PLUMBING SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

Abbreviations

#	NUMBER
&	AND
(F)	FUTURE
(N)	NEW
@	AT
A	AQUASTAT, ARCHITECT, ANCHOR
AD	AREA DRAIN, AIR DRYER
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
AVB	ATMOSPHERIC VACUUM BREAKER
BF	BLIND FLANGE
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BLDG	BUILDING
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
BV	BALANCING VALVE
CB	CATCH BASIN
CD	CONDENSATE DRAIN
CF	CUBIC FOOT
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CL	CENTERLINE
CO	CLEANOUT
CONT.	CONTINUATION
CP	CIRCULATION PUMP
CV	CHECK VALVE
CW	COLD WATER
D	DRAIN
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DDCA	DOUBLE DETECTOR CHECK ASSEMBLY
DF	DRINKING FOUNTAIN
DFU	DRAINAGE FIXTURE UNIT
DIA	DIAMETER
DN	DOWN
DS	DOWNSPOUT
DSN	DOWNSPOUT NOZZLE
DW	DISHWASHER, DOMESTIC WATER
DWV	DRAINAGE, WASTE AND VENT
EJ	EXPANSION JOINT
EL	ELEVATION
ELECT	ELECTRICAL
ESV	ELECTRONIC SOLENOID VALVE
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
F	FIRE, FAHRENHEIT
FC	FLEXIBLE CONNECTOR
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FF	FINISHED FLOOR
FL	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOOR SINK, FLOW SWITCH
FT	FEET
FV	FLUSH VALVE
GAL	GALLONS
GD	GARBAGE DISPOSER, GARAGE DRAIN
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GW	GREASE WASTE
GWH	GAS WATER HEATER
HB	HOSE BIBB
HD	HEAD, HUB DRAIN
HG	MERCURY
HP	HEAT PUMP, HORSE POWER
HR	HOUR
HS	HAND SINK
HTG	HEATING
HTR	HEATER
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HW	HOT WATER
HWFU	HOT WATER FIXTURE UNIT
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HZ	HERTZ
ID	INSIDE DIAMETER
IN, "	INCHES
INV	INVERT ELEVATION
IR	IRRIGATION
IW	INDIRECT WASTE
L	LAVATORY
LB	POUND
LBS.	POUNDS
M	METER, MECHANICAL
MAX	MAXIMUM
MBH	THOUSAND BTU'S PER HOUR
MH	MOUNTING HEIGHT
MIN	MINIMUM
MS	MOP SINK
MTD	MOUNTED
MW	MAKE-UP WATER
N/A	NOT APPLICABLE
N	NORTH
NC	NORMALLY CLOSED
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO.	NUMBER
NOP	NORMALLY OPEN
NP	NON-POTABLE
NPCW	NON-POTABLE COLD WATER
NPHW	NON-POTABLE HOT WATER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OVERFLOW DRAIN, OUTSIDE DIAMETER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
P	PLUMBING, PUMP
PD	PRESSURE DROP, PLUMBING DEMOLITION, PUMPED DISCHARGE
PG	PRESSURE GAUGE
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PVB	PRESSURE VACUUM BREAKER
QTY	QUANTITY
RD	ROOF DRAIN
RET	RETURN
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
RV	RELIEF VENT, RELIEF VALVE
RWL	RAINWATER LEADER
S, SK	SINK
SA	SHOCK ARRESTOR
SAN	SANITARY
SD	STORM DRAIN
SF	SQUARE FEET
SF	SQUARE FEET
SHT	SHEET
SJ	SEISMIC JOINT
SOV	SHUT OFF VALVE
SP	SUMP PUMP, STATIC PRESSURE
SS	SERVICE SINK
T&P	TEMPERATURE AND PRESSURE
T	TEMPERATURE, THERMOMETER
TD	TRENCH DRAIN
TEMP	TEMPERATURE
TP	TRAP PRIMER, TOTAL PRESSURE
TT	TEST TEE
TYP	TYPICAL
U, UR	URINAL
UH	UNIT HEATER
V	VACUUM, VENT, VOLT
VB	VALVE BOX, VACUUM BREAKER
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VS	VENT STACK
VTR	VENT THRU ROOF
W/	WITH
W/O	WITHOUT
W	WASTE
WB	WASHER BOX
WC	WATER COLUMN
WC	WATER COLUMN, WATER CLOSET
WCO	WALL CLEANOUT
WH	WATER HEATER, WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WS	WASTE STACK
WSFU	WATER SUPPLY FIXTURE UNIT
Z	ZONE
ZA	ZONE ALARM
ZV	ZONE VALVE

General

- NEW WORK
- CONTINUATION
- DETAIL NUMBER AND SHEET LOCATION
- EQUIPMENT IDENTIFICATION
- FIXTURE TAG (LEVEL BELOW FIXTURE)
- FOOD SERVICE EQUIPMENT / CALCULATION TAG
- KEYED NOTE
- PIPE OR CONDUIT BELOW GRADE
- POINT OF CONNECTION
- SECTION NUMBER AND SHEET LOCATION

Piping Fittings

- AP — ACCESS PANEL
- ANCHOR
- AQUASTAT
- AD — AREA DRAIN
- AUTOMATIC AIR VENT
- BASKET STRAINER / BAG FILTER
- BLIND FLANGE
- CAP
- CB — CATCH BASIN
- COTG — CLEANOUT TO GRADE
- CONCENTRIC REDUCER
- DSN — DOWNSPOUT NOZZLE
- ECCENTRIC REDUCER
- EXPANSION JOINT
- FLEXIBLE CONNECTION
- FCO — FLOOR CLEANOUT
- FD — FLOOR DRAIN
- FS — FLOOR SINK
- FLOW DIRECTION
- FLOW METER
- FLOW SWITCH
- HOSE BIBB
- HD — HUB DRAIN
- MANUAL AIR VENT
- METER
- OD — OVERFLOW ROOF DRAIN
- PEX — PEX MANIFOLD
- PIPE BELOW GRADE
- PIPE DROP
- PIPE GUIDE
- PIPE RISE
- PRESSURE GAUGE WITH COCK
- PRESSURE RELIEF
- PRESSURE SENSOR
- PUMP
- RD — ROOF DRAIN
- SHOCK ABSORBER / WATER HAMMER ARRESTOR
- STRAINER
- T&P RELIEF VALVE WITH PIPE TO DRAIN
- TEE DOWN ON PIPE
- TEE UP ON PIPE
- TEMPERATURE SENSOR
- TEST PORT
- THERMOMETER
- TP — TRAP PRIMER MANIFOLD
- TRENCH DRAIN
- UNION
- VTR — VENT THROUGH ROOF
- WCO — WALL CLEANOUT

Piping Systems

- 120°HW — 120° HOT WATER PIPING
- 120°HWR — 120° HOT WATER RETURN PIPING
- 140°HW — 140° HOT WATER PIPING
- 140°HWR — 140° HOT WATER RETURN PIPING
- COLD WATER PIPING
- D — CONDENSATE / INDIRECT DRAIN PIPING
- FOS — FUEL OIL SUPPLY PIPING
- FOV — FUEL OIL VENT PIPING
- EV — EMERGENCY FUEL OIL VENT PIPING
- FW — FILTERED WATER
- F — FIRE PROTECTION PIPING
- GV — GAS VENT PIPING
- GW — GREASE WASTE ABOVE GRADE OR FINISHED FLOOR
- GW — GREASE WASTE BELOW GRADE OR FINISHED FLOOR
- HOT WATER PIPING
- HOT WATER RETURN PIPING
- IR — IRRIGATION
- LP — LIQUID PROPANE
- 2#G — NATURAL GAS PIPING, 2 LB
- 5#G — NATURAL GAS PIPING, 5 LB
- G — NATURAL GAS PIPING, 7" WC PRESSURE
- NP — NON-POTABLE COLD WATER PIPING
- NP — NON-POTABLE HOT WATER PIPING
- NP — NON-POTABLE HOT WATER RETURN PIPING
- OD — OVERFLOW DRAIN PIPING ABOVE GRADE OR FINISHED FLOOR
- PD — PUMPED DISCHARGE
- SANITARY VENT PIPING
- SANITARY WASTE OR SOIL PIPING ABOVE GRADE OR FINISHED FLOOR
- SANITARY WASTE OR SOIL PIPING BELOW GRADE OR FINISHED FLOOR
- SD — STORM DRAIN PIPING ABOVE GRADE OR FINISHED FLOOR
- SD — STORM DRAIN PIPING BELOW GRADE OR FINISHED FLOOR
- TW — TEMPERED WATER PIPING
- TP — TRAP PRIMER PIPING

Valves

- BFP — BACKFLOW PREVENTER
- BACKWATER VALVE
- X GPM — BALANCING VALVE
- CHECK VALVE
- S — ELECTRONIC SOLENOID VALVE
- GLOBE VALVE
- HOSE END DRAIN VALVE
- M — MOTORIZED, 2-WAY VALVE
- M — MOTORIZED, 3-WAY VALVE
- PRESSURE REDUCING VALVE
- SHUTOFF VALVE, GENERAL

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REVISION	DATE	REASON FOR ISSUE

SYMBOLS, ABBREVIATIONS - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER P4-0.01U
SCALE	

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PLUMBING PUMP SCHEDULE

SYMBOL	EQUIPMENT TYPE	LOCATION / SERVING	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	FLOW RATE (GPM)*	HEAD (FT H2O)	RPM	ELECTRICAL VOLTS	PH	AMPS	WATTS	HP	COMMENTS
CP-1S	DOMESTIC HOT WATER CIRCULATING PUMP	SOUTH BUILDING	GRUNDFOS	SERIES UPS-32 160/2	15	43		115	1	—	—	3/4	STAINLESS STEEL BODY, IN-LINE PUMP.
CP-2S	DOMESTIC HOT WATER CIRCULATING PUMP	SOUTH BUILDING	GRUNDFOS	SERIES UPS-32 160/2	15	43		115	1	—	—	3/4	STAINLESS STEEL BODY, IN-LINE PUMP.
CP-3S	DOMESTIC WATER PREHEAT PUMP	SOUTH BUILDING	BELL AND GOSSETT	SERIES 60 3x3x5 1/4	75	12		460	3	—	—	3/4	STAINLESS STEEL BODY, IN-LINE PUMP.
CP-1N	DOMESTIC HOT WATER CIRCULATING PUMP	NORTH BUILDING	GRUNDFOS	SERIES UPS-32 160/2	10	44		115	1	—	—	3/4	BRONZE BODY, IN-LINE PUMP.
CP-2N	DOMESTIC HOT WATER CIRCULATING PUMP	NORTH BUILDING	GRUNDFOS	SERIES UPS-32 160/2	10	44		115	1	—	—	3/4	STAINLESS STEEL BODY, IN-LINE PUMP.
SECP-1	SE-1 CONTROL PANEL (DUPLEX, EXPLOSION RATED GRINDER PUMPS)		ZOELLER	10-1000 SERIES				—	—	—	—	—	PROVIDE WITH VARIABLE LEVEL CONTROL SWITCHES.
SE-1	SEWAGE EJECTOR - GRINDER TYPE (DUPLEX, HAZARDOUS ENVIRONMENT)	SOUTH BUILDING LOWER LEVEL PARKING	ZOELLER	X841 SERIES	55	70	3450	460	3	5.5	—	2	1-1/4 IN. DISCHARGE. PROVIDE WITH CONTROL PANEL SECP-1
SP-1	SUMP PUMP (ELEVATOR)	ELEVATOR PIT	ZOELLER	153	50	22		115	1	10.5	—	1/2	2 IN. NPT DISCHARGE. PROVIDE WITH SUMP PUMP CONTROL PANEL SPCP-1.
SP-2	SUMP PUMP (ELEVATOR)	ELEVATOR PIT	ZOELLER	188	100	42		460	3	4.6	—	1 1/2	3 IN. NPT DISCHARGE. PROVIDE WITH ELEVATOR ALARM EA-1.
SPCP-1	SUMP PUMP CONTROL PANEL		SEEWATER, INC.	OSSIM - 30 - CR				115	1	10.5	—	1/2	FOR PUMPS UP TO 1 HP. SEE NOTE 'A'.

NOTES:

A. PROVIDE ALL POWER WIRING, CONDUITS AND LOW VOLTAGE WIRING. PROVIDE CONTROL PANEL WITH ONE SET OF AUXILIARY CONTACTS AT 15 AMPS.

* UNLESS NOTED OTHERWISE IN SCHEDULE.

MISCELLANEOUS PLUMBING EQUIPMENT SCHEDULE

SYMBOL	EQUIPMENT TYPE	DESCRIPTION	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	ELECTRICAL	NOTES
DT-1	DAY TANK/REMOTE FUEL FILL	250 GALLON DOUBLE WALL DAY TANK WITH REMOTE FUEL FILL. SYSTEM TO BE PROVIDED WITH LEAK DETECTION, FUEL LEVEL MONITORING WITH TANK HIGH LEVEL AUTOMATIC SHUT-OFF OF FUEL FILL. DAY TANK IS TO BE PROVIDED WITH DUPLEX SUPPLY PUMPS, EACH TO DELIVER 5 GPM FLOW RATE TO THE GENERATOR AND TO ALTERNATE OPERATION. SYSTEM TO INCLUDE A REMOTE PRESSURE FILL, LOCKABLE WEATHER PROOF FUEL FILL PORT WITH SPILL CONTAINMENT RESERVOIR AND ASSOCIATED HAND PUMP. FILL COUPLER TO MATCH THE OWNERS "FUEL SUPPLIER CONNECTORS".				
DT-2	DAY TANK (FUTURE)	150 GALLON DOUBLE WALL DAY TANK WITH REMOTE FUEL FILL. SYSTEM TO BE PROVIDED WITH LEAK DETECTION, FUEL LEVEL MONITORING WITH TANK HIGH LEVEL AUTOMATIC SHUT-OFF OF FUEL FILL. DAY TANK IS TO BE PROVIDED WITH DUPLEX SUPPLY PUMPS, EACH TO DELIVER 5 GPM FLOW RATE TO THE GENERATOR AND TO ALTERNATE OPERATION. SYSTEM TO INCLUDE A REMOTE PRESSURE FILL, LOCKABLE WEATHER PROOF FUEL FILL PORT WITH SPILL CONTAINMENT RESERVOIR AND ASSOCIATED HAND PUMP. FILL COUPLER TO MATCH THE OWNERS "FUEL SUPPLIER CONNECTORS".				
EA-1	ELEVATOR ALARM	AUDIO/VISUAL ALARM WITH AUTOMATIC RESET, MERCURY FLOAT SWITCH, NEMA 4X ENCLOSURE.	SJE RHOMBUS	"TANK ALERT" 4X ALARM SYSTEM	120 V, 1 PHASE, 5 AMPS	CONTRACTOR SHALL PROVIDE ALL POWER WIRING, CONDUITS AND LOW VOLTAGE WIRING. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR. PROVIDE CONTROL PANEL WITH ONE SET OF AUXILIARY CONTACTS AT 5 AMPS.
EGSV-1	EMERGENCY GAS SOLENOID VALVE	ALUMINUM OR BRASS VALVE BODY, AC OR DC ELECTRICALLY ACTUATED DIAPHRAGM, NORMALLY CLOSED, NEMA 1, GAS AND UL429 LISTED FOR GAS SERVICE.	ASCO	"RED HAT" 2-WAY VALVE	120V, 1 PHASE, 3.5 AMP, 2 WATTS	
MES-1	MASTER EMERGENCY SHUT-OFF	RECESSED, RED EMERGENCY PUSH SHUT-OFF, KEYED RESET, GREEN "SYSTEM ACTIVE" INDICATOR, STAINLESS STEEL COVER.	BURNABY	MESO-110V	110 V, 1 PHASE	

NOTES:

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE TYPE	DESCRIPTION	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	ACCESSORIES	CONNECTION W	CONNECTION V	CONNECTION CW	CONNECTION HW	NOTES
AD-1	AREA DRAIN (PARKING GARAGE DRAIN)	EPOXY COATED CAST IRON BODY, HEAVY DUTY VANDALPROOF TRACTOR GRATE WITH SEDIMENT BUCKET	JR SMITH	2233Y-U		4"*	2"*PRIMER CONN.		--	
DD-1	DECK DRAIN (SPECIAL PURPOSE)	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLANGE, FLASHING RING WITH GRAVEL STOP AND 2-1/2" HIGH LOW PROFILE DOME, UNDER DECK CLAMP, EXTENSION, SUMP RECEIVER, ALUMINUM DOME	JR SMITH	1010-LPD		4"*	--	--	--	
DSN-1	DOWNSPOUT NOZZLE	SIDEWALL TERMINATION, CAST BRONZE, NICKEL BRONZE FINISH, BIRD SCREEN	JR SMITH	1770-NB-BS		3"*	--	--	--	
FD-1	FLOOR DRAIN (FINISHED FLOORS / SHOWERS)	CAST IRON BODY, FLASHING COLLAR, 6-INCH ADJUSTABLE NICKEL BRONZE STRAINER HEAD, TRAP PRIMER, VANDAL PROOF TOP	JR SMITH	2005Y-A-06-P050-U-NB		3"*	1-1/2"*	TRAP PRIMER CONN.	--	
FD-2	FLOOR DRAIN WITH FUNNEL WITH ANTI-FLOOD RIM	CAST IRON BODY, FLASHING COLLAR, 6-INCH ADJUSTABLE NICKEL BRONZE STRAINER HEAD FLUSH WITH FLOOR, ANTI-SPLASH RIM AND GRATE, TRAP PRIMER, VANDAL PROOF TOP	JR SMITH	2005Y-F37-P050-U		3"*	1-1/2"*	TRAP PRIMER CONN.	--	
FD-3	FLOOR DRAIN (UNFINISHED FLOORS / MECHANICAL ROOMS)	CAST IRON BODY, FLASHING COLLAR, 8-1/2-INCH ROUND ADJUSTABLE TOP, BAR GRATE, SEDIMENT BUCKET, TRAP PRIMER, VANDAL PROOF TOP	JR SMITH	2350Y-P050-U		3"*	1-1/2"*	PRIMER CONN.	--	
FS-1	FLOOR SINK	CAST IRON FLANGED RECEPTOR, SEEPAGE HOLES, ACID RESISTANT COATED INTERIOR, NICKEL BRONZE RIM, 1/2-GRATE, ALUMINUM DOME BOTTOM STRAINER, 6-INCH DEEP	JR SMITH	3140Y-12		3"*	1-1/2"*	TRAP PRIMER CONN.	--	
HB-1	HOSE BIBB	ENCASED, NON-FREEZE, ANTI-SIPHON, AUTOMATIC DRAINING, CHROME PLATED BOX/DOOR ASSEMBLY, DOUBLE CHECK BACKFLOW PREVENTER	WOODFORD	B67-P		--	--	3/4"	--	
HB-2	HOSE BIBB	EXPOSED, NON-FREEZE, ANTI-SIPHON, AUTOMATIC DRAINING, CHROME PLATED ASSEMBLY, DOUBLE CHECK BACKFLOW PREVENTER	WOODFORD	67-P		--	--	3/4"	--	
L-1	LAVATORY (RETAIL SPACES, ADA COMPLIANT)	COUNTER MOUNTED, VITREOUS CHINA, 3-HOLE PUNCH, 4-INCH CENTERS, OVAL, FRONT OVERFLOW	AMERICAN STANDARD	476.028	FAUCET (SINGLE LEVER HANDLE): DELTA COMMERCIAL 22C551	1-1/2"	1-1/2"	1/2"	1/2"	
OD-1	ROOF DRAIN (OVERFLOW DRAIN)	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLANGE, FLASHING RING WITH GRAVEL STOP, UNDER DECK CLAMP, EXTENSION, SUMP RECEIVER, 2-INCH WATER DAM, ALUMINUM DOME	JR SMITH	1080-AD-C-E-R-Y		4"*	--	--	--	
OD-2	ROOF DRAIN (OVERFLOW DRAIN - SLAB DRAIN)	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLASHING CLAMP, UNDER DECK CLAMP, STAINLESS STEEL PERFORATED GRAVEL GUARD, SUMP RECEIVER, STANDPIPE, ALUMINUM DOME	JR SMITH	1011 / 1070-AD-C-GG-R		4"*	--	--	--	
OD-3	ROOF DRAIN (OVERFLOW DRAIN - IRMA ROOFS)	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLASHING CLAMP, UNDER DECK CLAMP, STAINLESS STEEL PERFORATED GRAVEL GUARD, SUMP RECEIVER, STANDPIPE, ALUMINUM DOME	JR SMITH	1011 / 1070-AD-C-GG-R		4"*	--	--	--	
ODD-1	DECK DRAIN (SPECIAL PURPOSE)	OVERFLOW DRAIN, STANDPIPE TYPE, EPOXY COATED CAST IRON BODY WITH FLANGE, FLASHING RING WITH GRAVEL STOP AND 2-1/2" HIGH LOW PROFILE DOME, UNDER DECK CLAMP, EXTENSION, SUMP RECEIVER, ALUMINUM DOME	JR SMITH	1070-LPD		4"*	--	--	--	
RD-1	ROOF DRAIN	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLANGE, FLASHING RING WITH GRAVEL STOP, UNDER DECK CLAMP, EXTENSION, SUMP RECEIVER, ALUMINUM DOME	JR SMITH	1010-AD-C-E-R-Y		4"*	--	--	--	
RD-2	ROOF DRAIN (SLAB DRAIN)	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLASHING CLAMP, UNDER DECK CLAMP, STAINLESS STEEL PERFORATED GRAVEL GUARD, SUMP RECEIVER, ALUMINUM DOME	JR SMITH	1011-AD-C-GG-R		4"*	--	--	--	
RD-3	ROOF DRAIN (IRMA ROOFS)	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLASHING CLAMP, UNDER DECK CLAMP, STAINLESS STEEL PERFORATED GRAVEL GUARD, SUMP RECEIVER, ALUMINUM DOME	JR SMITH	1011-AD-C-GG-R		4"*	--	--	--	
TD-1	TRENCH DRAIN	MODULAR POLYMER CONCRETE PRE-CAST SECTIONS WITH HEAVY-DUTY LOCK-IN-PLACE FRAME AND GRATE.	JR SMITH	9816	GRATE (HEAVY DUTY - PERFORATED STAINLESS STEEL, HEEL PROOF GRATE WITH QUICKLOCK SECURING FEATURE): JR SMITH 9870-465-SSP	4"*	2"*PRIMER CONN.		----	
TD-2	TRENCH DRAIN	MODULAR POLYMER CONCRETE PRE-CAST SECTIONS WITH LOCK-IN-PLACE GRATE.	JR SMITH	9814	GRATE (LIGHT DUTY - PERFORATED STAINLESS STEEL GRATE, HEEL PROOF WITH QUICKLOCK SECURING FEATURE): JR SMITH 9870-410-GP	4"*	2"*PRIMER CONN.		----	
WC-1	WATER CLOSET (RETAIL SPACES, ADA COMPLIANT	FLOOR MOUNTED, VITREOUS CHINA, TOP SPUD, FLUSHOMETER, BARRIER FREE HEIGHT	AMERICAN STANDARD	3043.001	FLUSH VALVE (BATTERY - 1.28 GPF, DIAPHRAGM): SLOAN 8111-1.28 SEAT (COMMERCIAL WEIGHT, HEAVY-DUTY SOLID PLASTIC WITH STAINLESS STEEL CHECK HINGE): CHURCH 9400SSCT	4"	2"	1"	--	

NOTES:

1. AT ADA SINKS PROVIDE WATTS MODEL LF-MMV MIXING VALVE FOR 110 DEGREE HOT WATER SUPPLY.
2. AT ADA SINKS PROVIDE INSULATION ON ALL EXPOSED WASTE PIPING, WATER PIPING, STOPS AND SUPPLIES.
3. AT PUBLIC LAVATORIES PROVIDE WATTS MODEL LF-MMV MIXING VALVE FOR 110 DEGREE HOT WATER SUPPLY.
4. PROVIDE 3" STORM DRAIN CONNECTION UNLESS NOTED OTHERWISE ON DRAWINGS.

* UNLESS NOTED OTHERWISE ON DRAWINGS

RESIDENTIAL AREAS PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE TYPE	DESCRIPTION	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	ACCESSORIES	CONNECTION W	CONNECTION V	CONNECTION CW	CONNECTION HW	NOTES
RBT-1N	BATHTUB/SHOWER (NORTH BUILDING RESIDENTIAL UNITS)				BATH AND SHOWER VALVE (SINGLE HANDLE, 2.0 GPM, INTEGRAL CHECKS): DELTA T14461	2"	1-1/2"	1/2"	1/2"	
RBT-1S	BATHTUB/SHOWER (SOUTH BUILDING RESIDENTIAL UNITS)				BATH AND SHOWER VALVE (SINGLE HANDLE, 2.0 GPM, INTEGRAL CHECKS): DELTA T17497	2"	1-1/2"	1/2"	1/2"	
RIM-1	ICE MAKER OUTLET BOX (RESIDENTIAL UNITS)	FIRE RATED ABS BOX/FRAME, NO-LEAD VALVES WITH WATER HAMMER ARRESTORS	SIOUX CHIEF	696R - G1010MF		--	--	1/2"	--	
RL-1N	LAVATORY (NORTH BUILDING RESIDENTIAL UNITS)	UNDERCOUNTER, VITREOUS CHINA, OVAL, FRONT OVERFLOW	KOHLER	K-2210-0	RESIDENTIAL FAUCET (SINGLE LEVER HANDLE): DELTA 561LF-MPU	1-1/2"	1-1/2"	1/2"	1/2"	
RL-1NC	LAVATORY (NORTH BUILDING LOBBY RESTROOM)	WALL MOUNT, VITREOUS CHINA, WITH OVERFLOW.	KOHLER	K-2084	RESIDENTIAL FAUCET (SINGLE LEVER HANDLE): DELTA 561LF-MPU	1-1/2"	1-1/2"	1/2"	1/2"	
RL-1S	LAVATORY (SOUTH BUILDING RESIDENTIAL UNITS)	UNDERCOUNTER, STAINLESS STEEL, OVAL, NO OVERFLOW	KOHLER - STERLING	S-1201-0	RESIDENTIAL FAUCET (SINGLE LEVER HANDLE, CHANNEL SPOUT): DELTA 598LF-MPU	1-1/2"	1-1/2"	1/2"	1/2"	
RL-1SC	LAVATORY (SOUTH BUILDING COMMUNITY ROOM RESTROOM)	WALL MOUNT, VITREOUS CHINA, WITH OVERFLOW.	KOHLER	K-2084	RESIDENTIAL FAUCET (SINGLE LEVER HANDLE, CHANNEL SPOUT): DELTA 598LF-MPU	1-1/2"	1-1/2"	1/2"	1/2"	
RS-1C	SINK (COMMUNITY ROOM)	UNDERCOUNTER, SINGLE BOWL, 18 GAUGE STAINLESS STEEL, 30-1/2-INCHES X 18-1/2-INCHES X 5-1/2-INCHES DEEP, 36-INCH MINIMUM CABINET SIZE.	ELKAY	ELUH - AD2816	RESIDENTIAL KITCHEN FAUCET (SINGLE HANDLE, HIGH-ARC PULL-DOWN SPOUT): AMERICAN STANDARD 4332.350.	2"	1-1/2"	1/2"	1/2"	
RS-1N	SINK (NORTH BUILDING - RESIDENTIAL UNITS)	UNDERCOUNTER, SINGLE BOWL, 18 GAUGE STAINLESS STEEL, 30-1/8-INCHES X 19-1/8-INCHES X 9-INCHES DEEP, 33-INCH MINIMUM CABINET SIZE.	AMERICAN STANDARD	14SB.301900	RESIDENTIAL KITCHEN FAUCET (SINGLE HANDLE, HIGH-ARC PULL-DOWN SPOUT): AMERICAN STANDARD 4332.350.	2"	1-1/2"	1/2"	1/2"	
RS-2N	SINK (NORTH BUILDING - TYPE 'A' UNITS)	UNDERCOUNTER, SINGLE BOWL, 18 GAUGE STAINLESS STEEL, 30-1/2-INCHES X 18-1/2-INCHES X 5-1/2-INCHES DEEP, 36-INCH MINIMUM CABINET SIZE.	ELKAY	ELUH - AD2816	RESIDENTIAL KITCHEN FAUCET (SINGLE HANDLE, HIGH-ARC PULL-DOWN SPOUT): AMERICAN STANDARD 4332.350.	2"	1-1/2"	1/2"	1/2"	
RS-1S	SINK (SOUTH BUILDING - RESIDENTIAL UNITS)	UNDERCOUNTER, SINGLE BOWL, 18 GAUGE STAINLESS STEEL, 30-1/8-INCHES X 19-1/8-INCHES X 9-INCHES DEEP, 33-INCH MINIMUM CABINET SIZE.	AMERICAN STANDARD	14SB.301900	RESIDENTIAL KITCHEN FAUCET (SINGLE HANDLE, HIGH-ARC PULL-DOWN SPOUT): AMERICAN STANDARD 4285.300.	2"	1-1/2"	1/2"	1/2"	
RS-2S	SINK (SOUTH BUILDING - TYPE 'A' UNITS)	UNDERCOUNTER, SINGLE BOWL, 18 GAUGE STAINLESS STEEL, 30-1/2-INCHES X 18-1/2-INCHES X 5-1/2-INCHES DEEP, 36-INCH MINIMUM CABINET SIZE.	ELKAY	ELUH - AD2816	RESIDENTIAL KITCHEN FAUCET (SINGLE HANDLE, HIGH-ARC PULL-DOWN SPOUT): AMERICAN STANDARD 4285.300.	2"	1-1/2"	1/2"	1/2"	
RSH-1N	SHOWER (NORTH BUILDING - RESIDENTIAL UNIT TYPE B)	L 50-1/2 INCHES BY W 39 INCHES OUTSIDE DIMENSIONS; L 48-INCHES BY W 36-1/2 INCHES INSIDE DIMENSIONS	BEST BATH	LSS5038CP	SHOWER VALVE (SINGLE HANDLE, 2.0 GPM, INTEGRAL CHECKS): DELTA T14261	2"	1-1/2"	1/2"	1/2"	
RSH-1S	SHOWER (SOUTH BUILDING - RESIDENTIAL UNIT TYPE B)	L 50-1/2 INCHES BY W 39 INCHES OUTSIDE DIMENSIONS; L 48-INCHES BY W 36-1/2 INCHES INSIDE DIMENSIONS	BEST BATH	LSS5038CP	SHOWER VALVE (SINGLE HANDLE, 2.0 GPM, INTEGRAL CHECKS): DELTA T17297	2"	1-1/2"	1/2"	1/2"	
RWC-1	WATER CLOSET (RESIDENTIAL UNITS)	TANK TYPE, VITREOUS CHINA, STANDARD HEIGHT, ELONGATED, 1.28 GPF	AMERICAN STANDARD	215CA.104	SEAT (ELONGATED, SOLID PLASTIC WITH CLOSED FRONT AND COVER WITH EASY CLEAN HINGE SYSTEM): CHURCH 1100EC	3"	2"	1/2"	--	
RWC-2	NOT USED									
RWC-3	WATER CLOSET (COMMUNITY ROOM AND NORTH LOBBY RESTROOMS	TANK TYPE, VITREOUS CHINA, BARRIER FREE HEIGHT, ELONGATED, 1.6 GPF	KOHLER	K-3493	SEAT (COMMERCIAL WEIGHT, SOLID PLASTIC, ELONGATED, OPEN FRONT WITH COVER, STAINLESS STEEL MOUNTING BOLTS): KOHLER K-4650	3"	2"	1/2"	--	
RWM-1	WASHING MACHINE OUTLET BOX (RESIDENTIAL UNITS)	FIRE RATED ABS BOX/FRAME, NO-LEAD VALVES WITH WATER HAMMER ARRESTORS, 1/2" FEMALE SWEAT CONNECTIONS	SIOUX CHIEF	696R - G2313MF		2"	1-1/2"	1/2"	1/2"	

NOTES:

1. AT ADA SINKS PROVIDE WATTS MODEL LF-MMV MIXING VALVE FOR 110 DEGREE HOT WATER SUPPLY.
2. AT ADA SINKS PROVIDE INSULATION ON ALL EXPOSED WASTE PIPING, WATER PIPING, STOPS AND SUPPLIES.
3. PER ANSI 2009 WATER CLOSET FLUSH CONTROL TO BE ON OPEN SIDE OF WATER CLOSET. REFER TO PLANS.
4. REFER TO PLANS FOR LEFT-HAND AND RIGHT-HAND DRAIN ORIENTATION OF BATHTUBS.

