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Little Traverse Bay Bands of Odawa Indians
Murray Road Apartment Project
Charlevoix, Michigan

June 23, 2023

Project No. 273-19

ADDENDUM NO. 1

This Addendum is being issued for the purpose of modifying and/or clarifying the original Bidding Documents dated May 1, 2020 and shall take precedence over them.

All work included herein shall be in accordance with the general requirements of the original bidding documents, except as specifically noted herein.

This Addendum is being sent to all known plan holders, suppliers, plan rooms, and governmental agencies having received Bidding Documents.

Supplemental Documents Issued:

Revised Drawings P1.0 & P2.1 – Drawing Set 1 - Buildings 3, 5, 6 Plumbing Plans
Revised Drawings P1.0 & P2.1 – Drawing Set 2 - Building 4 Plumbing Plans
Revised Drawings E2.1 & E2.2 – Drawing Set 1 - Buildings 3, 5, 6 Electrical Power Plans
Revised Drawings E2.1 & E2.2 – Drawing Set 2 - Building 4 Electrical Power Plans

- Item No. 1: **The bidding period has been extended. Bids will be due Monday, July 10, 2023 at 3:00 p.m. local time.**
- Item No. 2: Refer to Drawing Set 1; Sheet T, Accessibility Tabulation and Drawing Set 2; Sheet T; Accessibility Tabulation table: Note that the Type “A” Accessible Units in Building 4 are units 4F and 4H. Unit 4E is on the upper floor and is not a Type “A” Accessible unit.
- Item No. 3: Refer to 002113 – Instructions to Bidders Paragraph 1.19 Build America Buy America: Federally recognized Indian Tribes have been granted a waiver of compliance with the Build America Buy America Act. Regardless, all things being equal, LTBB Odawa Indians encourages the Contractor and all Subcontractors to purchase products and/or materials produced in the United States.
- Item No. 4: Refer to revised drawings P1.0 and P2.1 for Buildings 3, 5 & 6, as well as for ADA Building 4, which have been reissued with this Addendum. Note the clarification on the water service flow and pressure available (30-80 GPM @ 80 PSI) for the new NFPA 13R Fire Suppression System in each building.
- Item No. 5: Refer to Drawing Set 1; Sheets E2.1 & E2.2 and Drawing Set 2; Sheet E2.1 & E2.2, all of which have been revised and reissued with the Addendum. Note the following clarifications: Note the addition of Smoke Detectors (SD) in the Utility Closets in all the units throughout Buildings 3, 5, 6 (Drawing Set 1) and ADA Building 4 (Drawing Set 2).

- Item No. 6: Refer to Drawing Set 2; Sheet E2.1, which has been revised and reissued with this Addendum. Note the following clarifications:
- A. Addition of Audio/Visual Fire Alarm devices throughout the 1st floor ADA units 4A, 4D, 4E, 4H of ADA Building 4.
 - B. Addition of an Audio/Visual Doorbell system, for hearing/visually impaired tenants, in the 1st floor ADA units 4A, 4D, 4E, 4H of ADA Building 4.

END OF ADDENDUM NO. 1

PLUMBING CONNECTION SCHEDULE

FIXTURE TYPE	HOT WATER (HW)	COLD WATER (CW)	WASTE (W) & INDIRECT WASTE (IW)	TRAP	VENT (V)
BATHTUB SHOWER (BTS)	1/2"	1/2"	2"	2"	1-1/2"
CLOTHES WASHING MACHINE (DOMESTIC)	1/2"	1/2"	2"	2"	1-1/2"
LAVATORY (LAV)	1/2"	1/2"	1-1/2"	1-1/2"	1-1/2"
SINK (SK) - RESIDENTIAL/LIGHT COMMERCIAL	1/2"	1/2"	1-1/2"	1-1/2"	1-1/2"
WALL HYDRANT (WH) OR HOSE BIB (HB)	--	3/4"	--	--	--
WATER CLOSET (WC) - FLUSH TANK	--	1/2"	3"	3"	2"

NOTES:
1. REFER TO DRAWINGS AND SPECIFICATIONS FOR MORE DETAILS.
2. NOTE THAT THE WATER SUPPLY PIPE SIZES ABOVE ARE MINIMUM SIZES FOR STANDARD COPPER TUBING. PEX TUBING MAY BE USED INSTEAD OF COPPER, UNLESS NOTED OTHERWISE. PEX TUBING RUN-OUTS SHOULD BE 1/2" PIPE SIZE LARGER.

PLUMBING SYMBOL LIST

SYMBOL	DESCRIPTION
	PIPE ELBOW UP
	PIPE ELBOW DOWN
	DIRECTION OF FLOW
	UNION
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	PIPE CAP OR PLUG
	CIRCULATING PUMP
	ISOLATION VALVE
	BALL VALVE
	CHECK VALVE (SWING)
	CHECK VALVE (SPRING)
	COMBINATION BALANCE VALVE & FLOW MEASURING DEVICE
	STRAINER (Y-TYPE)
	STRAINER (BLOW OFF TYPE)
	TRAP (PLAN VIEW)
	FLOOR DRAIN (PLAN VIEW)
	FLOOR DRAIN (ELEVATION)
	FUNNEL FLOOR DRAIN (PLAN VIEW)
	FUNNEL FLOOR DRAIN (ELEVATION)
	CLEAN OUT (IN FLOOR)
	CLEAN OUT (IN LINE)
	BACKFLOW PREVENTER
	HOSE BIBB (INTERIOR - NON FREEZEPROOF)
	WALL HYDRANT (EXTERIOR - FREEZEPROOF)
	SWAMESE CONNECTION (WALL MOUNTED)
	PRESSURE RELIEF VALVE
	PRESSURE REDUCING VALVE
	PRESSURE AND TEMPERATURE RELIEF VALVE
	PRESSURE REGULATING VALVE
	PRESSURE AND TEMPERATURE TEST PLUG
	PRESSURE GAUGE AND COCK
	THERMOMETER
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	DOMESTIC HOT WATER RETURN PIPING
	SANITARY WASTE PIPING
	SANITARY VENT PIPING
	NON POTABLE COLD WATER
	FIRE PROTECTION PIPING

PLUMBING ABBREVIATION LIST

ABBREVIATION	DESCRIPTION
AAV	AIR ADMITTANCE VALVE
AFF	ABOVE FINISHED FLOOR
ASR	AUTOMATIC SPRINKLER RISER
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
CAP	CAPACITY
CO	CLEAN OUT
COND	CONDENSATE
CONT	CONTINUATION OR CONTINUED
CONTR	CONTRACTOR
COORD	COORDINATE
CW	DOMESTIC COLD WATER
DEG	DEGREES
DN	DOWN
DWH	DOMESTIC WATER HEATER
DW&V	DRAINAGE WASTE & VENT
(E)	EXISTING
E.C.	ELECTRICAL CONTRACTOR
ELEC	ELECTRICAL
ELEV	ELEVATION
EWT	ENTERING WATER TEMPERATURE
F	FIRE PROTECTION
(F)	FUTURE
F.A.	FIRE ALARM SUBCONTRACTOR
F.C.	FIRE SUPPRESSION SUBCONTRACTOR
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
FLA	FULL LOAD AMPS
FLR	FLOOR
FPM	FEET PER MINUTE
FT	FEET
G	GAS (NATURAL GAS/PROPANE)
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HB	HOSE BIB
HP	HORSEPOWER
HR	HOUR
HTG	HEATING
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN
HYD	HYDRANT
ID	INSIDE DIAMETER
I.E.	INVERT ELEVATION
IN	INCHES
INL	INLET
IW	INDIRECT WASTE
KW	KILOWATT
LAV	LAVATORY
LRA	LOCKED ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
M.C.	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MBH	MILLION BRITISH THERMAL UNITS PER HOUR
MS	MOP SINK
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
NPCW	NON POTABLE WATER
OC	ON CENTER/CENTER TO CENTER
OD	OUTSIDE DIAMETER
P.C.	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PRI	PRIOR TO ROUGH-IN
PRV	PRESSURE REDUCING VALVE
PSIA	POUNDS PER SQUARE INCH (ABSOLUTE)
PSIG	POUNDS PER SQUARE INCH (GAUGE)
RPM	REVOLUTIONS PER MINUTE
SAN	SANITARY WASTE
SHR	SHOWER
SK	SINK
SPHD	SPRINKLER HEAD
SPKR	SPRINKLER
SPKR.STP	SPRINKLER STANDPIPE
SqFt	SQUARE FOOT/SQUARE FEET
SS	SERVICE SINK
TYP	TYPICAL
U/G	UNDERGROUND (BELOW GRADE)
UL	UNDERWRITERS LABORATORY
UN	UNLESS OTHERWISE NOTED
UR	URINAL
V	VENT
VS	VENT STACK
VSD	VARIABLE SPEED DRIVE
VTR	VENT THRU ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WG	WATER GAUGE
WH	WALL HYDRANT
W&V	WASTE & VENT

GENERAL PLUMBING NOTES:

- THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL SCOPE OF WORK. CONTRACTOR SHALL PROVIDE PLUMBING SYSTEMS AND RELATED EQUIPMENT COMPLETE AND INCLUDE ALL NECESSARY OFFSETS, FITTINGS, AND OTHER COMPONENTS REQUIRED DUE TO INTERFERENCES, SPACE CONSTRAINTS, ETC.
- PLUMBING SYSTEMS SHALL BE INSTALLED PER MICHIGAN/INTERNATIONAL PLUMBING CODE, MICHIGAN/INTERNATIONAL FUEL GAS CODE, MICHIGAN/INTERNATIONAL MECHANICAL CODE, AND APPLICABLE MICHIGAN/INTERNATIONAL BUILDING CODES (E.G. MICHIGAN/INTERNATIONAL BUILDING CODES, NFPA CODES, ETC.). COORDINATE & CONFIRM LTBB ODOWA INDIANS' (OWNER) CURRENT BUILDING CODE REQUIREMENTS PRIOR TO BID/CONSTRUCTION.
- PLUMBING CONTRACTOR (P.C.) SHALL COORDINATE THE INSTALLATION OF PLUMBING & FIRE SUPPRESSION WORK WITH ALL OTHER TRADES. P.C./F.C. SHALL VERIFY ALL MECHANICAL/PLUMBING AND ELECTRICAL CLEARANCES PRIOR TO FABRICATION OF ANY NEW WORK. PIPING SHALL NOT BE LOCATED DIRECTLY OVER ELECTRICAL EQUIPMENT AND PANELS, OR INTERFERE WITH ELECTRICAL/MECHANICAL EQUIPMENT CLEARANCE SPACES.
- REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION/HEIGHTS OF FIXTURES (STANDARD AND BARRIER FREE), SINKS, TOILETS, LAVATORIES, COUNTERS, APPLIANCES, ETC. COORDINATE WITH ARCHITECTURAL PLANS FOR DETAILS ON CASEWORK, FURNITURE, ETC.
- MINIMUM UNDERGROUND (U/G) SANITARY PIPE SIZE SHALL BE 3", UNLESS NOTED OTHERWISE.
- PLUMBING VENTS THROUGH THE ROOF SHALL BE LOCATED AT LEAST 10'-0" AWAY FROM OUTDOOR AIR INTAKE LOCATIONS.
- ALL CLEANOUTS INSTALLED IN SANITARY WASTE AND VENT PIPING SHALL HAVE CODE REQUIRED CLEARANCES PROVIDED.
- ALL EQUIPMENT SHALL BE PROVIDED WITH ISOLATION VALVES AND ALL FIXTURES SHALL BE PROVIDED WITH STOP VALVES. ALL VALVES/STOPS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.
- ALL FLOOR DRAINS SUBJECT TO LOSS OF SEAL (I.E. MECHANICAL ROOMS/CLOSETS, STORAGE ROOMS, ETC.) SHALL BE PROVIDED WITH A TRAP SEAL PROTECTOR OR A TRAP SEAL PRIMER.
- COORDINATE ALL FLOOR, WALL, AND ROOF PENETRATIONS, EQUIPMENT PADS, ETC. WITH ARCHITECTURAL/STRUCTURAL TRADES PRIOR TO ROUGH-IN. UNLESS NOTED OTHERWISE, EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, CORING, PATCHING ASSOCIATED WITH THEIR WORK. CUTTING, CORING, PATCHING WORK SHALL BE PERFORMED BY A QUALIFIED SUB-CONTRACTOR AND MATCH EXISTING OR NEW FINISHES.
- FIRE CAULK/STOP ALL PLUMBING PENETRATIONS THRU FIRE RATED ASSEMBLIES PER CODE REQUIREMENTS. REFER TO ARCHITECTURAL PLANS/SECTIONS FOR LOCATION/TYPES OF FIRE RATED ASSEMBLIES.

METHODS OF NOTATION

	EQUIPMENT DESIGNATION (I.E. EXHAUST FAN NUMBER 1)
	CONSTRUCTION KEYED NOTE NUMBER
	NEW SYSTEM COMPONENT
	EXISTING SYSTEM COMPONENT TO REMAIN
	POINT OF NEW CONNECTION

PLUMBING DRAWING INDEX

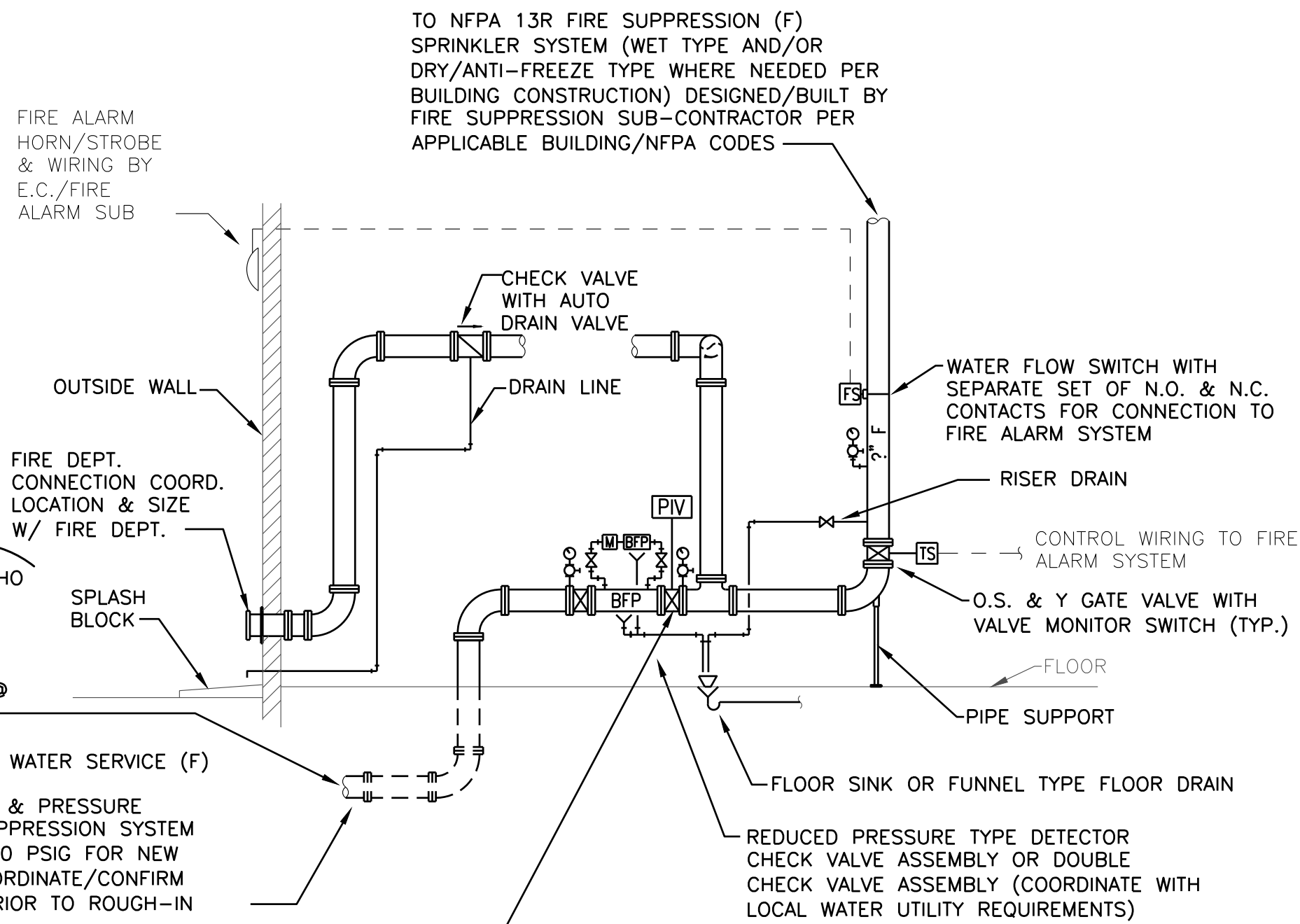
P1.0 PLUMBING TITLE SHEET - BUILDINGS 3, 5 & 6

P2.1 BELOW GRADE PLUMBING PLAN - LOWER FLOOR BUILDINGS 3, 5 & 6
P2.2 ABOVE GRADE PLUMBING PLAN - LOWER FLOOR BUILDINGS 3, 5 & 6
P2.3 ABOVE GRADE PLUMBING PLAN - UPPER FLOOR BUILDINGS 3, 5 & 6

P3.1 PLUMBING DETAILS - BUILDINGS 3, 5 & 6

GENERAL FIRE PROTECTION/SUPPRESSION NOTES:

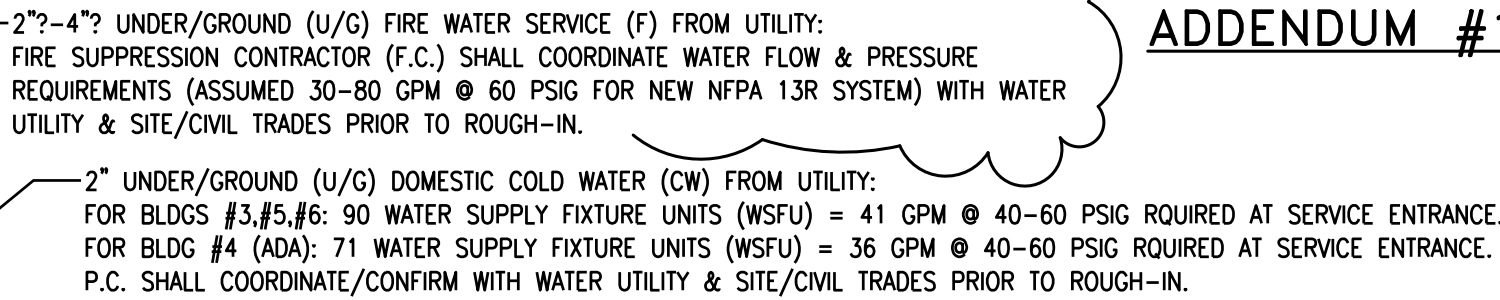
- THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE FIRE PROTECTION/SUPPRESSION CONTRACTOR (F.C.) SHALL DESIGN-BUILD NEW FIRE PROTECTION SYSTEMS COMPLETE, PER APPLICABLE CODES, PER NFPA, PER OWNER'S INSURANCE REQUIREMENTS, AND PER REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION (AHJ). REFER TO DIVISION 21000 SPECIFICATIONS FOR REQUIREMENTS.
- DESIGN-BUILD FIRE PROTECTION SUB-CONTRACTOR SHALL PROVIDE DESIGN & CONSTRUCTION OF A COMPLETE NEW AUTOMATIC WET PIPE SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 (OR 13R WHERE ALLOWED BY BUILDING CODE), INCLUDING ALL PIPING, OFFSETS, FITTINGS, VALVES, DRAINS, TEST CONNECTIONS, SPRINKLER HEADS, ETC. AS REQUIRED TO PROTECT THE ENTIRE BUILDING. REFER TO ARCHITECTURAL PLANS FOR DETAILS. PROVIDE DRY/ANTI-FREEZE SYSTEMS FOR AREAS SUBJECT TO FREEZING CONDITIONS (WOOD ATTIC, WOOD FRAMED COVERED PORCHES, ETC.) REFER TO ARCHITECTURAL PLANS/SECTIONS WHERE REQUIRED BY CODE.
- VERIFY AVAILABLE WATER PRESSURE/FLOW WITH LOCAL MUNICIPAL WATER UTILITY AND/OR PERFORM FLOW/PRESSURE TEST PRIOR TO BID/DESIGN. PER THE OWNER'S SITE/CIVIL ENGINEER WHO IS CURRENTLY DESIGNING A NEW PRIVATE ON-SITE WATER WELL SYSTEM TO SERVE BOTH DOMESTIC & NFPA 13R FIRE FLOW, THE FLOW AND PRESSURE AVAILABLE FOR FIRE SUPPRESSION WILL BE 30-80 GPM @ 60 PSIG.
- PREPARE SHOP DRAWINGS, INCLUDING HYDRAULIC CALCULATIONS, SIGNED/SEALED BY A LICENSED PROFESSIONAL FIRE PROTECTION ENGINEER (IN STATE OF PROJECT JURISDICTION) EXPERIENCED IN FIRE SUPPRESSION SPRINKLER SYSTEM DESIGN, AND SUBMIT TO AHJ FOR APPROVAL PRIOR TO CONSTRUCTION.
- COORDINATE FIRE PROTECTION WORK WITH THE WORK OF ALL OTHER TRADES. COORDINATE EQUIPMENT CLEARANCES WITH OTHER TRADES. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING TYPES. COORDINATE INTERFACES WITH FIRE ALARM CONTRACTOR (E.G. FLOW SWITCHES, TAMPER SWITCHES, ETC.).
- REFER TO ARCHITECTURAL PLANS FOR INFORMATION ON FIRE RATED ASSEMBLY LOCATION/TYPES AND TO REFLECTED CEILING PLANS FOR CEILING TYPES AND HEIGHTS.



