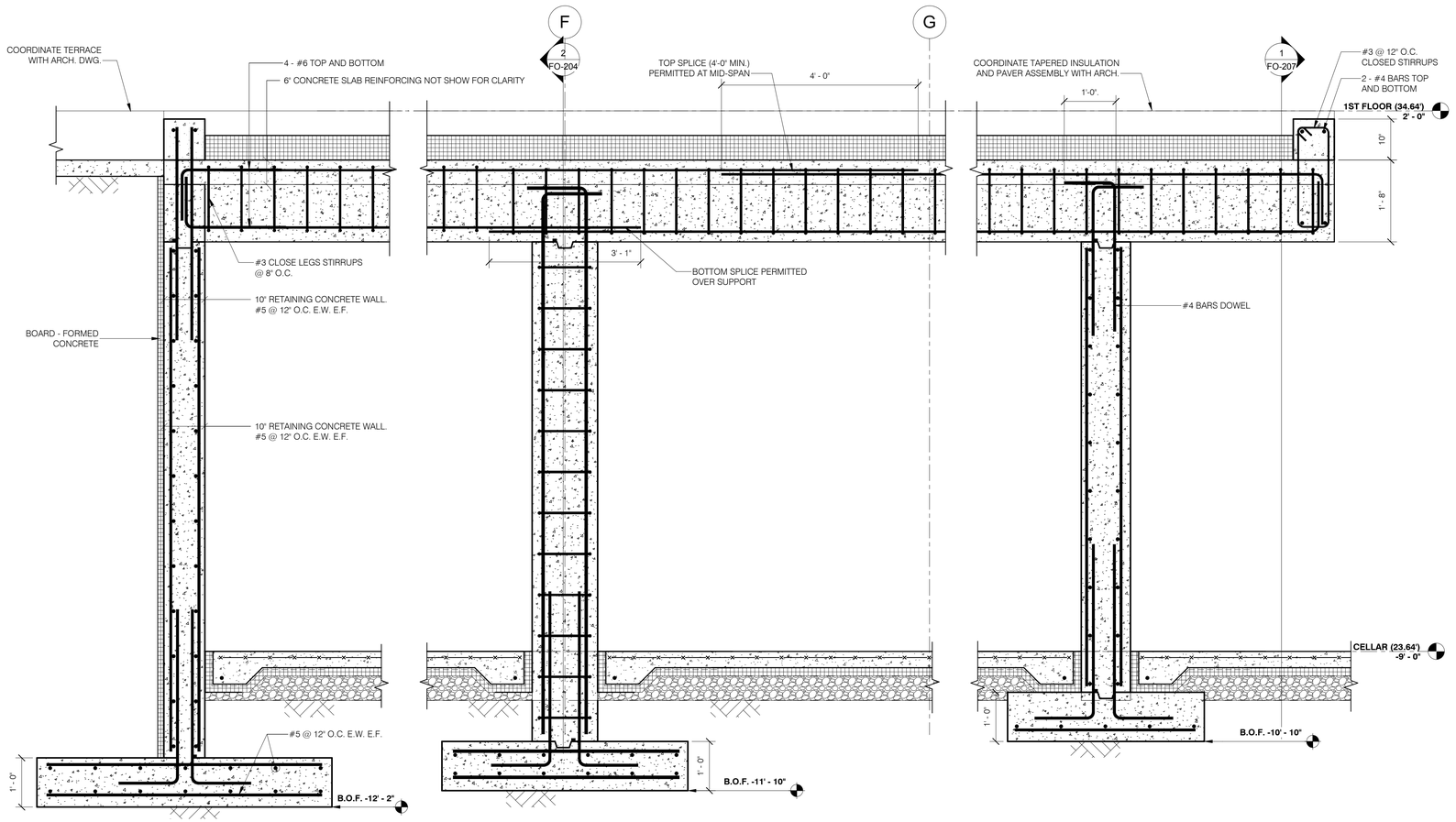
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Sheet #: of



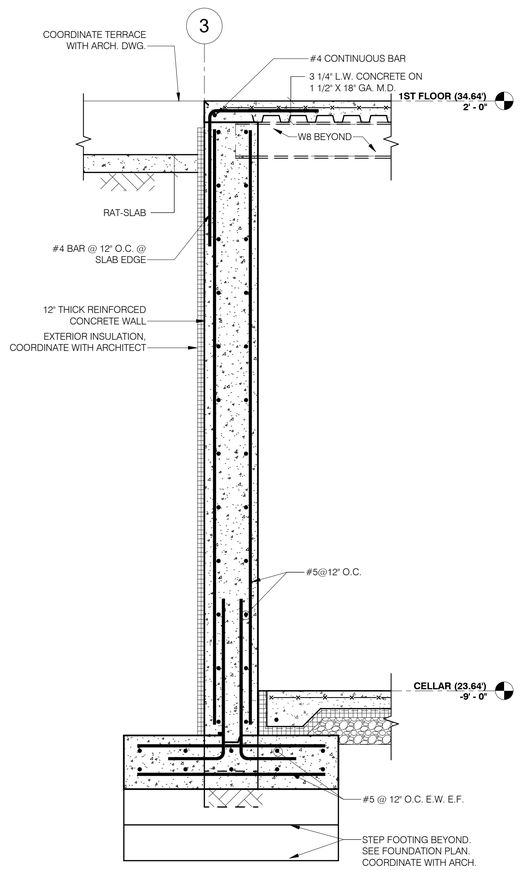
4 FO-203 FOUNDATION SECTION @ RAMP
1/2" = 1'-0"



3 FO-203 FOUNDATION SECTION @ RAMP
3/4" = 1'-0"



2 FO-203 FOUNDATION SECTION
3/4" = 1'-0"



1 FO-203 FOUNDATION SECTION
3/4" = 1'-0"

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6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

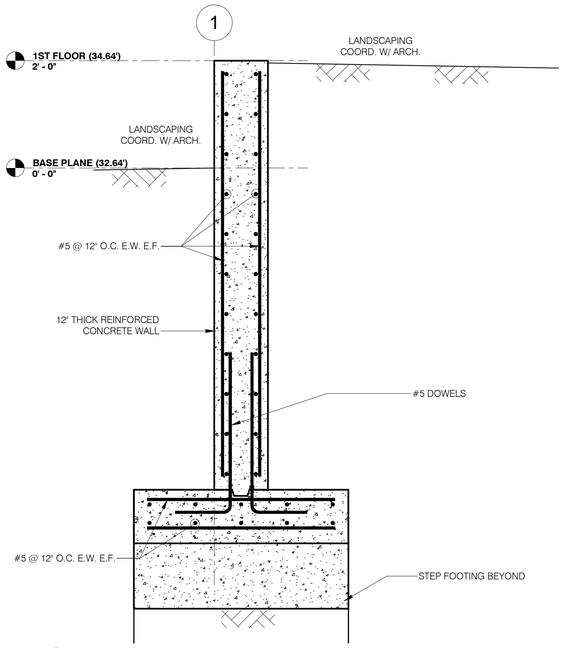
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Drawing Tile:

FOUNDATION SECTIONS

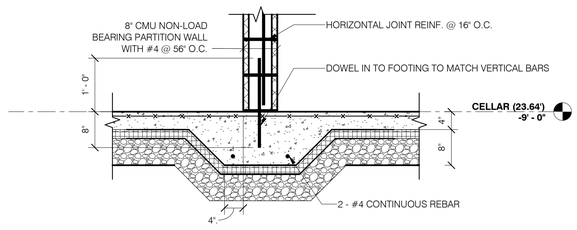
Date: 10-01-2019
Seal/Signature:
DOB #:

Scale: As indicated
Drawn By #:E.L.
Chkd By #:M.L.
Drawing #: FO-203
Sheet #: of



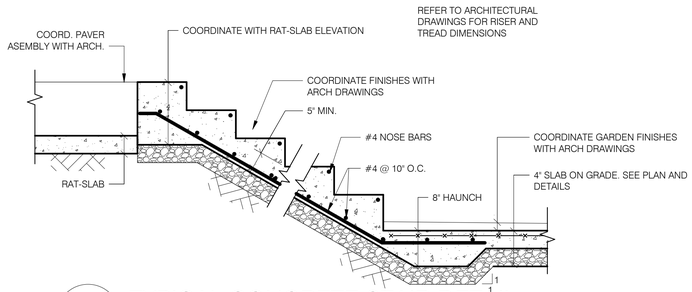
1 FO-204 FOUNDATION SECTION

3/4" = 1'-0"



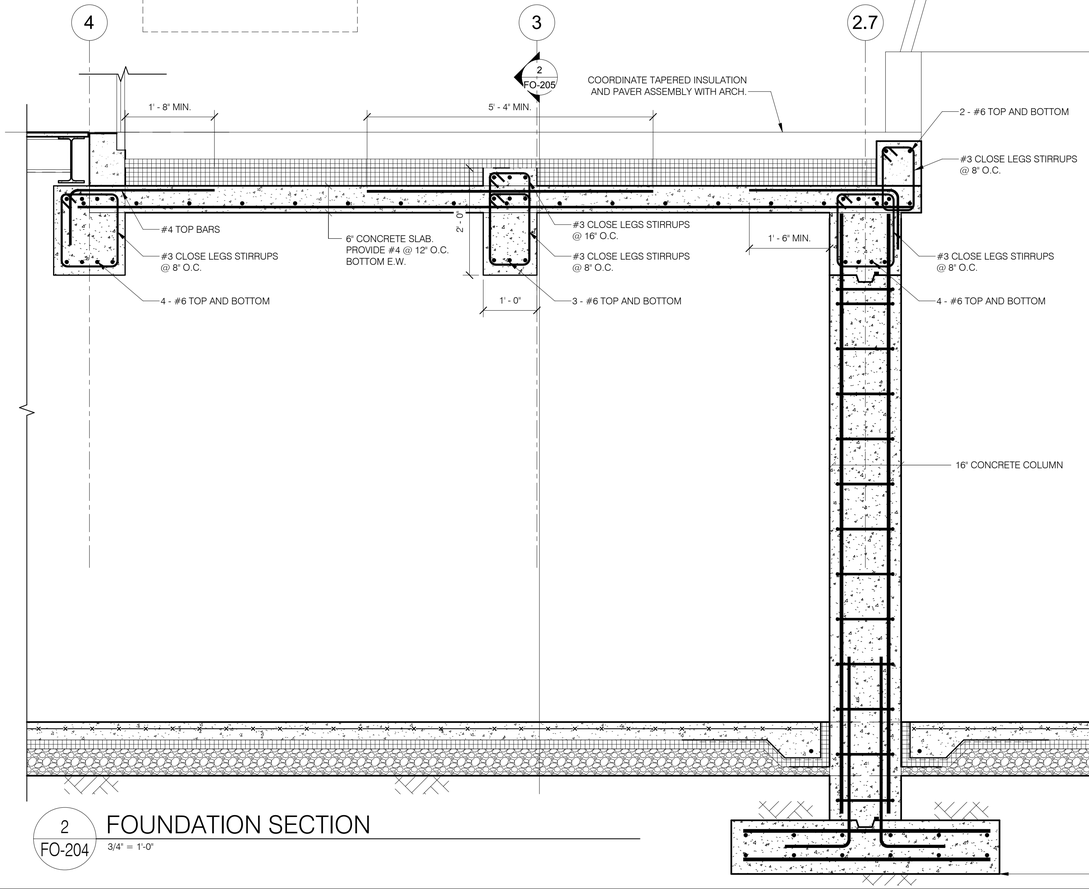
3 FO-204 TYPICAL SLAB ON GRADE HAUNCH OVER CMU PARTITION WALL

3/4" = 1'-0"



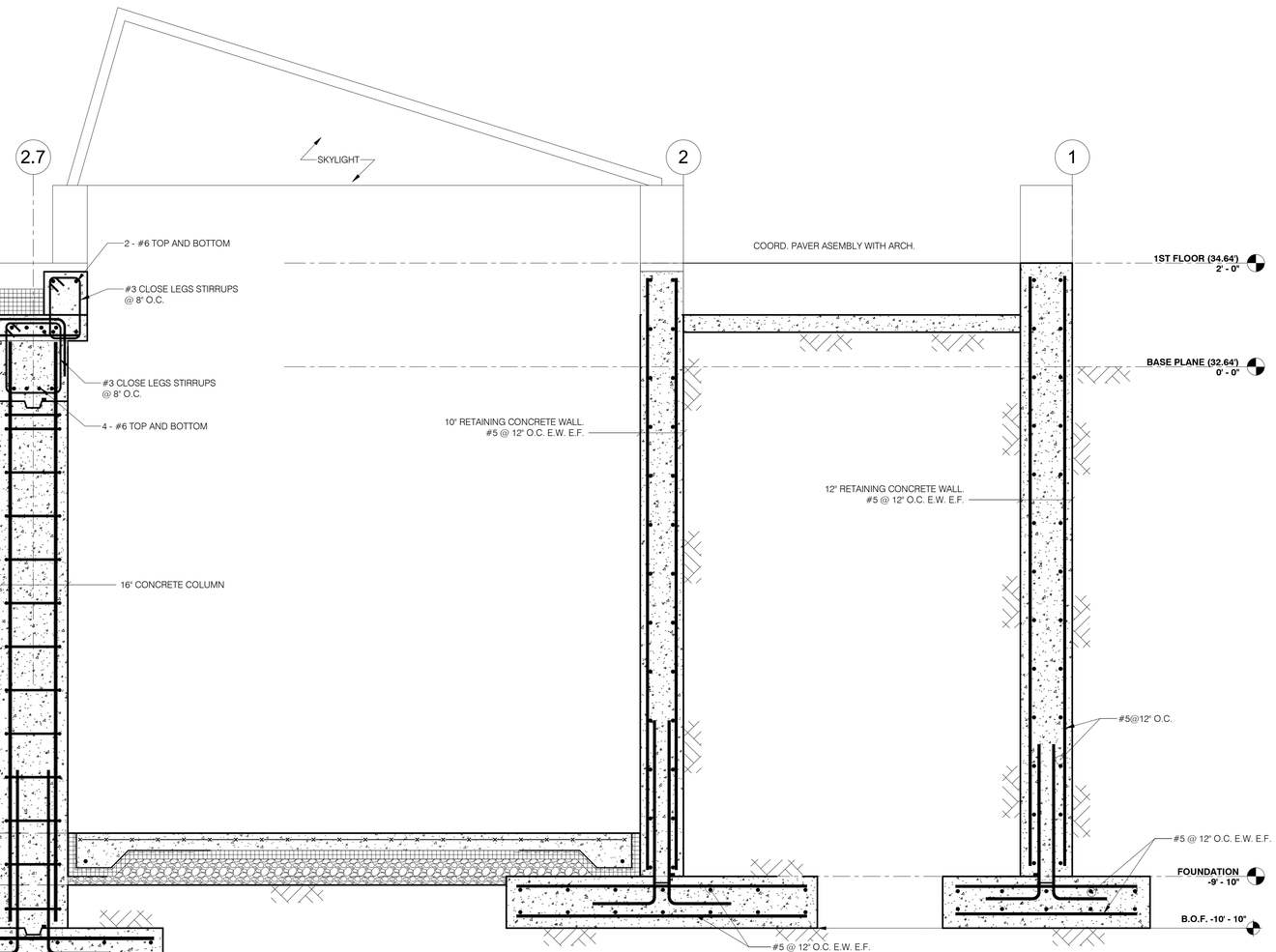
4 FO-204 TYPICAL CONCRETE STAIR DETAIL

3/4" = 1'-0"



2 FO-204 FOUNDATION SECTION

3/4" = 1'-0"



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6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

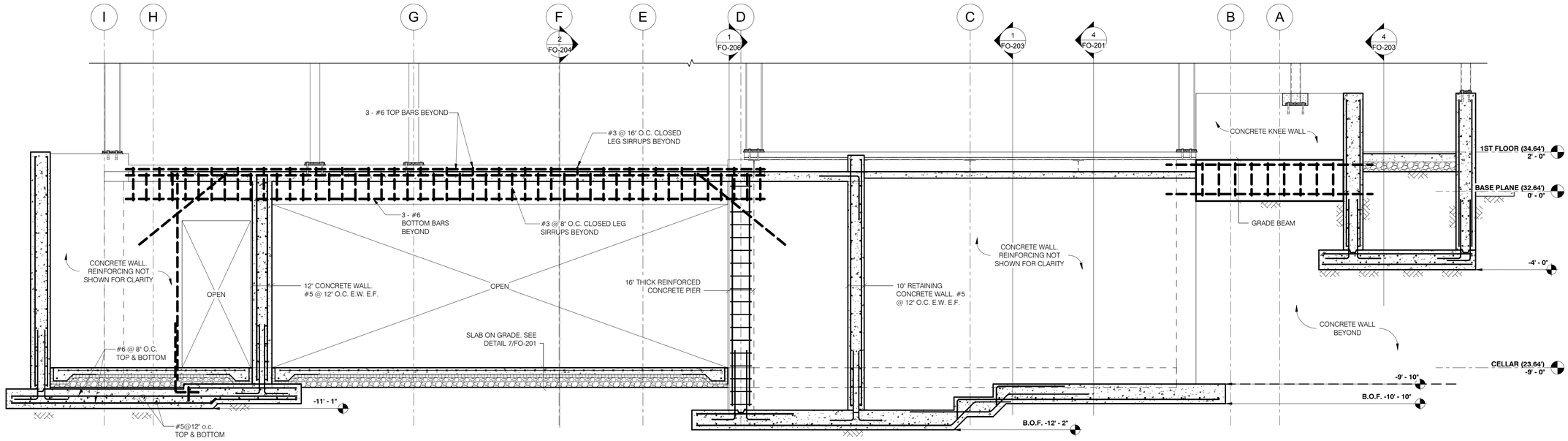
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Drawing Tile:

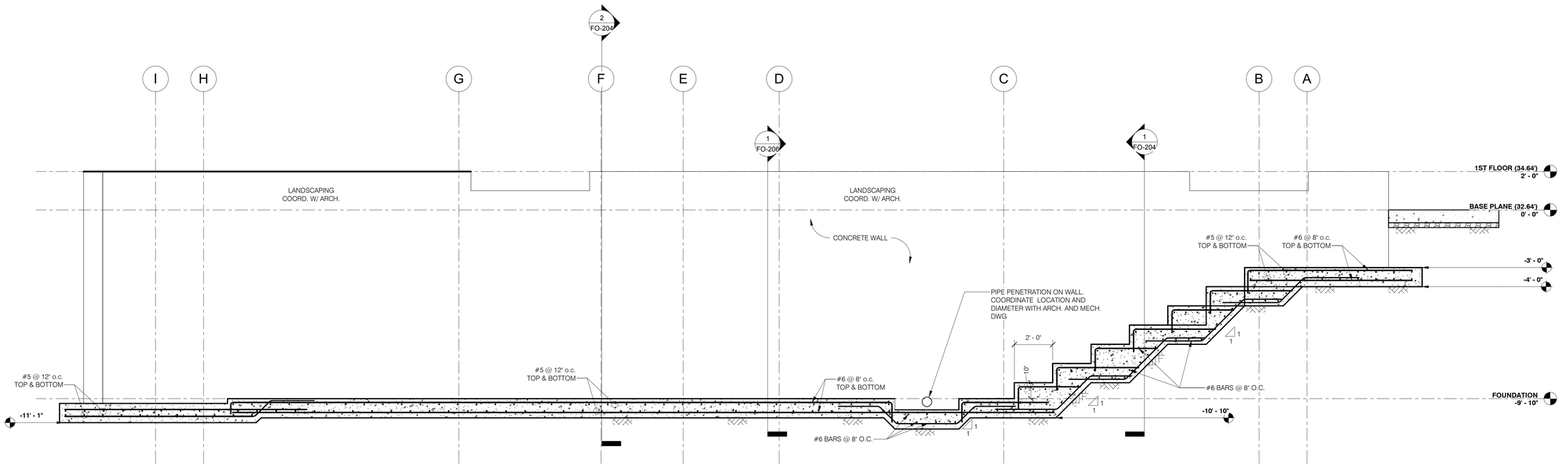
FOUNDATION SECTIONS

Date: 10-01-2019
Scale: 3/4" = 1'-0"
Seal/Signature:
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: FO-204
DOB #:
Sheet #: of



2 FO-205 FOUNDATION SECTION

3/8" = 1'-0"



1 FO-205 FOUNDATION SECTION

3/8" = 1'-0"

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6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

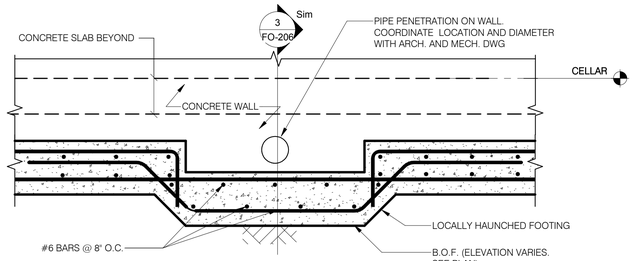
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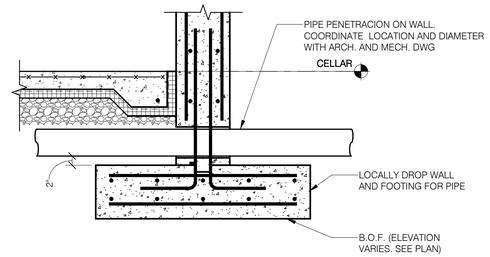
FOUNDATION SECTIONS

Date: 10-01-2019
Scale: 3/8" = 1'-0"
Seal/Signature:
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: FO-205
DOB #:
Sheet #: of



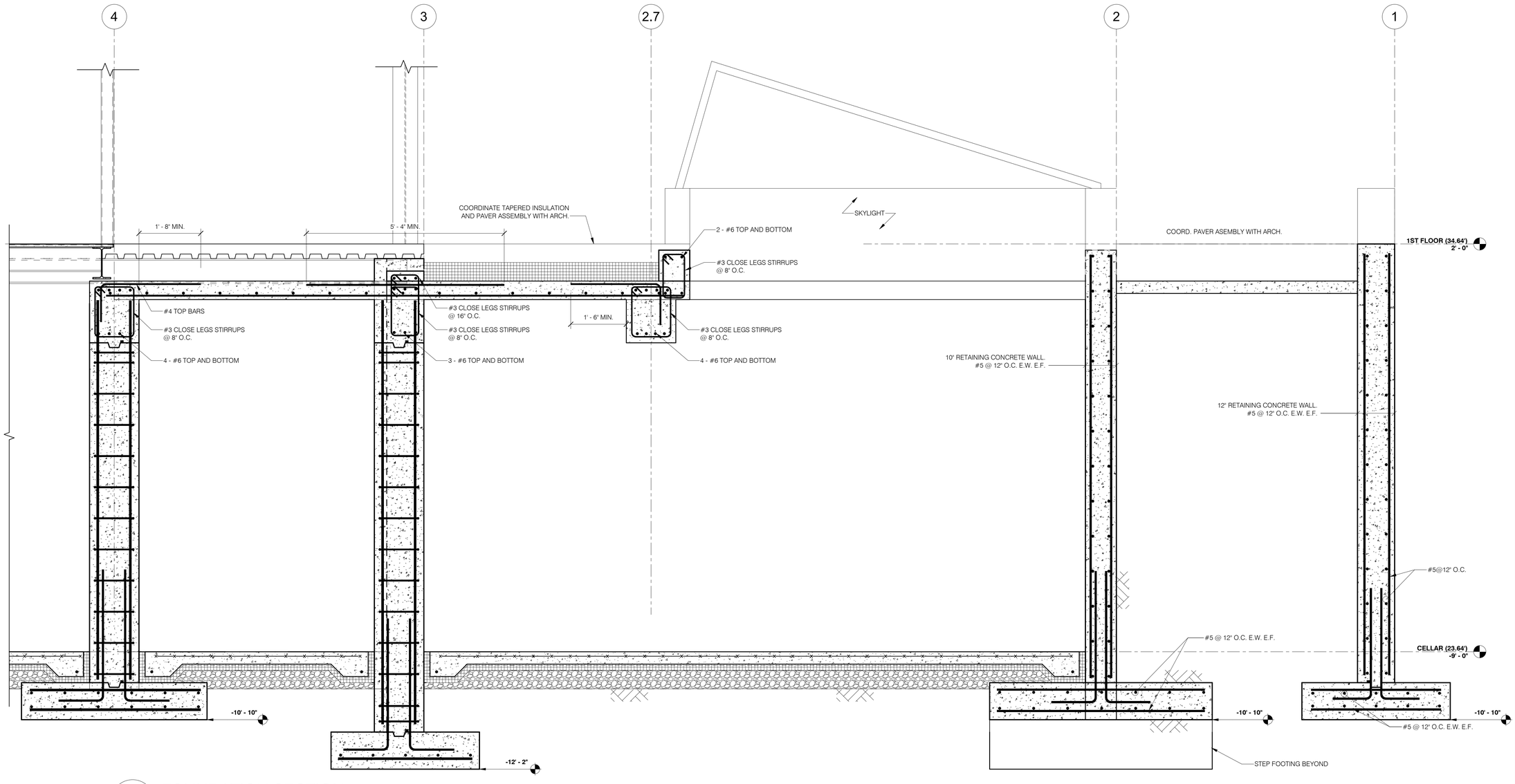
TYPICAL FOOTING DROP/HAUNCH AT PLUMBING PENETRATIONS ELEVATION

2 FO-206 — 3/4" = 1'-0"



TYPICAL FOOTING DROP/HAUNCH AT PLUMBING PENETRATIONS SECTION

3 FO-206 — 3/4" = 1'-0"



FOUNDATION SECTION

1 FO-206 — 3/4" = 1'-0"

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

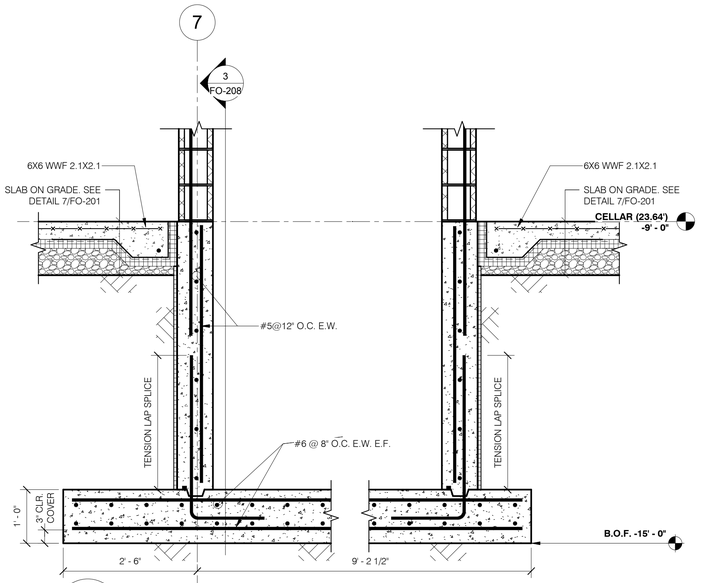
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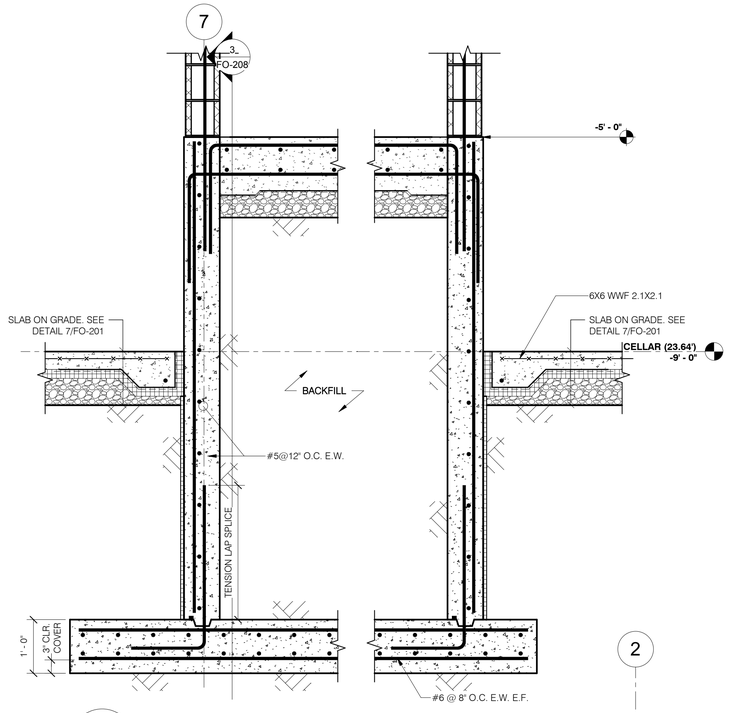
FOUNDATION SECTIONS

Date: 10-01-2019
Seal/Signature:
DOB #:

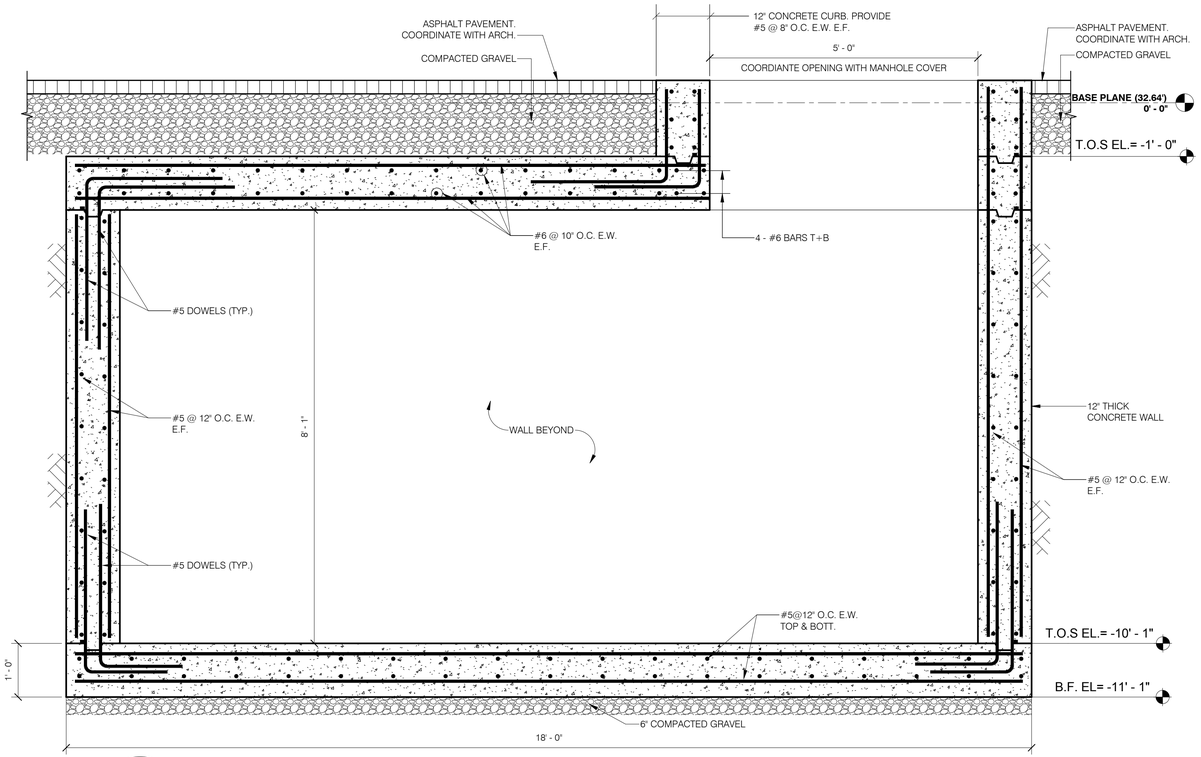
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Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: FO-206
Sheet #: of



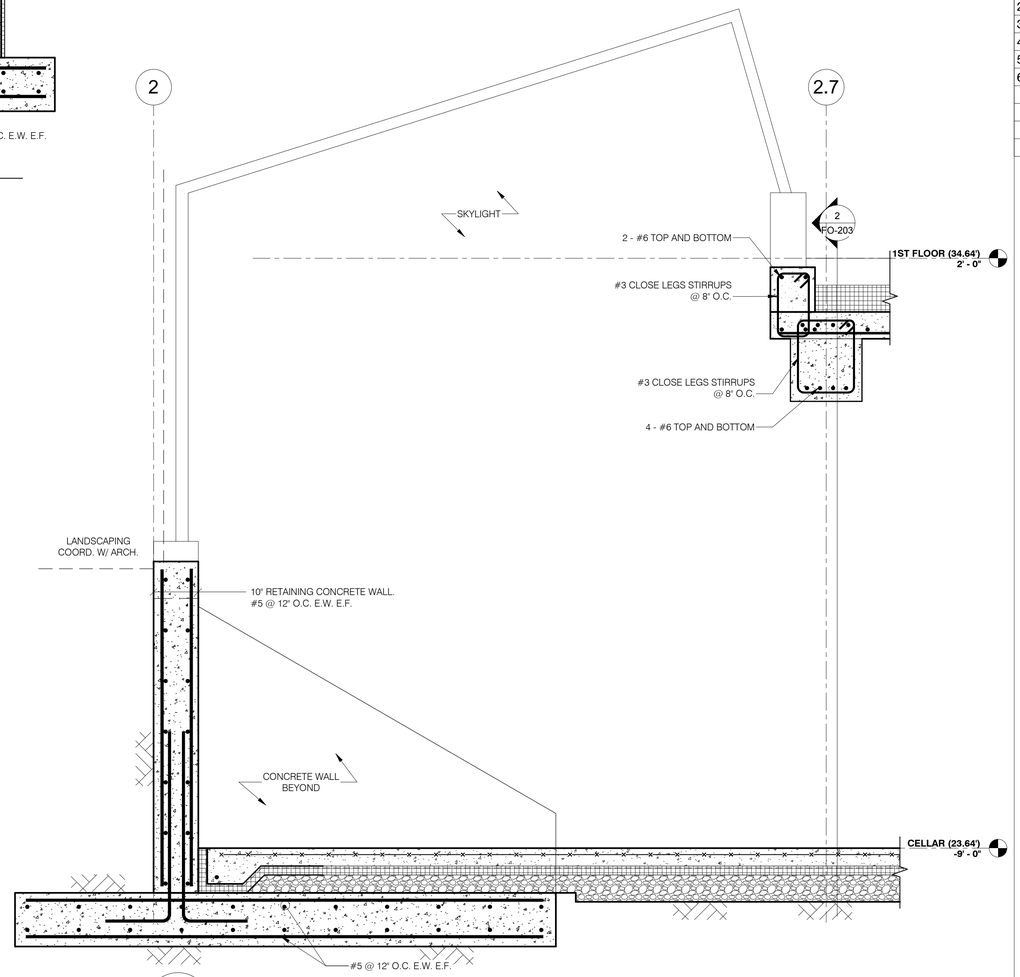
3 FO-207 ELEVATOR SECTION
3/4" = 1'-0"



4 FO-207 ELEVATOR SECTION
3/4" = 1'-0"



2 FO-207 FOUNDATION SECTION
3/4" = 1'-0"



1 FO-207 FOUNDATION SECTION
3/4" = 1'-0"

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

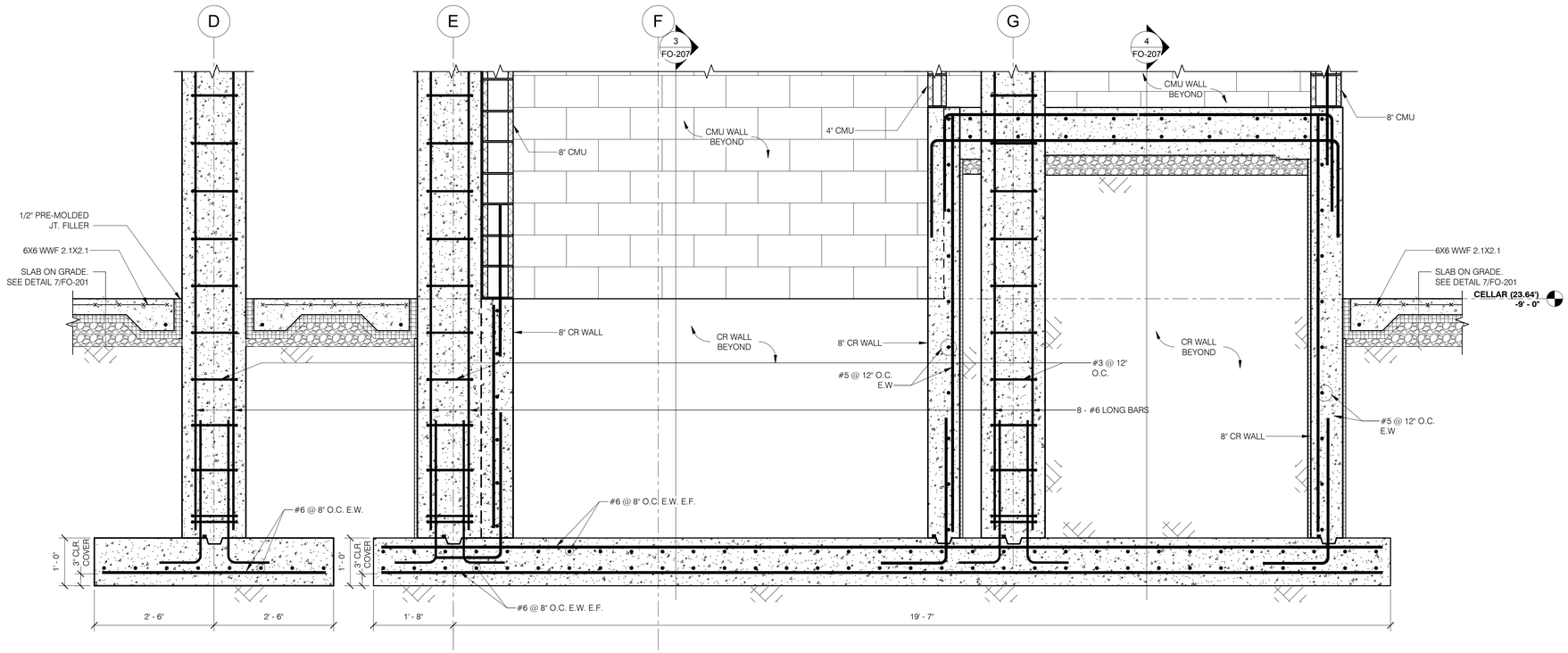
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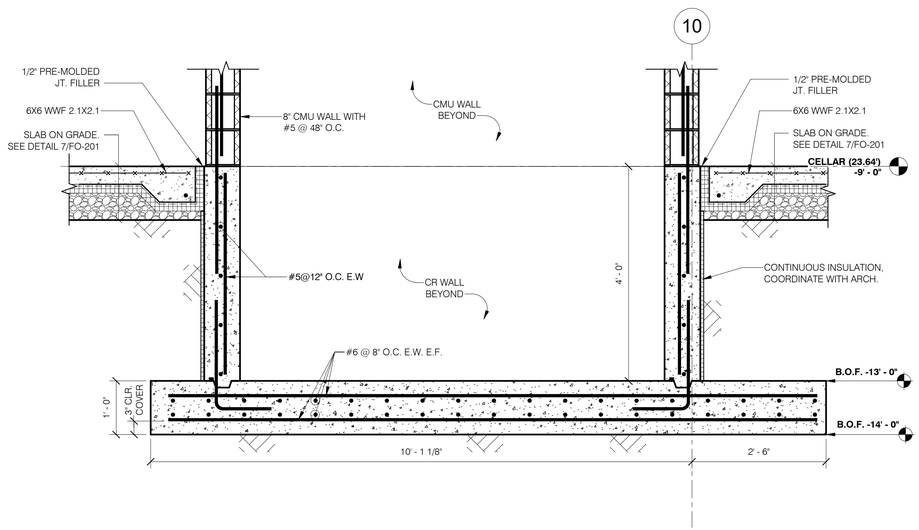
FOUNDATION SECTIONS

Date: 10-01-2019
Scale: 3/4" = 1'-0"
Seal/Signature:
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: FO-207
DOB #:
Sheet #: of



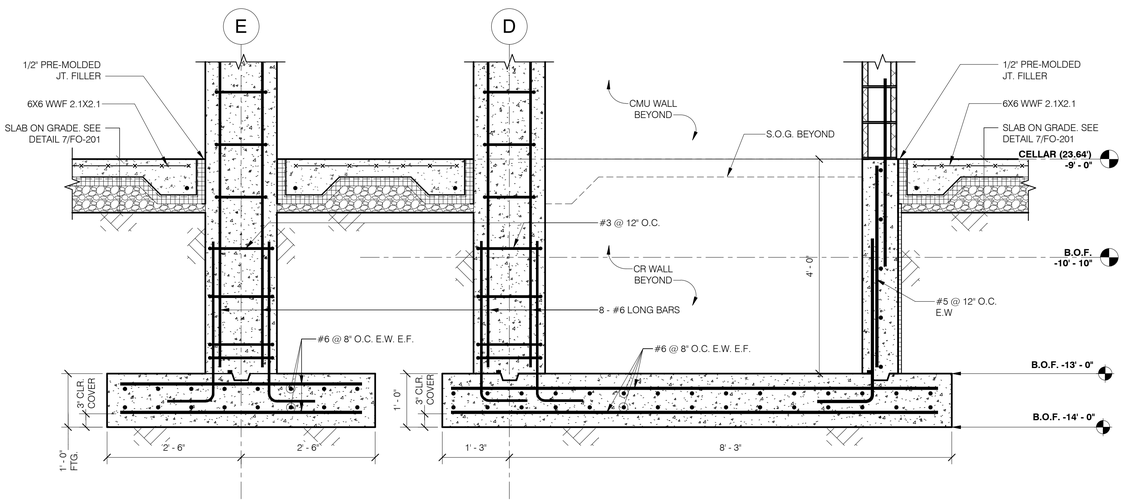
3 FO-208 ELEVATOR SECTION

3/4" = 1'-0"



2 FO-208 FOUNDATION SECTION

3/4" = 1'-0"



1 FO-208 FOUNDATION SECTION

3/4" = 1'-0"

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DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

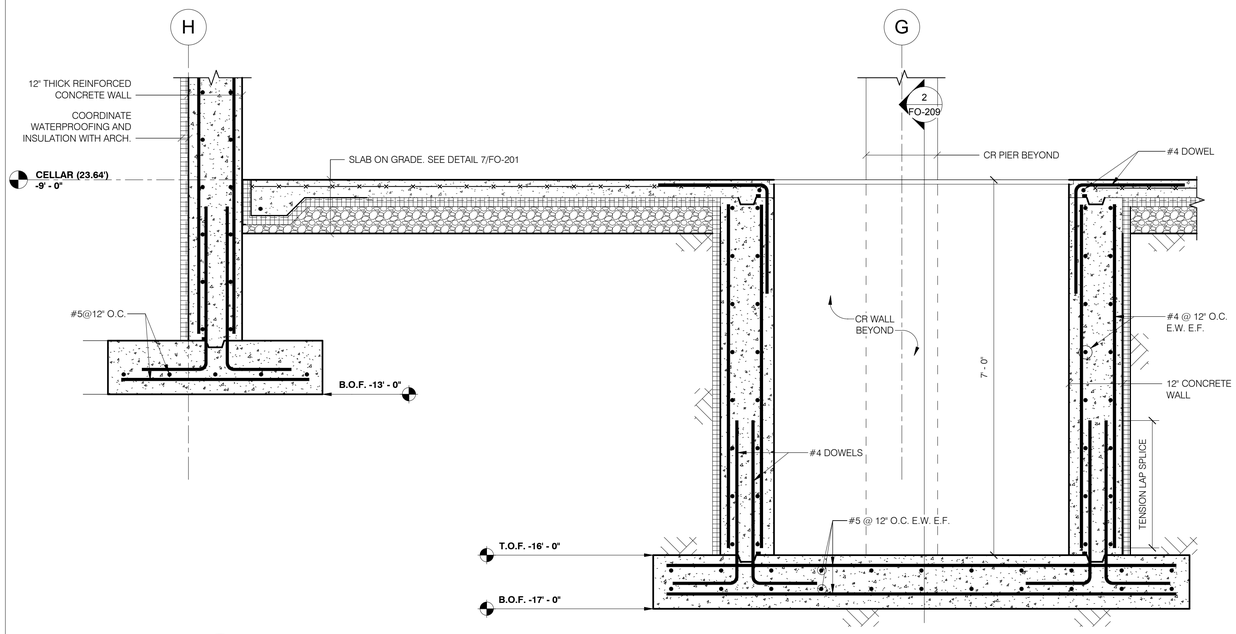
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Drawing Tile:

FOUNDATION SECTIONS

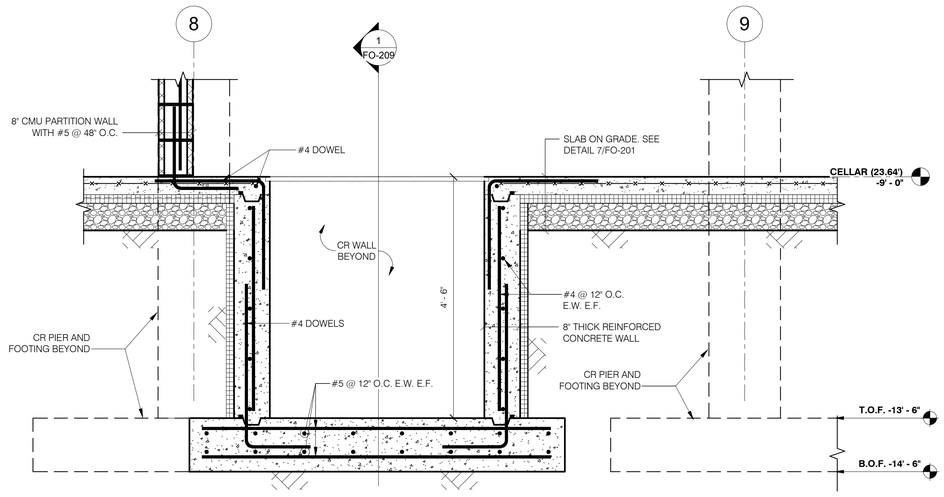
Date: 10-01-2019
Seal/Signature:
DOB #:

Scale: 3/4" = 1'-0"
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: FO-208
Sheet #: of



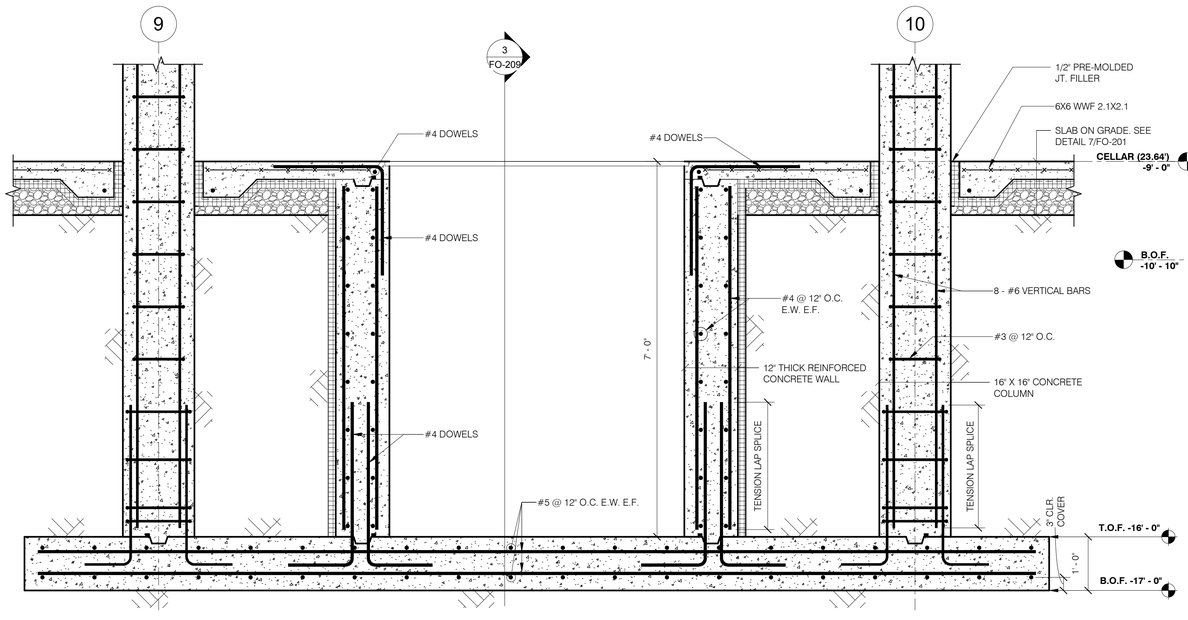
3 FO-209 SUBMERSIBLE SUMP PUMP (SP-3) SECTION

3/4" = 1'-0"



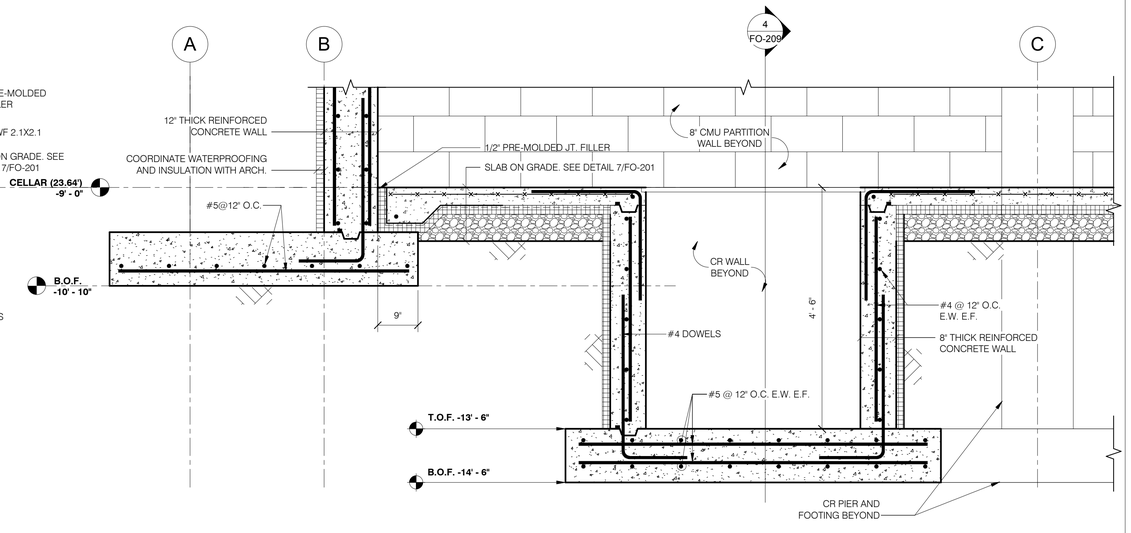
4 FO-209 HOUSE TRAP PIT SECTION

3/4" = 1'-0"



2 FO-209 SUBMERSIBLE SUMP PUMP (SP-3) SECTION

3/4" = 1'-0"



1 FO-209 HOUSE TRAP PIT SECTION

3/4" = 1'-0"

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6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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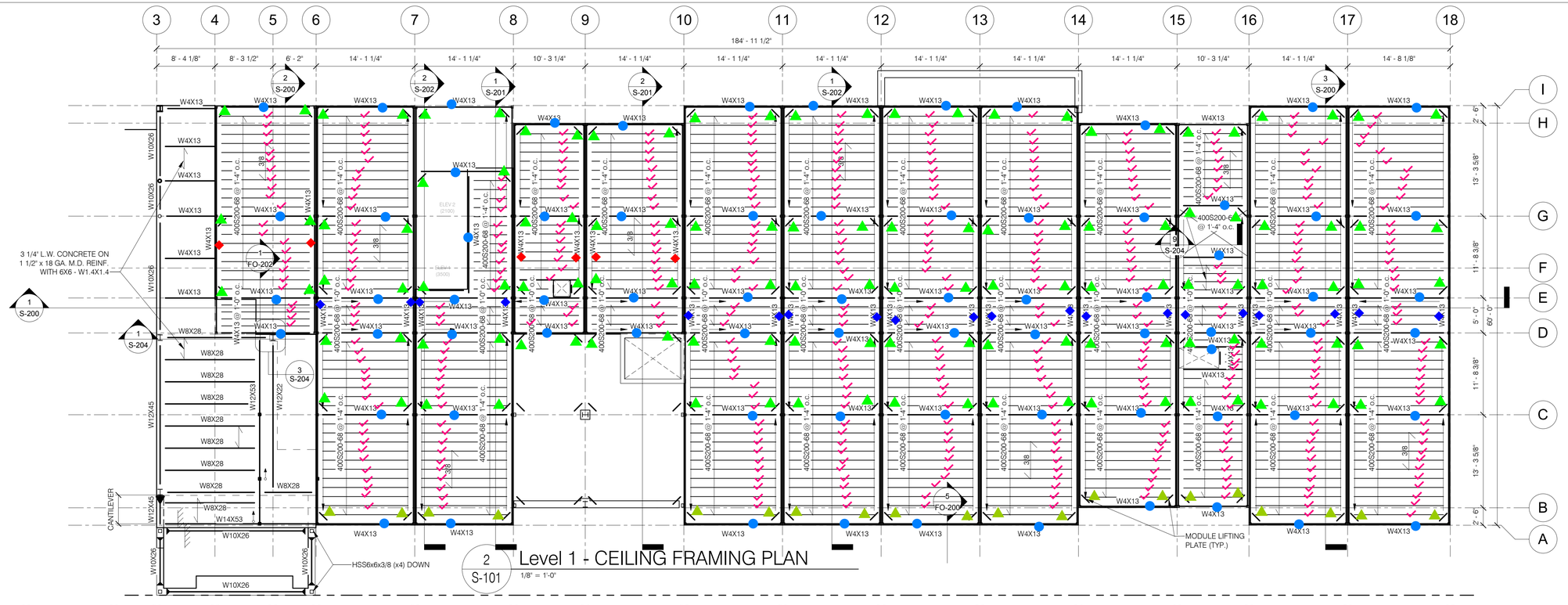
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FOUNDATION SECTIONS

Date: 10-01-2019
Seal/Signature:

Scale: 3/4" = 1'-0"
Drawn By #: Author
Chkd By #: Checker
Drawing #: FO-209
Sheet #: of

DOB #:



NOTES:

1. T.O.S. = INDICATES TOP OF SLAB ELEVATION. T.O.S. = 2'-0" UNLESS OTHERWISE NOTED ON PLAN.
2. = INDICATES (1) LAYER OF 1/4" FIBERROCK UNDERLAYEMNT AND (1) LAYER OF 3/4" U.S.G. FIBER CEMENT BOARD ON FLOOR. (O.U.N.).
3. 3/8 = INDICATES (1) LAYER OF 3/8" STRUCTURAL PANEL ON CEILING.
4. ALL COLUMNS ARE HSS4X4X5/16 UNLESS OTHERWISE NOTED.
5. = INDICATES DIRECTION OF DIAGONAL LIGHT GAGE FLAT STRAPS ON GRIDS 1-14 AND HSS3X3X3/8 ON GRIDS D, E.
6. PROVIDE 1/4" WEB PLATE STIFFENERS TO BEAMS SUPPORTING MODULE COLUMNS AND BRACES.

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Revision Schedule

#	Description	Date
1	ISSUE FOR D.O.B. FILING	10-01-2019
2	75% D-D SET	10-21-2019
3	100% D-D SET	11-14-2019
4	50% CD SET	03-20-2020
5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

FIRST LEVEL FLOOR FRAMING PLAN

DOB NOW Job# B00235703-I1

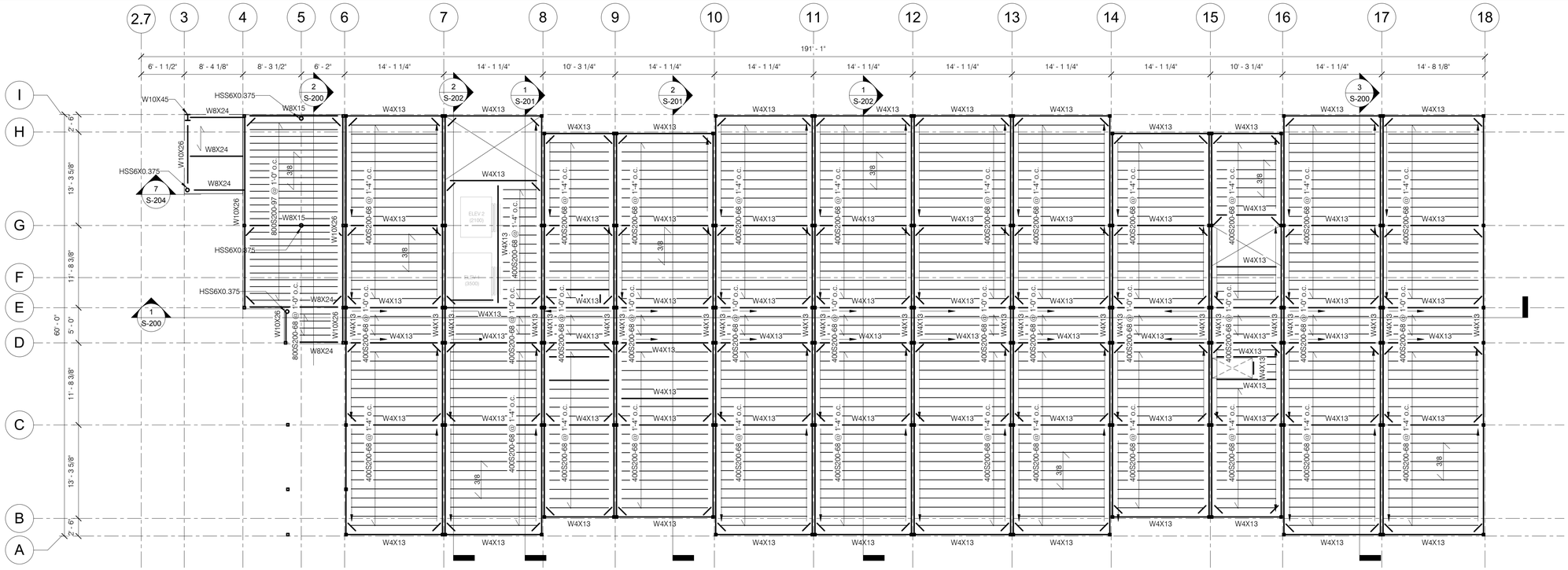
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Seal/Signature: **Drawn By #:**E.L.

Chkd By #:M.L.

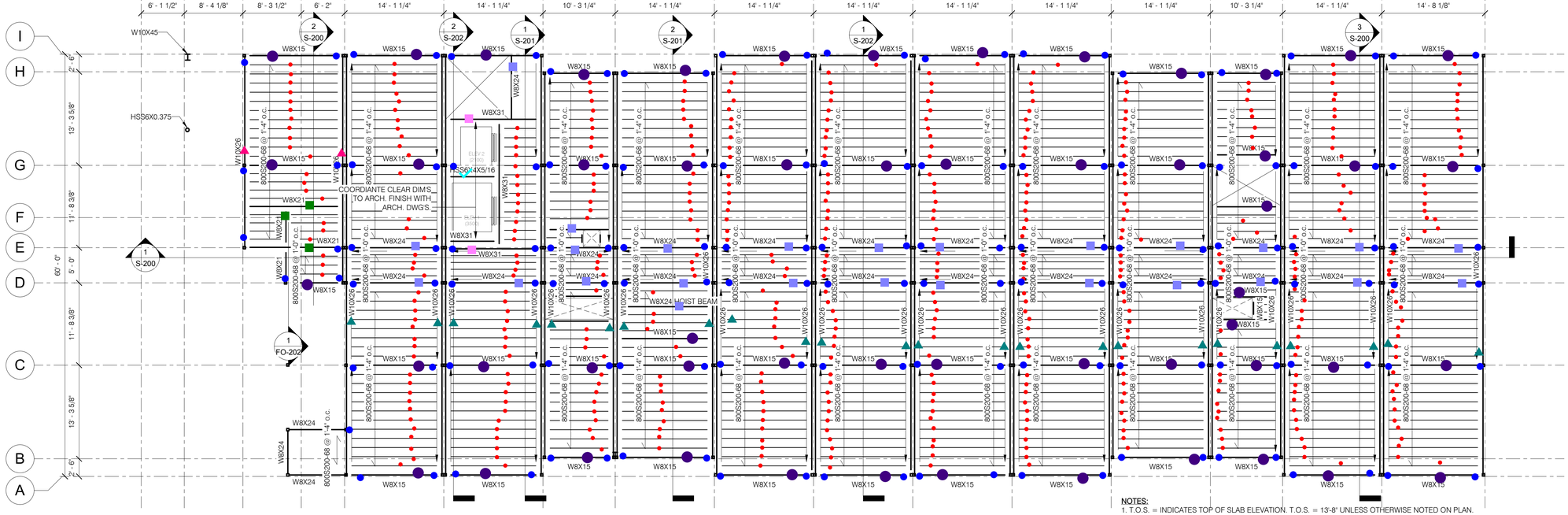
Drawing #: S-101

DOB #: **Sheet #:** of



2 S-102 Level 2 - CEILING FRAMING PLAN

1/8" = 1'-0"



1 S-102 LEVEL 2 FLOOR FRAMING PLAN

1/8" = 1'-0"

NOTES:

1. T.O.S. = INDICATES TOP OF SLAB ELEVATION. T.O.S. = 13'-8" UNLESS OTHERWISE NOTED ON PLAN.
2. ⟵⟶ = INDICATES (1) LAYER OF 1/4" FIBERROCK UNDERLAYEMNT AND (1) LAYER OF 3/4" U.S.G. FIBER CEMENT BOARD ON FLOOR. (O.U.N.).
3. 3/8 ⟵⟶ = INDICATES (1) LAYER OF 3/8" STRUCTURAL PANEL ON CEILING.
4. ALL COLUMNS ARE HSS4X4X5/16 UNLESS OTHERWISE NOTED.
5. ⟵► INDICATES DIRECTION OF DIAGONAL LIGHT GAGE FLAT STRAPS ON GRIDS 1-14 AND HSS3X3X3/8 ON GRIDS D, E.

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3	100% D-D SET	11-14-2019
4	50% CD SET	03-20-2020
5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

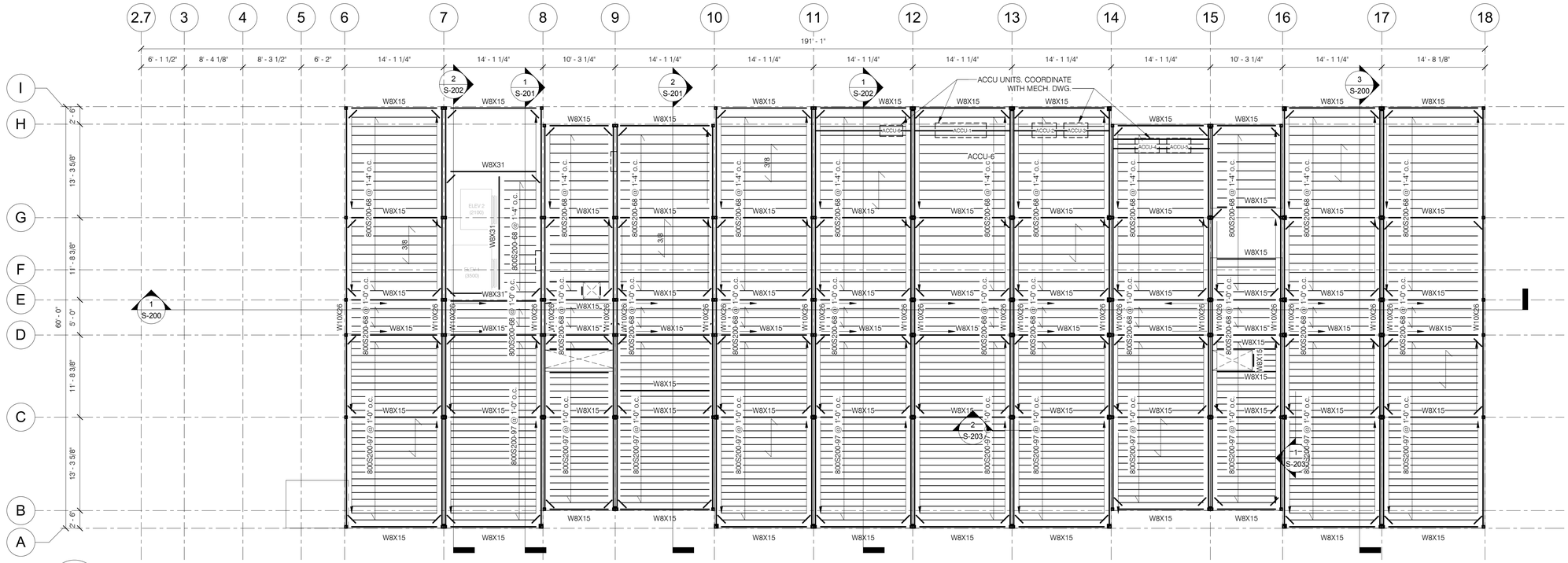
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Drawing Tile:

SECOND LEVEL FLOOR FRAMING PLAN

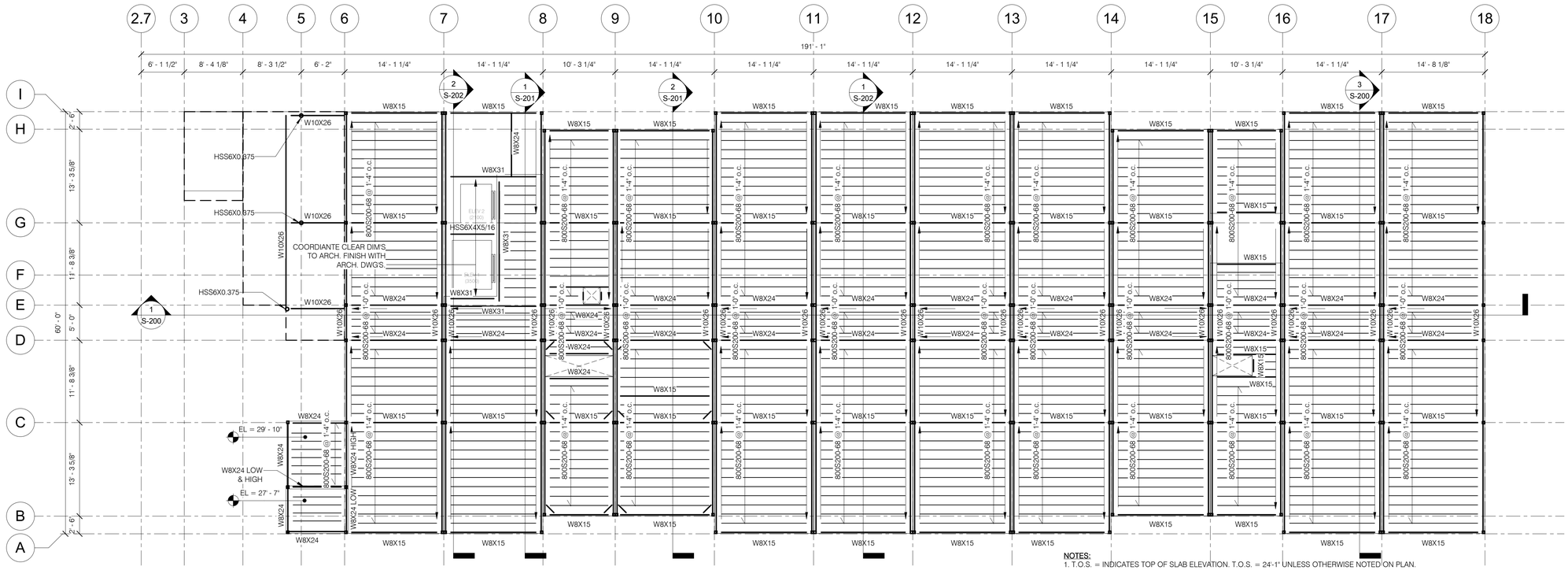
DOB NOW Job# B00235703-I1

Date: 10-01-2019
Scale: As indicated
Seal/Signature:
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: S-102
DOB #:
Sheet #: of



2 S-103 Level 3 - CEILING FRAMNG PLAN / LOW ROOF

1/8" = 1'-0"



1 S-103 LEVEL 3 FLOOR FRAMING PLAN

1/8" = 1'-0"

NOTES:

1. T.O.S. = INDICATES TOP OF SLAB ELEVATION. T.O.S. = 24'-1" UNLESS OTHERWISE NOTED ON PLAN.
2. ⟷ = INDICATES (1) LAYER OF 1/4" FIBERROCK UNDERLAYEMNT AND (1) LAYER OF 3/4" U.S.G. FIBER CEMENT BOARD ON FLOOR. (O.U.N.).
3. 3/8 = INDICATES (1) LAYER OF 3/8" STRUCTURAL PANEL ON CEILING.
4. ALL MODULAR COLUMNS ARE HSS4X4X5/16 UNLESS OTHERWISE NOTED.
5. ⟶ INDICATES DIRECTION OF DIAGONAL LIGHT GAGE FLAT STRAPS ON GRIDS 1-14 AND HSS3X3X3/8 ON GRIDS D, E.

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4	50% CD SET	03-20-2020
5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

THIRD LEVEL FLOOR FRAMING PLAN

DOB NOW Job# B00235703-I1

Date: 10-01-2019

Seal/Signature:

DOB #:

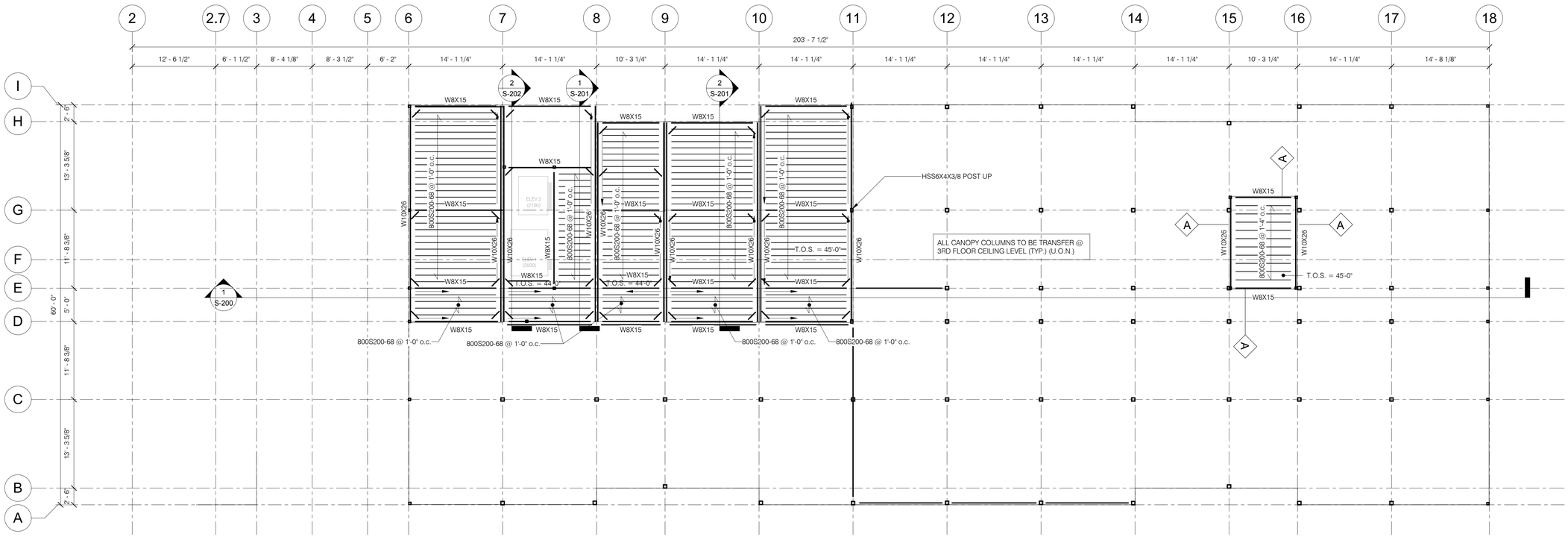
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Chkd By #:M.L.

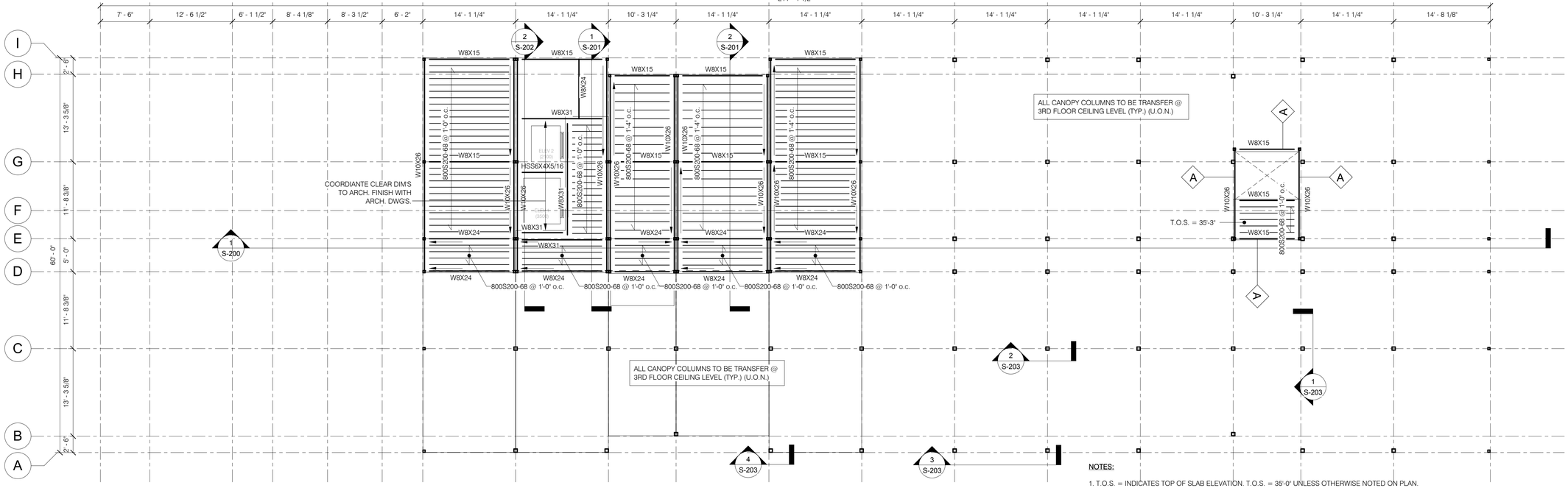
Drawing #: S-103

Sheet #: of



2 S-104 ROOF FLOOR FRAMING PLAN / 4TH FLOOR CEILING FRAMING PLAN

1/8" = 1'-0"



1 S-104 LEVEL 4 FLOOR FRAMING PLAN

1/8" = 1'-0"

NOTES:

1. T.O.S. = INDICATES TOP OF SLAB ELEVATION. T.O.S. = 35'-0" UNLESS OTHERWISE NOTED ON PLAN.
2. INDICATES (1) LAYER OF 1/4" FIBERROCK UNDERLAYEMNT AND (1) LAYER OF 3/4" U.S.G. FIBER CEMENT BOARD.
3. ALL MODULAR COLUMNS ARE HSS4X4X5/16 UNLESS OTHERWISE NOTED (U.O.N.). ALL CANOPY COLUMNS ARE HSS6X6X3/8 (U.O.N.)
4. INDICATES DIRECTION OF DIAGONAL ON GRIDS 1-14 AND HSS3X3X5/16 ON GRIDS D, E
5. A 3-5/8" X 16 GA. STUD WALL WITH SURE-BOARD SHEAR WALL PANEL AT 4" PANEL EDGE SPACING

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5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

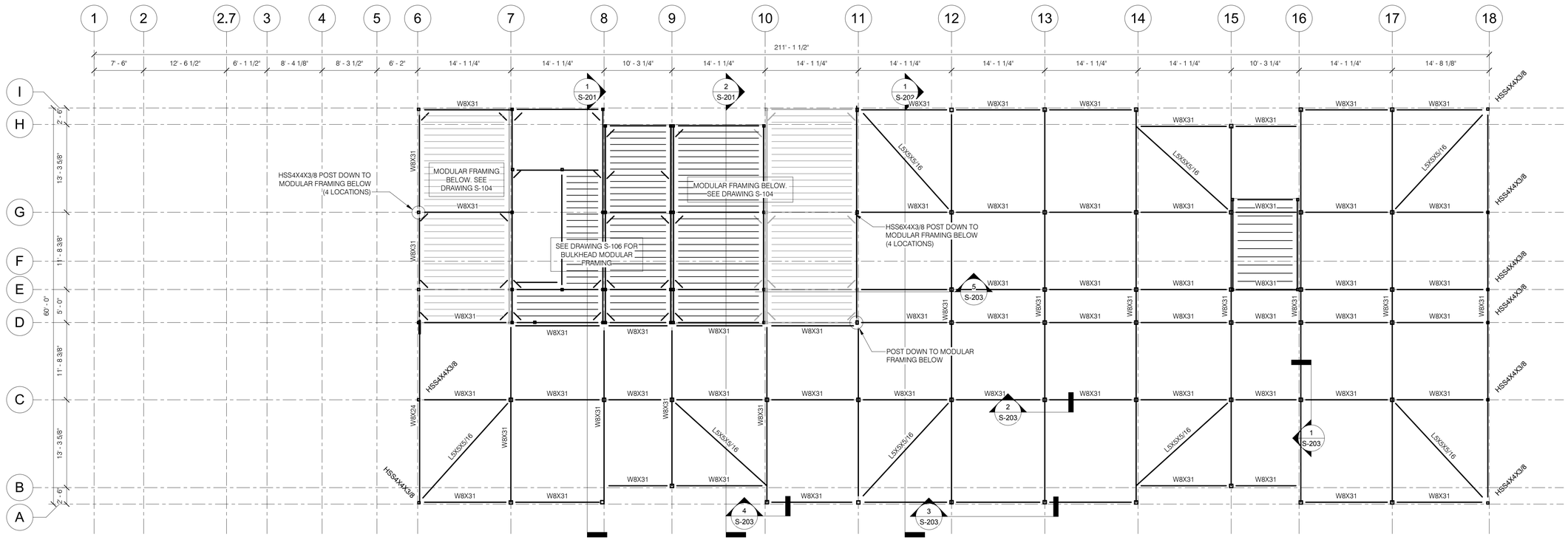
FOR:
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Drawing Tile:

FOURTH FLOOR AND ROOF FRAMING PLAN

DOB NOW Job# B00235703-I1

Date: 10-01-2019
Scale: As indicated
Seal/Signature:
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: S-104
DOB #:
Sheet #: of



1
S-105

CANOPY FRAMING PLAN

1/8" = 1'-0"

NOTES

1 . ALL CANAPY COLUMNS ARE HSS6X6X3/8 (O.U.N.)

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5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

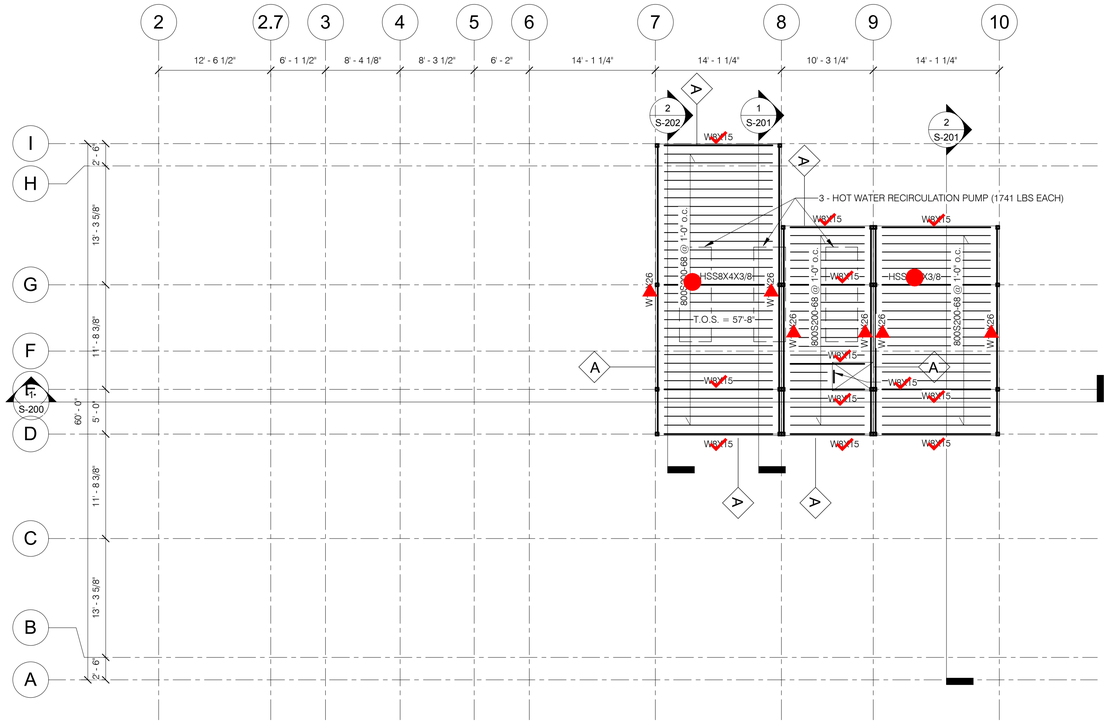
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Drawing Tile:

CANOPY FRAMING PLAN

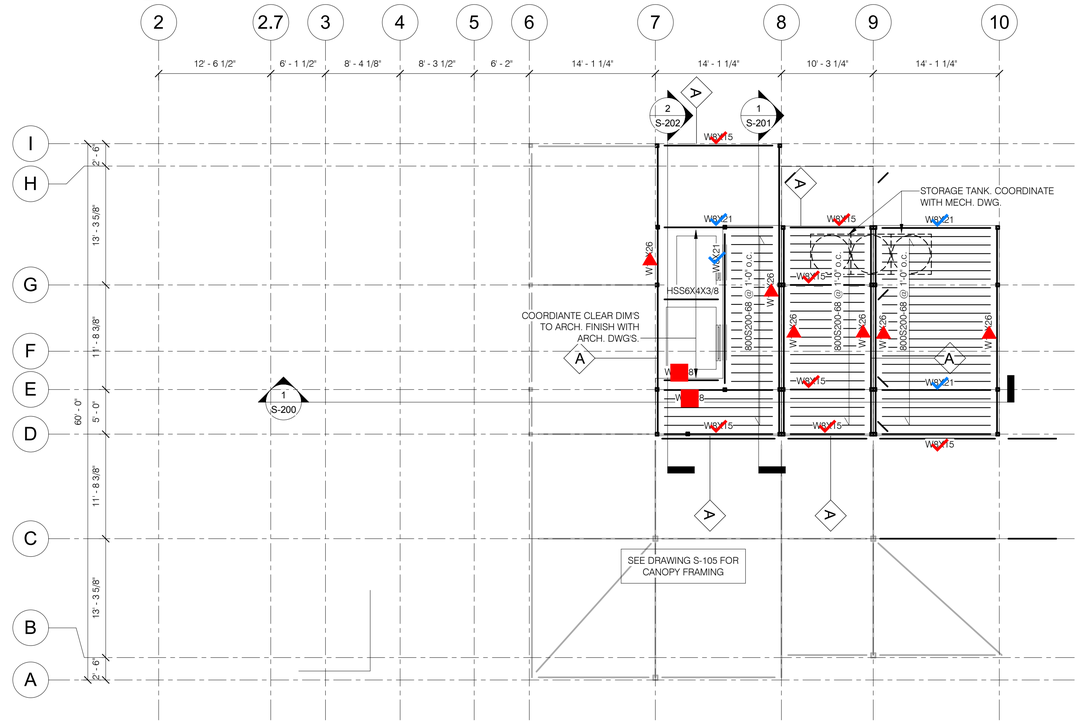
DOB NOW Job# B00235703-I1

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Scale: 1/8" = 1'-0"
Seal/Signature:
Drawn By #:E.L.
Chkd By #:M.L.
Drawing #: S-105
DOB #:
Sheet #: of



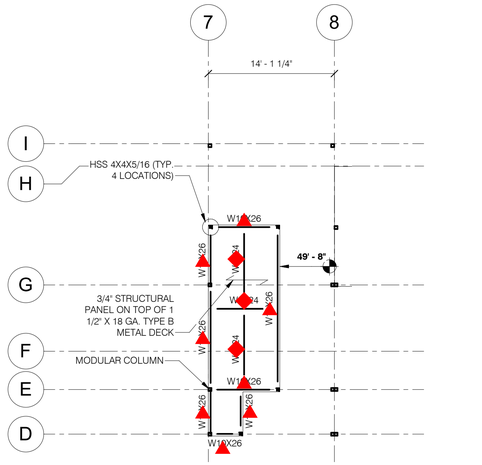
2 S-106 BULKHEAD - CEILING FRAMING PLAN

1/8" = 1'-0"



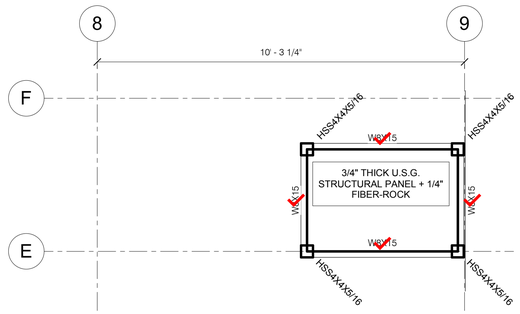
1 S-106 BULKHEAD - FLOOR FRAMING PLAN

1/8" = 1'-0"



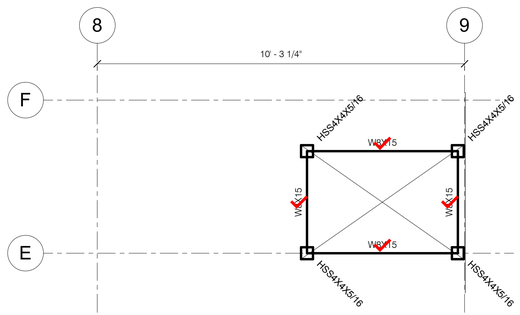
5 S-106 PART PLAN FRAMING @ ELEVATOR MACHINE

1/8" = 1'-0"



4 S-106 TRASH CHUTE - ROOF PLAN

1/2" = 1'-0"



3 S-106 TRASH CHUTE - FRAMING PLAN

1/2" = 1'-0"

NOTES:

1. T.O.S. = INDICATES TOP OF SLAB ELEVATION. T.O.S. = 45'-3" UNLESS OTHERWISE NOTED ON PLAN.
2. INDICATES (1) LAYER OF 1/4" FIBERROCK UNDERLAYEMNT AND (1) LAYER OF 3/4" U.S.G. FIBER CEMENT BOARD.
3. ALL COLUMNS ARE HSS4X4X5/16 UNLESS OTHERWISE NOTED.
4. INDICATES DIRECTION OF DIAGONAL BRACES HSS4X2X1/4 ON GRIDS 1-14 AND HSS3X3X5/16 ON GRIDS D, E
5. (A) 3-5/8" X 16 GA. STUD WALL WITH SURE-BOARD SHEAR WALL PANEL AT 4" PANEL EDGE SPACING

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Revision Schedule

#	Description	Date
1	ISSUE FOR D.O.B. FILING	10-01-2019
2	75% D-D SET	10-21-2019
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4	50% CD SET	03-20-2020
5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

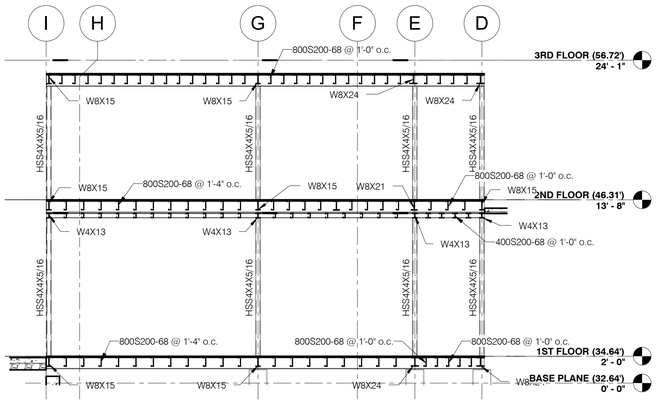
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Drawing Tile:

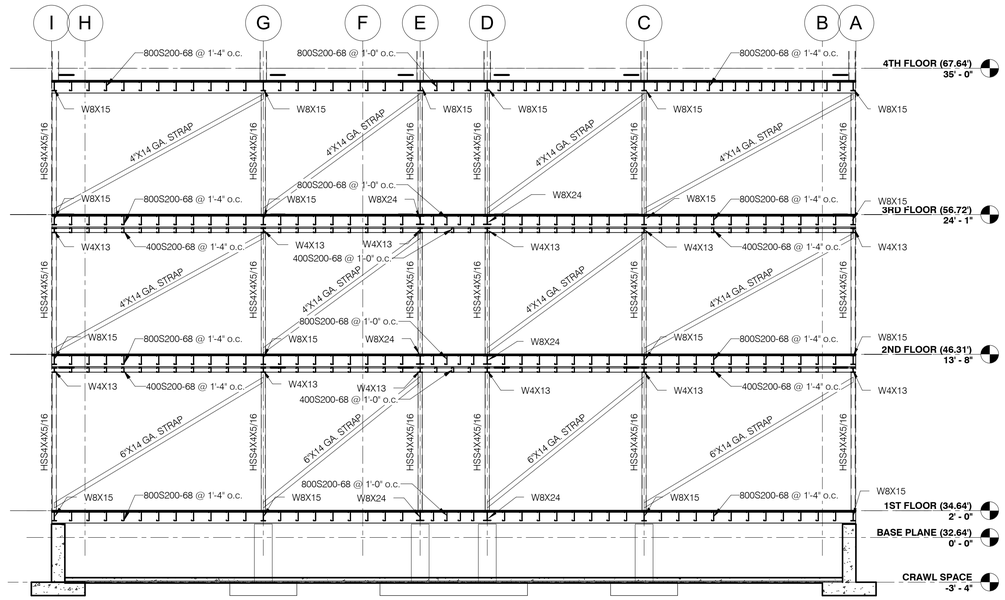
BULKHEAD FRAMING PLAN

DOB NOW Job# B00235703-I1

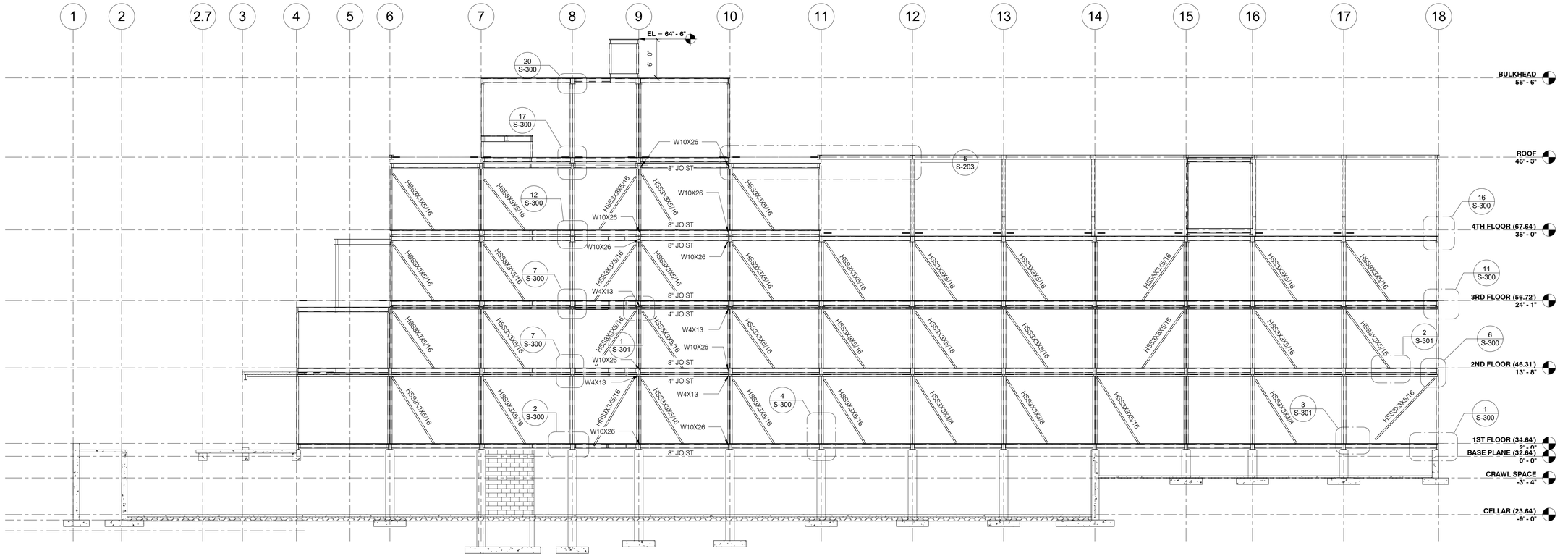
Date: 10-01-2019
Scale: As indicated
Seal/Signature:
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: S-106
DOB #:
Sheet #: of



2 S-200 BUILDING SECTION
3/16" = 1'-0"



3 S-200 BUILDING SECTION
3/16" = 1'-0"



1 S-200 BUILDING SECTION
1/8" = 1'-0"

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5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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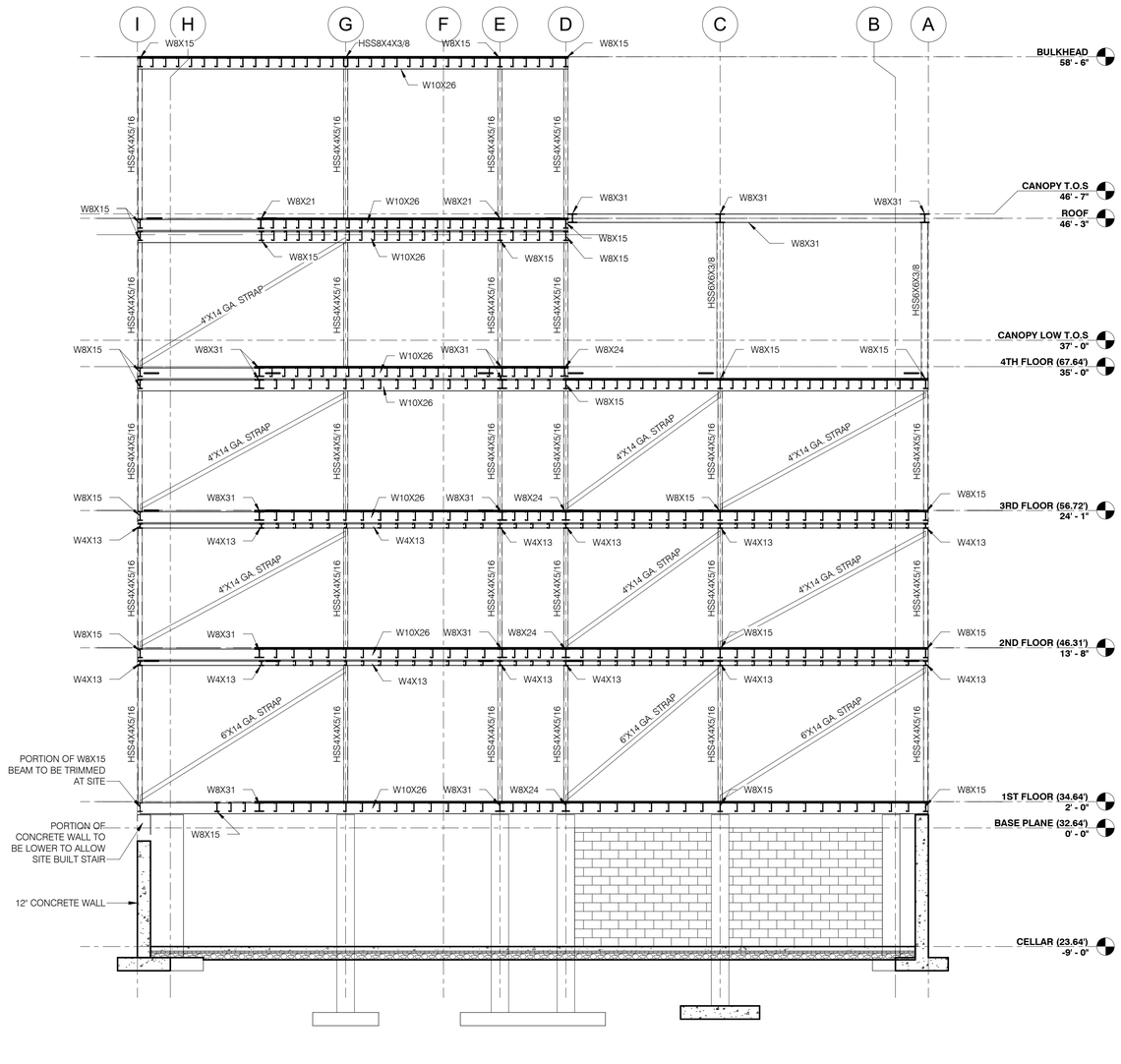
Drawing Tile:

BUILDING SECTIONS

DOB NOW Job# B00235703-I1

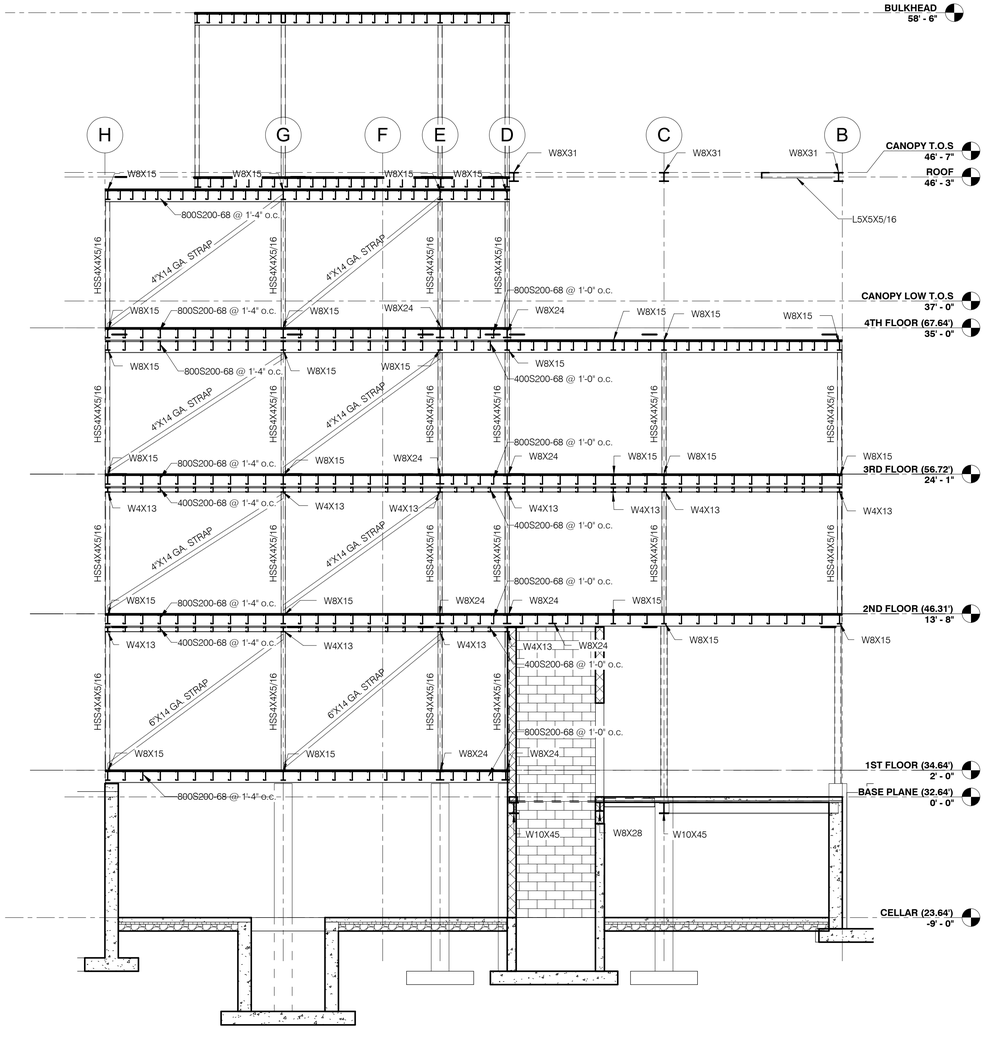
Date: 10-01-2019
Seal/Signature:
DOB #:

Scale: As indicated
Drawn By #:E.L.
Chkd By #:M.L.
Drawing #: S-200
Sheet #: of



1 S-201 BUILDING SECTION

3/16" = 1'-0"



2 S-201 BUILDING SECTION

3/16" = 1'-0"

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5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

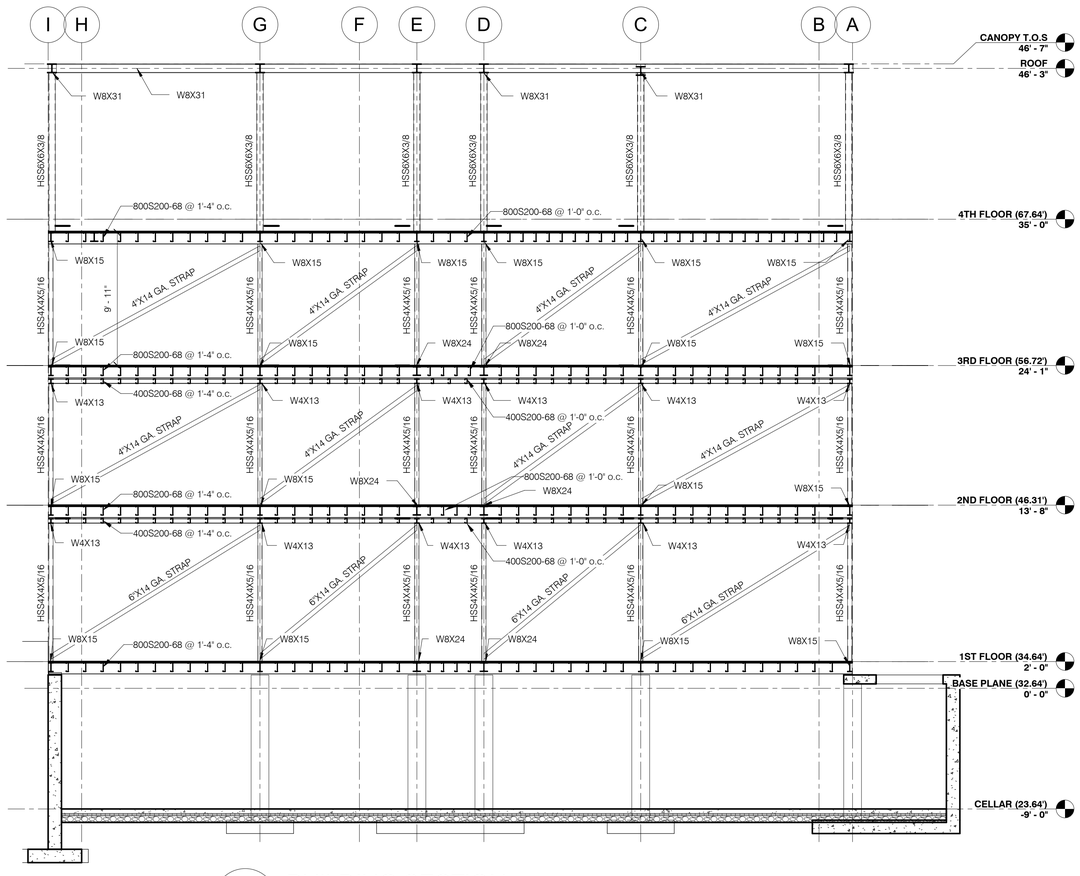
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Drawing Tile:

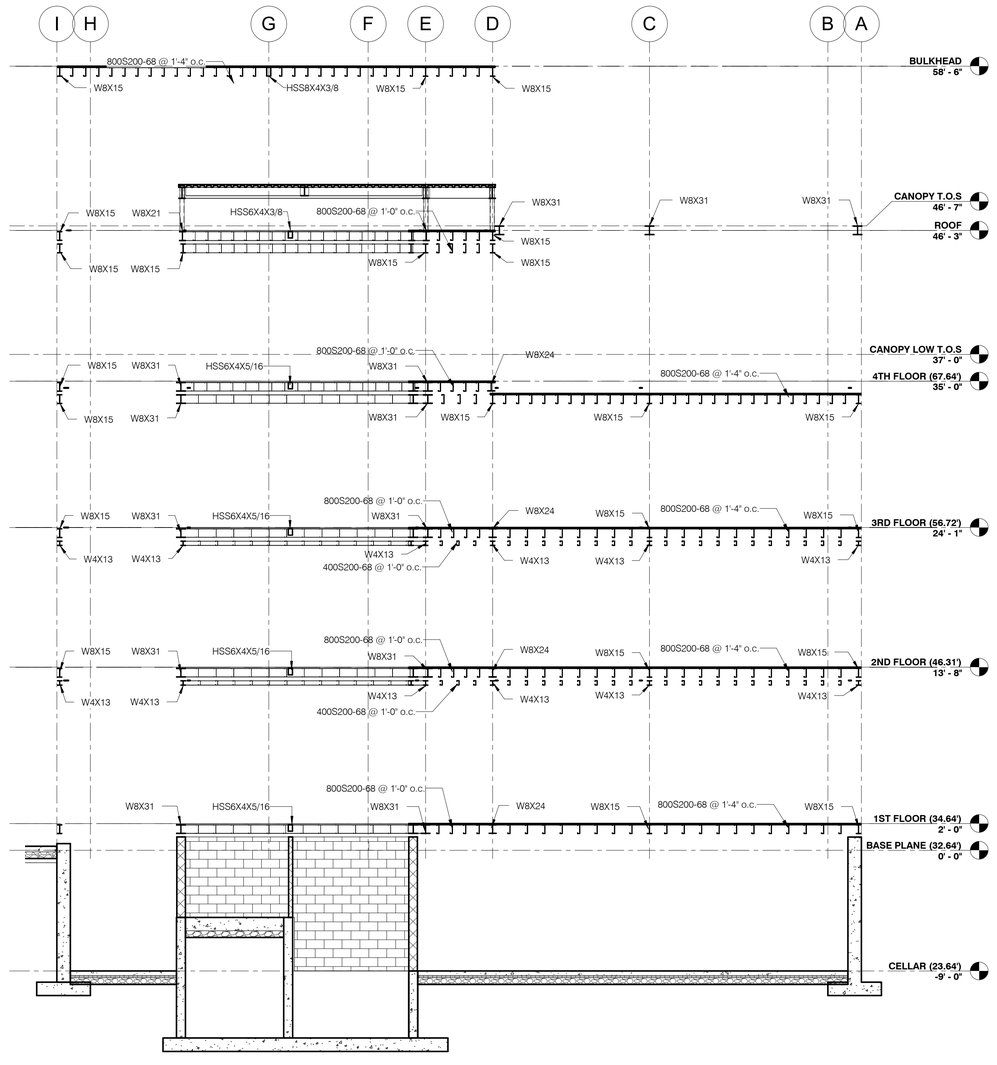
BUILDING SECTIONS

DOB NOW Job# B00235703-I1

Date: 10-01-2019
Scale: 3/16" = 1'-0"
Seal/Signature:
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: S-201
DOB #:
Sheet #: of



1 S-202 BUILDING SECTION
3/16" = 1'-0"



2 S-202 BUILDING SECTION
3/16" = 1'-0"

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5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

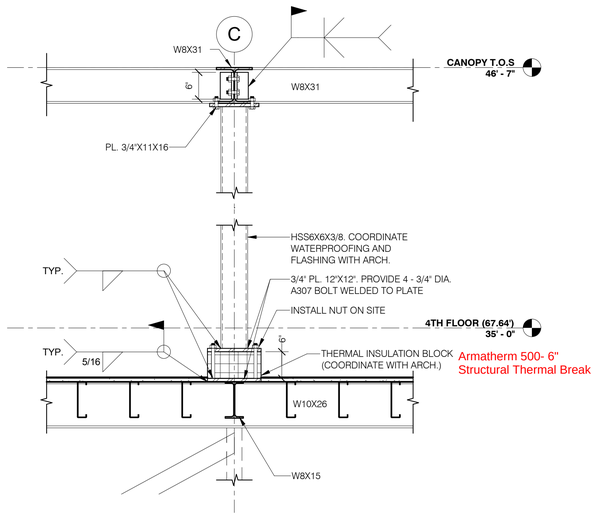
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Drawing Tile:

BUILDING SECTIONS

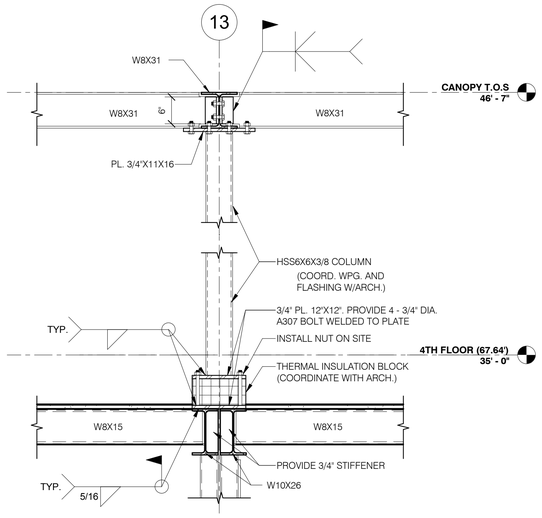
DOB NOW Job# B00235703-I1

Date: 10-01-2019
Scale: 3/16" = 1'-0"
Seal/Signature:
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: S-202
DOB #:
Sheet #: of



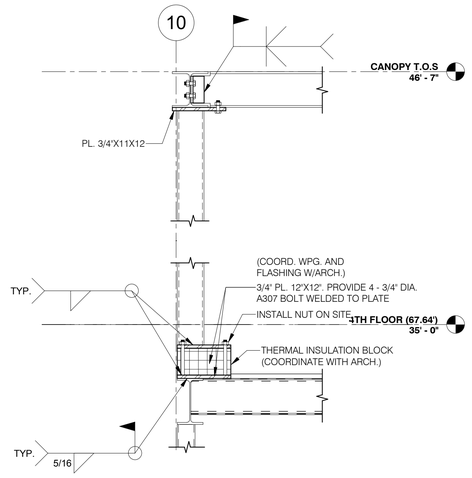
1 S-203 CANOPY SECTION

3/4" = 1'-0"



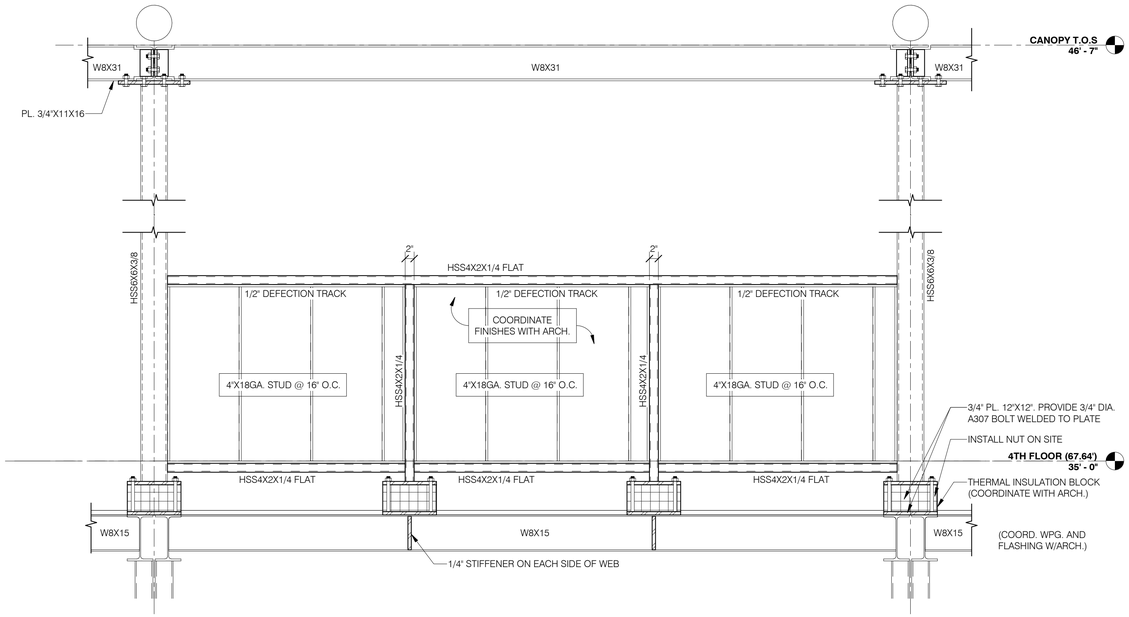
2 S-203 CANOPY SECTION

3/4" = 1'-0"



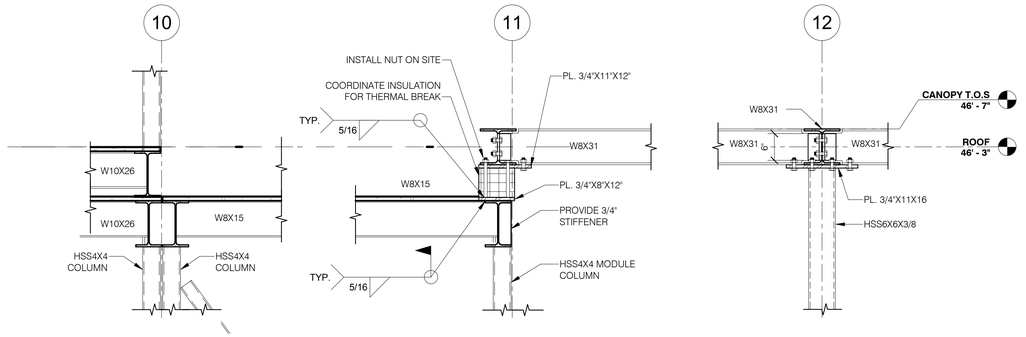
4 S-203 CANOPY SECTION @ CORNER

3/4" = 1'-0"



3 S-203 TYPICAL PARAPET DETAIL

3/4" = 1'-0"



5 S-203 CANOPY SECTION

3/4" = 1'-0"

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4	50% CD SET	03-20-2020
5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

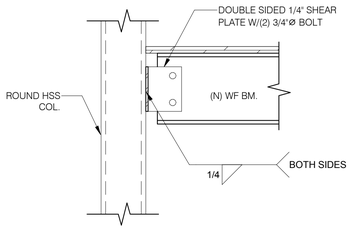
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BUILDING SECTIONS

DOB NOW Job# B00235703-I1

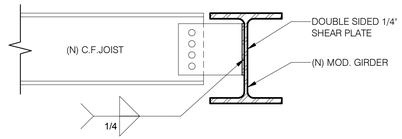
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Scale: 3/4" = 1'-0"
Seal/Signature:
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: S-203
DOB #:
Sheet #: of



7 S-204

TYPICAL SITE BUILT BEAM TO SITE BUILT ROUND HSS COLUMN

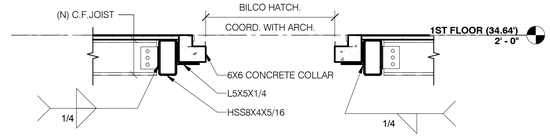
1 1/2" = 1'-0"



8 S-204

TYPICAL SITE BUILT C.F. JOIST TO MODULE WF CONNECTION

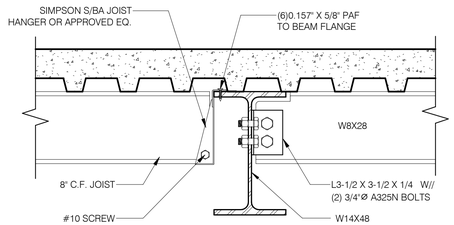
1 1/2" = 1'-0"



9 S-204

HATCH DOOR FRAMING

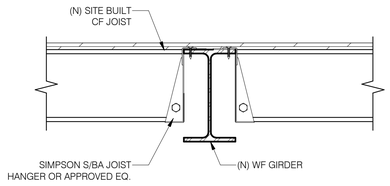
3/4" = 1'-0"



4 S-204

TYPICAL SITE BUILT C.F. JOIST TO SITE BUILT STEEL BEAM CONNECTION

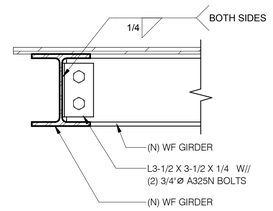
1 1/2" = 1'-0"



5 S-204

TYPICAL SITE BUILT C.F. JOIST CONNECTION

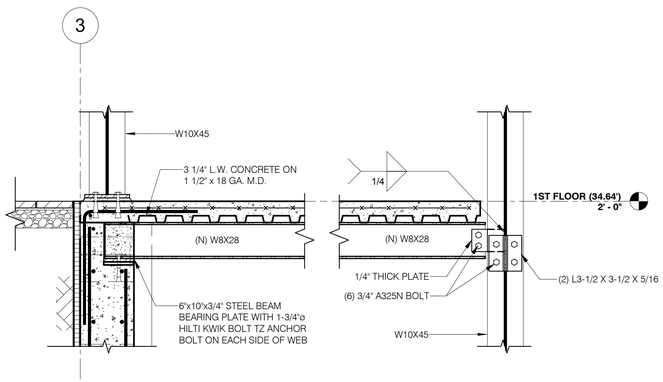
1 1/2" = 1'-0"



6 S-204

TYPICAL SITE BUILT BEAM TO SITE BUILT GIRDER CONNECTION

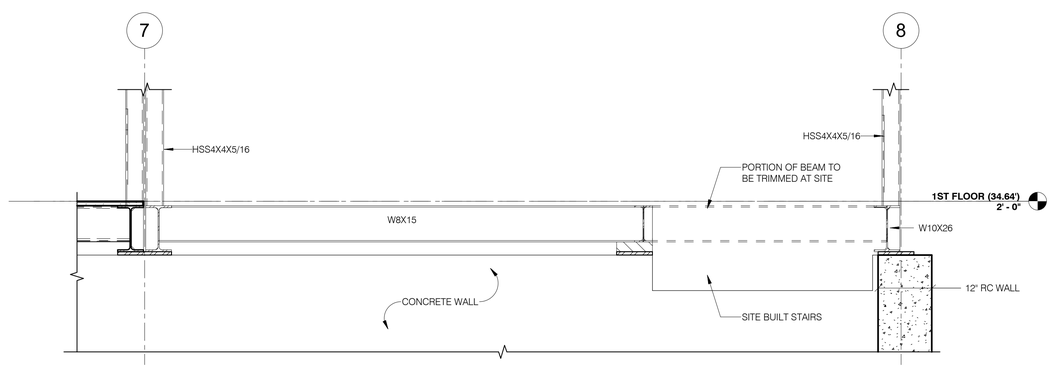
1 1/2" = 1'-0"



1 S-204

SECTION

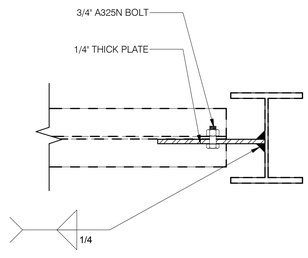
3/4" = 1'-0"



2 S-204

SECTION

3/4" = 1'-0"



3 S-204

PLAN DETAIL

1 1/2" = 1'-0"

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6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

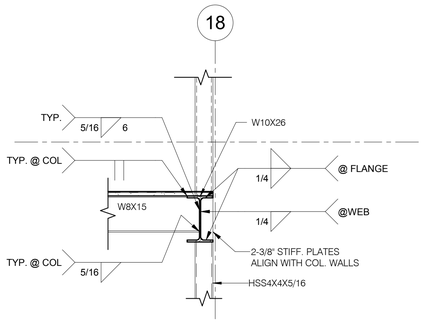
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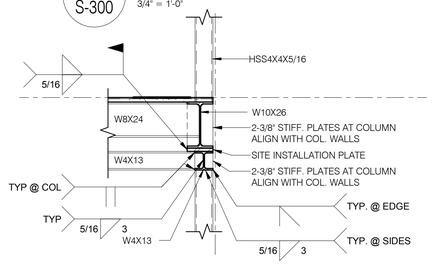
FRAMING SECTIONS

DOB NOW Job# B00235703-I1

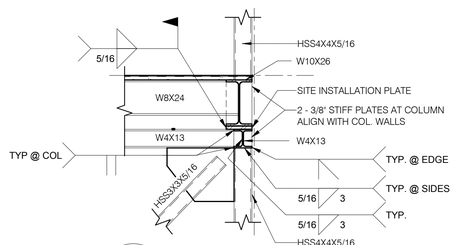
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Chkd By #:M.L.
Drawing #: S-204
DOB #:
Sheet #: of



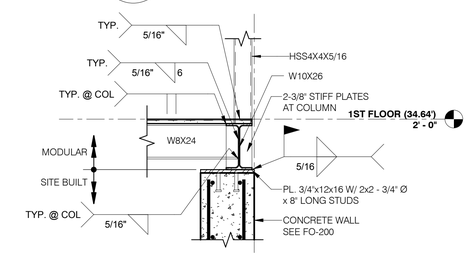
16 S-300 MODULAR DETAIL
3/4" = 1'-0"



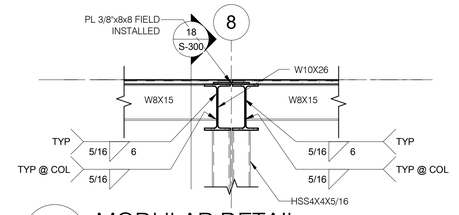
11 S-300 MODULAR DETAIL
3/4" = 1'-0"



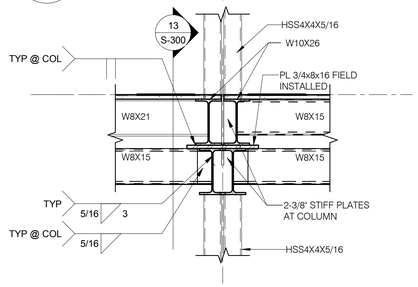
6 S-300 MODULAR DETAIL
3/4" = 1'-0"



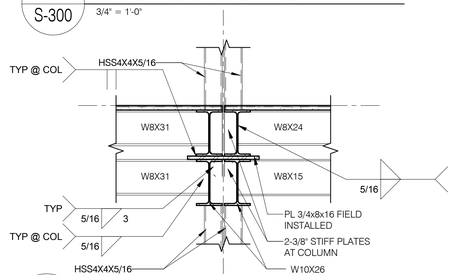
1 S-300 MODULAR DETAIL
3/4" = 1'-0"



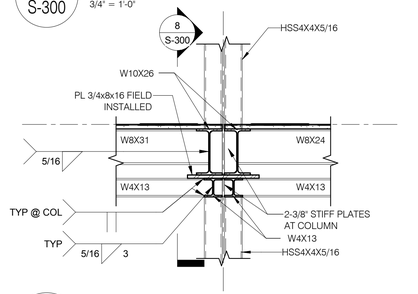
20 S-300 MODULAR DETAIL
3/4" = 1'-0"



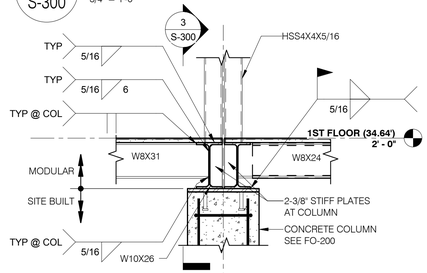
17 S-300 MODULAR DETAIL
3/4" = 1'-0"



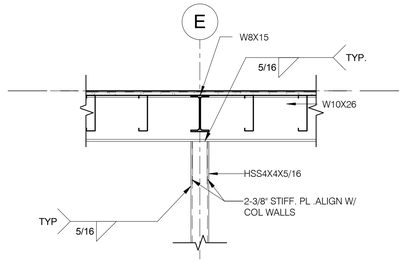
12 S-300 MODULAR DETAIL
3/4" = 1'-0"



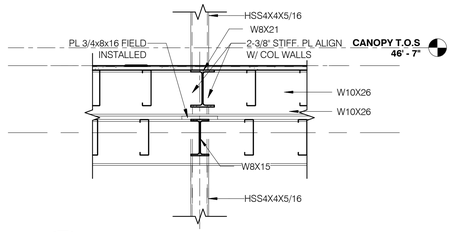
7 S-300 MODULAR DETAIL
3/4" = 1'-0"



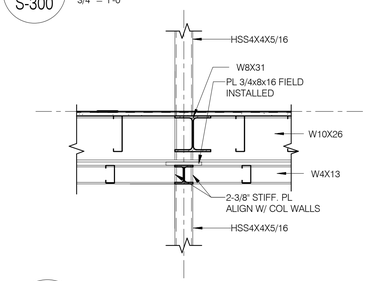
2 S-300 MODULAR DETAIL
3/4" = 1'-0"



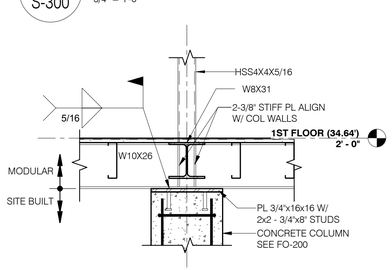
18 S-300 MODULAR DETAIL
3/4" = 1'-0"



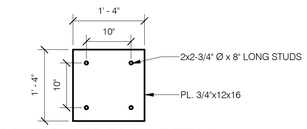
13 S-300 MODULAR DETAIL
3/4" = 1'-0"



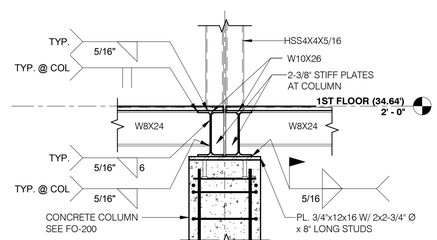
8 S-300 MODULAR DETAIL
3/4" = 1'-0"



3 S-300 MODULAR DETAIL
3/4" = 1'-0"



BASE PLATE PLAN DETAIL



4 S-300 MODULAR DETAIL
3/4" = 1'-0"

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6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

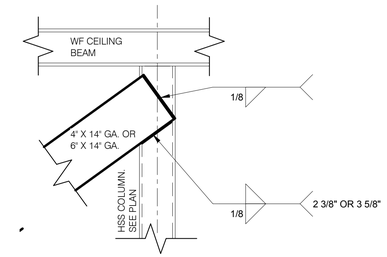
FOR:
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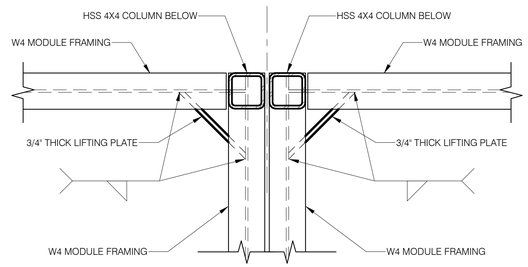
MODULAR DETAILS

DOB NOW Job# B00235703-I1

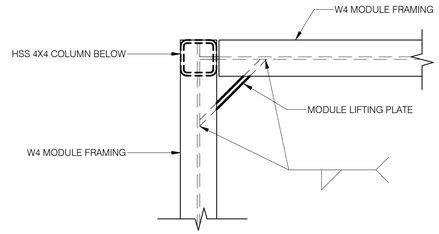
Date: 10-01-2019
Scale: 3/4" = 1'-0"
Seal/Signature:
Drawn By #: E.L.
Chkd By #: M.L.
Drawing #: S-300
DOB #:
Sheet #: of



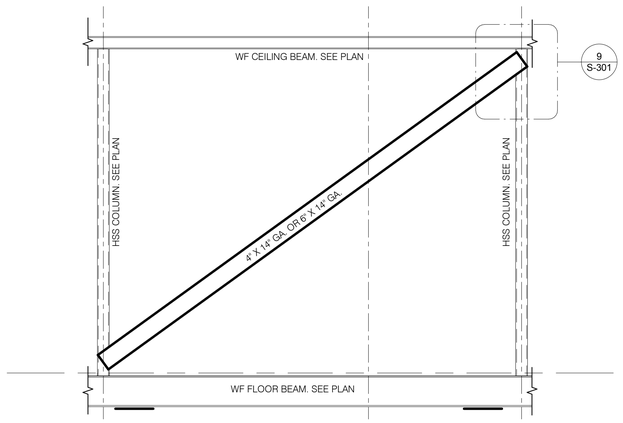
9 S-301 TYPICAL STRAP WELDED DETAIL
1 1/2" = 1'-0"



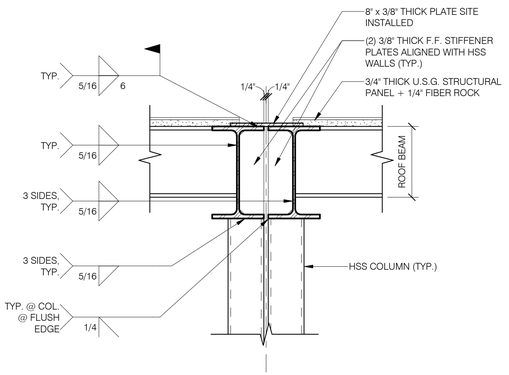
8 S-301 LIFTING PLATE PLAN DETAIL @ MID SPAN
1 1/2" = 1'-0"



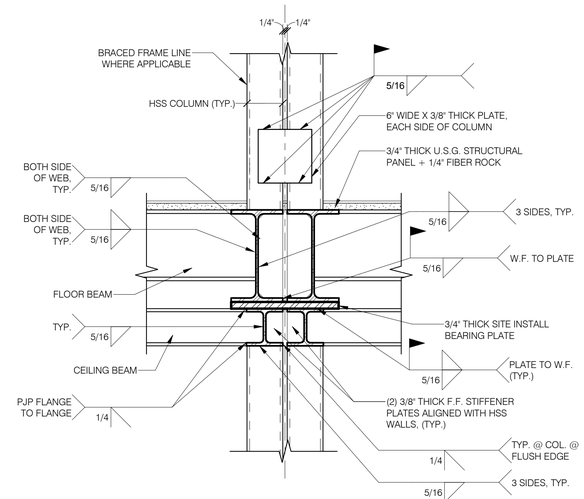
7 S-301 LIFTING PLATE PLAN DETAIL @ CORNERS
1 1/2" = 1'-0"



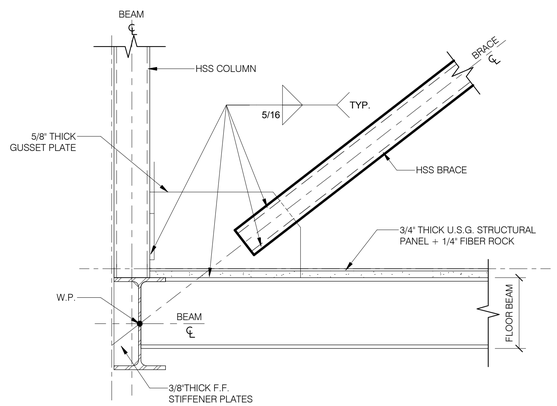
6 S-301 TYPICAL STRAP CONNECTION DETAIL
1/2" = 1'-0"



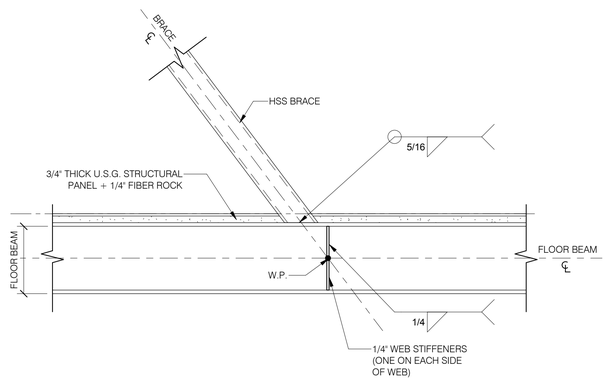
5 S-301 TYPICAL CONNECTION DETAIL AT MATE LINE @ ROOF
1 1/2" = 1'-0"



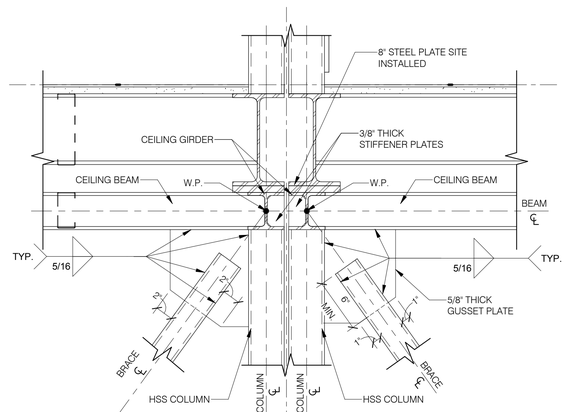
4 S-301 TYPICAL CONNECTION DETAIL AT MATE LINE @ FLOOR
1 1/2" = 1'-0"



3 S-301 TYPICAL BRACE DETAIL
1 1/2" = 1'-0"



2 S-301 TYPICAL ECCENTRIC BRACE DETAIL
1 1/2" = 1'-0"



1 S-301 TYPICAL BRACE DETAIL
1 1/2" = 1'-0"

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

MODULAR DETAILS

DOB NOW Job# B00235703-I1

Date: 10-01-2019
Seal/Signature:
DOB #:

Scale: As indicated
Drawn By #:E.L.
Chkd By #:M.L.
Drawing #: S-301
Sheet #: of

STRUCTURAL NOTES:

GENERAL

1. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE NEW YORK CITY BUILDING CODE AND WITH THE RULES AND REGULATIONS OF ALL LOCAL AGENCIES, DEPARTMENTS OR LAWS HAVING JURISDICTION OVER ANY PORTION OR SPECIFIC PHASE OF THE WORK. THE CONTRACTOR SHALL COORDINATE THE WORK WITH PUBLIC UTILITY COMPANIES HAVING JURISDICTION.

2. THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED FOR THE PERFORMANCE OF THE WORK AND PAY ALL FEES IN CONNECTION THEREOF.

3. CONTRACTOR SHALL COORDINATE STRUCTURAL DRAWINGS WITh the ARCHITECTURAL, MECHANICAL & ELECTRICAL DRAWINGS.

4. THE SIZE AND LOCATION OF ALL EQUIPMENT PADS AND PENETRATIONS THROUGH THE STRUCTURE SHALL BE VERIFIED BY THE MECHANICAL, ELECTRICAL AND PLUMBING CONTRACTORS. ALL PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE ARCHITECT/ENGINEER.

5. THE CONTRACTOR SHALL NOT MAKE DEVIATIONS FROM DESIGN DRAWINGS WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT/ENGINEER.

6. IF THERE IS A DISCREPANCY ON THE CONSTRUCTION DOCUMENTS, THE ARCHITECT/ENGINEER SHALL BE NOTIFIED IMMEDIATELY SO THAT THE DISCREPANCY CAN BE RESOLVED. UNLESS OTHERWISE INDICATED IN WRITING BY THE ARCHITECT/ENGINEER, THE MORE CONSERVATIVE INTERPRETATION OF THE CONSTRUCTION DOCUMENTS SHALL APPLY.

7. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS CONFIRMED BY FIELD CONDITIONS TAKE PRECEDENCE. IF DISCREPANCY ARISES BASED ON FIELD CONDITIONS, CONSULT WITH ARCHITECT/ENGINEER BEFORE PROCEEDING WITH WORK OR ORDERING MATERIALS.

8. ALL SECTIONS AND DETAILS SHALL BE CONSIDERED TYPICAL AND APPLY FOR THE SAME AND SIMILAR CONDITIONS, UNLESS OTHERWISE SPECIFICALLY NOTED.

9. ANY ITEM OF WORK NECESSARY FOR PROPER COMPLETION OF CONSTRUCTION, WHICH IS NOT SPECIFICALLY COVERED ON THE DRAWINGS OR IN THE SPECIFICATIONS, SHALL BE CONSIDERED INCLUDED IN THIS WORK AND SHALL BE PERFORMED IN A MANNER DEEMED GOOD PRACTICE OF THE TRADE INVOLVED.

10. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE SAFETY OF THE PUBLIC AND PROPERTY DURING CONSTRUCTION OPERATIONS AND UNTIL COMPLETION OF ALL WORK.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, DISTORTION AND MISALIGNMENT.

12. THE ARCHITECT/ENGINEER SHALL NOT BE RESPONSIBLE FOR THE PERFORMANCE OR THE WORK OF THE GENERAL CONTRACTOR, OWNER OR ANY OTHER SUBCONTRACTORS NOR SHALL HE GUARANTEE THEIR PERFORMANCE.

13. CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER IMMEDIATELY IF HE OR SHE CANNOT COMPLY WITH ALL REQUIREMENTS.

14. THE ENGINER SHALL NOT BE RESPONSIBLE FOR ANY CHANGES TO THIS PROJECT MADE BY OWNER, GENERAL CONTRACTOR OR ANY SUBCONTRACTOR OR MATERIAL SUPPLIER UNLESS PROPERLY AUTHORIZED, IN WRITING, BY THE ENGINEER.

DESIGN LOADS

1. DESIGN LOADS SHALL CONFORM TO THE FOLLOWING:
   - 1.1. NEW YORK CITY BUILDING CODE, 2014
   - 1.2. IBC 2012
   - 1.3. ANSI/ASCE 7-05 & 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.

2. LIVE LOAD:

PRIVATE ROOMS	40 PSF
ACCESSIBLE ROOF /TERRACE	100 PSF
CORRIDOR/EGRESS/PUBLIC AREAS	100 PSF
MECHANICAL ROOMS	75PSF

3. SNOW LOAD:
   GROUND SNOW LOAD 25 PSF
   SNOW LOAD DRIFT AND UNBALANCED LOADS PER ASCE 7

4. WIND LOAD:

BASIC WIND SPEED (3 SECOND GUST)	VULT = 124 MPH, VASD = 98 MPH
EXPOSURE CATEGORY	B
IMPORTANCE FACTOR	1.0
INTERNAL PRESSURE COEFFICIENT	GCPI = ±0.18

5. SEISMIC DESIGN CRITERIA:

IMPORTANCE FACTOR	1.25
OCCUPANCY CATEGORY	III
SHORT PERIOD ACCELERATION	Ss = 0.281g
1-SEC PERIOD ACCELERATION	S1 = 0.073g
SPECTRAL RESPONSE ACCELERATION	Sds = 0.295g
SPECTRAL RESPONSE ACCELERATION	Sd1 = 0.117g
SITE CLASS	D
SEISMIC DESIGN CATEGORY	B
SEISMIC FORCE RESISTING SYSTEM	STEEL SYSTEMS NOT DETAILED FOR SEISMIC RESISTANCE
DESIGN BASE SHEAR	305K
SEISMIC RESPONSE COEFFICIENT	Cs = 0.086
RESPONSE MODIFICATION FACTOR	R = 3.0
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE

6. STRUCTURAL DESIGN CONFORMS TO THE STRUCTURAL INTEGRITY REQUIREMENTS AS SET FORTH BY BC1615. BC1616 DOES NOT APPLY TO THIS BUILDING.

STRUCTURAL TESTS & "SPECIAL" INSPECTION

1. ALL MATERIALS, ASSEMBLIES, METHODS OF CONSTRUCTION AND SERVICE EQUIPMENT SHALL COMPLY WITH N.Y.S. BUILDING CODE REQUIREMENTS FOR "STRUCTURAL TESTS & SPECIAL INSPECTIONS AND ACCEPTANCE" CHAPTER 17 SECTIONS BC1701, BC1703, BC1704 & BC1710 AND CHAPTER 18 SECTIONS BC1801 THRU BC1814

2. DETAILED REQUIREMENTS OF INSPECTION AND TESTING WILL COMPLY WITH CHAPTERS 17 SECTIONS BC1701, BC1703, BC1704 & BC1710 AND CHAPTER 18 SECTIONS BC1801 THRU BC1814 OF THE N.Y.S. BUILDING CODE. BUILDING DEPARTMENT FORMS ARE TO BE FILED FOR THE FOLLOWING AREAS FOR THE STRUCTURAL WORK: CONSTRUCTION.
   - A. CONCRETE-CAST IN PLACE (BC1704.4)
   - B. CONCRETE-DESIGN MIX (BC1905.3, BC1913.5) (TR-3)
   - C. CONCRETE SAMPLING AND TESTING (BC1905.6, BC1913.10) (TR-2)
   - D. SUBGRADE INSPECTION (BC1704.7.1)
   - E. SUBSURFACE CONDITIONS-FILL PLACEMENT AND IN PLACE DENSITY (BC1704.7.2, BC1704.7.3)
   - F. SUBSURFACE INVESTIGATIONS (BORINGS/TEST PITS) (BC1704.7.4, BC1704.21.1)
   - G. STRUCTURAL SAFETY-EXISTING BUILDINGS (BC1704.20.1)
   - H. FOOTINGS AND FOUNDATIONS (BC110.3.1).
   - I. STRUCTURAL STEEL-WELDING (BC1704.3.1)
   - J. STRUCTURAL STEEL-DETAILS (BC1704.3.2)
   - K. STRUCTURAL STEEL-HIGH STRENGTH BOLTING (BC1704.3.3)
   - L. STRUCTURAL COLD-FORMED STEEL (BC1704.3.4)
   - M. EXCAVATIONS-SHEETING, SHORING AND BRACING (BC1704.20.2)

3. THE OWNER SHALL HIRE AND PAY FOR THE SERVICES OF A N.Y. STATE LICENSED P.E. AND A N.Y. CITY LICENSED TESTING LABORATORY TO PROVIDE THE TESTING AND INSPECTION REQUIRED FOR "SPECIAL" INSPECTIONS.

EXISTING CONDITIONS

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MEASURE ALL REQUIRED FIELD DIMENSIONS AND TO VERIFY ALL EXISTING CONDITIONS THAT ARE SHOWN ON THE DRAWINGS. SHOULD ANY OF THE CONDITIONS PROVE TO BE NOT AS SHOWN ON THE DRAWINGS, THE ENGINEER SHALL BE IMMEDIATELY INFORMED BEFORE PROCEEDING WITH ANY OF THE WORK.

2. THE FOLLOWING SEQUENCE OF WORK SHALL BE FOLLOWED:
   - A. THE CONTRACTOR SHALL PROVIDE NECESSARY DEMOLITION WORK, AS NECESSARY TO REVEAL THE EXISTING STRUCTURE (FLOOR FRAMING AND WALLS) WHICH EFFECTS THE NEW WORK.
   - B. THE ENGINEER AND CONTRACTOR SHALL REVIEW THE EXPOSED STRUCTURE AND DETERMINE IF ANY CHANGES NEED TO BE MADE TO THE NEW STRUCTURE AND DETAILS AS A RESULT OF THE CONDITIONS AND DIMENSIONS OF THE EXISTING FRAMING.
   - C. ALL FIELD DIMENSIONS SHALL BE TAKEN BY THE CONTRACTOR FOR FABRICATION OF THE NEW STEEL.
   - D. ALL THE ABOVE MUST BE DONE BEFORE SHOP DRAWINGS ARE STARTED.

SUBMITTALS

1. PRIOR TO PROCEEDING WITH THE WORK, CONTRACTOR SHALL SUBMIT THE FOLLOWING TO THE ENGINEER FOR REVIEW:
   - A. MIX DESIGNS FOR ALL GRADES OF CONCRETE INCLUDING CERTIFIED TEST DATA ON STRENGTH OF SAMPLE BATCHES.
   - B. PLACING AND SHOP DRAWINGS FOR ALL REINFORCING STEEL.
   - C. MANUFACTURER'S CATALOG DATA, TOGETHER WITH CERTIFIED TEST DATA, FOR ANY PROPRIETARY PRODUCT PROPOSED AS A SUBSTITUTE FOR SPECIFIED MATERIALS.
   - D. LIGHT GAUGE FRAMING SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION AND SHALL BEAR THE SEAL OF REGISTERED PROFESSIONAL ENGINEER.
   - E. STEEL SHOP DRAWINGS, ERECTION PLANS AND DETAILS.

2. REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS ONLY FOR GENERAL COMPLIANCE WITH DESIGN INTENT. REVIEW OF THE DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF COMPLETING THE WORK IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS. CONTRACTOR WILL ALLOW A MINIMUM OF 10 WORKING DAYS FOR REVIEW OF ALL SUBMITTALS, FOLLOWING RECEIPT BY ENGINEER.

3. SUBMIT THE FOLLOWING TO THE ENGINEER FOR RECORD PURPOSES:
   - A. MILL CERTIFICATES AND TEST REPORTS FOR REINFORCING STEEL.
   - B. MILL CERTIFICATES AND TEST REPORTS FOR STRUCTURAL STEEL.
   - C. RESULTS OF CONCRETE SPECIMEN COMPRESSIVE STRENGTH TESTS, SUBMIT WITHIN 48 HOURS OF TESTING.
   - D. TEMPORARY SHORING AND BRACING SHOP DRAWINGS PLANS.

FOUNDATION

1. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT PREPARED BY GEO TECH CONSULTANTS, LLC. DATED MAY 24TH, 2019

2. ALL FOUNDATION WORK SHALL COMPLY WITH REQUIREMENTS OF CHAPTER 18 OF NYCBC2014.

3. ALL FOOTINGS SHALL BEAR ON CLASS 3B SOIL (MEDIUM DENSE TO DENSE COMPACT SOIL) HAVING A MINIMUM BEARING CAPACITY OF 3.0 TSF.

4. MAXIMUM SLOPE BETWEEN BOTTOMS OF FOOTINGS SHALL BE ONE VERTICAL TO TWO HORIZONTAL.

5. THE DESIGN, ADEQUACY AND SAFETY OF BRACING, SHORING OF TEMPORARY SUPPORTS, ETC., IS THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

6. FOOTINGS FOR STAIRS, CONCRETE APRONS AND RAMPS SHALL BEAR AT OR BELOW MINIMUM BEARING DEPTH, MINIMUM BEARING DEPTH IS 4'-0" BELOW FINISHED GRADE.

7. FOOTING ELEVATIONS SHOWN ON FOUNDATION PLAN ARE BASED ON THE BORINGS AND CONSTITUTE THE BEST AVAILABLE INFORMATION. IT MAY BE NECESSARY TO LOWER FOOTINGS DUE TO FIELD CONDITIONS IN ORDER TO REACH ADEQUATE BEARING MATERIAL. FOOTINGS SHALL NOT BE CONSTRUCTED UNTIL SOIL, PREPARED FOR BEARING HAS BEEN APPROVED.

8. NO BACKFILLING OR COMPACTION AGAINST WALLS SHALL BE DONE UNTIL THE CONCRETE HAS ATTAINED FULL STRENGTH AND SUPPORTING SLABS ARE IN PLACE OR WALLS HAVE BEEN ADEQUATELY BRACED.

9. BACKFILL AGAINST GRADE BEAMS SHALL BE PLACED EVENLY ON BOTH SIDES.

10. FILL AND BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATTER.

11. CONSTRUCTION JOINTS IN WALLS SHALL BE VERTICAL JOINTS LOCATED A MINIMUM DISTANCE OF 4'-0" FROM ANY WALL OPENINGS OR CONCENTRATED LOADS.

12. NO HORIZONTAL CONSTRUCTION JOINTS WILL BE PERMITTED IN WALLS, BUTTRESSES, OR FOOTINGS UNLESS SPECIFICALLY SHOWN.

13. SPREAD FOOTINGS SHALL BE LOCATED SUCH THAT COLUMNS ARE CENTERED OVER FOOTINGS IN BOTH DIRECTIONS, UNLESS NOTED OTHERWISE ON PLAN.

14. NO FOOTING SHALL BE PLACED IN WATER OR ON FROZEN GROUND.

15. STANDARD PROCEDURES OF FROST PROTECTION FOR FOOTINGS AND FOOTING EXCAVATIONS SHALL BE USED FOR WINTER CONSTRUCTION. BACKFILLING OF FOOTING EXCAVATIONS SHALL BE DONE AS SOON AS POSSIBLE TO PROTECT FOOTINGS FROM FROST ACTION.

16. WATERSTOPS SHALL BE PLACED IN ALL CONSTRUCTION JOINTS BELOW GROUND LEVEL.

17. CONTRACTOR SHALL VERIFY ALL ELEVATIONS AND POSITIONS OF EXISTING FOUNDATIONS AT OR ADJACENT TO NEW CONSTRUCTION AND SUBMIT FIELD SKETCHES AS MAY BE REQUIRED FOR ARCHITECT/ ENGINEERS' APPROVAL BEFORE STARTING ANY FIELD WORK.

DRILLED IN ANCHORS

ANCHORS DRILLED INTO CONCRETE OR MASONRY SHALL BE AS FOLLOWS:

1. ANCHORS INTO CONCRETE, EXCEPT AS NOTED BELOW, SHALL BE HILTI HIT HY-200 MAX. ADHESIVE ANCHORS UNLESS NOTED OTHERWISE ON THE DRAWINGS.

2. ANCHORS DRILLED OVERHEAD INTO A FLAT SURFACE AT THE UNDERSIDE OF A CONCRETE SLAB OR BEAM SHALL BE HILTI KWIK BOLT TZ EXPANSION ANCHORS.

3. ANCHORS INTO HOLLOW BLOCK SHALL BE HILTI HIT HY-70 ADHESIVE ANCHORS W/SCREEN.

4. ANCHORS INTO BLOCK GROUTED SOLID SHALL BE HILTI HIT HY-70 MAX ADHESIVE ANCHORS.

5. REBAR ANCHORED INTO CONCRETE SHALL BE HILTI HIT-RE500 SD EPOXY SYSTEM.

CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO ACI-318 SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS AND ACI-301 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, LATEST EDITION.

2. ALL CONCRETE SHALL BE CONTROLLED STONE OR GRAVEL CONCRETE, AIR ENTRAINED WHERE EXPOSED.

3. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A-706, GRADE 60.

4. ALL ELEVATED CONCRETE SLABS ON METAL DECK SHALL BE LIGHT WEIGHT CONCRETE WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

5. ALL CONCRETE FOR THE SUPERSTRUCTURE SHALL BE NORMAL WEIGHT CONCRETE WITH A MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 4,000 PSI.

6. ALL CONCRETE FOR SLAB ON GRADE SHALL BE NORMAL WEIGHT CONCRETE WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

7. ALL CONCRETE FOR THE FOUNDATION SHALL BE STONE CONCRETE WITH A MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 4,000 PSI.

8. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A-706 GRADE 60

9. ALL SLABS RECEIVE A STEEL TROWELED FINISH.

10. NO ADMIXTURE SHALL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE ENGINEER.

11. ALL REQUIREMENTS FOR BATCHING, MIXING, FINISHING, CURING ETC. SHALL BE AS PER ACI 301.

12. THE CONCRETE MIX SHALL BE PROPORTIONED SO THAT NO LESS THAN 5.75 BAGS OF CEMENT ARE USED PER CUBIC YARD OF CONCRETE , AND NO MORE THAN 5 1/2 GALLONS OF WATER ARE USED PER BAG OF CEMENT. THE CONCRETE MIX SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO ANY CONCRETE WORK.

13. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 WITH A MINIMUM ULTIMATE STRENGTH OF 70,000 PSI.

14. REINFORCING BARS SHALL BE SPLICED A MINIMUM OF 45 BAR DIAMETERS OR 24" WHICHEVER IS GREATER, UNLESS OTHERWISE NOTED. LAP TOP BARS AT MID SPAN AND BOTTOM BARS AT SUPPORTS.

15. DEVELOPMENT LENGTH, Ld (or ld) SHALL BE 35 BAR DIAMETERS OR 18", WHICHEVER IS GREATER, UNLESS OTHERWISE NOTED.

16. MINIMUM EMBEDMENT FOR STANDARD HOOKS SHALL BE 16 BAR DIAMETERS UNLESS OTHERWISE NOTED. THE 90 DEGREE END HOOK SHALL HAVE A MINIMUM LENGTH OF 12 BAR DIAMETERS.

17. MINIMUM CONCRETE COVERING OF REINFORCING STEEL SHALL BE AS FOLLOWS: 3/4" FOR SLABS 1" FOR INSIDE FACE OF WALLS 1-1/2" FOR BEAMS AND COLUMNS 1-1/2" FOR FORMED CONCRETE SURFACES EXPOSED TO WEATHER 2" FOR FORMED CONCRETE SURFACES EXPOSED TO EARTH 3" FOR FOOTINGS AND BEAMS POURED DIRECTLY AGAINST SOIL.

18. PROVIDE 2-#6 BARS MINIMUM IN ALL SIDES AROUND WALL OPENINGS. EXTEND HORIZONTAL BARS 2'-0" PAST OPENING ON EACH SIDE OR HOOK WHERE 2'-0 NOT POSSIBLE. EXTEND VERTICAL BARS FOR FULL HEIGHT OF WALL.

19. ALL FOUNDATION WALLS 12" THICK OR GREATER SHALL HAVE 2-#5 CONTINUOUS TOP AND BOTTOM BARS. ALL OTHER WALLS SHALL HAVE 2-#5 CONTINUOUS TOP AND BOTTOM BARS UNLESS OTHERWISE SHOWN.

20. NON-SHRINK GROUT SHALL BE NONMETALLIC WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 P.S.I.

21. PROVIDE PROPER HIGH CHAIRS, SPACERS AND SUPPORTS TO HOLD REINFORCING SECURELY IN PLACE WHILE PLACING CONCRETE.

22. THE CONTRACTOR SHALL ASCERTAIN LOCATION OF ALL SLEEVES, INSERTS ANCHOR BOLTS, ETC. REQUIRED BY OTHER TRADES. INSTALLATION OF ALL SUCH EMBEDMENTS SHALL BE CHECKED FOR COMPLETENESS AND LOCATION BEFORE CONCRETE IS POURED AND COORDINATED WITH SHOP DRAWINGS OF TRADES REQUIRING THESE ITEMS. MINIMUM CONCRETE BETWEEN SLEEVES SHALL BE 6 INCHES.

23. UNLESS OTHERWISE NOTED ON DRAWINGS, SLEEVES FOR PIPING THRU WALLS SHALL BE STEEL PIPE SLEEVES OF NOMINAL DIAMETER 2 INCHES LARGER THAN THE NOMINAL SIZE OF THE PIPE PENETRATING THE WALL. THE THICKNESS OF THE SLEEVE SHALL CONFORM TO SCHEDULE NO. 40 BUT NEED NOT BE MORE THAN 3/8 INCH.

24. CONSTRUCTION JOINTS WHEN REQUIRED SHALL BE LOCATED AT POINTS OF ZERO SHEAR AND MUST BE APPROVED BY THE ENGINEER. SPLICES IN REINFORCING RODS SHALL BE AT POINT OF MINIMUM STRESS. ENGINEER OF RECORD TO REVIEW AND APPROVE ANY MECHANICAL SPLICE CONNECTOR FOR REBAR.

25. VERTICAL CONTRACTION JOINTS AT 20' C/C (MAXIMUM 10' FROM CORNERS) SHALL BE PROVIDED IN ALL WALLS OR AS INDICATED ON DRAWINGS. CONTRACTION JOINTS SHALL BE V-JOINTS IN EACH FACE OF WALL NOT EXPOSED TO EARTH (CORE WALLS EXCLUDED). SEE DRAWINGS FOR TYPICAL CONCRETE WALL CONTRACTION JOINT DETAIL.

26. EXPANSION AND CONTRACTION JOINTS BETWEEN CONCRETE MEMBERS SHALL BE FILLED WITH APPROVED MATERIAL.

27. PROVIDE WATERSTOPS AT ALL CONSTRUCTION JOINTS BELOW GRADE LEVEL.

28. ALL TEMPORARY OPENINGS AND BEAM OR COLUMN POCKETS SHALL BE FILLED. PROVIDE 2x4 KEY AROUND OPENING OR POCKET.

29. NO CONSTRUCTION SHALL BE MADE WITHOUT REINFORCEMENT. UNLESS OTHERWISE NOTED, THE FOLLOWING PERCENTAGE OF THE CROSS SECTIONAL AREA SHALL BE PROVIDED AS MINIMUM REINFORCEMENT:
   SLABS, TOP AND BOTTOM 0.20%
   BEAMS, TOP AND BOTTOM 0.33%
   STIRRUPS ..... #3 @ 8"
   COLUMNS, VERTICAL 1.0%
   COLUMNS, VERTICAL TIES ..... #3 @ 12"
   WALLS, SEE TYPICAL WALL DETAILS.