* UNLESS NOTED OTHERWISE ON DRAWINGS

WATER HEATER SCHEDULE

SYMBOL	EQUIPMENT TYPE	LOCATION / SERVING	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	TANK CAPACITY (GALLONS)	GAS INPUT (MBH)	ELECTRICAL VOLTS	PH	AMPS	KW	COMMENTS
WH-1S	WATER HEATER	SOUTH BUILDING CENTRAL HOT WATER SYSTEM	LOCHINVAR	SNA501-125	—	500	120	1	15	—	WATER HEATER: GAS-FIRED, 96% HIGH-EFFICIENCY, FULLY-CONDENSING, SEALED COMBUSTION TYPE, GAS-FIRED BOILER WITH ELECTRONIC IGNITION, DIRECT VENTING OF INTAKE AND EXHAUST AIR. 'SMART SYSTEM' CONTROL WITH TOUCH SCREEN DISPLAY. 500,000 BTUH INPUT, 582 GPH RECOVERY AT 100 F TEMPERATURE RISE. SEE PLUMBING DEVICES SCHEDULE FOR STORAGE TANK AS APPLICABLE.
WH-2S	WATER HEATER	SOUTH BUILDING CENTRAL HOT WATER SYSTEM	LOCHINVAR	SNA501-125	—	500	120	1	15	—	SAME AS WH-1S
WH-3S	WATER HEATER	SOUTH BUILDING CENTRAL HOT WATER SYSTEM	LOCHINVAR	SNA501-125	—	500	120	1	15	—	SAME AS WH-1S
WH-4S	WATER HEATER	SOUTH BUILDING DOG WASH	A.O. SMITH	DEL-20	20	N/A	208	3	—	4.5	ELECTRIC, STORAGE TYPE, LOW PROFILE, NON-SIMULTANEOUS AND SIMULTANEOUS ELEMENT OPERATION. UL LISTED. 23 GPH AT 80F RISE.
WH-1N	WATER HEATER	NORTH BUILDING CENTRAL HOT WATER SYSTEM	LOCHINVAR	SNA501-125	—	500	120	1	15	—	WATER HEATER: GAS-FIRED, 96% HIGH-EFFICIENCY, FULLY-CONDENSING, SEALED COMBUSTION TYPE, GAS-FIRED BOILER WITH ELECTRONIC IGNITION, DIRECT VENTING OF INTAKE AND EXHAUST AIR. 'SMART SYSTEM' CONTROL WITH TOUCH SCREEN DISPLAY. 500,000 BTUH INPUT, 582 GPH RECOVERY AT 100 F TEMPERATURE RISE. SEE PLUMBING DEVICES SCHEDULE FOR STORAGE TANK AS APPLICABLE.
WH-2N	WATER HEATER	NORTH BUILDING CENTRAL HOT WATER SYSTEM	LOCHINVAR	SNA501-125	—	500	120	1	15	—	SAME AS WH-1N
WH-3N	WATER HEATER	COMMERCIAL / RETAIL LAVATORIES	EEMAX	MT-00724OT	N/A	N/A	208	1	—	6.5	ELECTRIC, POINT-OF-USE, TANKLESS, 0.5 GPM AT 67F TEMPERATURE RISE. UNIT ACTIVATED AT 0.3 GPM FLOW. CODE COMPLIANT INEGRATED MIXING VALVE. 25 PSIG MIN. PRESSURE. UL LISTED
WH-4N	WATER HEATER	NORTH BUILDING BIKE WASH	A.O. SMITH	DEL-20	20	N/A	208	3	—	4.5	ELECTRIC, STORAGE TYPE, LOW PROFILE, NON-SIMULTANEOUS AND SIMULTANEOUS ELEMENT OPERATION. UL LISTED. 23 GPH AT 80F RISE.

NOTES:

PLUMBING DEVICES SCHEDULE

SYMBOL	FIXTURE TYPE	DESCRIPTION	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	ACCESSORIES	CONNECTION W	CONNECTION V	CONNECTION CW	CONNECTION HW	NOTES
DET-1N	DOMESTIC WATER EXPANSION TANK - ASME	77.0 GALLON CAPACITY, WELDED STEEL CONSTRUCTION, HEAVY-DUTY BUTYL DIAPHRAGM, SEPARATE RIGID POLYPROPYLENE-LINED WATER RESERVOIR, AIR-CHARGING VALVE, ASME CERTIFIED.	AMTROL THERM-X-TROL	ST-80V-C		---	---	1-1/4"	---	
DET-1S	DOMESTIC WATER EXPANSION TANK - ASME	132.0 GALLON CAPACITY, WELDED STEEL CONSTRUCTION, HEAVY-DUTY BUTYL DIAPHRAGM, SEPARATE RIGID POLYPROPYLENE-LINED WATER RESERVOIR, AIR-CHARGING VALVE, ASME CERTIFIED.	AMTROL THERM-X-TROL	ST-450-C		---	---	2"	---	
DET-2S	DOMESTIC WATER EXPANSION TANK - IAPMO	2.0 GALLON CAPACITY, WELDED STEEL CONSTRUCTION, DIAPHRAGM TYPE, SEPARATE WATER RESERVOIR, PRE-PRESSURIZED, IAPMO CERTIFIED.	AMTROL THERM-X-TROL	ST-5		---	---	3/4"	---	
MMV-1N	MASTER MIXING VALVE	FULL PACKAGE SYSTEM WITH HIGH/LOW FLOW MIXING VALVES, GAUGES, PRV(S), VALVES, UNIONS AND OTHER CONNECTIONS, EXPOSED. 1 GPM TO 416 GPM AT 45 PSI MAX FALLOFF. SYSTEM PEAK = 165 GPM AT 10 PSI FALLOFF.	POWERS	LFSH1434TV		---	---	2-1/2"	2-1/2"	
MMV-1S	MASTER MIXING VALVE	FULL PACKAGE SYSTEM WITH HIGH/LOW FLOW MIXING VALVES, GAUGES, PRV(S), VALVES, UNIONS AND OTHER CONNECTIONS, EXPOSED. 1 GPM TO 559 GPM AT 45 PSI MAX FALLOFF. SYSTEM PEAK = 250 GPM AT 10 PSI FALLOFF.	POWERS	LFSH1434QV		---	---	2-1/2"	2-1/2"	
PHST-1S	PRE-HEAT STORAGE TANK	752.0 GALLON CAPACITY, VERTICAL ORIENTATION, ASME STEEL CONSTRUCTION, GLASS LINED, FACTORY JACKETED AND INSULATED.	LOCHINVAR	RGA0752		---	---	3"	3"	PART OF WH-1S/WH-2S SYSTEM.
ST-1N	STORAGE TANK	504.0 GALLON CAPACITY, VERTICAL ORIENTATION, ASME STEEL CONSTRUCTION, GLASS LINED, FACTORY JACKETED AND INSULATED.	LOCHINVAR	RGA0504		---	---	3"	3"	PART OF WH-1N/WH-2N SYSTEM.
ST-1S	STORAGE TANK	752.0 GALLON CAPACITY. VERTICAL ORIENTATION, ASME STEEL CONSTRUCTION, GLASS LINED, FACTORY JACKETED AND INSULATED.	LOCHINVAR	RGA0752		---	---	3"	3"	PART OF WH-1S/WH-2S SYSTEM.

NOTES:

REFERENCE ONLY

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1984 ANDREW W. FRICHTL

EXPIRES: 12/31/15

AMERICAN HEATING, INC.
BUILT ON TRUST
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Interface Engineering
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Portland, OR 97201
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PROJECT 2012-0522
CONTACT Scott Holum

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION
1	10/30/14	CHECK SHEET RESPONSE

PLUMBING SCHEDULES

PHASE 2 PERMIT

DATE 12/10/14

REVISION 1

PROJECT NUMBER 123625

SCALE

SHEET NUMBER P4-0.02

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PLUMBING PUMP SCHEDULE

SYMBOL	EQUIPMENT TYPE	LOCATION / SERVING	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	FLOW RATE (GPM)*	HEAD (FT H2O)	RPM	ELECTRICAL VOLTS	ELECTRICAL PH	ELECTRICAL AMPS	ELECTRICAL WATTS	ELECTRICAL HP	COMMENTS
SE-1	SEWAGE EJECTOR - GRINDER TYPE (DUPLEX, HAZARDOUS ENVIRONMENT)	SOUTH BUILDING LOWER LEVEL PARKING	SEE COMMENTS COLUMN.										THIS EQUIPMENT IS PART OF THE ABOVE SLAB PACKAGE. SEE SCHEDULE ON SHEET P0.2 OF THAT PACKAGE.
SP-1	SUMP PUMP (ELEVATOR)	ELEVATOR PIT	SEE COMMENTS COLUMN.										THIS EQUIPMENT IS PART OF THE ABOVE SLAB PACKAGE. SEE SCHEDULE ON SHEET P0.2 OF THAT PACKAGE.
SP-2	SUMP PUMP (ELEVATOR)	ELEVATOR PIT	SEE COMMENTS COLUMN.										THIS EQUIPMENT IS PART OF THE ABOVE SLAB PACKAGE. SEE SCHEDULE ON SHEET P0.2 OF THAT PACKAGE.

NOTES:
A. ---

DOMESTIC WATER SERVICE CALCULATIONS - NORTH AND SOUTH BUILDINGS

PRIVATE INDIVID. DWELLING	PUBLIC GENERAL USE	PUBLIC HEAVY USE ASSEMBLY	DESCRIPTION	PRIVATE INDIVIDUAL DWELLING	PUBLIC GENERAL USE	PUBLIC HEAVY-USE ASSEMBLY	TOTAL UNITS	(.75) HOT WATER
NORTH BUILDING RESIDENTIAL FLOORS:								
68	0	0	BATHTUB OR COMBINATION BATH/SHOWER	4.00	4.00	0.00	272.00	204.00
76	0	0	CLOTHES WASHER	4.00	4.00	0.00	304.00	228.00
76	0	0	DISHWASHER, DOMESTIC	1.50	1.50	0.00	114.00	114.00
0	1	0	HOSE BIBB	2.50	2.50	0.00	2.50	0.00
0	7	0	HOSE BIBB, EACH ADDITIONAL	1.00	1.00	0.00	7.00	0.00
76	0	0	KITCHEN SINK, DOMESTIC	1.50	1.50	0.00	114.00	85.50
84	2	0	LAVATORY	1.00	1.00	1.00	86.00	64.50
16	0	0	SHOWER	2.00	2.00	0.00	32.00	24.00
0	0	0	URINAL, 0.125 GPF	3.00	4.00	5.00	0.00	0.00
0	2	0	WATER CLOSET, 1.6 GPF, FLUSHOMETER VALVE	5.00	5.00	8.00	10.00	0.00
84	0	0	WATER CLOSET, 1.6 GPF, GRAVITY TANK	2.50	2.50	3.50	210.00	0.00
			TOTAL NORTH BUILDING RESIDENTIAL FIXTURE UNITS:				**1151.50**	**720.00**
0	1	0	NORTH BUILDING RETAIL TENANT(S)	0.00	125.00	0.00	125.00	0.00
0	1	0	WEST BUILDING RETAIL TENANT(S)	0.00	75.00	0.00	75.00	0.00
0	2	0	SMALL BUILDING RETAIL TENANT(S)	0.00	6.00	0.00	12.00	0.00
			TOTAL NORTH BUILDING FIXTURE UNITS:				1288.50	720.00
			TOTAL GPM				250.00	165.00
SOUTH BUILDING RESIDENTIAL FLOORS:								
126	0	0	BATHTUB OR COMBINATION BATH/SHOWER	4.00	4.00	0.00	504.00	378.00
132	0	0	CLOTHES WASHER	4.00	4.00	0.00	528.00	396.00
132	1	0	DISHWASHER, DOMESTIC	1.50	1.50	0.00	199.50	199.50
0	1	0	DOG WASH STATION	4.00	4.00	0.00	4.00	3.00
0	1	0	HOSE BIBB	2.50	2.50	0.00	2.50	0.00
0	8	0	HOSE BIBB, EACH ADDITIONAL	1.00	1.00	0.00	8.00	0.00
132	1	0	KITCHEN SINK, DOMESTIC	1.50	1.50	0.00	199.50	149.63
146	1	0	LAVATORY	1.00	1.00	1.00	147.00	110.25
20	0	0	SHOWER	2.00	2.00	0.00	40.00	30.00
0	0	0	URINAL, 0.125 GPF	3.00	4.00	5.00	0.00	0.00
0	1	0	WATER CLOSET, 1.6 GPF, FLUSHOMETER VALVE	5.00	5.00	8.00	5.00	0.00
146	0	0	WATER CLOSET, 1.6 GPF, GRAVITY TANK	2.50	2.50	3.50	365.00	0.00
			TOTAL SOUTH BUILDING RESIDENTIAL FIXTURE UNITS:				**2002.50**	**1266.38**
0	1	0	SOUTH BUILDING RETAIL TENANT(S)	0.00	75.00	0.00	75.00	0.00
			TOTAL SOUTH BUILDING FIXTURE UNITS:				2077.50	1266.38
			TOTAL GPM				350.00	247.00
			TOTAL NORTH AND SOUTH BUILDING FIXTURE UNITS:				**3366.00**	**1986.38**
			TOTAL GPM				490.00	330.00
			CALCULATED STATIC PRESSURE (50.0' ELEVATION):				**95**	**psi**
	a.		**MINIMUM DAILY SERVICE PRESSURE (50.0' ELEVATION)**				**93**	**psi**
	b.		PRESSURE REDUCING STATION TO BE SET AT:				72	psi
			SERVICE SIZE FROM METER TO BUILDING				**6"**	

SANITARY DRAINAGE CALCULATIONS - NORTH AND SOUTH BUILDINGS

PRIVATE INDIVID. DWELLING	PUBLIC GENERAL USE	PUBLIC HEAVY USE ASSEMBLY	DESCRIPTION	PRIVATE INDIVIDUAL DWELLING	PUBLIC GENERAL USE	PUBLIC HEAVY-USE ASSEMBLY	TOTAL UNITS
NORTH BUILDING RESIDENTIAL FLOORS:							
68	0	0	BATHTUB OR COMBINATION BATH/SHOWER	2.00	2.00	0.00	136.00
76	0	0	CLOTHESWASHER, DOMESTIC, STANDPIPE	3.00	3.00	3.00	228.00
0	1	0	DRINKING FOUNTAIN OR WATER COOLER	0.50	0.50	1.00	0.50
0	4	0	FLOOR DRAIN, EMERGENCY	0.00	0.00	0.00	0.00
76	0	0	KITCHEN SINK, DOMESTIC, W/DISHWASHER	2.00	2.00	0.00	152.00
84	2	0	LAVATORY, SINGLE	1.00	1.00	1.00	86.00
0	0	0	SERVICE OR MOP BASIN, 3" P-TRAP	0.00	3.00	3.00	0.00
16	0	0	SHOWER, STALL, 2" TRAP	2.00	2.00	2.00	32.00
0	0	0	URINAL, INTEGRAL TRAP 1.0 GPF	2.00	2.00	5.00	0.00
84	0	0	WATER CLOSET, 1.6 GPF, GRAVITY TANK	3.00	4.00	6.00	252.00
0	2	0	WATER CLOSET, 1.6 GPF, FLUSHOMETER VALVE	3.00	4.00	6.00	8.00
			TOTAL RESIDENTIAL FIXTURE UNITS				894.50
0	1	0	NORTH BUILDING RETAIL TENANT(S)	0	135	0	135.00
0	1	0	WEST BUILDING RETAIL TENANT(S)	0	90	0	90.00
			NORTH BUILDING FIXTURE UNITS:				1119.50
SOUTH BUILDING RESIDENTIAL FLOORS:							
126	0	0	BATHTUB OR COMBINATION BATH/SHOWER	2.00	2.00	0.00	252.00
132	0	0	CLOTHESWASHER, DOMESTIC, STANDPIPE	3.00	3.00	3.00	396.00
0	1	0	DRINKING FOUNTAIN OR WATER COOLER	0.50	0.50	1.00	0.50
0	6	0	FLOOR DRAIN, EMERGENCY	0.00	0.00	0.00	0.00
132	0	0	KITCHEN SINK, DOMESTIC, W/DISHWASHER	2.00	2.00	0.00	264.00
146	1	0	LAVATORY, SINGLE	1.00	1.00	1.00	147.00
0	0	0	SERVICE OR MOP BASIN, 3" P-TRAP	0.00	3.00	3.00	0.00
20	0	0	SHOWER, STALL, 2" TRAP	2.00	2.00	2.00	40.00
0	0	0	URINAL, INTEGRAL TRAP 1.0 GPF	2.00	2.00	5.00	0.00
146	0	0	WATER CLOSET, 1.6 GPF, GRAVITY TANK	3.00	4.00	6.00	438.00
0	1	0	WATER CLOSET, 1.6 GPF, FLUSHOMETER VALVE	3.00	4.00	6.00	4.00
			TOTAL RESIDENTIAL FIXTURE UNITS				1541.50
0	2	0	SOUTH BUILDING RETAIL TENANT(S)	0	90	0	180.00
			SOUTH BUILDING FIXTURE UNITS:				1721.50
			TOTAL NORTH AND SOUTH BUILDING FIXTURE UNITS				2841.00

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE TYPE	DESCRIPTION	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	ACCESSORIES	CONNECTION W	CONNECTION V	CONNECTION CW	CONNECTION HW	NOTES
AD-1	AREA DRAIN (PARKING GARAGE DRAIN)	EPOXY COATED CAST IRON BODY, HEAVY DUTY VANDALPROOF TRACTOR GRATE WITH SEDIMENT BUCKET	JR SMITH	2233Y-U		4"*	2"*	TRAP PRIMER CONN.	--	
FD-1	FLOOR DRAIN (FINISHED FLOORS / SHOWERS)	CAST IRON BODY, FLASHING COLLAR, 6-INCH ADJUSTABLE NICKEL BRONZE STRAINER HEAD, TRAP PRIMER, VANDAL PROOF TOP	JR SMITH	2005Y-A-06-P050-U-NB		3"*	1-1/2"*	TRAP PRIMER CONN.	--	
FD-2	FLOOR DRAIN WITH FUNNEL WITH ANTI-FLOOD RIM	CAST IRON BODY, FLASHING COLLAR, 6-INCH ADJUSTABLE NICKEL BRONZE STRAINER HEAD FLUSH WITH FLOOR, ANTI-SPLASH RIM AND GRATE, TRAP PRIMER, VANDAL PROOF TOP	JR SMITH	2005Y-F37-P050-U		3"*	1-1/2"*	TRAP PRIMER CONN.	--	
FS-1	FLOOR SINK	CAST IRON FLANGED RECEPTOR, SEEPAGE HOLES, ACID RESISTANT COATED INTERIOR, NICKEL BRONZE RIM, 1/2-GRATE, ALUMINUM DOME BOTTOM STRAINER, 6-INCH DEEP	JR SMITH	3140Y-12		3"*	1-1/2"*	TRAP PRIMER CONN.	--	

NOTES:

* UNLESS NOTED OTHERWISE ON DRAWINGS

PLUMBING DEVICES SCHEDULE

SYMBOL	FIXTURE TYPE	DESCRIPTION	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	ACCESSORIES	CONNECTION W	CONNECTION V	CONNECTION CW	CONNECTION HW	NOTES
BWV-1	BACKWATER VALVE	DUCO CAST IRON BODY, REMOVABLE WHEEL HANDLE, BRONZE GATE AND BRONZE FLAPPER VALVES.	JR SMITH	7150	CAST IRON EXTENSIONS	4"	---	---	---	
GI-1	GREASE INTERCEPTOR	100 GPM FLOW RATE, 275 GALLON CAPACITY, 1,076 LB. GREASE CAPACITY, 98 LBS SOLIDS CAPACITY, MOLDED SEAMLESS HIGH DENSITY POLYETHYLENE CONSTRUCTION WITH BUILT-IN FLOW CONTROL, BUILT-IN TEST CAPS, THREE OUTLET OPTIONS, BOLTED, WATER/GAS-TIGHT COMPOSITE COVERS, MINIMUM 16,000 LBS LOAD CAPACITY, FIELD ADJUSTABLE RISER SYSTEM.	SCHIER PRODUCTS	GB-250	FIELD ADJUSTABLE RISER SYSTEM	4"	---	---	---	
GISP-1	GREASE INTERCEPTOR SAMPLING PORT	MOLDED SEAMLESS HIGH DENSITY POLYETHYLENE CONSTRUCTION WITH BUILT-IN ADAPTER, BOLTED, WATER/GAS-TIGHT COMPOSITE COVERS, MINIMUM 16,000 LBS LOAD CAPACITY, FIELD ADJUSTABLE RISER SYSTEM.	SCHIER PRODUCTS	SV24-L4	FIELD ADJUSTABLE RISER SYSTEM	4"	---	---	---	

NOTES:

GAS CALCULATIONS - NORTH AND SOUTH BUILDINGS

DESCRIPTION	NO. OF FIXT.	BTU/HR INPUT	TOTAL BTU/HR
TOTAL OF FOUR (4) METERS:			
FOOD SERVICE TENANT			
ESTIMATED FUTURE DEMAND	1	1,500,000	1,500,000
GROCERY TENANT			
ESTIMATED FUTURE DEMAND	1	2,500,000	2,500,000
HARDWARE STORE TENANT			
ESTIMATED FUTURE DEMAND	1	250,000	250,000
CENTRAL SYSTEM			
NORTH BUILDING WATER HEATERS	2	500,000	1,000,000
SOUTH BUILDING BOILERS	2	3,000,000	6,000,000
SOUTH BUILDING WATER HEATERS	3	500,000	1,500,000
FIRE PIT	1	250,000	250,000
OUTDOOR FIREPLACE	1	250,000	250,000
SMALL TENANT(S) (SUBMETERS)	2	250,000	500,000
TOTAL DEMAND (BTU)			13,750,000
TOTAL DEMAND (CFH)			13,750

NATURAL GAS SERVICE TO BE PROVIDED FOR CONNECTION TO GAS METER(S) DELIVERING 2 PSIG NATURAL GAS.

1

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1994 ANDREW W. FRICHTL

Andrew W. Frichtl

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
1	10/29/14	FDTN REVISIONS

PLBG SCHEDULES - FOUNDATION PACKAGE

PHASE 2 PERMIT

DATE	REVISION
12/10/14	1
PROJECT NUMBER 123625	SHEET NUMBER P4-0.02U
SCALE	

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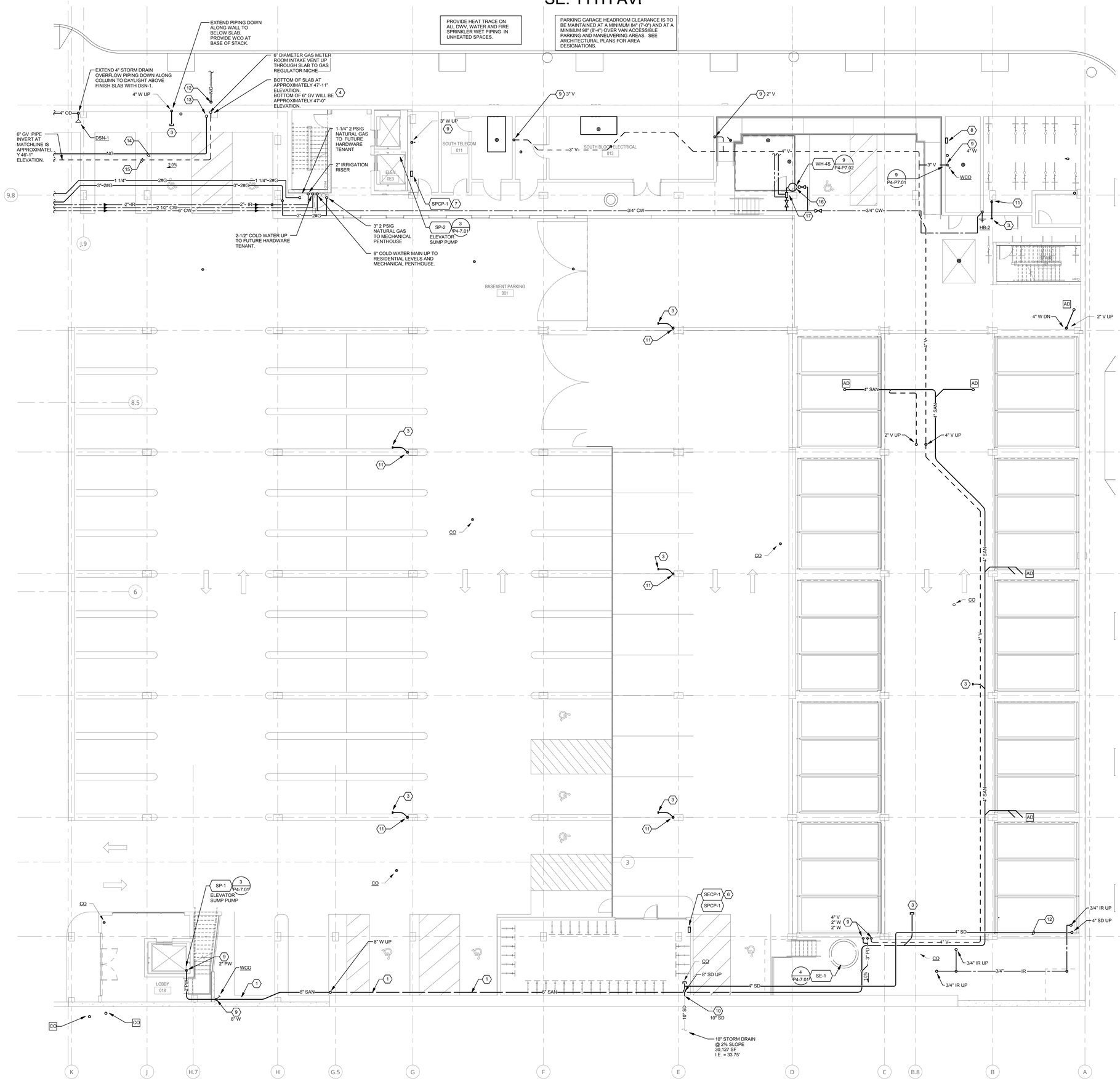
SE. 11TH AVI

PROVIDE HEAT TRACE ON ALL DWV, WATER AND FIRE SPRINKLER WET PIPING IN UNHEATED SPACES.

PARKING GARAGE HEADROOM CLEARANCE IS TO BE MAINTAINED AT A MINIMUM 84" (7'-0") AND AT A MINIMUM 98" (8'-4") OVER VAN ACCESSIBLE PARKING AND MANEUVERING AREAS. SEE ARCHITECTURAL PLANS FOR AREA DESIGNATIONS.



1 LEVEL P1 SOUTH - PLUMBING

1/8" = 1'-0"

SHEET KEYNOTES

1 ROUTE PIPING ALONG WALL AS TIGHT AS POSSIBLE.

2 OFFSET 8" WASTE PIPING AS REQUIRED TO ROUTE BELOW STORM DRAIN PIPING, EXTEND PIPING DOWN ALONG WALL TO CONNECT TO WASTE PIPING BELOW SLAB.

3 4" WASTE CAPPED AS LOW AS POSSIBLE IN CEILING SPACE FOR EXTENSION TO FUTURE RETAIL TENANT.

4 COORDINATE LOCATION AND INSTALLATION OF NATURAL GAS METER(S) AND SERVICE WITH SERVING UTILITY. PROVIDE ALL VALVES AND REGULATORS FOR COMPLETE AND OPERATING SYSTEM.

5 NOT USED.

6 MOUNT EQUIPMENT ON WALL IN ACCESS PANEL WITH LOUVERED FACE. COORDINATE WITH ELECTRICAL CONTRACTOR.

7 MOUNT EQUIPMENT ON WALL, COORDINATE WITH ELECTRICAL CONTRACTOR.

8 PROVIDE TRAP PRIMER HEADER. CONNECT TO PRIMER PIPE STUB PROVIDED IN FOUNDATION PACKAGE. PROVIDE ACCESSIBLE SHUT-OFF VALVE ON COLD WATER SUPPLY TO TRAP PRIMER HEADER.

9 CONNECT TO PIPE STUB EXTENDED UP ABOVE SLAB.

10 CONNECT TO PIPE STUB EXTENDED THROUGH WALL.

11 ROUTE 4" WASTE PIPING DOWN ALONG COLUMN FOR CONNECTION TO 4" WASTE PIPE STUBBED UP FROM BELOW SLAB. PROVIDE WCO AT BASE OF STACK.

12 NATURAL GAS SERVICE UP TO PRIMARY NATURAL GAS REGULATOR.

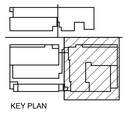
13 NATURAL GAS SERVICE DOWN FROM PRIMARY NATURAL GAS REGULATOR.

14 THE STEEL NATURAL GAS PIPING FROM THE PRIMARY NATURAL GAS REGULATOR TO THE NATURAL GAS METER ROOM IS TO BE CONTAINED IN STEEL CASING PIPE.

15 GAS METER ROOM INTAKE VENT.

16 ROUTE 3/4" COLD WATER TO WATER HEATER MOUNTED ON COLUMN. SET WATER HEATER TO DELIVER MAXIMUM 110F HOT WATER. ROUTE 3/4" HOT WATER FROM WATER HEATER FOR CONNECTION TO MIXING VALVE.

17 ROUTE 3/4" HOT WATER AND 3/4" COLD WATER FOR CONNECTION TO MIXING VALVE MOUNTED ON COLUMN. MIXING VALVE IS TO BE PROVIDED WITH SECURABLE HIGH LIMIT STOP. PROVIDE 1/2" COLD WATER BRANCH OFF OF COLD WATER SUPPLY TO MIXING VALVE. ROUTE COLD WATER BRANCH AND TEMPERED HOT WATER FROM MIXING VALVE THROUGH CODE APPROVED BACKFLOW PREVENTERS FOR CONNECTION TO FIXTURE(S) AT DOG WASH STATION. SEE ARCHITECTURAL.



KEY PLAN

REFERENCE ONLY

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1994 ANDREW W. FRICHTL

EXPIRES: 12/31/15

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Belmont Investments, LLC

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	9/17/14	IN PROGRESS CLARIFCATION
1	10/23/14	10/15/14 LS CHK RESPONSE
2	10/30/14	CHECK SHEET RESPONSE

LEVEL P1 SOUTH - PLUMBING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	2
PROJECT NUMBER 123625	SHEET NUMBER P4-2.0Ba
SCALE 1/8" = 1'-0"	

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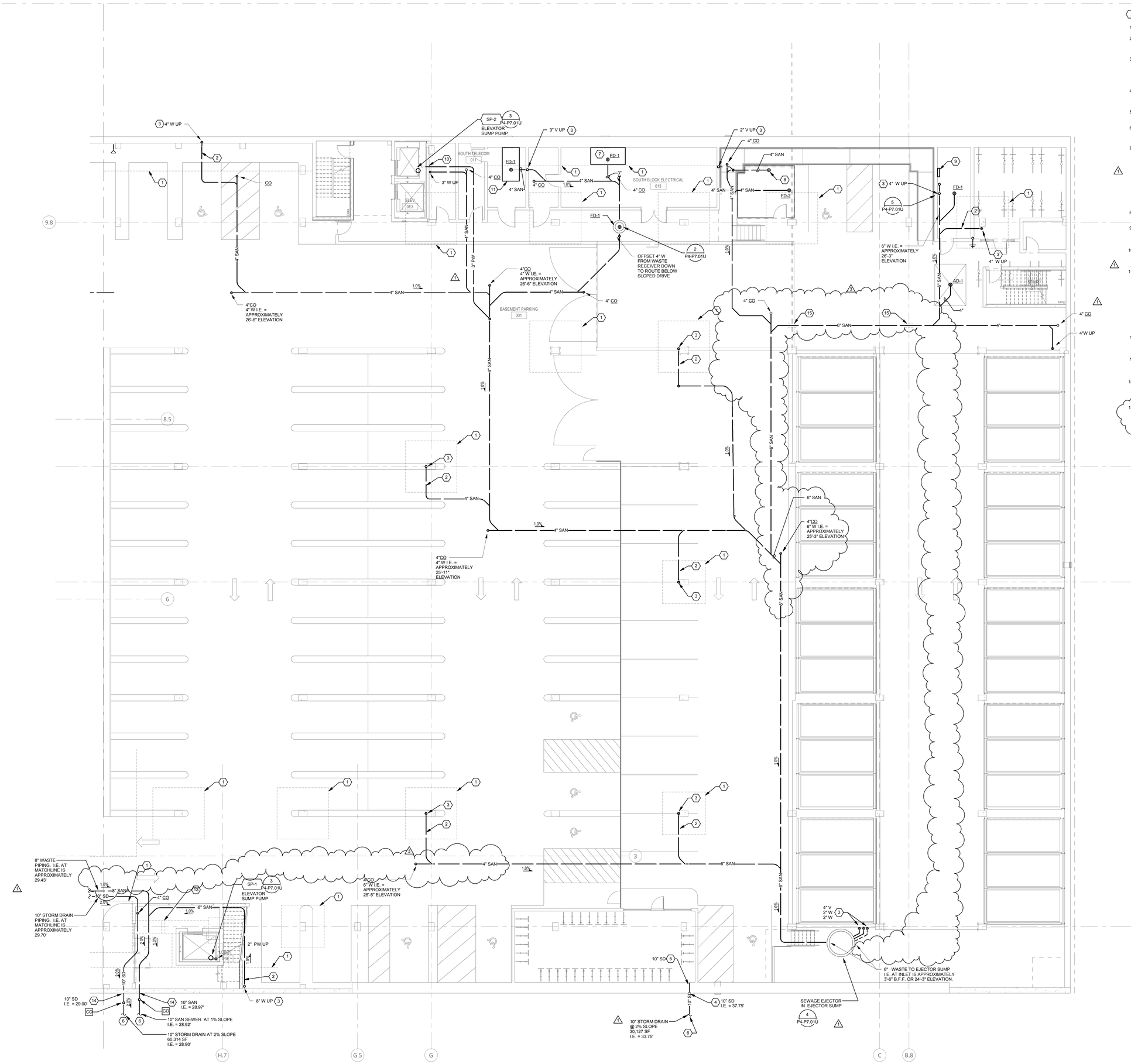


1 LEVEL P1 SOUTH - FOUNDATION - PLUMBING

0' 4' 8' 16'

1/8" = 1'-0"

SHEET KEYNOTES

1 STRUCTURAL FOOTING

2 ROUTE PIPING OVER TOP OF STRUCTURAL FOOTING, COORDINATE WITH STRUCTURAL ENGINEER.

3 SLEEVE PIPING UP THROUGH SLAB. UTILIZE SPECIFIC FITTINGS, SUCH AS LONG EIGHTH BEND, AS NEEDED TO INSTALL COUPLINGS ABOVE SLAB. PROVIDE PIPE STUB ABOVE SLAB FOR FUTURE CONNECTION.