FIRE PROTECTION SUPPRESSION RISER PIPING DETAIL
NO SCALE

FIRE PROTECTION/SUPPRESSION NOTES:

- ENTIRE BUILDING, INCLUDING ALL LEVELS, AND THE WOOD-FRAMED ATTIC SPACES (IF NFPA 13), SHALL BE PROTECTED/SUPPRESSED.
- ALL PIPING SHALL BE CONCEALED WHERE POSSIBLE. ANY PIPING EXPOSED WITHIN FINISHED AREAS SHALL COORDINATED WITH ARCHITECT PRIOR TO ROUGH-IN ANY EXPOSED PIPING SHALL BE PAINTED TO MATCH. COORDINATE COLOR WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN.
- ALL EXPOSED UPTURNED SPRINKLER HEADS SHALL BE BLACK, COORDINATE COLOR WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN.
- ALL SPRINKLER HEADS IN FINISHED CEILINGS SHALL BE CONCEALED TYPE WITH WHITE COVER.
- SPRINKLER HEADS IN HIGH ABUSE AREAS (E.G. MECHANICAL ROOMS/CLOSETS, JANITOR CLOSETS, ETC.) SHALL BE PROTECTED WITH WIRE GUARDS.



- SANITARY MAIN FOR
BUILDING #3 MAY EXIT
TO TOP OF PLAN
(NORTH) - COORDINATE
LOCATION & INVERT
FOR EACH BUILDING
WITH SITE / CIVIL TRADES

KEYED BELOW GRADE PLUMBING CONSTRUCTION NOTES:

- | | |
|----|--|
| UA | 3 W UP TO FLOOR DRAIN ABOVE (FD). COORDINATE FLOOR DRAIN WITH MECHANICAL AND PLUMBING EQUIPMENT LOCATIONS PRIOR TO ROUGH-IN. |
| UB | 3 W UP TO WATER CLOSET (WC) ABOVE. |
| UC | 2 DWY STACK UP TO LAV(S) ABOVE. |
| UD | 3 W UP TO TWO (2) BATH/SHOWER (BTS) ABOVE. |
| UE | 2 W UP TO SINK (SK) ABOVE. |
| UF | 2 W, 1/2 CW, 1/2 HR UP TO SINK (SK) ABOVE. |
| UG | 2 W UP TO LAUNDRY BOX ABOVE. |
| UH | ROUTE 1/2 CW AND 1/2 HW UNDERGROUND (U/G) TO SERVE SK/LAV. 1/2 HR UP WALL TO CONNECT TO CW AND HW MAINS. |
| UI | ROUTE 1/2 UNDERGROUND (U/G) CW TO WATER CLOSET (WC). 1/2 CW UP IN WALL TO CONNECT TO CW MAIN. |
| UJ | 2 W UP INTO WALL ABOVE, TO SERVE SANITARY WASTE FROM 2ND FLOOR SK & FLOOR DRAIN. |
| UK | 3 W UP INTO WALL ABOVE, TO SERVE SANITARY WASTE FROM WATER CLOSET(S) ABOVE. |
| UL | 3 W UP INTO WALL ABOVE, TO SERVE SANITARY WASTE FROM FURNITURES ABOVE. |

PLUMBING CONNECTION SCHEDULE

FIXTURE TYPE	HOT WATER (HW)	COLD WATER (CW)	WASTE (W) & INDIRECT WASTE (IW)	TRAP	VENT (V)
BATHTUB SHOWER (BTS)	1/2"	1/2"	2"	2"	1-1/2"
CLOTHES WASHING MACHINE (DOMESTIC)	1/2"	1/2"	2"	2"	1-1/2"
LAVATORY (LAV)	1/2"	1/2"	1-1/2"	1-1/2"	1-1/2"
SINK (SK) - RESIDENTIAL/LIGHT COMMERCIAL	1/2"	1/2"	1-1/2"	1-1/2"	1-1/2"
WALL HYDRANT (WH) OR HOSE BIB (HB)	--	3/4"	--	--	--
WATER CLOSET (WC) - FLUSH TANK	--	1/2"	3"	3"	2"

NOTES:
1. REFER TO DRAWINGS AND SPECIFICATIONS FOR MORE DETAILS.
2. NOTE THAT THE WATER SUPPLY PIPE SIZES ABOVE ARE MINIMUM SIZES FOR STANDARD COPPER TUBING. PEX TUBING MAY BE USED INSTEAD OF COPPER, UNLESS NOTED OTHERWISE. PEX TUBING RUN-OUTS SHOULD BE 1/2" PIPE SIZE LARGER.

PLUMBING SYMBOL LIST

SYMBOL	DESCRIPTION
	PIPE ELBOW UP
	PIPE ELBOW DOWN
	DIRECTION OF FLOW
	UNION
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	PIPE CAP OR PLUG
	CIRCULATING PUMP
	ISOLATION VALVE
	BALL VALVE
	CHECK VALVE (SWING)
	CHECK VALVE (SPRING)
	COMBINATION BALANCE VALVE & FLOW MEASURING DEVICE
	STRAINER (Y-TYPE)
	STRAINER (BLOW OFF TYPE)
	TRAP (PLAN VIEW)
	FLOOR DRAIN (PLAN VIEW)
	FLOOR DRAIN (ELEVATION)
	FUNNEL FLOOR DRAIN (PLAN VIEW)
	FUNNEL FLOOR DRAIN (ELEVATION)
	CLEAN OUT (IN FLOOR)
	CLEAN OUT (IN LINE)
	BACKFLOW PREVENTER
	HOSE BIBB (INTERIOR - NON FREEZEPROOF)
	WALL HYDRANT (EXTERIOR - FREEZEPROOF)
	SWAMESE CONNECTION (WALL MOUNTED)
	PRESSURE RELIEF VALVE
	PRESSURE REDUCING VALVE
	PRESSURE AND TEMPERATURE RELIEF VALVE
	PRESSURE REGULATING VALVE
	PRESSURE AND TEMPERATURE TEST PLUG
	PRESSURE GAUGE AND COCK
	THERMOMETER
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	DOMESTIC HOT WATER RETURN PIPING
	SANITARY WASTE PIPING
	SANITARY VENT PIPING
	NON POTABLE COLD WATER
	FIRE PROTECTION PIPING

PLUMBING ABBREVIATION LIST

ABBREVIATION	DESCRIPTION
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SHR	SHOWER
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SPHD	SPRINKLER HEAD
SPKR	SPRINKLER
SPKR-STP	SPRINKLER STANDPIPE
SqFt	SQUARE FOOT/SQUARE FEET
SS	SERVICE SINK
TYP	TYPICAL
U/G	UNDERGROUND (BELOW GRADE)
UL	UNDERWRITERS LABORATORY
UON	UNLESS OTHERWISE NOTED
UR	URINAL
V	VENT
VS	VENT STACK
VSD	VARIABLE SPEED DRIVE
VTR	VENT THRU ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WG	WATER GAUGE
WH	WALL HYDRANT
W&V	WASTE & VENT

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- PLUMBING VENTS THROUGH THE ROOF SHALL BE LOCATED AT LEAST 10'-0" AWAY FROM OUTDOOR AIR INTAKE LOCATIONS.
- ALL CLEANOUTS INSTALLED IN SANITARY WASTE AND VENT PIPING SHALL HAVE CODE REQUIRED CLEARANCES PROVIDED.
- ALL EQUIPMENT SHALL BE PROVIDED WITH ISOLATION VALVES AND ALL FIXTURES SHALL BE PROVIDED WITH STOP VALVES. ALL VALVES/STOPS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.
- ALL FLOOR DRAINS SUBJECT TO LOSS OF SEAL (I.E. MECHANICAL ROOMS/CLOSETS, STORAGE ROOMS, ETC.) SHALL BE PROVIDED WITH A TRAP SEAL PROTECTOR OR A TRAP SEAL PRIMER.
- COORDINATE ALL FLOOR, WALL, AND ROOF PENETRATIONS, EQUIPMENT PADS, ETC. WITH ARCHITECTURAL/STRUCTURAL TRADES PRIOR TO ROUGH-IN. UNLESS NOTED OTHERWISE, EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, CORING, PATCHING ASSOCIATED WITH THEIR WORK. CUTTING, CORING, PATCHING WORK SHALL BE PERFORMED BY A QUALIFIED SUB-CONTRACTOR AND MATCH EXISTING OR NEW FINISHES.
- FIRE CAULK/STOP ALL PLUMBING PENETRATIONS THRU FIRE RATED ASSEMBLIES PER CODE REQUIREMENTS. REFER TO ARCHITECTURAL PLANS/SECTIONS FOR LOCATION/TYPES OF FIRE RATED ASSEMBLIES.