30. CALCIUM CHLORIDE SHALL NOT BE USED IN CONCRETE MIXES.

31. BACKFILL WITH LEAN CONCRETE TO BOTTOM OF FOOTING AROUND ALL PIPING PASSING BELOW THE SPREAD FOOTINGS. MINIMUM LENGTH OF LEAN CONCRETE ENCASEMENT SHALL BE FOOTING WIDTH PLUS 4 FEET. SEE DRAWINGS FOR TYPICAL DETAILS OF PIPE AT FOOTINGS.

32. WHERE NEW CONCRETE IS TO BE PLACED AGAINST EXISTING CONCRETE SURFACES, THE EXISTING SURFACE SHALL BE ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 1/4 INCH. THE SURFACE SHALL BE CLEANED AND LAITANCE REMOVED IMMEDIATELY. ALL CONSTRUCTION JOINTS SHALL BE MOISTENED AND STANDING WATER REMOVED BEFORE THE NEW CONCRETE IS PLACED.

33. FOR EMBEDDED INSERT LOCATIONS, DETAILS, ELEVATIONS, ETC. NOT SHOWN ON THE STRUCTURAL DRAWINGS REFER TO THE ARCHITECTURAL DRAWINGS.

34. UNLESS OTHERWISE NOTED, REINFORCING BARS OR WELDED WIRE FABRIC SHALL NOT BE WELDED, TACK-WELDED OR USED FOR STRIKING AN ARC.

35. COLD WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH ACI-306.

36. THROUGHOUT CONSTRUCTION, THE CONCRETE WORK SHALL BE ADEQUATELY PROTECTED AGAINST DAMAGE DUE TO EXCESSIVE LOADING, CONSTRUCTION EQUIPMENT, MATERIALS OR METHODS, ICE, RAIN, SNOW, EXCESSIVE HEAT AND FREEZING TEMPERATURES.

37. EARLY DRYING OUT OF CONCRETE, ESPECIALLY DURING THE FIRST 24 HOURS, SHALL BE CAREFULLY GUARDED AGAINST. ALL SURFACES SHALL BE MOIST CURED OR PROTECTED USING A MEMBRANE CURING AGENT APPLIED AS SOON AS FORMS ARE REMOVED. IF MEMBRANE CURING AGENT IS USED, EXERCISE CARE NOT TO DAMAGE COATING.

38. NO REINFORCING STEEL IS TO BE CUT AT SLEEVE LOCATION. LOCATE SLEEVES PRIOR TO INSTALLING REINFORCING STEEL. LOCATE SLEEVES TO ALLOW MAXIMUM SPACING OF REINFORCING AS SHOWN ON DRAWING MAINTAIN MINIMUM 1" COVER BETWEEN SLEEVE AND REINFORCING. GROUP SLEEVES TOGETHER IF POSSIBLE AND INSTALL LARGER SLEEVE.

CONCRETE SLABS

1. ALL SLABS SHALL BE FINISHED AS NOTED ON ARCHITECTURAL DRAWINGS.

2. PROVIDE RECESSES AS REQUIRED FOR FLOOR FINISHES, SADDLES, ETC.

3. IF STRUCTURAL FLOOR SLABS AND BEAMS ARE NOT CONSTRUCTED IN ONE CONTINUOUS POUR, THE VERTICAL CONSTRUCTION JOINT BETWEEN POURS SHALL BE CONTINUOUSLY KEYED AND PLACED WITHIN THE MIDDLE FIFTH OF SPANS AND SHALL BE SHORED UNTIL MEMBER HAS ATTAINED MINIMUM 28 DAY STRENGTH. SEE TYPICAL CONSTRUCTION JOINT DETAILS. OTHER LOCATIONS MUST BE APPROVED BY THE STRUCTURAL ENGINEER.

CONCRETE SLABS - SLAB-ON-GRADE

1. WHERE SLAB ON GRADE IS SUPPORTED ON BACKFILL, THE FILL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING EIGHT INCHES (8") TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY PER ASTM D-1557. FILL MATERIAL SHALL BE LIMITED TO WELL GRADED SAND OR SAND AND GRAVEL MIXTURE WITH LESS THAN 10 TO 15 PERCENT FINES PASSING THE NO. 200 SIEVE AND A MAXIMUM GRAVEL SIZE OF 3 INCHES.

2. CONCRETE SLABS-ON-GRADE SHALL BE POURED OVER 10 MIL THICK CLEAR POLYETHYLENE FILM VAPOR BARRIER OF TYPE RECOMMENDED FOR BELOW GRADE APPLICATION.

3. SLAB-ON-GRADE, WHERE NOTED ON PLAN, TO BE (5") THICK, REINFORCED WITH ONE LAYER OF 6x6 W4.0x4.0 WELDED WIRE FABRIC, U.O.N.

4. WELDED WIRE FABRIC FOR CONCRETE SLABS ON GRADE SHALL BE PLACED 2" BELOW TOP OF SLAB. LAP SPLICE OVERLAP LENGTH TO BE 8" AND SHALL BE MEASURED BETWEEN THE OUTERMOST CROSS WIRES OF EACH FABRIC SHEET. DO NOT PLACE WWF BELOW MIDDEPTH OF SLAB.

5. CONSTRUCT ISOLATION JOINTS IN SLABS-ON-GRADE AT POINTS OF CONTACT BETWEEN SLABS-ON-GRADE AND VERTICAL SURFACES, SUCH AS COLUMN PEDESTALS, FOUNDATION WALLS, GRADE BEAMS, AND OTHER LOCATIONS, AS INDICATED.

6. CONSTRUCT CONTRACTION (CONTROL) JOINTS IN SLABS-ON-GRADE TO FORM PANELS. UNLESS OTHERWISE SHOWN ON DRAWINGS, PROVIDE JOINTS NOT EXCEEDING 15 FEET IN EITHER DIRECTION AND LOCATED TO CONFORM TO BAY SPACING WHEREVER POSSIBLE (AT COLUMN CENTERLINES, HALF BAYS, THIRD BAYS.)

7. TO FORM CONTRACTION (CONTROL) JOINTS, USE SAW CUTS 1/8 INCH WIDE BY ONE-FOURTH OF SLAB DEPTH OR INSERTS 1/4 INCH WIDE BY ONE-FOURTH OF SLAB DEPTH, UNLESS OTHERWISE INDICATED.

8. LOCATION OF ALL JOINTS IN CONCRETE TO BE COORDINATED BY GENERAL CONTRACTOR WITH JOINTS IN FLOOR AND WALL FINISHES AND REVIEWED WITH AND APPROVED BY ARCHITECT PRIOR TO POURING OF SLABS.

9. PROPER CURING PROCEDURE SHALL BE USED FOR SLAB-ON-GRADE TO PREVENT SLAB CURL.

MASONRY CONSTRUCTION NOTES:

1. ALL CONCRETE MASONRY UNITS (CMU) SHALL HAVE MIN. COMPRESSIVE STRENGTH OF f'm 2000PSI AT TIME OF PLACEMENT.
2. ALL CONCRETE MASONRY CONSTRUCTION SHALL CONFORM TO THE NEW YORK CITY BUILDING CODE AND THE LATEST EDITION OF THE "NATIONAL CONCRETE MASONRY ASSOCIATION" (NCMA) SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF LOAD BEARING CONCRETE MASONRY. PARTICULAR ATTENTION IS BROUGHT TO CHAPTER 4 - CONSTRUCTION. SEE SPECIFICATIONS AND NOTES FOR SPECIFIC CONDITIONS.
3. ALL CONCRETE MASONRY UNITS SHOWN ON STRUCTURAL DRAWINGS SHALL BE LOAD BEARING TYPE AS DEFINED IN THE CMU SCHEDULE. UNITS SHALL BE 3 CELL, NOMINAL 16" LONG, WIDTH SHOWN ON DRAWINGS, MINIMUM 1-1/2" FACE SHELL THICKNESS FOR C90 UNITS UNLESS OTHERWISE NOTED.
4. MASONRY UNITS SHALL BE GROUT FILLED A MINIMUM WITH TYPE S AS FOLLOWS UNLESS OTHERWISE SHOWN ON THE DRAWINGS:
   a. CONTINUOUSLY FILL UPPER COURSE OF MASONRY BELOW ALL FLOORS AND ROOF STRUCTURES, PROVIDING A UNIFORM LEVEL BEARING SURFACE TO RECEIVE PRECAST PLANK ON BEARING PAD
   b. FILL BLOCKS BELOW ALL LINTELS (16" IN LENGTH X MINIMUM 3 COURSE HIGH), UNLESS NOTED FULL HEIGHT.
   c. PROVIDE VERTICAL REINFORCING BARS IN ALL MASONRY PIERS AND WALLS FULLY EMBEDDED IN GROUT AS SHOWN ON DETAILS.
   d. FILL VERTICAL CELLS EACH END OF ALL MASONRY WALLS.
5. REQUIREMENTS FOR GROUTING AND REINFORCING BARS IN AREAS NOT SHOWN SHALL BE PROVIDED AS SHOWN IN SIMILAR CONDITIONS.
6. ALL WALLS AND PIERS SHALL HAVE CONTINUOUS HORIZONTAL WALL REINFORCING (GALVANIZED HEAVY DUTY LADDER TYPE 'DUR-O-WAL' OR EQUAL) PLACED AS SHOWN ON DRAWINGS AND NOTED AS FOLLOWS.
   a. FIRST TWO COURSES TOP AND BOTTOM OF FLOORS. TWO COURSES BELOW ROOF.
   b. FIRST TWO COURSES TOP AND BOTTOM AT WALL OPENINGS.
   c. PLACE CONTINUOUS REINFORCING AT 16" O.C. AT VERTICAL INTERVALS IN BALANCE OF WALL HEIGHT.
   d. PROVIDE CORNER AND INTERSECTING WALL FABRICATED UNITS OF SIMILAR REINFORCING AND SPACING AS ABOVE.
   e. WIDTH OF REINFORCING EQUALS OVERALL WIDTH OF WALL MINUS 2".
   f. REINFORCING TO BE INTERRUPTED AT CONTROL AND EXPANSION JOINTS.
7. MORTAR FOR NON LOAD BEARING WALLS SHALL BE LAID IN MORTAR TYPE "O" AND CONFORM TO ASTM C270.
8. GROUT:
   a. GROUT BELOW BASE PLATES, FOR UNDERPINNING AND FOR GROUTING BETWEEN NEW BEAMS AND EXISTING CONSTRUCTION, AND AS OTHERWISE SHOWN ON THE DRAWINGS SHALL BE NON SHRINK, NON METALLIC GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 1 DAY AND 6000 PSI AFTER 7 DAYS,
   b. GROUT REFERRED TO AS 'DRY PACK' SHALL MEET THE STRENGTH REQUIREMENTS ABOVE BUT HAVE A LOW WATER CONTENT SO THAT IT WOULD BE STIFF ENOUGH TO BE PACKED SOLIDLY INTO PLACE.
   c. GROUT THAT NEEDS TO BE INSTALLED THICKER THAN 3" IN THE VERTICAL DIMENSION SHALL HAVE PEA GRAVEL ADDED.
   d. CONTRACTOR SHALL SUBMIT MANUFACTURE'S DATA ON GROUT TO BE USED, AS WELL AS DESIGN MIXES FOR GROUT WITH ADDED PEA GRAVEL, TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL.
   e. GROUT FOR CORES, BOND BEAMS, AND WITHIN MASONRY UNITS SHALL CONFORM TO ASTM C476, FINE GROUT. NO ADMIXTURES TO BE ADDED. TO BE PLACED IN MAXIMUM OF 4'-0" LIFTS.
9. ALL CONCRETE MASONRY UNITS TO BE LAID IN FULL BED OF MORTAR, SHELL FACE AND WEBS.
10. ALL MASONRY WALLS BUTTING CONCRETE WALLS TO BE ANCHORED WITH 20 GA. DOVETAIL ANCHORS 8" O.C. VERTICAL.
11. ALL WALLS TO HAVE TEMPORARY HORIZONTAL BRACING DURING WALL CONSTRUCTION.
12. ALL CORNERS AND INTERSECTING (CMU) WALLS TO BE LAID IN AN INTERLOCKING BLOCK PATTERN.
13. WALL AREAS NOTED TO BE GROUTED SHALL BE CONSTRUCTED WITH HOLLOW CORE BLOCK C90 OF SIMILAR TYPE, SIZE, AND STRENGTH SPECIFIED FOR THAT WALL.
14. BRICK MASONRY WALLS AND PIERS:
   a. ALL NEW B

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF THE AISC "SPECIFICATIONS FOR STRUCTURAL STEEL FOR BUILDINGS" - LATEST EDITION AND ALL CURRENT SUPPLEMENTS.
2. ALL WELDING WORK AND WELDING INSPECTION WORK SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE AWS D1.1-LATEST EDITION. ALL WELDING WORK SHALL BE DONE BY AWS CERTIFIED WELDERS. THE FIELD WELDING SHALL BE DONE BY THE MANUAL SHIELDED METAL ARC WELDING METHOD.
3. ALL STEEL SHAPES, PLATES, BARS, RODS, SHALL CONFORM TO ASTM A992 UNLESS OTHERWISE NOTED. ALL TUBES TO BE ASTM A500, GRADE C. U.O.N..
4. ALL BOLTS SHALL BE ASTM A325 BOLTS. PROVIDE A MINIMUM OF TWO BOLTS PER CONNECTION, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
5. ALL NEW STEEL WITHIN THE BUILDING IS TO BE PAINTED WITH TNEMEC Q99 OVER WIRE BRUSHED STEEL AS PER SSPC SP2. 6. ALL STEEL EXPOSED TO WEATHER IS TO BE PAINTED WITH TNEMEC PAINT 90-97 ZINC RICH PRIMER & SERIES 73 ENDURA-SHIELD III TOP COAT OVER COMMERCIAL BLAST CLEAN PER SSPC-SP6.
6. ALL STEEL TUBES SHALL CONFORM TO ASTM A500, GRADE C. ALL STEEL PIPES SHALL CONFORM TO ASTM A53 TYPE E, GRADE B, OR TYPE S GRADE B.
7. ALL BOLTS IN GRAVITY BEAMS SHALL BE 3/4" DIAMETER ASTM A325N BOLTS IN BEARING TYPE CONNECTIONS, UNLESS OTHERWISE NOTED SPECIFICALLY ON THE DRAWINGS. PROVIDE A MINIMUM OF TWO BOLTS PER CONNECTION, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
8. ALL WELDING ELECTRODES SHALL BE E70XX LOW HYDROGEN.
9. ALL GROOVE WELDS SHALL BE AWS PRE-QUALIFIED COMPLETE JOINT PENETRATION GROOVE WELDS, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
10. ALL SHOP CONNECTIONS SHALL BE WELDED; ALL FIELD CONNECTIONS SHALL BE BOLTED, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
11. STEEL FOR SHEAR STUD CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STRUCTURAL WELDING CODE, AWS D1.1, LATEST EDITION. CONTRACTOR SHALL ENSURE CONFORMITY WITH SPECIFICATIONS AND MANUFACTURER CERTIFICATION.
12. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE STEEL AND METAL DECK TO THE ENGINEER FOR HIS REVIEW, PRIOR TO FABRICATION.
13. ALL STEEL SHALL BE CLEANED AS PER SSPC SP2 HAND TOOL CLEANING, OR SSPC SP3, POWER TOOL CLEANING AND BE PAINTED WITH A PRIMER CONFORMING TO SSPC-PAINT 13 (RED OR BROWN ONE COAT SHOP PAINT). FINISH COAT SHALL BE COORDINATED WITH THE ARCHITECT.
14. ALL STEEL IS TO BE FIREPROOFED TO ACHIEVE THE MINIMUM REQUIRED RATINGS. CONTRACTOR SHALL SUBMIT FOR ARCHITECT'S REVIEW MATERIAL SPEC. SHEETS ACCOMPANIED BY U.L. AND NYC B.S. & A. NUMBERS.
15. SPLICE LOCATIONS SHALL NOT DEVIATE FROM DRAWINGS WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
16. OVERSIZED OR SLOTTED HOLES SHALL NOT BE USED FOR ANY CONNECTIONS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR ACCORDING TO THE APPROVAL OF THE ENGINEER.
17. THE STRUCTURAL STEEL CONTRACTOR SHALL COORDINATE LOCATIONS OF BEAMS AND GIRDERS AROUND ELEVATORS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
18. THE STRUCTURAL STEEL CONTRACTOR SHALL COORDINATE THE BOTTOM OF BASE PLATE ELEVATION WITH THE TOP OF CONCRETE ELEVATION. IN CASE OF CONFLICT, CONTRACTOR SHALL MAKE ALLOWANCE FOR MOST RIGID REQUIREMENTS.
19. AT POINTS OF CONCENTRATED LOAD, PROVIDE WELDED STIFFENER PLATES ON BOTH SIDES OF THE WEB OF BEAMS. MINIMUM PLATE THICKNESS TO BE GREATER OF FLANGE THICKNESS OF COLUMN ABOVE OR BELOW, OR 1/2 INCH.
20. FILLER BEAMS SHOULD BE SPACED EQUALLY BETWEEN THE SUPPORTS, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
21. CUTS, HOLES, COPING, ETC. REQUIRED FOR WORK OF OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS AND MADE IN THE SHOP. CUTTING OR BURNING HOLES IN STRUCTURAL STEEL MEMBERS SHALL NOT BE DONE IN THE FIELD.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE LATERAL SUPPORT OF THE BUILDING DURING CONSTRUCTION THROUGH TEMPORARY BRACING OR GUYS.

COLD FORMED STEEL

1. ALL COLD FORMED METAL FRAMING SHALL CONFORM TO AISI NORTH AMERICAN SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS, LATEST EDITION.
2. COLD FORMED STEEL, INCLUDING STUDS, JOISTS AND ACCESSORIES SHALL CONFORM TO THE A MINIMUM YIELD STRENGTH OF 50KSI AND ASTM A-653 SPECIFICATION, UNLESS OTHERWISE NOTED.
3. ALL STUDS AND/OR JOISTS AND ACCESSORIES SHALL BE OF THE TYPE, SIZE AND THICKNESS SHOWN ON THE DESIGN DRAWINGS. & SHOP DRAWINGS.
4. ALL STORED PRODUCTS SHALL BE LAID FLAT AND PROTECTED FROM CONDITIONS THAT MIGHT CAUSE PHYSICAL DAMAGE.
5. ANY DAMAGED MATERIAL, AS DETERMINED BY PROJECT ARCHITECT AND/OR ENGINEER SHALL BE REMOVED IMMEDIATELY FROM THE PREMISES AT NO COST TO THE OWNER.
6. TEMPORARY BRACING SHALL BE PROVIDED AND REMAIN IN PLACE UNTIL WORK IS PERMANENTLY STABILIZED.
7. ALL COLD FORMED STEEL SHALL BE GALVANIZED WITH G-60 COATING IN CONFORMANCE WITH ASTM C-995.
8. CUTTING OF COLD FORMED STEEL SHALL BE BY SAW OR SHEAR. NO TORCH CUTTING IS PERMITTED. NO CUTTING OF LOADED MEMBERS WITHOUT PERMISSION OF ARCHITECT/ENGINEER.
9. BRACING & BRIDGING SHALL BE OF THE TYPE AND SIZE SHOWN ON THE DESIGN DRAWINGS & SHOP DRAWINGS.
10. ANCHORAGE OF TRACK TO SUPPORTING STRUCTURE SHALL BE BASED ON MATERIAL TO BE ATTACHED TO. WHEN CONNECTION IS NOT SHOWN ON DRAWINGS, PROJECT ARCHITECT SHALL DETERMINE CONNECTION.
11. WELDS SHALL CONFORM TO AWS E1.3, D1.3 AND AISI MANUAL, WELDS MAY BE BUTT, FILLET, SPOT OR GROOVE TYPE AS SHOWN ON DRAWINGS. ALL WELDS SHALL BE TOUCHED UP WITH ZINC RICH PAINT.
12. STEEL SCREWS SHALL BE No, 10-16 SELF TAPPING, SELF DRILLING SCREWS UNLESS OTHERWISE SHOWN ON DRAWINGS.
13. THE FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGN AND ADEQUACY OF ALL CONNECTIONS THAT ARE NOT FULLY DETAILED ON THE CONTRACT DRAWINGS.

METAL DECK

1. ALL FLOOR DECK TO BE GALVANIZED COMPOSITE FLOOR DECK OF THE SIZE AND TYPE INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS.
2. ALL DECK SHALL BE PLACED CONTINUOUSLY OVER THREE OR MORE SPANS, EXCEPT IN AREAS WHERE THERE IS ONLY ONE SPAN.
3. ALL DECK TO BE CONNECTED TO SUPPORTING STEEL WITH 5/8" PUDDLE WELD AT EACH FLUTE.
4. ALL SIDE LAPS OF DECK TO BE CONNECTED WITH NO. 7 x 7/16" PAN HEAD SCREWS AT 36" O.C. MAX.

GROUT

1. GROUT BELOW BASE PLATES, FOR UNDERPINNING AND FOR GROUTING BETWEEN NEW BEAMS AND EXISTING CONSTRUCTION, AND AS OTHERWISE SHOWN ON THE DRAWINGS SHALL BE NON SHRINK, NON METALLIC GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 1 DAY AND 6000 PSI AFTER 7 DAYS,
2. GROUT REFERRED TO AS 'DRY PACK' SHALL MEET THE STRENGTH REQUIREMENTS ABOVE BUT HAVE A LOW WATER CONTENT SO THAT IT WOULD BE STIFF ENOUGH TO BE PACKED SOLIDLY INTO PLACE.
3. GROUT THAT NEEDS TO BE INSTALLED THICKER THAN 3" IN THE VERTICAL DIMENSION SHALL HAVE PEA GRAVEL ADDED.
4. CONTRACTOR SHALL SUBMIT MANUFACTURE'S DATA ON GROUT TO BE USED, AS WELL AS DESIGN MIXES FOR GROUT WITH ADDED PEA GRAVEL, TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL.

MODULAR NOTES:

GENERAL:

1. WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE NYC BUILDING CODE, LATEST EDITION, AND THE BUILDING DEPARTMENT RULES.
2. WORK THESE DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING DRAWINGS, AS WELL AS THE SPECIFICATIONS.
3. COORDINATE THE MODULAR STRUCTURAL NOTES WITH THE SITE BUILT STRUCTURAL NOTES.

CAST IN PLACE CONCRETE

1. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST ACI BUILDING CODE, ACI 318, PLUS THE ACI "SPECIFICATIONS FOR STRUCTURAL CONCRETE" ACI 301.
2. ALL CONCRETE FOR THE SLABS ON DECK SHALL BE LTWT CONCRETE WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
3. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60.
4. ALL SLABS SHALL RECEIVE A STEEL TROWELED FINISH.
5. NO ADMIXTURE SHALL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE ENGINEER.
6. ALL REQUIREMENTS FOR BATCHING, MIXING, FINISHING, CURING ETC. SHALL BE AS PER ACI 301.
7. THE CONCRETE MIX SHALL BE PROPORTIONED SO THAT NO LESS THAN 5.75 BAGS OF CEMENT ARE USED PER CUBIC YARD OF CONCRETE, AND NO MORE THAN 5 1/2 GALLONS OF WATER ARE USED PER BAG OF CEMENT. THE MIX SHALL BE A PREQUALIFIED MIX AS PER NYC BUILDING CODE PROVISION 27-605. THE CONCRETE MIX SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO ANY CONCRETE WORK.
8. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.

GROUT

1. GROUT BELOW BASE PLATES, FOR UNDERPINNING AND FOR GROUTING BETWEEN NEW BEAMS AND EXISTING CONSTRUCTION, AND AS OTHERWISE SHOWN ON THE DRAWINGS SHALL BE NON SHRINK, NON METALIC GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 1 DAY AND 6000 PSI AFTER 7 DAYS,
2. GROUT REFERRED TO AS 'DRY PACK' SHALL MEET THE STRENGTH REQUIREMENTS ABOVE BUT HAVE A LOW WATER CONTENT SO THAT IT WOULD BE STIFF ENOUGH TO BE PACKED SOLIDLY INTO PLACE.
3. GROUT THAT NEEDS TO BE INSTALLED THICKER THAN 3" IN THE VERTICAL DIMENSION SHALL HAVE PEA GRAVEL ADDED.
4. CONTRACTOR SHALL SUBMIT MANUFACTURE'S DATA ON GROUT TO BE USED, AS WELL AS DESIGN MIXES FOR GROUT WITH ADDED PEA GRAVEL, TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL.

DRILLED IN ANCHORS

1. ANCHORS DRILLED INTO CONCRETE OR MASONRY SHALL BE AS FOLLOWS:
2. ANCHORS INTO CONCRETE, EXCEPT AS NOTED BELOW, SHALL BE HILTI RE500 SD, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
3. ANCHORS DRILLED OVERHEAD INTO A FLAT SURFACE AT THE UNDERSIDE OF A CONCRETE SLAB OR BEAM SHALL BE HILTI KWIK BOLT-TZ
4. ANCHORS INTO HOLLOW BLOCK SHALL BE HILTI HY-70
5. ANCHORS INTO BLOCK GROUTED SOLID SHALL BE HILTI HY150 MAX
6. ANCHORS INTO BRICK SHALL BE HILTI HY 70
7. IF CONTRACTOR WOULD LIKE TO SUBSTITUTE FOR ANOTHER ANCHOR MANUFACTURER, THE CONTRACTOR SHALL SUBMIT PRODUCT DATA INDICATING EQUIVALENT STRENGTH FOR EACH ANCHOR. THE CONTRACTOR MAY USE THOSE ANCHORS ONLY IF APPROVED BY THE ENGINEER OF RECORD.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF THE AISC "SPECIFICATIONS FOR STRUCTURAL STEEL FOR BUILDINGS" - LATEST EDITION AND ALL CURRENT SUPPLEMENTS.
2. ALL WELDING WORK AND WELDING INSPECTION WORK SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE AWS D1.1-LATEST EDITION. ALL WELDING WORK SHALL BE DONE BY AWS CERTIFIED WELDERS. THE FIELD WELDING SHALL BE DONE BY THE MANUAL SHIELDED METAL ARC WELDING METHOD.
3. ALL STEEL SHAPES, PLATES, BARS, RODS, AND ANCHOR BOLTS, SHALL CONFORM TO ASTM A992. ALL TUBES TO BE ASTM A500, GRADE B.
4. ALL BOLTS SHALL BE ASTM A325 BOLTS. PROVIDE A MINIMUM OF TWO BOLTS PER CONNECTION, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
5. ALL NEW STEEL WITHIN THE BUILDING IS TO BE PAINTED WITH TNEMEC Q99 OVER WIRE BRUSHED STEEL AS PER SSPC SP2. 6. ALL STEEL EXPOSED TO WEATHER IS TO BE PAINTED WITH TNEMEC PAINT 90-97 ZINC RICH PRIMER & SERIES 73 ENDURA-SHIELD III TOP COAT OVER COMMERCIAL BLAST CLEAN PER SSPC-SP6

COLD FORMED STEEL

1. LIGHT GAGE COLD FORMED STEEL SHALL CONFORM TO THE "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS" OF THE LATEST EDITION OF THE AMERICAN IRON AND STEEL INSTITUTE.
2. ALL COLD FORMED MEMBERS SHALL HAVE FY = 50KSI UNLESS OTHERWISE NOTED.
3. ALL STUDS SHALL BE BRACED WITH TWO ROWS OF BRIDGING EQUALLY SPACED BETWEEN FLOORS (4'-0" MAX SPACING). USE A 16GA U-CHANNEL IN WEB.
4. FOR JOIST BRIDGING, PROVIDE 16 GAGE SOLID BRACING FOR THE FIRST AND LAST TWO JOIST SPACES. STARTING AT THE THIRD JOIST SPACE, PROVIDE 2"X16 GAGE STRAP BRACING, TOP AND BOTTOM, EXTENDING FOR FIVE SPACES. FOLLOW WITH CHANNEL BRIDGING IN ONE SPACE. REPEAT TO COMPLETION, WITH EACH FIVE SPACES OF STRAP BRIDGING FOLLOWED BY ONE SPACE OF CHANNEL BRIDGING.

   NUMBER OF BRIDGINGS:

   A. ONE ROW AT MID SPAN UP TO 14'.
   B. TWO ROWS AT THIRD POINTS FOR SPANS 14'-20'.
   C. THREE ROWS AT QUARTERED POINTS FOR SPANS 20'-26'.

METAL DECK

1. ALL FLOOR DECK TO BE GALVANIZED COMPOSITE FLOOR DECK OF THE SIZE AND TYPE INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS.
2. ALL DECK SHALL BE PLACED CONTINUOUSLY OVER THREE OR MORE SPANS, EXCEPT IN AREAS WHERE THERE IS ONLY ONE SPAN
3. ALL DECK TO BE CONNECTED TO SUPPORTING STEEL WITH 5/8" PUDDLE WELD AT EACH FLUTE
4. ALL SIDE LAPS OF DECK TO BE CONNECTED WITH NO. 7 x 7/16" PAN HEAD SCREWS AT 36" O.C. MAX.

STRUCTURAL TESTS & "SPECIAL" INSPECTION REQUIREMENTS

REQUIREMENTS FOR FABRICATION OF MODULAR CONSTRUCTION IN NYC

INSTALLATION OF MODULAR CONSTRUCTION WILL BE PERMITTED IN ACCORDANCE WITH THE FOLLOWING:

1. IN-SHOP FABRICATION WORK. ALL PREFAB UNITS MUST COMPLY WITH THE TECHNICAL PROVISIONS OF THE NYC ADMINISTRATIVE CODE. THE OWNER MAY CHOOSE ONE OF THE FOLLOWING OPTIONS TO DEMONSTRATE PREFABRICATED WORK IS PERFORMED PROPERLY AND INSPECTED TO DOB'S SATISFACTION PRIOR TO INSTALLATION ON-SITE:

   A. HIRE NYC LICENSED CONTRACTORS TO PERFORM THE OFF-SITE WORK AS IF SUCH WORK WERE TO BE PERFORMED ON-SITE. IN THIS ALTERNATIVE THE TECHNICAL STANDARDS AND ADMINISTRATIVE LICENSING REQUIREMENTS FOR THE PERFORMANCE OF WORK BY THE LICENSEE OR BY HIS/HER EMPLOYEES UNDER HIS/HER SUPERVISION WOULD BE HELD TO THE SAME STANDARD AS ON-SITE WORK, OR

   B. APPLY TO THE DEPARTMENT FOR SITE-SPECIFIC APPROVAL OF THE METHODS OF CONSTRUCTION (OTCR2 SUBMITTAL REQUIRED). IN THIS ALTERNATIVE, THE DEPARTMENT WOULD ESTABLISH TECHNICAL STANDARDS AND QUALITY CONTROL/INSPECTION REQUIREMENTS TO ASSURE THE DEPARTMENT THAT THE WORK IS PERFORMED PROPERLY AND INSPECTED TO DOB'S SATISFACTION FOR A SPECIFIC JOB. DOB WOULD NOT BE COMPELLED TO REQUIRE THAT WORK BE PERFORMED BY THE LICENSEE OR HIS/HER EMPLOYEE(S) UNDER HIS/HER SUPERVISION, BUT WOULD BE ABLE TO SPECIFY THE QUALITY CONTROL/INSPECTION REQUIREMENTS AS APPLICABLE TO THE SPECIFIC PROJECT, OR

   C. APPLY TO THE DEPARTMENT FOR SITE-SPECIFIC APPROVAL OF MATERIALS, ESTABLISHING UNIVERSAL ACCEPTANCE CRITERIA APPLICABLE TO ALL SIMILAR PREFABRICATE COMPONENTS / ASSEMBLIES (OTCR2 SUBMITTAL REQUIRED). IN THIS ALTERNATIVE, THE DEPARTMENT WOULD ACCEPT RECOGNIZED TECHNICAL STANDARDS AND QUALITY CONTROL/INSPECTION REQUIREMENTS, SUBJECT TO DOB ADDITIONAL REQUIREMENTS, TO ASSURE DOB THAT THE WORK IS PERFORMED PROPERLY AND INSPECTED TO DOB'S SATISFACTION FOR SUCH ASSEMBLIES. DOB WOULD NOT BE COMPELLED TO REQUIRE THAT WORK BE PERFORMED BY THE LICENSEE OR HIS/HER EMPLOYEE(S) UNDER HIS/HER SUPERVISION BUT WOULD BE ABLE TO SPECIFY THE QUALITY CONTROL/INSPECTION REQUIREMENTS DEEMED APPLICABLE TO ALL SUCH PREFABRICATED ASSEMBLIES.

2. SPECIAL INSPECTIONS. SPECIAL INSPECTIONS, AS REQUIRED BY THE BUILDING CODE TO ENSURE WORK IS PERFORMED IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS, ARE ALSO REQUIRED TO BE PERFORMED FOR OFF-SITE PREFABRICATION. SPECIAL INSPECTIONS SHALL BE PERFORMED BY ONE OF THE FOLLOWING ENTITIES:

   A. NYC SPECIAL INSPECTION AGENCIES. SPECIAL INSPECTIONS WILL BE PERFORMED BY AGENCIES WHICH MEET ESTABLISHED DOB REQUIREMENTS. SPECIAL INSPECTION AGENCIES ARE REQUIRED TO SUBMIT A STATEMENT OF INSPECTION WHEN SIGNING OFF IDENTIFIED INSPECTIONS, OR

   B. NYC APPROVED FABRICATORS. DOB WILL APPROVE FABRICATORS BASED ON CERTIFICATION BY A THIRD-PARTY QUALITY ASSURANCE AGENCY. APPROVED FABRICATORS ARE RESPONSIBLE FOR REQUIRED SPECIAL INSPECTIONS OUTLINED IN THEIR QUALITY ASSURANCE PROGRAMS.

3. ON-SITE WORK. THE WORK NECESSARY TO CONNECT AND INSTALL ANY PREFABRICATED UNIT ON SITE IS SUBJECT TO THE STANDARD REQUIREMENTS FOR LICENSED WORK AND REQUIRES THE DOB LICENSEE TO OBTAIN PERMITS, PERFORM THE WORK SUBJECT TO THE LICENSING REQUIREMENTS, AND OBTAIN SIGNOFFS.

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Revision Schedule

#	Description	Date
1	ISSUE FOR D.O.B. FILING	10-01-2019
2	75% D-D SET	10-21-2019
3	100% D-D SET	11-14-2019
4	50% CD SET	03-20-2020
5	75% CD SET	04-22-2020
6	100% CD SET	05-03-2020

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

STRUCTURAL NOTES II

DOB NOW Job# B00235703-I1

Date: 10-01-2019

Seal/Signature:

DOB #:

Scale: 1" = 1'-0"

Drawn By #: E.L.

Chkd By #: M.L.

Drawing #: S-401

Sheet #: of

COM*check* Software Version 4.1.4.0

Mechanical Compliance Certificate

Project Information

Energy Code:	90.1 (2013) Standard
Project Title:	BETHANY TERRACES
Location:	New York, New York
Climate Zone:	4a
Project Type:	New Construction

Construction Site:
604 EAST 40TH STREET, BROOKLYN
New York, NY 113585

Owner/Agent:
RISEBORO COMMUNITY
PARTNERSHIP

Designer/Contractor:
Michael Tobias
New York Engineers
135 W 41st Street, 5th Floor
New York, NY 10036

Mechanical Systems List

Quantity	System Type & Description
1	ACCU-1 (Single Zone): VRF Condensing Unit, Air Cooled Heat Pump Heating Mode: Capacity = 243 kBtu/h, Proposed Efficiency = 3.80 COP, Required Efficiency = 3.20 COP Cooling Mode: Capacity = 216 kBtu/h, Proposed Efficiency = 10.7 EER, Required Efficiency: 10.60 EER + 11.8 IEER Fan System: None
2	ACCU-2,ACCU-3 (Single Zone): VRF Condensing Unit, Air Cooled Heat Pump Heating Mode: Capacity = 216 kBtu/h, Proposed Efficiency = 3.30 COP, Required Efficiency = 3.20 COP Cooling Mode: Capacity = 192 kBtu/h, Proposed Efficiency = 11.00 EER, Required Efficiency: 10.60 EER + 11.8 IEER Fan System: None
2	ACCU-4,ACCU-5 (Single Zone): VRF Condensing Unit, Air Cooled Heat Pump Heating Mode: Capacity = 162 kBtu/h, Proposed Efficiency = 3.52 COP, Required Efficiency = 3.30 COP Cooling Mode: Capacity = 144 kBtu/h, Proposed Efficiency = 12.1 EER, Required Efficiency: 11.00 EER + 12.3 IEER Fan System: None
1	ACCU-6 (Single Zone): VRF Condensing Unit, Air Cooled Heat Pump Heating Mode: Capacity = 216 kBtu/h, Proposed Efficiency = 3.83 COP, Required Efficiency = 3.20 COP Cooling Mode: Capacity = 192 kBtu/h, Proposed Efficiency = 13.40 EER, Required Efficiency: 10.60 EER + 11.8 IEER Fan System: None
2	ACCU-7,ACCU-8(Single Zone): VRF Condensing Unit, Air Cooled Heat Pump Heating Mode: Capacity = 264 kBtu/h, Proposed Efficiency = 3.38 COP, Required Efficiency = 3.20 COP Cooling Mode: Capacity = 297 kBtu/h, Proposed Efficiency = 11.5 EER, Required Efficiency: 10.60 EER + 11.8 IEER Fan System: None
1	ACCU-9 (Single Zone): VRF Condensing Unit, Air Cooled Heat Pump Heating Mode: Capacity = 54 kBtu/h, Proposed Efficiency = 9.50 HSPF, Required Efficiency = 7.70 HSPF Cooling Mode: Capacity = 48 kBtu/h, Proposed Efficiency = 17.70 SEER, Required Efficiency: 13.00 SEER Fan System: None
1	EUH-C-1 (Single Zone): Heating: 1 each - Unit Heater, Electric, Capacity = 10 kBtu/h No minimum efficiency requirement applies Fan System: None
5	EUH-C-2,C-3,1-1,4-2,R-1 (Single Zone): Heating: 1 each - Unit Heater, Electric, Capacity = 3 kBtu/h No minimum efficiency requirement applies Fan System: None
10	EUH-C-4 TO EUH-C-13 (Single Zone): Heating: 1 each - Unit Heater, Electric, Capacity = 14 kBtu/h No minimum efficiency requirement applies Fan System: None
2	EUH-2-1, EUH-4-1 (Single Zone): Heating: 1 each - Unit Heater, Electric, Capacity = 2 kBtu/h No minimum efficiency requirement applies Fan System: None
1	EUH-R-2 (Single Zone): Heating: 1 each - Unit Heater, Electric, Capacity = 5 kBtu/h No minimum efficiency requirement applies Fan System: None
2	EDH-1&2 (Single Zone): Heating: 1 each - Unit Heater, Electric, Capacity = 42 kBtu/h No minimum efficiency requirement applies Fan System: None

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 90.1 (2013) Standard requirements in COM*check* Version 4.1.4.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Michael Tobias — Name - Title
Signature
08/11/2020 — Date

COM*check* Software Version 4.1.4.0

Inspection Checklist

Energy Code: 90.1 (2013) Standard

Requirements: 100.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2, 6.4.4.2.1, 6.7.2 [PR2][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER NOTE#19 UNDER NYC DUILDING DEPARTMENT NOTES ON SHEET M-001.00
4.2.2, 8.4.1.1, 8.4.1.2, 8.7 [PR6][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.7.2.4 [PR5][1]	Detailed instructions for HVAC systems commissioning included on the plans or specifications for projects >=50,000 ft2.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply. **Location on plans/spec:** REFER BUILDING DATA ON SHEET T-002.00

Additional Comments/Assumptions:

1 High Impact (Tier 1) | 2 Medium Impact (Tier 2) | 3 Low Impact (Tier 3)

EN DRAWING LIST	
EN-001.00	ENERGY ANALYSIS (1 OF 4)
EN-002.00	ENERGY ANALYSIS (2 OF 4)
EN-003.00	ENERGY ANALYSIS (3 OF 4)
EN-004.00	ENERGY ANALYSIS (4 OF 4)

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NOTES:

NORTH:

Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

MEP:
NEW YORK ENGINEERS
135 W 41st Street,5th Floor
New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

ENERGY ANALYSIS (1 OF 4)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #: NYE

Chkd By #: NYE

Drawing #: EN-001.00

DOB #: B00235775-I1

Sheet #: of

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
6.4.3.7 [FO9][1]	Freeze protection and snow/ice melting system sensors for future connection to controls.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.1.4, 6.4.1.5 [ME1][1]	HVAC equipment efficiency verified. Non-NAECA HVAC equipment labeled as meeting 90.1.	Efficiency:_____	Efficiency:_____	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER MECHANICAL SCHEDULE ON SHEET
6.4.3.4.1 [ME3][1]	Stair and elevator shaft vents have motorized dampers that automatically close.			■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER SHEET M-104.00 AND M-105.00 FOR VENTS AND DAMPER LOCATIONS
6.4.3.4.2, 6.4.3.4.3 [ME4][1]	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed.			■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER SHEET M-100.00 TO M-106.00 FOR DAMPER LOCATIONS.
6.4.3.4.5 [ME39][1]	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.4.3.4.4 [ME5][1]	Ventilation fans >0.75 hp have automatic controls to shut off fan when not required.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** HVAC systems intended to operate continuously.
6.4.3.8 [ME6][1]	Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Systems with a design outdoor airflow less than 1200 cfm.
6.5.3.2.1 [ME40][2]	DX cooling systems >= 75 kBtu/h (>= 65 kBtu/h effective 1/2016) and chilled-water and evaporative cooling fan motor hp >= ¼ designed to vary indoor fan airflow as a function of load and comply with operational requirements.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.4.4.1.1 [ME7][1]	Insulation exposed to weather protected from damage. Insulation outside of the conditioned space and associated with cooling systems is vapor retardant.			■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER NOTE #B.B.2 UNDER PIPING INSULATION ON SHEET M-004.00
6.4.4.1.2 [ME8][2]	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	R-_____	R-_____	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER SECTION#230713 DUCT INSULATION ON SHEET M-003.00
6.4.4.1.3 [ME9][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	_____ in.	_____ in.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER NOTE #B.A. UNDER PIPING INSULATION ON SHEET M-004.00

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.4.1.4 [ME41][3]	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.4.4.2.1 [ME10][2]	Ducts and plenums sealed based on static pressure and location.			■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER NOTE #1.1(A) UNDER SECTION 233113 ON SHEET M-003.00
6.4.4.2.2 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.4.4.2.2 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.4.4.2.2 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.4.4.2.2 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.4.4.2.2 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.4.4.2.2 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.4.4.2.2 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.4.4.2.2 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.4.4.2.2 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.4.2.2 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.4.4.2.2 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
6.5.2.3 [ME19][3]	Dehumidification controls provided to prevent reheating, recooling, mixing of hot and cold airstreams or concurrent heating and cooling of the same airstream.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Use of a desiccant systems.
6.5.2.4.1 [ME68][3]	Humidifiers with airstream mounted preheating jackets have preheat auto-shutoff value set to activate when humidification is not required.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.2.4.2 [ME69][3]	Humidification system dispersion tube hot surfaces in the airstreams of ducts or air-handling units insulated >= R-0.5.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.2.5 [ME70][3]	Preheat coils controlled to stop heat output whenever mechanical cooling, including economizer operation, is active.			■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REQUIREMENT DOES NOT APPLY
6.5.3.3 [ME42][3]	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.3.3 [ME42][3]	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply. *See the Mechanical Systems list for values.*
6.5.3.3 [ME42][3]	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.3.3 [ME42][3]	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.3.3 [ME42][3]	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.3.3 [ME42][3]	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.3.3 [ME42][3]	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.3.3 [ME42][3]	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.3.3 [ME42][3]	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.3.3 [ME42][3]	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.3.3 [ME42][3]	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.4.2 [ME25][3]	HVAC pumping systems >10 hp designed for variable fluid flow.			■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REQUIREMENT DOES NOT APPLY
6.5.6.1 [ME56][1]	Exhaust air energy recovery on systems meeting Tables 6.5.6.1-1, and 6.5.6.1-2.			■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER SHEET M-100.00 TO M-106.00 FOR ERV LOCATIONS.
6.5.7.1.1 [ME32][2]	Kitchen hoods >5,000 cfm have make up air >=50% of exhaust air volume.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.7.1.5 [ME49][3]	Approved field test used to evaluate design air flow rates and demonstrate proper capture and containment of kitchen exhaust systems.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.8.1 [ME34][2]	Unenclosed spaces that are heated use only radiant heat.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.4.3.9 [ME63][2]	Heating for vestibules and air curtains include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating systems controlled by a thermostat in the vestibule with setpoint <= 60F.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.10 [ME73][3]	Doors separating conditioned space from the outdoors have controls that disable/reset heating and cooling system when open.			☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Building entrances have automatic closing devices.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10][2]	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
10.4.1 [EL9][2]	Electric motors meet requirements where applicable.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
6.4.3.1.2 [FI3][3]	Thermostatic controls have a 5 °F deadband.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER #B DEADBAND UNDER THERMOSTATIC CONTROLS ON SHEET M-005.00
6.4.3.2 [FI20][3]	Temperature controls have setpoint overlap restrictions.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER #E SETPOINT OVERLAP RESTRICTIONS UNDER THERMOSTATIC CONTROLS ON SHEET M-005.00
6.4.3.3.1 [FI21][3]	HVAC systems equipped with at least one automatic shutdown control.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER #C SETBACK CONTROLS UNDER THERMOSTATIC CONTROLS ON SHEET M-005.00
6.4.3.3.2 [FI22][3]	Setback controls allow automatic restart and temporary operation as required for maintenance.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER #C SETBACK CONTROLS UNDER THERMOSTATIC CONTROLS ON SHEET M-005.00
6.4.3.5 [FI5][3]	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER #F HEATPUMP SUPPLIMENTARY HEAT UNDER THERMOSTATIC CONTROLS ON SHEET M-005.00
6.4.3.5 [FI5][3]	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER #F HEATPUMP SUPPLIMENTARY HEAT UNDER THERMOSTATIC CONTROLS ON SHEET M-005.00
6.4.3.5 [FI5][3]	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER #F HEATPUMP SUPPLIMENTARY HEAT UNDER THERMOSTATIC CONTROLS ON SHEET M-005.00
6.4.3.5 [FI5][3]	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER #F HEATPUMP SUPPLIMENTARY HEAT UNDER THERMOSTATIC CONTROLS ON SHEET M-005.00
6.4.3.6 [FI6][3]	When humidification and dehumidification are provided to a zone, simultaneous operation is prohibited. Humidity control prohibits the use of fossil fuel or electricity to produce RH > 30% in the warmest zone humidified and RH < 60% in the coldest zone dehumidified.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Zones served by desiccant systems. **Location on plans/spec:** REFER SHEET M-100.00 TO M-106.00 FOR ERV LOCATIONS.
6.7.2.1 [FI7][3]	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.7.2.2 [FI8][3]	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.7.2.3 [FI9][3]	An air and/or hydronic system balancing report is provided for HVAC systems serving zones >5,000 ft2 of conditioned area.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply. **Location on plans/spec:** REFER SECTION #230593 ON SHEET M-003.00

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
6.7.2.4 [FI10][1]	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER SECTION 230593 ON SHEET M-003.00
10.4.3 [FI24][2]	Elevators are designed with the proper lighting, ventilation power, and standby mode.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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NOTES:

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

ENERGY ANALYSIS (2 OF 4)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #: NYE

Chkd By #: NYE

Drawing #:

EN-002.00

DOB #: B00235775-I1

Sheet #: of

RCNY 5000 - TABLE 2 - COMMERCIAL BUILDINGS						
		IIB	Mechanical and Service Water Heating Inspections			
YES	NO	II	INSPECTION/TEST	FREQUENCY/MINIMUM	REFERENCE STANDARD (SEE ECC CHAPTER C6) OR OTHER CRITERIA	ECC OR OTHER CITATION
X		IIB2	SHUTOFF DAMPERS: DAMPERS FOR STAIR AND ELEVATOR SHAFT VENTS AND OTHER OUTDOOR AIR INTAKES AND EXHAUST OPENINGS INTEGRAL TO THE BUILDING ENVELOPE SHALL BE VISUALLY INSPECTED TO VERIFY THAT SUCH DAMPERS, EXCEPT WHERE PERMITTED TO BE GRAVITY DAMPERS, COMPLY WITH APPROVED CONSTRUCTION DRAWINGS. MANUFACTURER'S LITERATURE SHALL BE REVIEWED TO VERIFY THAT THE PRODUCT HAS BEEN TESTED AND FOUND TO MEET THE STANDARD.	AS REQUIRED DURING INSTALLATION	APPROVED CONSTRUCTION DOCUMENTS; AMCA 500D	C403.2.4.4; ASHRAE 90.1 – 6.4.3.4
X		IIB3	HVAC EQUIPMENT: EQUIPMENT SIZING, EFFICIENCIES AND OTHER PERFORMANCE FACTORS OF ALL MAJOR EQUIPMENT UNITS, AS DETERMINED BY THE APPLICANT OF RECORD, AND NO LESS THAN 15% OF MINOR EQUIPMENT UNITS, SHALL BE VERIFIED BY VISUAL INSPECTION AND, WHERE NECESSARY, REVIEW OF MANUFACTURER'S DATA. POOL HEATERS AND COVERS SHALL BE VERIFIED BY VISUAL INSPECTION.	PRIOR TO FINAL PLUMBING AND CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	C403.2, C404.2, C404.7, C406.2; ASHRAE 90.1 – 6.3, 6.4.1, 6.4.2, 6.8; 7.4, 7.8
X		IIB4	HVAC SYSTEM CONTROLS: NO LESS THAN 20% OF EACH TYPE OF REQUIRED CONTROLS AND ECONOMIZERS SHALL BE VERIFIED BY VISUAL INSPECTION AND TESTED FOR FUNCTIONALITY AND PROPER OPERATION. SUCH CONTROLS SHALL INCLUDE, BUT ARE NOT LIMITED TO:-THERMOSTATIC -SET POINT OVERLAP RESTRICTION -OFF-HOUR -SHUTOFF DAMPER -SNOW-MELT SYSTEM - DEMAND CONTROL SYSTEMS - OUTDOOR HEATING SYSTEMS - ZONES - ECONOMIZERS - AIR SYSTEMS - VARIABLE AIR VOLUME FAN - SINGLE ZONE COOLING SYSTEMS -HYDRONIC SYSTEMS - HEAT REJECTION EQUIPMENT FAN SPEED -COMPLEX MECHANICAL SYSTEMS SERVING MULTIPLE ZONES -VENTILATION -ENERGY RECOVERY SYSTEMS - HOT GAS BYPASS LIMITATION -TEMPERATURE -SERVICE WATER HEATING - HOT WATER SYSTEM - POOL HEATER AND TIME SWITCHES - EXHAUST HOODS -RADIANT HEATING SYSTEMS. - HVAC CONTROL IN GROUP R-1 SLEEPING ROOMS CONTROLS WITH SEASONALLY DEPENDENT FUNCTIONALITY: CONTROLS WHOSE COMPLETE OPERATION CANNOT BE DEMONSTRATED DUE TO PREVAILING WEATHER CONDITIONS TYPICAL OF THE SEASON DURING WHICH PROGRESS INSPECTIONS WILL BE PERFORMED SHALL BE PERMITTED TO BE SIGNED OFF FOR THE PURPOSE OF A TEMPORARY CERTIFICATE OF OCCUPANCY WITH ONLY A VISUAL INSPECTION, PROVIDED, HOWEVER, THAT THE PROGRESS INSPECTOR SHALL PERFORM A SUPPLEMENTAL INSPECTION WHERE THE CONTROLS ARE VISUALLY INSPECTED AND TESTED FOR FUNCTIONALITY AND PROPER OPERATION DURING THE NEXT IMMEDIATE SEASON THEREAFTER. THE OWNER SHALL PROVIDE FULL ACCESS TO THE PROGRESS INSPECTOR WITHIN TWO WEEKS OF THE PROGRESS INSPECTOR'S REQUEST FOR SUCH ACCESS TO PERFORM THE PROGRESS INSPECTION.FOR SUCH SUPPLEMENTAL INSPECTIONS, THE DEPARTMENT SHALL BE NOTIFIED BY THE APPROVED PROGRESS INSPECTION AGENCY OF ANY UNRESOLVED DEFICIENCIES IN THE INSTALLED WORK WITHIN 180 DAYS OF SUCH SUPPLEMENTAL INSPECTION.	AFTER INSTALLATION AND PRIOR TO FINAL ELECTRICAL AND CONSTRUCTION INSPECTION, EXCEPT THAT FOR CONTROLS WITH SEASONALLY DEPENDENT FUNCTIONALITY, SUCH TESTING SHALL BE PERFORMED BEFORE SIGN-OFF FOR ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY	APPROVED CONSTRUCTION DOCUMENTS, INCLUDING CONTROL SYSTEM NARRATIVES; ASHRAE GUIDELINE 1: THE HVAC COMMISSIONING PROCESS WHERE APPLICABLE	C403.2.4, C403.2.5.1, C403.2.11, C403.3, C403.4, C404.3, C404.6, C404.7; ASHRAE 90.1 – 6.3, 6.4, 6.5, 7.4.4, 7.4.5
X		IIB5	HVAC INSULATION AND SEALING: INSTALLED DUCT AND PIPING INSULATION SHALL BE VISUALLY INSPECTED TO VERIFY PROPER INSULATION PLACEMENT AND VALUES. JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK SHALL BE VISUALLY INSPECTED FOR PROPER SEALING.	AFTER INSTALLATION AND PRIOR TO CLOSING SHAFTS, CEILINGS	APPROVED CONSTRUCTION DOCUMENTS; SMACNA DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE	C403.2.7, C403.2.8, C404.5, MC 603.9; ASHRAE 90.1 – 6.3, 6.4.4, 6.8.2, 6.8.3; 7.4.3
		IID	Mechanical and Service Water Heating Inspections			
X		IID1	MAINTENANCE INFORMATION: MAINTENANCE MANUALS FOR MECHANICAL, SERVICE HOT WATER AND ELECTRICAL EQUIPMENT AND SYSTEMS REQUIRING PREVENTIVE MAINTENANCE SHALL BE REVIEWED FOR APPLICABILITY TO INSTALLED EQUIPMENT AND SYSTEMS BEFORE SUCH MANUALS ARE PROVIDED TO THE OWNER. LABELS REQUIRED FOR SUCH EQUIPMENT OR SYSTEMS SHALL BE INSPECTED FOR ACCURACY AND COMPLETENESS.	PRIOR TO SIGN-OFF OR ISSUANCE OF FINAL CERTIFICATE OF OCCUPANCY	APPROVED CONSTRUCTION DOCUMENTS, INCLUDING ELECTRICAL DRAWINGS WHERE APPLICABLE; ASHRAE GUIDELINE 4: PREPARATION OF OPERATING AND MAINTENANCE DOCUMENTATION FOR BUILDING SYSTEMS	C303.3, C408.2.5.2; ASHRAE 90.1 – 4.2.2.3, 6.7.2.2, 8.7.2, 9.7.2.2

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NOTES:

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
–

Drawing Tile:

ENERGY ANALYSIS (3 OF 4)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"
Drawn By #: NYE
Chkd By #: NYE
Drawing #: EN-003.00

DOB #: B00235775-I1
Sheet #: of

ENERGY ANALYSIS – COMMERCIAL BUILDING MECHANICAL SYSTEMS

1 RCNY §5000-1, CHAPTER 5000
2016 NYCECC, APPENDIX CA (MODIFIED ASHRAE 90.1 2013)
CLIMATE ZONE 4A

ITEM DESCRIPTION	CODE PRESCRIPTIVE VALUES AND REQUIREMENTS	PROPOSED DESIGN VALUES AND OR PROCEDURES	SUPPORTING DOCUMENTS
CALCULATION OF SPACE THERMAL LOADS	6.4.2.1: HEATING AND COOLING SYSTEM DESIGN LOADS FOR THE PURPOSE OF SIZING SYSTEMS AND EQUIPMENT SHALL BE DETERMINED IN ACCORDANCE WITH ANSI/ASHRAE/ACCA STANDARD 183-2007, PEAK COOLING AND HEATING LOAD CALCULATIONS IN BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS.	ALL DESIGN COOLING AND HEATING LOADS PERFORMED ON TRANE TRACE 700 MODELING SOFTWARE AND DETERMINED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN THE ASHRAE/ACCA 183.	#19 UNDER NYC DEPARTMENT BUILDING NOTES ON SHEET M-001.00
HVAC EQUIPMENT PERFORMANCE REQUIREMENTS	6.8: EQUIPMENT SHALL MEET THE MINIMUM EFFICIENCY REQUIREMENTS OF TABLES 6.8.1-1, 6.8.1-2, 6.8.1-3, 6.8.1-4, 6.8.1-5, 6.8.1-6, 6.8.1-7, 6.8.1-8, 6.8.1-9, 6.8.1-10, 6.8.1-11, 6.8.1-12 AND 6.8.1 WHEN TESTED AND RATED IN ACCORDANCE WITH THE APPLICABLE TEST PROCEDURE	ALL SELECTED UNITS ARE NOT EXCEED REQUIRED MINIMUM EFFECIENCY NUMBERS.	MECHANICAL SCHEDULES ON SHEET M-600.00. TO M-604.00.
THERMOSTATIC CONTROLS	6.4.3.1.1: THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE.	THERMOSTATS CONTROLLING HEATING AND COOLING PROVIDED PER ZONE AS REQUIRED	REFER MECHANICAL FLOOR ON SHEET M-100.00 TO M-302.00 FOR T-STAT LOCATIONS & REFER THERMOSTATIC CONTROLS ON SHEET M-005.00
SHUTOFF DAMPER CONTROLS	6.4.3.4.2: EACH OUTDOOR SUPPLY AIR AND EXHAUST AIR DUCTS SHALL BE PROVIDED WITH MOTORIZED DAMPERS TO SHUT OFF WHEN NOT IN USE.	EACH OUTDOOR SUPPLY AIR AND EXHAUST AIR DUCTS ARE PROVIDED WITH MOTORIZED DAMPERS TO SHUT OFF WHEN NOT IN USE.	REFER MECHANICAL FLOOR PLANS ON SHEET M-100.00 TO M-302.00.
MINIMUM MECHANICAL VENTILATION	C3.1.2.6: MINIMUM VENTILATION SYSTEM OUTDOOR AIR INTAKE FLOW SHALL BE THE SAME FOR THE PROPOSED AND BASELINE BUILDING DESIGNS.	VENTILATION SYSTEM PROVIDED AS PER REQUIREMENTS.	REFER MECHANICAL FLOOR PLANS ON SHEET M-100.00 TO M-302.00.
DUCT AND PLENUM INSULATION AND SEALING	6.4.4.1.2: ALL SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-3.5 INSULATION WHEN LOCATED IN UNCONDITIONED SPACES. ALL OUTDOOR RETURN AND SUPPLY DUCTWORK AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-6 INSULATION.	ALL SUPPLY AIR DUCTS AND PLENUMS LOCATED WITHIN THE CONDITIONED SPACE ARE DESIGNED TO HAVE A MINIMAL INSTALLED THERMAL RESISTANCE OF R-6.	REFER SECTION #230713 DUCT INSULATION ON SHEET M-003.00
PIPING INSULATION	6.8.3: ALL PIPING SERVING AS PART OF A HEATING OR COOLING SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH TABLE 403.2.8.	ALL HVAC PIPING TO BE INSULATED AS PER TABLE 6.8.3A	REFER NOTE #B.A UNDER PIPING INSULATION ON M-004

FLUID	NOMINAL PIPE DIAM.	
	<=1.5"	>1.5"
REFRIGERANT PIPING	0.5"	1"

1. TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2016 NYCECC APPENDIX CA (MODIFIED ASHRAE 90.1 2013).

SYSTEMS REQUIRING COMMISSIONING

SYSTEM	SUB-SYSTEM	QTY	CAPACITY (MBH) COOLING	CAPACITY (MBH) HEATING	TOTAL CAPACITY (MBH) COOLING	TOTAL CAPACITY (MBH) HEATING	REQUIRED COMMISSIONING
COOLING AND HEATING	ACCU-1	1	216	243	216	243	HEATING (>600 MBH) YES COOLING (>480 MBH) YES
	ACCU-2,ACCU-3	2	192	216	384	432	
	ACCU-4,5	2	144	162	288	324	
	ACCU-6	1	96	108	96	108	
	ACCU-7, ACCU-8	2	264	297	528	594	
	ACCU-9	1	48	54	48	54	
	EUH-C-1	1	–	10	–	10	
	EUH-C-2, EUH-C-3, EUH-1-1,EUH-4-2, EUH-R-1	5	–	3	–	15	
	EUH-C-4,EUH-C-5, EUH-C-6,EUH-C-7, EUH-C-8,EUH-C-9, EUH-C-10,EUH-C-11, EUH-C-12,EUH-C-13	10	–	14	–	140	
	EUH-2-1,EUH-4-1	2	–	2	–	4	
	EUH-R-2	1	–	5	–	5	
	EDH-1,EDH-2	2	–	42	–	84	
	HWHT-3	2	–	61	–	122	
	HWHT-4	1	–	82	–	82	
	EDH-R-1	1	–	6.8	–	6.8	
				TOTAL	1560	2223	

SYSTEMS COMMISSIONING PURSUANT TO SECTION 408.2, NYCECC-2016

SYSTEMS REQUIRING COMMISSIONING

1- HEATING, COOLING, AIR HANDLING AND DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEMS, AND THEIR RELATED AIR QUALITY MONITORING SYSTEMS.

2- MANUAL OR AUTOMATIC CONTROLS, WHETHER LOCAL OR REMOTE, ON ENERGY USING SYSTEMS INCLUDING BUT NOT LIMITED TO TEMPERATURE CONTROLS, SETBACK SEQUENCES, AND OCCUPANCY BASED CONTROL, INCLUDING ENERGY MANAGEMENT FUNCTIONS OF THE BUILDING MANAGEMENT SYSTEM.

3- MECHANICAL HEATING SYSTEMS AND SERVICE WATER HEATING SYSTEMS.

4- OTHER SYSTEMS, EQUIPMENT AND COMPONENTS THAT ARE USED FOR HEATING, COOLING OR VENTILATION AND THAT AFFECT ENERGY USE.

ENERGY CONSERVATION CODE OF NEW YORK CITY COMPLIANCE

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND JUDGEMENT, THESE PLANS AND SPECIFICATION ARE IN COMPLIANCE WITH THE ENERGY CONSERVATION CODE OF NEW YORK CITY 2016 APPENDIX CA (MODIFIED ASHRAE 90.1 2013)

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

MEP:
NEW YORK ENGINEERS
135 W 41st Street,5th Floor
New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

ENERGY ANALYSIS (4 OF 4)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #: NYE

Chkd By #: NYE

Drawing #:

EN-004.00

DOB #: B00235775-I1

Sheet #: of

MECHANICAL SYMBOLS LIST

AC–1 / TXF–1	EQUIPMENT SYMBOL
XX / X	RISER SYMBOL
AIR DEVICES	
	LINEAR DIFFUSER SUPPLY – CEILING
	LINEAR DIFFUSER RETURN – CEILING
	CEILING DIFFUSER SUPPLY
	CEILING DIFFUSER RETURN
	LINEAR DIFFUSER SUPPLY – SIDEWALL
	LINEAR DIFFUSER RETURN – SIDEWALL
DUCT ACCESSORIES	
BD	BACKDRAFT DAMPER
	FIRE DAMPER W/ ACCESS DOOR
M	MOTORIZED DAMPER W/ ACCESS DOOR
VD VD	VOLUME DAMPER W/ ACCESS DOOR
HVAC PIPING	
CP	NEW CONDENSATE PIPING
CONTROLS AND SENSORS	
T	THERMOSTAT
S	MANUAL ON/OFF SWITCH
S	SMOKE DETECTOR
CS	COMFOSENSE CONTROLLER
BS	BOOST SWITCH
RL	REFRIGERANT LEAK DETECTOR
DUCTWORK	
	FLEXIBLE DUCT
FC FC	FLEXIBLE CONNECTION
24X12	RECTANGULAR DUCT (WIDTH X DEPTH)
ø12	ROUND DUCT (DIAMETER)
	ROUND DUCT CROSS SECTION
	SUPPLY AIR RECTANGULAR DUCT CROSS SECTION
	RETURN AIR RECTANGULAR DUCT CROSS SECTION

MECHANICAL ABBREVIATIONS

AC	AIR CONDITIONING UNIT
ACC	AIR COOLED CONDENSER
BDD	BACKDRAFT DAMPER
BOD	BOTTOM OF DUCT
BOE	BOTTOM OF EQUIPMENT
CFM	CUBIC FEET OF AIR PER MINUTE
COP	COEFFICIENT OF PERFORMANCE
CP	CONDENSATE PUMP
CD	CONDENSATE DRAIN PIPE
DN	DOWN
EER	ENERGY EFFICIENCY RATIO
EUH	ELECTRIC UNIT HEATER
EG	EXHAUST GRILLE
EN	ENERGY ANALYSIS
FC	FLEXIBLE CONNECTION
FD	FIRE DAMPER W/FUSIBLE LINK
GV	GAS VENT
HSPF	HEATING SEASONAL PERFORMANCE FACTOR
IEER	INTEGRATED ENERGY EFFICIENCY RATIO
KX	KITCHEN EXHAUST RISER
KXF	KITCHEN EXHAUST FAN
MD	MOTORIZED DAMPER
OAI	OUTSIDE AIR INTAKE RISER
OAF	OUTSIDE AIR INTAKE FAN
REF	REFRIGERANT PIPING
RG	RETURN GRILLE
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SG	SUPPLY GRILLE
TR	TRANSFER DUCT
TRF	TRASH ROOM EXHAUST FAN
TRX	TRASH ROOM EXHAUST RISER
TX	TOILET EXHAUST RISER
TXF	TOILET EXHAUST FAN
VD	VOLUME DAMPER
W.M.S.	WIRE MESH SCREEN

MECHANICAL DRAWING LIST

M–001.00	MECHANICAL GENERAL NOTES, SYMBOLS LIST & ABBREVIATIONS
M–002.00	HVAC NOTES & MECHANICAL SPECIFICATIONS (1 OF 7)
M–003.00	MECHANICAL SPECIFICATIONS (2 OF 7)
M–004.00	MECHANICAL SPECIFICATIONS (3 OF 7)
M–005.00	MECHANICAL SPECIFICATIONS (4 OF 7)
M–006.00	MECHANICAL SPECIFICATIONS (5 OF 7)
M–007.00	MECHANICAL SPECIFICATIONS (6 OF 7)
M–008.00	MECHANICAL SPECIFICATIONS (7 OF 7)
M–100.00	CELLAR MECHANICAL PLAN
M–101.00	1ST FLOOR MECHANICAL PLAN
M–102.00	2ND FLOOR MECHANICAL PLAN
M–103.00	3RD FLOOR MECHANICAL PLAN
M–104.00	4TH FLOOR MECHANICAL PLAN
M–105.00	ROOF MECHANICAL PLAN
M–106.00	BULKHEAD ROOF MECHANICAL PLAN
M–300.00	MECHANICAL PART PLAN (1 OF 3)
M–301.00	MECHANICAL PART PLAN (2 OF 3)
M–302.00	MECHANICAL PART PLAN (3 OF 3)
M–303.00	3D VIEW AND SECTION PLAN
M–401.00	REFRIGERANT PIPING RISER DIAGRAM (1 OF 5)
M–402.00	REFRIGERANT PIPING RISER DIAGRAM (2 OF 5)
M–403.00	REFRIGERANT PIPING RISER DIAGRAM (3 OF 5)
M–404.00	REFRIGERANT PIPING RISER DIAGRAM (4 OF 5)
M–405.00	REFRIGERANT PIPING RISER DIAGRAM (5 OF 5)
M–501.00	MECHANICAL DETAILS (1 OF 4)
M–502.00	MECHANICAL DETAILS (2 OF 4)
M–503.00	MECHANICAL DETAILS (3 OF 4)
M–504.00	MECHANICAL DETAILS (3 OF 4)
M–600.00	MECHANICAL SCHEDULES (1 OF 4)
M–601.00	MECHANICAL SCHEDULES (2 OF 4)
M–602.00	MECHANICAL SCHEDULES (3 OF 4)
M–603.00	MECHANICAL SCHEDULES (4 OF 4)

ENERGY CONSERVATION CODE OF NEW YORK CITY COMPLIANCE

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND JUDGEMENT, THESE PLANS AND SPECIFICATION ARE IN COMPLIANCE WITH THE ENERGY CONSERVATION CODE OF NEW YORK CITY 2016 APPENDIX CA (MODIFIED ASHRAE 90.1–2013).

NYC BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF THE CITY OF NEW YORK BUILDING CODE, EFFECTIVE JULY 1, 2014 AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

1. THE CONTRACTOR SHALL ENGAGE THE THE SERVICES OF A PROFESSIONAL ENGINEER TO PROVIDE THE REQUIRED SPECIAL INSPECTIONS AND TESTS.

2. TESTS WILL BE CONDUCTED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS. THE TESTS WILL SHOW COMPLIANCE WITH 2014 BUILDING CODE REQUIREMENTS AS OUTLINES IN SECTION [BC 1704].

3. THE LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS AND CONDUCTING SUCH TESTS WILL FILE DOCUMENTATION AND REPORTS OF TESTS THAT THE SYSTEM COMPLIES WITH THE CONSTRUCTION DOCUMENTS AND APPLICABLE LAWS.

4. SPECIAL INSPECTIONS: (TR–1)

   THE FOLLOWING SYSTEMS SHALL BE INSPECTED IN ACCORDANCE WITH THE SECTION CITED FROM THE 2014 NYC BUILDING CODE.

   A. MECHANICAL SYSTEMS – BC 1704.16
   B. FIRE RESISTANT PENETRATION & JOINTS – BC 1704.27
   C. POST INSTALLED ANCHORS– BC 1704.32

5. ENERGY CODE PROGRESS INSPECTIONS: (TR–8)

   THE FOLLOWING PROGRESS INSPECTIONS FOR HVAC SYSTEMS SHALL BE PERFORMED AS REQUIRED BY THE SECTIONS CITED FROM THE 2014 NYC BUILDING CODE.

   A. SHUT–OFF DAMPERS
   B. HVAC AND SERVICE WATER HEATING EQUIPMENT
   C. HVAC AND SERVICE WATER HEATING SYSTEM CONTROLS
   E. HVAC INSULATION AND SEALING
   F. MAINTENANCE INFORMATION

6. TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION MC 107 AND THE FOLLOWING SECTIONS OF THE 2014 NEW YORK CITY MECHANICAL CODE:

   A. VENTILATION SYSTEM BALANCING MC 403.8
   B. REFRIGERATION SYSTEMS – MC 1108

7. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:

   A. STANDARDS OF HEATING – MC 309.1
   B. NYC NOISE CONTROL CODE: 24–227
   C. DUCT CONSTRUCTION AND INSTALLATION– MC 603
   D. AIR INTAKES, EXHAUSTS AND RELIEFS – MC 401.5
   E. AIR FILTERS – MC 605
   F. SMOKE DETECTORS AND FIRE AND SMOKE DAMPERS – MC 606 & 607 RESPECTIVELY
   G. MANUAL AND AUTOMATIC FIRE AND SMOKE CONTROLS FOR AIR DISTRIBUTION SYSTEMS – MC 513

8. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.

9. VENTILATION FOR ALL AREA SHALL COMPLY WITH MC 401.

10. A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE STRUCTURE AS REQUIRED BY MC 403.3

11. COMBINATION FIRE/SMOKE DAMPERS AND SMOKE DAMPERS SHALL BE ACCEPTED FOR USE BY NEW YORK CITY DEPARTMENT OF BUILDINGS AND SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH UL 555S.

12. SMOKE DETECTION SYSTEMS SHALL BE INSTALLED AND SEQUENCED TO FOLLOW CONTROLS OPERATIONS WITH THE REQUIREMENTS OF SECTION MC 606 TO CLOSE DAMPERS AND AUTOMATICALLY STOP THE FAN.

13. COMBINATION FIRE/SMOKE DAMPERS AND CEILING DAMPERS LOCATED WITHIN THE AIR DISTRIBUTION AND SMOKE CONTROL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION MC 607.

14. CEILING RADIATION DAMPERS SHALL BE ACCEPTED FOR USE BY THE NEW YORK CITY DEPARTMENT OF BUILDING AND SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF UL 555C.

15. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE–RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.

16. THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

17. SMOKE DETECTOR SHALL MEET UL268A

18. MECHANICAL SYSTEMS SHALL BE COMMISSIONED PER 2016 NYCECC C403.2.2, C408.2.1, C408.2.5.4. FINAL COMMISSIONING REPORT SHALL BE DUE WITHIN 90 DAYS OF RECEIPT OF CERTIFICATE OF OCCUPANCY.

19. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.

GENERAL NOTES

1. CONTRACTOR SHALL SURVEY THE AREA OF THIS WORK BEFORE SUBMITTING A BID AND SHALL BE RESPONSIBLE FOR NOTIFYING THE ARCHITECT OF ANY CONDITIONS WHICH WOULD PREVENT THE INSTALLATION OF THE WORK AS SHOWN ON DRAWINGS.

2. ALL APPLICABLE CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIALS WHICH VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR.

3. BEFORE PROCEEDING WITH ANY WORK IN OCCUPIED OR USED AREAS, THE CONTRACTOR SHALL APPLY TO OWNER FOR PERMISSION TO ENTER SUCH AREAS. THE CONTRACTOR IS OBLIGED TO PERFORM HIS WORK ONLY AT THE TIMES DESIGNATED BY OWNER. THERE WILL BE NO ADDITIONAL COMPENSATION FOR THE WORK PERFORMED AFTER HOURS OR ON OFF–DAYS WITHOUT PRIOR WRITTEN APPROVAL.

4. THE WORK IN THE BUILDING SHALL BE DONE WHEN AND AS DIRECTED, AND IN A MANNER SATISFACTORY TO THE OWNER. THE WORK SHALL BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE PRESENT OCCUPANTS.

5. THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK IN OVERTIME AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.

6. CONTRACTOR SHALL ASCERTAIN THE APPROPRIATE METHOD FOR BRINGING THE UNITS INTO AND THROUGH THE BUILDING TO POSITION UNIT IN LOCATION SHOWN ON THE PLANS. WHERE NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH RESTRICTIVE SPACES. COORDINATE WITH BUILDING OWNER APPROPRIATE TIMES OF DAY SUCH EQUIPMENT MAY BE MOVED THROUGH ALL AREAS.

7. DUCTWORK AND PIPING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL MAKE ALLOWANCE IN PRICING FOR ROUTING OF DUCTWORK AND PIPING TO AVOID OBSTRUCTIONS. EXACT LOCATIONS ARE SUBJECT TO APPROVAL OF ARCHITECT. COORDINATION WITH THE EXISTING SERVICES, INCLUDING THOSE OF OTHER TRADES IS REQUIRED.

8. SUPPORT ALL DUCTWORK AND PIPING FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OR SUPPORTS FOR EQUIPMENT, FURNISH ADDITIONAL FRAMING. INSERTS SHALL BE STEEL, SLOTTED TYPE AND FACTORY PAINTED. SINGLE ROD SHALL BE SIMILAR TO GRINNELL FIG. 281. MULTI–ROD SHALL BE SIMILAR TO FEE & MASON SERIES 9000 WITH END CAPS AND CLOSURE STRIPS. MAXIMUM LOADING INCLUDING PIPES, DUCTWORK CONTENTS AND COVERING SHALL NOT EXCEED 75% OF RATED INSERT CAPABILITY. WHEN SUPPORTING FROM BUILDING USE BEAM CLAMPS IN APPROVED MANNER.

9. PROVIDE ALL NECESSARY FLASHING AND COUNTER FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, LOUVERS, CONDUIT, AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AND DUNNAGE STEEL AS REQUIRED.

10. SEAL OPENINGS AROUND DUCTS AND PIPING THROUGH PARTITIONS, WALLS AND FLOORS (NOT IN SHAFTS) WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL (FIBERGLASS INSULATION IS NOT ACCEPTABLE).

11. WHERE PENETRATIONS THROUGH FIRE RATED WALLS ARE NOT FIRE PROOFED THIS CONTRACTOR SHALL BE RESPONSIBLE TO SEAL SAME TO MAINTAIN THE RATED INTEGRITY.

12. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.

13. ACCESS DOORS ARE REQUIRED FOR ALL BUILDING SERVICE VALVES THAT RUN THROUGH THE SPACE, AND ACCESS DOOR SHALL HAVE THE EQUAL RATED CAPACITY (1HR, 2HR, ETC.) AS WALL. COORDINATE ALL LOCATIONS OF ACCESS DOORS WITH THE ARCHITECT.

14. REMOVABLE ACCESS TILE AND/OR ACCESS DOOR ARE REQUIRED IN HUNG CEILINGS, SHAFTS AND WALLS FOR ALL VOLUME AND FIRE DAMPERS, AUTOMATIC DAMPERS AND ALL OTHER MECHANICAL EQUIPMENT AND DEVICES. HVAC CONTRACTOR TO FURNISH ACCESS LOCATION REQUIREMENTS TO GENERAL CONTRACTOR. ACCESS TILE IDENTIFICATION: PROVIDE BUTTONS, TABS, AND MARKERS TO IDENTIFY LOCATION OF CONCEALED VALVES, DAMPERS AND EQUIPMENT.

15. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.

16. MATERIALS AND WORKMANSHIP, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.

17. ALL EQUIPMENT SHALL BE PROVIDED WITH ONE YEAR WARRANTY PARTS AND LABOR AND FIVE YEARS ON COMPRESSORS. WARRANTY PERIOD BEGINS UPON PROJECT ACCEPTANCE

18. ALL MATERIAL AND EQUIPMENT TO BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.

19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK WITH ITS COMPLETION AND FINAL ACCEPTANCE AND SHALL REPLACE ANY OF THE SAME WHICH MAY BE DAMAGED, LOST, OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER.

20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FAILURE OF ANY DUCTWORK SYSTEM OR EQUIPMENT TO FUNCTION PROPERLY UPON COMPLETION OF HIS WORK UPON SAID SYSTEM OR EQUIPMENT.

21. SUBMIT SHOP DRAWING OF ALL WORK WHICH MUST BE APPROVED BY THE ARCHITECT AND ENGINEER BEFORE WORK COMMENCES.

22. SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTIONS OF THE EXISTING BUILDING, EQUIPMENT, ETC., WHICH AFFECT THIS WORK, AND THE ACCESS TO SUCH SPACES, HAS BEEN MADE AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH AN EXAMINATION. THE ON–SITE INSPECTION SHALL VERIFY EXISTING DUCTWORK, PIPING (SIZES, CLEARANCES, ETC) AND CONDITIONS.

23. INSURANCE: IN ACCORDANCE WITH BUILDING REQUIREMENTS THE CONTRACTOR SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.

24. THE FINAL ACCEPTANCE WILL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, BALANCED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVAL.

25. SPECIFICATIONS ARE OF SIMPLIFIED FORM AND INCLUDE INCOMPLETE SENTENCES. WORDS OR PHRASES SUCH AS "THE CONTRACTOR SHALL," "SHALL BE," "FURNISH," "PROVIDE," "A," "THE," AND "ALL" HAVE BEEN OMITTED FOR BREVITY.

26. WHERE A CONFLICT EXISTS BETWEEN THE DRAWINGS, THE SPECIFICATIONS OR ANY OTHER CONSTRUCTION DOCUMENT, THE ONE WITH THE MOST STRINGENT REQUIREMENT(S) SHALL APPLY.

DEFINITIONS:

1) "PROVIDE": TO SUPPLY, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.

2) "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.

3) "FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE AND DELIVER COMPLETE WITH RELATED ACCESSORIES.

SCOPE OF WORK

SCOPE OF WORK

1. THE WORK UNDER CONTRACT INCLUDES ALL LABOR, MATERIALS AND APPLIANCES NECESSARY FOR THE FURNISHING, INSTALLING AND TESTING, COMPLETE AND READY FOR SAFE OPERATION OF THE SYSTEMS AS DESCRIBED IN THE SPECIFICATIONS, FLOOR PLAN(S) DESIGN, DETAIL DRAWINGS, NOTES, RFI'S, ETC. FOR THIS PROJECT. WORK SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER.

2. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENT HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFORE. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.

3. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OR ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES, BY OWNER, INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER DATE IS EARLIER. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDE THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR.

INSULATION NOTES

SUPPLY & RETURN AIR DUCT & PLENUM INSULATION

LOCATION	INSULATION
INDOOR	MINIMUM R–6
OUTDOOR	MINIMUM R–8

NOTES –
1. ALL DUCTS, AIR HANDLERS AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION 603.9 OF THE NYC MECHANICAL CODE.
2. WHEN DUCTWORK IS LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, PROVIDE MINIMUM R–8 INSULATION.

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

MECHANICAL GENERAL NOTES, SYMBOLS LIST & ABBREVIATIONS

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #: NYE

Chkd By #: NYE

Drawing #: M-001.00

DOB #: B00235775-I1

Sheet #: of

GENERAL HVAC NOTES

GENERAL:

1. PROVIDE ALL MATERIAL AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.

2. CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK (HVAC, PLUMBING, AND FIRE PROTECTION) ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.

3. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS.

4. WHEN MECHANICAL WORK (HVAC, PLUMBING, SHEET METAL, FIRE PROTECTION, ETC.) IS SUBCONTRACTED, IT SHALL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE SUBCONTRACTORS AND THE ASSOCIATED CONTRACTS. WHEN DISCREPANCIES ARISE PERTAINING TO WHICH CONTRACTOR PROVIDES A PARTICULAR ITEM OF THE MECHANICAL CONTRACT OR WHICH CONTRACTOR PROVIDES FINAL CONNECTIONS FOR A PARTICULAR ITEM OF THE MECHANICAL CONTRACT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE MECHANICAL CONTRACTOR, WHOSE DECISION SHALL BE FINAL.

5. COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.

6. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.

7. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.

8. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.

9. ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND ELECTRICAL DIVISION OF THE SPECIFICATION.

10. PROVIDE VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE.

11. PROVIDE VIBRATION ISOLATORS FOR ALL PIPING SUPPORTS CONNECTED TO, AND WITHIN 50 FT. OF, ISOLATED EQUIPMENT (EXCEPT AT BASE ELBOW SUPPORTS AND ANCHOR POINTS).

12. LOCATE ALL TEMPERATURE, PRESSURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH THE STRAIGHT SECTION OF PIPE OR DUCT UP- AND DOWNSTREAM AS RECOMMENDED BY THE MANUFACTURER FOR GOOD ACCURACY.

13. WHERE BEAMS ARE INDICATED TO BE PENETRATED WITH DUCTWORK OR PIPING, COORDINATE DUCTWORK AND PIPING LAYOUT WITH BEAM OPENING SIZE AND OPENING LOCATIONS. COORDINATION SHALL BE DONE PRIOR TO THE FABRICATION OF DUCTWORK, CUTTING OF PIPING, OR FABRICATION OF BEAMS.

14. ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN THE DETAILS FOR PIPING, DUCTWORK, AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.

15. PROVIDE ACCESS PANELS FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE DAMPERS, VALVES, SMOKE DETECTORS, AND OTHER CONCEALED MECHANICAL EQUIPMENT. ACCESS PANELS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR FOR INSTALLATION. ACCESS PANELS SHALL HAVE THE EQUAL RATED CAPACITY (1HR, 2HR, ETC.) AS WALL.

16. MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHALL NOT BE SUPPORTED FROM A METAL DECK.

17. ALL EQUIPMENT, PIPING, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED, SPECIFIED AND REQUIRED TO PROVIDE A VIBRATION-FREE INSTALLATION.

18. ALL DUCTWORK, PIPING, AND EQUIPMENT SUPPORTED FROM STRUCTURAL STEEL SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. ALL ATTACHMENTS TO STEEL BAR JOISTS, TRUSSES, OR JOIST GIRDERS SHALL BE AT PANEL POINTS. PROVIDE BEAM CLAMPS MEETING MSS STANDARDS. WELDING TO STRUCTURAL MEMBERS SHALL NOT BE PERMITTED. THE USE OF C-CLAMPS SHALL NOT BE PERMITTED.

19. ALL ROOF-MOUNTED EQUIPMENT CURBS/STEEL RAILS FOR EQUIPMENT PROVIDED BY THE MECHANICAL CONTRACTOR SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.

20. LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.

21. ALL OPENINGS IN FIRE WALLS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE FIRE STOPPED WITH A PRODUCT SIMILAR TO 3M OR APPROVED EQUAL.

22. ALL AIR CONDITIONING CONDENSATE DRAIN LINES FROM EACH AIR HANDLING UNIT SHALL BE PIPED FULL SIZE OF THE UNIT DRAIN OUTLET, WITH "P" TRAP, AND PIPED TO THE NEAREST DRAIN. SEE THE DETAILS SHOWN IN THE DRAWINGS OR THE CONTRACT SPECIFICATIONS FOR THE DEPTH OF THE AIR CONDITIONING CONDENSATE TRAP.

23. REFER TO TYPICAL DETAILS FOR DUCTWORK, PIPING, AND EQUIPMENT INSTALLATION.

24. REINFORCEMENT, DETAILING, AND PLACEMENT OF CONCRETE SHALL CONFORM TO ASTM 315 AND ACI 318. CONCRETE SHALL CONFORM TO ASTM C94. CONCRETE WORK SHALL CONFORM TO ACI 318 PART ENTITLED "CONSTRUCTION REQUIREMENTS".COMPRESSIVE STRENGTH IN 28 DAYS SHALL BE 3,000 PSI. TOTAL AIR CONTENT OR EXTERIOR CONCRETE SHALL BE BETWEEN 5 AND 7 PERCENT BY VOLUME. SLUMP SHALL BE BETWEEN 3 AND 4 IN. CONCRETE SHALL BE CURED FOR 7 DAY AFTER PLACEMENT.

25. ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED.

26. TESTING, ADJUSTING, AND BALANCING AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). TESTING, ADJUSTING, AND BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH THE AABC STANDARDS.

HVAC DUCTWORK – SHEET METAL

1. CERTAIN ITEMS SUCH AS RISES AND DROPS IN DUCTWORK,ACCESS DOORS, VOLUME DAMPERS, ETC., ARE INDICATED ON THE CONTRACT DOCUMENT DRAWINGS FOR CLARITY FOR A SPECIFIC LOCATION REQUIREMENT AND SHALL NOT BE INTERPRETED AS THE EXTENT OF THE REQUIREMENTS FOR THESE ITEMS.

2. ALL NEW DUCTWORK WILL COMPLY WITH THE LATEST SMACNA GUIDELINES AND CONFORM WITH REQUIREMENTS OF THE LATEST HANDBOOKS PUBLISHED BY ASHRAE.

3. PROVIDE VOLUME DAMPER AT EACH TAP TO MAIN DUCT AND WHERE NECESSARY TO PROPERLY BALANCE SYSTEM.

4. SUPPLY AND RETURN DUCTWORK 20' FROM ALL AC UNITS SHALL BE LINED WITH 1.5" ACOUSTICAL LINING.

5. RE-INSULATE ALL DUCTWORK AND PIPING IN WHICH INSULATION HAS BEEN REMOVED OR DAMAGED WITH INSULATION EQUAL TO THE EXISTING INSULATION.

6. CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY SUPPLY DIFFUSERS AND RETURN AIR REGISTERS WHERE INDICATED ON THE DRAWING. COORDINATE LOCATION OF DIFFUSERS AND REGISTERS WITH REFLECTED CEILING PLAN.

7. IN CORRIDORS WHERE CEILING SPEAKERS AND AIR DIFFUSERS ARE INDICATED BETWEEN THE SAME LIGHT FIXTURES, INSTALL BOTH DEVICES AT THE QUARTER POINTS BETWEEN THE FIXTURES.

8. UNLESS OTHERWISE SHOWN, LOCATE ALL ROOM THERMOSTATS (CENTER LINE) ABOVE THE FINISHED FLOOR. NOTIFY THE ENGINEER OF ANY ROOMS WHERE THE PRECEDING LOCATION CANNOT BE MAINTAINED OR WHERE THERE IS A QUESTION ON LOCATION.

9. ALL DUCTWORK SHALL CLEAR DOORS AND WINDOWS.

10. ALL DUCTWORK DIMENSIONS, AS SHOWN ON THE DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZE SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS.

11. PROVIDE ALL 90-DEGREE SQUARE ELBOWS WITH DOUBLE RADIUS TURNING VANES UNLESS OTHERWISE INDICATED. ELBOWS IN KITCHEN, AND LAUNDRY EXHAUSTS SHALL BE OF UN-VANED SMOOTH RADIUS CONSTRUCTION WITH A RADIUS EQUAL TO 1-1/2 TIMES THE WIDTH OF THE DUCT. PROVIDE ACCESS DOORS UPSTREAM OF ALL ELBOWS WITH TURNING VANES.

12. COORDINATE DIFFUSER, REGISTER, AND GRILL LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS, LIGHTING, AND OTHER CEILING ITEMS AND MAKE MINOR DUCT MODIFICATIONS TO SUIT.

13. FIELD-ERECTED AND FACTORY-ASSEMBLED AIR HANDLING UNIT COILS SHALL BE ARRANGED FOR REMOVAL FROM THE UPSTREAM SIDE WITHOUT DISMANTLING SUPPORTS. PROVIDE GALVANIZED STRUCTURAL STEEL SUPPORTS FOR ALL COILS (EXCEPT THE LOWEST COIL) IN BANKS OVER TWO COILS HIGH TO PERMIT THE INDEPENDENT REMOVAL OF ANY COIL.

14. ALL AIR HANDLING UNITS SHALL OPERATE WITHOUT MOISTURE CARRYOVER.

15. LOCATE ALL MECHANICAL EQUIPMENT (SINGLE DUCT, CONSTANT VOLUME, AND FAN COIL UNITS, UNIT HEATERS, ETC.) FOR UNOBSTRUCTED ACCESS TO UNIT ACCESS PANELS, CONTROLS, AND VALVING.

16. PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS (SUPPLY, RETURN, AND EXHAUST) CONNECTED TO AIR HANDLING UNITS, FANS, AND OTHER EQUIPMENT THAT REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE INDICATED.

17. UNLESS OTHERWISE NOTED, ALL DUCTWORK IS OVERHEAD, TIGHT TO THE UNDERSIDE OF THE STRUCTURE, WITH SPACE FOR INSULATION IF NEEDED.

18. RUNS OF FLEXIBLE DUCT SHALL NOT EXCEED 5 FT.

19. ALL DUCTWORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN DUCTS, INCLUDING DIVIDED DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

20. PROVIDE ACCESS DOORS IN DUCTWORK TO PROVIDE ACCESS FOR ALL SMOKE DETECTORS, FIRE DAMPERS, SMOKE DAMPERS, VOLUME DAMPERS, AND OTHER ITEMS LOCATED IN THE DUCTWORK THAT REQUIRE SERVICE AND/OR INSPECTION.

21. PROVIDE ACCESS DOORS IN DUCTWORK FOR THE OPERATION, ADJUSTMENT, AND MAINTENANCE OF ALL FANS, VALVES, AND MECHANICAL EQUIPMENT.

22. ALL DUCTS SHALL BE GROUNDED ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE COPPER GROUNDING STRAPS. GROUNDING STRAPS SHALL BE BOLTED OR SOLDERED TO BOTH THE EQUIPMENT AND THE DUCT.

23. SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MOUNTING THE SMOKE DETECTOR IN DUCTWORK AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

24. TERMINATE GAS VENTS FOR GAS APPLIANCES A MINIMUM OF 30 IN. ABOVE THE ROOF WITH RAIN CAP.

25. SEE SPECIFICATIONS FOR DUCTWORK GAUGES, BRACING, HANGERS, AND OTHER REQUIREMENTS.

26. EXTERIOR LOUVERS ARE INDICATED FOR SIZE, GENERAL LOCATION AND PERFORMANCE ONLY. DETAILED LOUVER DESCRIPTIONS ARE PROVIDED IN THE ARCHITECTURAL SPECIFICATIONS.

27. EXCEPT AS OTHERWISE SHOWN OR NOTED, ALL DUCTWORK AND OTHER SHEET METAL WORK SHALL BE GALVANIZED SHEET STEEL AND SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. DUCT CONSTRUCTION STANDARDS, PRESSURE CLASSIFICATION 2 IN. W.G.

    DUCTWORK STATIC PRESSURE CLASSIFICATION:
    a. 2 IN OF W.G. UP TO 2 IN OF W.G.
    b. 6 IN OF W.G. ABOVE 2 IN & UP TO 6 IN WG

28. SEALING OF DUCTWORK SHALL COMPLY WITH SECTION 603.9 OF THE MECHANICAL CODE OF NEW YORK STATE OR IN NEW YORK CITY, THE NEW YORK CITY CONSTRUCTION CODES.

29. VOLUME DAMPERS: GALVANIZED STEEL, PER SMACNA "LOW VELOCITY MANUAL," EXCEPT PROVIDE BEARING AT ONE END OF DAMPER ROD AND QUADRANT, WITH LEVER AND LOCKSCREW AT OTHER END. FOR INSULATED DUCTS, QUADRANTS MOUNTED ON COLLAR TO CLEAR INSULATION. INSTALL WITH LEVERS ACCESSIBLE.

30. ACCESS DOORS: INSULATED OR UNINSULATED, SAME AS DUCT.

    1) PROVIDE MINIMUM 20 IN. X 20 IN. (OR EQUIVALENT) ON ALL DUCTS, UNLESS OTHERWISE APPROVED, AT FIRE DAMPERS, AND AT ALL DUCT ACCESSORIES SUCH AS HUMIDIFIERS, DUCT SMOKE DETECTORS, AUTO DAMPERS, AND LOUVERS.

    2) ACCESS DOORS SHALL BE LOCATED AT THE BOTTOM OF THE DUCT OR ON THE SIDE, AND NOT MORE THAN 16 INCHES FROM THE DUCT ACCESSORY THAT IT SERVES (FIRE DAMPER, FSD, ETC.).

    3) WHERE DUCT SIZE DOES NOT PERMIT A 20 IN. X 20 IN. (OR EQUIVALENT AREA) ACCESS DOOR, THE ACCESS DOOR SHALL BE FABRICATED OF AN AREA EQUIVALENT TO A 20 IN. X 20 IN. WITH THE SMALLER DIMENSION BEING 2 INCHES SMALLER THAN THE DUCT SIZE WHERE IT WILL BE LOCATED, AND LOCATED NOT LESS THAN 1" FROM ANY DUCT EDGE.

    4) FOR DUCTS WHICH LARGEST DIMENSION IS 12 INCHES (WIDTH AND OR HEIGHT), IT IS PERMISSIBLE TO PROVIDE A 10 IN. X 10 IN. (OR EQUIVALENT AREA) ACCESS DOOR LOCATED AT THE BOTTOM OR THE SIDE OF THE DUCT. THAN

    5) ALL ACCESS DOORS TO BE HINGED, WITH LATCH SIMILAR TO VENTLOCK NO. 100.

31. FLEXIBLE CONNECTIONS: NEOPRENE-COATED GLASS FABRIC, 30 OZ PER SQ YD WITH SEWED AND CEMENTED SEAMS, SIMILAR TO VENT FABRICS. PROVIDE WITH METAL COLLARS. ALLOW MINIMUM MOVEMENT OF 1 IN.

32. TURNING VANES: GALVANIZED STEEL SMALL DOUBLE-THICKNESS VANES WITH 2 IN. INSIDE RADIUS.

33. FIRE DAMPERS: UL LISTED, GALVANIZED STEEL CONSTRUCTION, MULTIBLADED TYPE, SPRING LOADED, EQUIPPED WITH FUSIBLE LINK, CONFORMING TO NFPA STANDARD 90A AND APPROVED BY NEW YORK CITY BOARD OF STANDARDS AND APPEALS FOR NYC CAL-100-65-5M. SIMILAR TO AIR BALANCE MODEL 319-P, RATED AS REQUIRED. SEE INSTALLATION ON DRAWING.

34. DUCTWORK FOR AREAS WITH HIGH HUMIDITY SHALL BE ALUMINUM FABRICATED ONE GAGE LARGER THAN GALVANIZED FOR THE SAME PRESSURE CLASSIFICATION. THESE DUCTS INCLUDE SHOWERS, OUTDOOR AIR INTAKE, HUMIDIFIERS, ETC.

35. ALL DUCT DIMENSIONS INDICATED ON PLANS ARE INSIDE CLEAR DIMENSIONS.

36. AUTOMATIC DAMPERS: COMPLETE WITH LINKAGE AND ELECTRIC OPERATOR. OPPOSED BLADE DAMPER OR GALVANIZED STEEL MIN. 4 IN., MAX. 8 IN. WIDE WITH COMPRESSIBLE EDGE SEALS TO PREVENT LEAKAGE. FACTORY-ASSEMBLE STEEL LINKAGE AND SHAFT WITH NYLON OR OIL-IMPREGNATED BRONZE BEARINGS. MOTOR WITH SUFFICIENT POWER TO LIMIT LEAKAGE TO 10 CFM PER SQ FT. LINKAGE TO WITHSTAND LOAD EQUAL TO TWICE MAXIMUM OPERATING FORCE WITHOUT DEFLECTION. DAMPER MOUNTED IN WELDED STEEL CHANNEL FRAME.

37. WIRE MESH SCREEN (WMS): NO. 16 USSG, 3/4 SQUARE MESH, 1 IN. WIDE GALVANIZED STEEL ENCLOSING FRAME. FLANGED DUCT OPENING TO RECEIVE FRAME.

38. COMBINATION FIRE AND SMOKE DAMPERS: UL LISTED, GALVANIZED STEEL CONSTRUCTION MULTI-BLADED TYPE. BLADES SHALL BE AIRFOIL SHAPED, DOUBLE SKIN, SINGLE PIECE CONSTRUCTION. EQUIPPED WITH FUSIBLE LINK CONFORMING TO NFPA STANDARD 90A, 92A & 92B, AND COMPLY WITH LATEST STANDARD UL555 AND UL555S WITH LEAKAGE CLASS I SMOKE DAMPERS, BLADE SEALS. SIMILAR TO RUSKIN MODEL FSD 60, NYC BSA LISTING# 176-82-SM. ACTUATOR SHALL BE ELECTRICALLY POWERED, 120 V/1 PH, AND MOUNTED IN THE FACTORY AT THE TIME OF FABRICATION.

PIPING

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PIPING SYSTEMS AS INDICATED ON THE DRAWINGS AND AS SPECIFIED AND REQUIRED BY CODE.

2. UNLESS OTHERWISE NOTED, ALL PIPING IS OVERHEAD, TIGHT TO THE UNDERSIDE OF THE STRUCTURE OR SLAB, WITH SPACE FOR INSULATION IF REQUIRED.

3. UNIONS AND/OR FLANGES SHALL BE INSTALLED AT EACH PIECE OF EQUIPMENT, IN BYPASSES, AND IN LONG PIPING RUNS (100 FT. OR MORE) TO PERMIT DISASSEMBLY FOR ALTERATION AND REPAIRS.

4. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.

5. ALL PIPING SHALL CLEAR DOORS AND WINDOWS.

6. ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION.

7. ALL PIPING SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

8. PROVIDE FLEXIBLE CONNECTIONS IN ALL PIPING SYSTEMS CONNECTED TO EQUIPMENT WHICH REQUIRE VIBRATION, ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AS CLOSE TO THE EQUIPMENT AS POSSIBLE OR AS INDICATED ON THE DRAWINGS.

9. SLOPED REFRIGERANT PIPING 1% IN THE DIRECTION OF OIL RETURN. LIQUID LINES MAY BE INSTALLED LEVEL.

10. INSTALL HORIZONTAL REFRIGERANT HOT GAS DISCHARGE PIPING WITH 1/2" PER 10 FT. DOWNWARD SLOPE AWAY FROM THE COMPRESSOR.

11. INSTALL HORIZONTAL REFRIGERANT SUCTION LINES WITH 1/2" PER 10 FT. DOWNWARD SLOPE TO THE COMPRESSOR, WITH NO LONG TRAPS OR DEAD ENDS THAT MAY CAUSE OIL TO SEPARATE FROM THE SUCTION GAS AND RETURN TO THE COMPRESSOR IN DAMAGING SLUGS.

12. PROVIDE LINE SIZE LIQUID INDICATORS IN THE MAIN LIQUID LINE LEAVING THE CONDENSER OR RECEIVER. INSTALL MOISTURE-LIQUID INDICATORS IN LIQUID LINES BETWEEN FILTER DRYERS AND THERMOSTATIC EXPANSION VALVES, AND IN LIQUID LINE TO RECEIVER.

13. PROVIDE A LINE SIZE STRAINER UPSTREAM OF EACH AUTOMATIC VALVE. PROVIDE A SHUT-OFF VALVE ON EACH SIDE OF A STRAINER.

14. PROVIDE PERMANENT FILTER DRYERS IN LOW-TEMPERATURE SYSTEMS AND SYSTEMS USING HERMETIC COMPRESSORS.

15. PROVIDE REPLACEABLE CARTRIDGE FILTER DRYERS WITH A THREE-VALVE BYPASS ASSEMBLY FOR SOLENOID VALVES, ADJACENT TO RECEIVERS.

16. PROVIDE REFRIGERANT CHARGING VALVE CONNECTIONS IN THE LIQUID LINE BETWEEN THE RECEIVER SHUTOFF VALVE AND THE EXPANSION VALVE.

NOISE CONTROL

A. ALL ROOM NC LEVELS SHALL BE 35 OR LESS.

B. PROVIDE SOUND LINING FOR THE FOLLOWING DUCTWORK:

    1) ALL DUCTWORK WITHIN MECHANICAL ROOMS AND NOT LESS THAN 20 FT ON EACH SIDE OF ALL FANS AND AC UNITS.

    2) AIR TRANSFER DUCTS.

    3) DOWNSTREAM OF ALL VARIABLE AIR VOLUME AND CONSTANT VOLUME BOXES FOR A MINIMUM OF 15 FT.

    4) ALL MIXED AIR PLENUMS, EXCEPT WHERE MOISTURE CARRYOVER FROM OUTDOOR AIR LOUVER WILL OCCUR.

    5) FULL EXTENT OF SUPPLY DUCTS SERVING CONFERENCE ROOMS.

    6) ALL EXPOSED INTERIOR SUPPLY DUCTWORK.

    7) ALSO WHERE NOTED ON A DRAWING.

C. SOUND LINING IN DUCTWORK: FIBROUS GLASS, MINIMUM 3 LB DENSITY, 1 IN. THICKNESS, MAXIMUM 0.25 K FACTOR AT 75 DEG F MEAN TEMPERATURE WITH ACRYLIC COATED FINISH FACTORY APPLIED EDGE COATING AND STENCILED IN ACCORDANCE WITH NFPA 90. FLAMESPREAD SHALL BE A MAXIMUM OF 25. LINING SHALL NOT SUPPORT MICROBIAL GROWTH AND SHALL BE TESTED IN ACCORDANCE WITH ASTM C 1071 AND ASTM G21/G22. SIMILAR TO MANVILLE PERMACOTE LINA COUSTIC.

D. ALL SOUND LINING, ADHESIVES, FACES AND ACCESSORIES TO BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, EXCEPT AS OTHERWISE NOTED.

AIR OUTLETS

A. GENERAL:

    1) MARGIN TYPES, COLORS, FINISH AND METHODS OF ATTACHMENT FOR ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE COORDINATED WITH ARCHITECTURAL CEILING AND WALL DETAILS AND SPECIFICATIONS.

    2) FRAME TYPE SUITABLE FOR MOUNTING IN CEILING OR WALL CONSTRUCTION AS INDICATED ON ARCHITECTURAL PLANS.

    3) EXACT LOCATION OF ALL AIR OUTLETS AS PER ARCHITECTURAL PLANS.

    4) SUITABLE FOR OPERATION AT 20% EXCESS AND 20% LESS THAN NOTED CAPACITY FOR CONSTANT VOLUME SYSTEMS AND AT 20% EXCESS. MANUFACTURER RESPONSIBLE FOR EXAMINING APPLICATION OF EACH OUTLET AND GUARANTEE THAT EACH WILL PROVIDE REQUIRED NC LEVELS AND COMFORT SPACE CONDITIONS WITHOUT DRAFTS THROUGHOUT OPERATING RANGE.

    5) ALL REGISTERS AND DIFFUSERS SHALL BE PROVIDED WITH OPPOSED BLADE VOLUME DAMPERS. DAMPER OPERATING LEVERS SHALL BE ACCESSIBLE AT THE FACE OF AIR OUTLETS.

A. LINEAR DIFFUSERS: EXTRUDED ALUMINUM CONSTRUCTION, NATURAL ANODIZED FINISH, REMOVABLE CORE, AIR DEFLECTION VANE AND CABLE DAMPER IN EACH BRANCH TAP WITH 3 FT CABLE TO DIFFUSER FACE. PROVIDE CABLE DAMPER SIMILAR TO ANEMOSTAT MODEL OBASL.

B. SQUARE DIFFUSERS: DIFFUSERS SHALL BE STEEL CONSTRUCTION PAINTED WHITE SIMILAR TO ANEMOSTAT.

C. REGISTERS AND GRILLES:

    1) RETURN AND EXHAUST REGISTERS: STEEL CONSTRUCTION WITH VOLUME DAMPER.

    2) SUPPLY REGISTERS: ALUMINUM CONSTRUCTION ADJUSTABLE DOUBLE DEFLECTION ALUMINUM AIRFOIL LOUVERS, WITH VOLUME DAMPER. PROVIDE AIR EQUALIZING DEFLECTOR WHERE REGISTER COLLAR DUCT IS LESS THAN 2 FT LONG.

    3) TRANSFER GRILLES: STEEL CONSTRUCTION WITHOUT VOLUME DAMPER.

TESTING AND BALANCING

A. AIR BALANCING SHALL BE ACCOMPLISHED BY ADJUSTMENT OF FANS AND BRANCH DAMPERS FOR MAJOR ADJUSTMENTS. ADJUSTMENT OF TERMINAL DAMPERS AND DEVICES SHALL BE FOR TRIM OR MINOR ADJUSTMENT ONLY. THIS SHALL BE DONE TO PERMIT THE LEAST NOISE GENERATION IN THE TERMINAL AREAS AND UTILIZE MINIMUM FAN ENERGY.

B. THE CONTRACTOR SHALL PROVIDE ALL LABOR, PRESSURE GAUGES, FLOW METERS, SHEAVES, AND BELTS REQUIRED TO BALANCE SYSTEMS.

C. BALANCING REPORT SHALL BE PROVIDED ON AABC-TYPE FORMS.

D. FANS, AIR HANDLING UNITS, PUMPS, AND COILS SHALL BE BALANCED TO WITHIN +5% OF THEIR DESIGN CAPACITIES. ALL OTHER AIR AND WATER QUANTITIES SHALL BE BALANCED TO WITHIN +10% OF THE DESIGN QUANTITIES.

E. BALANCING AND TESTING SHALL BE PERFORMED AND SUPERVISED BY ONE OF THE FOLLOWING INDEPENDENT FIRMS SPECIALIZING IN TESTING AND BALANCING:

    1) INDEPENDENT TESTING AND BALANCING, INC.

    2) AIR CONDITIONING TEST AND BALANCING CORP.

    3) CFM TESTING AND BALANCING CO.

H. THE PERFORMANCE AND CAPACITY OF ALL SYSTEMS AND EQUIPMENT TO BE DEMONSTRATED BY THE CONTRACTOR.

I. AFTER OCCUPANCY OF THE SPACE, AND APPROVAL OF THE BALANCE REPORTS, THE AIR BALANCE COMPANY SHALL RETURN TO PROVIDE COMFORT BALANCE SERVICES. THE AIR BALANCE COMPANY SHALL ADJUST VOLUME DAMPERS AND MINIMUM SETTINGS IN RESPONSE TO THE OCCUPANTS REQUIREMENTS. ALLOW ONE HALF DAY MINIMUM PER FLOOR AND UP TO THREE DAYS ON SITE FOR COMFORT BALANCE SERVICES.

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

MEP:
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New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

HVAC NOTES & MECHANICAL SPECIFICATIONS (1 OF 7)

Date:

Scale: 1/8" = 1'-0"

Seal/Signature:

Drawn By #:NYE

Chkd By #:NYE

Drawing #:

M-002.00

DOB #:B00235775-I1

Sheet #: of

SPECIFICATIONS

SECTION 0001 – NOTICE TO BIDDERS

1.1 BIDDERS REPRESENTATIONS

A. THE BIDDER BY MAKING A BID REPRESENTS THAT:

THE BIDDER HAS READ AND UNDERSTANDS THE BIDDING DOCUMENTS, TO THE EXTENT THAT SUCH DOCUMENTATION RELATES TO THE WORK FOR WHICH THE BID IS SUBMITTED, AND FOR OTHER PORTIONS OF THE PROJECT, IF ANY, BEING BID CONCURRENTLY OR PRESENTLY UNDER CONSTRUCTION.

B. THE BID IS MADE IN COMPLIANCE WITH THE BIDDING DOCUMENTS.

C. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO SERVE JOINTLY AS A BASIS FOR THE BIDDER TO SUBMIT A CONTRACT PRICE FOR THE MATERIAL AND LABOR.

D. SHOULD CONFLICTS OR DISCREPANCIES OCCUR WITHIN THE BIDDING DOCUMENTS, THE ITEM OR ITEMS IN DISPUTE THAT REPRESENT THE GREATER COST SHALL PREVAIL IN THE FINAL BID.

E. THE BID IS BASED UPON THE MATERIALS, EQUIPMENT AND SYSTEMS REQUIRED BY THE BIDDING DOCUMENTS WITHOUT EXCEPTION.

1.2 EXISTING CONDITIONS AND COORDINATION

A. THE BIDDER HAS VISITED THE SITE, BECOME FAMILIAR WITH LOCAL CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED AND HAS CORRELATED THE BIDDER'S PERSONAL OBSERVATIONS WITH THE REQUIREMENTS OF THE PROPOSED BIDDING DOCUMENTS.

B. THE BIDDER SHALL PROPOSE COORDINATION OF WORK SUCH THAT CONFLICTS WITH OTHER TRADES AND SPACE ALLOCATIONS ARE AVOIDED.

1.3 RESPONSIBILITIES

A. THE BIDDER UNDERSTANDS THAT ANY CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE TIMELY COMPLETION AND ACCEPTANCE OF THEIR WORK AND THAT ANY ITEMS DAMAGED, LOST OR STOLEN DURING TIME OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED WITHOUT ANY ADDITIONAL COST TO THE OWNER.

B. THE BIDDER UNDERSTANDS THAT ANY PROPOSED WORK IN OCCUPIED TENANT SPACES SHALL BE PERFORMED DURING TIMES OF NON–TENANT OCCUPANCY OR AS SCHEDULED OR DIRECTED BY THE BUILDING MANAGER.

C. THE BIDDER UNDERSTANDS THAT ANY PROPOSED SHUT–DOWN OF EXISTING SYSTEMS DURING CONSTRUCTION SHALL BE PRE–ARRANGED WITH THE BUILDING MANAGER AND THAT SUCH SHUT–DOWNS ARE TO BE KEPT TO A MINIMUM.

END OF SECTION 0001

SECTION 0101 – QUALITY OF WORK

1.1 WORKMANSHIP

A. ALL WORK SHALL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.

B. ALL DEFECTS WHICH DEVELOP OR ARE DISCOVERED WITHIN THIS PERIOD SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT OR BUILDING MANAGER AT NO ADDITIONAL COST TO THE OWNER.

C. UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE FROM THE SITE, ALL TOOLS, DEMOLISHED APPLIANCES AND ANY SURPLUS MATERIAL.

1.2 CODE COMPLIANCE

A. ALL WORK SHALL MEET ALL STATE AND LOCAL CODES HAVING JURISDICTION.

END OF SECTION 0101

SECTION 0102 –REQUIRED DOCUMENTS

1.1 SHOP DRAWINGS

A. A SET OF PRINTS FOR ANY MECHANICAL WORK INCLUDING BUT NOT LIMITED TO, DUCTWORK AND PIPING LAYOUT SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER PRIOR TO CONSTRUCTION OR PURCHASE OF MATERIALS.

1.2 SUBMITTALS

A. WITHIN 90 DAYS, EQUIPMENT SUBMITTALS OF ALL PROPOSED MECHANICAL AND ANCILLARY EQUIPMENT INCLUDING ALL ACCESSORIES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. ALL PERTINENT MODELS, SIZES, ACCESSORIES AND CHOICES SHALL BE CLEARLY CHECKED, PRINTED OR OTHERWISE INDICATED ON THE SUBMITTALS.

1.3 RECORD DRAWINGS

A. WITHIN 90 DAYS, UPON COMPLETION OF THE WORK, A RECORD DRAWING SHALL BE SUBMITTED TO THE OWNER DEPICTING ALL SUBSEQUENT CHANGES, ADDITIONS AND OR CORRECTIONS TO THE CONTRACT DRAWINGS AND OR CONTRACT SCOPE MADE DURING CONSTRUCTION. THIS DRAWING SHALL REPRESENT A COMPLETE RECORD OF THE WORK INSTALLED.

1.4 EQUIPMENT OPERATING INSTRUCTIONS

A. WITHIN 90 DAYS, ON COMPLETION AND ACCEPTANCE OF WORK, THIS CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS,EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.

B. THESE INSTRUCTIONS SHALL BE TYPED ON 8–1/2 IN. X 11 IN. PAPER AND BOUND IN THREE–RING BINDERS WITH CLEAR ACETATE COVERS. THE CONTRACTOR SHALL GIVE THREE COPIES OF THE INSTRUCTIONS TO THE OWNER AND ONE ELECTRONIC COPY TO THE ENGINEER.

C. THE INSTRUCTION BOOKLET SHALL BE ORGANIZED IN SECTIONS, WITH ONE SECTION PER SYSTEM. THE COVER OF THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND PHONE NUMBER OF THE PROJECT, ARCHITECT, ENGINEER, MECHANICAL CONTRACTOR AND SUBCONTRACTORS.

END OF SECTION 0102

SECTION 078413–PENETRATION FIRE–STOPPING

1.1 QUALITY ASSURANCE

A. INSTALLER QUALIFICATIONS: AN FM GLOBAL–APPROVED FIRE–STOP CONTRACTOR OR A UL–QUALIFIED FIRE–STOP CONTRACTOR.

B. FIRE–TEST–RESPONSE CHARACTERISTICS: UL, INTERTEK ETL SEMKO OR FM GLOBAL

1.2 PENETRATION FIRESTOPPING

A. PENETRATIONS IN FIRE–RESISTANCE–RATED WALLS: F–RATINGS PER ASTM E 814 OR UL 1479.

B. PENETRATIONS IN HORIZONTAL ASSEMBLIES: F– AND T–RATINGS PER ASTM E 814 OR UL 1479:

C. PENETRATIONS IN SMOKE BARRIERS: L–RATINGS PER UL 1479.

D. W–RATINGS: PER UL 1479.

1.3 INSTALLATION

A. IDENTIFICATION: PREPRINTED METAL OR PLASTIC LABELS.

1.4 FIELD QUALITY CONTROL

A. INSPECTION OF INSTALLED FIRE–STOPPING: BY OWNER–ENGAGED AGENCY ACCORDING TO ASTM E 2174.

1.5 THROUGH–PENETRATION FIRESTOP SYSTEM SCHEDULE

WHERE UL–CLASSIFIED SYSTEMS ARE INDICATED, THEY REFER TO SYSTEM NUMBERS IN UL'S "FIRE RESISTANCE DIRECTORY" UNDER PRODUCT CATEGORY XHEZ.

FOR THE FOLLOWING SYSTEMS:

METALLIC AND NON–METALLIC PIPES, CONDUIT, OR TUBING, ELECTRICAL CABLES, CABLE TRAYS WITH ELECTRIC CABLES, MISCELLANEOUS ELECTRICAL PENETRANTS, INSULATED PIPES, GROUPINGS OF PENETRANTS, USE ON OR MORE THE FOLLOWING MATERIALS:

a. LATEX SEALANT
b. SILICONE SEALANT
c. INTUMESCENT PUTTY
d. MORTAR
h. SILICONE FOAM
i. PILLOWS/BAGS
j. INTUMESCENT WRAP STRIPS
k. INTUMESCENT COMPOSITE SHEET

1.6 MANUFACTURERS

1. HILTI CONSTRUCTION CHEMICAL, INC
2. TREMCO INC.
3. 3M FIRE PROTECTION PRODUCTS

END OF SECTION 078413

SECTION 230517 – SLEEVES AND SLEEVE SEALS FOR HVAC PIPING

1.1 SLEEVE–SEAL SYSTEMS

C. FIELD–ASSEMBLED, MODULAR SEALING–ELEMENT UNIT FOR FILLING ANNULAR SPACE BETWEEN PIPING AND SLEEVE.

1. SEALING ELEMENTS: EPDM RUBBER OR NBR.
2. PRESSURE PLATES: CARBON STEEL, PLASTIC, STAINLESS STEEL.
3. CONNECTING BOLTS AND NUTS: CARBON STEEL WITH CORROSION–RESISTANT COATING, STAINLESS STEEL.

B. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. ADVANCE PRODUCTS & SYSTEMS, INC.
2. CALPICO, INC.
3. METRAFLEX COMPANY (THE).
4. PIPELINE SEAL AND INSULATOR, INC.
5. PROCO PRODUCTS, INC.

1.2 SLEEVE–SEAL FITTINGS

A. MANUFACTURED PLASTIC, SLEEVE–TYPE, PLASTIC OR RUBBER WATER–STOP ASSEMBLY MADE FOR IMBEDDING IN CONCRETE SLAB OR WALL.

1.3 GROUT

A. NON–SHRINK, FACTORY PACKAGED.

1.4 SLEEVE AND SLEEVE–SEAL SCHEDULE

A. USE SLEEVES AND SLEEVE SEALS FOR THE FOLLOWING PIPING–PENETRATION APPLICATIONS:

1. INTERIOR PARTITIONS:
   a. PIPING SMALLER THAN NPS 6 (DN 150): GALVANIZED–STEEL–PIPE SLEEVES, PVC–PIPE SLEEVES.
   b. PIPING NPS 6 (DN 150) AND LARGER: GALVANIZED–STEEL–SHEET SLEEVES.

END OF SECTION 230517

SECTION 230529 – HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT

1.1 PERFORMANCE REQUIREMENTS

A. DELEGATED DESIGN: DESIGN TRAPEZE PIPE HANGERS AND EQUIPMENT SUPPORTS, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A QUALIFIED PROFESSIONAL ENGINEER, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED.

B. STRUCTURAL PERFORMANCE: HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS INDICATED ACCORDING TO ASCE/SEI 7.

1. DESIGN SUPPORTS FOR MULTIPLE PIPES CAPABLE OF SUPPORTING COMBINED WEIGHT OF SUPPORTED SYSTEMS, SYSTEM CONTENTS, AND TEST WATER.
2. DESIGN EQUIPMENT SUPPORTS CAPABLE OF SUPPORTING COMBINED OPERATING WEIGHT OF SUPPORTED EQUIPMENT AND CONNECTED SYSTEMS AND COMPONENTS.
3. DESIGN SEISMIC–RESTRAINT HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT AND OBTAIN APPROVAL FROM AUTHORITIES HAVING JURISDICTION.

1.2 SUBMITTALS

A. SHOP DRAWINGS: SIGNED AND SEALED BY A PROFESSIONAL ENGINEER

1.3 QUALITY ASSURANCE

A. AWS D1.1/D1.1M, "STRUCTURAL WELDING CODE – STEEL."

1.4 COMPONENTS

A. METAL PIPE HANGERS AND SUPPORTS: CARBON OR STAINLESS STEEL

B. TRAPEZE PIPE HANGERS: CARBON OR STAINLESS STEEL

C. FIBERGLASS PIPE HANGERS: –CLEVIS, CENTURY COMPOSITES, COOPER B–LINE

D. METAL FRAMING SYSTEMS: MFMA MANUFACTURER

E. FIBERGLASS STRUT SYSTEMS: COOPER B–LINE

F. THERMAL–HANGER SHIELD INSERTS:

G. FASTENER SYSTEMS: POWDER–ACTUATED FASTENERS OR MECHANICAL–EXPANSION ANCHORS

H. PIPE STANDS: COMPACT, LOW TYPE, SINGLE PIPE, HIGH TYPE, SINGLE PIPE, HIGH TYPE, MULTIPLE PIPES, CURB–MOUNTED TYPE

I. EQUIPMENT SUPPORTS.

END OF SECTION 230529

SECTION 230548 – VIBRATION AND SEISMIC CONTROLS FOR HVAC PIPING AND EQUIPMENT

PART 1 – GENERAL

1.1 COMPONENTS

A. VIBRATION ISOLATORS:

1. ISOLATOR PADS: NEOPRENE, RUBBER, HERMETICALLY AND/OR SEALED COMPRESSED FIBERGLASS
2. MOUNTS: DOUBLE–DEFLECTION TYPE.
3. RESTRAINED MOUNTS: ALL DIRECTIONAL MOUNTINGS WITH SEISMIC RESTRAINT; CAST–DUCTILE–IRON HOUSING.
4. SPRING ISOLATORS: FREESTANDING, LATERALLY STABLE, OPEN–SPRING TYPE.
5. RESTRAINED SPRING ISOLATORS: FREESTANDING, STEEL, OPEN–SPRING TYPE WITH SEISMIC RESTRAINT.
6. HOUSED SPRING MOUNTS: DUCTILE–IRON OR STEEL HOUSING, WITH INTEGRAL, VERTICALLY ADJUSTABLE SEISMIC SNUBBERS.
7. ELASTOMERIC HANGERS: DOUBLE–DEFLECTION TYPE.
8. SPRING HANGERS: COMBINATION COIL–SPRING AND ELASTOMERIC–INSERT HANGERS WITH SPRING AND INSERT IN COMPRESSION.
9. SPRING HANGERS WITH VERTICAL–LIMIT STOP: COMBINATION COIL–SPRING AND ELASTOMERIC–INSERT HANGERS WITH SPRING AND INSERT IN COMPRESSION AND WITH VERTICAL–LIMIT STOP.
10. PIPE RISER RESILIENT SUPPORT: ALL–DIRECTIONAL, ACOUSTICAL PIPE ANCHOR.
11. RESILIENT PIPE GUIDES.

B. AIR–MOUNTING SYSTEMS:

1. AIR MOUNTS: FREESTANDING, SINGLE OR MULTIPLE, COMPRESSED–AIR BELLOWS.
2. RESTRAINED AIR MOUNTS: HOUSED COMPRESSED–AIR BELLOWS.

C. RESTRAINED VIBRATION ISOLATION ROOF–CURB RAILS: FACTORY–ASSEMBLED, FULLY ENCLOSED, INSULATED, AIR– AND WATERTIGHT CURB RAIL; WITH SPRING ISOLATORS MOUNTED ON ELASTOMERIC ISOLATION PADS, AND SNUBBER BUSHINGS.

D. VIBRATION ISOLATION EQUIPMENT BASES:

1. STEEL BASE: FACTORY–FABRICATED, WELDED, STRUCTURAL–STEEL BASES AND RAILS.
2. INERTIA BASE: FACTORY–FABRICATED, WELDED, STRUCTURAL–STEEL BASES AND RAILS READY FOR FIELD–APPLIED, CAST–IN–PLACE CONCRET

E. SEISMIC–RESTRAINT DEVICES:

1. SNUBBERS: WELDED STRUCTURAL–STEEL SHAPES AND REPLACEABLE RESILIENT ISOLATION WASHERS AND BUSHINGS.
2. CHANNEL SUPPORT SYSTEM: MFMA–3 SLOTTED STEEL CHANNELS.
3. RESTRAINT CABLES: GALVANIZED OR STAINLESS STEEL CABLES.
4. ANCHOR BOLTS: MECHANICAL OR ADHESIVE TYPE, SEISMIC RATED.
5. RESILIENT ISOLATION WASHERS AND BUSHINGS: MOLDED NEOPRENE.

1.3 FIELD QUALITY CONTROL

A. TESTING: BY EITHER: OWNER–ENGAGED AGENCY, CONTRACTOR–ENGAGED AGENCY, OR CONTRACTOR.

PART–2 PRODUCTS

1.4 VIBRATION ISOLATORS & SEISMIC–RESTRAINT DEVICES

A. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

B. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:

1. ACE MOUNTINGS CO., INC.
2. AMBER/BOOTH COMPANY, INC.
3. CALIFORNIA DYNAMICS CORPORATION.
4. COOPER B–LINE, INC.; A DIVISION OF COOPER INDUSTRIES.
5. HILTI, INC.
6. ISOLATION TECHNOLOGY, INC.
7. KINETICS NOISE CONTROL.
8. LOOS & CO.; CABLEWARE DIVISION.
9. MASON INDUSTRIES.
10. TOLCO INCORPORATED; A BRAND OF NIBCO INC.
11. UNISTRUT; TYCO INTERNATIONAL, LTD.
12. VIBRATION ELIMINATOR CO., INC.
13. VIBRATION ISOLATION.
14. VIBRATION MOUNTINGS & CONTROLS, INC.

END OF SECTION 230548

SECTION 230593 – TESTING, ADJUSTING, AND BALANCING FOR HVAC

1.1 SUMMARY

A. TESTING, ADJUSTING, AND BALANCING FOR THE FOLLOWING:

1. AIR SYSTEMS: CONSTANT–VOLUME
2. CONDENSING UNITS.

1.2 QUALITY ASSURANCE

A. THE CONTRACTOR SHALL PROCURE THE SERVICES OF A TESTING, ADJUSTING AND BALANCING (TAB) SPECIALIST WHO SPECIALIZES IN HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS. THE TAB AGENT SHALL HAVE THE FOLLOWING QUALIFICATIONS: AABC, NEBB OR TABB CERTIFIED.

1.3 EXECUTION

A. THE TAB SPECIALIST SHALL PERFORM FLOW MEASUREMENTS OF ALL NEW AIR SYSTEMS AS LISTED ABOVE IN THE PROJECT SCOPE. A REPORT OF THESE MEASUREMENTS, INDICATING ANY AND ALL DEFICIENCIES SHALL BE SUBMITTED FOR OWNER REVIEW.

B. THE REPORT SHALL INDICATE A SCHEMATIC DIAGRAM INDICATING LOCATIONS OF ALL EQUIPMENT TESTED AND MEASUREMENT LOCATIONS.

C. PRIOR TO FINAL INSPECTION OF THE WORK, THE TAB SPECIALIST SHALL BALANCE ALL SYSTEMS AS INDICATED ABOVE TO THE REQUIREMENTS OF THE DESIGN.

D. THE CONTRACTOR SHALL HAVE FURNISH AND INSTALL ALL ADDITIONAL BALANCING EQUIPMENT, PRESSURE TAPS, GAUGES AND OTHER EQUIPMENT AS REQUIRED FOR A PROPERLY BALANCED SYSTEM AT NO ADDITIONAL COST TO THE OWNER. SUCH ADDITIONAL EQUIPMENT SHALL ADHERE IN STRICT ACCORDANCE WITH THE RESPECTIVE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.

E. THE CONTRACTOR SHALL HAVE THE TESTING AND BALANCING SPECIALIST COORDINATE ALL WORK OF THIS SECTION WITH THE BUILDING MANAGER. BALANCING WORK SHALL NOT CONFLICT WITH OTHER WORK SO AS TO MAINTAIN COMPLETION WITHIN THE SPECIFIED TIME.

F. ALL INSTRUMENTS USED FOR TAB SHALL BE MAINTAINED IN GOOD WORKING CONDITION AND ACCURATELY CALIBRATED.

G. TOLERANCES: PLUS OR MINUS 5 PERCENT OF DESIGN VALUES.

H. INSPECTIONS: RANDOM CHECKS BY OWNER OR ARCHITECT TO VERIFY FINAL TESTING, ADJUSTING, AND BALANCING REPORT.

I. ADDITIONAL TESTS: RANDOM TESTS WITHIN 90 DAYS OF COMPLETING TAB TO VERIFY BALANCE CONDITIONS AND SEASONAL TESTS.

J. BEDROOMS SHALL BE PRESSURE BALANCED TO ACHIEVE A PRESSURE DIFFERENCE OF NO MORE THAN 1PA WITH RESPECT TO THE MAIN BODY OF THE DWELLING UNIT WHEN ALL BEDROOM DOORS ARE CLOSED AND JUST THE VENTILATION SYSTEM IS OPERATING AT DESIGN SPEED.

END OF SECTION 230593

SECTION 230713 – DUCT INSULATION

1.1 QUALITY ASSURANCE

SURFACE–BURNING CHARACTERISTICS: ALL INSULATION SHALL HAVE COMPOSITE (INSULATION JACKET OR FACING AND ADHESIVE USED TO ADHERE THE FACING OR JACKET TO THE INSULATION) A FLAME–SPREAD INDEX OF 25, AND SMOKE–DEVELOPED INDEX OF 50 FOR INSULATION INSTALLED INDOOR, 75, AND SMOKE–DEVELOPED INDEX OF 150 FOR INSULATION INSTALLED OUTDOORS; ACCORDING TO ASTME 84.

1.2 FIELD QUALITY CONTROL

A. FIELD INSPECTIONS: BY OWNER–ENGAGED AGENCY.

1.3 INDOOR DUCT AND PLENUM INSULATION SCHEDULE;

A. CONCEALED, RECTANGULAR, ROUND AND SUPPLY–RETURN, OUTDOOR–AND EXHAUST–AIR DUCT AND AIR PLENUM INSULATION:

B. FLEXIBLE ELASTOMERIC, MINERAL–FIBER BLANKET, MINERAL–FIBER BOARD OR POLYOLEFIN WITH MINIMUM INSTALLED THERMAL RESISTANCE AS FOLLOWS:

UNCONDITIONED SPACES WITHIN BUILDING:	R–3.5
WITHIN BUILDING ENVELOPE ASSEMBLY:	R–6
OUTSIDE OF BUILDING:	R–6

1.4 ITEMS NOT INSULATED:

1. FIBROUS–GLASS DUCTS.
2. METAL DUCTS WITH DUCT LINER OR SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE ANDASHRAE/IESNA 90.1.
3. FACTORY–INSILATED FLEXIBLE DUCTS.
4. FACTORY–INSULATED PLENUMS AND CASINGS.
5. FLEXIBLE CONNECTORS.
6. VIBRATION–CONTROL DEVICES.
7. "FACTORY–INSULATED ACCESS PANELS AND DOORS.
8. DUCTS THAT HAVE INTERNAL ACOUSTICAL LINING.

1.5 PRODUCTS

A. THE FOLLOWING INSULATION MANUFACTURERS WILL BE ACCEPTABLE:

1. JOHNS–MANVILLE
2. OWENS–CORNING

1.6 ACOUSTICAL TREATMENT

1. WHERE SHOWN ON THE DRAWINGS, LOW PRESSURE DUCTWORK SHALL BE LINED WITH 1.5" THICK R–6 AS MANUFACTURED BY DUCTMATE, 1–1/2 POUND MINIMUM DENSITY, NEOPRENE COATED, FLEXIBLE FIBERGLASS DUCT LINER. LINING SHALL COMPLY WITH NFPA 90A AND SHALL HAVE A FLAME SPREAD CLASSIFICATION OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING NOT MORE THAN 50. DUCT SIZES WHERE LINING IS INDICATED ON PLANS ARE MINIMUM INSIDE CLEAR DIMENSIONS REQUIRED,

END OF SECTION 230713

SECTION 233113 – METAL DUCTS

1.1 CONSTRUCTION

A. EACH DUCT SYSTEM SHALL BE CONSTRUCTED FOR THE SPECIFIC SMACNA DUCT PRESSURE CLASSIFICATIONS SHOWN ON THE CONTRACT DRAWINGS. WHERE NO PRESSURE CLASSES ARE SPECIFIED BY THE DESIGNER, THE SMACNA 2–1/2 INCH WG PRESSURE CLASS IS THE BASIS OF COMPLIANCE WITH THESE STANDARDS, REGARDLESS OF THE VELOCITY IN THE DUCT.

B. ALL DUCTWORK SHALL BE CONSTRUCTED TO SMACNA 2" WG DESIGN AND NOT LESS THAN THE FOLLOWING STANDARDS:

1. DUCTWORK SHALL BE TRANSVERSELY JOINTED BY CONNECTING SEAMS OF COMPANION ANGLES, FORMED FROM 1–1/2"X1–1/2"X1/8" GALVANIZED ANGLES, TACK–WELDED OR RIVETED TO THE DUCT. THE ANGLE FRAME SHALL BE CONTINUOUSLY FLANGED UP INTO UPRIGHT OF ANGLE AND EACH CORNER SHALL BE FILLED IN AND GROUND SMOOTH. JOINTS SHALL BE GASKETED WITH 1/8" THICK REINFORCED GASKET, OVERLAPPED AT CORNERS, GASKET SIMILAR TO 3M–1202 OR APPROVED EQUAL.
2. RECTANGULAR FITTINGS AND ALL TRANSITION PIECES FROM RECTANGULAR TO ROUND SHALL BE NO. 16 GAUGE ALL WELDED CONSTRUCTION.
3. HORIZONTAL DUCTS SHALL BE SUPPORTED ON NOT MORE THAN 6' CENTERS. VERTICAL RISERS SHALL BE SUPPORTED AT EACH FLOOR.
4. LONGITUDINAL SEAMS FOR RECTANGULAR DUCTWORK SHALL BE PITTSBURGH LOCK SEAMS WITH SEALING COMPOUND, EQUAL TO BENJAMIN FOSTER NO. 30–03 INSERTED INTO SEAM. ALL SEAMS SHALL BE BRUSHED WITH NO. 30–02 AND COVERED WITH APPROVED SEALING TAPE.
5. RECTANGULAR DUCTWORK 18 GAUGE AND HEAVIER, FILLER RODS SHALL BE IN ACCORDANCE WITH SPECIFICATIONS FOR IRON AND STEEL GAS WELDING RODS, ASTM 215; AWG A5.2.
6. ALL FITTINGS SUCH AS ELBOWS, TEES, ETC., SHALL BE NO. 20 GAUGE ZINC COATED STEEL. ELBOWS SHALL BE OF FIVE (5) PIECE WELDED AIRTIGHT CONSTRUCTION.
7. PROTECT DUCT INTERIORS FROM MOISTURE, CONSTRUCTION DEBRIS AND DUST, AND OTHER FOREIGN MATERIALS. COVER DUCT OPENINGS THROUGHOUT CONSTRUCTION TO PROTECT FROM CONSTRUCTION DEBRIS.

C. WHERE LATEST EDITION OF SMACNA DOES NOT CLEARLY STATE GAUGES AND/OR STIFFENERS TO BE USED OR, WHERE SMACNA STANDARDS REQUIRE INTERPRETATION, THE FOLLOWING MINIMUM METAL GAUGES AND BRACING SHALL BE USED:

USG	MAX. SIDE INCHES	TRANSVERSE JOINTS AND BRACING
22	UP TO 12	S SLIP, DRIVE SLIP, ONE INCH POCKET LOCK ON 8 FOOT CENTERS
22	13 TO 24	1"X1"X1/8" ANGLES ON 4 FOOT CENTERS
20	25 TO 35	1"X1"X1/8" ANGLES ON 2 FOOT CENTERS

D. FLAT OVAL OR ROUND DUCTWORK MAY BE PROVIDED IN LIEU RECTANGULAR DUCTWORK WITH THE REINFORCEMENT FOR FLAT SIDES SAME AS SPECIFIED FOR THE RECTANGULAR DUCTWORK, AND AS PER SMACNA FLAT OVAL DUCT CONSTRUCTION STANDARDS SHOWN IN FIG. 3–6 AND AS SHOWN IN FIG. 3–1 AND 3–2 FOR ROUND DUCTWORK.

E. ALL DUCTWORK SHALL BE SEALED TO CLASS "A" AND LEAK TESTED TO MEAT SMACNA CLASS 6 FOR RECTANGULAR AND CLASS 3 FOR ROUND DUCTS.

1.2 MATERIALS

A. SINGLE–WALL RECTANGULAR DUCTS AND FITTINGS.
B. DOUBLE–WALL RECTANGULAR DUCTS AND FITTINGS.
1. FIBROUS–GLASS OR FLEXIBLE ELASTOMERIC DUCT LINER FOR INTERSTITIAL INSULATION.
2. PERFORATED INNER DUCT.
C. SINGLE–WALL ROUND AND FLAT–OVAL DUCTS AND FITTINGS.
D. DOUBLE–WALL ROUND AND FLAT–OVAL DUCTS AND FITTINGS.
1. FIBROUS–GLASS OR FLEXIBLE ELASTOMERIC DUCT LINER FOR INTERSTITIAL INSULATION.
2. PERFORATED INNER DUCT.
E. SHEET METAL MATERIALS:
1. GALVANIZED SHEET STEEL.
2. PVC–COATED, GALVANIZED SHEET STEEL.
3. CARBON–STEEL SHEETS.
4. STAINLESS–STEEL SHEETS.
5. ALUMINUM SHEETS.
6. FACTORY–APPLIED ANTI–MICROBIAL COATING.
F. DUCT LINER:
1. FIBROUS GLASS, TYPE I, FLEXIBLE.
   a. WITH ANTI–MICROBIAL EROSION–RESISTANT COATING.
2. FLEXIBLE ELASTOMERIC.
3. NATURAL FIBER.
G. SEALANT MATERIALS:
1. TWO–PART TAPE SEALING SYSTEM.
2. WATER–BASED JOINT AND SEAM SEALANT.
3. SOLVENT–BASED JOINT AND SEAM SEALANT.
4. FLANGED JOINT SEALANT.
5. FLANGE GASKETS.
6. ROUND DUCT JOINT O–RING SEALS.

1.3 SEISMIC–RESTRAINT DEVICES

A. CHANNEL SUPPORT SYSTEM.
B. STAINLESS–STEEL RESTRAINT CABLES.
C. HANGER ROD STIFFENER: STEEL TUBE OR STEEL SLOTTED–SUPPORT–SYSTEM SLEEVE WITH INTERNALLY BOLTED CONNECTIONS OR REINFORCING STEEL ANGLE CLAMPED TO HANGER ROD.

1.4 DUCT CLEANING

A. CLEAN EXISTING DUCT SYSTEM(S) BEFORE TESTING, ADJUSTING, AND BALANCING.
B. CLEAN THE FOLLOWING ITEMS:
1. AIR OUTLETS AND INLETS.
2. SUPPLY, RETURN, AND EXHAUST FANS.
3. AIR–HANDLING UNITS.
4. COILS AND RELATED COMPONENTS.
5. RETURN–AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES.
6. SUPPLY–AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES.

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

MECHANICAL SPECIFICATIONS (2 OF 7)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #:NYE

Chkd By #:NYE

Drawing #:

M-003.00

DOB #: B00235775-I1

Sheet #: of

1.5 DUCT SCHEDULE

A. ALL DUCTS SHALL BE GALVANIZED STEEL EXCEPT AS FOLLOWS:

1. MOIST ENVIRONMENT DUCT MATERIAL: ALUMINUM.

END OF SECTION 233113

SECTION 233713 – DIFFUSERS, REGISTERS, AND GRILLES

1.1 PRODUCTS

A. DIFFUSERS, REGISTERS AND GRILLES SHALL BE FURNISHED AND INSTALLED FOR CAPACITIES AND IN LOCATIONS INDICATED ON DRAWINGS. ALL REGISTERS AND DIFFUSERS SHALL BE PRIME COATED STEEL OR EXTRUDED ALUMINUM FINISHED UNLESS OTHERWISE NOTED IN BAKED WHITE ENAMEL.

B. MANUFACTURERS: TITUS

1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCT BY ONE OF THE FOLLOWING:

a. CARNES.

b. HART & COOLEY INC.

c. KRUEGER.

d. METALAIRE, INC.

e. NAILOR INDUSTRIES INC.

C. ALL DIFFUSERS SHALL HAVE CONTROLLING/EQUALIZING GRID AND OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.

D. ALL DUCTED RETURN REGISTERS SHALL HAVE AN OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.

E. EQUIP ALL APARTMENT KITCHEN EXHAUST DIFFUSERS WITH A MERV 3 OR WASHABLE MESH FILTER FOR TRAPPING GREASE.

END OF SECTION 233713

INSULATION – GENERAL REQUIREMENTS

A. ALL INSULATION MATERIALS, INCLUDING JACKETS, FACING, ADHESIVE, COATINGS, AND ACCESSORIES ARE TO BE FIRE HAZARD RATED AND LISTED BY UNDERWRITERS LABORATORIES, INC. USING STEINER TUNNEL TEST METHOD FOR FIRE HAZARD CLASSIFICATION OF BUILDING MATERIALS, STANDARD UL 723 (ASTM E–84), (ASA A2.5–1963). FLAMESPREAD: MAXIMUM 25. FUEL CONTRIBUTED AND SMOKE DEVELOPED: MAXIMUM 50. FLAMEPROOFING TREATMENTS SUBJECT TO DETERIORATION FROM MOISTURE OR HUMIDITY ARE NOT ACCEPTABLE.

B. DEFINITIONS:

1) EXPOSED: INDOOR DUCTS, PIPING OR EQUIPMENT LOCATED IN MECHANICAL EQUIPMENT ROOMS AND IN AREAS WHICH WILL BE VISIBLE WITHOUT REMOVING CEILINGS OR OPENING ACCESS PANELS.

2) CONCEALED: INDOOR DUCTS, PIPING OR EQUIPMENT WHICH IS NOT EXPOSED.

3) OUTDOOR: DUCTS, PIPING OR EQUIPMENT WHICH IS EXPOSED TO THE WEATHER.

A) DUCTWORK INSULATION

A. INSULATE ALL DUCTWORK IN ACCORDANCE WITH INSULATION SCHEDULE EXCEPT AS OTHERWISE NOTED.

INSULATION SCHEDULE – DUCTWORK

SERVICE	LOCATION	THICKNESS	TYPE	FINISH
SUPP/RET	CONCEALED	1.5"	D–1	VAPORSEAL
INTAKE	ALL	2"	D–3	VAPORSEAL

B. MATERIAL:

1) TYPE D–1: MINIMUM 1–LB DENSITY FIBERGLASS BLANKET, MAXIMUM 0.28 K–FACTOR AT 75 DEG F MEAN TEMPERATURE WITH FACTORY–APPLIED FOIL–SKRIM–KRAFT FACING SIMILAR TO MANVILLE MICROLITE.

2) TYPE D–2: 3 LB. FIBERGLASS BOARD. THE MAXIMUM K FACTOR SHALL BE 0.23 AT 75 DEG F MEAN TEMPERATURE WITH A MINIMUM DENSITY OF 3 LB. THE INSULATION SHALL BE PROVIDED WITH A FACTORY–APPLIED ALL PURPOSE OR ALL SERVICE FACING. THE INSULATION SHALL BE EQUAL TO MANVILLE TYPE 814 SPIN–GLAS AP.

3) TYPE D–3: INIMUM 6 LB FIBERGLASS BOARD. MAXIMUM 0.22 K–FACTOR AT 75 DEG F MEAN TEMPERATURE WITH FACTORY APPLIED ALL PURPOSE OR ALL SERVICE FACING. SIMILAR TO MANVILLE 817 SPIN–GLAS AP.

E. INSTALLATION:

1) FIBERGLASS BLANKET: 2 IN. LAP STRIPS AT ALL SEAMS. SECURE BOTTOM OF ALL DUCTS OVER 24 IN. WIDE WITH MIN. 2 ROWS OF WELD PINS 12 IN. ON CENTER. SECURE ALL SEAMS WITH FOIL VAPOR BARRIER TAPE AND VAPORSEAL ADHESIVE.

2) FIBERGLASS BOARD: SEAL JOINTS AND BREAKS IN FACING WITH 3 IN. WIDE TAPE TO MATCH FACING AND ADHERE WITH VAPOR SEAL ADHESIVE. APPLY 5 IN. WIDE TAPE AT CORNERS, WELD PINS ON TOP, SIDES AND BOTTOM.

B) PIPING INSULATION

A. INSULATE ALL PIPING IN ACCORDANCE WITH INSULATION SCHEDULE EXCEPT AS OTHERWISE NOTED.

INSULATION SCHEDULE – PIPING

SERVICE	SIZE	THICKNESS	MATERIAL FINISH
REFRIGERANT PIPING		1.0"	P–6
CONDENSATE DRAIN PIPING (IF RUNNING THROUGH EXTERIOR WALL)		1.0"	P–6

B. PIPING, VALVES AND FITTINGS TO BE INSULATED:

1) LOW TEMPERATURE PIPING SYSTEMS – 0 TO 60 DEG F INCLUDING:

a. CONDENSATE DRAIN PIPING.

2) PROTECTIVE COVERINGS SHALL BE INSTALLED ON AREAS OF INSULATION THAT ARE EXPOSED TO WEATHER OR SUBJECT TO MECHANICAL DAMAGE. THE PROTECTIVE COVERING SHALL BE:

a. ARMA–CHEK SILVER" MULTI–LAYER LAMINATE OF ALUMINUM, COATED WITH A UV PROTECTIVE FILM AND BACKED WITH A FLEXIBLE PVC FILM. THE MATERIAL SHOULD BE ADHERED WITH ARMAFLEX 520 ADHESIVE OR EQUIVALENT, AND ALL JOINS AND SEAMS SECURED WITH "ARMA–CHEK SILVER TAPE". INSTALLATION SHALL BE IN ALL CASES TO THE MANUFACTURER'S RECOMMENDATIONS.

OR

b. HIGH DENSITY RUBBER CLADDING OF THE "ARMA–CHECK R" TYPE BONDED USING AN APPROPRIATE FULL CONTACT ADHESIVE WITH A MINIMUM 50 MM OVERLAP AT ALL BUTT JOINTS AND LONGITUDINAL SEAMS. A WEATHER–PROOF MASTIC SEALANT SHALL BE APPLIED OVER ALL SEAMS AND JOINTS. ALL MATERIAL SHALL BE OVERLAPPED AND STAGGERED IN SUCH A WAY AS TO ENSURE A WATERSHED IS ALWAYS PROVIDED. INSTALLATION SHALL BE IN ALL CASES TO THE MANUFACTURER'S RECOMMENDATIONS. ALL EXCESS ADHESIVE VISIBLE ON THE SURFACE OF THE COMPLETED ASSEMBLY SHALL BE REMOVED USING AN APPROPRIATE CLEANING MATERIAL.

OR

c. METAL CLADDING, COMPRISED OF COATED SHEET METAL, WITH ALL EXTERNAL JOINTS AND FIXING MADE WEATHER–PROOF WITH SILICONE SEALANT.

C. MATERIAL:

1) TYPE P–1: MINIMUM 4 LB DENSITY MOLDED FIBERGLASS, MAXIMUM 0.24 K–FACTOR AT 75 DEG F MEAN TEMPERATURE WITH FACTORY–APPLIED FIRE–RETARDANT FOIL–SKRIM–KRAFT FACING. ALL SERVICE JACKET. SIMILAR TO OWENS–CORNING 650 ASJ.

2) TYPE P–3: MINIMUM 4 LB DENSITY MOLDED FIBERGLASS FITTING, MAXIMUM 0.23 K–FACTOR AT 75 DEG F MEAN TEMPERATURE SIMILAR TO EPOLUX HAMFAB MOLDED FITTINGS.

3) TYPE P–4: MINIMUM 1 LB DENSITY FIBERGLASS FITTING INSERTS, MAXIMUM 0.27 K–FACTOR AT 75 DEG F MEAN TEMPERATURE SIMILAR TO MANVILLE HI–LO TEMP INSULATION INSERTS.

4) TYPE P–6: MINIMUM 6 LB MOLDED FOAMED PLASTIC. MAXIMUM 0.27 K–FACTOR AT 75 DEG F MEAN TEMPERATURE. MAXIMUM 0.17 PERMEANCE. SIMILAR TO ARMSTRONG ARMAFLEX II.

D. FINISH:

1) TYPE F–1: FITTING COVER, MOLDED WHITE PVC JACKET, UL CLASS 1, MAXIMUM PERMEANCE 0.05 SIMILAR TO MANVILLE ZESTRON.

2) TYPE F–2: WHITE VAPOR BARRIER COATING WITH 10X10 OR 20X20 MESH WHITE GLASS, POLYESTER OR NYLON CLOTH REINFORCING MEMBRANE, MINIMUM 31 MIL DRY FILM THICKNESS, SIMILAR TO FOSTER TITE–FIT, UL LABEL.

3) TYPE F–4: ALUMINUM JACKETING WITH MINIMUM 0.016 IN. WALL THICKNESS AND LONGITUDINAL JOINTS WITH LOCK SEAMS.

4) TYPE F–6: WHITE FINISHING AND INSULATING CEMENT APPLIED OVER HEXAGONAL WIRE MESH. CEMENT SIMILAR TO KEENE SUPERSLICK.

E. INSTALLATION:

1) BEFORE APPLYING INSULATION ALL PRESSURE AND LEAK TESTS SHALL BE COMPLETED AND APPROVED.

2) ALL INSULATION SHALL BE BUTTED FIRMLY TOGETHER. PROVIDE 2 IN. LAMP STRIPS AT ALL SEAMS SECURED WITH ADHESIVE. USE VAPOR BARRIER TAPE AND VAPORSEAL ADHESIVE WHERE REQUIRED. STAPLES NOT PERMITTED. REFRIGERANT PIPING INSULATION SHALL HAVE MITERED FITTINGS.

3) ALL INSULATION AND VAPOR BARRIERS SHALL BE CONTINUOUS PASSING THROUGH SLEEVES, HANGERS, ETC., OR OTHER OPENINGS. PROVIDE SADDLES OR SHIELDS FOR PROTECTION AT ALL HANGINGS.

4) INSULATION FOR STRAINERS OR OTHER FITTINGS OR ACCESSORIES REQUIRING SERVICING OR INSPECTION SHALL HAVE INSULATION REMOVABLE AND REPLACEABLE WITHOUT DAMAGE.

SECTION 237200 – HEAT RECOVERY VENTILATOR

PART 1 – GENERAL

1.01 SUMMARY

A. PACKAGED AIR–TO–AIR ENTHALPY RECOVERY VENTILATIONS UNITS (ERV) INCLUDING

1. FRAME
2. CASE
3. FANS
4. COUNTER FLOW FIXED PLATE EXCHANGER
5. FILTERS
6. DAMPERS
7. ELECTRICAL WIRING AND CONTROLS
8. SERVICE ACCESSORIES

1.02 SUBMITTALS

A. FOR EACH MODEL, SUBMIT UNDER THE PROVISIONS OF DIVISION 01 – GENERAL REQUIREMENTS.

B. PRODUCT DATA, SUBMITTAL SHALL INCLUDE THE FOLLOWING:
1. SUPPLY AND EXHAUST FAN PERFORMANCE CURVES
2. HEAT RECOVERY EXCHANGER PERFORMANCE CURVES FOR SUMMER AND WINTER CONDITIONS
3. MOTOR AND FAN TYPES
4. ELECTRICAL CHARACTERISTICS
5. GROSS WEIGHT OF COMPLETE UNIT
6. DIMENSIONAL DRAWINGS OF EACH UNIT INCLUDING DUCTWORK CONNECTIONS
7. CASEWORK TYPE, METAL THICKNESS, AND INSULATION TYPE AND THICKNESS
8. QUALITY ASSURANCE COMPLIANCE DOCUMENTATION
9. INSTALLATION, OPERATION, AND MAINTENANCE MANUAL

1.03 QUALITY ASSURANCE

A. MANUFACTURER QUALIFICATIONS:

1. MANUFACTURER SHALL REGULARLY ENGAGE IN THE PRODUCTION OF ENTHALPY RECOVERY VENTILATION EQUIPMENT.

B. PRODUCT CERTIFICATIONS:
1. WHOLE UNIT SHALL BE THIRD–PARTY TESTED AND CERTIFIED TO COMPLY WITH UL 1812 AND CSA C22.2 NO. 113.
2. UNIT SHALL BE CERTIFIED BY THE PASSIVE HOUSE INSTITUTE WITH A MINIMUM HEAT RECOVERY EFFICIENCY OF 85% AND A MINIMUM MOISTURE RECOVERY OF 65%.

C. WARRANTY:
1. THE ENTHALPY RECOVERY CORE SHALL BE WARRANTED AGAINST ANY MANUFACTURING DEFECTS OR IMPROPER WORKMANSHIP UNDER NORMAL USAGE FOR A PERIOD OF TEN YEARS FROM THE UNIT'S DATE CODE.
2. THE COMPLETE ENTHALPY RECOVERY VENTILATOR SHALL BE WARRANTED AGAINST ANY MANUFACTURING DEFECTS OR IMPROPER WORKMANSHIP FOR A PERIOD OF TWO YEARS FROM THE DATE OF INSTALLATION.

1.04 DELIVERY, STORAGE, AND HANDLING

A. STORE IN MANUFACTURER'S PACKAGING. UPON DELIVERY CONFIRM ALL COMPONENTS ARE PRESENT AND UNDAMAGED BY SHIPPING. PRODUCTS TO BE INSTALLED INDOORS SHALL BE STORED IN A DRY HEATED LOCATION.

1.05 COORDINATION

A. COORDINATE ANY REQUIRED BUILDING PENETRATIONS FOR PROPER SIZE AND LOCATION WITH APPROPRIATE TRADES.

B. COORDINATE ASSOCIATED PLUMBING, ELECTRICAL AND ROOFING SYSTEMS FOR INSTALLATION.

C. COORDINATE PROPER SEQUENCING OF CONSTRUCTION WITH ALL ASSOCIATED TRADES.

1.06 EXTRA MATERIALS

A. PROVIDE ONE SET OF REPLACEMENT FILTERS, MERV 13 ON INTAKE AIR STREAM, MERV 8 ON RETURN AIR STREAM

PART 2 – PRODUCTS

2.01 MANUFACTURERES

A. ACCEPTABLE MANUFACTURER: ZEHNDER COMFOSYSTEMS 6 MERRILL INDUSTRIAL DRIVE, SUITE 7HAMPTON, NH 03842(603) 601–8544.

B. SUBSTITUTIONS: EQUIPMENT WITH EQUIVALENT PERFORMANCE, CONSTRUCTION, AND CERTIFICATIONS TO THE SPECIFIED PRODUCTS ARE ACCEPTABLE SUBJECT TO APPROVAL BY THE ENGINEERS

2.02 GENERAL

A. CONSTRUCTION: ERV SHALL BE A PREPACKAGED UNIT THAT IS FULLY ASSEMBLED AT THE FACTORY AND SHALL INCLUDE:

INSULATED DOUBLE WALL METAL CABINET, RAIN LOUVERS, MOTORIZED INTAKE AND EXHAUST DAMPERS, COUNTER FLOW FIXED PLATE HEAT RECOVERY CORE, ECM MOTORS, DIRECT DRIVE FAN ASSEMBLIES, FROST CONTROL MODULATING BYPASS DAMPER ASSEMBLY, INTAKE AIR AND RETURN AIR FILTER ASSEMBLIES, TEMPERATURE AND PRESSURE SENSORS, AND CONTROL PANEL ASSEMBLY. ALL COMPONENTS TO BE FACTORY TESTED AND POWERED BY A SINGLE ELECTRICAL CONNECTION.

B. NAME PLATES: PROVIDE PERMANENT NAME PLATE CONTAINING MANUFACTURER NAME, MODEL NUMBER, SERIAL NUMBER, VOLTAGE, FCA, MCA, AND MOP INFORMATION.