4 SLEEVE PIPING THROUGH EXTERIOR WALL TO BUILDING EXTERIOR. COORDINATE SLEEVING WITH STRUCTURAL ENGINEER.

5 PROVIDE PIPE STUB IN BUILDING INTERIOR FOR FUTURE CONNECTION.

6 CONNECT TO SITE UTILITIES. FOR CONTINUATION OF UTILITY REFER TO CIVIL ENGINEER'S UTILITY PLANS.

7 PROVIDE HOUSEKEEPING PAD BENEATH ELECTRICAL SWITCHGEAR EQUIPMENT, COORDINATE WITH ELECTRICAL CONTRACTOR. HOUSEKEEPING PAD TO EXTEND THREE (3) INCHES BEYOND FOOTPRINT OF EQUIPMENT BEING SERVED. PROVIDE DRAIN IN HOUSEKEEPING PAD, WITH TOP OF HOUSEKEEPING PAD SLOPED TO DRAIN. LOCATE DRAIN SO AS TO MINIMIZE PIPING ROUTING OVER STRUCTURAL FOOTING BELOW, COORDINATE WITH STRUCTURAL ENGINEER. ROUTE 4" WASTE FROM DRAIN AS SHOWN TO TERMINATE AT WASTE RECEIVER.

8 COORDINATE LOCATION OF DRAIN WITH DRAIN OUTLET OF DOG WASH BASIN.

9 TRAP PRIMER HEADER TO BE LOCATED ON WALL. ROUTE TRAP PRIMER PIPING FOR CONNECTION TO DRAIN(S).

10 EXTEND PRESSURE WASTE PIPING INTO ELEVATOR PIT. PROVIDE PIPE STUB FOR FUTURE CONNECTION TO ELEVATOR SUMP PUMP.

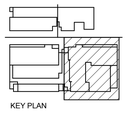
11 PROVIDE HOUSEKEEPING PAD BENEATH ELECTRICAL SWITCHGEAR EQUIPMENT, COORDINATE WITH ELECTRICAL CONTRACTOR. HOUSEKEEPING PAD TO EXTEND THREE (3) INCHES BEYOND FOOTPRINT OF EQUIPMENT BEING SERVED. PROVIDE DRAIN IN HOUSEKEEPING PAD, WITH TOP OF HOUSEKEEPING PAD SLOPED TO DRAIN. LOCATE DRAIN SO AS TO AVOID PIPING OVER STRUCTURAL FOOTING BELOW, COORDINATE WITH STRUCTURAL ENGINEER. ROUTE 4" WASTE FROM DRAIN AS SHOWN TO TERMINATE AT WASTE RECEIVER.

12 INSTALL 4" STORM DRAIN PIPING AS HIGH AS POSSIBLE ABOVE CAR STACKER. ROUTE TIGHT ALONG EDGE OF LOWER SLAB ALONG GRIDLINE 2.

13 SLEEVE PIPING THROUGH STRUCTURAL BEAM. CENTER OF 10" SLEEVE IS APPROXIMATELY 29'-6" ELEVATION.

14 ROUTE 10" DRAIN PIPING THROUGH STRUCTURAL FOOTING TO BUILDING EXTERIOR. PROVIDE WITH 12" DUCTILE IRON SLEEVE. COORDINATE SLEEVING WITH STRUCTURAL ENGINEER.

15 SLEEVE SANITARY PIPING THROUGH STRUCTURAL BEAM. COORDINATE SLEEVING WITH STRUCTURAL ENGINEER.



KEY PLAN

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 2004 ANDREW W. FRICHTL

EXPIRES: 12/31/15

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Belmont Investments, LLC

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1	10/29/14	FDTN REVISIONS
2	10/30/14	CHECK SHEET RESPONSE
3	12/10/201 4	FOUNDATION PERMIT

LEVEL P1 SOUTH - FOUNDATION - PLUMBING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	3
PROJECT NUMBER 123625	SHEET NUMBER P4-2.0BaU
SCALE 1/8" = 1'-0"	

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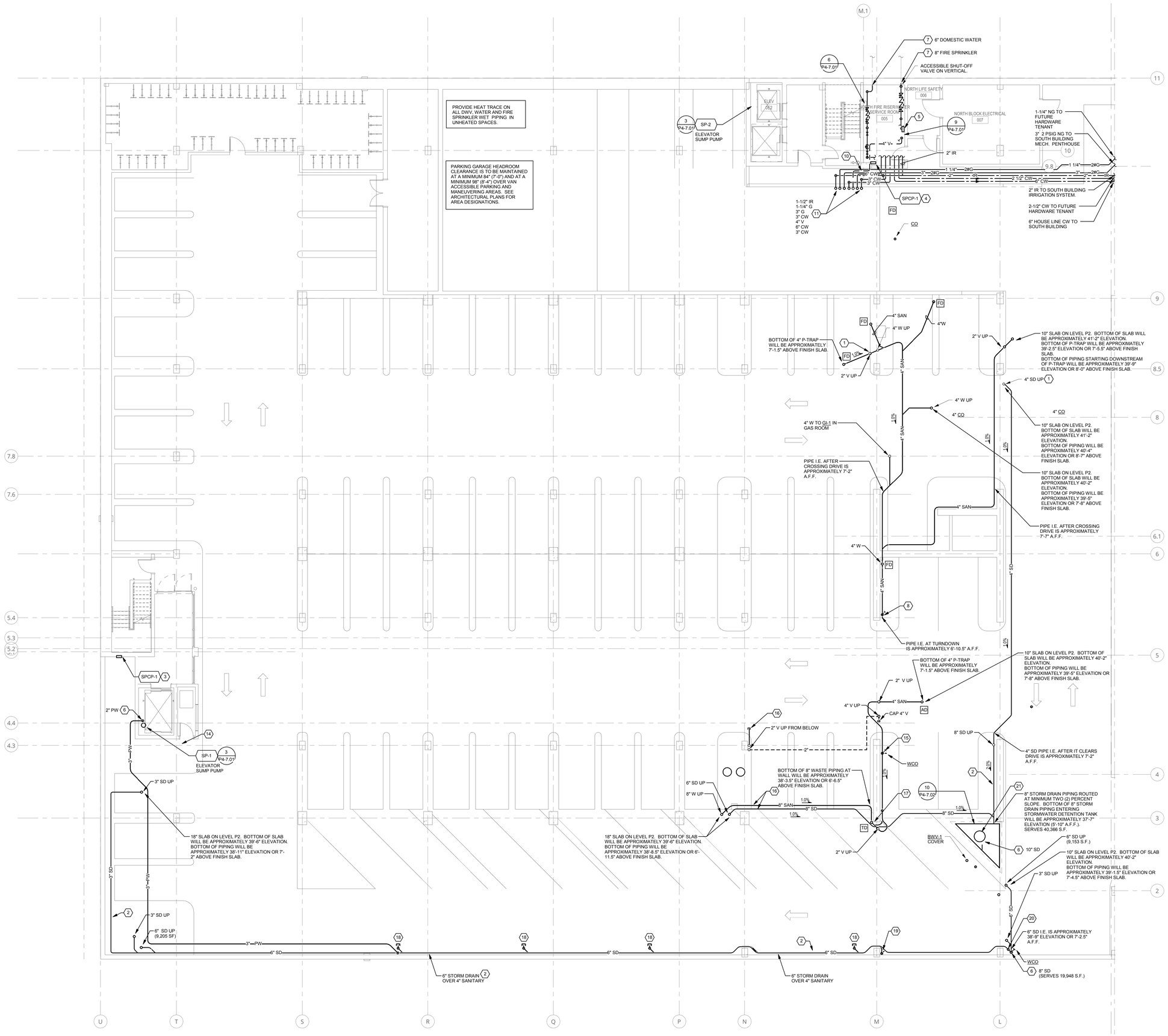

SHEET KEYNOTES

1 ROUTE PIPING AS TIGHT AS POSSIBLE TO BOTTOM OF SLAB ABOVE. UTILIZE SPECIFIC FITTINGS, SUCH AS LONG EIGHTH BEND, AS NEEDED TO INSTALL COUPLINGS ABOVE SLAB.

2 ROUTE PIPING AS TIGHT AS POSSIBLE ALONG WALL.

3 MOUNT EQUIPMENT ON WALL IN ACCESS PANEL WITH LOUVERED FACE. COORDINATE WITH ELECTRICAL CONTRACTOR.

4 MOUNT EQUIPMENT ON WALL. COORDINATE WITH ELECTRICAL CONTRACTOR.

5 PROVIDE TRAP PRIMER HEADER. CONNECT TO PRIMER PIPE STUB PROVIDED IN FOUNDATION PACKAGE. PROVIDE ACCESSIBLE SHUT-OFF VALVE ON COLD WATER SUPPLY TO TRAP PRIMER HEADER.

6 CONNECT TO PIPE STUB EXTENDED UP ABOVE SLAB.

7 CONNECT TO PIPE STUB EXTENDED THROUGH WALL.

8 ROUTE 4" WASTE PIPING DOWN ALONG WALL OR COLUMN FOR CONNECTION TO 4" WASTE PIPE STUBBED UP FROM BELOW SLAB. PROVIDE WCO AT BASE OF STACK.

9 MANHOLE OPEING IN SLAB OVERHEAD. COORDINATE WITH STRUCTURAL.

10 COORDINATE PIPE ROUTING WITH HVAC PIPING SYSTEMS IN THIS SPACE.

11 ROUTE PIPING UP AS TIGHT AS POSSIBLE ALONG WALL, COORDINATE WITH HVAC PIPING SYSTEMS.

12 EXTEND PIPING UP THROUGH SLAB TO LEVEL ABOVE. UTILIZE SPECIFIC FITTINGS, SUCH AS LONG EIGHTH BEND, AS NEEDED TO INSTALL COUPLINGS ABOVE SLAB.

13 4" STORM DRAIN PIPING INTERTIES TWO (2) STORM WATER DETENTION TANKS. PIPE IS NOT SLOPED. ROUTE AS TIGHT AS POSSIBLE TO BOTTOM OF SLAB ABOVE.

14 EXTEND 8" STORM DRAIN UP TO ROUTE IN CHASE ON LEVEL ABOVE, COORDINATE WITH HVAC OUTSIDE AIR PIPING IN SAME CHASE.

15 ROUTE 8" WASTE PIPING DOWN ALONG WALL FOR CONNECTION TO 8" WASTE PIPE STUBBED UP FROM BELOW SLAB. PROVIDE WCO AT BASE OF STACK.

16 ROUTE PIPING AS TIGHT AS POSSIBLE TO BOTTOM OF STRUCTURE.

17 OFFSET WASTE PIPING DOWN BENEATH STORM DRAIN PIPING THEN ROUTE AS TIGHT AS POSSIBLE AROUND WALL.

18 4" WASTE PIPING CAPPED FOR FUTURE EXTENSION TO FIXTURES IN WEST BUILDING TENANT SPACE(S). PIPE I.E. IS APPROXIMATELY 38.75' ELEVATION OR 7'-0" A.F.F.

19 I.E. OF 4" HORIZONTAL WASTE AT TURNDOWN TO VERTICAL IS APPROXIMATELY 4'-0" A.F.F.

20 I.E. OF 6" HORIZONTAL STORM DRAIN AT TURNDOWN TO VERTICAL IS APPROXIMATELY 4'-5" A.F.F.

21 MANHOLE OPENING IN SLAB OVER STORMWATER DETENTION TANK. COORDINATE WITH STRUCTURAL.

22 4" WASTE PIPING CAPPED FOR FUTURE EXTENSION TO FIXTURES IN WEST BUILDING TENANT SPACE(S).

1 LEVEL P1 NORTH - PLUMBING

1/8" = 1'-0"

KEY PLAN

REFERENCE ONLY

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1994 ANDREW W. FRICHTL

EXPIRES: 12/31/15

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Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION
1	10/23/14	10/15/14 LS CHK RESPONSE
2	10/30/14	CHECK SHEET RESPONSE
3	12/10/2014	PHASE 2 PERMIT

LEVEL P1 NORTH - PLUMBING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	3
PROJECT NUMBER 123625	SHEET NUMBER P4-2.0Bb
SCALE 1/8" = 1'-0"	

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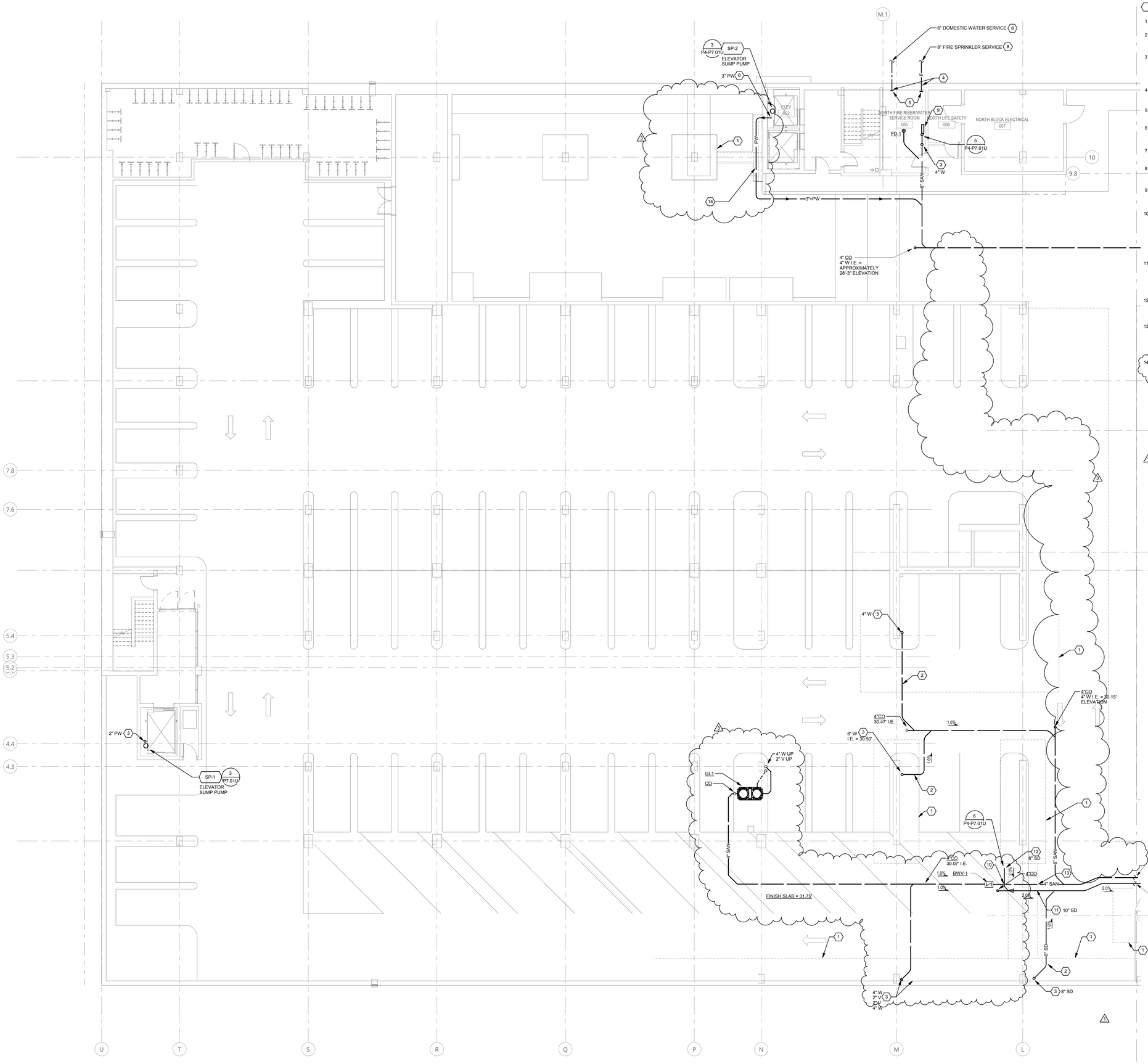


SHEET KEYNOTES

1 STRUCTURAL FOOTING

2 ROUTE PIPING OVER TOP OF STRUCTURAL FOOTING. COORDINATE WITH STRUCTURAL ENGINEER.

3 SLEEVE PIPING UP THROUGH SLAB. UTILIZE SPECIFIC FITTINGS, SUCH AS LONG EIGHTH BEND, AS NEEDED TO INSTALL COUPLINGS ABOVE SLAB. PROVIDE PIPE STUB ABOVE SLAB FOR FUTURE CONNECTION.

4 SLEEVE PIPING THROUGH EXTERIOR WALL TO BUILDING EXTERIOR, COORDINATE SLEEVING WITH STRUCTURAL ENGINEER.

5 PROVIDE PIPE STUB IN BUILDING INTERIOR FOR FUTURE CONNECTION.

6 EXTEND PRESSURE WASTE PIPING INTO ELEVATOR PIT. PROVIDE PIPE STUB FOR FUTURE CONNECTION TO ELEVATOR SUMP PUMP.

7 CONCRETE STRUCTURAL CONDITION. WRAP PIPING WITH FOAM INSULATION.

8 CONNECT TO SITE UTILITIES. FOR CONTINUATION OF UTILITY REFER TO CIVIL ENGINEER'S UTILITY PLANS.

9 TRAP PRIMER HEADER TO BE LOCATED ON WALL. ROUTE TRAP PRIMER PIPING FOR CONNECTION TO DRAIN(S).

10 8" STORM DRAIN LINE FROM DETENTION TANK CROSSES OVER 4" SANITARY. INVERT OF 4" SANITARY IS APPROXIMATELY 29.89' ELEVATION. TOP OF 4" SANITARY IS APPROXIMATELY 30.27' ELEVATION. INVERT OF 8" STORM DRAIN IS APPROXIMATELY 30.41' ELEVATION. TOP OF 8" STORM DRAIN IS APPROXIMATELY 31.12' ELEVATION.

11 ROUTE 10" STORM DRAIN PIPING OVER TOP OF STRUCTURAL GRADE BEAM. COORDINATE WITH STRUCTURAL ENGINEER. ROUTE PIPING AT TWO (2) PERCENT SLOPE. INVERT OF 10" STORM DRAIN AFTER CLEARING GRADE BEAM IS APPROXIMATELY 30.16' ELEVATION.

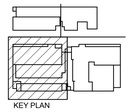
12 EXTEND 8" STORM DRAIN PIPING UP THROUGH SLAB AT LOCATION OF STORMWATER DETENTION TANK. INVERT OF 8" STORM DRAIN LINE IS APPROXIMATELY 30.47" ELEVATION.

13 SLEEVE 4" SANITARY PIPING THROUGH STRUCTURAL GRADE BEAM. COORDINATE WITH STRUCTURAL ENGINEER. ROUTE PIPING AT ONE (1) PERCENT SLOPE. INVERT OF 4" SANITARY PIPING AFTER CLEARING GRADE BEAM IS APPROXIMATELY 29.93' ELEVATION.

14 SLEEVE PW PIPING THROUGH STRUCTURAL GRADE BEAM, COORDINATE WITH STRUCTURAL ENGINEER.

1 LEVEL P1 NORTH -FOUNDATION - PLUMBING

0' 4' 8' 16'
1/8" = 1'-0"


KEY PLAN

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 2004 ANDREW W. FRICHTL
EXPIRES: 12/31/15

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3	12/10/201 4	FOUNDATION PERMIT

LEVEL P1 NORTH - FOUNDATION - PLUMBING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	3
PROJECT NUMBER 123625	SHEET NUMBER P4-2.0BbU
SCALE 1/8" = 1'-0"	

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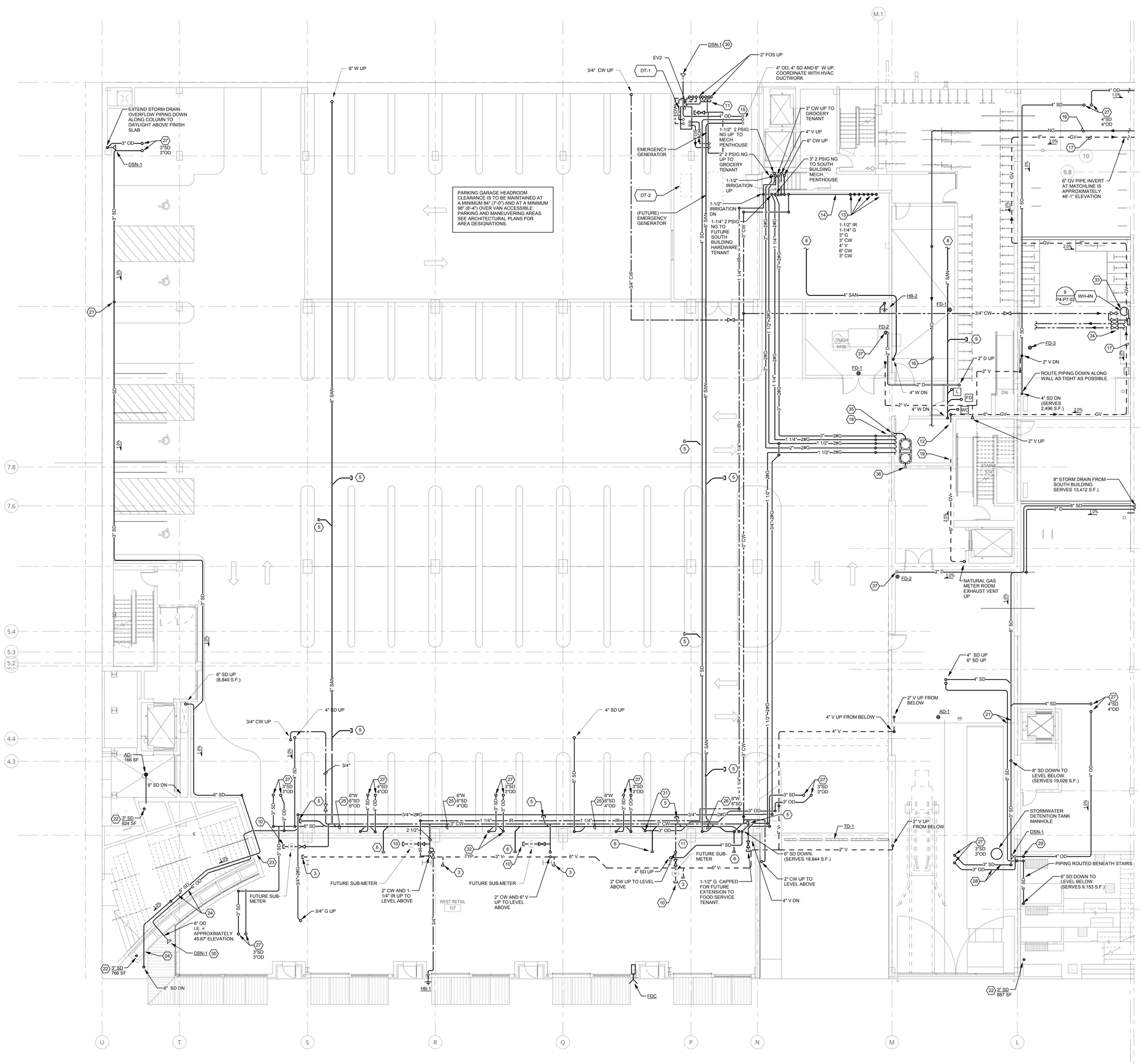
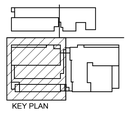


1 LEVEL P2 NORTH - PLUMBING

1/8" = 1'-0"

REFERENCE ONLY



SHEET KEYNOTES

1 ROUTE PIPING OVERHEAD AS TIGHT AS POSSIBLE TO BOTTOM OF SLAB ABOVE. UTILIZE SPECIFIC FITTINGS, SUCH AS LONG EIGHTH BEND, AS NEEDED TO INSTALL COUPLINGS ABOVE SLAB.

2 EXTEND PIPING DOWN ALONG COLUMN TO BELOW SLAB.

3 3" VENT CAPPED AS HIGH AS POSSIBLE IN CEILING SPACE FOR EXTENSION TO FUTURE TENANT SPACE.

4 NOT USED.

5 4" WASTE CAPPED FOR FUTURE EXTENSION TO GROCERY TENANT.

6 PROVIDE 4' WASTE CAPPED AS LOW AS POSSIBLE IN CEILING SPACE FOR EXTENSION TO FUTURE TENANT SPACE.

7 FOOD SERVICE EQUIPMENT / FIXTURES IN WEST RETAIL TENANT SPACE ON THIS LEVEL ARE TO DRAIN TO GRAVITY GREASE INTERCEPTOR LOCATED ON LEVEL BELOW. SEE SHEET P2.00Bb.

8 SEE 1/P2.00Pd FOR CONTINUATION.

9 CAP 4" WASTE PIPING AS LOW AS POSSIBLE IN CEILING SPACE FOR FUTURE EXTENSION TO RETAIL TENANT ON LEVEL ABOVE.

10 2" COLD WATER CAPPED FOR FUTURE EXTENSION.

11 CAPPED VENTS FOR FUTURE DAY TANK.

12 NATURAL GAS METER ROOM INTAKE VENT TERMINATION IN NATURAL GAS METER ROOM. INTAKE VENT TERMINATION TO BE LOCATED AT A MAXIMUM OF ONE (1) FOOT AND A MINIMUM OF SIX (6) INCHES FROM THE BOTTOM OF THE VENT TO THE FINISH FLOOR.

13 ROUTE PIPING AS TIGHT AS POSSIBLE DOWN ALONG WALL, COORDINATE WITH HVAC PIPING SYSTEMS.

14 ROUTE PIPING AS TIGHT AS POSSIBLE ALONG WALL, COORDINATE WITH HVAC PIPING SYSTEMS.

15 2" FUEL OIL SUPPLY PIPING CAPPED FOR EXTENSION TO FUTURE DAY TANK AND FUTURE GENERATOR.

16 THE STEEL NATURAL GAS PIPING FROM THE PRIMARY NATURAL GAS REGULATOR TO THE NATURAL GAS METER ROOM IS TO BE CONTAINED IN STEEL CASING PIPE.

17 GAS METER ROOM INTAKE VENT.

18 ROUTE NATURAL GAS PIPING FOR CONNECTION TO NATURL GAS METER ASSEMBLY IN NATURAL GAS METER ROOM. COORDINATE LOCATION AND INSTALLATION OF NATURAL GAS METER ASSEMBLY WITH SERVING UTILITY. PROVIDE ALL VALVES, REGULATORS AND APPURTENANCES FOR COMPLETE AND OPERATING SYSTEM.

19 NATURAL GAS METER ROOM EXHAUST VENT TERMINATION IN NATURAL GAS METER ROOM. EXHAUST VENT TERMINATION IS TO BE LOCATED AT A MAXIMUM OF ONE (1) FOOT FROM THE TOP OF THE VENT TO THE FINISH CEILING.

20 OFFSET PIPING AS REQUIRED TO ROUTE BENEATH BEAM.

21 ROUTE PIPING AS TIGHT AS POSSIBLE ALONG WALL. SHOWN SIDE-BY-SIDE FOR CLARITY.

22 EXTEND STORM DRAIN PIPING UP INTO FLOW-THRU PLANTER. PROVIDE WITH SANITARY TEE FOR CONNECTION TO DRAINS PROVIDED BY LANDSCAPE ARCHITECT. SET INVERT OF TEE TO BE FLUSH WITH BOTTOM OF PLANTER. SEE LANDSCAPE DRAWING DETAIL(S). COORDINATE LOCATION WITH LANDSCAPE ARCHITECT.

23 EXTEND 6" STORM DRAIN PIPING THROUGH WALL TO ROUTE BENEATH STAIRS AS SHOWN.

24 PIPING ROUTED BELOW SLAB, IN CRAWLSPACE BELOW BOTTOM OF STAIRS.

25 INSTALL WASTE, STORM DRAIN AND OVERFLOW STORM DRAIN PIPING STACKED AS TIGHT AS POSSIBLE AGAINST WALL/COLUMN. ROUTE PIPING AGAINST WALL/COLUMNS AS TIGHT AS POSSIBLE.

26 INSTALL WASTE AND STORM DRAIN PIPING STACKED AS TIGHT AS POSSIBLE AGAINST WALL/COLUMN. ROUTE PIPING AGAINST WALL/COLUMNS AS TIGHT AS POSSIBLE.

27 EXTEND STORM DRAIN AND STORM DRAIN OVERFLOW PIPING UP FOR CONNECTION TO SLAB DRAIN AND SLAB OVERFLOW DRAIN.

28 MAINTAIN MINIMUM 14'-6" VERTICAL CLEARANCE BETWEEN BOTTOM OF PIPING CROSSING DRIVE PATH OF LOADING DOCK.

29 COMBINE 3" AND 4" STORM DRAIN OVERFLOW LINES INTO SINGLE 4" VERTICAL LINE DOWN, DAYLIGHT THROUGH WALL OF LOADING DOCK, COORDINATE LOCATION AND ELEVATION OF TERMINATION WITH ARCHITECT.

30 ROUTE STORM DRAIN OVERFLOW PIPING THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR. COORDINATE TERMINATION LOCATION AND ELEVATION WITH ARCHITECT.

31 OFFSET OVERFLOW DRAIN PIPING DOWN ALONG WALL TO ROUTE AS TIGHT AS POSSIBLE AGAINST WALL/COLUMN BELOW WASTE AND STORM DRAIN PIPING.

32 OFFSET PIPING DOWN ALONG WALL TO CONNECT TO STORM/OVERFLOW DRAIN MAIN RUNNING ALONG WALL.

33 ROUTE 3/4" COLD WATER FOR CONNECTION TO WATER HEATER. SET WATER HEATER TO DELIVER MAXIMUM 110F HOT WATER. ROUTE 3/4' HOT WATER FROM WATER HEATER FOR CONNECTION TO MIXING VALVE.

34 ROUTE 3/4" HOT WATER FROM WATER HEATER AND 3/4" COLD WATER FOR CONNECTION TO MIXING VALVE MOUNTED ON WALL. MIXING VALVE IS TO BE PROVIDED WITH SECURABLE HIGH-LIMIT STOP. PROVIDE 1/2" COLD WATER BRANCH OFF OF COLD WATER SUPPLY TO MIXING VALVE, ROUTE COLD WATER BRANCH AND TEMPERED HOT WATER FROM MIXING VALVE THROUGH CODE APPROVED BACKFLOW PREVENTERS FOR CONNECTION TO FIXTURE(S) AT BIKE WASH STATION. SEE ARCHITECTURAL.

35 GREASE WASTE UP TO TENANT SPACE.

36 GREASE WASTE DOWN. SEE FLOOR BELOW FOR CONTINUATION.

37 ROUTE 2" CONDENSATE DRAIN PIPING DOWN TO TERMINATE INDIRECT AT FLOOR DRAIN.

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1994 ANDREW W. FRICHTL

EXPIRES: 12/31/15

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PROJECT 2012-0522
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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION
1	10/23/14	10/15/14 LS CHK RESPONSE
2	10/30/14	CHECK SHEET RESPONSE
3	12/10/201 4	PHASE 2 PERMIT

LEVEL P2 NORTH - PLUMBING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	3
PROJECT NUMBER 123625	SHEET NUMBER P4-2.0Pb
SCALE 1/8" = 1'-0"	

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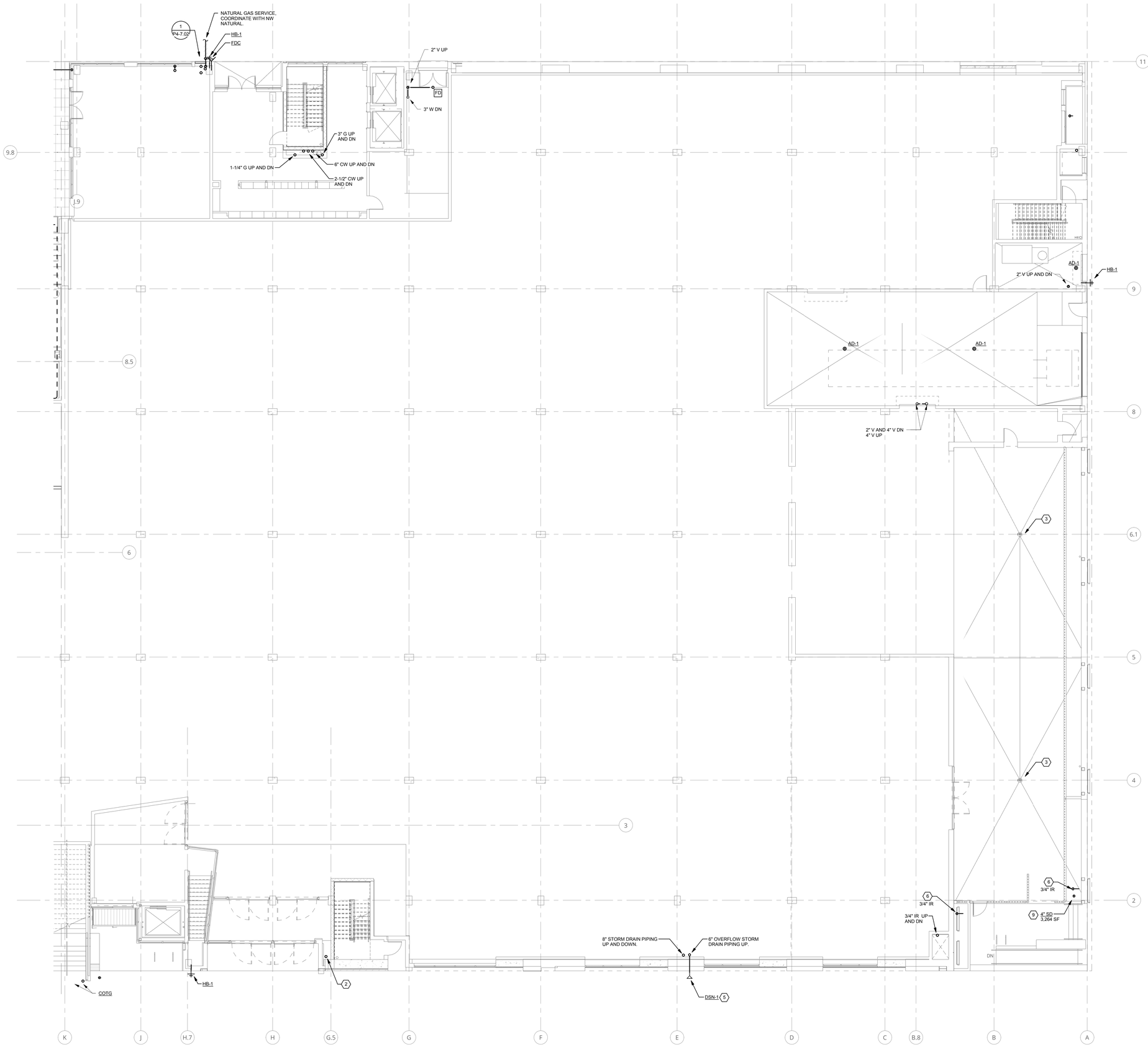

SHEET KEYNOTES

1 NOT USED.

2 EXTEND 8" WASTE DOWN THROUGH SLAB TO LEVEL BELOW.

3 AREA DRAINS. TYPICAL TWO (2) AT EACH LOCATION - UPPER DRAIN LOCATED IN PAVERS, LOWER DRAIN LOCATED IN STRUCTURAL DECK.

4 EXTEND STORM DRAIN PIPING UP INTO FLOW-THRU PLANTER. PROVIDE WITH SANITARY TEE FOR CONNECTION TO DRAINS PROVIDED BY LANDSCAPE ARCHITECT. SET INVERT OF TEE TO BE FLUSH WITH BOTTOM OF PLANTER. SEE LANDSCAPE DRAWING DETAIL(S). COORDINATE LOCATION WITH LANDSCAPE ARCHITECT.