METHODS OF NOTATION

	EQUIPMENT DESIGNATION (I.E. EXHAUST FAN NUMBER 1)
	CONSTRUCTION KEYED NOTE NUMBER
	NEW SYSTEM COMPONENT
	EXISTING SYSTEM COMPONENT TO REMAIN
	POINT OF NEW CONNECTION

PLUMBING DRAWING INDEX

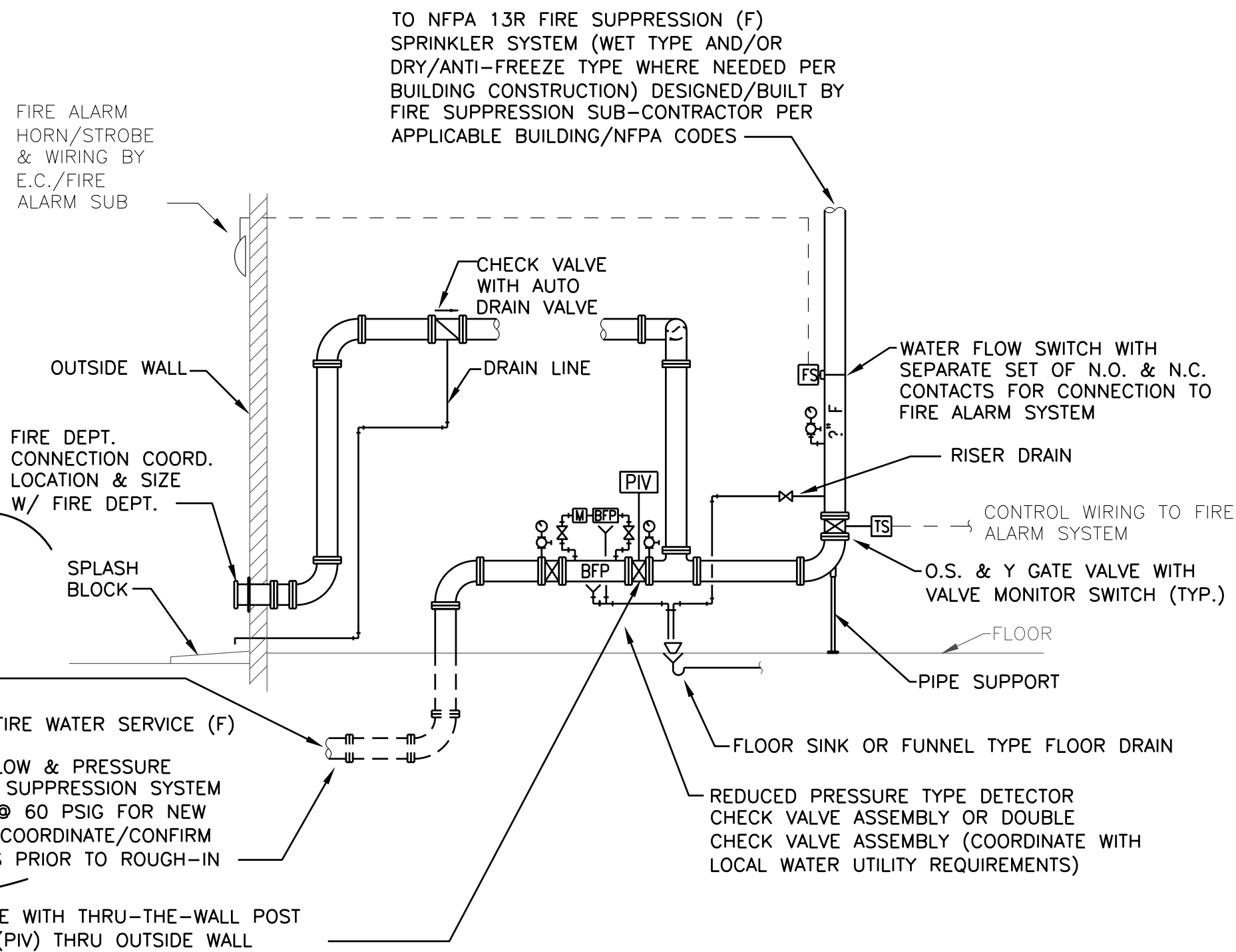
P1.0 PLUMBING TITLE SHEET - BUILDING 4

P2.1 BELOW GRADE PLUMBING PLAN - LOWER FLOOR BUILDING 4
P2.2 ABOVE GRADE PLUMBING PLAN - LOWER FLOOR BUILDING 4
P2.3 ABOVE GRADE PLUMBING PLAN - UPPER FLOOR BUILDING 4

P3.1 PLUMBING DETAILS - BUILDING 4

GENERAL FIRE PROTECTION/SUPPRESSION NOTES:

- THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE FIRE PROTECTION/SUPPRESSION CONTRACTOR (F.C.) SHALL DESIGN-BUILD NEW FIRE PROTECTION SYSTEMS COMPLETE, PER APPLICABLE CODES, PER NFPA, PER OWNER'S INSURANCE REQUIREMENTS, AND PER REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION (AHJ). REFER TO DIVISION 21000 SPECIFICATIONS FOR REQUIREMENTS.
- DESIGN-BUILD FIRE PROTECTION SUB-CONTRACTOR SHALL PROVIDE DESIGN & CONSTRUCTION OF A COMPLETE NEW AUTOMATIC WET PIPE SPRINKLER SYSTEM SYSTEM IN ACCORDANCE WITH NFPA 13 (OR 13R WHERE ALLOWED BY BUILDING CODE), INCLUDING ALL PIPING, OFFSETS, FITTINGS, VALVES, DRAINS, TEST CONNECTIONS, SPRINKLER HEADS, ETC. AS REQUIRED TO PROTECT THE ENTIRE BUILDING. REFER TO ARCHITECTURAL PLANS FOR DETAILS. PROVIDE DRY/ANTI-FREEZE SYSTEMS FOR AREAS SUBJECT TO FREEZING CONDITIONS (WOOD ATTIC, WOOD FRAMED COVERED PORCHES, ETC.).REFER TO ARCHITECTURAL PLANS/SECTIONS) WHERE REQUIRED BY CODE.
- VERIFY AVAILABLE WATER PRESSURE/FLOW WITH LOCAL MUNICIPAL WATER UTILITY AND/OR PERFORM FLOW/PRESSURE TEST PRIOR TO BID/DESIGN. PER THE OWNER'S SITE/CIVIL ENGINEER WHO IS CURRENTLY DESIGNING A NEW PRIVATE ON-SITE WATER WELL SYSTEM TO SERVE BOTH DOMESTIC & NFPA 13R FIRE FLOW, THE FLOW AND PRESSURE AVAILABLE FOR FIRE SUPPRESSION WILL BE 30-80 GPM @ 60 PSIG.
- PREPARE SHOP DRAWINGS, INCLUDING HYDRAULIC CALCULATIONS, SIGNED/SEALED BY A LICENSED PROFESSIONAL FIRE PROTECTION ENGINEER (IN STATE OF PROJECT JURISDICTION) EXPERIENCED IN FIRE SUPPRESSION SPRINKLER SYSTEM DESIGN, AND SUBMIT TO AHJ FOR APPROVAL PRIOR TO CONSTRUCTION.
- COORDINATE FIRE PROTECTION WORK WITH THE WORK OF ALL OTHER TRADES. COORDINATE EQUIPMENT CLEARANCES WITH OTHER TRADES. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING TYPES. COORDINATE INTERFACES WITH FIRE ALARM CONTRACTOR (E.G. FLOW SWITCHES, TAMPER SWITCHES, ETC.).
- REFER TO ARCHITECTURAL PLANS FOR INFORMATION ON FIRE RATED ASSEMBLY LOCATION/TYPES AND TO REFLECTED CEILING PLANS FOR CEILING TYPES AND HEIGHTS.



FIRE PROTECTION SUPPRESSION RISER PIPING DETAIL

NO SCALE

FIRE PROTECTION/SUPPRESSION NOTES:

- ENTIRE BUILDING, INCLUDING ALL LEVELS, AND THE WOOD-FRAMED ATTIC SPACES (IF NFPA 13), SHALL BE PROTECTED/SUPPRESSED.
- ALL PIPING SHALL BE CONCEALED WHERE POSSIBLE. ANY PIPING EXPOSED WITHIN FINISHED AREAS SHALL COORDINATED WITH ARCHITECT PRIOR TO ROUGH-IN ANY EXPOSED PIPING SHALL BE PAINTED TO MATCH. COORDINATE COLOR WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN.
- ALL EXPOSED UPTURNED SPRINKLER HEADS SHALL BE BLACK, COORDINATE COLOR WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN.
- ALL SPRINKLER HEADS IN FINISHED CEILINGS SHALL BE CONCEALED TYPE WITH WHITE COVER.
- SPRINKLER HEADS IN HIGH ABUSE AREAS (E.G. MECHANICAL ROOMS/CLOSETS, JANITOR CLOSETS, ETC.) SHALL BE PROTECTED WITH WIRE GUARDS.