C. WEIGHT: UNIT WEIGHT SHALL NOT EXCEED 200 LBS.

D. BEDROOMS MUST BE PRESSURE BALANCED TO ACHIEVE A PRESSURE DIFFERENCE OF NO MORE THAN 1PA WITH RESPECT TO THE MAIN BODY OF THE DWELLING UNIT WHEN ALL BEDROOM DOORS ARE CLOSED AND JUST THE VENTILATION SYSTEM IS OPERATING AT DESIGN SPEED.

2.03 CABINET

A. CABINET SHALL BE CONSTRUCTED OF DOUBLE–WALL INSULATED PANELS WITH THERMAL BREAKS TO MINIMIZE THERMAL BRIDGING.
1. PANELS SHALL BE CONSTRUCTED OF 0.031" THICK GALVANIZED STEEL. EXTERIOR WALL SHALL BE POWDER COATED WITH MINIMUM THICKNESS OF 60 UM.
2. INSULATION SHOULD BE 2–INCH THICK OF RIGID THERMOSET WITH 0.013 BTU/(HR–FT–°F) THERMAL CONDUCTIVITY. SIDE PANELS SHALL ALSO HAVE 0.5" THICK K–FLEX ECO INSULATION.
3. PANELS SHALL BE ATTACHED WITH M8 SHCS FASTENERS.
4. PANELS SHALL BE SEALED AND THERMALLY BROKEN WITH SOFT POLYETHYLENE SEALS, K–FLEX ECO, AND PORON UL50E PERIODIC RECOMPRESSION RATED GASKET MATERIAL.
5. AIR INTAKE AND EXHAUST LOCATIONS SHALL BE PROTECTED FROM WATER INFILTRATION BY INTEGRATED LOUVERS CONSTRUCTED OF 0.031" THICK POWDER COATED GALVANIZED STEEL WITH A BLADE ANGLE OF 35 DEGREES WITH A SECONDARY 1" 60 DEGREE TURN–DOWN LIP.
6. SUPPLY AIR AND RETURN AIR SHALL BE CONFIGURABLE FOR DOWN OR END DUCTING CONNECTIONS.
7. BOTTOM OF CABINET SHALL HAVE DRIP EDGE TO DIRECT WATER AWAY FROM ROOF CURB.

B. DOORS AND ACCESS PANELS SHALL BE CONSTRUCTED OF THE SAME MATERIALS AS THE PANELS
1. DOORS AND ACCESS PANELS SHALL ALLOW FOR ALL ROUTINE MAINTENANCE AND REPAIRS.
2. FILTERS SHALL BE ACCESSIBLE FOR FILTER CHANGES THROUGH A LATCHED AND HINGED DOOR.
3. DOORS AND ACCESS PANELS SHALL BE SEALED FOR AIRTIGHTNESS WITH K–FLEX ECO, AND PORON UL50E PERIODIC RECOMPRESSION RATED GASKET MATERIAL.

C. FOR OUTDOOR INSTALLATIONS, CABINET SHALL INCLUDE A DOMED ROOF EXTERNALLY APPLIED TO THE TOP OF THE CABINET TO SHED WATER.
1. ROOF SHALL BE CONSTRUCTED OF 0.031" GALVANIZED STEEL POWDER COATED TO MATCH CABINET COLOR.
2. ROOF SHALL INCLUDE DRIP EDGES TO DIRECT WATER AWAY FROM REMOVABLE ACCESS PANELS.

2.04 FANS

A. FANS SHALL BE ELECTRONICALLY COMMUTATED MOTOR (ECM) INTEGRATED DIRECT–DRIVE FAN & MOTOR ASSEMBLIES BY EBM PABST.
1. FAN ASSEMBLIES SHALL BE APPROVED BY UL 1004–7 AND CSA C22.2 NO. 77–14
2. MOTORS SHALL BE PROTECTION CLASS 1 WITH INTERNALLY WIRED THERMAL OVERLOAD PROTECTOR.
3. MOTORS SHALL BE VARIABLE SPEED.
4. MOTORS SHALL HAVE SEALED BALL BEARINGS FOR MAINTENANCE FREE OPERATION.
5. IMPELLERS SHALL BE BACKWARDLY CURVED CENTRIFUGAL ASSEMBLIES WITH FACTORY BALANCING.
6. IMPELLERS SHALL BE CONSTRUCTED OF ALUMINUM.
7. EACH AIRSTREAM SHALL HAVE AN INDEPENDENTLY CONTROLLED FAN/MOTOR ASSEMBLY.
8. FANS SHALL BE MOUNTED DOWNSTREAM OF THE HEAT RECOVERY CORE.

2.05 ENTHALPY RECOVERY CORE

A. ENTHALPY EXCHANGE CORE SHALL BE OF FIXED PLATE PARALLEL COUNTER FLOW DESIGN.
1. CORE CONSTRUCTION SHALL BE OF PERMEABLE MEMBRANE PLATES WITH A MINIMUM OF 3114 SQUARE FEET OF SURFACE AREA.
2. CORE SHALL BE REMOVABLE FOR CLEANING AND MAINTENANCE.
3. CORE SHALL BE GASKETED FOR AIR SEALING TO PREVENT CROSS–FLOW CONTAMINATION WITH SOFT POLYETHYLENE SEAL MATERIAL.
4. CORE SHALL BE PROTECTED FROM FREEZING AND FROST BUILD–UP.

2.06 POWER AND CONTROLS

A. POWER:
1. UNIT SHALL BE POWERED BY (208/230 VAC, SINGLE PHASE, 60 HZ POWER)
2. UNIT SHALL BE POWERED WITH A SINGLE POINT FIELD CONNECTION TO POWER SUPPLY.

B. CONTROLS:
1. THE ERV SHALL HAVE THE ABILITY TO BE CONTROLLED BY A FACTORY PROVIDED CONTROL SYSTEM OR BE ABLE TO BE MONITORED AND CONTROLLED BY A BUILDING MANAGEMENT SYSTEM (BMS).
2. THE ERV SHALL BE PROVIDED WITH A FACTORY CONTROLS INTERFACE PANEL FOR REMOTE CONTROL AND OPERATION OF THE UNIT.
3. THE CONTROL SYSTEM SHALL BE ABLE TO CONNECT TO A BMS THROUGH MODBUS RTU CONNECTION PROTOCOLS.
4. ERV SHALL INCLUDE SMART BUILDING GATEWAY CONTROL SYSTEM, HARDWARE, AND ANTENNAS FOR CLOUD–BASED CONTROL, MONITORING, AND DATA–LOGGING OF ERV.

C. SENSORS: THE FOLLOWING SENSORS SHALL BE INCLUDED IN THE ERV:
1. TEMPERATURE SENSORS LOCATED IN EACH AIRSTREAM
2. PRESSURE SENSORS LOCATED ON BOTH SIDES OF EACH FILTER, ON THE INLET AND OUTLET OF EACH FAN, IN THE SUPPLY AIRSTREAM, AND OUTSIDE OF THE ERV CASING.

2.07 DAMPERS

A. BYPASS DAMPER: THE ERV SHALL HAVE A FULLY MODULATING BYPASS DAMPER ASSEMBLY TO CLOSE OFF INTAKE AIR THROUGH THE CORE AND DIRECT IT AROUND THE CORE TO THE SUPPLY AIR SIDE.
1. THE DAMPER OPENING BYPASS CHAMBER SHALL BE INTERLINKED TO THE DAMPER CLOSING AIRFLOW THROUGH THE CORE.
2. THE DAMPERS SHALL BE CONSTRUCTED OF DOUBLE–WALL 14 GAGE GALVANIZED SHEET METAL.
3. THE BYPASS DAMPER BLADE SHALL BE AIR SEALED UPON CLOSING WITH POLYMER EXTRUSION BLADE SEAL.
4. THE DAMPER ACTUATOR SHALL BE FULLY MODULATING WITH A CLOSING TORQUE OF 44 IN–LB (5 N–M).

B. INTAKE AND EXHAUST DAMPERS: THE ERV SHALL INCLUDE INTEGRATED DAMPERS ON THE INTAKE AND EXHAUST TO CLOSE THESE OPENINGS FOR STAND–BY MODE OPERATION OR WHEN THE UNIT IS POWERED OFF.
1. THE DAMPERS SHALL BE MOTORIZED TWO–POSITION PARALLEL BLADE DAMPERS.
2. UPON START–UP, THE DAMPERS SHALL OPEN BEFORE THE FANS OPERATE.
3. THE DAMPERS SHALL BE CONSTRUCTED OF DOUBLE WALL EXTRUDED ALUMINUM.
4. THE DAMPER BLADES SHALL BE AIR SEALED UPON CLOSING WITH POLYMER EXTRUSION BLADE SEALS
5. THE DAMPER ACTUATOR SHALL HAVE A CLOSING TORQUE OF 44 IN–LB (5 N–M).

2.08 FILTERS

1. THE OUTDOOR AIR SHALL BE FILTERED WITH A 4" THICK MINI–PLEAT MERV 13 FILTER.
2. THE OUTDOOR AIR SHALL BE PRE–FILTERED WITH A 2" THICK PLEATED MERV 6 FILTER.
3. THE RETURN AIR SHALL BE FILTERED WITH A 2" THICK PLEATED MERV 8 FILTER.
4. THE ERV SHALL HAVE ONE SET OF FILTERS PRE–INSTALLED IN THE FACTORY.
5. CONTRACTOR SHALL PROVIDE ONE SET OF REPLACEMENT FILTERS.
6. ALL APARTMENT KITCHEN EXHAUST GRILLES MUST BE EQUIPPED WITH A MERV 3 OR WASHABLE MESH FILTER FOR TRAPPING GREASE.

2.09 CONDENSATE DRAIN

B. THE ERV SHALL INCLUDE STAINLESS STEEL CONDENSATE COLLECTION TRAY SLOPED TO CENTER DRAIN TO CAPTURE CONDENSATE FROM EXHAUST AIR STREAM.

C. CONDENSATE SHALL BE DRAINED FROM ERV THROUGH A CLEANABLE FLOAT–BALL P–TRAP PROVIDED WITH THE ERV.

D. IN OUTDOOR INSTALLATIONS WHERE FREEZING OF CONDENSATE MAY OCCUR, PROVIDE FREEZE PROTECTION HEAT TAPE TO PROTECT CONDENSATE DRAIN.

2.10 VIBRATION ISOLATION

A. MOUNT THE ERV ONTO TO CEILING USING A VIBRATION ISOLATOR.

B. CONNECT SUPPLY AND RETURN DUCTWORK TO THE ERV USING FLEXIBLE CONNECTIONS FOR VIBRATION ISOLATION.

PART 3 – EXECUTION

3.01 EXAMINATION

A. VERIFICATION OF CONDITIONS:
1. PRIOR TO INSTALLATION, EXAMINE INSTALLATION SITE TO VERIFY THAT LOCATION IS ACCURATE, DUCTWORK PENETRATIONS (IF REQUIRED) ARE CORRECTLY SIZED AND LOCATED. CONSULT UNITS IOM TO VERIFY CORRECT CONDITIONS FOR INSTALLATION.
2. VERIFY THAT ELECTRICAL ROUGH–IN IS OF THE PROPER SIZE AND LOCATION FOR THE UNIT. CONSULT UNIT IOM FOR REQUIREMENTS.
3. VERIFY THAT ANY PLUMBING ROUGH–IN REQUIRED FOR CONDENSATE ROUTING IS OF THE PROPER SIZEAND LOCATION. CONSULT UNIT IOM FOR REQUIREMENTS.
4. PROCEED WITH INSTALLATION ONLY ONCE ANY DEFICIENCIES IN CONDITIONS HAVE BEEN RECTIFIED.

3.02 INSTALLATION

A. INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS, ENGINEERED MECHANICAL DRAWINGS, MANUFACTURER'S INSTRUCTIONS IN THE UNIT IOM, LOCAL BUILDING CODE AND TRADE BEST PRACTICES.

3.03 CLEANING

A. CLEAN ALL FILTERS, AIR CHAMBERS, INTERIOR EXPOSED SURFACES AND EXTERIOR FACES. ENSURE THAT ANY LOOSE MATERIALS SHIPPED WITH UNIT HAVE BEEN REMOVED FROM THE INSIDE. ALL CLEANING MUST TAKE PLACE PRIOR TO COMMISSIONING OF THE UNIT.

3.04 SYSTEM START–UP

A. RETAIN A MANUFACTURER'S AUTHORIZED REPRESENTATIVE TO PROVIDE START–UP SERVICE AND COMMISSIONING OF THE ERV. COORDINATE WITH CONTROLS COMMISSIONING AND AIR FLOW TESTING AND BALANCING AS NECESSARY.

SEQUENCE OF OPERATIONS

1) FIRE AND SMOKE DAMPER

a) SMOKE DETECTION/TEST/POWER FAILURE OPERATION

WHEN SMOKE IS DETECTED (VIA A SMOKE DETECTOR), DURING TESTING OR IF POWER FAILURE OCCURS, THE DAMPER WILL CLOSE AND REMAIN CLOSED. WHEN THE SMOKE SIGNAL CEASES (SMOKE DETECTOR RESET),THE TEST IS COMPLETED OR POWER IS RESTORED THE DAMPER WILL AUTOMATICALLY RESET TO THE OPEN POSITION. THE DAMPER AUTOMATICALLY RESETS IF NUISANCE ALARMS OCCUR AND THE SYSTEM IS RESET.

b) FIRE OPERATION

WHEN TEMPERATURES IN EXCESS OF 165°F/74°C (212°F/100°C,250°F/121°C OR 350°F/177°C OPTIONAL) ARE DETECTED, THE DAMPER WILL CLOSE AND LOCK. AT NO TIME SHALL THE DAMPER BE DISENGAGED FROM THE ACTUATOR. UPON CESSATION OF THE FIRE CONDITIONS, THE DAMPER CAN BE REOPENED BY PRESSING THE RESET BUTTON LOCATED ON THE DAMPER ASSEMBLY.

2) FANS: TURNED ON OR OFF THROUGH ON–OFF SWITCH AND SHALL OPERATE CONTINUOUSLY. WHERE THERE ARE DAMPERS (MOTORIZED OR FSD) IN THE DUCTWORK SYSTEM SERVED BY THE FAN, THEY SHALL BE INTERLOCKED WITH THE FAN TO OPEN WHEN THE FAN IS OPERATING ONLY. IF FSD IS INSTALLED IN THE SYSTEM, THE FAN SHALL SHUT DOWN WHENEVER THE FSD CLOSES ON AN ALARM CONDITION.

a. TRANSFER FANS: FANS SHALL BE CONTROLLED BY A LOCAL WALL MOUNTED SWITCH.

b. OUTSIDE AIR FANS: FANS SHALL BE INTERCONNECTED WITH AC UNITS SERVED. FANS SHALL RUN WHENEVER EITHER BUILDING AIR HANDLER IS OPERATIONAL.

c. OUTSIDE AIR FANS SHALL BE INTERCONNECTED TO THEIR RESPECTIVE OUTSIDE AIR MOTORIZED DAMPER SO THAT THE DAMPER OPENS WHENEVER THE OA FAN IS OPERATING. OA FAN SHALL START RUNNING AFTER DAMPER IS PROOFED OPEN.

3) AC UNITS: UNIT SHALL BE STARTED AND STOPPED BY WALL MOUNTED PROGRAMMABLE THERMOSTAT. DURING "ON" MODE UNIT THERMOSTAT SHALL ENERGIZE COMPRESSOR(S) AND SUPPLY FAN TO MAINTAIN ROOM SET POINT OF 75°F ADJUSTABLE; WHEN ROOM TEMPERATURE DROPS BELOW SET POINT COMPRESSOR(S) SHALL DE–ENERGIZE AND FAN SHALL REMAIN ON.

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
–

Drawing Tile:

MECHANICAL SPECIFICATIONS (3 OF 7)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #:NYE

Chkd By #:NYE

Drawing #:

M-004.00

DOB #: B00235775-I1

Sheet #: of

THERMOSTATIC CONTROLS:

A. GENERAL:

THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE INDIVIDUALLY CONTROLLED BY THERMOSTATIC CONTROLS RESPONDING TO TEMPERATURE WITHIN THE ZONE. FOR THE PURPOSES OF SECTION 6.4.3.1, A DWELLING UNIT SHALL BE PERMITTED TO BE CONSIDERED A SINGLE ZONE.

B. DEAD BAND:

WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEAD BAND OF AT LEAST 5°F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.

EXCEPTIONS:

THERMOSTATS THAT REQUIRE MANUAL CHANGEOVER BETWEEN HEATING AND COOLING MODES.

C. SETBACK CONTROLS:

HEATING SYSTEMS LOCATED IN CLIMATE ZONES 2–8 SHALL BE EQUIPPED WITH CONTROLS THAT HAVE THE CAPABILITY TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES ABOVE A HEATING SETPOINT ADJUSTABLE DOWN TO 55°F OR LOWER. COOLING SYSTEMS LOCATED IN CLIMATE ZONES 1B, 2B, AND 3B SHALL BE EQUIPPED WITH CONTROLS THAT HAVE THE CAPABILITY TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES BELOW A COOLING SETPOINT ADJUSTABLE UP TO 90°F OR HIGHER OR TO PREVENT HIGH SPACE HUMIDITY LEVELS.

D. AUTOMATIC SHUTDOWN:

HVAC SYSTEMS SHALL BE EQUIPPED WITH AT LEAST ONE OF THE FOLLOWING:CONTROLS THAT CAN START AND STOP THE SYSTEM UNDER DIFFERENT TIME SCHEDULES FOR SEVEN DIFFERENT DAY–TYPES PER WEEK, ARE CAPABLE OF RETAINING PROGRAMMING AND TIME SETTING DURING LOSS OF POWER FOR A PERIOD OF AT LEAST TEN HOURS, AND INCLUDE AN ACCESSIBLE MANUAL OVERRIDE, OR EQUIVALENT FUNCTION, THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO TWO HOURS.

EXCEPTION:

RESIDENTIAL OCCUPANCIES MAY USE CONTROLS THAT CAN START AND STOP THE SYSTEM UNDER TWO DIFFERENT TIME SCHEDULES PER WEEK.

E. SETPOINT OVERLAP RESTRICTION:

WHERE HEATING AND COOLING TO A ZONE ARE CONTROLLED BY SEPARATE ZONE THERMOSTATIC CONTROLS LOCATED WITHIN THE ZONE, MEANS (SUCH AS LIMIT SWITCHES, MECHANICAL STOPS, OR, FOR DDC SYSTEMS, SOFTWARE PROGRAMMING) SHALL BE PROVIDED TO PREVENT THE HEATING SETPOINT FROM EXCEEDING THE COOLING SETPOINT MINUS ANY APPLICABLE PROPORTIONAL BAND.

F. HEAT PUMP SUPPLEMENTARY HEAT :

HEAT PUMPS HAVING SUPPLEMENTARY ELECTRIC RESISTANCE HEAT SHALL HAVE CONTROLS THAT, EXCEPT DURING DEFROST, PREVENT SUPPLEMENTARY HEAT OPERATION WHERE THE HEAT PUMP CAN PROVIDE THE HEATING LOAD.

NOISE CONTROL

A. ALL ROOM NC LEVELS SHALL BE 35 OR LESS.

B. PROVIDE SOUND LINING FOR THE FOLLOWING DUCTWORK:

1) ALL DUCTWORK WITHIN NOT LESS THAN 20 FT ON EACH SIDE OF ALL FANS AND AC UNITS.
2) AIR TRANSFER DUCTS.
3) DOWNSTREAM OF ALL CONSTANT VOLUME BOXES FOR A MINIMUM OF 15 FT.
4) ALL MIXED AIR PLENUMS.
5) FULL EXTENT OF SUPPLY DUCTS SERVING CONFERENCE ROOMS.
6) ALL EXPOSED INTERIOR SUPPLY DUCTWORK.
7) ALSO WHERE NOTED ON A DRAWING.

C. SOUND LINING IN DUCTWORK: FIBROUS GLASS, MINIMUM 3 LB DENSITY, 1 IN. THICKNESS, MAXIMUM 0.25 K FACTOR AT 75 DEG F MEAN TEMPERATURE WITH ACRYLIC COATED FINISH FACTORY APPLIED EDGE COATING AND STENCILED IN ACCORDANCE WITH NFPA 90. FLAMESPREAD SHALL BE A MAXIMUM OF 25. LINING SHALL NOT SUPPORT MICROBIAL GROWTH AND SHALL BE TESTED IN ACCORDANCE WITH ASTM C 1071 AND ASTM G21/G22. SIMILAR TO MANVILLE PERMACOTE LINA COUSTIC.

D. ALL SOUND LINING, ADHESIVES, FACES AND ACCESSORIES TO BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, EXCEPT AS OTHERWISE NOTED.

VIBRATION ISOLATION

A. GENERAL:

1) PROVIDE ISOLATION FOR EQUIPMENT, PIPING AND DUCTWORK.
2) INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3) PROVIDE LEVELING DEVICES AND APPROVED RESILIENT RESTRAINING DEVICES AS REQUIRED TO LIMIT EQUIPMENT AND PIPING MOTION IN EXCESS OF 1/4".
4) ACCEPTABLE MANUFACTURERS:
   a. MASON INDUSTRIES, INC.
   b. VIBRATION ELIMINATOR CO.
   c. KORFUND DYNAMICS CORP.

B. CEILING–HUNG FANS AND EQUIPMENT:

1) PROVIDE SPRING HANGER ROD ISOLATORS. STEEL COMPRESSION SPRING AND NEOPRENE SOUND PAD WITHIN A STEEL RETAINER BOX. SIMILAR TO MASON TYPE PCHS.
2) 1 IN. MINIMUM STATIC DEFLECTION. 1/2 IN. MINIMUM RESERVE DEFLECTION. FACTORY–PRELOADED TO 75% OF RATED LOAD.
3) PROVIDE SUPPLEMENTAL STEEL AS REQUIRED WHERE EQUIPMENT OR STRUCTURE CANNOT SUPPORT POINT LOADS.

INDOOR UNITS – DUCTED HIGH STATIC (LG)

1) CASING
THE CASE IS DESIGNED TO MOUNT CONCEALED ABOVE A FINISHED CEILING. FAN SUPPLY AIR IS FRONT HORIZONTAL WITH A DEDICATED REAR HORIZONTAL THE UNIT IS MANUFACTURED WITH COATED METAL. COLD SURFACES ARE COVERED WITH A COATED POLYSTYRENE INSULATING MATERIAL. THE COLD SURFACE AREAS OF THE CASE ARE COVERED EXTERNALLY WITH SHEET INSULATION MADE OF ETHYLENE PROPYLENE DIENE MONOMER (M–CLASS) (EPDM) CONFORMING TO ASTM STANDARD D–1418. THE CASE IS PROVIDED WITH HANGER BRACKETS DESIGNED TO SUPPORT THE UNIT WEIGHT ON FOUR CORNERS. HANGER BRACKETS HAVE PRE–PUNCHED HOLES DESIGNED TO ACCEPT FIELD SUPPLIED, ALL–THREAD ROD HANGERS.

2) FAN ASSEMBLY AND CONTROL
THE UNIT HAS SIROCCO FANS MADE OF HIGH STRENGTH ABS GP–2200 POLYMERIC RESIN. FANS ARE DIRECTLY DRIVEN AND MOUNTED ON A COMMON THE FAN MOTOR IS A BRUSHLESS DIGITALLY CONTROLLED (BLDC) DESIGN WITH PERMANENTLY LUBRICATED AND SEALED BALL BEARINGS. THE FAN MOTOR INCLUDES THERMAL, OVERCURRENT AND LOW RPM PROTECTION. THE FAN / MOTOR ASSEMBLY IS MOUNTED ON VIBRATION ATTENUATING RUBBER GROMMETS. THE FAN IMPELLER IS STATICALLY AND DYNAMICALLY BALANCED. THE FAN SPEED IS CONTROLLED USING A MICROPROCESSOR BASED, DIRECT DIGITAL CONTROL ALGORITHM THAT PROVIDES A HIGH FAN SPEED IN COOLING THERMAL ON AND LOW FAN SPEED IN COOLING THERMAL OFF, HIGH FAN SPEED IN HEATING THERMAL ON AND FAN OFF IN HEATING THERMAL OFF. THE FAN SPEEDS CAN BE FIELD ADJUSTED BETWEEN LOW, MEDIUM, AND HIGH SPEEDS AND DIP SWITCH SETTINGS WILL ALLOW THE FAN TO RUN CONSTANTLY DURING DEFROST OR OIL RETURN MODES. EACH SETTING CAN BE FIELD ADJUSTED FROM THE FACTORY SETTING (RPM / ESP) TO COMPENSATE FOR ADDITIONAL RESISTANCE TO AIRFLOW CAUSED BY FIELD CONNECTED DUCTWORK OR OTHER AIRFLOW RESTRICTING DEVICES.

3) AIR FILTER
RETURN AIR IS FILTERED WITH A REMOVABLE, WASHABLE FILTER WITH ANTIFUNGAL TREATMENT. MERV 13 FILTER MODULES WITH PLENUMS AVAILABLE.

4) MICROPROCESSOR CONTROLS
THE UNIT IS PROVIDED WITH AN INTEGRATED MICROPROCESSOR–BASED CONTROLLER. THE CONTROLLER IS CAPABLE OF PERFORMING FUNCTIONS NECESSARY TO OPERATE THE SYSTEM WITHOUT THE USE OF A WALL–MOUNTED CONTROLLER. A TEMPERATURE THERMISTOR IS FACTORY–MOUNTED IN THE RETURN AIR STREAM. ALL UNIT OPERATION PARAMETERS, EXCLUDING THE UNIT OPERATING SCHEDULE, ARE STORED IN NON–VOLATILE MEMORY RESIDENT ON THE UNIT MICROPROCESSOR. OPERATING SCHEDULES ARE STORED IN SELECT MODELS OF THE OPTIONAL, WALL–MOUNTED, LOCAL, OR CENTRAL CONTROLLER. THE FIELD SUPPLIED COMMUNICATION CABLE BETWEEN THE INDOOR UNIT(S) AND OUTDOOR UNIT IS TO BE A MINIMUM OF 18 AWG, 2–CONDUCTOR, STRANDED, AND SHIELDED CABLE (RS–485), TERMINATED VIA SCREW TERMINALS ON THE CONTROL BOARDS. THE MICROPROCESSOR CONTROL PROVIDES THE FOLLOWING FUNCTIONS: AUTO ADDRESSING, SELF–DIAGNOSTICS, AUTO RESTART FOLLOWING POWER RESTORATION, TEST RUN, AND WILL OPERATE THE INDOOR UNIT USING ONE OF FIVE OPERATING MODES:

1. AUTO CHANGEOVER (HEAT RECOVERY ONLY)
2. HEATING
3. COOLING
4. DRY
5. FAN ONLY

FOR HEAT RECOVERY SYSTEMS THE AUTO CHANGEOVER SETTING AUTOMATICALLY SWITCHES CONTROL OF THE INDOOR UNIT BETWEEN COOLING AND HEATING MODES BASED ON SPACE TEMPERATURE CONDITIONS. FOR HEAT PUMP SYSTEMS, HEATED OR COOLED AIR DELIVERY IS DEPENDENT UPON OUTDOOR UNIT OPERATING MODE. IN HEATING MODE, THE MICROPROCESSOR CONTROL WILL ACTIVATE THE INDOOR UNIT WHEN INDOOR ROOM TEMPERATURE FALLS BELOW SETPOINT TEMPERATURE AND SIGNALS THE OUTDOOR UNIT TO BEGIN HEATING CYCLE. THE INDOOR UNIT FAN OPERATION IS DELAYED UNTIL COIL PIPE TEMPERATURE REACHES 76°F. SIGNIFICANT AIRFLOW IS GENERATED WHEN PIPE TEMPERATURE REACHES 80°F. IN LIEU OF FACTORY RETURN AIR THERMISTOR, SCREW TERMINALS ON THE MICROPROCESSOR CIRCUIT BOARD ACCOMMODATE VARIOUS MODELS OF WALL–MOUNTED LOCAL CONTROLLERS AND/OR A WALL–MOUNTED REMOTE TEMPERATURE THE UNIT MICROPROCESSOR IS CAPABLE OF ACCEPTING SPACE TEMPERATURE READINGS CONCURRENTLY OR INDIVIDUALLY FROM EITHER:

1. WALL–MOUNTED WIRED CONTROLLER(S)
2. FACTORY MOUNTED RETURN AIR THERMISTOR OR THE OPTIONAL WALL MOUNTED WIRED REMOTE TEMPERATURE SENSOR.

A SINGLE INDOOR UNIT HAS THE CAPABILITY OF BEING CONTROLLED BY UP TO TWO LOCAL WIRED CONTROLLERS. THE MICROPROCESSOR CONTROLS SPACE TEMPERATURE USING THE VALUE PROVIDED BY THE TEMPERATURE SENSOR SENSING A SPACE TEMPERATURE THAT IS FARTHEST AWAY FROM THE TEMPERATURE SET–POINT. THE MICROPROCESSOR CONTROL PROVIDES A COOLING OR HEATING MODE TEST CYCLE THAT OPERATES THE UNIT FOR 18 MINUTES WITHOUT REGARD TO THE SPACE TEMPERATURE. IF THE SYSTEM IS PROVIDED WITH AN OPTIONAL WALL–MOUNTED LOCAL OR CENTRAL CONTROLLER, DISPLAYED DIAGNOSTIC CODES ARE SPECIFIC, ALPHA NUMERIC, AND PROVIDE THE SERVICE TECHNICIAN WITH A REASON FOR THE CODE DISPLAYED.

5) CONDENSATE LIFT/PUMP
THE INDOOR UNIT IS PROVIDED WITH A FACTORY INSTALLED AND WIRED CONDENSATE LIFT/PUMP CAPABLE OF PROVIDING A MINIMUM 27.5 INCH LIFT FROM THE BOTTOM EXTERIOR SURFACE OF THE UNIT CASING. THE UNIT DRAIN PAN IS PROVIDED WITH A SECONDARY DRAIN PORT/PLUG ALLOWING THE PAN TO BE DRAINED FOR SERVICE. THE LIFT PUMP COMES WITH A SAFETY SWITCH THAT WILL SHUT OFF INDOOR UNIT IF CONDENSATE RISES TOO HIGH IN THE DRAIN PAN.

6) CONDENSATE DRAIN PAN
THE CONDENSATE DRAIN PAN IS CONSTRUCTED OF HIGH IMPACT POLYSTYRENE RESIN (HIPS).

7) COIL
THE INDOOR UNIT COIL IS CONSTRUCTED WITH GROOVED DESIGN COPPER TUBES WITH SLIT COIL FINS, TWO (2) TO THREE (3) ROWS, NINETEEN (19) TO TWENTY–ONE (21) FINS PER INCH.

8) CONTROLS FEATURES
- AUTO CHANGEOVER (HEAT RECOVERY ONLY)
- AUTO OPERATION
- AUTO RESTART
- EXTERNAL ON/OFF CONTROL
- DUAL THERMISTOR CONTROL
- DUAL SETPOINT CONTROL*
- FILTER LIFE AND POWER CONSUMPTION DISPLAY*
- MULTIPLE AUXILIARY HEATER APPLICATIONS*
- GROUP CONTROL
- EXTERNAL STATIC PRESSURE CONTROL
- HOT START
- SELF DIAGNOSTICS
- TIMER (ON / OFF)
- WEEKLY SCHEDULE
- FAN SPEED CONTROL
- VENTILATION (OUTSIDE AIR)

INDOOR UNITS – SINGLE ZONE WALL MOUNTED (LG–ART COOL)

1) GENERAL
LG SINGLE ZONE WALL MOUNTED ART COOL PREMIER SYSTEMS ARE COMPRISED OF A SINGLE OUTDOOR UNIT CONNECTED TO A SINGLE INDOOR UNIT WITH A SINGLE REFRIGERANT CIRCUIT. THESE SINGLE ZONE SYSTEMS CAN OPERATE IN EITHER COOLING OR HEATING MODE. THESE SYSTEMS ARE CAPABLE OF CHANGING MODE WITHIN A MAXIMUM TIME OF THREE (3) MINUTES TO ENSURE INDOOR TEMPERATURE CAN BE PROPERLY MAINTAINED.
LG SINGLE ZONE WALL MOUNTED ART COOL PREMIER SYSTEMS ARE MANUFACTURED IN A FACILITY REGISTERED TO ISO 9001 AND ISO 14001, WHICH IS A SET OF STANDARDS APPLYING TO ENVIRONMENTAL PROTECTION SET BY THE INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO). THE UNITS ARE LISTED BY INTERTEK ELECTRICAL TESTING LABORATORIES (ETL) AND BEAR THE ETL LABEL. WIRING IN THESE UNITS ARE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC).

2) TEMPERATURE RANGES
OUTDOOR UNIT
OPERATING RANGES FOR OUTDOOR UNITS OF 14°F TO 118°F DB FOR COOLING; –13°F TO 65°F WB FOR HEATING.
INDOOR UNIT
OPERATING RANGES FOR INDOOR UNITS OF 53°F TO 75°F WB FOR COOLING; 60°F TO 86°F DB FOR HEATING.
(INSTALLING AN OPTIONAL LOW AMBIENT WIND BAFFLE KIT WILL ALLOW OPERATION DOWN TO 0°F IN COOLING MODE FOR THESE SINGLE ZONE SYSTEMS.)

3) CASING / FRAME
OUTDOOR UNIT IS CONSTRUCTED WITH PRE–COATED METAL (PCM). INDOOR UNIT IS CONSTRUCTED OF HEAVY DUTY ACRYLONITRILE BUTADIENE STYRENE (ABS) AND HIGH IMPACT POLYSTYRENE (HIPS) PLASTIC.

4) REFRIGERANT SYSTEM
THE REFRIGERATION SYSTEM CONSISTS OF A SINGLE REFRIGERATION CIRCUIT AND USES R410A REFRIGERANT. THE OUTDOOR UNIT IS PROVIDED WITH FACTORY INSTALLED COMPONENTS, INCLUDING A REFRIGERANT STRAINER, CHECK VALVES, OIL SEPARATOR, ACCUMULATOR, FOUR–WAY REVERSING VALVE, ELECTRONIC CONTROLLED EXPANSION VALVE (EEV), HIGH AND LOW SIDE CHARGING PORTS, SERVICE VALVES, AND INTERCONNECTING PIPING.

5) REFRIGERATION OIL CONTROL
HEAT PUMP OUTDOOR UNITS HAVE A CENTRIFUGAL OIL SEPARATOR AND CONTROLS TO ENSURE SUFFICIENT OIL SUPPLY IS MAINTAINED, AND THAT OIL DOES NOT TRAVEL WITH THE REFRIGERANT.

6) COMPRESSORS
THE OUTDOOR UNIT IS EQUIPPED WITH ONE HERMETIC DIGITALLY CONTROLLED INVERTER DRIVEN TWIN–ROTARY COMPRESSOR TO MODULATE CAPACITY (MODULATION IN 1 HZ INCREMENTS).
FREQUENCY RANGES FOR THE OUTDOOR UNITS ARE AS FOLLOWS:
LAU090HYV1, LAU120HYV1 – 10–115 HZ

OVERCURRENT PROTECTION AND VIBRATION ISOLATION ARE INTEGRATED WITH THE COMPRESSOR.

7) OUTDOOR UNIT COIL
HEAT PUMP OUTDOOR UNIT COILS ARE MADE OF A NONFERROUS CONSTRUCTION WITH LOUVERED FINS ON COPPER TUBING, AND ARE PROTECTED WITH AN INTEGRAL COIL GUARD. COIL FINS HAVE A FACTORY APPLIED CORROSION RESISTANT GOLDFIN™ MATERIAL WITH HYDROPHILIC COATING.

8) FANS AND MOTORS
THE OUTDOOR UNIT INCLUDES ONE DIRECT FAN DRIVE, VARIABLE SPEED PROPELLER TYPE FAN. THE BRUSHLESS DIGITALLY CONTROLLED (BLDC) FAN MOTOR SHALL HAVE INHERENT PROTECTION, PERMANENTLY LUBRICATED BEARINGS, AND VARIABLE SPEED WITH A MAXIMUM SPEED UP TO 950 RPM. RAISED GUARDS ARE PROVIDED TO LIMIT CONTACT WITH MOVING PARTS. THE OUTDOOR UNIT HAS HORIZONTAL DISCHARGE AIRFLOW.

9) ELECTRICAL
THESE UNITS ARE AVAILABLE IN 208–230V, 60 HZ, 1–PHASE POWER SUPPLY. THESE UNITS ARE CAPABLE OF OPERATING WITHIN VOLTAGE LIMITS OF ±10% RATED VOLTAGE, AND INCLUDE OVERCURRENT PROTECTION.

10) CONTROLS
THESE UNITS ARE FACTORY WIRED WITH NECESSARY ELECTRICAL CONTROL COMPONENTS, INTEGRAL MICROPROCESSORS, PRINTED CIRCUIT BOARDS, THERMISTORS, SENSORS, TERMINAL BLOCKS, AND LUGS FOR POWER WIRING.
MICROPROCESSOR–BASED ALGORITHMS PROVIDE COMPONENT PROTECTION, SOFT–START CAPABILITY, REFRIGERATION SYSTEM PRESSURE, TEMPERATURE, DEFROST, AND AMBIENT CONTROL.

OUTDOOR UNITS – VRF MULTI V IV OUTDOOR UNITS (LG)

1) GENERAL
LG MULTI V IV VARIABLE REFRIGERANT FLOW COMPRISES OF A HEAT PUMP SYSTEM OR A HEAT RECOVERY SYSTEM WITH A SINGLE, DUAL OR TRIPLE FRAME OUTDOOR UNIT CONNECTED TO INDOOR UNITS OR HEAT RECOVERY UNITS (FOR HEAT RECOVERY SYSTEMS ONLY) WITH A SINGLE REFRIGERANT PIPING SYSTEM CONNECTABLE USING FACTORY DESIGNED AND SUPPLIED Y–BRANCHES AND HEADERS, AND HAVING INTEGRATED CONTROLS. AN LG MULTI V IV HEAT PUMP SYSTEM IS A VRF SYSTEM THAT CAN OPERATE IN EITHER COOLING OR HEATING MODE, WHEREAS AN LG MULEI V IV HEAT RECOVERY SYSTEM IS A VRF SYSTEM THAT CAN OPERATE WITH ITS INDOOR UNITS IN DIFFERENT MODES (HEATING OR COOLING) SIMULTANEOUSLY. THE HEAT RECOVERY UNIT IS CAPABLE OF BEING DESIGNED FOR MINIMUM PIPING AND MAXIMUM DESIGN FLEXIBILITY. INDIVIDUAL INDOOR UNITS OR ZONES CAN CHANGE MODES (COOLING TO HEATING OR HEATING TO COOLING). LG COMPONENTS ARE MANUFACTURED IN A FACILITY REGISTERED TO ISO 9001 AND ISO 14001, WHICH IS A SET OF STANDARDS APPLYING TO ENVIRONMENTAL PROTECTION SET BY THE INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO). THE UNITS ARE LISTED BY INTERTEK ELECTRICAL TESTING LABORATORIES (ETL) AND BEAR THE ETL LABEL. WIRING IN THESE UNITS ARE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC).

2) TEMPERATURE RANGES
HEAT PUMP SYSTEMS
AIR–COOLED HEAT PUMP SYSTEMS CAN OPERATE CONTINUOUSLY IN OUTDOOR AMBIENT CONDITIONS WHILE IN HEATING MODE FROM –13.0°F TO 61°F AND IN COOLING MODE FROM 14°F TO 122°F. BEYOND THESE CONTINUOUS OPERATING RANGES, HEATING OR COOLING CAN BE DELIVERED BUT CYCLING MAY OCCUR. (WHEN THE OPTIONAL LOW AMBIENT COOLING BAFFLE [SOLD SEPARATELY] HAS BEEN INSTALLED, SYSTEM MINIMUM COOLING OPERATION RANGE IS EXTENDED [–9.9°F TO 122°F]).

CASING / FRAME
HEAT PUMP AND HEAT RECOVERY OUTDOOR UNITS ARE CONSTRUCTED WITH GALVANIZED STEEL, BONDERIZED AND FINISHED WITH A BAKED ENAMEL PAINT. EACH FRAME HAS A REMOVABLE INSPECTION PANEL TO ALLOW ACCESS TO SERVICE TOOL CONNECTION, DIP SWITCHES, AUTO ADDRESSING, AND ERROR CODE DISPLAY WITHOUT REMOVING THE ENTIRE FRONT PANEL. THE ENTIRE FRONT PANEL OF THE OUTDOOR UNIT IS REMOVABLE FOR MAINTENANCE. OUTDOOR UNIT FRAMES ARE COMPLETELY FACTORY ASSEMBLED, PIPED AND WIRED. DUAL AND TRIPLE FRAME OUTDOOR UNITS NEED TO BE FIELD PIPED WITH FACTORY DESIGNED AND SUPPLIED Y–BRANCH KITS TO MANIFOLD THEM TOGETHER INTO A SINGLE REFRIGERANT CIRCUIT.

3) REFRIGERANT SYSTEM
THE REFRIGERATION SYSTEM CONSISTS OF A SINGLE REFRIGERATION CIRCUIT AND USES R410A REFRIGERANT. THE OUTDOOR UNIT IS PROVIDED WITH FACTORY INSTALLED COMPONENTS, INCLUDING A REFRIGERANT STRAINER, CHECK VALVES, OIL SEPARATOR, ACCUMULATOR, FOUR–WAY REVERSING VALVE, ELECTRONIC CONTROLLED EXPANSION VALVE (EEV), HIGH AND LOW SIDE CHARGING PORTS, HIGH PRESSURE SAFETY SWITCH, SERVICE VALVES, AND INTERCONNECTING ALSO INCLUDED IS AN INTEGRAL SUBCOOLER ASSEMBLY CONSISTING OF A DOUBLE SPIRAL TUBE–TYPE SUBCOOLING HEAT EXCHANGER AND EEV PROVIDING REFRIGERANT SUBCOOLING MODULATION UP TO 23°F.

4) REFRIGERATION OIL CONTROL
OIL RETURN SYSTEM UTILIZES THE FOLLOWING TECHNOLOGIES:
HIPOR (HIGH PRESSURE OIL RETURN) OIL IS CAPTURED FROM COMPRESSOR DISCHARGE BY THE CENTRIFUGAL OIL SEPARATOR AND THEN RETURNED TO THE COMPRESSOR THROUGH A SEPARATOR OIL INJECTION PIPE, PREVENTING MIXING OF OIL AND REFRIGERANT ON THE SUCTION SIDE OF THE COMPRESSOR.
SMART OIL CONTROL
MONITORS THE OIL LEVEL INSIDE THE COMPRESSOR AND ONLY INITIATES OIL RETURN CYCLE TO FLUSH OIL IN PIPE SYSTEM BACK TO THE COMPRESSOR, WHEN THE OIL LEVEL IS TOO LOW. TIMED OIL RETURN CYCLES ARE NOT NECESSARY AND COMPRESSOR IS PROTECTED FROM RUNNING AT OIL LEVELS THAT ARE TOO LOW.

5) COMPRESSORS
ALL 3–PHASE OUTDOOR UNIT FRAMES ≤130 MBH ARE EQUIPPED WITH ONE HERMETIC DIGITALLY CONTROLLED INVERTER DRIVEN SCROLL COMPRESSOR TO MODULATED CAPACITY (VARIABLE FROM 15 TO 150HZ, MODULATE IN 0.5HZ INCREMENTS). ALL 3–PHASE OUTDOOR UNIT FRAMES ≥130 MBH NOMINAL CAPACITY ARE EQUIPPED WITH TWO DIGITALLY CONTROLLED INVERTER–DRIVEN HERMETIC SCROLL COMPRESSORS TO MODULATED CAPACITY (VARIABLE FROM 15 TO 150HZ. AN INTERNAL THERMAL OVERLOAD AND A FACTORY–MOUNTED 60 WATT CRANKCASE HEATER IS INCLUDED ON ALL COMPRESSORS.

6) OUTDOOR UNIT COIL
HEAT PUMP AND HEAT RECOVERY OUTDOOR UNIT COILS ARE OF A NONFERROUS CONSTRUCTION WITH LOUVERED ALUMINUM FINS ON COPPER TUBING, AND ARE PROTECTED WITH AN INTEGRAL METAL GUARD. COIL FINS HAVE A FACTORY APPLIED CORROSION RESISTANT GOLDFIN MATERIAL WITH HYDROPHILIC COATING.

7) FANS AND MOTORS
ALL OUTDOOR UNIT FRAMES <80MBH INCLUDE ONE DIRECT DRIVE, VARIABLE SPEED PROPELLER TYPE FAN. ALL OUTDOOR UNIT FRAMES >80MBH INCLUDE TWO DIRECT DRIVES, VARIABLE SPEED PROPELLER TYPE FANS. ALL FAN MOTORS HAVE INHERENT PROTECTION, PERMANENTLY LUBRICATED BEARINGS, AND ARE VARIABLE SPEED WITH A MAXIMUM SPEED UP TO 1,100 RPM. RAISED GUARDS ARE PROVIDED TO LIMIT CONTACT WITH MOVING PARTS. ALL HEAT PUMP AND HEAT RECOVERY OUTDOOR UNITS HAVE VERTICAL DISCHARGE AIRFLOW. OPTIONAL FACTORY–PROVIDED AIR GUIDES CAN BE FIELD INSTALLED TO CHANGE DISCHARGE AIRFLOW FROM VERTICAL TO HORIZONTAL. OUTDOOR UNITS HAVE A STATIC PRESSURE CAPABILITY UP YO 0.32" WG WITH A DIP SWITCH SETTING TO ACCOMMODATE ADDITIONAL EXTERNAL STATIC PRESSURE.

8) ELECTRICAL
BOTH HEAT PUMP AND HEAT RECOVERY OUTDOOR UNITS ARE AVAILABLE IN CHOICE OF 208–230V 60 HZ, 3–PHASE OR 460V, 60 HZ, 3–PHASE POWER THE UNITS INCLUDE OVER/UNDERVOLTAGE PROTECTION.

9) CONTROLS
HEAT PUMP AND HEAT RECOVERY OUTDOOR UNITS ARE FACTORY WIRED WITH NECESSARY ELECTRICAL CONTROL COMPONENTS, INTEGRAL MICROPROCESSORS, PRINTED CIRCUIT BOARDS, THERMISTORS, SENSORS, TERMINAL BLOCKS, AND POWER LUGS. THE CONTROL CIRCUIT BETWEEN THE INDOOR UNITS, HEAT RECOVERY UNIT(S) (MULTI V HEAT RECOVERY SYSTEMS ONLY) AND THE OUTDOOR UNIT IS AN RS–485 DAISY CHAIN COMMUNICATION BUS. THE CABLE IS TWO CONDUCTOR, STRANDED AND SHIELDED, 18 AWG. MICROPROCESSOR–BASED ALGORITHMS PROVIDE COMPONENT PROTECTION, SOFT–START CAPABILITY, REFRIGERATION SYSTEM PRESSURE, TEMPERATURE, DEFROST, AND AMBIENT CONTROL.

OUTDOOR UNITS – MULTI V S HEAT PUMP (LG)

1) GENERAL
THE LG MULTI V S HEAT PUMP SYSTEM CONSISTS OF AN OUTDOOR UNIT, TWO OR MORE INDOOR UNITS, INTEGRATED SYSTEM CONTROLS, AND INTERCONNECTING FIELD–PROVIDED REFRIGERANT PIPE CONTAINING VARIOUS FITTINGS INCLUDING Y–BRANCH KITS AND HEADER KITS SUPPLIED BY LG. LG COMPONENTS ARE MANUFACTURED IN A FACILITY THAT MEETS OR EXCEEDS INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO) 9001 AND 14001. THE UNITS ARE LISTED BY INTERTEK (ETL) AND BEAR THE ETL LISTED MARK.

2) CASING
THE OUTDOOR UNIT CASE IS CONSTRUCTED FROM 22–GAUGE COATED METAL. EXTERIOR PANELS ARE CLEANED AND FINISHED WITH A WEATHER–RESISTANT BAKED ENAMEL FINISH. AN EASILY REMOVABLE FRONT CORNER PANEL IS PROVIDED TO ALLOW ACCESS TO MAJOR COMPONENTS AND CONTROL DEVICES. OUTDOOR UNIT FAN(S) ARE COVERED WITH GUARDS MADE OF HEAVY GAUGE, HEAVY DUTY POLYMERIC RESIN. THE OUTDOOR UNIT COIL IS PROTECTED WITH A HEAVY GAUGE STEEL WIRE GUARD FINISHED WITH BAKED ENAMEL. PAINT COLOR IS "WARM GRAY."

3) REFRIGERATION SYSTEM
THE REFRIGERATION SYSTEM CONSISTS OF A SINGLE REFRIGERATION CIRCUIT AND USES REFRIGERANT R410A. THE OUTDOOR UNIT IS PROVIDED WITH FACTORY INSTALLED COMPONENTS, INCLUDING A REFRIGERANT STRAINER, OIL SEPARATOR, ACCUMULATOR, HOT GAS BYPASS VALVE, LIQUID INJECTION VALVE, FOUR–WAY REVERSING VALVE, ELECTRONIC CONTROLLED EXPANSION VALVE (EEV), HIGH AND LOW SIDE CHARGING PORTS, SERVICE VALVES, AND INTERCONNECTING PIPING. ALSO INCLUDED IS AN INTEGRAL SUBCOOLER ASSEMBLY CONSISTING OF A DOUBLE SPIRAL TUBE TYPE HEAT EXCHANGER AND EEV PROVIDING REFRIGERANT SUBCOOLING MODULATION UP TO 23°F. THE UNIT COMES FACTORY CHARGED WITH 4.0 (2–TON) OR 6.6 (3–, 4–, AND 4.4–TON) POUNDS OF REFRIGERANT.

4) REFRIGERATION OIL CONTROL
THE REFRIGERATION OIL LEVEL IN THE COMPRESSOR IS MAINTAINED USING A TWO–STAGE OIL CONTROL SYSTEM. THE COMPRESSOR DISCHARGE PORT IS EQUIPPED WITH AN OIL FILTERING DEVICE DESIGNED TO RESTRICT OIL LOSS FROM THE COMPRESSOR. THE HIGH–PRESSURE DISCHARGE VAPOR LEAVES THE COMPRESSOR AND IMMEDIATELY ENTERS A CENTRIFUGAL OIL SEPARATOR THAT HAS NO MOVING PARTS DESIGNED TO EXTRACT OIL FROM THE REFRIGERANT GAS STREAM. A GRAVITY DRAIN RETURNS CAPTURED OIL BACK TO THE COMPRESSOR SUMP. THE OUTDOOR UNIT MICROPROCESSOR IS PROGRAMMED TO FLUSH THE REFRIGERANT PIPING SYSTEM FOR A MINIMUM PERIOD OF THREE (3) MINUTES AFTER EIGHT (8) HOURS OF COMPRESSOR OPERATION.

5) SINGLE INVERTER/COMPRESSOR
THE OUTDOOR UNIT IS EQUIPPED WITH ONE HERMETIC, DIGITALLY–CONTROLLED, INVERTER STARTING COMPRESSOR. THE COMPRESSOR IS SPECIFICALLY DESIGNED FOR THE REFRIGERANT PROVIDED AND IS MANUFACTURED BY LG. THE FREQUENCY INVERTER IS DESIGNED BY LG AND IS CAPABLE OF PROVIDING A MODULATION RANGE FOR 2 TON UNITS FROM 20 HZ TO 75 HZ (COOLING AND HEATING), AND FOR 3 TO 4.4 TONS FROM 20 HZ TO 90 HZ (COOLING) AND 20 HZ TO 100 HZ (HEATING). THE COMPRESSOR MOTOR IS SUCTION GAS–COOLED AND HAS AN ACCEPTABLE VOLTAGE RANGE OF ±10% OF NAMEPLATE VOLTAGE. EXTERNAL SUCTION AND DISCHARGE TEMPERATURE AND PRESSURE SENSORS ARE PROVIDED TO PROTECT THE COMPRESSOR FROM DAMAGE CAUSED BY OVER / UNDER TEMPERATURE OR OVER / UNDER PRESSURE CONDITIONS. THE COMPRESSOR IS PROVIDED WITH A POSITIVE DISPLACEMENT OIL PUMP PROVIDING SUFFICIENT OIL FILM ON ALL BEARING SURFACES ACROSS THE ENTIRE INVERTER MODULATION RANGE. THE COMPRESSOR IS FACTORY CHARGED WITH POLYVINYL ETHER (PVE) REFRIGERATION OIL HAVING NO HYGROSCOPIC PROPERTIES. COMPRESSOR BEARINGS ARE TEFLON® COATED. THE COMPRESSOR IS WRAPPED WITH A HEAT RESISTANT, SOUND ATTENUATING BLANKET AND MOUNTED ON RUBBER ISOLATION GROMMETS.

6) OUTDOOR UNIT COIL
OUTDOOR UNIT COILS ARE A MINIMUM OF TWO ROWS, 14 FINS P

SETTINGS LIMIT NIGHT TIME (OFF PEAK) FAN SPEED TO REDUCE FAN GENERATED NOISE BY UP TO 10 DB(A).

11) OUTDOOR UNIT CONTROLS

OUTDOOR UNITS ARE FACTORY WIRED WITH NECESSARY ELECTRICAL CONTROL COMPONENTS, PRINTED CIRCUIT BOARDS, THERMISTORS, SENSORS, TERMINAL BLOCKS, AND LUGS FOR POWER WIRING. THE CONTROL WIRING CIRCUIT IS LOW VOLTAGE AND INCLUDES A CONTROL POWER TRANSFORMER, FUSES, AND INTERCONNECTING WIRING HARNESS WITH PLUG CONNECTORS. MICROPROCESSOR BASED ALGORITHMS PROVIDE COMPONENT PROTECTION, SOFT–START CAPABILITY, REFRIGERATION SYSTEM PRESSURE AND TEMPERATURE CONTROL, DEFROST, AND AMBIENT CONTROL. THE UNIT IS DESIGNED TO PROVIDE CONTINUOUS COMPRESSOR OPERATION FROM –9.9°F TO +122°F IN COOLING MODE (WITH OPTIONAL LOW AMBIENT KIT). WHEN THE SYSTEM IS STARTED, THE CONNECTED INDOOR UNITS ARE AUTOMATICALLY ASSIGNED AN ELECTRONIC ADDRESS BY THE OUTDOOR UNIT'S MICROPROCESSOR. ADDITIONALLY, EACH INDOOR UNIT IS CAPABLE OF ACCEPTING A MANUAL ASSIGNMENT OF A SECONDARY ELECTRONIC ADDRESS THAT, IF USED, PROVIDES UNIT TAG IDENTIFICATION WHEN INTEGRATING WITH LG VNET CONTROL DEVICES. WHILE OPERATING IN THE HEATING MODE, THE OUTDOOR UNIT HAS A DEMAND BASED DEFROST CONTROL ALGORITHM AND A REFRIGERATION SYSTEM PUMP DOWN CYCLE DESIGNED TO STORE UP TO 6.6 LBS OF THE SYSTEM REFRIGERANT CHARGE IN THE OUTDOOR UNIT. IN HEATING MODE, A COOPERATIVE CONTROL ALGORITHM AUTOMATICALLY BALANCES, IN REAL–TIME, THE DISTRIBUTION OF REFRIGERANT TO THE INDOOR UNITS WHEN THE SYSTEM'S REFRIGERANT MASS FLOW IS INSUFFICIENT TO SATISFY THE DEMAND OF ALL INDOOR UNITS WHEN THE SYSTEM IS CALLED ON TO OPERATE OUTSIDE THE SYSTEM DESIGN PARAMETERS. IN 10–SECOND INTERVALS, THE OUTDOOR UNIT MICROPROCESSOR WILL RECORD THE LAST THREE MINUTES OF SYSTEM RUN–TIME DATA IN NON–VOLATILE MEMORY. UPON UNIT MALFUNCTION, OR A POWER OUTAGE THAT RESULTS IN A SYSTEM SHUTDOWN, THE STORED SYSTEM OPERATIONAL DATA MAY BE RETRIEVED AND ANALYZED TO ASSIST IN DIAGNOSING A SYSTEM MALFUNCTION. THE OUTDOOR UNIT MICROPROCESSOR IS PROVIDED WITH A THREE–DIGIT, LED DISPLAY THAT COMMUNICATES ACTIVE SYSTEM INFORMATION AND / OR MALFUNCTION CODES. THE MICROPROCESSOR HAS AN ALGORITHM THAT ACTIVELY VERIFIES THE OPERATIONAL CONDITION OF SYSTEM SENSORS AND THERMISTORS. A REFRIGERANT AUTO–TRIM–CHARGE ALGORITHM ASSISTS THE INSTALLER WITH PROPERLY CHARGING THE SYSTEM. A POWER CONDITIONING CIRCUIT IS PROVIDED AND DESIGNED TO PROTECT THE UNIT'S INVERTER COMPRESSOR AND OUTDOOR UNIT FAN MOTORS FROM PHASE FAILURE, PHASE REVERSAL, SENSE AN UNDER–VOLTAGE OR OVER–VOLTAGE CONDITION, AND TO PREVENT TRANSMISSION OF POWER IRREGULARITIES TO THE SUPPLY POWER SOURCE. A SNOW THROW ALGORITHM IS PROVIDED AND DESIGNED TO REDUCE SNOW BUILDUP ON THE DISCHARGE SIDE LOUVERS GRILLE AT REGULAR INTERVALS.

GS_MULTIV_HYDROKIT_IDU_03_20
GUIDE SPECIFICATIONS

1.01 HYDRO KIT ARNH963K2A4

A. HYDRO KIT IS DESIGNED FOR INDOOR APPLICATION TO WORK WITH LG'S MULTI V PRODUCT LINE AND SHALL BE AVAILABLE IN TWO CAPACITIES EACH UNIQUELY DESIGNED FOR PROVIDING HOT OR CHILLED WATER.
   1. THE HYDRO KIT <ARNH923K2A4> SHALL BE USED IN CONJUNCTION WITH MULTI V 5 UNIT.
   2. THE HYDRO KIT <ARNH963K2A4> SHALL BE USED IN CONJUNCTION WITH MULTI V 5 HEAT PUMP AND HEAT RECOVERY OUTDOOR AS WELL AS WATER SOURCE UNITS.

   MULTI V SYSTEMS CONSISTS OF AN OUTDOOR AIR SOURCE UNIT OR WATER SOURCE UNIT, ONE OR MORE INDOOR UNITS OR HYDRO KITS, INTEGRATED SYSTEM CONTROLS, AND INTERCONNECTING FIELD–PROVIDED REFRIGERANT PIPE NETWORK CONTAINING VARIOUS FITTINGS INCLUDING Y–BRANCH KITS AND HEADER KITS SUPPLIED BY LG.

B. PRODUCT DESIGN
   1. LG HYDRO KIT HEATING/COOLING MODEL <ARNH963K2A4> SHALL PROVIDE HOT OR CHILLED WATER TO USE FOR HYDRONIC HEATING/COOLING APPLICATIONS. THE MEDIUM TEMPERATURE HEATING/COOLING MODEL SHALL USE A 1–STAGE REFRIGERANT TO WATER HEAT EXCHANGER TO TRANSFER HEAT GENERATED DURING A COOLING OPERATION OR COOLING GENERATED DURING A HEATING OPERATION OF A MULTI V SYSTEM.
   2. THE MEDIUM TEMPERATURE HEATING/COOLING HYDRO KIT SHALL BE CAPABLE OF OPERATING WITH 208/230V, 60HZ, 1 PHASE POWER WITH PHASE TO PHASE AND PHASE TO GROUND IMBALANCE UP TO 3% AND A VOLTAGE FLUCTUATION OF +/– 10%.

C. OPERATING CONDITIONS
   1. HYDRO KIT HEATING/COOLING MODEL <ARNH963K2A4> SHALL BE CAPABLE OF CONTINUOUS OPERATION AT THE FOLLOWING CONDITIONS.
      a) HEATING OPERATION – LEAVING WATER TEMPERATURE UP TO 122°F
         i. WITH MULTI V AIR SOURCE HEAT PUMP
   1. HYDRO KIT INLET WATER TEMPERATURE: 50°F TO 113°F
   2. AMBIENT TEMPERATURE: –13°F(WB) TO 95°F(WB)

D. GENERAL
   1. THE AIR–CONDITIONING SYSTEM SHALL USE R410A REFRIGERANT <ARNH963K2A4>
      a) HYDRO KIT SHALL WORK IN CONJUNCTION WITH
         i. MULTI V AIR SOURCE, SINGLE PHASE OR THREE PHASE OR WATER SOURCE SINGLE PHASE OR THREE PHASE SYSTEM(S).
   2. REFRIGERANT CIRCUIT FOR HYDRO KIT <ARNH963K2A4>
      a) THE REFRIGERANT PIPE CONNECTIONS SHALL BE ACCESSIBLE FROM THE FRONT RIGHT SIDE OF THE UNIT.
      b) THE REFRIGERANT CIRCUIT SHALL BE INSTALLED USING FIELD PROVIDED COPPER PIPE CONNECTED TO EITHER A MULTI V OUTDOOR UNIT OR WATER SOURCE UNIT TOGETHER WITH MANUFACTURER SUPPLIED Y–BRANCHES AND/OR HEADER FITTINGS.
      c) EACH REFRIGERANT PIPE, Y–BRANCH, HEADER, ELBOWS AND VALVES SHALL BE FIELD INSULATED WITH A MINIMUM OF ½" ARMAFLEX/RUBATEX, OR EQUIVALENT PIPE INSULATION. ALL JOINTS SHALL BE GLUED AND SEALED AIR TIGHT.
   3. WATER CIRCUIT FOR HYDRO KIT
      a) ALL WATER PIPE CONNECTIONS SHALL BE ACCESSIBLE FROM THE FRONT RIGHT SIDE OF HYDRO KIT.
      b) THE HYDRO KIT <ARNH963K2A4> SHALL BE CAPABLE OF USING WASTE HEAT GENERATED DURING COOLING OPERATIONS TO USE IN HYDRONIC HEATING APPLICATIONS INCLUDING BUT NOT LIMITED TO:
         i. DOMESTIC WATER HEATING
      c) ALL WATER PIPING ACCESSORIES, PIPING SPECIALTIES SHALL BE SUPPLIED AND INSTALLED BY THE INSTALLING CONTRACTOR.
      d) FLOW OF WATER SHALL BE MONITORED BY AN INTERNAL FACTORY INSTALLED FLOW SWITCH CONNECTED TO WATER SOURCE UNIT SAFETY CONTROLS TO PREVENT OPERATION OF THE WATER SOURCE UNIT WHEN THERE IS INSUFFICIENT WATER FLOW THROUGH HEAT EXCHANGER.
      e).
      f) THE HEATING/COOLING HYDRO KIT <ARNH963K2A4> UNIT SHALL BE PROVIDED WITH A POWER MODULE DESIGNED TO CLOSE FIELD PROVIDED VALVES TO PREVENT THE HEAT EXCHANGER FROM FREEZING IN THE EVENT OF A POWER FAILURE DURING MULTI V DEFROST OR OIL RETURN OPERATIONS.

E. CABINET <ARNH963K2A4>
   1. THE HYDRO KIT CASING SHALL HAVE 14 GAUGE COATED METAL FRAME CONSTRUCTION WITH 20–GAUGE SHEET METAL PANELS.
   2. FRAME AND PANELS SHALL HAVE A WEATHER RESISTANT BAKED ENAMEL FINISH.
   3. THE FRONT PANEL SHALL BE EASILY REMOVABLE AND ALLOW ACCESS TO ALL MAJOR COMPONENTS AND CONTROL DEVICES.
   4. ALL PIPE CONNECTIONS SHALL BE FROM THE FRONT RIGHT END OF THE CABINET.
   5. SERVICE ACCESS SHALL BE FROM FRONT SIDE OF THE UNIT. UNIT DESIGNS THAT REQUIRE SERVICE ACCESS FROM THE TOP OR BACK PANELS WILL NOT BE ACCEPTABLE.
   6. A REMOVABLE PANEL SHALL BE PROVIDED FOR HEAT EXCHANGER REMOVAL WITHOUT DISASSEMBLING THE UNIT CABINET.

F. HYDRO KIT REFRIGERANT TO WATER HEAT EXCHANGER<ARNH963K2A4>
   1. THE HYDRO KIT UNIT SHALL BE PROVIDED WITH A 316 STAINLESS STEEL PLATE TYPE HEAT EXCHANGER.
   2. THE HEAT EXCHANGER SHALL REMOVE/ADD HEAT BETWEEN REFRIGERANT AND WATER.
   3. REFRIGERANT/WATER PLATE HEAT EXCHANGER SHALL BE DESIGNED TO OPERATE AT A MAXIMUM WORKING PRESSURE OF 640 PSIG.
   4. HEAT EXCHANGER WATERSIDE VOLUME SHALL NOT EXCEED 0.58 US GALLONS.
   5. THE HEAT EXCHANGER SHALL BE PROTECTED WITH A FACTORY PROVIDED AND FIELD INSTALLED (50–MESH OR FINER) STRAINER ON THE WATER INLET CONNECTION.
   6. THE UNIT CONTROLLER SHALL HAVE:
      a) HEAT EXCHANGER FREEZE PROTECTION ALGORITHM
      b) OVERHEATING PROTECTION ALGORITHM

G. SOUND LEVELS
   1. THE HEATING/COOLING HYDRO KIT (K2 CHASSIS) UNIT SHALL HAVE A OPEN PATH SOUND PRESSURE LEVEL RATING OF 26 DB(A) OR LOWER WHEN TESTED IN AN ANECHOIC CHAMBER USING ISO STANDARD 3745 TEST PROTOCOL.

H. MICROPROCESSOR CONTROLLER
   1. THE HYDRO KITS SHALL BE PROVIDED WITH AN INTERNAL MICROPROCESSOR BASED CONTROLLER AND A WALL MOUNTED HYDRO KIT CONTROL PANEL.
   2. THE HYDRO KITS SHALL ACCOMMODATE AN OPTIONAL WI–FI MODULE AS AN ADDITIONAL ACCESSORY TO ALLOW MONITORING AND CONTROL THROUGH A SMART DEVICE WITH THE LG SMART THINQ® APPLICATION.
   3. OPERATION SHALL BE AUTO CHANGEOVER OR FIELD SELECTED BASED ON MAINTAINING LEAVING WATER OR HOT WATER TANK TEMPERATURE AT A FIELD ADJUSTABLE SET–POINT.
   4. ENTERING AND LEAVING WATER PIPE TEMPERATURE SENSORS
   5. HOT WATER TANK SENSOR
   6. THE HYDRO KIT OPERATION MAY BE OPTIONALLY CONTROLLED BY SENSING THE CONDITIONED SPACE AIR TEMPERATURE USING AN LG PROVIDED, REMOTE TEMPERATURE SENSOR (SOLD SEPARATELY) OR A FIELD PROVIDED MANUAL CHANGEOVER CONVENTIONAL THERMOSTAT.

I. EXTERNAL CONTROL COMPONENT CONNECTIVITY
   1. THE HYDRO KIT SHALL BE EQUIPPED WITH A FACTORY MOUNTED TERMINAL BLOCK WITH SCREW TYPE CONNECTORS PROVIDED TO CONNECT WATERSIDE CONTROL DEVICES AND ACCESSORIES INCLUDING:
      a) THE K2 CHASSIS <ARNH963K2A4>SHALL BE PROVIDED WITH FIELD SUPPLIED AND INSTALLED 208–230V PUMP ON/OFF CONTROL INTERFACE.
      b) THE K2 CHASSIS <ARNH963K2A4> SHALL BE PROVIDED WITH BOTH POWER AND CONTROL TERMINALS TO CONNECT TO A FIELD PROVIDED AND INSTALLED CONVENTIONAL 208–230 VAC OR MECHANICAL TYPE CONDITIONED SPACE TEMPERATURE SENSING THERMOSTAT WITH A MANUAL CHANGEOVER SUBBASE.
      c) THE HEATING HYDRO KIT <ARNH963K2A4 > SHALL ALSO BE PROVIDED WITH BOTH POWER AND CONTROL TERMINALS TO CONNECT A FIELD PROVIDED AND INSTALLED CONVENTIONAL MANUAL CHANGEOVER 24VAC HEATING THERMOSTAT (HEAT PUMP MODEL NOT APPLICABLE).
      d) THE K2 CHASSIS<ARNH963K2A4> SHALL BE PROVIDED WITH TERMINALS TO POWER AND CONTROL A FIELD PROVIDED AND INSTALLED:
         i. 3–WAY VALVE TO SWITCH BETWEEN HOT WATER HEATING AND SPACE CONDITIONING.
         ii. 2–WAY VALVE TO ISOLATE THE FLOW OF WATER TO A PORTION OF THE HYDRONIC HEATING CIRCUIT WHERE CONDENSATION MAY PRESENT A PROBLEM WHILE THE HYDRO KIT IS PRODUCING CHILLED WATER <ARNH963K2A4>.

J. EXTERNAL CONTROL COMPONENT CONNECTIVITY
   1. THE HYDRO KIT <ARNH963K2A4> REMOTE MOUNTED HYDRO KIT CONTROLLER SHALL HAVE THE FOLLOWING ATTRIBUTES AND FUNCTIONS:
      a) DISPLAY: DEGREES FAHRENHEIT OR CELSIUS
      b) MANUAL/AUTO RESTART
      c) USER OVERRIDE – ENABLE/DISABLE WATER TANK HEATING
      d) SET PRIORITY – WATER TANK OR CONDITIONED SPACE HEATING
      e) LEAVING WATER HEATING TEMPERATURE SET–POINT
      f) LEAVING WATER HEATING DEAD–BAND
      g) ADJUSTABLE WATER TANK HEATING CYCLE SCHEDULE (DURATION ON / DURATION OFF))
      h) WATER TANK HEATING TEMPERATURE SET–POINT
      i) WATER TANK HEATING DEAD–BAND
      j) WATER TANK FREEZE PROTECTION TEMPERATURE SET–POINT
      k) OUTDOOR AIR TEMPERATURE (OR BUILDING WATER WITH WATER SOURCE) BASED HOT WATER TEMPERATURE RESET
      l) WATER CIRCUIT PUMP ON/OFF CONTROL
      m) EMERGENCY OPERATION (EXTERNAL SENSOR FAILURE OVERRIDE)
      n) GROUP CONTROL (UP TO 16 HYDRO KITS MAY BE CONTROLLED BY A SINGLE HYDRO KIT CONTROLLER)
      o) WATER PUMP TEST RUN CYCLE
      p) SELF DIAGNOSTICS
      q) CHILD LOCK
      r) OUTDOOR AIR TEMPERATURE BASED CHILLED WATER TEMPERATURE RESET (K2 CHASSIS)
      s) LEAVING CHILLED WATER TEMPERATURE SET–POINT (K2 CHASSIS)
      t) LEAVING CHILLED WATER DEAD–BAND (K2 CHASSIS)

K. WARRANTY
   a) PLEASE REFER TO THE RESPECTIVE OUTDOOR UNIT FOR APPLICABLE WARRANTY.

GS_MULTIV_5_ODU_10_19
GUIDE SPECIFICATIONS

1.01 MULTI V™ 5 HEAT RECOVERY AND HEAT PUMP SYSTEM(S) – (16 TONS NOMINAL) <ARUM192BTE5>

A. PRODUCT DESIGN
   1. LG MULTI V 5 HEATING AND COOLING SYSTEM SHALL BE AN AIR COOLED SYSTEM ALLOWING USER TO CONFIGURE IN THE FIELD A HEAT PUMP OR A HEAT RECOVERY SYSTEM CONSISTING OF ONE TO THREE OUTDOOR UNIT MODULES, CONJOINED TO MAKE A 6–42 TON SINGLE REFRIGERANT CIRCUIT.
      g) HEAT RECOVERY SYSTEMS, EMPLOYING THREE PIPES, SHALL BE CONNECTED TO HEAT RECOVERY (HEAT RECOVERY) UNIT(S) AND INDOOR UNIT(S). MULTI–PORT HEAT RECOVERY UNITS SHALL ALLOW SIMULTANEOUS HEATING AND COOLING OF INDIVIDUAL ZONE(S) AT VARIOUS CAPACITIES AS REQUIRED TO SATISFY THEIR ZONE REQUIREMENTS.
      h) HEAT PUMP SYSTEMS SHALL REQUIRE TWO PIPES, SIMULTANEOUS HEATING AND COOLING SHALL NOT BE SUPPORTED. THE HEAT RECOVERY SYSTEM SHALL CONSIST OF THREE PIPES, LIQUID, SUCTION AND HOT GAS PIPES. HEAT RECOVERY SYSTEMS OPERATING AT 0°F THAT CANNOT DELIVER SINGLE PHASE SUPERHEATED REFRIGERANT VAPOR AT A MINIMUM OF 162°F WHILE OPERATING IN THE HEATING MODE SHALL NOT BE ACCEPTABLE.
   2. ALL THREE–PHASE VRF HEAT PUMP AND HEAT RECOVERY OUTDOOR UNITS SHALL BE FROM THE SAME PRODUCT DEVELOPMENT GENERATION. MIXING OF OUTDOOR UNITS FROM DIFFERENT DEVELOPMENT GENERATIONS IS NOT ACCEPTABLE.

B. OPERATING CONDITIONS
   1. OUTDOOR UNIT SHALL BE CAPABLE OF CONTINUOUS COMPRESSOR OPERATION BETWEEN THE FOLLOWING OPERATING AMBIENT AIR CONDITIONS, OPERATION OUTSIDE OF THESE CONDITIONS ARE POSSIBLE AND MAY INVOLVE NON–CONTINUOUS OPERATIONS.
   2. OPERATING AMBIENT AIR CONDITIONS:
      a) COOLING: 5°F DB TO 122°F DB <WITH OPTIONAL LOW AMBIENT KIT FROM –9.9°F DB TO 122°F DB>
      b) HEATING: –22°F WB TO 61°F WB
      c) COOLING BASED (ODU REVERSING VALVE IN COOLING POSITION) SYNCHRONOUS: 14°F DB TO 81°F DB (HEAT RECOVERY OPERATION ONLY)
      d) HEATING BASED (ODU REVERSING VALVE IN HEATING POSITION) SYNCHRONOUS: 14°F WB TO 61°F WB (HEAT RECOVERY OPERATION ONLY)

C. ELECTRICAL
   a) ALL AIR SOURCE HEAT PUMP AND HEAT RECOVERY FRAME(S) SHALL BE DESIGNED AND ELECTRICALLY PROTECTED TO MAINTAIN STABLE CONTINUOUS COMPRESSOR OPERATION WHEN PROVIDED WITH <208–230/60/3> POWER WITH THE FOLLOWING SPECIFICATIONS:
      i. <208–230/60/3>
   1. VOLTAGE FLUCTUATION OF ± 10%
      ii. VOLTAGE IMBALANCE OF UP TO TWO PERCENT;
      iii. POWER SURGE OF UP TO 5KA RMS SYMMETRICAL.

D. GENERAL FEATURES
   1. THE AIR–CONDITIONING SYSTEM SHALL USE R410A REFRIGERANT.
   2. EACH SYSTEM SHALL CONSIST OF ONE, TWO OR THREE AIR SOURCE OUTDOOR UNIT MODULES CONJOINED TOGETHER IN THE FIELD TO RESULT IN THE CAPACITY SPECIFIED ELSEWHERE IN THESE DOCUMENTS.
   3. DUAL AND TRIPLE FRAME CONFIGURATIONS SHALL BE FIELD PIPED TOGETHER USING MANUFACTURER'S DESIGNED AND SUPPLIED Y–BRANCH KITS AND FIELD PROVIDED INTERCONNECTING PIPE TO FORM A COMMON REFRIGERANT CIRCUIT.
   4. SYSTEM SHALL HAVE FOLLOWING FRAME CONFIGURATIONS VS. CAPACITY.
      a) 6 TO 20 TON UNITS SHALL BE A SINGLE FRAME ONLY.
   5. SYSTEM SHALL EMPLOY SELF–DIAGNOSTICS FUNCTION TO IDENTIFY ANY MALFUNCTIONS AND PROVIDE TYPE AND LOCATION OF MALFUNCTIONS VIA FAULT ALARMS.
   6. FIELD PROVIDED REFRIGERANT PIPING:
      a) THE REFRIGERANT PIPING SYSTEM SHALL BE CONSTRUCTED USING FIELD PROVIDED ACR COPPER RATED FOR THE USE WITH REFRIGERANT R410A, DE–HYDRATED PIPE FIELD ENGINEERED AND ASSEMBLED WITH MANUFACTURER SUPPLIED HEAT RECOVERY UNIT(S) AND Y– BRANCHES, AS MAY BE REQUIRED, CONNECTED TO MULTIPLE (DUCTED, NON–DUCTED OR MIXED COMBINATION) INDOOR UNITS TO EFFECTIVELY AND EFFICIENTLY CONTROL THE HEAT PUMP OPERATION OR SIMULTANEOUS HEATING AND COOLING OPERATION OF THE HEAT RECOVERY VRF SYSTEM. OTHER PIPE MATERIALS, IF USED, SHALL PERFORM, AT A MINIMUM, AS WELL AS THAT SPECIFIED ABOVE, SHALL NOT HAVE ANY ADVERSE REACTIONS, FOR EXAMPLE GALVANIC CORROSION OR BRANCH TO BRANCH DIFFERENTIAL PRESSURE DROP, WITH ANY OTHER COMPONENTS OR MATERIALS ALSO IN USE IN THE SYSTEM AND SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
      b) THE UNIT SHALL BE SHIPPED FROM THE FACTORY FULLY ASSEMBLED INCLUDING INTERNAL REFRIGERANT PIPING, INVERTER DRIVEN COMPRESSOR(S), CONTROLS, TEMPERATURE SENSOR, HUMIDITY SENSOR, CONTACTS, RELAY(S), FANS, POWER AND COMMUNICATIONS WIRING AS NECESSARY TO PERFORM BOTH HEAT PUMP AND HEAT RECOVERY OPERATIONS.
      c) EACH OUTDOOR UNIT REFRIGERATION CIRCUIT SHALL INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING COMPONENTS:
         i. REFRIGERANT STRAINER(S)
         ii. CHECK VALVE(S)
         iii. INVERTER DRIVEN, MEDIUM PRESSURE VAPOR INJECTION, HIGH PRESSURE SHELL COMPRESSORS
         iv. LIQUID REFRIGERANT COOLED INVERTER PCB
         v. OIL SEPARATOR(S)
         vi. ACCUMULATOR /CONTROLLED VOLUME RECEIVER(S)
         vii. 4–WAY REVERSING VALVE(S)
   1. VAPOR INJECTION VALVE(S)
         viii. VARIABLE PATH HEAT EXCHANGER CONTROL VALVE(S)
         ix. OIL BALANCING CONTROL
         x. OIL LEVEL SENSOR(S)
         xi. ELECTRONIC EXPANSION VALVE(S)
         xii. HIGH AND LOW SIDE SCHRADER VALVE SERVICE PORTS WITH CAPS
   1. SERVICE VALVES
   7. FIELD INSULATION:
      a) ALL REFRIGERANT PIPE, Y–BRANCHES, ELBOWS AND VALVES SHALL BE INDIVIDUALLY INSULATED WITH NO AIR GAPS. INSULATION HEAT TRANSFER RESISTANCE SHALL NOT BE LESS THAN THE MINIMUM CALLED FOR BY THE LOCAL BUILDING CODE, LOCAL ENERGY CODE OR AS A MINIMUM PER MANUFACTURE INSTALLATION REQUIREMENTS. IN NO CASE SHALL THE INSULATION BE INSTALLED IN A COMPRESSED STATE AT ANY POINT IN THE SYSTEM.
         i. ALL JOINTS SHALL BE GLUED AND SEALED PER INSULATION MANUFACTURES INSTRUCTIONS TO MAKE A VAPOR TIGHT ASSEMBLY.
   8. MICROPROCESSOR:
      a) FACTORY INSTALLED MICROPROCESSOR CONTROLS IN THE OUTDOOR UNIT(S), HEAT RECOVERY UNIT(S), AND INDOOR UNIT(S) SHALL PERFORM FUNCTIONS TO OPTIMIZE THE OPERATION OF THE VRF SYSTEM AND COMMUNICATE IN A DAISY CHAIN CONFIGURATION BETWEEN OUTDOOR UNIT AND HEAT RECOVERY UNIT(S) AND INDOOR UNIT(S) VIA RS485 (SHIELDED TWISTED WIRE PAIR) NETWORK. CONTROL DEVICES SHALL ALSO BE AVAILABLE TO CONTROL OTHER BUILDING SYSTEMS AS REQUIRED FROM THE VRF CONTROL SYSTEM. DIO/AIO CAPABILITIES SHALL BE AVAILABLE AS WELL AS A CENTRAL CONTROLLER TO PERFORM OPERATION CHANGES, SCHEDULES AND OTHER DUTIES AS REQUIRED BY THIS SPECIFICATION. ADDITION OF SEPARATE BUILDING CONTROL SYSTEM SHALL NOT BE REQUIRED. OTHER CONTROL DEVICES AND SEQUENCES SHALL BE AS SPECIFIED IN OTHER SECTIONS OF THIS PROJECT SPECIFICATION.
   9. INVERTER PCB COOLING:
      a) COOLING OF THE INVERTER PCB SHALL BE CONDUCTED BY WAY OF HIGH PRESSURE, SUB–COOLED LIQUID REFRIGERANT VIA HEAT EXCHANGER ATTACHED TO THE INVERTER PCB. THE FULL CAPACITY FLOW OF REFRIGERANT SHALL PASS THOUGH THE HEAT EXCHANGERS TO MAXIMIZE THE COOLING EFFECT OF THE PCBS AND TO AID IN THE EVAPORATION PROCESS AND CAPACITY OF THE OUTDOOR COIL DURING THE HEATING MODE. THE RECOVERED HEAT OF THE PCBS MUST BE USED TO ENHANCE THE OVERALL HEATING PROCESS, OTHER USES OR DISSIPATION OF HEAT TO AMBIENT SHALL NOT BE PERMITTED.
   10. COMPRESSOR CONTROL:
      a) FUZZY CONTROL LOGIC SHALL ESTABLISH AND MAINTAIN TARGET EVAPORATING TEMPERATURE (TE) IN COOLING MODE AND CONDENSING TEMPERATURE (TC) IN HEATING MODE BY FUZZY CONTROL LOGIC TO ENSURE THE STABLE SYSTEM PERFORMANCE.
   11. INITIAL TEST RUN (ITR) (HEATING OR COOLING) / FAULT DETECTION DIAGNOSIS (FDD) CODE:
      a) THIS CONTROL MODE SHALL MONITOR AND DISPLAY POSITIVE OR NEGATIVE RESULTS OF SYSTEM INITIAL STARTUP AND COMMISSIONING. HEATING OR COOLING ITR MODE WILL BE AUTOMATICALLY SELECTED. IT SHALL MONITOR AND PROVIDE PERFORMANCE METRICS FOR THE FOLLOWING, BUT NOT BE LIMITED TO, REFRIGERANT CHARGE VALIDATION, AUTO–CHARGE OPERATION VERIFICATION, REFRIGERANT CYCLE STABILITY, CONNECTION RATIOS, INDOOR UNIT STATUS, ERROR STATUS, AND NUMBER OF INDOOR UNITS CONNECTED. THIS COMMISSIONING SPECIFIC CONTROL MODE SHALL NOT REPLACE THE SYSTEM ERROR MONITORING CONTROL SYSTEM DURING NORMAL OPERATION.
   12. BMS INTEGRATION:
      a) THE VRF SYSTEM SHALL BE ABLE TO INTEGRATE WITH BUILDING MANAGEMENT SYSTEMS VIA BACNET™ IP GATEWAY. THIS GATEWAY CONVERTS BETWEEN BACNET™ IP OR MODBUS TCP PROTOCOL, AND RS–485 LGAP (LG AIRCON PROTOCOL) ALLOWING THIRD PARTY CONTROL AND MONITORING OF THE LG A/C SYSTEM, OR LONWORKS™ GATEWAYS. SEE CONTROLS SPECIFICATION FOR POINTS LIST.
   13. WI–FI COMMUNICATION:
      a) THE OUTDOOR UNIT MICROPROCESSOR SHALL BE CAPABLE OF BEING MONITORED VIA AN OPTIONAL WI FI WIRELESS COMMUNICATIONS DONGLE OR EMBEDDED WI FI TRANSMITTER. WI–FI SHALL ALLOW SERVICE OR MAINTENANCE PERSONAL ACCESS TO THE COMPLETE OPERATING SYSTEM, VIA LGMV MOBILE, WITHOUT NEED OF TOOLS OTHER THAN SMART PHONE OR TABLET. ACTIVE LIVE SYSTEM REVIEW, COLLECTION OF ALL SYSTEM DATA FOR A FIELD DETERMINED DURATION PRESENTED IN A .CSV FILE FORMAT OR COLLECTION OF ALL OPERATING CONDITIONS, INCLUDING ALL INDOOR UNITS, VALVES, SENSORS, COMPRESSOR SPEEDS, REFRIGERANT PRESSURES, ETC., BY SNAPSHOT OF CONDITIONS AND PLACING THAT SNAPSHOT INTO A POWER POINT SLIDE TO BE REVIEWED AT ANOTHER TIME. SYSTEMS THAT REQUIRE COMPUTERS, HARD WIRE ONLY CONNECTION OR OTHER DEVICES TO COLLECT, REVIEW OR RECORD OPERATING CONDITIONS SHALL NOT BE ALLOWED.
   14. INDOOR UNIT CONNECTIVITY:
      a) THE SYSTEM SHALL BE DESIGNED TO ACCEPT CONNECTION UP TO <2> INDOOR UNITS OF VARIOUS CONFIGURATION AND CAPACITY, DEPENDING ON THE CAPACITY OF THE SYSTEM.
   15. POWER AND COMMUNICATION INTERRUPTION:
      a) THE SYSTEM SHALL BE CAPABLE OF PERFORMING CONTINUOUS OPERATION WHEN AN INDIVIDUAL OR SEVERAL INDOOR UNITS ARE BEING SERVICED; COMMUNICATION WIRE CUT OR POWER TO INDOOR UNIT IS DISCONNECTED FROM POWER FOR A MINIMUM OF A 24 HOUR PERIOD. SYSTEMS THAT ALARM AND/OR SHUT DOWN BECAUSE OF A LACK OF POWER TO ANY NUMBER OF INDOOR UNITS SHALL NOT BE ACCEPTABLE.
   16. CONNECTION RATIOS:
      a) THE MAXIMUM ALLOWABLE SYSTEM COMBINATION RATIO FOR ALL VRF SYSTEMS SHALL BE 130% AND THE MINIMUM COMBINATION RATIO SHALL BE 50%.
   17. COMFORT COOLING MODE:
      a) COMFORT COOLING SHALL BE INITIATED VIA A FIELD SETTING AT THE OUTDOOR UNIT DURING COMMISSIONING OR ANYTIME THEREAFTER. COMFORT COOLING SHALL ALLOW USER TO SELECT ALL OR SOME OF THE INDOOR UNITS OF A SYSTEM TO AUTOMATICALLY MODIFY EACH OF THE INDOOR UNIT'S SUPERHEAT TARGET SET POINT BASED ON THE IMPENDING TOTAL COOLING LOAD OF ON THE INDOOR UNIT, THE RATE OF CHANGE OF THE ZONE TEMPERATURE RELATIVE TO SET POINT AND OPTIONALLY, IF SPECIFIED, THE RATE OF CHANGE OF THE ZONE HUMIDITY LEVEL.
   18. THE OUTDOOR UNIT SHALL BE PROVIDED WITH A FACTORY INSTALLED FUSIBLE PLUG OR RUPTURE DISC. THE FUSIBLE PLUG CONNECTION SHALL BE THREADED FOR EASY CONNECTION WITH A FIELD PROVIDED VENT PIPE TO SAFELY DISCHARGE THE SYSTEM'S REFRIGERANT CHARGE AWAY FROM THE OUTDOOR UNIT IF A BUILDING FIRE CAUSES AN EXTREME PRESSURE CONDITION IN THE OUTDOOR UNIT REFRIGERANT CIRCUIT EMPLOY FOR SAFETY A THREADED FUSIBLE PLUG.
   19. REFRIGERANT FLOW CONTROL
      a) AN ACTIVE REFRIGERANT –IN–CIRCULATION CONTROL SYSTEM CONSISTING OF A REFRIGERANT STORAGE CONTAINER, INTERCONNECTING REFRIGERANT PIPING CONTROL VALVES, PRESSURE TRANSDUCERS, MICROPROCESSOR CONTROL, AND SOFTWARE TO CONTINUOUSLY MONITOR NECESSARY REFRIGERATION CYCLE OPERATING PARAMETERS TO MAINTAIN STABLE CYCLE OPERATION BETWEEN MINUS (–)22°F AND 122°F AMBIENT CONDITIONS. THE REFRIGERANT SYSTEM OPERATING CONDITIONS SHALL BE CHECKED BY THE ALGORITHM AT THREE MINUTE INTERVALS AND IF NEEDED AUTOMATICALLY AND DYNAMICALLY REMOVE AND STORE REFRIGERANT TO THE STORAGE TANK OR INJECT REFRIGERANT FROM THE TANK INTO THE REFRIGERANT CIRCUIT.
         i. THE ALGORITHM SHALL ADJUST REFRIGERANT CHARGE AUTOMATICALLY:
   1. AS THE OUTDOOR AIR TEMPERATURE CHANGES;
   2. SYSTEM MODE OF OPERATION CHANGES;
   3. THE PATH OF REFRIGERANT FLOW THROUGH THE OUTDOOR COIL IS MODIFIED;
   4. THE SYSTEM'S TARGET SUCTION AND HEAD PRESSURE CONTROL VALUES ARE ADJUSTED.

   20. REFRIGERANT VOLUME MANAGEMENT
      a) ACTIVE REFRIGERANT CHARGE
         i. THE VRF SYSTEM SHALL BE ABLE TO OPERATE AT ANY AND ALL PUBLISHED CONDITIONS YEAR ROUND IN COOLING OR HEATING MODE WITHOUT THE NEED OF ADDING OR REMOVING REFRIGERANT FROM THE SYSTEM.
         ii. THE AIR SOURCE UNIT SHALL BE PROVIDED WITH AN ISOLATED VESSEL, INTERCONNECTING PIPING, VALVES AND SENSORS TO STORE REFRIGERANT AND ACTIVELY PASS REFRIGERANT TO (OR FROM) THE REFRIGERANT CIRCUIT IN REAL TIME AS NECESSARY TO MAINTAIN STABLE REFRIGERATION CYCLE OPERATION.
         iii. THE AIR SOURCE UNIT MICROPROCESSOR SHALL BE PROVIDED WITH AN ALGORITHM THAT MONITORS THE VRF SYSTEM HEAD PRESSURE, SUCTION PRESSURE, SUBCOOLING, SUPERHEAT, COMPRESSOR SPEED, HIGH AND LOW SIDE TEMPERATURES AND THE LOAD ON THE SYSTEM AT THREE MINUTE INTERVALS AND IF NEEDED, AUTOMATICALLY AND DYNAMICALLY REMOVE AND STORE REFRIGERANT TO THE STORAGE TANK OR INJECT REFRIGERANT FROM THE TANK INTO THE REFRIGERANT

G. FAN AND MOTOR ASSEMBLY

1. 6 TON FRAMES SHALL BE EQUIPPED WITH ONE DIRECT DRIVE VARIABLE SPEED PROPELLER FAN WITH BRUSHLESS DIGITALLY CONTROLLED (BLDC) MOTOR WITH A VERTICAL AIR DISCHARGE.
2. 8 TO 20 TON FRAMES SHALL BE EQUIPPED WITH TWO DIRECT DRIVE VARIABLE SPEED PROPELLER FAN(S) WITH BLDC MOTOR(S) WITH A VERTICAL AIR DISCHARGE.
3. THE FAN(S) BLADES SHALL BE MADE OF ACRYLONITRILE BUTADIENE STYRENE (ABS) MATERIAL AND INCORPORATE BIOMIMETIC TECHNOLOGY TO ENHANCE FAN PERFORMANCE AND REDUCE FAN GENERATED NOISE.
4. THE FAN(S) MOTOR SHALL BE EQUIPPED WITH PERMANENTLY LUBRICATED BEARINGS.
5. THE FAN MOTOR SHALL BE VARIABLE SPEED WITH AN OPERATING SPEED RANGE OF 0–1150 RPM COOLING MODE AND 0–1150 RPM HEATING MODE.
6. THE FAN SHALL HAVE A GUARD TO HELP PREVENT CONTACT WITH MOVING PARTS.
7. THE CABINET SHALL HAVE OPTION TO REDIRECT THE DISCHARGE AIR DIRECTION FROM VERTICAL TO HORIZONTAL WITH THE ADDITION OF OPTIONAL FACTORY PROVIDED AIR GUIDES.
8. THE FAN CONTROLLER SHALL HAVE A DIP SWITCH SETTING TO RAISE EXTERNAL STATIC PRESSURE OF THE FAN UP TO 0.32 INCH OF W.C. TO ACCOMMODATE DUCTED INSTALLATIONS.
9. THE FAN CONTROL SHALL HAVE A FUNCTION SETTING TO REMOVE EXCESS SNOW AUTOMATICALLY.
10. THE FAN CONTROL SHALL HAVE A FUNCTION SETTING TO REMOVE ACCESS DUST AND LIGHT DEBRIS FROM THE OUTDOOR UNIT AND COIL.

I. CABINET

1. OUTDOOR UNIT CABINET SHALL BE MADE OF 20 GAUGE GALVANIZED STEEL WITH A WEATHER AND CORROSION RESISTANT ENAMEL FINISH. OUTDOOR UNIT CABINET FINISH SHALL BE TESTED IN ACCORDANCE WITH ASTM B–117 SALT SPRAY SURFACE SCRATCH TEST (SST) PROCEDURE FOR A MINIMUM OF 1000 HOURS.
2. CABINET WEIGHTS AND FOOT PRINTS SHALL VARY BETWEEN 430 LBS., 7.61 SQ. FT. (1.27 SQ. FT. PER TON), FOR 6 TON CABINET TO 666 LBS., 10.14 SQ. FT. (.51 SQ. FT. PER TON), FOR 20 TON CABINET FOR SINGLE CABINET CONFIGURATIONS. THE FRONT PANELS OF THE OUTDOOR UNITS SHALL BE REMOVABLE TYPE FOR ACCESS TO INTERNAL COMPONENTS.
3. A SMALLER SERVICE ACCESS PANEL, NOT LARGER THAN 7" X 7" AND SECURED BY A MAXIMUM OF (2) SCREWS, SHALL BE PROVIDED TO ACCESS THE FOLLOWING:
   f) SERVICE TOOL CONNECTION
   g) DIP SWITCES
   h) AUTO ADDRESSING
   i) ERROR CODES
   j) MAIN MICROPROCESSOR
   k) INVERTER PCB
4. THE CABINET SHALL HAVE PIPING KNOCKOUTS TO ALLOW REFRIGERANT PIPING TO BE CONNECTED AT THE FRONT, RIGHT SIDE, OR THROUGH THE BOTTOM OF THE UNIT.
5. THE CABINET SHALL HAVE A FACTORY INSTALLED COIL GUARD.

J. OUTDOOR UNIT COIL

1. OUTDOOR UNIT COIL SHALL BE DESIGNED, BUILT AND PROVIDED BY THE VRF OUTDOOR UNIT MANUFACTURER.
2. THE OUTDOOR UNIT COIL FOR EACH CABINET SHALL HAVE LANCED ALUMINUM FINS WITH A MAXIMUM FIN SPACING OF NO MORE THAN 17 FINS PER INCH (FPI). ALL THE OUTDOOR UNIT COILS SHALL BE A 2 OR 3 ROWS CONSISTING OF STAGGERED TUBES FOR EFFICIENT AIR FLOW ACROSS THE HEAT EXCHANGER
3. OUTDOOR UNIT COIL SHALL BE COMPRISED OF ALUMINUM FINS MECHANICALLY BONDED TO COPPER TUBING WITH INNER SURFACES HAVING A RIFFLING TREATMENT TO EXPAND THE TOTAL SURFACE OF THE TUBE INTERIOR
4. THE ALUMINUM FIN HEAT TRANSFER SURFACES SHALL HAVE FACTORY APPLIED CORROSION RESISTANT BLACK FIN COATING. THE COPPER TUBES SHALL HAVE INNER RIFFLING TO EXPAND THE TOTAL SURFACE OF THE TUBE INTERIOR.
5. ISO 21207 SALT SPRAY TEST METHOD B – 1500 HOURS
6. ASTM B–117 ACID SALT TEST – 900 HOURS
7. THE BLACK FIN COATING SHALL BE CERTIFIED BY UNDERWRITERS LABORATORIES AND PER ISO 21207. THE ABOVE CONDITIONS SHALL ESTABLISH THE MINIMUM ALLOWABLE PERFORMANCE WHICH ALL ALTERNATES MUST COMPLY.
8. VARIABLE PATH HEAT EXCHANGER: SYSTEM SHALL HAVE A VARIABLE FLOW AND PATH OUTDOOR HEAT EXCHANGER FUNCTION TO VARY THE REFRIGERANT FLOW AND VOLUME AND PATH. CONTROL OF THE VARIABLE PATH CIRCUITS SHALL BE BASED ON SYSTEM OPERATING MODE AND OPERATING CONDITIONS AS TARGETED TO MANAGE THE COIL HEAT TRANSFER CAPACITY AND EFFICIENCY. THE VARIABLE PATH HEAT EXCHANGER TECHNOLOGY SHALL BE PROVIDED TO MAINTAIN STABLE REFRIGERATION CYCLE OPERATION DURING MILD WEATHER CONDITIONS AND MAINTAIN A ROBUST HOT VAPOR TEMPERATURE SYSTEM HEAD PRESSURE THAT DELIVERS "GAS–FURNACE LEAVING AIR TEMPERATURE" FROM THE INDOOR UNIT AT SUB–ZERO OUTDOOR AIR TEMPERATURE DOWN TO MINUS (–) 22°F.THE OUTDOOR UNIT COIL, ALL INDOOR UNITS AND PIPE NETWORK SHALL BE FIELD TESTED TO A MINIMUM PRESSURE OF 550 PSIG.
9. COMPRESSOR(S)
10. COMPRESSOR SHALL BE DESIGNED AND ASSEMBLED BY THE VRF MANUFACTURER SPECIFICALLY FOR USE IN THE AIR SOURCE VRF PRODUCT LINE. THIRD PARTY MANUFACTURED, BRANDED, OR DESIGNED TO THE VRF SYSTEM'S OEM SPECIFICATIONS BY A THIRD PARTY MANUFACTURER SHALL NOT BE ACCEPTABLE.
11. COMPRESSOR SHALL BE A HERMETIC, HIGH–SIDE SHELL (HSS), COMMERCIAL GRADE, COMPLIANT SCROLL DIRECT–DRIVE DESIGN.
12. COMPRESSOR DESIGN: THE COMPRESSOR DESIGN SHALL BE OF THE HIGH PRESSURE SHELL SCROLL TYPE WHERE THE INTERNAL PRESSURE BELOW THE SUCTION VALVES OF THE COMPRESSOR SHALL BE AT THE SAME HIGH PRESSURE AND HIGH TEMPERATURE. THE MOTOR SHALL BE COOLED BY HIGH PRESSURE GAS AT TEMPERATURES ABOVE SATURATION CONDITIONS AND MINIMIZE THE MIXING OF REFRIGERANT LIQUID WITH OIL IN THE SUMP. THE SYSTEM SHALL EMPLOY A HIGH PRESSURE OIL RETURN METHOD RETURNING RECOVERED OIL FROM THE OIL SEPARATOR DIRECTLY INTO THE OIL SUMP OF THE COMPRESSOR; OIL SHALL NOT BE ALLOWED TO RETURN VIA THE SUCTION LINE. BEARING SURFACES ARE CONTINUALLY COATED WITH OIL. THE COMPRESSOR SHALL EMPLOY AN AERO–BEARING CONSTRUCTED WITH HIGH LUBRICITY MATERIALS INCREASING OPERATION TIME IN CASE OF LOW SUMP OIL LEVEL. COMPRESSOR SHALL HAVE A NOMINAL OPERATING RANGE FROM 12HZ TO 150 HZ.

ENERGY RECOVERY VENTILATORS
ZEHNDER–COMFOAIR 160

1. USE

THE COMFOAIR 160 VENTILATION UNIT WAS DEVELOPED FOR RESIDENTIAL AND SMALL COMMERCIAL BUILDINGS. IT COMBINES MAXIMUM COMFORT, SIMPLE OPERATION AND VERY HIGH EFFICIENCY. THE CA160 MOVES UP TO 92 CFM OF AIR AT 0.80" WC

2. EFFICIENCY

THE INTEGRATED CROSS–COUNTERFLOW HEAT EXCHANGER ACHIEVES EFFICIENCIES OF UP TO 88% (ACCORDING TO TESTING BY THE PASSIVE HOUSE INSTITUTE). FOR USER COMFORT THIS MEANS NO UNPLEASANT COLD DRAFTS, BECAUSE THE SUPPLY AIR IS HEATED NEARLY TO ROOM TEMPERATURE, EVEN WHEN EXTERNAL TEMPERATURES ARE VERY LOW.

3. FANS

THE SUPPLY FAN AND EXTRACT FAN ARE DRIVEN BY EFFICIENT DC MOTORS. DIFFERENTIAL PRESSURES IN THE SUPPLY AND EXTRACT AIR DISTRIBUTION SYSTEMS CAN BE ADJUSTED THANKS TO INDIVIDUAL CONTROL. THE ESPECIALLY QUIET FANS CAN BE ADJUSTED TO THE REQUIRED VOLUMETRIC FLOW IN 1% INCREMENTS. THE AIR VOLUMES OF THE SELECTABLE STAGES CAN BE SET TO BETWEEN 19 CFM AND 92 CFM.

4. FILTERS

THE CA160 IS EQUIPPED WITH TWO CLASS G4 FILTERS (MERV 7/8). AN OPTIONAL CLASS F7 POLLEN FILTER (MERV 13) IS AVAILABLE FOR FRESH AIR INTAKE.

5. INSTALLATION

THE CA160 CAN BE WALL–MOUNTED (VERTICALLY) OR CEILING–MOUNTED (HORIZONTALLY). CONNECTIONS FOR AIR AND WIRING ARE ON THE TOP OF THE UNIT. THE INSULATED, SOUND– ABSORBING PIPE CONNECTIONS CAN BE ROTATED TO OPTIMIZE THE LOCATION OF THE VENTILATION TUBES WHILE ACOUSTICALLY DECOUPLING THE CA160 FROM THE AIR DISTRIBUTION SYSTEM. THE CONDENSATE DRAIN IS LOCATED ON THE BOTTOM OF THE UNIT.

6. OPERATION

THE CA160 IS CONTROLLED BY THE COMFOSENSE CONTROLLER, TYPICALLY INSTALLED IN THE LIVING AREA. OPTIONAL, WIRELESS REMOTE CONTROL UNITS ARE INSTALLED IN BATHROOMS FOR TIMED BOOST MODE.

7. MAINTENANCE

MAINTENANCE OF THE CA160 IS LIMITED TO PERIODIC CLEANING OR REPLACEMENT OF THE FILTERS ACCESSIBLE FROM THE FRONT OF THE UNIT. THE EXCHANGER CORE SHOULD BE INSPECTED AND CLEANED ANNUALLY (DEPENDING ON OUTSIDE AIR QUALITY). PLEASE SEE THE UNIT MANUAL FOR ADDITIONAL SERVICING TASKS.

8. FROST PROTECTION

IF THE VENTILATION UNIT IS OPERATED WITHOUT AN OPTIONAL GEOTHERMAL HEAT EXCHANGER, CONDENSATE IN THE EXTRACT AIR MAY FREEZE. THE FROST PROTECTION SETTING PREVENTS THIS BY VARIABLY REDUCING THE SUPPLY AIR VOLUME. AN OPTIONAL, INTEGRATED ELECTRIC PRE–HEATER WARMS INCOMING FRESH AIR TO PREVENT THE HEAT EXCHANGER FROM FREEZING EVEN AT VERY LOW TEMPERATURES.

9. BYPASS

DURING SUMMER NIGHTS AND IN THE "SHOULDER" SEASONS OF SPRING AND FALL WITH STRONG SUNSHINE, THE HOUSE CAN BECOME TOO WARM, WHILE THE OUTSIDE TEMPERATURE REMAINS PLEASANTLY COOL. IN SUCH CASES, HEAT REMOVAL BY WHAT IS KNOWN AS "FREE COOLING" HELPS: THE CA160 IS EQUIPPED WITH A STANDARD AUTOMATIC BYPASS FOR JUST THIS PURPOSE, AND DIVERTS 100% OF THE RELATIVELY WARM EXTRACT AIR FROM THE HEAT EXCHANGER, INTRODUCING COOL SUPPLY AIR TO THE SPACE.

10. OPTIONS

- HUMIDITY RECOVERY WITH THE ZEHNDER ENTHALPY EXCHANGER WHEN THE CA160 IS FITTED WITH AN ENTHALPY EXCHANGER CORE, THE HUMIDITY FROM THE EXTRACTED AIR IS PARTLY TRANSFERRED TO THE FRESH SUPPLY AIR. IN THIS CASE, THE PROCESS OF DRYING OUT THE HOUSE IN DRY WINTER MONTHS IS DELAYED. ADDITIONALLY, THERE IS NO CONDENSATE THAT MUST BE DRAINED FROM THE COMFOAIR. THEREFORE A CONDENSATION DRAIN IS NOT NECESSARY WITH AN ENTHALPY EXCHANGER.

- THE ZEHNDER ENTHALPY EXCHANGER PROVIDES THE IDEAL HYGIENIC SOLUTION: SUPPLY AND EXTRACT AIR FLOWS ARE KEPT COMPLETELY SEPARATE SO THERE IS NO TRANSFER OF ODORS OR BACTERIA.

- POLLEN FILTER (F7/MERV 13)
  A POLLEN FILTER INSTALLED IN THE INTAKE AIR LINE (UPSTREAM OF THE HEAT EXCHANGER) KEEPS THE INSIDE OF THE HOUSE POLLEN–FREE AND REDUCES PARTICULATES, SPORES AND GERMS SO OCCUPANTS CAN BREATHE FREELY IN TIMES OF INCREASING ALLERGIES.

- WIRELESS REMOTE CONTROL
  WITH THE ZEHNDER WIRELESS REMOTE CONTROL, THE CA160 CAN BE CONTROLLED FROM LOCATIONS THROUGHOUT THE HOUSE, APARTMENT, CLASSROOM, ETC.
  TYPICALLY, ONE IS INSTALLED IN EACH BATHROOM TO PROVIDE A BOOST FUNCTION.

- OPEN FIRE PROGRAM
  THE VENTILATION SYSTEM CAN BE INSTALLED IN A HOME WITH A FIREPLACE, WOOD STOVE, ETC. BUT MUST BE ACCOUNTED FOR IN THE CONTROL UNIT. BY INDICATING IN THE COMFOSENSE CONTROLLER THE PRESENCE OF A FIREPLACE, NEGATIVE PRESSURE AND POSSIBLE BACK–DRAFTING OF UNPLEASANT FUMES AND/OR HARMFUL GASES CAN BE AVOIDED.

SEQUENCE OF OPERATIONS
ENERGY RECOVERY UNITS

UNIT START/STOP: HEAT RECOVERY UNITS ARE CONTROLLED THROUGH LOCAL DIGITAL CONTROLLER. UNIT WILL BE STARTED AND STOPPED VIA OPERATOR COMMAND FROM THE OPERATOR'S PC WORKSTATION OR FROM THE LOCAL DIGITAL CONTROLLER. UPON RECEIVING A COMMAND TO START, THE OUTSIDE AIR INTAKE DAMPER WILL OPEN, THE EXHAUST AIR DAMPER WILL OPEN, THE RETURN AIR DAMPER WILL CLOSE, THE ENTHALPY WHEEL WILL START, THE EXHAUST/RETRURN FAN WILL START, THE UNIT SUPPLY FAN WILL START, THE
CONTROL LOOPS WILL BE ENABLED. FAILURE OF FAN OR WHEEL OPERATION WILL INITIATE AN ALARM AT THE OPERATOR'S PC WORKSTATION. WHENEVER THE UNIT FANS ARE OFF, THE EXHAUST AND THE OUTDOOR AIR DAMPERS WILL RETURN TO THEIR CLOSED POSITION, THE RETURN AIR DAMPER IS OPEN, THE ENTHALPY WHEEL WILL BE STOPPED, THE CHILLED WATER VALVE IS CLOSED, HEATING VALVE REMAINS UNDER CONTROL TO MAINTAIN PLENUM TEMPERATURE SET POINT, THE SUPPLY FAN, EXHAUST FAN AND HEAT WHEEL VFD
ARE OFF. ALL SETPOINTS ARE ADJUSTABLE.

ENTHALPY WHEEL: THE ENTHALPY WHEEL IS CONTROLLED THROUGH THE LOCAL DIGITAL CONTROLLER :
A) WHEN THE TOTAL ENTHALPY OF THE OUTDOOR AIR IS GREATER THAN THE TOTAL ENTHALPY OF THE EXHAUST AIR, THE ENERGY RECOVERY SYSTEM WILL PRE–COOL THE OUTDOOR AIR. THE ENTHALPY WHEEL WILL BE MODULATED TO MAINTAIN AN OUTDOOR AIR LEAVING ENTHALPY OF 31.5 BTU/LB .
B) WHEN THE TOTAL ENTHALPY OF THE OUTDOOR AIR IS EQUAL TO THE TOTAL ENTHALPY OF THE EXHAUST AIR, OR IF THE UNIT IS IN RECIRCULATION MODE, THE ENERGY RECOVERY WHEEL WILL BE OFF.
C) WHEN THE TEMPERATURE OF THE OUTDOOR AIR IS LESS THAN THE TEMPERATURE OF THE EXHAUST AIR, THE ENERGY RECOVERY SYSTEM CAN PREHEAT THE OUTDOOR AIR. THE ENTHALPY WHEEL WILL BE MODULATED TO MAINTAIN AN OUTDOOR AIR LEAVING TEMPERATURE OF 47 F (ALL SET POINTS ADJUSTABLE).

UNIT FILTERS: THE DIGITAL CONTROLLER MONITORS SUPPLY AND EXHAUST FILTER DIFFERENTIAL PRESSURE AND PROVIDES STATUS/ALARM AT THE FACILITY SERVER AND WORKSTATIONS. "HIGH" (1.2 ADJUSTABLE) AND "HIGH–HIGH" (1.5 ADJUSTABLE) FILTER PRESSURE DROP ARE ALARMS THROUGH THE DIGITAL CONTROLLER.

HIGH STATIC PROTECTION: STATIC PRESSURE SWITCHES LOCATED AT SUPPLY AND EXHAUST FANS WILL STOP THE FAN(S) AND INITIATE AN ALARM AT THE OPERATOR'S PC WORKSTATION IF EITHER HIGH STATIC SETPOINT IS EXCEEDED. HIGH STATIC PRESSURE CUTOUT HAVE MANUAL RESET FOR SUPPLY AND EXHAUST FANS.

SUPPLY AIR TEMPERATURE CONTROL: DIGITAL CONTROLLER MONITORS SUPPLY AIR TEMPERATURE AND SEQUENCES THE COOLING AND HEATING COIL VALVES TO MAINTAIN DISCHARGE TEMPERATURE SETPOINT (ADJUSTABLE). THE COOLING COIL CONTROL VALVE IS MODULATED TO MAINTAIN A SUPPLY AIR TEMPERATURE SET POINT OF 55 F (ADJUSTABLE) THE HEATING COIL CONTROL VALVE IS MODULATED TO MAINTAIN A SUPPLY AIR TEMPERATURE SET POINT OF 52 F (ADJSUTABLE).

LOW TEMPERATURE DETECTION: UPON SENSING A LOW TEMPERATURE CONDITION ENTERING THE COOLING COIL (36 DEG ADJUSTABLE), THE TEMPERATURE LOW LIMIT WILL STOP THE SUPPLY AND EXHAUST FANS, STOP THE ENTHALPY WHEEL, CLOSE THE OUTDOOR AND EXHAUST AIR DAMPERS, COMMAND THE CHILLED WATER COIL VALVE OPEN. THE DIGITAL CONTROLLER RESETS BOTH VFD SIGNALS TO 0%. A LOW TEMPERATURE ALARM WILL BE DISPLAYED AT THE OPERATOR'S PC WORKSTATION. LOW TEMPERATURE SWITCH HAS MANUAL
RESET.

DUCT SMOKE DETECTION: UPON SENSING PRODUCTS OF COMBUSTION, DUCT MOUNTED SMOKE DETECTORS WILL STOP UNIT FANS, PROVIDE AN INPUT TO THE BAS PANEL AND PROVIDE ALARMS AT FIRE COMMAND. THE DIGITAL CONTROLLER WILL CLOSE THE OUTDOOR AIR AND EXHAUST AIR DAMPERS, STOP THE ENTHALPY WHEEL, COMMAND THE CONTROL VALVES TO THEIR CLOSED POSITION AND STOP FANS AND RESET THE UNIT VFD TO 0%.

SUPPLY AND EXHAUST FAN CONTROL: THE SUPPLY AND EXHAUST FANS INCLUDE VFDS, AIR FLOW MEASURING STATIONS AND A DOWNSTREAM SUPPLY AIR STATIC PRESSURE SENSOR. THE SPEED OF THE SUPPLY FAN VFD WILL BE MODULATED THROUGH THE DIGITAL CONTROLLER TO MAINTAIN THE DOWN STREAM STATIC PRESSURE SETPOINT. THE SUPPLY FAN VFD WILL BE CONTROLLED TO MAINTAIN THE FAN SPEED AT SETPOINT. THE SPEED OF THE EXHAUST FAN VFD WILL BE FUNCTION OF THE REQUIRED CFM DIFFERENTIAL BETWEEN
SUPPLY AND EXHAUST AS ESTABLISHED WITH THE TESTING AND BALANCING CONTRACTOR. THE EXHAUST FAN VFD WILL BE CONTROLLED TO MAINTAIN CFM DIFFERENTIAL SETPOINT.

FAN SPECIFICATIONS – GREENHECK

MODEL SQ – DUCT MOUNTED SUPPLY, EXHAUST OR RETURN FANS SHALL BE OF CENTRIFUGAL BELT DRIVEN IN–LINE TYPE. THE FAN HOUSING SHALL BE OF THE SQUARE DESIGN CONSTRUCTED OF HEAVY GAUGE GALVANIZED STEEL AND SHALL INCLUDE SQUARE DUCT MOUNTING COLLARS.

FAN CONSTRUCTION SHALL INCLUDE TWO REMOVABLE ACCESS PANELS LOCATED PERPENDICULAR TO THE MOTOR MOUNTING PANEL. THE ACCESS PANELS MUST BE OF SUFFICIENT SIZE TO PERMIT EASY ACCESS TO ALL INTERIOR COMPONENTS.

THE FAN WHEEL SHALL BE CENTRIFUGAL BACKWARD INCLINED, CONSTRUCTED OF ALUMINUM AND SHALL INCLUDE A WHEEL CONE CAREFULLY MATCHED TO THE INLET CONE FOR PRECISE RUNNING TOLERANCES. WHEELS SHALL BE STATICALLY AND DYNAMICALLY BALANCED.

MOTORS SHALL BE HEAVY DUTY BALL BEARING TYPE, CAREFULLY MATCHED TO THE FAN LOAD AND FURNISHED AT THE SPECIFIED VOLTAGE, PHASE AND ENCLOSURE. MOTORS AND DRIVES SHALL BE MOUNTED OUT OF THE AIRSTREAM.

PRECISION GROUND AND POLISHED FAN SHAFTS SHALL BE MOUNTED IN PERMANENTLY SEALED, LUBRICATED PILLOW BLOCK BALL BEARINGS. BEARINGS SHALL BE SELECTED FOR A MINIMUM (L10) LIFE IN EXCESS OF 100,000 HOURS AT MAXIMUM CATALOGED OPERATING SPEED.

DRIVES SHALL BE SIZED FOR A MINIMUM OF 150% OF DRIVEN HORSEPOWER. PULLEYS SHALL BE OF THE FULLY MACHINED CAST IRON TYPE, KEYED AND SECURELY ATTACHED TO THE WHEEL AND MOTOR SHAFTS.

MOTOR PULLEYS SHALL BE ADJUSTABLE FOR SYSTEM BALANCING. A NEMA 1 DISCONNECT SWITCH SHALL BE PROVIDED AS STANDARD, EXCEPT WITH EXPLOSION RESISTANT MOTORS, WHERE DISCONNECTS ARE OPTIONAL. FACTORY WIRING SHALL BE PROVIDED FROM MOTOR TO THE HANDY BOX.

ALL FANS SHALL BEAR THE AMCA CERTIFIED RATINGS SEAL FOR BOTH SOUND AND AIR PERFORMANCE.

EACH FAN SHALL BEAR A PERMANENTLY AFFIXED MANUFACTURER'S NAMEPLATE CONTAINING THE MODEL NUMBER AND INDIVIDUAL SERIAL NUMBER FOR FUTURE IDENTIFICATION.

FANS SHALL BE MODEL BSQ AS MANUFACTURED BY GREENHECK.

MODELS CSP–A390

DUCT MOUNTED EXHAUST, SUPPLY OR RETURN AIR FANS SHALL BE OF THE CENTRIFUGAL DIRECT DRIVE TYPE. THE FAN HOUSING SHALL BE CONSTRUCTED OF HEAVY–GAUGE GALVANIZED STEEL. THE HOUSING INTERIOR SHALL BE LINED WITH 0.5 IN. ACOUSTICAL INSULATION. THE OUTLET DUCT COLLAR SHALL INCLUDE AN ALUMINUM BACKDRAFT DAMPER AND SHALL BE ADAPTABLE FOR HORIZONTAL OR VERTICAL DISCHARGE. THE ACCESS FOR WIRING SHALL BE EXTERNAL. THE MOTOR DISCONNECT SHALL BE INTERNAL AND OF THE PLUG–IN TYPE.

THE MOTOR SHALL BE MOUNTED ON VIBRATION ISOLATORS. THE FAN WHEEL SHALL BE OF THE FORWARD–CURVED CENTRIFUGAL TYPE AND DYNAMICALLY BALANCED. ALL FANS SHALL BEAR THE AMCA CERTIFIED RATINGS PROGRAM AMCA AIR PERFORMANCE SEAL AND SHALL BE UL/CUL LISTED. CEILING OR WALL MOUNT FANS SHALL BE MODEL CSP AS MANUFACTURED BY GREENHECK FAN CORPORATION, SCHOFIELD, WISCONSIN.

*MODEL CSP–A FANS WITH 50 HERTZ MOTORS ARE NOT AMCA CERTIFIED.

SEQUENCE OF OPERATIONS DRYER EXHAUST FAN
MODEL BEF 300
MAKE – ENERVEX

USE

THE MDVS MODULATING DRYER EXHAUST SYSTEM IS A MECHANICAL EXHAUST SYSTEM USED TO MAINTAIN A CONSTANT PRESSURE IN THE EXHAUST SYSTEM FOR MULTIPLE TYPE I AND TYPE II RESIDENTIAL AND COMMERCIAL CLOTHES DRYERS WHETHER ELECTRIC OR GAS–FIRED.
THE MCAS MODULATING COMBUSTION AIR SYSTEM IS A MECHANICAL AIR SUPPLY SYSTEM THAT PROVIDES A CONSTANT ROOM PRES–SURE BY SUPPLYING MAKE–UP AIR AS IT IS REQUIRED BY THE EQUIPMENT BEING SERVED.

DESCRIPTION

THE MDVS AND MCAS CONSIST OF TWO BEF BOX VENTILATORS, AN EBC31 PRESSURE CONTROL WITH PRESSURE TRANSDUCER, AND AN EDRIVE MOTOR CONTROLLER. THE EBC31 MAINTAINS A CONSTANT PRESSURE FOR THE CLOTHES DRYERS BY MODULATING THE SPEED OF THE EXHAUST BOX VENTILATOR AND MAINTAINS A CONSTANT ROOM PRESSURE BY MODULATING THE SPEED OF THE MAKE–UP AIR BOX VENTILATOR. THE MDVS AND MCAS ARE SUPPLIED AS A COMPLETE PACKAGE WITH BOX VENTILATORS, DISCONNECTS, PRESSURE CON–TROL, DIFFERENTIAL PRESSURE TRANSDUCERS, MOTOR CONTROLLERS, OUTDOOR STATIC PRESSURE PICKUP PORT, AND DUCT PROBE.

OPERATION

DURING INSTALLATION THE EBC31 AUTOMATICALLY DETECTS CONNECTIONS, SETTING REQUIREMENTS AND ANY ADD–ON DEVICES. FOR THE MDVS, THE PLANNED PRESSURE SETTINGS MUST BE ENTERED MANUALLY VIA THE PRESSURE CONTROL'S INTERFACE. FOR THE MCAS, THE ROOM PRESSURE SETTING (USUALLY 0.00"W.C.) MUST BE ENTERED MANUALLY VIA THE PRESSURE CONTROL'S INTERFACE. AFTER THESE STEPS HAVE BEEN TAKEN, THE PRESSURE CONTROL WILL KEEP THE SETTINGS IN MEMORY. MANY OTHER FUNCTIONS CAN BE PROGRAMMED IN THE FIELD.
UNLESS INTERLOCKED WITH EACH CLOTHES DRYER, THE MDVS AND MCAS ARE "ACTIVE" AT ALL TIMES. AS A TUMBLER ACTIVATES, THE EBC31'S PRESSURE TRANSDUCERS SENSE THE PRESSURE CHANGE IN THE EXHAUST DUCT AND LAUNDRY ROOM AND, IN TURN, THE EBC31 ADJUSTS THE BOX VENTILATOR'S AND BOX VENTILATOR'S SPEED ACCORDINGLY. AS MORE TUMBLERS ACTIVATE, THE EXHAUST BOX VENTILATOR'S SPEED IS INCREASED TO MAINTAIN A CONSTANT PRESSURE; SIMULTANEOUSLY, THE MAKE–UP AIR BOX VENTILATOR'S SPEED IN INCREASED TO MAINTAIN THE PROPER ROOM PRESSURE. WHEN A TUMBLER SHUTS DOWN, THE BOX VENTILATOR WILL SLOW DOWN WHILE STILL MAINTAINING THE PRESSURE SETTING. WHEN THE LAST TUMBLER SHUTS DOWN, BOTH BOX VENTILATORS SLOW TO A MINIMUM SPEED.
ANY ERRORS DETECTED DURING OPERATION ARE ACCESSIBLE VIA THE EBC31'S INTERFACE.

LISTINGS

THE BEF BOX VENTILATOR IS ETL LISTED TO UL705, STANDARD FOR POWER VENTILATORS, WITH SPECIAL CONSIDERATION FOR EXHAUST–ING LINT–LADEN AIR FROM SINGLE OR MULTIPLE DRYERS.
THE EBC31 MODULATING PRESSURE CONTROL IS ETL LISTED TO UL60947, STANDARD FOR INDUSTRIAL CONTROL EQUIPMENT.
THE MSC EDRIVE MOTOR CONTROLLER IS ETL LISTED TO UL508C, STANDARD FOR POWER CONVERSION.

PASSIVE HOUSE DESIGN REQUIREMENTS

- HEATING AND COOLING EQUIPMENT SERVING DWELLING UNITS AND COMMON SPACES MEET THE EFFICIENCY LEVELS SPECIFIED IN THE EXHIBIT X OF THE NATIONAL RATER FIELD CHECKLIST. ELECTRIC RESISTANCE HEATING IS NOT INSTALLED IN DWELLING UNITS.
- NUMBER OF OCCUPANTS USED IN LOADS (3.6 OF HVAC DR) IS WITHIN ± 2 OF THE DWELLING UNIT TO BE CERTIFIED AND TOTAL OCCUPANT GAINS (3.7 OF HVAC DR) DO NOT EXCEED 645 BTUH PER OCCUPANT.
- HVAC MANUFACTURER AND MODEL NUMBER ON INSTALLED EQUIPMENT MATCH HVAC DESIGN REPORT, OR HAVE WRITTEN APPROVAL FROM DESIGNER.
- COMBINED FLOOR AREA USED IN LOADS (3.8 OF HVAC DR) IS BETWEEN 100 SF SMALLER AND 300 SF LARGER THAN THE DWELLING UNIT TO BE CERTIFIED.
- WINDOW AREA USED IN LOADS (3.9 OF HVAC DR) IS BETWEEN 15 SF SMALLER AND 60 SF LARGER THAN THE DWELLING UNIT TO BE CERTIFIED, OR FOR DWELLING UNITS TO BE CERTIFIED WITH > 500 SF OF WINDOW AREA, BETWEEN 3% SMALLER AND 12% LARGER.
- PREDOMINANT WINDOW SHGC USED IN LOADS (3.10 OF HVAC DR) IS WITHIN 0.1 OF PREDOMINANT VALUE IN THE DWELLING UNIT TO BE CERTIFIED.
- MECHANICAL VENTILATION USED IN LOADS (3.12 OF HVAC DR) IS THE SAME AS THE VENTILATION DESIGN (2.7) FOR THE GIVEN UNIT PLAN.
- NON–OCCUPANT INTERNAL GAINS (3.13 OF HVAC DR) ARE LESS THAN 3,600 BTUH.
- SENSIBLE AND TOTAL HEAT GAIN ARE DOCUMENTED (3.14 AND 3.16 OF HVAC DR) FOR THE ORIENTATION OF THE DWELLING UNIT TO BE CERTIFIED.
- COOLING SIZING % (4.18 OF HVAC DR) IS WITHIN THE COOLING SIZING LIMIT (4.19) SELECTED BY THE HVAC DESIGNER.
- HEATING AND COOLING EQUIPMENT SELECTED PER ACCA MANUAL S, EXCEPT COOLING RANGES ABOVE ACCA MANUAL S LIMITS ARE TEMPORARILY ALLOWED PER BELOW (ITEM 4.19).
- HVAC DESIGN SHALL INCLUDE ACCESS AND MEANS TO MEASURE THE DWELLING UNIT MECHANICAL VENTILATION AIRFLOW RATE.
- NO OUTDOOR AIR INTAKES SHALL BE CONNECTED TO RETURN SIDE OF THE DWELLING UNIT HVAC SYSTEM, UNLESS CONTROLS ARE INSTALLED TO OPERATE INTERMITTENTLY & AUTOMATICALLY BASED ON A TIMER AND TO RESTRICT INTAKE WHEN NOT IN USE (MOTORIZED DAMPER).
- IF LOCATED IN THE DWELLING UNIT, SYSTEM FAN SHALL NOT BE RATED GREATER THAN 3 SONES IF INTERMITTENT, SHALL NOT BE RATED GREATER THAN 2 SONES IF CONTINUOUS, OR EXEMPTED.
- IF SYSTEM UTILIZES THE DWELLING UNIT HVAC FAN, THEN THE SPECIFIED FAN TYPE IS ECM / ICM (4.12 ON HVAC DESIGN REPORT) OR THE CONTROLS WILL REDUCE THE STANDALONE VENTILATION RUN–TIME BY ACCOUNTING FOR HOURS WHEN THE HVAC SYSTEM IS HEATING OR COOLING.
- IN–UNIT BATHROOM FANS OR IN–LINE FANS SHALL BE ENERGY STAR CERTIFIED IF USED AS PART OF THE DWELLING UNIT MECHANICAL VENTILATION SYSTEM.
- IF CENTRAL EXHAUST FANS, ≤ 1HP, ARE SPECIFIED AS PART OF THE DWELLING UNIT MECHANICAL VENTILATION SYSTEM, THEN THEY ARE DIRECT–DRIVE, ECM, WITH VARIABLE SPEED CONTROLLERS. IF ≥ 1 HP, THEY ARE SPECIFIED WITH NEMA PREMIUM MOTORS.
- AIR INLETS PULL VENTILATION AIR DIRECTLY FROM OUTDOORS AND NOT FROM ATTIC, CRAWLSPACE, GARAGE, OR ADJACENT DWELLING INLET.
- INLETS ARE ≥ 2 FT. ABOVE GRADE OR ROOF DECK, ≥ 10 FT. OF STRETCHED STRING DISTANCE FROM KNOWN CONTAMINATION SOURCES (STACK, VENT, EXHAUST, VEHICLES), NOT EXITING THE ROOF, AND ≥ 3 FT. DISTANCE FROM DRYER EXHAUST AND SOURCES EXITING THE ROOF.
- DWELLING UNIT VENTILATION AIRFLOW DESIGN RATE & RUN TIME SHALL MEET THE REQUIREMENTS OF SECTION 4 OF ASHRAE 62.2 2010 OR 2013.
- COMMON SPACE OUTDOOR AIRFLOW DESIGN RATE SHALL MEET THE REQUIREMENTS OF SECTION 6 OF ASHRAE 62.1 –2010 OR 2013, WITHOUT EXCEEDING 2013 RATES BY MORE THAN 50%
- DWELLING UNIT MECHANICAL VENTILATION IS < 150% OF ASHRAE 62.2–2013 REQUIREMENTS.
- AT LEAST ONE MERV 6 OR HIGHER FILTER INSTALLED IN EACH DWELLING UNIT DUCTED MECHANICAL SYSTEM SERVING AN INDIVIDUAL DWELLING UNIT IN A LOCATION THAT FACILITATES ACCESS AND REGULAR SERVICE BY THE OCCUPANT OR BUILDING OWNER.
- FILTER ACCESS PANEL INCLUDES GASKET OR COMPARABLE SEALING MECHANISM AND FITS SNUGLY AGAINST THE EXPOSED EDGE OF FILTER WHEN CL

RCNY 5000 - TABLE 2 - COMMERCIAL BUILDINGS						
		IIB	Mechanical and Service Water Heating Inspections			
YES	NO	II	INSPECTION/TEST	FREQUENCY/MINIMUM	REFERENCE STANDARD (SEE ECC CHAPTER C6) OR OTHER CRITERIA	ECC OR OTHER CITATION
X		IIB2	SHUTOFF DAMPERS: DAMPERS FOR STAIR AND ELEVATOR SHAFT VENTS AND OTHER OUTDOOR AIR INTAKES AND EXHAUST OPENINGS INTEGRAL TO THE BUILDING ENVELOPE SHALL BE VISUALLY INSPECTED TO VERIFY THAT SUCH DAMPERS, EXCEPT WHERE PERMITTED TO BE GRAVITY DAMPERS, COMPLY WITH APPROVED CONSTRUCTION DRAWINGS. MANUFACTURER'S LITERATURE SHALL BE REVIEWED TO VERIFY THAT THE PRODUCT HAS BEEN TESTED AND FOUND TO MEET THE STANDARD.	AS REQUIRED DURING INSTALLATION	APPROVED CONSTRUCTION DOCUMENTS; AMCA 500D	C403.2.4.4; ASHRAE 90.1 – 6.4.3.4
X		IIB3	HVAC EQUIPMENT: EQUIPMENT SIZING, EFFICIENCIES AND OTHER PERFORMANCE FACTORS OF ALL MAJOR EQUIPMENT UNITS, AS DETERMINED BY THE APPLICANT OF RECORD, AND NO LESS THAN 15% OF MINOR EQUIPMENT UNITS, SHALL BE VERIFIED BY VISUAL INSPECTION AND, WHERE NECESSARY, REVIEW OF MANUFACTURER'S DATA. POOL HEATERS AND COVERS SHALL BE VERIFIED BY VISUAL INSPECTION.	PRIOR TO FINAL PLUMBING AND CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	C403.2, C404.2, C404.7, C406.2; ASHRAE 90.1 – 6.3, 6.4.1, 6.4.2, 6.8; 7.4, 7.8
X		IIB4	HVAC SYSTEM CONTROLS: NO LESS THAN 20% OF EACH TYPE OF REQUIRED CONTROLS AND ECONOMIZERS SHALL BE VERIFIED BY VISUAL INSPECTION AND TESTED FOR FUNCTIONALITY AND PROPER OPERATION. SUCH CONTROLS SHALL INCLUDE, BUT ARE NOT LIMITED TO:-THERMOSTATIC -SET POINT OVERLAP RESTRICTION -OFF-HOUR -SHUTOFF DAMPER -SNOW-MELT SYSTEM - DEMAND CONTROL SYSTEMS - OUTDOOR HEATING SYSTEMS - ZONES - ECONOMIZERS - AIR SYSTEMS - VARIABLE AIR VOLUME FAN - SINGLE ZONE COOLING SYSTEMS -HYDRONIC SYSTEMS - HEAT REJECTION EQUIPMENT FAN SPEED -COMPLEX MECHANICAL SYSTEMS SERVING MULTIPLE ZONES -VENTILATION -ENERGY RECOVERY SYSTEMS - HOT GAS BYPASS LIMITATION -TEMPERATURE -SERVICE WATER HEATING - HOT WATER SYSTEM - POOL HEATER AND TIME SWITCHES - EXHAUST HOODS -RADIANT HEATING SYSTEMS. - HVAC CONTROL IN GROUP R-1 SLEEPING ROOMS CONTROLS WITH SEASONALLY DEPENDENT FUNCTIONALITY: CONTROLS WHOSE COMPLETE OPERATION CANNOT BE DEMONSTRATED DUE TO PREVAILING WEATHER CONDITIONS TYPICAL OF THE SEASON DURING WHICH PROGRESS INSPECTIONS WILL BE PERFORMED SHALL BE PERMITTED TO BE SIGNED OFF FOR THE PURPOSE OF A TEMPORARY CERTIFICATE OF OCCUPANCY WITH ONLY A VISUAL INSPECTION, PROVIDED, HOWEVER, THAT THE PROGRESS INSPECTOR SHALL PERFORM A SUPPLEMENTAL INSPECTION WHERE THE CONTROLS ARE VISUALLY INSPECTED AND TESTED FOR FUNCTIONALITY AND PROPER OPERATION DURING THE NEXT IMMEDIATE SEASON THEREAFTER. THE OWNER SHALL PROVIDE FULL ACCESS TO THE PROGRESS INSPECTOR WITHIN TWO WEEKS OF THE PROGRESS INSPECTOR'S REQUEST FOR SUCH ACCESS TO PERFORM THE PROGRESS INSPECTION.FOR SUCH SUPPLEMENTAL INSPECTIONS, THE DEPARTMENT SHALL BE NOTIFIED BY THE APPROVED PROGRESS INSPECTION AGENCY OF ANY UNRESOLVED DEFICIENCIES IN THE INSTALLED WORK WITHIN 180 DAYS OF SUCH SUPPLEMENTAL INSPECTION.	AFTER INSTALLATION AND PRIOR TO FINAL ELECTRICAL AND CONSTRUCTION INSPECTION, EXCEPT THAT FOR CONTROLS WITH SEASONALLY DEPENDENT FUNCTIONALITY, SUCH TESTING SHALL BE PERFORMED BEFORE SIGN-OFF FOR ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY	APPROVED CONSTRUCTION DOCUMENTS, INCLUDING CONTROL SYSTEM NARRATIVES; ASHRAE GUIDELINE 1: THE HVAC COMMISSIONING PROCESS WHERE APPLICABLE	C403.2.4, C403.2.5.1, C403.2.11, C403.3, C403.4, C404.3, C404.6, C404.7; ASHRAE 90.1 – 6.3, 6.4, 6.5, 7.4.4, 7.4.5
X		IIB5	HVAC INSULATION AND SEALING: INSTALLED DUCT AND PIPING INSULATION SHALL BE VISUALLY INSPECTED TO VERIFY PROPER INSULATION PLACEMENT AND VALUES. JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK SHALL BE VISUALLY INSPECTED FOR PROPER SEALING.	AFTER INSTALLATION AND PRIOR TO CLOSING SHAFTS, CEILINGS	APPROVED CONSTRUCTION DOCUMENTS; SMACNA DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE	C403.2.7, C403.2.8, C404.5, MC 603.9; ASHRAE 90.1 – 6.3, 6.4.4, 6.8.2, 6.8.3; 7.4.3
		IID	Mechanical and Service Water Heating Inspections			
X		IID1	MAINTENANCE INFORMATION: MAINTENANCE MANUALS FOR MECHANICAL, SERVICE HOT WATER AND ELECTRICAL EQUIPMENT AND SYSTEMS REQUIRING PREVENTIVE MAINTENANCE SHALL BE REVIEWED FOR APPLICABILITY TO INSTALLED EQUIPMENT AND SYSTEMS BEFORE SUCH MANUALS ARE PROVIDED TO THE OWNER. LABELS REQUIRED FOR SUCH EQUIPMENT OR SYSTEMS SHALL BE INSPECTED FOR ACCURACY AND COMPLETENESS.	PRIOR TO SIGN-OFF OR ISSUANCE OF FINAL CERTIFICATE OF OCCUPANCY	APPROVED CONSTRUCTION DOCUMENTS, INCLUDING ELECTRICAL DRAWINGS WHERE APPLICABLE; ASHRAE GUIDELINE 4: PREPARATION OF OPERATING AND MAINTENANCE DOCUMENTATION FOR BUILDING SYSTEMS	C303.3, C408.2.5.2; ASHRAE 90.1 – 4.2.2.3, 6.7.2.2, 8.7.2, 9.7.2.2

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

MECHANICAL SPECIFICATIONS (7 OF 7)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #: NYE

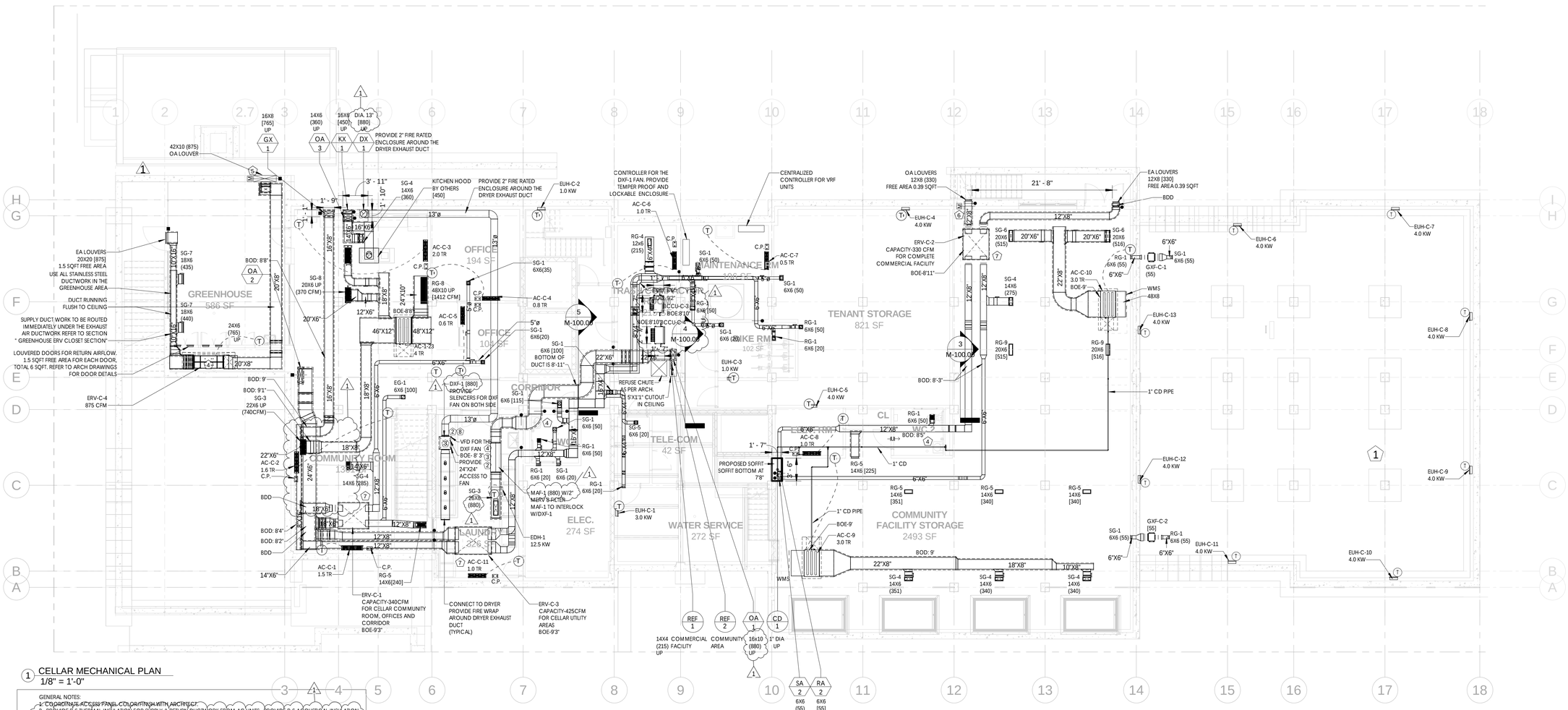
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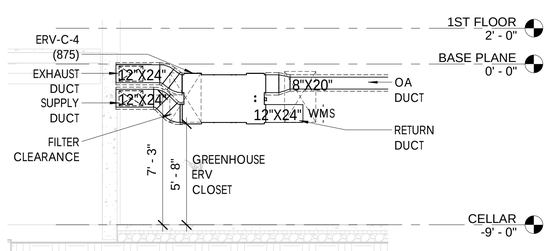


1 CELLAR MECHANICAL PLAN
1/8" = 1'-0"

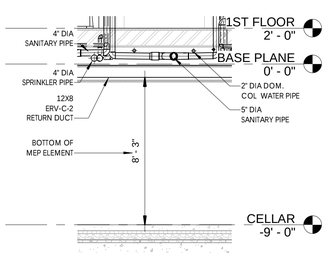
GENERAL NOTES:
1. COORDINATE ACCESS PANEL COLOR/FINISH WITH ARCHITECT.
2. PROVIDE R-6 THERMAL INSULATION FOR SUPPLY & RETURN DUCTWORK FROM AC UNITS. PROVIDE R-6 ACOUSTICAL INSULATION FOR 20 FEET OF AC UNIT SUPPLY AND RETURN DUCTWORK. PROVIDE R-6 ACOUSTICAL INSULATION FOR ERV SUPPLY AND RETURN DUCTS.
3. OUTDOOR AIR INTAKE, EXHAUST OPENINGS, STAIRWAY AND SHAFT VENTS SHALL BE PROVIDED WITH CLASS 1 MOTORIZED DAMPERS. THE DAMPERS SHALL HAVE AN AIR LEAKAGE RATE NOT GREATER THAN 4 CFM/FT2 OF DAMPER SURFACE AREA AT 1.0 INCH WATER GAUGE AND SHALL BE LABELED BY AN APPROVED AGENCY WHEN TESTED IN ACCORDANCE WITH AMCA 500D".
4. PROVIDE 2" INSULATION FOR OUTDOOR AIR INTAKE DUCT.
5. GRILLE SHALL INCLUDE INBUILD VOLUME DAMPER.
6. RUN REFRIGERENT AND CONDENSING PIPE TIGHT TO CEILING.
7. COORDINATE ALL GRILLE AND ACCESS DOOR LOCATION WITH ARCHITECT.
8. TRADE CONTRACTORS TO PROVIDE ALL LOCATIONS OF REQUIRED ACCESS TO GENERAL CONTRACTOR. GENERAL CONTRACTOR TO COORDINATE WITH ARCHITECT ON ACCESS DOOR LOCATIONS AND INSTALL ACCESS DOORS.
9. FOR 2" WG OF PRESSURE AND UP TO 16" OF DUCT SIZE USE 24 GAUGE DUCT-WORK U.O.N." AND FOR " 1" WG OF PRESSURE AND UP TO 20" DUCT SIZE USE 24 GAUGE DUCT-WORK U.O.N."
10. CONDENSATE PUMP FOR ALL WALL MOUNTED AC UNIT SHALL BE MOUNTED INSIDE THE CASING BELOW AC UNIT.
11. ALL APARTMENT KITCHEN EXHAUST GRILLES MUST BE EQUIPPED WITH A MERV 13 OR WASHABLE CARBON FILTER FOR TRAPPING GREASE.
11. ALL AC UNITS SHALL BE PROVIDED WITH INTEGRAL OVERFLOW SWITCH AND ALARM THAT WILL AUTOMATICALLY SHUT OFF THE AC UNIT IN FAULT MODE.
12. ALL APARTMENTS HAVING ONE OR TWO BEDROOMS SHALL BE PROVIDED WITH UNDERCUT ON BEDROOM DOOR TO COMPLY WITH RCL REQUIREMENTS.

PROVIDE 1" CONDENSATE DRAIN FOR BCCU UNIT AND ERV UNIT, CONNECT TO NEAREST DRAIN.

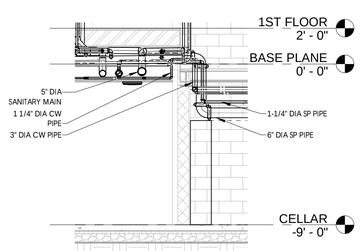
KEY NOTES:
1. MAINTAIN THE SPACE TEMPERATURE AT 45 DEG F
2. PROVIDE PRESSURE SENSOR DUCT PROBE AT 1/3 OF EXHAUST DUCT RISER, CONNECT TO MAKE UP AIR FAN (MAF-1) VFD. ELETRICAL CONTRACTOR TO PROVIDE POWER AND CONTROL CABLE TO REMOTE PRESSURE TRANSDUCER.
3. REFER TO SEQUENCE OF OPERATION FOR DRYER EXHAUST FAN ON M-007.00
4. CONNECT 1" CD W/ AIR GAP FITTING TO SINK P-TRAP INSIDE BATHROOM. COORDINATE W/PLUMBING DRAWING. AC CONDENSATE DRAIN SHALL BE CONNECTED SEPARATELY TO P-TRAP. DRAIN LINES SHALL BE ROUTED WITHIN WALLS, ABOVE CEILING AND UNDER SINKS, AND IT SHALL NOT BE VISIBLE TO BUILDING USERS.
5. INTERLOCK THE MOTORIZED DAMPER WITH ERV-C-4.
6. INTERLOCK THE MOTORIZED DAMPER WITH ERV-C-2.
7. PROVIDE MAINTENANCE CLEARENCES OF 1" AROUND THE ERV. PROVIDE ACCESS PANEL OF THE SIZE 5'9"x4'4" BELOW ERV.
8. PROVIDE INLINE LINT TRAP ALONG DXF-1 FAN.
   - MODEL: ILC08
   - MANUFACTURER: US DRAFT CO.
   - ACCESS DOOR: 12"X6"



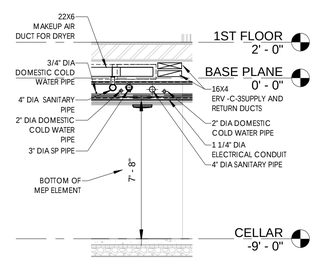
2 GREENHOUSE ERV CLOSET SECTION
1/4" = 1'-0"



3 CELLAR STORAGE SECTION
1/4" = 1'-0"



4 CELLAR CORRIDOR SECTION
1/4" = 1'-0"



5 CELLAR ELEVATOR CORRIDOR SECTION
1/4" = 1'-0"

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3	ISSUED FOR BID - 75% DD	10/21/2019
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6	50% CD SET	03/20/2020
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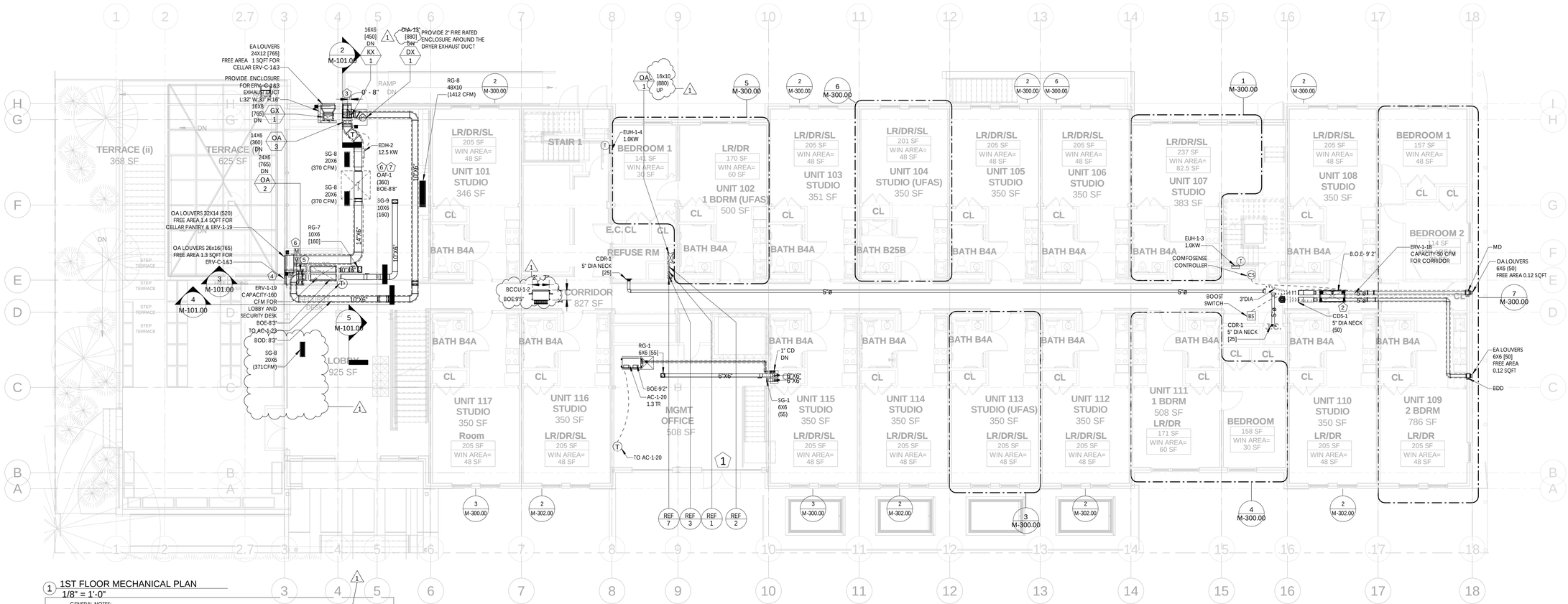
CELLAR MECHANICAL PLAN

Date:

Seal/Signature:

Scale: As indicated
Drawn By #: NYE
Chkd By #: NYE
Drawing #: M-100.00

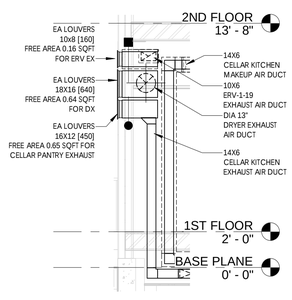
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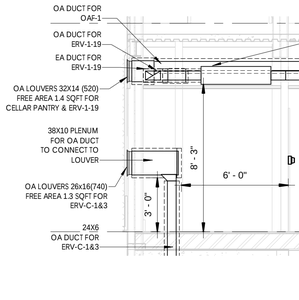
1 1ST FLOOR MECHANICAL PLAN
1/8" = 1'-0"

GENERAL NOTES:
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6. RUN REFRIGERENT AND CONDENSING PIPE TIGHT TO CEILING.
7. COORDINATE ALL GRILLE AND ACCESS DOOR LOCATION WITH ARCHITECT.
8. TRADE CONTRACTORS TO PROVIDE ALL LOCATIONS OF REQUIRED ACCESS TO GENERAL CONTRACTOR. GENERAL CONTRACTOR TO COORDINATE WITH ARCHITECT ON ACCESS DOOR LOCATIONS AND INSTALL ACCESS DOORS.
9. FOR 2" WG OF PRESSURE AND UP TO 18" OF DUCT SIZE USE 24 GAUGE DUCT-WORK U.O.N." AND FOR " 1" WG OF PRESSURE AND UP TO 20" DUCT SIZE USE 24 GAUGE DUCT-WORK U.O.N."
10. CONDENSATE PUMP FOR ALL WALL MOUNTED AC UNIT SHALL BE MOUNTED INSIDE THE CASING BELOW AC UNIT.
ALL APARTMENT KITCHEN EXHAUST GRILLES MUST BE EQUIPPED WITH A MERV 13 OR WASHABLE CARBON FILTER FOR TRAPPING GREASE.
11. ALL AC UNITS SHALL BE PROVIDED WITH INTEGRAL OVERFLOW SWITCH AND ALARM THAT WILL AUTOMATICALLY SHUT OFF THE AC UNIT IN FAULT MODE.
12. ALL APARTMENTS HAVING ONE OR TWO BEDROOMS SHALL BE PROVIDED WITH UNDERCUT ON BEDROOM DOOR TO COMPLY WITH RCL REQUIREMENTS.
13. PROVIDE 1" CONDENSATE DRAIN FOR BCCU UNIT AND ERV UNIT. CONNECT TO NEAREST DRAIN.