5 ROUTE 6" STORM DRAIN OVERFLOW PIPING THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR. COORDINATE LOCATION AND ELEVATION OF OVERFLOW DRAIN TERMINATION WITH ARCHITECT.

6 IRRIGATION PIPING UP FROM BELOW. COORDINATE ALL ROOF PENETRATIONS AND FLASHING WITH ARCHITECTURAL REQUIREMENTS FOR ROOFING SYSTEM. ROUTE FOR CONNECTION TO THE IRRIGATION SYSTEM. PROVIDE WITH ACCESSIBLE SHUT-OFF VALVE. COORDINATE CONNECTION REQUIREMETNS AND LOCATION WITH LANDSCAPE ARCHITECT.

1 LEVEL 1 SOUTH - PLUMBING

0' 4' 8' 16'
1/8" = 1'-0"

KEY PLAN

REFERENCE ONLY

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1994 ANDREW W. FRICHTL

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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION
1	10/30/14	CHECK SHEET RESPONSE

LEVEL 1 SOUTH -PLUMBING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	1
PROJECT NUMBER 123625	SHEET NUMBER P4-2.01a
SCALE 1/8" = 1'-0"	

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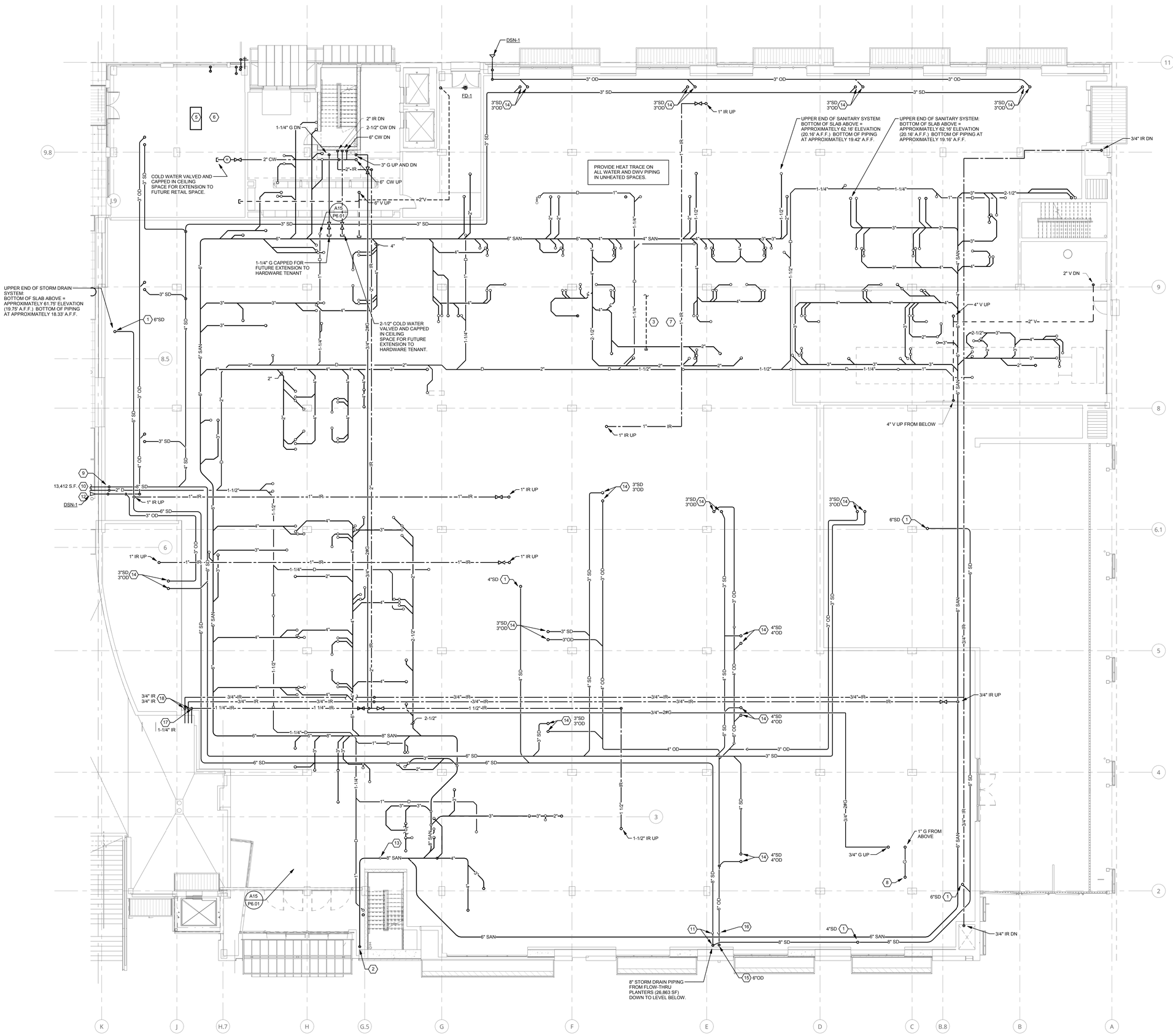
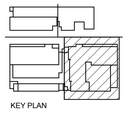


SHEET KEYNOTES

1. EXTEND STORM DRAIN PIPING UP THROUGH SLAB FOR CONNECTION TO FLOW-THROUGH PLANTER ON LEVEL ABOVE.
2. ROUTE 8" SANITARY DOWN ALONG WALL TO LEVEL BELOW. BOTTOM OF HORIZONTAL PIPING PRIOR TO TURNDOWN TO VERTICAL IS APPROXIMATELY 13.42' A.F.F.
3. 4" VENT SERVING RETAIL TENANT. EXTEND FOR CONNECTION TO VENT SYSTEM SERVING RESIDENTIAL LEVELS ABOVE.
4. 2" VENT SERVING RETAIL TENANT. EXTEND FOR CONNECTION TO VENT SYSTEM SERVING RESIDENTIAL LEVELS ABOVE.
5. PROVIDE POINT-OF -USE GREASE TRAP TO SERVE FOOD SERVICE EQUIPMENT/FIXTURES IN TENANT SPACE.
6. ROUTE NATURAL GAS PIPING FROM NATURAL GAS METER TO FOOD SERVICE TENANT, VALVE AND CAP FOR FUTURE EXTENSION.
7. ROUTE NATURAL GAS PIPING FROM NATURAL GAS METER TO HARDWARE STORE TENANT, VALVE AND CAP FOR FUTURE EXTENSION.
8. EXTEND 1" NATURAL GAS UP THROUGH SLAB FOR CONNECTION TO FIRE PIT.
9. OFFSET 8" STORM DRAIN PIPING DOWN ALONG WALL TO ROUTE BENEATH STRUCTURE OF PROMENADE BETWEEN NORTH AND SOUTH BUILDINGS. BOTTOM OF HORIZONTAL PIPING PRIOR TO TURNDOWN IS APPROXIMATELY 15.08' A.F.F.
10. ROUTE 8" STORM DRAIN PIPING FOR CONNECTION TO STORMWATER DETENTION VAULT.
11. OFFSET 8" STORM DRAIN PIPING DOWN TO ROUTE BENEATH 6" SANITARY THEN EXTEND DOWN ALONG WALL TO LEVEL BELOW. BOTTOM OF HORIZONTAL PIPING PRIOR TO OFFSET IS APPROXIMATELY 15.38' A.F.F.
12. OFFSET 4" OVERFLOW DRAIN PIPING DOWN THEN EXTEND THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR APPROXIMATELY 1.0' ABOVE FINISH GRADE. COORDINATE TERMINATION LOCATION AND ELEVATION WITH ARCHITECT. BOTTOM OF PIPE ELEVATION PRIOR TO OFFSET DOWN WILL BE APPROXIMATELY 16.08' A.F.F.
13. OFFSET 8" SANITARY PIPING TO ROUTE BENEATH STRUCTURAL BEAM. BOTTOM OF PIPE PRIOR TO OFFSET IS APPROXIMATELY 14.42' A.F.F. BOTTOM OF PIPE CROSSING BENEATH BEAM IS APPROXIMATELY 13.67' A.F.F.
14. EXTEND STORM DRAIN AND STORM DRAIN OVERFLOW PIPING UP FOR CONNECTION TO SLAB DRAIN AND SLAB OVERFLOW DRAIN.
15. SEE SHEET P4-P2.01a FOR CONTINUATION.
16. OFFSET 6" STORM DRAIN OVERFLOW PIPING DOWN TO ROUTE BENEATH 6" SANITARY THEN EXTEND DOWN ALONG WALL. BOTTOM OF HORIZONTAL PIPING PRIOR TO OFFSET IS APPROXIMATELY 15.38' A.F.F.
17. ROUTE 1-1/4" IRRIGATION PIPING DOWN ALONG WALL THEN THROUGH WALL TO LANDSCAPE PLANTER. ROUTE FOR CONNECTION TO THE IRRIGATION SYSTEM. PROVIDE WITH ACCESSIBLE SHUT-OFF VALVE. COORDINATE CONNECTION REQUIREMENTS AND LOCATION WITH LANDSCAPE ARCHITECT.
18. EXTEND 3/4" IRRIGATION PIPING FROM IRRIGATION CONNECTION IN LANDSCAPE PLANTER THROUGH WALL THEN UP ALONG WALL TO ROUTE IN CEILING SPACE AS SHOWN. COORDINATE CONNECTION REQUIREMENTS AND LOCATION WITH LANDSCAPE ARCHITECT.

1 LEVEL 2 SOUTH - PLUMBING

1/8" = 1'-0"



REFERENCE ONLY

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1994 ANDREW W. FRICHTL

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFICATION
1	10/30/14	CHECK SHEET RESPONSE

LEVEL 2 SOUTH - PLUMBING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	1
PROJECT NUMBER 123625	SHEET NUMBER P4-2.02a
SCALE 1/8" = 1'-0"	

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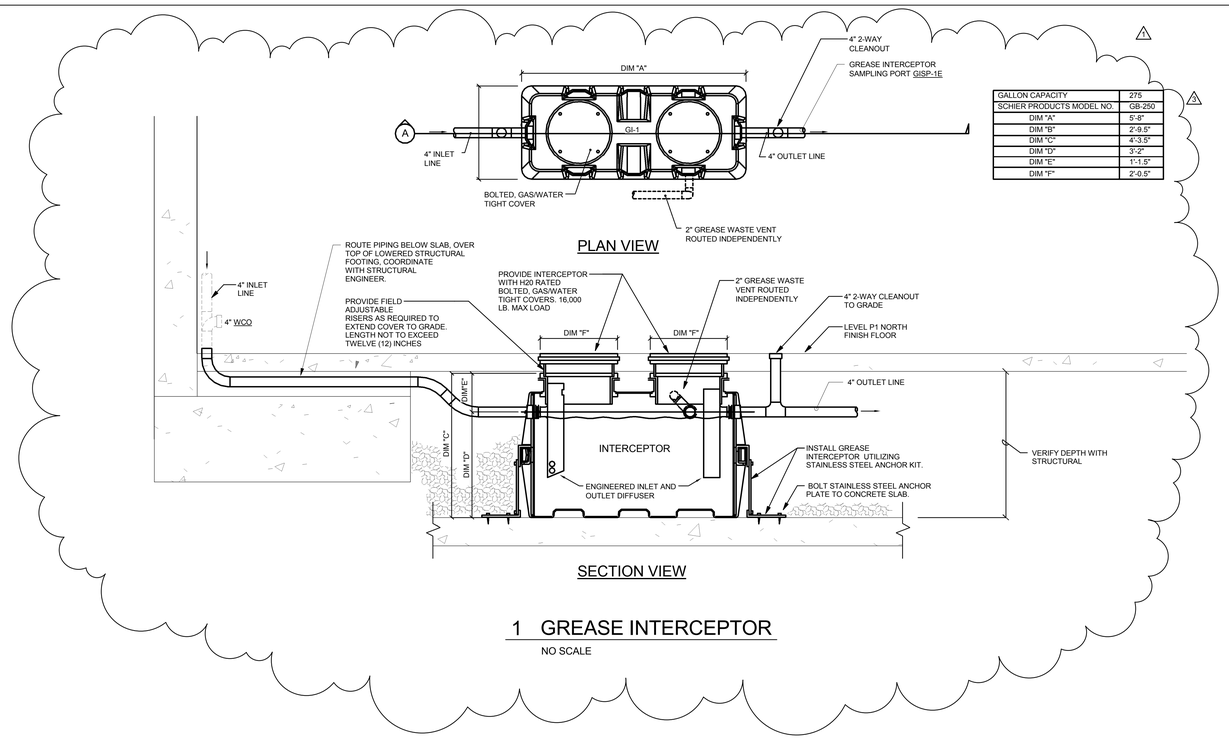


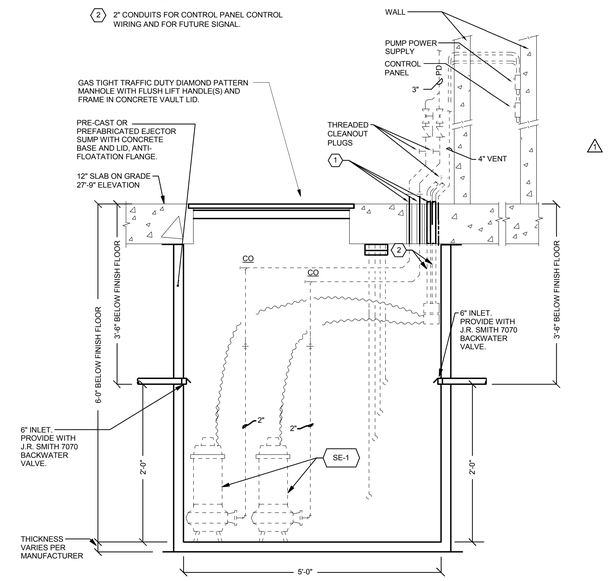
GALLON CAPACITY	275
SCHIER PRODUCTS MODEL NO.	GB-250
DIM "A"	5'-8"
DIM "B"	2'-9.5"
DIM "C"	4'-3.5"
DIM "D"	3'-2"
DIM "E"	1'-1.5"
DIM "F"	2'-0.5"

1 GREASE INTERCEPTOR

NO SCALE

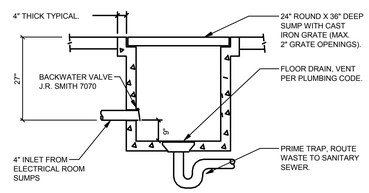
NOTES

1. SLEEVE PIPING/CONDUIT UP THROUGH LID. PROVIDE STUB ABOVE FINISH FLOOR.
2. 2" CONDUITS FOR CONTROL PANEL CONTROL WIRING AND FOR FUTURE SIGNAL.



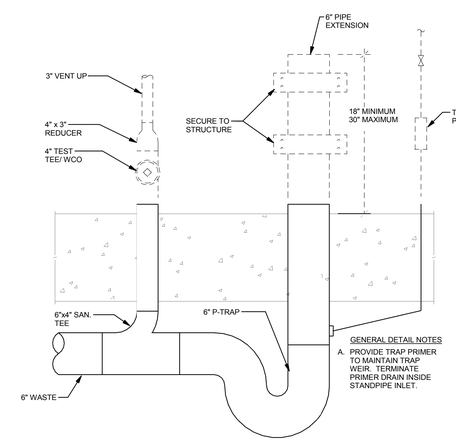
4 DUPLEX SANITARY EJECTOR SUMP - BELOW SLAB

NO SCALE



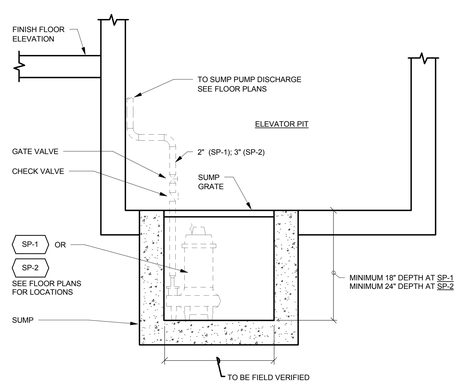
2 ELECTRICAL ROOM WASTE RECEIVER

NO SCALE



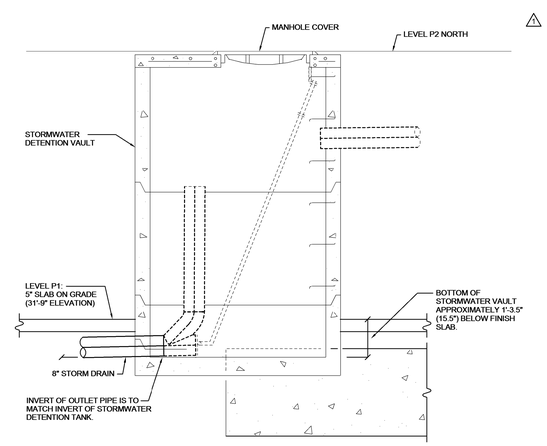
5 STANDPIPE - BELOW SLAB

NO SCALE



3 ELEVATOR SUMP

NO SCALE



6 STORMWATER VAULT DRAIN - BELOW SLAB

NO SCALE

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1994 ANDREW W. FRICHTL

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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
1	10/29/14	FDTN REVISIONS
2	10/30/14	CHECK SHEET RESPONSE
3	12/10/201 4	FOUNDATION PERMIT

DETAILS - PLUMBING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	3
PROJECT NUMBER 123625	SHEET NUMBER P4-7.01U
SCALE NO SCALE	

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PLUMBING SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

Abbreviations

#	NUMBER
&	AND
(F)	FUTURE
(N)	NEW
@	AT
A	AQUASTAT, ARCHITECT, ANCHOR
AD	AREA DRAIN, AIR DRYER
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
AVB	ATMOSPHERIC VACUUM BREAKER
BF	BLIND FLANGE
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BLDG	BUILDING
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
BV	BALANCING VALVE
CB	CATCH BASIN
CD	CONDENSATE DRAIN
CF	CUBIC FOOT
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CL	CENTERLINE
CO	CLEANOUT
CONT.	CONTINUATION
CP	CIRCULATION PUMP
CV	CHECK VALVE
CW	COLD WATER
D	DRAIN
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DDCA	DOUBLE DETECTOR CHECK ASSEMBLY
DF	DRINKING FOUNTAIN
DFU	DRAINAGE FIXTURE UNIT
DIA	DIAMETER
DN	DOWN
DS	DOWNSPOUT
DSN	DOWNSPOUT NOZZLE
DW	DISHWASHER, DOMESTIC WATER
DWV	DRAINAGE, WASTE AND VENT
EJ	EXPANSION JOINT
EL	ELEVATION
ELECT	ELECTRICAL
ESV	ELECTRONIC SOLENOID VALVE
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
F	FIRE, FAHRENHEIT
FC	FLEXIBLE CONNECTOR
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FF	FINISHED FLOOR
FL	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOOR SINK, FLOW SWITCH
FT	FEET
FV	FLUSH VALVE
GAL	GALLONS
GD	GARBAGE DISPOSER, GARAGE DRAIN
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GW	GREASE WASTE
GWH	GAS WATER HEATER
HB	HOSE BIBB
HD	HEAD, HUB DRAIN
HG	MERCURY
HP	HEAT PUMP, HORSE POWER
HR	HOUR
HS	HAND SINK
HTG	HEATING
HTR	HEATER
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HW	HOT WATER
HWFU	HOT WATER FIXTURE UNIT
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HZ	HERTZ
ID	INSIDE DIAMETER
IN, "	INCHES
INV	INVERT ELEVATION
IR	IRRIGATION
IW	INDIRECT WASTE
L	LAVATORY
LB	POUND
LBS.	POUNDS
M	METER, MECHANICAL
MAX	MAXIMUM
MBH	THOUSAND BTU'S PER HOUR
MH	MOUNTING HEIGHT
MIN	MINIMUM
MS	MOP SINK
MTD	MOUNTED
MW	MAKE-UP WATER
N/A	NOT APPLICABLE
N	NORTH
NC	NORMALLY CLOSED
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO.	NUMBER
NOP	NORMALLY OPEN
NP	NON-POTABLE
NPCW	NON-POTABLE COLD WATER
NPHW	NON-POTABLE HOT WATER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OVERFLOW DRAIN, OUTSIDE DIAMETER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
P	PLUMBING, PUMP
PD	PRESSURE DROP, PLUMBING DEMOLITION, PUMPED DISCHARGE
PG	PRESSURE GAUGE
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PVB	PRESSURE VACUUM BREAKER
QTY	QUANTITY
RD	ROOF DRAIN
RET	RETURN
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
RV	RELIEF VENT, RELIEF VALVE
RWL	RAINWATER LEADER
S, SK	SINK
SA	SHOCK ARRESTOR
SAN	SANITARY
SD	STORM DRAIN
SF	SQUARE FEET
SF	SQUARE FEET
SHT	SHEET
SJ	SEISMIC JOINT
SOV	SHUT OFF VALVE
SP	SUMP PUMP, STATIC PRESSURE
SS	SERVICE SINK
T&P	TEMPERATURE AND PRESSURE
T	TEMPERATURE, THERMOMETER
TD	TRENCH DRAIN
TEMP	TEMPERATURE
TP	TRAP PRIMER, TOTAL PRESSURE
TT	TEST TEE
TYP	TYPICAL
U, UR	URINAL
UH	UNIT HEATER
V	VACUUM, VENT, VOLT
VB	VALVE BOX, VACUUM BREAKER
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VS	VENT STACK
VTR	VENT THRU ROOF
W/	WITH
W/O	WITHOUT
W	WASTE
WB	WASHER BOX
WC	WATER COLUMN
WC	WATER COLUMN, WATER CLOSET
WCO	WALL CLEANOUT
WH	WATER HEATER, WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WS	WASTE STACK
WSFU	WATER SUPPLY FIXTURE UNIT
Z	ZONE
ZA	ZONE ALARM
ZV	ZONE VALVE

General

- NEW WORK
- CONTINUATION
- DETAIL NUMBER AND SHEET LOCATION
- EQUIPMENT IDENTIFICATION
- FIXTURE TAG (LEVEL BELOW FIXTURE)
- FOOD SERVICE EQUIPMENT / CALCULATION TAG
- KEYED NOTE
- PIPE OR CONDUIT BELOW GRADE
- POINT OF CONNECTION
- SECTION NUMBER AND SHEET LOCATION

Piping Fittings

- ACCESS PANEL
- ANCHOR
- AQUASTAT
- AREA DRAIN
- AUTOMATIC AIR VENT
- BASKET STRAINER / BAG FILTER
- BLIND FLANGE
- CAP
- CATCH BASIN
- CLEANOUT TO GRADE
- CONCENTRIC REDUCER
- DOWNSPOUT NOZZLE
- ECCENTRIC REDUCER
- EXPANSION JOINT
- FLEXIBLE CONNECTION
- FLOOR CLEANOUT
- FLOOR DRAIN
- FLOOR SINK
- FLOW DIRECTION
- FLOW METER
- FLOW SWITCH
- HOSE BIBB
- HUB DRAIN
- MANUAL AIR VENT
- METER
- OVERFLOW ROOF DRAIN
- PEX MANIFOLD
- PIPE BELOW GRADE
- PIPE DROP
- PIPE GUIDE
- PIPE RISE
- PRESSURE GAUGE WITH COCK
- PRESSURE RELIEF
- PRESSURE SENSOR
- PUMP
- ROOF DRAIN
- SHOCK ABSORBER / WATER HAMMER ARRESTOR
- STRAINER
- T&P RELIEF VALVE WITH PIPE TO DRAIN
- TEE DOWN ON PIPE
- TEE UP ON PIPE
- TEMPERATURE SENSOR
- TEST PORT
- THERMOMETER
- TRAP PRIMER MANIFOLD
- TRENCH DRAIN
- UNION
- VENT THROUGH ROOF
- WALL CLEANOUT

Piping Systems

- 120°HW – 120° HOT WATER PIPING
- 120°HWR – 120° HOT WATER RETURN PIPING
- 140°HW – 140° HOT WATER PIPING
- 140°HWR – 140° HOT WATER RETURN PIPING
- COLD WATER PIPING
- D — CONDENSATE / INDIRECT DRAIN PIPING
- FOS — FUEL OIL SUPPLY PIPING
- FOV — FUEL OIL VENT PIPING
- EV — EMERGENCY FUEL OIL VENT PIPING
- FW — FILTERED WATER
- F — FIRE PROTECTION PIPING
- GV — GAS VENT PIPING
- GW — GREASE WASTE ABOVE GRADE OR FINISHED FLOOR
- GW — GREASE WASTE BELOW GRADE OR FINISHED FLOOR
- HOT WATER PIPING
- HOT WATER RETURN PIPING
- IR — IRRIGATION
- LP — LIQUID PROPANE
- 2#G — NATURAL GAS PIPING, 2 LB
- 5#G — NATURAL GAS PIPING, 5 LB
- G — NATURAL GAS PIPING, 7" WC PRESSURE
- NP — NON-POTABLE COLD WATER PIPING
- NP — NON-POTABLE HOT WATER PIPING
- NP — NON-POTABLE HOT WATER RETURN PIPING
- OD — OVERFLOW DRAIN PIPING ABOVE GRADE OR FINISHED FLOOR
- PD — PUMPED DISCHARGE
- SANITARY VENT PIPING
- SANITARY WASTE OR SOIL PIPING ABOVE GRADE OR FINISHED FLOOR
- SANITARY WASTE OR SOIL PIPING BELOW GRADE OR FINISHED FLOOR
- SD — STORM DRAIN PIPING ABOVE GRADE OR FINISHED FLOOR
- SD — STORM DRAIN PIPING BELOW GRADE OR FINISHED FLOOR
- TW — TEMPERED WATER PIPING
- TP — TRAP PRIMER PIPING

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- BACKWATER VALVE
- X GPM — BALANCING VALVE
- CHECK VALVE
- ELECTRONIC SOLENOID VALVE
- GLOBE VALVE
- HOSE END DRAIN VALVE
- MOTORIZED, 2-WAY VALVE
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- SHUTOFF VALVE, GENERAL

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Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

SYMBOLS ABBREVATIONS - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER P4-0.01
SCALE	

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PLUMBING PUMP SCHEDULE

SYMBOL	EQUIPMENT TYPE	LOCATION / SERVING	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	FLOW RATE (GPM)*	HEAD (FT H2O)	RPM	ELECTRICAL VOLTS	PH	AMPS	WATTS	HP	COMMENTS
CP-1S	DOMESTIC HOT WATER CIRCULATING PUMP	SOUTH BUILDING	GRUNDFOS	SERIES UPS-32 160/2	15	43		115	1	—	—	3/4	STAINLESS STEEL BODY, IN-LINE PUMP.
CP-2S	DOMESTIC HOT WATER CIRCULATING PUMP	SOUTH BUILDING	GRUNDFOS	SERIES UPS-32 160/2	15	43		115	1	—	—	3/4	STAINLESS STEEL BODY, IN-LINE PUMP.
CP-3S	DOMESTIC WATER PREHEAT PUMP	SOUTH BUILDING	BELL AND GOSSETT	SERIES 60 3x3x5 1/4	75	12		460	3	—	—	3/4	STAINLESS STEEL BODY, IN-LINE PUMP.
CP-1N	DOMESTIC HOT WATER CIRCULATING PUMP	NORTH BUILDING	GRUNDFOS	SERIES UPS-32 160/2	10	44		115	1	—	—	3/4	BRONZE BODY, IN-LINE PUMP.
CP-2N	DOMESTIC HOT WATER CIRCULATING PUMP	NORTH BUILDING	GRUNDFOS	SERIES UPS-32 160/2	10	44		115	1	—	—	3/4	STAINLESS STEEL BODY, IN-LINE PUMP.
SECP-1	SE-1 CONTROL PANEL (DUPLEX, EXPLOSION RATED GRINDER PUMPS)		ZOELLER	10-1000 SERIES				—	—	—	—	—	PROVIDE WITH VARIABLE LEVEL CONTROL SWITCHES.
SE-1	SEWAGE EJECTOR - GRINDER TYPE (DUPLEX, HAZARDOUS ENVIRONMENT)	SOUTH BUILDING LOWER LEVEL PARKING	ZOELLER	X841 SERIES	55	70	3450	460	3	5.5	—	2	1-1/4 IN. DISCHARGE. PROVIDE WITH CONTROL PANEL SECP-1
SP-1	SUMP PUMP (ELEVATOR)	ELEVATOR PIT	ZOELLER	153	50	22		115	1	10.5	—	1/2	2 IN. NPT DISCHARGE. PROVIDE WITH SUMP PUMP CONTROL PANEL SPCP-1.
SP-2	SUMP PUMP (ELEVATOR)	ELEVATOR PIT	ZOELLER	188	100	42		460	3	4.6	—	1 1/2	3 IN. NPT DISCHARGE. PROVIDE WITH ELEVATOR ALARM EA-1.
SPCP-1	SUMP PUMP CONTROL PANEL		SEEWATER, INC.	OSSIM - 30 - CR				115	1	10.5	—	1/2	FOR PUMPS UP TO 1 HP. SEE NOTE 'A'.

NOTES:

A. PROVIDE ALL POWER WIRING, CONDUITS AND LOW VOLTAGE WIRING. PROVIDE CONTROL PANEL WITH ONE SET OF AUXILIARY CONTACTS AT 15 AMPS.

* UNLESS NOTED OTHERWISE IN SCHEDULE.