ADDENDUM #1

ADDENDUM #1

PER THE OWNER'S SITE/CIVIL ENGINEER WHO IS CURRENTLY DESIGNING A NEW PRIVATE ON-SITE WATER WELL SYSTEM TO SERVE BOTH DOMESTIC & NFPA 13R FIRE FLOW, THE FLOW AND PRESSURE AVAILABLE FOR FIRE SUPPRESSION WILL BE 30-80 GPM @ 60 PSIG

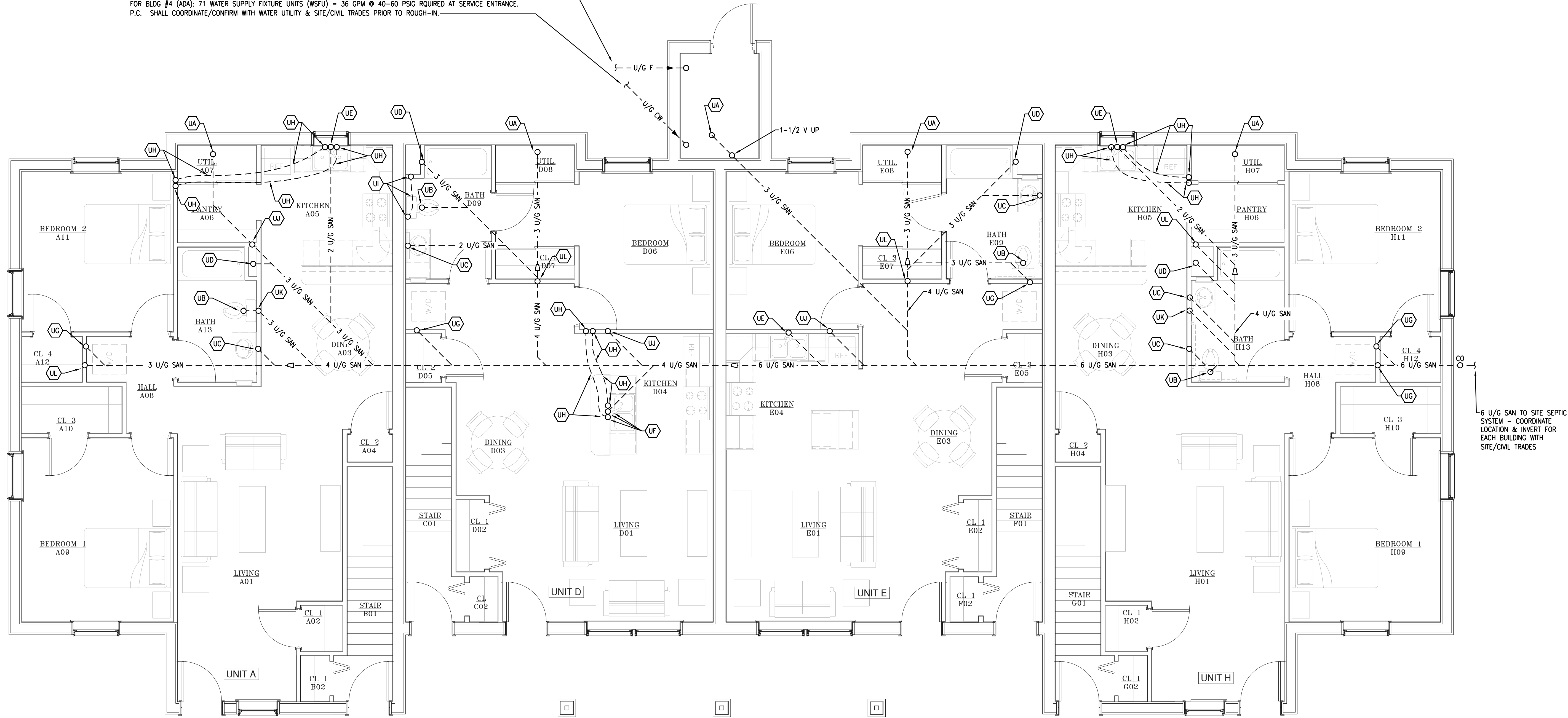
2"~4" UNDER/GROUND (U/G) FIRE WATER SERVICE (F) FROM UTILITY:
F.C. SHALL COORDINATE WATER FLOW & PRESSURE REQUIREMENTS NEEDED FOR FIRE SUPPRESSION SYSTEM (ASSUMED APPROX. 30-80 GPM @ 60 PSIG FOR NEW NFPA13R SYSTEM) - F.C. SHALL COORDINATE/CONFIRM WITH UTILITY & SITE/CIVIL TRADES PRIOR TO ROUGH-IN

O.S.&Y GATE VALVE WITH THRU-THE-WALL POST INDICATOR VALVE (PIV) THRU OUTSIDE WALL

ADDENDUM #1

2"-4" UNDERGROUND (U/G) FIRE WATER SERVICE (F) FROM UTILITY:
FIRE SUPPRESSION CONTRACTOR (F.C.) SHALL COORDINATE WATER FLOW & PRESSURE REQUIREMENTS
(ASSUMED 30-80 GPM @ 60 PSIG FOR NEW NFPA 13R SYSTEM) WITH WATER UTILITY & SITE/CIVIL TRADES
PRIOR TO ROUGH-IN.

2" UNDERGROUND (U/G) DOMESTIC COLD WATER (CW) FROM UTILITY:
FOR BLDGS #3, #5, #6: 90 WATER SUPPLY FIXTURE UNITS (WSFU) = 41 GPM @ 40-60 PSIG REQUIRED AT SERVICE ENTRANCE.
FOR BLDG #4 (ADA): 71 WATER SUPPLY FIXTURE UNITS (WSFU) = 36 GPM @ 40-60 PSIG REQUIRED AT SERVICE ENTRANCE.
P.C. SHALL COORDINATE/CONFIRM WITH WATER UTILITY & SITE/CIVIL TRADES PRIOR TO ROUGH-IN.

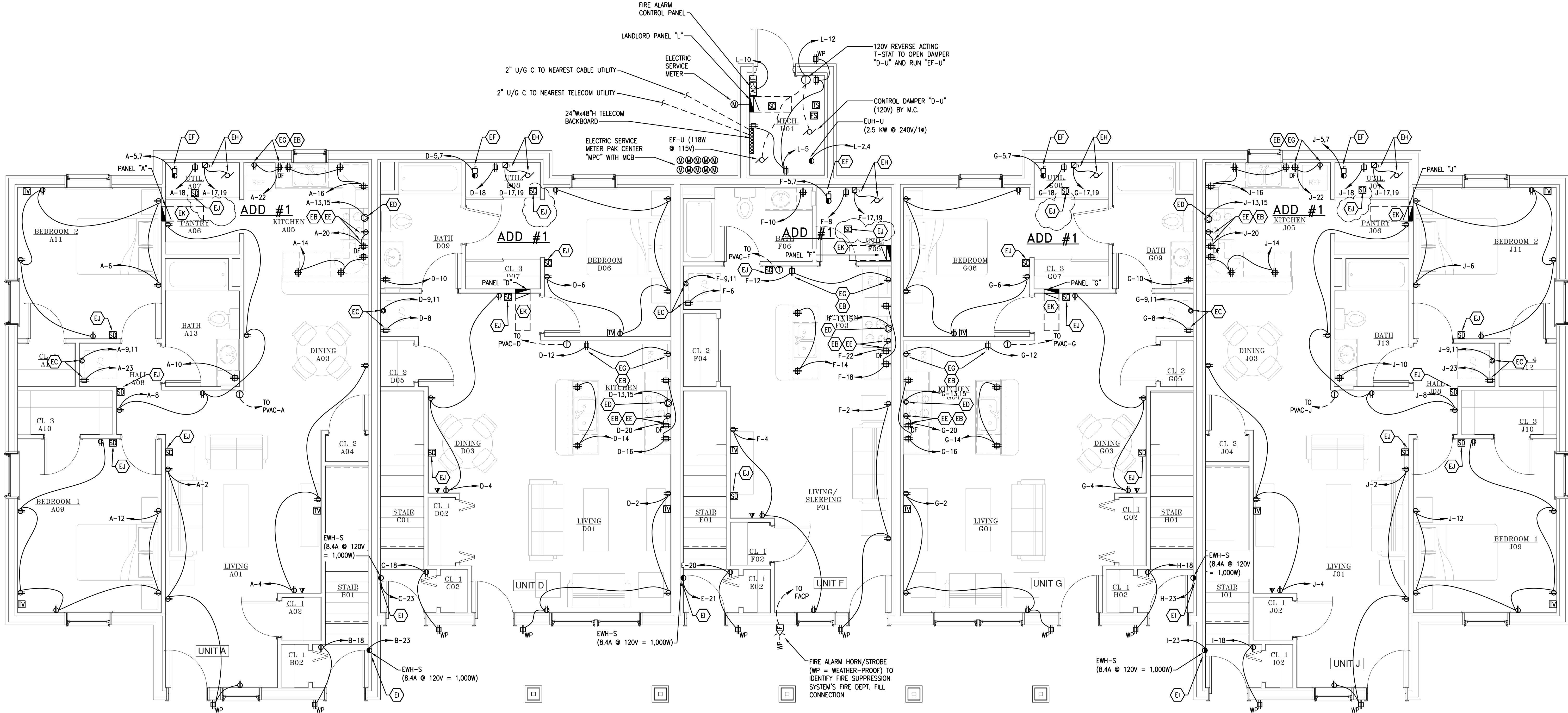


BUILDING 4
BELOW GRADE PLUMBING PLAN – LOWER FLOOR
SCALE: 1/4" = 1'-0"

KEYED BELOW GRADE PLUMBING CONSTRUCTION NOTES:

- 3" W UP TO FLOOR DRAIN ABOVE (FD). COORDINATE FLOOR DRAIN LOCATIONS WITH MECHANICAL AND PLUMBING EQUIPMENT LOCATIONS PRIOR TO ROUGH-IN.
- 3" W UP TO WATER CLOSET (WC) ABOVE.
- 2" DWV STACK UP TO LAV(S) ABOVE.
- 3" W UP TO TWO (2) BATHTUB/SHOWER (BTS) ABOVE.
- 2" W UP TO SINK (SK) ABOVE.
- 2" W, 1/2" CW, 1/2" HW UP TO SINK (SK) ABOVE.
- 2" W UP TO LAUNDRY BOX ABOVE.
- ROUTE 1/2" CW AND 1/2" HW UNDERGROUND (U/G) TO SERVE SK/LAV. 1/2" CW AND 1/2" HW UP IN WALL TO CONNECT TO CW AND HW MAINS.
- ROUTE 1/2" UNDERGROUND (U/G) CW TO WATER CLOSET (WC). 1/2" CW UP IN WALL TO CONNECT TO CW MAIN.
- 2" W UP INTO WALL ABOVE, TO SERVE SANITARY WASTE FROM 2ND FLOOR SINK & FLOOR DRAIN.
- 3" W UP INTO WALL ABOVE, TO SERVE SANITARY WASTE FROM WATER CLOSET(S) ABOVE.
- 3" W UP INTO WALL ABOVE, TO SERVE SANITARY WASTE FROM FIXTURES ABOVE.