KEY NOTES:
1. DUCT WORK AND ITS ACCESSORIES WILL BE IN THE TENANTS SCOPE. AS THIS IS CONSIDERED AS WHITE BOX OFFICE SPACE.
2. PROVIDE MAINTENANCE CLEARENCES OF 1" AROUND THE ERV. PROVIDE ACCESS PANEL OF THE SIZE 4'x2' BELOW ERV.
3. REFER HVAC SHAFT SECTION FOR DETAILS OF LOUVERS DETAIL AND DUCTS ROUTING IN THE SHAFT.
4. INTERLOCK MOTORISED DAMPER WITH ERV-C-1&3.
5. INTERLOCK MOTORISED DAMPER WITH ERV-1-19.
6. INTERLOCK MOTORISED DAMPER WITH OAF-1.
7. PROVIDE 56"X56" ACCESS PANEL FOR OAF-1 FANS AS MARKED ON DRAWING

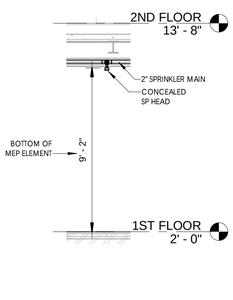


2 CELLAR TO 1ST FLOOR HVAC SHAFT
1/4" = 1'-0"



3 1ST FLOOR PACKAGE ROOM
1/4" = 1'-0"

4 1ST FLOOR SECURITY DESK SECTION
1/4" = 1'-0"



5 1ST FLOOR LOBBY
1/4" = 1'-0"

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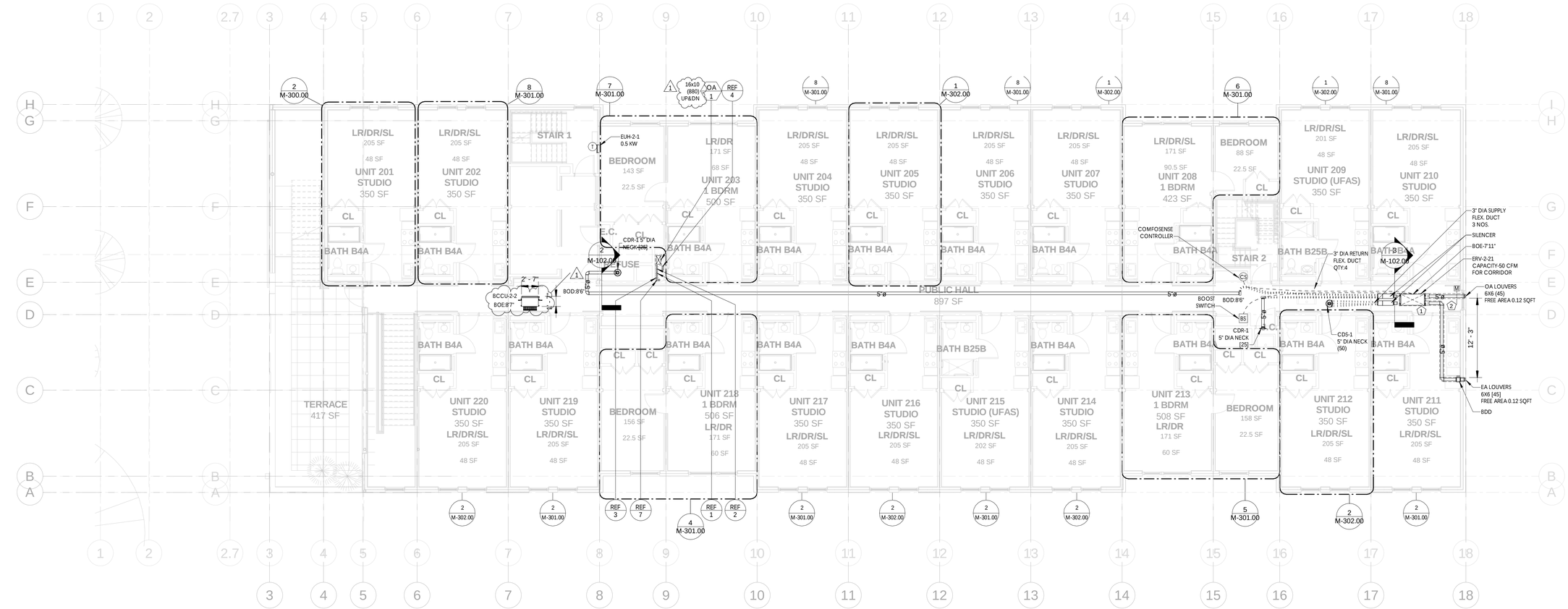
1ST FLOOR MECHANICAL PLAN

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Drawn By #:NYE
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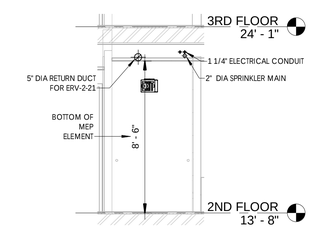
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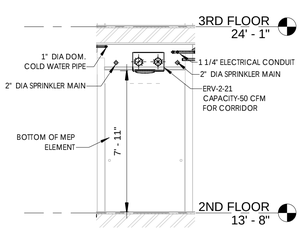
1 2ND FLOOR MECHANICAL PLAN
1/8" = 1'-0"

GENERAL NOTES:
1. COORDINATE AC ACCESS PANEL COLOR / FINISH WITH ARCHITECT.
2. PROVIDE R-6 THERMAL INSULATION FOR SUPPLY & RETURN DUCTWORK FROM AC UNITS. PROVIDE R-6 ACOUSTICAL INSULATION FOR 20 FEET OF AC UNIT SUPPLY AND RETURN DUCTWORK. PROVIDE R-6 ACOUSTICAL INSULATION FOR ERV SUPPLY AND RETURN DUCTS.
3. OUTDOOR AIR INTAKE, EXHAUST OPENINGS, STAIRWAY AND STAIR VENTS SHALL BE PROVIDED WITH CLASS I MOTORIZED DAMPERS. THE DAMPERS SHALL HAVE AN AIR LEAKAGE RATE NOT GREATER THAN 4 CFM/FT2 OF DAMPER SURFACE AREA AT 1.0 INCH WATER GAUGE AND SHALL BE LABELED BY AN APPROVED AGENCY WHEN TESTED IN ACCORDANCE WITH AMCA 500D".
4. PROVIDE 2" INSULATION FOR OUTDOOR AIR INTAKE DUCT.
5. GRILLE SHALL INCLUDE INBUILD VOLUME DAMPER.
6. RUN REFRIGERENT AND CONDENSING PIPE TIGHT TO CEILING.
7. COORDINATE ALL GRILLE AND ACCESS DOOR LOCATION WITH ARCHITECT.
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KEY NOTES:
1. PROVIDE MAINTENANCE CLEARENCES OF 1" AROUND THE ERV. PROVIDE ACCESS PANEL OF THE SIZE 4'x2' BELOW ERV.
2. INTERLOCK MOTORISED DAMPER WITH ERV-2-21.



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



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

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2ND FLOOR MECHANICAL PLAN

Date:

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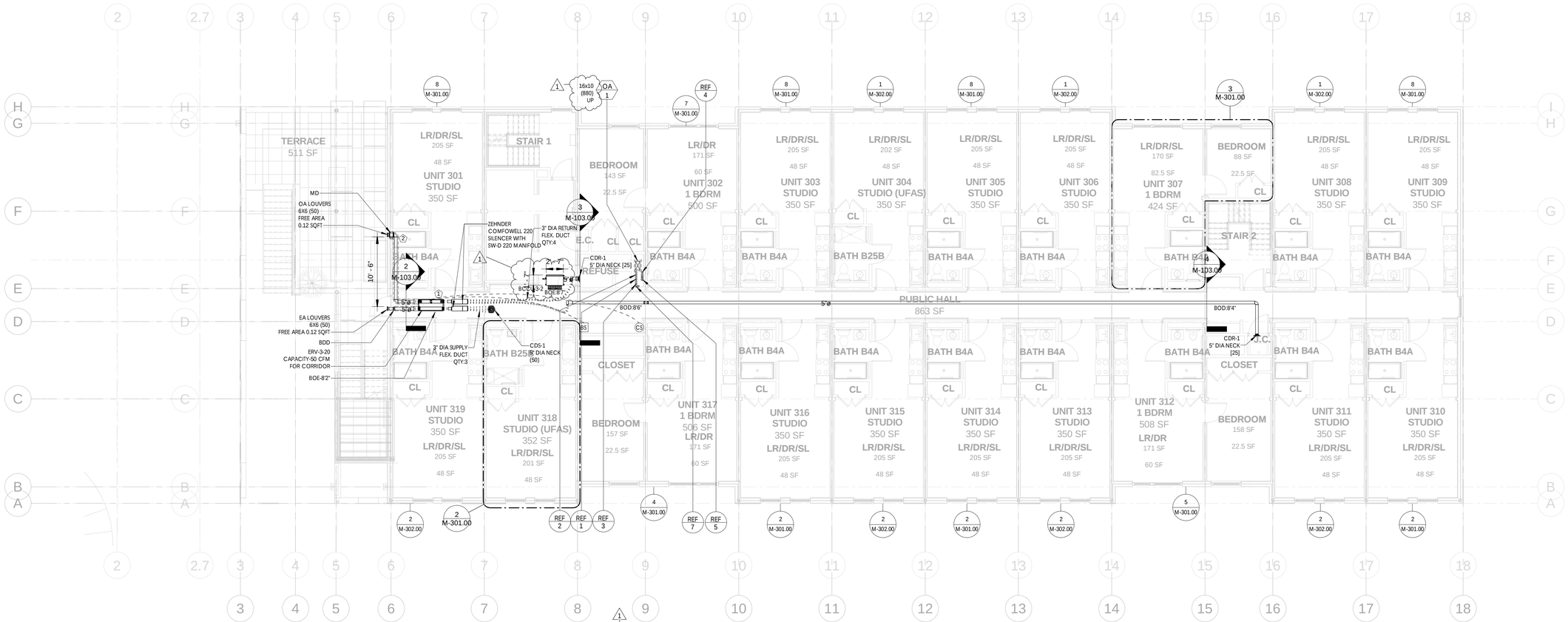
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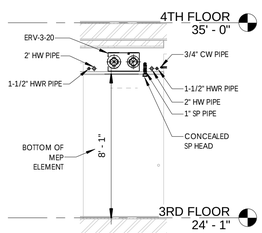
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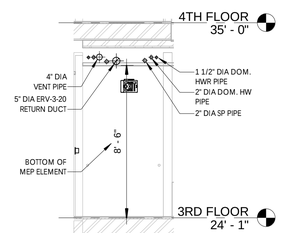
1 3RD FLOOR MECHANICAL PLAN
1/8" = 1'-0"

GENERAL NOTES:
1. COORDINATE ACCESS PANEL COLOR/FINISH WITH ARCHITECT.
2. PROVIDE R-6 THERMAL INSULATION FOR SUPPLY & RETURN DUCTWORK FROM AC UNITS. PROVIDE R-6 ACOUSTICAL INSULATION FOR 20 FEET OF AC UNIT SUPPLY AND RETURN DUCTWORK. PROVIDE R-6 ACOUSTICAL INSULATION FOR ERV SUPPLY AND RETURN DUCTS.
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4. PROVIDE 2" INSULATION FOR OUTDOOR AIR INTAKE DUCT.
5. GRILLE SHALL INCLUDE INBUILD VOLUME DAMPER.
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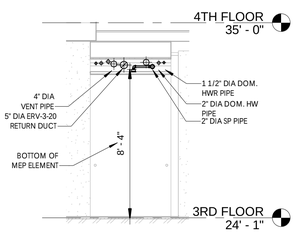
KEY NOTES:
1. PROVIDE MAINTENANCE CLEARENCES OF 1' AROUND THE ERV. PROVIDE ACCESS PANEL OF THE SIZE 4'x2' BELOW ERV.
2. INTERLOCK MOTORISED DAMPER WITH ERV-3-20.



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



3 3RD FLOOR REFUSE ROOM CORRIDOR
1/4" = 1'-0"



4 3RD FLOOR J.C. CORRIDOR
1/4" = 1'-0"

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3RD FLOOR MECHANICAL PLAN

Date:

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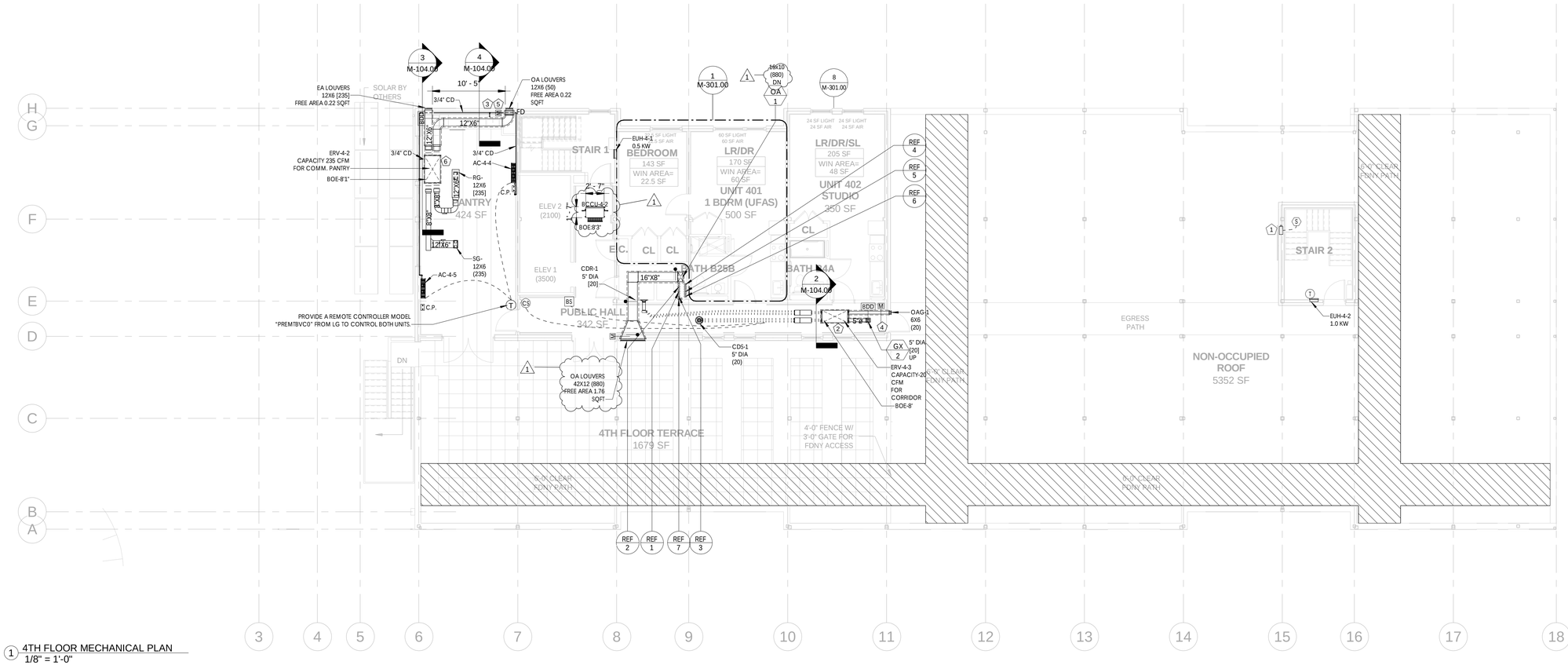
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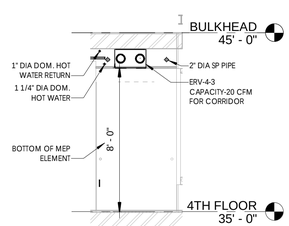
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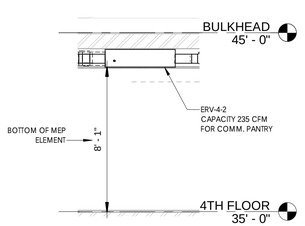
1 4TH FLOOR MECHANICAL PLAN
1/8" = 1'-0"

GENERAL NOTES:
1. COORDINATE ACCESS PANEL LOCATION WITH ARCHITECT.
2. PROVIDE R-6 THERMAL INSULATION FOR SUPPLY & RETURN DUCTWORK FROM AC UNITS. PROVIDE R-6 ACOUSTICAL INSULATION FOR 20 FEET OF AC UNIT SUPPLY AND RETURN DUCTWORK. PROVIDE R-6 ACOUSTICAL INSULATION FOR ERV SUPPLY AND RETURN DUCTS.
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4. PROVIDE 2" INSULATION FOR OUTDOOR AIR INTAKE DUCT.
5. GRILLE SHALL INCLUDE INBUILD VOLUME DAMPER.
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10. CONDENSATE PUMP FOR ALL WALL MOUNTED AC UNIT SHALL BE MOUNTED INSIDE THE CASING BEHIND AC UNIT.
11. ALL APARTMEN KITCHEN EXHAUST GRILLES MUST BE EQUIPPED WITH A MERV 3 OR WASHABLE CARBON FILTER FOR TRAPPING GREASE.
12. ALL EXHAUST SHALL BE LOCATED MINIMUM 3 FEET FROM LOT LINE.
13. AIR INTAKE SHALL BE LOCATED 10 FEET AWAY FROM LOTLINE AND ANY EXHAUST.
14. ALL AC UNITS SHALL BE PROVIDED WITH INTEGRAL OVERFLOW SWITCH AND ALARM THAT WILL AUTOMATICALLY SHUT OFF THE AC UNIT IN FAULT MODE.
15. ALL APARTMENTS HAVING ONE OR TWO BEDROOMS SHALL BE PROVIDED WITH UNDERCUT ON BEDROOM DOOR TO COMPLY WITH RCL REQUIREMENTS.
16. PROVIDE 1" CONDENSATE DRAIN FOR BCGU UNIT, CONNECT TO NEAREST DRAIN.

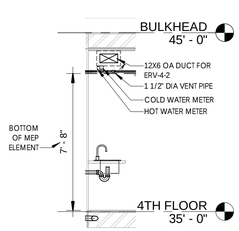
KEY NOTES:
1. PROVIDE MIN. 5 S.F. VENT WITH LOUVER/HATCH AT THE SIDE OF STAIR. CONFIRM EXACT SIZE W/ARCH. & STAIR CONSULTANT. PROVIDE MOTORIZED DAMPER AT LOUVER/HATCH & CONNECT TO SMOKE DETECTOR ON TOP OF STAIR SHAFT TO 100% FULLY OPEN WHEN SMOKE DETECTOR IS TRIGGERED.
2. PROVIDE MAINTENANCE CLEARENCES OF 1" AROUND THE ERV. PROVIDE ACCESS PANEL OF THE SIZE 4'X2' BELOW ERV.
3. CONNECT 1" CD W/ AIR GAP FITTING TO SINK P-TRAP. COORDINATE W/PLUMBING DRAWING. AC CONDENSATE DRAIN SHALL BE CONNECTED SEPARATELY TO P-TRAP. DRAIN LINES SHALL BE ROUTED WITHIN WALLS, ABOVE CEILING AND UNDER SINKS, AND IT SHALL NOT BE VISBLE TO BUILDING USERS. CONDENSATE SHALL MAINTAIN A MINIMUM HORIZONTAL SLOPE IN THE DIRECTION OF DISCHARGE . SLOPE SHOULD BE NOT LESS THAN ONE-EIGHTH UNIT VERTICAL IN 12 UNITS HORIZONTAL (1-PERCENT SLOPE).
4. INTERLOCK MOTORISED DAMPER WITH ERV-4-3.
5. INTERLOCK MOTORISED DAMPER WITH ERV-4-2.
6. PROVIDE MAINTENANCE CLEARENCES OF 1" AROUND THE ERV. PROVIDE ACCESS PANEL OF THE SIZE 4'2"x4'10" BELOW ERV.



2 4TH FLOOR CORRIDOR SECTION
1/4" = 1'-0"



3 4TH FLOOR PANTRY ERV SECTION
1/4" = 1'-0"



4 4TH FLOOR PANTRY SECTION
1/4" = 1'-0"

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4TH FLOOR MECHANICAL PLAN

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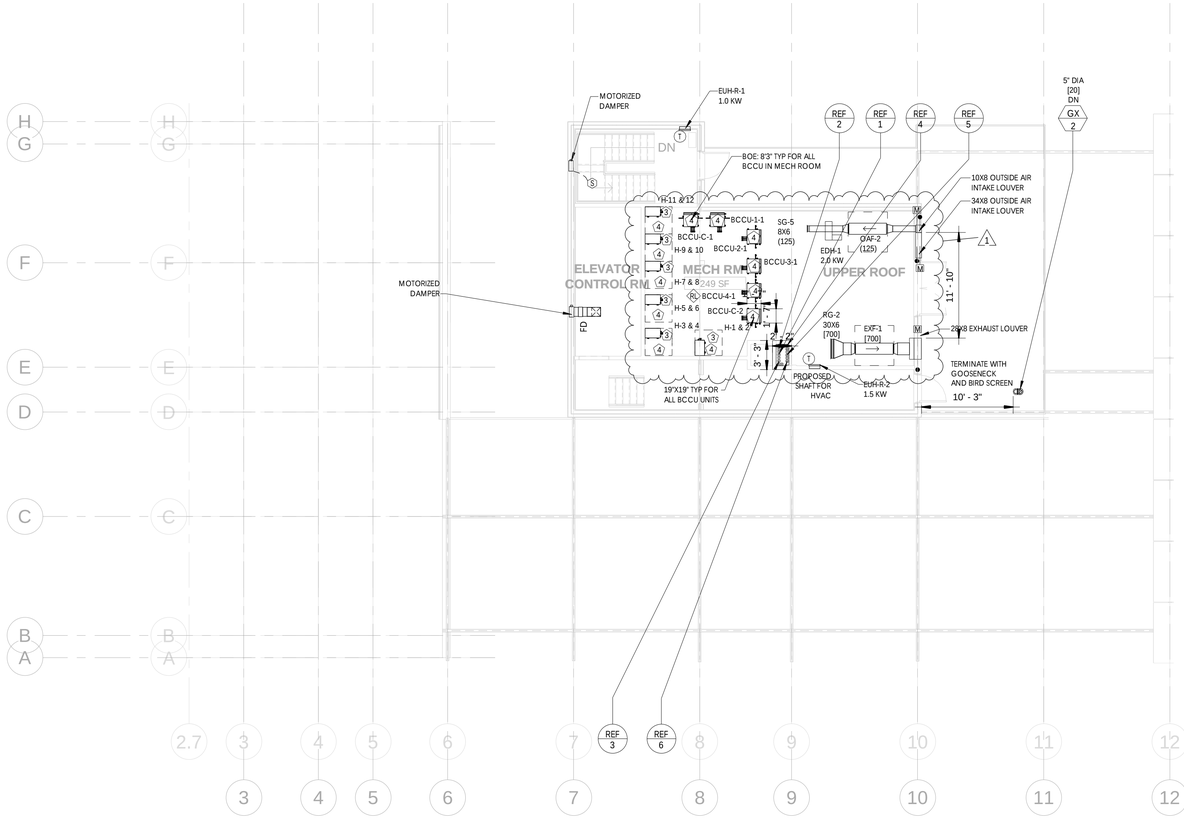
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1 ROOF MECHANICAL PLAN
1/8" = 1'-0"

SEQUENCE OF OPERATION FOR MECHANICAL ROOM VENTILATION:

NORMAL MODE: OAF-1 RUN AT 125 CFM AND EXF-1 WILL RUN AT 125 CFM.

EMERGENCY MODE: EXF-1 RUN AT 700 CFM. INTERLOCK EXF-1 WITH LOUVER. REFRIGERANT LEAK DETECTOR IS INTERLOCKED WITH EXF-1, UPON DETECTION OF REFRIGERANT LEAK EXF-1 WILL RUN AT 700 CFM. MOTORIZED DAMPER TO FULLY OPEN WHEN EXHAUST FAN RUNS AT FULL CAPACITY. PROVIDE VFD FOR EXF-1 FOR 700 AND 125 CFM

GENERAL NOTE
PROVIDE 1" CONDENSATE DRAIN FOR BCCU UNIT, CONNECT TO NEAREST DRAIN.

KEY NOTES:

1. PROVIDE MIN. 5 S.F. VENT WITH LOUVER/HATCH AT THE SIDE OF STAIR. CONFIRM EXACT SIZE W/ ARCH. & STAIR CONSULTANT. PROVIDE MOTORIZED DAMPER AT LOUVER/HATCH & CONNECT TO SMOKE DETECTOR ON TOP OF STAIR SHAFT TO 100% FULLY OPEN WHEN SMOKE DETECTOR IS TRIGGERED.
2. PROVIDE MIN 3 S.FT FREE OPENING VENT WITH LOUVER/HATCH AT THE SIDE OF ELEVATOR MACHINE ROOM. PROVIDE MIN 3 S.FT SMOKE HOLE AT THE TOP OF ELEVATOR HOIST WAY WITH NONCOMBUSTIBLE DUCT CONNECTING IT TO THE SIDE OPENING. CONFIRM EXACT SIZE WITH ARCHITECTS AND ELEVATOR CONSULTANT. PROVIDE MOTORIZED DAMPER AT EACH LOUVER AND CONNECT TO SMOKE DETECTOR ON TOP OF EACH ELEVATOR SHAFT TO 100% MD FULLY OPEN WHEN SMOKE DETECTOR IS TRIGGERED.
3. REFER TO PLUMBING DRAWINGS FOR HOT WATER SYSTEM
4. CONNECT 1" CONDENSATE PIPE TO NEAREST FLOOR DRAIN

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BETHANY TERRACES

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Drawing Tile:

ROOF MECHANICAL PLAN

Date:

Scale: 1/8" = 1'-0"

Seal/Signature:

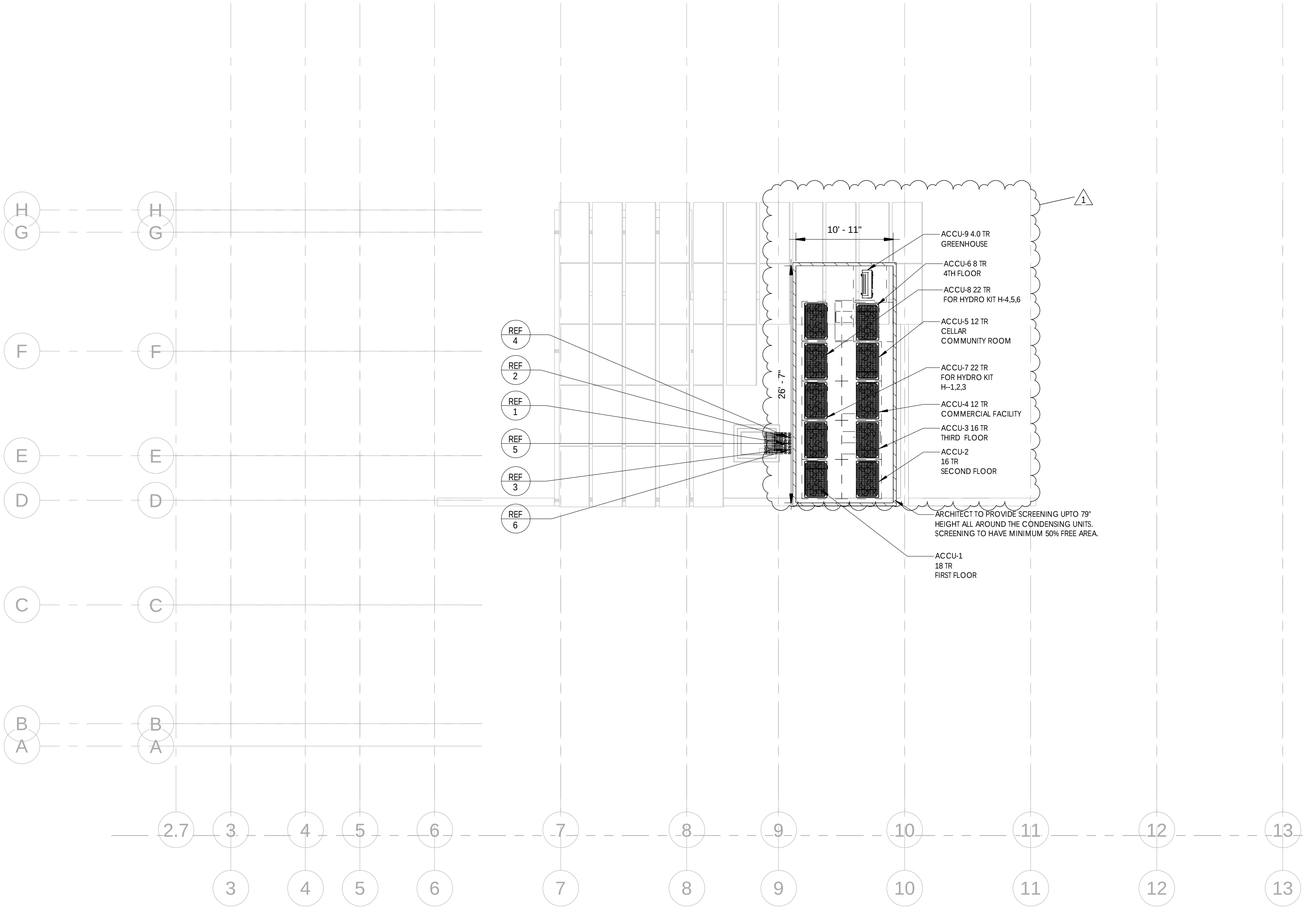
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1 BULKHEAD ROOF MECHANICAL PLAN
1/8" = 1'-0"

GENERAL NOTES:
1. AIR CONDITIONER UNIT SHALL NOT PRODUCE NOISE LEVELS IN EXCESS OF 42 DECIBLES FOR A SINGLE AIR CIRCULATING DEVICE AND 45 DECIBLES FOR THE CUMULATIVE NOISE LEVEL OF MULTIPLE AIR CURCULATING DEVICES AS MEASURED 3 FEET FROM THE NOISE SOURCE AT AN OPEN DOOR OR WINDOW OF A NEARBY RESIDENCE.
2. PROVIDE UV PROTECTED & WEATHER PROOF COATING FOR ALL EXTERIOR DUCTWORK AND PIPING .

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NOTES:

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Revision Schedule

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1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
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11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

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TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

BULKHEAD ROOF MECHANICAL PLAN

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #: Author

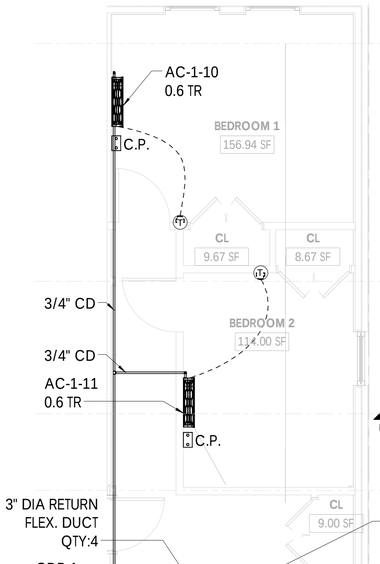
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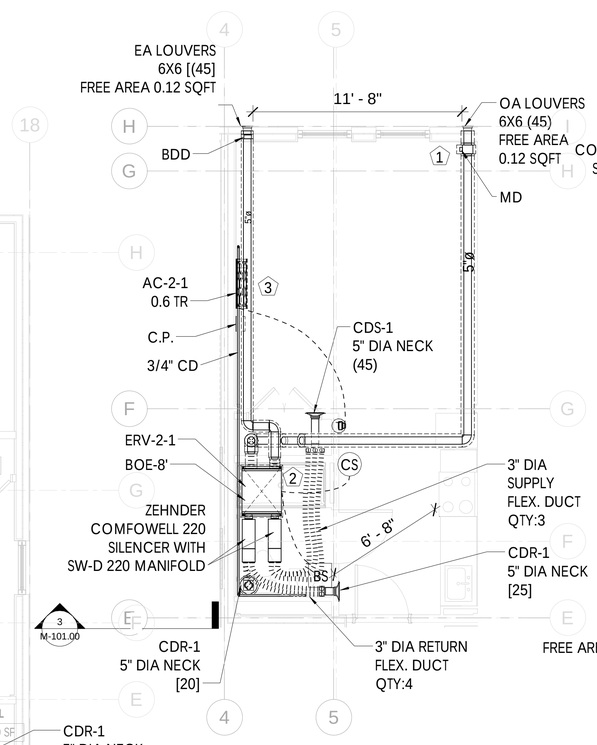
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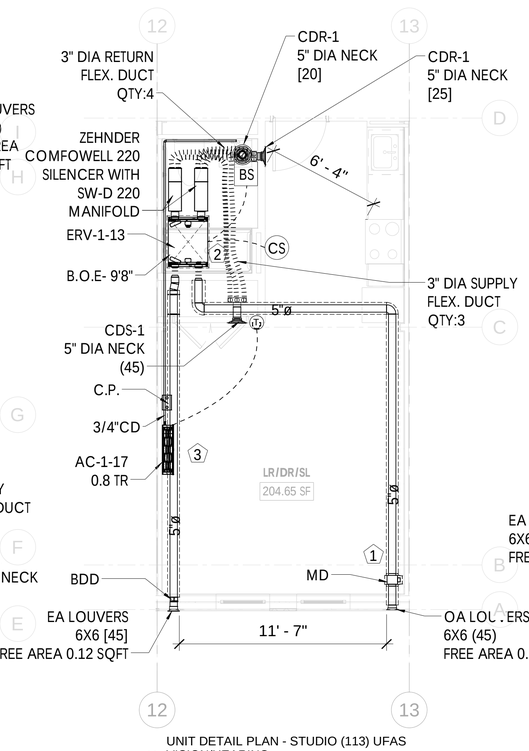
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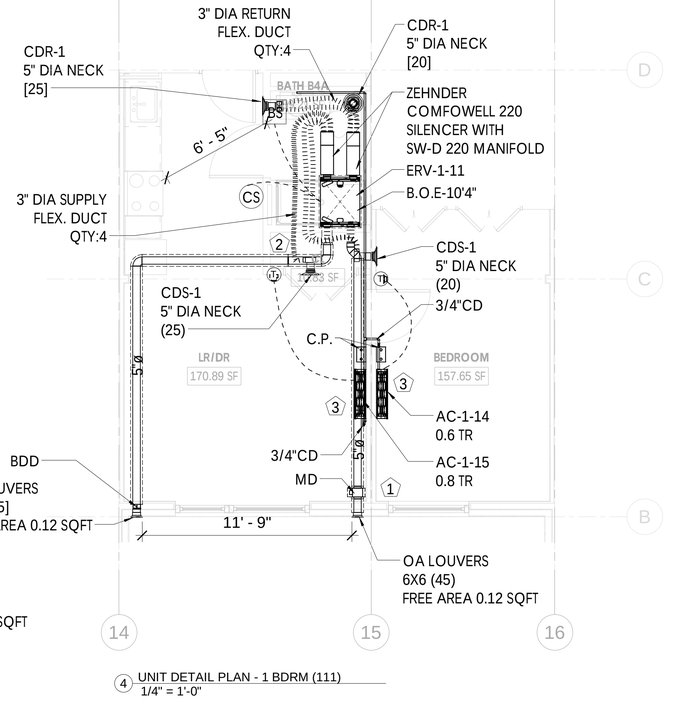
7 UNIT DETAIL PLAN - 2 BDRM (109) SUPER'S UNIT
1/4" = 1'-0"



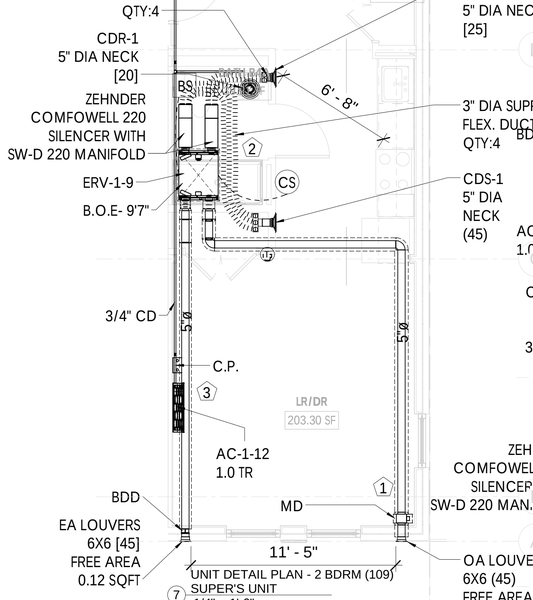
2 UNIT DETAIL PLAN - STUDIO (201)
1/4" = 1'-0"



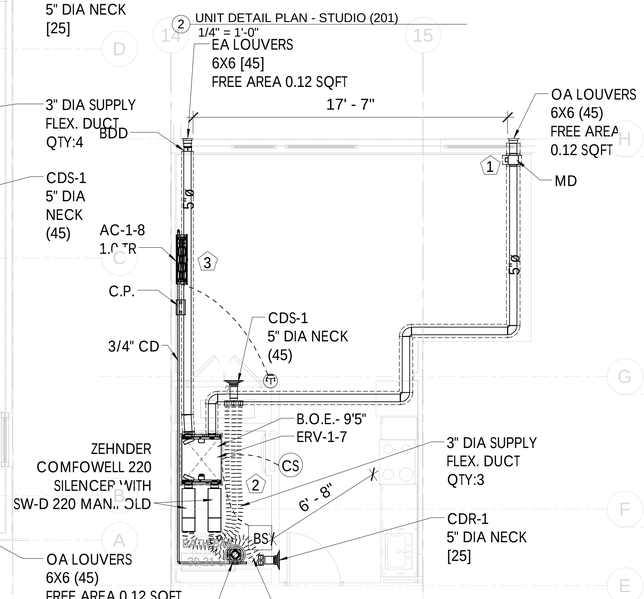
3 UNIT DETAIL PLAN - STUDIO (113) UFAS VISION/HEARING
1/4" = 1'-0"



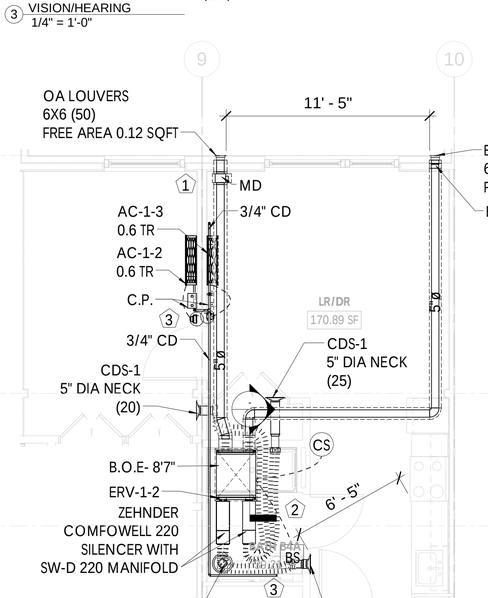
4 UNIT DETAIL PLAN - 1 BDRM (111)
1/4" = 1'-0"



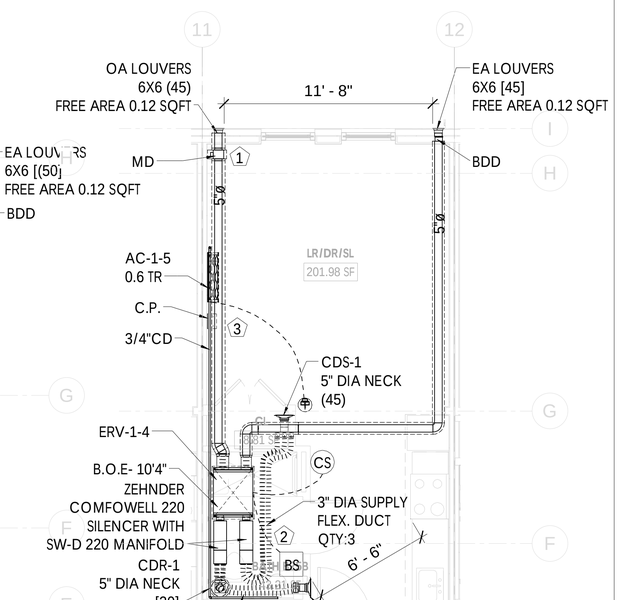
7 UNIT DETAIL PLAN - 2 BDRM (109) SUPER'S UNIT
1/4" = 1'-0"



1 UNIT DETAIL PLAN - STUDIO (107)
1/4" = 1'-0"



5 UNIT DETAIL PLAN -1 BDRM (102) UFAS VISION/HEARING
1/4" = 1'-0"



6 UNIT DETAIL PLAN - STUDIO (101, 103-106, 110, 112, 114-117,
1/4" = 1'-0"

KEY NOTES:
1. INTERLOCK MOTORISED DAMPER WITH THE ERV.
2. PROVIDE MAINTENANCE CLEARENCES OF 1" AROUND THE ERV. PROVIDE ACCESS PANEL OF THE SIZE 3'X2'2" BELOW ERV.
3. CONNECT 3/4 " CONDENSATE DRAIN PIPE UNDER LAVATORY WITH AIR GAP FITTING.

GENERAL NOTES:
1. COORDINATE ACCESS PANEL COLOR/FINISH WITH ARCHITECT.
2. PROVIDE R-6 THERMAL INSULATION FOR SUPPLY & RETURN DUCTWORK FROM AC UNITS. PROVIDE R-6 ACOUSTICAL INSULATION FOR 20 FEET OF AC UNIT SUPPLY AND RETURN DUCTWORK. PROVIDE R-6 ACOUSTICAL INSULATION FOR ERV SUPPLY AND RETURN DUCTS.
3. PROVIDE 2" LOUVERED DOOR OR ALTMAR DUCT.
4. RUN REFRIGERENT PIPE TIGHT TO CEILING.
5. COORDINATE ALL DIFFUSER AND ACCESS DOOR LOCATION WITH ARCHITECT.
6. CONDENSATE PUMP FOR ALL WALL MOUNTED AC UNIT SHALL BE MOUNTED INSIDE THE CASING UNDER AC UNIT.
7. ALL APARTMEN KITCHEN EXHAUST DIFFUSER MUST BE EQUIPPED WITH A MERV 13 OR WASHABLE CARBON FILTER FOR TRAPPING GREASE.
8. PROVIDE DRAIN PUMP TO ERV UNITS AND CONNECT IS DRAIN TO NEAREST DRAIN RISER.
9. PROVIDE REFRIGERANT PIPE OF LIQUID 1/4" AND GAS 1/2" FOR ALL INDOOR AC UNITS & INSULATION OF 1.5" TO REF PIPES.
10. ERV EXHAUST FOR EACH STUDIO APARTMENT SHOULD BE TERMINATED AS FOLLOWS:
   A. TWO FEET FROM ANY OPERATIONAL WINDOW OR DOOR SERVING THE SAME DWELLING UNIT.
   B. THREE FEET FROM ANY OPERATIONAL WINDOW OR DOOR SERVING AN ADJOINING DWELLING UNIT.
11. CONTRACTOR TO ENSURE THE CONDENSATION DRAIN IS SEALED. THIS PREVENTS THE CONTAIN FROM SUCKING IN ANY LEAKAGE AIR.
12. ALL AC UNITS SHALL BE PROVIDED WITH INTEGRAL OVERFLOW SWITCH AND ALARM THAT WILL AUTOMATICALLY SHUT OFF THE AC UNIT IN FAULT MODE.
13. ALL APARTMENTS HAVING ONE OR TWO BEDROOMS SHALL BE PROVIDED WITH UNDERCUT ON BEDROOM DOOR TO COMPLY WITH RCL REQUIREMENTS.
14. PROVIDE 1/ CONDENSATE DRAIN FOR BCDU UNIT AND ERV UNIT. CONNECT TO NEAREST DRAIN.

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BETHANY TERRACES

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Drawing Tile:

MECHANICAL PART PLAN (1 OF 3)

Date:

Seal/Signature:

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

Drawn By #: Author

Chkd By #: Checker

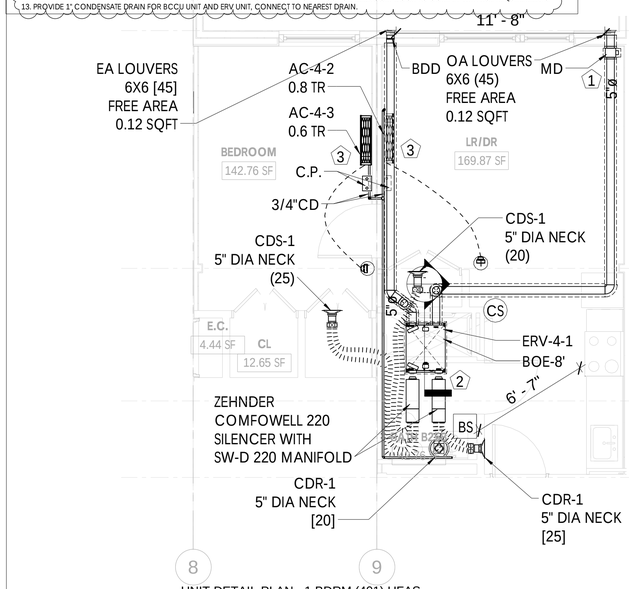
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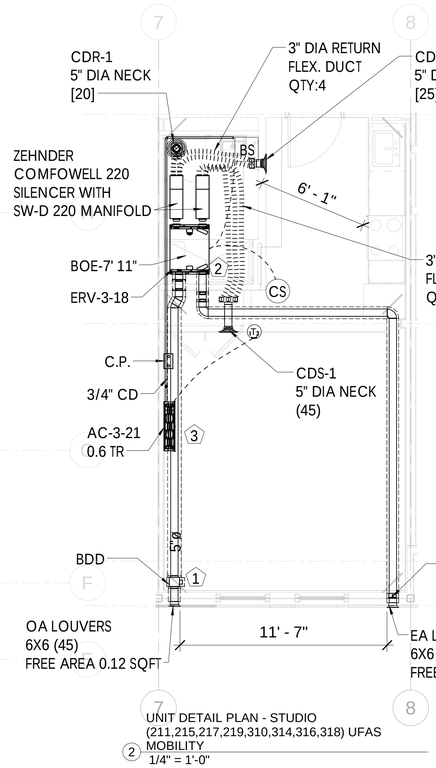
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KEY NOTES:
1. INTERLOCK MOTORISED DAMPER WITH THE ERV.
2. PROVIDE MAINTENANCE CLEARENCES OF 1' AROUND THE ERV. PROVIDE ACCESS PANEL OF THE SIZE 3'X2'2" BELOW ERV.
3. CONNECT 3/4 " CONDENSATE DRAIN PIPE UNDER LAVATORY WITH AIR GAP FITTING.

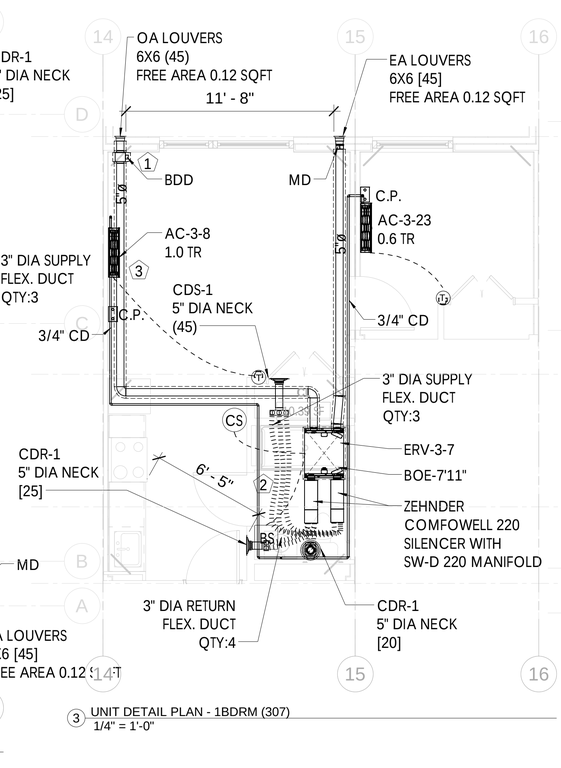
GENERAL NOTES:
1. COORDINATE ACCESS PANEL COLOR/FINISH WITH ARCHITECT.
2. PROVIDE R-6 THERMAL INSULATION FOR SUPPLY & RETURN DUCTWORK FROM A/C UNIT. PROVIDE R-4 ACOUSTICAL INSULATION FOR 10 FEET OF AC UNIT SUPPLY AND RETURN DUCTWORK. PROVIDE R-8 ACOUSTICAL INSULATION FOR ERV SUPPLY AND RETURN DUCTS.PROVIDE 2" INSULATION FOR OUTDOOR AIR INTAKE DUCT.
3. RUN REFRIGERENT PIPE TIGHT TO CEILING.
4. COORDINATE ALL DIFFUSER AND ACCESS DOOR LOCATION WITH ARCHITECT.
5. CONDENSATE PUMP FOR ALL WALL MOUNTED AC UNIT SHALL BE MOUNTED INSIDE THE CASING UNDER AC UNIT.
6. ALL APARTMEN KITCHEN EXHAUST DIFFUSER MUST BE EQUIPPED WITH A MERV 13 OR WASHABLE CARBON FILTER FOR TRAPPING GREASE.
7. PROVIDE DRAIN PUMP TO ERV UNITS AND CONNECT IS DRAIN TO NEAREST DRAIN RISER.
8. PROVIDE REFRIGERANT PIPE OF LIQUID 1/4" AND GAS 1/2" FOR ALL INDOOR AC UNITS & INSULATION OF 1.5" TO REF PIPES.
9. ERV EXHAUST FOR EACH STUDIO APARTMENT SHOULD BE TERMINATED AS FOLLOWS:
   A. TWO FEET FROM ANY OPERATIONAL WINDOW OR DOOR SERVING THE SAME DWELLING UNIT.
   B. THREE FEET FROM ANY OPERATIONAL WINDOW OR DOOR SERVING AN ADJOINING DWELLING UNIT.
10. CONTRACTOR TO ENSURE THE CONDENSATION DRAIN IS SEALED THIS PREVENTS THE COMPLAINTS FROM SUCKING IN ANY LEAKAGE AIR.
11. ALL AC UNITS SHALL BE PROVIDED WITH INTEGRAL OVERFLOW SWITCH AND ALARM THAT WILL AUTOMATICALLY SHUT OFF THE AC UNIT IN FAULT MODE.
12. ALL APARTMENTS HAVING ONE OR TWO BEDROOMS SHALL BE PROVIDED WITH UNDERCUT ON BEDROOM DOOR TO COMPLY WITH RCL REQUIREMENTS.
13. PROVIDE 1' CONDENSATE DRAIN FOR BCCU UNIT AND ERV UNIT. CONNECT TO NEAREST DRAIN.



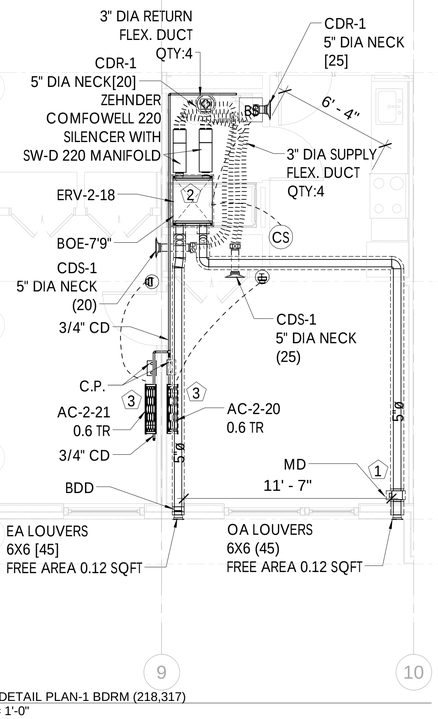
1 UNIT DETAIL PLAN - 1 BDRM (401) UFAS MOBILITY
1/4" = 1'-0"



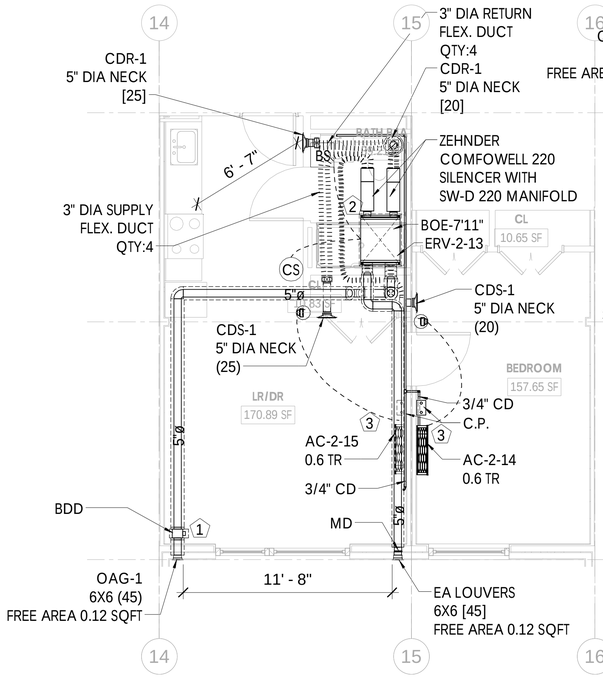
2 UNIT DETAIL PLAN - STUDIO (211,215,217,219,310,314,316,318) UFAS MOBILITY
1/4" = 1'-0"



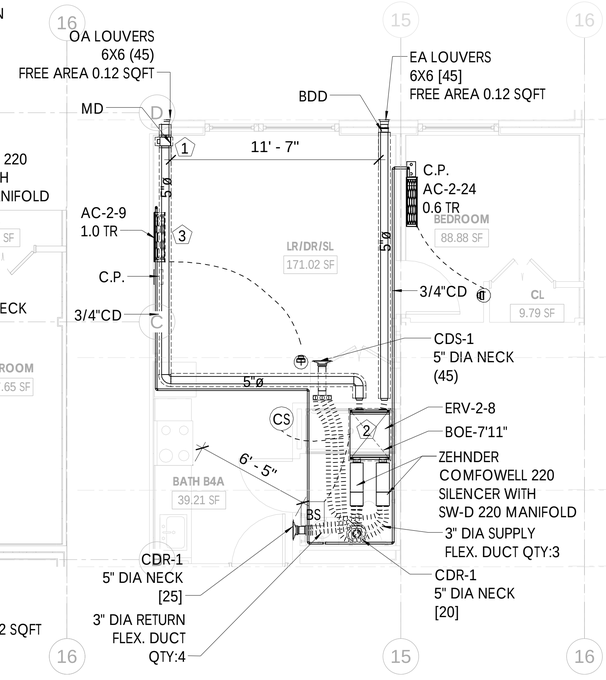
3 UNIT DETAIL PLAN - 1BDRM (307)
1/4" = 1'-0"



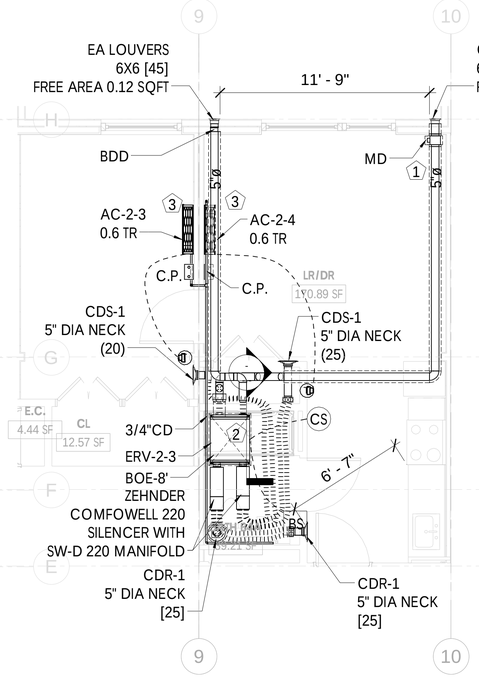
4 UNIT DETAIL PLAN-1 BDRM (218,317)
1/4" = 1'-0"



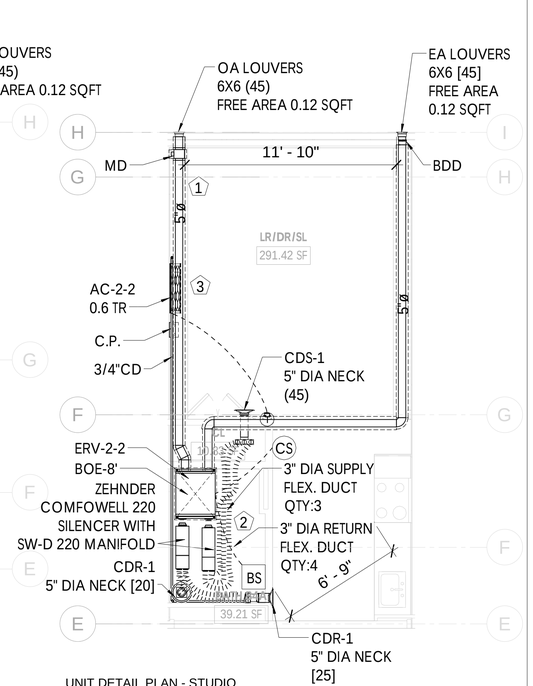
5 UNIT DETAIL PLAN - 1 BDRM (213, 312)
1/4" = 1'-0"



6 UNIT DETAIL PLAN - 1 BDRM (208)
1/4" = 1'-0"



7 UNIT DETAIL PLAN - 1 BDRM (203, 302)
1/4" = 1'-0"



8 UNIT DETAIL PLAN - STUDIO (202,204,206,207,210,301,303-306,308,309,402)
1/4" = 1'-0"

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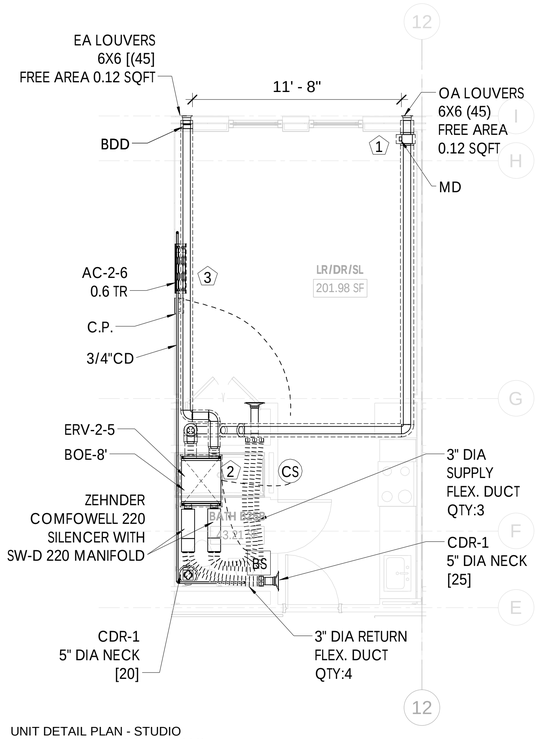
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MECHANICAL PART PLAN (2 OF 3)

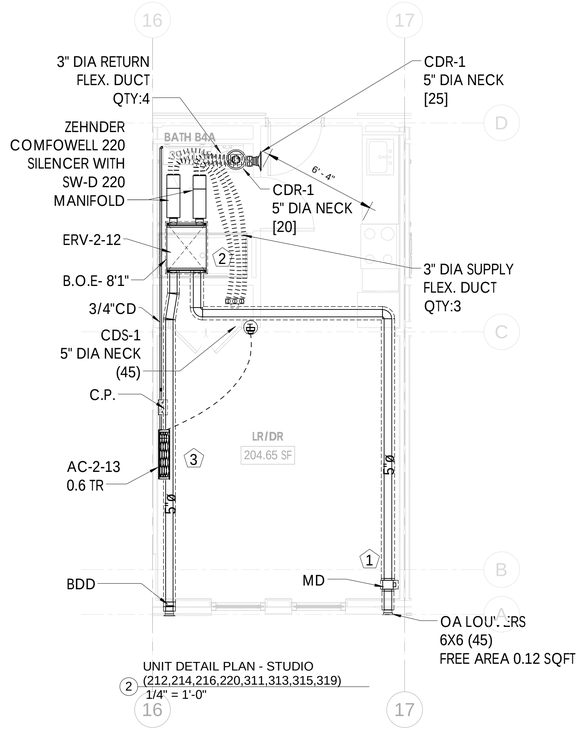
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DOB #: B00235775-I1
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1 UNIT DETAIL PLAN - STUDIO
(205,207,209 (UFAS),304,306,308)
1/4" = 1'-0"



2 UNIT DETAIL PLAN - STUDIO
(212,214,216,220,311,313,315,319)
1/4" = 1'-0"

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2. PROVIDE MAINTENANCE CLEARENCES OF 1" AROUND THE ERV. PROVIDE ACCESS PANEL OF THE SIZE 3'X2'2" BELOW ERV.
3. CONNECT 3/4 " CONDENSATE DRAIN PIPE UNDER LAVATORY WITH AIR GAP FITTING.

GENERAL NOTES:
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3. PROVIDE 2" INSULATION ON OUTDOOR AIR INTAKE DUCT.
4. RUN REFRIGERENT PIPE TIGHT TO CEILING.
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MECHANICAL PART PLAN (3 OF 3)

Date:

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

Seal/Signature:

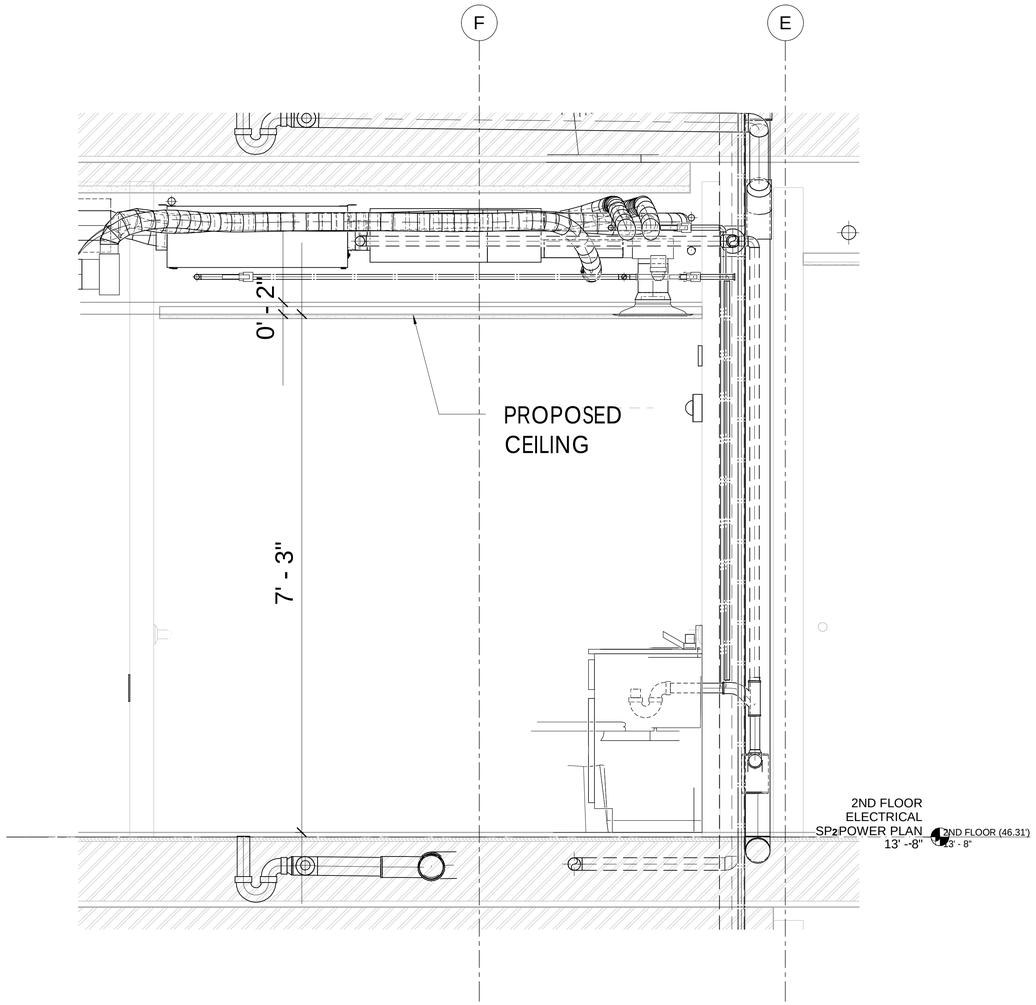
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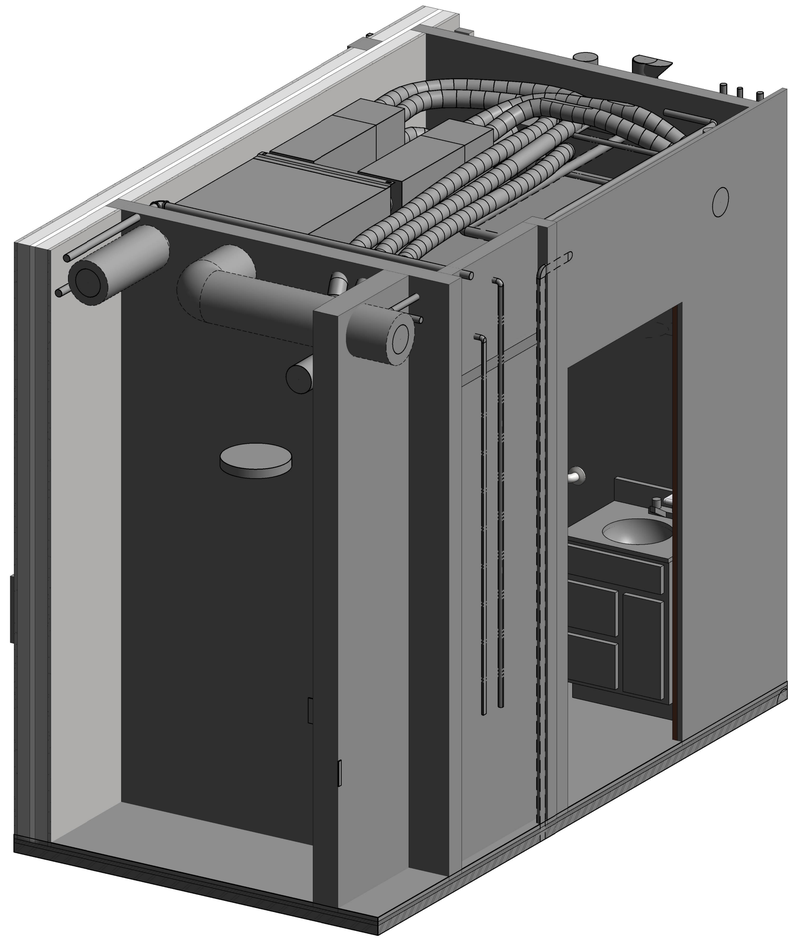
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M-302.00

DOB #: B00235775-I1

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1 TYPICAL STUDIO APARTMENT
1" = 1'-0"



2 TYPICAL STUDIO APARTMENT 3D-VIEW

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BETHANY TERRACES

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3D VIEW AND SECTION PLANS

Date:

Seal/Signature:

Scale: 1" = 1'-0"

Drawn By #: Author

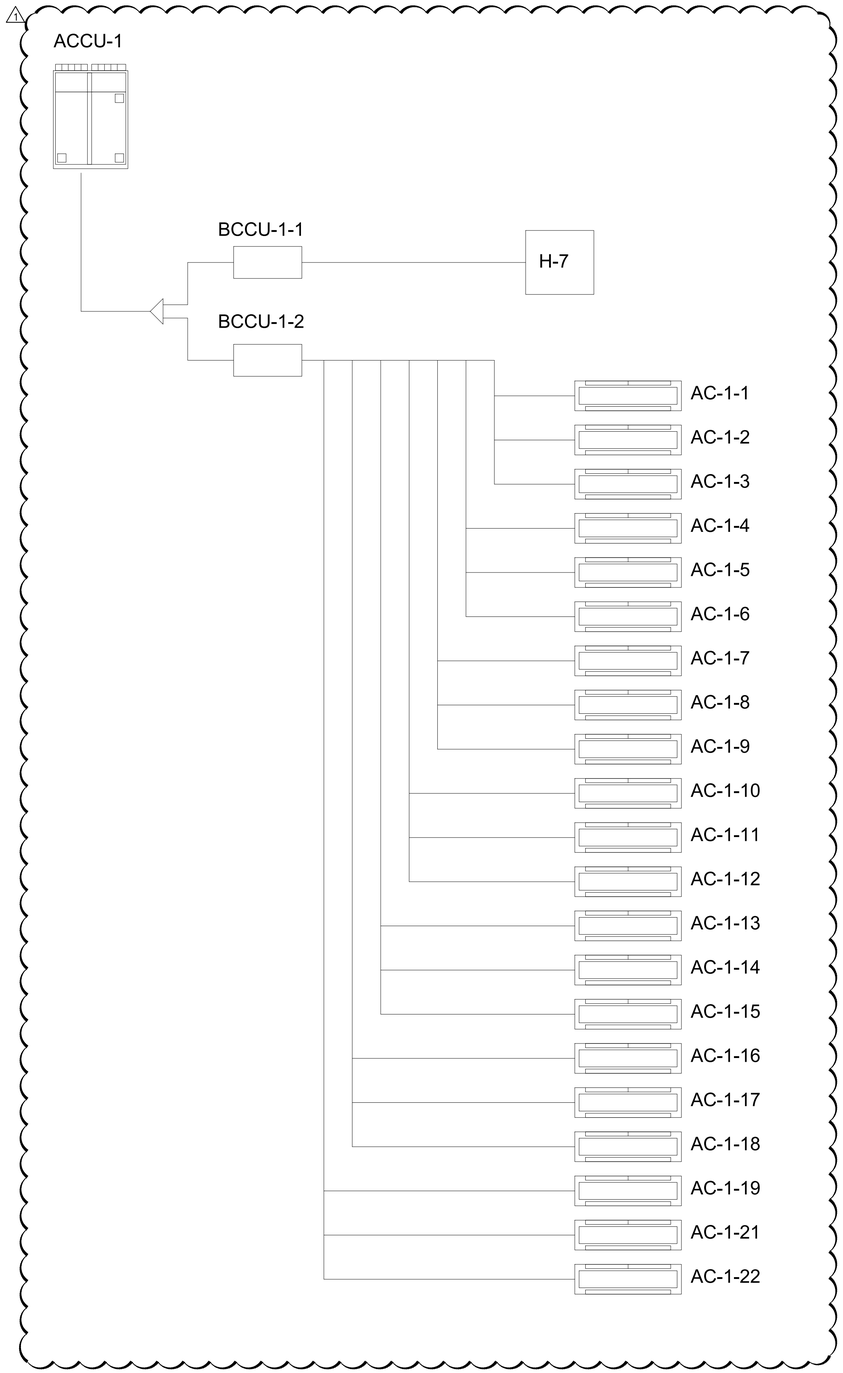
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Drawing #:

M-303.00

DOB #: B00235775-I1

Sheet #: of



1 ACCU-1 REFRIGERANT PIPING DIAGRAM
1/8" = 1'-0"

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8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
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DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

REFRIGERANT PIPING RISER DIAGRAM (1 OF 5)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #: NYE

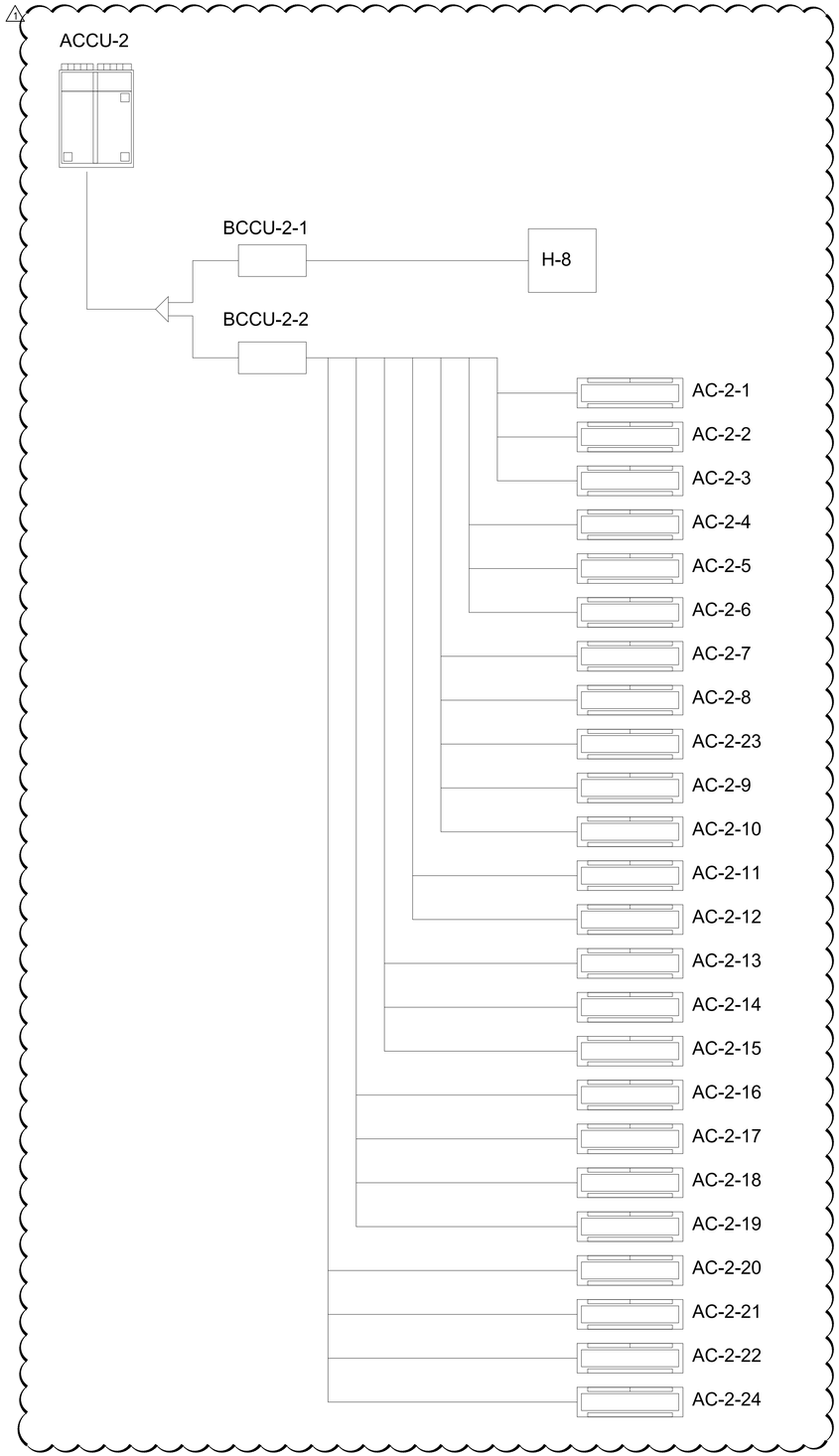
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1 ACCU-2 REFRIGERANT PIPING DIAGRAM
1/8" = 1'-0"

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REFRIGERANT PIPING RISER DIAGRAM (2 OF 5)

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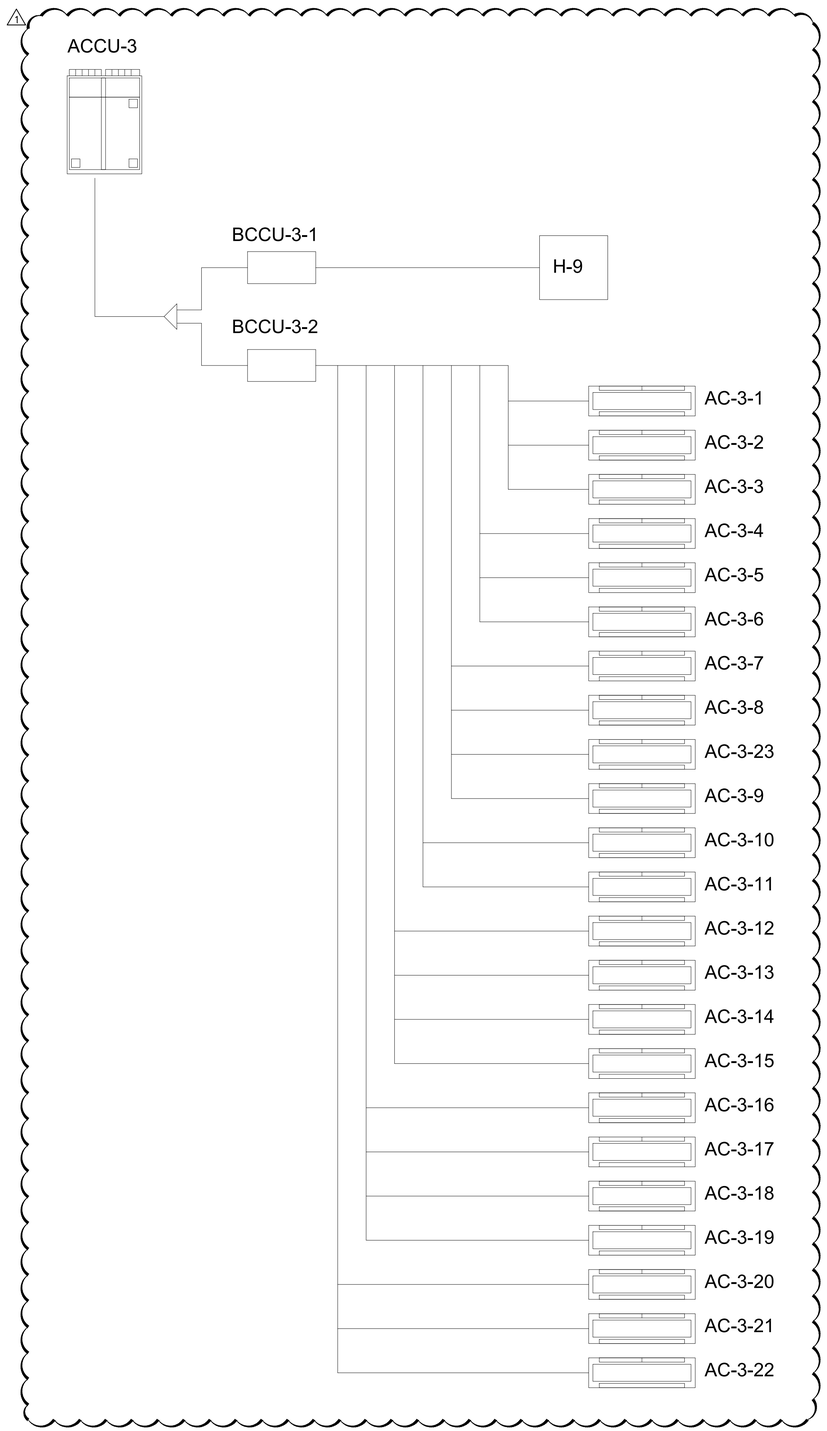
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1 ACCU-3 REFRIGERANT PIPING DIAGRAM
1/8" = 1'-0"

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REFRIGERANT PIPING RISER DIAGRAM (3 OF 5)

Date:

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Scale: 1/8" = 1'-0"

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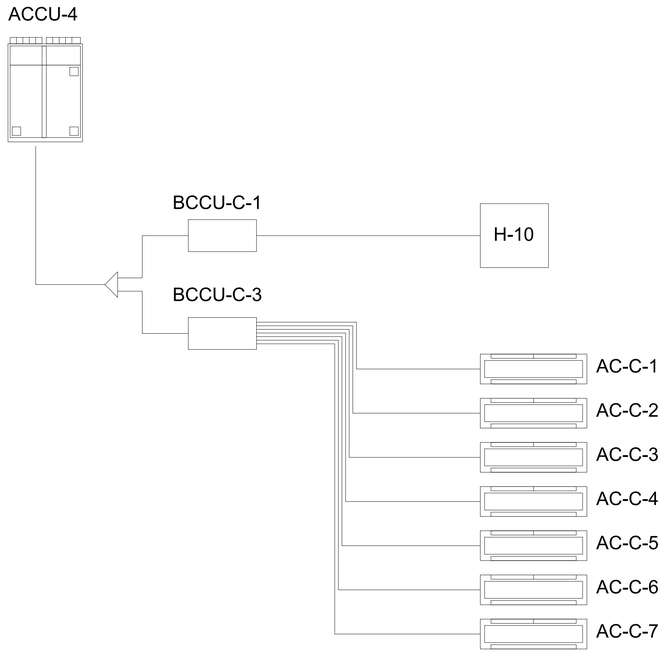
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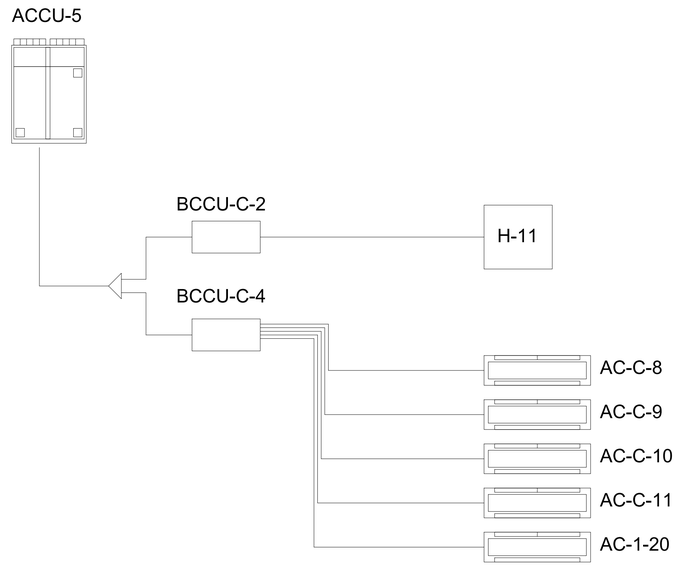
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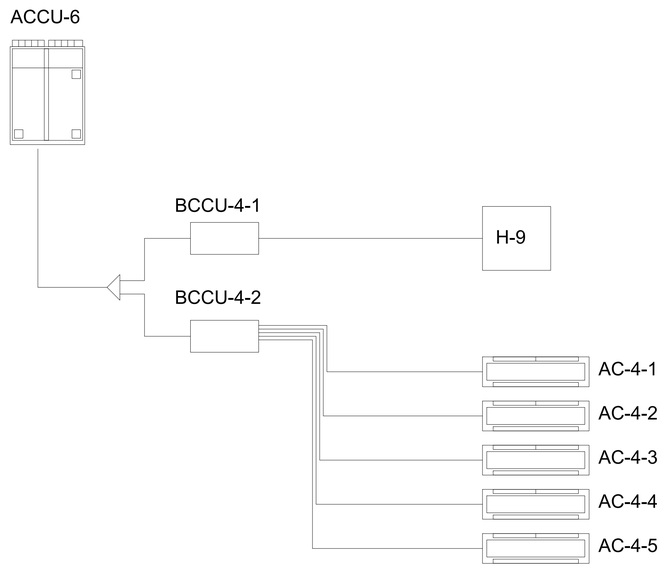
Sheet #: of



1 ACCU-4 REFRIGERANT PIPING DIAGRAM
1/8" = 1'-0"



2 ACCU-5 REFRIGERANT PIPING DIAGRAM
1/8" = 1'-0"



3 ACCU-6 REFRIGERANT PIPING DIAGRAM
1/8" = 1'-0"

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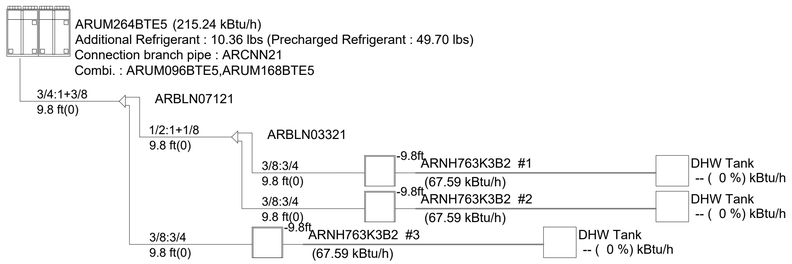
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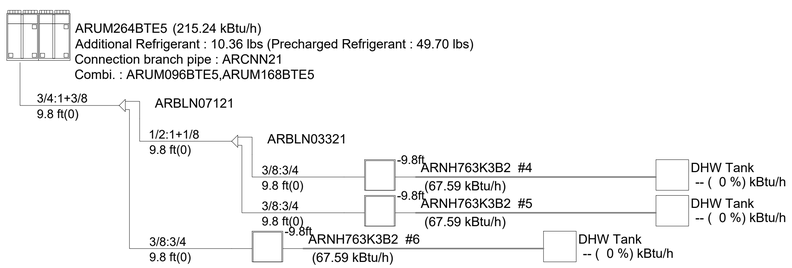
M-404.00

DOB #: B00235775-I1

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1 ACCU-7 REFRIGERANT PIPING DIAGRAM
1/8" = 1'-0"



2 ACCU-8 REFRIGERANT PIPING DIAGRAM
1/8" = 1'-0"

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REFRIGERANT PIPING RISER DIAGRAM (5 OF 5)

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Scale: 1/8" = 1'-0"

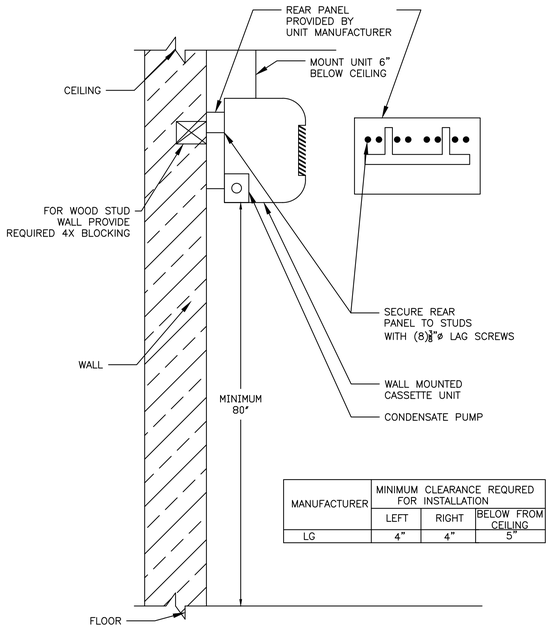
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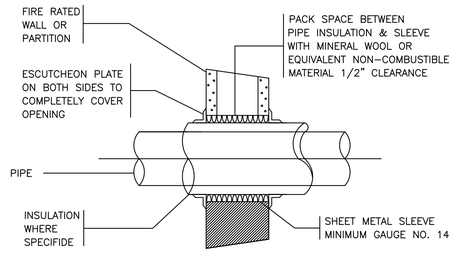
M-405.00

Sheet #: of



MANUFACTURER	MINIMUM CLEARANCE REQURED FOR INSTALLATION		
	LEFT	RIGHT	BELOW FROM CEILING
LG	4"	4"	5"

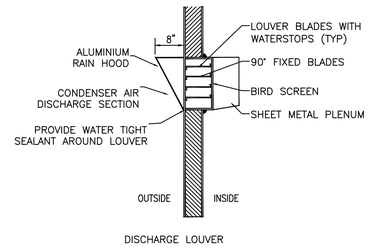
1 M-501 WALL MOUNTED UNIT DETAIL N.T.S



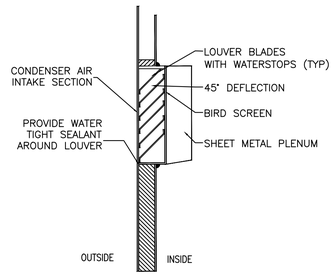
NOTE:

1.) THE INSTALLATION OF FIRE STOPPING MATERIALS SHALL BE SUBJECT TO CONTROLLED INSPECTION IN ACCORDANCE WITH C26-106.3.

2 M-501 PIPE SLEEVE THRU RATED WALL N.T.S

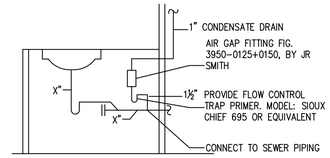


DISCHARGE LOUVER



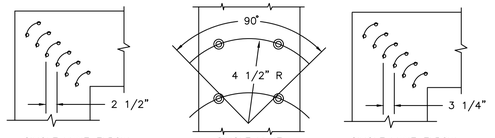
INTAKE LOUVER

3 M-501 LOUVER DETAIL N.T.S

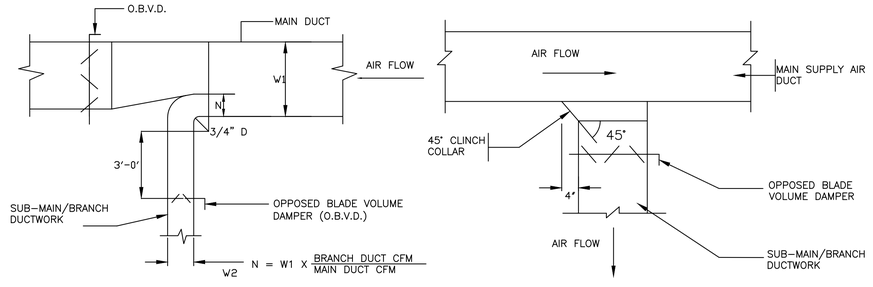


NOTE:
LOCATE AIR GAP FITTING AND PIPING WITHIN SINK/LAVATORY ENCLOSURE.

4 M-501 AIR GAP FITTING DETAIL N.T.S



5 M-501 LOW VELOCITY DUCTWORK ELBOWS N.T.S



NOTE:
FURNISH THIS TYPE CONNECTION WHEN SINGLE LINE DUCTWORK IS INDICATED AS THIS OR

6 M-501 SUPPLY AIR DUCTWORK SUB-MAIN/BRANCH DUCT CONNECTION N.T.S

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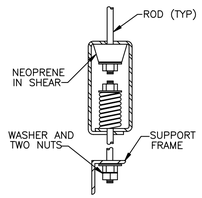
MECHANICAL DETAILS (1 OF 4)

Date:

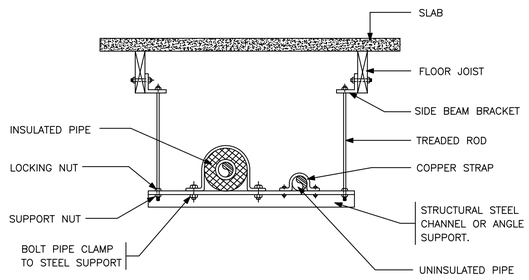
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1 M-502 VIBRATION ISOLATION DETAIL
N.T.S

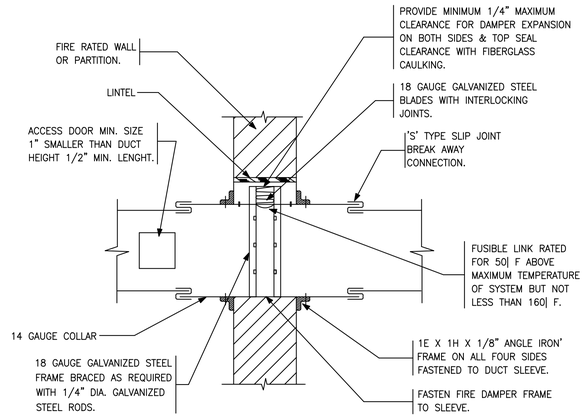


TYPICAL TRAPEZE HANGER SUPPORT

PIPE HANGER ROD AND SPACING SCHEDULE												
NOMINAL PIPE OR TUBE SIZE – INCHES	5/8	3/4	7/8	1	1 1/2	2	2 1/2	–	–	–	–	–
HANGER ROD SIZES INCHES	3/8	3/8	3/8	3/8	3/8	3/8	3/8	–	–	–	–	–
MAX. SPACING BETWEEN PIPE SUPPORTS – FEET	–	6	–	7	9	10	11	–	–	–	–	–
MAX. SPACING BETWEEN CU. TUBE SUPPORTS–FT.	6	6	6	6	8	9	10	–	–	–	–	–

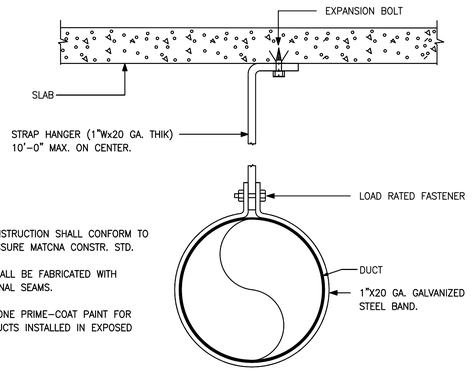
NOTES : TRAPEZE HANGER SPACING SHALL BE BASED ON SPACING OF SMALLEST PIPE ON TRAPEZE. TRAPEZE SHALL BE DESIGNED WITH A FACTOR OF SAFETY OF 5 FOR CENTER OF SPAN CONCENTRATED LOAD.

2 M-502 METHOD OF HANGING REFRIGERANT PIPING
N.T.S



VERTICAL MOUNT

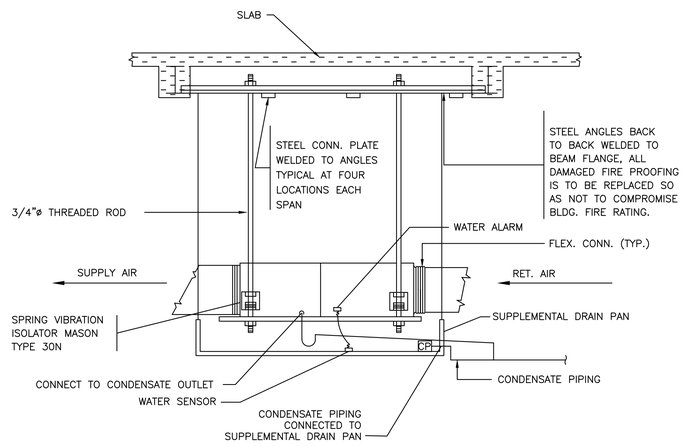
3 M-502 SHUTTER TYPE FIRE DAMPER
N.T.S



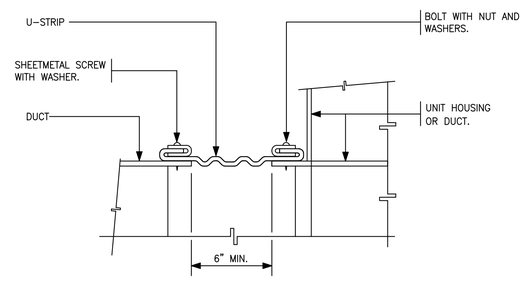
NOTES :

1. DUCT CONSTRUCTION SHALL CONFORM TO LOW PRESSURE MATCNA CONSTR. STD.
2. DUCTS SHALL BE FABRICATED WITH LONGITUDINAL SEAMS.
3. PROVIDE ONE PRIME–COAT PAINT FOR ROUND DUCTS INSTALLED IN EXPOSED AREAS.

4 M-502 METHOD OF HANGING DUCTWORK
N.T.S



5 M-502 A.C. UNIT INSTALLATION DETAIL
N.T.S



6 M-502 FLEXIBLE CONNECTION (DUCT–EQUIPMENT)
N.T.S

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MECHANICAL DETAILS (2 OF 4)

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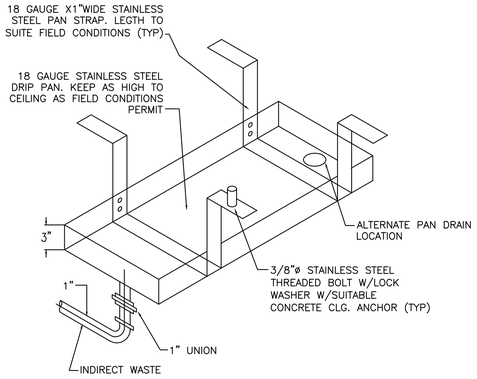
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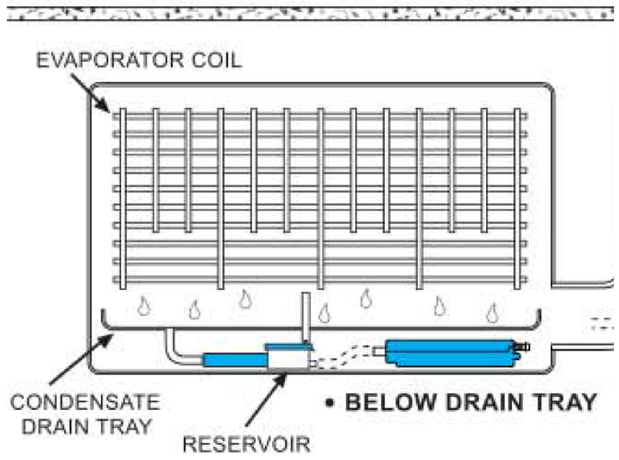
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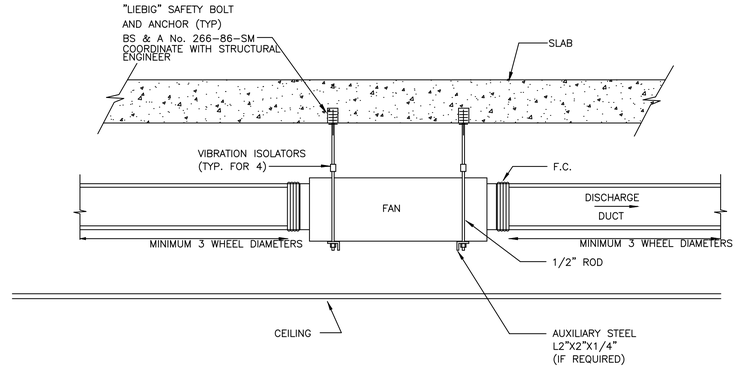
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1 M-503 N.T.S DRIP PAN DETAIL

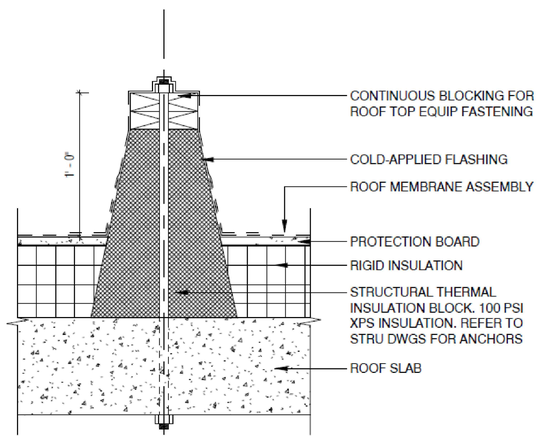


2 M-503 N.T.S CONDENSATE PUMP INSIDE CASING DETAIL



NOTE:
1. DUCT LENGTH TO BE MINIMUM THREE WHEEL DIAMETER ON DISCHARGE AND INLET.

3 M-503 N.T.S INLINE FAN SUPPORT DETAIL



4 M-503 N.T.S ROOF PENETRATION ROOF TOP EQUIPMENT DUNNAGE

NOTES:
DUCTS TO BE ACOUSTICALLY LINED SHALL BE DESIGNATED BY THE SYMBOL IN FIG. "C" TO THE EXTENT OF LINING. THICKNESS SHALL BE AS SPECIFIED.
DUCTS LINED WITH ACOUSTICAL MATERIAL SHOULD BE FASTENED WITH CLIPS, ADHESIVE, OR PINS

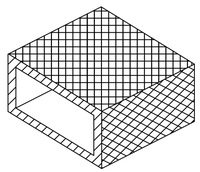


FIG. A

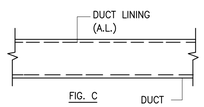


FIG. C

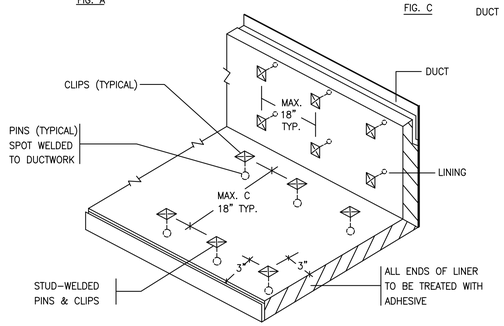


FIG. B

5 M-503 N.T.S ACOUSTICAL TREATMENT DUCT LINING

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PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

MECHANICAL DETAILS (3 OF 4)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

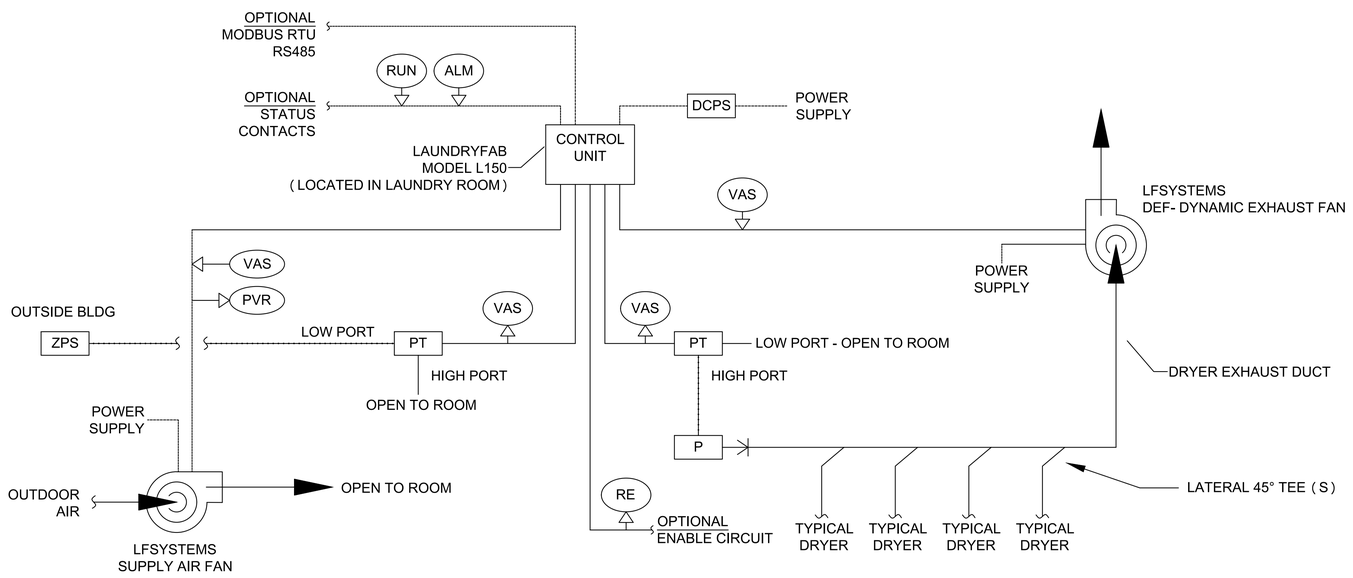
Drawn By #: NYE

Chkd By #: NYE

Drawing #: M-503.00

DOB #: B00235775-I1

Sheet #: of



Application:
Laundry and Supply Air System

Control System:
L150

Date:	Version:	DWG Rev:	Page #:
	1.0	0	1 of 1

Draft Inducer Voltage:
120/ 208-230 1PH

LFSystems
Phone: (800) 881-0052 LFSystems.net

Controller Output Controller Input

----------	Field Wiring Refer to specifications for voltage, amperage, and wiring type
----------	Pneumatic Tubing for pressure reference
————	Vent or Duct
ALM	Alarm output dry contact
DCPS	24 VDC power supply
P	Duct pressure probe
PT	Pressure transducer -1 to 1 in. WC
PVR	Supply fan proving device CS75 Current Switch or GFS Differential Pressure Switch
RE	Remote enable input of controller
RUN	Run status dry contact
VAS	Variable analog signal 0-10VDC
ZPS	Outdoor Air Static Pressure Pickup Port

CONTROL SEQUENCE

1. UPON AN ENABLE COMMAND, THE CONTROL UNIT SHALL ACTIVATE THE MEF- MULTI USE EXHAUST FAN TO ESTABLISH REQUIRED PRESSURE IN THE DUCT SYSTEM. THE SUPPLY AIR FAN SHALL START TO ESTABLISH THE REQUIRED PRESSURE IN THE ROOM FOR COMBUSTION AIR. ALL EXTERNAL MECHANICAL LIMITS ARE MONITORED FOR STATUS. ONCE ALL THESE CONDITIONS ARE MET THE CONTROL SYSTEM WILL ENTER RUN MODE.

2. AS THE SYSTEM LOAD INCREASES OR DECREASES THE CONTROL UNIT WILL ADJUST BOTH THE MEF FAN OUTPUT TO MAINTAIN SET EXHAUST DUCT PRESSURE AND THE SUPPLY AIR FAN TO MAINTAIN ROOM PRESSURE.

3. IF PROPER EXHAUST DUCT PRESSURE CANNOT BE MAINTAINED OR AN EXTERNAL MECHANICAL LIMIT OPENS BECAUSE OF MECHANICAL OR ELECTRICAL FAILURE, THE CONTROL UNIT WILL GO IN ALARM MODE AND ANNUNCIATE THE CONDITION. WHILE IN ALARM MODE, THE CONTROL UNIT CONSTANTLY MONITORS THE PRESSURE AND LIMIT INPUTS. IF THE FAILURE CORRECTS ITSELF OR IS CORRECTED VIA INTERVENTION, THE SYSTEM WILL RETURN TO NORMAL OPERATION AUTOMATICALLY.

4. ATC CONTRACTOR, MECHANICAL CONTRACTOR, EQUIPMENT MANUFACTURER, GENERAL CONTRACTOR, DESIGN ENGINEER, AND COMMISSIONING ENGINEER SHALL MEET PRIOR TO SUBMITTING SHOP DRAWINGS TO REVIEW COORDINATION AND IMPLEMENTATION OF THE SPECIFIED CONTROL SEQUENCE.

5. WHEN AN INTERMITTENT MODE OF OPERATION IS DESIRED BASED ON DIRECT DRYER COMMAND, CURRENT SENSORS INSTALLED ON EACH OF THE DRYERS' MOTOR LOAD LINES IN PARALLEL TO ENABLE AND DISABLE THE CONTROL UNIT.

6. WHEN DRYERS SHUT DOWN THE MEF FAN AND SUPPLY AIR FAN WILL WILL CONTINUE TO RUN IN POST-PURGE MODE FOR A SET PERIOD OF TIME TO REMOVE RESIDUAL EXHAUST DUCT GASES.

7. ONCE THE POST-PURGE CYCLE IS COMPLETED THE SYSTEM SECURES AND THE CONTROL UNIT ENTERS STAND-BY MODE.

1 / M-504 DRYER EHXUAST AND MAKE UP AIR SYSTEM
N.T.S

PAUL A. CASTRUCCI ARCHITECT

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NOTES:

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

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New York, NY 10036
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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

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MECHANICAL DETAILS (3 OF 4)

Date:

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Drawn By #: NYE
Chkd By #: NYE
Drawing #: M-504.00

DOB #: B00235775-I1
Sheet #: of

AC	AIR CONDITIONER SCHEDULES (INDOOR VRF)															BASIS OF DESIGN: LG	
UNIT TAG	LOCATION	AREA SERVED	TYPE	CAP. (TON)	COOLING MBH	HEATING MBH	TOTAL CFM (MAX.)	MAX. ESP. (IN. WG)	MAX. SOUND PRESS.(DBA)	ELECTRICAL DATA			DIMENTIONS (HXWXD) (IN.)	PIPE SIZE			WEIGHT (LBS.)	MODEL NO.
										PH/VOLT/HZ	MCA (A)	MOCP (A)		LIQ.	SUCTION	DRAIN (ID)		
AC-1-1	1ST FLOOR	UNIT 101	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-2	1ST FLOOR	UNIT 102-BED.	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-3	1ST FLOOR	UNIT 102-L/D	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-4	1ST FLOOR	UNIT 103	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-5	1ST FLOOR	UNIT 104	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-6	1ST FLOOR	UNIT 105	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-7	1ST FLOOR	UNIT 106	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-8	1ST FLOOR	UNIT 107	WALL MOUNTED	1.0	12.3	13.6	300	-	37	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU123SJA4
AC-1-9	1ST FLOOR	UNIT 108	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-10	1ST FLOOR	UNIT 109-BED 2	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-11	1ST FLOOR	UNIT 109-BED 1	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-12	1ST FLOOR	UNIT 109-L/D	WALL MOUNTED	1.0	12.3	13.6	300	-	37	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU123SJA4
AC-1-13	1ST FLOOR	UNIT 110	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-14	1ST FLOOR	UNIT 111-BED.	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-15	1ST FLOOR	UNIT 111-L/D	WALL MOUNTED	0.8	9.6	10.9	275	-	34	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU093SJA4
AC-1-16	1ST FLOOR	UNIT 112	WALL MOUNTED	0.8	9.6	10.9	275	-	34	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU093SJA4
AC-1-17	1ST FLOOR	UNIT 113	WALL MOUNTED	0.8	9.6	10.9	275	-	34	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU093SJA4
AC-1-18	1ST FLOOR	UNIT 114	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-19	1ST FLOOR	UNIT 115	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-21	1ST FLOOR	UNIT 116	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-1-22	1ST FLOOR	UNIT 117	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-1	2ND FLOOR	UNIT 201	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-2	2ND FLOOR	UNIT 202	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-3	2ND FLOOR	UNIT 203 BED.	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-4	2ND FLOOR	UNIT 203 L/D	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-5	2ND FLOOR	UNIT 204	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-6	2ND FLOOR	UNIT 205	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-7	2ND FLOOR	UNIT 206	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-8	2ND FLOOR	UNIT 207	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-9	2ND FLOOR	UNIT 208	WALL MOUNTED	1.0	12.3	13.6	300	-	37	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU123SJA4
AC-2-10	2ND FLOOR	UNIT 209	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-11	2ND FLOOR	UNIT 210	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-12	2ND FLOOR	UNIT 211	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-13	2ND FLOOR	UNIT 212	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-14	2ND FLOOR	UNIT 213-L/D	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-15	2ND FLOOR	UNIT 213-BED.	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-16	2ND FLOOR	UNIT 214	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-17	2ND FLOOR	UNIT 215	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-18	2ND FLOOR	UNIT 216	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-19	2ND FLOOR	UNIT 217	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-20	2ND FLOOR	UNIT 218-L/D	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-21	2ND FLOOR	UNIT 218-BED.	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-22	2ND FLOOR	UNIT 219	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-23	2ND FLOOR	UNIT 208	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-2-24	2ND FLOOR	UNIT 220	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-1	3RD FLOOR	UNIT 301	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-2	3RD FLOOR	UNIT 302-BED.	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-3	3RD FLOOR	UNIT 302-L/D	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-4	3RD FLOOR	UNIT 303	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-5	3RD FLOOR	UNIT 304	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-6	3RD FLOOR	UNIT 305	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4

NOTES FOR INDOOR VRF UNITS
1) SUPPLY AIR CFM BASED ON HIGH SPEED.
2)REFRIGERANT R410A SHALL BE PROVIDED.
3) PROVIDE MOUNTING BRACKETS AND ALL ASSOCIATED ACCESSORIES.
4)ALL REFRIGERANT PIPING TO BE SIZED PER MANUFACTURERS RECOMMENDATIONS.
5)PROVIDE "MINIMUM MERV 8" FILTER ON ALL RETURNS TO UNIT.
6) SEE FLOOR PLAN FOR QUANTITIES.
7) INDOOR UNIT ACCESS PANEL FIELD-PROVIDED.
8) CONTRACTOR SHALL PROVIDE A LONG LINE SET FOR REFRIGERANT PIPING IN THE EVENT THAT TOTAL REFRIGERANT LENGTH EXCEEDS THE MANUFACTURER'S STANDARD RECOMMENDED LENGTH.
9)PROVIDE A REMOTE CONTROLLER MODEL "PREMTBVC0" FROM LG TO CONTROL BOTH AC-4-4 AND AC-4-5 UNITS.

ELECTRIC UNIT HEATER SCHEDULE								MAKE-BERKO					
UNIT ID	MODEL	SERVING	TYPE	CFM	Kw	EAT (F)	LAT(F)	ELECTRICAL				WEIGHT (LBS.)	DIMENSIONS INCH
								HZ	VOLTS	PHASE	AMPS.		
EUH-C-1	CU9353201	WATER SERVICE ROOM	WALL MOUNTED	250	3	40	98	60	208	1	15	120	35"DX9"WX26"H
EUH-C-2	CZ1012T	STAIR 1	WALL MOUNTED	65	1.0	40	85	60	120	1	8.4	10	4"DX9"WX12"H
EUH-C-3	CZ1512T	BIKE ROOM	WALL MOUNTED	65	1.0	40	85	60	120	1	8.4	10	4"DX9"WX12"H
EUH-C-4	CU9354201	TENANT STORAGE	WALL MOUNTED	250	4.0	40	111	60	208	1	20	120	35"DX9"WX26"H
EUH-C-5	CU9354201	TENANT STORAGE	WALL MOUNTED	250	4.0	40	111	60	208	1	20	120	35"DX9"WX26"H
EUH-C-6	CU9354201	SERVICE CRAWL SPACE	WALL MOUNTED	250	4.0	40	111	60	208	1	20	120	35"DX9"WX26"H
EUH-C-7	CU9354201	SERVICE CRAWL SPACE	WALL MOUNTED	250	4.0	40	111	60	208	1	20	120	35"DX9"WX26"H
EUH-C-8	CU9354201	SERVICE CRAWL SPACE	WALL MOUNTED	250	4.0	40	111	60	208	1	20	120	35"DX9"WX26"H
EUH-C-9	CU9354201	SERVICE CRAWL SPACE	WALL MOUNTED	250	4.0	40	111	60	208	1	20	120	35"DX9"WX26"H
EUH-C-10	CU9354201	SERVICE CRAWL SPACE	WALL MOUNTED	250	4.0	40	111	60	208	1	20	120	35"DX9"WX26"H
EUH-C-11	CU9354201	SERVICE CRAWL SPACE	WALL MOUNTED	250	4.0	40	111	60	208	1	20	120	35"DX9"WX26"H
EUH-C-12	CU9354201	SERVICE CRAWL SPACE	WALL MOUNTED	250	4.0	40	111	60	208	1	20	120	35"DX9"WX26"H
EUH-C-13	CU9354201	SERVICE CRAWL SPACE	WALL MOUNTED	250	4.0	40	111	60	208	1	20	120	35"DX9"WX26"H
EUH-1-1	CZ1012T	STAIR 2	WALL MOUNTED	65	1.0	40	85	60	120	1	8.4	10	4"DX9"WX12"H
EUH-2-1	CZ1012T	STAIR 1	WALL MOUNTED	65	0.5	40	85	60	120	1	4.2	10	4"DX9"WX12"H
EUH-4-1	CZ1012T	STAIR 1	WALL MOUNTED	65	0.5	40	85	60	120	1	4.2	10	4"DX9"WX12"H
EUH-4-2	CZ1012T	STAIR 2	WALL MOUNTED	65	1.0	40	85	60	120	1	8.4	10	4"DX9"WX12"H
EUH-R-1	CZ1012T	STAIR 1	WALL MOUNTED	65	1.0	40	85	60	120	1	8.4	10	4"DX9"WX12"H
EUH-R-2	CZ1512T	MECH. ROOM	WALL MOUNTED	65	1.5	40	85	60	120	1	12.5	10	4"DX9"WX12"H

NOTES FOR HEATER
1. PROVIDE DISCONNECTION SWITCH
2. "HEATER ON" PILOT LIGHT.
3. THREE-POSITION SELECTOR SWITCH (HEATER-STANDBY-FAN)
4. BUILT-IN THERMOSTAT 40F TO 85 F RANGE.
5. ALL UNIT HEATERS SHALL BE INSTALLED IN ACCORDANCE WITH THE LISTING AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. SUPPOSED-TYPE UNIT HEATER SHALL BE SUPPORTED BY ELEMENTS THAT ARE DESIGNED AND CONSTRUCTED TO ACCOMMODATE THE WEIGHT AND DYNAMIC LOADS.

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

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New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
–

Drawing Tile:

MECHANICAL SCHEDULE (1 OF 4)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"
Drawn By #: NYE
Chkd By #: NYE
Drawing #: M-600.00

DOB #: B00235775-I1
Sheet #: of

AC	AIR CONDITIONER SCHEDULES (INDOOR VRF)															BASIS OF DESIGN: LG	
UNIT TAG	LOCATION	AREA SERVED	TYPE	CAP. (TON)	COOLING MBH	HEATING MBH	TOTAL CFM (MAX.)	MAX. ESP. (IN. WG)	MAX. SOUND PRESS.(DBA)	ELECTRICAL DATA			DIMENTIONS (HXWXD) (IN.)	PIPE SIZE			WEIGHT (LBS.)	MODEL NO.
										PH/VOLT/HZ	MCA (A)	MOCP (A)		LIQ.	SUCTION	DRAIN (ID)		
AC-3-7	3RD FLOOR	UNIT 306	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-8	3RD FLOOR	UNIT 307	WALL MOUNTED	1.0	12.3	13.6	300	-	37	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU123SJA4
AC-3-9	3RD FLOOR	UNIT 308	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-10	3RD FLOOR	UNIT 309	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-11	3RD FLOOR	UNIT 310	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-12	3RD FLOOR	UNIT 311	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-13	3RD FLOOR	UNIT 312-BED.	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-14	3RD FLOOR	UNIT 312-L/D	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-15	3RD FLOOR	UNIT 313	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-16	3RD FLOOR	UNIT 314	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-17	3RD FLOOR	UNIT 315	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-18	3RD FLOOR	UNIT 316	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-19	3RD FLOOR	UNIT 317-L/D	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-20	3RD FLOOR	UNIT 317-BED.	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-21	3RD FLOOR	UNIT 318	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-22	3RD FLOOR	UNIT 319	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-3-23	3RD FLOOR	UNIT 307	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-4-1	4TH FLOOR	UNIT 402	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-4-2	4TH FLOOR	UNIT 401-L/D	WALL MOUNTED	0.8	9.6	10.9	275	-	34	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU093SJA4
AC-4-3	4TH FLOOR	UNIT 401-BED.	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-C-5	CELLAR	OFFICE	WALL MOUNTED	0.8	9.6	10.9	275	-	34	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU093SJA4
AC-C-6	CELLAR	OFFICE	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-C-7	CELLAR	TRASH ROOM	WALL MOUNTED	1.0	12.3	13.6	300	-	37	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU123SJA4
AC-C-1	CELLAR	COMMUNITY ROOM	WALL MOUNTED	1.6	19.1	21.5	494	-	43	1/208/60	0.5	15	14X39X9	1/4"	1/2"	5/8"	26.9	ARNU183SKA4
AC-C-2	CELLAR	COMMUNITY ROOM	WALL MOUNTED	1.6	19.1	21.5	494	-	43	1/208/60	0.5	15	14X39X9	1/4"	1/2"	5/8"	26.9	ARNU183SKA4
AC-C-3	CELLAR	COMMUNITY ROOM	WALL MOUNTED	2.0	24.2	25.6	537	-	46	1/208/60	0.5	15	14X39X9	3/8"	5/8"	5/8"	26.9	ARNU243SKA4
AC-C-8	CELLAR	MAINTENANCE ROOM	WALL MOUNTED	0.6	7.5	8.5	254	-	32	1/208/60	0.3	15	13X31X8	1/4"	1/2"	5/8"	18.5	ARNU073SJA4
AC-C-9	CELLAR	ELEVATOR ROOM	WALL MOUNTED	1.0	12.3	13.6	300	-	37	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU123SJA4
AC-C-10	CELLAR	COMMERCIAL FACILITY	DUCTED	3.0	36.2	40.6	1031	0.71	42	1/208/60	2.3	15	11X51X28	3/8"	5/8"	1"	86.2	ARNU363M2A4
AC-C-11	CELLAR	COMMERCIAL FACILITY	DUCTED	3.0	36.2	40.6	1031	0.71	42	1/208/60	2.3	15	11X51X28	3/8"	5/8"	1"	86.2	ARNU363M2A4
AC-1-20	1ST FLOOR	COMMERCIAL FACILITY	DUCTED	1.3	15.4	17.1	399	0.47	39	1/208/60	1.1	15	11X35X18	1/4"	1/2"	1"	58	ARNU153BHA4
AC-1-23	1ST FLOOR	LOBBY & SECURITY DESK	DUCTED	4.0	48.1	54.2	1482	0.79	42	1/208/60	2.5	15	15X51X28	3/8"	5/8"	1"	96.1	ARNU483M3A4
AC-4-4	4TH FLOOR	PANTRY	WALL MOUNTED	1.0	12.3	13.6	300	-	37	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU123SJA4
AC-4-5	4TH FLOOR	PANTRY	WALL MOUNTED	1.0	12.3	13.6	300	-	37	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU123SJA4
AC-C-12	CELLAR	LAUNDRY	WALL MOUNTED	1.0	12.3	13.6	300	-	37	1/208/60	0.3	15	13X33X8	1/4"	1/2"	5/8"	18.5	ARNU123SJA4

NOTES FOR INDOOR VRF UNITS
1) SUPPLY AIR CFM BASED ON HIGH SPEED.
2)REFRIGERANT R410A SHALL BE PROVIDED.
3) PROVIDE MOUNTING BRACKETS AND ALL ASSOCIATED ACCESSORIES.
4)ALL REFRIGERANT PIPING TO BE SIZED PER MANUFACTURERS RECOMMENDATIONS.
5)PROVIDE "MINIMUM MERV 8" FILTER ON ALL RETURNS TO UNIT.
6) SEE FLOOR PLAN FOR QUANTITIES.
7) INDOOR UNIT ACCESS PANEL FIELD-PROVIDED.
8) CONTRACTOR SHALL PROVIDE A LONG LINE SET FOR REFRIGERANT PIPING IN THE EVENT THAT TOTAL REFRIGERANT LENGTH EXCEEDS THE MANUFACTURER'S STANDARD RECOMMENDED LENGTH.

SCHEDULE OF GRILLES		BASIS OF DESIGN: TITUS				
TAG	TYPE	CFM RANGE	DEFLECTION (DEGREE)	DIMENSION(IN)	MODEL NO.	MAX NC dBA
SG-1	SUPPLY GRILLE	0-100	45	6X6	300FL	-
SG-2	SUPPLY GRILLE	120-260	45	12X6	300FL	30
SG-3	SUPPLY GRILLE	400-670	45	26X8	300FL	30
SG-4	SUPPLY GRILLE	140-380	45	14X6	300FL	30
SG-5	SUPPLY GRILLE	75-200	45	8X6	300FL	30
SG-6	SUPPLY GRILLE	250-600	45	24X6	300FL	30
SG-7	SUPPLY GRILLE	180-500	45	18X6	300FL	30
SG-8	SUPPLY GRILLE	216-500	45	20X6	300FL	30
SG-9	SUPPLY GRILLE	100-215	45	10X6	300FL	30
EG-1	EXHAUST GRILLE	0-50	45	6X6	350RL	-
RG-1	RETURN GRILLE	0-50	45	6X6	350RL	-
RG-2	RETURN GRILLE	110-660	45	30X6	350RL	20
RG-3	RETURN GRILLE	220-1140	45	30X12	350RL	20
RG-4	RETURN GRILLE	40-240	45	12X6	350RL	20
RG-5	RETURN GRILLE	100-380	45	14X6	350RL	20
RG-6	RETURN GRILLE	75-200	45	8X6	350RL	20
RG-7	RETURN GRILLE	35-200	45	10X6	350RL	20
RG-8	RETURN GRILLE	360-1800	45	10X6	350RL	20
NOTES FOR DIFFUSERS						
1. ALL GRILLES : CONTRACTOR SHALL COORDINATE WITH LATEST ARCHITECTURAL REFLECTED CEILING PLANS PLANS TO ENSURE PROPER AIR DEVICE BORDER SELECTION.						
2. COORDINATE COLOR/FINISH WITH ARCHITECT.						

SCHEDULE OF GRILLES		BASIS OF DESIGN: ZEHNDER				
TAG	TYPE	CFM RANGE	DEFLECTION (DEGREE)	DIMENSION(IN)	MODEL NO.	MAX NC dBA
CDS-1	SUPPLY VALVE	0-25	-	5	COMFOVALVE LUNA S125	-
CDR-1	EXTRACT VALVE	0-25	-	5	STB-1-125	-
NOTES FOR DIFFUSERS						
1. ALL GRILLES : CONTRACTOR SHALL COORDINATE WITH LATEST ARCHITECTURAL REFLECTED CEILING PLANS PLANS TO ENSURE PROPER AIR DEVICE BORDER SELECTION.						
2. COORDINATE COLOR/FINISH WITH ARCHITECT.						
3. PROVIDE ZEHNDER TVA BOX WITH 2 OR 3 CONNECTION TYPE AS PER THE CFM REQUIREMENT.						

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ELECTRIC DUCT HEATER SCHEDULE										BASIS OF DESIGN: GREENHECK	
UNIT ID	LOCATION	DUCT HEATER DIMENSIONS(IN)			ELECTRICAL SECTION					MODEL	HEATER TYPE
		W	H	D	KW	AMPS	V	PH	Hz		
EDH-1	CELLAR	16	8	4.5	12.5	34.659	208	3	60	IDHB	CONSTANT
EDH-2	1ST FLOOR	16	8	4.5	12.5	34.659	208	3	60	IDHB	CONSTANT
EDH-R-1	ROOF	8	8	4.5	2	5.5	208	3	60	IDHB	CONSTANT
NOTES:											
1. INSTALL ELECTRIC DUCT HEATER AS PER MANUFACTUR'S RECOMMENADATION.											
2. PROVIDE T-STAT AND WIRE TO DUCT HEATER.											
3. PROVIDE DISCONNECT SWTICH, VAPOR BARRIER, DUST TIGHT BOX AND FAN INTERLOCK SWITCH.											
4. INTERCONNECT MAF-1 FAN WITH EDH-1.											

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BRANCH CONTROL UNITS															MAKE: LG
UNIT TAG	LOCATION	ASSIGNED CONDENSERS	INDOOR UNITS SERVED	NO. OF PORTS	MAXIMUM CAPACITY (MBH)	UNIT DIMENSIONS IN.(HXWXD)	WEIGHT (LBS)	PIPING DIMENSION					ELECTRICAL		SOUND LEVEL (Dba)	MODEL NO.
								FROM CONDENSING UNIT			TO INDOOR UNIT		(V/Hz/Ph)	RATED AMPS		
								LIQUID-HI PRESSURE	GAS HIGH - PRESSURE	GAS LOW-PRESSURE	LIQUID-HI PRESSURE	GAS LOW-PRESSURE				
BCCU-C-1	ROOF MECH ROOM	ACCU-4	H-10	2	60	8"X20"X18"	33	3/8"	3/4"	7/8"	3/8"	5/8"	208-230/60/1	0.06	38	PRHR023A
BCCU-C-2	ROOF MECH ROOM	ACCU-5	H-11	2	60	8"X20"X18"	33	3/8"	3/4"	7/8"	3/8"	5/8"	208-230/60/1	0.06	38	PRHR023A
BCCU-C-3	CELLAR	ACCU-4	AC-C-1 TO 7	8	230	9"X32"X19"	68	5/8"	7/8"	1-1/8"	3/8"	5/8"	208-230/60/1	0.09	38	PRHR083A
BCCU-C-4	CELLAR	ACCU-5	AC-C-8 TO 11, AC-1-20	8	230	9"X32"X19"	68	5/8"	7/8"	1-1/8"	3/8"	5/8"	208-230/60/1	0.09	38	PRHR083A
BCCU-1-1	ROOF MECH ROOM	ACCU-1	H-7	2	60	8"X20"X18"	33	3/8"	3/4"	7/8"	3/8"	5/8"	208-230/60/1	0.06	38	PRHR023A
BCCU-1-2	FIRST FLOOR	ACCU-1	AC-1-1 TO 19,21 TO 23	8	230	9"X32"X19"	68	5/8"	7/8"	1-1/8"	3/8"	5/8"	208-230/60/1	0.09	38	PRHR083A
BCCU-2-1	ROOF MECH ROOM	ACCU-2	H-8	2	60	8"X20"X18"	33	3/8"	3/4"	7/8"	3/8"	5/8"	208-230/60/1	0.06	38	PRHR023A
BCCU-2-2	SECOND FLOOR	ACCU-2	AC-2-1 TO 24	8	230	9"X32"X19"	68	5/8"	7/8"	1-1/8"	3/8"	5/8"	208-230/60/1	0.09	38	PRHR083A
BCCU-3-1	ROOF MECH ROOM	ACCU-3	H-9	2	60	8"X20"X18"	33	3/8"	3/4"	7/8"	3/8"	5/8"	208-230/60/1	0.06	38	PRHR023A
BCCU-3-2	THIRD FLOOR	ACCU-3	AC-3-1 TO 23	8	230	9"X32"X19"	68	5/8"	7/8"	1-1/8"	3/8"	5/8"	208-230/60/1	0.09	38	PRHR083A
BCCU-4-1	ROOF MECH ROOM	ACCU-6	H-12	2	60	8"X20"X18"	33	3/8"	3/4"	7/8"	3/8"	5/8"	208-230/60/1	0.06	38	PRHR023A
BCCU-4-2	FOURTH FLOOR	ACCU-6	AC-4-1 TO 5	8	230	9"X32"X19"	68	5/8"	7/8"	1-1/8"	3/8"	5/8"	208-230/60/1	0.09	38	PRHR083A
1. THE BCCU SHALL HAVE PRESSURE EQUALIZATION VALVES TO REDUCE REFRIGERANT SOUNDS DURING MODE CHANGING OF CONNECTED INDOOR UNITS															
2. THE BCCU UNIT SHALL CONTAIN INTERNAL SUBCOOLERS WITH ELECTRONIC EXPANSION VALVES TO MAXIMIZE PERFORMANCE OF CONNECTED UNITS															
3. BCCU PRODUCES CONDENSATION AND MUST BE DRAINED APPROPRIATELY, USE 1" CONDENSATE DRAIN PIPE.															
4. BCCU MUST BE MOUNTED INDORS, LEVEL, WITH THE PIPES RUNNING HORIZONTALLY IN AND OUT OF UNIT															
5. REFER REFRIGERANT DIAGRAMS FOR DETAILES LAYOUT FOR PIPING.															

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NOTES:

NORTH:

Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

MEP:
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TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

MECHANICAL SCHEDULE (2 OF 4)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #: NYE

Chkd By #: NYE

Drawing #: M-601.00

DOB #: B00235775-I1

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ERV	ENERGY RECOVERY VENTILATOR														BASIS OF DESIGN: ZEHNDER/VENTACITY	
UNIT TAG	LOCATION	SERVING	CFM	UNIT DIMENTIONS (EACH MODULE) (IN)				POWER (W)	EFFICIENCY	ELEC (V/Hz/Ph.)	ESP (IN WG)	OUTSIDE AIR CONDITIONS (°F)			MODEL	SOUND (dBA)	MAKE
				WIDTH	LENGTH	HEIGHT	WEIGHT (LBS)					SUMMER (DBT)	SUMMER (WBT)	WINTER (DBT)			
ERV-1-1	1ST FLOOR	UNIT 101	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-2	1ST FLOOR	UNIT 102	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-3	1ST FLOOR	UNIT 103	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-4	1ST FLOOR	UNIT 104	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-5	1ST FLOOR	UNIT 105	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-6	1ST FLOOR	UNIT 106	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-7	1ST FLOOR	UNIT 107	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-8	1ST FLOOR	UNIT 108	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-9	1ST FLOOR	UNIT 109	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-10	1ST FLOOR	UNIT 110	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-11	1ST FLOOR	UNIT 111	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-12	1ST FLOOR	UNIT 112	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-13	1ST FLOOR	UNIT 113	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-14	1ST FLOOR	UNIT 114	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-15	1ST FLOOR	UNIT 115	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-16	1ST FLOOR	UNIT 116	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-17	1ST FLOOR	UNIT 117	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-1-18	1ST FLOOR	CORRIDOR	45	22	44	13	66	20	88%	230/60/1	0.06	91	73.70	0	COMFOAIR 200	53	ZEHNDER
ERV-1-19	1ST FLOOR	SECURITY CABIN	160	47	21	18	159	270	88%	230/60/1	2.00	91	73.70	0	VS250 CMh/E	-	VENTACITY
ERV-2-1	2ND FLOOR	UNIT 201	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-2	2ND FLOOR	UNIT 202	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-3	2ND FLOOR	UNIT 203	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-4	2ND FLOOR	UNIT 204	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-5	2ND FLOOR	UNIT 205	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-6	2ND FLOOR	UNIT 206	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-7	2ND FLOOR	UNIT 207	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-8	2ND FLOOR	UNIT 208	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-9	2ND FLOOR	UNIT 209	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-10	2ND FLOOR	UNIT 210	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-11	2ND FLOOR	UNIT 211	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-12	2ND FLOOR	UNIT 212	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-13	2ND FLOOR	UNIT 213	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-14	2ND FLOOR	UNIT 214	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-15	2ND FLOOR	UNIT 215	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-16	2ND FLOOR	UNIT 216	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-17	2ND FLOOR	UNIT 217	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-18	2ND FLOOR	UNIT 218	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-19	2ND FLOOR	UNIT 219	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-20	2ND FLOOR	UNIT 220	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-2-21	2ND FLOOR	CORRIDOR	45	22	44	13	66	20	88%	230/60/1	0.06	91	73.70	0	COMFOAIR 200	53	ZEHNDER
ERV-3-1	3RD FLOOR	UNIT 301	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-2	3RD FLOOR	UNIT 302	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-3	3RD FLOOR	UNIT 303	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-4	3RD FLOOR	UNIT 304	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-5	3RD FLOOR	UNIT 305	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-6	3RD FLOOR	UNIT 306	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-7	3RD FLOOR	UNIT 307	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-8	3RD FLOOR	UNIT 308	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-9	3RD FLOOR	UNIT 309	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-10	3RD FLOOR	UNIT 310	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER

ERV	ENERGY RECOVERY VENTILATOR														BASIS OF DESIGN: ZEHNDER/VENTACITY	
UNIT TAG	LOCATION	SERVING	CFM	UNIT DIMENTIONS (EACH				POWER (W)	EFFICIENCY	ELEC (V/Hz/Ph.)	ESP (IN WG)	OUTSIDE AIR CONDITIONS (°F)			MODEL	SOUND (dBA)	MAKE
				WIDTH	LENGTH	HEIGHT	WEIGHT (LBS)					SUMMER (DBT)	SUMMER (WBT)	WINTER (DBT)			
ERV-3-11	3RD FLOOR	UNIT 311	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-12	3RD FLOOR	UNIT 312	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-13	3RD FLOOR	UNIT 313	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-14	3RD FLOOR	UNIT 314	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-15	3RD FLOOR	UNIT 315	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-16	3RD FLOOR	UNIT 316	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-17	3RD FLOOR	UNIT 317	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-18	3RD FLOOR	UNIT 318	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-19	3RD FLOOR	UNIT 319	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-3-20	3RD FLOOR	CORRIDOR	45	22	44	13	66	20	88%	230/60/1	0.06	91	73.70	0	COMFOAIR 200	53	ZEHNDER
ERV-4-1	4TH FLOOR	UNIT 401	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-4-2	4TH FLOOR	UNIT 402	45	27	34	11	67	24	88%	230/60/1	0.17	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-4-3	4TH FLOOR	CORRIDOR	20	27	34	11	67	14	88%	230/60/1	0.06	91	73.70	0	COMFOAIR 160	58	ZEHNDER
ERV-4-4	4TH FLOOR	PANTRY	235	44	30	12	154	270	85.7%	208/60/1	1.00	91	73.70	0	VS250 CME	-	VENTACITY
ERV-C-1	CELLAR	COMMUNITY ROOM	340	52	42	12	198	360	86.1%	208/60/1	0.55	91	73.70	0	VS400 CME	-	VENTACITY
ERV-C-2	CELLAR	COMMERCIAL FACILITY	330	52	42	12	198	360	86.1%	208/60/1	0.70	91	73.70	0	VS400 CME	-	VENTACITY
ERV-C-3	CELLAR	UTILITY AREAS	425	52	67	15	375	960	86.1%	208/60/1	1.30	91	73.70	0	VS900 CME	-	VENTACITY

NOTES:
1) SUPPLY FILTER - MERV 13.
2) RETURN FILTER - MERV 8.
3) UNIT SHALL HAVE A COUNTER FLOW CORE MADE OF POLYMER MEMBRANE. UNIT SHALL BE FITTED WITH ENTHALPY EXCHANGER CORE.
4) UNIT SHALL HAVE FACTORY SUPPLIED FROST PROTECTION.
5) FIELD WIRED FACTORY CONTROL PANEL.
6) FIELD SUPPLIED ELECTRICAL DISCONNECT.
7) PROVIDE COMFOSENSE CONTROLLER ALONG WITH BOOST MODE SWITCH FOR EACH UNIT.
8) PROVIDE COMMISSIONING FOR ERV UNITS.
9) PROVIDE 1" CONDENSATE DRAIN FOR ERV UNITS, CONNECT TO NEAREST DRAIN.
10) PROVIDE FLEX CONNECTIONS APPROPRIATE FOR ERV'S FOR ADDITIONAL ACOUSTICAL REDUCTION

1

FANS

MARK	TYPE	SERVICE	MODEL	CFM	SP (IN W.G)	ELEC (V/Hz/Ph.)	MOTOR SIZE (hp)	FAN SPEED(RPM)	INLET Dba (Dba)	WEIGHT	MAKE	REMARKS
DXF-1	INLINE	CELLAR LAUNDRY	DEF025	880	1.5	120/60/1	1	1950	-	80	LFS SYSTEMS	INTERLOCK WITH DRYERS
MAF-1	INLINE	CELLAR LAUNDRY	ISAF24	880	1.5	208/60/3	1	1760	-	95	LFS SYSTEMS	INTERLOCK WITH DXF-1
GXF-C-1	INLINE	CELLAR CRAWL SPACE	CSP-A390-VG	55	0.7	208/60/1	29 WATTS	772	36	24	GREENHECK	-
GXF-C-2	INLINE	CELLAR CRAWL SPACE	CSP-A390-VG	55	0.7	208/60/1	29 WATTS	772	36	24	GREENHECK	-
OAF-1	INLINE	CELLAR PANTRY	SQ-98-VG	360	0.78	208/60/1	1/4	1596	61	47	GREENHECK	-
EXF-1	INLINE	MECHANICAL ROOM	SQ-95-VG	700	0.5	115/60/1	1/6	1725	60	50	GREENHECK	INTERLOCK WITH REFRIGERANT LEAK DETECTOR
OAF-1	INLINE	MECHANICAL ROOM	SQ-97-VG	125	0.5	115/60/1	1/4	1332	57	49	GREENHECK	-

NOTES FOR FANS
1) PROVIDE WALL SWITCH WHEREVER SHOWN ON PLANS AND COORDINATE HEIGHT WITH THE OWNER AND ARCHITECT.
2) ALL DIRECT DRIVE FANS SHALL BE FURNISHED WITH VARI-GREEN MOTOR CONTROL.
3) FAN SPEED SHALL BE EASILY FIELD ADJUSTABLE.
4) REFER TO DETAILS, FAN SHALL BE MOUNTED W/SUPPORT FRAMING BY OTHERS.
5) PROVIDE MOTOR STARTERS, DISCONNECTS WITH NEMA-3R (IF NOT FACTORY PROVIDED). ALL EQUIPMENT NORMAL POWER WIRING BY ELECTRICAL CONTRACTOR. COORDINATE POWER REQUIREMENTS.
6) PROVIDE RUBBER IN SHEAR ISOLATION AND ALL-THREAD HANGING RODS FOR INLINE FANS.
7) COORDINATE WITH ARCH./G.C. ACCESS DOORS FOR SERVICING ALL FANS WITHIN CEILINGS.
8) PROVIDE ACOUSTIC ENCLOSURE /JACKET TO DXF-1 FAN.
9) FANS SHALL BE UL-705 LISTED.

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

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New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

MECHANICAL SCHEDULE (3 OF 4)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #: NYE

Chkd By #: NYE

Drawing #: M-602.00

DOB #: B00235775-I1

Sheet #: of

H	HOT WATER HYDRO KITS (INDOOR VRF)															BASIS OF DESIGN: LG	
UNIT TAG	LOCATION	AREA SERVED	TYPE	COOLING MBH	HEATING MBH	HEATING ENTERING WATER TEMPERATURE RANGE	HEATING LEAVING WATER TEMPERATURE RANGE	RATED WATER FLOW RANGE	MAX. SOUND PRESS.(DBA)	ELECTRICAL DATA			DIMENTIONS (HXWXD) (IN.)	PIPE SIZE			WEIGHT (LBS.)	MODEL NO.
										PH/VOLT/HZ	MCA (A)	MOCP (A)		LIQ.	SUCTION	DRAIN (ID)		
H-1	ROOF MECH ROOM	HOT WATER SYSTEM	FLOOR MOUNTED	80	67	176	158	5-19	43	1/208/60	28.8	50	42X20X14	3/8"	3/4"	1"	207	ARNH763K3B2
H-2	ROOF MECH ROOM	HOT WATER SYSTEM	FLOOR MOUNTED	80	67	176	158	5-19	43	1/208/60	28.8	50	42X20X14	3/8"	3/4"	1"	207	ARNH763K3B2
H-3	ROOF MECH ROOM	HOT WATER SYSTEM	FLOOR MOUNTED	80	67	176	158	5-19	43	1/208/60	28.8	50	42X20X14	3/8"	3/4"	1"	207	ARNH763K3B2
H-4	ROOF MECH ROOM	HOT WATER SYSTEM	FLOOR MOUNTED	80	67	176	158	5-19	43	1/208/60	28.8	50	42X20X14	3/8"	3/4"	1"	207	ARNH763K3B2
H-5	ROOF MECH ROOM	HOT WATER SYSTEM	FLOOR MOUNTED	80	67	176	158	5-19	43	1/208/60	28.8	50	42X20X14	3/8"	3/4"	1"	207	ARNH763K3B2
H-6	ROOF MECH ROOM	HOT WATER SYSTEM	FLOOR MOUNTED	80	67	176	158	5-19	43	1/208/60	28.8	50	42X20X14	3/8"	3/4"	1"	207	ARNH763K3B2
H-7	ROOF MECH ROOM	HOT WATER SYSTEM	FLOOR MOUNTED	42	47	122	100	5.3-10.4	26	1/208/60	0.1	15	22X24X20	3/8"	5/8"	1"	67	ARNH423K2A4
H-8	ROOF MECH ROOM	HOT WATER SYSTEM	FLOOR MOUNTED	42	47	122	100	5.3-10.4	26	1/208/60	0.1	15	22X24X20	3/8"	5/8"	1"	67	ARNH423K2A4
H-9	ROOF MECH ROOM	HOT WATER SYSTEM	FLOOR MOUNTED	42	47	122	100	5.3-10.4	26	1/208/60	0.1	15	22X24X20	3/8"	5/8"	1"	67	ARNH423K2A4
H-10	ROOF MECH ROOM	HOT WATER SYSTEM	FLOOR MOUNTED	42	47	122	100	5.3-10.4	26	1/208/60	0.1	15	22X24X20	3/8"	5/8"	1"	67	ARNH423K2A4
H-11	ROOF MECH ROOM	HOT WATER SYSTEM	FLOOR MOUNTED	42	47	122	100	5.3-10.4	26	1/208/60	0.1	15	22X24X20	3/8"	5/8"	1"	67	ARNH423K2A4
H-12	ROOF MECH ROOM	HOT WATER SYSTEM	FLOOR MOUNTED	42	47	122	100	5.3-10.4	26	1/208/60	0.1	15	22X24X20	3/8"	5/8"	1"	67	ARNH423K2A4

NOTES FOR INDOOR VRF UNITS
1)REFRIGERANT R410A SHALL BE PROVIDED.
2) PROVIDE MOUNTING BRACKETS AND ALL ASSOCIATED ACCESSORIES.
3)ALL REFRIGERANT PIPING TO BE SIZED PER MANUFACTURERS RECOMMENDATIONS.
4) SEE FLOOR PLAN FOR QUANTITIES.
5) INDOOR UNIT ACCESS PANEL FIELD-PROVIDED.
6) CONTRACTOR SHALL PROVIDE A LONG LINE SET FOR REFRIGERANT PIPING IN THE EVENT THAT TOTAL REFRIGERANT LENGTH EXCEEDS THE MANUFACTURER'S STANDARD RECOMMENDED LENGTH.
7) PROVIDE HYDRO KIT WALL MOUNTED CONTROLLER.
8) PROVIDE WATER STORAGE TANK SENSOR AND WELL.
9) PROVIDE ALL MANUFACTURER RECOMMENDED ACCESSORIES ALONG WITH HYDRO KIT.

CONDENSER UNITS EER TABLE			
UNIT TAG	REQUIRED IEER AS PER NYCEC 2016	OFFERED EQUIPMENT IEER	EFFICIENCY IMPROVEMENT PERCENTAGE
ACCU-1	13.9	25.9	186%
ACCU-2	13.9	28.6	206%
ACCU-3	13.9	28.6	206%
ACCU-4	13.9	28.6	206%
ACCU-5	14.4	28.4	197%
ACCU-6	13 (SEER)	18.9 (SEER)	138%
ACCU-7	13.9	22.5	162%
ACCU-8	13.9	22.5	162%
ACCU-9	13.9	22.5	162%
ACCU-10	13.9	25.4	183%
ACCU-11	13.9	25.4	192%
ACCU-12	13 (SEER)	17.7 (SEER)	131%

ERV	ENERGY RECOVERY VENTILATOR WITH COIL																BASIS OF DESIGN: ENERGY WALL		
UNIT TAG	LOCATION	SERVING	CFM	UNIT DIMENTIONS (IN)				COIL CAPACITY							OUTSIDE AIR CONDITIONS (°F)			MODEL	SOUND (dBA)	MAKE
				WIDTH	LENGTH	HEIGHT	WEIGHT (LBS)	COOLING (MBH)	HEATING (MBH)	MCA	MOCP	EFFICIENCY	ELEC (V/Hz/Ph.)	ESP (IN WG)	SUMMER (DBT)	SUMMER (WBT)	WINTER (DBT)			
ERV-C-4	CELLAR	GREENHOUSE	875	24	54	34	196	31	16	19.2	25	73.0%	208/60/3	2.00	91	73.70	10	U-ERV-COIL-1200	-	ENERGY WALL

NOTES FOR ERV:
1) FILTER - MERV 11.
2) UNIT SHALL HAVE A ENTHALPY ERV.
3) UNIT SHALL HAVE FACTORY SUPPLIED FROST PROTECTION.
4) FIELD WIRED FACTORY CONTROL PANEL.
5) FIELD SUPPLIED ELECTRICAL DISCONNECT.
6) PIPE CONDENSATE CONNECTION TO NEAREST DRAIN.
7) PROVIDE COMMISSIONING FOR ERV UNITS.
8) FAN CUBES LOCATIONS REQUIRE 10' OF 3/4" INTERNAL ACOUSTIC LINED DUCT.
9) PROVIDE LG MAKE "PAHCMR000" AHU COMMUNICATION KIT WITH ERV.
10) PROVIDE LG MAKE "PRLK048A0" ELECTRONIC EXPANSION VALVE FOR AHU COMMUNICATION KIT.
11) PROVIDE DUCT MOUNTED FILER BOX FOR ERV ON OA AND RETURN DUCT.

OUTDOOR HEAT RECOVERY CONDENSING UNITS																			MAKE: LG
UNIT TAG	NUMBER OF MODULES	LOCATION	INDOOR UNITS SERVED	CAP. TR	COOLING MBH	HEATING MBH	AMBIENT TEMP HEATING/COOLING (DEG F)	COMPRESSOR TYPE	UNIT DIMENSIONS IN.(HXWXD)	PIPING DIMENSION			ELECTRICAL			SOUND LEVEL (Dba)	EER (SEER)	IEER	HEATING COP (HSPF)	MODULE	MODEL
										WEIGHT (LBS)	LIQUID-HI PRESSURE	GAS HIGH-PRESSURE	GAS LOW-PRESSURE	PHASE/VOLT/ Hz	MCA	MOP					
ACCU-1	1	ROOF	AC-1-1 TO 19, 21 TO 23 & H-7	18	216	243	47/95	HSS DC SCROLL	67"X49"X30"	666	5/8"	1-1/8"	1-1/8"	208-230/60/3	60.3	80	64	10.7/11.2	22.4/24.8	3.2/3.53	-	ARUM216BTE5
ACCU-2	1	ROOF	AC-2-1 to 24 & H-8	16	192	216	47/95	HSS DC SCROLL	67"X49"X30"	659	5/8"	1-1/8"	1-1/8"	208-230/60/3	57.9	80	62	11/12.4	23/25.9	3.30/3.75	-	ARUM192BTE5
ACCU-3	1	ROOF	AC-3-1 to 23 & H-9	16	192	216	47/95	HSS DC SCROLL	67"X49"X30"	659	5/8"	1-1/8"	1-1/8"	208-230/60/3	57.9	80	62	11/12.4	23/25.9	3.30/3.75	-	ARUM192BTE5
ACCU-4	1	ROOF	AC-C-1 TO 7 & H-10	12	144	162	47/95	HSS DC SCROLL	67"X49"X30"	639	1/2"	7/8"	1-1/8"	208-230/60/3	51.1	70	60	12.1/12.5	23/28.6	3.52/3.84	-	ARUM144BTE5
ACCU-5	1	ROOF	AC-C-8 TO 11, AC-1-20 & H-11	12	144	162	47/95	HSS DC SCROLL	67"X49"X30"	639	1/2"	7/8"	1-1/8"	208-230/60/3	51.1	70	60	12.1/12.5	23/28.6	3.52/3.84	-	ARUM144BTE5
ACCU-6	1	ROOF	AC-4-1 TO 5 & H-12	8	96	108	47/95	HSS DC SCROLL	67"X49"X30"	507	3/8"	3/4"	5/8"	208-230/60/3	28.5	40	58	13.4/14.4	28.4/33	3.83/4.33	-	ARUM096BTE5
ACCU-7	1	ROOF	H-1, H-2, & H-3	22	264	297	47/95	HSS DC SCROLL	67"X49"X30"	507	3/8"	3/4"	7/8"	208-230/60/3	28.5	40	63	11.5/12.5	21.5/22	3.38/3.56	ARUM096BTE5	ARUM264BTE5
									67"X49"X30"	639	5/8"	7/8"	1-1/8"		53.6	70					ARUM168BTE5
ACCU-8	1	ROOF	H-4, H-5, & H-6	22	264	297	47/95	HSS DC SCROLL	67"X49"X30"	507	3/8"	3/4"	7/8"	208-230/60/3	28.5	40	63	11.5/12.5	21.5/22	3.38/3.56	ARUM096BTE5	ARUM264BTE5
									67"X49"X30"	639	5/8"	7/8"	1-1/8"		53.6	70				ARUM168BTE5	
ACCU-9	1	ROOF	ERV-C-4	4	48	54	47/95	DC INVERTER STARTING	54"X38"X13"	207	3/8"	5/8"	-	208/60/1	30	50	69	17.7 (SEER)	-	9.5(HSPF)		ARUN048GSS4

NOTES: OUTDOOR UNITS VRF HEAT RECOVERY
1. UNIT SHALL HAVE TEN YEAR EXTENDED WARRANTY FOR COMPRESSORS/PARTS.
2. PROVIDE LOW AMBIENT CONTROL FOR CONDENSING UNIT OPERATION DOWN TO -22°F.
3. PROVIDE COMPRESSOR CYCLE PROTECTOR.
4. PROVIDE STEEL RAILS FOR CONDENSER MOUNTING.
5. STEEL RAILS TO BE PROVIDED BY MECH. CONTRACTOR.
6. CONTRACTOR SHALL PROVIDE A LONG LINE SET FOR REFRIGERANT PIPING IN THE EVENT THAT TOTAL REFRIGERANT LENGTH EXCEED THE MANUFACTURER'S STANDARD RECOMMENDED LENGTH.
7. AIR CONDITIONER UNIT SHALL NOT PRODUCE NOISE LEVELS IN EXCESS OF 42 DECIBELS FOR A SINGLE AIR CIRCULATING DEVICE AND 45 DECIBELS FOR THE CUMULATIVE NOISE LEVEL OF MULTIPLE AIR CIRCULATING DEVICES AS MEASURED 3 FEET FROM THE NOISE SOURCE AT AN OPEN DOOR OR WINDOW OF A NEARBY RESIDENCE.

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NORTH:

Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	REVISED SET PER ENERGY COMMENTS	02/17/2020
6	50% CD	03/20/2020
7	75% CD	04/22/2020
8	100% CD	06/03/2020
9	PH REVISIONS	07/06/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM #1	10/21/2021

MEP:
NEW YORK ENGINEERS
135 W 41st Street,5th Floor
New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
–

Drawing Tile:

MECHANICAL SCHEDULE (4 OF 4)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"
Drawn By #: NYE
Chkd By #: NYE
Drawing #: M-603.00

DOB #: B00235775-I1
Sheet #: of

COMcheck Software Version 4.1.5.3

Mechanical Compliance Certificate

Project Information

Energy Code:	90.1 (2013) Standard
Project Title:	BETHANY TERRACES
Location:	New York, New York
Climate Zone:	4a
Project Type:	New Construction

Construction Site:
604 EAST 40TH STREET, BROOKLYN
New York, NY 113585

Owner/Agent:

Designer/Contractor:
MICHAEL TOBIAS
NEW YORK ENGINEERS
135 WEST 41ST STREET
5TH FLOOR
New York, NY 10036
212-575-5300

Mechanical Systems List

Quantity	System Type & Description
2	HWHT-3: Electric Instantaneous Water Heater, Capacity: 0 gallons No minimum efficiency requirement applies
1	MAINTENANCE HEATER HWHT-4: Electric Storage Water Heater, Capacity: 50 gallons Proposed Efficiency: 0.84 SL, %/h (if > 12 kW), Required Efficiency: 0.84 SL, %/h (if > 12 kW)

1

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 90.1 (2013) Standard requirements in COMcheck Version 4.1.5.3 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

MICHAEL TOBIAS — Name - Title
Signature
Date: 04-12-2021



COMcheck Software Version 4.1.5.3

Inspection Checklist

Energy Code: 90.1 (2013) Standard

Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2, 7.7.1, 10.4.2 [PR3][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER PLUMBING DRAWINGS P-100, P-500, P-600
4.2.2, 8.4.1.1, 8.4.1.2, 8.7 [PR6][2]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER PLUMBING DRAWINGS P-100, P-500, P-600

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
7.4.4.1 [PL2][3]	Temperature controls installed on service water heating systems (<=120ºF to maximum temperature for intended use).	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER #1.06 PRODUCTS B-8 ON PLUMBING SPECIFICATION ON SHEETS P-001.00
7.4.6 [PL4][3]	Heat traps installed on non-circulating storage water tanks.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER #1.06 PRODUCTS B-11, ON PLUMBING SPECIFICATION ON SHEETS P-001.00

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
6.4.3.4.5 [ME39][3]	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.3.2.1 [ME40][2]	DX cooling systems >= 75 kBtu/h (>= 65 kBtu/h effective 1/2016) and chilled-water and evaporative cooling fan motor hp >= ¼ designed to vary indoor fan airflow as a function of load and comply with operational requirements.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply. *See the Mechanical Systems list for values.*
6.5.7.1.5 [ME49][3]	Approved field test used to evaluate design air flow rates and demonstrate proper capture and containment of kitchen exhaust systems.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
7.4.2 [ME36][2]	Service water heating equipment meets efficiency requirements.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	
7.4.2 [ME36][2]	Service water heating equipment meets efficiency requirements.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	
6.4.3.9 [ME63][2]	Heating for vestibules and air curtains include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating systems controlled by a thermostat in the vestibule with setpoint <= 60F.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
6.5.10 [ME73][3]	Doors separating conditioned space from the outdoors have controls that disable/reset heating and cooling system when open.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER MECHANICAL SHEET M-100 TO M-106 FOR THERMOSTATIC LOCATIONS

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10][2]	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
10.4.1 [EL9][2]	Electric motors meet requirements where applicable.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
7.4.4.3 [FI11][3]	Public lavatory faucet water temperature <=110°F.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER #1.06 PRODUCTS B-7 ON PLUMBING SPECIFICATION ON SHEETS P-001.00
7.4.4.3 [FI11][3]	Public lavatory faucet water temperature <=110°F.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER #1.06 PRODUCTS B-7 ON PLUMBING SPECIFICATION ON SHEETS P-001.00
10.4.3 [FI24][2]	Elevators are designed with the proper lighting, ventilation power, and standby mode.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
7.4.3 [FI45][2]	First 8 ft of outlet piping is insulated	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
7.4.3 [FI45][2]	First 8 ft of outlet piping is insulated	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

EN DRAWING LIST	
EN-001.00	ENERGY ANALYSIS (1 OF 2)
EN-002.00	ENERGY ANALYSIS (2 OF 2)

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Drawing Tile:

ENERGY ANALYSIS (1 OF 2)

Date:

Seal/Signature:



Scale: 1/8" = 1'-0"
Drawn By #: NYE
Chkd By #: NYE
Drawing #: EN-001.00
DOB #: B00235891-I1
Sheet #: of

ENERGY ANALYSIS – COMMERCIAL BUILDING MECHANICAL SYSTEMS

1 RCNY §5000-1, CHAPTER 5000
2016 ECCNYC APPENDIX CA (MODIFIED ASHRAE 90.1-2013),
CLIMATE ZONE 4A

ITEM DESCRIPTION	CODE PRESCRIPTIVE VALUES AND REQUIREMENTS	PROPOSED DESIGN VALUES AND OR PROCEDURES	SUPPORTING DOCUMENTS
PIPING INSULATION	6.8.3-1 & 2 : ALL PIPING SERVING AS PART OF A HEATING OR COOLING SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH TABLE 6.8.3-2 ASHRAE 90.1 2013 TABLE 6.8.3-2:	ALL PLUMBING WATER PIPING TO BE INSULATED AS PER ASHRAE 90.1 2013 TABLE 6.8.3-2:	REFER #6 PIPING INSULATION UNDER (B) DOMESTIC WATER PIPING ON SHEET P-001.00 UNDER
EQUIPMENT PERFORMANCE REQUIREMENTS	6.8.1: EQUIPMENT SHALL MEET THE MINIMUM EFFICIENCY REQUIREMENTS OF TABLES 6.8.1-1 WHEN TESTED AND RATED IN ACCORDANCE WITH THE APPLICABLE TEST PROCEDURE	ALL SELECTED UNITS ARE MEETING REQUIRED MINIMUM EFFICIENCY NUMBERS.	REFER PLUMBING HOT WATER HEATER SCHEDULE ON SHEET P-601.00.
EFFICIENCY HEATED WATER SUPPLY PIPING	HEATED WATER SUPPLY PIPING SHALL BE IN ACCORDANCE WITH SECTION 7.4.6. THE FLOW RATE THROUGH 1/4-INCH (6.4 MM) PIPING SHALL BE NOT GREATER THAN 0.5 GPM (1.9 L/M). THE FLOW RATE THROUGH 5/16-INCH (7.9 MM) PIPING SHALL BE NOT GREATER THAN 1 GPM (3.8 L/M). THE FLOW RATE THROUGH 3/8-INCH (9.5 MM) PIPING SHALL BE NOT GREATER THAN 1.5 GPM (5.7 L/M)	PROVIDED AS REQUIRED.	REFER #11 PIPING INSULATION UNDER (B) DOMESTIC WATER PIPING ON SHEET P-001.00 UNDER
HEATED WATER CIRCULATING AND TEMPERATURE MAINTENANCE SYSTEMS	HEATED-WATER CIRCULATION SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION 7.4.4.1 AUTOMATIC CONTROLS, TEMPERATURE SENSORS AND PUMPS SHALL BE ACCESSIBLE. MANUAL CONTROLS SHALL BE READILY ACCESSIBLE.	PROVIDED AS REQUIRED.	REFER #8 PIPING INSULATION UNDER (B) DOMESTIC WATER PIPING ON SHEET P-001.00 UNDER
DEMAND RECIRCULATION CONTROLS	A WATER DISTRIBUTION SYSTEM HAVING ONE OR MORE RECIRCULATION PUMPS THAT PUMP WATER FROM A HEATED-WATER SUPPLY PIPE BACK TO THE HEATED-WATER SOURCE THROUGH A COLD-WATER SUPPLY PIPE SHALL BE A DEMAND RECIRCULATION WATER SYSTEM.	CONTROLS PROVIDED AS REQUIRED.	REFER #7 PIPING INSULATION UNDER (B) DOMESTIC WATER PIPING ON SHEET P-001.00 UNDER

ASHRAE 90.1 2013 TABLE 6.8.3-2:

MINIMUM PIPE INSULATION THICKNESS							
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU· IN./(H· FT2· °F)	MEAN RATING TEMPERATURE, °F	<1	1 to < 1½	1½ to < 4	4 to < 8	<8
105–140	0.21–0.28	100	1.0	1.0	1.5	1.5	1.5
40–60	0.21–0.27	75	0.5	0.5	1.0	1.0	1.0

SYSTEMS REQUIRING COMMISSIONING

SYSTEM	SUB-SYSTEM	QTY	CAPACITY (MBH) COOLING	CAPACITY (MBH) HEATING	TOTAL CAPACITY (MBH) COOLING	TOTAL CAPACITY (MBH) HEATING	REQUIRED COMMISSIONING
COOLING AND HEATING	ACCU-1	1	216	243	216	243	HEATING (>600 MBH) YES COOLING (>480 MBH) YES
	ACCU-2,ACCU-3	2	192	216	384	432	
	ACCU-4,5	2	144	162	288	324	
	ACCU-6	1	96	108	96	108	
	ACCU-7, ACCU-8	2	264	297	528	594	
	ACCU-9	1	48	54	48	54	
	EUH-C-1	1	–	10	–	10	
	EUH-C-2, EUH-C-3, EUH-1-1,EUH-4-2, EUH-R-1	5	–	3	–	15	
	EUH-C-4,EUH-C-5, EUH-C-6,EUH-C-7, EUH-C-8,EUH-C-9, EUH-C-10,EUH-C-11, EUH-C-12,EUH-C-13	10	–	14	–	140	
	EUH-2-1,EUH-4-1	2	–	2	–	4	
	EUH-R-2	1	–	5	–	5	
	EDH-1,EDH-2	2	–	42	–	84	
	HWHT-3	2	–	61	–	122	
	HWHT-4	1	–	82	–	82	
				TOTAL	1560	2217	

1

SYSTEMS COMMISSIONING PURSUANT TO SECTION 408.3, NYCECC-2016 APPENDIX CA (MODIFIED ASHRAE 90.1-2013)

SYSTEMS REQUIRING COMMISSIONING

1- SERVICE WATER HEATING SYSTEMS.