MISCELLANEOUS PLUMBING EQUIPMENT SCHEDULE

SYMBOL	EQUIPMENT TYPE	DESCRIPTION	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	BASIS OF DESIGN ELECTRICAL	NOTES
DT-1	DAY TANK/REMOTE FUEL FILL	250 GALLON DOUBLE WALL DAY TANK WITH REMOTE FUEL FILL. SYSTEM TO BE PROVIDED WITH LEAK DETECTION, FUEL LEVEL MONITORING WITH TANK HIGH LEVEL AUTOMATIC SHUT-OFF OF FUEL FILL. DAY TANK IS TO BE PROVIDED WITH DUPLEX SUPPLY PUMPS, EACH TO DELIVER 5 GPM FLOW RATE TO THE GENERATOR AND TO ALTERNATE OPERATION. SYSTEM TO INCLUDE A REMOTE PRESSURE FILL, LOCKABLE WEATHER PROOF FUEL FILL PORT WITH SPILL CONTAINMENT RESERVOIR AND ASSOCIATED HAND PUMP. FILL COUPLER TO MATCH THE OWNERS "FUEL SUPPLIER CONNECTORS".				
DT-2	DAY TANK (FUTURE)	150 GALLON DOUBLE WALL DAY TANK WITH REMOTE FUEL FILL. SYSTEM TO BE PROVIDED WITH LEAK DETECTION, FUEL LEVEL MONITORING WITH TANK HIGH LEVEL AUTOMATIC SHUT-OFF OF FUEL FILL. DAY TANK IS TO BE PROVIDED WITH DUPLEX SUPPLY PUMPS, EACH TO DELIVER 5 GPM FLOW RATE TO THE GENERATOR AND TO ALTERNATE OPERATION. SYSTEM TO INCLUDE A REMOTE PRESSURE FILL, LOCKABLE WEATHER PROOF FUEL FILL PORT WITH SPILL CONTAINMENT RESERVOIR AND ASSOCIATED HAND PUMP. FILL COUPLER TO MATCH THE OWNERS "FUEL SUPPLIER CONNECTORS".				
EA-1	ELEVATOR ALARM	AUDIO/VISUAL ALARM WITH AUTOMATIC RESET, MERCURY FLOAT SWITCH, NEMA 4X ENCLOSURE.	SJE RHOMBUS	"TANK ALERT" 4X ALARM SYSTEM	120 V, 1 PHASE, 5 AMPS	CONTRACTOR SHALL PROVIDE ALL POWER WIRING, CONDUITS AND LOW VOLTAGE WIRING. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR. PROVIDE CONTROL PANEL WITH ONE SET OF AUXILIARY CONTACTS AT 5 AMPS.
EGSV-1	EMERGENCY GAS SOLENOID VALVE	ALUMINUM OR BRASS VALVE BODY, AC OR DC ELECTRICALLY ACTUATED DIAPHRAGM, NORMALLY CLOSED, NEMA 1, GAS AND UL429 LISTED FOR GAS SERVICE.	ASCO	"RED HAT" 2-WAY VALVE	120V, 1 PHASE, 3.5 AMP, 2 WATTS	
MES-1	MASTER EMERGENCY SHUT-OFF	RECESSED, RED EMERGENCY PUSH SHUT-OFF, KEYED RESET, GREEN "SYSTEM ACTIVE" INDICATOR, STAINLESS STEEL COVER.	BURNABY	MESO-110V	110 V, 1 PHASE	

NOTES:

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE TYPE	DESCRIPTION	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	BASIS OF DESIGN ACCESSORIES	CONNECTION W	CONNECTION V	CONNECTION CW	CONNECTION HW	NOTES
AD-1	AREA DRAIN (PARKING GARAGE DRAIN)	EPOXY COATED CAST IRON BODY, HEAVY DUTY VANDALPROOF TRACTOR GRATE WITH SEDIMENT BUCKET	JR SMITH	2233Y-U		4"*	2"*PRIMER CONN.		--	
DD-1	DECK DRAIN (SPECIAL PURPOSE)	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLANGE, FLASHING RING WITH GRAVEL STOP AND 2-1/2" HIGH LOW PROFILE DOME, UNDER DECK CLAMP, EXTENSION, SUMP RECEIVER, ALUMINUM DOME	JR SMITH	1010-LPD		4"*	--	--	--	
DSN-1	DOWNSPOUT NOZZLE	SIDEWALL TERMINATION, CAST BRONZE, NICKEL BRONZE FINISH, BIRD SCREEN	JR SMITH	1770-NB-BS		3"*	--	--	--	
FD-1	FLOOR DRAIN (FINISHED FLOORS / SHOWERS)	CAST IRON BODY, FLASHING COLLAR, 6-INCH ADJUSTABLE NICKEL BRONZE STRAINER HEAD, TRAP PRIMER, VANDAL PROOF TOP	JR SMITH	2005Y-A-06-P050-U-NB		3"*	1-1/2"*	TRAP PRIMER CONN.	--	
FD-2	FLOOR DRAIN WITH FUNNEL WITH ANTI-FLOOD RIM	CAST IRON BODY, FLASHING COLLAR, 6-INCH ADJUSTABLE NICKEL BRONZE STRAINER HEAD FLUSH WITH FLOOR, ANTI-SPLASH RIM AND GRATE, TRAP PRIMER, VANDAL PROOF TOP	JR SMITH	2005Y-F37-P050-U		3"*	1-1/2"*	TRAP PRIMER CONN.	--	
FD-3	FLOOR DRAIN (UNFINISHED FLOORS / MECHANICAL ROOMS)	CAST IRON BODY, FLASHING COLLAR, 8-1/2-INCH ROUND ADJUSTABLE TOP, BAR GRATE, SEDIMENT BUCKET, TRAP PRIMER, VANDAL PROOF TOP	JR SMITH	2350Y-P050-U		3"*	1-1/2"*	PRIMER CONN.	--	
FS-1	FLOOR SINK	CAST IRON FLANGED RECEPTOR, SEEPAGE HOLES, ACID RESISTANT COATED INTERIOR, NICKEL BRONZE RIM, 1/2-GRATE, ALUMINUM DOME BOTTOM STRAINER, 6-INCH DEEP	JR SMITH	3140Y-12		3"*	1-1/2"*	TRAP PRIMER CONN.	--	
HB-1	HOSE BIBB	ENCASED, NON-FREEZE, ANTI-SIPHON, AUTOMATIC DRAINING, CHROME PLATED BOX/DOOR ASSEMBLY, DOUBLE CHECK BACKFLOW PREVENTER	WOODFORD	B67-P		--	--	3/4"	--	
HB-2	HOSE BIBB	EXPOSED, NON-FREEZE, ANTI-SIPHON, AUTOMATIC DRAINING, CHROME PLATED ASSEMBLY, DOUBLE CHECK BACKFLOW PREVENTER	WOODFORD	67-P		--	--	3/4"	--	
L-1	LAVATORY (RETAIL SPACES, ADA COMPLIANT)	COUNTER MOUNTED, VITREOUS CHINA, 3-HOLE PUNCH, 4-INCH CENTERS, OVAL, FRONT OVERFLOW	AMERICAN STANDARD	476.028	FAUCET (SINGLE LEVER HANDLE): DELTA COMMERCIAL 22C551	1-1/2"	1-1/2"	1/2"	1/2"	
OD-1	ROOF DRAIN (OVERFLOW DRAIN)	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLANGE, FLASHING RING WITH GRAVEL STOP, UNDER DECK CLAMP, EXTENSION, SUMP RECEIVER, 2-INCH WATER DAM, ALUMINUM DOME	JR SMITH	1080-AD-C-E-R-Y		4"*	--	--	--	
OD-2	ROOF DRAIN (OVERFLOW DRAIN - SLAB DRAIN)	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLASHING CLAMP, UNDER DECK CLAMP, STAINLESS STEEL PERFORATED GRAVEL GUARD, SUMP RECEIVER, STANDPIPE, ALUMINUM DOME	JR SMITH	1011 / 1070-AD-C-GG-R		4"*	--	--	--	
OD-3	ROOF DRAIN (OVERFLOW DRAIN - IRMA ROOFS)	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLASHING CLAMP, UNDER DECK CLAMP, STAINLESS STEEL PERFORATED GRAVEL GUARD, SUMP RECEIVER, STANDPIPE, ALUMINUM DOME	JR SMITH	1011 / 1070-AD-C-GG-R		4"*	--	--	--	
ODD-1	DECK DRAIN (SPECIAL PURPOSE)	OVERFLOW DRAIN, STANDPIPE TYPE, EPOXY COATED CAST IRON BODY WITH FLANGE, FLASHING RING WITH GRAVEL STOP AND 2-1/2" HIGH LOW PROFILE DOME, UNDER DECK CLAMP, EXTENSION, SUMP RECEIVER, ALUMINUM DOME	JR SMITH	1070-LPD		4"*	--	--	--	
RD-1	ROOF DRAIN	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLANGE, FLASHING RING WITH GRAVEL STOP, UNDER DECK CLAMP, EXTENSION, SUMP RECEIVER, ALUMINUM DOME	JR SMITH	1010-AD-C-E-R-Y		4"*	--	--	--	
RD-2	ROOF DRAIN (SLAB DRAIN)	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLASHING CLAMP, UNDER DECK CLAMP, STAINLESS STEEL PERFORATED GRAVEL GUARD, SUMP RECEIVER, ALUMINUM DOME	JR SMITH	1011-AD-C-GG-R		4"*	--	--	--	
RD-3	ROOF DRAIN (IRMA ROOFS)	LARGE AREA, EPOXY COATED CAST IRON BODY WITH FLASHING CLAMP, UNDER DECK CLAMP, STAINLESS STEEL PERFORATED GRAVEL GUARD, SUMP RECEIVER, ALUMINUM DOME	JR SMITH	1011-AD-C-GG-R		4"*	--	--	--	
TD-1	TRENCH DRAIN	MODULAR POLYMER CONCRETE PRE-CAST SECTIONS WITH HEAVY-DUTY LOCK-IN-PLACE FRAME AND GRATE.	JR SMITH	9816	GRATE (HEAVY DUTY - PERFORATED STAINLESS STEEL, HEEL PROOF GRATE WITH QUICKLOCK SECURING FEATURE): JR SMITH 9870-465-SSP	4"*	2"*PRIMER CONN.		----	
TD-2	TRENCH DRAIN	MODULAR POLYMER CONCRETE PRE-CAST SECTIONS WITH LOCK-IN-PLACE GRATE.	JR SMITH	9814	GRATE (LIGHT DUTY - PERFORATED STAINLESS STEEL GRATE, HEEL PROOF WITH QUICKLOCK SECURING FEATURE): JR SMITH 9870-410-GP	4"*	2"*PRIMER CONN.		----	
WC-1	WATER CLOSET (RETAIL SPACES, ADA COMPLIANT	FLOOR MOUNTED, VITREOUS CHINA, TOP SPUD, FLUSHOMETER, BARRIER FREE HEIGHT	AMERICAN STANDARD	3043.001	FLUSH VALVE (BATTERY - 1.28 GPF, DIAPHRAGM): SLOAN 8111-1.28 SEAT (COMMERCIAL WEIGHT, HEAVY-DUTY SOLID PLASTIC WITH STAINLESS STEEL CHECK HINGE): CHURCH 9400SSCT	4"	2"	1"	--	

NOTES:

1. AT ADA SINKS PROVIDE WATTS MODEL LF-MMV MIXING VALVE FOR 110 DEGREE HOT WATER SUPPLY.
2. AT ADA SINKS PROVIDE INSULATION ON ALL EXPOSED WASTE PIPING, WATER PIPING, STOPS AND SUPPLIES.
3. AT PUBLIC LAVATORIES PROVIDE WATTS MODEL LF-MMV MIXING VALVE FOR 110 DEGREE HOT WATER SUPPLY.
4. PROVIDE 3" STORM DRAIN CONNECTION UNLESS NOTED OTHERWISE ON DRAWINGS.

* UNLESS NOTED OTHERWISE ON DRAWINGS

RESIDENTIAL AREAS PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE TYPE	DESCRIPTION	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	BASIS OF DESIGN ACCESSORIES	CONNECTION W	CONNECTION V	CONNECTION CW	CONNECTION HW	NOTES
RBT-1N	BATHTUB/SHOWER (NORTH BUILDING RESIDENTIAL UNITS)				BATH AND SHOWER VALVE (SINGLE HANDLE, 2.0 GPM, INTEGRAL CHECKS): DELTA T14461	2"	1-1/2"	1/2"	1/2"	
RBT-1S	BATHTUB/SHOWER (SOUTH BUILDING RESIDENTIAL UNITS)				BATH AND SHOWER VALVE (SINGLE HANDLE, 2.0 GPM, INTEGRAL CHECKS): DELTA T17497	2"	1-1/2"	1/2"	1/2"	
RIM-1	ICE MAKER OUTLET BOX (RESIDENTIAL UNITS)	FIRE RATED ABS BOX/FRAME, NO-LEAD VALVES WITH WATER HAMMER ARRESTORS	SIOUX CHIEF	696R - G1010MF		--	--	1/2"	--	
RL-1N	LAVATORY (NORTH BUILDING RESIDENTIAL UNITS)	UNDERCOUNTER, VITREOUS CHINA, OVAL, FRONT OVERFLOW	KOHLER	K-2210-0	RESIDENTIAL FAUCET (SINGLE LEVER HANDLE): DELTA 561LF-MPU	1-1/2"	1-1/2"	1/2"	1/2"	
RL-1NC	LAVATORY (NORTH BUILDING LOBBY RESTROOM)	WALL MOUNT, VITREOUS CHINA, WITH OVERFLOW.	KOHLER	K-2084	RESIDENTIAL FAUCET (SINGLE LEVER HANDLE): DELTA 561LF-MPU	1-1/2"	1-1/2"	1/2"	1/2"	
RL-1S	LAVATORY (SOUTH BUILDING RESIDENTIAL UNITS)	UNDERCOUNTER, STAINLESS STEEL, OVAL, NO OVERFLOW	KOHLER - STERLING	S-1201-0	RESIDENTIAL FAUCET (SINGLE LEVER HANDLE, CHANNEL SPOUT): DELTA 598LF-MPU	1-1/2"	1-1/2"	1/2"	1/2"	
RL-1SC	LAVATORY (SOUTH BUILDING COMMUNITY ROOM RESTROOM)	WALL MOUNT, VITREOUS CHINA, WITH OVERFLOW.	KOHLER	K-2084	RESIDENTIAL FAUCET (SINGLE LEVER HANDLE, CHANNEL SPOUT): DELTA 598LF-MPU	1-1/2"	1-1/2"	1/2"	1/2"	
RS-1C	SINK (COMMUNITY ROOM)	UNDERCOUNTER, SINGLE BOWL, 18 GAUGE STAINLESS STEEL, 30-1/2-INCHES X 18-1/2-INCHES X 5-1/2-INCHES DEEP, 36-INCH MINIMUM CABINET SIZE.	ELKAY	ELUH - AD2816	RESIDENTIAL KITCHEN FAUCET (SINGLE HANDLE, HIGH-ARC PULL-DOWN SPOUT): AMERICAN STANDARD 4332.350.	2"	1-1/2"	1/2"	1/2"	
RS-1N	SINK (NORTH BUILDING - RESIDENTIAL UNITS)	UNDERCOUNTER, SINGLE BOWL, 18 GAUGE STAINLESS STEEL, 30-1/8-INCHES X 19-1/8-INCHES X 9-INCHES DEEP, 33-INCH MINIMUM CABINET SIZE.	AMERICAN STANDARD	14SB.301900	RESIDENTIAL KITCHEN FAUCET (SINGLE HANDLE, HIGH-ARC PULL-DOWN SPOUT): AMERICAN STANDARD 4332.350.	2"	1-1/2"	1/2"	1/2"	
RS-2N	SINK (NORTH BUILDING - TYPE 'A' UNITS)	UNDERCOUNTER, SINGLE BOWL, 18 GAUGE STAINLESS STEEL, 30-1/2-INCHES X 18-1/2-INCHES X 5-1/2-INCHES DEEP, 36-INCH MINIMUM CABINET SIZE.	ELKAY	ELUH - AD2816	RESIDENTIAL KITCHEN FAUCET (SINGLE HANDLE, HIGH-ARC PULL-DOWN SPOUT): AMERICAN STANDARD 4332.350.	2"	1-1/2"	1/2"	1/2"	
RS-1S	SINK (SOUTH BUILDING - RESIDENTIAL UNITS)	UNDERCOUNTER, SINGLE BOWL, 18 GAUGE STAINLESS STEEL, 30-1/8-INCHES X 19-1/8-INCHES X 9-INCHES DEEP, 33-INCH MINIMUM CABINET SIZE.	AMERICAN STANDARD	14SB.301900	RESIDENTIAL KITCHEN FAUCET (SINGLE HANDLE, HIGH-ARC PULL-DOWN SPOUT): AMERICAN STANDARD 4285.300.	2"	1-1/2"	1/2"	1/2"	
RS-2S	SINK (SOUTH BUILDING - TYPE 'A' UNITS)	UNDERCOUNTER, SINGLE BOWL, 18 GAUGE STAINLESS STEEL, 30-1/2-INCHES X 18-1/2-INCHES X 5-1/2-INCHES DEEP, 36-INCH MINIMUM CABINET SIZE.	ELKAY	ELUH - AD2816	RESIDENTIAL KITCHEN FAUCET (SINGLE HANDLE, HIGH-ARC PULL-DOWN SPOUT): AMERICAN STANDARD 4285.300.	2"	1-1/2"	1/2"	1/2"	
RSH-1N	SHOWER (NORTH BUILDING - RESIDENTIAL UNIT TYPE B)	L 50-1/2 INCHES BY W 39 INCHES OUTSIDE DIMENSIONS; L 48-INCHES BY W 36-1/2 INCHES INSIDE DIMENSIONS	BEST BATH	LSS5038CP	SHOWER VALVE (SINGLE HANDLE, 2.0 GPM, INTEGRAL CHECKS): DELTA T14261	2"	1-1/2"	1/2"	1/2"	
RSH-1S	SHOWER (SOUTH BUILDING - RESIDENTIAL UNIT TYPE B)	L 50-1/2 INCHES BY W 39 INCHES OUTSIDE DIMENSIONS; L 48-INCHES BY W 36-1/2 INCHES INSIDE DIMENSIONS	BEST BATH	LSS5038CP	SHOWER VALVE (SINGLE HANDLE, 2.0 GPM, INTEGRAL CHECKS): DELTA T17297	2"	1-1/2"	1/2"	1/2"	
RWC-1	WATER CLOSET (RESIDENTIAL UNITS)	TANK TYPE, VITREOUS CHINA, STANDARD HEIGHT, ELONGATED, 1.28 GPF	AMERICAN STANDARD	215CA.104	SEAT (ELONGATED, SOLID PLASTIC WITH CLOSED FRONT AND COVER WITH EASY CLEAN HINGE SYSTEM): CHURCH 1100EC	3"	2"	1/2"	--	
RWC-2	NOT USED									
RWC-3	WATER CLOSET (COMMUNITY ROOM AND NORTH LOBBY RESTROOMS	TANK TYPE, VITREOUS CHINA, BARRIER FREE HEIGHT, ELONGATED, 1.6 GPF	KOHLER	K-3493	SEAT (COMMERCIAL WEIGHT, SOLID PLASTIC, ELONGATED, OPEN FRONT WITH COVER, STAINLESS STEEL MOUNTING BOLTS): KOHLER K-4650	3"	2"	1/2"	--	
RWM-1	WASHING MACHINE OUTLET BOX (RESIDENTIAL UNITS)	FIRE RATED ABS BOX/FRAME, NO-LEAD VALVES WITH WATER HAMMER ARRESTORS, 1/2" FEMALE SWEAT CONNECTIONS	SIOUX CHIEF	696R - G2313MF		2"	1-1/2"	1/2"	1/2"	

NOTES:

1. AT ADA SINKS PROVIDE WATTS MODEL LF-MMV MIXING VALVE FOR 110 DEGREE HOT WATER SUPPLY.
2. AT ADA SINKS PROVIDE INSULATION ON ALL EXPOSED WASTE PIPING, WATER PIPING, STOPS AND SUPPLIES.
3. PER ANSI 2009 WATER CLOSET FLUSH CONTROL TO BE ON OPEN SIDE OF WATER CLOSET. REFER TO PLANS.
4. REFER TO PLANS FOR LEFT-HAND AND RIGHT-HAND DRAIN ORIENTATION OF BATHTUBS.

* UNLESS NOTED OTHERWISE ON DRAWINGS

WATER HEATER SCHEDULE

SYMBOL	EQUIPMENT TYPE	LOCATION / SERVING	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	TANK CAPACITY (GALLONS)	GAS INPUT (MBH)	ELECTRICAL VOLTS	PH	AMPS	KW	COMMENTS
WH-1S	WATER HEATER	SOUTH BUILDING CENTRAL HOT WATER SYSTEM	LOCHINVAR	SNA501-125	—	500	120	1	15	—	WATER HEATER: GAS-FIRED, 96% HIGH-EFFICIENCY, FULLY-CONDENSING, SEALED COMBUSTION TYPE, GAS-FIRED BOILER WITH ELECTRONIC IGNITION, DIRECT VENTING OF INTAKE AND EXHAUST AIR. 'SMART SYSTEM' CONTROL WITH TOUCH SCREEN DISPLAY. 500,000 BTUH INPUT, 582 GPH RECOVERY AT 100 F TEMPERATURE RISE. SEE PLUMBING DEVICES SCHEDULE FOR STORAGE TANK AS APPLICABLE.
WH-2S	WATER HEATER	SOUTH BUILDING CENTRAL HOT WATER SYSTEM	LOCHINVAR	SNA501-125	—	500	120	1	15	—	SAME AS WH-1S
WH-3S	WATER HEATER	SOUTH BUILDING CENTRAL HOT WATER SYSTEM	LOCHINVAR	SNA501-125	—	500	120	1	15	—	SAME AS WH-1S
WH-4S	WATER HEATER	SOUTH BUILDING DOG WASH	A.O. SMITH	DEL-20	20	N/A	208	3	—	4.5	ELECTRIC, STORAGE TYPE, LOW PROFILE, NON-SIMULTANEOUS AND SIMULTANEOUS ELEMENT OPERATION. UL LISTED. 23 GPH AT 80F RISE.
WH-1N	WATER HEATER	NORTH BUILDING CENTRAL HOT WATER SYSTEM	LOCHINVAR	SNA501-125	—	500	120	1	15	—	WATER HEATER: GAS-FIRED, 96% HIGH-EFFICIENCY, FULLY-CONDENSING, SEALED COMBUSTION TYPE, GAS-FIRED BOILER WITH ELECTRONIC IGNITION, DIRECT VENTING OF INTAKE AND EXHAUST AIR. 'SMART SYSTEM' CONTROL WITH TOUCH SCREEN DISPLAY. 500,000 BTUH INPUT, 582 GPH RECOVERY AT 100 F TEMPERATURE RISE. SEE PLUMBING DEVICES SCHEDULE FOR STORAGE TANK AS APPLICABLE.
WH-2N	WATER HEATER	NORTH BUILDING CENTRAL HOT WATER SYSTEM	LOCHINVAR	SNA501-125	—	500	120	1	15	—	SAME AS WH-1N
WH-3N	WATER HEATER	COMMERCIAL / RETAIL LAVATORIES	EEMAX	MT-00724OT	N/A	N/A	208	1	—	6.5	ELECTRIC, POINT-OF-USE, TANKLESS, 0.5 GPM AT 67F TEMPERATURE RISE. UNIT ACTIVATED AT 0.3 GPM FLOW. CODE COMPLIANT INEGRATED MIXING VALVE. 25 PSIG MIN. PRESSURE. UL LISTED
WH-4N	WATER HEATER	NORTH BUILDING BIKE WASH	A.O. SMITH	DEL-20	20	N/A	208	3	—	4.5	ELECTRIC, STORAGE TYPE, LOW PROFILE, NON-SIMULTANEOUS AND SIMULTANEOUS ELEMENT OPERATION. UL LISTED. 23 GPH AT 80F RISE.

NOTES:

PLUMBING DEVICES SCHEDULE

SYMBOL	FIXTURE TYPE	DESCRIPTION	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	BASIS OF DESIGN ACCESSORIES	CONNECTION W	CONNECTION V	CONNECTION CW	CONNECTION HW	NOTES
DET-1N	DOMESTIC WATER EXPANSION TANK - ASME	77.0 GALLON CAPACITY, WELDED STEEL CONSTRUCTION, HEAVY-DUTY BUTYL DIAPHRAGM, SEPARATE RIGID POLYPROPYLENE-LINED WATER RESERVOIR, AIR-CHARGING VALVE, ASME CERTIFIED.	AMTROL THERM-X-TROL	ST-80V-C		---	---	1-1/4"	---	
DET-1S	DOMESTIC WATER EXPANSION TANK - ASME	132.0 GALLON CAPACITY, WELDED STEEL CONSTRUCTION, HEAVY-DUTY BUTYL DIAPHRAGM, SEPARATE RIGID POLYPROPYLENE-LINED WATER RESERVOIR, AIR-CHARGING VALVE, ASME CERTIFIED.	AMTROL THERM-X-TROL	ST-450-C		---	---	2"	---	
DET-2S	DOMESTIC WATER EXPANSION TANK - IAPMO	2.0 GALLON CAPACITY, WELDED STEEL CONSTRUCTION, DIAPHRAGM TYPE, SEPARATE WATER RESERVOIR, PRE-PRESSURIZED, IAPMO CERTIFIED.	AMTROL THERM-X-TROL	ST-5		---	---	3/4"	---	
MMV-1N	MASTER MIXING VALVE	FULL PACKAGE SYSTEM WITH HIGH/LOW FLOW MIXING VALVES, GAUGES, PRV(S), VALVES, UNIONS AND OTHER CONNECTIONS, EXPOSED. 1 GPM TO 416 GPM AT 45 PSI MAX FALLOFF. SYSTEM PEAK = 165 GPM AT 10 PSI FALLOFF.	POWERS	LFSH1434TV		---	---	2-1/2"	2-1/2"	
MMV-1S	MASTER MIXING VALVE	FULL PACKAGE SYSTEM WITH HIGH/LOW FLOW MIXING VALVES, GAUGES, PRV(S), VALVES, UNIONS AND OTHER CONNECTIONS, EXPOSED. 1 GPM TO 559 GPM AT 45 PSI MAX FALLOFF. SYSTEM PEAK = 250 GPM AT 10 PSI FALLOFF.	POWERS	LFSH1434QV		---	---	2-1/2"	2-1/2"	
PHST-1S	PRE-HEAT STORAGE TANK	752.0 GALLON CAPACITY, VERTICAL ORIENTATION, ASME STEEL CONSTRUCTION, GLASS LINED, FACTORY JACKETED AND INSULATED.	LOCHINVAR	RGA0752		---	---	3"	3"	PART OF WH-1S/WH-2S SYSTEM.
ST-1N	STORAGE TANK	504.0 GALLON CAPACITY, VERTICAL ORIENTATION, ASME STEEL CONSTRUCTION, GLASS LINED, FACTORY JACKETED AND INSULATED.	LOCHINVAR	RGA0504		---	---	3"	3"	PART OF WH-1N/WH-2N SYSTEM.
ST-1S	STORAGE TANK	752.0 GALLON CAPACITY. VERTICAL ORIENTATION, ASME STEEL CONSTRUCTION, GLASS LINED, FACTORY JACKETED AND INSULATED.	LOCHINVAR	RGA0752		---	---	3"	3"	PART OF WH-1S/WH-2S SYSTEM.

NOTES:

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1984 ANDREW W. FRICHTL

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION
1	10/30/14	CHECK SHEET RESPONSE

PLUMBING SCHEDULES

PHASE 2 PERMIT

DATE 12/10/14

REVISION 1

PROJECT NUMBER 123625

SHEET NUMBER P4-0.02

SCALE

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GAS CALCULATIONS - NORTH AND SOUTH BUILDINGS

DESCRIPTION	NO. OF FIXT.	BTU/HR INPUT	TOTAL BTU/HR
TOTAL OF FOUR (4) METERS:			
FOOD SERVICE TENANT			
ESTIMATED FUTURE DEMAND	1	1,500,000	1,500,000
GROCERY TENANT			
ESTIMATED FUTURE DEMAND	1	2,500,000	2,500,000
HARDWARE STORE TENANT			
ESTIMATED FUTURE DEMAND	1	250,000	250,000
CENTRAL SYSTEM			
NORTH BUILDING WATER HEATERS	2	500,000	1,000,000
NORTH BUILDING SPACE HEATING	1	250,000	250,000
SOUTH BUILDING BOILERS	2	3,000,000	6,000,000
SOUTH BUILDING WATER HEATERS	3	500,000	1,500,000
SOUTH BUILDING SPACE HEATING	1	400,000	400,000
FIRE PIT	1	250,000	250,000
OUTDOOR FIREPLACE	1	250,000	250,000
SMALL TENANT(S) (SUBMETERS)	2	250,000	500,000
TOTAL DEMAND (BTU)			14,400,000
TOTAL DEMAND (CFH)			14,400

SIZING BASED ON 2 PSI SUPPLY PRESSURE,
1 PSI PRESSURE DROP AND 0.60 SPECIFIC GRAVITY.
600 FEET TOTAL DEVELOPED LENGTH

4"	22100 CFH
3"	10800 CFH
2-1/2"	6130 CFH
2"	3850 CFH
1 1/2"	2000 CFH
1 1/4"	1330 CFH
1"	650 CFH
3/4"	363 CFH
1/2"	174 CFH

DOMESTIC WATER SERVICE CALCULATIONS - NORTH AND SOUTH BUILDINGS

PRIVATE INDIVID. DWELLING	PUBLIC GENERAL USE	PUBLIC HEAVY USE ASSEMBLY	DESCRIPTION	PRIVATE INDIVIDUAL DWELLING	PUBLIC GENERAL USE	PUBLIC HEAVY-USE ASSEMBLY	TOTAL UNITS	(.75) HOT WATER
NORTH BUILDING RESIDENTIAL FLOORS:								
68	0	0	BATHTUB OR COMBINATION BATH/SHOWER	4.00	4.00	0.00	272.00	204.00
76	0	0	CLOTHES WASHER	4.00	4.00	0.00	304.00	228.00
76	0	0	DISHWASHER, DOMESTIC	1.50	1.50	0.00	114.00	114.00
0	1	0	HOSE BIBB	2.50	2.50	0.00	2.50	0.00
0	7	0	HOSE BIBB, EACH ADDITIONAL	1.00	1.00	0.00	7.00	0.00
76	0	0	KITCHEN SINK, DOMESTIC	1.50	1.50	0.00	114.00	85.50
84	2	0	LAVATORY	1.00	1.00	1.00	86.00	64.50
16	0	0	SHOWER	2.00	2.00	0.00	32.00	24.00
0	0	0	URINAL, 0.125 GPF	3.00	4.00	5.00	0.00	0.00
0	2	0	WATER CLOSET, 1.6 GPF, FLUSHOMETER VALVE	5.00	5.00	8.00	10.00	0.00
84	0	0	WATER CLOSET, 1.6 GPF, GRAVITY TANK	2.50	2.50	3.50	210.00	0.00
			TOTAL NORTH BUILDING RESIDENTIAL FIXTURE UNITS:				**1151.50**	**720.00**
0	1	0	NORTH BUILDING RETAIL TENANT(S)	0.00	125.00	0.00	125.00	0.00
0	1	0	WEST BUILDING RETAIL TENANT(S)	0.00	75.00	0.00	75.00	0.00
0	2	0	SMALL BUILDING RETAIL TENANT(S)	0.00	6.00	0.00	12.00	0.00
			TOTAL NORTH BUILDING FIXTURE UNITS:				1363.50	720.00
			TOTAL GPM				250.00	165.00
SOUTH BUILDING RESIDENTIAL FLOORS:								
126	0	0	BATHTUB OR COMBINATION BATH/SHOWER	4.00	4.00	0.00	504.00	378.00
132	0	0	CLOTHES WASHER	4.00	4.00	0.00	528.00	396.00
132	1	0	DISHWASHER, DOMESTIC	1.50	1.50	0.00	199.50	199.50
0	1	0	DOG WASH STATION	4.00	4.00	0.00	4.00	3.00
0	1	0	HOSE BIBB	2.50	2.50	0.00	2.50	0.00
0	8	0	HOSE BIBB, EACH ADDITIONAL	1.00	1.00	0.00	8.00	0.00
132	1	0	KITCHEN SINK, DOMESTIC	1.50	1.50	0.00	199.50	149.63
146	1	0	LAVATORY	1.00	1.00	1.00	147.00	110.25
20	0	0	SHOWER	2.00	2.00	0.00	40.00	30.00
0	0	0	URINAL, 0.125 GPF	3.00	4.00	5.00	0.00	0.00
0	1	0	WATER CLOSET, 1.6 GPF, FLUSHOMETER VALVE	5.00	5.00	8.00	5.00	0.00
146	0	0	WATER CLOSET, 1.6 GPF, GRAVITY TANK	2.50	2.50	3.50	365.00	0.00
			TOTAL SOUTH BUILDING RESIDENTIAL FIXTURE UNITS:				**2002.50**	**1266.38**
0	1	0	SOUTH BUILDING RETAIL TENANT(S)	0.00	75.00	0.00	75.00	0.00
			TOTAL SOUTH BUILDING FIXTURE UNITS:				2077.50	1266.38
			TOTAL GPM				350.00	247.00
			TOTAL NORTH AND SOUTH BULDING FIXTURE UNITS:				**3441.00**	**1986.38**
			TOTAL GPM				490.00	330.00
			CALCULATED STATIC PRESSURE (93.0' ELEVATION):				**95**	**psi**
	a.		**MINIMUM DAILY SERVICE PRESSURE (80.0' ELEVATION)**				**93**	**psi**
	b.		PRESSURE LOSS, 6" DOMESTIC WATER					
			FROM STREET MAIN TO PRV STATION:					
			205 FT AT 500 GPM 205	FT. TDL X	1	/ 100 FT. =	2.05	psi
	c.		WATER METER PRESSURE DROP 4"	METER SIZE			6.5	psi
	d.		BACKFLOW PREVENTER 6"	DCVA			5.5	psi
	e.		STATIC HEAD GAIN: 0.434 PSI/FT X 12	FT HGT.			5.208	psi
			PRESSURE AVAILABLE AT INLET TO PRESSURE					
	f.		REDUCING STATION: a - b - c - d + e				84.158	psi
	9.		PRESSURE REDUCING STATION SET AT:				72	psi
	h.		STATIC HEAD LOSS: 0.434 PSI/FT X 81	FT HGT.			35.154	psi
	i.		PRESSURE REQUIRED AT FIXTURE				30	psi
			PRESSURE AVAILABLE FOR					
			FRICTION LOSS, g - h - i				6.846	psi
	460	FT	TOTAL EQUIVALENT PIPE LENGTH X 1.25				575	ft
			MAXIMUM FRICTION LOSS					
			PRESS. AVAIL. X 100'/EQUIV. LENGTH				**1.191**	**psi**
			WATER MAINS AND BRANCHES SERVING LEVELS 5 AND LOWER:					
	j.		STATIC HEAD LOSS: 0.434 PSI/FT X 60.6	FT HGT.			26.3004	psi
	k.		PRESSURE REQUIRED AT FIXTURE				30	psi
			PRESSURE AVAILABLE FOR					
			FRICTION LOSS, g - j - k				15.6996	psi
	460	FT	TOTAL EQUIVALENT PIPE LENGTH X 1.25				575	ft
			MAXIMUM FRICTION LOSS					
			PRESS. AVAIL. X 100'/EQUIV. LENGTH				**2.730**	**psi**
			SERVICE SIZE FROM METER TO BUILDING				**6"**	