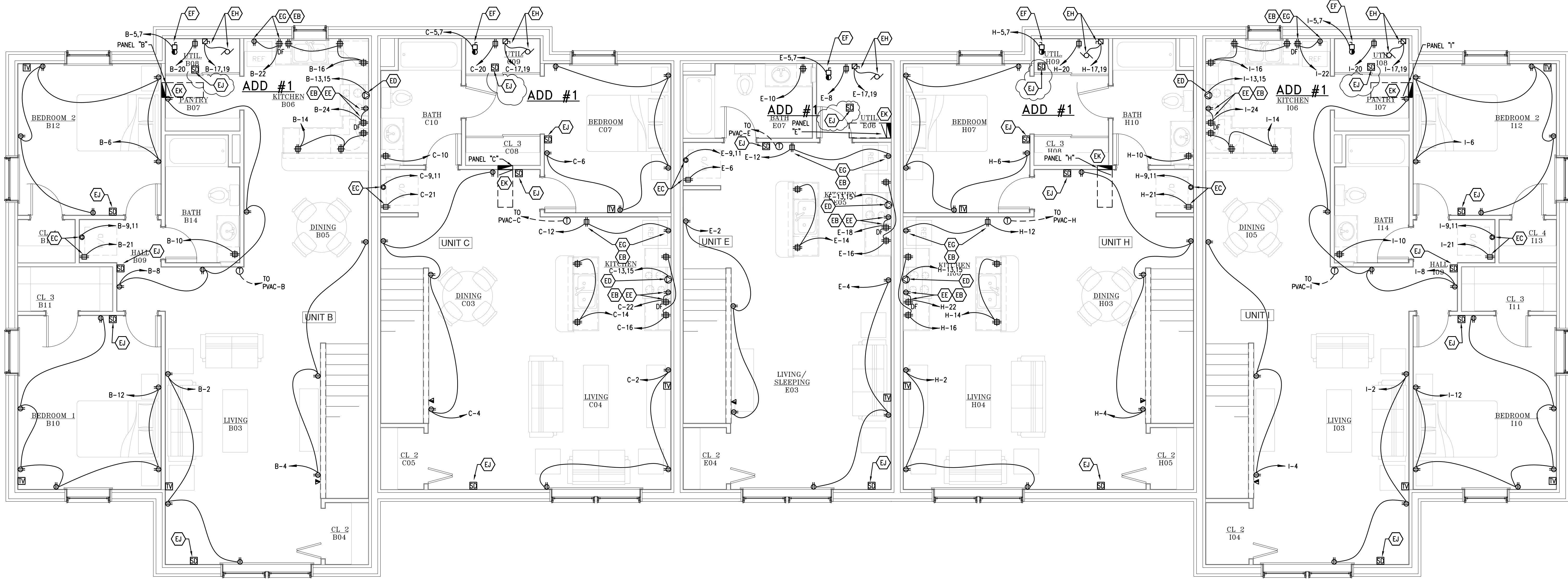
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BUILDINGS 3, 5 & 6
ELECTRICAL POWER PLAN - LOWER FLOOR
SCALE: 1/4" = 1'-0"

KEYED ELECTRICAL POWER CONSTRUCTION NOTES:

- EA COORDINATE LOCATION AND MOUNTING HEIGHT OF ALL ELECTRICAL DEVICES AND AUXILIARY ELECTRICAL DEVICES (I.E. TELECOM, AUDIO/VIDEO, CABLE TV, ETC.) WITH OWNER/OWNER'S REP PRIOR TO ROUGH-IN.
- EB FOR LOCATIONS WHERE GFI RECEPTACLES ARE REQUIRED TO SERVICE APPLIANCES AND INSTALLED IN NON-ACCESSIBLE LOCATIONS, WIRE A RECEPTACLE FROM A NEW DEAD-FRONT (DF) GFI RECEPTACLE IN ACCESSIBLE LOCATION PER NEC.
- EC PROVIDE POWER/RECEPTACLE FOR ELECTRIC STACKABLE WASHER/DRYER (ASSUMED 24A @ 240V = 5,760W). COORDINATE AND CONFIRM REQUIREMENTS WITH OWNER PRIOR TO ROUGH IN.
- ED PROVIDE POWER/RECEPTACLE FOR ELECTRIC RANGE (ASSUMED 7.5 KW @ 240V = 4A/2P BKR. COORDINATE AND CONFIRM REQUIREMENTS WITH OWNER PRIOR TO ROUGH IN.
- EE PROVIDE POWER/RECEPTACLE FOR NON-DUCTED RECIRCULATING RANGEHOOD (ASSUMED 400 W @ 115V). COORDINATE AND CONFIRM REQUIREMENTS AND LOCATION WITH OWNER PRIOR TO ROUGH IN.
- EF PROVIDE POWER & DISCONNECT FOR ELECTRIC DOMESTIC WATER HEATER (DWH) 4.5 KW @ 240V. COORDINATE AND CONFIRM REQUIREMENTS WITH P.C. PRIOR TO ROUGH IN.
- EG PROVIDE RECEPT. FOR REFRIGERATOR (ASSUMED 1,500W @ 115V). COORDINATE AND CONFIRM REQUIREMENTS WITH OWNER PRIOR TO ROUGH IN.
- EH PROVIDE POWER/DISCONNECT & CONTROL ROUGH-IN FOR PACKAGED VERTICAL AIR CONDITIONING UNIT (PVAC). COORDINATE/CONFIRM WITH M.C. PRIOR TO ROUGH IN.
- EI ELECTRICAL CONTRACTOR (E.C.) SHALL COORDINATE CKT/CONDUIT ROUGH-IN FOR RECESSED ELEC. WALL HEATER WITH M.C. AND ICF CONTRACTOR.
- EJ PROVIDE SMOKE DETECTORS (SD) THROUGHOUT EACH APARTMENT UNIT AND INTERCONNECT TO ALARM WITH OTHER SMOKE DETECTORS IN THAT APARTMENT UNIT.
- EK COORDINATE EXACT LOCATION OF PANELBOARD WITH OTHER TRADES TO AVOID CONFLICTS WITH DUCTWORK, PIPING, EQUIPMENT, ETC.
- EL PROVIDE RECEPTACLES IN PENINSULA/ISLAND COUNTERTOP IN ACCORDANCE WITH APPLICABLE CODES. LOCATE IN BACKSPLASH ABOVE MAIN COUNTERTOP AND BELOW RAISED BAR COUNTERTOP.
- EM PROVIDE RECEPTACLES ON EACH SIDE OF ADA ISLAND COUNTERTOP IN ACCORDANCE WITH APPLICABLE CODES. LOCATE WITHIN 12" OF TOP OF COUNTERTOP.
- EN PROVIDE HARD-WIRED 24V AUDIO/VISUAL DOORBELL KIT FOR ADA LOWER LEVEL UNITS = EDWARDS # 7005-GS OR EQUAL WITH: ONE COMBINATION HORN/STROBE (#6536-GS, LOCATED IN UNIT NEAR DOOR), ONE POWER SUPPLY (#6529, LOCATED IN UTILITY CLOSET), ONE SINGLE GANG BACKLIGHT DOORBELL PUSH BUTTON (#620, LOCATED ON EXTERIOR).