TR8 – ENERGY CODE PROGRESS INSPECTION
3A- IDENTIFICATION OF REQUIREMENTS

YES/NO	TR8-PROGRESS INSPECTIONS	TABLE REF. IN 1RCNY § 5000-01(H)(1)&(2)
YES	HVAC-R AND SERVICE WATER HEATING EQUIPMENT	(IB3), (IIB3)
YES	HVAC-R AND SERVICE WATER HEATING SYSTEM CONTROLS	(IB4), (IIB4)

ENERGY CONSERVATION CODE OF NEW YORK CITY COMPLIANCE

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND JUDGEMENT, THESE PLANS AND SPECIFICATION ARE IN COMPLIANCE WITH THE ENERGY CONSERVATION CODE OF NEW YORK CITY 2016 APPENDIX CA (MODIFIED ASHRAE 90.1-2013)

PAUL A. CASTRUCCI ARCHITECT

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Drawing Tile:

ENERGY ANALYSIS (2 OF 2)

Date:

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Scale: 1/8" = 1'-0"
Drawn By #:NYE
Chkd By #:NYE
Drawing #:
EN-002.00
Sheet #: of

DOB #:B00235891-I1

PLUMBING SYMBOLS LIST

- SANITARY PIPING
- VENT PIPING
- COLD WATER PIPING
- HOT WATER PIPING
- HOT WATER RETURN PIPING
- SAN — UNGD. SANITARY PIPING
- EJ — EJECTOR DISCHARGE PIPING
- FAI — FRESH AIR INTAKE
- ST — STORM WATER PIPING
- L — LEADER STORM PIPING
- OF — OVERFLOW STORM PIPING
- EJ — EJECTOR DISCHARGE PIPING
- PUMP DISCHARGE PIPING
- HEAT TRACING
- P-TRAP
- PIPE UP
- PIPE DROP
- PLUGGED OUTLET/CLEANOUT
- ISOLATION VALVE
- CHECK VALVE
- SLEEVE
- CHECK VALVE
- VACUUM BREAKER
- WATER HAMMER ARRESTOR
- AIR RELEASE VALVE
- SHOCK ABSORBER
- BALANCING VALVE
- PRESSURE RELIEF VALVE
- WATER SUB-METER
- (P) WATER PRESSURE GAUGE
- (T) WATER TEMPERATURE GAUGE
- (PS) WATER PRESSURE SENSOR
- (TS) WATER TEMPERATURE SENSOR
- SERVICE PORT
- STRAINER
- ANTI-VIBRATION CONNECTION
- PRESSURE & SAFETY RELEASE VALVE
- (FM) WATER FLOW METER
- THERMOSTATIC MIXING VALVE

PLUMBING ABBREVIATIONS

CO	CLEANOUT
CODP	CLEAN OUT DECK PLATE
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
SAN	SANITARY
S	SOIL
ST	STORM
V	VENT
W	WASTE
LAV	LAVATORY
WC	WATER CLOSET
TYP.	TYPICAL
DN	DOWN
AFF	ABOVE FINISH FLOOR
PD	PUMP DISCHARGE
FD	FLOOR DRAIN
SQ. FT.	SQUARE FEET
EJ	EJECTOR DISCHARGE
BFP	BACK FLOW PREVENTER
AD	AREA DRAIN
BT	BATH TUB
KS	KITCHEN SINK
WM	WASHING MACHINE
HWHT	HOT WATER HEATER
RD	ROOF DRAIN
OD	OVERFLOW DRAIN

BUILDING DEPARTMENT PLUMBING NOTES:

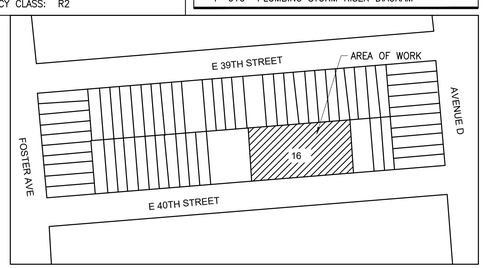
1. ALL PLUMBING SYSTEMS (SANITARY, WASTE, VENT & WATER DISTRIBUTION PIPING SYSTEMS) AND ASSOCIATED EQUIPMENT SHALL BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF 2014 THE NEW YORK CITY PLUMBING CODE (NYC PC) WITH AMENDMENTS, ASHRAE 2013 & LOCAL LAWS.
2. INSTALLATION OF UNDERGROUND SANITARY DRAINAGE AND VENT PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION NYC PC 702.2
3. PROTECTION OF PIPING AND PLUMBING SYSTEM COMPONENTS AS PER SECTION NYC PC 305.
4. TRENCHING, EXCAVATION AND BACKFILL AS PER SECTION NYC PC 306.
5. RODENT PROOFING AS PER NYC PC 304
6. MATERIALS USED IN PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION NYC PC 303, PC 605, PC 702, PC 902,PC 1102.
7. EQUIPMENT CONNECTIONS AND JOINING OF PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTERS 4, 5, 6, 7 AND 9.
8. DEEP SEAL TRAPS FOR FLOOR DRAINS SHALL BE PROVIDED AS PER PC 1002, AND CLEAN-OUTS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 708
9. BUILDING HOUSE TRAPS SHALL BE PROVIDED AS PER SECTION PC 1002.
10. DRAINAGE PIPE CLEANOUTS AS PER SECTION PC 708.
11. VERTICAL AND HORIZONTAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 308
12. WATER SUPPLY SYSTEMS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 SECTION PC 601-603, 604, 606, 607, 608, 610
13. THE SANITARY DRAINAGE SYSTEM SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF PC CHAPTER 7 SECTIONS PC 701 THROUGH PC 712.
14. VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 9 SECTIONS PC 901 THROUGH PC 912 THROUGH PC 917
15. THE STORM DRAINAGE PIPING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 11 SECTION PC 1101 THROUGH 1113.

PLUMBING DRAWING LIST

P-001	PLUMBING SYMBOLS, ABBREVIATIONS, NOTES & SPECIFICATIONS (1 OF 2)
P-002	PLUMBING SYMBOLS, ABBREVIATIONS, NOTES & SPECIFICATIONS (2 OF 2)
P-100A	UNDERGROUND PLUMBING PLAN
P-100	CELLAR PLUMBING PLAN
P-101	1ST FLOOR PLUMBING PLAN
P-102	2ND FLOOR PLUMBING PLAN
P-103	3RD FLOOR PLUMBING PLAN
P-104	4TH FLOOR PLUMBING PLAN
P-105	ROOF & BULKHEAD PLUMBING PLAN
P-300	PLUMBING PART PLAN (1 OF 3)
P-301	PLUMBING PART PLAN (2 OF 3)
P-302	PLUMBING PART PLAN (3 F 3)
P-501	PLUMBING DETAILS (1 OF 5)
P-502	PLUMBING DETAILS (2 OF 5)
P-503	PLUMBING DETAILS (3 OF 5)
P-504	PLUMBING DETAILS (4 OF 5)
P-505	PLUMBING DETAILS (5 OF 5)
P-601	PLUMBING SCHEDULES (1 OF 2)
P-602	PLUMBING SCHEDULES (2 OF 2)
P-603	PLUMBING SANITARY RISER DIAGRAM (1 OF 3)
P-604	PLUMBING SANITARY RISER DIAGRAM (2 OF 3)
P-605	PLUMBING SANITARY RISER DIAGRAM (3 OF 3)
P-606	PLUMBING WATER RISER DIAGRAM (1 OF 4)
P-607	PLUMBING WATER RISER DIAGRAM (2 OF 4)
P-608	PLUMBING WATER RISER DIAGRAM (3 OF 4)
P-609	PLUMBING WATER RISER DIAGRAM (4 OF 4)
P-610	PLUMBING STORM RISER DIAGRAM

BETHANY SENIOR 604 E 40TH ST, BROOKLYN, NEW YORK,11203

BLOCK:	4973
LOT:	16
ZONE:	R4
MAP:	23a
BUILDING HEIGHT:	54'
OCCUPANCY CLASS:	R2



PLOT PLAN
N.T.S.

PLUMBING SPECIFICATIONS:

1. BASIC PLUMBING REQUIREMENTS, MATERIALS AND METHODS

1.01 SCOPE

A. PROVIDE ALL MATERIAL, TOOLS, SUPERVISION AND LABOR INCLUDING ALL MISCELLANEOUS AND INCIDENTAL ITEMS REQUIRED FOR COMPLETE AND OPERABLE PLUMBING INSTALLATIONS AS SHOWN OR DESCRIBED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.

B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL NEW CONDITIONS AND MATERIALS WITHIN THE CONSTRUCTION AREA. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE OWNER'S SATISFACTION.

C. OBTAIN ALL PERMITS, PAY ALL PERMIT FEES AND SCHEDULE ALL REQUIRED INSPECTIONS. COPIES OF ALL PERMITS AND INSPECTION CERTIFICATES SHALL BE FORWARDED TO THE OWNER FOR RECORD.

D. THE GENERAL CONDITIONS OF THE CONTRACT AND ALL DIVISION 1 REQUIREMENTS APPLY TO THE WORK OF THIS SECTION.

E. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID TO DETERMINE CONDITIONS AND THE EXTENT OF THE WORK. BY COMMENCING WORK, THE CONTRACTOR ACKNOWLEDGES HIS CONFIRMATION OF ALL CONDITIONS AS ACCEPTABLE WITH REFERENCE TO HIS CONTRACT, SCOPE OF WORK AND BID PRICE.

F. IN ALL AREAS SUBJECT TO FREEZING CONDITIONS, THE CONTRACTOR SHALL PROVIDE FREEZE PROTECTION FOR ALL DOMESTIC WATER PIPING INSTALLED UNDER HIS CONTRACT.

G. ALL ELECTRICAL REQUIREMENTS SHALL BE COORDINATED WITH THE CONTRACTOR FOR ELECTRICAL WORK. THIS CONTRACTOR IS RESPONSIBLE FOR ALL LOW VOLTAGE WIRING FOR EQUIPMENT INSTALLED UNDER HIS CONTRACT. THE CONTRACTOR FOR ELECTRICAL WORK IS RESPONSIBLE FOR LINE VOLTAGE POWER WIRING ONLY.

H. COLOR AND FINISH SELECTIONS FOR ALL MATERIALS, INCLUDING PAINTING OF PIPING, SHALL BE AS DIRECTED AND/OR APPROVED BY THE ARCHITECT.

I. MINOR DETAILS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR THE PROPER AND ACCEPTABLE CONSTRUCTION, INSTALLATION OR OPERATION OF ANY PART OF THE WORK AS DETERMINED BY THE ENGINEER SHALL BE INCLUDED AS IF SPECIFIED OR INDICATED ON THE DRAWINGS.

J. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIREMENTS FOR THE INSTALLATION, CONNECTION, EXTENSION OR MODIFICATION TO ALL UTILITY SERVICES WITH RESPECTIVE PROVIDERS INCLUDING PAYMENT OF ALL ASSOCIATED FEES.

K. THE CONTRACTOR IS RESPONSIBLE FOR ALL PAINTING ASSOCIATED WITH CUTTING AND PATCHING. ALL PAINTING IN AREAS WITH COMPLETE FINISH RENOVATIONS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.

1.02 SUBMITTALS

A. SUBMITTAL REQUIREMENTS SHALL BE COORDINATED WITH THE ARCHITECT AND AUTHORITIES HAVING JURISDICTION. UNLESS OTHERWISE DIRECTED, CONTRACTOR SHALL PROVIDE SUBMITTALS AS LISTED BELOW.

1. PIPE AND FITTINGS
2. VALVES
3. HANGERS AND SUPPORTS
4. PLUMBING PIPING LAYOUT
5. TESTS
6. PLUMBING FIXTURES
7. WATER HEATERS & ACCESSORIES
8. FLOOR DRAINS
9. MIXING VALVES
10. BACKFLOW PREVENTER
11. SEWAGE EJECTOR
12. ALL SCHEDULED PLUMBING EQUIPMENT

B. SUBMITTALS FROM SUPPLIERS OR MANUFACTURERS WHICH DO NOT BEAR THE STAMP OF THE SUBMITTING CONTRACTOR INDICATING THAT THE CONTRACTOR HAS REVIEWED THE SUBMITTAL FOR CONFORMANCE WITH THE PROJECT REQUIREMENTS WILL BE RETURNED REJECTED.

C. THE ENGINEER'S REVIEW OF SUBMITTALS IS A COURTESY WHICH DOES NOT RELIEVE THE CONTRACTOR FROM CONFORMING WITH THE CONSTRUCTION DOCUMENTS, REGARDLESS OF THE ACTION INDICATED BY THE SHOP DRAWINGS STAMP.

D. REVIEW OF SHOP DRAWINGS BY THE ENGINEER SHALL BE LIMITED TO THE INITIAL REVIEW, AND A SECOND REVIEW OF ANY REQUIRED RESUBMITTED DATA. IF THE ENGINEER IS REQUIRED TO REVIEW SHOP DRAWINGS FOR A THIRD (OR MORE) SUBMISSION OF THE SAME ITEM, THE CONTRACTOR SHALL BE LIABLE FOR COMPENSATING THE ENGINEER FOR THESE SUBSEQUENT REVIEWS AS PER THE ENGINEER'S CURRENT HOURLY RATE SCHEDULE.

E. SUBMIT PROOF OF APPROVAL AND/OR CONFIRMATION OF SATISFACTORY TEST RESULTS TO THE OWNER AND THE ARCHITECT.

F. SUBMIT TO THE OWNER'S MAINTENANCE PERSONNEL OPERATION AND MAINTENANCE DATA FOR ALL SYSTEM COMPONENTS, SERVICING REQUIREMENTS, INSPECTION DATA, REPLACEMENT PART NUMBERS AND AVAILABILITY AND CONTACT INFORMATION FOR SERVICE/SUPPLY COMPANY.

G. FOR ALL BELOW GRADE PIPING WHERE ACTUAL INSTALLATION DEVIATES FROM CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS INDICATING BELOW GRADE PIPE LOCATIONS DIMENSIONED TO NEAREST COLUMN LINES.

H. RECORD AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE OWNER/TENANT AFTER COMPLETION OF THE WORK SHOWING ANY ALTERATIONS, ADDITIONS AND/OR DELETIONS TO THE SYSTEM(S) INSTALLED.

1.03 SUBSTITUTIONS

A. ALL EQUIPMENT SHALL BE PRODUCTS OF THE SPECIFIED MANUFACTURER OR MANUFACTURERS. ALL BIDS SHALL BE BASED ON THE SPECIFIED MANUFACTURER OR MANUFACTURER'S EQUIPMENT. FOR SUBSTITUTIONS OF OTHER MANUFACTURER'S EQUIPMENT TO BE CONSIDERED, THE SUBSTITUTION MUST BE INDICATED PRIOR TO BIDDING WITH THE REASON FOR THE PROPOSED SUBSTITUTION IDENTIFIED, AND THE PROPOSED CREDIT TO THE OWNER INDICATED. THE ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF ANY PROPOSED SUBSTITUTIONS.

B. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR COORDINATING THE WORK OF OTHER TRADES WHICH MAY BE AFFECTED BY SUBSTITUTIONS, INCLUDING ALL RELATED COSTS.

1.04 DEFINITIONS

A. FURNISH: TO PURCHASE, PROCURE, ACQUIRE AND DELIVER, COMPLETE WITH RELATED ACCESSORIES.

B. INSTALL: TO ERECT, MOUNT AND CONNECT, COMPLETE WITH RELATED ACCESSORIES.

C. PROVIDE: TO FURNISH AND INSTALL.

D. PLUMBING CONTRACTOR, THE CONTRACTOR, THIS CONTRACTOR: THE CONTRACTOR FOR PLUMBING WORK WHICH IS SPECIFIED HEREIN AND SHOWN ON THESE DRAWINGS.

E. REFER TO THE NATIONAL STANDARD PLUMBING CODE FOR ADDITIONAL DEFINITIONS.

1.05 DRAWINGS

A. THE DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO ILLUSTRATE THE GENERAL ARRANGEMENT AND ROUTING OF PIPING AND GENERAL LOCATIONS OF EQUIPMENT. PRECISE LOCATIONS OF EQUIPMENT, RISERS AND STACKS, AND ROUTING AND ELEVATION OF ALL PIPING SYSTEMS SHALL BE COORDINATED IN THE FIELD WITH THE ARCHITECT, ARCHITECTURAL DRAWINGS, THE WORK OF OTHER TRADES, EXISTING AND NEW BUILDING CONDITIONS AND/OR THE PREFERENCES OF THE OWNER/TENANT AS CONSTRUCTION PROCEEDS. ALL PIPING SHALL BE INSTALLED CONCEALED IN FINISHED SPACES, UNLESS NOTED OTHERWISE.

B. PROVIDE ALL NECESSARY INCIDENTAL MATERIALS AND ACCESSORIES REQUIRED TO MAKE THE WORK COMPLETE IN ALL RESPECTS, EVEN IF NOT PARTICULARLY SHOWN OR SPECIFIED.

C. REFER TO PLUMBING EQUIPMENT/FIXTURE SCHEDULE ON THE DRAWINGS FOR ALL FIXTURE AND EQUIPMENT SPECIFICATIONS.

D. REFER TO FIXTURE CONNECTION SIZE SCHEDULE FOR ALL FIXTURE ROUGHING SIZE REQUIREMENTS.

E. VERIFY ALL INDICATED CONDITIONS BEFORE STARTING WORK AND REPORT ANY DISCREPANCIES. THE DRAWINGS REFLECT CONDITIONS WHICH CAN BE REASONABLY INTERPRETED FROM THE EXISTING VISIBLE CONDITIONS OR FROM DRAWINGS AND INFORMATION FURNISHED BY THE OWNER.

F. LOCATE ALL FIXTURES AND EQUIPMENT AS PER THE FINAL ARCHITECTURAL DRAWINGS.

1.06 PRODUCTS

A. SANITARY AND VENT PIPING:

1. ABOVE GRADE PIPING SHALL BE HUBLESS CAST IRON PIPE WITH STAINLESS STEEL COUPLINGS AND ELASTOMERIC GASKETS WITH A MINIMUM 4 BANDS PER COUPLING.
2. SLOPE OF DRAINAGE SYSTEM SHALL BE 1/8" PER FOOT OF RUN FOR PIPE OVER 3" (I.D.) AND 1/4" PER FOOT OF RUN FOR PIPE 3" AND SMALLER (I.D.). VENT PIPING SHALL BE PITCHED TO DRAIN.
3. PVC OR OTHER COMBUSTIBLE PLASTIC PIPING SHALL NOT BE INSTALLED IN CEILING PLENUM SPACES.
4. ALL CAST IRON SOIL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL.

B. DOMESTIC WATER PIPING:

1. ABOVE GRADE WATER PIPING SHALL BE TYPE 'L' HARD-DRAWN COPPER TUBE.
2. FITTINGS IN DOMESTIC WATER PIPING SHALL BE WROUGHT COPPER OR CAST BRASS.
3. JOINTS SHALL BE MADE WITH LEAD-FREE SOLDER.
4. THE ENTIRE DOMESTIC WATER DISTRIBUTION SYSTEM SHALL BE INSULATED INCLUDING ALL VALVES, FITTINGS, ETC.
5. COMPLY WITH NSF 61 FOR MATERIALS FOR WATER-SERVICE PIPING AND SPECIALTIES FOR DOMESTIC WATER.
6. ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE INSULATED WITH FIRE-RETARDANT, FACTORY-APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER. INSULATION REQUIREMENT SHOULD COMPLY WITH ASHRAE 90.1 2013 TABLE 6.8.3-1 & TABLE 6.8.3-2.REFER BELOW TABLE.

MINIMUM PIPE INSULATION THICKNESS

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU· IN./ (H·FT2 ·°F)	MEAN RATING TEMPERATURE, °F	<1	1 to < 1½	1½ to < 4	4 to < 8	<8
105–140	0.21–0.28	100	1.0	1.0	1.5	1.5	1.5
40–60	0.21–0.27	75	0.5	0.5	1.0	1.0	1.0

7. AS PER ASHRAE 90.1 2013 SECTION 7.4.4.3. TEMPERATURE CONTROLLING MEANS SHALL BE PROVIDED TO LIMIT THE MAXIMUM TEMPERATURE OF WATER DELIVERED FROM LAVATORY FAUCETS IN PUBLIC FACILITY RESTROOMS TO 110°F.
8. AS PER ASHRAE 90.1 2013 SECTION 7.4.4.1. TEMPERATURE CONTROLS SHALL BE PROVIDED THAT ALLOW FOR STORAGE TEMPERATURE ADJUSTMENT FROM 120°F OR LOWER TO A MAXIMUM TEMPERATURE COMPATIBLE WITH THE INTENDED USE.
9. AS PER ASHRAE 90.1 2013 SECTION 7.4.4.4. WHEN USED TO MAINTAIN STORAGE TANK WATER TEMPERATURE, RECIRCULATING PUMPS SHALL BE EQUIPPED WITH CONTROLS LIMITING OPERATION TO A PERIOD FROM THE START OF THE HEATING CYCLE TO A MAXIMUM OF FIVE MINUTES AFTER THE END OF THE HEATING CYCLE.
10. AS PER ASHRAE 90.1 2013 SECTION 7.4.4.2. SYSTEMS DESIGNED TO MAINTAIN USAGE TEMPERATURES IN HOT-WATER PIPES, SUCH AS RECIRCULATING HOT-WATER SYSTEMS OR HEAT TRACE, SHALL BE EQUIPPED WITH AUTOMATIC TIME SWITCHES OR OTHER CONTROLS THAT CAN BE SET TO SWITCH OFF THE USAGE TEMPERATURE MAINTENANCE SYSTEM DURING EXTENDED PERIODS WHEN HOT WATER IS NOT REQUIRED.
11. AS PER ASHRAE 90.1,2013 SECTION 7.4.6. HEAT TRAPS SHALL BE PROVIDED FOR TO STORAGE TYPE WATER HEATERS & STORAGE TANKS NOT HAVING INTEGRAL HEAT TRAPS & SERVING TO NON-CIRCULATING SYSTEM, ON BOTH INLET & OUTLET PIPING AS CLOSE AS PRACTICAL TO THE STORAGE TANK. AS PER ASHRAE 90.1,2013 SECTION 7.4.6.

NOMINAL PIPE SIZE (INCHES)	MIXIMUM PIPING LENGTH (FEET)	
	PUBLIC LAV	OTHER FIXTURES
½"	2'	20'
¾"	0.5'	20'
1"	0.5'	13'
1¼"	0.5'	8'
1½"	0.5'	6'
2" OR LARGER	0.5'	4'

12. AS PER ASHRAE 90.1 2013 SECTION 7.4.4.4. WHEN USED TO MAINTAIN STORAGE TANK WATER TEMPERATURE, RECIRCULATING PUMPS SHALL BE EQUIPPED WITH CONTROLS LIMITING OPERATION TO A PERIOD FROM THE START OF THE HEATING CYCLE TO A MAXIMUM OF FIVE MINUTES AFTER THE END OF THE HEATING CYCLE.
13. SEAL ALL JOINTS BETWEEN SEGMENTS OF INSULATION.
14. PROVIDE SHIELDS BETWEEN HANGERS AND INSULATION.

C. PRESS JOINERY SYSTEM:

a. FITTINGS ½" – 4":

1. WHERE APPROVED BY THE LOCAL JURISDICTION, THE NIBCO PRESS SYSTEM MAY BE USED AT THE CONTRACTOR'S OPTION FOR THE FOLLOWING BUILDING SERVICES PIPING -20°F TO +250°F UP TO 200 PSI:
   - HOT AND COLD DOMESTIC WATER; FITTINGS AND VALVES SHALL BE NSF-61 APPROVED.
   - POTABLE WATER; FITTINGS AND VALVES SHALL BE NSF-61 APPROVED.
   - HOT WATER HEATING SERVICE

ALL LEAD FREE WROT COPPER PRESS FITTINGS SHALL BE MADE FROM COMMERCIALLY PURE COPPER MILL PRODUCTS PER ASTM B 75 ALLOY C12200. THESE FITTINGS SHALL BE THIRD-PARTY CERTIFIED TO NSF/ANSI 61 ANNEX G AND COMPLY WITH NEW YORK CITY HEALTH AND SAFETY CODE, NYC PC 2014 AND VERMONT ACT 193. NIBCO LEAD FREE CAST DEZINCIFICATION-RESISTANT (DZR) FITTINGS SHALL BE MADE FROM A HIGH QUALITY LEAD FREE PERFORMANCE BRONZE ALLOY PER ASTM B 584 ALLOY C87850. THE PRESS FITTINGS CONNECTIONS SHALL BE COMPATIBLE WITH SEAMLESS K, L OR M COPPER TUBE MADE TO ASTM B 88. FITTINGS SHALL HAVE A MAXIMUM NON-SHOCK WORKING PRESSURE OF 200 PSI BETWEEN THE TEMPERATURES OF -20°F AND +250°F. ELASTOMERIC SEALS WITH LEAK DETECTION DESIGN SHALL BE MADE OF EPDM MATERIAL, AND THE FITTINGS SHALL BE MANUFACTURED WITH AN INBOARD BEAD DESIGN. NIBCO PRESS FITTINGS MEET ALL PERFORMANCE REQUIREMENTS OF ASME B16.22 AND B16.18ALL FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND ACCORDING TO LOCAL PLUMBING AND MECHANICAL CODES. THE PRESS-TO-CONNECT JOINT SHALL BE MADE WITH PRESSING TOOLS AND JAW SETS RECOMMENDED AND AUTHORIZED BY NIBCO. ALL FITTINGS, VALVES AND TOOLS SHALL BE PROVIDED BY SAME MANUFACTURER; NIBCO.

b. VALVES 2" AND SMALLER: BALL VALVES: (ON/OFF, ISOLATION OR THROTTLING)

1. BALL VALVES (STAINLESS STEEL BALL AND STEM) WITH MALE OR FEMALE PRESS-TO-CONNECT ENDS SHALL BE RATED AT 200 PSI CWP TO +250°F MAXIMUM. NIBCO LEAD FREE VALVES SHALL BE MANUFACTURED IN ACCORDANCE WITH MSS SP-110 AND CONSTRUCTED OF DEZINCIFICATION-RESISTANT (DZR) BRONZE BODIES AND END PIECES AND SHALL BE MADE FROM A HIGH QUALITY LEAD FREE PERFORMANCE BRONZE ALLOY PER ASTM B 584 ALLOY C87850. NO BRASS CONTAINING MORE THAN 15% ZINC SHALL BE APPROVED. VALVE SHALL HAVE REINFORCED TEFLON SEATS, BLOW-OUT PROOF STEM, SOLID STAINLESS STEEL BALL AND STEM. NO HOLLOW CHROME PLATED BALLS ACCEPTED. ALL VALVES SHALL BE FULL PORT. ALL ELASTOMERIC SEALS SHALL HAVE LEAK DETECTION DESIGN.
   - WHERE PIPING IS TO BE INSULATED, BALL VALVES SHALL BE EQUIPPED WITH 2" EXTENDED HANDLES OF NON-THERMAL CONDUCTIVE MATERIAL. HANDLE TO HAVE EXTENDED SLEEVE INCORPORATING AN INSULATION PLUG TO PROVIDE A VAPOR BARRIER AND ALLOW VALVE OPERATION WITHOUT DISTURBING THE INSULATION, AND A MEMORY STOP, WHICH CAN BE SET AFTER INSTALLATION.
   - ACCEPTABLE VALVES: (NSF-61, NON-INSULATED LINES): NIBCO PC585-66-LF, -HC, -LL.
   - ACCEPTABLE VALVES: (NSF-61, INSULATED LINES): NIBCO PC585-66-LF-NS, -HC, -LL

c. CHECK VALVES: (BACKFLOW PREVENTION)

1. VALVES WITH PRESS-TO-CONNECT ENDS SHALL BE RATED TO 200 PSI CWP AT +250°F MAXIMUM. NIBCO LEAD FREE VALVES SHALL BE MANUFACTURED IN ACCORDANCE WITH MSS SP-80 AND CONSTRUCTED OF DEZINCIFICATION-RESISTANT (DZR) BRONZE BODY & CAP SHALL BE MADE FROM A HIGH QUALITY LEAD FREE PERFORMANCE BRONZE ALLOY PER ASTM B 584 ALLOY C87850. DISC SHALL BE TFE TEFLON. ALL ELASTOMERIC SEALS SHALL HAVE LEAK DETECTION DESIGN.
   - ACCEPTABLE CHECK VALVES: NIBCO PS413-Y-LF: Y PATTERN, SWING TYPE CHECK VALVE; NIBCO PS480-Y-LF : IN-LINE SPRING LOADED SILENT CHECK VALVE

d. BUTTERFLY VALVES 2-1/2" – 4", (ON/OFF, ISOLATION OR THROTTLING)

1. BUTTERFLY VALVES WITH FEMALE LEAD FREE PRESS-TO-CONNECT ENDS SHALL BE RATED AT 200 PSI. CWP TO +250°F MAXIMUM. VALVES SHALL BE MANUFACTURED IN ACCORDANCE WITH MSS SP-67 AND CONSTRUCTED OF A DUCTILE-IRON BODY, FOR BUBBLE-TIGHT SHUTOFF, EXTENDED-NECK FOR INSULATION, DISC AND LINING SUITABLE FOR POTABLE WATER, VALVES SHALL BE SUITABLE FOR BI-DIRECTIONAL DEAD END SERVICE AT FULL RATED PRESSURE, ONE-PIECE TYPE 416 STAINLESS-STEEL STEM, COPPER BUSHING, FASTENERS AND PINS SHALL NOT BE USED TO ATTACH STEM TO DISC, NO PINS OR FASTENERS IN WATERWAY, ALUMINUM-BRONZE DISC, AND MOLDED-IN EPDM SEAT (LINER). ALL ELASTOMERIC SEALS SHALL HAVE LEAK DETECTION DESIGN.
   - ACCEPTABLE VALVES: NIBCO PFD2000 SERIES (NSF-61)
   - GD4765N-LF (NSF-61)

D. ELECTRIC TANK LESS WATER HEATER (INSTANTANEOUS)

1. THE TANKLESS WATER HEATER SHALL BE UL LISTED FOR THE US AND NSF CERTIFIED.

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	50% CD	03/20/2020
6	75% CD	04/22/2020
7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	REVISED CD SET	09/07/2021
11	ADDENDUM#1 (1)	01/05/2022

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

PLUMBING SYMBOLS, ABBREVIATIONS, NOTES & SPECIFICATIONS (1 OF 2)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #:NYE

Chkd By #:NYE

Drawing #:

P-001.00

DOB #:B00235891-I1

Sheet #: of

2. UNIT SHALL BE PROTECTED BY A SHEET METAL HOUSING. HEAT EXCHANGER SHALL BE RATED FOR MAXIMUM WORKING PRESSURE NOT LESS THAN 150 PSIG.

3. ALL ASPECTS OF INSTALLATION OF WATER HEATER PLANT SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. MATERIALS SHALL CONFORM TO ALL MANUFACTURER RECOMMENDATION INCLUDING ELECTRICAL CONNECTIONS AND WIRING.

4. WATER HEATER PIPING SHALL BE FIELD CONSTRUCTED OF MATERIALS AS SPECIFIED. WATER HEATER SHALL BE INSTALLED WITH INDIVIDUAL ISOLATING SHUTOFF VALVES FOR SERVICE AND MAINTENANCE.

E. WATER BOOSTER PUMP

1. THE SYSTEM SHALL INCLUDE TWO CLOSE-COUPLED, BRONZE-FITTED, END SUCTION CENTRIFUGAL PUMPS, EACH RATED 110 GPM AT 82.65 FT. TDH.

2. THE PUMPS ARE TO BE OF THE BACK PULL-OUT DESIGN, WITH CENTER-LINE DISCHARGE, BRONZE SHAFT SLEEVE, ENCLOSED BRONZE IMPELLER AND MECHANICAL SHAFT SEAL.

3. INTERCONNECTING PIPING SHALL BE SUPPLIED IN LEAD FREE COPPER CONSTRUCTION WITH ALL ISOLATION VALVES AND CHECK VALVES PROVIDED IN BRASS CONSTRUCTION.

4. THE SYSTEM SHALL BE FACTORY ASSEMBLED ON A STEEL BASE AND SHALL INCLUDE COPPER SUCTION AND DISCHARGE HEADERS, A PRESSURE GAUGE FOR EACH HEADER, AN ISOLATION VALVE ON THE SUCTION AND DISCHARGE OF EACH PUMP AND A TEMPERATURE SENSING PURGE VALVE.

5. ALL MATERIAL SHOULD MEET SDWA 1.01.2014 AMENDMENT COMPATIBILITY AND DESIGNED IN ACCORDANCE WITH NSF-61 REQUIREMENTS.

F. SEWAGE EJECTOR PUMP

1. SEWAGE EJECTOR PUMP WILL BE COMPLETELY SUBMERSIBLE, CAPABLE OF SELF-COMMINUTING UNSCREENED SEWAGE, AUTOMATIC OPERATION, WITH ONE PIECE CAST IRON OR BRONZE NON-CLOG BALANCED IMPELLER.

2. SEWAGE EJECTOR PUMP SHOULD HAVE HEAVY DUTY CAST IRON CASING, IMPELLER, AND MOTOR HOUSING.

3. THE PUMP PIT/BASIN SHALL HAVE A STEEL COVER WITH REQUIRED OPENINGS FOR PUMPS, CONTROLS, AND VENT CONNECTIONS.

4. COVER AND FRAME ARE TO BE OF GASTIGHT CONSTRUCTION AND SHALL BE TREATED WITH CORROSION RESISTANT COATING.

5. EQUIP SUBMERSIBLE MOTOR WITH NATIONAL ELECTRICAL CODE CLASS 1, DIVISION 1 (EXPLOSION-PROOF) RATED SERVICE; UL LISTED FOR CLASS 1, GROUP C AND D IN AIR OR SUBMERSIBLE IN SEWAGE SHAFTS SHOULD BE CARBON STEEL.

6. DESIGN TO OPERATE ON A SINGLE PHASE, 60 HERTZ, 120 VOLT CIRCUIT (NEMA STANDARD MOTOR VOLTAGE 115 V).

G. SUMP PUMP

1. SUMP PUMP WILL BE COMPLETELY SUBMERSIBLE, AUTOMATIC OPERATION, WITH A SCREENLESS SUCTION, NON-CLOG IMPELLER, AND LIFTING BAIL.

2. EQUIP SUBMERSIBLE MOTOR WITH BUILT-IN THERMAL OVERLOAD PROTECTION

3. DESIGN TO OPERATE ON A SINGLE PHASE, 60 HERTZ, 120 VOLT CIRCUIT (NEMA STANDARD MOTOR VOLTAGE 115 V).

4. SUMP PUMP CASTING AND EXTERIOR COVER SHOULD BE BRASS OR BRONZE. IMPELLER SHOULD BE BRONZE, SHAFT SHOULD BE STEEL,SEALED AGAINST CONTACT WITH MOISTURE.

H. MIXING VALVES

1. VALVE BODY SHALL BE MADE OF CAST BRASS. THE INTERNAL COMPONENTS SHALL BE MADE OF BRASS OR STAINLESS STEEL.

2. TYPES A, C & D VALVES: VALVE SHUTS OFF IN FULL COLD POSITION AND MUST PASS THROUGH COLD RANGE BEFORE DELIVERING WARM, AND/OR HOT WATER. TEMPERATURE LIMIT SET AT 105ºF MAXIMUM DELIVERY TEMPERATURE. IF ONE SUPPLY SHOULD FAIL, THE OTHER WILL AUTOMATICALLY AND INSTANTLY SHUT DOWN. DELIVERY CAPACITY IS 5GPM @ 45 PSIG DIFFERENTIAL.

3. TYPES OF VALVES: TYPE A- THERMOSTATICALLY OPERATED BY MEANS OF BI-METALLIC STRIP, OR EXPANSION BELLOWS; TYPE B- SINGLE HANDLE MECHANICAL MIXER, OR INDIVIDUAL HOT AND COLD CONTROL VALVES; TYPE C- PRESSURE BALANCING SHOWER VALVE/PISTON OPERATED MIXING VALVE; TYPE D- BALANCED PRESSURE OPERATION, WITH INTEGRAL DIAL THERMOMETER INDICATING DELIVERED WATER TEMPERATURE.

4. EACH ELEMENT SHALL BE CONTROLLED BY AN INDIVIDUALLY MOUNTED THERMOSTAT AND HIGH TEMPERATURE CUT-OFF SWITCH. ALL INTERNAL CIRCUITS SHALL BE FUSED. THE OUTER JACKET SHALL BE OF BAKED ENAMEL FINISH AND SHALL BE PROVIDED WITH FULL SIZE CONTROL COMPARTMENT FOR PERFORMANCE OF SERVICE AND MAINTENANCE THROUGH HINGED FRONT PANEL AND SHALL ENCLOSE THE TANK WITH FOAM INSULATION. ELECTRICAL JUNCTION BOX WITH HEAVY DUTY TERMINAL BLOCK SHALL BE PROVIDED. THE DRAIN VALVE SHALL BE LOCATED IN THE FRONT FOR EASE OF SERVICING.

I. HOT WATER RE-CIRCULATING PUMP

1. IN-LINE PUMP; SINGLE STAGE VOLUTE TYPE PUMP SHALL BE MADE OF CAST IRON OR FORGED LEAD-FREE BRONZE IMPELLER.

2. THE PUMP SHALL HAVE A GROUND AND POLISHED STEEL SHAFT WITH A HARDENED INTEGRAL THRUST COLLAR. THE SHAFT SHALL BE SUPPORTED BY TWO HORIZONTAL SLEEVE BEARINGS DESIGNED TO CIRCULATE OIL. THE PUMPS ARE TO BE EQUIPPED WITH A MECHANICAL SEAL WITH CARBON SEAL FACE ROTATING AGAINST CERAMIC SEAT. THE MOTOR SHALL BE NON-OVERLOADING AT ANY POINT ON PUMP CURVE.

3. DIRECT CONNECT PUMP TO ELECTRIC MOTOR WITH FLEXIBLE COUPLING. THE MOTOR SHALL BE OF THE DRIP-PROOF, SLEEVE-BEARING, QUIET OPERATING, RUBBER-MOUNTED CONSTRUCTION. EQUIPMENT MOTOR WITH BUILT-IN THERMAL OVERLOAD PROTECTION.

4. INSTALL IN-LINE CIRCULATING PUMPS BETWEEN PIPE FLANGES IN PIPING SYSTEMS. INSTALL OVERHEAD PIPE SUPPORTS, BOTH SIDES OF IN-LINE PUMPS, INSTALLED IN HORIZONTAL PIPING RUNS.

J. HANGERS AND SUPPORTS:

1. HANGERS SHALL BE STANDARD STEEL, MALLEABLE OR WROUGHT IRON, AS MANUFACTURED BY GRINNELL OR APPROVED EQUAL, SUITABLE FOR THE TYPE OF CONSTRUCTION. PIPING SHALL NOT BE HUNG FROM OTHER PIPE.

2. SECTIONS OF INDIVIDUAL PIPE RUNS SHALL BE SUPPORTED BY CLEVIS HANGERS.

3. ALL EQUIPMENT SHALL BE PROVIDED WITH APPROVED SUPPORTS.

4. PROVIDE SEISMIC RESTRAINTS IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND STANDARDS AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

5. UNLESS OTHERWISE INDICATED OR REQUIRED BY AUTHORITIES HAVING JURISDICTION, THE FOLLOWING SHALL BE PROVIDED WITH SEISMIC RESTRAINTS AS REQUIRED BY THE BOCA NATIONAL BUILDING CODE, SECTION 1610.6.4: ALL EQUIPMENT AND MACHINERY, ALL NEW PIPING 2-1/2" AND LARGER (1-1/4" AND LARGER INBOILER/MECHANICAL ROOMS) WITH HANGERS GREATER THAN 12" IN LENGTH FROM THE TOP OF PIPE TO THE STRUCTURE.

6. SUPPORTS SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPING MANUFACTURER.

K. VALVES:

1. PROVIDE GATE VALVES, BUTTERFLY OR BALL VALVES FOR SHUT-OFF DUTY ON MAIN AND BRANCH SUPPLY LINES. FOR ALL PIPE RUNS 2" AND SMALLER, PROVIDE BALL FOR ALL PIPE RUNS LARGER THAN 2" AND SMALLER THAN 4", PROVIDE GATE VALVES. PIPING 4" AND LARGER, PROVIDE BUTTERFLY VALVES FOR SHUT-OFF DUTY.

2. ALL FIXTURES WITH THE EXCEPTION O FLUSHOMETER-EQUIPPED WATER CLOSETS AND URINALS SHALL HAVE STOP VALVES TO CONTROL SUPPLY TO THE FIXTURE. WHERE SUPPLIES ARE EXPOSED PROVIDE CHROME-PLATED STOPS WITH CHROME-PLATED ESCUTCHEONS ON PIPING PENETRATIONS.

3. ALL PLUMBING FIXTURES AND EQUIPMENT TO HAVE SHUT-OFF VALVES ON SUPPLY LINES.

4. ALL BRANCH LINES TO HAVE SHUT-OFF VALVES.

5. ALL VALVES SHALL BE ACCESSIBLE. PROVIDE ACCESS DOORS WHERE REQUIRED FOR VALVE ACCESS.

6. PROVIDE GLOBE VALVES FOR THROTTLING/BALANCING OF THE HOT WATER CIRCULATING SYSTEM.

L. SLEEVES AND ESCUTCHEONS:

1. SLEEVES THROUGH STRUCTURAL CONCRETE MEMBERS AND SLEEVES FOR WALLS BELOW GRADE AND FLOORS ON GRADE SHALL BE STANDARD WEIGHT GALVANIZED SCHEDULE 40 STEEL PIPE. SLEEVES THROUGH OTHER THAN STRUCTURAL COMPONENTS OF THE BUILDING SHALL BE 20 GAGE GALVANIZED SHEET METAL WITH LOCK SEAM JOINTS. USG THERMAFIBER SAFING INSULATION SHALL BE INSTALLED BETWEEN PIPE AND SLEEVE.

2. PIPE ESCUTCHEON PLATES SHALL BE INSTALLED WHERE EXPOSED PIPING PASSES THROUGH WALLS, CEILINGS, AND FLOORS AND SHALL BE MINIMUM 20 GAGE STEEL. PROVIDE CHROME PLATED ESCUTCHEON PLATES IN FINISHED AREAS.

M. DRAINAGE ACCESSORIES

1. GENERAL:

a. INSTALL THE WORK OF THIS SECTION IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, UNLESS OTHERWISE SPECIFIED.

b. SECURE EXTERNAL COMPONENTS IN PLACE WITH VANDAL RESISTANT FASTENERS OR DEVICES WHICH CANNOT BE REMOVED WITHOUT SPECIAL TOOLS.

2. DEVICES:

a. CLEANOUT & CLEANOUT PLUG

- THREADED PIPE FITTING OR CAST IRON FERRULE WITH GAS TIGHT CLEANOUT PLUG
- PLUG SHOULD BE CAST BRASS OR BRONZE, WITH THREADED END, AND RAISED OR COUNTERSUNK HEAD.
- LUBRICATE THREADS OF CLEANOUT PLUG WITH ANTI-SEIZE LUBRICANT BEFORE FINAL INSTALLATION.

b. CLEANOUT WALL PLATE

- IT SHOULD BE ROUND, STAINLESS STEEL OR POLISHED CHROME PLATED BRONZE COVER PLATE WITH STAINLESS STEEL VANDAL RESISTANT FASTENER TO SECURE TO CLEANOUT PLUG.

c. CLEANOUT DECK PLATE

- IT SHOULD BE STANDARD DUTY FLOOR CLEANOUT FITTING WITH COATED CAST IRON BODY; ROUND, POLISHED NICKEL BRONZE SCORIATED TOP SECURED TO CLEANOUT PLUG WITH STAINLESS STEEL VANDAL RESISTANT FASTENER; THREADED HEIGHT ADJUSTMENT, CAST IRON HEAD, GAS TIGHT CLEANOUT PLUG, AND CONNECTION TO MATCH PIPING OPTION SELECTED.

d. HOUSE TRAP

- SERVICE WEIGHT CAST IRON SOIL PIPE RUNNING TRAP WITH BELL AND SPIGOT ENDS AND TWO CLEANOUT HUBS.

e. FRESH AIR INTAKE

- PIPE MATERIAL SHOULD BE SAME AS DRAINAGE SYSTEM AT POINT OF CONNECTION
- GRILLE FREE AREA SHOULD BE AT LEAST EQUAL TO CROSS-SECTION AREA OF PIPE TO WHICH CONNECTION MADE AND MADE OF POLISHED NICKEL BRONZE, WITH REMOVABLE GRATE, EITHER PERFORATED OR BAR TYPE. GRATE ATTACHED TO GRILLE BODY WITH VANDAL RESISTANT FASTENER.

4. INDIRECT WASTE FUNNEL

a. IT SHOULD BE COMBINATION OF FUNNEL DRAIN AND P TRAP WITH POLISHED CHROME PLATED CAST BRASS CONSTRUCTION WITH 4" TOP DIA., 4" DEEP WITH THREADED OUTLET.

N. INSTALL PIPING TO CONSERVE BUILDING SPACE. DO NOT INTERFERE WITH USE OF BUILDING SPACE AND THE WORK OF OTHER TRADES. ALL PIPING RUN IN CEILING SHALL BE INSTALLED TIGHT TO THE STRUCTURE ABOVE.

O. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR CONNECTED EQUIPMENT. PROVIDE PIPE ANCHORS, GUIDES AND EXPANSION JOINTS OR LOOPS IN ALL HOT WATER AND HOT WATER CIRCULATING MAIN SUPPLY PIPING AND SEGMENTS OF SUCH PIPE THAT EXCEED 30'-0" IN LENGTH.

P. IN ALL AREAS WITH FINISHED SURFACES, SYSTEM PIPING AND COMPONENTS SHALL BE CONCEALED ABOVE OR WITHIN FINISHED SURFACES.

Q. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL. REMOVE PROTECTIVE COATINGS PRIOR TO INSTALLATION.

R. REDUCTIONS IN PIPE SIZES SHALL BE MADE WITH ONE-PIECE REDUCING FITTINGS. BUSHINGS ARE NOT ACCEPTABLE. USE FLANGED FITTINGS AT THE BASE OF RISERS.

S. VENT PENETRATIONS THROUGH THE ROOF SHALL BE FLASHED.

T. IF WATER PRESSURE EXCEEDS 80 PSI, A WATER PRESSURE REDUCING VALVE SHALL BE INSTALLED IN WATER PIPING AT CONNECTION TO MAIN.

U. PROVIDE DIELECTRIC FITTINGS BETWEEN DISSIMILAR METALS.

V. PIPE BACKFLOW PREVENTER DRAINS TO FLOOR DRAIN OR OTHER APPROVED INDIRECT WASTE SOURCE.

W. PROVIDE ACCESS DOORS/PANELS FOR SERVICE AND ACCESS TO ALL VALVES AND OTHER SYSTEM COMPONENTS ENCLOSED IN WALLS AND CEILINGS. ACCESS DOORS SHALL BE FURNISHED BY THIS CONTRACTOR, INSTALLED BY THE GENERAL CONTRACTOR.

X. ALL FIXTURES REQUIRING VACUUM BREAKERS SHALL BE EQUIPPED WITH INTEGRAL VACUUM BREAKERS.

Y. ANY PENETRATIONS THROUGH FIRE RATED PARTITIONS, FLOORS, OR CEILINGS SHALL BE STEEL SLEEVED AND SEALED WITH 3M BRAND UL RATED FIRE BARRIER CAULK OR APPROVED EQUAL.

Z. WHEN THE WATER PIPING SYSTEM IS COMPLETE, THOROUGHLY FLUSH ALL DIRT, SEDIMENT, SOLDER, ETC., OUT OF THE SYSTEM, REMOVING ALL STRAINERS, VALVE STEM SEATS, ETC., REQUIRED TO ACCOMPLISH THE FLUSHING.

AA. AT ALL INDIRECT WASTE DRAINS, MAINTAIN AIR GAP AS REQUIRED BY CODE.

AB. ALL PIPING INSTALLED ON THE ROOF SHALL BE SUPPORTED BY "PILLOW BLOCK" PIPE STANDS AS MANUFACTURED BY MIRO INDUSTRIES, OR APPROVED EQUAL. WOOD PIPE SUPPORTS SHALL NOT BE ACCEPTABLE. PROVIDE TRAFFIC/WALK PADS BELOW ALL PIPE STANDS.

AC. INSTALL SLEEVES FOR ALL PIPES WHICH PASS THROUGH WALLS, FLOORS, AND CEILINGS. WHERE PIPES ARE TO BE INSULATED, THE SLEEVE SHALL BE LARGE ENOUGH TO ACCOMMODATE INSULATION. SLEEVES SHALL BE FLUSH WITH FINISHED SURFACES AT BOTH ENDS. ON FINISHED SURFACES IN EXPOSED AREAS PROVIDE ESCUTCHEONS COMPATIBLE WITH FINISH.

AD. PROVIDE WATER HAMMER ARRESTERS ON SUPPLY PIPING TO ALL FLUSHOMETER VALVES AND QUICK-CLOSING VALVES.

AE. UNLESS OTHERWISE INDICATED, TRAPS SEALS AT ALL FLOOR DRAINS SHALL BE MAINTAINED BY AN APPROVED TRAP PRIMING DEVICE.

AF. MAINTAIN ALL REQUIRED AND RECOMMENDED CLEARANCES FOR ALL PLUMBING SYSTEM COMPONENTS AND EQUIPMENT.

AG. MAINTAIN MINIMUM 10'-0" CLEARANCE BETWEEN ALL PLUMBING V.T.R.S AND ALL OUTDOOR AIR INTAKES. OFFSET VENT STACKS AND STACK VENTS IF AND AS REQUIRED BELOW ROOF TO MAINTAIN SUCH CLEARANCE WHETHER OR NOT SUCH OFFSET IS INDICATED ON THE DRAWINGS. PROVIDE ALL REQUIRED SEISMIC SUPPORTS.

2. INSTALLATION

2.01 GENERAL

A. ALL WORK WHICH REQUIRES DISRUPTION OF THE ROOFING SHALL BE DONE BY A CONTRACTOR CERTIFIED BY THE ROOFING MANUFACTURER.

B. EXTERIOR INSTALLATIONS TO BE WEATHER PROOF IN ALL RESPECTS.

C. EXTERIOR MATERIALS AND EQUIPMENT SHALL BE PAINTED TO PREVENT CORROSION, COLOR PER ARCHITECT.

D. COORDINATE THE PLUMBING WORK WITH ALL OTHER AFFECTED WORK AND THE CONSTRUCTION SCHEDULE.

E. REAM PIPE AND TUBE ENDS. REMOVE BURRS. BEVEL PLAIN AND FERROUS END PIPE.

F. REMOVE SCALE AND FOREIGN MATERIAL, FROM INSIDE AND OUTSIDE, BEFORE ASSEMBLY.

G. PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES AND UNIONS.

H. COORDINATION WITH THE WORK OF OTHER TRADES IS REQUIRED. PROVIDE OFFSETS IN PIPING SYSTEMS OR MINOR DEVIATIONS TO THE INDICATED PIPE ROUTING IN ORDER TO COORDINATE THE PLUMBING WORK WITH THE WORK OF ALL OTHER TRADES AND THE GENERAL BUILDING CONDITIONS.

I. NO DOMESTIC WATER PIPING SHALL BE INSTALLED IN UNHEATED SPACES.

J. THE PLUMBING CONTRACTOR IS ADVISED THAT DUE TO THE NATURE OF THE OPERATIONS AND TENANT REQUIREMENTS, CONNECTIONS TO EXISTING SYSTEMS MAY HAVE TO BE MADE AFTER REGULAR WORKING HOURS. THE PROPERTY MANAGER WILL ADVISE THE PLUMBING CONTRACTOR OF THE TIME CONSTRAINTS UPON RECEIPT AND APPROVAL OF THE PLUMBING CONTRACTOR'S REQUEST FOR SHUT DOWN AND CONNECTION TO EXISTING SYSTEMS.

K. WHEN CONNECTING TO STACKS AND RISERS, PROVISION IS TO BE MADE FOR FUTURE CONNECTIONS BY PROVIDING CAPPED AND VALVED OUTLETS ON DOMESTIC WATER RISERS AND PLUGGED OUTLETS ON THE SANITARY AND VENT STACKS.

2.02 ABOVE GRADE

A. INSTALL PLUMBING PIPING IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PIPING COMPLIES WITH REQUIREMENTS AND SERVES INTENDED PURPOSES.

B. ROUTE PIPING IN AN ORDERLY MANNER, PLUMB AND PARALLEL TO BUILDING STRUCTURE. MAINTAIN GRADIENT. SLOPE PIPING AND ARRANGE SYSTEMS TO DRAIN. IN DOMESTIC WATER SYSTEMS, PROVIDE DRAIN VALVES AT MAIN SHUT-OFF VALVES AND ALL LOW POINTS IN PIPING.

C. USE CONNECTIONS AT MAINS WHERE AVAILABLE FOR NEW BRANCH PIPING. LOCATE ALL RISERS AND PIPING BEFORE CONSTRUCTION COMMENCES AND TAKE CARE NOT TO DAMAGE SAME. ANY DAMAGE OCCURRING TO THE EXISTING PIPING WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

2.03 INSULATION

COVER ALL HOT WATER AND HOT WATER RECIRCULATION PIPE WITH 1" THICK FOR PIPE SIZE UP TO 1¼" AND 1½" THICK FOR PIPE SIZE 1½" AND GREATER WITH MANVILLE MICRO-LOK AP-T PLUS FIBERGLASS INSULATION. COVER ALL COLD WATER PIPE WITH ½" THICK FOR PIPE SIZE UP TO 1¼" AND 1" THICK FOR PIPE SIZE 1½" AND GREATER WITH 1" MANVILLE MICRO-LOK AP-T PLUS FIBERGLASS INSULATION. FITTINGS AND VALVES SHALL BE INSULATED WITH MANVILLE ZESTON 2000 PVC INSULAT-ED FITTING COVERS. INSTALL ALL INSULATION AS PER MANUFACTURERS RECOMMENDATIONS. ALL INSULATION MATERIAL SHALL COMPLY WITH THE NEW YORK CITY BUILDING CODE REQUIREMENT OF A FLAME SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DEVELOPED RATING NOT TO EXCEED 50. ALL PIPE INSULATION SHALL COMPLY WITH 2016 APPENDIX CA (MODIFIED ASHRAE 90.1) NYC ENERGY CONSERVATION CODE.

3. TESTING

A. AT THE COMPLETION OF THE PLUMBING WORK, COMPLETELY TEST THE ENTIRE INSTALLATION OF ALL SYSTEMS FOR PROPER OPERATION AND COMPLIANCE WITH APPLICABLE CODES AND LOCAL REQUIREMENTS. CORRECT ALL DEFICIENCIES FOUND.

B. TESTING OF THE INSTALLED SYSTEMS SHALL BE MADE BY THE CONTRACTOR IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER.

C. THE CONTRACTOR SHALL NOT COVER UP OR PERMANENTLY CONCEAL PIPING, DEVICES OR ANY PORTION OF NEWLY CONSTRUCTED PLUMBING SYSTEM(S) UNTIL SUCH SYSTEM, OR PORTION OF THE SYSTEM, HAS BEEN TESTED IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER AND INSPECTED BY THE LOCAL INSPECTOR AND APPROVED IN WRITING, EXCEPT PIPING PASSING THROUGH FLOORS, WALLS, PARTITIONS, OR BEAMS, FOR DISTANCES EQUAL TO THE THICKNESS OF SUCH FLOOR, WALL, PARTITION OR BEAM.

D. THIS CONTRACTOR SHALL NOTIFY THE VARIOUS DEPARTMENTS, BUREAUS AND INDIVIDUALS AT LEAST TWO WEEKS IN ADVANCE OF THE TIME THAT THE TESTS ARE TO BE CONDUCTED.

E. ALL DEFECTIVE PARTS SHALL BE REPLACED OR CORRECTED BY THIS CONTRACTOR AND AN EXTRA TEST OR TESTS SHALL BE MADE UNTIL THE OPERATION IS SATISFACTORY. ALL ARRANGEMENTS AND EXPENSES NECESSARY TO CONDUCT ALL TESTS REQUIRED BY THESE SPECIFICATIONS AND THE VARIOUS AGENCIES HAVING JURISDICTION OVER THE WORK INSTALLED UNDER THIS CONTRACT SHALL BE MADE BY THIS CONTRACTOR. NO EXTRA COMPENSATION WILL BE ALLOWED FOR THESE TESTS, THE COST THEREOF BEING INCLUDED IN THE LUMP SUM BID FOR THIS CONTRACT.

F. WHERE ANY EVIDENCE OF STOPPAGE IS FOUND IN PIPING OR EQUIPMENT, THIS CONTRACTOR SHALL DISCONNECT, CLEAN, REPAIR AND RECONNECT ALL OBSTRUCTED PIPING OR EQUIPMENT AND SHALL ALSO PAY FOR ALL NECESSARY CUTTING AND REPAIRS TO ADJOINING WORK.

G. ALL PIPING AND EQUIPMENT SHALL BE THOROUGHLY CLEANED INSIDE AND OUT, OF DIRT, CUTTINGS, OILS AND OTHER FOREIGN SUBSTANCES AND SHALL BE LEFT CLEAN.

H. ALL REQUIRED TESTS SHALL BE WITNESSED BY LOCAL AUTHORITIES AND THE OWNER'S REPRESENTATIVE.

J. ALL EQUIPMENT WILL BE FACTORY TESTED.

I. CONTRACTOR SHALL IDENTIFY TO THE OWNER'S REPRESENTATIVE ANY LEAKS OR DAMAGE THAT OCCURS AS A RESULT OF SYSTEM TESTING. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO LIMIT ANY POTENTIAL DAMAGE. CORRECTIVE ACTION REQUIRED AS A RESULT OF TESTING SHALL BE PERFORMED IMMEDIATELY AND AT THE CONTRACTOR'S EXPENSE.

K. REPORT IN WRITING TO AUTHORITIES HAVING JURISDICTION, THE ARCHITECT AND THE OWNER THE RESULTS OF ALL TESTING.

L. TESTING REQUIREMENTS

a. TEST ALL DOMESTIC WATER PIPING HYDROSTATICALLY TO 125 PSIG.
b. HYDROSTATIC TEST PRESSURES SHALL REMAIN CONSTANT WITH NO VARIATION FOR 120 MINUTES.
c. TESTS SHALL BE WITNESSED BY THE BUILDING ENGINEER.
d. THE PLUMBING CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DUE TO TEST FAILURES AND LEAKAGE IN THE TEST AREA AND ADJACENT TENANT OR ESB SPACES.

M. REFILL ENTIRE POTABLE HOT AND COLD WATER SUPPLY SYSTEM WITH CHLORINE SOLUTION (HTH OLIN CHEMICAL CORP.) AT A STRENGTH TO MEET STANDARDS OF THE DEPARTMENT OF HEALTH, AND FOR A PERIOD OF RETENTION AS STIPULATED.

N. THOROUGHLY FLUSH PIPING SYSTEM WITH FRESH WATER IMMEDIATELY PRIOR TO FINAL ACCEPTANCE.

4. WARRANTY

A. EQUIPMENT, MATERIALS AND WORKMANSHIP FURNISHED UNDER THIS CONTRACT SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER. THE CONTRACTOR SHALL KEEP THE WORK IN GOOD REPAIR FOR ONE YEAR AFTER THE DATE OF FINAL APPROVAL. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROMPTLY CORRECT AND REPAIR ANY AND ALL BREAKS, FAILURES OR WEAR DUE TO FAULTY MATERIALS, WORKMANSHIP OR EQUIPMENT. ALL SETTLEMENTS OF SURFACES THAT MAY OCCUR WITHIN THAT PERIOD SHALL ALSO BE PROMPTLY REPAIRED.

SPECIAL INSPECTION PLUMBING NOTE:

1. FIRE RESISTANT PENETRATION & JOINTS IN ACCORDANCE WITH NY CITY BUILDING CODE BC-1704.27
2. FINAL INSPECTION IN ACCORDANCE WITH NY CITY BUILDING CODE BC 110.5 DIRECTIVE FROM 14 OF 1975, AND 1 RCNY § 101-10
3. POST INSTALLATION ANCHOR INSPECTION TO BE DONE IN ACCORDANCE WITH NY CITY BUILDING CODE BC-1704.32
4. SOIL PERCOLATION TEST-PRIVATE ON SITE STORM WATER SYSTEM AND DETENTION FACILITIES INSPECTION TO BE DONE IN ACCORDANCE WITH NY CITY BUILDING CODE BC 1704.21.1.2
5. PRIVATE ON-SITE STORM WATER SYSTEM AND DETENTION FACILITIES INSTALLATION INSPECTION TO BE DONE IN ACCORDANCE WITH NY CITY BUILDING CODE BC 1704.21.2
6. HEATING SYSTEMS BC1704.25

PROGRESS INSPECTION NOTES:

THE FOLLOWING PROGRESS INSPECTIONS FOR PLUMBING SYSTEMS SHALL BE PERFORMED AS REQUIRED BY THE SECTIONS CITED FROM THE 2014 NYC BUILDING CODE.

1. HVAC AND SERVICE WATER HEATING EQUIPMENT
2. HVAC AND SERVICE WATER HEATING SYSTEM CONTROLS

SYSTEMS COMMISSIONING PURSUANT TO SECTION 408.3, NYCECC-2016 APPENDIX CA (MODIFIED ASHRAE 90.1-2013)
SYSTEMS REQUIRING COMMISSIONING
1- SERVICE WATER HEATING SYSTEMS.

ENERGY CONSERVATION CODE OF NEW YORK CITY COMPLIANCE

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND JUDGEMENT, THESE PLANS AND SPECIFICATION ARE IN COMPLIANCE WITH THE ENERGY CONSERVATION CODE OF NEW YORK CITY 2016 APPENDIX CA (MODIFIED ASHRAE 90.1-2013)

PAUL A. CASTRUCCI ARCHITECT

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NOTES:

NORTH:

Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	50% CD	03/20/2020
6	75% CD	04/22/2020
7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	REVISED CD SET	09/07/2021
11	ADDENDUM#1	01/05/2022

MEP:
NEW YORK ENGINEERS
1460 BROADWAY
New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
-

Drawing Tile:

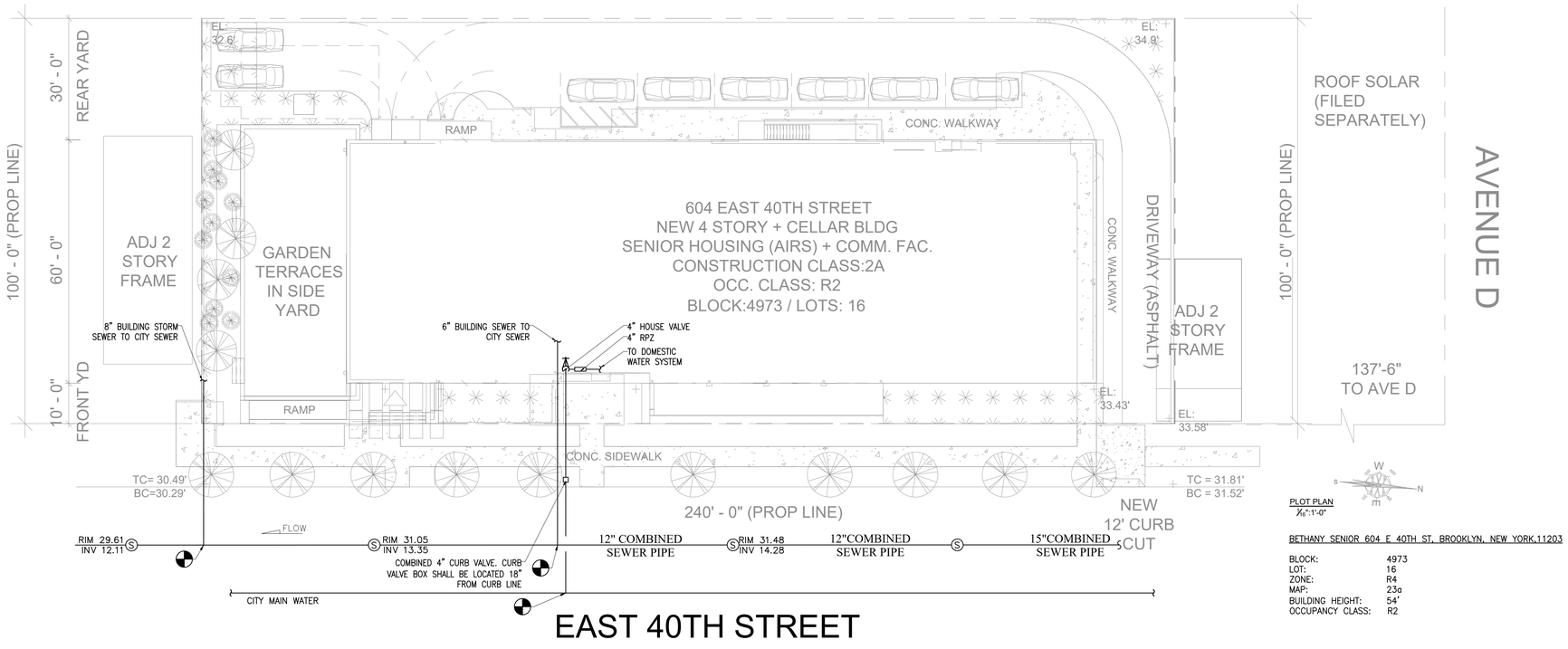
PLUMBING SYMBOLS, ABBREVIATIONS, NOTES & SPECIFICATIONS (2 OF 2)

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Chkd By #:NYE
Drawing #: P-002.00

DOB #:B00235831-II
Sheet #: of



PLOT PLAN
1/16":1'-0"

BETHANY SENIOR 604 E 40TH ST, BROOKLYN, NEW YORK,11203

BLOCK:	4973
LOT:	16
ZONE:	R4
MAP:	23a
BUILDING HEIGHT:	54'
OCCUPANCY CLASS:	R2

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Drawing Tile:

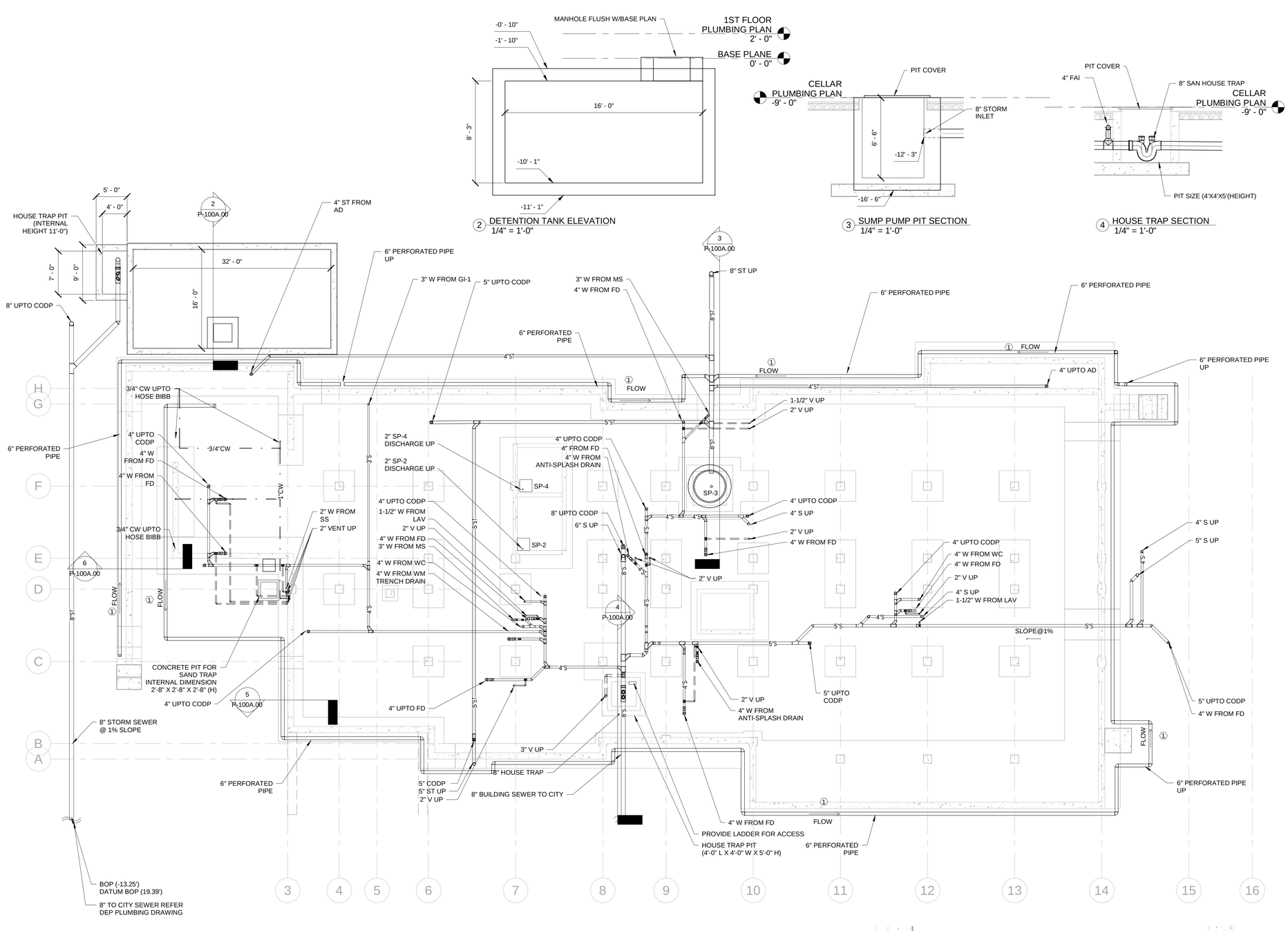
PLUMBING PLOT PLAN

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Drawn By #:NYE
Chkd By #:NYE
Drawing #:
P-003.00

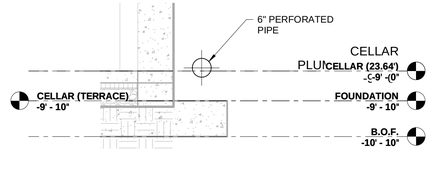
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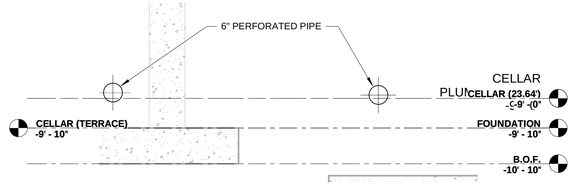
1 UNDERGROUND PLUMBING PLAN
1/8" = 1'-0"

KEYNOTE:

① CONTRACTOR TO COORDINATE W/ARCHITECT FOR SLOPE REQUIREMENT AND DETAILS OF PERFORATED PIPE.



5 FOUNDATION DRAIN SECTION-1
1/2" = 1'-0"



6 FOUNDATION DRAIN SECTION-2
1/2" = 1'-0"

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PROJECT:

BETHANY TERRACES

FOR:
–

Drawing Tile:

UNDERGROUND PLUMBING PLAN

Date:

Seal/Signature:

Scale: As indicated
Drawn By #: NYE
Chkd By #: NYE
Drawing #: P-100A.00
Sheet #: of

DOB #: B00235891-I1

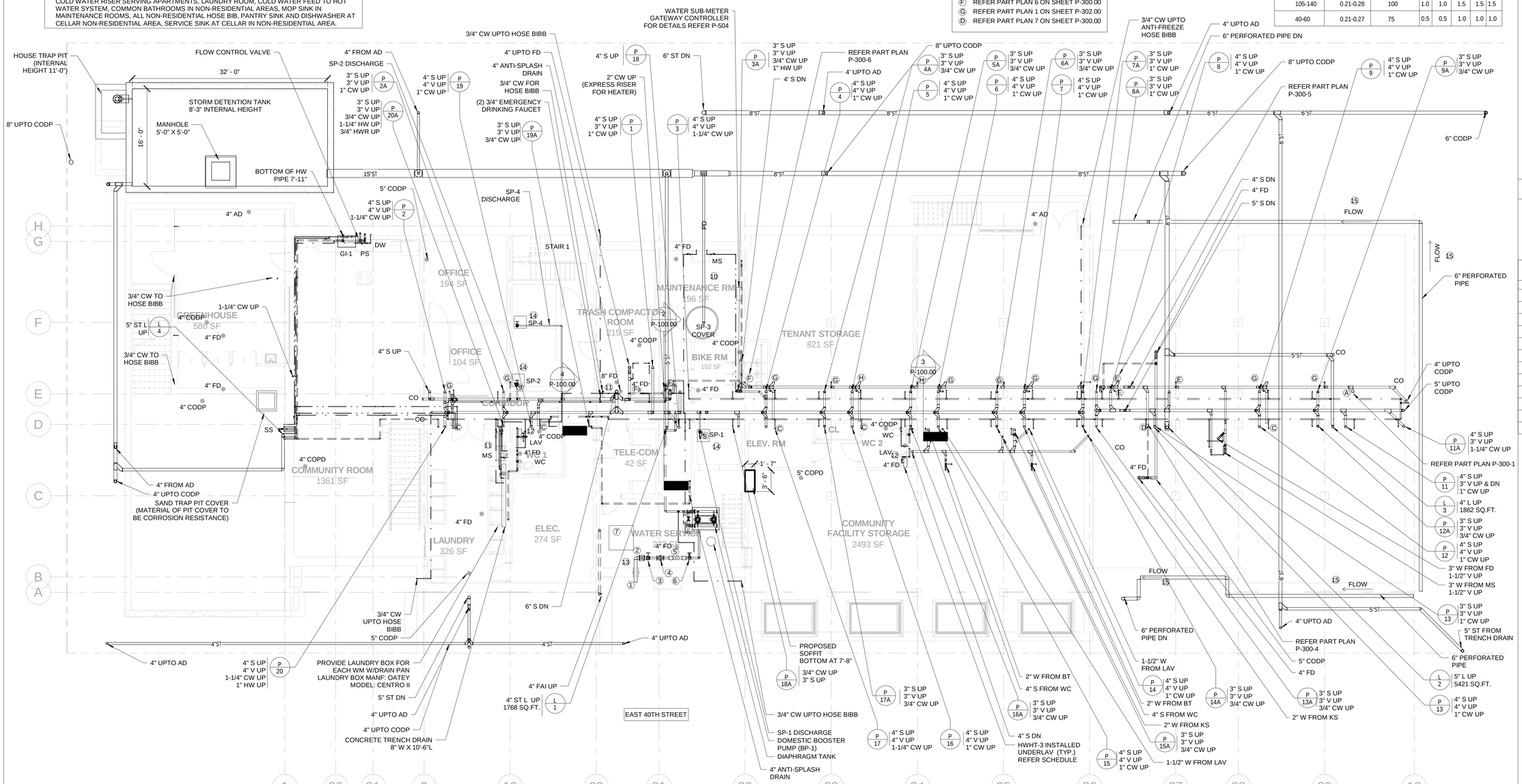
WATER SUB-METER NOTES:

1. PROVIDE BID BREAKDOWN FOR THE WATER SUBMETERING SYSTEM AS DESIGNED IN THE CONSTRUCTION DOCUMENTS.
2. PROVIDE ALTERNATE BID PRICE FOR SUBMETERING EACH COLD WATER FEED FOR EVERY APARTMENT, LAUNDRY ROOM, COLD WATER FEED TO HOT WATER SYSTEM, COMMON BATHROOMS IN NON-RESIDENTIAL AREAS, MOP SINK IN MAINTENANCE ROOMS, ALL NON-RESIDENTIAL HOSE BIB, PANTRY SINK AND DISHWASHER AT CELLAR NON-RESIDENTIAL AREA, SERVICE SINK AT CELLAR IN NON-RESIDENTIAL AREA.
3. BID PRICE MUST INCLUDE AT MINIMUM THE FOLLOWING REQUIREMENTS: SUBMETERING EACH COLD WATER RISER SERVING APARTMENTS, LAUNDRY ROOM, COLD WATER FEED TO HOT WATER SYSTEM, COMMON BATHROOMS IN NON-RESIDENTIAL AREAS, MOP SINK IN MAINTENANCE ROOMS, ALL NON-RESIDENTIAL HOSE BIB, PANTRY SINK AND DISHWASHER AT CELLAR NON-RESIDENTIAL AREA, SERVICE SINK AT CELLAR IN NON-RESIDENTIAL AREA.

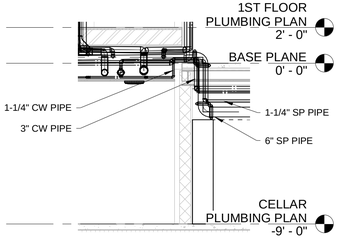
KEYNOTES:

- (A) REFER PART PLAN 1 ON SHEET P-300.00
- (B) REFER PART PLAN 2 ON SHEET P-300.00
- (C) REFER PART PLAN 3 ON SHEET P-300.00
- (D) REFER PART PLAN 4 ON SHEET P-300.00
- (E) REFER PART PLAN 5 ON SHEET P-300.00
- (F) REFER PART PLAN 6 ON SHEET P-300.00
- (G) REFER PART PLAN 1 ON SHEET P-302.00
- (D) REFER PART PLAN 7 ON SHEET P-300.00

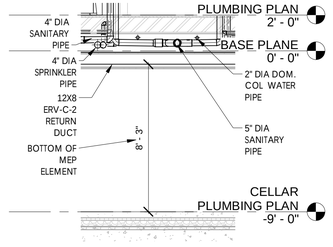
MINIMUM PIPE INSULATION THICKNESS							
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU - IN./ (H - FT2 - °F)	MEAN RATING TEMPERATURE, °F	<1	1 to < 1½	1½ to < 4	4 to < 8	<8
105-140	0.21-0.28	100	1.0	1.0	1.5	1.5	1.5
40-60	0.21-0.27	75	0.5	0.5	1.0	1.0	1.0



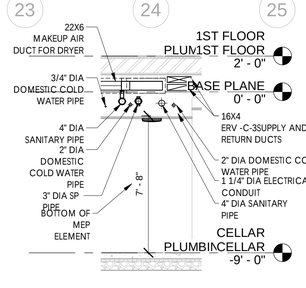
1 CELLAR PLUMBING PLAN
1/8" = 1'-0"



2 CELLAR CORRIDOR SECTION
1/4" = 1'-0"



3 CELLAR STORAGE SECTION
1/4" = 1'-0"



4 CELLAR ELEVATOR CORRIDOR SECTION
1/4" = 1'-0"

GENERAL NOTE:
1. TRADE CONTRACTORS TO PROVIDE ALL LOCATIONS OF REQUIRED ACCESS TO GENERAL CONTRACTOR. GENERAL CONTRACTOR TO COORDINATE WITH ARCHITECT ON ACCESS DOOR LOCATIONS AND INSTALL ACCESS DOORS.
2. FOR PIPE SIZING, REFER TO RISER DIAGRAMS.
3. FOR DETAIL REGARDING BFP, SITE CONNECTION & STORM DETENTION, REFER DEP APPROVED FILING DRAWING
4. HEATED WATER SUPPLY PIPING SHALL BE IN ACCORDANCE WITH NYC ENERGY CONSERVATION CODE 2016 SECTION C404.5.1, MAXIMUM ALLOWED PIPE LENGTH METHOD.
5. PROVIDE WATER SUB METERS AT EACH COLD WATER AND HOT WATER RISER TAKE OFFS TO FIXTURES.
6. PROVIDE TRAP PRIMER FOR ALL FLOOR DRAIN.
7. PROVIDE INSULATION FOR WATER PIPING AND VALVES IN ACCORDANCE WITH NYC ENERGY CONSERVATION CODE 2016 SECTION C404.4 AND REFER TABLE C403.2.10

LEGENDS

1. NEW 6" COMBINED INCOMING FIRE SPRINKLER AND 3" DOMESTIC WATER SERVICE FROM EAST 40TH STREET.
2. 6" HOUSE GATE VALVE OS&Y TYPE W/TAMPER SWITCH.
3. 3" DOMESTIC MICV INSTALLED VERTICALLY
4. NYC APPROVED DOMESTIC WATER METER W/REMOTE READER ENCODER.
5. BACKFLOW PREVENTER 3" RPZ FOR DOMESTIC WATER SERVICE.
6. 3" MOCV INSTALLED VERTICALLY & TEST TEE CONNECTION W/VALVE.
7. HOUSE TRAP PIT COVER.
8. ELEVATOR SUMP PUMP (SP-1)
9. ELEVATOR SUMP PUMP (SP-2)
10. STORM SUMP PUMP (SP-3)
11. PROVIDE SIGNAGE FOR EMERGENCY DRINKING AS PER NYC PLUMBING CODE SECTION PC 614.
12. CONNECT 3/4" CONDENSATE DRAIN PIPE UNDER LAVATORY WITH AIR GAP FITTING. FOR DRAIN PIPE LOCATION REFER MECHANICAL DRAWINGS.
13. BOTTOM OF WATER SERVICE SHOULD BE MINIMUM 12" ABOVE THE TOP OF HIGHEST POINT OF SEWER TO EXEMPT THE 5 FEET CRITERIA BETWEEN WATER SERVICE AND BUILDING SEWER AS PER NYC PC.
14. CHECK VALVE AND GATE VALVE INTSALLED VERTICALLY
15. CONTRACTOR TO COORDINATE W/ARCHITECT FOR SLOPE REQUIREMENT AND DETAILS OF PERFORATED PIPE.

PROPOSED SOFFIT

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9	SUBMETER REVISIONS	12/03/2020
10	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
11	REVISED CD SET	09/07/2021
12	ADDENDUM#1	01/05/2022

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DOB JOB STICKERS:

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Drawing Tile:

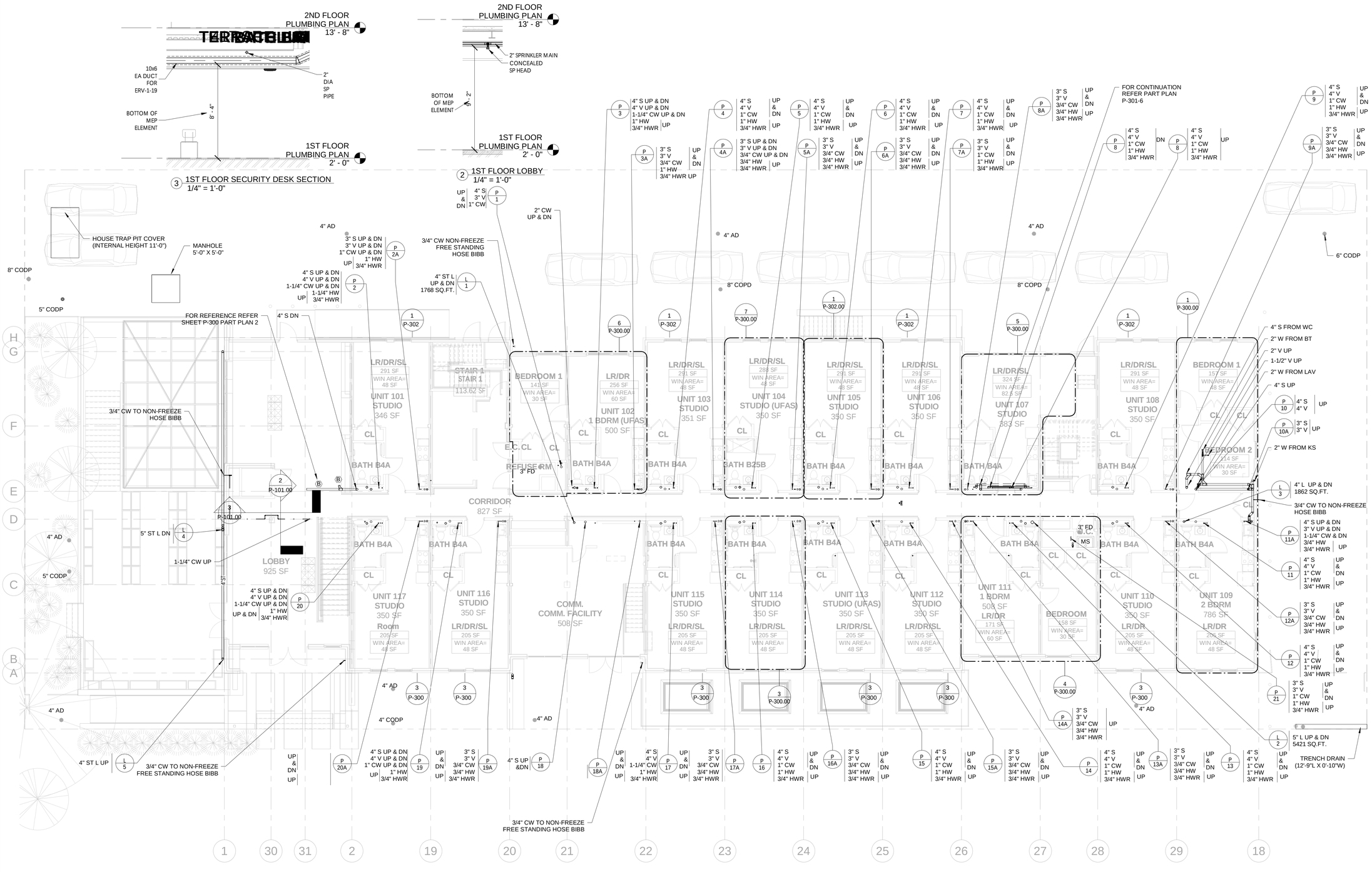
CELLAR PLUMBING PLAN

Date:

Seal/Signature:

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Drawn By #: NYE
Chkd By #: NYE
Drawing #: P-100.00

DOB #: B00235891-I1
Sheet #: of



1 1ST FLOOR PLUMBING PLAN
1/8" = 1'-0"

NOTES:
(A) FOR CONTINUATION REFER PART PLANS

GENERAL NOTE:
1. TRADE CONTRACTOR TO PROVIDE ALL LOCATIONS OF REQUIRED ACCESS TO GENERAL CONTRACTOR. GENEREAL CONTRACTOR TO COORDINATE WITH ARCHITECH ON ACCESS DOOR LOCATIONS AND INSTALL ACCESS DOOR.
2. FOR PIPE SIZING REFER TO RISER DIAGRAMS.
3. PROVIDE INSULATION FOR WATER PIPING AND VALVES IN ACCORDANCE WITH NYC ENERGY CONSERVATION CODE 2016 SECTION C404.4 AND REFER TABLE C403.2.10. REFER SHEET P-001.00.
4. HEATED WATER SUPPLY PIPING SHALL BE IN ACCORDANCE WITH NYC ENERGY CONSERVATION CODE 2016 SECTION C404.5.1 REFER SHEET P-001.00.
5. PROVIDE WATER SUB METERS AT EACH COLD WATER AND HOT WATER RISER TAKE OFFS TO FIXTURES REFER WATER RISER DIAGRAM.

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1ST FLOOR PLUMBING PLAN

Date:

Seal/Signature:

Scale: As indicated

Drawn By #:NYE

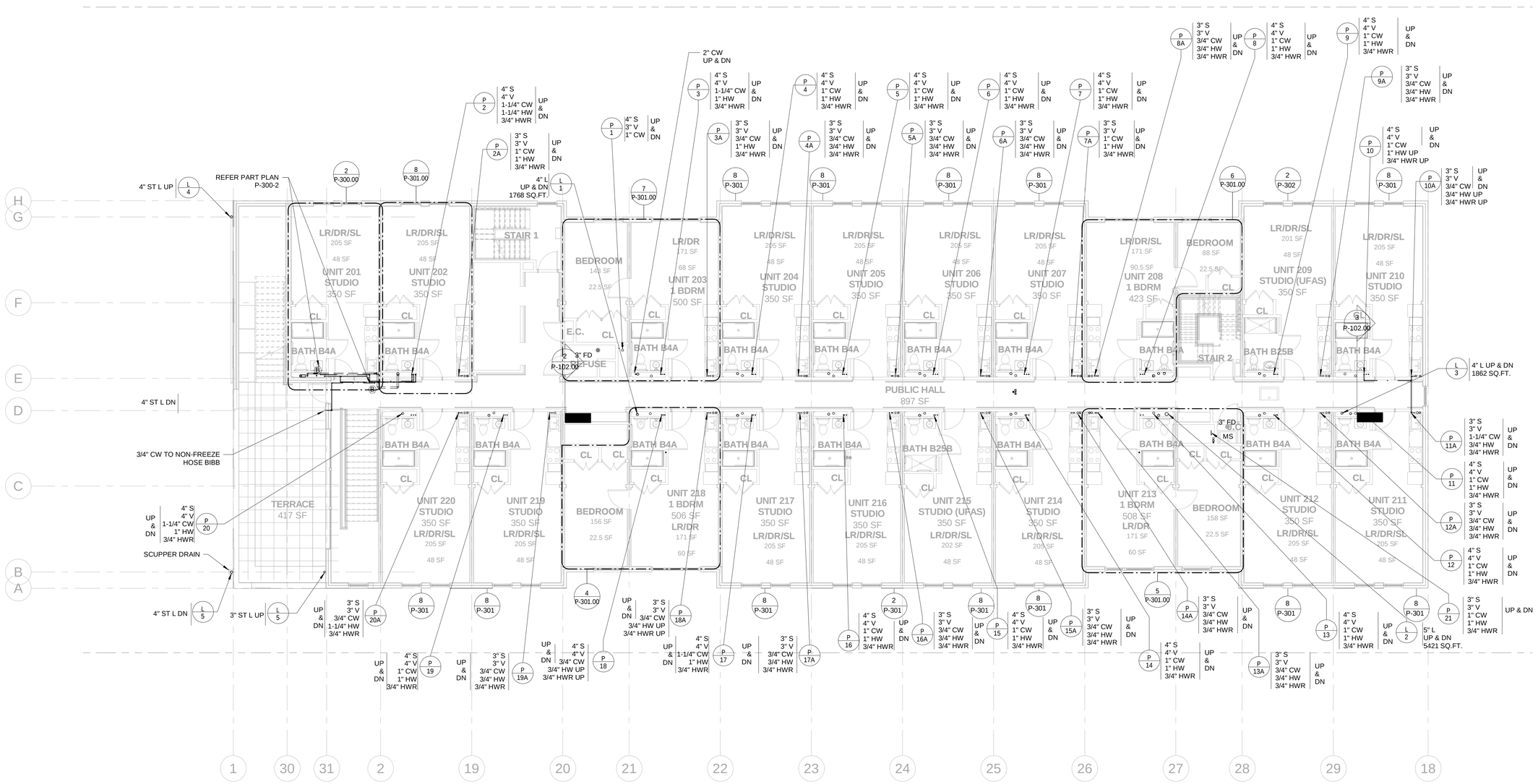
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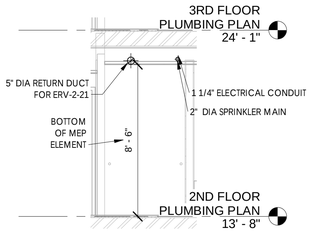
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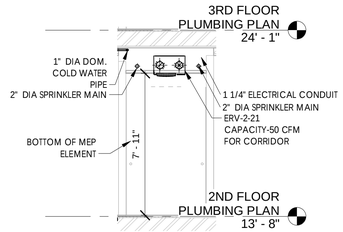
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1 2ND FLOOR PLUMBING PLAN
1/8" = 1'-0"



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



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

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2ND FLOOR PLUMBING PLAN

Date:

Seal/Signature:

Scale: As indicated

Drawn By #:NYE

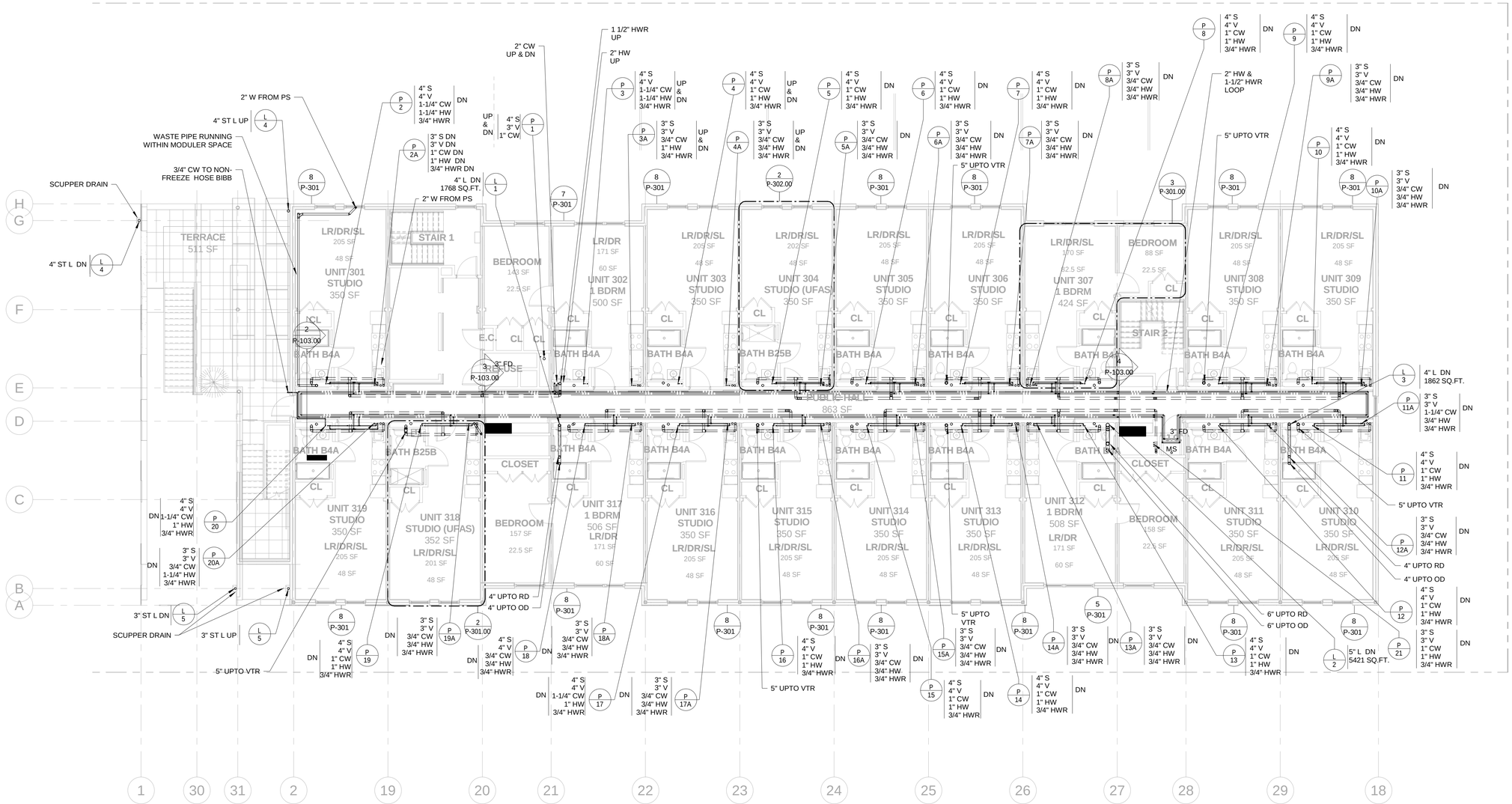
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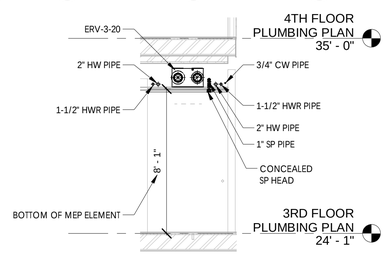
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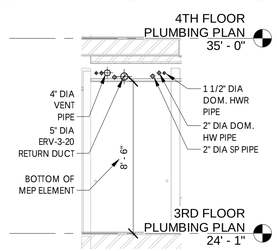
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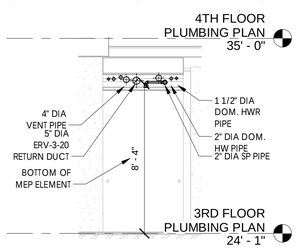
1 3RD FLOOR PLUMBING PLAN
1/8" = 1'-0"



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



3 3RD FLOOR REFUSE ROOM CORRIDOR
1/4" = 1'-0"



4 3RD FLOOR J.C. CORRIDOR
1/4" = 1'-0"

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FOR:
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Drawing Tile:

3RD FLOOR PLUMBING PLAN

Date:

Scale: As indicated

Seal/Signature:

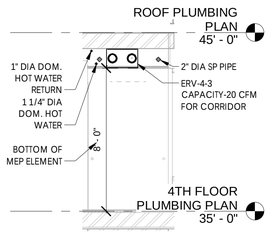
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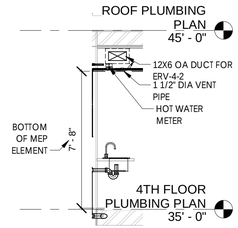
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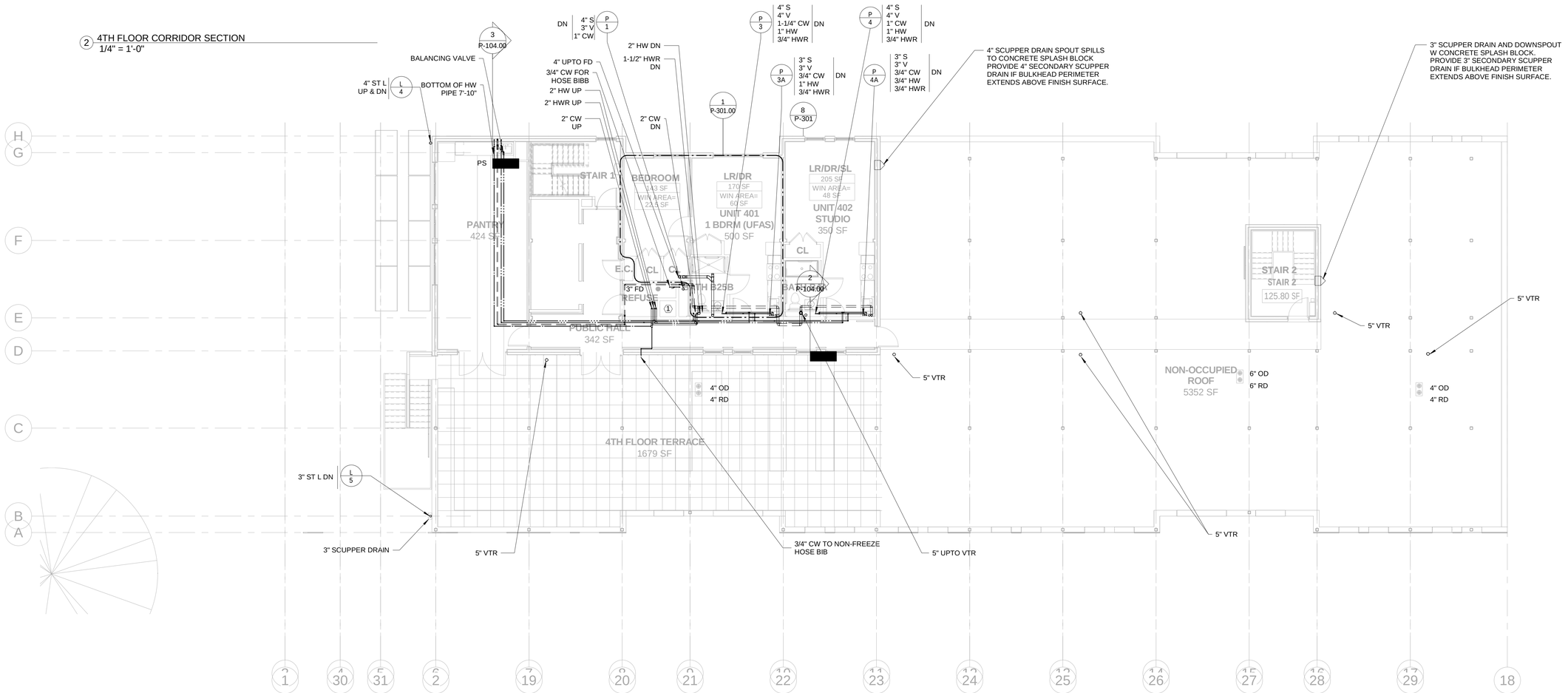
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3 4TH FLOOR PANTRY SECTION
1/4" = 1'-0"

2 4TH FLOOR CORRIDOR SECTION
1/4" = 1'-0"



1 4TH FLOOR PLUMBING PLAN
1/8" = 1'-0"

① PROVIDE 180°F HOT WATER CONNECTION FOR CHUTE SANITIZATION SYSTEM WITH 10 KW ELECTRIC BOOSTER HEATER. COORDINATE W/CHUTE CONTRACTOR.

GENERAL NOTE:
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5. PROVIDE WATER SUB METERS AT EACH COLD WATER AND HOT WATER RISER TAKE OFFS TO FIXTURES.

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4TH FLOOR PLUMBING PLAN

Date:

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Scale: As indicated

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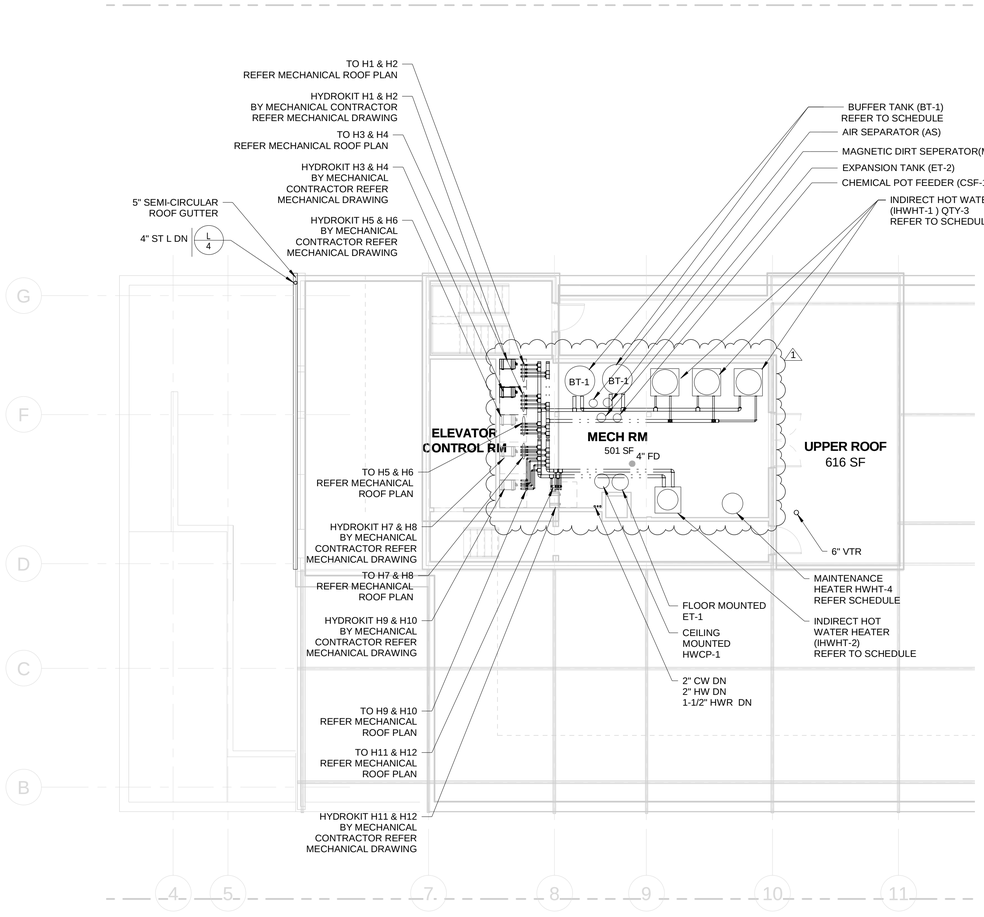
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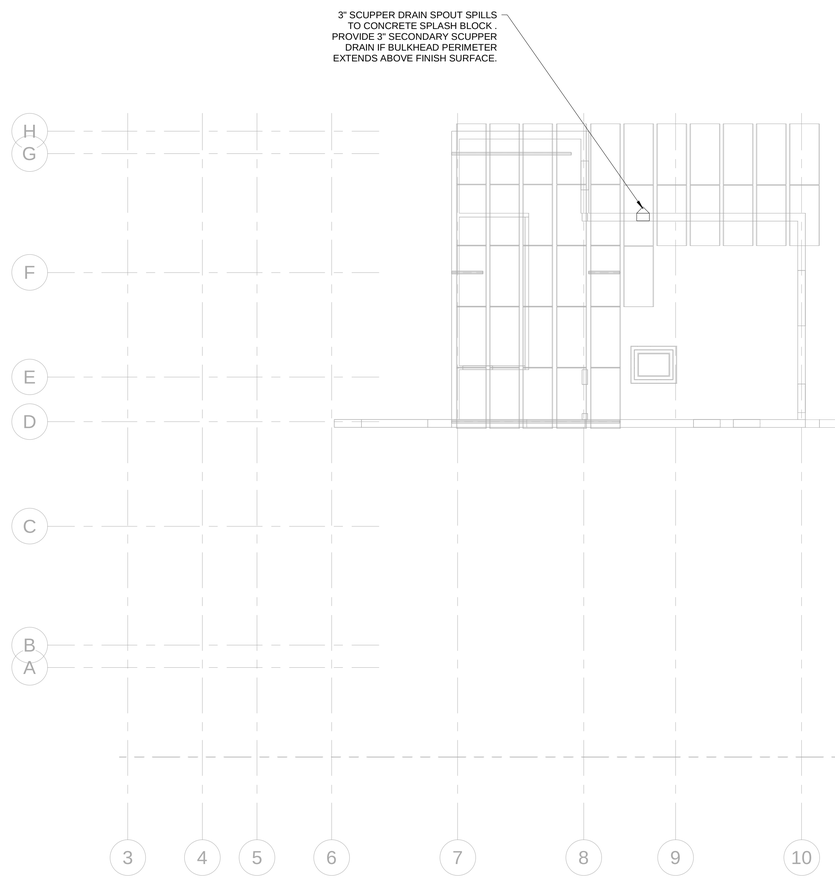
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Sheet #: of



1 ROOF PLUMBING PLAN
1/8" = 1'-0"



2 BULKHEAD PLUMBING PLAN
1/8" = 1'-0"

NOTES:
1. OUTDOOR HEAT PUMP UNIT SHALL NOT PRODUCE NOISE LEVEL IN EXCESS OF 42 DECIBLES FOR A SINGLE UNIT AND 45 DECIBLE FOR THE CUMULATIVE NOISE LEVEL OF MULTIPLE OUTDOOR HEAT PUMP UNIT AS MEASURED 3 FEET FROM THE NOISE SOURCE AT AN OPEN DOOR OR WINDOW OF A NEARBY RESIDENCE.
2. PROVIDE UV PROTECTED & WEATHER PROOF COATING FOR EXTERIOR PIPING INSULATION & PIPE CONNECTOR.

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ROOF & BULKHEAD PLUMBING PLAN

Date:

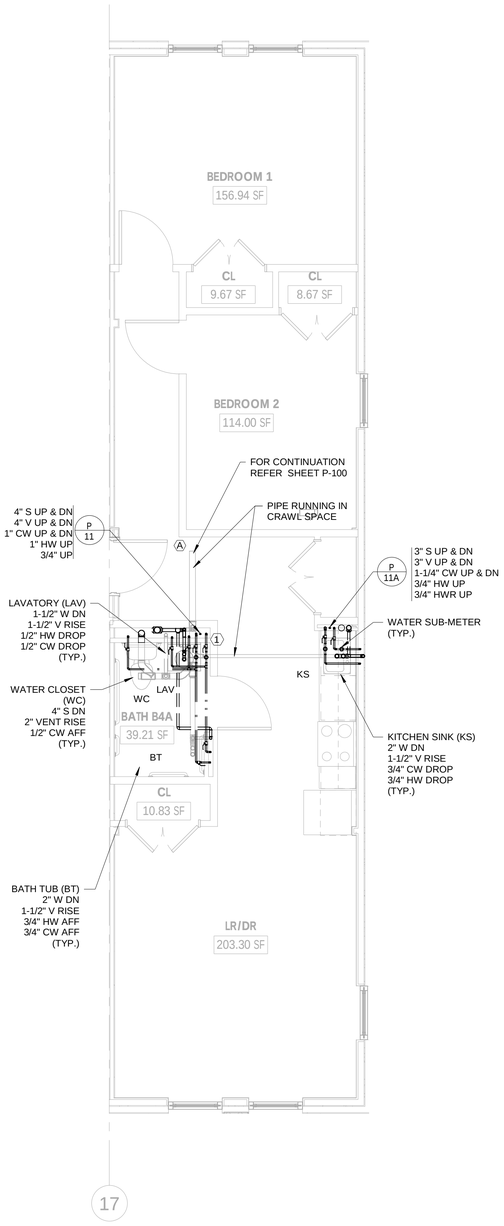
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Drawing #: P-105.00

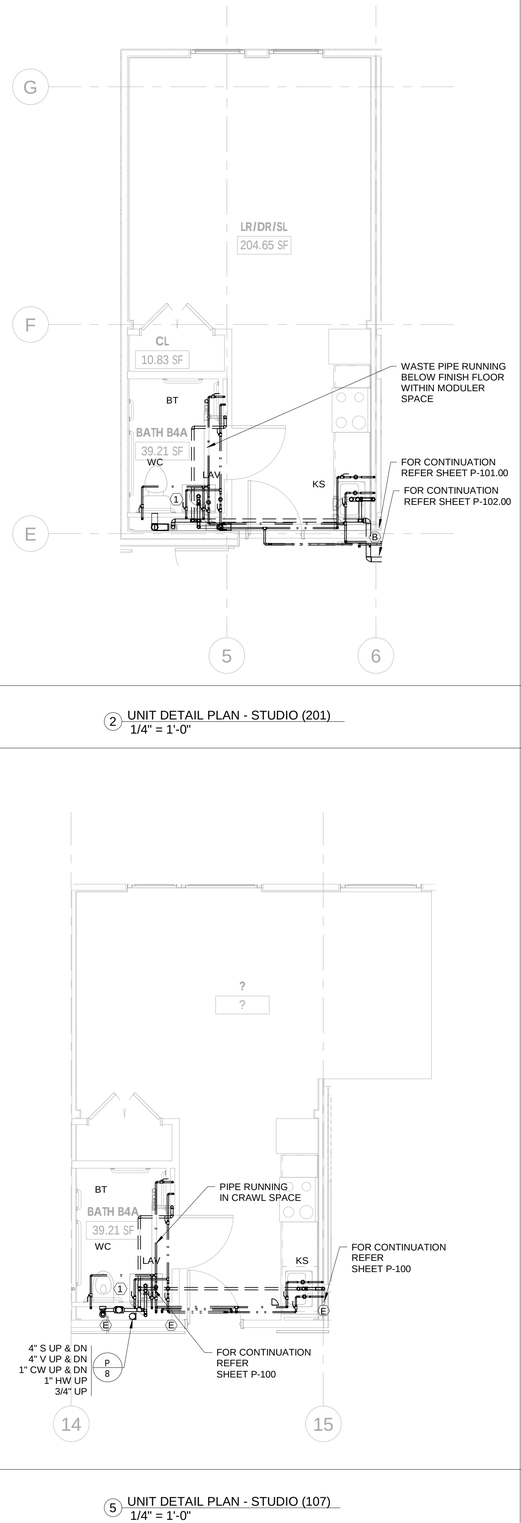
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GENERAL NOTE:
1. PROVIDE INSULATION FOR WATER PIPING AND VALVES IN ACCORDANCE WITH NYC ENERGY CONSERVATION CODE 2016 SECTION C404.4 AND REFER TABLE C403.2.10.
2. ALL WATER SUB-METER TO BE INSTALLED AS PER DETAILS ON SHEET P-504.
3. PROVIDE ACCESS PANEL FOR ALL CONCEALED VALVES, CLEANOUTS, WATER HAMMER ARRESTOR.
4. PROVIDE ACCESS PANEL AT CORRIDOR ABOVE CORRIDOR CEILING FOR ACCESS TO PLUMBING STACK.
5. COORDINATE W/ARCHITECT FOR PANEL LOCATION & SIZE.
6. PROVIDE FLOW CONTROL TRAP PRIMER FOR FLOOR DRAINS NEAR LAV AND MOP SINK. PROVIDE ELECTRONIC TRAP PRIMER FOR ALL OTHER AREAS FLOOR DRAIN.

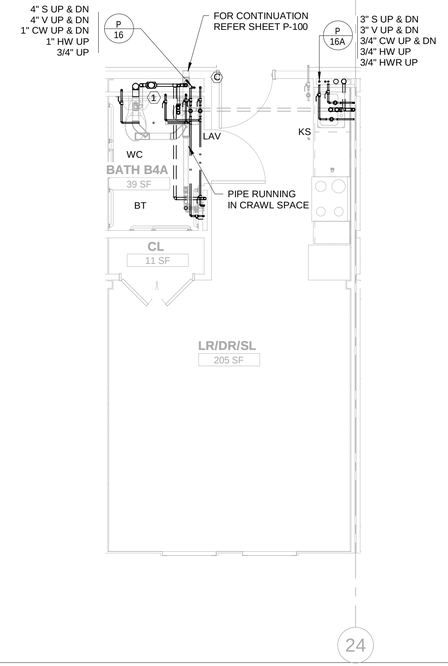
KEY NOTE;
(1) CONNECT 3/4" CONDENSATE DRAIN PIPE UNDER LAVATORY WITH AIR GAP FITTING. FOR DRAIN PIPE LOCATION REFER MECHANICAL DRAWINGS



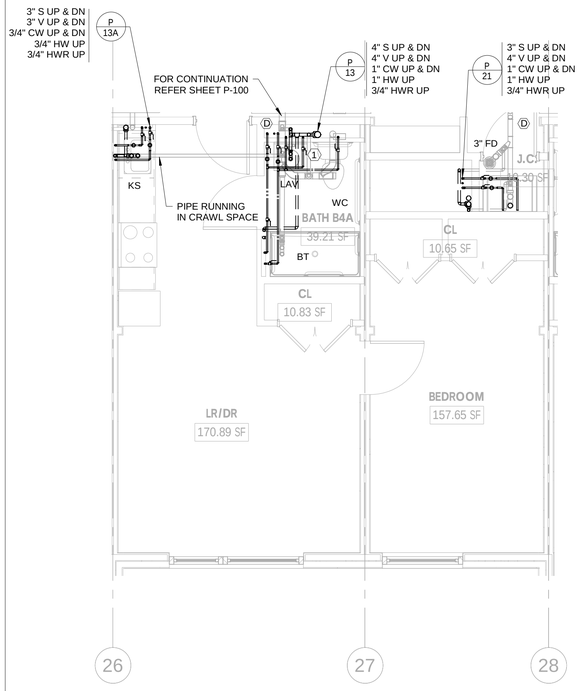
(1) UNIT DETAIL PLAN - 2 BDRM (109) SUPER'S UNIT
1/4" = 1'-0"



(2) UNIT DETAIL PLAN - STUDIO (201)
1/4" = 1'-0"

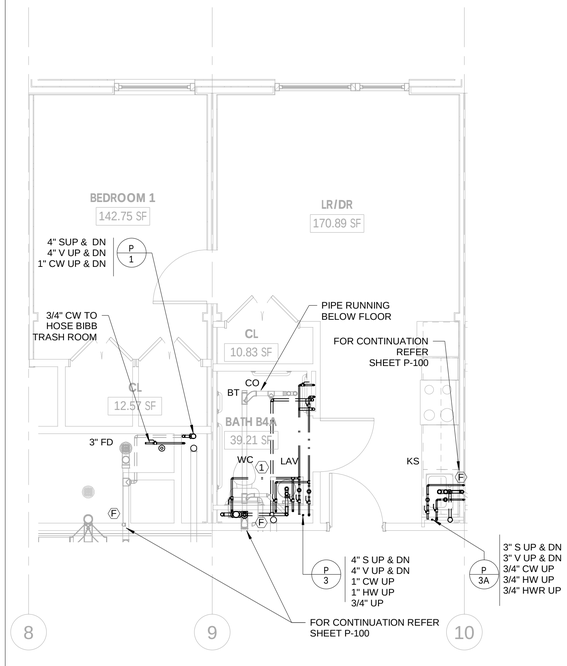


(3) UNIT DETAIL PLAN - STUDIO (110,114-117)
1/4" = 1'-0"

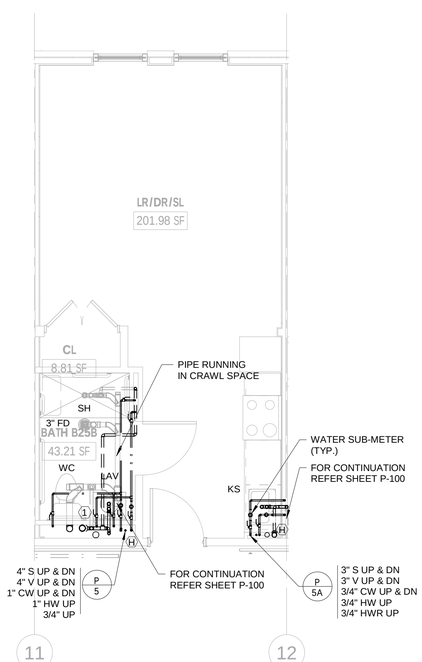


(4) UNIT DETAIL PLAN - 1 BDRM (111)
1/4" = 1'-0"

(5) UNIT DETAIL PLAN - STUDIO (107)
1/4" = 1'-0"



(6) UNIT DETAIL PLAN -1 BDRM (102) UFAS VISION/HEARING
1/4" = 1'-0"



(7) UNIT DETAIL PLAN - STUDIO (104)
1/4" = 1'-0"

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PROJECT:

BETHANY TERRACES

FOR:
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Drawing Tile:

PLUMBING PART PLAN (1 OF 3)

Date:

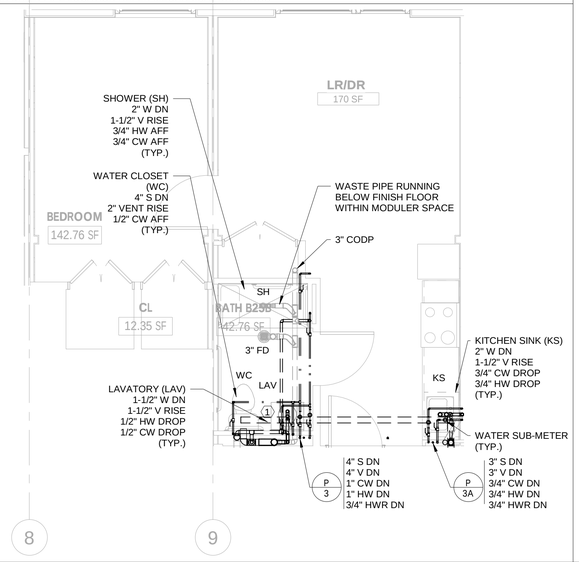
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Scale: 1/4" = 1'-0"
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Chkd By #: NYE
Drawing #: P-300.00

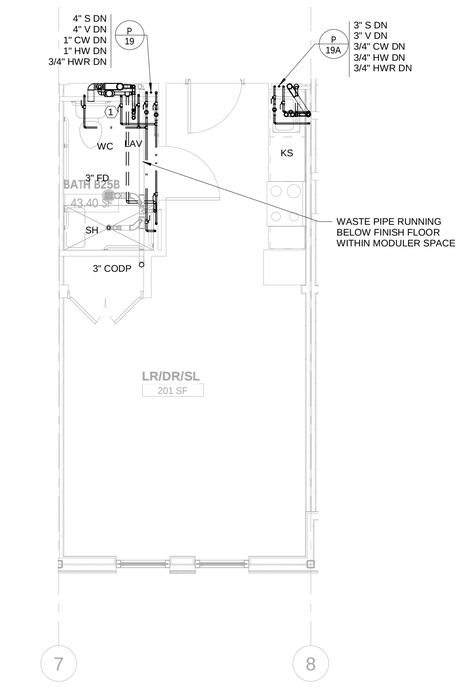
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Sheet #: of

GENERAL NOTE:
1. PROVIDE INSULATION FOR WATER PIPING AND VALVES IN ACCORDANCE WITH NYC ENERGY CONSERVATION CODE 2016 SECTION C404.4 AND REFER TABLE C403.2.10.
2. ALL WATER SUB-METER TO BE INSTALLED AS PER DETAILS ON SHEET P-504.
3. PROVIDE ACCESS PANEL FOR ALL CONCEALED VALVES, CLEANOUTS, WATER HAMMER ARRESTOR.
4. PROVIDE ACCESS PANEL AT CORRIDOR ABOVE CORRIDOR CEILING FOR ACCESS TO PLUMBING STACK.
5. COORDINATE W/ARCHITECT FOR PANEL LOCATION & SIZE.
6. PROVIDE FLOW CONTROL TRAP PRIMER FOR FLOOR DRAINS NEAR LAV AND MOP SINK. PROVIDE ELECTRONIC TRAP PRIMER FOR ALL OTHER AREAS FLOOR DRAIN.

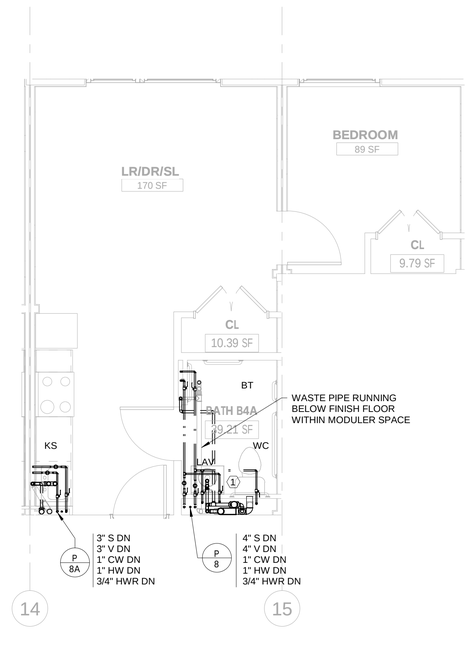
KEY NOTE;
① CONNECT 3/4" CONDENSATE DRAIN PIPE UNDER LAVATORY WITH AIR GAP FITTING. FOR DRAIN PIPE LOCATION REFER MECHANICAL DRAWINGS



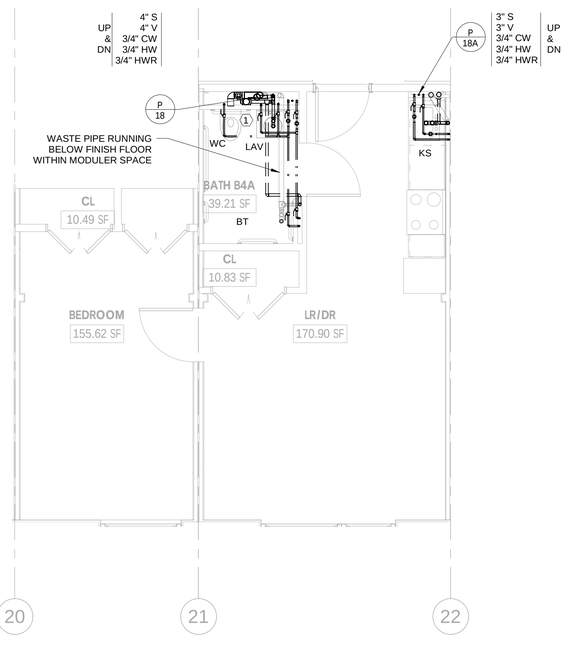
① UNIT DETAIL PLAN - 1 BDRM (401) UFAS MOBILITY
1/4" = 1'-0"



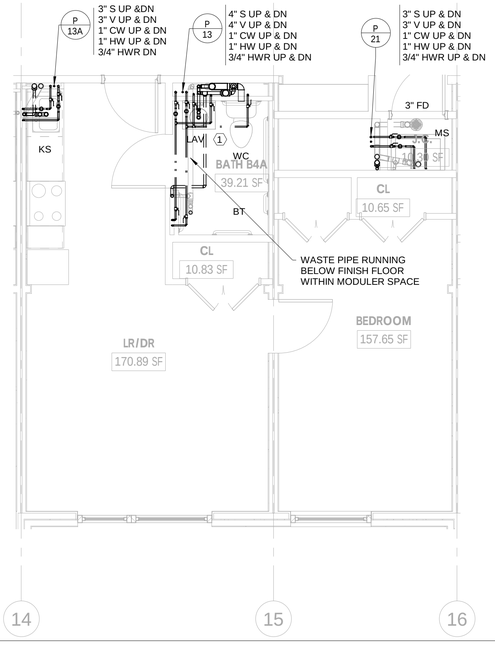
② UNIT DETAIL PLAN - STUDIO (318) UFAS MOBILITY, STUDIO (216)
1/4" = 1'-0"



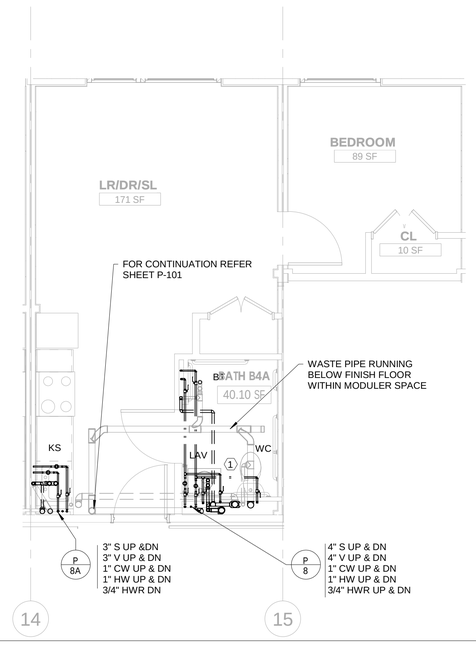
③ UNIT DETAIL PLAN - 1 BDRM (307)
1/4" = 1'-0"



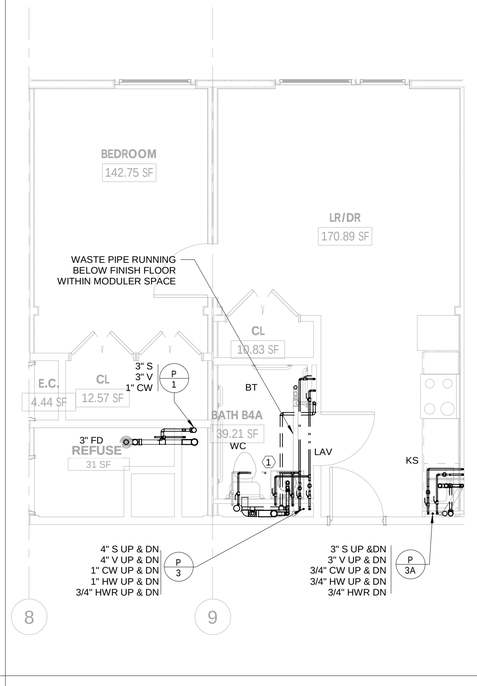
④ UNIT DETAIL PLAN-1 BDRM (218,317)
1/4" = 1'-0"



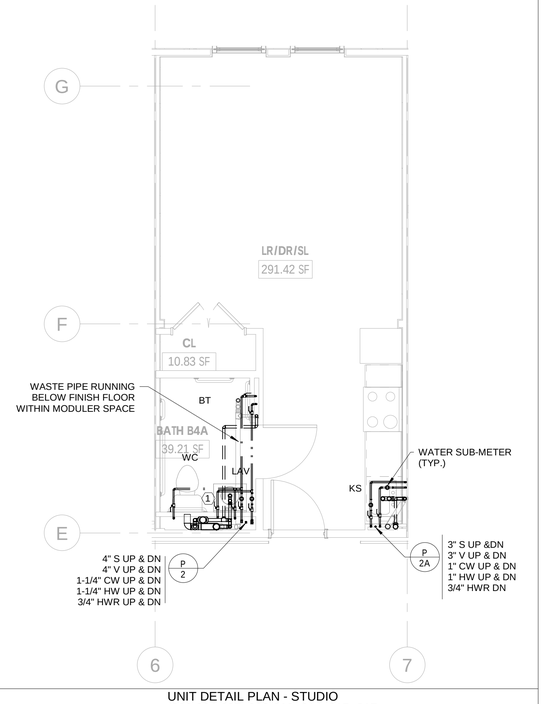
⑤ UNIT DETAIL PLAN - 1 BDRM (213, 312)
1/4" = 1'-0"



⑥ UNIT DETAIL PLAN - 1 BDRM (208)
1/4" = 1'-0"



⑦ UNIT DETAIL PLAN - 1 BDRM (203, 302)
1/4" = 1'-0"



UNIT DETAIL PLAN - STUDIO
(202,204-207, 209-212, 214, 215, 217, 219-220, 301, 303, 305, 306, 308-311, 313-316, 319, 402)
1/4" = 1'-0"

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NOTES:

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12	ADDENDUM#1	01/05/2022

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135 W 41sT Street, 5th Floor
New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
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Drawing Tile:

PLUMBING PART PLAN (2 OF 3)

Date:

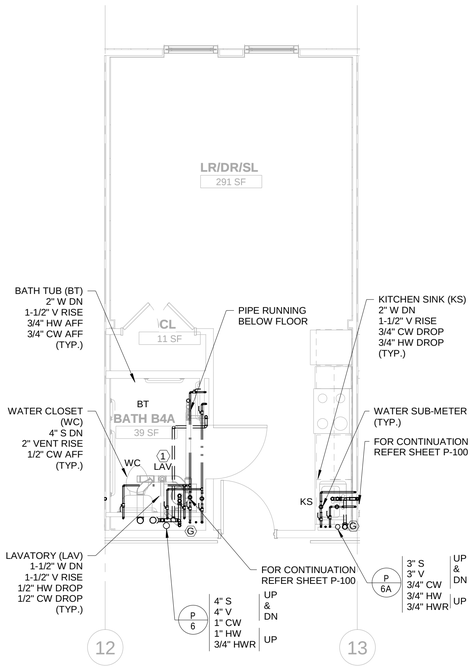
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Drawing #: P-301.00

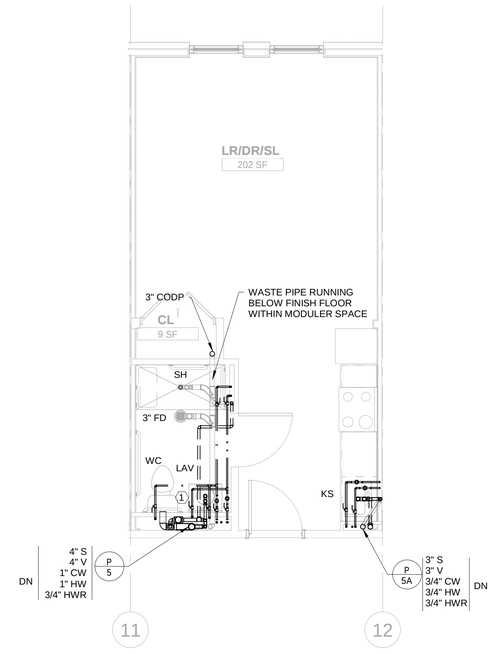
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1 UNIT DETAIL PLAN - STUDIO (101, 103, 105, 106, 108)
1/4" = 1'-0"



2 UNIT DETAIL PLAN - STUDIO (209 & 304)
1/4" = 1'-0"

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Drawing Tile:

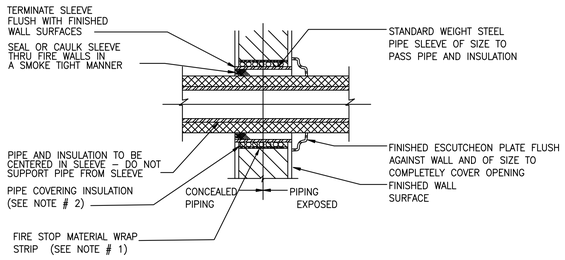
PLUMBING PART PLAN (3 OF 3)

Date:

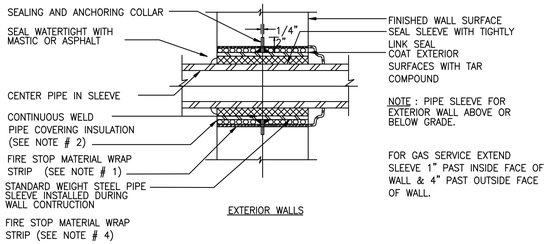
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Sheet #: of



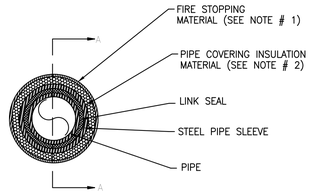
INTERIOR WALLS



EXTERIOR WALLS

PIPE SLEEVE THRU WALL SECTION

NOT TO SCALE



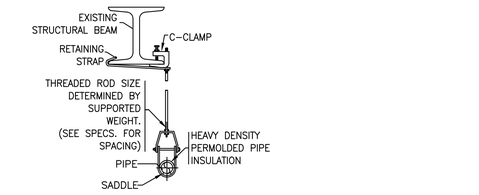
PIPE SLEEVE VIEW

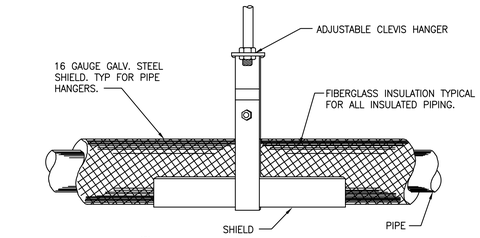
NOT TO SCALE

NOTES:

1. FIRESTOP MATERIAL WRAP STRIP SHALL BE ¼" THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL SUPPLIED IN 2 IN. WIDE STRIPS AND WRAP AROUND THE PIPE AS PER UL MATERIAL LISTED3M COMPANY FS–195+ OR FILL CAVITY WITH CAULK OR SEALANT MIN. ¼" DIA. CONTINUOUS BEAD APPLIED TO THE WRAP STRIP/WALL INTERFACE AND TO THE EXPOSED OF THE WRAP STRIP LAYER APPROX. 3/4" FROM WALL SURFACE. AS PER UL LISTED 3M COMPANY CP25WB+, IC 15WB+, FIRE DAM 150+CAULK.
2. PIPE COVERING INSULATION SHALL BE 2" THICK HOLLOW CYLINDRICAL HEAVY DENSITY GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKETED. AS PER UL CLASSIFICATION AND MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

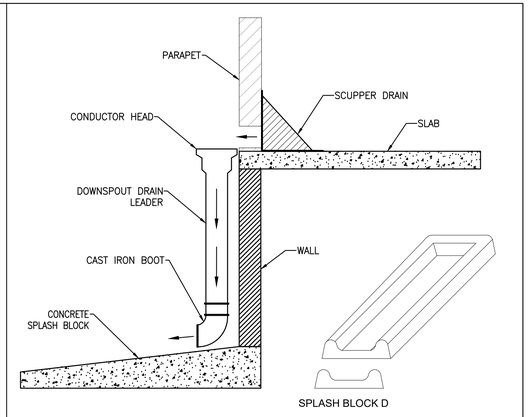
1 / P–501 PIPE SLEEVE THRU WALL SECTION N.T.S



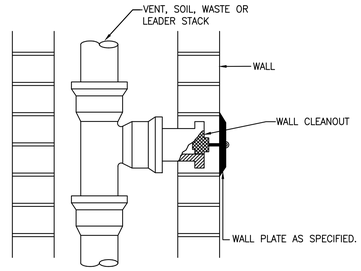


ROD SCHEDULE	
PIPE SIZE	ROD SIZE
1/2"	3/8"
3/4"	3/8"
1"	3/8"
1 1/4"	3/8"
1 1/2"	3/8"
2"	3/8"
2 1/2"	3/8"
3"	3/8"
4"	1/2"
5"	1/2"
6"	1/2"

2 / P–501 HANGER DETAIL N.T.S



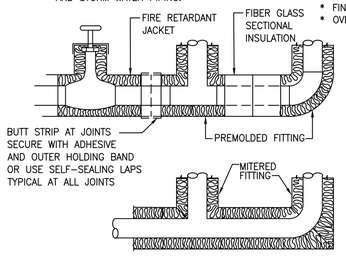
3 / P–501 SCUPPER DRAIN DETAIL N.T.S



4 / P–501 WALL CLEANOUT DETAIL N.T.S

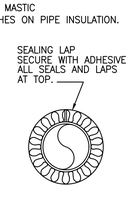
CONCEALED VALVES AND FITTINGS

- WRAP WITH 1–INCH THICK, 1–POUND DENSITY TO REQUIRED PIPE INSULATION THICKNESS
- SECURE WITH WIRE OR TAPE.
- VAPOR SEAL COLD WATER, CHILLED WATER AND STORM WATER PIPING.

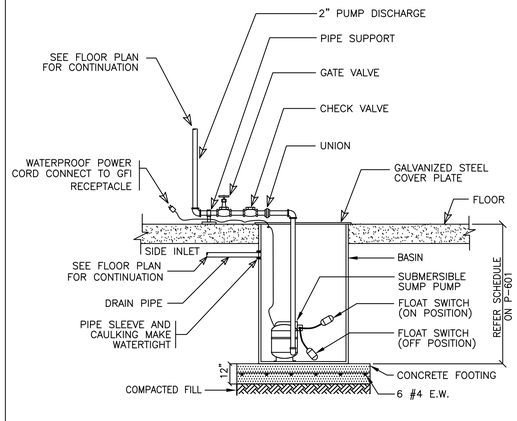


CONCEALED VALVES AND FITTINGS

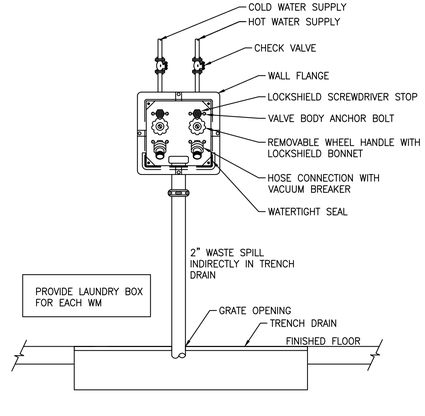
- PREMOLDED FIBER GLASS OR RADIAL MITERED PIPE INSULATION
- SKIM COAT OF INSULATION CEMENT
- COAT OF MASTIC
- WRAP WITH FIBER GLASS REINFORCING CLOTH.
- FINISH COAT OF MASTIC
- OVERLAP 2–INCHES ON PIPE INSULATION.



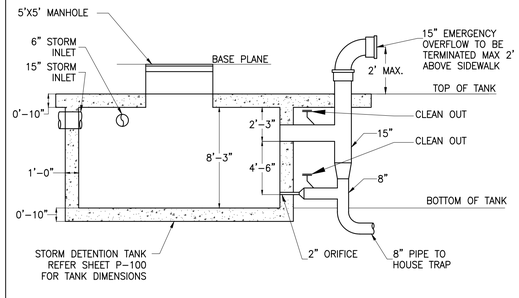
5 / P–501 INSULATION OF PIPING, VALVES AND FITTINGS FOR EXPOSED AND CONCEALED LOCATIONS N.T.S



6 / P–501 SUBMERSIBLE SUMP PUMP DETAIL (SP–3) N.T.S



7 / P–501 WASHER SUPPLY/ DRAIN BOX DETAIL N.T.S



NOTE:
1. PROVIDE STRUCTURAL SUPPORT AS NEEDED.
2. REFER APPROVED DEP APPROVED SITE CONNECTION DRAWINGS FOR MORE INFORMATION.

8 / P–501 STORM DETENTION TANK DETAIL N.T.S

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New York, NY 10036
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DOB APPROVE STAMPS:

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PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

PLUMBING DETAILS (1 OF 5)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

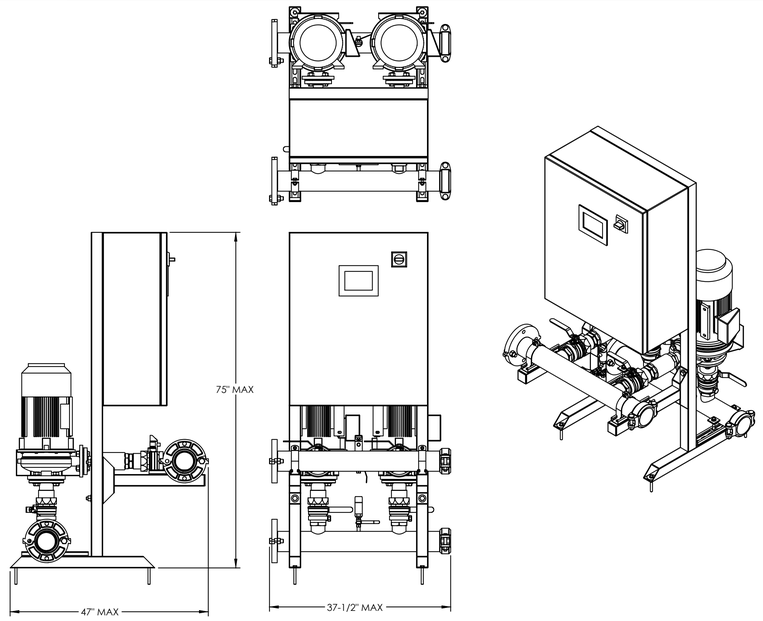
Drawn By #:NYE

Chkd By #:NYE

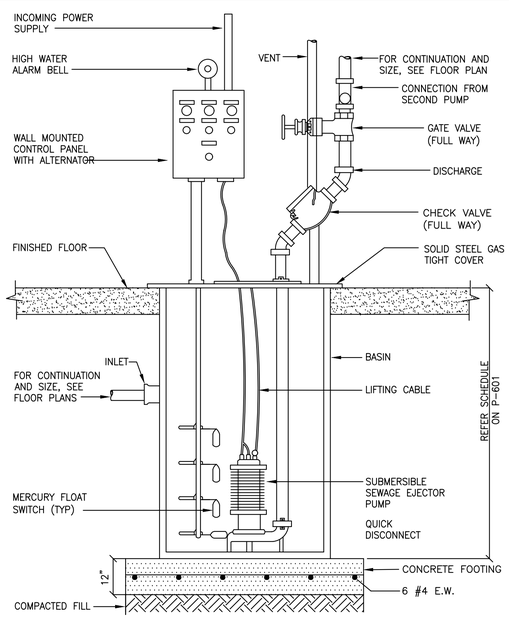
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DOB #:B00235891-I1

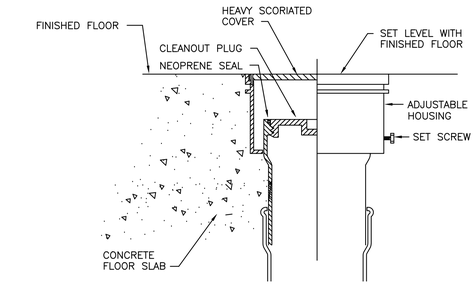
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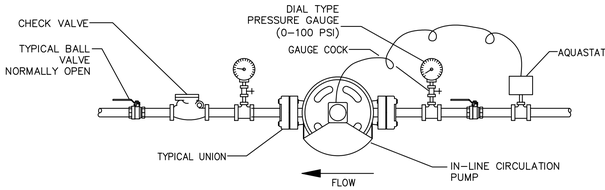
1 P-502 DUPLEX DOMESTIC WATER BOOSTER PUMP DETAIL
N.T.S



2 P-502 DUPLEX SEWAGE EJECTOR DETAIL
N.T.S



3 P-502 FLOOR CLEANOUT DETAIL
N.T.S



4 P-502 INLINE RECIRCULATING PUMP DETAIL
N.T.S

KEY NOTES:

1. SUBMERSIBLE EFFLUENT PUMP 1/2 HP, 115 VOLT, 3600 RPM, 2" DISCHARGE CONNECTION

2. CHECK VALVE

3. 115V, SINGLE PHASE (1ø) CONTROL SYSTEM WITH BUILT-IN AUDIBLE AND VISUAL ALARM FOR WHEN PUMP DOES NOT RUN DUE TO OIL IN PIT OR HIGH LIQUID ALARM. PROVIDE SILENCING BUTTON FOR AUDIBLE ALARM BUILT INTO PANEL. PANEL SHALL HAVE ADDITIONAL CONTACT FOR A REMOTE ALARM LOCATION. LIGHTS FOR OIL SPILL, POWER, HIGH LIQUID LEVEL, OVERLOAD, & PUMP RUN.

4. JUNCTION BOX SHALL BE PROVIDED WITH MULTI-PIN CONNECTOR AND CORD OF REQUIRED LENGTHS TO REACH PANEL.

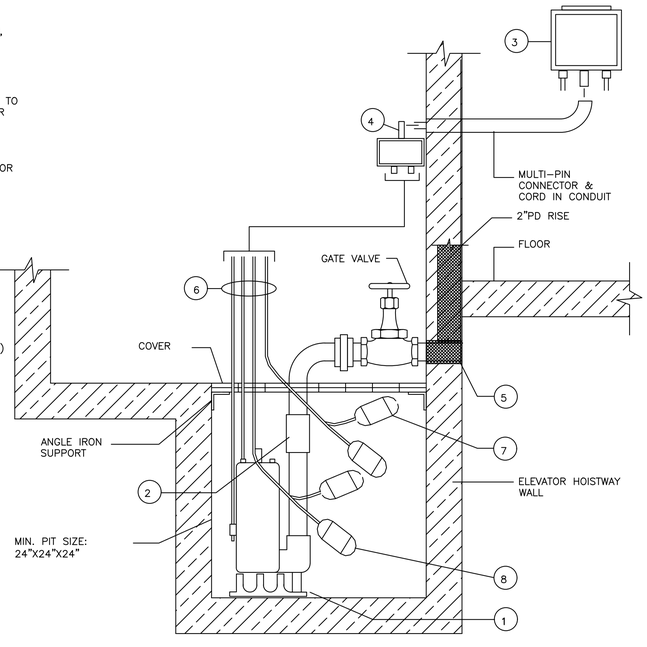
5. ALL BURIED PUMP PRESSURE DISCHARGE PIPING SHALL BE PROTECTED WITH TAPECOAT CORROSION PROTECTION TAPE. IN ADDITION, DISCHARGE PIPING SHALL CONNECT TO THE BUILDING DRAINAGE SYSTEM VIA AN AIR GAP OR AN AIR BREAK.

6. CABLES: POWER CABLE, PROBE CABLE, HIGH- LIQUID ALARM CABLE AND PUMP-ON FLOAT CABLE.

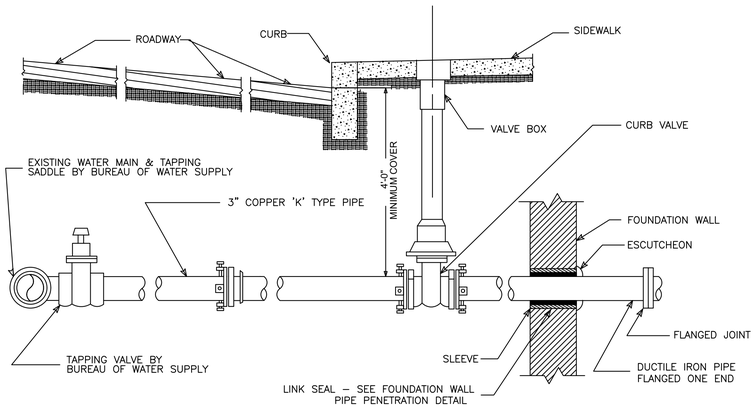
7. HIGH-LIQUID ALARM FLOAT WITH CLAMP DEVICE TO MOUNT TO PUMP DISCHARGE PIPING.

8. PUMP-ON FLOAT

9. PROVIDE A MINIMUM FIVE FEET EXTRA OF EACH CABLE (SLACK) ROLLED CLAMPED TO THE DISCHARGE PIPE TO ALLOW FOR THE REMOVAL OF THE PUMP FROM THE PIT.



5 P-502 ELEVATOR SUMP PUMP DETAIL (SP-1 & SP-2)
N.T.S



6 P-502 DOMESTIC WATER SERVICE DETAIL
N.T.S

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PLUMBING DETAILS (2 OF 5)

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Seal/Signature:

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Drawn By #:NYE
Chkd By #:NYE
Drawing #:
P-502.00

DOB #:B00235891-I1
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GENERAL NOTES:

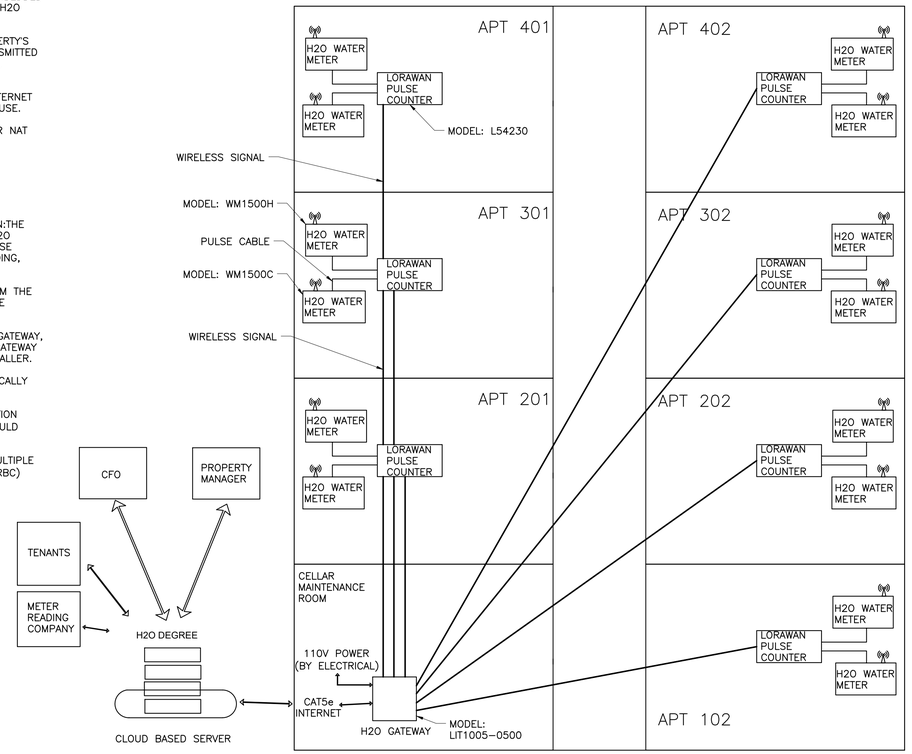
1. THE IT1005 LORAWAN GATEWAY IS THE HEART OF THE H2O DEGREE RADIO NETWORK AT THE PROPERTY. THE GATEWAY IS EQUIPPED WITH AN EMBEDDED CPU TO INTERFACE BETWEEN THE NETWORK COORDINATOR AND THE H2O DEGREE SERVER.
2. THE GATEWAY CAN BE CONNECTED TO THE INTERNET VIA THE PROPERTY'S CAT5E INTERNET CONNECTION. ONCE CONNECTED, THE DATA IS TRANSMITTED TO THE H2O DEGREE SERVER IN THE CLOUD FOR DATA COLLECTION, PROCESSING AND REPORT GENERATION.
3. GATEWAY SOFTWARE CAN EASILY BE UPDATED REMOTELY VIA THE INTERNET CONNECTION AND DOES NOT REQUIRE A DISPLAY, KEYBOARD OR MOUSE.
4. H2O DEGREE GATEWAYS ARE COMPUTERS AND REQUIRE FIREWALL OR NAT ROUTER PROTECTION.
5. PROVIDE SPACER TUBES (WMST075) FOR TESTING & FLUSHING.