SANITARY DRAINAGE CALCULATIONS - NORTH AND SOUTH BUILDINGS

PRIVATE INDIVID. DWELLING	PUBLIC GENERAL USE	PUBLIC HEAVY USE ASSEMBLY	DESCRIPTION	PRIVATE INDIVIDUAL DWELLING	PUBLIC GENERAL USE	PUBLIC HEAVY-USE ASSEMBLY	TOTAL UNITS
NORTH BUILDING RESIDENTIAL FLOORS:							
68	0	0	BATHTUB OR COMBINATION BATH/SHOWER	2.00	2.00	0.00	136.00
76	0	0	CLOTHESWASHER, DOMESTIC, STANDPIPE	3.00	3.00	3.00	228.00
0	1	0	DRINKING FOUNTAIN OR WATER COOLER	0.50	0.50	1.00	0.50
0	4	0	FLOOR DRAIN, EMERGENCY	0.00	0.00	0.00	0.00
76	0	0	KITCHEN SINK, DOMESTIC, W/DISHWASHER	2.00	2.00	0.00	152.00
84	2	0	LAVATORY, SINGLE	1.00	1.00	1.00	86.00
0	0	0	SERVICE OR MOP BASIN, 3" P-TRAP	0.00	3.00	3.00	0.00
16	0	0	SHOWER, STALL, 2" TRAP	2.00	2.00	2.00	32.00
0	0	0	URINAL, INTEGRAL TRAP 1.0 GPF	2.00	2.00	5.00	0.00
84	0	0	WATER CLOSET, 1.6 GPF, GRAVITY TANK	3.00	4.00	6.00	252.00
0	2	0	WATER CLOSET, 1.6 GPF, FLUSHOMETER VALVE	3.00	4.00	6.00	8.00
			TOTAL RESIDENTIAL FIXTURE UNITS				894.50
0	1	0	NORTH BUILDING RETAIL TENANT(S)	0	135	0	135.00
0	1	0	WEST BUILDING RETAIL TENANT(S)	0	90	0	90.00
			NORTH BUILDING FIXTURE UNITS:				1119.50
SOUTH BUILDING RESIDENTIAL FLOORS:							
126	0	0	BATHTUB OR COMBINATION BATH/SHOWER	2.00	2.00	0.00	252.00
132	0	0	CLOTHESWASHER, DOMESTIC, STANDPIPE	3.00	3.00	3.00	396.00
0	1	0	DRINKING FOUNTAIN OR WATER COOLER	0.50	0.50	1.00	0.50
0	6	0	FLOOR DRAIN, EMERGENCY	0.00	0.00	0.00	0.00
132	0	0	KITCHEN SINK, DOMESTIC, W/DISHWASHER	2.00	2.00	0.00	264.00
146	1	0	LAVATORY, SINGLE	1.00	1.00	1.00	147.00
0	0	0	SERVICE OR MOP BASIN, 3" P-TRAP	0.00	3.00	3.00	0.00
20	0	0	SHOWER, STALL, 2" TRAP	2.00	2.00	2.00	40.00
0	0	0	URINAL, INTEGRAL TRAP 1.0 GPF	2.00	2.00	5.00	0.00
146	0	0	WATER CLOSET, 1.6 GPF, GRAVITY TANK	3.00	4.00	6.00	438.00
0	1	0	WATER CLOSET, 1.6 GPF, FLUSHOMETER VALVE	3.00	4.00	6.00	4.00
			TOTAL RESIDENTIAL FIXTURE UNITS				1541.50
0	2	0	SOUTH BUILDING RETAIL TENANT(S)	0	90	0	180.00
			SOUTH BUILDING FIXTURE UNITS:				1721.50
			TOTAL NORTH AND SOUTH BUILDING FIXTURE UNITS				2841.00

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1984 ANDREW W. FRICHTL
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

PLUMBING CALCULATIONS

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER P4-0.03
SCALE	

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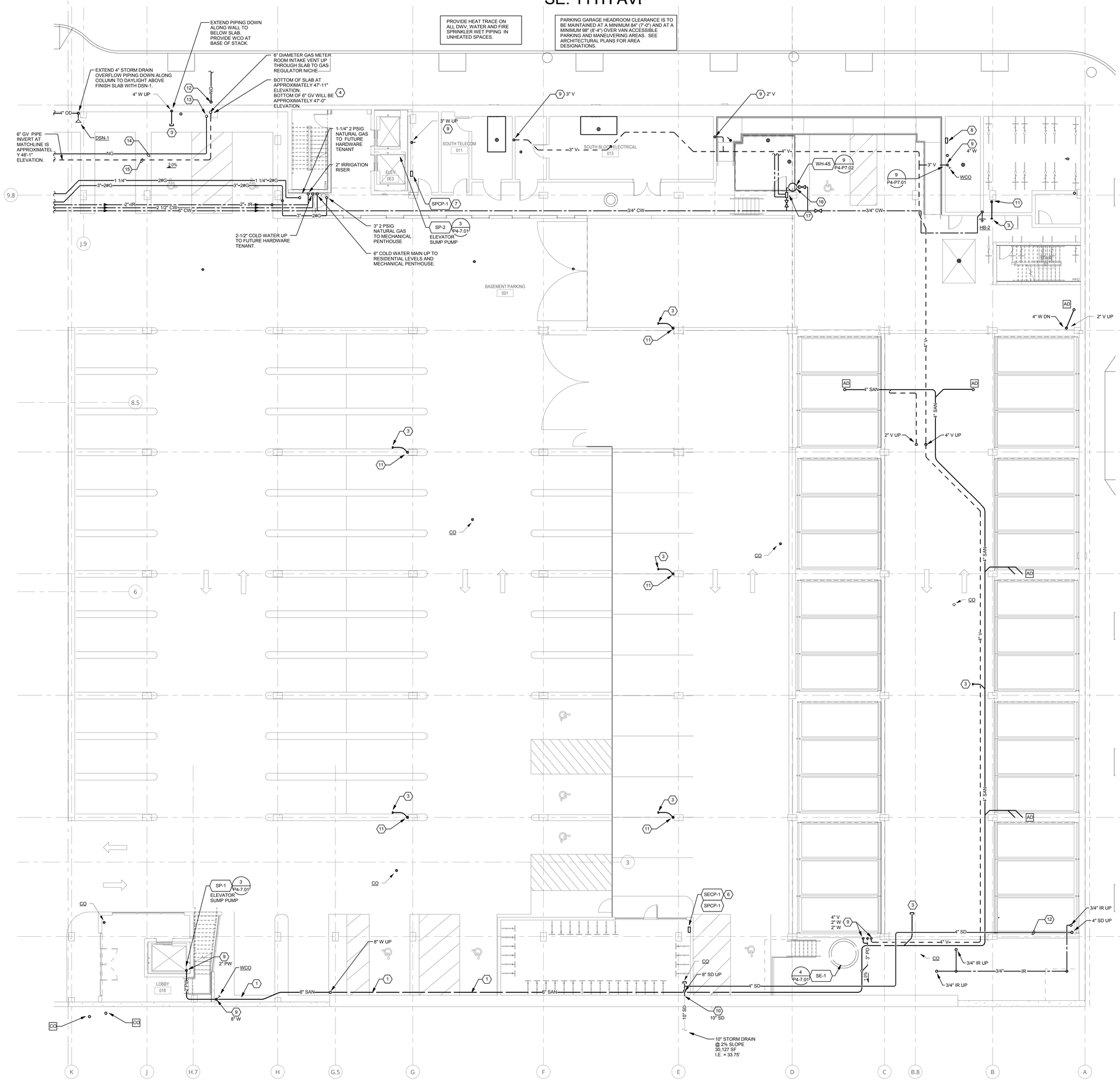
SE. 11TH AVI

PROVIDE HEAT TRACE ON ALL DWV, WATER AND FIRE SPRINKLER WET PIPING IN UNHEATED SPACES.

PARKING GARAGE HEADROOM CLEARANCE IS TO BE MAINTAINED AT A MINIMUM 84" (7'-0") AND AT A MINIMUM 98" (8'-4") OVER VAN ACCESSIBLE PARKING AND MANEUVERING AREAS. SEE ARCHITECTURAL PLANS FOR AREA DESIGNATIONS.



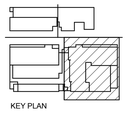
1 LEVEL P1 SOUTH - PLUMBING

0' 4' 8' 16'

1/8" = 1'-0"

SHEET KEYNOTES

1. ROUTE PIPING ALONG WALL AS TIGHT AS POSSIBLE.
2. OFFSET 8" WASTE PIPING AS REQUIRED TO ROUTE BELOW STORM DRAIN PIPING, EXTEND PIPING DOWN ALONG WALL TO CONNECT TO WASTE PIPING BELOW SLAB.
3. 4" WASTE CAPPED AS LOW AS POSSIBLE IN CEILING SPACE FOR EXTENSION TO FUTURE RETAIL TENANT.
4. COORDINATE LOCATION AND INSTALLATION OF NATURAL GAS METER(S) AND SERVICE WITH SERVING UTILITY. PROVIDE ALL VALVES AND REGULATORS FOR COMPLETE AND OPERATING SYSTEM.
5. NOT USED.
6. MOUNT EQUIPMENT ON WALL IN ACCESS PANEL WITH LOUVERED FACE. COORDINATE WITH ELECTRICAL CONTRACTOR.
7. MOUNT EQUIPMENT ON WALL, COORDINATE WITH ELECTRICAL CONTRACTOR.
8. PROVIDE TRAP PRIMER HEADER. CONNECT TO PRIMER PIPE STUB PROVIDED IN FOUNDATION PACKAGE. PROVIDE ACCESSIBLE SHUT-OFF VALVE ON COLD WATER SUPPLY TO TRAP PRIMER HEADER.
9. CONNECT TO PIPE STUB EXTENDED UP ABOVE SLAB.
10. CONNECT TO PIPE STUB EXTENDED THROUGH WALL.
11. ROUTE 4" WASTE PIPING DOWN ALONG COLUMN FOR CONNECTION TO 4" WASTE PIPE STUBBED UP FROM BELOW SLAB. PROVIDE WCO AT BASE OF STACK.
12. NATURAL GAS SERVICE UP TO PRIMARY NATURAL GAS REGULATOR.
13. NATURAL GAS SERVICE DOWN FROM PRIMARY NATURAL GAS REGULATOR.
14. THE STEEL NATURAL GAS PIPING FROM THE PRIMARY NATURAL GAS REGULATOR TO THE NATURAL GAS METER ROOM IS TO BE CONTAINED IN STEEL CASING PIPE.
15. GAS METER ROOM INTAKE VENT.
16. ROUTE 3/4" COLD WATER TO WATER HEATER MOUNTED ON COLUMN. SET WATER HEATER TO DELIVER MAXIMUM 110F HOT WATER. ROUTE 3/4" HOT WATER FROM WATER HEATER FOR CONNECTION TO MIXING VALVE.
17. ROUTE 3/4" HOT WATER AND 3/4" COLD WATER FOR CONNECTION TO MIXING VALVE MOUNTED ON COLUMN. MIXING VALVE IS TO BE PROVIDED WITH SECURABLE HIGH LIMIT STOP. PROVIDE 1/2" COLD WATER BRANCH OFF OF COLD WATER SUPPLY TO MIXING VALVE. ROUTE COLD WATER BRANCH AND TEMPERED HOT WATER FROM MIXING VALVE THROUGH CODE APPROVED BACKFLOW PREVENTERS FOR CONNECTION TO FIXTURE(S) AT DOG WASH STATION. SEE ARCHITECTURAL.



KEY PLAN

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT 28, 2004 ANDREW W. FRICHTL

EXPIRES: 12/31/15

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REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION
1	10/23/14	10/15/14 LS CHK RESPONSE
2	10/30/14	CHECK SHEET RESPONSE

LEVEL P1 SOUTH - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION 2
PROJECT NUMBER 123625	SHEET NUMBER P4-2.0Ba
SCALE 1/8" = 1'-0"	

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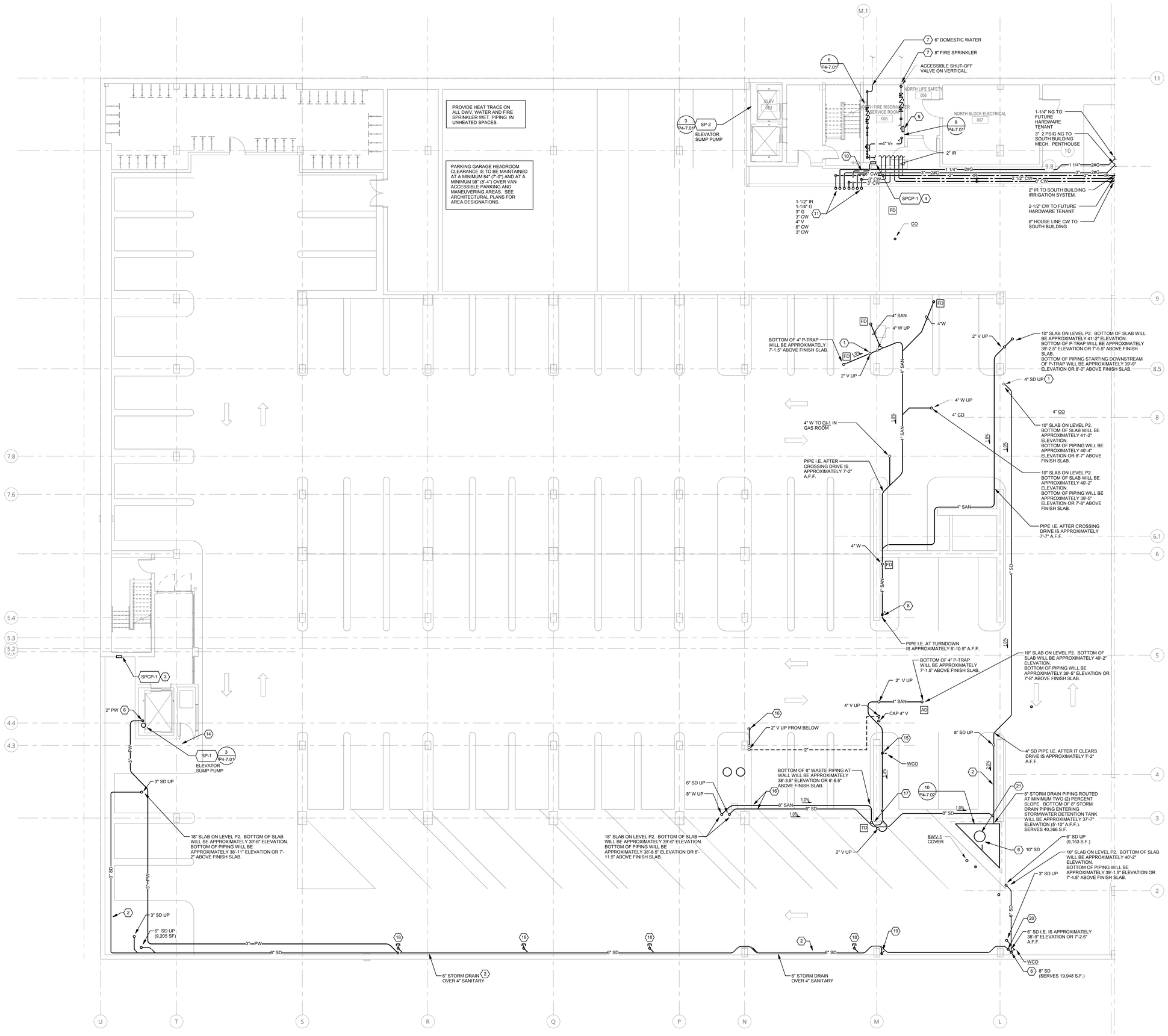
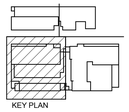


SHEET KEYNOTES

1. ROUTE PIPING AS TIGHT AS POSSIBLE TO BOTTOM OF SLAB ABOVE. UTILIZE SPECIFIC FITTINGS, SUCH AS LONG EIGHTH BEND, AS NEEDED TO INSTALL COUPLINGS ABOVE SLAB.
2. ROUTE PIPING AS TIGHT AS POSSIBLE ALONG WALL.
3. MOUNT EQUIPMENT ON WALL IN ACCESS PANEL WITH LOUVERED FACE. COORDINATE WITH ELECTRICAL CONTRACTOR.
4. MOUNT EQUIPMENT ON WALL. COORDINATE WITH ELECTRICAL CONTRACTOR.
5. PROVIDE TRAP PRIMER HEADER. CONNECT TO PRIMER PIPE STUB PROVIDED IN FOUNDATION PACKAGE. PROVIDE ACCESSIBLE SHUT-OFF VALVE ON COLD WATER SUPPLY TO TRAP PRIMER HEADER.
6. CONNECT TO PIPE STUB EXTENDED UP ABOVE SLAB.
7. CONNECT TO PIPE STUB EXTENDED THROUGH WALL.
8. ROUTE 4" WASTE PIPING DOWN ALONG WALL OR COLUMN FOR CONNECTION TO 4" WASTE PIPE STUBBED UP FROM BELOW SLAB. PROVIDE WCO AT BASE OF STACK.
9. MANHOLE OPEING IN SLAB OVERHEAD. COORDINATE WITH STRUCTURAL.
10. COORDINATE PIPE ROUTING WITH HVAC PIPING SYSTEMS IN THIS SPACE.
11. ROUTE PIPING UP AS TIGHT AS POSSIBLE ALONG WALL, COORDINATE WITH HVAC PIPING SYSTEMS.
12. EXTEND PIPING UP THROUGH SLAB TO LEVEL ABOVE. UTILIZE SPECIFIC FITTINGS, SUCH AS LONG EIGHTH BEND, AS NEEDED TO INSTALL COUPLINGS ABOVE SLAB.
13. 4" STORM DRAIN PIPING INTERTIES TWO (2) STORM WATER DETENTION TANKS. PIPE IS NOT SLOPED. ROUTE AS TIGHT AS POSSIBLE TO BOTTOM OF SLAB ABOVE.
14. EXTEND 8" STORM DRAIN UP TO ROUTE IN CHASE ON LEVEL ABOVE, COORDINATE WITH HVAC OUTSIDE AIR PIPING IN SAME CHASE.
15. ROUTE 8" WASTE PIPING DOWN ALONG WALL FOR CONNECTION TO 8" WASTE PIPE STUBBED UP FROM BELOW SLAB. PROVIDE WCO AT BASE OF STACK.
16. ROUTE PIPING AS TIGHT AS POSSIBLE TO BOTTOM OF STRUCTURE.
17. OFFSET WASTE PIPING DOWN BENEATH STORM DRAIN PIPING THEN ROUTE AS TIGHT AS POSSIBLE AROUND WALL.
18. 4" WASTE PIPING CAPPED FOR FUTURE EXTENSION TO FIXTURES IN WEST BUILDING TENANT SPACE(S). PIPE I.E. IS APPROXIMATELY 38.75' ELEVATION OR 7'-0" A.F.F.
19. I.E. OF 4" HORIZONTAL WASTE AT TURNDOWN TO VERTICAL IS APPROXIMATELY 4'-0" A.F.F.
20. I.E. OF 6" HORIZONTAL STORM DRAIN AT TURNDOWN TO VERTICAL IS APPROXIMATELY 4'-5" A.F.F.
21. MANHOLE OPENING IN SLAB OVER STORMWATER DETENTION TANK. COORDINATE WITH STRUCTURAL.
22. 4" WASTE PIPING CAPPED FOR FUTURE EXTENSION TO FIXTURES IN WEST BUILDING TENANT SPACE(S).



1 LEVEL P1 NORTH - PLUMBING

1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1994 ANDREW W. FRICHTL
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION
1	10/23/14	10/15/14 LS CHK RESPONSE
2	10/30/14	CHECK SHEET RESPONSE
3	12/10/2014	PHASE 2 PERMIT

LEVEL P1 NORTH - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION 3
PROJECT NUMBER 123625	SHEET NUMBER P4-2.0Bb
SCALE 1/8" = 1'-0"	

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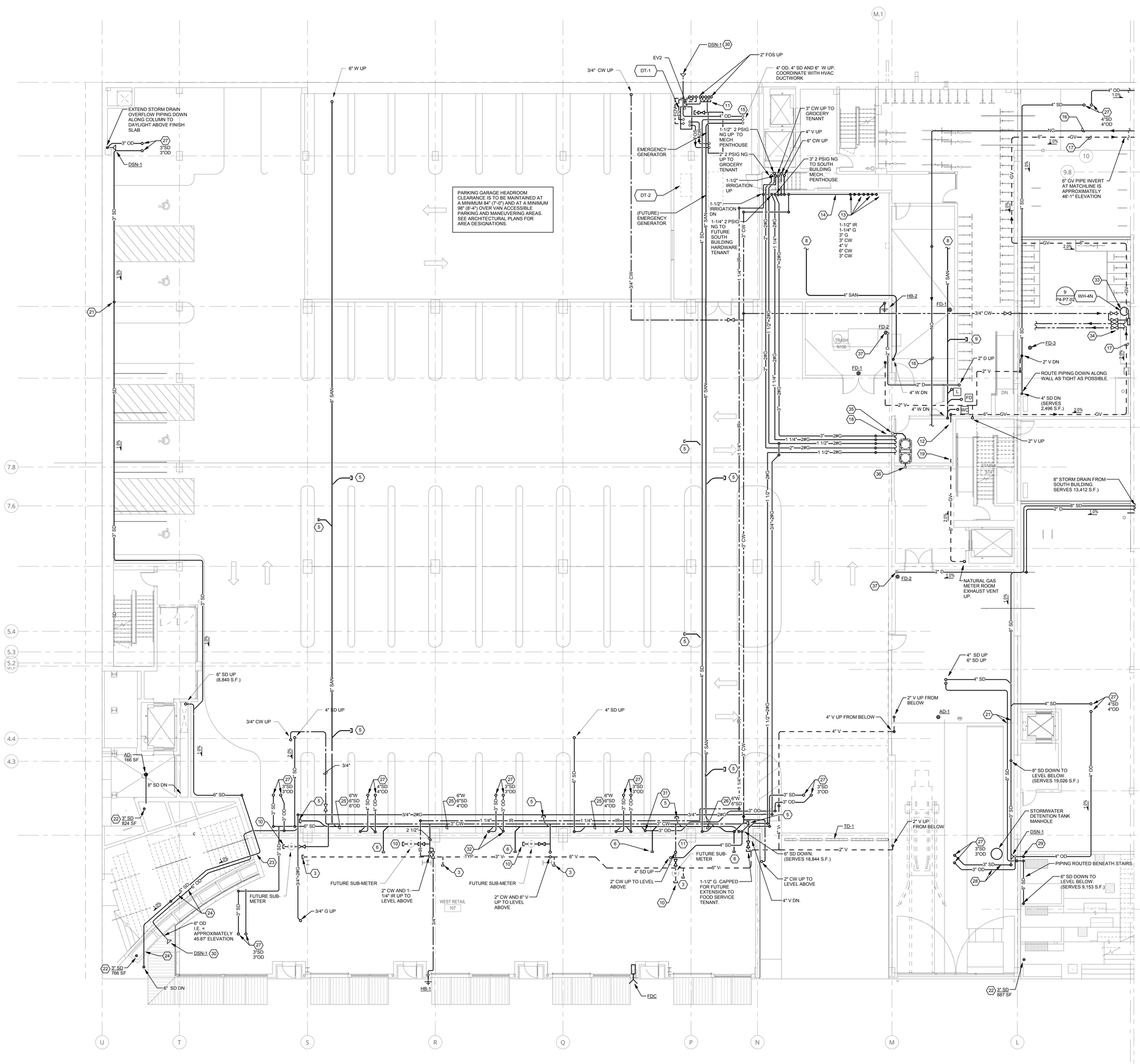

1 LEVEL P2 NORTH - PLUMBING

1/8" = 1'-0"

SHEET KEYNOTES

1. ROUTE PIPING OVERHEAD AS TIGHT AS POSSIBLE TO BOTTOM OF SLAB ABOVE. UTILIZE SPECIFIC FITTINGS, SUCH AS LONG EIGHTH BEND, AS NEEDED TO INSTALL COUPLINGS ABOVE SLAB.
2. EXTEND PIPING DOWN ALONG COLUMN TO BELOW SLAB.
3. 3" VENT CAPPED AS HIGH AS POSSIBLE IN CEILING SPACE FOR EXTENSION TO FUTURE TENANT SPACE.
4. NOT USED.
5. 4" WASTE CAPPED FOR FUTURE EXTENSION TO GROCERY TENANT.
6. PROVIDE 4' WASTE CAPPED AS LOW AS POSSIBLE IN CEILING SPACE FOR EXTENSION TO FUTURE TENANT SPACE.
7. FOOD SERVICE EQUIPMENT / FIXTURES IN WEST RETAIL TENANT SPACE ON THIS LEVEL ARE TO DRAIN TO GRAVITY GREASE INTERCEPTOR LOCATED ON LEVEL BELOW. SEE SHEET P2.00Bb.
8. SEE 1/P2.00Pd FOR CONTINUATION.
9. CAP 4" WASTE PIPING AS LOW AS POSSIBLE IN CEILING SPACE FOR FUTURE EXTENSION TO RETAIL TENANT ON LEVEL ABOVE.
10. 2" COLD WATER CAPPED FOR FUTURE EXTENSION.
11. CAPPED VENTS FOR FUTURE DAY TANK.
12. NATURAL GAS METER ROOM INTAKE VENT TERMINATION IN NATURAL GAS METER ROOM. INTAKE VENT TERMINATION TO BE LOCATED AT A MAXIMUM OF ONE (1) FOOT AND A MINIMUM OF SIX (6) INCHES FROM THE BOTTOM OF THE VENT TO THE FINISH FLOOR.
13. ROUTE PIPING AS TIGHT AS POSSIBLE DOWN ALONG WALL, COORDINATE WITH HVAC PIPING SYSTEMS.
14. ROUTE PIPING AS TIGHT AS POSSIBLE ALONG WALL, COORDINATE WITH HVAC PIPING SYSTEMS.
15. 2" FUEL OIL SUPPLY PIPING CAPPED FOR EXTENSION TO FUTURE DAY TANK AND FUTURE GENERATOR.
16. THE STEEL NATURAL GAS PIPING FROM THE PRIMARY NATURAL GAS REGULATOR TO THE NATURAL GAS METER ROOM IS TO BE CONTAINED IN STEEL CASING PIPE.
17. GAS METER ROOM INTAKE VENT.
18. ROUTE NATURAL GAS PIPING FOR CONNECTION TO NATURL GAS METER ASSEMBLY IN NATURAL GAS METER ROOM. COORDINATE LOCATION AND INSTALLATION OF NATURAL GAS METER ASSEMBLY WITH SERVING UTILITY. PROVIDE ALL VALVES, REGULATORS AND APPURTENANCES FOR COMPLETE AND OPERATING SYSTEM.
19. NATURAL GAS METER ROOM EXHAUST VENT TERMINATION IN NATURAL GAS METER ROOM. EXHAUST VENT TERMINATION IS TO BE LOCATED AT A MAXIMUM OF ONE (1) FOOT FROM THE TOP OF THE VENT TO THE FINISH CEILING.
20. OFFSET PIPING AS REQUIRED TO ROUTE BENEATH BEAM.
21. ROUTE PIPING AS TIGHT AS POSSIBLE ALONG WALL. SHOWN SIDE-BY-SIDE FOR CLARITY.
22. EXTEND STORM DRAIN PIPING UP INTO FLOW-THRU PLANTER. PROVIDE WITH SANITARY TEE FOR CONNECTION TO DRAINS PROVIDED BY LANDSCAPE ARCHITECT. SET INVERT OF TEE TO BE FLUSH WITH BOTTOM OF PLANTER. SEE LANDSCAPE DRAWING DETAIL(S). COORDINATE LOCATION WITH LANDSCAPE ARCHITECT.
23. EXTEND 6" STORM DRAIN PIPING THROUGH WALL TO ROUTE BENEATH STAIRS AS SHOWN.
24. PIPING ROUTED BELOW SLAB, IN CRAWLSPACE BELOW BOTTOM OF STAIRS.
25. INSTALL WASTE, STORM DRAIN AND OVERFLOW STORM DRAIN PIPING STACKED AS TIGHT AS POSSIBLE AGAINST WALL/COLUMN. ROUTE PIPING AGAINST WALL/COLUMNS AS TIGHT AS POSSIBLE.
26. INSTALL WASTE AND STORM DRAIN PIPING STACKED AS TIGHT AS POSSIBLE AGAINST WALL/COLUMN. ROUTE PIPING AGAINST WALL/COLUMNS AS TIGHT AS POSSIBLE.
27. EXTEND STORM DRAIN AND STORM DRAIN OVERFLOW PIPING UP FOR CONNECTION TO SLAB DRAIN AND SLAB OVERFLOW DRAIN.
28. MAINTAIN MINIMUM 14'-6" VERTICAL CLEARANCE BETWEEN BOTTOM OF PIPING CROSSING DRIVE PATH OF LOADING DOCK.
29. COMBINE 3" AND 4" STORM DRAIN OVERFLOW LINES INTO SINGLE 4" VERTICAL LINE DOWN, DAYLIGHT THROUGH WALL OF LOADING DOCK, COORDINATE LOCATION AND ELEVATION OF TERMINATION WITH ARCHITECT.
30. ROUTE STORM DRAIN OVERFLOW PIPING THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR. COORDINATE TERMINATION LOCATION AND ELEVATION WITH ARCHITECT.
31. OFFSET OVERFLOW DRAIN PIPING DOWN ALONG WALL TO ROUTE AS TIGHT AS POSSIBLE AGAINST WALL/COLUMN BELOW WASTE AND STORM DRAIN PIPING.
32. OFFSET PIPING DOWN ALONG WALL TO CONNECT TO STORM/OVERFLOW DRAIN MAIN RUNNING ALONG WALL.
33. ROUTE 3/4" COLD WATER FOR CONNECTION TO WATER HEATER. SET WATER HEATER TO DELIVER MAXIMUM 110F HOT WATER. ROUTE 3/4' HOT WATER FROM WATER HEATER FOR CONNECTION TO MIXING VALVE.
34. ROUTE 3/4" HOT WATER FROM WATER HEATER AND 3/4" COLD WATER FOR CONNECTION TO MIXING VALVE MOUNTED ON WALL. MIXING VALVE IS TO BE PROVIDED WITH SECURABLE HIGH-LIMIT STOP. PROVIDE 1/2" COLD WATER BRANCH OFF OF COLD WATER SUPPLY TO MIXING VALVE, ROUTE COLD WATER BRANCH AND TEMPERED HOT WATER FROM MIXING VALVE THROUGH CODE APPROVED BACKFLOW PREVENTERS FOR CONNECTION TO FIXTURE(S) AT BIKE WASH STATION. SEE ARCHITECTURAL.
35. GREASE WASTE UP TO TENANT SPACE.
36. GREASE WASTE DOWN. SEE FLOOR BELOW FOR CONTINUATION.
37. ROUTE 2" CONDENSATE DRAIN PIPING DOWN TO TERMINATE INDIRECT AT FLOOR DRAIN.

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1984 ANDREW W. FRICHTL
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION
1	10/23/14	10/15/14 LS CHK RESPONSE
2	10/30/14	CHECK SHEET RESPONSE
3	12/10/201 4	PHASE 2 PERMIT

LEVEL P2 NORTH - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION 3
PROJECT NUMBER 123625	SHEET NUMBER P4-2.0Pb
SCALE 1/8" = 1'-0"	

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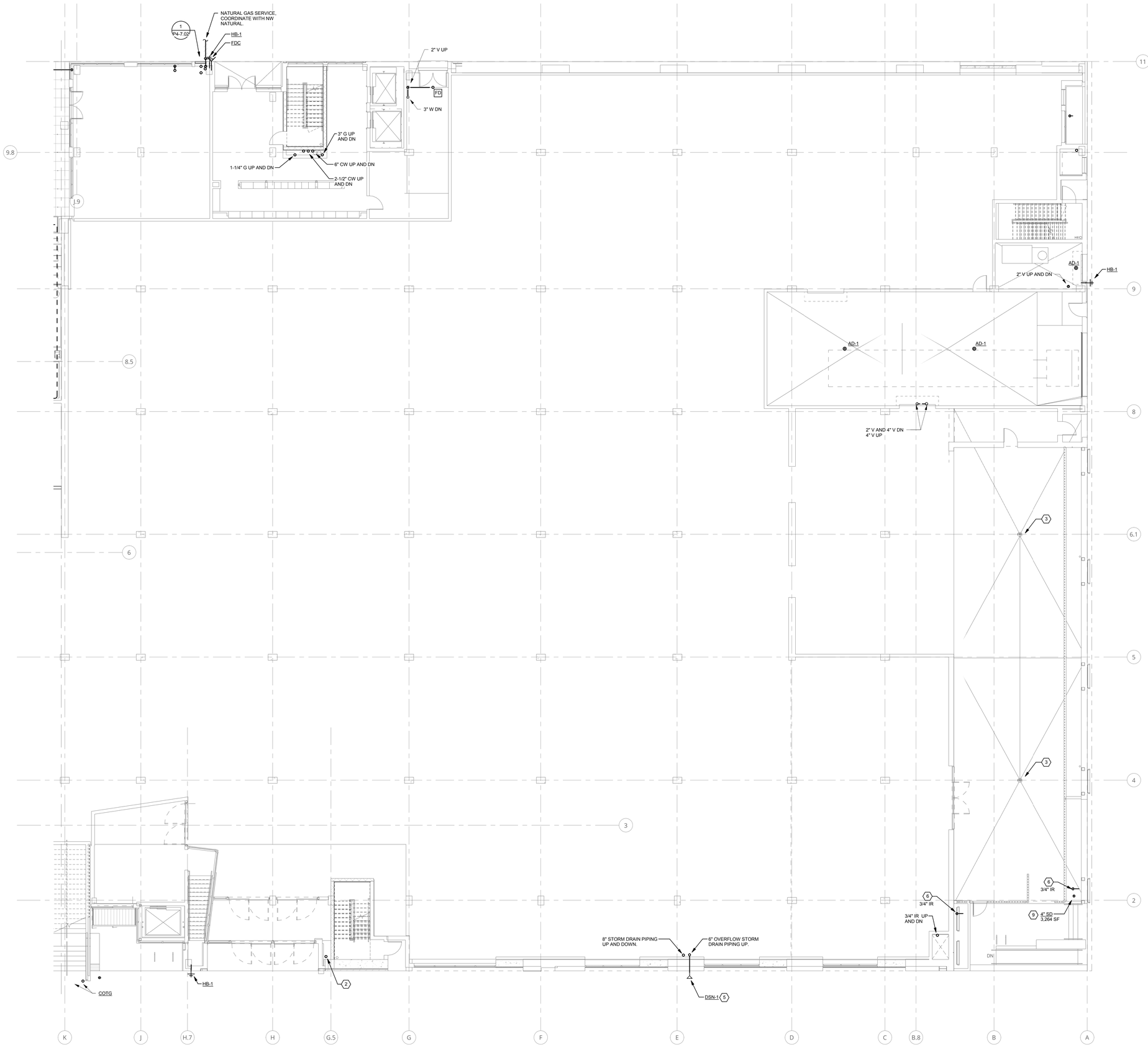


SHEET KEYNOTES

1 NOT USED.

2 EXTEND 8" WASTE DOWN THROUGH SLAB TO LEVEL BELOW.

3 AREA DRAINS. TYPICAL TWO (2) AT EACH LOCATION - UPPER DRAIN LOCATED IN PAVERS, LOWER DRAIN LOCATED IN STRUCTURAL DECK.

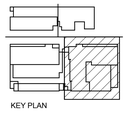
4 EXTEND STORM DRAIN PIPING UP INTO FLOW-THRU PLANTER. PROVIDE WITH SANITARY TEE FOR CONNECTION TO DRAINS PROVIDED BY LANDSCAPE ARCHITECT. SET INVERT OF TEE TO BE FLUSH WITH BOTTOM OF PLANTER. SEE LANDSCAPE DRAWING DETAIL(S). COORDINATE LOCATION WITH LANDSCAPE ARCHITECT.