BUILDINGS 3, 5 & 6
ELECTRICAL POWER PLAN - UPPER FLOOR
SCALE: 1/4" = 1'-0"

KEYED ELECTRICAL POWER CONSTRUCTION NOTES:

- EA COORDINATE LOCATION AND MOUNTING HEIGHT OF ALL ELECTRICAL DEVICES AND AUXILIARY ELECTRICAL DEVICES (I.E. TELECOM, AUDIO/VIDEO, CABLE TV, ETC.) WITH OWNER/OWNER'S REP PRIOR TO ROUGH-IN.
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ADDENDUM #1

The diagram is a detailed electrical power plan for the lower floor of Building 4. It shows the layout of multiple apartment units, including Unit A, Unit D, Unit E, Unit F, Unit G, Unit H, and Unit I. Each unit contains a living area, dining area, kitchen, and bedroom. The plan is annotated with numerous electrical symbols and labels, including:
- Circuit breakers (CB) and panelboards (PB) labeled with numbers like A-18, A-16, A-14, A-13, A-12, A-11, A-10, A-9, A-8, A-7, A-6, A-5, A-4, A-3, A-2, A-1, A-0, A-01, A-02, A-03, A-04, A-05, A-06, A-07, A-08, A-09, A-10, A-11, A-12, A-13, A-14, A-15, A-16, A-17, A-18, A-19, A-20, A-21, A-22, A-23, A-24, A-25, A-26, A-27, A-28, A-29, A-30, A-31, A-32, A-33, A-34, A-35, A-36, A-37, A-38, A-39, A-40, A-41, A-42, A-43, A-44, A-45, A-46, A-47, A-48, A-49, A-50, A-51, A-52, A-53, A-54, A-55, A-56, A-57, A-58, A-59, A-60, A-61, A-62, A-63, A-64, A-65, A-66, A-67, A-68, A-69, A-70, A-71, A-72, A-73, A-74, A-75, A-76, A-77, A-78, A-79, A-80, A-81, A-82, A-83, A-84, A-85, A-86, A-87, A-88, A-89, A-90, A-91, A-92, A-93, A-94, A-95, A-96, A-97, A-98, A-99, A-100.
- Smoke detectors (SD) and fire alarm horns/strobes (F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8, F-9, F-10, F-11, F-12, F-13, F-14, F-15, F-16, F-17, F-18, F-19, F-20, F-21, F-22, F-23, F-24, F-25, F-26, F-27, F-28, F-29, F-30, F-31, F-32, F-33, F-34, F-35, F-36, F-37, F-38, F-39, F-40, F-41, F-42, F-43, F-44, F-45, F-46, F-47, F-48, F-49, F-50, F-51, F-52, F-53, F-54, F-55, F-56, F-57, F-58, F-59, F-60, F-61, F-62, F-63, F-64, F-65, F-66, F-67, F-68, F-69, F-70, F-71, F-72, F-73, F-74, F-75, F-76, F-77, F-78, F-79, F-80, F-81, F-82, F-83, F-84, F-85, F-86, F-87, F-88, F-89, F-90, F-91, F-92, F-93, F-94, F-95, F-96, F-97, F-98, F-99, F-100.
- Electric service meter paks (E-1, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-9, E-10, E-11, E-12, E-13, E-14, E-15, E-16, E-17, E-18, E-19, E-20, E-21, E-22, E-23, E-24, E-25, E-26, E-27, E-28, E-29, E-30, E-31, E-32, E-33, E-34, E-35, E-36, E-37, E-38, E-39, E-40, E-41, E-42, E-43, E-44, E-45, E-46, E-47, E-48, E-49, E-50, E-51, E-52, E-53, E-54, E-55, E-56, E-57, E-58, E-59, E-60, E-61, E-62, E-63, E-64, E-65, E-66, E-67, E-68, E-69, E-70, E-71, E-72, E-73, E-74, E-75, E-76, E-77, E-78, E-79, E-80, E-81, E-82, E-83, E-84, E-85, E-86, E-87, E-88, E-89, E-90, E-91, E-92, E-93, E-94, E-95, E-96, E-97, E-98, E-99, E-100.
- Landlord control panel (L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8, L-9, L-10, L-11, L-12, L-13, L-14, L-15, L-16, L-17, L-18, L-19, L-20, L-21, L-22, L-23, L-24, L-25, L-26, L-27, L-28, L-29, L-30, L-31, L-32, L-33, L-34, L-35, L-36, L-37, L-38, L-39, L-40, L-41, L-42, L-43, L-44, L-45, L-46, L-47, L-48, L-49, L-50, L-51, L-52, L-53, L-54, L-55, L-56, L-57, L-58, L-59, L-60, L-61, L-62, L-63, L-64, L-65, L-66, L-67, L-68, L-69, L-70, L-71, L-72, L-73, L-74, L-75, L-76, L-77, L-78, L-79, L-80, L-81, L-82, L-83, L-84, L-85, L-86, L-87, L-88, L-89, L-90, L-91, L-92, L-93, L-94, L-95, L-96, L-97, L-98, L-99, L-100.
- Fire alarm control panel (F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8, F-9, F-10, F-11, F-12, F-13, F-14, F-15, F-16, F-17, F-18, F-19, F-20, F-21, F-22, F-23, F-24, F-25, F-26, F-27, F-28, F-29, F-30, F-31, F-32, F-33, F-34, F-35, F-36, F-37, F-38, F-39, F-40, F-41, F-42, F-43, F-44, F-45, F-46, F-47, F-48, F-49, F-50, F-51, F-52, F-53, F-54, F-55, F-56, F-57, F-58, F-59, F-60, F-61, F-62, F-63, F-64, F-65, F-66, F-67, F-68, F-69, F-70, F-71, F-72, F-73, F-74, F-75, F-76, F-77, F-78, F-79, F-80, F-81, F-82, F-83, F-84, F-85, F-86, F-87, F-88, F-89, F-90, F-91, F-92, F-93, F-94, F-95, F-96, F-97, F-98, F-99, F-100.
- Electric service meter paks (E-1, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-9, E-10, E-11, E-12, E-13, E-14, E-15, E-16, E-17, E-18, E-19, E-20, E-21, E-22, E-23, E-24, E-25, E-26, E-27, E-28, E-29, E-30, E-31, E-32, E-33, E-34, E-35, E-36, E-37, E-38, E-39, E-40, E-41, E-42, E-43, E-44, E-45, E-46, E-47, E-48, E-49, E-50, E-51, E-52, E-53, E-54, E-55, E-56, E-57, E-58, E-59, E-60, E-61, E-62, E-63, E-64, E-65, E-66, E-67, E-68, E-69, E-70, E-71, E-72, E-73, E-74, E-75, E-76, E-77, E-78, E-79, E-80, E-81, E-82, E-83, E-84, E-85, E-86, E-87, E-88, E-89, E-90, E-91, E-92, E-93, E-94, E-95, E-96, E-97, E-98, E-99, E-100.
- Landlord control panel (L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8, L-9, L-10, L-11, L-12, L-13, L-14, L-15, L-16, L-17, L-18, L-19, L-20, L-21, L-22, L-23, L-24, L-25, L-26, L-27, L-28, L-29, L-30, L-31, L-32, L-33, L-34, L-35, L-36, L-37, L-38, L-39, L-40, L-41, L-42, L-43, L-44, L-45, L-46, L-47, L-48, L-49, L-50, L-51, L-52, L-53, L-54, L-55, L-56, L-57, L-58, L-59, L-60, L-61, L-62, L-63, L-64, L-65, L-66, L-67, L-68, L-69, L-70, L-71, L-72, L-73, L-74, L-75, L-76, L-77, L-78, L-79, L-80, L-81, L-82, L-83, L-84, L-85, L-86, L-87, L-88, L-89, L-90, L-91, L-92, L-93, L-94, L-95, L-96, L-97, L-98, L-99, L-100.
- Fire alarm control panel (F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8, F-9, F-10, F-11, F-12, F-13, F-14, F-15, F-16, F-17, F-18, F-19, F-20, F-21, F-22, F-23, F-24, F-25, F-26, F-27, F-28, F-29, F-30, F-31, F-32, F-33, F-34, F-35, F-36, F-37, F-38, F-39, F-40, F-41, F-42, F-43, F-44, F-45, F-46, F-47, F-48, F-49, F-50, F-51, F-52, F-53, F-54, F-55, F-56, F-57, F-58, F-59, F-60, F-61, F-62, F-63, F-64, F-65, F-66, F-67, F-68, F-69, F-70, F-71, F-72, F-73, F-74, F-75, F-76, F-77, F-78, F-79, F-80, F-81, F-82, F-83, F-84, F-85, F-86, F-87, F-88, F-89, F-90, F-91, F-92, F-93, F-94, F-95, F-96, F-97, F-98, F-99, F-100.
- Electric service meter paks (E-1, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-9, E-10, E-11, E-12, E-13, E-14, E-15, E-16, E-17, E-18, E-19, E-20, E-21, E-22, E-23, E-24, E-25, E-26, E-27, E-28, E-29, E-30, E-31, E-32, E-33, E-34, E-35, E-36, E-37, E-38, E-39, E-40, E-41, E-42, E-43, E-44, E-45, E-46, E-47, E-48, E-49, E-50, E-51, E-52, E-53, E-54, E-55, E-56, E-57, E-58, E-59, E-60, E-61, E-62, E-63, E-64, E-65, E-66, E-67, E-68, E-69, E-70, E-71, E-72, E-73, E-74, E-75, E-76, E-77, E-78, E-79, E-80, E-81, E-82, E-83, E-84, E-85, E-86, E-87, E-88, E-89, E-90, E-91, E-92, E-93, E-94, E-95, E-96, E-97, E-98, E-99, E-100.
- Landlord control panel (L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8, L-9, L-10, L-11, L-12, L-13, L-14, L-15, L-16, L-17, L-18, L-19, L-20, L-21, L-22, L-23, L-24, L-25, L-26, L-27, L-28, L-29, L-30, L-31, L-32, L-33, L-34, L-35, L-36, L-37, L-38, L-39, L-40, L-41, L-42, L-43, L-44, L-45, L-46, L-47, L-48, L-49, L-50, L-51, L-52, L-53, L-54, L-55, L-56, L-57, L-58, L-59, L-60, L-61, L-62, L-63, L-64, L-65, L-66, L-67, L-68, L-69, L-70, L-71, L-72, L-73, L-74, L-75, L-76, L-77, L-78, L-79, L-80, L-81, L-82, L-83, L-84, L-85, L-86, L-87, L-88, L-89, L-90, L-91, L-92, L-93, L-94, L-95, L-96, L-97, L-98, L-99, L-100.