GENERAL OPERATION:

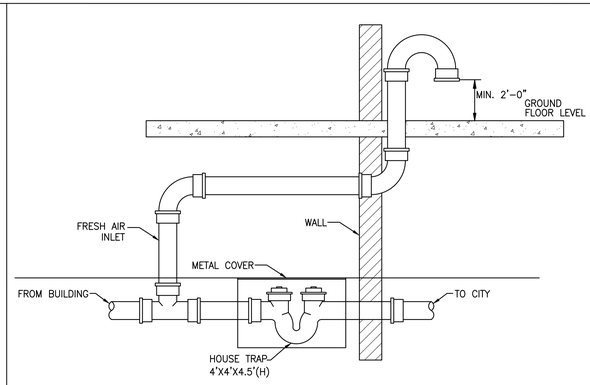
1. WIRELESS SUB METERING AND MONITORING SYSTEM BASIS OF DESIGN:THE DOMESTIC WATER SUB-METERING SYSTEM SHALL BE PROVIDED BY H2O DEGREE. THE METER SHALL BE EQUIPPED WITH A DRY CONTACT PULSE OUTPUT AND COMPLY WITH ALL H2O DEGREE REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO:
   - A. HOURLY OR DAILY WATER METER READINGS SHOULD BE SENT FROM THE WATER METERS IN INDIVIDUAL APARTMENTS WITH THE USE OF THE WIRELESS SUB-METERING SYSTEM.
   - B. WIRELESS COMMUNICATION SHALL OCCUR BETWEEN A RADIO AND GATEWAY, CONNECTED TO A WATER METER AND THE WSMMS CLOUD. THE GATEWAY AND RADIOS SHALL REQUIRE NO ONSITE CONFIGURATION BY INSTALLER.
   - C. THE DATA FROM THE GATEWAY SHOULD BE RETRIEVABLE AUTOMATICALLY VIA AN INTERNET CONNECTION.
   - D. THE SYSTEM MUST UTILIZE BI-DIRECTIONAL WIRELESS COMMUNICATION TECHNOLOGY (I.E. LORAWAN RADIO FREQUENCY BASED) AND SHOULD OPEN LORAWAN STANDARDS.
   - E. THE WIRELESS SMART-METERING EQUIPMENT SHOULD SUPPORT MULTIPLE BILLING COMPANIES (OFTEN CALLED READ, BILL AND COLLECT- RBC)
   - F. DAILY LEAK REPORTS AND AUTOMATED ALERTS SENT TO OWNER.

WATER SUB-METER NOTE:

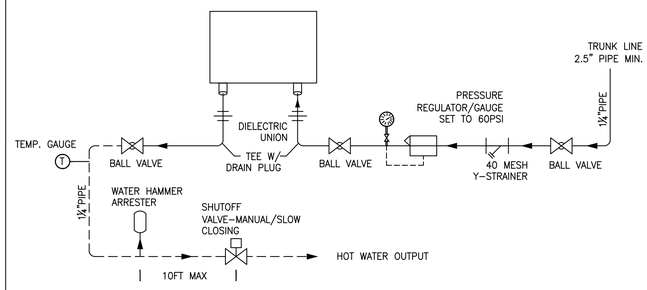
1. PROVIDE BID BREAKDOWN FOR THE WATER SUB-METERING SYSTEM AS DESIGNED IN THE CONSTRUCTION DOCUMENTS.
2. PROVIDE ALTERNATE BID PRICE FOR SUB-METERING EACH COLD WATER FEED FOR EVERY APARTMENT, LAUNDRY ROOM, COLD WATER FEED TO HOT WATER SYSTEM, COMMON BATHROOMS IN NON-RESIDENTIAL AREAS, MOP SINK IN MAINTENANCE ROOMS, ALL NON-RESIDENTIAL HOSE BIB, PANTRY SINK AND DISHWASHER AT CELLAR NON-RESIDENTIAL AREA, SERVICE SINK AT CELLAR IN NON-RESIDENTIAL AREA.
3. BID PRICE MUST INCLUDE AT MINIMUM THE FOLLOWING REQUIREMENTS: SUB-METERING EACH COLD WATER RISER SERVING APARTMENTS, LAUNDRY ROOM, COLD WATER FEED TO HOT WATER SYSTEM, COMMON BATHROOMS IN NON-RESIDENTIAL AREAS, MOP SINK IN MAINTENANCE ROOMS, ALL NON-RESIDENTIAL HOSE BIB, PANTRY SINK AND DISHWASHER AT CELLAR NON-RESIDENTIAL AREA, SERVICE SINK AT CELLAR IN NON-RESIDENTIAL AREA.



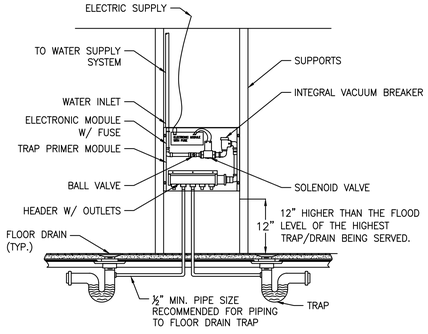
1 P-503 PULSE OUTPUT WATER METER BUILDING CONFIGURATION DIAGRAM N.T.S



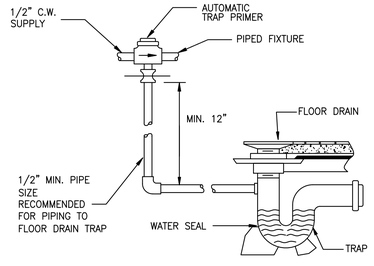
2 P-503 FRESH AIR INTAKE N.T.S



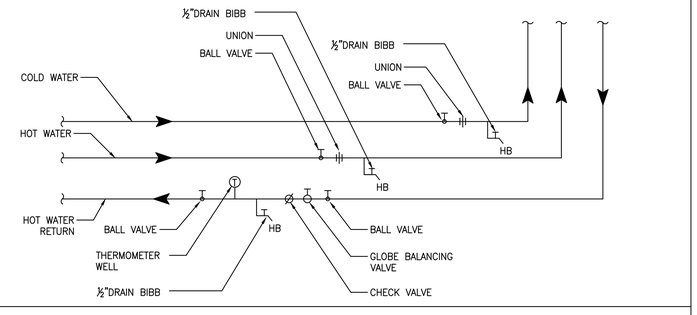
3 P-503 INSTANTANEOUS HOT WATER HEATER DETAIL N.T.S



4 P-503 ELECTRONIC TRAP PRIMER DETAIL N.T.S



5 P-503 FLOW CONTROL TRAP PRIMER DETAIL N.T.S



6 P-503 DOMESTIC WATER RISER CONTROL VALVE AND HOT WATER RETURN BALANCING VALVE ASSEMBLY DETAIL N.T.S

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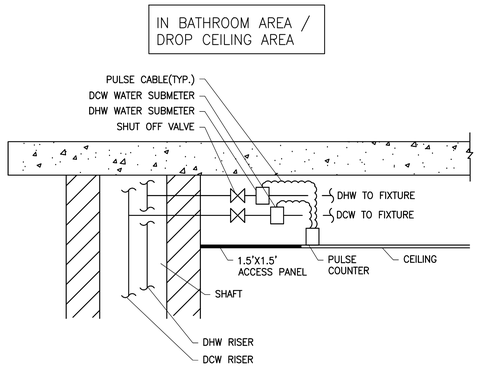
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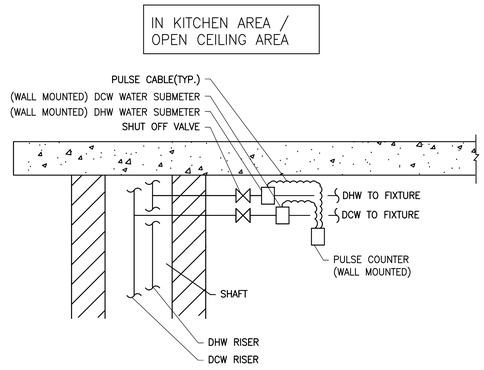
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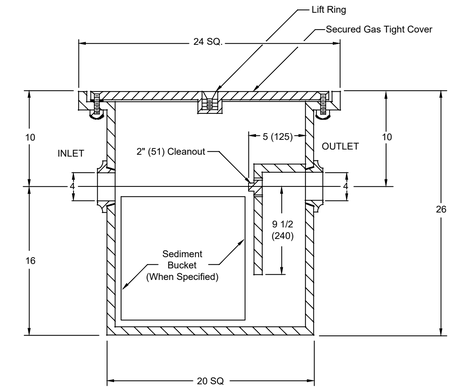
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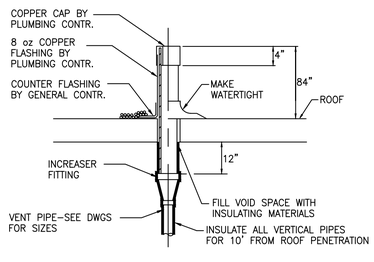


1 P-504 WATER SUBMETER INSTALLATION SCHEMATIC
N.T.S

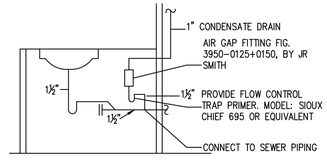


2 P-504 SAND TRAP DETAILS
N.T.S

NOTES:
1. MINIMUM SIZE OF VENT EXTENSION THROUGH ROOF TO BE 4".
2. CHANGE OF DIAMETER TO BE MADE AT LEAST 12" BELOW ROOF.
3. VENT PIPE TO EXTEND up to 7'-0" ABOVE ROOF IN ACCESSIBLE WATERTIGHT BY PROPER FLASHING.
4. ALL VENT RISERS SHALL BE OFFSET AS REQUIRED TO CLEAR ROOF STRUCTURE DUCTWORK OR MECH. ROOF TOP UNITS.
5. PLUMBING CONTRACTOR TO COORDINATE WITH OTHER TRADES.
6. ROOFING CONTRACTOR SHALL SUPPLY BOOT FLASHING FOR RUBBER ROOF SYSTEMS.



3 P-504 VENT INCREASER DETAIL
N.T.S



NOTE:
LOCATE AIR GAP FITTING AND PIPING WITHIN SINK/LAVATORY ENCLOSURE.

4 P-504 AIR GAP FITTING DETAIL
N.T.S

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SEQUENCE OF OPERATION FOR HEAT RECOVERY SYSTEM

- FOR INDIRECT HOT WATER HEATER IHWHT–2, THE MINIMUM TEMPERATURE TO BE SET AT 115 DEGREES FAHRENHEIT & MAXIMUM TEMPERATURE TO BE SET AT 120 DEGREES FAHRENHEIT.
- WHEN THERE IS A CALL FOR DOMESTIC HOT WATER, THE DOMESTIC HOT WATER STORAGE TANK WILL LOSE HOT WATER AND START GAINING PREHEATED WATER FROM INDIRECT HEATER IHWHT–2.
- THEM THE IHWHT–2 WILL LOSE PREHEATED WATER AND START GAINING COLD WATER.
- WHEN THE MINIMUM TEMPERATURE SENSED ON IHWHT–2, THE CIRCULATION PUMP (HWCP–H7 TO H12) & ASSOCIATED HYDROKIT UNITS (H7 TO H12) STARTS GRADUALLY & HEATS UP THE WATER IN IHWHT–2.
- WHEN THE WATER TEMPERATURE IN IHWHT–2 REACHES 120 DEGREES FAHRENHEIT, THE CIRCULATION PUMP (HWCP–H7 TO H12) & ASSOCIATED HYDROKIT UNITS (H7 TO H12) STOPS.

SYSTEM START–UP NOTE:

1. CONTRACTOR TO CO–ORDINATE WITH THE MANUFACTURER AND FOLLOW ALL REQUIREMENTS AND RECOMMENDATION.
2. FILL WATER TEMPERATURE (SYSTEM STARTUP WATER TEMPERATURE) SHALL NOT BE BELOW 70 DEG.F. THE HYDRO–KIT MINIMUM WATER TEMPERATURE RESTRICTION SHALL BE FOLLOWED.
3. CONTRACTOR TO USE THE MAINTENANCE HEATER TO MAINTAIN THE STARTUP WATER TEMPERATURE ABOVE 70 DEG.F. AT ALL TIMES.

SEQUENCE OF OPERATION

- INITIAL CONDITIONS

HEREIN, THE PRIMARY SYSTEM SHALL DESIGNATE THE HOT WATER HEAT PUMP SYSTEM AND THE SECONDARY SYSTEM SHALL DESIGNATE THE BUFFER TANK SYSTEM. THE PRIMARY AND SECONDARY SYSTEMS SHALL RUN CONTINUOUSLY UNTIL THE LOWEST TEMPERATURE SENSOR IN THE BUFFER TANK DETECTS 175 DEGREES FAHRENHEIT MINIMUM AND THE LOWEST TEMPERATURE SENSOR IN THE DOMESTIC HOT WATER STORAGE TANK DETECTS 170 DEGREES FAHRENHEIT MINIMUM. WHEN THESE MINIMUM TEMPERATURES ARE SENSED, AND IF HIGHER TEMPERATURES ARE NOT DESIRED, BOTH SYSTEMS SHALL BE SHUT OFF.

- SEQUENCE ONE: SECONDARY LOOP ACTIVATED BY DOMESTIC HOT WATER LOAD

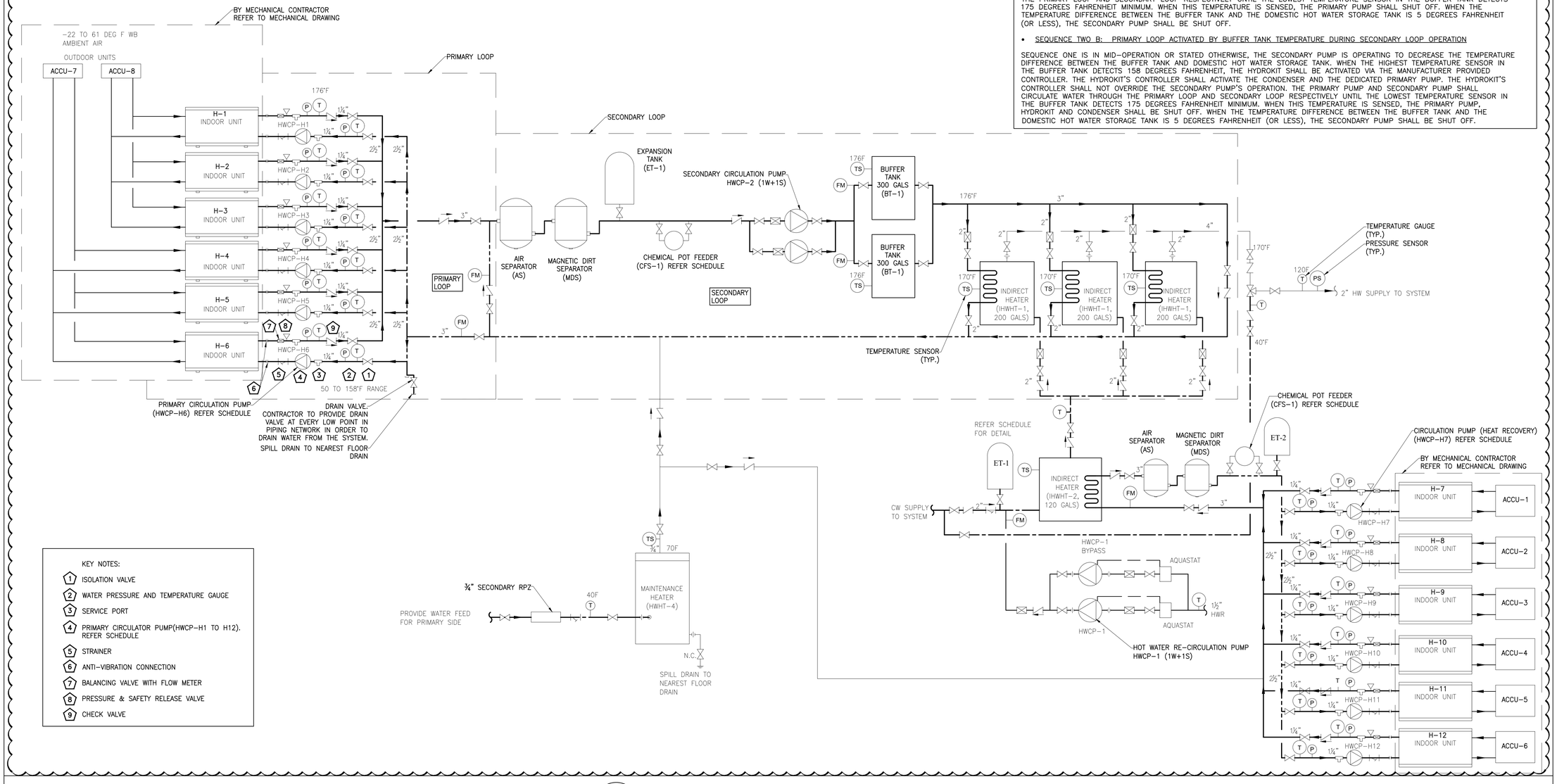
WHEN THERE IS A CALL FOR DOMESTIC HOT WATER, THE DOMESTIC HOT WATER STORAGE TANK WILL LOSE HOT WATER AND GAIN COLD WATER. WHEN THE AVERAGE TEMPERATURE OF THE DOMESTIC HOT WATER STORAGE TANK IS 10 DEGREES FAHRENHEIT LESS THAN THE AVERAGE TEMPERATURE OF THE BUFFER TANK, THE SECONDARY PUMP SHALL BE ACTIVATED AT THE DESIGN WATER FLOWRATE. THE SECONDARY PUMP SHALL CIRCULATE HOT WATER THROUGH THE SECONDARY PIPING LOOP UNTIL THE AVERAGE TEMPERATURE OF THE DOMESTIC HOT WATER STORAGE TANK IS 5 DEGREES FAHRENHEIT LESS THAN THE AVERAGE TEMPERATURE OF THE BUFFER TANK. WHEN THIS TEMPERATURE DIFFERENTIAL IS SENSED, THE SECONDARY PUMP SHALL BE SHUT OFF.

- SEQUENCE TWO A: PRIMARY AND SECONDARY LOOP ACTIVATED BY BUFFER TANK TEMPERATURE

WHEN THE HIGHEST TEMPERATURE SENSOR IN THE BUFFER TANK DETECTS 158 DEGREES FAHRENHEIT, THE HYDROKIT SHALL BE ACTIVATED VIA THE MANUFACTURER PROVIDED CONTROLLER. THE HYDROKIT'S CONTROLLER SHALL ACTIVATE THE CONDENSER, THE DEDICATED PRIMARY PUMP, AND THE SECONDARY PUMP. THE HOT WATER SUPPLY OR OUTLET WATER FROM THE HYDROKIT SHALL BE SET TO A MINIMUM OF 175 DEGREES FAHRENHEIT. THE PRIMARY PUMP AND SECONDARY PUMP SHALL CIRCULATE WATER THROUGH THE PRIMARY LOOP AND SECONDARY LOOP RESPECTIVELY UNTIL THE LOWEST TEMPERATURE SENSOR IN THE BUFFER TANK DETECTS 175 DEGREES FAHRENHEIT MINIMUM. WHEN THIS TEMPERATURE IS SENSED, THE PRIMARY PUMP SHALL SHUT OFF. WHEN THE TEMPERATURE DIFFERENCE BETWEEN THE BUFFER TANK AND THE DOMESTIC HOT WATER STORAGE TANK IS 5 DEGREES FAHRENHEIT (OR LESS), THE SECONDARY PUMP SHALL BE SHUT OFF.

- SEQUENCE TWO B: PRIMARY LOOP ACTIVATED BY BUFFER TANK TEMPERATURE DURING SECONDARY LOOP OPERATION

SEQUENCE ONE IS IN MID–OPERATION OR STATED OTHERWISE, THE SECONDARY PUMP IS OPERATING TO DECREASE THE TEMPERATURE DIFFERENCE BETWEEN THE BUFFER TANK AND DOMESTIC HOT WATER STORAGE TANK. WHEN THE HIGHEST TEMPERATURE SENSOR IN THE BUFFER TANK DETECTS 158 DEGREES FAHRENHEIT, THE HYDROKIT SHALL BE ACTIVATED VIA THE MANUFACTURER PROVIDED CONTROLLER. THE HYDROKIT'S CONTROLLER SHALL ACTIVATE THE CONDENSER AND THE DEDICATED PRIMARY PUMP. THE HYDROKIT'S CONTROLLER SHALL NOT OVERRIDE THE SECONDARY PUMP'S OPERATION. THE PRIMARY PUMP AND SECONDARY PUMP SHALL CIRCULATE WATER THROUGH THE PRIMARY LOOP AND SECONDARY LOOP RESPECTIVELY UNTIL THE LOWEST TEMPERATURE SENSOR IN THE BUFFER TANK DETECTS 175 DEGREES FAHRENHEIT MINIMUM. WHEN THIS TEMPERATURE IS SENSED, THE PRIMARY PUMP, HYDROKIT AND CONDENSER SHALL BE SHUT OFF. WHEN THE TEMPERATURE DIFFERENCE BETWEEN THE BUFFER TANK AND THE DOMESTIC HOT WATER STORAGE TANK IS 5 DEGREES FAHRENHEIT (OR LESS), THE SECONDARY PUMP SHALL BE SHUT OFF.



KEY NOTES:

1. ISOLATION VALVE
2. WATER PRESSURE AND TEMPERATURE GAUGE
3. SERVICE PORT
4. PRIMARY CIRCULATOR PUMP(HWCP–H1 TO H12). REFER SCHEDULE
5. STRAINER
6. ANTI–VIBRATION CONNECTION
7. BALANCING VALVE WITH FLOW METER
8. PRESSURE & SAFETY RELEASE VALVE
9. CHECK VALVE

1 P–505 HOT WATER FLOW DIAGRAM FOR HYDRO KIT N.T.S

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PUMP SCHEDULE

TAG	SERVICE	LOCATION	PERFROMANCE DATA		PUMP CONSTRUCTION DATA	MOTOR DATA					MANUFACTURER & MODEL	REMARKS
			GPM	TDH(FT)	PUMP TYPE	MHP PER PUMP	STARTER TYPE	V/PH/HZ	RPM	SERVICE FACTOR		
SP-1	ELEVATOR PITS	CELLAR	50	22	SUBMERSIBLE	1/2	FLOAT SWITCH	115/1/60	3450	1	STANCOR PUMPS SE-50-OM	SIMPLEX OIL-MINDER SUMP PUMP INSIDE 24"X24"X24" DEEP CONCRETE PIT INCLUDING CONTROLS AND ALARM NEMA I RATED MOTOR
SP-2	ELEVATOR PITS	CELLAR	50	22	SUBMERSIBLE	1/2	FLOAT SWITCH	115/1/60	3450	1	STANCOR PUMPS SE-50-OM	SIMPLEX OIL-MINDER SUMP PUMP INSIDE 24"X24"X24" DEEP CONCRETE PIT INCLUDING CONTROLS AND ALARM NEMA I RATED MOTOR
SP-4	ELEVATOR PITS	CELLAR	50	22	SUBMERSIBLE	1/2	FLOAT SWITCH	115/1/60	3450	1	STANCOR PUMPS SE-50-OM	SIMPLEX OIL-MINDER SUMP PUMP INSIDE 24"X24"X24" DEEP CONCRETE PIT INCLUDING CONTROLS AND ALARM NEMA I RATED MOTOR
DUPLEX BP-1	DCW	CELLAR	110	82.65	CENTRIFUGAL	5	PRESS. SWITCH	208/3/60	3450	1	QUANTUMFLO PRODIGY DUPLEX	1)SYSTEM SUBMITTALS SHALL INCLUDE CERTIFICATE NUMBER FOR NSF61 CERTIFICATION, UL508A AND QCZJ 3RD PARTY COMPLIANCE. 2)SYSTEM CONTROLS MUST COMPLY WITH AND PROVIDE FOR EITHER CONTROL LOGIC OR REMOTE SENSOR IN ACCORDANCE WITH ANSI/ASHRAE/IES STANDARD 90.1 ENERGY STANDARD 3)PROVIDE 5-YEAR WARRANTY ON COMPLETE SYSTEM AND INCLUDE WARRANTY CERTIFICATE WITH DETAILS IN SUBMITTALS 4) SYSTEM SHALL BE PRE-SET TO SYSTEM SITE CONDITIONS BY SIMULATING SUCTION PRESSURE. HYDROSTATIC-ONLY TESTING IS NOT ACCEPTABLE. 5) THE INDUSTRIAL CONTROLLER SHALL BE IN COMPLIANCE WITH CURRENT NEC, SECTION 409.110 HAVING A MAXIMUM 100K AVAILABLE FAULT CURRENT. 6)EQUAL SYSTEMS MUST SHOW MATHEMATICAL ANALYSIS PROVING THAT THE ALTERNATE SUPPLIER MEETS OR EXCEEDS THE KW CAPACITY LISTED. 7)PROVIDE THE FOLLOWING OPTIONS: VIBRATION ISOLATION KIT, 316SS NSF61 HEADER FLEX CONNECTOR KIT (INCLUDES TWO FLEX HOSES AND TWO COUPLINGS)
DUPLEX SP-3	STORM	CELLAR	200	30	SUBMERSIBLE	1.5	FLOAT SWITCH	208/3/60	1750	1	FEDERAL PUMP CORP P-3A-1.5-4-3B	1)DUPLEX SUMP PUMP (SP-3) IN 60"(DIA)X78"(H) FIBRE GLASS BASIN (PUMP MAY RUN SIMULTANEOUSLY WHEN REQUIRED) 2)PROVIDE PUMP WITH FLOAT SWITCHES & DUPLEX CONTROL PANEL (NEMA-4) 3)CAPABLE OF RUNNING DRY WITHOUT DAMAGE

DRAIN ACCESSORIES AND SCHEDULE

BODY												STRAINER																				REMARKS
DESIGNATION	REQUIRED	MANUFACTURER: ZURN,WATTS	CAST IRON	GALVANIZED	ALL BRONZE	SECONDARY CLAMP	CLAMPING DEVICE	DECK CLAMP	BACK WATER VALVE	SUMP RECEIVER	FLASHING COLLAR	CAST IRON	GALVANIZED	ALL BRONZE	NICKEL BRONZE (ADJUSTABLE)	CHROME PLATED	SEDIMENT BUCKET	SECONDARY STRAINER	POLISHED FINISH	SATIN FINISH	TRACTOR GRATE	ST. STEEL	FUNNEL TOP	FLAT TOP	DOME	RAISED LIP	EXTENSION (WHERE REQUIRED)	LESS GRATE	BRONZE TOP	IRON GRATE	POLYETHYLENE	VANDAL PROOF SECURED TOP	SOLID HINGED COVER	LOCATION
FD	●	FR05NIP2S-C																																MECH. ROOMS, PLUMBING AND SPRINKLER UTILITY ROOMS
OD/RD	●	Z-163	●			●						●													●		●					●		ROOF, POOL COURTYARD
AD	●	Z503	●				●																	●								●		REFER PLANS
PD	●	Z-349	●										●												●							●		GARDEN
HD	●	FD-100-EG	●							●								●																SET HUB DRAIN FOR SPRINKLER DRAIN RISER/ SUMP PUMP DISCHARGE
F.S.A.F.H.B.	●	FREE STANDING ANTI FREEZE HOSE BIB MODEL Z-1397																																REFER PLANS
N.F.W.H.	●	NON FREEZE WALL HYDRANT MODEL Z-1300																																EXTERIOR WALLS, TRASH ROOM

NOTES:
1. ALL FLOOR DRAINS IN MECHANICAL EQUIPMENT, SHALL BE LOCATED IN COORDINATION WITH THE MECHANICAL CONTRACTOR.
2. THE CONTRACTOR SHALL VERIFY THE COMPATIBILITY OF THE DRAINS WITH THE APPROVED ROOFING AND/OR WATER PROOFING SYSTEMS PRIOR TO SUBMITTING SHOP DRAWINGS.
3. THE TOP OF ALL FLOOR DRAINS SHALL BE FLUSH WITH THE ADJACENT FINISHED FLOOR.

TANKLESS ELECTRIC HOT WATER HEATER

TAG NO.	QUANTITY	FIXTURES SERVING	EFFICIENCY	MAX. INPUT (KW)	RECOVERY CAP. GPM @ TEMP. RISE	ELECT. CHARACTERISTICS	MANUFACTURE MODEL NO.	CONNECTION SIZE	REMARKS
HWHT-3	2	LAV	99%	18	2 GPM @ 61° F	208V/3Ø/60 Hz 50AMPS/PHASE	EEMAX EX180T2TML	1/2"	-DIMENSIONS 12.25"Hx18.25"Wx4.5"D -WEIGHT 15LB -UL LISTED, NSF/ANSI CERTIFIED. -PROVIDE FLOW REGULATOR -WATER HEATER TO BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION WITH ALL REQUIRED ACCESSORIES.

NOTE: TEMP. SET POINT FOR PLUMBING FIXTURES ARE
1. 105 DEG.F.- LAV

PLUMBING FIXTURE SCHEDULE

LEGEND	PLUMBING FIXTURE	CONNECTION SIZES						REMARKS
		TRAP	SOIL/WASTE	VENT	COLD WATER	HOT WATER	THERMOSTATIC MIXING VALVE	
WC	FLOOR MOUNTED WATER CLOSET	-	4"	2"	1/2"	-	-	FLUSH TANK
LAV	UNDERCOUNTER LAVATORY	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	PROVIDE	P-TRAP
BT	BATH TUB	2"	2"	1-1/2"	3/4"	3/4"	PROVIDE	P-TRAP
SH	SHOWER	2"	2"	1-1/2"	3/4"	3/4"	PROVIDE	P-TRAP
KS/PS	KITCHEN SINK	2"	2"	-	3/4"	3/4"	PROVIDE	P-TRAP
WM	WASHING MACHINE	2"	2"	-	3/4"	3/4"	-	-I.W. FROM WM SPILLS INTO 2" STANPIPE DRAIN -PROVIDE DRAIN PAN
LS	LAUNDRY SINK	2"	2"	1-1/2"	3/4"	3/4"	PROVIDE	P-TRAP
SS/MS	SERVICE/ MOP SINK	3"	3"	2"	3/4"	3/4"	-	P-TRAP

NOTE: CONTRACTOR TO COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL PLUMBING FIXTURES SPECIFICATIONS AND MOUNTING HEIGHT INSTALLATION.

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11	ADDENDUM#1	01/05/2022

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FOR:

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PLUMBING SCHEDULE (1 OF 2)

Date:

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Drawn By #:NYE

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DOB #:B00235891-I1

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ELECTRIC STORAGE WATER HEATER SCHEDULE

HEATER TAG	SET POINT TEMP.	LOCATION	MAX. INPUT (kW)	STORAGE CAPACITY (GAL)	RECOVERY CAPACITY	TYPE	ELECTRICAL CHARACTERISTICS CONTROL	NO. OF HEATERS	EFFICIENCY (%)	MANUFACTURER & MODEL NO.	REMARKS
MAINTENANCE HEATER HWHT-4	90 F	HWHT ROOM (ROOF)	24	50	3 GPM@55° F RISE	ELECTRIC	208V/3Ø/60Hz	2	96	LOCHINVAR MODEL CHT24050A	- FLOOR MOUNTED HEATER -CLEARANCES FROM ADJACENT SURFACES ARE 12 INCHES ON TOP, 24 INCHES IN FRONT FOR ACCESS TO THE UNIT. -PROVIDE DRIP PAN -MIN. 4" MUST BE ALLOWED FOR ACCESS TO REPLACEABLE PARTS SUCH AS THERMOSTATS, DRAIN VALVE AND RELIEF VALVE. -CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE

AIR SEPARATOR

TAG	QTY.	LOCATION	SERVICE	MAX FLOW	MANUFACTURER & MODEL	DIMENSION (WIDTH X HEIGHT)	WEIGHT (LBS)
AS	2	HWHT ROOM (ROOF)	HW	140 GPM	BELL AND GOSSETT R-2N	16" X 6"	51

MAGNETIC DIRT SEPARATOR

TAG	QTY.	LOCATION	SERVICE	MAX FLOW	MANUFACTURER & MODEL	DIMENSION (DIA X HEIGHT)	WEIGHT (LBS)
MDS	2	HWHT ROOM (ROOF)	HW	79 GPM	BOILER MAG BMXT-2	7" X 11"	42

INDIRECT WATER HEATER SCHEDULE

WATER HEATER NO.	QTY.	LOCATION	RECOVERY GPH	DOMESTIC CW TEMP. DEG. F.	DOMESTIC TEMP. SET POINT DEG. F.	MIN HEAT SOURCE OUTPUT MBH	STORAGE (GALLONS)	HEATING WATER TEMP. DEG. F.	HEATING WATER FLOW GPM.	BASED ON MFR.& MODEL	REMARKS
IHWHT-1	03	ROOF	231 GPH @ 130° F RISE	40	170	250	200	175	25	HUBBELL BWP-200	- DIMENSION 34"(D)X82"(H) - PROVIDE CLEARANCES FOR HEATER AS PER MANUFACTURER'S RECOMMENDATION. - PROVIDE DRAIN PAN. - PROVIDE HWCP AND EXPANSION TANK AS PER SCHEDULE - PROVIDE HOUSE KEEPING PADS - PROVIDE ALL RELATED ACCESSORIES AS PER MANUFACTURER'S RECOMMENDATION.
IHWHT-2	01	ROOF	292 GPH @ 80° F RISE	40	120	194	120	122	25	HUBBELL BWP-120	- DIMENSION 28"(D)X75"(H) - PROVIDE CLEARANCES FOR HEATER AS PER MANUFACTURER'S RECOMMENDATION. - PROVIDE DRAIN PAN. - PROVIDE HOUSE KEEPING PADS - PROVIDE ALL RELATED ACCESSORIES AS PER MANUFACTURER'S RECOMMENDATION.

PUMP SCHEDULE

TAG	QUANTITY	SERVICE	LOCATION	PERFROMANCE DATA		PUMP CONSTRUCTION DATA	MOTOR DATA		MANUFACTURER & MODEL	REMARKS
				GPM	TDH(FT)	PUMP TYPE	MHP PER PUMP	V/PH/HZ		
HWCP-1	2	HOT WATER RE-CIRCULATION	HWHT ROOM (ROOF)	11	12	INLINE	125 WATTS	115/1/60	BELL & GOSSETT NBF25	INLINE ON HW RETURN LINE AT WATER HEATER WITH NEMA 1 RATED MOTOR
HWCP-H1 HWCP-H2 HWCP-H3 HWCP-H4 HWCP-H5 HWCP-H6	1 (EACH)	PRIMARY CIRCULATION PUMP	HWHT ROOM (ROOF)	10	28	ECOCIRC XL	0.5 HP	115/1/60	BELL AND GOSSETT MODEL PL 36B	NSF 61 APPROVED UL APPROVED
HWCP-H7 HWCP-H8 HWCP-H9 HWCP-H10 HWCP-H11 HWCP-H12	1 (EACH)	CIRCULATION PUMP (HEAT RECOVERY)	HWHT ROOM (ROOF)	10	28	ECOCIRC XL	0.5 HP	115/1/60	BELL AND GOSSETT MODEL PL 36B	NSF 61 APPROVED UL APPROVED
HWCP-2	2	SECONDARY CIRCULATION PUMP	HWHT ROOM (ROOF)	75	40	ECOCIRC XL	1.77 HP	115/1/60	BELL AND GOSSETT MODEL 110-180 3PH	

EXPANSION TANK SCHEDULE

TAG	QTY.	LOCATION	SERVICE	CAPACITY (GALLONS)	MANUFACTURER & MODEL	DIMENSION (DIA X HEIGHT)	WEIGHT (LBS)
ET-1	2	HWHT ROOM (ROOF)	HW	34	AMTROL ST-130CL	20" X 35"	134
ET-2	1	HWHT ROOM (ROOF)	HW	02	AMTROL ST-5	8" X 13"	5

BUFFER TANK SCHEDULE

TAG NO.	LOCATION	QUANTITY	TANK TYPE	STORAGE WATER TEMP.(° F)	STORAGE CAPACITY	MANUFACTURE MODEL NO.	DIMENSION	REMARKS
BT-1	ROOF	2	VERTICAL	176	300	HUBBELL MODEL: BULLETIN_ 2 PORT, 300 GALS	DIMENSIONS 36"(DIA)X71"(H)	-NSF-61, ASME CERTIFIED -PROVIDE 6" CON.PAD -PROVIDE DRAIN PAN

SAND TRAP

SERIES	LOCATION	FLOW RATE (GPM)	MAKE	REMARK
8810-20	CELLAR GREENHOUSE	20	JAY R. SMITH	PROVIDE CONCRETE PIT OF DIMENSION (2'-8" L X 2'-8" W X2'-8" H)

PUMP LEAD/LAG CONTROLLER SCHEDULE

TAG	SERVICE	LOCATION	ELECTRICAL CHARACTERISTICS	MANUFACTURER & MODEL	REMARKS
LG VM3	PUMP CONTROLLER	ROOF MECHANICAL ROOM	24VAC/1PH/60HZ	LG MODEL:VM3	- DIMENSIONS : 7.05" W x 4.33" H x 2.40" D - PROVIDE ALL REQUIRED ACCESSORIES AS PER MANUFACTURER RECOMMENDATIONS - PROVIDE PARTS AND SMARTS PACKAGE BY KLIMA. - INSTALLATION BY PLUMBING CONTRACTOR.

CHEMICAL POT FEEDER

MANUFACTURER :WESSELS

MARK	QTY.	LOCATION	TANK VOLUME (GALLONS)	DIA (INCHES)	HEIGHT (INCHES)	MAX DESIGN TEMP (DEGF)	MAX DESIGN PRESSURE (PSIG)	PIPE DIAM (IN)	MODEL #
CSF-1	02	SEE PLAN	2	6	20	450	200	3/4	CPFTA-2

GREASE INTERCEPTOR SCHEDULE

ITEM	LOCATION	SERVICE	FLOW CAPACITY (GPM)	GREASE CAPACITY (LBS)	MANUFACTURER AND MODEL	APPROVAL	REMARKS
GREASE INTERCEPTOR GI-1	CELLAR	KITCHEN WASTE	35	130.5	SCHIER MODEL GB2 35 GPM	ASME CERTIFIED	FLOOR MOUNTED CORROSION RESISTANT COATED STEEL GREASE INTERCEPTOR WITH GASKETED EPOXY COATED STEEL SKID-PROOF COVER WITH INTEGRAL STEEL FLOW CONTROL PLATE, WITH NO-HUB CONNECTIONS,INTEGRAL TRAP, SIZE- 35"(L) X 23"(W) X 13¾"(H)

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PLUMBING SCHEDULE (2 OF 2)

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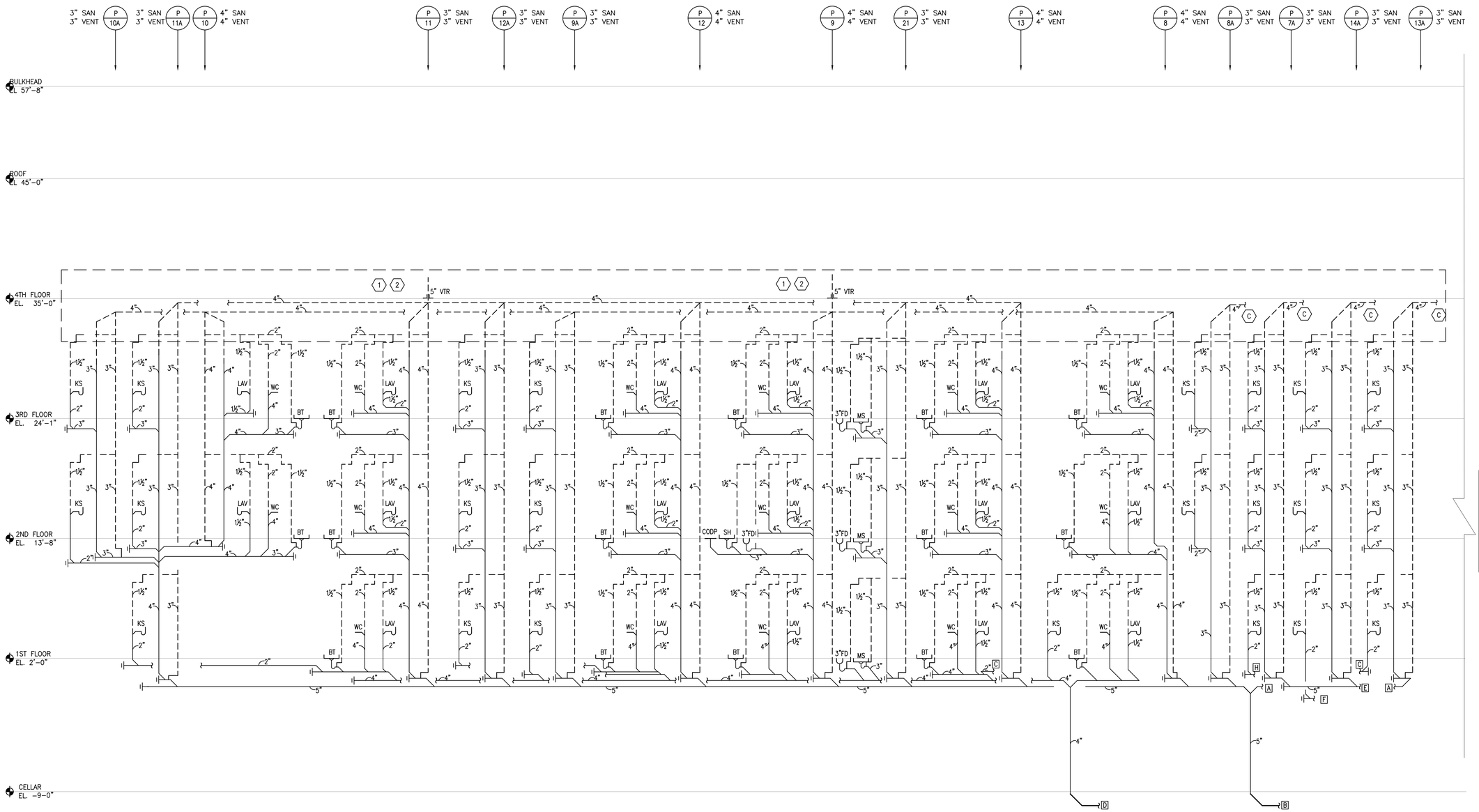
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Sheet #: of



1 PLUMBING SANITARY RISER DIAGRAM
SCALE: 1/8" = 1'-0"

MINIMUM PIPE INSULATION THICKNESS							
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU· IN./ (H· FT2· °F)	MEAN RATING TEMPERATURE, °F	<1	1 to < 1½	1½ to < 4	4 to < 8	<8
40–60	0.21–0.27	75	0.5	0.5	1.0	1.0	1.0

GENERAL NOTES ;

1. INSULATE ALL VERTICAL PIPES FOR 10' FROM ROOF PENETRATIONS.
2. ALL HORIZONTAL PIPE RUNS BELOW FLOOR TO BE INSULATED.

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PLUMBING SANITARY RISER DIAGRAM (1 OF 3)

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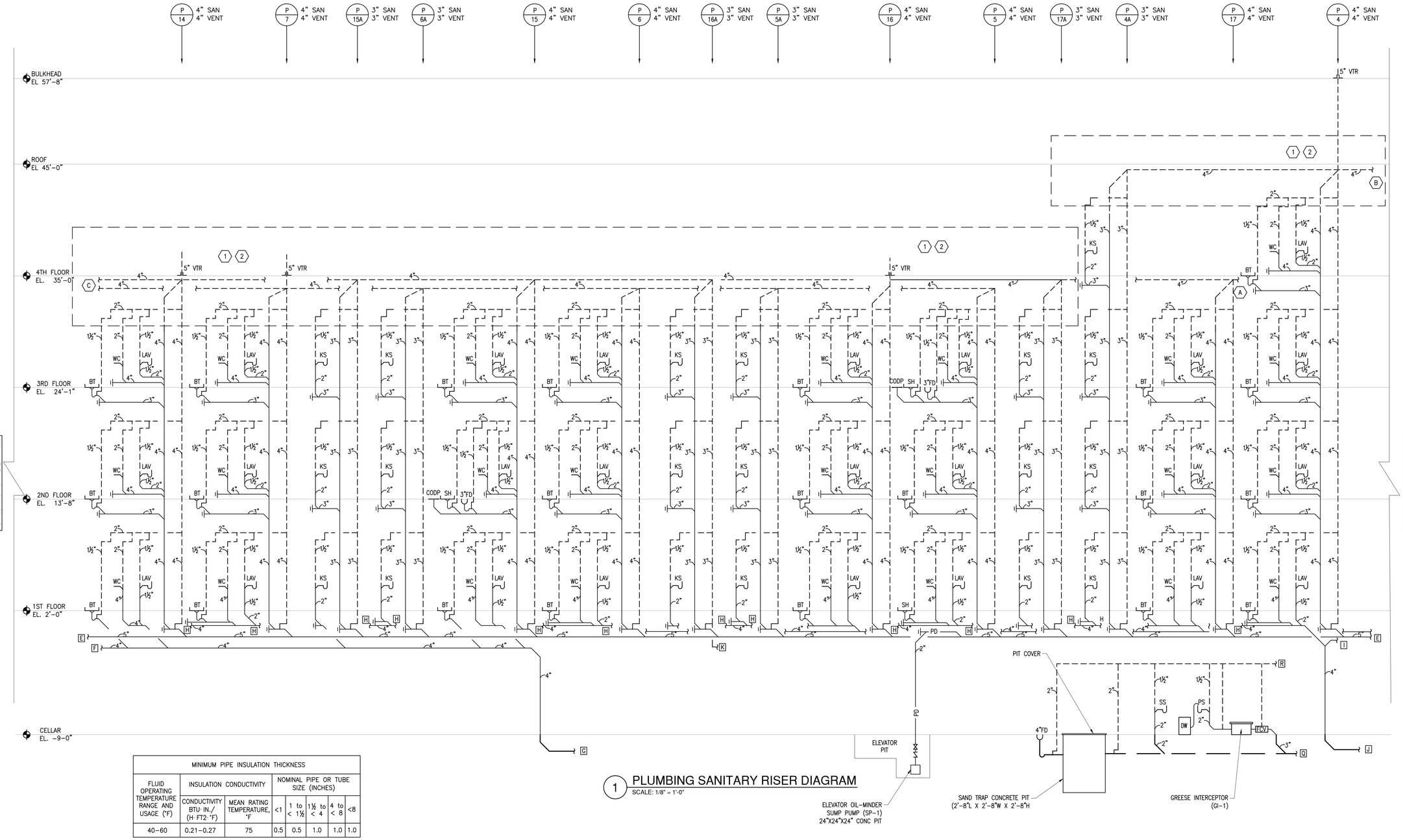
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1 PLUMBING SANITARY RISER DIAGRAM
SCALE: 1/8" = 1'-0"

MINIMUM PIPE INSULATION THICKNESS							
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU·IN./(H·FT2·°F)	MEAN RATING TEMPERATURE, °F	<1	1 to < 1½	1½ to < 4	4 to < 8	<8
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GENERAL NOTES ;

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2. ALL HORIZONTAL PIPE RUNS BELOW FLOOR TO BE INSULATED.

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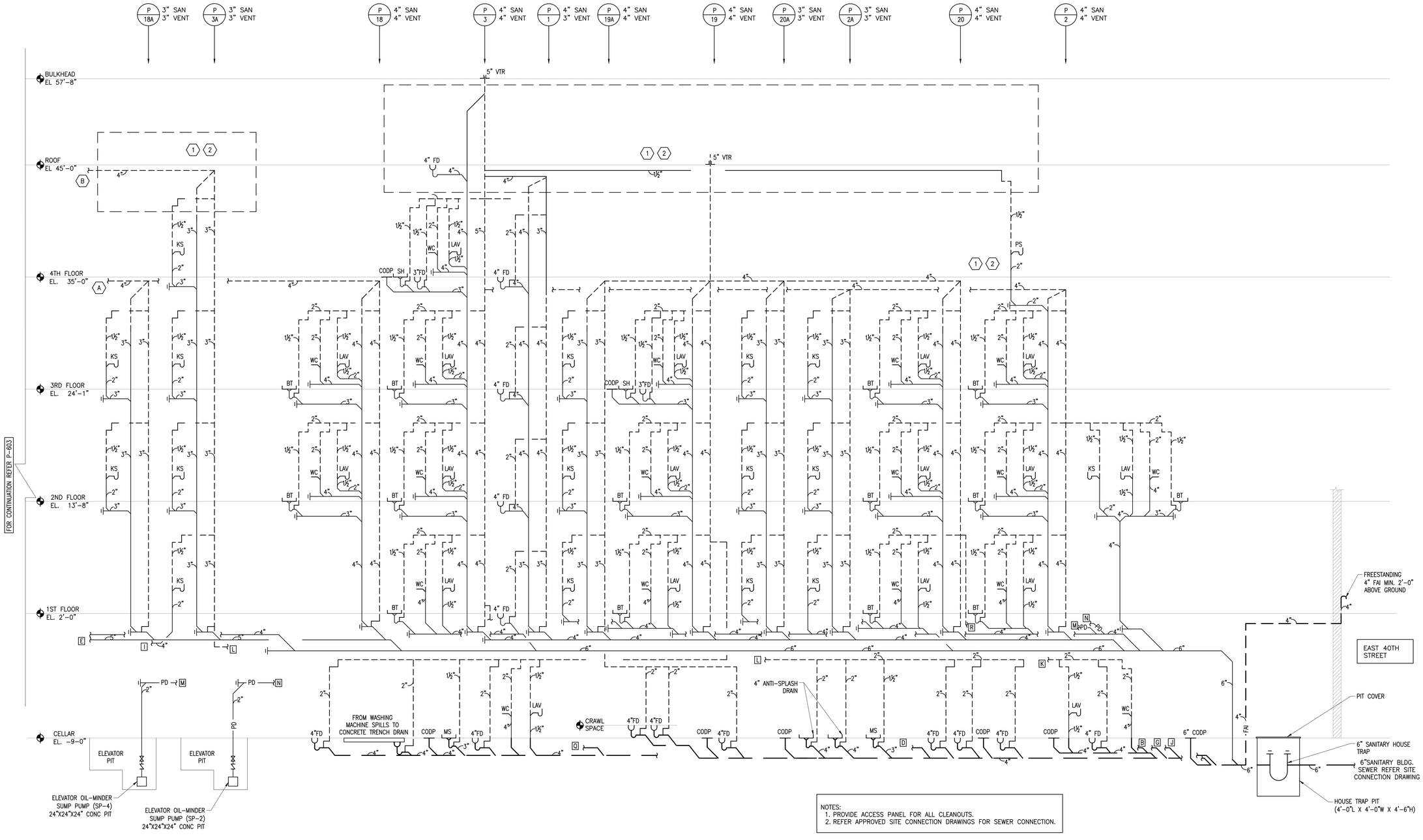
PLUMBING SANITARY RISER DIAGRAM (2 OF 3)

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Sheet #: of



NOTES:
1. PROVIDE ACCESS PANEL FOR ALL CLEANOUTS.
2. REFER APPROVED SITE CONNECTION DRAWINGS FOR SEWER CONNECTION.

GENERAL NOTES ;

1. INSULATE ALL VERTICAL PIPES FOR 10' FROM ROOF PENETRATIONS.
2. ALL HORIZONTAL PIPE RUNS BELOW FLOOR TO BE INSULATED.

MINIMUM PIPE INSULATION THICKNESS							
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU· IN./(H· FT2· °F)	MEAN RATING TEMPERATURE, °F	<1	1 to < 1½	1½ to < 4	4 to < 8	<8
40–60	0.21–0.27	75	0.5	0.5	1.0	1.0	1.0

1 PLUMBING SANITARY RISER DIAGRAM
SCALE: 1/8" = 1'-0"

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PLUMBING SANITARY RISER DIAGRAM (3 OF 3)

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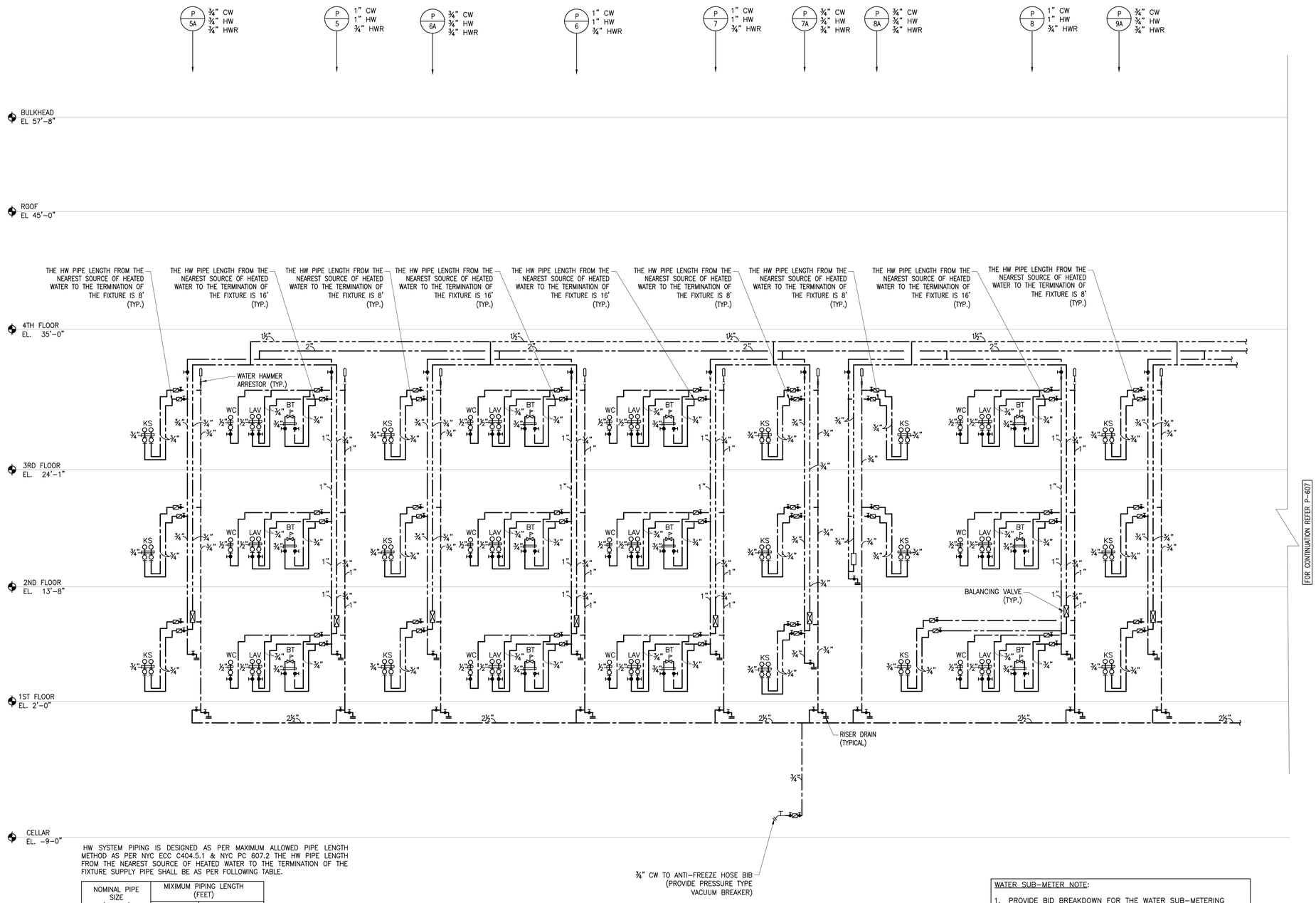
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1 PLUMBING WATER RISER DIAGRAM
SCALE: 1/8" = 1'-0"

HW SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER NYC ECC C404.5.1 & NYC PC 607.2 THE HW PIPE LENGTH FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER FOLLOWING TABLE.

NOMINAL PIPE SIZE (INCHES)	MIXIMUM PIPING LENGTH (FEET)	
	PUBLIC LAV	OTHER FIXTURES
½"	2'	20'
¾"	0.5'	20'
1"	0.5'	13'
1¼"	0.5'	8'
1½"	0.5'	6'
2" OR LARGER	0.5'	4'

WATER SUB–METER NOTE:

1. PROVIDE BID BREAKDOWN FOR THE WATER SUB–METERING SYSTEM AS DESIGNED IN THE CONSTRUCTION DOCUMENTS.
2. PROVIDE ALTERNATE BID PRICE FOR SUB–METERING EACH COLD WATER FEED FOR EVERY APARTMENT, LAUNDRY ROOM, COLD WATER FEED TO HOT WATER SYSTEM, COMMON BATHROOMS IN NON–RESIDENTIAL AREAS, MOP SINK IN MAINTENANCE ROOMS, ALL NON–RESIDENTIAL HOSE BIB, PANTRY SINK AND DISHWASHER AT CELLAR NON–RESIDENTIAL AREA, SERVICE SINK AT CELLAR IN NON–RESIDENTIAL AREA.
3. BID PRICE MUST INCLUDE AT MINIMUM THE FOLLOWING REQUIREMENTS: SUB–METERING EACH COLD WATER RISER SERVING APARTMENTS, LAUNDRY ROOM, COLD WATER FEED TO HOT WATER SYSTEM, COMMON BATHROOMS IN NON–RESIDENTIAL AREAS, MOP SINK IN MAINTENANCE ROOMS, ALL NON–RESIDENTIAL HOSE BIB, PANTRY SINK AND DISHWASHER AT CELLAR NON–RESIDENTIAL AREA, SERVICE SINK AT CELLAR IN NON–RESIDENTIAL AREA.

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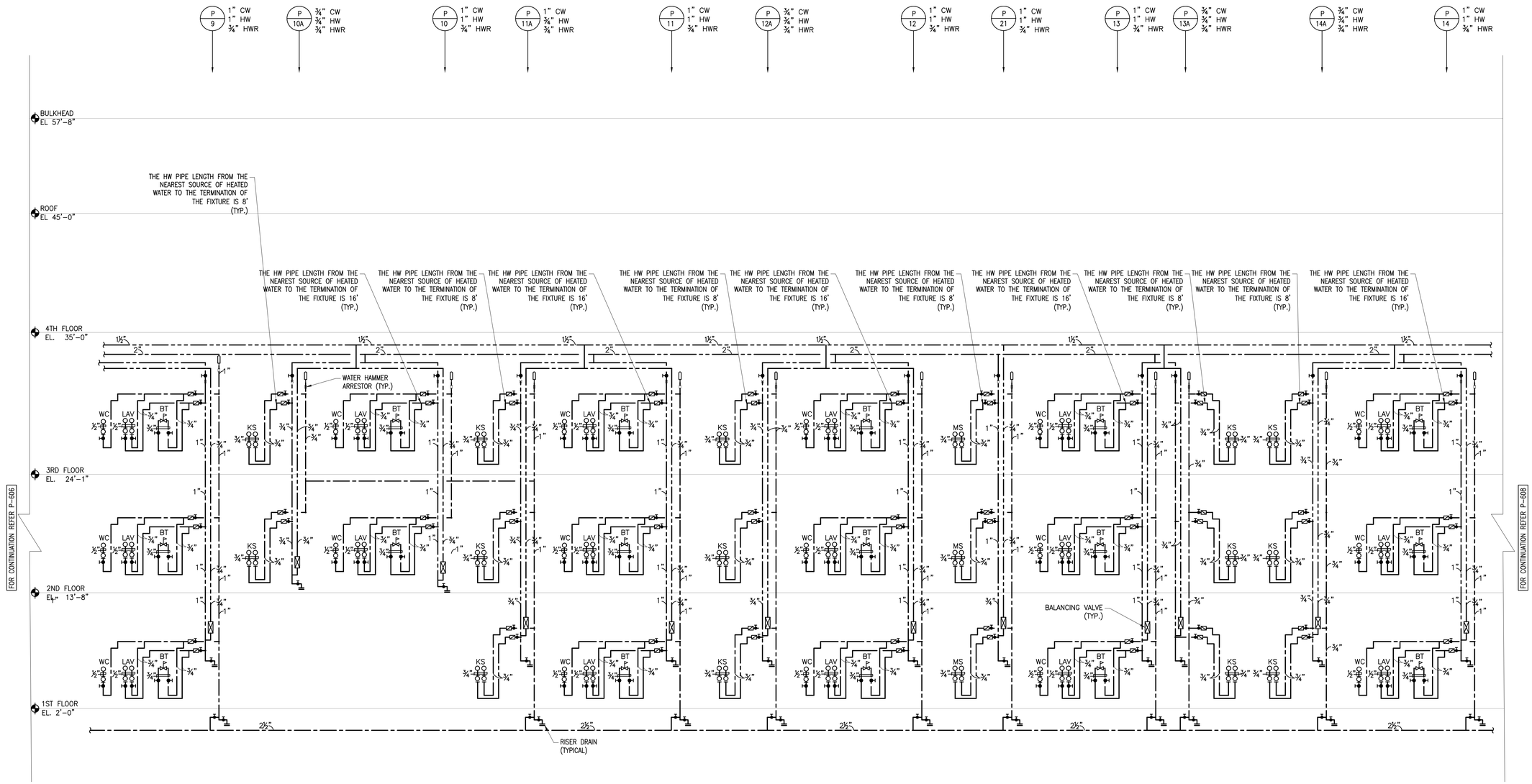
PLUMBING WATER RISER DIAGRAM (1 OF 4)

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WATER SUB-METER NOTE:

1. PROVIDE BID BREAKDOWN FOR THE WATER SUB-METERING SYSTEM AS DESIGNED IN THE CONSTRUCTION DOCUMENTS.
2. PROVIDE ALTERNATE BID PRICE FOR SUB-METERING EACH COLD WATER FEED FOR EVERY APARTMENT, LAUNDRY ROOM, COLD WATER FEED TO HOT WATER SYSTEM, COMMON BATHROOMS IN NON-RESIDENTIAL AREAS, MOP SINK IN MAINTENANCE ROOMS, ALL NON-RESIDENTIAL HOSE BIB, PANTRY SINK AND DISHWASHER AT CELLAR NON-RESIDENTIAL AREA, SERVICE SINK AT CELLAR IN NON-RESIDENTIAL AREA.
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1 PLUMBING WATER RISER DIAGRAM

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

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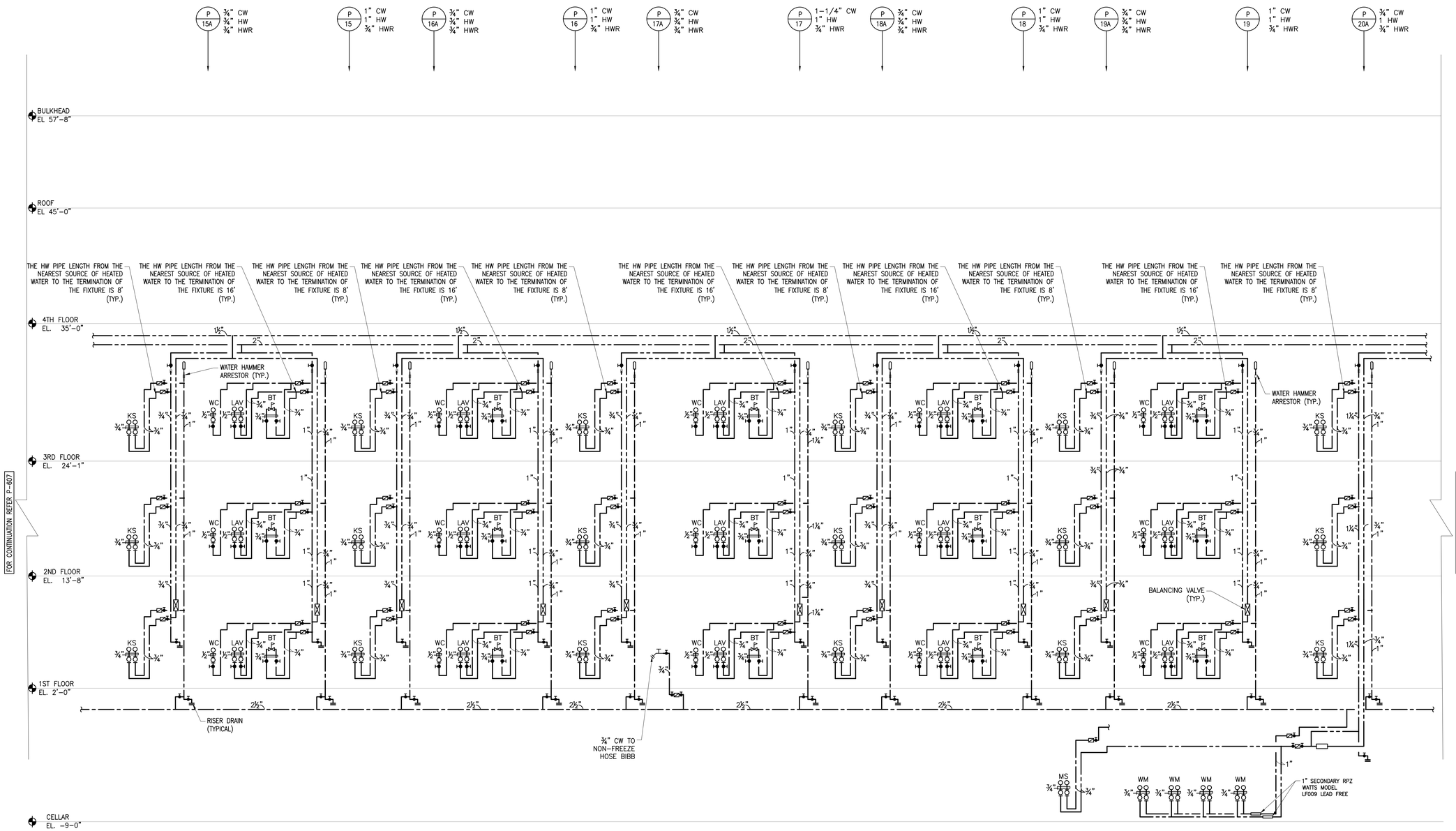
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1 PLUMBING WATER RISER DIAGRAM
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¾"	0.5'	20'
1"	0.5'	13'
1¼"	0.5'	8'
1½"	0.5'	6'
2" OR LARGER	0.5'	4'

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Revision Schedule

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11	REVISED CD SET	09/07/2021

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PROJECT:

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FOR:

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Drawing Tile:

PLUMBING WATER RISER DIAGRAM (3 OF 4)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #:NYE

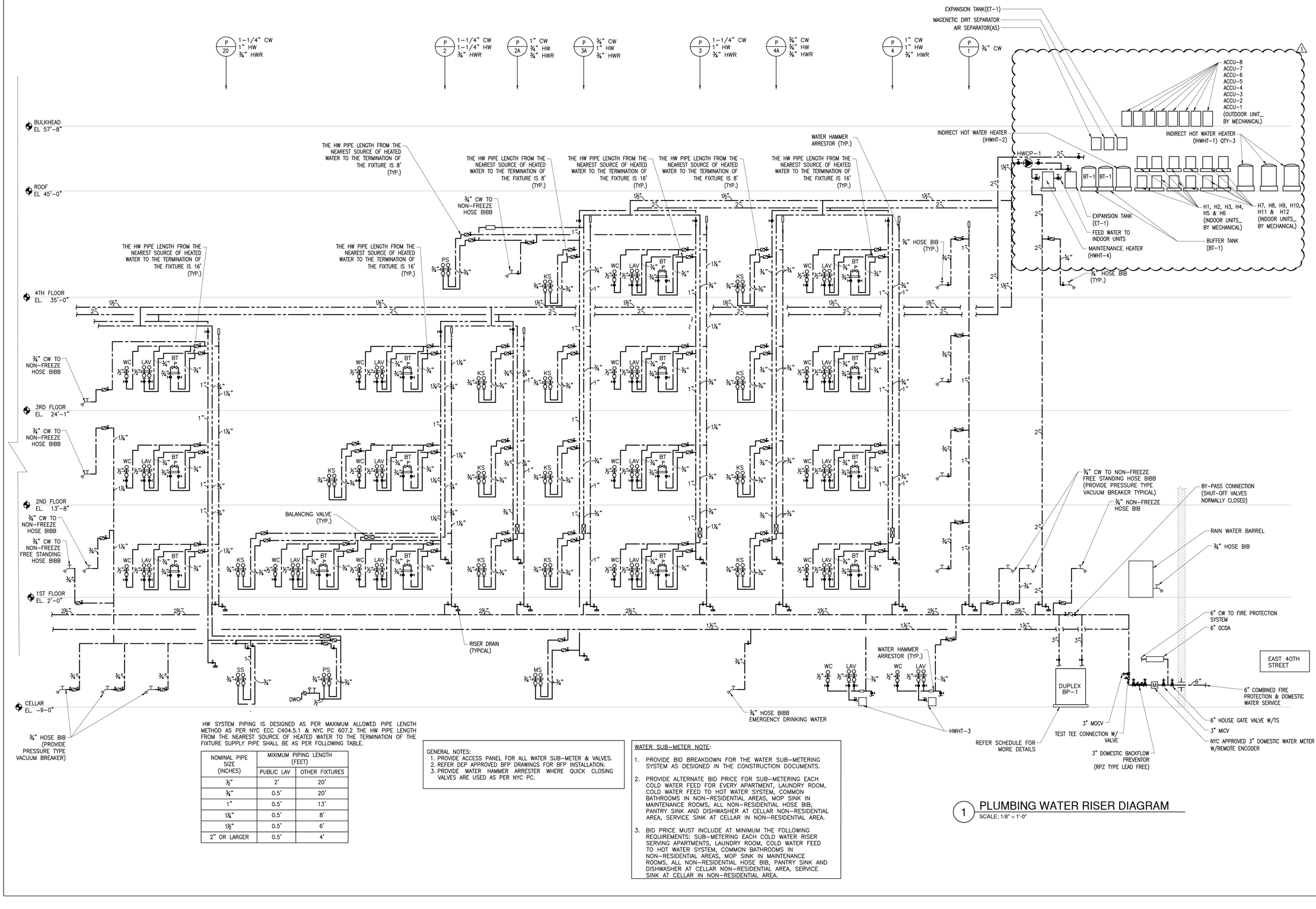
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HW SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER NYC ECC C404.5.1 & NYC PC 607.2 THE HW PIPE LENGTH FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER FOLLOWING TABLE.

NOMINAL PIPE SIZE (INCHES)	MIXIMUM PIPING LENGTH (FEET)	
	PUBLIC LAV	OTHER FIXTURES
½"	2'	20'
¾"	0.5'	20'
1"	0.5'	13'
1¼"	0.5'	8'
1½"	0.5'	6'
2" OR LARGER	0.5'	4'

GENERAL NOTES:
1. PROVIDE ACCESS PANEL FOR ALL WATER SUB-METER & VALVES.
2. REFER DEP APPROVED BFP DRAWINGS FOR BFP INSTALLATION.
3. PROVIDE WATER HAMMER ARRESTER WHERE QUICK CLOSING VALVES ARE USED AS PER NYC PC.

WATER SUB-METER NOTE:

1. PROVIDE BID BREAKDOWN FOR THE WATER SUB-METERING SYSTEM AS DESIGNED IN THE CONSTRUCTION DOCUMENTS.
2. PROVIDE ALTERNATE BID PRICE FOR SUB-METERING EACH COLD WATER FEED FOR EVERY APARTMENT, LAUNDRY ROOM, COLD WATER FEED TO HOT WATER SYSTEM, COMMON BATHROOMS IN NON-RESIDENTIAL AREAS, MOP SINK IN MAINTENANCE ROOMS, ALL NON-RESIDENTIAL HOSE BIB, PANTRY SINK AND DISHWASHER AT CELLAR NON-RESIDENTIAL AREA, SERVICE SINK AT CELLAR IN NON-RESIDENTIAL AREA.
3. BID PRICE MUST INCLUDE AT MINIMUM THE FOLLOWING REQUIREMENTS: SUB-METERING EACH COLD WATER RISER SERVING APARTMENTS, LAUNDRY ROOM, COLD WATER FEED TO HOT WATER SYSTEM, COMMON BATHROOMS IN NON-RESIDENTIAL AREAS, MOP SINK IN MAINTENANCE ROOMS, ALL NON-RESIDENTIAL HOSE BIB, PANTRY SINK AND DISHWASHER AT CELLAR NON-RESIDENTIAL AREA, SERVICE SINK AT CELLAR IN NON-RESIDENTIAL AREA.

1 PLUMBING WATER RISER DIAGRAM
SCALE: 1/8" = 1'-0"

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Drawing Tile:

PLUMBING WATER RISER DIAGRAM (4 OF 4)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #:NYE

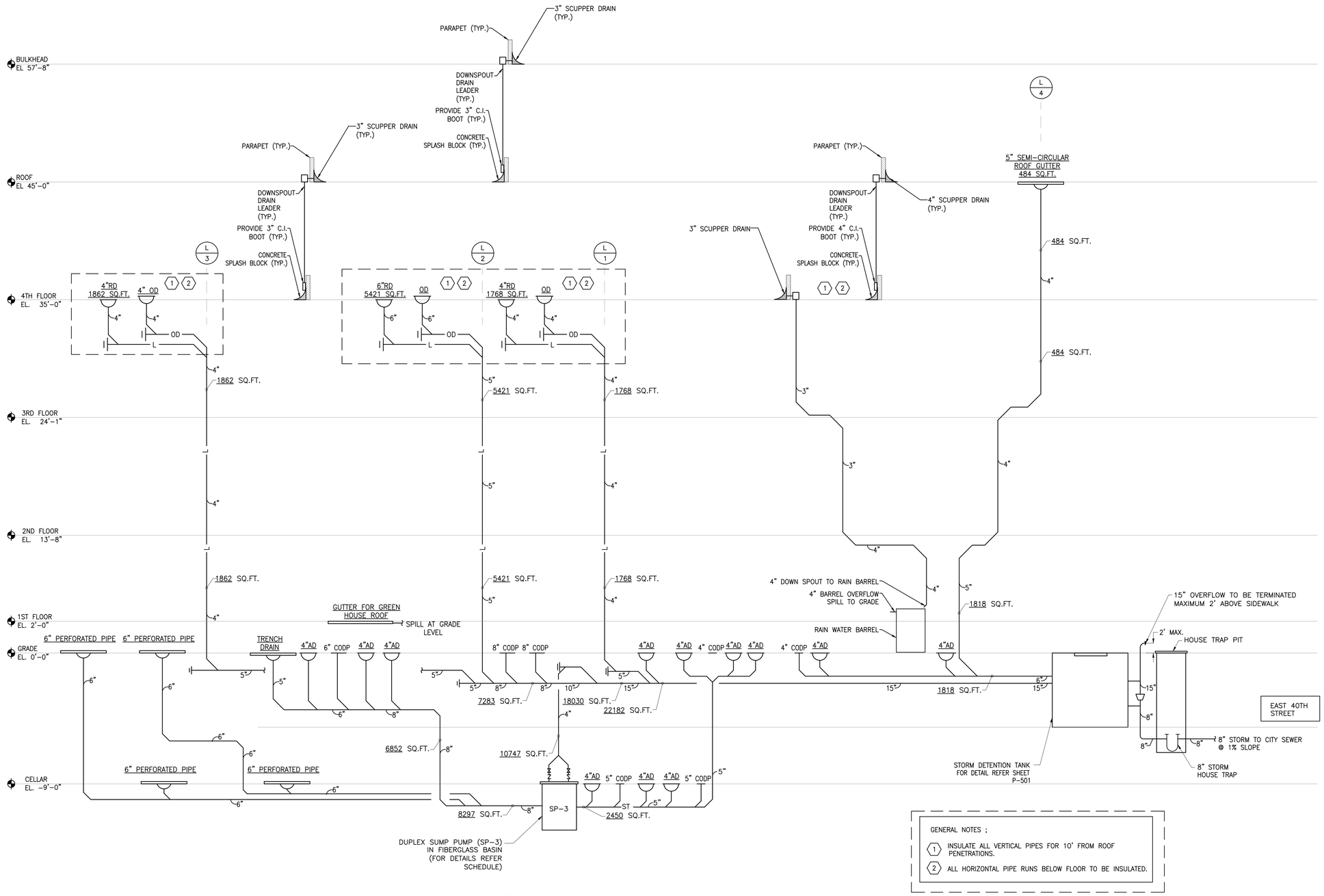
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GENERAL NOTES ;

1. INSULATE ALL VERTICAL PIPES FOR 10' FROM ROOF PENETRATIONS.
2. ALL HORIZONTAL PIPE RUNS BELOW FLOOR TO BE INSULATED.

1 PLUMBING STORM RISER DIAGRAM

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

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PLUMBING STORM RISER DIAGRAM

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #: NYE

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Drawing #:

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SPRINKLER GENERAL NOTES

1. ALL SPRINKLER WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF N.F.P.A.–13R AND ALL LOCAL AUTHORITIES.
2. ALL SPRINKLER WORK SHALL COMPLY WITH BUILDING STANDARDS AND REQUIREMENTS.
3. ALL SPRINKLER HEADS SHALL BE INSTALLED AT CENTER OF TILE IF CEILING IS PROVIDED.
4. GENERAL CONTRACTOR SHALL COORDINATE FINAL FURNITURE/EQUIPMENT HEIGHT ELEVATIONS AND LOCATIONS WITH SPRINKLER INSTALLATION. ENGINEER SHALL BE NOTIFIED WHEN FURNITURE/EQUIPMENT IS LESS THAN 18" TO UNDERSIDE OF CEILING.
5. THE SYSTEM SHALL BE HYDROSTATICALLY TESTED FOR LEAKAGE AT 50 PSI ABOVE NORMAL SYSTEM OPERATING PRESSURE FOR 1 HOUR AND CHECKED VISUALLY FOR LEAKAGE AT EACH JOINT OR COUPLING PER APPENDIX Q, 130, 4.3.1. AND ARE TO BE WITNESSED BY AUTHORIZED BUILDING PERSONNEL. COORDINATE ALL TESTING WITH BUILDING MANAGER.
6. PIPES SIZES SHOWN ARE BASED ON DESIGN PIPING LAYOUTS ONLY. ACTUAL PIPE SIZES SHALL BE DETERMINED BY CONTRACTORS HYDRAULIC CALCULATIONS BASED ON HIS INSTALLATION DRAWINGS. CONTRACTOR SHALL ALLOW FOR THIS AND INCLUDE THIS IN HIS CONTRACT PRICE.
7. DRAWING INDICATES SPRINKLER SYSTEM DESIGN ONLY. CONTRACTOR RESPONSIBLE FOR OFFSETS, DROPS AND RISES FOR COORDINATION WITH OTHER TRADES.
8. G.C. SHALL BE RESPONSIBLE FOR ALL FINAL TESTS AND INSPECTIONS OF COMPLETED WORK REQUIRED BY THE BUILDING MANAGEMENT PRIOR TO OCCUPANCY OF SPACE.
9. ALL SPRINKLER WORK SHALL BE TESTED AND MADE OPERATIONAL PRIOR TO CARPET AND FURNITURE INSTALLATION. G.C. SHALL REPAIR AND/OR REPLACE ALL FINISHES DAMAGED BY DEFECTIVE SPRINKLER WORK AT HIS EXPENSE.
10. ALL BURNING, CUTTING, SOLDERING AND WELDING SHALL BE COORDINATED WITH BUILDING FIRE SYSTEMS WITH BUILDING MANAGEMENT, AS REQUIRED.
11. G.C. SHALL BE RESPONSIBLE FOR OBTAINING PERMITS AND APPROVALS REQUIRED BY BUILDING INSPECTOR AND FIRE MARSHALL IN CONJUNCTION WITH CHANGES TO EXISTING SPRINKLER SYSTEM.
12. REFER TO ENGINEERING DRAWINGS FOR SPRINKLER HEADS, LIGHT SENSORS AND FIRE DETECTION DEVICES.
13. ALL WORK TO BE DONE DURING THE HOURS DESIGNATED BY OWNER.
14. UPON COMPLETION OF ALL SPRINKLER WORK, CONTRACTOR SHALL TEST AND INSPECT ENTIRE SPRINKLER SYSTEM. ENTIRE SYSTEM SHALL BE FULLY OPERATIONAL AND APPROVED IN COMPLIANCE WITH ALL AHJ.
15. UPON SUCCESSFUL COMPLETION OF ALL TESTING, CONTRACTOR SHALL PRIME AND PAINT ALL EXPOSED SPRINKLER PIPING. COLOR AND FINISH SHALL BE AS PER ARCHITECT.
16. CONTRACTOR SHALL INCLUDE IN HIS BID THE COST TO PROVIDE (5) FIVE ADDITIONAL SPRINKLERS INSTALLED. EXACT LOCATIONS OF THESE SPRINKLER HEADS SHALL BE DETERMINED IN FIELD.
17. FOR SPRINKLER WORK DONE IN ACCORDANCE WITH THE REQUIREMENTS OF N.F.P.A.–13R, HYDROSTATIC TESTS IN ACCORDANCE WITH REFERENCE STANDARD NFPA 13R–2007, AS MODIFIED FOR NEW YORK CITY, ARE NECESSARY.
18. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND SHALL INSTALL NEW WORK TO CLEAR DUCTWORK AND LIGHTING FIXTURES.
19. ALL SPRINKLER WORK SHALL COMPLY WITH BUILDING STANDARDS AND REQUIREMENTS.
20. DRAWING INDICATES SPRINKLER SYSTEM DESIGN ONLY. CONTRACTOR RESPONSIBLE FOR OFFSETS, DROPS AND RISES FOR COORDINATION WITH OTHER TRADES.
21. PIPES SIZES SHOWN ARE BASED ON SCHEDULE OF PIPE SIZE PIPING LAYOUTS ONLY. ACTUAL PIPE SIZES SHALL BE DETERMINED BY CONTRACTORS HYDRAULIC CALCULATIONS BASED ON HIS INSTALLATION DRAWINGS. CONTRACTOR SHALL ALLOW FOR THIS AND INCLUDE THIS IN HIS CONTRACT PRICE.
22. PROVIDE AUXILIARY DRAINS AT TRAPPED SECTIONS OF PIPING AS REQUIRED BY NFPA.
23. GENERAL CONTRACTOR SHALL COORDINATE FINAL FURNITURE/ EQUIPMENT HEIGHT ELEVATIONS AND LOCATIONS WITH SPRINKLER INSTALLATION. ENGINEER SHALL BE NOTIFIED WHEN FURNITURE/EQUIPMENT IS LESS THAN 18" TO UNDERSIDE OF CEILING PRIOR TO INSTALLATION.
24. COMPOSITE DRAWINGS

    CONTRACTOR SHALL BE GIVEN A SEPIA TRANSPARENCIES TO IMPOSE THEIR WORK FOR A COORDINATED ALLOCATION OF SPACE. PROCEDURE SHALL INCLUDE HVAC CONTRACTOR TO INDICATE DUCT WORK, PIPING, STRUCTURAL AND ARCHITECTURAL DETAILS. SEPIAS SHALL BE GIVEN TO PLUMBING, SPRINKLER AND ELECTRICAL TRADES WHO WILL DRAW HIS WORK ON DRAWINGS. HVAC CONTRACTORS SHALL HOLD A COORDINATION MEETING WITH ALL CONTRACTORS TO ELIMINATE INTERFERENCE OR CONFLICTS IN INSTALLING WORK. IF UNABLE TO EACH AGREEMENT ISSUE, ARCHITECT SHALL MAKE BINDING DECISION.
25. CONTRACTOR SHALL COORDINATE SPRINKLER MAIN AND BRANCHES WITH NEW CONSTRUCTION TO AVOID CONFLICTS WITH CEILING HEIGHTS, DUCTWORK, LIGHTING FIXTURES, BEAMS. CONTRACTOR TO ADJUST PIPING ACCORDINGLY TO ACCOMMODATE NEW CONSTRUCTION.

BUILDING DEPARTMENT SPRINKLER NOTES:

1. THE INSTALLATION, COMPONENTS, SIZING, SPACING, CLEARANCES, POSITION AND TYPE OF SYSTEMS SHALL CONFORM TO THE 2014 NEW YORK CITY BUILDING CODE APPENDIX Q, SECTION BC Q102, SECTION BC Q103 AND SECTION BC903.
2. ONLY APPROVED MATERIALS SHALL BE USED AS PER CHAPTER 6 OF APPENDIX Q, SECTION BCQ102
3. DIRECT CONNECTION OF SPRINKLERS TO THE PUBLIC WATER SYSTEM SHALL CONFORM TO SECTION BCQ102.1 SEE 23.1.1 .
4. SPRINKLER SHALL BE PROTECTED AGAINST FREEZING AND INJURY AS PER APPENDIX Q BCQ102, SEC 8.15.3 AND 6.2.8.
5. INSPECTION AND TESTS OF SPRINKLERS SHALL BE CONDUCTED AS SEC. 901.5 AND APPENDIX Q, SEC. BCQ102, CH. 16.
6. THE OCCUPANCY OF THE AREAS TO BE SPRINKLERED IN ACCORDANCE WITH SECTION 5.2 AND A.5.2 OF APPENDIX Q SECTION BCQ102.
7. WATER SUPPLY TEST PIPES AND GAUGES SHALL BE PROVIDED AS PER SECTION 8.16.1 AND 8.16.4 OF APPENDIX Q, SECTION BCQ102.
8. PIPING, FITTINGS, SPECIFICATIONS, PIPE SCHEDULES, SYSTEM TEST PIPES, PROTECTION AGAINST CORROSION, DAMAGE, VALVES, HANGERS, SPRINKLERS GUARDS AND SHIELDS SHALL BE AS PER APPENDIX Q SECTION BCQ102, CHAPTERS 6 AND 9.
9. STOCK OF EXTRA SPRINKLERS WILL BE FURNISHED AS PER SECTION 6.2.9 APPENDIX Q, SECTION BCQ102 (REQUIRED FOR EACH TEMPERATURE RATING).
10. SPRINKLER ALARM SHALL BE IN ACCORDANCE WITH SECTION 8.16.1 OF APPENDIX Q, SECTION BCQ102.
11. SPACING, LOCATION AND POSITION OF SPRINKLER WILL BE AS PER SECTION 8 OF APPENDIX Q, SECTION BCQ102.
12. ALL BLIND SPACES EXCEEDING 6" IN WIDTH OR DEPTH WHICH CONTAIN COMBUSTIBLE MATERIAL WILL BE SPRINKLERED.
13. ALL PIPE PASSING THROUGH WALLS WILL COMPLY WITH SECTION BC712.
14. THERE IS NO HIGH PILED STORAGE AS DEFINED IN SECTION 3–3.12 OF APPENDIX Q, SECTION BC Q102
15. DISTANCE OF SPRINKLERS FROM HEAT SOURCE SHALL BE IN AS PER TABLES 6.7.7.1.5.3.
16. AS PER SECTION BC903.1.2 PROVIDE DEPARTMENT OF WATER SUPPLY LETTER WITH FLOW TEST DATE IF THERE IS A DIRECT CONNECTION TO THE STREET WATER SUPPLY.
17. THIS APPLICATION IS NOT FILED AS A RESULT OF ACTION BY THE FIRE COMMISSIONER AS AUTHORIZED BY BS & A TO MODIFY THE CERTIFICATE OF OCCUPANCY NOR IS SUCH ACTION PENDING.
18. ALL VALVES SHALL BE IDENTIFIED AS REQUIRED BY SECTION 6.7.4. OF APPENDIX Q, SECTION BCQ102.
19. DRAINAGE SHALL CONFORM TO SECTION 8.15.2 OF APPENDIX Q, SECTION BCQ102.
20. A ONE PIECE REDUCING FITTING OF GOOD DESIGN SHOULD BE USED WHEREVER A CHANGE IS MADE IN THE SIZE OF PIPE, AS PER SECTION 6.4.6 OF APPENDIX Q, SECTION BCQ102.
21. ALL VALVES ON CONNECTIONS TO WATER SUPPLIES TO SPRINKLER SHALL BE APPROVED O.S. & Y. OR APPROVED INDICATOR TYPE.
22. DRAIN VALVES AND TEST VALVES SHALL BE APPROVED TYPE AS PER 6.7.3 OF APPENDIX Q, SECTION BCQ102.
23. HANGERS SHOULD BE SUPPORTED BY WROUGHT IRON U TYPE OR APPROVED ADJUSTABLE HANGERS. HANGERS SHALL BE OF THE TYPE APPROVED FOR USE WITH THE PIPE OR TUBE INVOLVED, AS PER CHAPTER 9, OF APPENDIX Q, SECTION BCQ102.
24. PROVISIONS SHOULD BE MADE TO FACILITATE FLUSHING SYSTEM PIPING BY PROVIDING FLUSHING CONNECTIONS CONSISTING OF A CAPPED NIPPLE 4" LONG ON END OF A CROSS MAIN AS PER SECTION 8.14.16 OF APPENDIX Q, SECTION BCQ102.
25. SPRINKLER SHALL BE AN APPROVED TYPE AS PER SECTION 8.3 OF APPENDIX Q, SECTION BCQ102.
26. TEMPERATURE RATING SHALL COMPLY WITH SECTION 8.3.2 OF APPENDIX Q, SECTION BCQ102.
27. 18" MINIMUM CLEARANCE TO BELOW SPRINKLER DEFLECTOR AS PER SECTION 8.5.6. OF APPENDIX Q, SECTION BCQ102.
28. SPACING AND LOCATION OF SPRINKLERS SHALL COMPLY WITH CHAPTER 8 OF APPENDIX Q, SECTION BCQ102.
29. SPRINKLER SYSTEM COMPLIES WITH 13R–2007 AS MODIFIED BY APPENDIX Q, SECTION BCQ103.
30. SOURCES OF WATER SUPPLY FOR SPRINKLER SYSTEMS AS PER CHAPTER 15 OF APPENDIX Q, SECTION BCQ102 AND AS PER CHAPTER 8 OF APPENDIX Q, SECTION BCQ103.
31. PIPE SCHEDULE SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION 14.5 OF APPENDIX Q, SECTION BCQ102.
32. HYDRAULICALLY DESIGNED SYSTEMS SHALL BE IN ACCORDANCE WITH CHAPTER 14 OF APPENDIX Q, SECTION BCQ102.
33. MINIMUM BRANCH PIPE SIZE TO BE ONE INCH (1").
34. THIS APPLICATION IS MADE ONLY FOR WORK INDICATED ON THE SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
35. PAINTING FOR DEDICATED SPRINKLER PIPING AND VALVES HANDLES SHOULD BE AS PER NYC BC SECTION 903.6.

SPRINKLER DRAWING LIST

SP/SD–001.00 SPRINKLER GENERAL NOTES, SYMBOLS,SCHEDULES AND ABBREVIATIONS

SP/SD–002.00 SPRINKLER SPECIFICATIONS

SP/SD–003.00 SPRINKLER PLOT PLAN

SP/SD–100.00 CELLAR SPRINKLER PLAN

SP/SD–101.00 FIRST FLOOR SPRINKLER PLAN

SP/SD–102.00 SECOND FLOOR SPRINKLER PLAN

SP/SD–103.00 THIRD FLOOR SPRINKLER PLAN

SP/SD–104.00 FOURTH FLOOR SPRINKLER PLAN

SP/SD–105.00 ROOF SPRINKLER PLAN

SP/SD–300.00 SPRINKLER PART PLAN (1 OF 2)

SP/SD–301.00 SPRINKLER PART PLAN (2 OF 2)

SP/SD–501.00 SPRINKLER DETAILS (1 OF 2)

SP/SD–502.00 SPRINKLER DETAILS (2 OF 2)

SP/SD–601.00 SPRINKLER RISER DIAGRAM

SPACING BETWEEN SPRINKLER HEADS

LIGHT HAZARD: 15' MAX.
ORDINARY HAZARD: 15' MAX

NOTE: MAXIMUM DISTANCE BETWEEN SPRINKLER HEADS & WALLS IS ½ THE DISTANCE BETWEEN HEADS.

PROTECTION AREA OF SPRINKLER HEADS

LIGHT HAZARD : 225 SQ. FT.
ORDINARY HAZARD : 130 SQ. FT.

DESIGN CRITERIA FOR HYDRAULIC FLOW CALCULATIONS

HYDRAULIC CALCULATIONS BASED ON DENSITY–AREA METHOD

OCCUPANCY:	LIGHT HAZARD
MINIMUM DESIGN DENSITY:	0.10 GPM/SQ. FT.
DESIGN AREA OF APPLICATION:	REMOTEST 4 SPRINKLERS
OCCUPANCY:	ORDINARY HAZARD 2
MINIMUM DESIGN DENSITY:	0.2 GPM/SQ. FT.
DESIGN AREA OF APPLICATION:	1500 SQ. FT.

NOTE– DESIGN CRITERIA IS BASED ON N.F.P.A.–13R SECTION 6.8

GENERAL NOTES:
1. FOR SPRINKLER & STANDPIPE WORK ONLY.
2. ALL SPRINKLER HEADS MEET DESIGN CRITERIA PER COVERAGE.

SPRINKLER LEGEND

- SP — NEW SPRINKLER PIPING
- F — NEW FIRE PIPING
- DR — NEW DRAIN PIPING
- CONCEALED SPRINKLER HEAD (NEW)
- SIDEWALL SPRINKLER HEAD (NEW)
- UPRIGHT SPRINKLER HEAD
- PENDENT CHUTE SPRINKLER HEAD
- SHUT–OFF VALVE
- PIPE THRU RATED WALL
- (TS) TAMPER SWITCH
- (WFS) WATER FLOW SWITCH
- CHECK VALVE WITH AUTOMATIC BALL DRIP
- SPRINKLER SIAMESE CONNECTION
- (E) EXTENDED SIDEWALL SPRINKLER HEAD (NEW)
- (D) DRY SIDEWALL SPRINKLER HEAD (NEW)
- (X) HYDRAULIC CALCULATION NODE NUMBER
- (T) INTERMEDIATE TEMPERATURE RATED UPRIGHT SPRINKLER HEAD

ABBREVIATIONS

FCA	FLOOR CONTROL ASSEMBLY
LH	LIGHT HAZARD
LR	LIVING ROOM
DR	DRAWING ROOM
OH	ORDINARY HAZARD

SPRINKLER NOTES:

AS PER NFPA 13R–2007 AND AS AMENDED BY NYC APPENDIX Q,

1. 8.6.2 BATHROOMS.
   SPRINKLERS SHALL NOT BE REQUIRED IN BATHROOMS OF 55 SQ.FT. AND LESS.

2. 8.6.3 CLOSETS.
   SPRINKLERS SHALL NOT BE REQUIRED IN CLOTHES CLOSETS, LINEN CLOSETS, AND PANTRIES THAT MEET ALL OF THE FOLLOWING CONDITIONS:
   (1) THE AREA OF THE SPACE DOES NOT EXCEED 24 SQ.FT.
   (2) THE LEAST DIMENSION DOES NOT EXCEED 3 FT.
   (3) THE WALLS AND CEILINGS ARE SURFACED WITH NONCOMBUSTIBLE OR LIMITED–COMBUSTIBLE MATERIALS AS DEFINED IN NFPA 220, STANDARD ON TYPES OF BUILDING CONSTRUCTION.

SPECIAL INSPECTION SPRINKLER NOTE:

1. SPECIAL INSPECTION OF SPRINKLER SYSTEM TO BE PERFORMED IN ACCORDANCE WITH NY CITY BUILDING CODE SECTION BC 1704–23
2. FIRE RESISTANT PENETRATION & JOINTS IN ACCORDANCE WITH NY CITY BUILDING CODE BC–1704.27
3. FINAL INSPECTION IN ACCORDANCE WITH NY CITY BUILDING CODE BC 110.5 DIRECTIVE FROM 14 OF 1975, AND 1 RCNY § 101–10
4. POST INSTALLATION ANCHOR INSPECTION TO BE DONE IN ACCORDANCE WITH NY CITY BUILDING CODE BC–1704.32

SEISMIC DESIGN CRITERIA:

1. OCCUPANCY CATEGORY–III
2. SITE CLASS– D
3. SEISMIC DESIGN CATEGORY–B
4. IMPORTANCE FACTOR–1.25

FOR MORE INFORMATION REFER STRUCTURAL DRAWING SHEET S–400

ECC NOTES:

1. 2016 NYCECC COMPLIANCE: NEW YORK CITY CONSERVATION CODE.

   TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, ALL WORK UNDER THIS APPLICATION IS EXEMPT FROM THE NYCECC IN ACCORDANCE WITH ONE OF THE FOLLOWING: FA, FP, SD, SP, FS, EQ, CC, OT/BPP, OT/FPP

SPRINKLER BOOSTER PUMP SCHEDULE

TAG	DESCRIPTION	MANUFACTURER MODEL No.	LOCATION	CURRENT V	CURRENT PH	CURRENT HZ	GPM	PSI	TDH(FT)	HP	RPM	REMARKS
SBP	SPRINKLER BOOSTER PUMP	PEERLESS PUMP CO, MODEL 5PVF7 INLINE PUMP FIRE BOOSTER PUMP	CELLAR	208	3	60	500	47	109	25	3520	SPRINKLER BOOSTER PUMP CONTROLLER BY FTA1930 –DIGITAL SOLID–STATE SOFT START/STOP NYC MEA APPROVED
JP	JOCKEY PUMP	PEERLESS PUMP CO, MODEL CR3–5	CELLAR	208	3	60	10	52	121	0.75	3500	JOKEY PUMP CONTROLLER BY FIRETROL FTA550F –JOCKEY XG PUMP CONTROLLER

SPRINKLER SCHEDULE

SYMBOL	NAME	COVERAGE	AREA	METAL	TEMPERATURE (°F)	K–FACTOR	NPT	MFG	MODEL#	COAT	APPROVALS
●	CONCEALED	STANDARD	LH/OH AREAS WITH CEILING	BRASS	155	5.6	½"	VIKING	VK462	BRASS	UL 199, MEA 89–92–E, VOL.32
○	UPRIGHT	STANDARD	LH/OH OPEN AREAS	BRASS	155	5.6	½"	VIKING	VK300	BRASS,CHROME,WHITE,BLACK,ENT,STAINLESS	UL 199, MEA 89–92–E, VOL.16
	STANDARD SIDEWALL	STANDARD	LH/OH AREAS WITH CEILING	BRASS	155,175	5.6	½"	VIKING	VK305	BRASS,CHROME,WHITE,BLACK,ENT	UL 199, MEA 89–92–E, VOL.16
	EXTENDED SIDEWALL	EXTENDED (18'*18')	LH AREAS WITH CEILING	BRASS	155	8.0	¾"	VIKING	VK630	BRASS,CHROME,WHITE,BLACK,ENT	UL 199, MEA 89–92–E, VOL.32
	PENDENT CHUTE SPRINKLER HEAD	STANDARD	OH CHUTE	BRASS	175	5.6	½"	VIKING	VK302	BRASS,CHROME,WHITE,BLACK,ENT	UL 199, MEA 89–92–E, VOL.16
(D)	DRY SIDEWALL	STANDARD	LH/OH OPEN AREAS	BRASS	155	5.6	1"	VIKING	VK156	BRASS,CHROME,WHITE,BLACK,ENT	UL VNIV, MEA 89–92–E, VOL.2
(T)	UPRIGHT	STANDARD	LH GREEN HOUSE	BRASS	175	5.6	½"	VIKING	VK300	BRASS,CHROME,WHITE,BLACK,ENT,STAINLESS	UL 199, MEA 89–92–E, VOL.16

NOTE: COORDINATE ALL SPRINKLER COLOR FINISHES WITH ARCHITECT.

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DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

SPRINKLER GENERAL NOTES,SYMBOLS, SCHEDULES AND ABBREVIATIONS

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #:NYE

Chkd By #:NYE

Drawing #: SP/SD-001.00

DOB #:B00235891-I1

Sheet #: of

BUILDING DEPARTMENT STANDPIPE NOTES:

1. THE COMPLETE STANDPIPE SYSTEM COMPLY WITH THE FULL REQUIREMENTS OF N.Y.C. BUILDING CODE SEC. 905, APPENDIX Q AND NFPA 14–2007.
2. STANDPIPE SYSTEM COMPONENTS AND HARDWARE SHALL BE IN ACCORDANCE WITH CHAPTER 4 OF NFPA 14–2007 AND APPENDIX Q OF NYC BUILDING CODE.
3. THE LOCATION OF FIRE DEPARTMENT HOSE CONNECTIONS SHALL BE APPROVED BY THE FIRE COMMISSIONER PER SEC 905.1 OF NYC BUILDING CODE.
4. STANDPIPE SYSTEMS IN BUILDINGS USE FOR HIGH–PILED COMBUSTIBLE STORAGE SHALL BE IN ACCORDANCE WITH THE NYC FIRE CODE.
5. INSTALLATION OF STANDPIPE SYSTEMS SHALL COMPLY WITH THE SPECIAL INSPECTION REQUIREMENTS OF CHAPTER 17 OF NYC BUILDING CODE PER SEC 905.1.
6. CONSTRUCTION DOCUMENTS FOR STANDPIPE SYSTEMS SHALL CONTAIN PLANS THAT INCLUDE THE INFORMATION AND DATA LISTED IN SEC. 905.1.1 OF NYC BUILDING CODE.
7. ANY SPACE OR ROOM THAT CONTAINS EQUIPMENT OF SUCH NATURE THAT THE USE OF WATER WOULD BE INEFFECTIVE IN FIGHTING A FIRE THEREIN OR WOULD BE OTHERWISE HAZARDOUS, SHALL HAVE A CONSPICUOUS SIGN ON EACH DOOR OPENING ON SUCH SPACE OR ROOM STATING THE NATURE OF THE USE AND THE WARNING: "IN CASE OF FIRE, USE NO WATER."
8. STANDPIPE SYSTEMS SHALL BE INSTALLED AS PER NYC BC SECTION 905.3.1 & 905.3.5 AND IN THE LOCATIONS INDICATED IN SECTIONS 905.4, 905.6 & MODIFIED NFPA 14, SECTION 7.3 AS PER NYC BC APPENDIX Q
9. STANDPIPE SYSTEMS ARE PERMITTED TO BE COMBINED WITH AUTOMATIC SPRINKLER SYSTEMS. SEC. 905.3 OF NYC BUILDING CODE.
10. THE LOCATION OF CLASS I STANDPIPE HOSE CONNECTION SHALL COMPLY WITH SEC. 905.4 OF NYC BUILDING CODE.
11. WHERE THE MOST REMOTE PORTION OF A FLOOR OR STORY IS MORE THAN 150 FEET FROM A HOSE CONNECTION, ADDITIONAL HOSE CONNECTIONS SHALL BE PROVIDED IN APPROVED LOCATIONS, SEC. 905.4.
12. STANDPIPE OUTLETS MAY BE OMITTED IN PORTIONS OF FIRST FLOORS OR BASEMENTS THAT ARE COMPLETELY SEPARATED FROM THE ENTRANCE HALL OR ENCLOSED STAIRWAYS LEADING TO THE UPPER FLOORS, PROVIDED THAT POTABLE FIRE EXTINGUISHERS ARE INSTALLED, SUBJECT TO THE APPROVAL OF THE FIRE COMMISSIONER, SEC. 905.3.1.
13. WHERE THE ROOF HAS A SLOPE OF LESS THAN 4" VERTICAL AND 12" HORIZONTAL, EACH STANDPIPE SHALL BE PROVIDED WITH A HOSE CONNECTION LOCATED EITHER ON THE ROOF OR AT THE HIGHEST LANDING OF STAIRWAYS WITH STAIR ACCESS TO THE ROOF. AN ADDITIONAL HOSE CONNECTION SHALL BE PROVIDED AT THE TOP OF THE MOST HYDRAULICALLY REMOTE STANDPIPE FOR TESTING PURPOSE AS PER SEC 905.4.
14. PROTECTION OF RISERS AND LATERALS OF CLASS I STANDPIPE SYSTEM SHALL COMPLY WITH SEC. 905.4.1 OF NYC BUILDING CODE.
15. CLASS II STANDPIPE HOSE CONNECTIONS SHALL BE ACCESSIBLE AND LOCATED SO THAT ALL PORTIONS OF THE BUILDING ARE WITHIN 30 FEET OF A NOZZLE ATTACHED TO 125 FEET OF HOSE AS PER SEC 905.5 AS MODIFIED BY APPENDIX Q.
16. IN FULLY SPRINKLERED BUILDINGS HAVING A COMBINED STANDPIPE SYSTEM THAT IS HYDRAULICALLY CALCULATED, THE MINIMUM STANDPIPE SIZE IN BUILDINGS WITH FLOOR HEIGHTS LESS THAN 150 FT. ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS SHALL BE 4 IN. SEC. 7.6.3 OF APPENDIX Q.
17. CLASS III STANDPIPE SYSTEMS SHALL HAVE HOSE CONNECTIONS LOCATED AS REQUIRED FOR CLASS I STANDPIPES IN SEC. 905.4 AND SHALL HAVE CLASS II HOSE CONNECTIONS AS REQUIRED IN SEC. 905.5.
18. CABINETS CONTAINING FIRE–FIGHTING EQUIPMENT SUCH AS STANDPIPES, FIRE HOSES, FIRE EXTINGUISHERS OR FIRE DEPARTMENT VALVES SHALL NOT BE BLOCKED FROM USE OR OBSCURED FROM VIEW AS PER SEC 905.7.
19. STANDPIPE SYSTEMS ARE REQUIRED DURING CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS SHALL BE PROVIDED IN ACCORDANCE WITH SEC. 3303.8 OF NYC BUILDING CODE.
20. CLASS II STANDPIPE SYSTEM PROVIDES 1–1/2" (38MM) HOSE STATIONS TO SUPPLY WATER FOR USE PRIMARILY BY THE BUILDING OCCUPANTS OR BY THE FIRE DEPARTMENT DURING INITIAL RESPONSE. CLASS II STANDPIPE SYSTEMS ARE PERMITTED FOR HIGH PILE AND RACK STORAGE OCCUPANCIES ONLY. SEC. 3.3.27.2 OF APPENDIX Q.
21. FITTINGS SHALL BE EXTRA–HEAVY PATTERN WHERE PRESSURES EXCEED 175 PSI (12.1 BAR). SEC. 4.3.3 OF NFPA 14–2007.
22. PROTECTION OF STANDPIPE SYSTEM WHERE A STANDPIPE OR LATERAL PIPE THAT IS NORMALLY FILLED WITH WATER PASSES THROUGH AN AREA SUBJECT TO FREEZING TEMPERATURES IT SHALL BE PROTECTED TO MAINTAIN THE TEMPERATURE OF THE WATER IN THE PIPING BETWEEN 40°F AND 120°F (4.4°C AND 48.9°C). SEC. 6.1.2.3 OF NFPA 14–2007.
23. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED NOT LESS THAN 18 IN. NOR MORE THAN 36 IN. ABOVE THE LEVEL OF THE ADJOINING GROUND, SIDEWALK OR GRADE SURFACE. SEC. 6.3.6 OF NFPA 14–2007.
24. THE MAXIMUM PRESSURE AT ANY POINT IN THE SYSTEM AT ANY TIME SHALL NOT EXCEED 350 PSI (24.1 BAR). SEC. 7.2 OF NFPA 14–2007.
25. BRANCH LINE SHALL BE SIZED BASED ON THE HYDRAULIC CRITERIA ESTABLISHED IN SEC. 7.8 & 7.10 BUT NOT LESS THAN 2–1/2" (65 MM) SEC. 7.6.4 OF NFPA 14–2007.
26. HYDRAULICALLY DESIGNED STANDPIPE SYSTEMS SHALL BE DESIGNED TO PROVIDE THE WATER FLOW RATE AT A MINIMUM RESIDUAL PRESSURE OF 65 PSI (4.5 BAR) AT THE OUTLET OF THE HYDRAULICALLY MOST REMOTE 2–1/2" (65 MM) & 1–1/2" (38 MM) HOSE CONNECTION. SEC.7.8.1 OF BCQ105, APPENDIX Q OF N.Y.C. BUILDING CODE & SEC.7.8.1.1 OF NBC 14–2007.
27. HOSE CONNECTIONS AND HOSE STATIONS SHALL BE UNOBSTRUCTED AND SHALL BE LOCATED NOT LESS THAN 3 FT. (0.9 M) OR MORE THAN 5 FT. (1.5 M) ABOVE THE FLOOR. SEC. 7.3.1 OF NFPA 14–2007.
28. AT THE TOP OF THE HIGHEST RISER THERE SHALL BE PROVIDED ABOVE THE MAIN ROOF LEVEL A THREE WAY MANIFOLD EQUIPPED WITH THREE 2–1/2"HOSE VALVE WITH HOSE VALVE CAPS. SEC. 7.3.2.2 OF APPENDIX Q.
29. WHERE THE RESIDUAL PRESSURE AT A 1–1/2" (40 MM) OUTLET ON A HOSE CONNECTION EXCEED 100 PSI (6.9 BAR), AN APPROVED PRESSURE RESTRICTED DEVICE SHALL BE PROVIDED. SEC. 7.8.3.1 OF NFPA 14–2007.
30. FOR CLASS I AND CLASS III SYSTEMS THE MINIMUM FLOW RATE FOR THE HYDRAULICALLY MOST REMOTE STANDPIPE SHALL BE 500 GPM (1893 L/MIN) SEC. 7.10.1.1.1 OF NFPA 14–2007.
31. WHERE A HORIZONTAL STANDPIPE ON A CLASS I AND CLASS III SYSTEM SUPPLIES THREE OR MORE HOSE CONNECTIONS ON ANY FLOOR, THE MINIMUM FLOW RATE FOR THE HYDRAULICALLY MOST DEMANDING HORIZONTAL STANDPIPE SHALL BE 750 GPM (2840 L/MIN). SEC. 7.10.1.1.2 OF NFPA 14–2007.
32. THE MINIMUM FLOW RATE FOR ADDITIONAL STANDPIPES SHALL BE 250 GPM PER STANDPIPE WITH THE TOTAL NOT TO EXCEED 1250 GPM OR 1000 GPM FOR BUILDINGS SPRINKLERED THROUGHOUT. SEC. 7.10.1.1.3 OF NFPA 14–2007.
33. CLASS I AND CLASS III STANDPIPES IN BUILDINGS WITH FLOOR HEIGHTS LESS THAN 150 FT. ABOVE GRADE PLANE SHALL BE AT LEAST 4 INCHES IN SIZE. STANDPIPES IN BUILDINGS WITH FLOOR HEIGHTS GREATER THAN 150 FT ABOVE GRADE PLANE SHALL BE NO LESS THAN 6 INCHES IN DIAMETER. SEC. 7.6.1 OF APPENDIX Q.
34. VALVES CONTROLLING WATER SUPPLIES SHALL BE SUPERVISED IN THE OPEN POSITION SO THAT A CHANGE IN THE NORMAL POSITION OF THE VALVE WILL GENERATE A SUPERVISORY SIGNAL AT THE SUPERVISING STATION REQUIRED BY SECTION 903.4. WHERE A FIRE ALARM SYSTEM IS PROVIDED, A SIGNAL SHALL ALSO BE TRANSMITTED TO THE CONTROL UNIT.
35. THE STANDPIPE SYSTEMS ARE TO BE HYDROSTATIC TESTED FOR A (1) HOUR MINIMUM AT 200 PSI. PRESSURE AND ARE TO BE WITNESSED BY AUTHORIZED BUILDING PERSONNEL. COORDINATE ALL TESTING WITH BUILDING MANAGER.

HYDRANT FLOW TEST

NYC Environmental Protection

Vincent Sapienza, P.E.
Commissioner

Anastasios Georgelis, P.E.
Deputy Commissioner
Bureau of Water & Sewer Operations

59-17 Junction Boulevard
Flushing, NY 11373

9/10/2019

New York Engineers, LLC
135 West 41st Street, 5th Floor
New York, New York 10036
Attn: Jahnavi Sajip

To Whom It May Concern:

The hydrant flow test you requested in the vicinity of ***604 East 40th Street, Brooklyn*** was performed on ***9/9/2019*** at ***12:05 PM*** with the following results:

The static pressure taken on an 8 inch water main which is fed from two directions on the east side of East 40th Street 2nd hydrant south of Avenue D was **50** pounds per square inch. The residual pressure at this point was **49** pounds per square inch when 500 gallons of water per minute were flowing from the east side of East 40th Street 1st hydrant south of Avenue D.

This Department cannot guarantee that this pressure will be maintained in the future because a change may be needed in conformity with good engineering practices.

If you have any questions regarding engineering, and application status, please call (718) 595-7135.

Very truly yours,

Urszula Krajewski, P.E.
Water Distribution Engineer
City Wide Hydraulic Testing Unit

File: FT2019-2147-320276
All hydrant flow test requests are to be addressed to: NYCDEP-BWSO; 59-17 Junction Blvd, 12th Fl., Flushing, NY 11373-5108, Attn: Citywide Hydraulic Flow Test Unit
Enclose payment for $500 payable to NYC Water Board for each test. Indicate the test street, cross streets and borough for each test. All requests are to be made by US or overnight mail, no hand deliveries accepted.

SPRINKLER SPECIFICATIONS

PART 1 – GENERAL

1.01 REQUIREMENTS

A. THE SPRINKLER CONTRACTOR SHALL BE A LICENSED, AUTHORIZED INSTALLER OF SPRINKLER SYSTEMS AND SHALL HAVE HAD A MINIMUM OF FIVE YEARS EXPERIENCE IN THE INSTALLATION OF SPRINKLER SYSTEMS IN THE CITY OF NEW YORK.

B. BEFORE SUBMITTING HIS BID, THE SPRINKLER CONTRACTOR SHALL VISIT THE SITE AND SHALL FULLY FAMILIARIZE HIMSELF WITH, AND BECOME FAMILIAR WITH THE DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK. CONTRACTOR SHALL PERFORM THIS PRIOR TO SUBMITTING HIS PROPOSAL. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE, AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.

C. UPON REVIEW OF THE DRAWINGS AND SPECIFICATIONS, PRIOR TO SUBMITTING HIS PROPOSAL, THE SPRINKLER CONTRACTOR SHALL INFORM ARCHITECT AND/OR ENGINEER OF ANY DISCREPANCIES OR REQUEST CLARIFICATION IN WRITING, IF NECESSARY, CONCERNING THE INTENT OF THE PLANS AND SPECIFICATIONS TO PROVIDE A COMPLETE SPRINKLER SYSTEM INSTALLATION. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OF MATERIALS SHOULD SUCH PROCEDURE NOT BE FOLLOWED.

D. THE SCHEDULING OF THE SPRINKLER WORK SHALL BE COORDINATED WITH BUILDING MANAGEMENT, WITH OTHER CONTRACTORS AND WITH THE ENGINEER.

E. NECESSARY SHUT–DOWNS OF BASE BUILDING SPRINKLER SYSTEM MUST BE COORDINATED WITH BUILDING MANAGEMENT. SHUT–DOWNS OF BASE BUILDING SYSTEMS SHALL TAKE PLACE AFTER OR BEFORE NORMAL BUSINESS HOURS AND SHALL BE CONSIDERED OVERTIME WORK. THE CONTRACTOR MUST GIVE BUILDING MANAGEMENT AND NEW YORK CITY FIRE DEPARTMENT 48 HOURS NOTICE PRIOR TO SHUT–DOWN OF SPRINKLER, OR OTHER SYSTEMS.

1.02 WORK INCLUDED

A. WORK SHALL INCLUDE ALL SPRINKLER WORK FURNISHED AND INSTALLED AS INDICATED ON THE PLANS AND AS SPECIFIED HEREIN.

1. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF THE NEW YORK CITY BUILDING CODE, N.F.P.A. STANDARD 13R, N.Y.C. FIRE DEPARTMENT AND OWNERS INSURANCE RATING ORGANIZATION.
2. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION OF WORK. SCALED DIMENSIONS SHALL NOT BE USED. ANY DIMENSIONS NOT SHOWN SHALL BE OBTAINED FROM FIELD MEASUREMENTS.
3. PROVIDE COMPUTER GENERATED HYDRAULIC CALCULATIONS IN ACCORDANCE WITH N.Y.C. BUILDING DEPARTMENT AND NFPA STANDARDS.

1.03 SHOP DRAWINGS AND SUBMITTALS

A. THE CONTRACTOR SHALL SUBMIT, FOR APPROVAL, FULLY COORDINATED SHOP DRAWINGS, CAPACITY, DATA, AND CATALOG CUTS OF THE FOLLOWING:

1. PIPE AND FITTINGS
2. VALVES
3. HANGERS AND SUPPORTS
4. SPRINKLER PIPING LAYOUT
5. TESTS
6. SPRINKLER HEADS
7. HYDRAULIC CALCULATIONS
8. PUMPS

A. THE SPRINKLER SYSTEM SHALL BE HYDRAULICALLY DESIGNED. CONTRACTOR SHALL SUBMIT CALCULATIONS WITH SHOP DRAWINGS. CALCULATIONS SHALL BE PERFORMED IN ACCORDANCE WITH REQUIREMENTS OF NFPA 13R, AND NYC BUILDING CODE.

B. THE SPRINKLER CONTRACTOR SHALL OBTAIN THE LATEST FIRE PUMP TEST AT THE SITE TO VERIFY THE AVAILABLE WATER SUPPLY.

1.04 BUILDING DEPARTMENT FILING, PERMITS AND CERTIFICATES

A. THE SPRINKLER CONTRACTOR SHALL FILE ALL REQUIRED DRAWINGS AND HYDRAULIC CALCULATIONS WITH THE BUILDING DEPARTMENT AND BE RESPONSIBLE FOR OBTAINING FINAL APPROVAL.

B. ARRANGE FOR INSPECTION AND TESTS OF ANY AND ALL PARTS OF THE WORK AS REQUIRED BY AUTHORITIES HAVING JURISDICTION AND PAY ALL CHARGES FOR SAME.

1.05 INSPECTION AND TESTING

A. THE SPRINKLER SYSTEM SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEW YORK CITY BUILDING CODE FIRE DEPARTMENT INSPECTOR.

B. THE SPRINKLER SYSTEM SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE TEST FOR A PERIOD OF TWO HOURS AT A PRESSURE OF AT LEAST 200 PSIG OR 50 PSI IN EXCESS OF THE MAXIMUM PRESSURE TO BE MAINTAINED WHEN THE MAXIMUM PRESSURE IN THE SYSTEM IS IN EXCESS OF 150 PSI AS PER NFPA.

C. THE BUILDING DEPARTMENT SHALL BE NOTIFIED THAT THE SYSTEM IS READY FOR REINSPECTION AND TESTING. THE BUILDING DEPARTMENT INSPECTOR SHALL WITNESS THE TEST. FINAL APPROVAL OF THE SPRINKLER SYSTEM SHALL BE OBTAINED FROM BUILDING DEPARTMENT, AND FIRE DEPARTMENT.

PART 2 – MATERIALS

2.01 GENERAL

A. THE SPRINKLER SYSTEM SHALL BE COMPLETE WITH ALL PIPE, FITTINGS, VALVES, DRAINAGE SYSTEM AND VALVES, HANGERS AND SUPPORTS. ALSO, MISCELLANEOUS WORK ITEMS, SUCH AS, SIGNS AS REQUIRED, VALVE TAGS, ETC., AND ALL OTHER RELATED EQUIPMENT, APPARATUS AND MATERIAL ITEMS NECESSARY FOR COMPLETE, APPROVED TYPE SYSTEM, READY FOR FUTURE EXTENSION.

B. ALL PIPE, FITTINGS, HANGERS, SUPPORTS, SPRINKLER HEADS, ETC., SHALL CONFORM TO THE NEW YORK CITY BUILDING CODE AND NATIONAL FIRE PROTECTION ASSOCIATION'S REQUIREMENTS AS TO TYPES OF MATERIALS, ARRANGEMENT, SIZES AND INSTALLATION. PIPING PENETRATING FIRE RATED PARTITIONS SHALL HAVE OPENING SEALED WITH U.L. APPROVED FIREPROOF SEALANT.

2.02 SPRINKLER PIPING

A. ALL SPRINKLER PIPING SHALL BE SCHEDULE 40, THREADED IN ACCORDANCE WITH NFPA 13R. PIPE SHALL BE UL/FM APPROVED.

B. STEEL PIPE SHALL BE BETHLEHEM STEEL CO., ALLIED TUBE, BERGER INDUSTRIES OR APPROVED.

C. AS PER NFPA 13R MODIFIED BY APPENDIX Q, PIPE OR TUBE USED IN SPRINKLER SYSTEMS SHALL BE OF THE MATERIALS SPECIFIED IN TABLE 5.2.1 OR SHALL BE IN ACCORDANCE WITH 5.2.2.

D. AS PER NFPA 13R, FITTINGS USED IN SPRINKLER SYSTEMS SHALL BE OF THE MATERIALS LISTED IN TABLE 5.2.7 OR SHALL BE IN ACCORDANCE WITH 5.2.10. FITTING SHALL BE UL/FM APPROVED. CONTRACTOR.

2.03 CUTTING AND PATCHING

DO ALL CUTTING AND CORE DRILLING NECESSARY FOR THE INSTALLATION OF SPRINKLER WORK. ACCURATELY LAYOUT WORK FOR WHICH CUTTING IS REQUIRED. PATCH AND RESTORE ANY DAMAGE WORK TO LIKE NEW CONDITION.

2.04 CUTTING AND PATCHING

1. DO ALL CUTTING AND CORE DRILLING NECESSARY FOR THE INSTALLATION OF SPRINKLER WORK. ACCURATELY LAYOUT WORK FOR WHICH CUTTING IS REQUIRED. PATCH AND RESTORE ANY DAMAGE WORK TO LIKE NEW CONDITION.
2. FOR REPLACEMENT OF THE WORK REMOVED, MATCH EXISTING IN NATURE, CONSTRUCTION AND FINISH.
3. MAINTAIN THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIAL OR RUBBISH COVERED BY THE WORK, REMOVE ALL SURPLUS MATERIALS, TOOLS ETC. AND LEAVE PREMISES CLEAN.

2.05 FIRE STOPPING

INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURERS PUBLISHED DIRECTIONS AND PER FIRE TESTED DESIGNS THAT HAVE BEEN ACCEPTED BY THE APPROPRIATE CODE AUTHORITY HAVING JURISDICTION.

2.06 PHASING

PHASING SHALL BE COORDINATED BETWEEN THE SPRINKLER CONTRACTOR AND GENERAL CONTRACTOR. SPRINKLER INSTALLATION SHALL BE PHASED IN A MANNER WHICH WILL ALLOW FULL OCCUPANCY OF THE EXISTING FACILITY WHILE THE INSTALLATION IS IN PROGRESS.

2.06 ALTERNATES/SUBSTITUTIONS

CONTRACTOR SHALL STATE IN THEIR PROPOSAL ANY CONTRACTOR PROPOSED SUBSTITUTIONS OF THE MATERIALS OR METHODS OF INSTALLATION FROM THAT SPECIFIED. THESE ALTERATIONS SHALL BE LISTED ON THE PROPOSAL AS CONTRACTOR ALTERNATIVE.

2.07 LEAK DAMAGE

THE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE DURING THE INSTALLATION AND TESTING PERIODS OF THE SPRINKLER SYSTEM FOR ANY LOSS OR DAMAGE TO THE WORK OF OTHERS, TO THE BUILDING, IT'S CONTENTS ETC. CAUSED BY LEAKS IN THE EQUIPMENT. BY UNPLUGGED OR DISCONNECTED PIPES, FITTINGS ETC. OR BY OVERFLOW, AND SHALL PAY FOR THE NECESSARY REPLACEMENTS OR REPAIRS TO THE WORK OF OTHERS, DAMAGED BY SUCH LEAKAGE.

2.08 INSERTS, HANGERS, ETC.

A. ALL SPRINKLER PIPING SHALL BE SUBSTANTIALLY SUPPORTED AND SHALL COMPLY WITH THE STANDARDS FOR THE NATIONAL FIRE PROTECTION ASSOCIATION FOR THE INSTALLATION OF SPRINKLER SYSTEMS AND AS REQUIRED BY THE NEW YORK CITY BUILDING CODE.

B. HANGERS AND THEIR COMPONENTS SHALL BE FERROUS. HANGERS SHALL BE ADJUSTABLE FLAT IRON TYPE OF CLEVIS TYPE.

C. SPRINKLER PIPING OR HANGERS SHALL NOT BE USED TO SUPPORT NON–SYSTEM COMPONENTS.

D. SPRINKLER PIPING SHALL BE SUBSTANTIALLY SUPPORTED FROM THE BUILDING STRUCTURE WHICH MUST SUPPORT THE ADDED LOAD OF THE WATER–FILLED PIPE PLUS A MINIMUM OF 250 LBS. APPLIED AT THE POINT OF HANGING. CONTRACTOR SHALL SUBMIT DETAIL OF SUPPORT FOR REVIEW AND APPROVAL.

E. SPRINKLER PIPING SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING SHEATHING.

F. WHEN SPRINKLER PIPING IS INSTALLED BELOW DUCTWORK, PIPING SHALL BE SUBSTANTIALLY SUPPORTED FROM THE BUILDING STRUCTURE, NOT FROM THE DUCTWORK.

G. MAXIMUM DISTANCE BETWEEN HANGERS SHALL NOT EXCEED 12 FT. FOR 1 AND 1–1/4" SIZES NOR 15' FOR SIZES 1–1/2" AND LARGER.

H. EXPANSION SHIELDS FOR SUPPORTING PIPES UNDER CONCRETE CONSTRUCTION MAYBE USED IN A HORIZONTAL POSITION IN THE SIDES OF BEAMS. IN CONCRETE HAVING GRAVEL OR CRUSHED STONE AGGREGATE, EXPANSION SHIELDS MAY BE USED IN THE VERTICAL POSITION TO SUPPORT PIPES 4" OR LESS IN DIAMETER.

2.09 ESCUTCHEONS

PROVIDE ESCUTCHEONS ON ALL EXPOSED PIPING PASSING THROUGH WALLS, PARTITIONS, FLOORS AND CEILINGS. ESCUTCHEON SHALL BE HELD IN PLACE BY INTERNAL TENSION OR SET SCREW.

2.10 AS–BUILT DRAWINGS

PREPARE AND SUBMIT "AS BUILT" DRAWINGS AT THE COMPLETION OF THE PROJECT.

2.11 SPRINKLER HEADS

A. SPRINKLERS SHALL BE RATED FOR ORDINARY TEMPERATURES (135/165 DEG. F) EXCEPT AS REQUIRED NEAR HEATERS OR LOCATIONS WHERE ELEVATED TEMPERATURES MAY NORMALLY BE EXPECTED OR AS OTHERWISE INDICATED ON THE CONTRACT DRAWINGS.

B. SPRINKLER HEADS SHALL BE BY TYCO SPRINKLER CO., INC. MANUFACTURE OR APPROVED EQUAL, UL AND FM APPROVED, AS FOLLOWS:

1. SPRINKLER HEADS IN FINISHED CEILINGS WITH CONCEALED PIPING SHALL BE VIKING MODEL VK462.
2. SPRINKLER HEADS IN OPEN AREA SHALL BE VIKING MODEL VK300.
3. SIDEWALL SPRINKLER HEADS SHOULD BE VIKING MODEL VK305.
4. EXTENDED SIDEWALL SPRINKLER HEADS SHALL BE VIKING MODEL VK630.
5. PENDENT SPRINKLER HEADS SHALL BE VIKING MODEL VK302.
6. DRY AND EXTENDED DRY SIDEWALL SPRINKLER HEADS SHALL BE VIKING MODEL VK188.
7. PROVIDE SPARE SPRINKLER EMERGENCY CABINETS CONFORMING TO NFPA.
8. SPRINKLER EMERGENCY CABINETS SHALL BE OF VIKING OR APPROVED EQUAL, UL AND FM APPROVED.
9. CABINET SHALL BE CONSTRUCTED OF 22 GAUGE STEEL WITH PRIME COAT AND MANUFACTURER'S BAKED ENAMEL FINISH IN COLOR SELECTED BY THE ARCHITECT.
10. CABINET SHALL CONTAIN A MINIMUM OF 6 SPRINKLER HEADS OF EACH TYPE EMPLOYED.

2.12 PRESSURE GAUGE

A. ASHCROFT SERIES 1079, OR APPROVED OTHER, 4–1/2" DIAMETER, 0–200 P.S.I. RANGE, 20 P.S.I. INTERVALS.

PART 3 – EXECUTION

3.01 GUARANTEE

A. GUARANTEE FOR A PERIOD OF ONE (1) YEAR FORM THE DATE OF ACCEPTANCE BY THE OWNER, ALL MATERIALS, APPARATUS AND WORKMANSHIP WHETHER FURNISHED BY HIMSELF OR BY HIS SUBCONTRACTORS AND HE SHALL REPLACE OR REPAIR IN A MANNER APPROVED BY THE ARCHITECTS, WITHOUT COST TO THE OWNER, ANY PART OR PARTS OF THE WORK WHICH MAY PROVE DEFECTIVE OR UNSATISFACTORY WITH IN THE PERIOD OF THE GUARANTEE.

3.02 INSTALLATION

A. PIPING

1. INSTALL PIPING AS SHOWN ON THE CONTRACT DRAWINGS AND STRAIGHT AND DIRECT AS POSSIBLE, FORMING RIGHT ANGLES OR PARALLEL LINES WITH BUILDING WALLS, NEATLY SPACED, WITH RISERS PLUMB AND TRUE.
2. SPRINKLER PIPING SHALL BE INSTALLED SO THAT THE SYSTEM CAN BE DRAINED.
3. PIPE SHALL BE REMOVED BY REAMING.
4. BEFORE INSTALLING PIPE, THOROUGHLY CLEAN THE INSIDE FREE OF CUTTING AND FOREIGN MATTER. CUT ALL PIPE SQUARE AND SMOOTH AND MAKE UP ALL JOINTS TO REQUIRED LIMITS.

B. PIPE JOINTS

1. THREADED JOINTS SHALL BE MADE UP OF TIGHT USING PIPE JOINT TEFLON COMPOUND OR TAPE, APPLIED ON THE MALE THREADS ONLY.

PAUL A. CASTRUCCI ARCHITECT

179 RIVINGTON STREET
SUITE 1A
NEW YORK, NEW YORK
10002
TEL 212.254.7060
FAX 212.260.7199
email@castrucciarchitect.com

NOTES:

NORTH:

Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	50% CD	03/20/2020
6	75% CD	04/22/2020
7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	REVISED CD SET	09/07/2021
11	ADDENDUM#1	01/05/2022

MEP:
NEW YORK ENGINEERS
1460 BROADWAY
New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

SPRINKLER SPECIFICATIONS

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

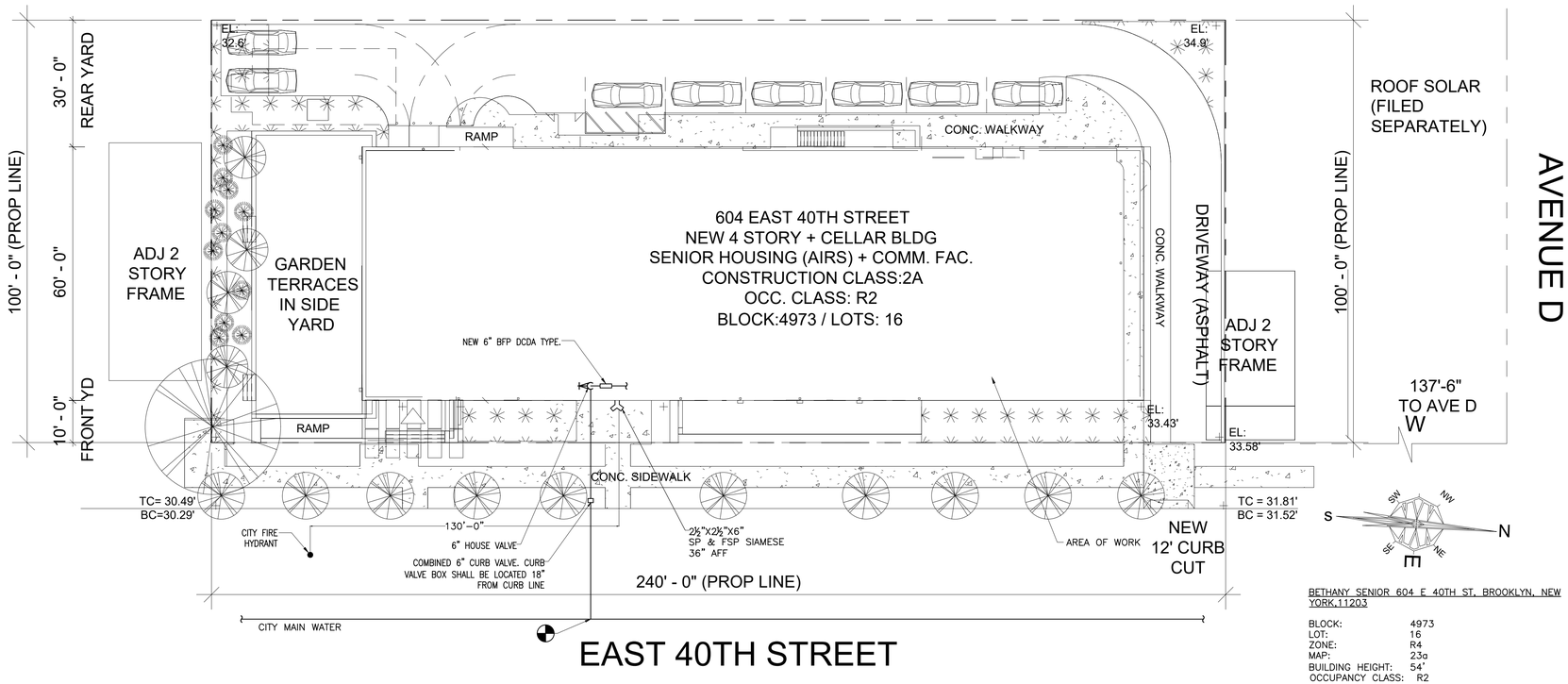
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Drawing #:
SP/SD-002.00

DOB #:B00235891-I1

Sheet #: of



BETHANY SENIOR 604 E 40TH ST, BROOKLYN, NEW YORK,11203

BLOCK:	4973
LOT:	16
ZONE:	R4
MAP:	23a
BUILDING HEIGHT:	54'
OCCUPANCY CLASS:	R2

PAUL A. CASTRUCCI ARCHITECT

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4	100% DD	11/14/2019
5	50% CD	03/20/2020
6	75% CD	04/22/2020
7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	REVISED CD SET	09/07/2021
11	ADDENDUM#1	01/05/2022

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New York, NY 10036
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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

SPRINKLER PLOT PLAN

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

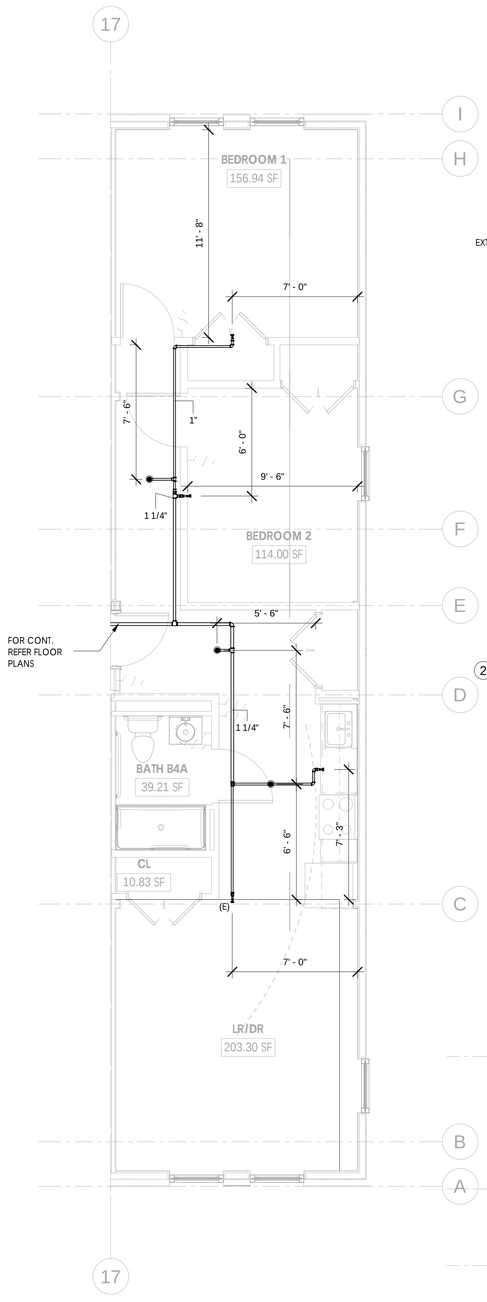
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Chkd By #:NYE

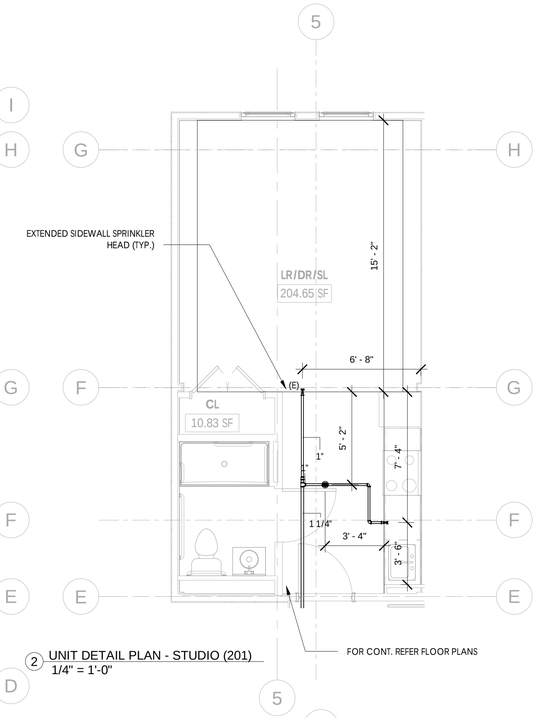
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DOB #:B00235891-I1

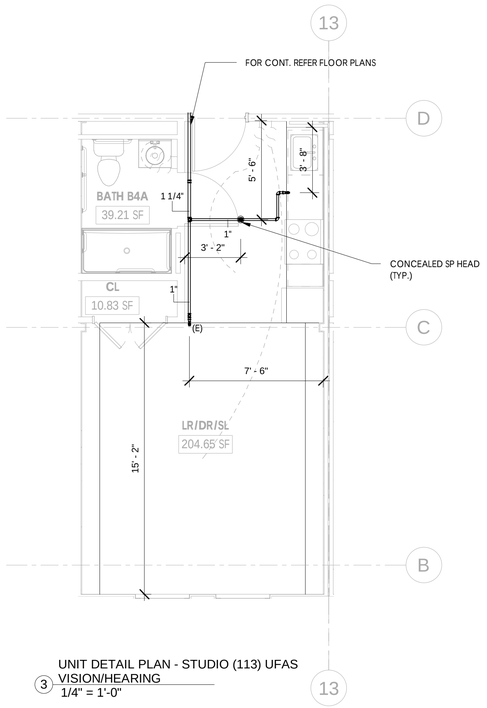
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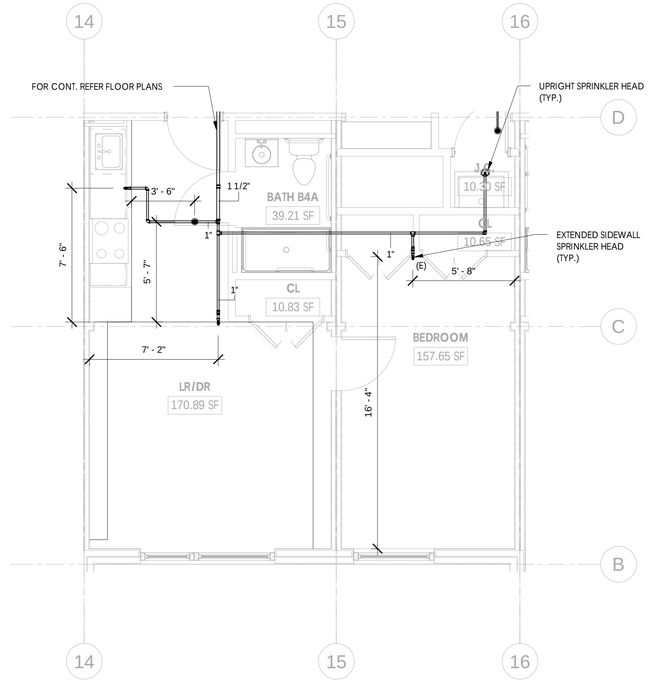
1 UNIT DETAIL PLAN - 2 BDRM (109) SUPER'S UNIT
1/4" = 1'-0"



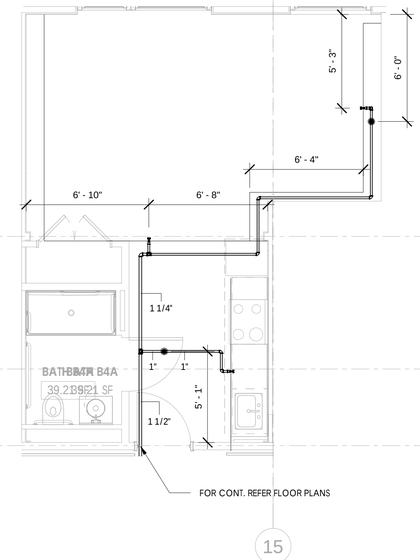
2 UNIT DETAIL PLAN - STUDIO (201)
1/4" = 1'-0"



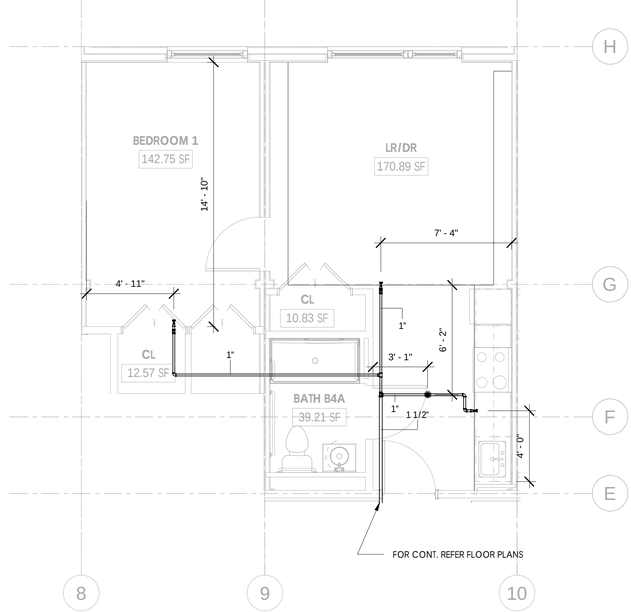
3 UNIT DETAIL PLAN - STUDIO (113) UFAS VISION/HEARING
1/4" = 1'-0"



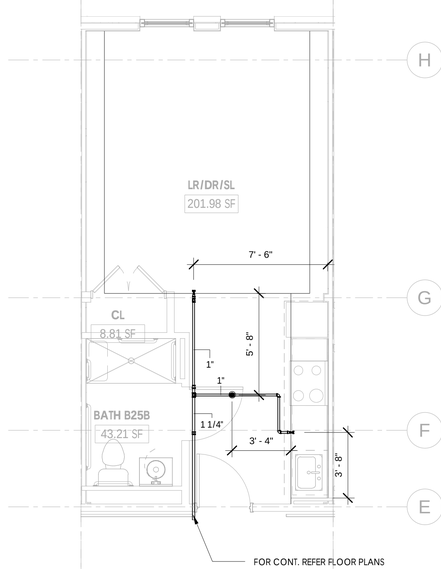
4 UNIT DETAIL PLAN - 1 BDRM (111)
1/4" = 1'-0"



5 UNIT DETAIL PLAN - STUDIO (107)
1/4" = 1'-0"



6 UNIT DETAIL PLAN -1 BDRM (102) UFAS VISION/HEARING
1/4" = 1'-0"



7 UNIT DETAIL PLAN - STUDIO (101, 103-106,108, 110, 112, 114-117,209)
1/4" = 1'-0"

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NOTES:

NORTH:

Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED FOR DOB	10/01/2019
3	ISSUED FOR BID - 75% DD	10/21/2019
4	100% DD	11/14/2019
5	50% CD	03/20/2020
6	75% CD	04/22/2020
7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ADDENDUM#1	01/05/2022

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135 W 41sT Street, 5th Floor
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TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

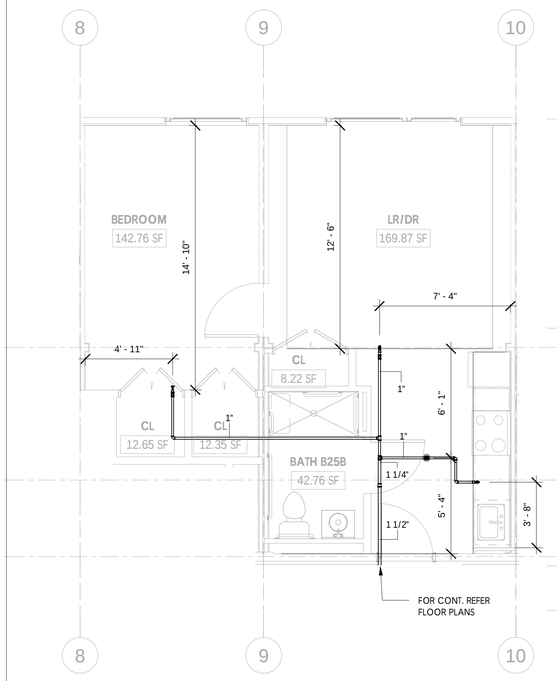
BETHANY TERRACES

FOR:
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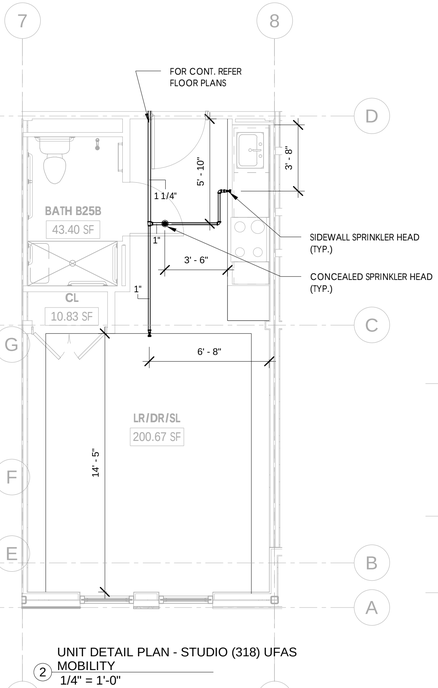
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SPRINKLER PART PLAN (1 OF 2)

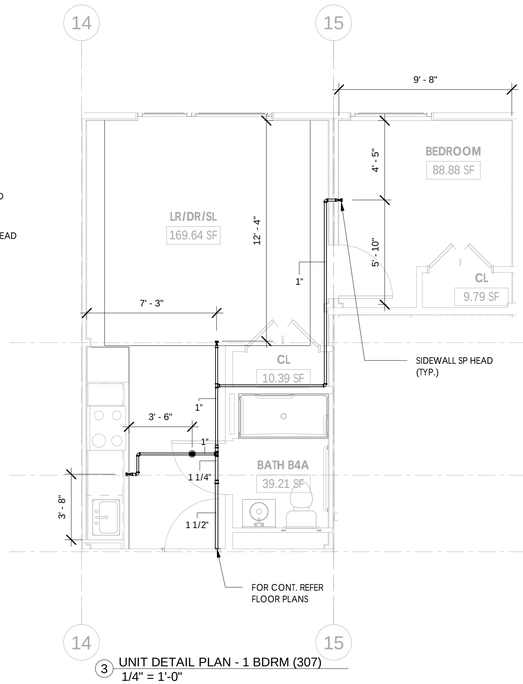
Date: 5.31.2019
Seal/Signature:
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Drawn By #: Author
Chkd By #: Checker
Drawing #: SP/SD-300.00
DOB #: B00235891
Sheet #: of



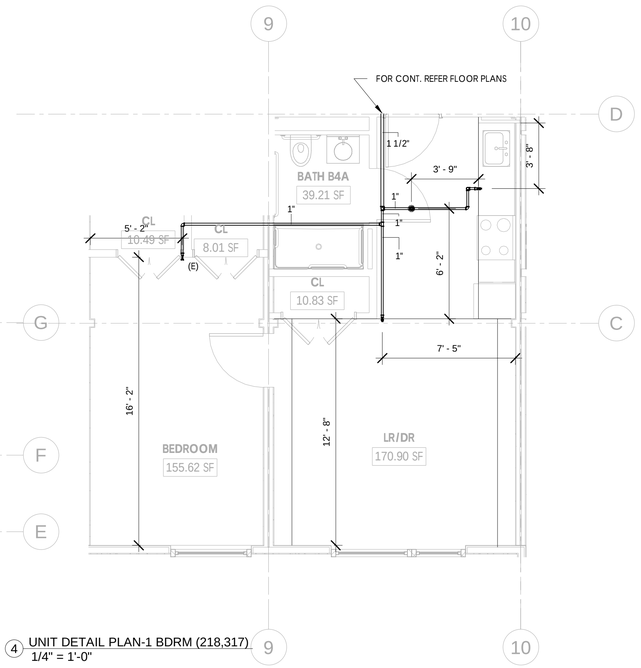
1 UNIT DETAIL PLAN - 1 BDRM (401) UFAS MOBILITY
1/4" = 1'-0"



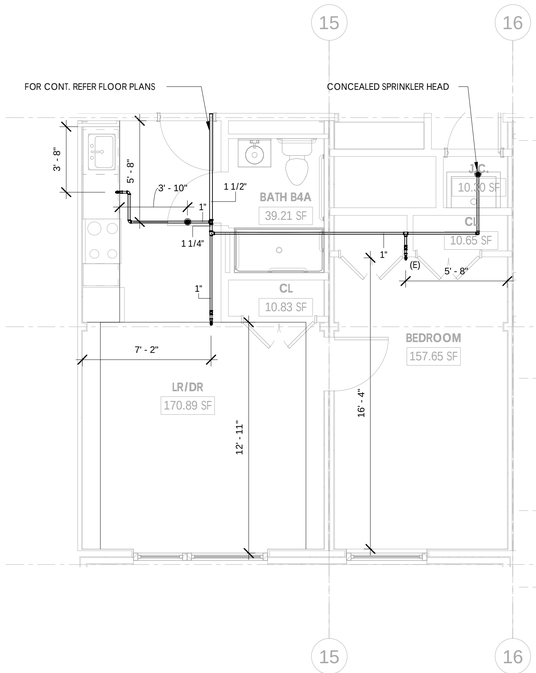
2 UNIT DETAIL PLAN - STUDIO (318) UFAS MOBILITY
1/4" = 1'-0"



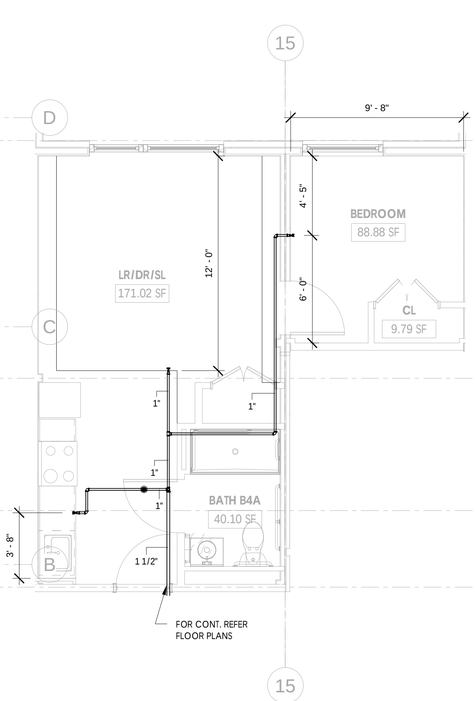
3 UNIT DETAIL PLAN - 1 BDRM (307)
1/4" = 1'-0"



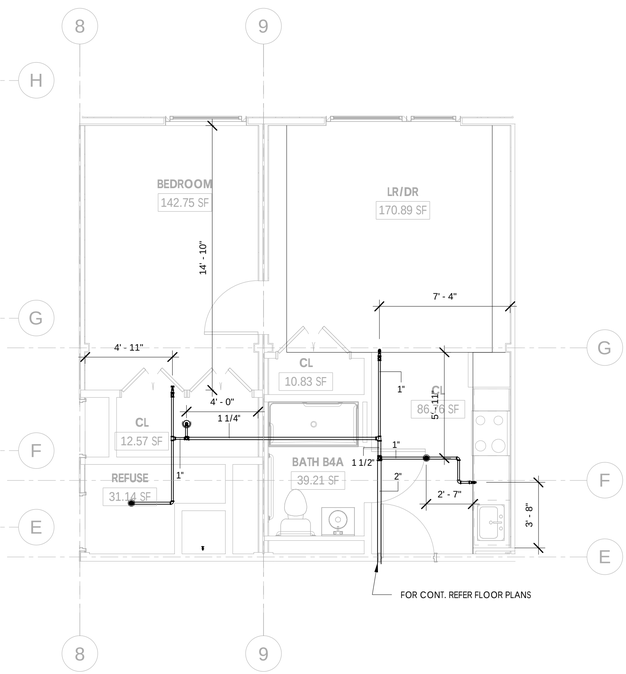
4 UNIT DETAIL PLAN-1 BDRM (218,317)
1/4" = 1'-0"



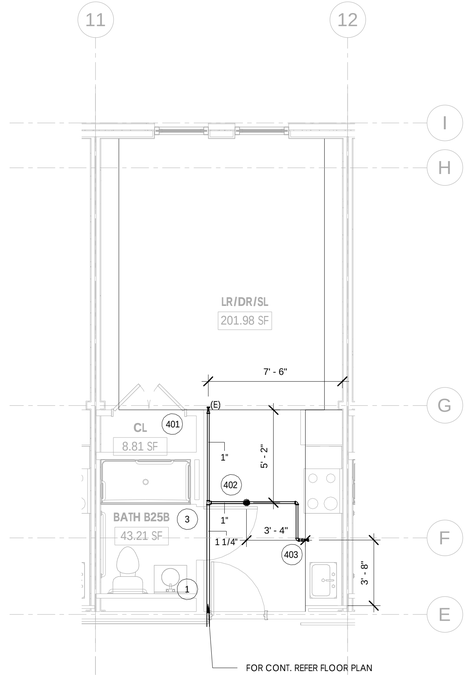
5 UNIT DETAIL PLAN - 1 BDRM (213, 312)
1/4" = 1'-0"



6 UNIT DETAIL PLAN- 1 BDRM (208)
1/4" = 1'-0"



7 UNIT DETAIL PLAN - 1 BDRM (203, 302)
1/4" = 1'-0"



8 UNIT DETAIL PLAN - STUDIO (202,204-207, 210-212, 214-217, 219-220, 301, 303-306, 308-311, 313-316, 319, 402)
1/4" = 1'-0"

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9	ADDENDUM#1	01/05/2022

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

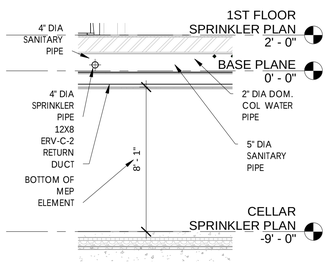
BETHANY TERRACES

FOR:
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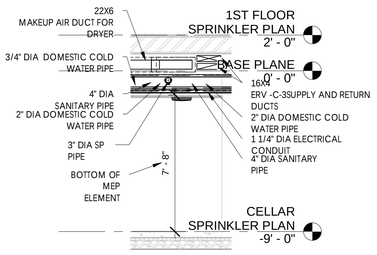
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SPRINKLER PART PLAN (2 0F 2)

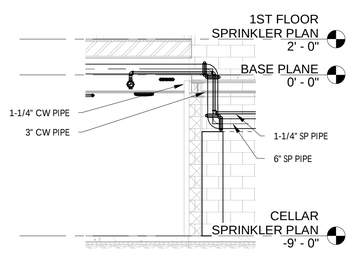
Date: 5.31.2019
Scale: 1/4" = 1'-0"
Seal/Signature:
Drawn By #: Author
Chkd By #: Checker
Drawing #: SP/SD-301.00
DOB #: B00235891
Sheet #: of



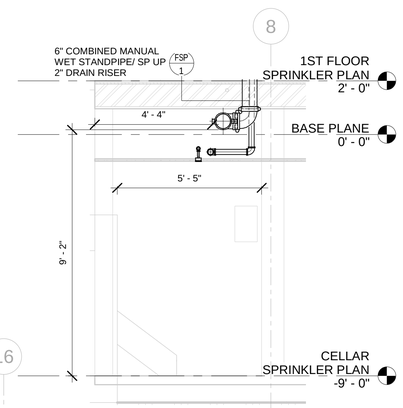
4 CELLAR STORAGE SECTION
1/4" = 1'-0"



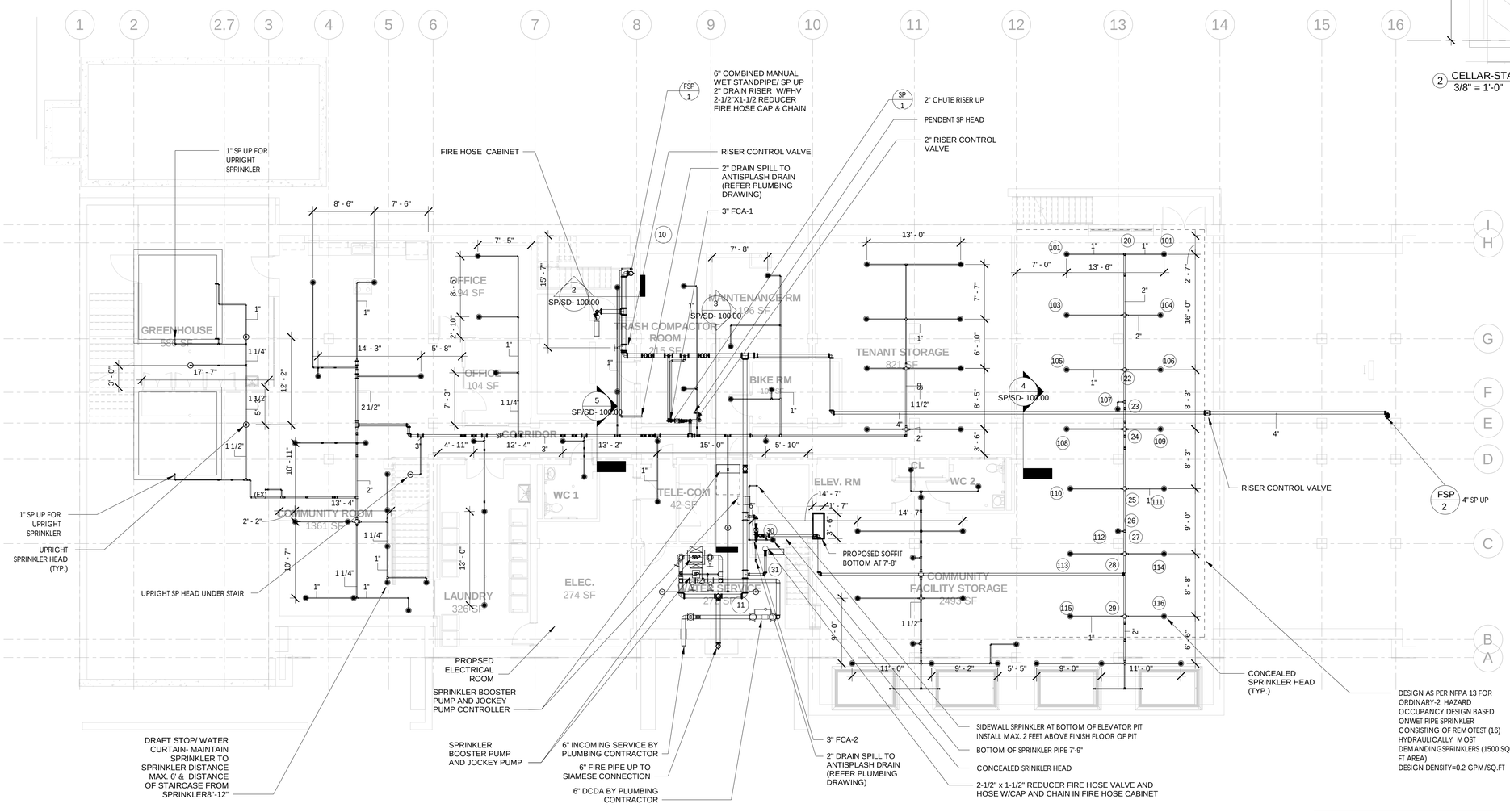
5 CELLAR ELEVATOR CORRIDOR SECTION1
1/4" = 1'-0"



3 CELLAR CORRIDOR SECTION
1/4" = 1'-0"



2 CELLAR-STAIR CASE SECTION
3/8" = 1'-0"



1 CELLAR SPRINKLER PLAN
1/8" = 1'-0"

SPRINKLER TYPE	QTY
CONCEALED	76
CHUTE SPRINKLER	01
SIDEWALL	07
UPRIGHT	07
EXT. SIDEWALL	01
TOTAL SPRINKLER HEAD	92

HAZARD CLASSIFICATION AND DESIGN DENSITY :	
OCCUPANCY	: LIGHT HAZARD
MINIMUM DESIGN	: 0.10 GPM/SQ.FT

HAZARD CLASSIFICATION AND DESIGN DENSITY :	
OCCUPANCY	: ORDINARY HAZARD II
MINIMUM DESIGN	: 0.20 GPM/SQ.FT

GENERAL NOTES:

1. REFER RISER DIAGRAM FOR ALL TAMPER SWITCH AND WATER FLOW SWITCH LOCATIONS
2. FOR SPRINKLER AND STANDPIPE WORK ONLY.
3.ALL SPRINKLER HEADS MEET DESIGN CRITERIA PER COVERAGE.