5 ROUTE 6" STORM DRAIN OVERFLOW PIPING THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR. COORDINATE LOCATION AND ELEVATION OF OVERFLOW DRAIN TERMINATION WITH ARCHITECT.

6 IRRIGATION PIPING UP FROM BELOW. COORDINATE ALL ROOF PENETRATIONS AND FLASHING WITH ARCHITECTURAL REQUIREMENTS FOR ROOFING SYSTEM. ROUTE FOR CONNECTION TO THE IRRIGATION SYSTEM. PROVIDE WITH ACCESSIBLE SHUT-OFF VALVE. COORDINATE CONNECTION REQUIREMETNS AND LOCATION WITH LANDSCAPE ARCHITECT.

1 LEVEL 1 SOUTH - PLUMBING

0' 4' 8' 16'
1/8" = 1'-0"


KEY PLAN

REGISTERED PROFESSIONAL ENGINEER
17430
OREGON
SEPT. 28, 2004
ANDREW W. FRICHTL
EXPIRES: 12/31/15

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Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION
1	10/30/14	CHECK SHEET RESPONSE

LEVEL 1 SOUTH -PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION 1
PROJECT NUMBER 123625	SHEET NUMBER P4-2.01a
SCALE 1/8" = 1'-0"	

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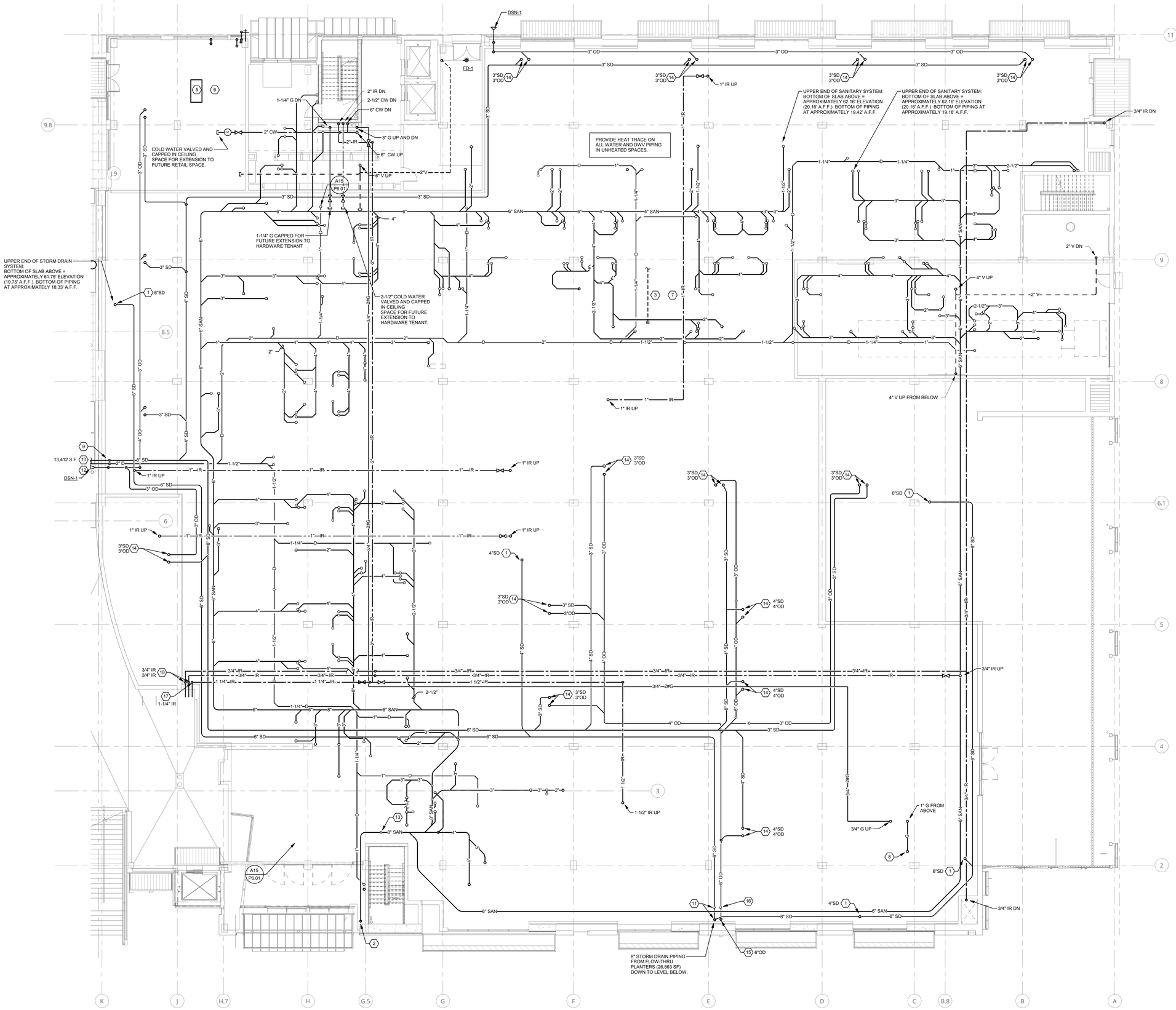
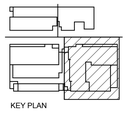


1 LEVEL 2 SOUTH - PLUMBING

1/8" = 1'-0"

SHEET KEYNOTES

1. EXTEND STORM DRAIN PIPING UP THROUGH SLAB FOR CONNECTION TO FLOW-THROUGH PLANTER ON LEVEL ABOVE.
2. ROUTE 8" SANITARY DOWN ALONG WALL TO LEVEL BELOW. BOTTOM OF HORIZONTAL PIPING PRIOR TO TURNDOWN TO VERTICAL IS APPROXIMATELY 13.42' A.F.F.
3. 4" VENT SERVING RETAIL TENANT. EXTEND FOR CONNECTION TO VENT SYSTEM SERVING RESIDENTIAL LEVELS ABOVE.
4. 2" VENT SERVING RETAIL TENANT. EXTEND FOR CONNECTION TO VENT SYSTEM SERVING RESIDENTIAL LEVELS ABOVE.
5. PROVIDE POINT-OF -USE GREASE TRAP TO SERVE FOOD SERVICE EQUIPMENT/FIXTURES IN TENANT SPACE.
6. ROUTE NATURAL GAS PIPING FROM NATURAL GAS METER TO FOOD SERVICE TENANT, VALVE AND CAP FOR FUTURE EXTENSION.
7. ROUTE NATURAL GAS PIPING FROM NATURAL GAS METER TO HARDWARE STORE TENANT, VALVE AND CAP FOR FUTURE EXTENSION.
8. EXTEND 1" NATURAL GAS UP THROUGH SLAB FOR CONNECTION TO FIRE PIT.
9. OFFSET 8" STORM DRAIN PIPING DOWN ALONG WALL TO ROUTE BENEATH STRUCTURE OF PROMENADE BETWEEN NORTH AND SOUTH BUILDINGS. BOTTOM OF HORIZONTAL PIPING PRIOR TO TURNDOWN IS APPROXIMATELY 15.08' A.F.F.
10. ROUTE 8" STORM DRAIN PIPING FOR CONNECTION TO STORMWATER DETENTION VAULT.
11. OFFSET 8" STORM DRAIN PIPING DOWN TO ROUTE BENEATH 6" SANITARY THEN EXTEND DOWN ALONG WALL TO LEVEL BELOW. BOTTOM OF HORIZONTAL PIPING PRIOR TO OFFSET IS APPROXIMATELY 15.38' A.F.F.
12. OFFSET 4" OVERFLOW DRAIN PIPING DOWN THEN EXTEND THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR APPROXIMATELY 1.0' ABOVE FINISH GRADE. COORDINATE TERMINATION LOCATION AND ELEVATION WITH ARCHITECT. BOTTOM OF PIPE ELEVATION PRIOR TO OFFSET DOWN WILL BE APPROXIMATELY 16.08' A.F.F.
13. OFFSET 8" SANITARY PIPING TO ROUTE BENEATH STRUCTURAL BEAM. BOTTOM OF PIPE PRIOR TO OFFSET IS APPROXIMATELY 14.42' A.F.F. BOTTOM OF PIPE CROSSING BENEATH BEAM IS APPROXIMATELY 13.67' A.F.F.
14. EXTEND STORM DRAIN AND STORM DRAIN OVERFLOW PIPING UP FOR CONNECTION TO SLAB DRAIN AND SLAB OVERFLOW DRAIN.
15. SEE SHEET P4-P2.01a FOR CONTINUATION.
16. OFFSET 6" STORM DRAIN OVERFLOW PIPING DOWN TO ROUTE BENEATH 6" SANITARY THEN EXTEND DOWN ALONG WALL. BOTTOM OF HORIZONTAL PIPING PRIOR TO OFFSET IS APPROXIMATELY 15.38' A.F.F.
17. ROUTE 1-1/4" IRRIGATION PIPING DOWN ALONG WALL THEN THROUGH WALL TO LANDSCAPE PLANTER. ROUTE FOR CONNECTION TO THE IRRIGATION SYSTEM. PROVIDE WITH ACCESSIBLE SHUT-OFF VALVE. COORDINATE CONNECTION REQUIREMENTS AND LOCATION WITH LANDSCAPE ARCHITECT.
18. EXTEND 3/4" IRRIGATION PIPING FROM IRRIGATION CONNECTION IN LANDSCAPE PLANTER THROUGH WALL THEN UP ALONG WALL TO ROUTE IN CEILING SPACE AS SHOWN. COORDINATE CONNECTION REQUIREMENTS AND LOCATION WITH LANDSCAPE ARCHITECT.



REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT 28, 1984 ANDREW W. FRICHTL
EXPIRES: 12/31/15

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Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFICATION
1	10/30/14	CHECK SHEET RESPONSE

LEVEL 2 SOUTH - PLUMBING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	1
PROJECT NUMBER 123625	SHEET NUMBER P4-2.02a
SCALE 1/8" = 1'-0"	

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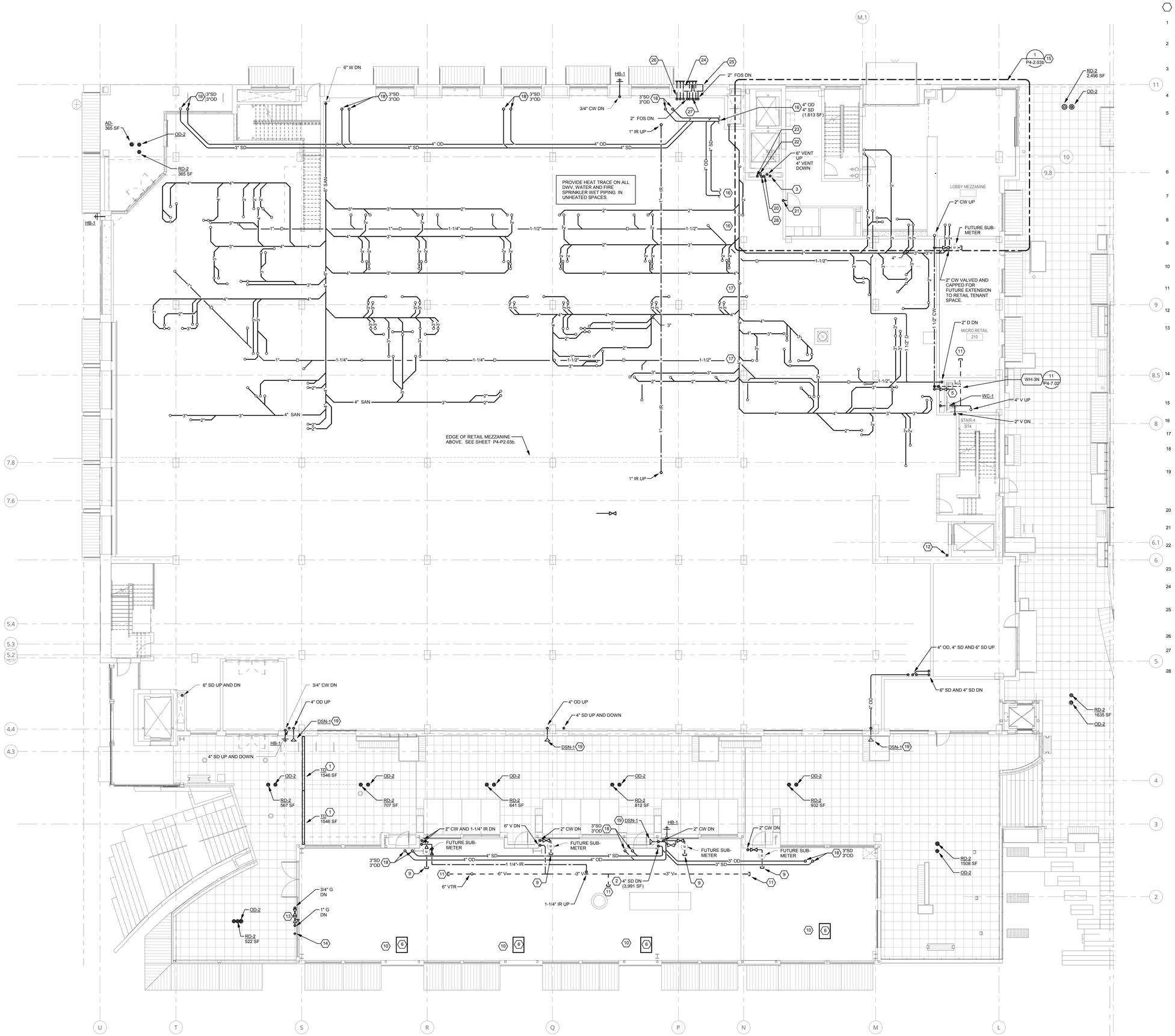

SHEET KEYNOTES

1. TRENCH DRAIN BY LANDSCAPE. TRENCH DRAIN DISCHARGES INDIRECT TO SLAB DRAIN. SEE LANDSCAPE DRAWINGS.
2. ROUTE STORM DRAIN PIPING DOWN FOR CONNECTION TO STORMWATER DETENTION VAULT ON LEVEL P1.
3. 6" COLD WATER MAIN SERVING NORTH BUILDING RESIDENTIAL LEVELS.
4. AREA OF COMMON RESTROOM. PROVIDE WITH LAVATORY L-1 AND WATER CLOSET WC-1.
5. EXTEND 1-1/2" COLD WATER FOR CONNECTION TO FLUSH VALVE WATER CLOSET IN COMMON RESTROOM. PROVIDE WITH ACCESSIBLE WATER HAMMER ARRESTOR AND SHUT-OFF VALVE. COORDINATE ACCESS PANEL LOCATION WITH ARCHITECT. PROVIDE 1/2" COLD WATER BRANCH TO LAVATORY IN COMMON RESTROOM AND TO POINT-OF-USE WATER HEATER MOUNTED BELOW LAVATORY. ROUTE HOT WATER PIPING FROM WATER HEATER FOR CONNECTION TO LAVATORY.
6. PROVIDE POINT-OF-USE GREASE TRAP TO SERVE FOOD SERVICE EQUIPMENT/FIXTURES IN TENANT SPACE.
7. NOT USED.
8. NOT USED.
9. 2" COLD WATER VALVED AND CAPPED IN CEILIGN SPACE FOR FUTURE EXTENSION.
10. ROUTE NATURAL GAS PIPING FROM NATURAL GAS METER TO FOOD SERVICE TENANT, VALVE AND CAP FOR FUTURE EXTENSION.
11. 3" VENT CAPPED AS HIGH AS POSSIBLE IN CEILING SPACE FOR FUTURE EXTENSION.
12. NATURAL GAS METER ROOM EXHAUST VENT UP AND DOWN.
13. 3/4" NATURAL GAS UP FROM BELOW, ROUTE FOR CONNECTION TO NATURAL GAS SHUT-OFF VALVE AND PRESSURE REGULATOR. COORDINATE LOCATION OF NATURAL AGS VALVE ASSEMBLY WITH LANDSCAPE ARCHITECT. ROUTE 1" NATURAL GAS FROM PRESSURE REGULATOR DOWN THROUGH SLAB TO LEVEL BELOW.
14. EXTEND 1" NATURAL GAS UP FROM BELOW FOR CONNECTION TO OUTDOOR FIREPLACE. COORDINATE EXACT LOCATION WITH POINT OF CONENCTION ON EQUIPMENT PROVIDED.
15. SEE REFERENCED PARTIAL FLOOR PLAN FOR PLUMBING IN LEVEL 1 NORTH RESIDENTIAL LOBBY.
16. SEE 2/P4-P2.03b FOR CONTINUATION.
17. SEE 3/P4-P2.03b FOR CONTINUATION.
18. EXTEND STORM DRAIN AND STORM DRAIN OVERFLOW PIPING UP FOR CONNECTION TO ROOF DRAIN AND OVERFLOW ROOF DRAIN.
19. EXTEND 4" STORM DRAIN OVERFLOW PIPING DOWN ALONG WALL THEN THROUGH WALL TO DAYLIGHT ABOVE FINISH GRADE. PROVIDE WITH OVERFLOW DRAIN TERMINATION FITTING DSN-1. COORDINATE LOCATION AND ELEVATION OF TERMINATION WITH ARCHITECT.
20. 3" COLD WATER UP AND DOWN. SERVES NORTH BUILDING GROCERY TENANT.
21. 1-1/2" COLD WATER UP AND DOWN. SERVES RESIDENTIAL LOBBY RESTROOM.
22. 1-1/2" 2 PSIG NATURAL GAS UP AND DOWN. SERVES NORTH BUILDING MECHANICAL PENTHOUSE.
23. 2" 2 PSIG NATURAL GAS UP AND DOWN. SERVES NORTH BUILDING GROCERY TENANT.
24. FUEL FILL BOX FOR DAY TANK AND EMERGENCY GENERATOR. COORDINATE WALL OPEING WITH SUPPLIED FUEL FILLING PORTS.
25. FUEL FILL BOX FOR FUTURE DAY TANK AND FUTURE EMERGENCY GENERATOR. COORDINATE WALL OPEING WITH SUPPLIED FUEL FILLING PORTS.
26. FUEL OIL VENTS UP FROM DAY TANK (DF-1).
27. FUEL OIL VENTS UP FROM FUTURE DAY TANK (DF-2).
28. 1-1/2" IRRIGATION RISER.

1 LEVEL 2 NORTH AND WEST - PLUMBING

0' 4' 8' 16'
1/8" = 1'-0"

KEY PLAN

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 2004 ANDREW W. FRICHTL
EXPIRES: 12/31/15

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CONTACT Scott Holum

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

LEVEL 2 NORTH AND WEST - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER P4-2.02b
SCALE 1/8" = 1'-0"	

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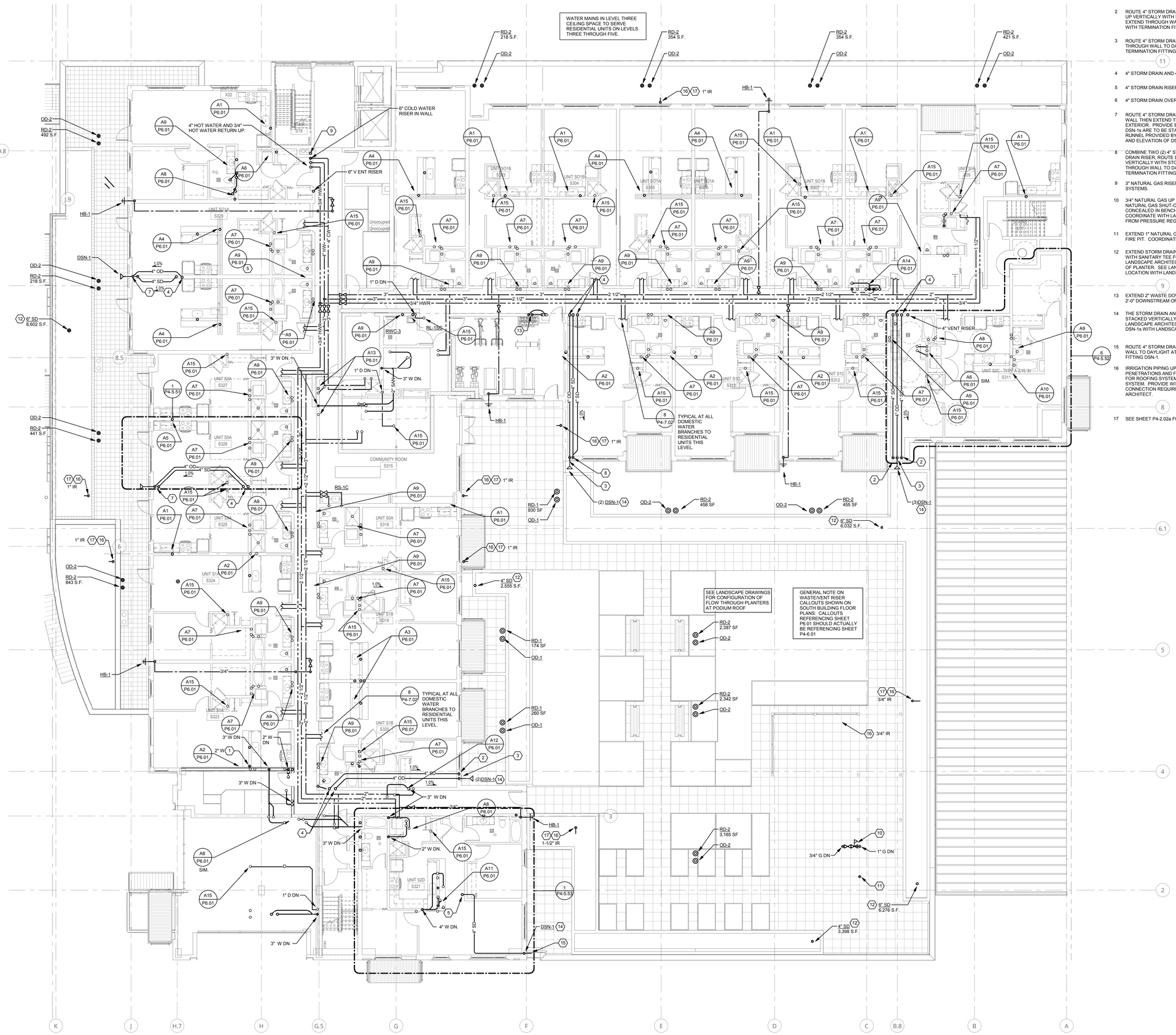
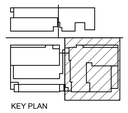


1 LEVEL 3 SOUTH - PLUMBING

0' 4' 8' 16'
1/8" = 1'-0"



KEY PLAN

SHEET KEYNOTES

1 OFFSET WASTE PIPING IN LOW WALL THEN EXTEND DOWN THROUGH SLAB TO ROUTE CLEAR OF CONCRETE WALL ON LEVEL BELOW.

2 ROUTE 4" STORM DRAIN PIPING DOWN IN WALL. OFFSET IN WALL TO LINE UP VERTICALLY WITH STORM DRAIN OVERFLOW RISER IN WALL THEN EXTEND THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR. PROVIDE WITH TERMINATION FITTING DSN-1.

3 ROUTE 4" STORM DRAIN OVERFLOW PIPING DOWN IN WALL THEN EXTEND THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR. PROVIDE WITH TERMINATION FITTING DSN-1.

4 4" STORM DRAIN AND 4" STORM DRAIN OVERFLOW RISERS UP.

5 4" STORM DRAIN RISER.

6 4" STORM DRAIN OVERFLOW RISER UP.

7 ROUTE 4" STORM DRAIN AND 4" STORM DRAIN OVERFLOW PIPING DOWN IN WALL THEN EXTEND THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR. PROVIDE EACH WITH TERMINATION FITTING DSN-1. THE DSN-1s ARE TO BE STACKED VERTICALLY TO DISCHARGE INDIRECT TO RUNNEL PROVIDED BY LANDSCAPE ARCHITECT. COORDINATE LOCATION AND ELEVATION OF DSN-1s WITH LANDSCAPE ARCHITECT.

8 COMBINE TWO (2) 4" STORM DRAIN LINES INTO SINGLE 4" VERTICAL STORM DRAIN RISER. ROUTE DOWN IN WALL. OFFSET IN WALL TO LINE UP VERTICALLY WITH STORM DRAIN OVERFLOW RISER THEN EXTEND THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR. PROVIDE WITH TERMINATION FITTING DSN-1.

9 3" NATURAL GAS RISER IN CHASE, COORDINATE WITH HVAC PIPING SYSTEMS.

10 3/4" NATURAL GAS UP FROM BELOW. ROUTE FOR CONNECTION TO NATURAL GAS SHUT-OFF VALVE AND PRESSURE REGULATOR INSTALLED CONCEALED IN BENCH. PROVIDE WITH ACCESS PANEL IN BENCH. COORDINATE WITH LANDSCAPE ARCHITECT. ROUTE 1" NATURAL GAS FROM PRESSURE REGULATOR DOWN THROUGH SLAB TO LEVEL BELOW.

11 EXTEND 1" NATURAL GAS UP FROM LEVEL BELOW FOR CONNECTION TO FIRE PIT. COORDINATE EXACT LOCATION WITH EQUIPMENT PROVIDED.

12 EXTEND STORM DRAIN PIPING UP INTO FLOW-THRU PLANTER. PROVIDE WITH SANITARY TEE CONNECTION TO DRAINS PROVIDED BY LANDSCAPE ARCHITECT. SET INVERT OF TEE TO BE FLUSH WITH BOTTOM OF PLANTER. SEE LANDSCAPE DRAWING DETAIL(S). COORDINATE LOCATION WITH LANDSCAPE ARCHITECT.

13 EXTEND 2" WASTE DOWN IN WALL, TIE INTO 3" WASTE RISER A MINIMUM OF 2'-0" DOWNSTREAM OF HORIZONTAL TO VERTICAL OFFSET.

14 THE STORM DRAIN AND/OR STORM DRAIN OVERFLOW DSN-1(S) ARE TO BE STACKED VERTICALLY TO DISCHARGE INDIRECT TO RUNNEL PROVIDED BY LANDSCAPE ARCHITECT. COORDINATE LOCATION AND ELEVATION OF DSN-1s WITH LANDSCAPE ARCHITECT.

15 ROUTE 4" STORM DRAIN PIPING DOWN IN WALL THEN EXTEND THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR. PROVIDE WITH TERMINATION FITTING DSN-1.

16 IRRIGATION PIPING UP FROM BELOW. COORDINATE ALL ROOF PENETRATIONS AND FLASHING WITH ARCHITECTURAL REQUIREMENTS FOR ROOFING SYSTEM. ROUTE FOR CONNECTION TO THE IRRIGATION SYSTEM. PROVIDE WITH ACCESSIBLE SHUT-OFF VALVE. COORDINATE CONNECTION REQUIREMETNS AND LOCATION WITH LANDSCAPE ARCHITECT.

17 SEE SHEET P4-2.02a FOR CONTINUATION.

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1994 ANDREW W. FRICHTL

EXPIRES: 12/31/15

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PROJECT 2012-0522
CONTACT Scott Holum

LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

LEVEL 3 SOUTH - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER
SCALE 1/8" = 1'-0"	P4-2.03a

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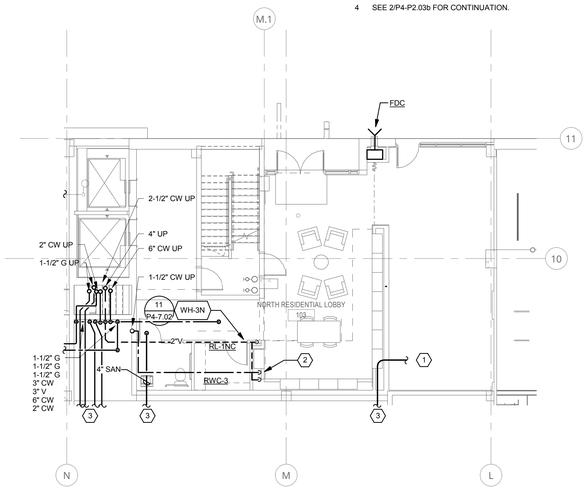
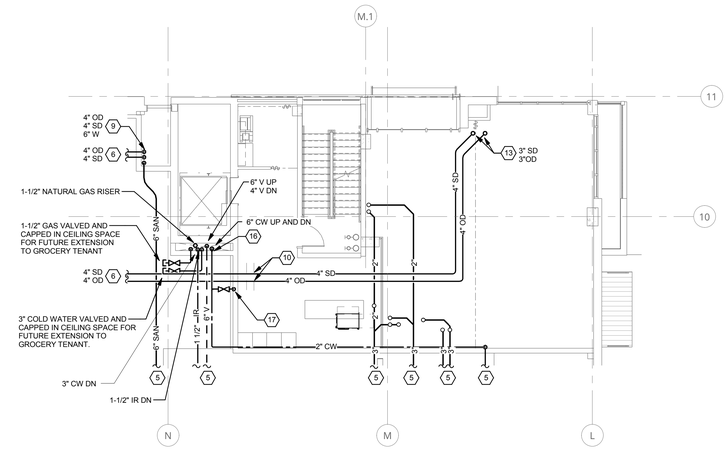
SHEET KEYNOTES

1. EXTEND 4" WASTE FOR CONNECTION TO FIXTURES IN PLAZA LEVEL TENANT SPACE. PROVIDE POINT-OF-USE GREASE TRAP ON WASTE SYSTEM TO SERVE FOOD SERVICE FIXTURES/EQUIPMENT IN TENANT SPACE.
2. EXTEND 1-1/2" COLD WATER DOWN FROM ABOVE FOR CONNECTION TO WATER CLOSET, PROVIDE WITH ACCESSIBLE SHUT-OFF VALVE. COORDINATE ACCESS PANEL LOCATION WITH ARCHITECT. PROVIDE 1/2" COLD WATER BRANCH TO LAVATORY AND TO POINT-OF-USE WATER HEATER MOUNTED ON WALL BENEATH LAVATORY. ROUTE HOT WATER PIPING FROM WATER HEATER FOR CONNECTION TO LAVATORY.
3. SEE 1/P2.00Pb FOR CONTINUATION.
4. SEE 2/P4-P2.03b FOR CONTINUATION.
5. SEE 3/P4-P2.03b FOR CONTINUATION.
6. SEE SHEET P4-P2.02b FOR CONTINUATION.
7. OFFSET PIPING AWAY FROM COLUMN BEFORE EXTENDING VERTICAL RISER DOWN THRU SLAB IN ORDER TO ROUTE RISER CLEAR OF STRUCTURAL BEAM IN LEVEL P2 CEILING SPACE.
8. COORDINATE LOCATION OF VERTICAL PIPE RISERS TO EXTEND DOWN THROUGH SLAB IN LOCATION OF SOUTHWEST CORNER OF T.I. JANITOR ROOM.
9. ROUTE PIPING DOWN IN SHAFT ALONGSIDE HVAC DUCTWORK. COORDINATE WITH MECHANICAL CONTRACTOR.
10. ROUTE PIPING BENEATH HVAC DUCTWORK, COORDINATE WITH MECHANICAL CONTRACTOR.
11. STORM DRAIN PIPING ROUTES DOWN TO STORMWATER DETENTION VAULT ON LEVEL P1.
12. EXTEND STORM DRAIN PIPING UP THROUGH SLAB FOR CONNECTION TO FLOW-THROUGH PLANTER ON LEVEL ABOVE.
13. EXTEND STORM DRAIN AND STORM DRAIN OVERFLOW PIPING UP FOR CONNECTION TO SLAB DRAIN AND SLAB OVERFLOW DRAIN.
14. EXTEND STORM DRAIN AND STORM DRAIN OVERFLOW PIPING UP FOR CONNECTION TO ROOF DRAIN AND OVERFLOW ROOF DRAIN.
15. STORM DRAIN/OVERFLOW DRAIN PIPE I.E AT TURNDOWN TO VERTICAL IS APPROXIMATELY 7.5' A.F.F. OF THE RETAIL MEZZANINE.
16. PROVIDE 2-1/2" COLD WATER BRANCH OFF OF 6" COLD WATER MAIN SERVING NORTH BUILDING RESIDENTIAL LEVELS, ROUTE FOR CONNECTION TO LOBBY RESTROOM, MICRO-TENANT AND PLAZA LEVEL RESTROOM.
17. ROUTE 1-1/2" COLD WATER DOWN TO RESIDENTIAL LOBBY RESTROOM PLUMBING FIXTURES.
18. 4" VENT CAPPED IN CEILING SPACE AS HIGH AS POSSIBLE FOR FUTURE EXTENSION.
19. 6" VENT CAPPED IN CEILING SPACE AS HIGH AS POSSIBLE FOR FUTURE EXTENSION.