- Fire alarm control panel (F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8, F-9, F-10, F-11, F-12, F-13, F-14, F-15, F-16, F-17, F-18, F-19, F-20, F-21, F-22, F-23, F-24, F-25, F-26, F-27, F-28, F-29, F-30, F-31, F-32, F-33, F-34, F-35, F-36, F-37, F-38, F-39, F-40, F-41, F-42, F-43, F-44, F-45, F-46, F-47, F-48, F-49, F-50, F-51, F-52, F-53, F-54, F-55, F-56, F-57, F-58, F-59, F-60, F-61, F-62, F-63, F-64, F-65, F-66, F-67, F-68, F-69, F-70, F-71, F-72, F-73, F-74, F-75, F-76, F-77, F-78, F-79, F-80, F-81, F-82, F-83, F-84, F-85, F-86, F-87, F-88, F-89, F-90, F-91, F-92, F-93, F-94, F-95, F-96, F-97, F-98, F-99, F-100.
- Electric service meter paks (E-1, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-9, E-10, E-11, E-12, E-13, E-14, E-15, E-16, E-17, E-18, E-19, E-20, E-21, E-22, E-23, E-24, E-25, E-26, E-27, E-28, E-29, E-30, E-31, E-32, E-33, E-34, E-35, E-36, E-37, E-38, E-39, E-40, E-41, E-42, E-43, E-44, E-45, E-46, E-47, E-48, E-49, E-50, E-51, E-52, E-53, E-54, E-55, E-56, E-57, E-58, E-59, E-60, E-61, E-62, E-63, E-64, E-65, E-66, E-67, E-68, E-69, E-70, E-71, E-72, E-73, E-74, E-75, E-76, E-77, E-78, E-79, E-80, E-81, E-82, E-83, E-84, E-85, E-86, E-87, E-88, E-89, E-90, E-91, E-92, E-93, E-94, E-95, E-96, E-97, E-98, E-99, E-100.
- Landlord control panel (L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8, L-9, L-10, L-11, L-12, L-13, L-14, L-15, L-16, L-17, L-18, L-19, L-20, L-21, L-22, L-23, L-24, L-25, L-26, L-27, L-28, L-29, L-30, L-31, L-32, L-33, L-34, L-35, L-36, L-37, L-38, L-39, L-40, L-41, L-42, L-43, L-44, L-45, L-46, L-47, L-48, L-49, L-50, L-51, L-52, L-53, L-54, L-55, L-56, L-57, L-58, L-59, L-60, L-61, L-62, L-63, L-64, L-65, L-66, L-67, L-68, L-69, L-70, L-71, L-72, L-73, L-74, L-75, L-76, L-77, L-78, L-79, L-80, L-81, L-82, L-83, L-84, L-85, L-86, L-87, L-88, L-89, L-90, L-91, L-92, L-93, L-94, L-95, L-96, L-97, L-98, L-99, L-100.
- Fire alarm control panel (F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8, F-9, F-10, F-11, F-12, F-13, F-14, F-15, F-16, F-17, F-18, F-19, F-20, F-21, F-22, F-23, F-24, F-25, F-26, F-27, F-28, F-29, F-30, F-31, F-32, F-33, F-34, F-35, F-36, F-37, F-38, F-39, F-40, F-41, F-42, F-43, F-44, F-45, F-46, F-47, F-48, F-49, F-50, F-51, F-52, F-53, F-54, F-55, F-56, F-57, F-58, F-59, F-60, F-61, F-62, F-63, F-64, F-65, F-66, F-67, F-68, F-69, F-70, F-71, F-72, F-73, F-74, F-75, F-76, F-77, F-78, F-79, F-80, F-81, F-82, F-83, F-84, F-85, F-86, F-87, F-88, F-89, F-90, F-91, F-92, F-93, F-94, F-95, F-96, F-97, F-98, F-99, F-100.
- Electric service meter paks (E-1, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-9, E-10, E-11, E-12, E-13, E-14, E-15, E-16, E-17, E-18, E-19, E-20, E-21, E-22, E-23, E-24, E-25, E-26, E-27, E-28, E-29, E-30, E-31, E-32, E-33, E-34, E-35, E-36, E-37, E-38, E-39, E-40, E-41, E-42, E-43, E-44, E-45, E-46, E-47, E-48, E-49, E-50, E-51, E-52, E-53, E-54, E-55, E-56, E-57, E-58, E-59, E-60, E-61, E-62, E-63, E-64, E-65, E-66, E-67, E-68, E-69, E-70, E-71, E-72, E-73, E-74, E-75, E-76, E-77, E-78, E-79, E-80, E-81, E-82, E-83, E-84, E-85, E-86, E-87, E-88, E-89, E-90, E-91, E-92, E-93, E-94, E-95, E-96, E-97, E-98, E-99, E-100.
- Landlord control panel (L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8, L-9, L-10, L-11, L-12, L-13, L-14, L-15, L-16, L-17, L-18, L-19, L-20, L-21, L-22, L-23, L-24, L-25, L-26, L-27, L-28, L-29, L-30, L-31, L-32, L-33, L-34, L-35, L-36, L-37, L-38, L-39, L-40, L-41, L-42, L-43, L-44, L-45, L-46, L-47, L-48, L-49, L-50, L-51, L-52, L-53, L-54, L-55, L-56, L-57, L-58, L-59, L-60, L-61, L-62, L-63, L-64, L-65, L-66, L-67, L-68, L-69, L-70, L-71, L-72, L-73, L-74, L-75, L-76, L-77, L-78, L-79, L-80, L-81, L-82, L-83, L-84, L-85, L-86, L-87, L-88, L-89, L-90, L-91, L-92, L-93, L-94, L-95, L-96, L-97, L-98, L-99, L-100.
- Fire alarm control panel (F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8, F-9, F-10, F-11, F-12, F-13, F-14, F-15, F-16, F-17, F-18, F-19, F-20, F-21, F-22, F-23, F-24, F-25, F-26, F-27, F-28, F-29, F-30, F-31, F-32, F-33, F-34, F-35, F-36, F-37, F-38, F-39, F-40, F-41, F-42, F-43, F-44, F-45, F-46, F-47, F-48, F-49, F-50, F-51, F-52, F-53, F-54, F-55, F-56, F-57, F-58, F-59, F-60, F-61, F-62, F-63, F-64, F-65, F-66, F-67, F-68, F-69, F-70, F-71, F-72, F-73, F-74, F-75, F-76, F-77, F-78, F-79, F-80, F-81, F-82, F-83, F-84, F-85, F-86, F-87, F-88, F-89, F-90, F-91, F-92, F-93, F-94, F-95, F-96, F-97, F-98, F-99, F-100.
- Electric service meter paks (E-1, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-9, E-10, E-11, E-12, E-13, E-14, E-15, E-16, E-17, E-18, E-19, E-20, E-21, E-22, E-23, E-24, E-25, E-26, E-27, E-28, E-29, E-30, E-31, E-32, E-33, E-34, E-35, E-36, E-37, E-38, E-39, E-40, E-41, E-42, E-43, E-44, E-45, E-46, E-47, E-48, E-49, E-50, E-51, E-52, E-53, E-54, E-55, E-56, E-57, E-58, E-59, E-60, E-61, E-62, E-63, E-64, E-65, E-66, E-67, E-68, E-69, E-70, E-71, E-72, E-73, E-74, E-75, E-76, E-77, E-78, E-79, E-80, E-81, E-82, E-83, E-84, E-85, E-86, E-87, E-88, E-89, E-90, E-91, E-92, E-93, E-94, E-95, E-96, E-97, E-98, E-99, E-100.
- Landlord control panel (L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8, L-9, L-10, L-11, L-12, L-13, L-14, L-15, L-16, L-17, L-18, L-19, L-20, L-21, L-22, L-23, L-24, L-25, L-26, L-27, L-28, L-29, L-30, L-31, L-32, L-33, L-34, L-35, L-36, L-37, L-38, L-39, L-40, L-41, L-42, L-43, L-44, L-45, L-46, L-47, L-48, L-49, L-50, L-51, L-52, L-53, L-54, L-55, L-56, L-57, L-58, L-59, L-60, L-61, L-62, L-63, L-64, L-65, L-66, L-67, L-68, L-69, L-70, L-71, L-72, L-73, L-74, L-75, L-76, L-77, L-78, L-79, L-80, L-81, L-82, L-83, L-84, L-85, L-86, L-87, L-88, L-89, L-90, L-91, L-92, L-93, L-94, L-95, L-96, L-97, L-98, L-99, L-100.
- Fire alarm control panel (F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8, F-9, F-10, F-11, F-12, F-13, F-14, F-15, F-16, F-17, F-18, F-19, F-20, F-21, F-22, F-23, F-24, F-25, F-26, F-27, F-28, F-29, F-30, F-31, F-32, F-33, F-34, F-35, F-36, F-37, F-38, F-39, F-40, F-41, F-42, F-43, F-44, F-45, F-46, F-47, F-48, F-49, F-50, F-51, F-52, F-53, F-54, F-55, F-56, F-57, F-58, F-59, F-60, F-61, F-62, F-63, F-64, F-65, F-66, F-67, F-68, F-69, F-70, F-71, F-72, F-73, F-74, F-75, F-76, F-77, F-78, F-79, F-80, F-81, F-82, F-83, F-84, F-85, F-86, F-87, F-88, F-89, F-90, F-91, F-92, F-93, F-94, F-95, F-96, F-97, F-98, F-99, F-100.
- Electric service meter paks (E-1, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-9, E-10, E-11, E-12, E-13, E-14, E-15, E-16, E-17, E-18, E-19, E-20, E-21, E-22, E-23, E-24, E-25, E-26, E-27, E-28, E-29, E-30, E-31, E-32, E-33, E-34, E-35, E-36, E-37, E-38, E-39, E-40, E-41, E-42, E-43, E-44, E-45, E-46, E-47, E-48, E-49, E-50, E-51, E-52, E-53, E-54, E-55, E-56, E-57, E-58, E-59, E-60, E-61, E-62, E-63, E-64, E-65, E-66, E-67, E-68, E-69, E-70, E-71, E-72, E-73, E-74, E-75, E-76, E-77, E-78, E-79, E-80, E-81, E-82, E-83, E-84, E-85, E-86, E-87, E-88, E-89, E-90, E-91, E-92, E-93, E-94, E-95, E-96, E-97, E-98, E-99, E-100.
- Landlord control panel (L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8, L-9, L-10, L-11, L-12, L-13, L-14, L-15, L-16, L-17, L-18, L-19, L-20, L-21, L-22, L-23, L-24, L-25, L-26, L-27, L-28, L-29, L-30, L-31, L-32, L-3