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NOTES:

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8	PH REVISIONS	07/06/2020
9	ADDENDUM#1	01/05/2022

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

CELLAR SPRINKLER PLAN

Date: 5.31.2019

Seal/Signature:

Scale: As indicated

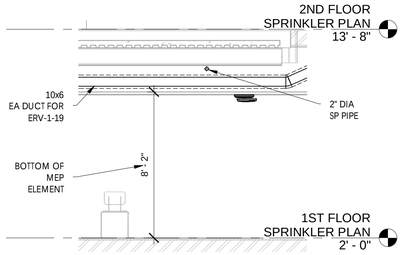
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Chkd By #: Checker

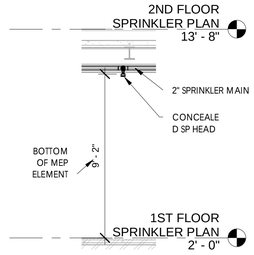
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DOB #: B00235891

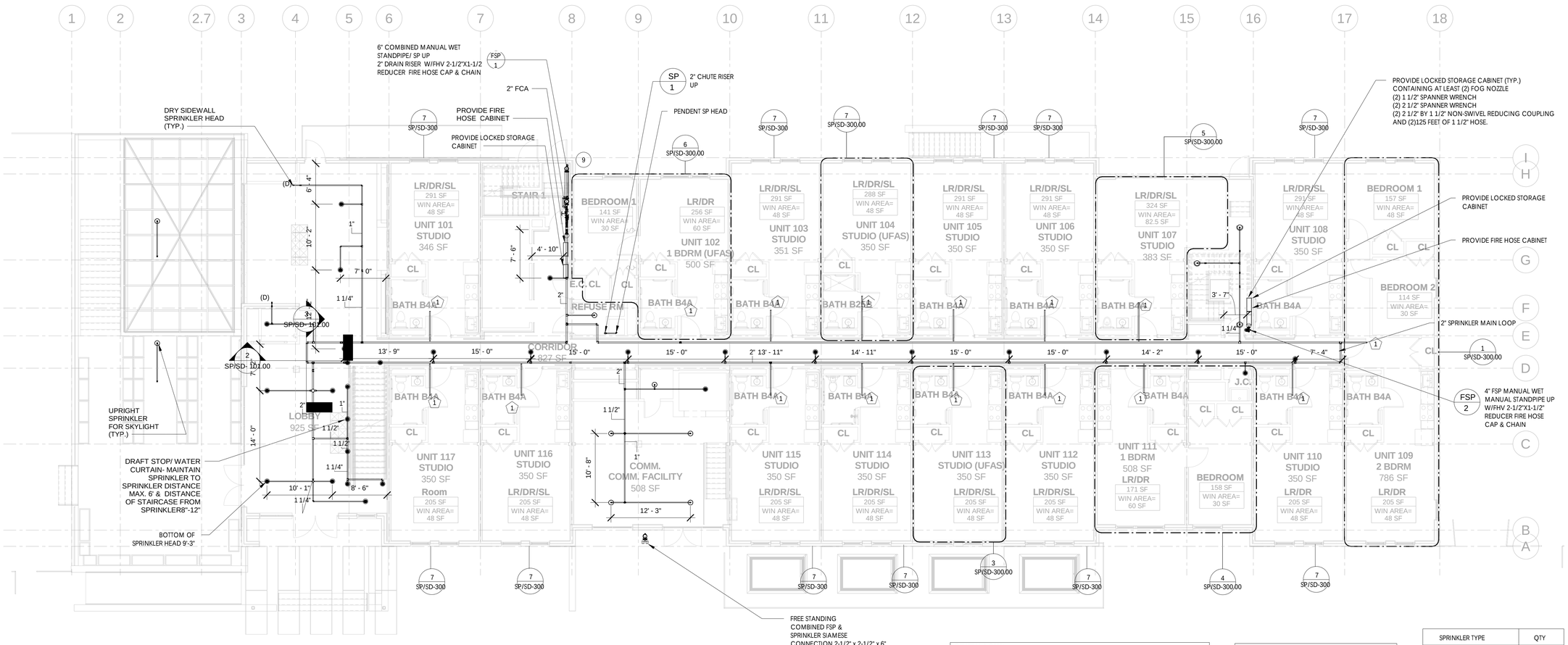
Sheet #: of



2 1ST FLOOR SECURITY DESK SECTION
1/4" = 1'-0"



3 1ST FLOOR LOBBY
1/4" = 1'-0"



1 1ST FLOOR SPRINKLER PLAN
1/8" = 1'-0"

EAST 40TH STREET

GENERAL NOTES:

1. REFER RISER DIAGRAM FOR ALL TAMPER SWITCH AND WATER FLOW SWITCH LOCATIONS
2. FOR SPRINKLER AND STANDPIPE WORK ONLY.
3.ALL SPRINKLER HEADS MEET DESIGN CRITERIA PER COVERAGE.
4. FOR SPRINKLER IN ALL APARTMENTS, REFER PART PLANS.

KEYED NOTES:

1 FOR CONTINUATION REFER TO PART PLANS

HAZARD CLASSIFICATION AND DESIGN DENSITY :

OCCUPANCY	: LIGHT HAZARD
MINIMUM DESIGN	: 0.10 GPM/SQ.FT

SPRINKLER TYPE	QTY
CONCEALED	50
SIDEWALL	36
EXT. SIDEWALL	01
CHUTE SPRINKLER	01
UPRIGHT	11
DRY SIDEWALL	02
TOTAL SPRINKLER HEAD	101

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7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ADDENDUM#1	01/05/2022

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

FIRST FLOOR SPRINKLER PLAN

Date: 5.31.2019

Seal/Signature:

Scale: As indicated

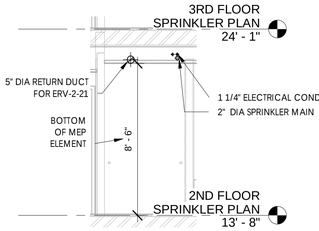
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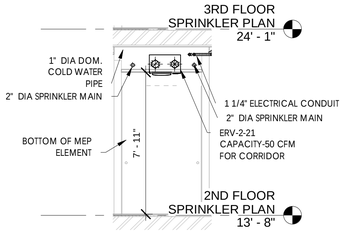
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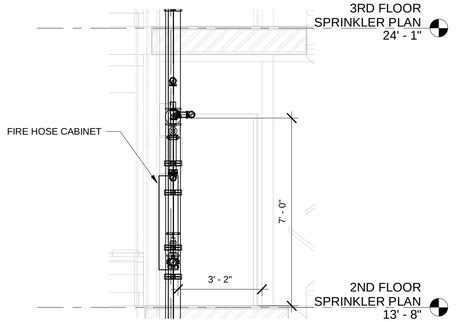
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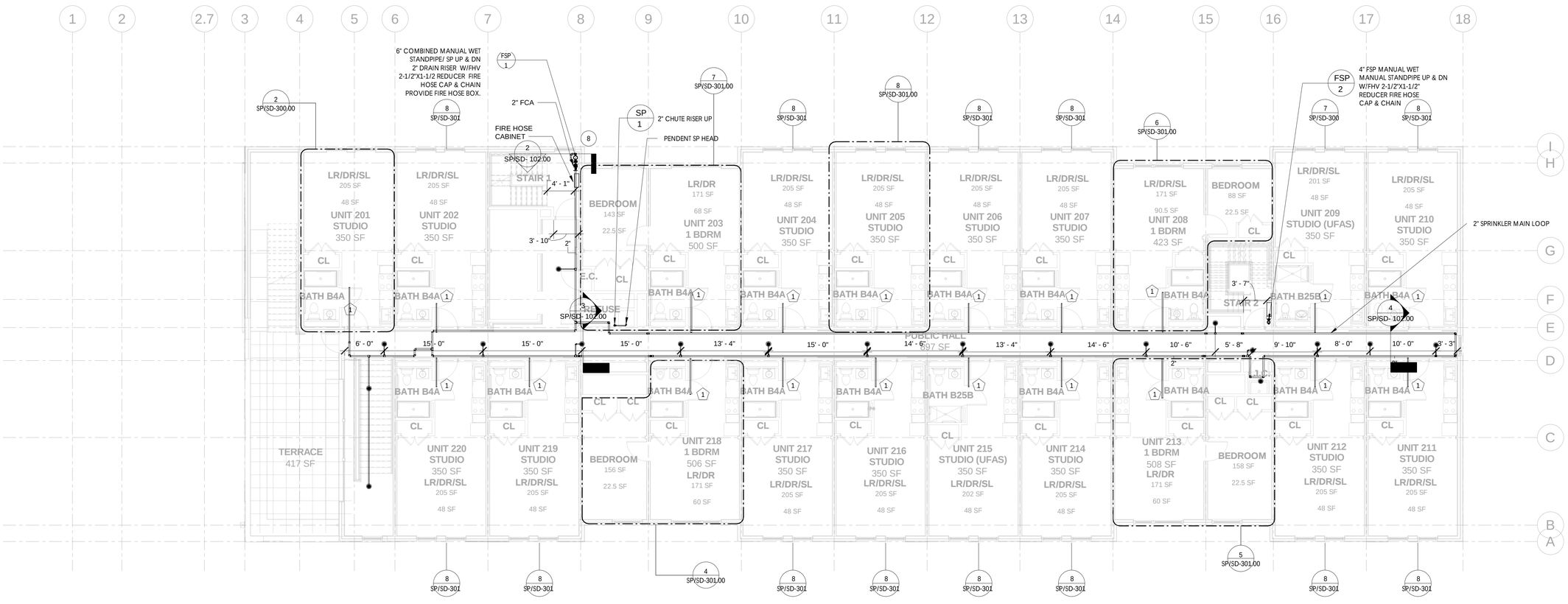
3 2ND FLOOR REFUSE ROOM
1/4" = 1'-0"



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



2 SECOND FLOOR - STAIR CASE SECTION
3/8" = 1'-0"



1 2ND FLOOR SPRINKLER PLAN
1/8" = 1'-0"

HAZARD CLASSIFICATION AND DESIGN DENSITY :	
OCCUPANCY	: LIGHT HAZARD
MINIMUM DESIGN	: 0.10 GPM/SQ.FT

KEYED NOTES:

1 FOR CONTINUATION REFER PART PLANS

GENERAL NOTES:

1. REFER RISER DIAGRAM FOR ALL TAMPER SWITCH AND WATER FLOW SWITCH LOCATIONS
2. FOR SPRINKLER AND STANDPIPE WORK ONLY.
3.ALL SPRINKLER HEADS MEET DESIGN CRITERIA PER COVERAGE.
4. FOR SPRINKLER IN ALL APARTMENTS, REFER PART PLANS.

SPRINKLER TYPE	QTY
CONCEALED	39
SIDEWALL	26
EXT. SIDEWALL	18
UPRIGHT	01
CHUTE SPRINKLER	01
TOTAL SPRINKLER HEAD	85

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8	PH REVISIONS	07/06/2020
9	ADDENDUM#1	01/05/2022

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

SECOND FLOOR SPRINKLER PLAN

Date: 5.31.2019

Seal/Signature:

Scale: As indicated

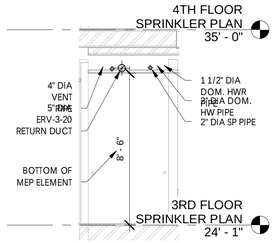
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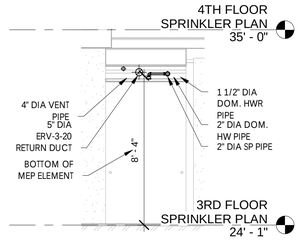
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DOB #: B00235891

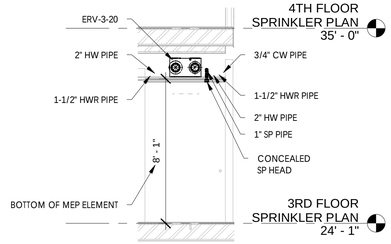
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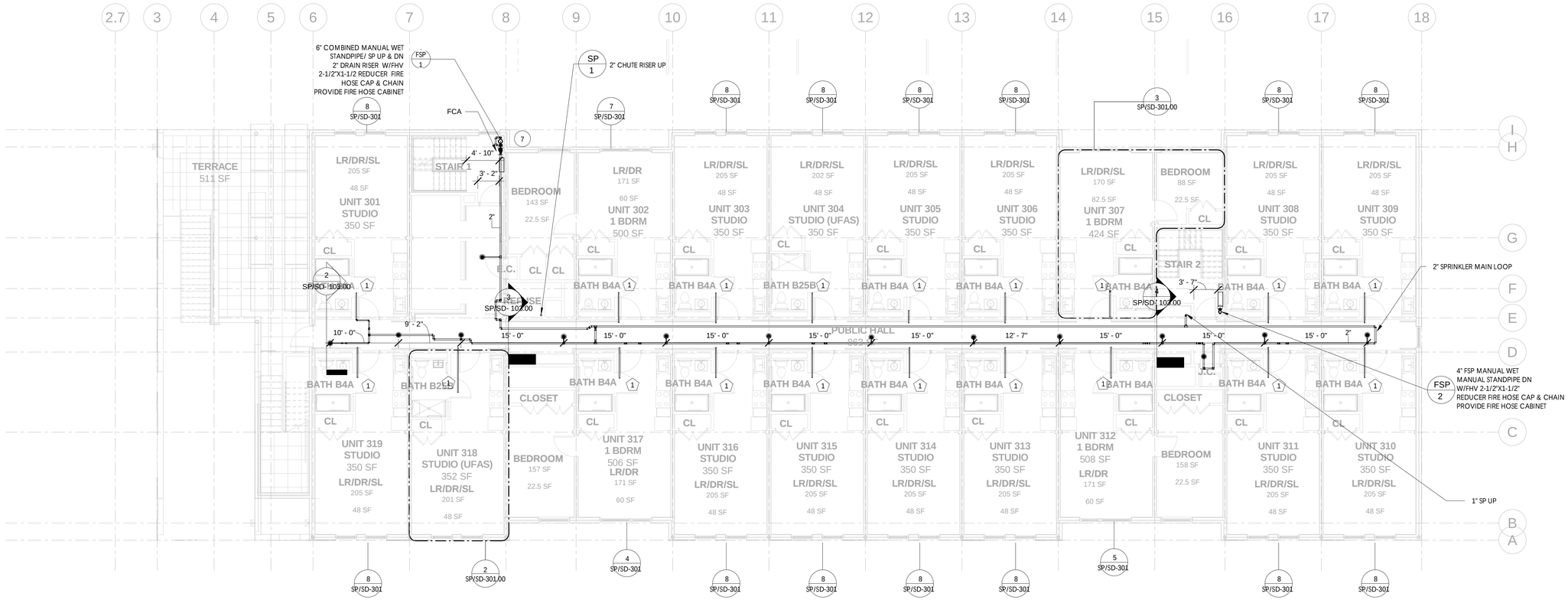
3 3RD FLOOR REFUSE ROOM CORRIDOR
1/4" = 1'-0"



4 3RD FLOOR J.C. CORRIDOR
1/4" = 1'-0"



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



1 3RD FLOOR SPRINKLER PLAN
1/8" = 1'-0"

KEYED NOTES:

1 FOR CONTINUATION REFER PART PLANS

GENERAL NOTES:

1. REFER RISER DIAGRAM FOR ALL TAMPER SWITCH AND WATER FLOW SWITCH LOCATIONS
2. FOR SPRINKLER AND STANDPIPE WORK ONLY.
3.ALL SPRINKLER HEADS MEET DESIGN CRITERIA PER COVERAGE.

HAZARD CLASSIFICATION AND DESIGN DENSITY :	
OCCUPANCY	: LIGHT HAZARD
MINIMUM DESIGN	: 0.10 GPM/SQ.FT

SPRINKLER TYPE	QTY
CONCEALED	35
SIDEWALL	26
EXT. SIDEWALL	17
UPRIGHT	01
TOTAL SPRINKLER HEAD	79

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7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ADDENDUM#1	01/05/2022

MEP:
NEW YORK ENGINEERS
135 W 41sT Street, 5th Floor
New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

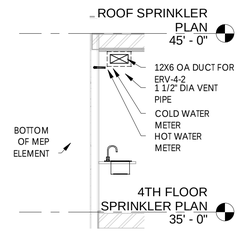
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FOR:
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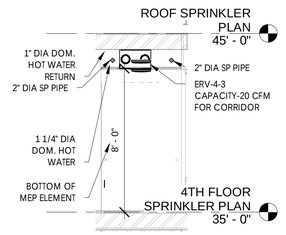
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THIRD FLOOR SPRINKLER PLAN

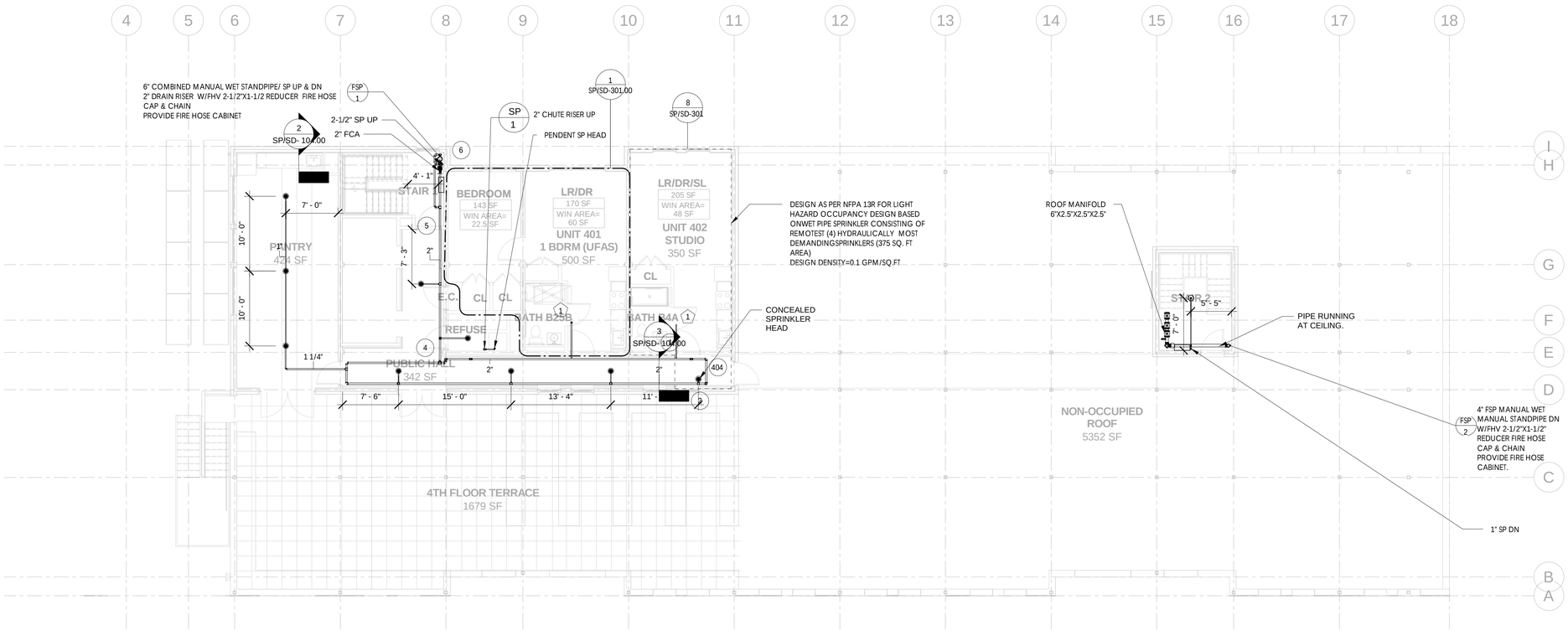
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Scale: As indicated
Seal/Signature:
Drawn By #: Author
Chkd By #: Checker
Drawing #: SP/SD- 103.00
DOB #: B00235891
Sheet #: of



2 4TH FLOOR PANTRY SECTION
1/4" = 1'-0"



3 4TH FLOOR CORRIDOR SECTION
1/4" = 1'-0"



1 4TH FLOOR SPRINKLER PLAN
1/8" = 1'-0"

KEYED NOTES:

1 FOR CONTINUATION REFER PART PLANS

GENERAL NOTES:

1. REFER RISER DIAGRAM FOR ALL TAMPER SWITCH AND WATER FLOW SWITCH LOCATIONS
2. FOR SPRINKLER AND STANDPIPE WORK ONLY.
3.ALL SPRINKLER HEADS MEET DESIGN CRITERIA PER COVERAGE.

HAZARD CLASSIFICATION AND DESIGN DENSITY :	
OCCUPANCY	: LIGHT HAZARD
MINIMUM DESIGN	: 0.10 GPM/SQ.FT

SPRINKLER TYPE	QTY
UPRIGHT	01
SIDEWALL	04
CONCEALED	12
EXT. SIDEWALL	01
CHUTE SPRINKLER	01
TOTAL SPRINKLER HEAD	19

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

FOURTH FLOOR SPRINKLER PLAN

Date: 5.31.2019

Scale: As indicated

Seal/Signature:

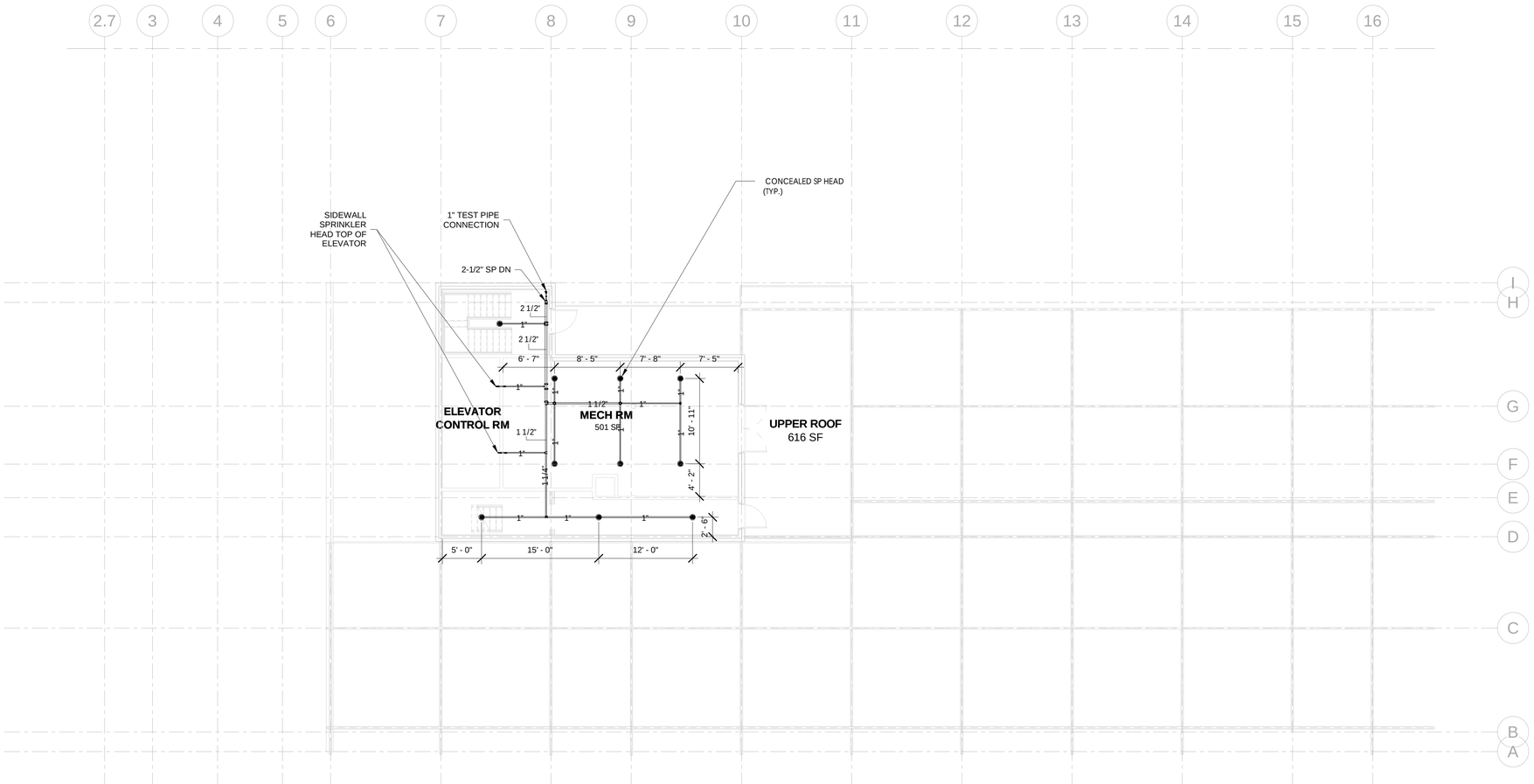
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Chkd By #: Checker

Drawing #: SP/SD- 104.00

DOB #: B00235891

Sheet #: of



1 ROOF SPRINKLER PLAN
1/8" = 1'-0"

SPRINKLER TYPE	QTY
CONCEALED	10
SIDEWALL	02
TOTAL SPRINKLER HEAD	12

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DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
–

Drawing Tile:

ROOF SPRINKLER PLAN

Date: 5.31.2019

Seal/Signature:

Scale: 1/8" = 1'-0"

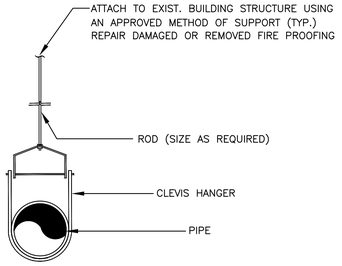
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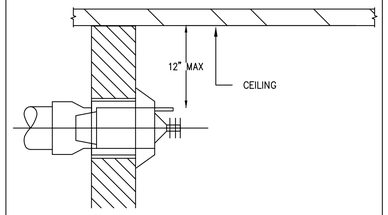
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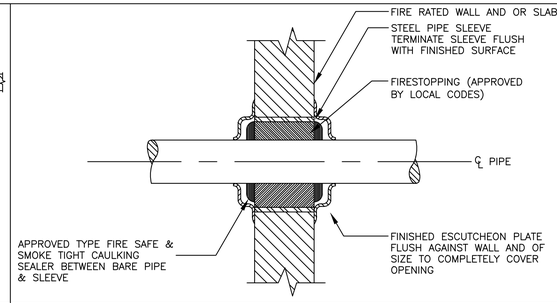
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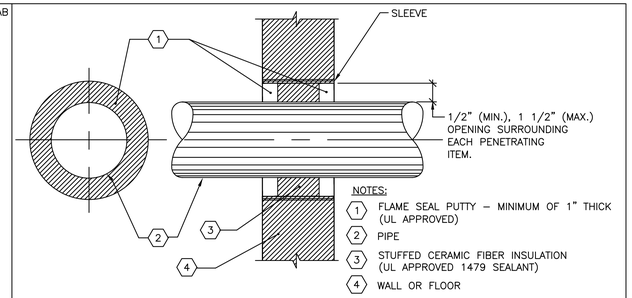
1 SP-501 HANGER DETAILS TYPICAL N.T.S



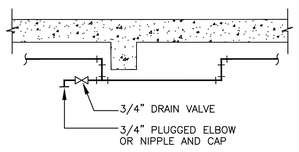
2 SP-501 SIDEWALL SPRINKLER HEAD N.T.S



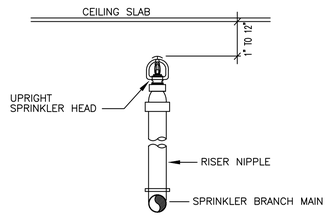
3 SP-501 PIPE THRU RATED WALL TYPICAL DETAIL N.T.S



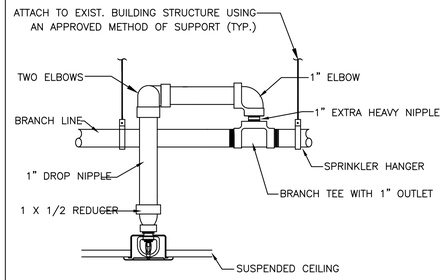
4 SP-501 FIRE STOPPING DETAIL FOR FIRE/SMOKE RATED WALL/FLOOR OPENINGS N.T.S



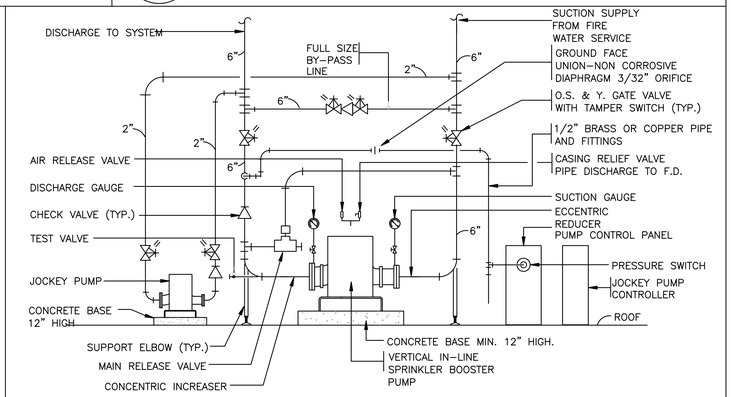
5 SP-501 TYPICAL DRAIN CONNECTION FOR TRAPPED LINES ON WET PIPE SPRINKLER SYSTEMS N.T.S



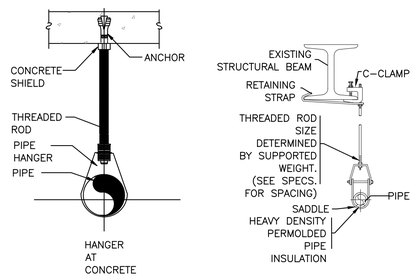
6 SP-501 SPRINKLER HEAD DETAIL UPRIGHT N.T.S



7 SP-501 SPRINKLER HEAD IN SUSPENDED CEILING DETAIL N.T.S



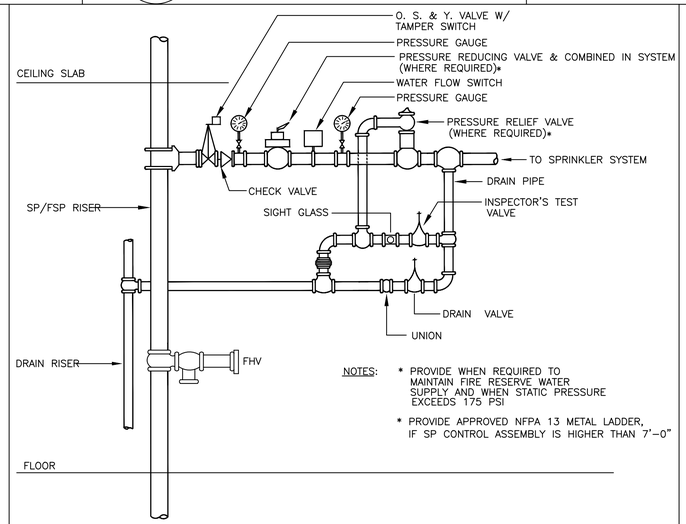
8 SP-501 SPRINKLER BOOSTER PUMP PIPING SCHEMATIC N.T.S



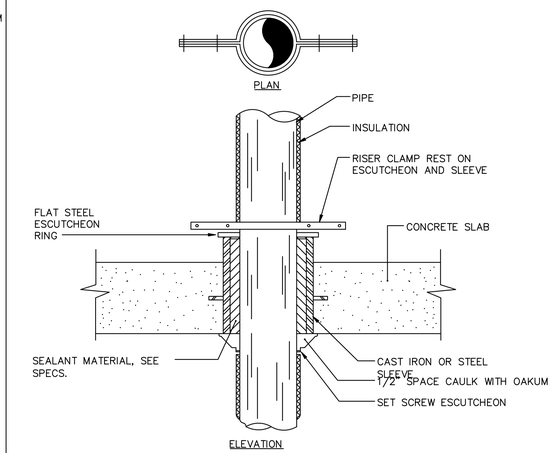
HANGER DETAIL
NOT TO SCALE

ROD SCHEDULE								
PIPE SIZE	ROD SIZE	SPACING	PIPE SIZE	ROD SIZE	SPACING	PIPE SIZE	ROD SIZE	SPACING
1"	3/8"	5'-8'	2 1/2"	1/2"	10'-12'	6"	3/4"	12'-15'
1 1/4"	3/8"	6'-10'	3"	1/2"	10'-12'			
1 1/2"	3/8"	8'-10'	4"	5/8"	12'-15'			
2"	3/8"	10'-12'	5"	5/8"	12'-15'			

9 SP-501 TYPICAL HANGER DETAIL AND ROD SCHEDULE N.T.S



10 SP-501 TYPICAL HANGER DETAIL AND ROD SCHEDULE N.T.S



11 SP-501 SPRINKLER RISER CLAMP DETAIL N.T.S

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9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	REVISED CD SET	09/07/2021
11	ADDENDUM#1	01/05/2022

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1460 BROADWAY
New York, NY 10036
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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
–

Drawing Tile:

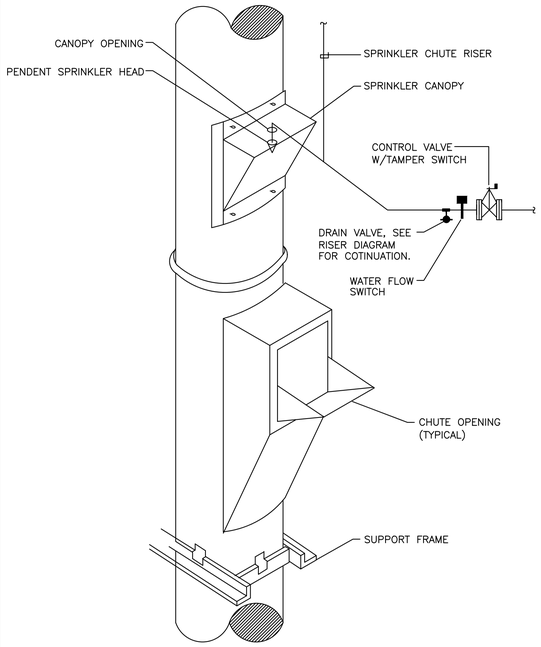
SPRINKLER DETAILS (1 OF 2)

Date:

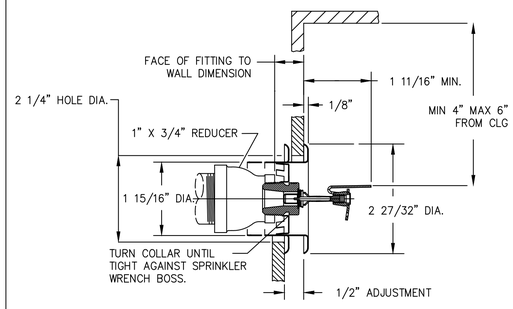
Seal/Signature:

Scale: 1/8" = 1'-0"
Drawn By #:NYE
Chkd By #:NYE
Drawing #: SP/SD-501.00
Sheet #: of

DOB #:B00235891-I1



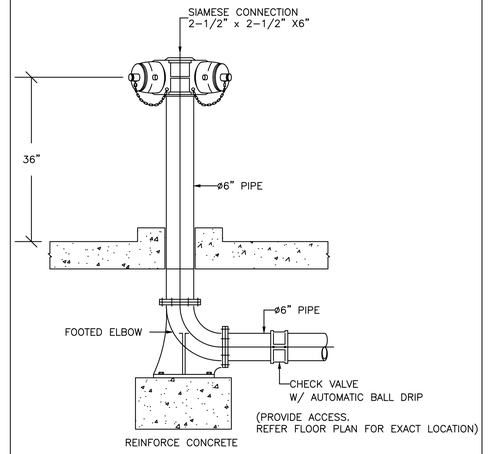
1 SP-502 CHUTE SPRINKLER SYSTEM
N.T.S



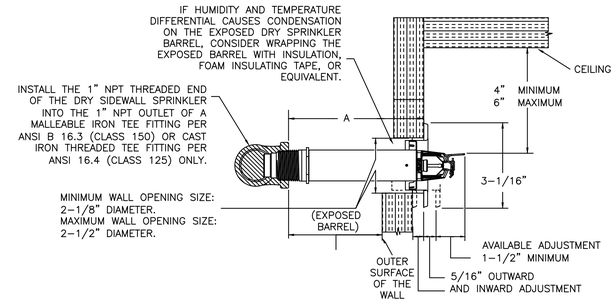
2 SP-502 HORIZONTAL SIDEWALL EXTENDED COVERAGE SPRINKLER HEAD
N.T.S

COVERAGE AREA SCHEDULE FOR EXTENDED SIDEWALL SPRINKLER (MODEL-VK 630

MAX. INSTALLED COVERAGE AREA (WIDTH X LENGTH)	DEFLECTOR TO CEILING DIMENSION	MIN. REQUIRED FLOW RATE	MIN. REQUIRED PRESSURE
FT. X FT.	INCHES	GPM	PSI
18 X 18	4 – 12	33	17.0



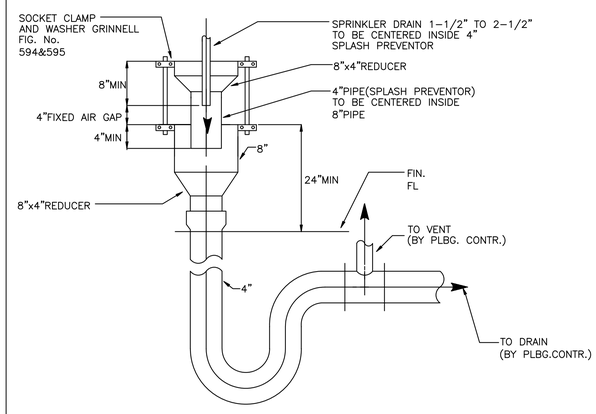
3 SP-502 SIAMESE CONNECTION
N.T.S



FOR "A" DIMENSION:
1. DETERMINE THE DISTANCE FROM THE FACE OF THE TEE TO THE FACE OF THE FINISHED WALL.
2. ROUND TO THE NEAREST 1/4" BETWEEN 3-1/4" AND 47-1/2".

AMBIENT TEMPERATURE OF PROTECTED AREA* AT THE DISCHARGE END OF THE SPRINKLER	EXPOSED BARREL AMBIENT TEMPERATURE 40°F/4°C |50°F/10°C|60°F/16°C EXPOSED MINIMUM BARREL LENGTH** FACE OF THE TEE TO THE OUTER SURFACE OF THE WALL		
	INCHES.	INCHES.	INCHES.
40°F (4°C)	0	0	0
30°F (–1°C)	0	0	0
20°F (–7°C)	4	0	0
10°F (–12°C)	8	1	0
0°F (–18°C)	12	3	0
–10°F (–23°C)	14	4	1
–20°F (–29°C)	14	6	3
–30°F (–34°C)	16	8	4
–40°F (–40°C)	18	8	4
–50°F (–46°C)	20	10	6
–60°F (–51°C)	20	10	6

4 SP-502 DRY SIDEWALL SPRINKLER INSTALLATION DETAILS
N.T.S



5 SP-502 ANTI-SPLASH STANDPIPE DRAIN DETAIL
N.T.S

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11	ADDENDUM#1	01/05/2022

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New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

SPRINKLER DETAILS (2 OF 2)

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

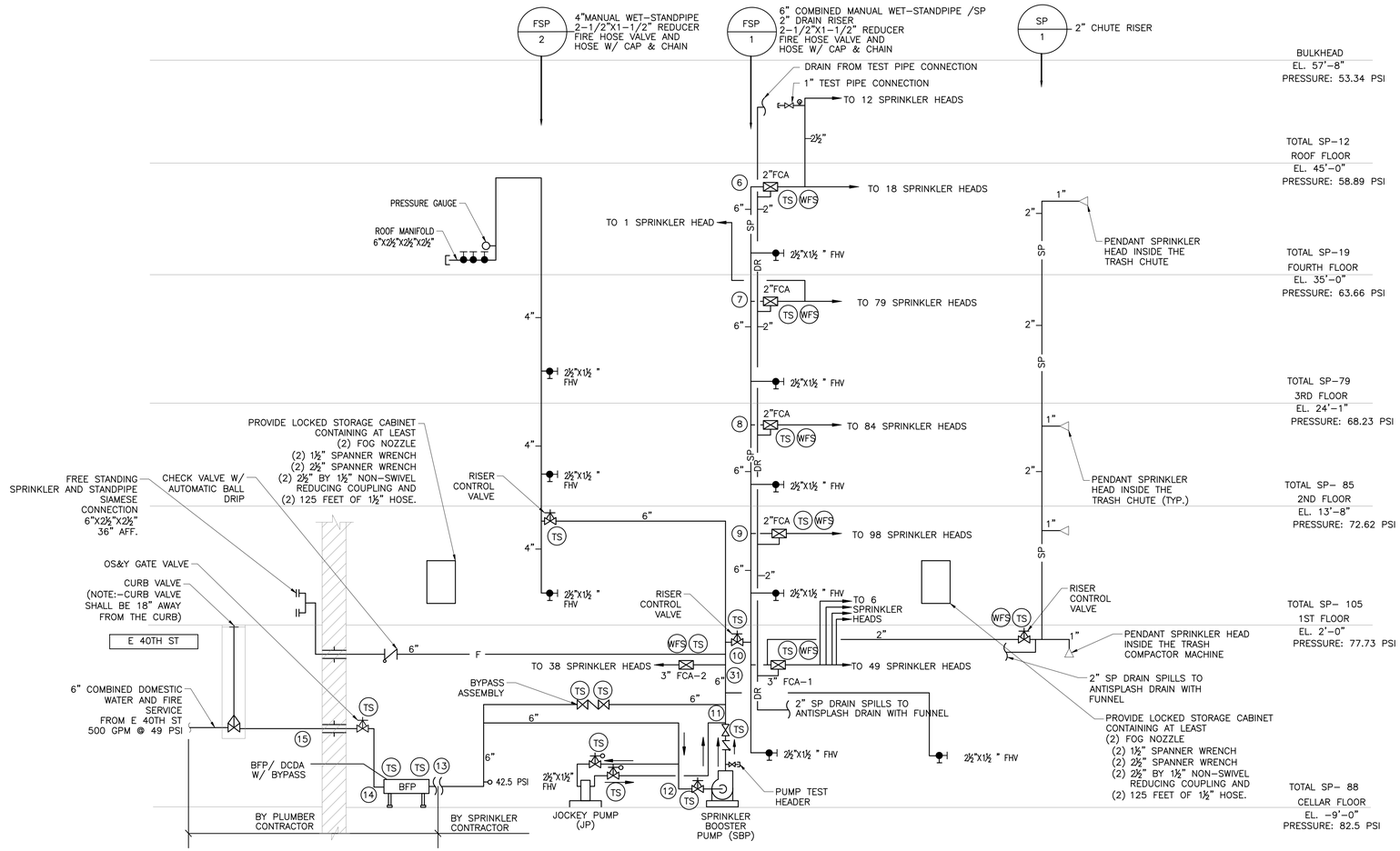
Drawn By #:NYE

Chkd By #:NYE

Drawing #: SP/SD-502.00

DOB #:[illegible]

Sheet #: of



NOTES:
1. COORDINATE ALL CHUTE SPRINKLER HEAD LOCATION AND INSTALLATION WITH CHUTE CONTRACTOR.
2. PROVIDE FIRE HOSE CABINET NEAR EACH FIRE HOSE VALVE.

1 SPRINKLER RISER DIAGRAM
SCALE:NTS

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New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

SPRINKLER RISER DIAGRAM

Date:

Seal/Signature:

DOB #:B00235891-I1

Scale: 1/8" = 1'-0"

Drawn By #:NYE

Chkd By #:NYE

Drawing #: SP/SD-601.00

Sheet #: of

COMcheck Software Version 4.1.4.3

Interior Lighting Compliance Certificate

Project Information

Energy Code: 90.1 (2013) Standard
Project Title: BETHANY SENIOR
Project Type: New Construction

Construction Site:
604 EAST, 40TH ST
BROOKLYN
NEW YORK, NY 11203

Owner/Agent:

Designer/Contractor:
MICHAEL TOBIAS
NEW YORK ENGINEERS
1460 BROADWAY
NEW YORK, NY 10036

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-Multifamily	42000	0.51	21420
2-Retail	3000	1.26	3780
		Total Allowed Watts =	25200

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-Multifamily				
LED 1: B: Other:	1	120	25	3000
LED 2: G: Other:	1	2	22	44
LED 3: H: Other:	1	23	50	1150
LED 4: J: Other:	1	9	3	27
LED 5: E: Other:	1	16	52	832
LED 6: N: Other:	1	20	20	400
LED 7: Q: Other:	1	1	20	20
LED 8: I: Other:	1	14	30	420
LED 13: L: Other:	1	11	25	275
2-Retail				
LED 1: B: Other:	1	17	25	425
LED 2: M: Other:	1	6	13	78
LED 3: H: Other:	1	18	50	900
LED 4: G: Other:	1	1	22	22
		Total Proposed Watts =		7593

Interior Lighting PASSES: Design 70% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 90.1 (2013) Standard requirements in COM*check* Version 4.1.4.3 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

MICHAEL TOBIAS — Name - Title; Signature; 05-25-2021 — Date

COMcheck Software Version 4.1.4.3

Exterior Lighting Compliance Certificate

Project Information

Energy Code: 90.1 (2013) Standard
Project Title: BETHANY SENIOR
Project Type: New Construction
Exterior Lighting Zone 3 (Other)

Construction Site:
604 EAST, 40TH ST
BROOKLYN
NEW YORK, NY 11203

Owner/Agent:

Designer/Contractor:
MICHAEL TOBIAS
NEW YORK ENGINEERS
1460 BROADWAY
NEW YORK, NY 10036

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Multifamily (Outdoor sales area/lot)	3000 ft2	0.5	Yes	1500
			Total Tradable Watts (a) =	1500
			Total Allowed Watts =	1500
			Total Allowed Supplemental Watts (b) =	750

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 750 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Multifamily (Outdoor sales area/lot 3000 ft2): Tradable Wattage				
LED 2: E: Other:	1	4	52	208
LED 3: P: Other:	1	15	20	300
LED 5: O: Other:	1	20	20	400
			Total Tradable Proposed Watts =	908

Exterior Lighting PASSES: Design 60% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 90.1 (2013) Standard requirements in COM*check* Version 4.1.4.3 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

MICHAEL TOBIAS — Name - Title; Signature; 05-25-2021 — Date

EN DRAWING LIST	
EN-001.00	ENERGY ANALYSIS (1 OF 2)
EN-002.00	ENERGY ANALYSIS (2 OF 2)

COMcheck Software Version 4.1.4.3

Inspection Checklist

Energy Code: 90.1 (2013) Standard

Requirements: 100.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2, 8.4.1.1, 8.4.1.2, 8.7 [PR6]²	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
4.2.2, 9.4.3, 9.7 [PR4]¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER TO DRAWING NO. E-002, E-100 TO E-105
9.7 [PR8]¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10]²	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Space type is not private office, open office, or computer classroom.
9.4.1.1 [EL1]²	Automatic control requirements prescribed in Table 9.6.1, for the appropriate space type, are installed. Mandatory lighting controls (labeled as 'REQ') and optional choice controls (labeled as 'ADD1' and 'ADD2') are implemented.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER TO DRAWING NO. E-002, E-100 TO E-105
9.4.1.1 [EL2]²	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
9.4.1.2 [EL11]²	Parking garage lighting is equipped with required lighting controls and daylight transition zone lighting.	☐Complies ☐Does Not ☐Not Observable ■Not Applicable	**Exception:** Requirement does not apply.
9.4.1.1f [EL13]¹	Daylight areas under skylights and roof monitors that have more than 150 W combined input power for general lighting are controlled by photocontrols.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER TO DRAWING NO. E-002, E-100 TO E-105
9.4.1.4 [EL3]²	Automatic lighting controls for exterior lighting installed.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER TO DRAWING NO. E-002, E-100 TO E-105
9.4.1.3 [EL4]¹	Separate lighting control devices for specific uses installed per approved lighting plans.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** REFER TO DRAWING NO. E-002, E-100 TO E-105
9.6.2 [EL8]¹	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
8.7.1 [FI16]³	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
8.7.2 [FI17]³	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
9.2.2.3 [FI18]¹	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Interior Lighting fixture schedule for values.*
9.4.2 [FI19]¹	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	■Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Exterior Lighting fixture schedule for values.*

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED FOR BID - 75% DD	10/21/2019
4	100% DD	11/14/2019
5	50% CD	03/20/2020
6	75% CD	04/22/2020
7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	REVISED CD SET	09/07/2021
11	ADDENDUM#1	01/05/2022

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

ENERGY ANALYSIS (1 OF 2)

Date: 5.31.2019
Seal/Signature:
DOB #:
Scale: 1/8" = 1'-0"
Drawn By #: NYE
Chkd By #: NYE
Drawing #: EN-001.00
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ENERGY ANALYSIS (2 OF 2)

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ELECTRICAL SYMBOLS LIST

LIGHTING

	LIGHTING FIXTURE AND OUTLET BOX. HALF SHADED FIXTURE OR "EM" INDICATES FIXTURES WITH INTEGRAL BATTERY PACK FOR EMERGENCY SERVICE, U.O.N.
A 2 a	LUMINAIRE TYPE : INDICATE BY LIPPERCASE LETTER SEE LIGHTING EXTURE SCHEDULE. CIRCUIT NUMBER : INDICATED BY NUMBER SWITCHING INDICATED BY LOWER CASE LETTERS.
EM	DENOTES LUMINAIRE ON EMERGENCY CIRCUIT.
NL	DENOTES FIXTURES DESIGNATED AS NIGHTLIGHT, WIRED TO 24 HOURS UNSWITCHED CIRCUIT.
	EMERGENCY BATTERY UNIT WITH ATTACHED EMERGENCY FIXTURES AND OUTLET BOX.

SWITCHES AND CONTROLS

$a	20A SPST TOGGLE SWITCH U.O.N. "a" DENOTES LIGHTING FIXTURE CONTROLLED.
$a 3	20A 3–WAY TOGGLE SWITCH U.O.N. "a" DENOTES LIGHTING FIXTURE CONTROLLED
$a OS	WALL OCCUPANCY SENSOR, NUMBER INDICATES TYPE.
PC	WALL MOUNTED PHOTOCELL MOUNTED IN NEMA 3R ENCLOSURE.
OS A	CEILING OCCUPANCY SENSOR, NUMBER INDICATES TYPE. 'A' LETTER REFERES TO LIGHTING FIXTURE CONTROLLED..
VI	VIDEO INTERCOM.
ENT	ENTRANCE DOOR STATION.
PL	POSTAL LOCK.
EL	ELECTRIC DOOR LOCK
DS	CEILING MOUNTED DAYLIGHT SENSOR.
$ OV	WALL MOUNTED SPRING WOUND TIME SWITCH TORK
	ASCO CONTACTOR C–25 TORK TIMER T–25 STACKED.
OS	RADIO POWER SAVER CEILING MOUNTED OCCUPANCY SENSOR BY LUTRON.
MS	CEILING MOUNTED MOTION SENSOR BY LUTRON OR EQUIVALENT.

WIRING SYSTEMS

3 UP–	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 1#12 ø, 1#12 N. & 1#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.
3 5 UP–	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 2#12 ø, 2#12 N. & 2#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.
3 5 7 UP–	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 3#12 ø, 3#12 N. & 3#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.
	CONDUIT AND WIRE TO BUILDING GROUND.
	UNDERGROUND
	NEW
S/CO	COMBINATION OF SMOKE AND CO DETECTOR.

SINGLE LINE DIAGRAM SYMBOLS

	GROUNDING ELECTRODE CONDUCTOR
3Ø 4W	TRANSFORMER WITH FLEXIBLE CONDUIT AND PAD
M	UTILITY METER

ELECTRICAL DRAWING LIST

E–001.00	ELECTRICAL SYMBOL LIST, ABBREVIATIONS & GENERAL NOTES
E–002.00	LIGHT FIXTURE SCHEDULE AND CONTROLS
E–100.00	CELLAR LIGHTING PLAN
E–101.00	GROUND FLOOR LIGHTING PLAN
E–102.00	2ND FLOOR LIGHTING PLAN
E–103.00	3RD FLOOR LIGHTING PLAN
E–104.00	4TH FLOOR LIGHTING PLAN
E–105.00	ROOF LIGHTING PLAN
E–200.00	CELLAR ELECTRICAL POWER PLAN
E–201.00	GROUND FLOOR ELCTRICAL POWER PLAN

POWER AND TELECOMMUNICATION

J	JUNCTION BOX WITH BLANK COVER PLATE, CEILING/WALL MOUNTED.
A	SIMPLEX RECEPTACLE, +18" AFF OR AS NOTED. SUFFIXE DENOTES FOLLOWING: A– NEMA 5–20R B– NEMA 14–30R C– NEMA 14–50R
	DEDICATED DUPLEX CONVENIENCE RECEPTACLE, +18" AFF OR AS NOTED.
	DUPLEX CONVENIENCE RECEPTACLE, +18" AFF OR AS NOTED.
CL	CLOCK OUTLET INSTALLED AT TV LOCATIONS. OUTLET SHALL BE DUPLEX RECESSED, 15A, DECORA STYLE, LEVITON MODEL–012–00690–00W OR EQUIVALENT
	DOUBLE DUPLEX RECEPTACLE – 20A–1P, 125V, NEMA 5–20R.
NID	NETWORK INTERFACE DEVICE. NID IS 'ONT' BOX WHICH INCLUDES BOTH 'ONT' AND ITS SISTER BOX AS PER VERIZON STANDARDS.
	TELEPHONE/DATA OUTLET, 4"SQUARE OUTLET BOX WITH SINGLE GANG COLLAR AND BLANK PLATE. RUN (2) COMPOSITE CABLES FROM EACH OUTLET TO NID BOX.
	DATA OUTLET – (1) PORT UNO, +18" AFF, UNO TEL / DATA OUTLET TO BE RUN (2) COMPOSITE CABLES FROM EACH OUTLET TO NID BOX
CL	CEILING MOUNTED DATA OUTLET – (1) PORT UNO, +18" AFF, UNO TEL / DATA OUTLET TO BE PROVIDED WITH 1" CONDUIT U.O.N.
TV	CABLE TV OUTLET, WALL–MOUNTED AT 18" AFF U.O.N.

MOTORS AND CONTROLS

M	AC INDOOR UNIT MOTOR AS NOTED WITH LIQUID TIGHT FLEXIBLE CONNECTION WITH JUNCTION BOX AND MOTOR SWITCH.
M WP	AC OUTDOOR UNIT MOTOR AS NOTED WITH CONTROLLER AND DISCONNECT SWITCH WITH WEATHER PROOF.
	NON FUSED DISCONNECT SWITCH AMPERAGE, AND NUMBER OF POLES AS NOTED.
A	30A/240V NON FUSED DISCONNECT SWITCH
B	60A/240V NON FUSED DISCONNECT SWITCH
C	100A/240V NON FUSED DISCONNECT SWITCH
D	200A/240V NON FUSED DISCONNECT SWITCH
	COMBINATION MAGNETIC STARTER AND DISCONNECT SWITCH, FURNISHED BY HVAC/CONTRACTOR, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
MD	MOTORIZED DAMPER.
FSD	FIRE SMOKE DAMPER
M M	DUPLEX PUMP. NUMBER INDICATES HP RATING OF PUMP.
$T	THERMAL OVERLOAD SWITCH AT MOTOR. PROVIDE THERMAL ELEMENTS AS PER MOTOR RATING.
$	MANUAL MOTOR SWITCH
1.5 kW	ELECTRICAL HEATER, NUMBER DENOTES HEATER RATING

ANNOTATION

+24"	INDICATES MOUNTING HEIGHT, CENTER LINE TO FINISHED FLOOR.
X	KEYED NOTE REFERENCE
1 E/2–1	DETAIL REFERENCE: DETAIL NUMBER INDICATED ON TOP; DRAWING NUMBER INDICATED ON BOTTOM

POWER DISTRIBUTION

	MAJOR ELECTRICAL COMPONENT OR DEVICE. VOLTAGE AND AMPERAGE AS NOTED.
	BRANCH LOADCENTER, 208Y/120V FLUSH MOUNTED, SIZE AS NOTED.
	DISTRIBUTION PANELBOARD, 208Y/120V–SURFACE MOUNTED, SIZE AS NOTED.

E–202.00	2ND FLOOR ELECTRICAL POWER PLAN
E–203.00	3RD FLOOR ELECTRICAL POWER PLAN
E–204.00	4TH FLOOR ELECTRICAL POWER PLAN
E–205.00	ROOF ELECTRICAL POWER PLAN
E–206.00	CELLAR ELECTRICAL CONDUIT ROUTING PLAN
E–300.00	LIGHTING UNIT PLANS SHEET (1 OF 2)
E–301.00	LIGHTING UNIT PLANS SHEET (2 OF 2)
E–302.00	ELECTRICAL POWER UNIT PLANS SHEET (1 OF 2)

ELECTRICAL ABBREVIATIONS

A	AMPERES	EA	EACH
A/C, AC	AIR CONDITIONING UNIT	EC	EMPTY CONDUIT/ ELECTRICAL CONTRACTOR
AF	AMPERE FRAME/AMP FUSE	EF	EXHAUST FAN
AFF	ABOVE FINISHED FLOOR	EM	EMERGENCY
AS	AMP SWITCH	EMT	ELECTRICAL METALLIC TUBING
AIC	AMPS INTERRUPTING CAPACITY	EQUIP	EQUIPMENT
AT	AMP TRIP	FA	FIRE ALARM
AUTO	AUTOMATIC	FDR	FEEDER
AWG	AMERICAN WIRE GAUGE	FIXT	FIXTURE
C	CONDUIT	FL	FLOOR
C/B,CB	CIRCUIT BREAKER	G	GROUND
CKT	CIRCUIT	GFI	GROUND FAULT INTERRUPTER
CLG	CEILING	GP	GENERAL PURPOSE
CT	CURRENT TRANSFORMER	HP	HORSEPOWER
CU	COPPER	HWH	HOW WATER HEATER
°C	DEGREE CELSIUS	HZ	HERTZ
°F	DEGREE FAHRENHEIT	IC	INTERRUPTING CAPACITY
DIA	DIAMETER	TC	TRASH COMPARATOR
DISC	DISCONNECT	PVC	POLYVINYL CHLORIDE
DP	DISTRIBUTION PANEL	PWR	POWER
DWG	DRAWING	R	REMOVE
JB	JUNCTION BOX	RE	RELOCATED EXISTING
KCMIL	ONE THOUSAND CIRCULAR MILS	REC	RECEPTACLE
KV	KILOVOLT	RGS	RIGID GALVANIZED STEEL
KVA	KILOVOLT–AMPERES	SECT	SECTION
KW	KILOWATTS	SPEC	SPECIFICATION
LTG	LIGHTING	SW	SWITCH
MAX	MAXIMUM	SYM	SYMMETRICAL
MC	MOTOR CONTROLLER	TELE	TELEPHONE
MCB	MAIN CIRCUIT BREAKER	TEMP	TEMPERATURE
MIN	MINIMUM	TXF	TOILET EXHAUST FAN
MLO	MAIN LUGS ONLY	TYP	TYPICAL
MTD	MOUNTED	U.O.N.	UNLESS OTHERWISE NOTED
N	NEUTRAL	V	VOLT/VOLTAGE
NIC	NOT IN CONTRACT	VA	VOLT AMPERE
NL	NIGHT LIGHT	WP	WEATHER PROOF
NTS	NOT TO SCALE	OV	OVEN
P	POLES	RH	RANGE HOOD
PB	PULLBOX	WA	WASHER
ø	PHASE	DR	DRYER
PNL	PANEL	DW	DISHWASHER
W	WATT	REF	REFRIGERATOR
W	WIRE	EVSE	ELECTRIC VEHICLE SUPPLY EQUIP.

E–303.00	ELECTRICAL POWER UNIT PLANS SHEET (2 OF 2)
E–400.00	ELECTRICAL DETAILS SHEET 1 OF 3
E–401.00	ELECTRICAL DETAILS SHEET 2 OF 3
E–402.00	ELECTRICAL DETAILS SHEET 3 OF 3
E–500.00	ELECTRICAL ONE LINE DIAGRAM 1 OF 2
E–501.00	ELECTRICAL ONE LINE DIAGRAM 2 OF 2
E–600.00	ELECTRICAL PANEL SCHEDULES SHEET 1 OF 5
E–601.00	ELECTRICAL PANEL SCHEDULES SHEET 2 OF 5
E–602.00	ELECTRICAL PANEL SCHEDULES SHEET 3 OF 5
E–603.00	ELECTRICAL PANEL SCHEDULES SHEET 4 OF 5
E–604.00	ELECTRICAL PANEL SCHEDULES SHEET 4 OF 5

GENERAL NOTES

(APPLY TO ALL "E" DRAWINGS)

1. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CURRENT VERSION OF THE NYC ELECTRICAL CODE, 2008 NEC WITH NYC AMENDMENTS, LOCAL JURISDICTION REQUIREMENTS, AND ALL GOVERNING LOCAL CODES, LAWS, AND REGULATIONS.
2. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, TEST REPORTS, AND CERTIFICATIONS FOR TEMPORARY AND FINAL CERTIFICATE OF OCCUPANCY.
3. FIRE STOP ALL PENETRATIONS OF FIRE RATED CONSTRUCTION IN A CODE APPROVED MANNER IN ORDER TO MAINTAIN FIRE RATING. ALL PENETRATIONS SHALL BE SLEEVED AND SEALED WATERTIGHT.
4. SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS (HOLLOW MASONRY), EXPANSION SHIELDS OR INSERTS (CONCRETE AND BRICK), MACHINE SCREWS (METAL), BEAM CLAMPS (FRAMEWORK), WOOD SCREWS (WOOD) OR PAN THRU STRAPS (METAL DECK). NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT HORIZONTAL RUNS OF METALLIC RACEWAYS NOT MORE THAN 10 FT APART. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.
5. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS. RACEWAYS OVER 10 FT LONG IN WHICH WIRING IS NOT INSTALLED: FURNISH FISH WIRE.
6. VERIFY LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISH. IN CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT, EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILINGS AND THE LIKE. CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSE TO OWNER.
7. CONTRACTOR SHALL PROVIDE A WARRANTY ON ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.
8. ALL UNUSED MATERIALS AND DEBRIS SHALL BE LEGALLY REMOVED AND DISPOSED OF AWAY FROM THE PREMISES ON A DAILY BASIS.
9. CONTRACTOR SHALL PATCH, PAINT, AND RESTORE EXISTING SURFACES DAMAGED DURING THE COURSE OF THIS CONSTRUCTION TO PRE–EXISTING CONDITIONS OR BETTER.
10. MINIMUM SIZE OF CONDUIT SHALL BE ¾", AND TYPE SHALL BE ELECTRICAL METALLIC TUBING (EMT), UNLESS OTHERWISE NOTED. PROVIDE NYLON DRAG LINE AND CONDUIT CAP FOR ALL EMPTY CONDUITS.
11. CONNECT CONDUIT TO MOTOR CONDUIT TERMINAL BOXES WITH FLEXIBLE CONDUIT (MINIMUM 18 IN. LENGTH AND 50% SLACK). DO NOT TERMINATE IN OR FASTEN RACEWAYS TO MOTOR FOUNDATION.
12. PULL AND JUNCTION BOXES WHERE INDICATED ON THE DRAWINGS, SHALL BE CONSIDERED SHOWN AT THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL LOCATE THEM AS FIELD CONDITIONS DICTATE. ADDITIONAL PULL AND JUNCTION BOXES NOT SHOWN ON DRAWINGS SHALL BE PROVIDED WHERE REQUIRED BY APPLICABLE CODE PROVISIONS OR WHERE CALLED FOR BY FIELD CONDITIONS. PULL AND JUNCTION BOXES SHALL BE SURFACE TYPE IN UNFINISHED AREAS AND INSTALLED CANCEALED IN FINISHED AREAS, AND ALL COVERS TO PULL & JUNCTION BOXES SHALL BE READILY ACCESSIBLE.
13. SUPPORT PANEL, JUNCTION AND PULLBOXES INDEPENDENTLY TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON RACEWAYS.
14. FOR EXACT LOCATION AND MOUNTING HEIGHT OF LIGHTING FIXTURES AND SWITCH/RECEPTACLE OUTLETS, REFER TO ARCHITECTURAL REFLECTED CEILING AND POWER PLANS.
15. ALL ELECTRICAL ACCESSORIES AND EQUIPMENT INSTALLED OUTSIDE OR EXPOSED TO WEATHER SHALL HAVE NEMA 3R ENCLOSURES AND SHALL BE TIGHTLY GASKETED FOR A COMPLETE RAINTIGHT INSTALLATION. ALL BUILDING EXTERIOR MOUNTED RECEPTACLES SHALL BE GFCI RATED AND MOUNTED IN WEATHERPROOF ENCLOSURE.
16. ALL ACCESS PANEL LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.
17. ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION OF NEW WORK WITH THE GENERAL CONTRACTOR AND OTHER ASSOCIATED TRADES IN A TIMELY MANNER. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL, DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. ALL CONDUITS AND EQUIPMENT TO BE CONCEAL ED IN FINISHED SPACES UNLESS OTHERWISE NOTED. CONDUITS SHALL BE ENCASED IN THE CONCRETE FLOOR SLAB.
19. ALL EQUIPMENT AND MATERIALS INSTALLED IN PLENUM CEILINGS SHALL BE APPROVED FOR THAT APPLICATION.
20. OUTLET BOXES AND JUNCTION BOXES ON OPPOSITE SIDES OF FIRE–RATED WALLS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24 INCHES, UNLESS FIRE–RATED BOXES OR PUTTY PADS ARE UTILIZED.
21. COORDINATE ALL FLOOR PENETRATIONS WITH THE STRUCTURAL AND ARCHITECTURAL DRAWINGS. CONFIRM PENETRATION LOCATIONS WITH THE ENGINEER AND OWNER BEFORE INSTALLATION.
22. COORDINATE THE MOUNTING HEIGHT AND LOCATION OF RACEWAYS, COMMUNICATIONS OUTLETS, AND RECEPTACLES WITH THE ARCHITECTURAL CASEWORK DRAWINGS AND DETAILS. COORDINATE LOCATIONS OF LIGHT FIXTURES, SWITCHES, AND RELATED DEVICES WITH THE ARCHITECTURAL DRAWINGS AND DETAILS.
23. REFER TO ARCHITECTURAL PLANS FOR FINAL LOACTIONS OF ALL LUMINARIES AND SWITCHES, AND FOR ALL FINISHED CEILING HEIGHTS.
24. REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATIONS OF ALL ELECTRICAL DEVICES, AND FOR FINAL CEILING AND WALL HEIGHTS AND LAYOUTS.
25. LIGHTING FIXTURES PROVIDED WITH EMERGENCY BATTERY PACKS AND INDICATED WITH SWITCH CONTROL SHALL BE WIRED WITH BATTERY CHARGING/SENSING CIRCUIT WIRED AHEAD OF SWITCH CONTROL.
26. NUMBER(S) SHOWN AT RECEPTACLES, JUNCTION BOXES AND EQUIPMENT INDICATES CIRCUIT NUMBERS IN PANELBOARD. PROVIDE WIRE AND CONDUIT TO INTERCONNECT EQUIPMENT AND DEVICES WITH SAME CIRCUIT NUMBERS AND RUN TO PANELBOARD.
27. ELEVATOR CONTROLS SHALL BE PROVIDED THAT WILL DE–ENERGIZE LIGHTING AND VENTILATION FAN WHEN THE ELEVATOR IS STOPPED, UNOCCUPIED AND WITH ITS DOORS CLOSED FOR OVER 15 MINUTES.
28. LUMINAIRES IN EACH ELEVATOR CAB: THE SUM OF ALL LUMENS/SUM OF ALL WATTS SHALL NOT BE <35 LUMENS/WATT. VENTILATION FANS IN ELEVATORS THAT DO NOT HAVE THEIR OWN AIR CONDITIONING SYSTEM SHALL NOT CONSUME >0.33WATT/CFM AT THE MAXIMUM RATED SPEED OF THE FAN. ELEVATOR CONTROLS SHALL DE–ENERGISE FANS AND LIGHTING WHEN THE ELEVATOR IS STOPPED, UNOCCUPIED, WITH DOORS CLOSED.

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LIGHT FIXTURE SCHEDULE:

FIXTURE TYPE	DESCRIPTION	MANUFACTURE	MODEL NUMBER	LAMP TYPE	LAMP PER FIXTURE	FIXTURE WATTAGE	LAMP QUANTITY		REMARK
							FOR COMMON AREA	FOR DWELLING UNITS	
RESIDENTIAL(MULTIFAMILY)									
A	NDLED DOWNLIGHTS WET LOCATION	RAB LIGHTING	NDLED3 (WET LOCATION)	LED	1	25W	_	57	FINISH AS PER ARCHITECT
B	NDLED DOWNLIGHTS DRY LOCATION	RAB LIGHTING	NDLED3 (DRY LOCATION)	LED	1	25W	120	111	FINISH AS PER ARCHITECT
C	LED RETROFIT FIXTURE	RAB LIGHTING	SK16XL20RDY (SURFACE MOUNT)	LED	1	20W	_	71	FINISH AS PER ARCHITECT
E	RAB LED WALLPACK FIXTURE	RAB LIGHTING	WPLED52 (WALL PACK)	LED	1	52W	16	_	FINISH AS PER ARCHITECT
G	LED VANITY/SCONCE LUMINAIRE	RAB LIGHTING	BOA2-10D10	LED	1	22W	2	65	FINISH AS PER ARCHITECT
H	LED GUS LIGHT	RAB LIGHTING	GUS4-36YW/D10	LED	1	50W	25	_	FINISH AS PER ARCHITECT
I	FLUEROSCENT	SMITHFIELD	Smithfield Flos	FLUEROSCENT	1	30W	14	_	FINISH AS PER ARCHITECT
J	FCLED SERIES FLEXICOVE	RAB LIGHTING	FLEXICOVE	LED	1	3W	9	_	FINISH AS PER ARCHITECT
L	WALL WASH FIXTURE	RAB LIGHTING	NDLED3 WALL WASH	LED	1	25W	11	_	FINISH AS PER ARCHITECT
N	GREENHOUS LIGHTS	TBD	TBD	LED	1	20W(TBD)	20	_	FINISH AS PER ARCHITECT
Q	MSCR1C ROTATING SCONE	FRANCE AND SON	_	LED	1	20W	1	_	FINISH AS PER ARCHITECT
EL	ELEVATOR SHAFT SURFACE MOUNTED LED FIXTURE	_	_	LED	1	12W	_	_	FINISH AS PER ARCHITECT
EX	EMERGENCY LIGHT EXIT LIGHT 2-3 HEAD COMBO W/ BATTERY BACKUP	I-LUMINOSITY	SWWSLEMEXBUG	LED	1	3W	_	_	FINISH AS PER ARCHITECT
EM	EMERGENCY LIGHT I WALL MOUNT W/BATTERY BACKUP	I-LUMINOSITY	SWWEN6SBBUG	LED	1	3W	_	_	FINISH AS PER ARCHITECT
RETAIL									
B	NDLED DOWNLIGHTS DRY LOCATION	RAB LIGHTING	NDLED3 (DRY LOCATION)	LED	1	25W	17	_	FINISH AS PER ARCHITECT
M	CRAWLSPACE LIGHTING	RAB LIGHTING	VXBRLED13DG (CRAWLSPACE)	LED	1	13W	6	_	FINISH AS PER ARCHITECT
H	LED GUS LIGHT	RAB LIGHTING	GUS4-36YW/D10	LED	1	50W	18	_	FINISH AS PER ARCHITECT
G	LED VANITY/SCONCE LUMINAIRE	RAB LIGHTING	BOA2-10D10	LED	1	22W	1	_	FINISH AS PER ARCHITECT
EXTERIOR LIGHTING									
E	RAB LED WALLPACK FIXTURE	RAB LIGHTING	WPLED52 (WALL PACK)	LED	1	52W	4	_	FINISH AS PER ARCHITECT
P	BRISKM WALLPACK	RAB LIGHTING	_	LED	1	20W	15	_	FINISH AS PER ARCHITECT
O	9' EXTERIOR STRIP LIGHT	_	_	LED	1	20W	20	_	FINISH AS PER ARCHITECT

NOTES:

1. COORDINATE FINAL FIXTURE MAKE, MODEL AND WATTAGE WITH ARCHITECT. WATTAGE OF LIGHT FIXTURE TYPE 'P', 'Q' AND 'O' ARE ASSUMED.
2. PROVIDE LIGHT FIXTURE WITH BATTERY BACKUP WHERE INDICATED AS 'EM' ON PLAN
3. ALL LIGHT FIXTURE QUANTITIES MUST BE VERIFIED.

LIGHTING CONTROLS:

AREA	CONTROLS
CORRIDORS/ELEV.LOBBIES	AUTO ON/OFF OF NORMAL FIXTURES UTILIZING CEILING MOUNTED OCCUPANCY SENSORS USING 'BILEVEL LIGHTING CONTROL'. FIXTURES DESIGNATED 'EM' (EMERGENCY) TO REMAIN ENERGIZED AT ALL TIMES.
LOBBY, REFUSE ROOM, ELECTRICAL CLOSET. J.C	WALL/CEILING MOUNTED OCCUPANCY SENSOR SWITCH FOR MANUAL/AUTOMATIC ON/OFF OF FIXTURES. FIXTURES DESIGNATED 'EM' (EMERGENCY) TO REMAIN ENERGIZED AT EMERGENCY (POWER OUT) CONDITION.
BIKE ROOM, GAS ROOM, WATER SERVICE,TRASH ROOM, TELECOM, LAUNDRY, PANTRY, HEATER ROOM, AIRS COMM. ROOM, MAINT. ROOM	LOCAL SWITCHES FOR MANUAL ON/OFF OF LIGHT FIXTURES WITH CEILING MOUNTED OCCUPANCY SENSOR FOR AUTOMATIC ON/OFF OF FIXTURES. FIXTURES DESIGNATED 'EM' (EMERGENCY) TO REMAIN ENERGIZED AT EMERGENCY (POWER OUT) CONDITION.
ELECTRICAL ROOM, CELLAR STORAGE	LOCAL 3-WAY SWITCHES FOR MANUAL ON/OFF OF LIGHT FIXTURES WITH CEILING MOUNTED OCCUPANCY SENSOR FOR AUTOMATIC ON/OFF OF FIXTURES.
OFFICE	LOCAL SWITCHES FOR MANUAL ON/OFF OF LIGHT FIXTURES.
STAIRCASE	FIXTURES IN THE STARWAYS ARE CONTROLLED BY RADIO POWER SAVER OCCUPANCY SENSOR (LUTRON) WHICH ALLOWS THE FIXTURE TO BE DE-ENERGIZED TO HAVE 50% BRIGHTNESS WHEN NO OCCUPACY AND HAVE FULL BRIGHTNESS IF THE SPACE IS OCCUPIED.
EXTERIOR LIGHTS	AUTO ON/OFF OF LIGHT FIXTURES UTILIZING PHOTOCELL CONTROLS.
DAYLIGHT/SKYLIGHT(TENANT STORAGE)	AUTO ON/OFF OF LIGHT FIXTURES UTILIZING DAYLIGHT SENSOR.
CRAWL AREA	AUTO ON/OFF OF LIGHT FIXTURES UTILIZING MOTION SENSOR.
GREENHOUSE AREA (SKYLIGHT AREA)	1. TIME-CLOCK WITH MANUAL OVERRIDE SWITCH. EMERGENCY LIGHT FIXTURES TO REMAIN ENERGIZED AT EMERGENCY CONDITION. 2. LOCAL SWITCHES FOR MANUAL ON/OFF OF LIGHT FIXTURES WITH WALL MOUNTED DAYLIGHT SENSOR FOR AUTOMATIC ON/OFF OF FIXTURES.

LIGHTING CONTROLS NOTES:

1. AUTOMATIC LIGHTING CONTROLS: OCCUPANCY SENSOR SHALL BE CAPABLE OF TURNING OFF LIGHTS WITHIN 20 MINUTES OF ALL OCCUPANT LEAVING THE SPACE.
2. ALL ILLUMINATED EXIT SIGN TO HAVE A MAX WATTAGE OF 5 PER SIDE.
3. EXTERIOR LIGHTING CONTROLS: ALL EXTERIOR LIGHTING SHALL AUTOMATICALLY TURNS OFF LIGHTING WHEN DAYLIGHT IS AVAILABLE.
4. SEPARATE SUB METERING IS PROVIDED FOR DWELLING UNIT WITH ONE MASTER UTILITY METER.
5. LUMINAIRES IN EACH ELEVATOR CAB: THE SUM OF ALL LUMENS/SUM OF ALL WATTS SHALL NOT BE <35 LUMENS/WATT. VENTILATION FANS IN ELEVATORS THAT DO NOT HAVE THEIR OWN AIR CONDITIONING SYSTEM SHALL NOT CONSUME >0.33WATT/CFM AT THE MAXIMUM RATED SPEED OF THE FAN. ELEVATOR CONTROLS SHALL DE-ENERGISE FANS AND LIGHTING WHEN THE ELEVATOR IS STOPPED, UNOCCUPIED, WITH DOORS CLOSED.
6. LIGHTING REDUCTION IS ACHIEVED BY CONTROLLING ALL LUMINAIRES.

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1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
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9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
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11	ADDENDUM#1	01/05/2022

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BETHANY TERRACES

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Drawing Tile:

LIGHT FIXTURE SCHEDULE AND CONTROLS

Date: 5.31.2019

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #:NYE

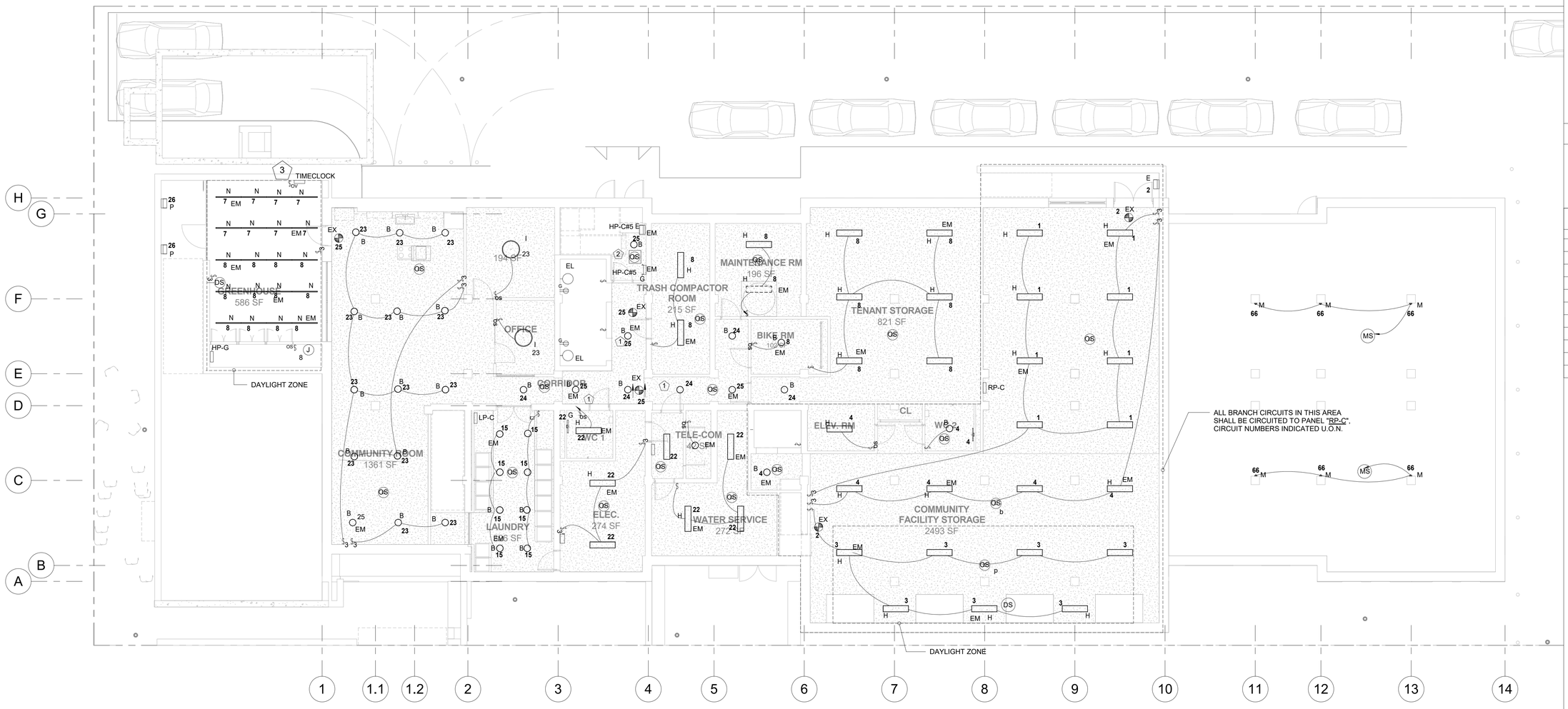
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E-002.00

DOB #:

Sheet #: of



1 CELLAR LIGHTING PLAN
1/8" = 1'-0"

GENERAL NOTE:

1. TRADE CONTRACTORS TO PROVIDE ALL LOCATIONS OF REQUIRED ACCESS TO GENERAL CONTRACTOR. GENERAL CONTRACTOR TO COORDINATE WITH ARCHITECT ON ACCESS DOOR LOCATIONS AND INSTALL ACCESS DOORS.

KEYED WORKED NOTES:

1. LIGHT FIXTURE TO REMAIN 'ON' CONTINUOUSLY .
2. FIXTURES IN THE STARWAYS ARE CONTROLLED BY RADIO POWER SAVER OCCUPANCY SENSOR (LUTRON) WHICH ALLOWS THE FIXTURE TO BE DE-ENERGIZED TO HAVE 50% BRIGHTNESS WHEN NO OCCUPACY AND HAVE FULL BRIGHTNESS IF THE SPACE IS OCCUPIED.
3. MANUAL OVERRIDE SWITCH. SWITCH SHALL BE PROGRAMMED TO PROVIDE NO MORE THAN 2 HOURS OF OVERRIDE TO TIME CLOCK SHUTDOWN OF LIGHTS AS PER NYC ENERGY CODE. MANUAL OVERRIDE SWITCH SHALL BE CAPTIVE KEY SWITCH

LIGHTING DRAWING NOTES:

1. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS AND E-002.00 FOR LIGHT FIXTURE SCHEDULE AND LIGHTING CONTROLS
2. ELECTRICAL CONTRACTOR TO COORDINATE THE LOCATION OF ALL VISIBLE ITEMS SUCH AS LIGHTING, SWITCHES, ACCESS PANELS, S/CO DETECTORS ETC WITH THE ARCHITECT/RCP.
3. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN SHALL BE CIRCUITED TO PANEL 'HP-C-1', CIRCUIT NUMBER INDIACATED, U.O.N

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9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
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11	ADDENDUM#1	01/05/2022

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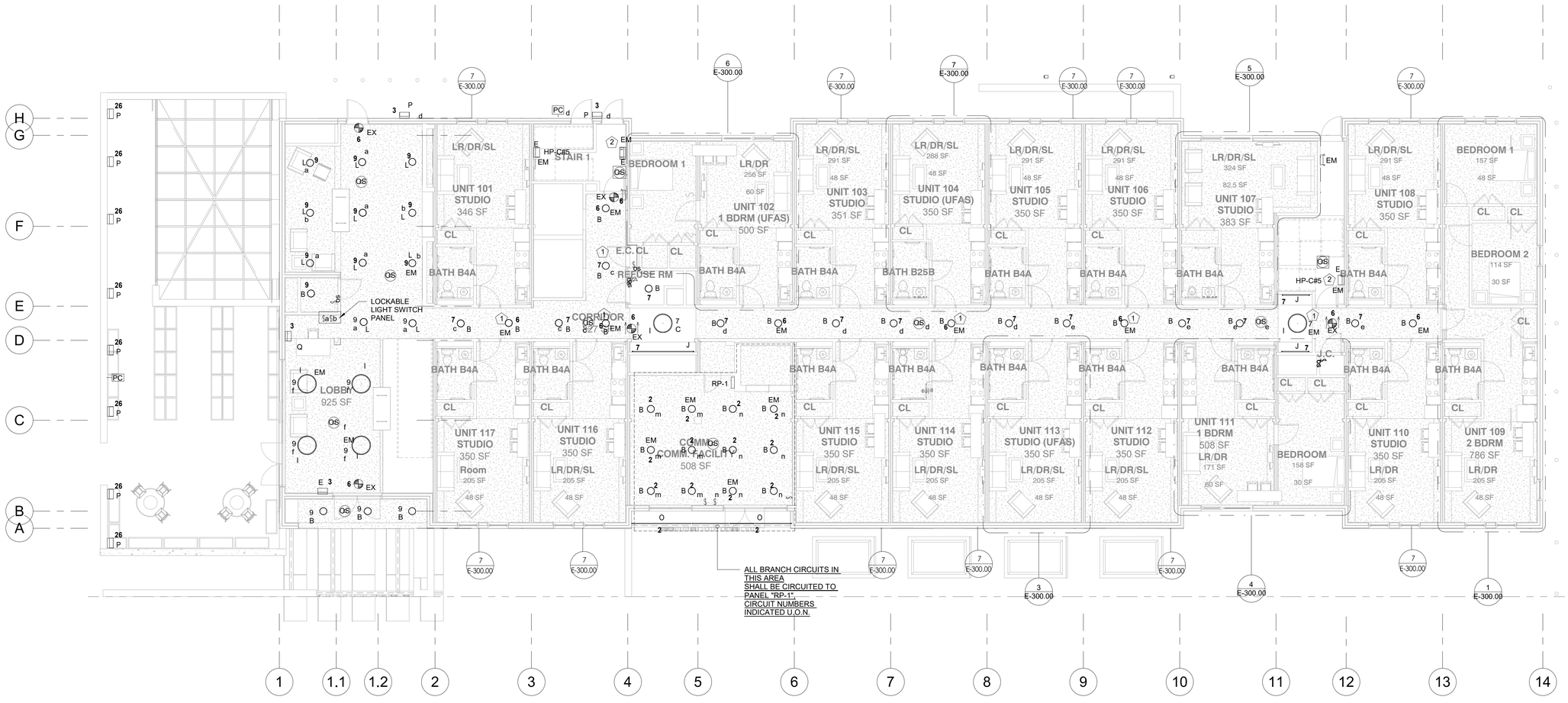
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Drawing Tile:

CELLAR LIGHTING PLAN

Date: 5.31.2019
Seal/Signature:

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Drawn By #: NYE
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Drawing #: E-100.00
Sheet #: of
DOB #:



1 1ST FLOOR LIGHTING PLAN
1/8" = 1'-0"

GENERAL NOTE:

1. TRADE CONTRACTORS TO PROVIDE ALL LOCATIONS OF REQUIRED ACCESS TO GENERAL CONTRACTOR. GENERAL CONTRACTOR TO COORDINATE WITH ARCHITECT ON ACCESS DOOR LOCATIONS AND INSTALL ACCESS DOORS.

KEYED WORKED NOTES:

1. LIGHT FIXTURE TO REMAIN 'ON' CONTINUOUSLY .
2. FIXTURES IN THE STARWAYS ARE CONTROLLED BY RADIO POWER SAVER OCCUPANCY SENSOR (LUTRON) WHICH ALLOWS THE FIXTURE TO BE DE-ENERGIZED TO HAVE 50% BRIGHTNESS WHEN NO OCCUPACY AND HAVE FULL BRIGHTNESS IF THE SPACE IS OCCUPIED.

LIGHTING DRAWING NOTES:

1. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS AND E-002.00 FOR LIGHT FIXTURE SCHEDULE AND LIGHTING CONTROLS
2. ELECTRICAL CONTRACTOR TO COORDINATE THE LOCATION OF ALL VISIBLE ITEMS SUCH AS LIGHTING, SWITCHES, ACCESS PANELS, S/CO DETECTORS ETC WITH THE ARCHITECT/RCP.
3. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN SHALL BE CIRCUITED TO PANEL 'HP-C-1', CIRCUIT NUMBER INDIACATED, U.O.N
4. PROVIDE INDICATOR LIGHTS OVER EACH DWELLING UNIT ENTRY DOOR.

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11	ADDENDUM#1	01/05/2022

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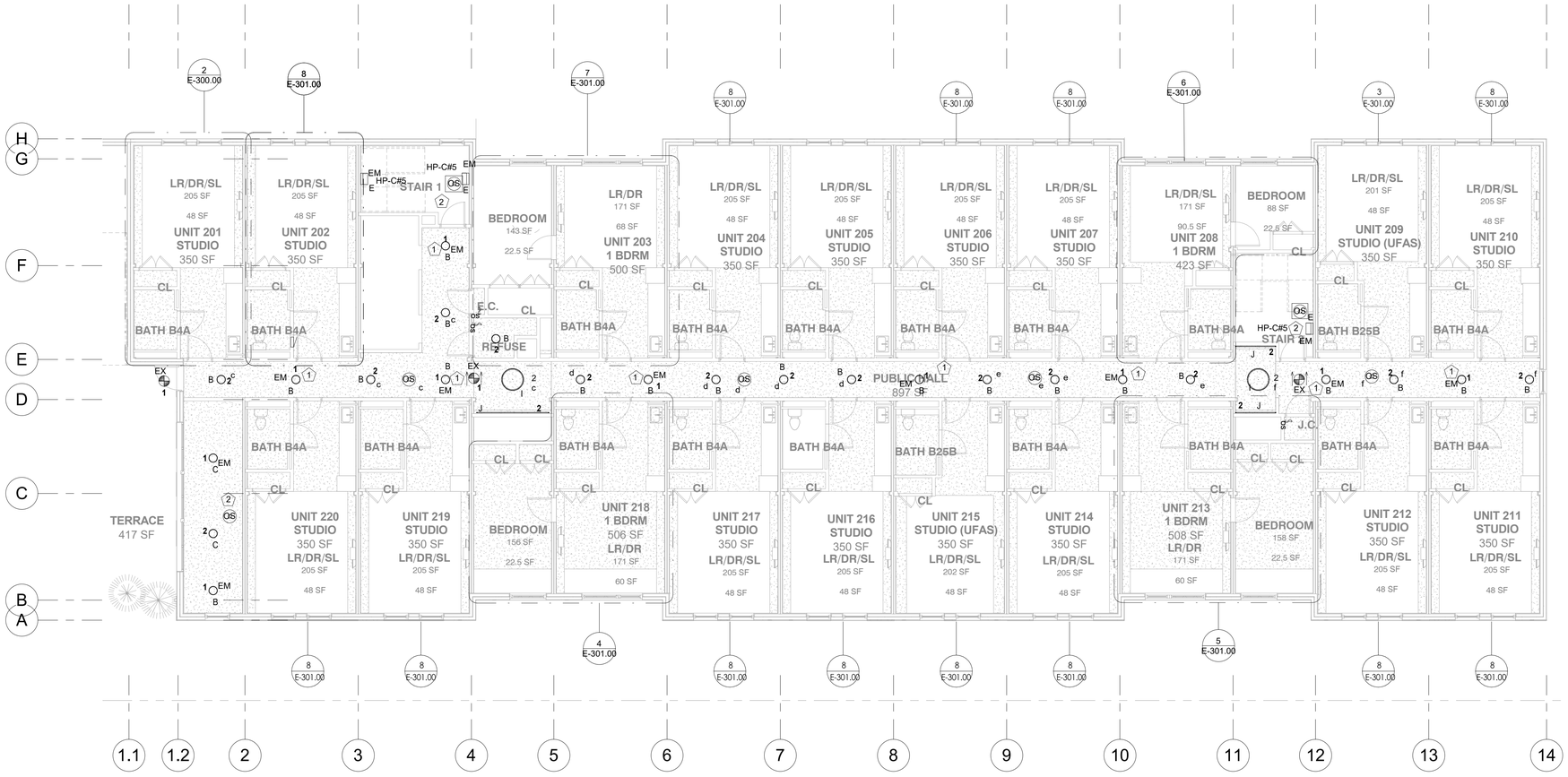
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Drawing Tile:

1ST FLOOR LIGHTING PLAN

Date: 5.31.2019
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Scale: 1/8" = 1'-0"
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Chkd By #: NYE
Drawing #: E-101.00
Sheet #: of



1 2ND FLOOR LIGHTING PLAN
1/8" = 1'-0"

GENERAL NOTE:

1. TRADE CONTRACTORS TO PROVIDE ALL LOCATIONS OF REQUIRED ACCESS TO GENERAL CONTRACTOR. GENERAL CONTRACTOR TO COORDINATE WITH ARCHITECT ON ACCESS DOOR LOCATIONS AND INSTALL ACCESS DOORS.

KEYED WORKED NOTES:

1. LIGHT FIXTURE TO REMAIN 'ON' CONTINUOUSLY .
2. FIXTURES IN THE STARWAYS ARE CONTROLLED BY RADIO POWER SAVER OCCUPANCY SENSOR (LUTRON) WHICH ALLOWS THE FIXTURE TO BE DE-ENERGIZED TO HAVE 50% BRIGHTNESS WHEN NO OCCUPACY AND HAVE FULL BRIGHTNESS IF THE SPACE IS OCCUPIED.

LIGHTING DRAWING NOTES:

1. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS AND E-002.00 FOR LIGHT FIXTURE SCHEDULE AND LIGHTING CONTROLS
2. ELECTRICAL CONTRACTOR TO COORDINATE THE LOCATION OF ALL VISIBLE ITEMS SUCH AS LIGHTING, SWITCHES, ACCESS PANELS, S/CO DETECTORS ETC WITH THE ARCHITECT/RCP.
3. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN SHALL BE CIRCUITED TO PANEL 'HP-3', CIRCUIT NUMBER INDIACATED, U.O.N
4. PROVIDE INDICATOR LIGHTS OVER EACH DWELLING UNIT ENTRY DOOR.

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11	ADDENDUM#1	01/05/2022

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DOB APPROVE STAMPS:

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2ND FLOOR LIGHTING PLAN

Date: 5.31.2019

Seal/Signature:

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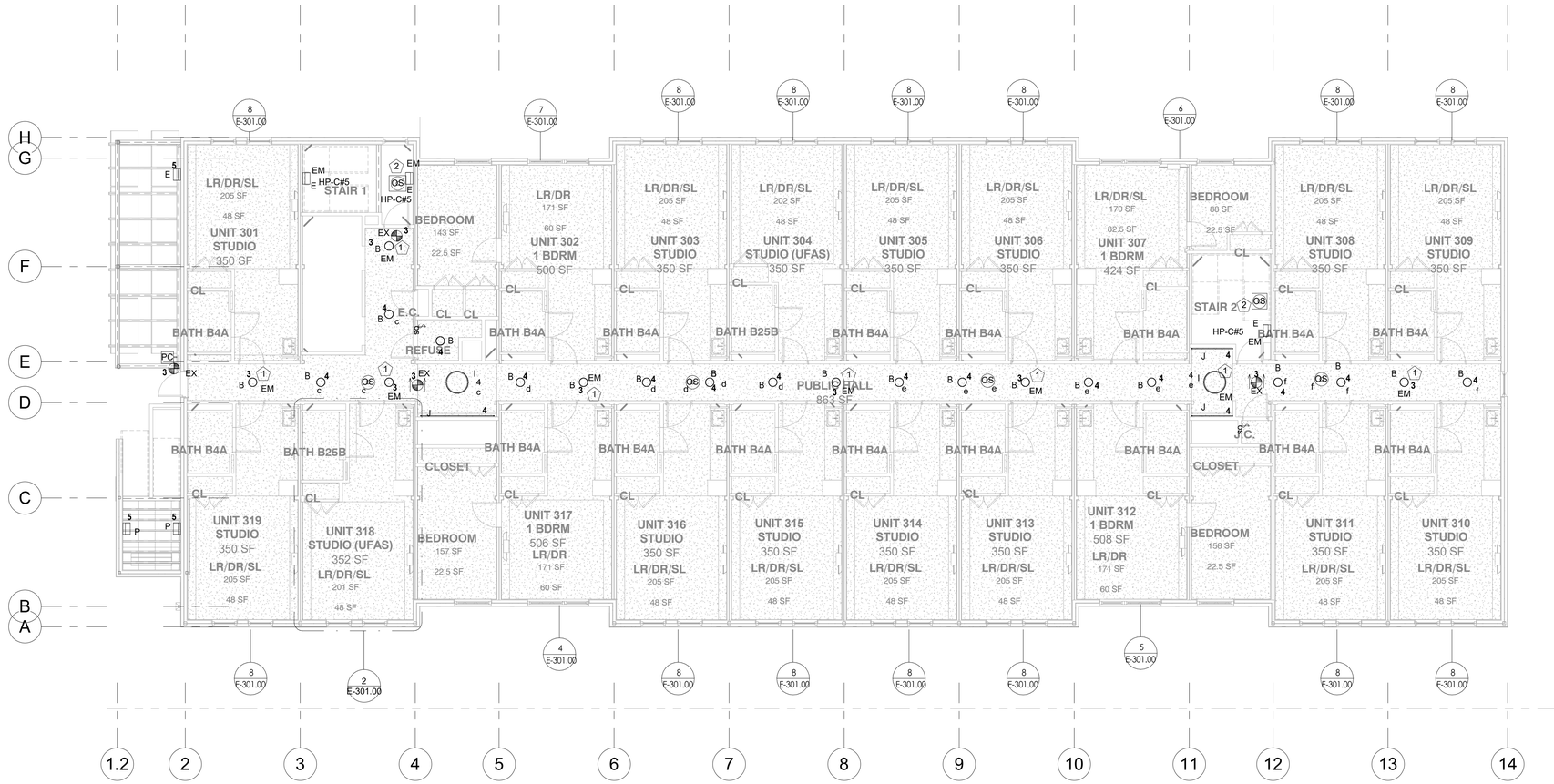
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1 3RD FLOOR LIGHTING PLAN
1/8" = 1'-0"

GENERAL NOTE:

1. TRADE CONTRACTORS TO PROVIDE ALL LOCATIONS OF REQUIRED ACCESS TO GENERAL CONTRACTOR. GENERAL CONTRACTOR TO COORDINATE WITH ARCHITECT ON ACCESS DOOR LOCATIONS AND INSTALL ACCESS DOORS.

KEYED WORKED NOTES:

1. LIGHT FIXTURE TO REMAIN 'ON' CONTINUOUSLY .
2. FIXTURES IN THE STARWAYS ARE CONTROLLED BY RADIO POWER SAVER OCCUPANCY SENSOR (LUTRON) WHICH ALLOWS THE FIXTURE TO BE DE-ENERGIZED TO HAVE 50% BRIGHTNESS WHEN NO OCCUPACY AND HAVE FULL BRIGHTNESS IF THE SPACE IS OCCUPIED.

LIGHTING DRAWING NOTES:

1. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS AND E-002.00 FOR LIGHT FIXTURE SCHEDULE AND LIGHTING CONTROLS
2. ELECTRICAL CONTRACTOR TO COORDINATE THE LOCATION OF ALL VISIBLE ITEMS SUCH AS LIGHTING, SWITCHES, ACCESS PANELS, S/CO DETECTORS ETC WITH THE ARCHITECT/RCP.
3. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN SHALL BE CIRCUITED TO PANEL 'HP-3', CIRCUIT NUMBER INDIACATED, U.O.N
4. PROVIDE INDICATOR LIGHTS OVER EACH DWELLING UNIT ENTRY DOOR.
5. ALL DOORS TO READ "ELECTRIC SERVICE ROOM, NO STORAGE PERMITTED".
6. PANIC BARS ON SERVICE ROOM DOORS.

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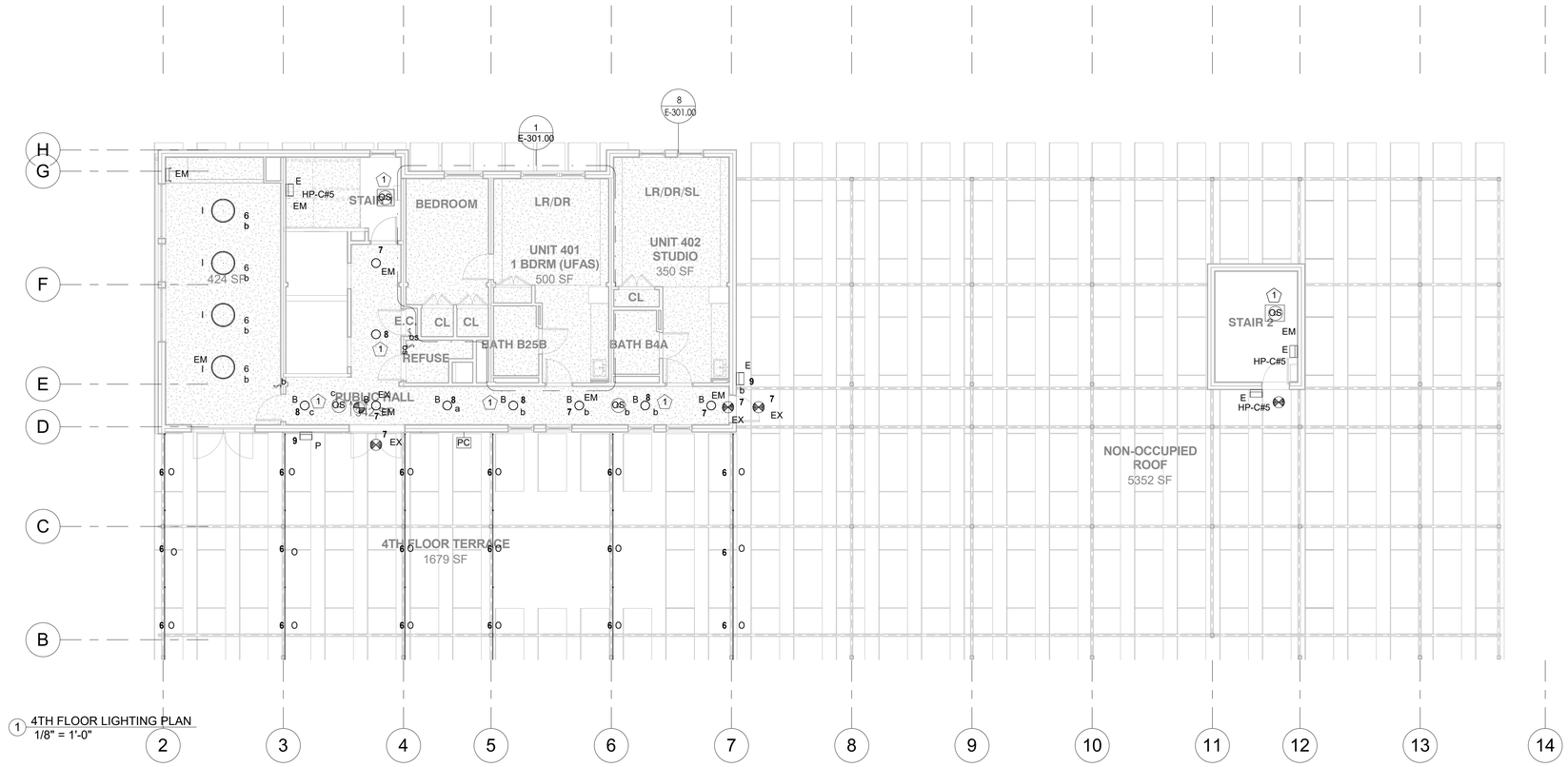
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3RD FLOOR LIGHTING PLAN

Date: 5.31.2019
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DOB #:

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Chkd By #: NYE
Drawing #: E-103.00
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1 4TH FLOOR LIGHTING PLAN
1/8" = 1'-0"

GENERAL NOTE:

1. TRADE CONTRACTORS TO PROVIDE ALL LOCATIONS OF REQUIRED ACCESS TO GENERAL CONTRACTOR. GENERAL CONTRACTOR TO COORDINATE WITH ARCHITECT ON ACCESS DOOR LOCATIONS AND INSTALL ACCESS DOORS.

KEYED WORKED NOTES:

1 FIXTURES IN THE STARWAYS ARE CONTROLLED BY RADIO POWER SAVER OCCUPANCY SENSOR (LUTRON) WHICH ALLOWS THE FIXTURE TO BE DE-ENERGIZED TO HAVE 50% BRIGHTNESS WHEN NO OCCUPACY AND HAVE FULL BRIGHTNESS IF THE SPACE IS OCCUPIED.

LIGHTING DRAWING NOTES:

1. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS AND E-002.00 FOR LIGHT FIXTURE SCHEDULE AND LIGHTING CONTROLS
2. ELECTRICAL CONTRACTOR TO COORDINATE THE LOCATION OF ALL VISIBLE ITEMS SUCH AS LIGHTING, SWITCHES, ACCESS PANELS, S/CO DETECTORS ETC WITH THE ARCHITECT/RCP.
3. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN SHALL BE CIRCUITED TO PANEL 'HP-3', CIRCUIT NUMBER INDIACATED, U.O.N
4. PROVIDE INDICATOR LIGHTS OVER EACH DWELLING UNIT ENTRY DOOR.

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DOB APPROVE STAMPS:

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4TH FLOOR LIGHTING PLAN

Date: 5.31.2019

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DOB #:

Scale: 1/8" = 1'-0"

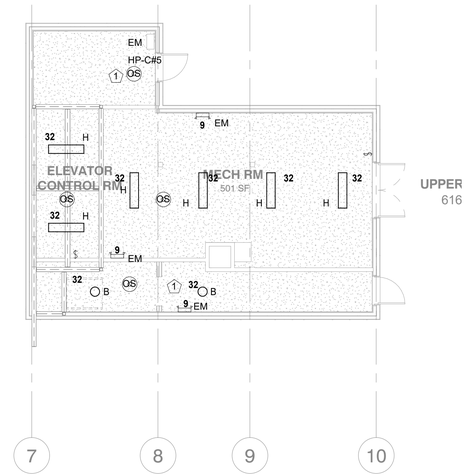
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Drawing #:

E-104.00

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1 ROOF LIGHTING PLAN
1/8" = 1'-0"

KEYED WORKED NOTES:

1 FIXTURES IN THE STARWAYS ARE CONTROLLED BY RADIO POWER SAVER OCCUPANCY SENSOR (LUTRON) WHICH ALLOWS THE FIXTURE TO BE DE-ENERGIZED TO HAVE 50% BRIGHTNESS WHEN NO OCCUPACY AND HAVE FULL BRIGHTNESS IF THE SPACE IS OCCUPIED.

LIGHTING DRAWING NOTES:

1. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS AND E-002.00 FOR LIGHT FIXTURE SCHEDULE AND LIGHTING CONTROLS
2. ELECTRICAL CONTRACTOR TO COORDINATE THE LOCATION OF ALL VISIBLE ITEMS SUCH AS LIGHTING, SWITCHES, S/CO DETECTORS ETC WITH THE ARCHITECT/RCP.
3. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN SHALL BE CIRCUITED TO PANEL 'HP-R', CIRCUIT NUMBER INDIACATED, U.O.N

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8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	REVISED CD SET	09/07/2021
11	ADDENDUM#1	01/05/2022

MEP:
NEW YORK ENGINEERS
1460 BROADWAY
New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

ROOF LIGHTING PLAN

Date: 5.31.2019

Seal/Signature:

DOB #:

Scale: 1/8" = 1'-0"

Drawn By #:NYE

Chkd By #:NYE

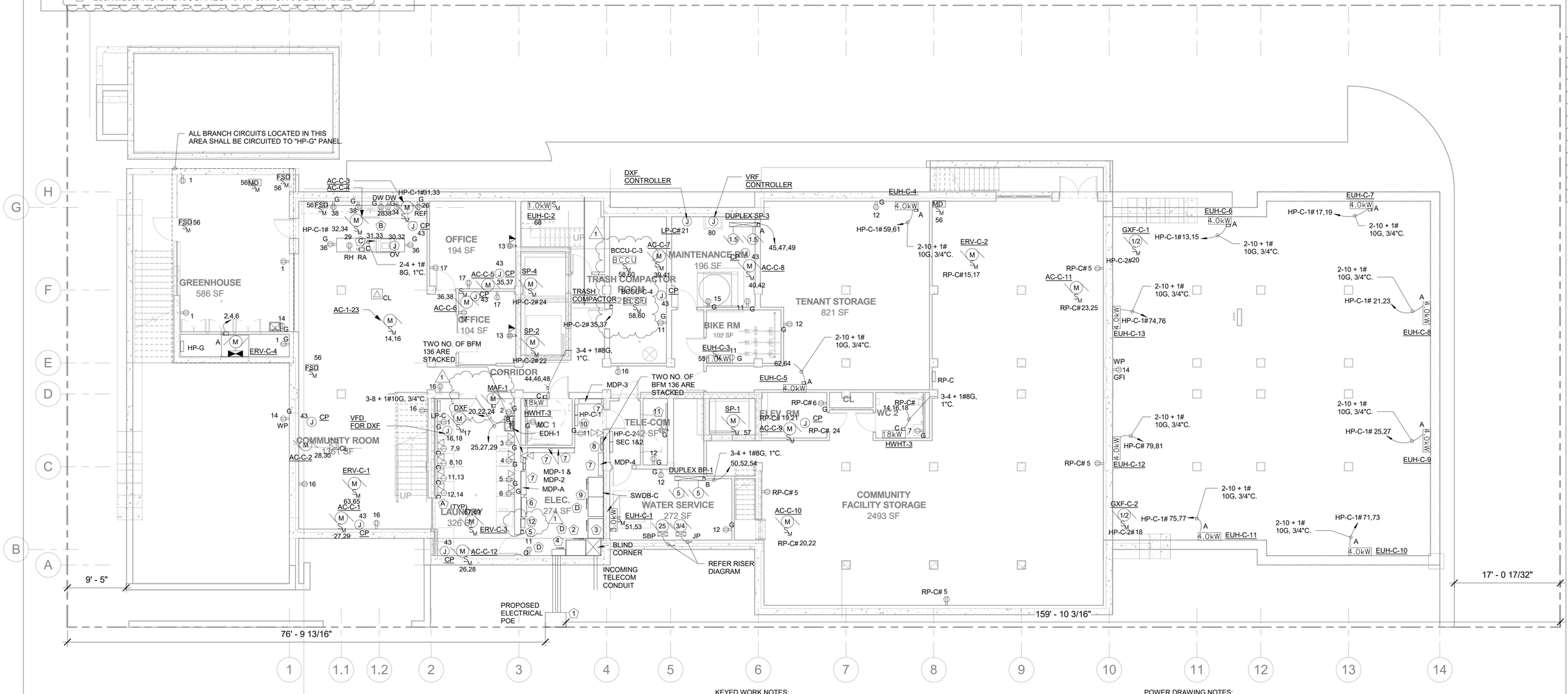
Drawing #:

E-105.00

Sheet #: of

ELECTRICAL LEGENDS

1. PROPERTY LINE BOX. COORDINATE FINAL LOCATION WITH CONED ELECTRICAL SERVICE LAYOUT.
2. 1200A SERVICE SWITCH(SS#1) & CT CABINET FOR APARTMENTS
3. 2000A SERVICE SWITCH(SS#2) & CT CABINET FOR HOUSE.
4. 400A TRANS-S SWITCH (SS#3) FOR RETAIL
5. DISCONNECT SWITCH FOR FIRE ALARM CONTROL PANEL
6. 600A DISCONNECT SWITCH(SS#4) FOR SPRINKLER BOOSTER PUMP.
7. MAIN DISTRIBUTION PANEL FOR APARTMENTS
8. BRANCH FEEDER MONITOR-136
9. SWITCHBOARD(SWDB-C) FOR HOUSE LOAD
10. HOUSE PANEL 'HP-C-1' (2 SECTIONS)
11. 3/4" FIRE RATED PLYWOOD BACKING FOR VIDEO INTERCOM EQUIPMENT
12. 200AS/200AF/240V DISCONNECT SWITCH FOR SOLAR PANEL.



1 CELLAR ELECTRICAL POWER PLAN
1/8" = 1'-0"

KEYED WORK NOTES:

A. PROVIDE WIRE SIZE OF 2#10 & 1#10G- 3/4"C FOR DRYER.

B. PANTRY AREA APPLIANCES ARE CIRCUITED TO PANEL "HP-C-2.

C. CONFIRM EXACT POWER REQUIREMENT AND CONNECTION DETAILS WITH MANUFACTURER.

D. ELECTRICAL CONTRACTOR TO COORDINATE FAULT CURRENT RATING (Isc) WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING WORK.

POWER DRAWING NOTES:

1. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN, EXCEPT IN LAUNDRY ROOM, SHALL BE CIRCUITED TO PANEL 'HP- C-1', CIRCUIT NUMBER INDIACATED, U.O.N

2. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS. E-003.00 & E-004.00 FOR ADDITIONAL ELECTRICAL SPECIFICATIONS.

3. REFER TO DWG. E-206.00 FOR CELLAR ELECTRICAL CONDUIT ROUTING PLANS.

4. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED IN LAUNDRY ROOM, SHALL BE CIRCUITED TO PANEL 'LP- C', CIRCUIT NUMBER INDIACATED, U.O.N

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PROJECT:

BETHANY TERRACES

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CELLAR ELECTRICAL POWER PLAN

Date: 5.31.2019

Seal/Signature:

Scale: 1/8" = 1'-0"

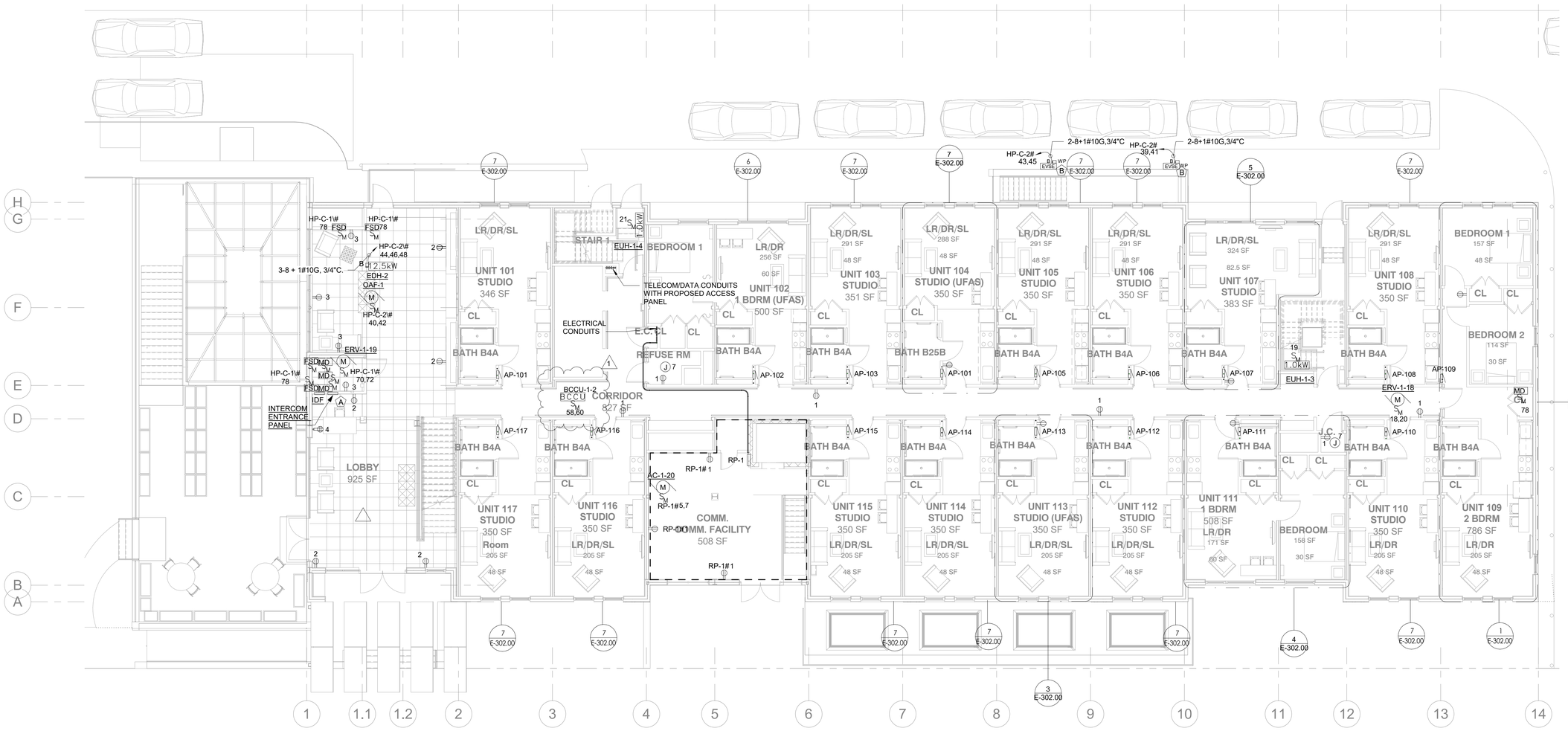
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Drawing #: E-200.00

DOB #:

Sheet #: of



1 1ST FLOOR ELECTRICAL POWER PLAN
1/8" = 1'-0"

KEYED WORK NOTES:

A FINAL LOCATION OF INTERCOM ENTRANCE PANEL AND IDF SHALL BE COORDINATED BY ARCHITECT/OWNER.

B SINGLE PORT ELECTRICAL CHARGING STATION BY BLINK OR EQUIVALENT. COORDINATE WITH MANUFACTURER'S CUTSHEET FOR MORE DETAILS. COORDINATE FINAL LOCATION WITH OWNER/ ARCHITECT.

POWER DRAWING NOTES:

1. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN SHALL BE CIRCUITED TO PANEL 'HP-C-1', CIRCUIT NUMBER INDIACATED, U.O.N
2. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS. E-003.00 & E-004.00 FOR ADDITIONAL ELECTRICAL SPECIFICATIONS
3. ALL DWELLING UNITS SHALL HAVE AN EMERGENCY CALL SYSTEM IN UNIT'S BEDROOM AND BATHROOM THAT IS CONNECTED TO CENTRAL STATION. PROVIDE TOGGLE SWITCH ACTIVATED IN DOWNWARD DIRECTION AND PULL CORD DROPPING TO WITHIN 4 INCHES ABOVE THE FLOOR.
4. FOR UNITS DESIGNED FOR THOSE WITH HEARING OR VISION IMPAIRMENTS SHALL HAVE:
a) HARDWIRED UNIT ENTRY DOORBELL WITH A/V FEATURES.
b) INTERCOM SYSTEM WITH AN A/V ALARM
c) CO DETECTOT WITH A/V ALARM

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DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

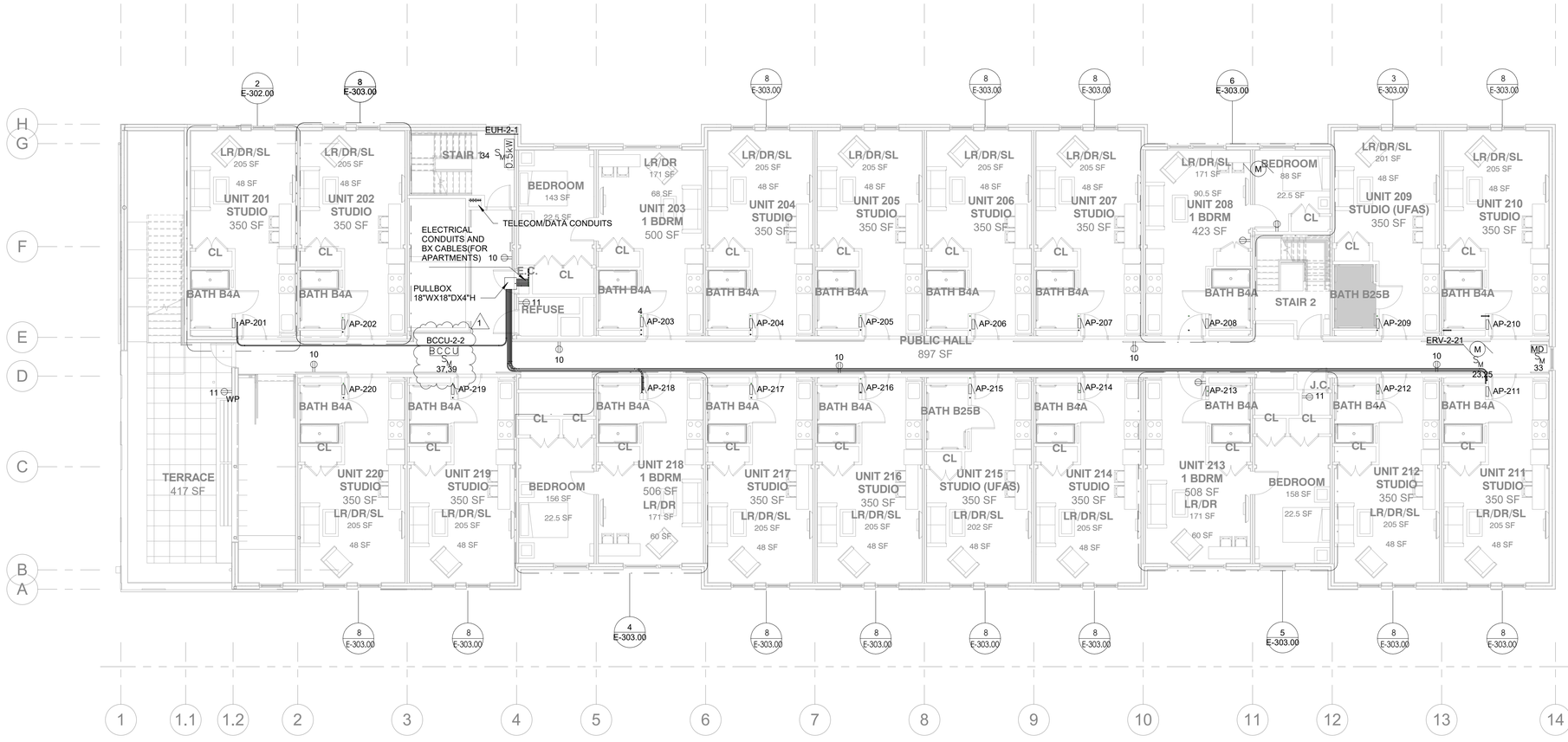
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Drawing Tile:

1ST FLOOR ELECTRICAL POWER PLAN

Date: 5.31.2019
Scale: 1/8" = 1'-0"
Seal/Signature:
Drawn By #: NYE
Chkd By #: NYE
Drawing #: E-201.00
DOB #:
Sheet #: of



1 2ND FLOOR ELECTRICAL POWER PLAN
1/8" = 1'-0"

POWER DRAWING NOTES:

1. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN SHALL BE CIRCUITED TO PANEL 'HP-3', CIRCUIT NUMBER INDIACATED, U.O.N

2. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS. E-003.00 & E-004.00 FOR ADDITIONAL ELECTRICAL SPECIFICATIONS

3. ALL DWELLING UNITS SHALL HAVE AN EMERGENCY CALL SYSTEM IN UNIT'S BEDROOM AND BATHROOM THAT IS CONNECTED TO CENTRAL STATION. PROVIDE TOGGLE SWITCH ACTIVATED IN DOWNWARD DIRECTION AND PULL CORD DROPPING TO WITHIN 4 INCHES ABOVE THE FLOOR.

4. FOR UNITS DESIGNED FOR THOSE WITH HEARING OR VISION IMPAIRMENTS SHALL HAVE:
a) HARDWIRED UNIT ENTRY DOORBELL WITH A/V FEATURES.
b) INTERCOM SYSTEM WITH AN A/V ALARM
c) CO DETECTOT WITH A/V ALARM

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PROJECT:

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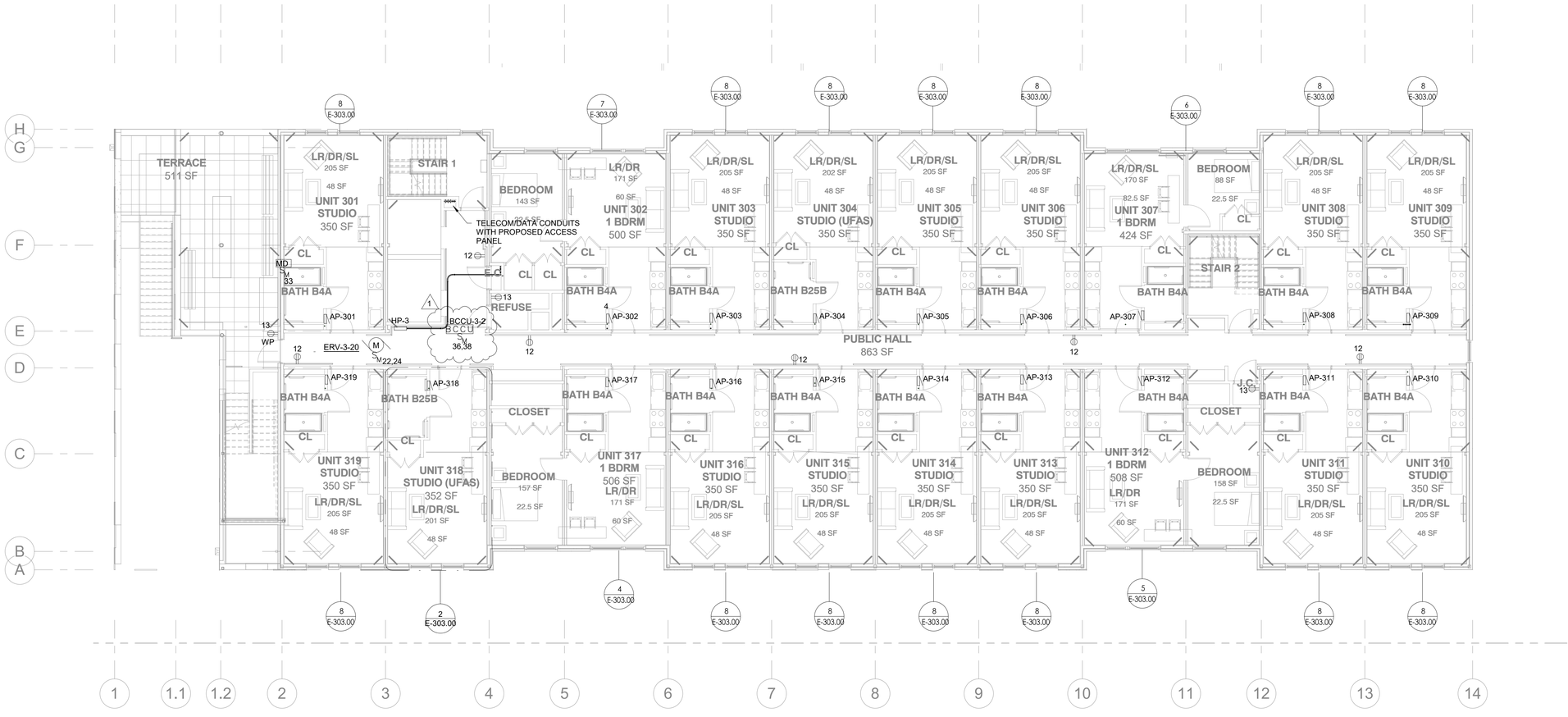
FOR:
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Drawing Tile:

2ND FLOOR ELECTRICAL POWER PLAN

Date: 5.31.2019
Seal/Signature:
DOB #:

Scale: 1/8" = 1'-0"
Drawn By #: NYE
Chkd By #: NYE
Drawing #: E-202.00
Sheet #: of



1 3RD FLOOR ELECTRICAL POWER PLAN
1/8" = 1'-0"

POWER DRAWING NOTES:

1. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN SHALL BE CIRCUITED TO PANEL 'HP-3', CIRCUIT NUMBER INDIACATED, U.O.N
2. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS. E-003.00 & E-004.00 FOR ADDITIONAL ELECTRICAL SPECIFICATIONS
3. ALL DWELLING UNITS SHALL HAVE AN EMERGENCY CALL SYSTEM IN UNIT'S BEDROOM AND BATHROOM THAT IS CONNECTED TO CENTRAL STATION. PROVIDE TOGGLE SWITCH ACTIVATED IN DOWNWARD DIRECTION AND PULL CORD DROPPING TO WITHIN 4 INCHES ABOVE THE FLOOR.
4. FOR UNITS DESIGNED FOR THOSE WITH HEARING OR VISION IMPAIRMENTS SHALL HAVE:
   a) HARDWIRED UNIT ENTRY DOORBELL WITH A/V FEATURES.
   b) INTERCOM SYSTEM WITH AN A/V ALARM
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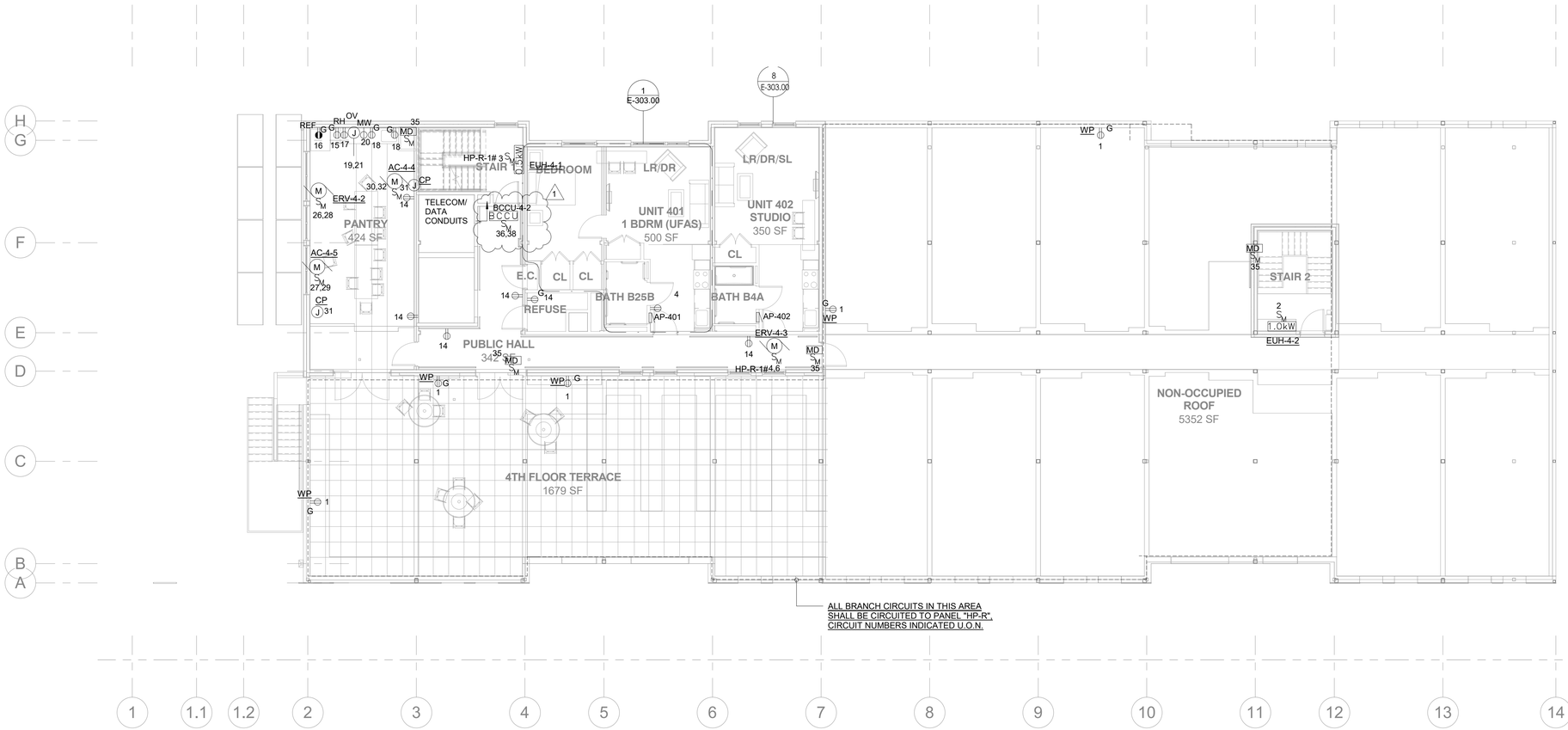
BETHANY TERRACES

FOR:
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Drawing Tile:

3RD FLOOR ELECTRICAL POWER PLAN

Date: 5.31.2019
Scale: 1/8" = 1'-0"
Seal/Signature:
Drawn By #: NYE
Chkd By #: NYE
Drawing #: E-203.00
DOB #:
Sheet #: of



1 4TH FLOOR ELECTRICAL POWER PLAN
1/8" = 1'-0"

POWER DRAWING NOTES:

1. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN SHALL BE CIRCUITED TO PANEL 'HP-3', CIRCUIT NUMBER INDIACATED, U.O.N

2. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS. E-003.00 & E-004.00 FOR ADDITIONAL ELECTRICAL SPECIFICATIONS

3. ALL DWELLING UNITS SHALL HAVE AN EMERGENCY CALL SYSTEM IN UNIT'S BEDROOM AND BATHROOM THAT IS CONNECTED TO CENTRAL STATION. PROVIDE TOGGLE SWITCH ACTIVATED IN DOWNWARD DIRECTION AND PULL CORD DROPPING TO WITHIN 4 INCHES ABOVE THE FLOOR.

4. FOR UNITS DESIGNED FOR THOSE WITH HEARING OR VISION IMPAIRMENTS SHALL HAVE:
a) HARDWIRED UNIT ENTRY DOORBELL WITH A/V FEATURES.
b) INTERCOM SYSTEM WITH AN A/V ALARM
c) CO DETECTOT WITH A/V ALARM

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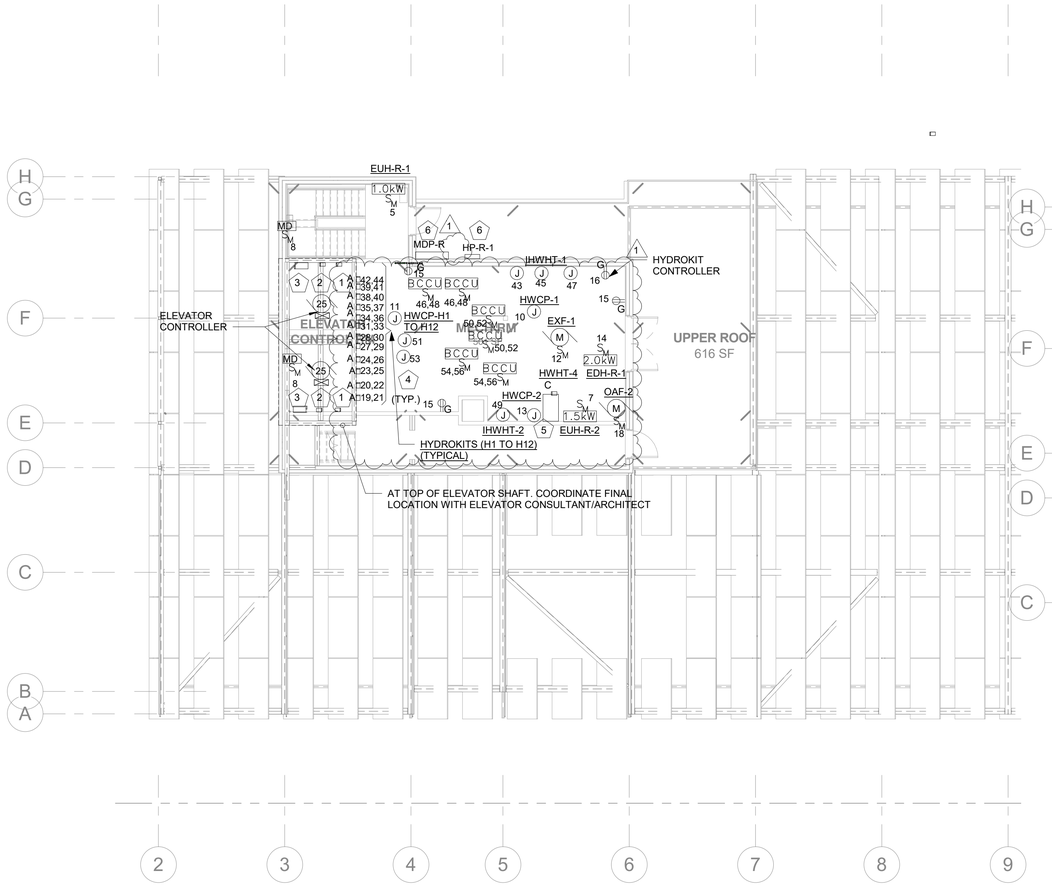
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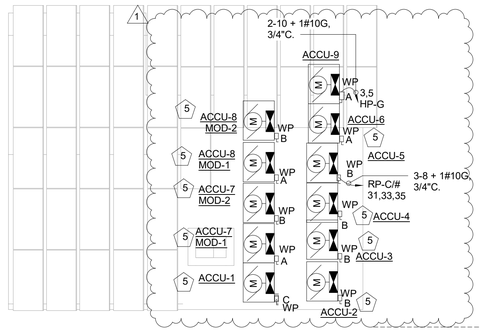
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4TH FLOOR ELECTRICAL POWER PLAN

Date: 5.31.2019
Scale: 1/8" = 1'-0"
Seal/Signature:
Drawn By #: NYE
Chkd By #: NYE
Drawing #:
E-204.00
DOB #:
Sheet #: of



1 ROOF ELECTRICAL POWER PLAN
1/8" = 1'-0"



2 BULKHEAD ELECTRICAL POWER PLAN
1/8" = 1'-0"

KEYED WORK NOTES:

1. 30AS/20AF/240V DISCONNECT SWITCH FOR ELEVATOR CAB LIGHTING
2. 30AS/20AF/240V DISCONNECT SWITCH FOR ELEVATOR CAB AUX. POWER.
3. 200AS/150AF/240V DISCONNECT SWITCH FOR ELEVATOR CONTROLLER
4. PROVIDE 3-10 + 1#10G, 3/4"C FEEDERS FOR HYDROKITS H1 TO H6.
5. REFER TO RISER DIAGRAM ON SHEET NO. E-500 FOR BREAKER SIZE AND WIRE SIZE
6. PROVIDE NEMA 3R ENCLOSURE FOR PANEL 'HP-R' AND 'MDP-R'

POWER DRAWING NOTES:

1. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED ON THIS PLAN SHALL BE CIRCUITED TO PANEL 'HP-R-1', CIRCUIT NUMBER INDIACATED, U.O.N
2. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS. E-003.00 & E-004.00 FOR ADDITIONAL ELECTRICAL SPECIFICATIONS

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ROOF ELECTRICAL POWER PLAN

Date: 5.31.2019

Seal/Signature:

Scale: 1/8" = 1'-0"

Drawn By #: NYE

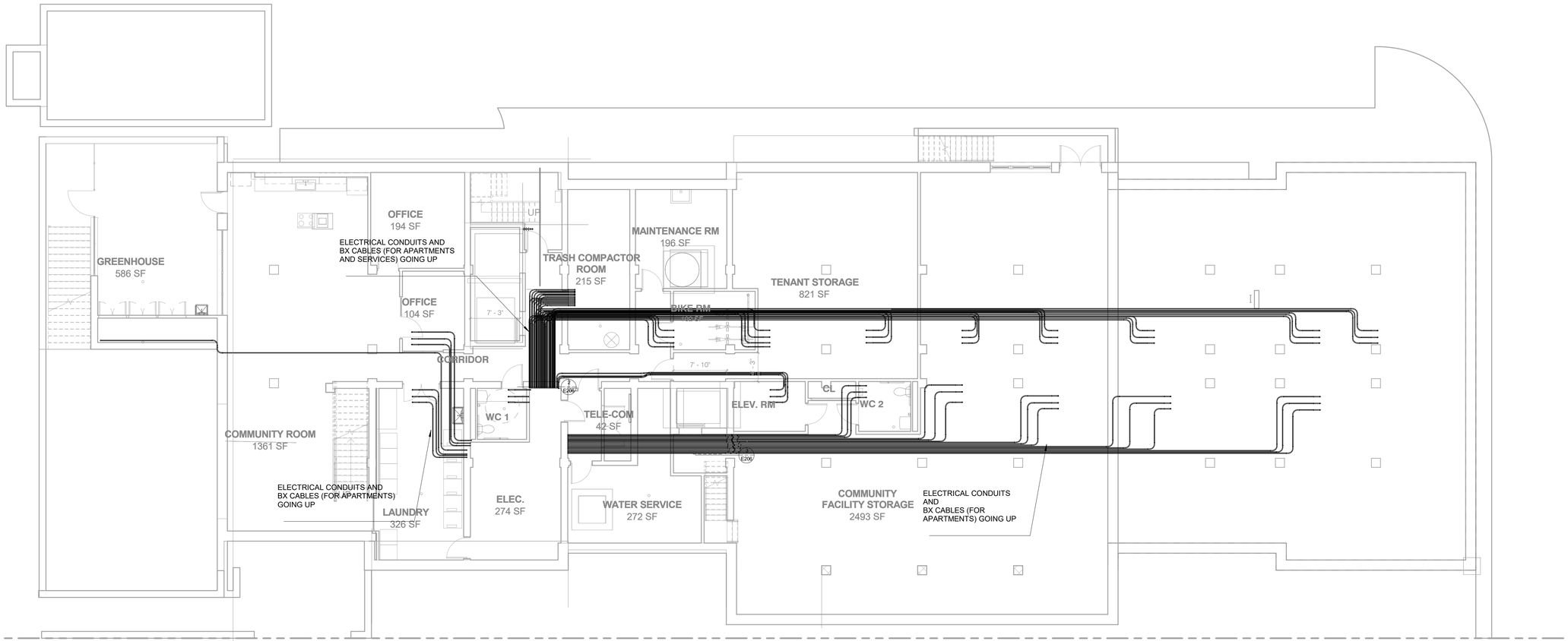
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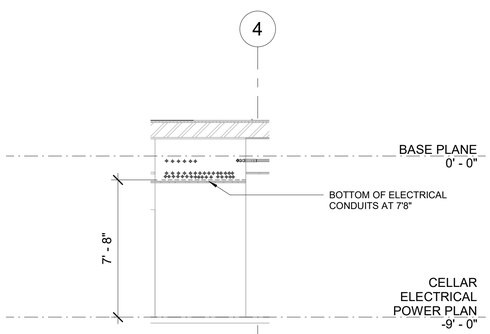
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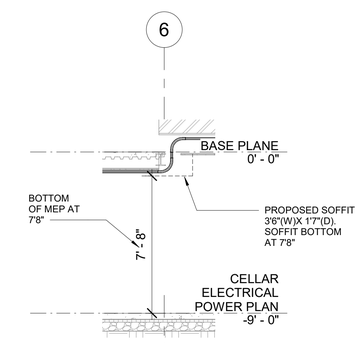
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1 CELLAR ELECTRICAL CONDUIT ROUTING PLAN
1/8" = 1'-0"



2 CELLAR CORRIDOR SECTION
1/4" = 1'-0"



3 ELEVATOR RM SECTION
1/4" = 1'-0"

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DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
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Drawing Tile:

CELLAR ELECTRICAL CONDUIT ROUTING PLAN

Date: 5.31.2019

Seal/Signature:

Scale: As indicated

Drawn By #: Author

Chkd By #: Checker

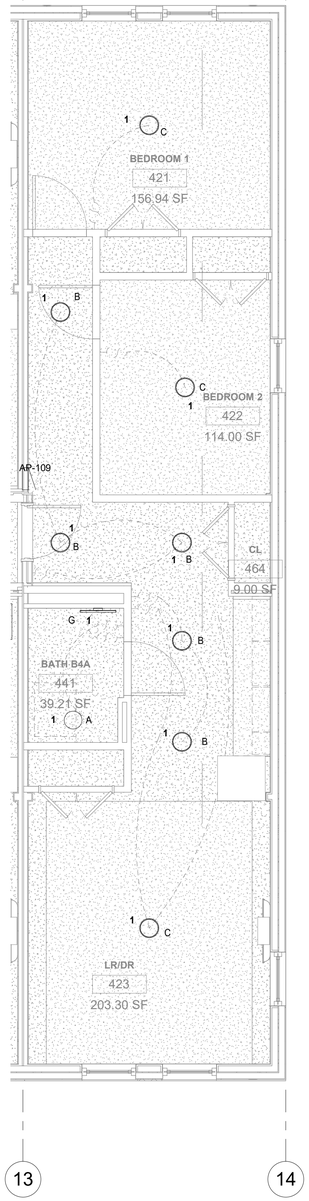
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E-206.00

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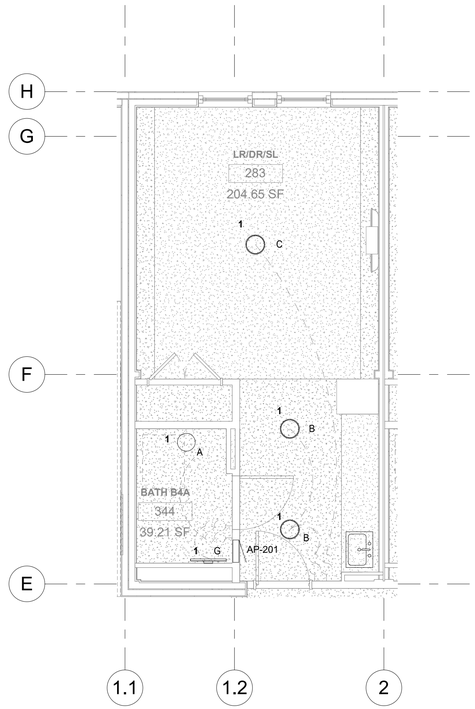
Sheet #: of

LIGHTING DRAWING NOTES:

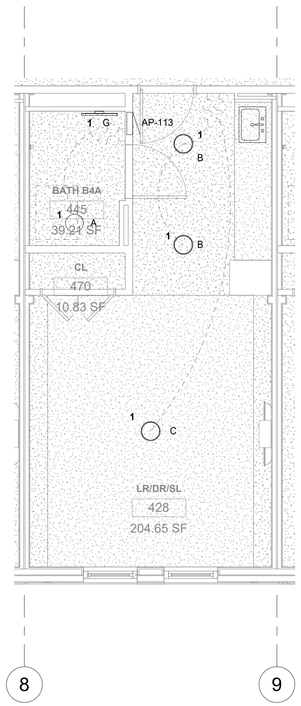
1. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS AND E-002.00 FOR LIGHT FIXTURE SCHEDULE AND LIGHTING CONTROLS
2. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED IN PLAN SHALL BE CIRCUITED TO RESPECTIVE APARTMENT'S LOADCENTER SHOWN U,O,N,
3. ELECTRICAL CONTRACTOR TO COORDINATE SWITCH HEIGHT WITH UFA STANDARDS AND ARCHITECT FOR UFAS APARTMENTS.
4. ELECTRICAL CONTRACTOR TO COORDINATE THE LOCATION OF ALL VISIBLE ITEMS SUCH AS LIGHTING, SWITCHES, ACCESS PANELS, S/CO DETECTORS ETC WITH THE ARCHITECT/RCP.
5. PROVIDE INDICATOR LIGHTS OVER EACH DWELLING UNIT ENTRY DOOR.
6. ELECTRICAL CONTRACTOR TO PROVIDE 120V, 20A SINGLE POLE TOGGLE SWITCH FOR SIMALTANEOUSCONTROL OF HOOD FAN AND LIGHTS IN UFAS APARTMENTS. COORDINATE EXACT LOCATION OF SWITCH WITH ARCHITECT.



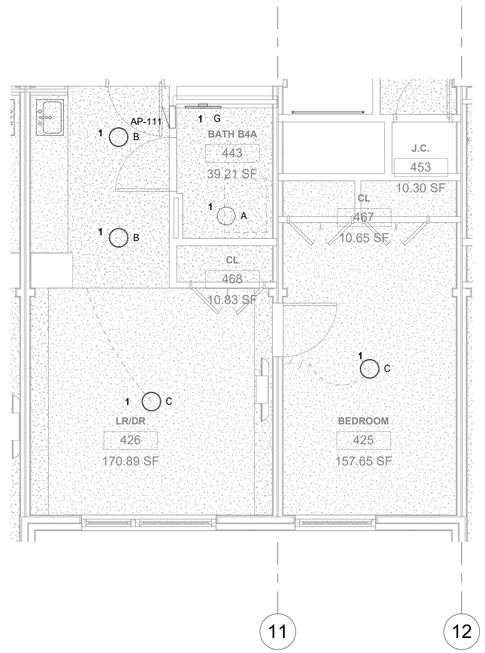
1 UNIT DETAIL PLAN - 2 BDRM (109) SUPER'S UNIT
1/4" = 1'-0"



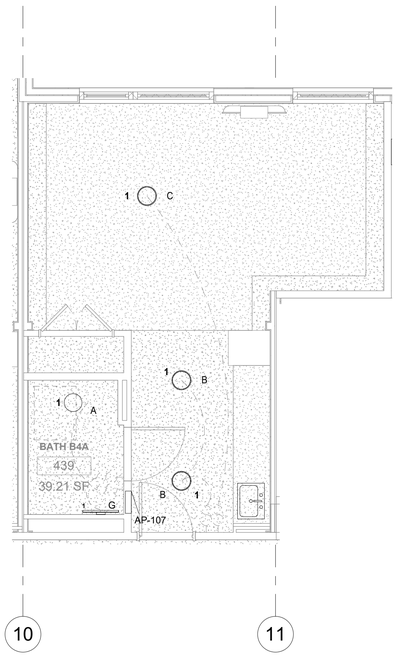
2 UNIT DETAIL PLAN - STUDIO (201)
1/4" = 1'-0"



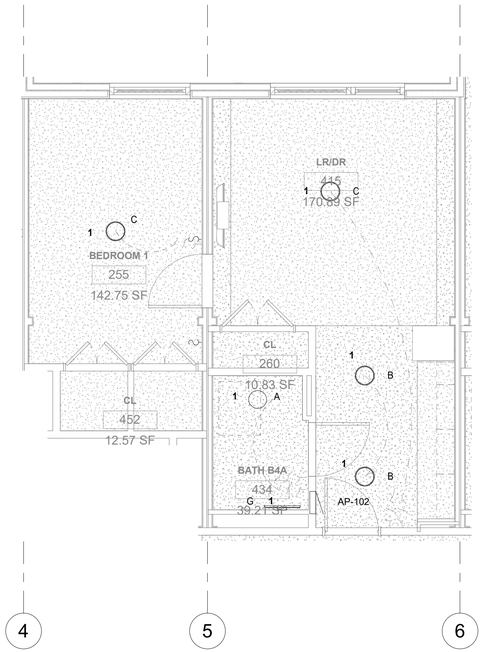
3 UNIT DETAIL PLAN - STUDIO (113) UFAS VISION/HEARING
1/4" = 1'-0"



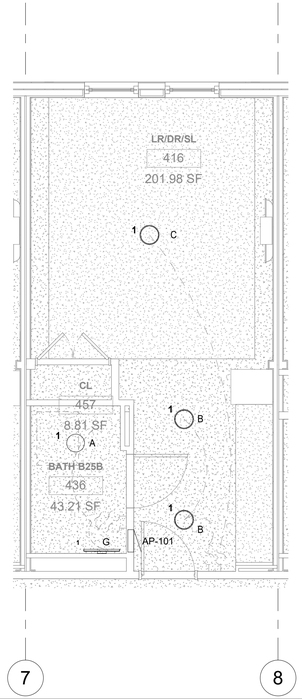
4 UNIT DETAIL PLAN - 1 BDRM (111)
1/4" = 1'-0"



5 UNIT DETAIL PLAN - STUDIO (107)
1/4" = 1'-0"



6 UNIT DETAIL PLAN -1 BDRM (102) UFAS VISION/HEARING
1/4" = 1'-0"



7 UNIT DETAIL PLAN - STUDIO (101, 103-106, 108, 110, 112, 114-117)
1/4" = 1'-0"

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NOTES:

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8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	REVISED CD SET	09/07/2021
11	ADDENDUM#1	01/05/2022

MEP:
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1460 BROADWAY
New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
–

Drawing Tile:

ELECTRICAL LIGHTING UNIT PLANS SHEET(1 OF 2)

Date: 5.31.2019

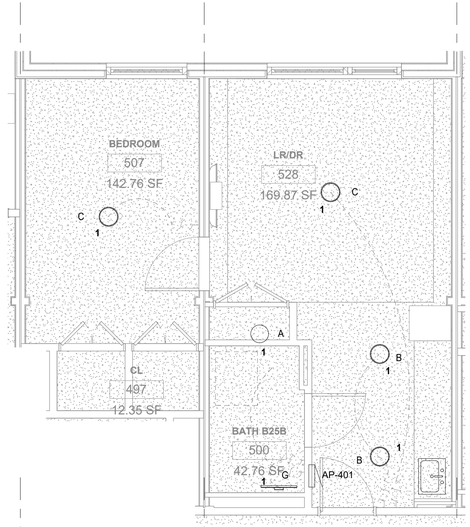
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Scale: 1/4" = 1'-0"
Drawn By #: NYE
Chkd By #: NYE
Drawing #:
E-300.00

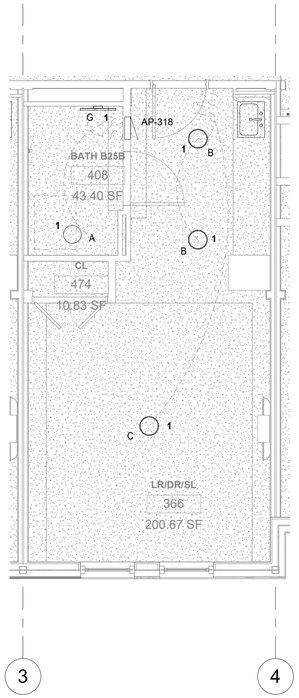
DOB #:
Sheet #: of

LIGHTING DRAWING NOTES:

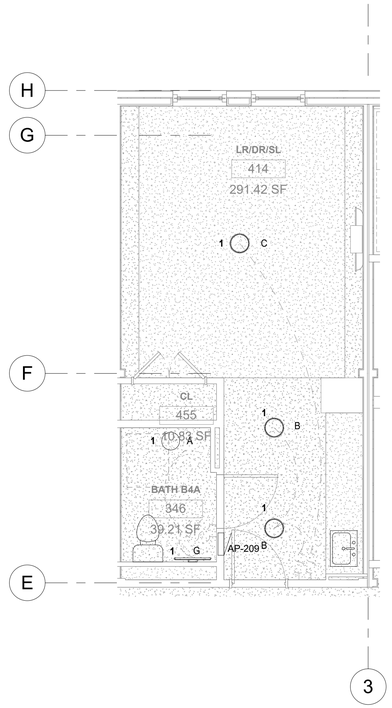
1. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS AND E-002.00 FOR LIGHT FIXTURE SCHEDULE AND LIGHTING CONTROLS
2. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED IN PLAN SHALL BE CIRCUITED TO RESPECTIVE APARTMENT'S LOADCENTER SHOWN U,O,N,
3. ELECTRICAL CONTRACTOR TO COORDINATE SWITCH HEIGHT WITH UFA STANDARDS AND ARCHITECT FOR UFAS APARTMENTS.
4. ELECTRICAL CONTRACTOR TO COORDINATE THE LOCATION OF ALL VISIBLE ITEMS SUCH AS LIGHTING, SWITCHES, ACCESS PANELS, S/CO DETECTORS ETC WITH THE ARCHITECT/RCP.
5. PROVIDE INDICATOR LIGHTS OVER EACH DWELLING UNIT ENTRY DOOR.
6. ELECTRICAL CONTRACTOR TO PROVIDE 120V, 20A SINGLE POLE TOGGLE SWITCH FOR SIMALTANEOUSCONTROL OF HOOD FAN AND LIGHTS IN UFAS APARTMENTS. COORDINATE EXACT LOCATION OF SWITCH WITH ARCHITECT.



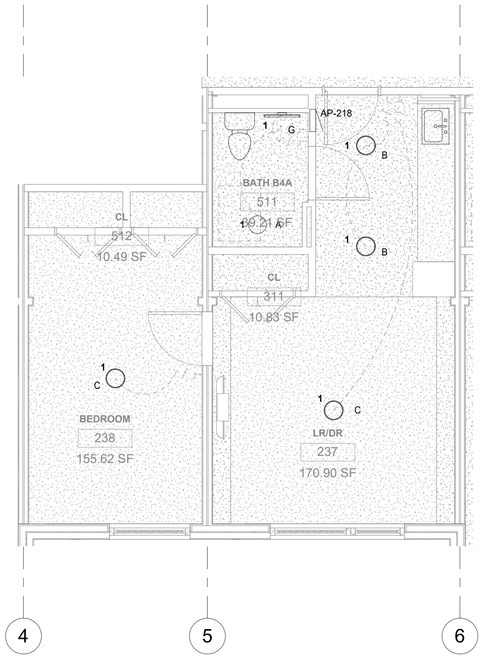
1 UNIT DETAIL PLAN - 1 BDRM (401) UFAS MOBILITY
1/4" = 1'-0"



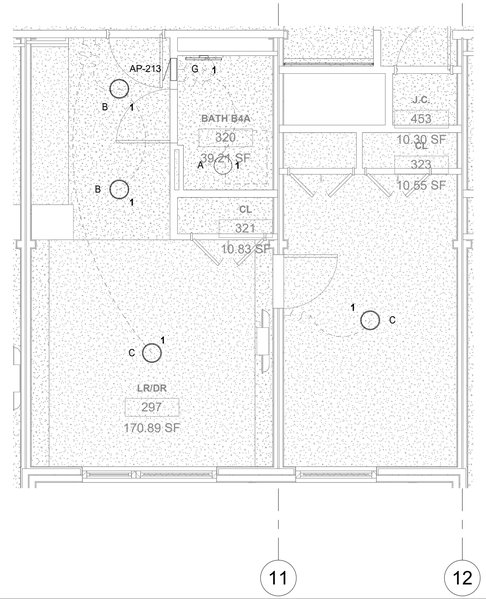
2 UNIT DETAIL PLAN - STUDIO (318) UFAS MOBILITY
1/4" = 1'-0"



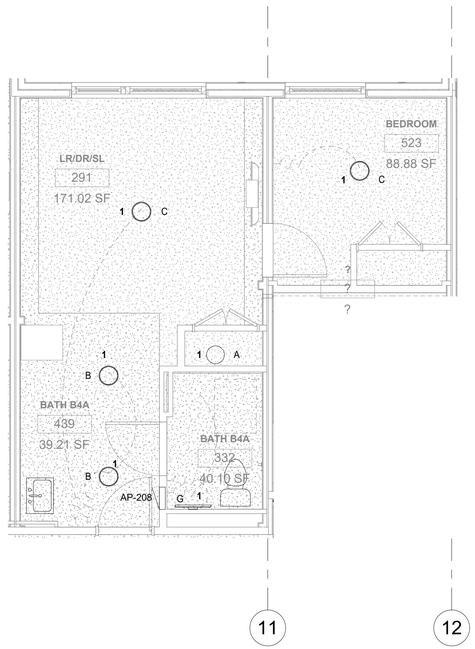
3 UNIT DETAIL PLAN - STUDIO (209)
1/4" = 1'-0"



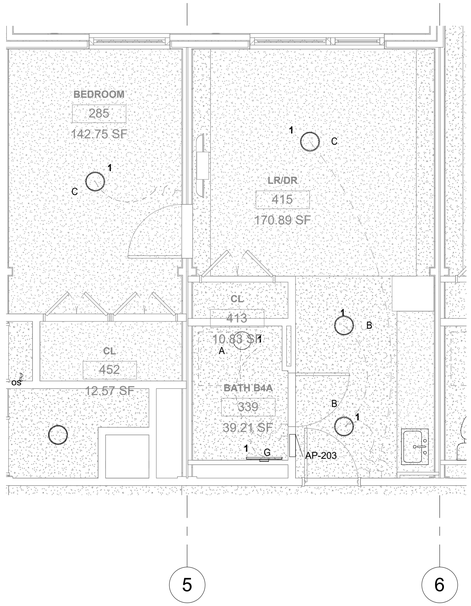
4 UNIT DETAIL PLAN-1 BDRM (218,317)
1/4" = 1'-0"



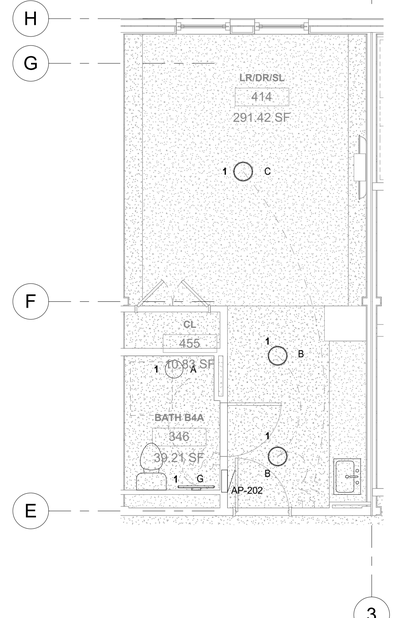
5 UNIT DETAIL PLAN - 1 BDRM (213, 312)
1/4" = 1'-0"



6 UNIT DETAIL PLAN - 1 BEDROOM(208,307)
1/4" = 1'-0"



7 UNIT DETAIL PLAN - 1 BDRM (203, 302)
1/4" = 1'-0"



8 UNIT DETAIL PLAN - STUDIO
(202,204-207, 210-212, 214-217, 219-220, 301, 303-306, 308-311, 313-316, 319, 402)
1/4" = 1'-0"

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New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:
–

Drawing Tile:

ELECTRICAL LIGHTING UNIT PLANS SHEET(2 OF 2)

Date: 5.31.2019
Scale: 1/4" = 1'-0"
Seal/Signature:
Drawn By #: Author
Chkd By #: Checker
Drawing #: E-301.00
DOB #:
Sheet #: of

POWER DRAWING NOTES:

1. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS.

2. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED IN PLAN SHALL BE CIRCUITED TO RESPECTIVE APARTMENT'S LOADCENTER SHOWN U,O,N,

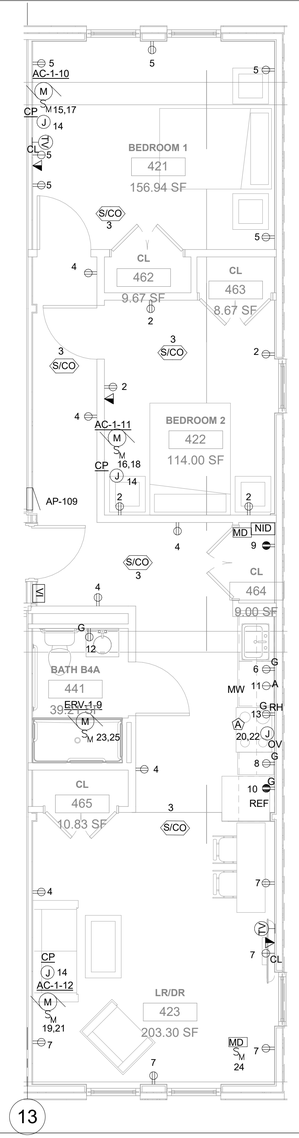
3. ELECTRICAL CONTRACTOR TO COORDINATE RECEPTACLE HEIGHT WITH UFA STANDARDS AND ARCHITECT FOR UFAS APARTMENTS.

4. ELECTRICAL CONTRACTOR TO PROVIDE 120V,20A SINGLE POLE TOGGLE SWITCH FOR SIMULTANEOUS CONTROL OF HOOD FAN AND LIGHT IN THE UFAS APARTMENTS. COORDINATE EXACT LOCATION OF SWITCH WITH ARCHITECT.

4. ELECTRICAL CONTRACTOR TO COORDINATE LOCATION OF S/CO WITH ARCHITECT AND PROVIDE S/CO DETECTORS WITH SOUNDER BASE FOR UFAS UNITS.

5. COORDINATE EXACT LOCATION OF TEL/DATA WITH ARCHITECT.

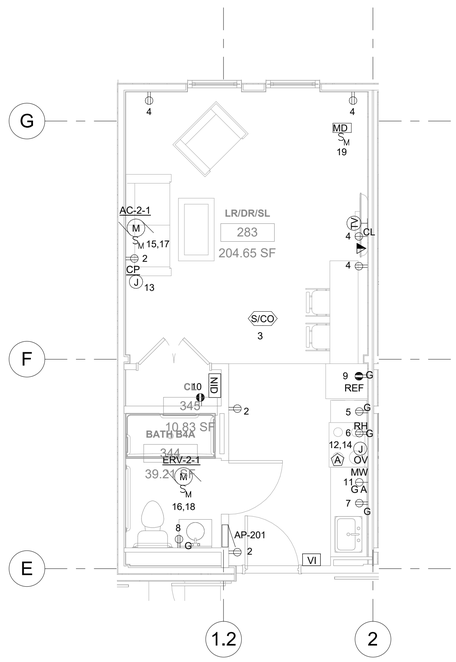
6. PROVIDE DATA IN ALL BEDROOMS AND LIVING ROOM. PLEASE REFER TO SHEETS FROM E-303.00 TO E-304.00



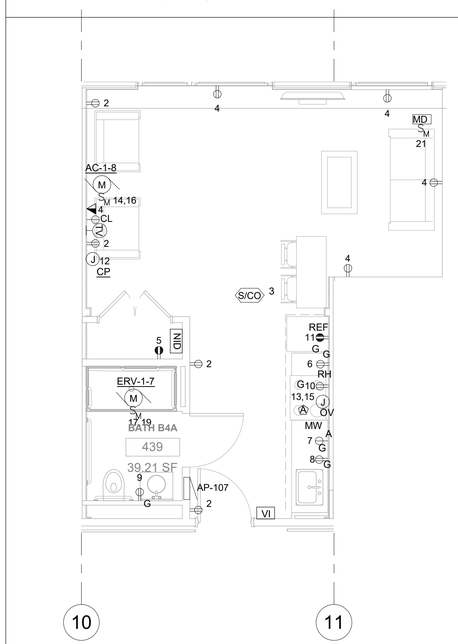
1 UNIT DETAIL PLAN - 2 BDRM (109) SUPER'S UNIT
1/4" = 1'-0"

KEYED WORKED NOTES:

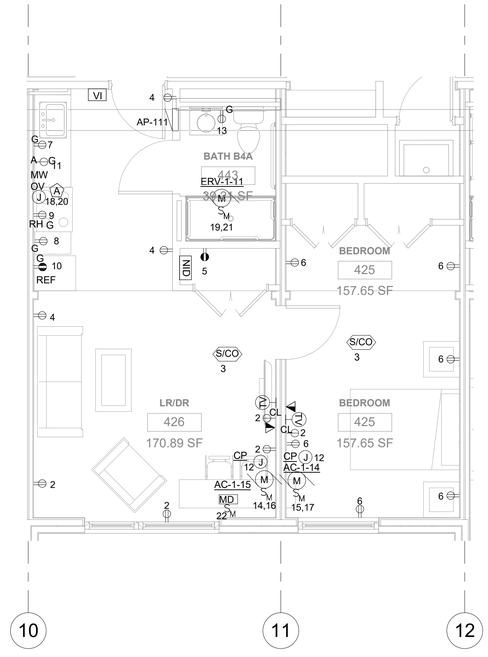
A PROVIDE WIRE SIZE OF 2#8 & 1#10G- 3/4"C FOR OVEN



2 UNIT DETAIL PLAN - STUDIO (201)
1/4" = 1'-0"

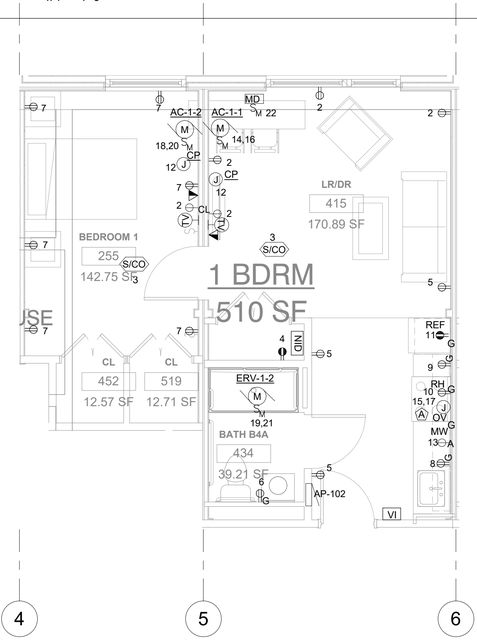


3 UNIT DETAIL PLAN - STUDIO (113) UFAS VISION/HEARING
1/4" = 1'-0"

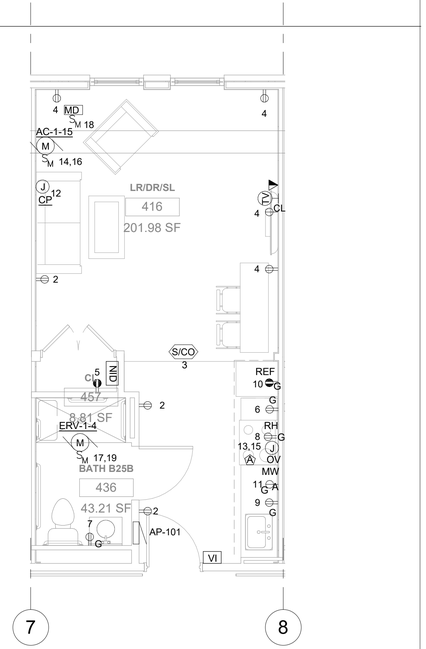


4 UNIT DETAIL PLAN - 1 BDRM (111)
1/4" = 1'-0"

5 UNIT DETAIL PLAN - STUDIO (107)
1/4" = 1'-0"



6 UNIT DETAIL PLAN -1 BDRM (102) UFAS VISION/HEARING
1/4" = 1'-0"



7 UNIT DETAIL PLAN - STUDIO (101, 103-106, 108, 110, 112, 114-117)
1/4" = 1'-0"

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TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

ELECTRICAL POWER UNIT PLANS SHEET (1 OF 2)

Date: 5.31.2019

Seal/Signature:

DOB #:

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

Drawn By #: NYE

Chkd By #: NYE

Drawing #:

E-302.00

Sheet #: of

POWER DRAWING NOTES:

1. REFER TO DWG. E-001.00 FOR ELECTRICAL GENERAL NOTES, SYMBOL LIST & ABBREVIATIONS.

2. ALL BRANCH CIRCUITS HOMERUNS ASSIGN INDICATED IN PLAN SHALL BE CIRCUITED TO RESPECTIVE APARTMENT'S LOADCENTER SHOWN U,O,N,

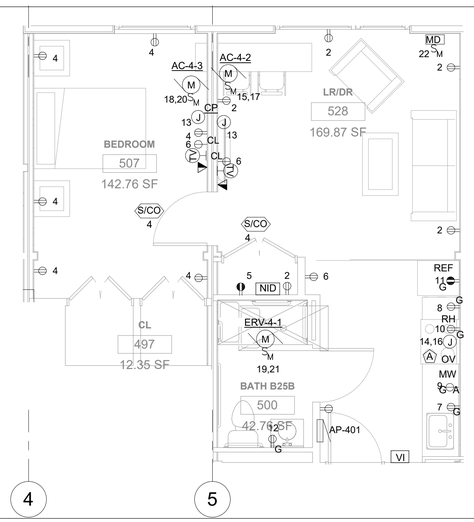
3. ELECTRICAL CONTRACTOR TO COORDINATE RECEPTACLE HEIGHT WITH UFA STANDARDS AND ARCHITECT FOR UFAS APARTMENTS.

4. ELECTRICAL CONTRACTOR TO PROVIDE 120V,20A SINGLE POLE TOGGLE SWITCH FOR SIMULTANEOUS CONTROL OF HOOD FAN AND LIGHT IN THE UFAS APARTMENTS. COORDINATE EXACT LOCATION OF SWITCH WITH ARCHITECT.

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5. COORDINATE EXACT LOCATION OF TEL/DATA WITH ARCHITECT.

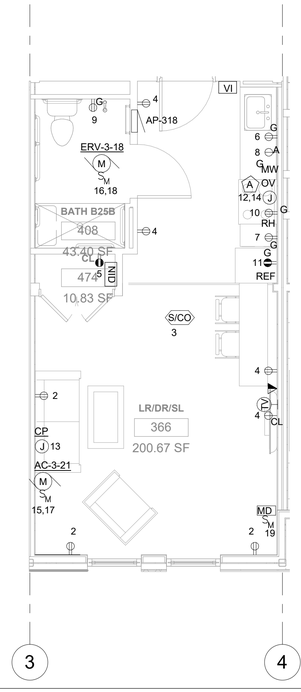
6. PROVIDE DATA IN ALL BEDROOMS AND LIVING ROOM. PLEASE REFER TO SHEETS FROM E-303.00 TO E-304.00



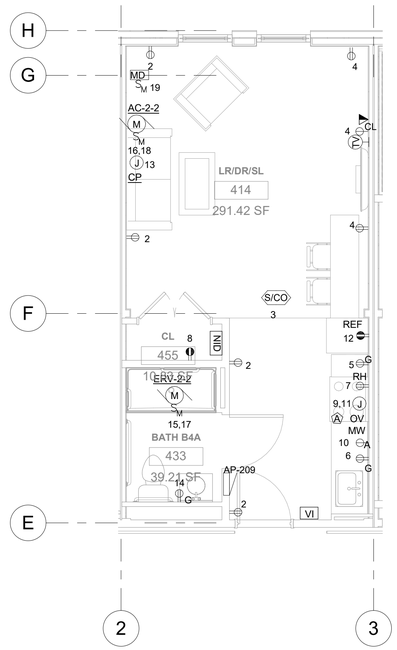
1 UNIT DETAIL PLAN - 1 BDRM (401) UFAS MOBILITY
1/4" = 1'-0"

KEYED WORKED NOTES:

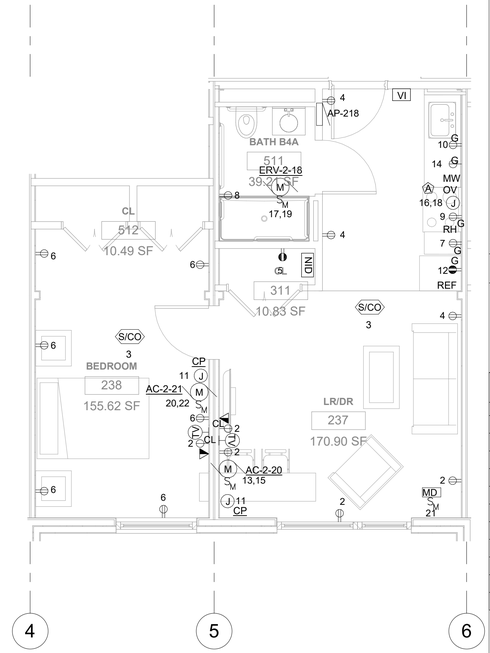
A PROVIDE WIRE SIZE OF 2#8 & 1#10G- 3/4"C FOR OVEN



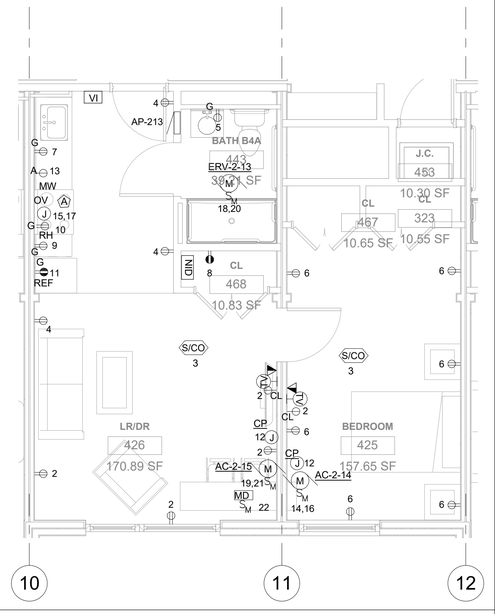
2 UNIT DETAIL PLAN - STUDIO 318) UFAS MOBILITY
1/4" = 1'-0"



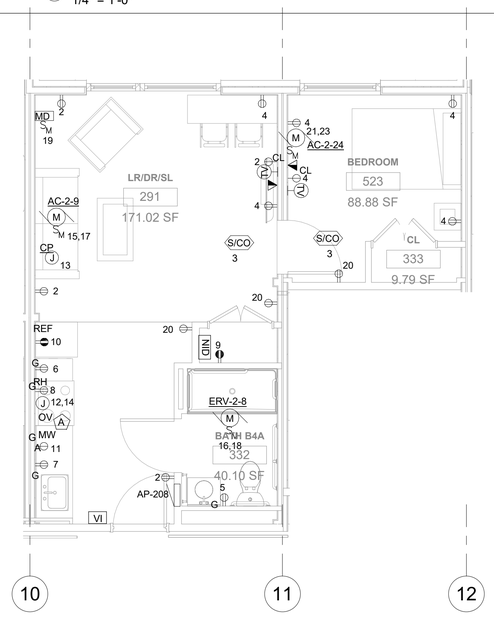
3 UNIT DETAIL PLAN - STUDIO (209) UFAS MOBILITY
1/4" = 1'-0"



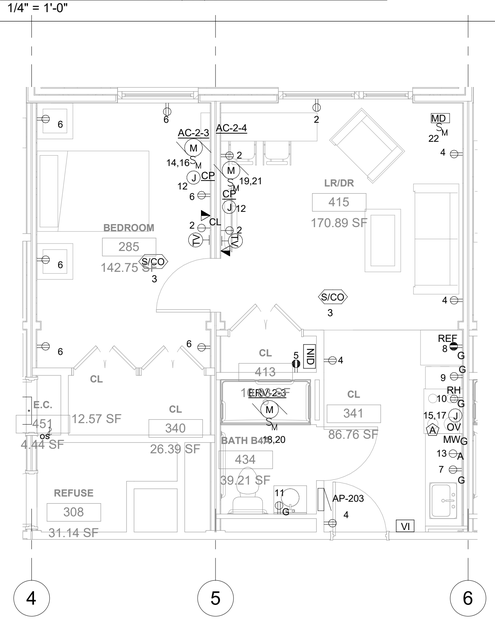
4 UNIT DETAIL PLAN-1 BDRM (218,317)
1/4" = 1'-0"



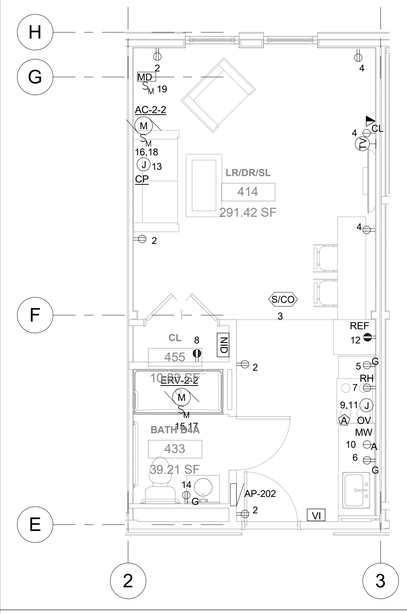
5 UNIT DETAIL PLAN - 1 BDRM (213, 312)
1/4" = 1'-0"



6 UNIT DETAIL PLAN - 1 BEDROOM (208,307)
1/4" = 1'-0"



7 UNIT DETAIL PLAN - 1 BDRM (203, 302)
1/4" = 1'-0"



UNIT DETAIL PLAN - STUDIO
(202,204-207, 210-212, 214-217, 219-220, 301, 303-306, 308-311, 313-316, 319, 402)
8 1/4" = 1'-0"

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BETHANY TERRACES

FOR:

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Drawing Tile:

ELECTRICAL POWER UNIT PLANS SHEET (2 OF 2)

Date: 5.31.2019

Seal/Signature:

DOB #:

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

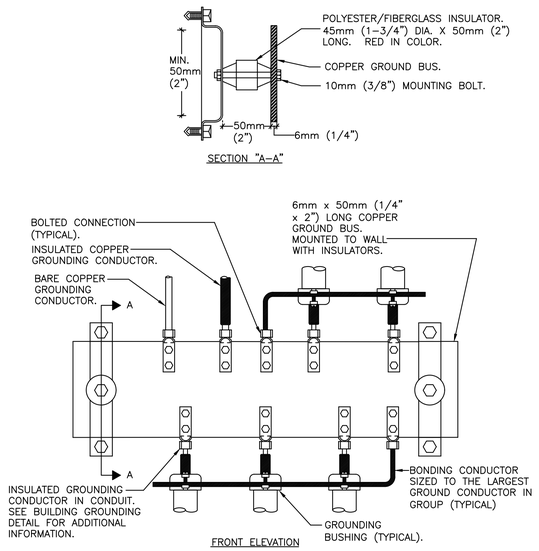
Drawn By #: NYE

Chkd By #: NYE

Drawing #:

E-303.00

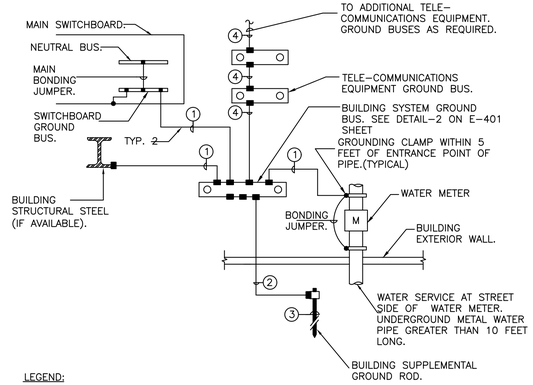
Sheet #: of



NOTES:

1. REFER TO BUILDING GROUNDING ELECTRODE SYSTEM DETAIL FOR EXACT CONFIGURATION.

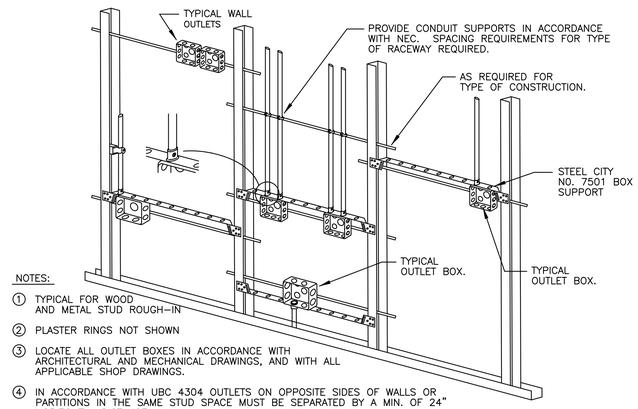
6 / E–400 BUILDING ELECTRICAL SYSTEMS GROUND BUS N.T.S



LEGEND:

- ● INDICATES BOLTED CONNECTION.
- ■ INDICATES EXOTHERMIC WELD CONNECTION, COMPATIBLE WITH MATERIALS BEING JOINED.
- (1) INSULATED COPPER GROUNDING ELECTRODE CONDUCTOR IN CONDUIT SIZED AS PER NEC ARTICLE 250.66.
- (2) 4/0 AWG BARE COPPER GROUND CONDUCTOR.
- (3) 3/4" x 10'–0" LONG COPPER–CLAD GROUND ROD DRIVEN WITH TOP 12" BELOW GRADE.
- (4) 2/0 AWG INSULATED COPPER GROUND CONDUCTOR IN 30mm CONDUIT.

4 / E–400 BUILDING GROUNDING ELECTRODE SYSTEM N.T.S



NOTES:

1. TYPICAL FOR WOOD AND METAL STUD ROUGH–IN
2. PLASTER RINGS NOT SHOWN
3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS, AND WITH ALL APPLICABLE SHOP DRAWINGS.
4. IN ACCORDANCE WITH UBC 4304 OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE MUST BE SEPARATED BY A MIN. OF 24" HORIZONTAL DISTANCE.

2 / E–400 DETAIL TYPICAL ROUGH–IN REQUIREMENTS N.T.S

AUTOMATIC MODE OPERATION:

1. WHEN SENSOR ACTIVATES, LOAD TURNS ON.
2. LOAD TURNS OFF, WHEN SENSOR TIMES OUT.
3. SWITCHES CAN BE USED TO TURN LOAD OFF.

RECOMMENDED WIRE:

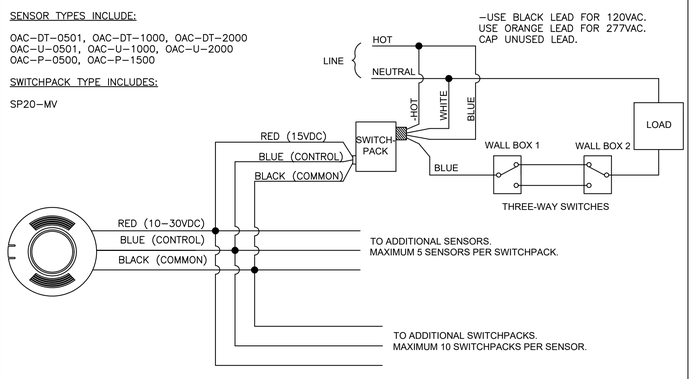
18–3 AWG STRANDED WIRE SHIELDED OR NON–SHIELDED

SENSOR TYPES INCLUDE:

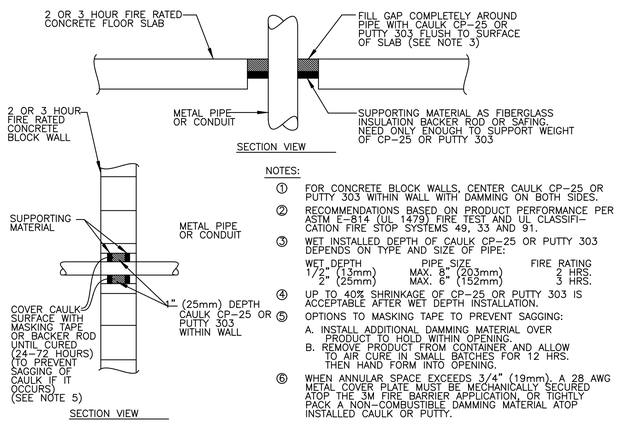
OAC–DT–0501, OAC–DT–1000, OAC–DT–2000
OAC–U–0501, OAC–U–1000, OAC–U–2000
OAC–P–0500, OAC–P–1500

SWITCHPACK TYPE INCLUDES:

SP20–MV



5 / E–400 OCCUPANCY – AUTO ON/OFF. WIRING DIAGRAM – LOW VOLTAGE CEILING SENSOR N.T.S



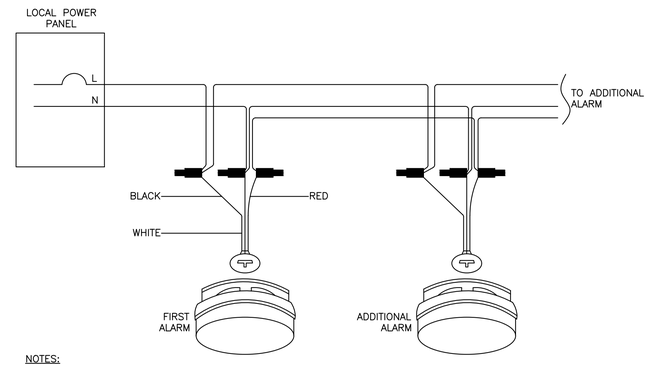
NOTES:

1. FOR CONCRETE BLOCK WALLS, CENTER CAULK CP–25 OR PUTTY 303 WITHIN WALL WITH DAMMING ON BOTH SIDES.
2. RECOMMENDATIONS BASED ON PRODUCT PERFORMANCE PER ASTM E–814 (UL 1479) FIRE TEST AND UL CLASSIFI–CATION FIRE STOP SYSTEMS 49, 33 AND 91.
3. WET INSTALLED DEPTH OF CAULK CP–25 OR PUTTY 303 DEPENDS ON TYPE AND SIZE OF PIPE:

WET DEPTH	PIPE SIZE	FIRE RATING
1/2" (13mm)	MAX. 8" (203mm)	2 HRS.
1" (25mm)	MAX. 6" (152mm)	3 HRS.

4. UP TO 40% SHRINKAGE OF CP–25 OR PUTTY 303 IS ACCEPTABLE AFTER WET DEPTH INSTALLATION.
5. OPTIONS TO MASKING TAPE TO PREVENT SAGGING:
   A. INSTALL ADDITIONAL DAMMING MATERIAL OVER PRODUCT TO HOLD WITHIN OPENING.
   B. REMOVE PRODUCT FROM CONTAINER AND ALLOW TO AIR CURE IN SMALL BATCHES FOR 12 HRS. THEN HAND FORM INTO OPENING.
6. WHEN ANNULAR SPACE EXCEEDS 3/4" (19mm), A 28 AWG METAL COVER PLATE MUST BE MECHANICALLY SECURED ATOP THE 3M FIRE BARRIER APPLICATION, OR TIGHTLY PACK A NON–COMBUSTIBLE DAMMING MATERIAL ATOP INSTALLED CAULK OR PUTTY.

3 / E–400 FIRE STOP DETAIL N.T.S



NOTES:

1. ALL ALARMS ARE WIRED TO A SINGLE, CONTINUOUS (NON SWITCHED) POWER LINE, WHICH IS NOT PROTECTED BY A GROUND FAULT INTERRUPTER.
2. A MAXIMUM OF 1000 ft OF WIRE CAN BE USED IN THE INTERCONNECT SYSTEM AND MAXIMUM 24 NO. OF KIDDE DEVICES CAN BE CONNECTED.
3. USE STANDARD UL LISTED HOUSEHOLD WIRE AS REQUIRED BY THE CODE.
4. ALL ALARMS IN A TANDEM INSTALLATION MUST BE CONTROLLED BY THE SAME FUSE OR CIRCUIT BREAKER. OTHERWISE TANDEM UNITS WILL NOT OPERATE.

1 / E–400 SMOKE ALARM TANDEM WIRING DIAGRAM N.T.S

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Revision Schedule

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1	SD SET	09/11/2019
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DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

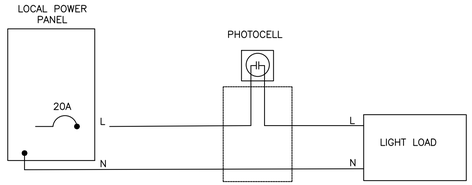
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Drawing Tile:

ELECTRICAL DETAILS SHEET 1 OF 3

Date: 5.31.2019
Seal/Signature:
DOB #:

Scale: 1/8" = 1'-0"
Drawn By #:NYE
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Drawing #:
E-400.00
Sheet #: of



KEYED NOTES:

1. PHOTOCELL SHALL BE MOUNTED ABOVE SNOW LINE (18") ON ROOF OR WALL MOUNTED. EXACT LOCATION SHALL BE FIELD COORDINATED.
2. FOR EXACT CIRCUIT NUMBER, REFER TO LIGHTING PLANS.

6 E-401 PHOTOCELL WIRING DETAILS N.T.S

MANUAL MODE OPERATION:

1. PUSHBUTTON PRESS IS REQUIRED TO TURN LOAD ON.
2. LOAD TURNS OFF WHEN SENSOR TIMES OUT OR BY PRESSING PUSH BUTTON.
3. IF DAYLIGHT SENSOR IS ENABLED AND LIGHT LEVEL IS ABOVE SETPOINT, LOAD WILL NOT TURN ON.

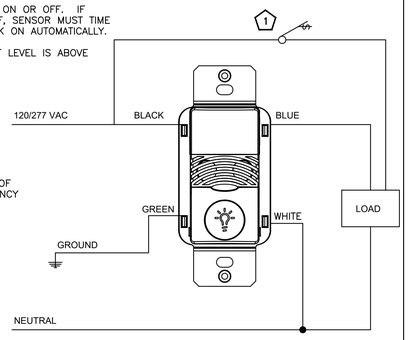
AUTOMATIC MODE OPERATION:

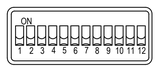
1. WHEN SENSOR ACTIVATES LOAD TURNS ON.
2. PUSHBUTTON CAN BE USED TO TURN LOAD ON OR OFF. IF PUSHBUTTON IS USED TO TURN LOAD OFF, SENSOR MUST TIME OUT FIRST, BEFORE LOAD CAN TURN BACK ON AUTOMATICALLY.
3. IF DAYLIGHT SENSOR IS ENABLED AND LIGHT LEVEL IS ABOVE SETPOINT, LOAD WILL NOT TURN ON.

SENSOR TYPES INCLUDE:

ONW-D-1001-MV-N

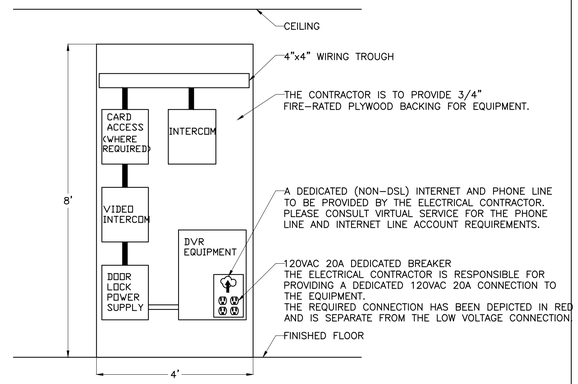
1 PROVIDE SENSING CONDUCTOR TAPPED AHEAD OF ANY SWITCHES WHERE SWITCH SERVES EMERGENCY FIXTURES.





(ONW-D-1001-MV-N SENSORS)
ON (UP) = MANUAL ON
OFF (DOWN) = AUTO ON

4 E-401 WIRING DIAGRAM-LINE VOLTAGE WALL SWITCH SENSOR(NEUTRAL CONNECTION) OCCUPANCY/VACANCY-SINGLE LEVEL N.T.S



SYTEM DEPICTED CONSISTS OF THE FOLLOWING COMPONENTS:
1. VIRTUAL DOORMAN AT FRONT ENTRANCE.
2. CARD ACCESS.
3. CCTV.
4. COLOR VIDEO INTERCOM.

2 E-401 VIDEO INTERCOM EQUIPMENT N.T.S

AUTOMATIC MODE OPERATION:

1. WHEN SENSOR ACTIVATES, LOAD TURNS ON.
2. LOAD TURNS OFF, WHEN SENSOR TIMES OUT.
3. SWITCHES CAN BE USED TO TURN LOAD OFF.

RECOMMENDED WIRE:

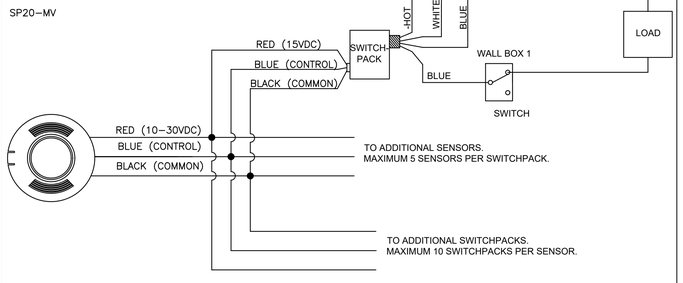
18-3 AWG STRANDED WIRE SHIELDED OR NON-SHIELDED

SENSOR TYPES INCLUDE:

OAC-DT-0501, OAC-DT-1000, OAC-DT-2000
OAC-U-0501, OAC-U-1000, OAC-U-2000
OAC-P-0500, OAC-P-1500

SWITCHPACK TYPE INCLUDES:

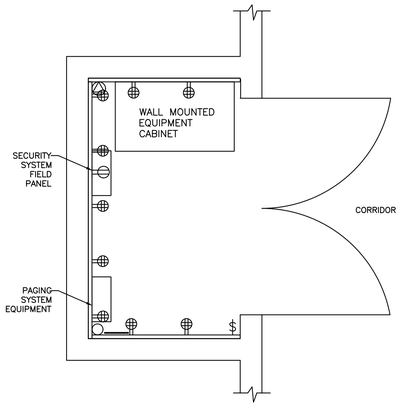
SP20-MV



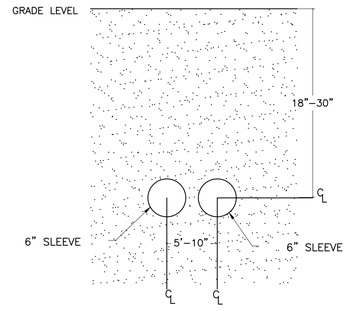
5 E-401 OCCUPANCY - AUTO ON/OFF. WIRING DIAGRAM - LOW VOLTAGE CEILING SENSOR N.T.S

KEYED NOTES:

1. INSTALL CONDUITS FROM PONT OF CONNECTION TO NETWORK(AS DETERMINED BY THE LANL TELECOMMUNICATIONS GROUP).TERMINATE THE CONDUITS WITH INSULATING BUSHING 4" ABOVE FLOOR IN LEFT REAR CORNER OF THE ROOM AND ADJACENT TO THE LEFT WALL.INSTALL 1200LB.TEST PULL TAPE WITH STAMPED FOOTAGE IN EACH CONDUIT AND TIE OFF AT EACH END.PROVIDE TEMPORARY CAPS TO EXCLUDE CONSTRUCTION DEBRIS.
2. INSTALL 4"X12"X¼" COPPER GROUND BAR WITH INSULATED STANDOFFS AND PRE-DRILLED WITH ¼" HOLES IN LEFT REAR CORNER OF THE ROOM.INSTALL DEDICATED THW INSULATED 4/0 AWG GROUND BAR IN MAIN ELECTRICAL ROOM AND TO NEARBY BUILDING STRUCTURAL STEEL IF PRESENT.
3. LINE THREE WALLS OF THE ROOM WITH SHEETS OF ¾" APA GRADE A-B GROUP 1 SANDED INTERIOR PLYWOOD FINISHED WITH TWO COATS OF WHITE OR LIGHT GRAY FIRE RETARDING PAINT.ON ALL SIDES.
4. INSTALL 120V QUAD RECEPTACLES AT 6 FT INTERVALS AROUND THE ROOM,6 INCHES AFF.
5. INSTALL DOUBLE CIRCUIT MULT-OUTLET ASSEMBLY WITH RECEPTACLES 12 INCHES ON CENTER AT 4' AFF ON LEFT WALL.INSTALL TWO 20 AMP,120 VOLT CIRCUITS TO THE MULT-OUTLET ASSEMBLY.
6. PROVIDE A DEDICATED 20A 120V CIRCUIT FROM ISOLATED GROUND PANELBOARD FOR FOR SCURITY PANEL



3 E-401 TELECOM ROOM DETAILS N.T.S



NOTES:

1. COORDINATE EXACT LOCATION WITH CON EDISON.
2. PROVIDE QUANTITY OF SLEEVES AS SHOWN ON DRAWINGS. NOT LESS THAN NUMBER REQUIRED BY UTILITY PLUS 50% SPARE.
3. EXTENND SLEEVES 12" OUTSIDE WALL IN ACCORDANCE WITH UTILITY STANDARDS.

1 E-401 INCOMING SERVICE SLEEVE DETAILS N.T.S

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ELECTRICAL DETAILS SHEET 2 OF 3

Date: 5.31.2019

Seal/Signature:

DOB #:

Scale: 1/8" = 1'-0"

Drawn By #: NYE

Chkd By #: NYE

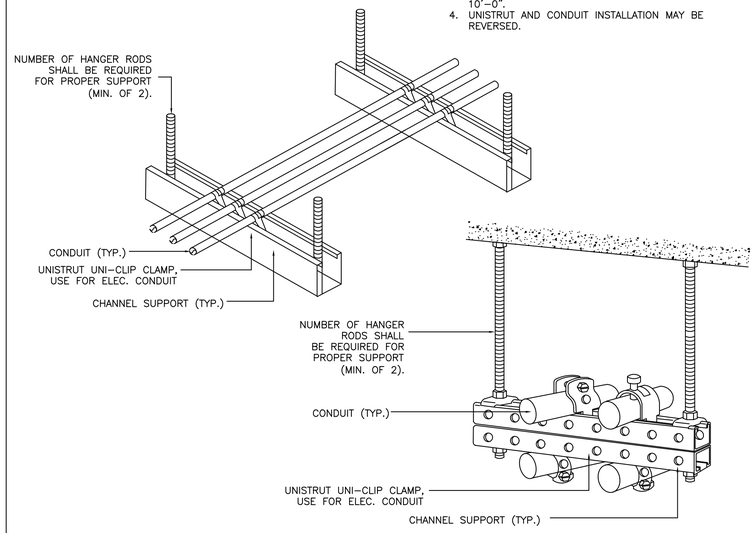
Drawing #: E-401.00

Sheet #: of

NOTE:
THIS INFORMATION MAY NOT CONTAIN ALL DETAILS REQUIRED FOR CONSTRUCTION. APPROPRIATE MODIFICATION MAY BE REQUIRED TO ENSURE SUITABILITY OF THESE DRAWINGS FOR THE SPECIFIC APPLICATION. IT IS THE USER'S RESPONSIBILITY TO ENSURE INSTALLATION OF THE EQUIPMENT/SYSTEM IS IN ACCORDANCE WITH BUILDING/PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS.

NOTES:

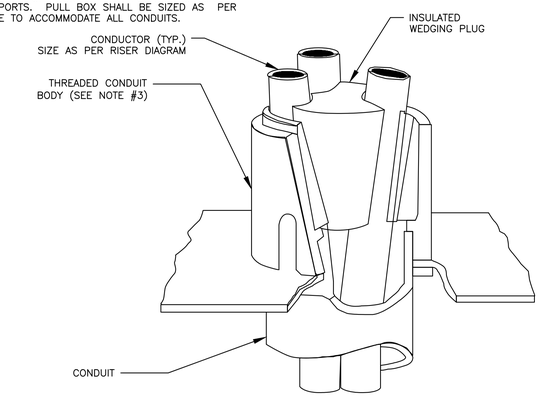
1. ALL CONDUIT MAY BE COMBINED ON SAME SUPPORT CHANNEL WHERE PRACTICAL.
2. SUPPORT CHANNEL LENGTH SHALL NOT BE DETERMINED UNTIL ALL PIPING, CONDUIT, ETC. TO BE SUPPORTED IS COORDINATED.
3. SUPPORT CHANNEL SPACING SHALL BE NO MORE THAN 10'-0".
4. UNISTRUT AND CONDUIT INSTALLATION MAY BE REVERSED.



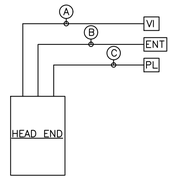
2 / E-402 CONDUIT SUPPORT DETAIL N.T.S

NOTES:

1. ALL CONDUCTORS IN VERTICAL RACEWAYS SHALL BE SUPPORTED IN ACCORDANCE WITH ARTICLE 300.19 OF NEC. CABLE SUPPORTS SHALL BE LOCATED AT THE INTERVALS REQUIRED BY THE NEC.
2. CABLE SUPPORT SYSTEM SHALL BE AS MANUFACTURED BY O-Z GEDNEY WITH pOZi-GRIP "S-STYLE" WEDGING PLUG OR APPROVED EQUAL.
3. FOR THREADLESS CONDUIT (RIGID, IMC OR EMT), ATTACH CONDUIT BODY TO MALE THREADS OF A SET SCREW OR COMPRESSION CONNECT, AS PERMITTED BY SPECIFICATIONS.
4. PROVIDE PULL BOX AT EACH LOCATION OF CABLE SUPPORTS. PULL BOX SHALL BE SIZED AS PER CODE TO ACCOMMODATE ALL CONDUITS.



3 / E-402 VERTICAL CABLE SUPPORT DETAIL N.T.S



SR.NO.	SYSTEM	FROM	TO	QTY	AWG	CONDUCTORS	STRANDING
A	INTERCOM	APARTMENT UNIT (ONE HOME RUN PER APT. UNIT)	HEAD END	1	18	4	7
B	INTERCOM	FRONT ENTRANCE DOOR STATION	HEAD END	1	18	4	7
C	ACCESS CONTROL	POSTAL LOCK (AT FRONT ENTRANCE DOOR ONLY)	HEAD END	1	18	4	7

NOTES:
1. ALL THE CONDUCTORS TO BE NON-SHIELDED.

1 / E-402 VIDEO INTERCOM WIRING N.T.S

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PROJECT:

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Drawing Tile:

ELECTRICAL DETAILS SHEET 3 OF 3

Date: 5.31.2019

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Scale: 1/8" = 1'-0"

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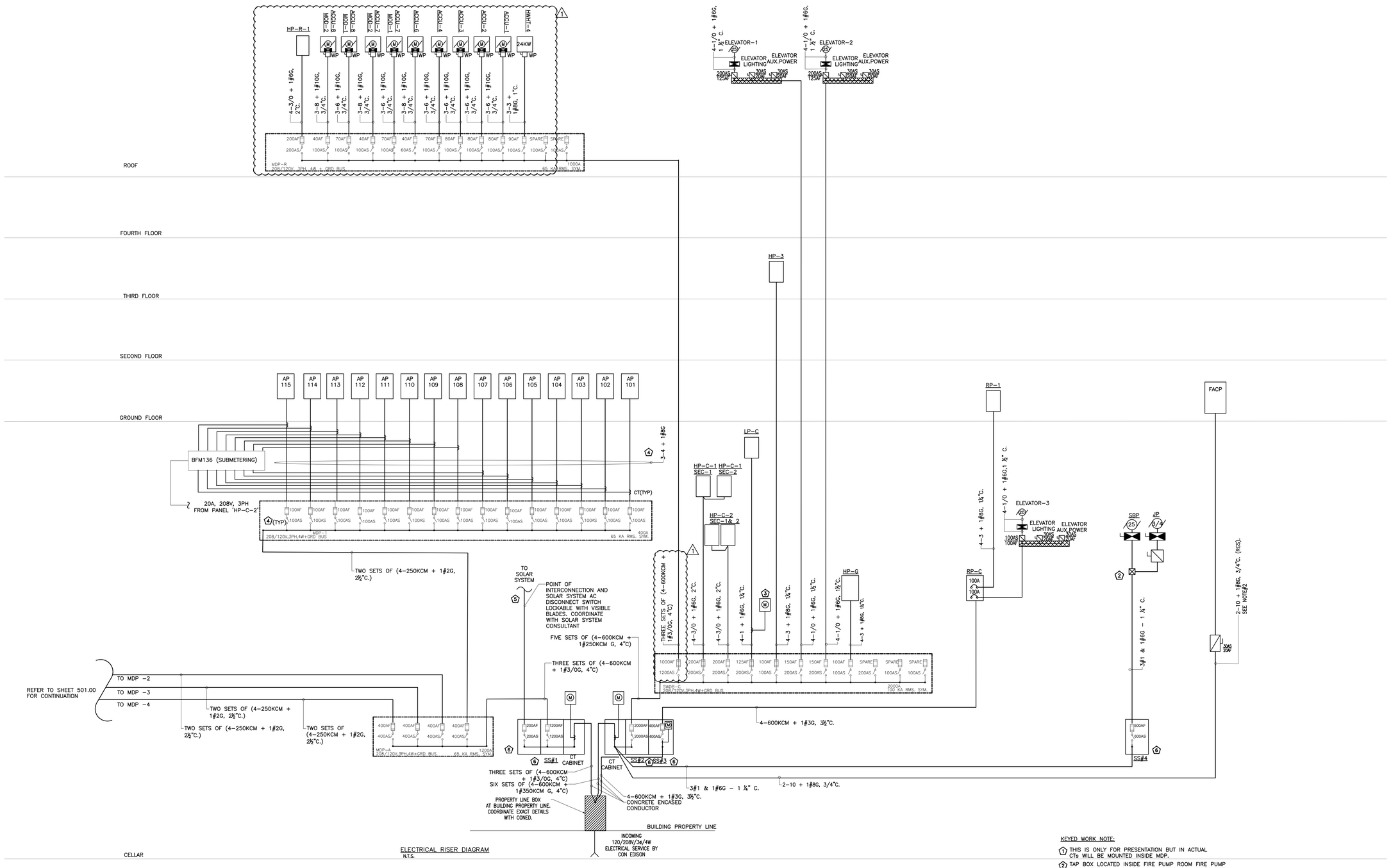
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E-402.00

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ELECTRICAL RISER DIAGRAM
N.T.S.

NOTE:

1. PROVIDE SERVICE GROUNDING AND BONDING IN ACCORDANCE WITH NYC ELECTRICAL CODE (NEC W/ AMMENDMENTS).
2. TAP AHEAD OF THE MAIN SWITCH. TAP LENGTH NOT TO EXCEED 10 FEET.
3. CONTRACTOR TO COORDINATE INTERRUPTING RATING OF ELECTRICAL EQUIPMENTS.

KEYED WORK NOTE:

1. THIS IS ONLY FOR PRESENTATION BUT IN ACTUAL CTs WILL BE MOUNTED INSIDE MDP.
2. TAP BOX LOCATED INSIDE FIRE PUMP ROOM FIRE PUMP CONDUCTORS SHALL NOT BE CUT. TAP SHALL BE DONE USING SPLIT BOLTS.
3. 3-PH, 208V ELECTRIC SUBMETER FOR LAUNDRY AREA.(MODEL= B20-208100NODE BY BAYRAM OR EQUIVALENT)
4. ARMORED CABLE (BX) CABLE CONDUCTORS SHALL BE USED FOR DISTRIBUTION FROM MDP(DISTRIBUTION PANEL) TO LOAD CENTER AND FOR BRANCH CIRCUITS INSIDE APARTMENTS. REFER SPECIFICATIONS FOR MORE DETAILS.
4. ARMORED CABLE (BX) CABLE CONDUCTORS SHALL BE USED FOR DISTRIBUTION FROM MDP(DISTRIBUTION PANEL) TO LOAD CENTER AND FOR BRANCH CIRCUITS INSIDE APARTMENTS. REFER SPECIFICATIONS FOR MORE DETAILS.
5. COORDINATE EXACT REQUIREMENT WITH SOLAR SYSTEM VENDOR.
6. ELECTRICAL CONTRACTOR TO COORDINATE FAULT CURRENT RATING (Isc) WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING WORK.

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PROJECT:

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Drawing Tile:

ELECTRICAL RISER DIAGRAM SHEET 1 OF 2

Date: 5.31.2019

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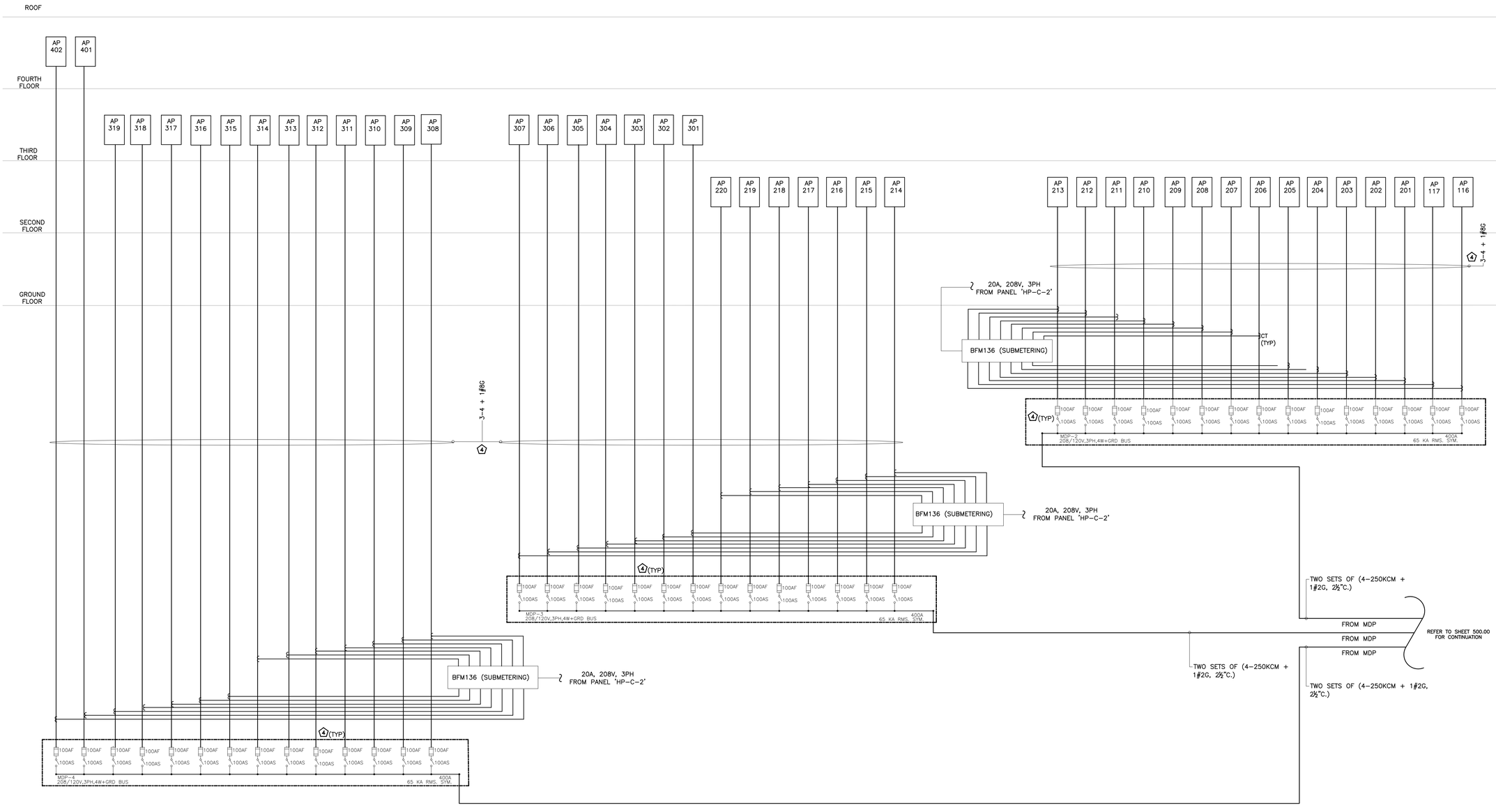
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ELECTRICAL RISER DIAGRAM
SHEET 2 OF 2

Date: 5.31.2019

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Scale: 1/8" = 1'-0"

Drawn By #:NYE

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Drawing #:
E-501.00

Sheet #: of

LOADCENTER

Branch Panel: AP-102

Location: | **Volts:** 120/208 | **A.I.C. Rating:** 22 KAIC
Supply From: | **Phases:** 1 | **BUS Rating:** 125 A
Mounting: Recessed | **Wires:** 3 | **MCB Rating:** 100 A
Enclosure: NEMA-1

NOTES:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	95 VA	900 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	20 A	1			100 VA	180 VA	1	20 A	Tele/data Receptacle*	4
5	Receptacle*	20 A	1	540 VA	180 VA			1	20 A	Bath Receptacle	6
7	Receptacle*	20 A	1			1080 VA	180 VA	1	20 A	Small Appliances Ckt	8
9	Small Appliances Ckt	20 A	1	180 VA	180 VA			1	20 A	Range Hood	10
11	Refrigerator	20 A	1			1300 VA	100 VA	1	20 A	CP	12
13	Microwave	20 A	1	1100 VA	250 VA			2	15 A	AC-1-1	14
15	Oven	50 A	2			4000 VA	250 VA	--	--	--	16
17	--	--	--	4000 VA	250 VA			2	15 A	AC-1-2	18
19	ERV-1-2	15 A	2			250 VA	250 VA	--	--	--	20
21	--	--	--	250 VA	50 VA			1	20 A	MD	22
23	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	28
29	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	30
			Total Load:	7970 VA		7690 VA					

Legend:

Branch Panel: AP-101

Location: | **Volts:** 120/208 | **A.I.C. Rating:** 22 KAIC
Supply From: | **Phases:** 1 | **BUS Rating:** 125 A
Mounting: Recessed | **Wires:** 3 | **MCB Rating:** 100 A
Enclosure: NEMA-1

NOTES: TYPICAL FOR STUDIO (101, 103-106, 110, 112, 114-117)

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	80 VA	540 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	15 A	1			100 VA	720 VA	1	20 A	Receptacle*	4
5	Tele/data Receptacle*	15 A	1	180 VA	180 VA			1	20 A	Small Appliances Ckt	6
7	Bath Receptacle	20 A	1			180 VA	180 VA	1	20 A	Range Hood	8
9	Small Appliances Ckt	20 A	1	180 VA	1300 VA			1	20 A	Refrigerator	10
11	Microwave	20 A	1			1100 VA	50 VA	1	20 A	CP	12
13	Oven	50 A	2	4000 VA	250 VA			2	15 A	AC-1-15	14
15	--	--	--			4000 VA	250 VA	--	--	--	16
17	ERV-1-4	15 A	2	250 VA	50 VA			1	20 A	MD	18
19	--	--	--			250 VA	0 VA	1	20 A	Spare	20
21	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	28
29	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	30
			Total Load:	7006 VA		6830 VA					

Legend:

Branch Panel: AP-107

Location: | **Volts:** 120/208 | **A.I.C. Rating:** 22 KAIC
Supply From: | **Phases:** 1 | **BUS Rating:** 125 A
Mounting: Recessed | **Wires:** 3 | **MCB Rating:** 100 A
Enclosure: NEMA-1

NOTES:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	80 VA	720 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	15 A	1			100 VA	900 VA	1	20 A	Receptacle*	4
5	Tele/data Receptacle*	15 A	1	180 VA	180 VA			1	20 A	Small Appliances Receptacle	6
7	Microwave	20 A	1			1100 VA	180 VA	1	20 A	Small Appliances Receptacle	8
9	Bath Receptacle	20 A	1	180 VA	180 VA			1	20 A	Range Hood	10
11	Refrigerator	20 A	1			1300 VA	50 VA	1	20 A	CP	12
13	Oven	50 A	2	4000 VA	250 VA			2	15 A	AC-1-8	14
15	--	--	--			4000 VA	250 VA	--	--	--	16
17	ERV-1-7	15 A	2	250 VA	8070 VA			1	20 A	Receptacle	18
19	--	--	--			250 VA	0 VA	1	20 A	Spare	20
21	MD	20 A	1	50 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	28
29	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	30
			Total Load:	14136 VA		16000 VA					

Legend:

Branch Panel: AP-109

Location: | **Volts:** 120/208 | **A.I.C. Rating:** 22 KAIC
Supply From: | **Phases:** 1 | **Mains Rating:** 125 A
Mounting: Recessed | **Wires:** 3 | **MCB Rating:** 100 A
Enclosure: NEMA-1

NOTES:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	155 VA	900 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	15 A	1			300 VA	1080 VA	1	20 A	Receptacle*	4
5	Receptacle*	20 A	1	1080 VA	0 VA			1	20 A	Small Appliance Circuit	6
7	Receptacle*	20 A	1			900 VA	180 VA	1	20 A	Small Appliance Circuit	8
9	Tele/data Receptacle*	15 A	1	180 VA	0 VA			1	20 A	Refrigerator	10
11	Microwave	20 A	1			1100 VA	0 VA	1	20 A	Bath Receptacle	12
13	Range Hood	20 A	1	180 VA	150 VA			1	20 A	CP	14
15	AC-1-10	15 A	2			250 VA	250 VA	2	15 A	AC-1-11	16
17	--	--	--	250 VA	250 VA			--	--	--	18
19	AC-1-12	15 A	2			250 VA	4000 VA	2	50 A	Oven	20
21	--	--	--	250 VA	4000 VA			--	--	--	22
23	ERV-1-9	15 A	2			250 VA	50 VA	1	20 A	MD	24
25	--	--	--	250 VA	0 VA			1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	28
29	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	30
			Total Load:	7637 VA		9910 VA					

Legend:

Branch Panel: AP-111

Location: | **Volts:** 120/208 | **A.I.C. Rating:** 22 KAIC
Supply From: | **Phases:** 1 | **BUS Rating:** 125 A
Mounting: Recessed | **Wires:** 3 | **MCB Rating:** 100 A
Enclosure: NEMA-1

NOTES:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	95 VA	900 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	15 A	1			100 VA	540 VA	1	20 A	Receptacle*	4
5	Tele/data Receptacle*	15 A	1	180 VA	1080 VA			1	20 A	Receptacle*	6
7	Small Appliance Circuit	20 A	1			180 VA	180 VA	1	20 A	Small Appliance Circuit	8
9	Range Hood	20 A	1	180 VA	1300 VA			1	20 A	Refrigerator	10
11	Microwave	20 A	1			1100 VA	100 VA	1	20 A	CP	12
13	Bath Receptacle	20 A	1	180 VA	250 VA			2	15 A	AC-1-15	14
15	AC-1-14	15 A	2			250 VA	250 VA	--	--	--	16
17	--	--	--	250 VA	4000 VA			2	50 A	Oven	18
19	ERV-1-11	15 A	2			250 VA	4000 VA	--	--	--	20
21	--	--	--	250 VA	50 VA			1	20 A	MD	22
23	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	28
29	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	30
			Total Load:	8710 VA		6950 VA					

Legend:

Branch Panel: AP-113

Location: | **Volts:** 120/208 | **A.I.C. Rating:** 22 KAIC
Supply From: | **Phases:** 1 | **BUS Rating:** 125 A
Mounting: Recessed | **Wires:** 3 | **MCB Rating:** 100 A
Enclosure: NEMA-1

NOTES:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	80 VA	540 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	15 A	1			100 VA	720 VA	1	20 A	Receptacle*	4
5	Tele/data Receptacle*	15 A	1	180 VA	1300 VA			1	20 A	Refrigerator	6
7	Small Appliances Circuit	20 A	1			180 VA	180 VA	1	20 A	Range Hood	8
9	Small Appliances Circuit	20 A	1	180 VA	180 VA			1	20 A	Bath Receptacle	10
11	Microwave	20 A	1			1100 VA	250 VA	2	15 A	AC-1-17	12
13	CP	20 A	1	50 VA	250 VA			--	--	--	14
15	ERV-1-13	15 A	2			250 VA	4000 VA	2	50 A	Oven	16
17	--	--	--	250 VA	4000 VA			--	--	--	18
19	MD	20 A	1			50 VA	0 VA	1	20 A	Spare	20
21	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	28
29	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	30
			Total Load:	7006 VA		6830 VA					

Legend:

NOTE:
1. * - DENOTES AFCI TYPE CIRCUIT BREAKER

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NOTES:

NORTH:



Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED FOR BID - 75% DD	10/21/2019
4	100% DD	11/14/2019
5	50% CD	03/20/2020
6	75% CD	04/22/2020
7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	REVISED CD SET	09/07/2021
11	ADDENDUM#1	01/05/2022

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

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Drawing Tile:

ELECTRICAL PANEL SCHEDULES SHEET (1 0F 5)

Date: 5.31.2019

Seal/Signature:



Scale:

Drawn By #: Author

Chkd By #: NYE

Drawing #:

E-600.00

DOB #:

Sheet #: of

LOADCENTER

Branch Panel: AP-201

Location: | **Volts:** 120/208
Supply From: | **Phases:** 1 | **A.I.C. Rating:** 22 KAIC
Mounting: Recessed | **Wires:** 3 | **BUS Rating:** 125 A
Enclosure: NEMA-1 | **MCB Rating:** 100 A

NOTES:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	80 VA	540 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	15 A	1			100 VA	720 VA	1	20 A	Receptacle*	4
5	Small Appliances Circuit	20 A	1	180 VA	180 VA			1	20 A	Range Hood	6
7	Small Appliances Circuit	20 A	1			180 VA	180 VA	1	20 A	Bath Receptacle	8
9	Refrigerator	20 A	1	1300 VA	180 VA			1	15 A	Tele/data Recetacle*	10
11	Microwave	20 A	1			1100 VA	4000 VA	2	50 A	Oven	12
13	CP	20 A	1	50 VA	4000 VA			--	--	--	14
15	AC-2-1	15 A	2			250 VA	250 VA	2	15 A	ERV-2-1	16
17	--	--	--	250 VA	250 VA			--	--	--	18
19	MD	20 A	1			50 VA	0 VA	1	20 A	Spare	20
21	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	28
29	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	30
			Total Load:	7006 VA		6830 VA					

Legend:

Branch Panel: AP-202

Location: | **Volts:** 120/208
Supply From: | **Phases:** 1 | **A.I.C. Rating:** 22 KAIC
Mounting: Recessed | **Wires:** 3 | **BUS Rating:** 125 A
Enclosure: NEMA-1 | **MCB Rating:** 100 A

NOTES: TYPICAL FOR UNIT -202,204-207, 209-212, 214-217, 219-220, 301, 303-306, 308-311, 313-316, 319, 402

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	80 VA	720 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	15 A	1			100 VA	540 VA	1	20 A	Receptacle*	4
5	Small Appliances Ckt	20 A	1	180 VA	180 VA			1	20 A	Small Appliances Ckt	6
7	Range Hood	20 A	1			180 VA	180 VA	1	15 A	Tele/data Receptacle*	8
9	Oven	50 A	2	4000 VA	1100 VA			1	20 A	Microwave	10
11	--	--	--			4000 VA	1300 VA	1	20 A	Refrigerator	12
13	CP	20 A	1	50 VA	180 VA			1	20 A	Bath Receptacle	14
15	ERV-2-2	15 A	2			250 VA	250 VA	2	15 A	AC-2-2	16
17	--	--	--	250 VA	250 VA			--	--	--	18
19	MD	20 A	1			50 VA	0 VA	1	20 A	Spare	20
21	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	28
29	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	30
			Total Load:	6986 VA		6850 VA					

Legend:

Branch Panel: AP-203

Location: | **Volts:** 120/208
Supply From: | **Phases:** 1 | **A.I.C. Rating:** 22 KAIC
Mounting: Recessed | **Wires:** 3 | **BUS Rating:** 125 A
Enclosure: NEMA-1 | **MCB Rating:** 100 A

NOTES: TYPICAL FOR UNIT -213 AND UNIT-312

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	95 VA	720 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	15 A	1			100 VA	720 VA	1	20 A	Receptacle*	4
5	Tele/data Receptacle*	15 A	1	180 VA	1080 VA			1	20 A	Receptacle*	6
7	Small Appliances Ckt	20 A	1			180 VA	1300 VA	1	20 A	Refrigerator	8
9	Small Appliances Ckt	20 A	1	180 VA	180 VA			1	20 A	Range Hood	10
11	Bath Receptacle	20 A	1			180 VA	100 VA	1	20 A	CP	12
13	Microwave	20 A	1	1100 VA	250 VA			2	15 A	AC-2-3	14
15	Oven	50 A	2			4000 VA	250 VA	--	--	--	16
17	--	--	--	4000 VA	250 VA			2	15 A	ERV-2-3	18
19	AC-2-4	15 A	2			250 VA	250 VA	--	--	--	20
21	--	--	--	250 VA	50 VA			1	20 A	MD	22
23	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	28
29	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	30
			Total Load:	8330 VA		7330 VA					

Legend:

Branch Panel: AP-208

Location: | **Volts:** 120/208
Supply From: | **Phases:** 1 | **A.I.C. Rating:** 22 KAIC
Mounting: Recessed | **Wires:** 3 | **BUS Rating:** 125 A
Enclosure: NEMA-1 | **MCB Rating:** 100 A

NOTES: TYPICAL FOR APARTMENTS 307& 208.

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	95 VA	720 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	15 A	1			100 VA	1080 VA	1	20 A	Receptacle*	4
5	Bath Receptacle	20 A	1	180 VA	180 VA			1	20 A	Small Appliances Ckt	6
7	Small Appliances Ckt	20 A	1			180 VA	180 VA	1	20 A	Range Hood	8
9	Tele/data Receptacle*	15 A	1	180 VA	1300 VA			1	20 A	Refrigerator	10
11	Microwave	20 A	1			1100 VA	4000 VA	2	50 A	Oven	12
13	CP	20 A	1	50 VA	4000 VA			--	--	--	14
15	AC-2-9	15 A	2			250 VA	250 VA	2	15 A	ERV-2-8	16
17	--	--	--	250 VA	250 VA			--	--	--	18
19	MD	20 A	1			50 VA	540 VA	1	20 A	Receptacle*	20
21	AC-2-24	15 A	2	250 VA							22
23	--	--	--			250 VA					24
25											26
27											28
29											30
			Total Load:	7450 VA		7980 VA					

Legend:

Branch Panel: AP-213

Location: | **Volts:** 120/208
Supply From: | **Phases:** 1 | **A.I.C. Rating:** 22 KAIC
Mounting: Recessed | **Wires:** 3 | **BUS Rating:** 125 A
Enclosure: NEMA-1 | **MCB Rating:** 100 A

NOTES: TYPICAL FOR UNIT-213, 312

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	95 VA	900 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	15 A	1			100 VA	540 VA	1	20 A	Receptacle*	4
5	Bath Receptacle	20 A	1	180 VA	1080 VA			1	20 A	Receptacle*	6
7	Small Applainces Ckt	20 A	1			180 VA	180 VA	1	15 A	Tele/data Receptacle*	8
9	Small Applainces Ckt	20 A	1	180 VA	180 VA			1	20 A	Range Hood	10
11	Refrigerator	20 A	1			1300 VA	100 VA	1	20 A	CP	12
13	Microwave	20 A	1	1100 VA	250 VA			2	15 A	AC-2-14	14
15	Oven	50 A	2			4000 VA	250 VA	--	--	--	16
17	--	--	--	4000 VA	250 VA			2	15 A	ERV-1-2	18
19	AC-2-15	15 A	2			250 VA	250 VA	--	--	--	20
21	--	--	--	250 VA	50 VA			1	20 A	MD	22
23	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	28
29	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	30
			Total Load:	8510 VA		7150 VA					

Legend:

Branch Panel: AP-218

Location: | **Volts:** 120/208
Supply From: | **Phases:** 1 | **A.I.C. Rating:** 22 KAIC
Mounting: Recessed | **Wires:** 3 | **BUS Rating:** 125 A
Enclosure: NEMA-1 | **MCB Rating:** 100 A

NOTES: TYPICAL FOR UNIT-218 AND 317

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	95 VA	900 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	15 A	1			200 VA	540 VA	1	20 A	Receptacle*	4
5	Tele/data Receptacle*	15 A	1	180 VA	1080 VA			1	20 A	Receptacle*	6
7	Small Appliances Ckt	20 A	1			180 VA	180 VA	1	20 A	Bath Receptacle	8
9	Range Hood	20 A	1	180 VA	180 VA			1	20 A	Small Appliances Ckt	10
11	CP	20 A	1			100 VA	1300 VA	1	20 A	Refrigerator	12
13	AC-2-20	15 A	2	250 VA	1100 VA			1	20 A	Microwave	14
15	--	--	--			250 VA	4000 VA	2	50 A	Oven	16
17	ERV-1-2	15 A	2	250 VA	4000 VA			--	--	--	18
19	--	--	--			250 VA	250 VA	2	15 A	AC-2-21	20
21	MD	20 A	1	50 VA	250 VA			--	--	--	22
23	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	28
29	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	30
			Total Load:	8510 VA		7250 VA					

Legend:

NOTE:
1. * - DENOTES AFCI TYPE CIRCUIT BREAKER

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NOTES:

NORTH:

Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED FOR BID - 75% DD	10/21/2019
4	100% DD	11/14/2019
5	50% CD	03/20/2020
6	75% CD	04/22/2020
7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	REVISED CD SET	09/07/2021
11	ADDENDUM#1	01/05/2022

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

ELECTRICAL PANEL SCHEDULES SHEET (2 0F 5)

Date: 5.31.2019

Seal/Signature:

Scale:

Drawn By #: NYE

Chkd By #: NYE

Drawing #: E-601.00

DOB #:

Sheet #: of

LOADCENTER

Branch Panel: AP-401

Location:
Supply From: AP-107
Mounting: Recessed
Enclosure: NEMA-1

Volts: 120/208
Phases: 1
Wires: 3

A.I.C. Rating: 22 KAIC
BUS Rating: 125 A
MCB Rating: 100 A

NOTES:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	95 VA	900 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	15 A	1			200 VA	1080 VA	1	20 A	Receptacle*	4
5	Tele/Data Receptacle*	15 A	1	180 VA	720 VA			1	20 A	Receptacle*	6
7	Small Appliances Ckt	20 A	1			180 VA	180 VA	1	20 A	Small Appliances Ckt	8
9	Microwave	20 A	1	1100 VA	180 VA			1	20 A	Range Hood	10
11	Refrigerator	20 A	1			1300 VA	180 VA	1	20 A	Bath Receptacle	12
13	CP	20 A	1	100 VA	4000 VA			2	50 A	Oven	14
15	AC-4-2	15 A	2			250 VA	4000 VA	--	--	--	16
17	--	--	--	250 VA	250 VA			2	15 A	AC-4-3	18
19	HRV-4-1	15 A	2			250 VA	250 VA	--	--	--	20
21	--	--	--	250 VA	50 VA			1	20 A	MD	22
23	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	28
29	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	30
			Total Load:	8070 VA		7870 VA					

Legend:

Branch Panel: AP-318

Location:
Supply From:
Mounting: Recessed
Enclosure: NEMA-1

Volts: 120/208
Phases: 1
Wires: 3

A.I.C. Rating: 22 KAIC
BUS Rating: 125 A
MCB Rating: 100 A

NOTES:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Lighting*	20 A	1	80 VA	540 VA			1	20 A	Receptacle*	2
3	S/CO Detector*	15 A	1			100 VA	720 VA	1	20 A	Receptacle*	4
5	Tele/data Receptacle*	15 A	1	180 VA	180 VA			1	20 A	Small Appliances Ckt	6
7	Small Appliances Ckt	20 A	1			180 VA	1100 VA	1	20 A	Microwave	8
9	Bath Receptacle	20 A	1	180 VA	180 VA			1	20 A	Range Hood	10
11	Refrigerator	20 A	1			1300 VA	4000 VA	2	50 A	Oven	12
13	CP	20 A	1	50 VA	4000 VA			--	--	--	14
15	AC-3-21	15 A	2			250 VA	250 VA	2	15 A	ERV-3-18	16
17	--	--	--	250 VA	250 VA			--	--	--	18
19	MD	20 A	1			50 VA	0 VA	1	20 A	Spare	20
21	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA	1	20 A	Spare	28
29	Spare	20 A	1	0 VA	0 VA			1	20 A	Spare	30
			Total Load:	5886 VA		7950 VA					

Legend:

NOTE:
1. * - DENOTES AFCI TYPE CIRCUIT BREAKER

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Revision Schedule

#	Description	Date
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3	ISSUED FOR BID - 75% DD	10/21/2019
4	100% DD	11/14/2019
5	50% CD	03/20/2020
6	75% CD	04/22/2020
7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	REVISED CD SET	09/07/2021
11	ADDENDUM#1	01/05/2022

MEP:
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New York, NY 10036
TEL:212.575.5300

DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

ELECTRICAL PANEL SCHEDULES SHEET (3 0F 5)

Date: 5.31.2019

Seal/Signature:

Scale:

Drawn By #: NYE

Chkd By #: NYE

Drawing #:

E-602.00

DOB #:

Sheet #: of

Branch Panel: HP-C-1

Location:
Supply From:
Mounting:
Enclosure: NEMA -1

Volts: 120/208
Phases: 3
Wires: 4

A.I.C. Rating: 22 KAIC
BUS Rating: 225A
MCB Rating: 200A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle(1st floor)	20 A	1	1080 VA	900 VA					1	20 A	Receptacle(1st floor)	2
3	WP Receptacle(1st floor)	20 A	1			720 VA	180 VA			1	20 A	Quad Receptacle (1st floor)	4
5	Stairwell Lighting	20 A	1					210 VA	159 VA	1	20 A	EM Lighting(1st floor)	6
7	Corridor Lighting(1st floor)	20 A	1	1787 VA	415 VA					1	20 A	Lighting - Dwelling Unit	8
9	Lighting (1st floor)	20 A	1			210 VA	180 VA			1	20 A	Bath Receptacle(Cellar)	10
11	Receptacle(Cellar)	20 A	1					900 VA	900 VA	1	20 A	Receptacle	12
13	Computer Receptacle(Cellar)	20 A	1	720 VA	540 VA					1	20 A	GFI/WP Receptacle(Cellar)	14
15	GFI Receptacle (Cellar)	20 A	1			180 VA	900 VA			1	20 A	Receptacle(Cellar)	16
17	Receptacle	20 A	1					720 VA	250 VA	2	15 A	ERV-1-18	18
19	EUH-1-3	20 A	1	1000 VA	250 VA					--	--	--	20
21	EUH-1-4	20 A	1			1000 VA	820 VA			1	20 A	Lighting(Cellar)	22
23	Lighting(Cellar)	20 A	1					195 VA	75 VA	1	20 A	Corridor Lighting(Cellar)	24
25	Corridor EM Lighting(Cellar)	20 A	1	93 VA	700 VA					1	20 A	Lighting - Exterior	26
27	AC-C-1	15 A	2			250 VA	250 VA			2	15 A	AC-C-2	28
29	--	--	--					250 VA	250 VA	--	--	--	30
31	AC-C-3	15 A	2	250 VA	250 VA					2	15 A	AC-C-4	32
33	--	--	--			250 VA	250 VA			--	--	--	34
35	AC-C-5	15 A	2					250 VA	250 VA	2	15 A	AC-C-6	36
37	--	--	--	250 VA	250 VA					--	--	--	38
39	AC-C-7	15 A	2			250 VA	250 VA			2	15 A	AC-C-8	40
41	--	--	--					250 VA	250 VA	--	--	--	42
43	CP	20 A	1	540 VA	6000 VA					3	80 A	HWHT-3	44
45	Duplex SP-3	20 A	3			1660 VA	6000 VA			--	--	--	46
47	--	--	--					1660 VA	6000 VA	--	--	--	48
49	--	--	--	1660 VA	4010 VA					3	50 A	Duplex BP-1	50
51	EUH-C-1	20 A	2			1500 VA	4010 VA			--	--	--	52
53	--	--	--					1500 VA	4010 VA	--	--	--	54
55	EUH-C-3	20 A	1	1000 VA	300 VA					1	20 A	FSD & DAMPERS	56
57	SP-1	20 A	1			506 VA	150 VA			2	20 A	BCCU-1-2, C-3 & C-4	58
59	EUH-C-4	25 A	2					2000 VA	150 VA	--	--	--	60
61	--	--	--	2000 VA	2000 VA					2	25 A	EUH-C-5	62
63	HRV-C-1	15 A	2			180 VA	2000 VA			--	--	--	64
65	--	--	--					180 VA	210 VA	1	20 A	Lighting	66
67	HRV-C-3	15 A	2	480 VA	1000 VA					1	20 A	EUH-C-2	68
69	--	--	--			480 VA	250 VA			2	15 A	HRV-1-19	70
71	EUH-C-10	25 A	2					2000 VA	250 VA	--	--	--	72
73	--	--	--	2000 VA	2000 VA					2	25 A	EUH-C-13	74
75	EUH-C-11	25 A	2			2000 VA	2000 VA			--	--	--	76
77	--	--	--					2000 VA	400 VA	1	20 A	MD	78
79	EUH-C-12	25 A	2	2000 VA	60 VA					1	20 A	VRF...	80
81	--	--	--			2000 VA	0 VA			1	20 A	Spare	82
83	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	84
		Total Load:		33478 VA		28410 VA		25232 VA					

Legend:

Branch Panel: HP-C-2

Location:
Supply From:
Mounting:
Enclosure: NEMA -1

Volts: 120/208
Phases: 3
Wires: 4

A.I.C. Rating: 22 KAIC
Mains Rating: 200A
BUS Rating: 225A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	BFM 136 Submeter	20 A	3	0 VA	0 VA					3	20 A	BFM 136 Submeter	2
3	--	--	--			0 VA	0 VA			--	--	--	4
5	--	--	--					0 VA	0 VA	--	--	--	6
7	BFM 136 Submeter	20 A	3	0 VA	0 VA					3	20 A	BFM 136 Submeter	8
9	--	--	--			0 VA	0 VA			--	--	--	10
11	--	--	--					0 VA	0 VA	--	--	--	12
13	EUH-C-6	25 A	2	2000 VA	250 VA					2	15 A	AC-1-23	14
15	--	--	--			2000 VA	250 VA			--	--	--	16
17	EUH-C-7	25 A	2					2000 VA	30 VA	1	20 A	GXF-C-2	18
19	--	--	--	2000 VA	30 VA					1	20 A	GXF-C-1...	20
21	EUH-C-8	25 A	2			2000 VA	506 VA			1	20 A	SP-2	22
23	--	--	--					2000 VA	506 VA	1	20 A	SP-4	24
25	EUH-C-9	25 A	2	2000 VA	180 VA					1	20 A	Refrigerator	26
27	--	--	--			2000 VA	1440 VA			1	20 A	Dishwasher	28
29	Island Hood	20 A	1					180 VA	3163 VA	2	40 A	Wall Oven	30
31	Electric Range	70 A	2	5500 VA	3163 VA					--	--	--	32
33	--	--	--			5550 VA	1440 VA			1	20 A	Dishwasher	34
35	Trash Compactor	20 A	2					500 VA	360 VA	1	20 A	Kitchen island	36
37	--	--	--	500 VA	540 VA					1	20 A	Small Appliance Ckt	38
39	EVSE-1	50 A	2			3100 VA	250 VA			2	15 A	OAF-1	40
41	--	--	--					3100 VA	250 VA	--	--	--	42
43	EVSE-2	50 A	2	3100 VA	4167 VA					3	50 A	EDH	44
45	--	--	--			3100 VA	4167 VA			--	--	--	46
47	Spare	20 A	1					0 VA	4167 VA	--	--	--	48
49	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	50
51	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	52
53	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	54
55	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	56
57	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	58
59	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	60
61	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	62
63	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	64
65	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	66
67	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	68
69	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	70
71	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	72
		Total Load:		23429 VA		25803 VA		16255 VA					

Legend:

Branch Panel: LP-C

Location: LAUNDRY ROOM
Supply From:
Mounting:
Enclosure: Type 1

Volts: 120/208
Phases: 3
Wires: 4

A.I.C. Rating: 22 KAIC
BUS Rating: 225
MCB Rating: 125

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle	20 A	1	180 VA	180 VA					1	20 A	Receptacle	2
3	Washer	20 A	1			1500 VA	1500 VA			1	20 A	Washer	4
5	Washer	20 A	1					1500 VA	1500 VA	1	20 A	Washer	6
7	Dryer	30 A	2	2500 VA	2500 VA					2	30 A	Dryer	8
9	--	--	--			2500 VA	2500 VA			--	--	--	10
11	Dryer	30 A	2					2500 VA	2500 VA	2	30 A	Dryer	12
13	--	--	--	2500 VA	2500 VA					--	--	--	14
15	Lighting (Loundry Area)	20 A	1			120 VA	50 VA			2	20 A	VFD FO DXF	16
17	DXF-1	20 A	1					506 VA	50 VA	--	--	--	18
19	Spare	20 A	1	0 VA	500 VA					3	20 A	MAF-1	20
21	DXF CONTROLLER	20 A	1			60 VA	500 VA			--	--	--	22
23	Spare	20 A	1					0 VA	500 VA	--	--	--	24
25	EDH-1	50 A	3	4630 VA	250 VA					2	15 A	AC-C-12	26
27	--	--	--			4630 VA	250 VA			--	--	--	28
29	--	--	--					4630 VA	0 VA	1	20 A	Spare	30
		Total Load:		15740 VA		13604 VA		13686 VA					

Legend:

Branch Panel: HP-3

Location:
Supply From:
Mounting:
Enclosure:

Volts: 120/208
Phases: 3
Wires: 4

A.I.C. Rating: 22 KAIC
BUS Rating: 125A
MCB Rating: 100A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EM Lighting (2nd floor)	20 A	1	182 VA	1816...					1	20 A	Lighting (2nd floor)	2
3	EM Lighting (3rd floor)	20 A	1			148 VA	1816 VA			1	20 A	Lighting (3rd floor)	4
5	Lighting - Exterior(3rd floor)	20 A	1					210 VA	720 VA	1	20 A	Lighting - Exterior(4th floor)	6
7	EM Lighting (4th floor)	20 A	1	104 VA	1072...					1	20 A	Lighting (4th floor)	8
9	Lighting - Exterior(4th floor)	20 A	1			140 VA	1080 VA			1	20 A	Receptacle (2nd floor)	10
11	Receptacle (2nd floor)	20 A	1					540 VA	1080 VA	1	20 A	Receptacle (3rd floor)	12
13	Receptacle (3rd floor)	20 A	1	540 VA	1080...					1	20 A	Receptacle(4th floor)	14
15	Small Appliance Ckt	20 A	1			180 VA	1300 VA			1	20 A	Refrigerator	16
17	Rang Hood	20 A	1					180 VA	360 VA	1	20 A	Small Appliance Ckt	18
19	Oven	50 A	2	4000 VA	1100...					1	20 A	Microwave	20
21	--	--	--			4000 VA	250 VA			2	15 A	ERV-3-20	22
23	ERV-2-21	15 A	2					250 VA	250 VA	--	--	--	24
25	--	--	--	250 VA	250 VA					2	15 A	ERV-4-2	26
27	AC-4-5	15 A	2			250 VA	250 VA			--	--	--	28
29	--	--	--					250 VA	250 VA	2	15 A	AC-4-4	30
31	CP	20 A	1	1000 VA	250 VA					--	--	--	32
33	MD	20 A	1			50 VA	500 VA			1	20 A	EUH-2-1	34
35	DAMPERS 4TH FLOOR	20 A	1					200 VA	100 VA	2	20 A	BCCU-3-2 & 4-2	36
37	BCCU-2-2	20 A	2	50 VA	100 VA					--	--	--	38
39	--	--	--			50 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
		Total Load:		11784 VA		10003 VA		4353 VA					

Legend:

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NOTES:

NORTH:

Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED FOR BID - 75% DD	10/21/2019
4	100% DD	11/14/2019
5	50% CD	03/20/2020
6	75% CD	04/22/2020
7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	REVISED CD SET	09/07/2021
11	ADDENDUM#1 (1)	01/05/2022

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

ELECTRICAL PANEL SCHEDULES SHEET (4 0F 5)

Date: 5.31.2019

Seal/Signature:

Scale:

Drawn By #: NYE

Chkd By #: NYE

Drawing #:

E-603.00

DOB #:

Sheet #: of

Branch Panel: HP-R-1

Location: ROOF
Supply From:
Mounting:
Enclosure: NEMA -3R

Volts: 120/208
Phases: 3
Wires: 4

A.I.C. Rating: 22 KAIC
Mains Rating: 200A
BUS Rating: 225A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle	20 A	1	900 VA	1000 VA					1	20 A	EUH-4-2	2
3	EUH-4-1	20 A	1			500 VA	250 VA			2	15 A	HRV-4-3	4
5	EUH-R-1	20 A	1					1000 VA	250 VA	--	--	--	6
7	EUH-R-2	20 A	1	1000 VA	100 VA					1	20 A	MD	8
9	Lighting (Roof)	20 A	1			1172 VA	50 VA			1	20 A	HWCP-1	10
11	HWCP-H1H2,H3	20 A	1					500 VA	506 VA	1	20 A	EXF-1	12
13	HWCP-2	20 A	1	700 VA	2000 VA					1	20 A	EDH-R-1	14
15	Receptacle	20 A	1			540 VA	180 VA			1	20 A	HYDRO KIT CONTROLLER	16
17	Spare	20 A	1					0 VA	506 VA	1	20 A	OAF-2	18
19	HYDROKIT H-1	50 A	2	2500 VA	2500 VA					2	50 A	HYDROKIT H-2	20
21	--	--	--			2500 VA	2500 VA			--	--	--	22
23	HYDROKIT H-3	50 A	2					2500 VA	2500 VA	2	50 A	HYDROKIT H-4	24
25	--	--	--	2500 VA	2500 VA					--	--	--	26
27	HYDROKIT H-5	50 A	2			2500 VA	2500 VA			2	50 A	HYDROKIT H-6	28
29	--	--	--					2500 VA	2500 VA	--	--	--	30
31	HYDROKIT H-7	15 A	2	100 VA	270 VA					1	20 A	Lighting (Roof)	32
33	--	--	--			100 VA	100 VA			2	15 A	HYDROKIT H-8	34
35	HYDROKIT H-9	15 A	2					100 VA	100 VA	--	--	--	36
37	--	--	--	100 VA	100 VA					2	15 A	HYDROKIT H-10	38
39	HYDROKIT H-11	15 A	2			100 VA	100 VA			--	--	--	40
41	--	--	--					100 VA	100 VA	2	15 A	HYDROKIT H-12	42
43	IHWHT-1	20 A	1	50 VA	100 VA					--	--	--	44
45	IHWHT-1	20 A	1			50 VA	100 VA			2	20 A	BCCU-C-1 & 1-1	46
47	IHWHT-1	20 A	1					50 VA	100 VA	--	--	--	48
49	IHWHT-2	20 A	1	50 VA	100 VA					2	20 A	BCCU-2-1 & 3-1	50
51	HWCP-H4 TO H7	20 A	1			500 VA	100 VA			--	--	--	52
53	HWCP- H8 TO H12	20 A	1					500 VA	100 VA	2	20 A	BCCU-4-1 & C-2	54
55	Spare	20 A	1	0 VA	100 VA					--	--	--	56
57	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	58
59	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	60
61													62
63													64
65													66
67													68
69													70
71													72
	Total Load:			16657 VA		13841 VA		13912 VA					

Legend:

Branch Panel: RP-C

Location:
Supply From:
Mounting:
Enclosure:

Volts: 120/208
Phases: 3
Wires: 4

A.I.C. Rating: 22 KAIC
BUS Rating: 400A
MCB Rating: 400A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Lighting(Cellar)	20 A	1	320 VA	92 VA					1	20 A	EM Lighting(Cellar)	2
3	Lighting(Cellar)	20 A	1			320 VA	265 VA			1	20 A	Lighting(Cellar)	4
5	Receptacle	20 A	1					720 VA	180 VA	1	20 A	Receptacle	6
7	Bath Receptacle	20 A	1	180 VA	9600...					3	100 A	RP-1 Panel	8
9	Elevator-3	100 A	3			7133 VA	9600 VA			--	--	--	10
11	--	--	--					7133...	9600 VA	--	--	--	12
13	--	--	--	7133 VA	6000...					3	80 A	HWHT-3	14
15	ERV-C-5	15 A	2			180 VA	6000 VA			--	--	--	16
17	--	--	--					180 VA	6000 VA	--	--	--	18
19	AC-C-9	15 A	2	250 VA	250 VA					2	15 A	AC-C-10	20
21	--	--	--			250 VA	250 VA			--	--	--	22
23	AC-C-11	15 A	2					250 VA	60 VA	1	20 A	CP	24
25	--	--	--	250 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	ACCU-5	40 A	3	4400 VA	0 VA					1	20 A	Spare	32
33	--	--	--			4400 VA	0 VA			1	20 A	Spare	34
35	--	--	--					4400...	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
	Total Load:			28456 VA		28369 VA		28523 VA					

Legend:

Branch Panel: RP-1

Location:
Supply From:
Mounting:
Enclosure:

Volts: 120/208
Phases: 3
Wires: 4

A.I.C. Rating: 22 KAIC
Mains Rating: 125A
MLO Rating: 100A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle (1st floor)	20 A	1	540 VA	300 VA					1	20 A	Lighting (1st floor)	2
3	Exterior Lighting (1st floor)	20 A	1			280 VA	0 VA			1	20 A	Spare	4
5	AC-1-20	15 A	2					250 VA	0 VA	1	20 A	Spare	6
7	--	--	--	250 VA	0 VA					1	20 A	Spare	8
9	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	10
11	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	12
13													14
15													16
17													18
19													20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
	Total Load:			1079 VA		280 VA		250 VA					

Legend:

Branch Panel: HP-G

Location: GREENHOUSE
Supply From:
Mounting:
Enclosure:

Volts: 120/208
Phases: 3
Wires: 4

A.I.C. Rating: 22 KAIC
BUS Rating: 125A
MCB Rating: 100A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle	20 A	1	720 VA	1000...					3	25 A	ERV-C-4	2
3	ACCU-9	50 A	2			1000 VA	1000 VA			--	--	--	4
5	--	--	--					1000...	1000 VA	--	--	--	6
7	Lighting	20 A	1	320 VA	480 VA					1	20 A	Lighting	8
9	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	10
11	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	14
15	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	16
17	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19													20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
	Total Load:			2493 VA		2000 VA		2000 VA					

Legend:

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NOTES:

NORTH:

Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED FOR BID - 75% DD	10/21/2019
4	100% DD	11/14/2019
5	50% CD	03/20/2020
6	75% CD	04/22/2020
7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	REVISED CD SET	09/07/2021
11	ADDENDUM#1 (1)	01/05/2022

MEP:
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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES

FOR:

–

Drawing Tile:

ELECTRICAL PANEL SCHEDULES SHEET (5 0F 5)

Date: 5.31.2019

Seal/Signature:

Scale:

Drawn By #: NYE

Chkd By #: NYE

Drawing #:

E-604.00

DOB #:

Sheet #: of

BUILDING DATA

PROJECT DESCRIPTION		BUILDING OCCUPANCY				BUILDING DESCRIPTION						FIRE ALARM SYSTEM FEATURES	
X	NEW BUILDING		ASSEMBLY GROUP A (A1,A2,A3,A4 AND A5)	X	RESIDENTIAL GROUP R (R2)	5	TOTAL NUMBER OF LEVELS		ATRIUM		STAIR PRESSURIZATION		NON-VOICE EVACUATION
	FIRE ALARM SYSTEM UPGRADE		BUSINESS GROUP B		STORAGE GROUP S (S1 AND S2)	4	ABOVE GROUND LEVELS	FIRST	FIRE DEPARTMENT ACCESS		POST FIRE SMOKE PURGE		VOICE EVACUATION
	LIFE SAFETY SYSTEM UPGRADE		EDUCATIONAL GROUP E		UTILITY AND MISCELLANEOUS GROUP U	1	BELOW GROUND LEVELS	X	FULLY SPRINKLERED		GENERATOR		PARTIAL/SELECTIVE EVACUATION
	RENOVATION		FACTORY INDUSTRIAL GROUP F (F1 AND F2)		OTHER:	2	NUMBER OF ELEVATOR BANKS		PARTIALLY SPRINKLERED	X	SPRINKLER BOOSTER PUMP		GENERAL EVACUATION
	EMERGENCY REPAIR		HIGH-HAZARD GROUP H (H1,H2,H3,H4 AND H5)			2	NUMBER OF EGRESS STAIRS		NON-SPRINKLERED		OTHER:		DIGITAL ALARM COMMUNICATOR
	TENANT ADDITION		INSTITUTIONAL GROUP I (I1,I2 AND I3)			X	LOW RISE BUILDING		PRE-ACTION SPRINKLER		OTHER:		PRE-SIGNAL SYSTEM
	OTHER:		MERCANTILE GROUP M			45'-0"	TOTAL HEIGHT						FIRE FIGHTER'S TELEPHONE SYSTEM

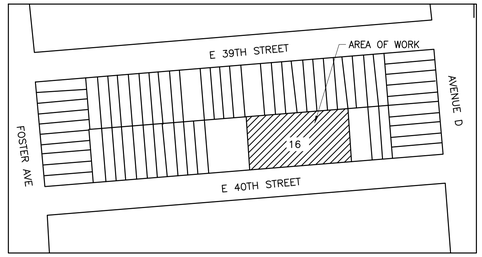
FIRE ALARM SYMBOL LIST

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
CM	ADDRESSABLE CONTROL MODULE	F	FIRE ALARM MANUAL PULL STATION, WALL MOUNTED (48" AFF)
S	CEILING MOUNTED AREA SMOKE DETECTOR	PULL BOX	PULL BOX OF 12"Wx18"Hx6"D
S ELV	CEILING MOUNTED ELEVATOR LOBBY SMOKE DETECTOR	TS	TAMPER SWITCH
D	DUCT MOUNTED SMOKE DETECTOR	WF	WATER FLOW SWITCH
FACP	FIRE ALARM CONTROL PANEL	MM	MONITOR MODULE
	ELEVATOR CONTROLLER	FSD	FIRE SMOKE DAMPER, REFER TO MECH. PLANS FOR FURTHER INFORMATION.
SV	SMOKE VENT	R	FIRE ALARM RELAY
PT	FIRE PUMP TROUBLE		MOTOR CONTROLLER
PR	FIRE PUMP RUNNING	FDS	FUSED DISCONNECT SWITCH, REFER TO RISER DIAGRAM FOR FURTHER INFORMATION.
PH	FIRE PUMP PHASE REVERSAL	——	SOLID THICK LINE INDICATES NEW DEVICE OR WIRING
H	HEAT DETECTOR	- - -	DOTTED LINE INDICATES EXISTING DEVICE OR WIRING

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
C	CONDUIT
E	EXISTING
EL	EXISTING TO BE LOWERED
ELV	ELEVATOR LOBBY
EMT	ELECTRIC METALLIC TUBING
ER	EXISTING TO BE RELOCATED
FA	FIRE ALARM
FCS	FIRE COMMAND STATION
FACP	FIRE ALARM CONTROL PANEL
FDS	FUSED DISCONNECT SWITCH
G	GROUND
N	NEW
NTS	NOT TO SCALE
R	REMOVE
RGS	RIGID GALVANIZED STEEL
RP	RELOCATED POSITION
UON	UNLESS OTHERWISE NOTED
W	WIRE

KEY PLAN:



BETHANY SENIOR 604 E 40TH ST, BROOKLYN, NEW YORK,11203

BLOCK: 4973
LOT: 16

N

PLOT PLAN
N.T.S.

TYPE OF DESIGN

INSTALLATION OF AUTOMATIC SMOKE/HEAT DETECTION AND SPRINKLER ALARM SYSTEM.

FIRE ALARM DRAWING LIST

FA-001.00	FIRE ALARM NOTES, BUILDING DATA, SYMBOL & DRAWING LIST, & I/O MATRIX
FA-002.00	FIRE ALARM SYSTEM GENERAL NOTES.
FA-003.00	FIRE ALARM DETAILS.
FA-004.00	FIRE ALARM RISER DIAGRAM.
FA-100.00	CELLAR & FIRST FLOOR FIRE ALARM PLAN.
FA-101.00	2ND & 3RD FLOOR FIRE ALARM PLAN.
FA-102.00	4TH FLOOR & ROOF FIRE ALARM PLAN.

I/O MATRIX:

	SYSTEM OUTPUTS INDICATING/CONTROLLED DEVICES / SYSTEM OUTPUTS INITIATING DEVICES	CONTROL UNIT ANNUNCIATION						NOTIFICATION								REQUIRED FIRE SAFETY CONTROL				
		ACTIVATE COMMON ALARM SIGNAL INDICATOR ON LCD OF FIRE ALARM CONTROL PANEL & OUTLYING ANNUNCIATORS	ACTIVATE COMMON "SUPERVISORY" SIGNAL INDICATOR ON LCD OF FIRE ALARM CONTROL PANEL & OUTLYING ANNUNCIATORS.	ACTIVATE COMMON "TROUBLE SIGNAL INDICATOR ON LCD OF FIRE ALARM CONTROL PANEL & OUTLYING ANNUNCIATORS.	SOUND INTERNAL BUZZER AT FIRE ALARM CONTROL PANEL & OUTLYING ANNUNCIATORS.	TEXT MESSAGE DISPLAY DEVICE TYPE & LOCATION OF THE ACTIVATING DEVICES ON LCD OF FIRE ALARM CONTROL PANEL & OUTLYING ANNUNCIATORS.	ACTIVATE THE FLASHING "FIRE"SIGN AT THE FIRE ALARM CONTROL PANEL	DISPLAY/PRINT THE TEXT MESSAGE VIA THE SYSTEM PRINTER.	TRANSMIT "MANUAL" ALARM SIGNAL TO FIRE DEPARTMENT VIA AN APPROVED CENTRAL STATION MONITORING COMPANY.	TRANSMIT "SMOKE/HEAT" ALARM SIGNAL TO FIRE DEPARTMENT VIA AN APPROVED CENTRAL STATION MONITORING COMPANY.	TRANSMIT "WATERFLOW" ALARM SIGNAL TO FIRE DEPARTMENT VIA AN APPROVED CENTRAL STATION MONITORING COMPANY.	TRANSMIT "SUPERVISORY" ALARM SIGNAL TO FIRE DEPARTMENT VIA AN APPROVED CENTRAL STATION MONITORING COMPANY.	TRANSMIT "TROUBLE" ALARM SIGNAL TO FIRE DEPARTMENT VIA AN APPROVED CENTRAL STATION MONITORING COMPANY.	TRANSMIT "PUMP RUN" ALARM SIGNAL TO FIRE DEPARTMENT VIA AN APPROVED CENTRAL STATION MONITORING COMPANY.	TRANSMIT "PUMP FAIL" ALARM SIGNAL TO FIRE DEPARTMENT VIA AN APPROVED CENTRAL STATION MONITORING COMPANY.	INITIATE THE AUTOMATIC FIRE MODE CONDITIONS FOR FAN (AC UNIT)OPERATION, PROCEED AC UNIT SHUTDOWN SEQUENCE.	INITIATES THE AUTOMATIC FIRE MODE CONDITIONS FOR FIRE SMOKE DAMPER OPERATION, PROCEED FIRE SMOKE DAMPER SHUTDOWN SEQUENCE.	RECALL ELEVATORS TO GROUND FLOOR.	RELEASE/ OPEN ASSOCIATED SMOKE VENTS (AREA DETECTOR ONLY)	RELEASE FIRE STAIR SMOKE VENT
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	MANUAL STATION	●			●	●	●	●	●											
2	WATERFLOW SWITCH	●			●	●	●	●			●					●	●	●		
3	DUCT SMOKE DETECTOR	●			●	●	●	●		●						●	●			
4	AREA SMOKE DETECTOR	●			●	●	●	●		●						●	●		●	●
5	HEAT DETECTOR	●			●	●		●		●						●	●			
6	ELEVATOR MACHINE ROOM SMOKE DETECTOR	●	●		●	●	●	●		●		●				●	●	●		
7	ELEVATOR LOBBY DETECTOR(S)/ TOP OF ELEVATOR SHAFT DETECTORS	●	●		●	●	●	●		●		●				●	●	●		
8	SPRINKLER CONTROL VALVE/ TAMPER SWITCH		●		●	●		●				●								
9	"POWER FAILURE" CONTACT IN FIRE PUMP CONTROLLER				●	●		●				●			●					
10	"PUMP RUNNING" CONTACT IN FIRE PUMP CONTROLLER		●		●	●		●				●		●						
11	TOP OF STAIR SMOKE DETECTORS	●	●		●	●		●		●						●	●			
12	FIRE ALARM AC POWER FAILURE			●	●	●		●					●							
13	FIRE ALARM SYSTEM LOW BATTERY			●	●	●		●					●							
14	OPEN CIRCUIT			●	●	●		●					●							
15	GROUND CIRCUIT			●	●	●		●					●							

FIRE ALARM NOTES:

1. ALL EQUIPMENT AND WIRING INDICATED ON THESE PLANS IS NEW (U.O.N.).
2. PROVIDE WIRING AS REQUIRED BETWEEN ALL DEVICES AND EQUIPMENT AS REQUIRED TO PERFORM FIRE ALARM SYSTEM FUNCTIONS.
3. WIRING FOR FIRE ALARM DEVICES IN FINISHED SPACES WITHOUT HUNG CEILING SHALL BE INSTALLED IN EMT CONDUIT.
4. ALL STROBES AND HORN/STROBES SHALL BE FLUSH WALL MOUNTED FINISH BY ARCHITECT, APPROVED FOR USE IN NYC.
5. FOR WALL MOUNTED F.A. DEVICES PROVIDE 3/4" CONDUIT TERMINATED IN NEAREST ACCESSIBLE CEILING.
6. WIRING FOR FIRE ALARM DEVICES IN UNFINISHED SPACES SHALL BE INSTALLED IN RGS CONDUIT UP TO 8'-0" AFF AND THEN IN EMT CONDUIT ABOVE 8'-0" AFF.
7. FOR LOCATIONS AND QUANTITIES OF DEVICES REFER TO FIRE ALARM FLOOR PLANS. WHERE THERE ARE DISCREPANCIES BETWEEN THE PLANS AND THE RISER DIAGRAM, THE GREATER QUANTITY SHALL BE USED.
8. CONTRACTOR SHALL VERIFY ALL WIRING WITH FIRE ALARM VENDOR AND OBTAIN WIRING DIAGRAMS BEFORE PROCEEDING WITH THE START OF ANY WORK.
9. ALL WIRING SHALL BE IN ACCORDANCE WITH THE NYC ELECTRICAL CODE 760.179(D).
10. PROVIDE FAN SHUT DOWN CAPABILITY FOR FANS WITH A RATING LARGER THAN 2,000 CFM. SHUT DOWN SHALL BE ACCOMPLISHED BY ONE OR MORE OUTPUT CONTROL POINTS FROM THE FIRE ALARM SYSTEM TO RELAYS FOR SHUTDOWN. PROVIDE CONTROL AND MONITORING FOR ALL RELAYS. PROVIDE POWER, CONTROL RELAYS, MONITORING AND WIRING FOR ALL FIRE/SMOKE DAMPERS.
11. PROVIDE ALL REQUIRED EXPANSION PANELS, PC BOARDS, POWER SUPPLIES, BATTERIES, FUSE CUTOUTS AND BRANCH CIRCUITS, ETC, FOR A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM.
12. CONTRACTOR SHALL PERFORM ALL NYC BUILDING DEPT. FILINGS AND OBTAIN ALL APPROVALS. CONTRACTOR SHALL OBTAIN ALL REQUIRED SIGNED & SEALED NYC BUILDING DEPT. FORMS AND ALL REQUIRED SETS OF DRAWINGS FROM ENGINEER OF RECORD AND BUILDING DEPT. EXPEDITOR.
13. UPON COMPLETION OF INSTALLATION THE SYSTEM SHALL BE 100% PRE-TESTED BY THE FIRE ALARM VENDOR AND THE LICENSED ELECTRICAL CONTRACTOR PRIOR TO FDNY INSPECTION.
14. CONTRACTOR SHALL SUBMIT TO THE ENGINEER A MARKUP OF FA DRAWINGS INDICATING "AS-BUILT" CONDITIONS FOR ENGINEER'S REFERENCE. IN PREPARING "AS-BUILT" DRAWINGS FOR FILING, CONTRACTOR SHALL SIGN "AS-BUILT" STATING A FUNCTIONAL TEST HAS BEEN CONDUCTED OF THE FIRE ALARM SYSTEM AND THE SYSTEM OPERATES AS DESIGNED AND IN ACCORDANCE WITH THE INPUT/OUTPUT PROGRAMMING MATRIX IN ACCORDANCE WITH 3 RCNY & 105-01.

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	50% CD	03/20/2020
6	75% CD	04/22/2020
7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	ADDENDUM#1	01/05/2022

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TEL:212.575.5300

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DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES
604 EAST 40TH ST,
BROOKLYN, NY, 11203

Drawing Tile:

FIRE ALARM NOTES, BUILDING DATA, SYMBOL & DRAWING LIST, & I/O MATRIX

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"
Drawn By #: NYE
Chkd By #: NYE
Drawing #: FA-001.00

DOB #:

Sheet #: of

FIRE ALARM SYSTEM GENERAL NOTES:

1. ALL EQUIPMENT AND WIRING SHOWN ON THE ABOVE RISER DIAGRAM IS NEW (U.O.N.) AND IS BASED ON THE EDWARDS SYSTEM TECHNOLOGY PLATFORM. THE ELECTRICAL CONTRACTOR SHALL CONTACT, DANA FERRER OF EDWARDS SYSTEM TECHNOLOGY, UTC BUILDING & INDUSTRIAL SYSTEMS, TEL. NO. 860-676-6410 AND/OR DANA.FERRER@FS.UTC.COM FOR THE EXACT SPECIFICATIONS OF ALL FIRE ALARM DEVICES AND EQUIPMENT REQUIRED.
2. ALL WIRING, POWER, CONDUCTORS, CONDUITS ETC. SHALL MEET THE 2011 NYC ELECTRICAL CODE.
3. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2014 NYC BUILDING CODE AND IN ACCORDANCE WITH APPENDIX Q AND K, NYC FIRE ALARM RULES, AND 2010 NFPA 72 AS AMENDED BY APPENDIX Q.
4. ALL FIRE ALARM EQUIPMENT SHALL BE NYC APPROVED (MEA, BSA OR COA APPROVED).
5. ALL FIRE ALARM CIRCUITS SHALL BE SIZED TO A MAXIMUM OF 80% OF CAPACITY.
6. CONDUITS MAY NOT ENTER THE TOP OF ANY FIRE ALARM EQUIPMENT CABINET.
7. ALL FIRE ALARM EQUIPMENT SHALL BE INSTALLED WITH AESTHETICS IN MIND. CABINETS SHALL BE SEMI FLUSH MOUNTED AND CABLE TRAYS SHALL BE HIDDEN.
8. ALL FIRE ALARM CABINETS AND JUNCTION BOXES SHALL BE PAINTED FIRE DEPARTMENT RED. ALL FIRE ALARM CABINETS SHALL BE CLEARLY LABELED WITH A NYC APPROVED LAMINATE ENGRAVED LABEL.
9. ALL FIRE ALARM WIRE SHALL BE CLEARLY LABELED IN JUNCTION BOXES AND CABINETS. ALL TERMINALS SHALL BE NUMBERED AND LABELED. ALL CONNECTIONS SHALL BE EITHER SOLDERED, APPROVED TERMINAL STRIPS OR SCOTCH LOCKS.
10. ALL LOW VOLTAGE FIRE ALARM CONDUCTORS SHALL BE PROTECTED BY EITHER BUILDING CONSTRUCTION OR CONDUIT TO 8 FEET ABOVE THE FINISHED FLOOR. LOADING DOCKS, GARAGES, SUPPRESSION AND EXTINGUISHING SYSTEM WIRING, MECHANICAL AND ELECTRICAL ROOMS AND OTHER LOCATIONS SUBJECT TO MECHANICAL DAMAGE SHALL BE IN FULL RIGID CONDUIT. IN ALL OTHER AREAS, NYC APPROVED WIRE MAY BE RUN WITHOUT CONDUIT ABOVE 8 FT. PROVIDED IT MEETS NYC ARTICLE 760 AND CONNECTS TO BUILDING CONSTRUCTION USING A NYC APPROVED MEANS.
11. FIRE ALARM CABLES SHALL NOT BE MIXED WITH NON FIRE ALARM CABLING. LOW VOLTAGE FIRE ALARM CABLING SHALL NOT BE MIXED OR WIRED NEAR ANY AC CIRCUIT.
12. ALL LOW VOLTAGE WIRING SHALL BE FPLP 150 DEGREE C NYC CERTIFIED WIRE. ALL NOTIFICATION CIRCUITS SHALL BE A MINIMUM OF 14 AWG AND ALL OTHER LOW VOLTAGE FIRE ALARM CIRCUITS SHALL BE 16 AWG MINIMUM.
13. POLARITY SHALL BE OBSERVED ON ALL CIRCUITS. T-TAPPING SHALL NOT BE ALLOWED ON ANY NOTIFICATION CIRCUITS (HORN, STROBE OR SPEAKER). T-TAPPING SHALL NOT BE PERMITTED ON ADDRESSABLE CIRCUITS WITHOUT THE EXPRESS PERMISSION OF THE ENGINEER. DO NOT SPLICE FA CONNECTIONS.
14. ALL WIRING SHALL BE INSPECTED TO ASSURE THERE ARE NO OPENS, SHORTS OR EARTH GROUNDS.
15. SHIELDED CONDUCTORS OR RUNNING IN SEPARATE RACEWAY SHALL BE AS INSTRUCTED BY THE FIRE ALARM MANUFACTURER'S DOCUMENTATION. ALL NON-POWER LIMITED WIRING, INCLUDING CIRCUITS FOR CENTRALIZED AMPLIFIERS SHALL BE RUN IN A SEPARATE RACEWAY (NOTE: CENTRALIZED AMPLIFIERS "AMP RACKS" ARE NOT PERMITTED ON NEW SYSTEMS).
16. FIRE ALARM EQUIPMENT SHALL BE POWERED THROUGH AN APPROVED FUSE DISCONNECT SWITCH (FDS) CONNECTED AHEAD OF THE MAIN SERVICE SWITCH. THE FDS SHALL BE HEAVY DUTY (200,000 RMS SHORT CIRCUIT AMPS) SAFETY SWITCH @30 AMPS MINIMUM, PAINTED RED, INCLUDE A GROUND AND NEUTRAL KIT WITH GROUNDING SCREW (TO BOND NEUTRAL), INCLUDE A PADLOCK WITH Y1 CYLINDER KEYED TO A NYC/FDNY 2642 KEY (USE ABUS RE-KEYABLE 83-45 OR EQUIVALENT LOCK). ALL WIRING SHALL BE #10 MINIMUM THHN OR EQUIVALENT RUN IN ¾ INCH EMT/RGS AND IN ACCORDANCE WITH NYC REQUIREMENTS. THE GROUND TO THE FDS SHALL BE MADE USING A NYC ACCEPTED METHOD (SEE NYC ELECTRICAL CODE), AND THE GROUND WIRE TO THE FDS SHALL BE #8 MINIMUM (LARGER IF NECESSARY TO MEET FEED SIZE). THE EQUIPMENT GROUND LEAVING FROM THE FDS CONNECTING TO THE FIRE ALARM EQUIPMENT SHALL INCLUDE A #10 GREEN GROUND. THE FDS PANEL SHALL BEAR AN ENGRAVED WHITE-CORE PHENOLIC OR BAKELITE IDENTIFICATION NAMEPLATE STATING IN MINIMUM ONE-QUARTER INCH (1/4") HIGH WHITE LETTERS ON A RED BACKGROUND "FIRE ALARM FUSED DISCONNECT".
17. WHERE ADDITIONAL CIRCUITS ARE REQUIRED BY THE FIRE ALARM SYSTEM, A FUSED CUTOUT, PROPERLY SIZED SHALL BE INCLUDED, WIRED AFTER THE FDS. THE SIZE OF THE FUSES SHALL BE SIZED APPROPRIATELY BUT BE TWENTY (20) AMPERES MINIMUM AND EACH CIRCUIT SHALL ONLY FEED ONE "INDIVIDUAL" FIRE ALARM SYSTEM COMPONENT. THE FUSED CUT-OUT PANEL SHALL BEAR AN ENGRAVED WHITE-CORE PHENOLIC OR BAKELITE IDENTIFICATION NAMEPLATE STATING IN MINIMUM ONE-QUARTER INCH (1/4") HIGH WHITE LETTERS ON A RED BACKGROUND "FIRE ALARM FUSED CUT-OUT". THE NEUTRAL SHALL NOT BE BONDED IN THE FUSED CUTOUT.
18. A CENTRAL STATION DIALER AND TWO DEDICATED PHONE LINES SHALL BE PROVIDED INTEGRAL TO THE FIRE ALARM CONTROL PANEL. THE DIALER SHALL BE CAPABLE OF SENDING THE FOLLOWING EVENTS: ALARM, MANUAL STATION, WATERFLOW, SUPERVISORY, CARBON MONOXIDE, TROUBLE, PUMP RUNNING AND PUMP TROUBLE.
19. ALL AREA DETECTORS SHALL BE PHOTO-ELECTRIC TYPE.
20. SMOKE DETECTORS MUST BE MOUNTED AT LEAST 3 FT AWAY FROM ANY AIR REGISTER.
21. ALL CEILING MOUNT DEVICES MUST BE SECURELY FASTENED TO BUILDING CONSTRUCTION.
22. DEVICE LOCATIONS MUST BE READILY ACCESSIBLE TO ALLOW FOR MAINTENANCE AND REPAIR.
23. MANUAL STATIONS SHALL BE MOUNTED 48 INCHES ABOVE THE FINISHED FLOOR TO THE HANDLE OF THE STATION AND SHALL BE PAINTED FIRE DEPARTMENT RED. ALL MANUAL STATION SHALL BE INSTALLED SO THAT THEY ARE KEPT UN-OBSTRUCTED AT ALL TIMES.
24. ALL AUXILIARY RELAYS FOR FAN SHUTDOWN, DOOR RELEASE, DAMPER CONTROL, ELEVATOR CONTROL, ETC SHALL BE WIRED A MAXIMUM OF 3 FT FROM THE CONTROLLED DEVICE. THE AUXILIARY RELAY SHALL FUNCTION WITHIN THE REQUIRED VOLTAGE AND CURRENT OF THE CONTROLLED DEVICE. SLAVE OR INTERPOSING RELAYS SHALL BE INCLUDED AND POWERED BY THE FIRE ALARM CONTROL PANEL IN A FAIL-SAFE (FIRE FUNCTION) POSITION. POWER TO THE INTERPOSING RELAY SHALL BE MONITORED BY THE FIRE ALARM SYSTEM.
25. THE NYC FIRE DEPARTMENT SHALL APPROVE THE PLANS PRIOR TO THE BEGINNING OF ANY WORK.
26. LOCATIONS OF ALL FIRE ALARM EQUIPMENT SHALL BE SUBJECT TO THE NYC DEPARTMENT OF BUILDINGS AND FDNY APPROVAL. NO CHANGE OR MODIFICATION TO THE SYSTEM OR PLANS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE ENGINEER OF RECORD. IF ANY CHANGES ARE MADE TO THE DRAWINGS PRIOR TO OR DURING INSTALLATION, AS BUILT PLANS SHALL BE PREPARED BY THE ENGINEER AND FILED WITH THE APPROPRIATE NYC AGENCIES FOR FINAL ACCEPTANCE.
27. THE CONTRACTOR SHALL RETAIN A NY STATE PE TO SIGN AND SEAL ALL NECESSARY DOCUMENTS REQUIRED FOR INSPECTION AND TO OBTAIN A FINAL LETTER OF APPROVAL. THIS SHALL INCLUDE A SIGNED AND SEALED 11X17 AS-BUILT DRAWING, STATEMENT OF OPERATION, AN NFPA PROGRAMMING MATRIX, AND THE CONTRACTORS SIGNED AND SEALED A-433 FORM. THESE DOCUMENTS SHALL BE SUBMITTED AS NECESSARY TO THE NYC FIRE DEPARTMENT/NYC DEPARTMENT OF BUILDINGS TO OBTAIN A FIRE ALARM INSPECTION. IF A LETTER OF DEFECT IS ISSUED, THE CONTRACTOR SHALL CORRECT ALL ITEMS AND SUBMIT A SIGNED AND SEALED CERTIFICATE OF CORRECTION TO THE NYC FIRE DEPARTMENT TO OBTAIN A FINAL LETTER OF APPROVAL AT NO ADDITIONAL COST.
28. ALL REMOTE FIRE ALARM CONTROL CABINETS (DATA GATHERING PANELS, TTBS ETC) SHALL INCLUDE AN INTERNAL TAMPER SWITCH. EACH SHALL ALSO INCLUDE A SMOKE DETECTOR MOUNTED ON THE CEILING DIRECTLY ABOVE IT SHOULD ONE OR MORE NOT ALREADY BE SHOWN ON THE PLANS IN THE ROOM THE PANEL IS MOUNTED IN.
29. WIRING FOR FIRE ALARM DEVICES IN FINISHED SPACES WITHOUT HUNG CEILING SHALL BE INSTALLED IN EMT CONDUIT.
30. WIRING FOR FIRE ALARM DEVICES IN UNFINISHED SPACES SHALL BE INSTALLED IN RGS CONDUIT UP TO 8'-0" AFF AND THEN IN EMT CONDUIT ABOVE 8'-0" AFF.
31. FOR LOCATIONS AND QUANTITIES OF DEVICES REFER TO FIRE ALARM FLOOR PLANS. WHERE THERE ARE DISCREPANCIES BETWEEN THE PLANS AND THE RISER DIAGRAM, THE GREATER QUANTITY SHALL BE USED.
32. DO NOT SPLICE FIRE ALARM CONDUCTORS.
33. PROVIDE ALL REQUIRED EXPANSION PANELS, PC BOARDS, POWER SUPPLIES, BATTERIES, FUSED DISCONNECT SWITCHES, FUSE CUTOUTS AND BRANCH CIRCUITS, ETC., FOR A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM.
34. CONTRACTOR SHALL PERFORM ALL NYC BUILDING DEPT. FILINGS AND OBTAIN ALL APPROVALS. CONTRACTOR SHALL OBTAIN ALL REQUIRED SIGNED & SEALED NYC BUILDING DEPT. FORMS AND ALL REQUIRED SETS OF DRAWINGS FROM ENGINEER OF RECORD AND BUILDING DEPT. EXPEDITOR.
35. CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE FIRE ALARM MATRIX AND AN "AS-BUILT" RISER DIAGRAM ON 11"X17" SHEET SIGNED & SEALED BY THE LICENSED ELECTRICIAN OR FIRE ALARM VENDOR STATING THAT THE FIRE ALARM SYSTEM HAS BEEN TESTED AND IS OPERATING IN ACCORDANCE WITH THE SEQUENCE OF OPERATION. THE ENGINEER OF RECORD WILL THEN SIGN & SEAL THE DRAWING FOR FDNY INSPECTION.
36. ALL COMPONENTS REQUIRED TO MAKE SYSTEM WORKABLE SHALL BE INCLUDED IN BID PRICE.
37. FOR WALL MOUNTED F.A. DEVICES PROVIDE 3/4" CONDUIT TERMINATED IN NEAREST ACCESSIBLE CEILING.
38. ALL FIRE ALARM WIRING SHALL BE TEFLON "RED". WIRING INSTALLED IN NON ACCESSIBLE CEILING, EXPOSED BELOW 8' OR IN MECHANICAL ROOM AREA (NO CEILING) ROUTE IN CONDUIT.
39. COORDINATE FINAL MEANS AND METHODS, AND SCOPE OF WORK WITH THE ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS. BASE BID ACCORDINGLY.
40. CONTRACTOR SHALL FURNISH AND INSTALL ALL ROUGH-IN EQUIPMENT AND APPURTENANCES PER THE NYC 2011 ELECTRICAL CODE AS REQUIRED.
41. COORDINATE ALL WORK WITH ALL INVOLVED TRADE CONTRACTORS, EQUIPMENT VENDORS, UTILITIES AND THE OWNER AS REQUIRED. CONTRACTOR SHALL BASE HIS BID ACCORDINGLY.
42. FINAL CONDUIT/CABLE ROUTING SHALL BE DETERMINED IN-FIELD, AND PRIOR TO THE COMMENCEMENT OF WORK, COORDINATED WITH OTHER TRADE CONTRACTORS AND THE OWNER.
43. ALL EQUIPMENT SHALL BE INSTALLED AS PER MANUFACTURER'S INSTRUCTIONS.
44. REFER TO DWG. FA-001.00 FOR FIRE ALARM NOTES, SYMBOL LIST, ABBREVIATIONS AND FIRE ALARM RISER DIAGRAM.
45. ALL FIRE ALARM DEVICES ARE NEW, U.O.N.

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NOTES:

NORTH:

Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
5	50% CD	03/20/2020
6	75% CD	04/22/2020
7	100% CD	06/03/2020
8	PH REVISIONS	07/06/2020
9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	ADDENDUM#1	01/05/2022

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DOB APPROVE STAMPS:

DOB JOB STICKERS:

PROJECT:

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BROOKLYN, NY, 11203

Drawing Tile:

FIRE ALARM SYSTEM GENERAL NOTES

Date:

Seal/Signature:

Scale: 1/8" = 1'-0"

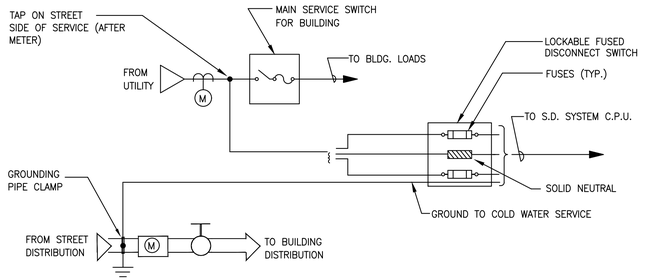
Drawn By #:NYE

Chkd By #:NYE

Drawing #:
FA-002.00

DOB #:

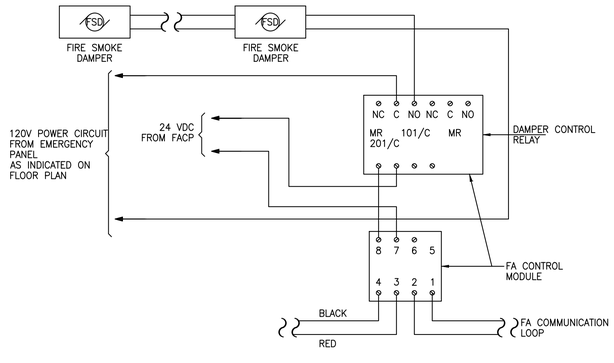
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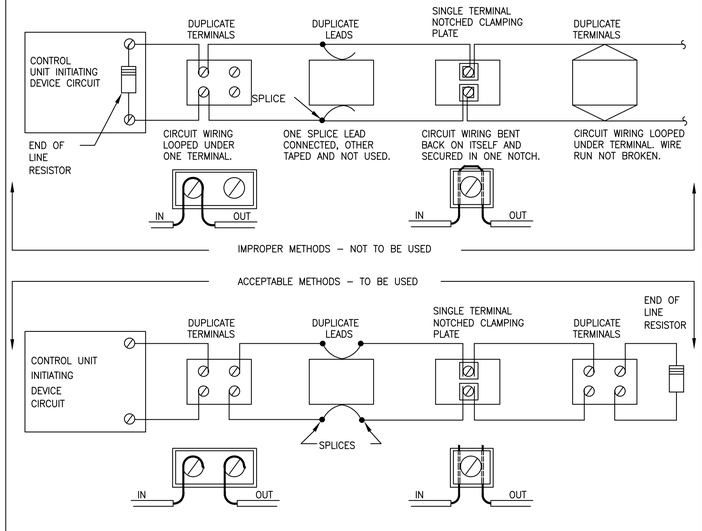
NOTES:

1. ALL CONDUCTORS (INCLUDING SERVICE TAP) MUST BE IN RIGID CONDUIT.
2. PROVIDE ENGRAVED LABELS FOR ALL EQUIPMENT.

2 FA–003 FIRE ALARM CONTROL PANEL ELECTRICAL SERVICE DETAILS N.T.S



3 FA–003 TYPICAL BLOCK WIRING DIAGRAM FOR FIRE/SMOKE DAMPER CONTROL N.T.S



1 FA–003 WIRING TERMINATION METHOD N.T.S

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Revision Schedule

#	Description	Date
1	SD SET	09/11/2019
2	ISSUED TO DOB	10/01/2019
3	ISSUED TO BID- 75% DD	10/21/2019
4	100% DD	11/14/2019
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9	ELEVATOR & GREENHOUSE REVISIONS	05/17/2021
10	ADDENDUM#1	01/05/2022

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DOB JOB STICKERS:

PROJECT:

BETHANY TERRACES
604 EAST 40TH ST,
BROOKLYN, NY, 11203

Drawing Tile:

FIRE ALARM DETAILS

Date:

Seal/Signature:

DOB #:

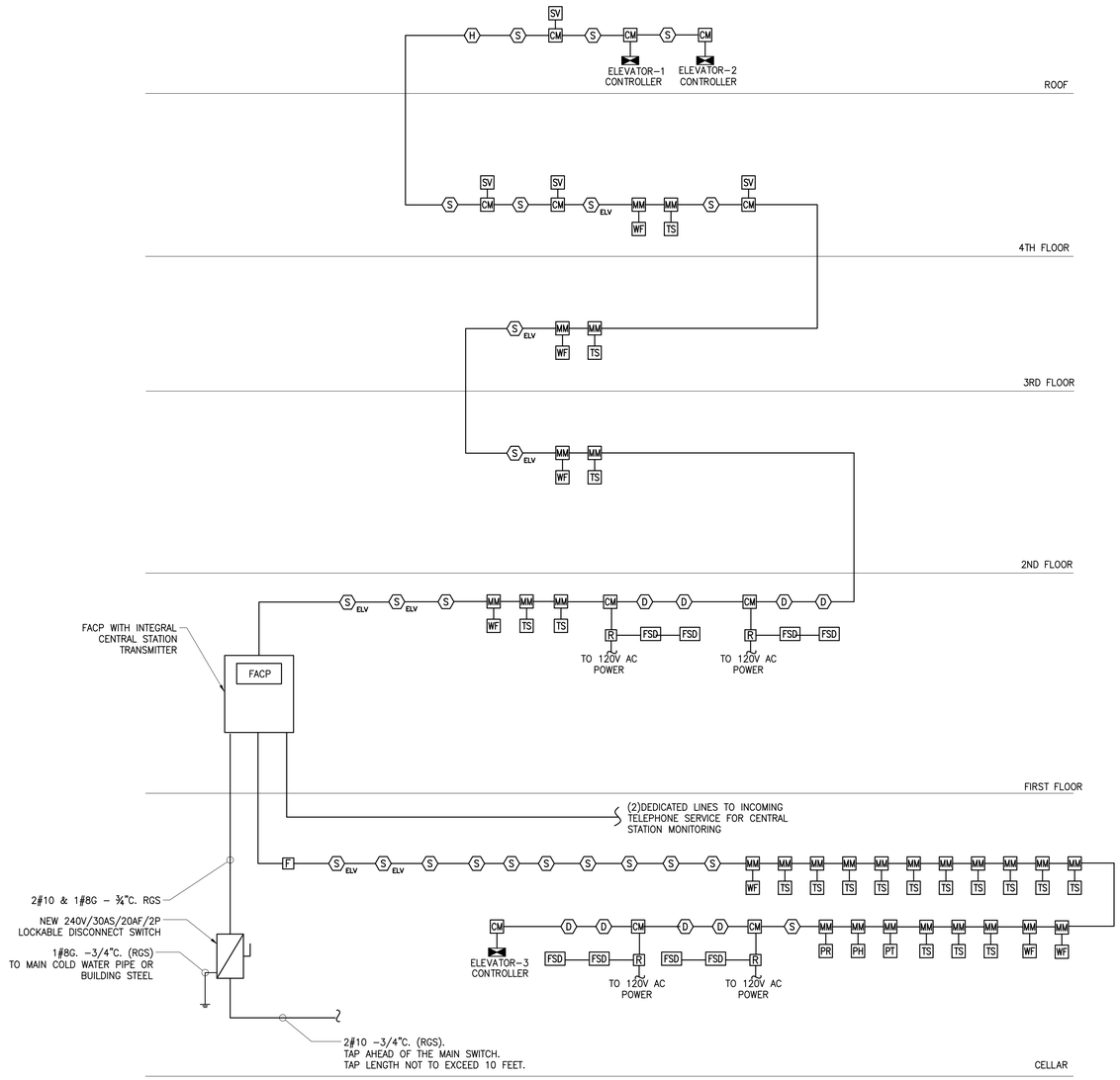
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FA-003.00

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FIRE ALARM SYSTEM RISER DIAGRAM
N.T.S.

FIRE ALARM RISER NOTES:

1. ALL COMPONENTS REQUIRED TO MAKE SYSTEM WORKABLE SHALL BE INCLUDED IN BID PRICE.
2. EACH FA RELAY SHALL HAVE MINIMUM OF THREE SETS OF 2 CONTACT 10A RATED @ 120V (TYPICAL).
3. FOR WALL MOUNTED F.A. DEVICES PROVIDE 3/4" CONDUIT TERMINATED IN NEAREST ACCESSIBLE CEILING.
4. ALL FIRE ALARM WIRING SHALL BE INSTALLED IN CONDUIT WHERE REQUIRED BY NYC ELECTRICAL CODE 760.131.
5. THIS RISER DIAGRAM IS A SCHEMATIC REPRESENTATION OF THE FIRE ALARM SYSTEM. REFER TO FLOOR PLANS FOR EXACT QUANTITY OF DEVICES.
6. ALL FIRE ALARM CONDUITS SHALL BE MINIMUM ¾".
7. ALL FIRE ALARM CIRCUITS SHALL BE WIRED NFPA STYLE 4/Y/B (CLASS B) WITH THE EXCEPTION OF THE NETWORK CIRCUIT WHICH SHALL BE NFPA STYLE 7 (CLASS A WITH ISOLATION). DUAL CLASS B NETWORKING IS NOT STYLE 7 AND WILL NOT BE APPROVED.

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FIRE ALARM RISER DIAGRAM

Date:

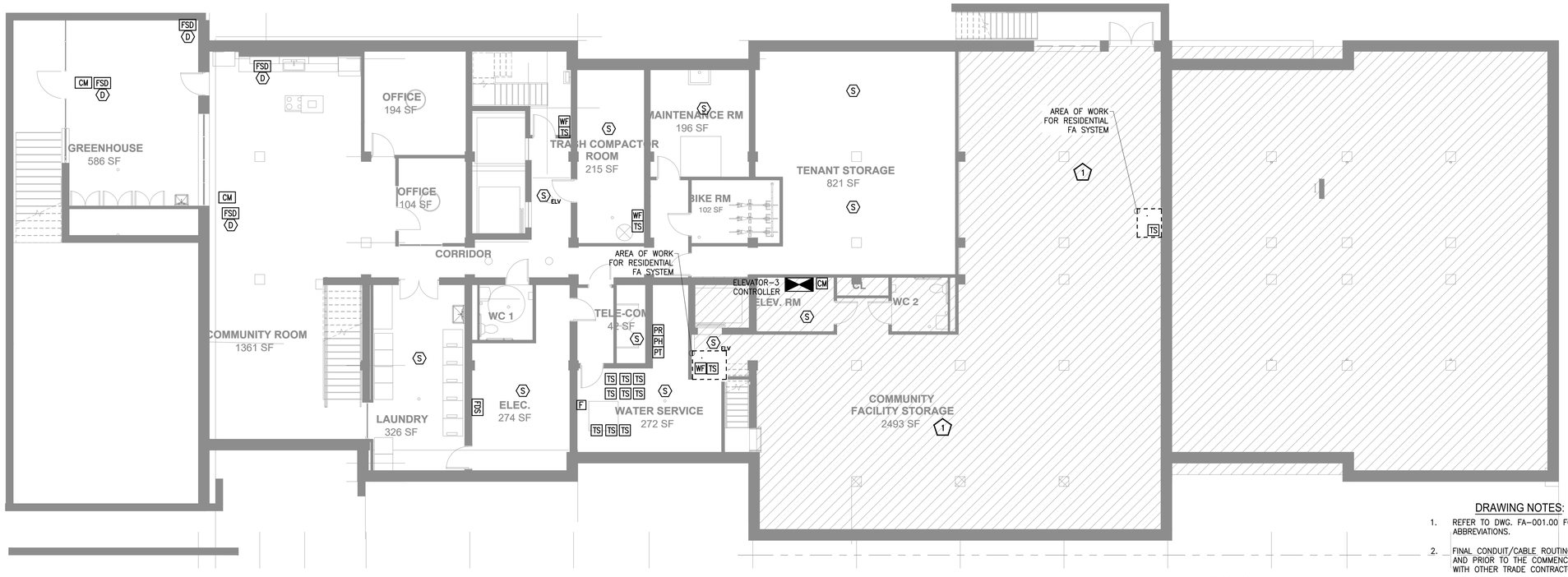
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Sheet #: of



2 1ST FLOOR ALARM PLAN
SCALE: 1/8" = 1'-0"



1 CELLAR FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"

KEYED WORK NOTES:

1. FIRE ALARM FOR COMMUNITY FACILITY IS EXEMPTED AS PER NYCBC 907.2.2

DRAWING NOTES:

1. REFER TO DWG. FA-001.00 FOR FIRE ALARM SYMBOL LIST, ABBREVIATIONS.
2. FINAL CONDUIT/CABLE ROUTING SHALL BE DETERMINED IN-FIELD, AND PRIOR TO THE COMMENCEMENT OF WORK, COORDINATED WITH OTHER TRADE CONTRACTORS AND THE OWNER.
3. ELECTRICAL CONTRACTOR TO COORDINATE LOCATION OF FACP WITH THE ARCHITECT/OWNER.
4. CONTRACTOR TO COORDINATE HORN/STROBE REQUIREMENT AND LOCATION HEIGHT WITH UFA STANDARDS AND ARCHITECT FOR UFAS/ADA APARTMENTS.

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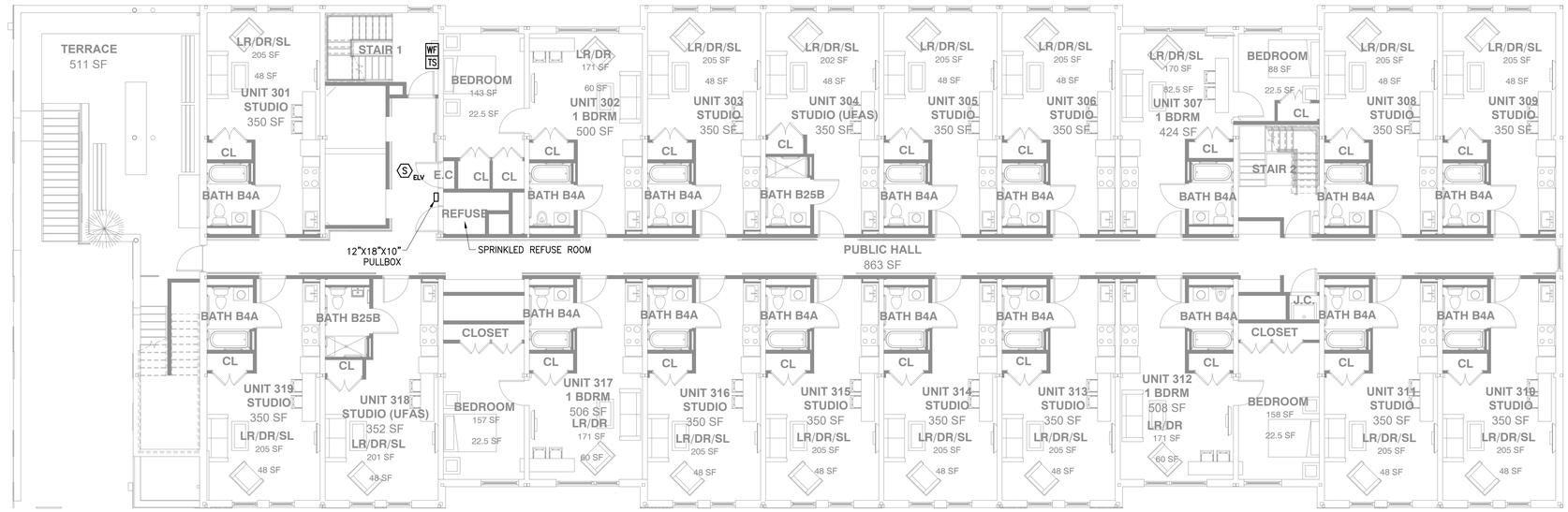
CELLAR AND FIRST FLOOR FIRE ALARM PLAN

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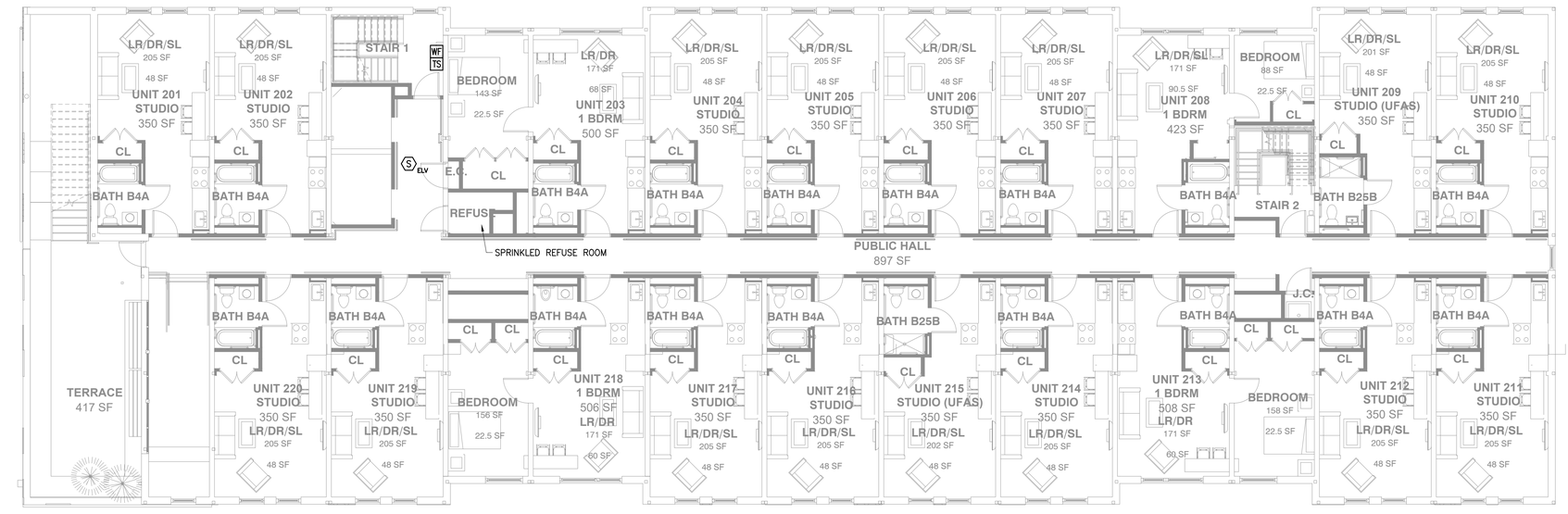
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FA-100.00
Sheet #: of



2 3RD FLOOR ALARM PLAN
SCALE: 1/8" = 1'-0"



1 2ND FLOOR FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"

DRAWING NOTES:

1. REFER TO DWG. FA-001.00 FOR FIRE ALARM SYMBOL LIST, ABBREVIATIONS.
2. FINAL CONDUIT/CABLE ROUTING SHALL BE DETERMINED IN-FIELD, AND PRIOR TO THE COMMENCEMENT OF WORK, COORDINATED WITH OTHER TRADE CONTRACTORS AND THE OWNER.
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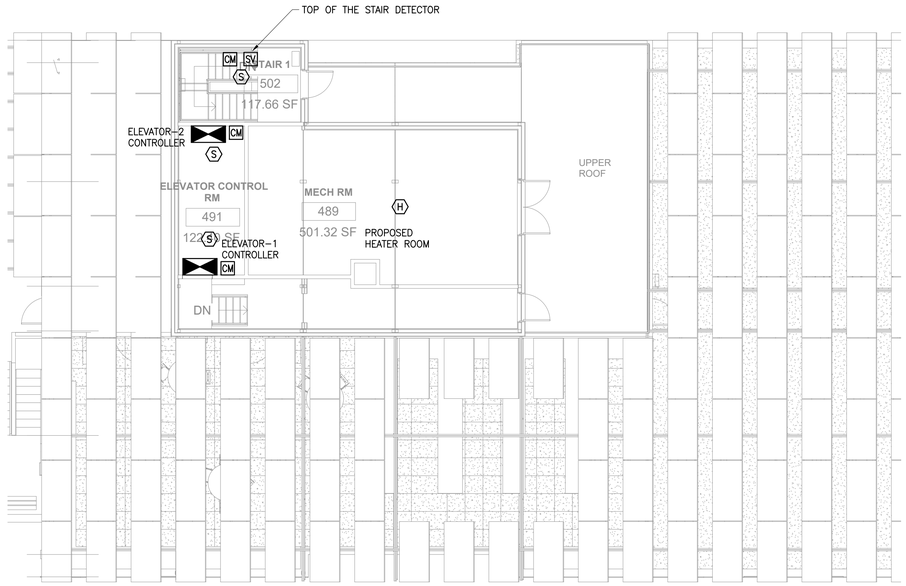
2ND AND 3RD FLOOR FIRE ALARM PLAN

Date:

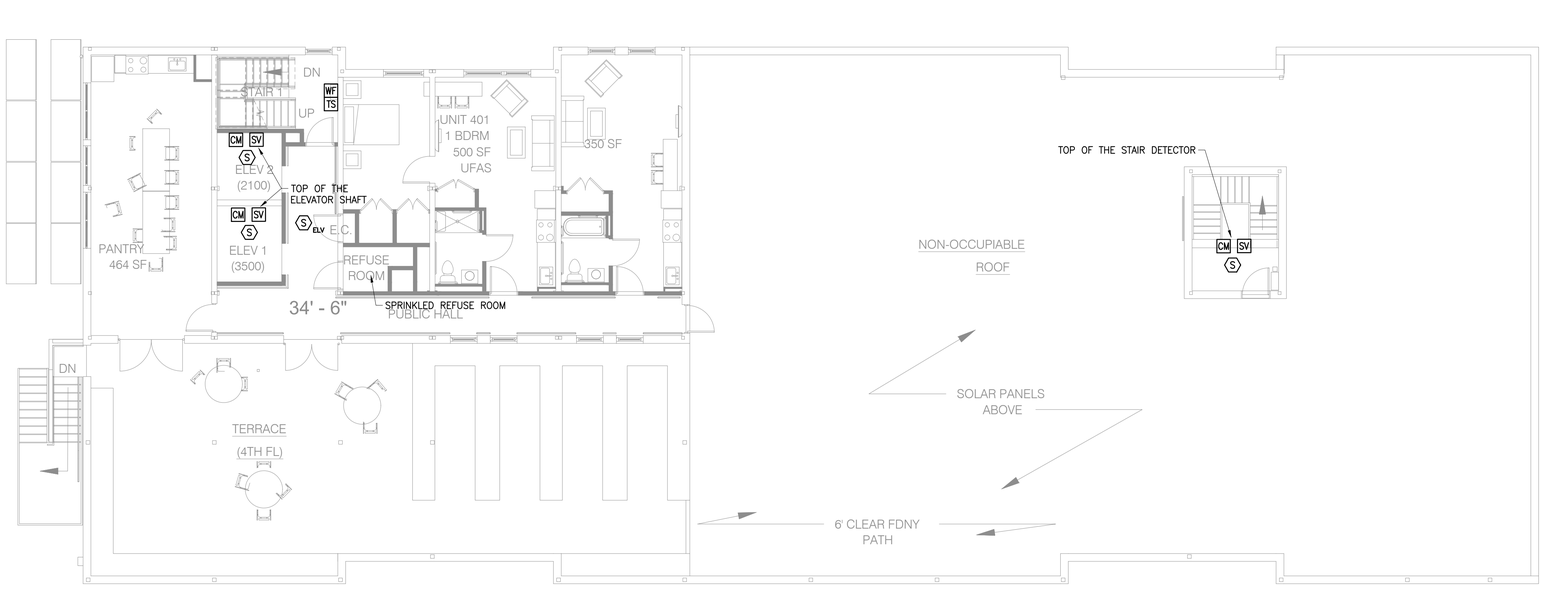
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FA-101.00
Sheet #: of



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



1 4TH FLOOR FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"

DRAWING NOTES:

1. REFER TO DWG. FA-001.00 FOR FIRE ALARM SYMBOL LIST, ABBREVIATIONS.
2. FINAL CONDUIT/CABLE ROUTING SHALL BE DETERMINED IN-FIELD, AND PRIOR TO THE COMMENCEMENT OF WORK, COORDINATED WITH OTHER TRADE CONTRACTORS AND THE OWNER.
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Drawing Tile:

4TH FLOOR AND ROOF FIRE ALARM PLAN

Date:

Seal/Signature:

DOB #:

Scale: 1/8" = 1'-0"
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Chkd By #:NYE
Drawing #:
FA-102.00
Sheet #: of