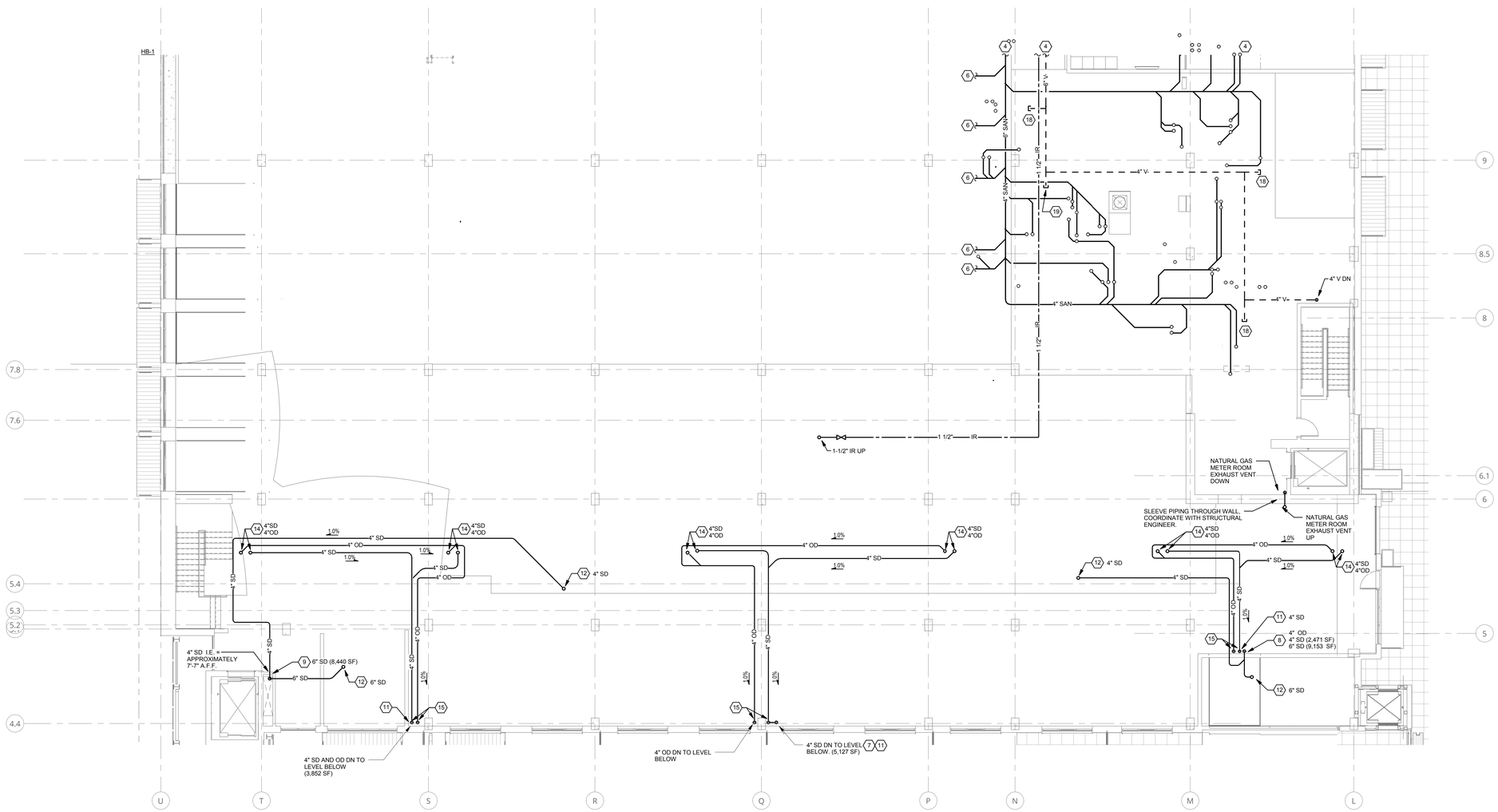
1 LEVEL 1 NORTH - RESIDENTIAL LOBBY - PLUMBING

0' 4' 8' 16'
1/8" = 1'-0"



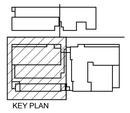
2 LEVEL 3 NORTH - RESIDENTIAL MEZZANINE - PLUMBING

0' 4' 8' 16'
1/8" = 1'-0"



3 LEVEL 3 NORTH - RETAIL MEZZANINE - PLUMBING

0' 4' 8' 16'
1/8" = 1'-0"



KEY PLAN

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT 28, 2004 ANDREW W. FRICHTL
EXPIRES: 12/31/15

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Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

NORTH BLDG FLOOR PLANS - LOBBY AND MEZZANINES - PLBG

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER P4-2.03b
SCALE 1/8" = 1'-0"	

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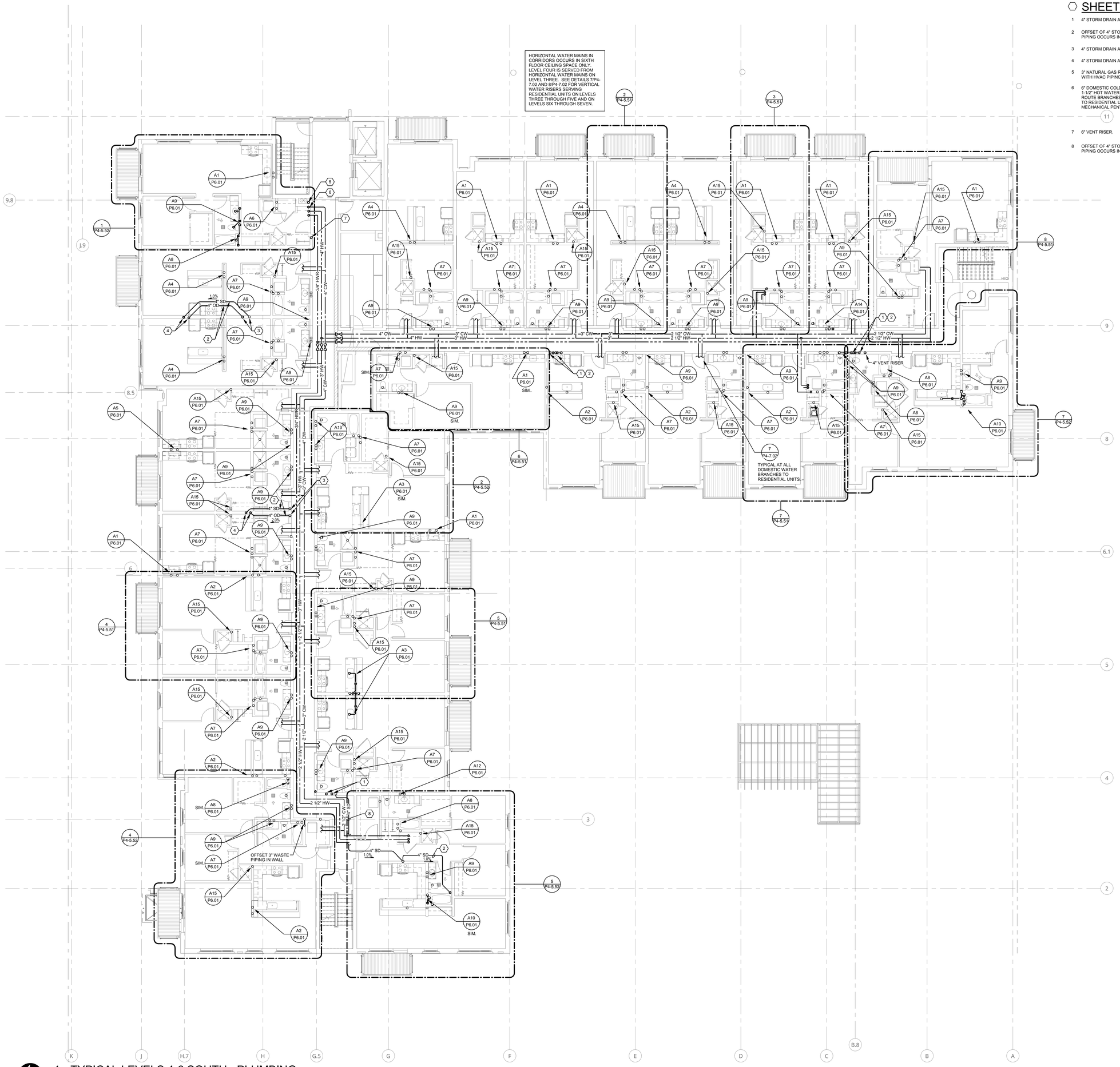
SHEET KEYNOTES

1. 4" STORM DRAIN AND 4" OVERFLOW DRAIN RISERS.
2. OFFSET OF 4" STORM DRAIN AND/OR 4" OVERFLOW PIPING OCCURS IN LEVEL 4 CEILING SPACE ONLY.
3. 4" STORM DRAIN AND 4" OVERFLOW RISERS UP.
4. 4" STORM DRAIN AND 4" OVERFLOW RISERS DOWN.
5. 3" NATURAL GAS RISER IN CHASE, COORDINATE WITH HVAC PIPING SYSTEMS.
6. 6" DOMESTIC COLD WATER, 6" HOT WATER AND 1-1/2" HOT WATER RETURN RISERS IN WALL. ROUTE BRANCHES ON EACH LEVEL TO DISTRIBUTE TO RESIDENTIAL UNITS. EXTEND RISERS UP TO MECHANICAL PENTHOUSE.
7. 6" VENT RISER.
8. OFFSET OF 4" STORM DRAIN AND/OR 4" OVERFLOW PIPING OCCURS IN LEVEL 5 CEILING SPACE ONLY.

HORIZONTAL WATER MAINS IN CORRIDORS OCCURS IN SIXTH FLOOR CEILING SPACE ONLY. LEVEL FOUR IS SERVED FROM HORIZONTAL WATER MAINS ON LEVEL THREE. SEE DETAILS 7/P4-7.02 AND 8/P4-7.02 FOR VERTICAL WATER RISERS SERVING RESIDENTIAL UNITS ON LEVELS THREE THROUGH FIVE AND ON LEVELS SIX THROUGH SEVEN.



1 TYPICAL LEVELS 4-6 SOUTH - PLUMBING

1/8" = 1'-0"

KEY PLAN

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1984 ANDREW W. FRICHTL

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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

TYPICAL LEVELS 4-6 SOUTH - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER P4-2.04a
SCALE 1/8" = 1'-0"	

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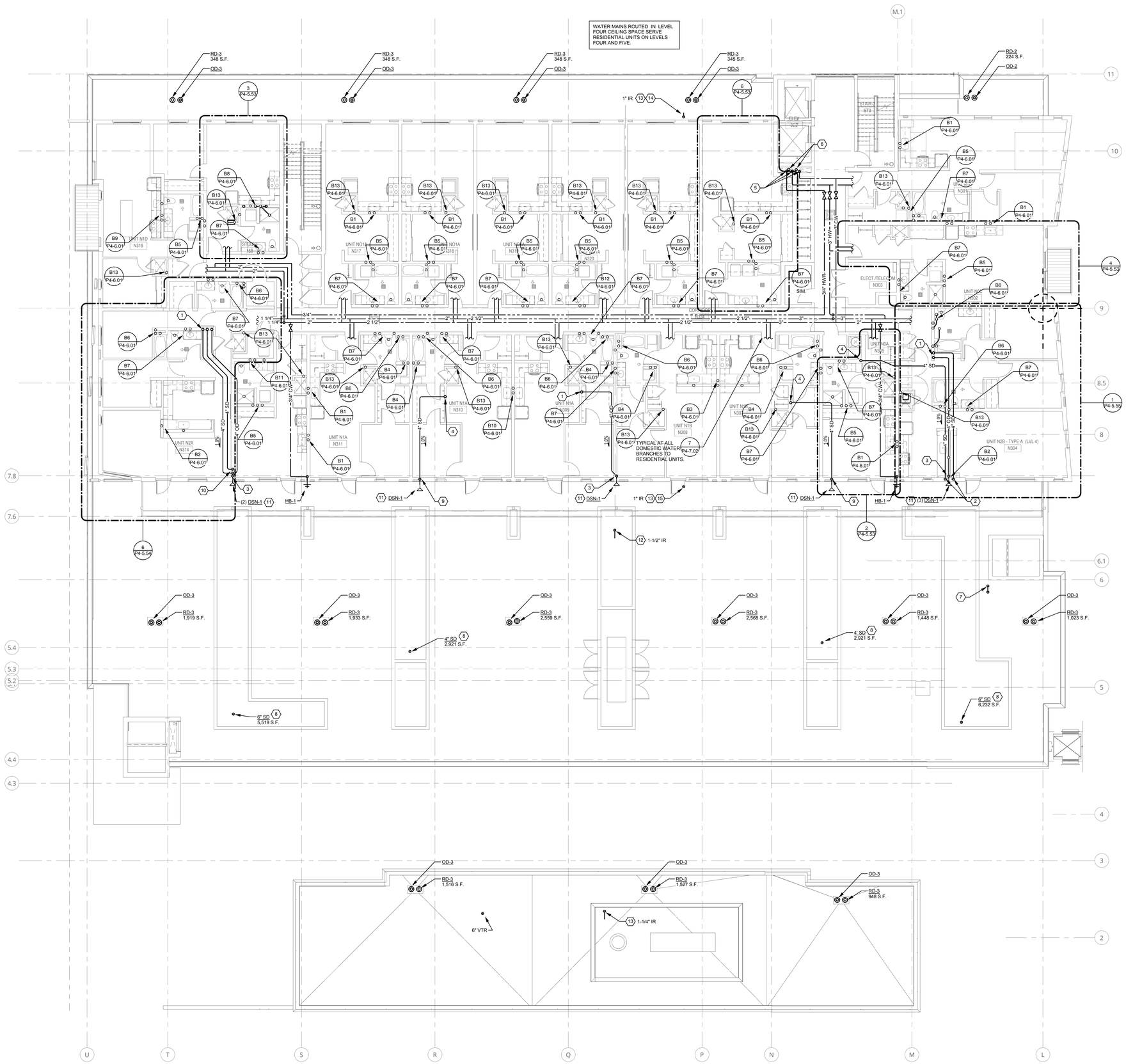


1 LEVEL 4 NORTH - PLUMBING

1/8" = 1'-0"

SHEET KEYNOTES

1 4" STORM DRAIN AND 4" STORM DRAIN OVERLOW RISERS UP.

2 ROUTE 4" STORM DRAIN PIPING DOWN IN WALL. OFFSET IN WALL TO LINE UP VERTICALLY WITH STORM DRAIN OVERFLOW RISER IN WALL THEN EXTEND THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR. PROVIDE WITH TERMINATION FITTING DSN-1.

3 ROUTE 4" STORM DRAIN OVERFLOW PIPING DOWN IN WALL THEN EXTEND THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR. PROVIDE WITH OVERFLOW TERMINATION FITTING DSN-1.

4 4" STORM DRAIN RISER UP.

5 6" DOMESTIC COLD WATER, 3" DOMESTIC HOT WATER AND 1" HOT WATER RETURN RISERS IN CHASE. COORDINATE WITH HVAC AND FIRE SPRINKLER PIPING IN CHASE. EXTEND UP TO MECHANICAL PENTHOUSE ON ROOF. PROVIDE COLD WATER, HOT WATER AND HOT WATER RETURN BRANCHES ON EACH RESIDENTIAL LEVEL FOR DISTRIBUTION TO UNITS.

6 1-1/2" NATURAL GAS AND 6" VENT RISERS IN CHASE. COORDINATE WITH HVAC AND FIRE SPRINKLER PIPING IN CHASE. EXTEND UP TO MECHANICAL PENTHOUSE ON ROOF.

7 NATURAL GAS ROOM EXHAUST VENT UP THROUGH ROOF. TERMINATE WITH 90 DEGREE TURNDOWN, PROVIDE WITH BRASS OR STAINLESS STEEL BUGSCREEN.

8 EXTEND STORM DRAIN PIPING UP INTO FLOW-THRU PLANTER. PROVIDE WITH SANITARY TEE FOR CONNECTION TO DRAINS PROVIDED BY LANDSCAPE ARCHITECT. SET INVERT OF TEE TO BE FLUSH WITH BOTTOM OF PLANTER. SEE LANDSCAPE DRAWING DETAIL(S). COORDINATE LOCATION WITH LANDSCAPE ARCHITECT.

9 ROUTE 4" STORM DRAIN PIPING DOWN IN WALL THEN EXTEND THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR. PROVIDE WITH TERMINATION FITTING DSN-1.

10 COMBINE TWO (2) 4" STORM DRAIN LINES INTO SINGLE 4" LINE, ROUTE DOWN IN WALL. OFFSET IN WALL TO LINE UP VERTICALLY WITH STORM DRAIN OVERFLOW RISER IN WALL THEN EXTEND THROUGH WALL TO DAYLIGHT AT BUILDING EXTERIOR. PROVIDE WITH TERMINATION FITTING DSN-1.

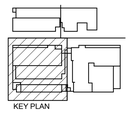
11 STORM DRAIN AND/OR STORM DRAIN OVERFLOW DSN-1(S) ARE TO BE STACKED VERTICALLY TO DISCHARGE INDIRECT TO RUNNEL PROVIDED BY LANDSCAPE ARCHITECT. COORDINATE LOCATION AND ELEVATION(S) OF DSN-1(S) WITH LANDSCAPE ARCHITECT.

12 SEE 3/P4-2.03b FOR CONTINUATION.

13 SEE SHEET P4-2.02b FOR CONTINUATION.

14 1" IRRIGATION PIPING UP THROUGH ROOF FROM BELOW. COORDINATE ALL ROOF PENETRATIONS AND FLASHING WITH ARCHITECTURAL REQUIREMENTS FOR ROOFING SYSTEM. ROUTE FOR CONNECTION TO THE IRRIGATION SYSTEM. PROVIDE WITH ACCESSIBLE SHUT-OFF VALVE. COORDINATE CONNECTION REQUIREMENTS AND LOCATION WITH LANDSCAPE ARCHITECT.

15 1" IRRIGATION PIPING UP THROUGH ROOF FROM BELOW. COORDINATE ALL ROOF PENETRATIONS AND FLASHING WITH ARCHITECTURAL REQUIREMENTS FOR ROOFING SYSTEM. ROUTE FOR CONNECTION TO THE IRRIGATION SYSTEM IN TRENCH. PROVIDE WITH ACCESSIBLE SHUT-OFF VALVE. COORDINATE CONNECTION REQUIREMENTS AND LOCATION WITH LANDSCAPE ARCHITECT.


KEY PLAN

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1984 ANDREW W. FRICHTL
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

LEVEL 4 NORTH - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER
SCALE 1/8" = 1'-0"	P4-2.04b

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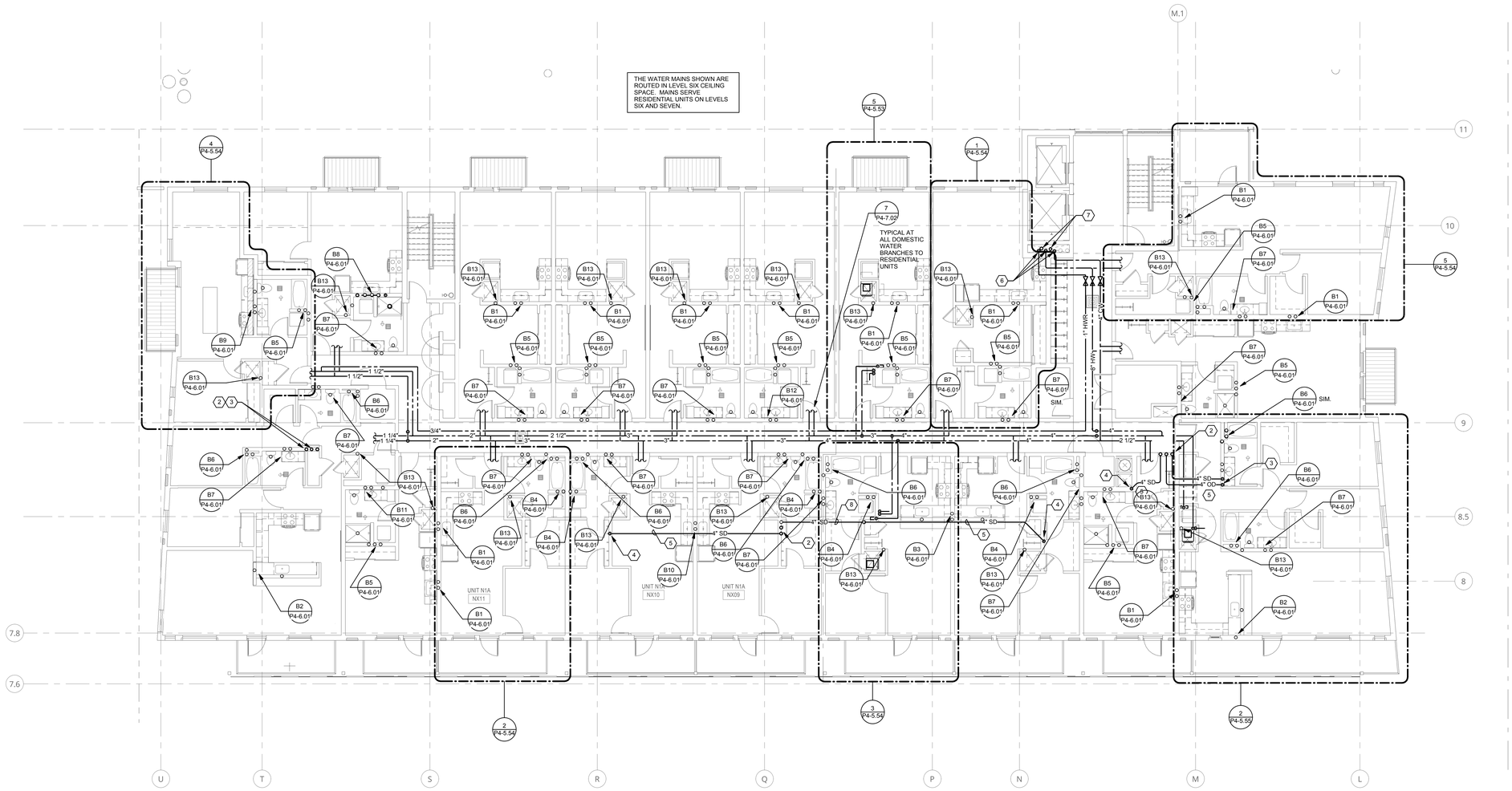
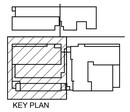


1 LEVELS 5 AND 6 NORTH - PLUMBING

1/8" = 1'-0"

SHEET KEYNOTES

1. 4" STORM DRAIN RISER UP.
2. 4" STORM DRAIN AND 4" OVERFLOW RISERS UP.
3. 4" STORM DRAIN AND 4" OVERFLOW RISERS DOWN.
4. 4" STORM DRAIN RISER DOWN.
5. EXCEPT AS NOTED, OFFSET SHOWN FOR THE 4" STORM DRAIN AND/OR 4" STORM DRAIN OVERFLOW PIPING RISERS ONLY OCCURS ONCE, IN LEVEL 5 CEILING SPACE.
6. 6" DOMESTIC COLD WATER, 6" DOMESTIC HOT WATER AND 1-1/4" HOT WATER RETURN RISERS IN CHASE. COORDINATE WITH HVAC AND FIRE SPRINKLER PIPING IN CHASE. EXTEND UP TO MECHANICAL PENTHOUSE ON ROOF. PROVIDE COLD WATER, HOT WATER AND HOT WATER RETURN BRANCHES ON EACH RESIDENTIAL LEVEL FOR DISTRIBUTION TO UNITS.
7. 1-1/2" NATURAL GAS AND 6" VENT RISERS IN CHASE. COORDINATE WITH HVAC AND FIRE SPRINKLER PIPING IN CHASE. EXTEND UP TO MECHANICAL PENTHOUSE ON ROOF.
8. 4" SD OFFSET IN LEVEL 6 CEILING SPACE.



KEY PLAN

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT 28, 2004 ANDREW W. FRICOTT

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

LEVEL 5 NORTH - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER P4-2.05b
SCALE 1/8" = 1'-0"	

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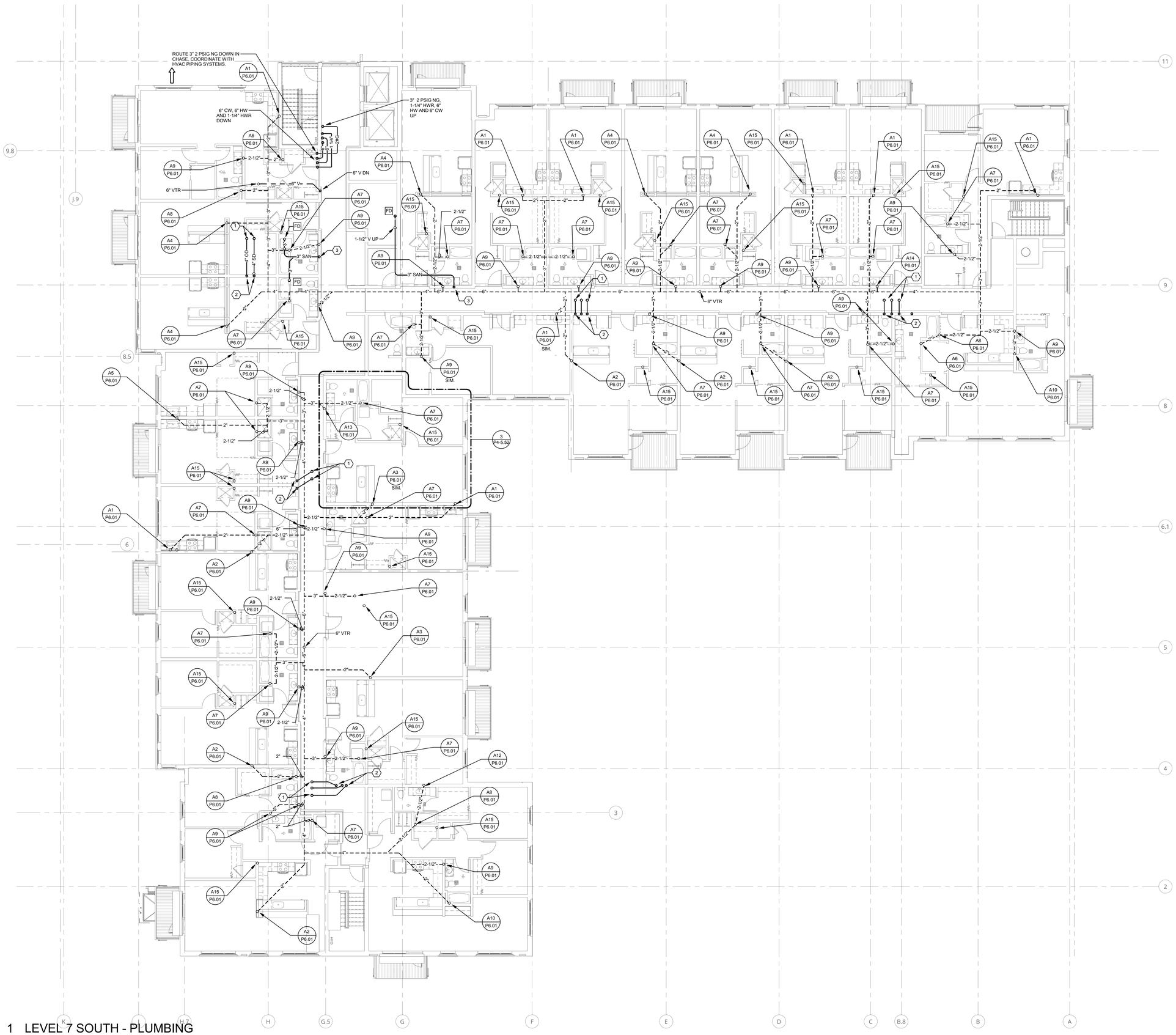
SHEET KEYNOTES

1 ROUTE STORM DRAIN AND STORM DRAIN OVERFLOW PIPING UP FOR CONNECTION TO ROOF DRAIN AND OVERFLOW DRAIN.

2 ROUTE 4" STORM AND AND/OR 4" STORM DRAIN OVERFLOW PIPING DOWN IN WALL TO LEVELS BELOW.

3 EXTEND 3" WASTE DOWN IN WALL TO CONNECT TO WASTE RISER.



1 LEVEL 7 SOUTH - PLUMBING

0' 4' 8' 16'
1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 2004 ANDREW W. FRICHTL

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REVISION	DATE	REASON FOR ISSUE

LEVEL 7 SOUTH - PLUMBING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER P4-2.07a
SCALE 1/8" = 1'-0"	

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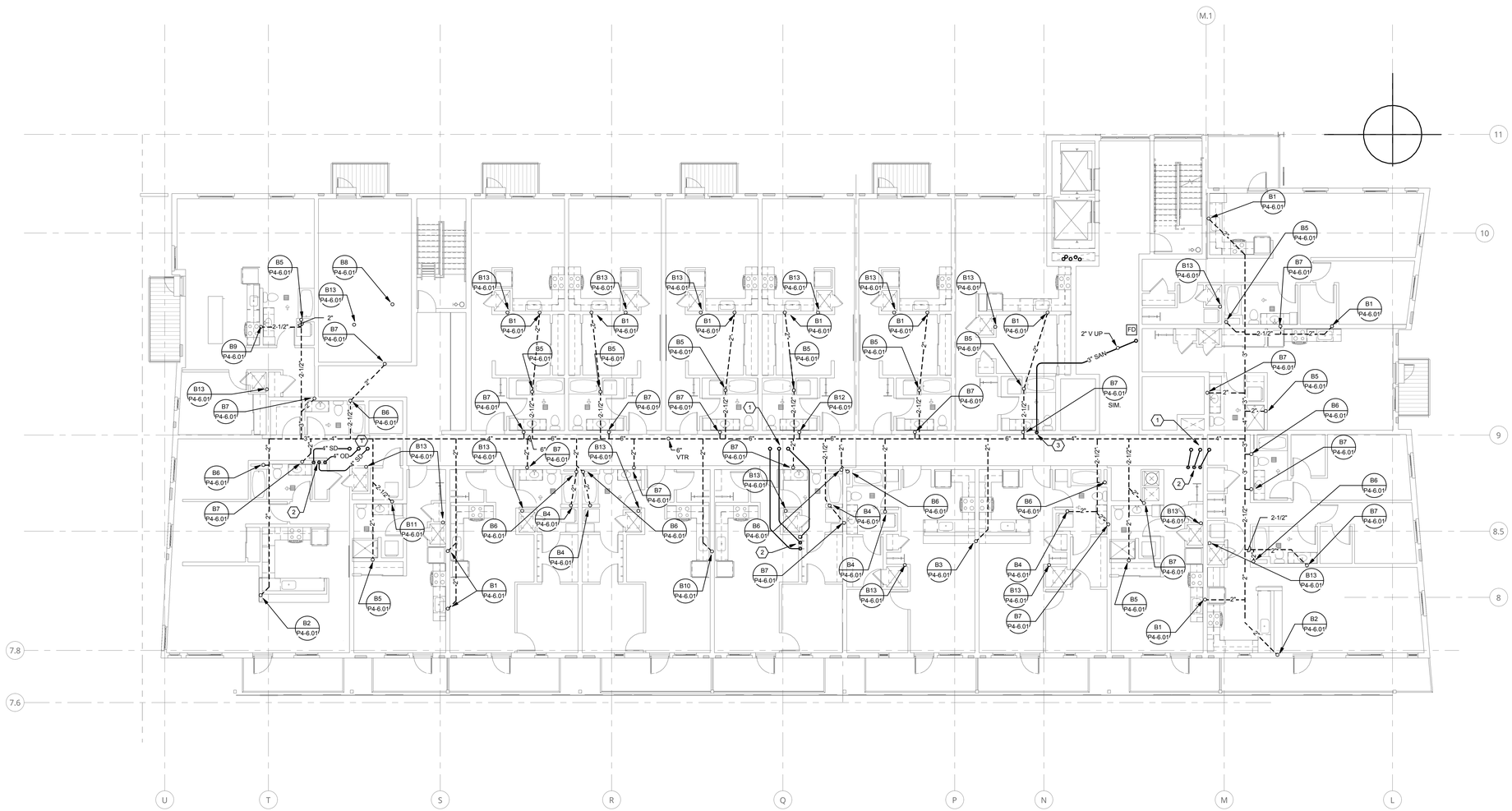
SHEET KEYNOTES

1 ROUTE STORM DRAIN AND STORM DRAIN OVERFLOW PIPING UP FOR CONNECTION TO ROOF DRAIN AND OVERFLOW DRAIN.

2 ROUTE 4" STORM AND AND/OR 4" STORM DRAIN OVERFLOW PIPING DOWN IN WALL TO LEVELS BELOW.

3 EXTEND 3" WASTE DOWN IN WALL TO CONNECT TO WASTE RISER.



1 LEVEL 7 NORTH - PLUMBING

0' 4' 8' 16'
1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 2004 ANDREW W. FRICHTL

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REVISION	DATE	REASON FOR ISSUE

LEVEL 7 NORTH - PLUMBING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER
SCALE 1/8" = 1'-0"	P4-2.07b

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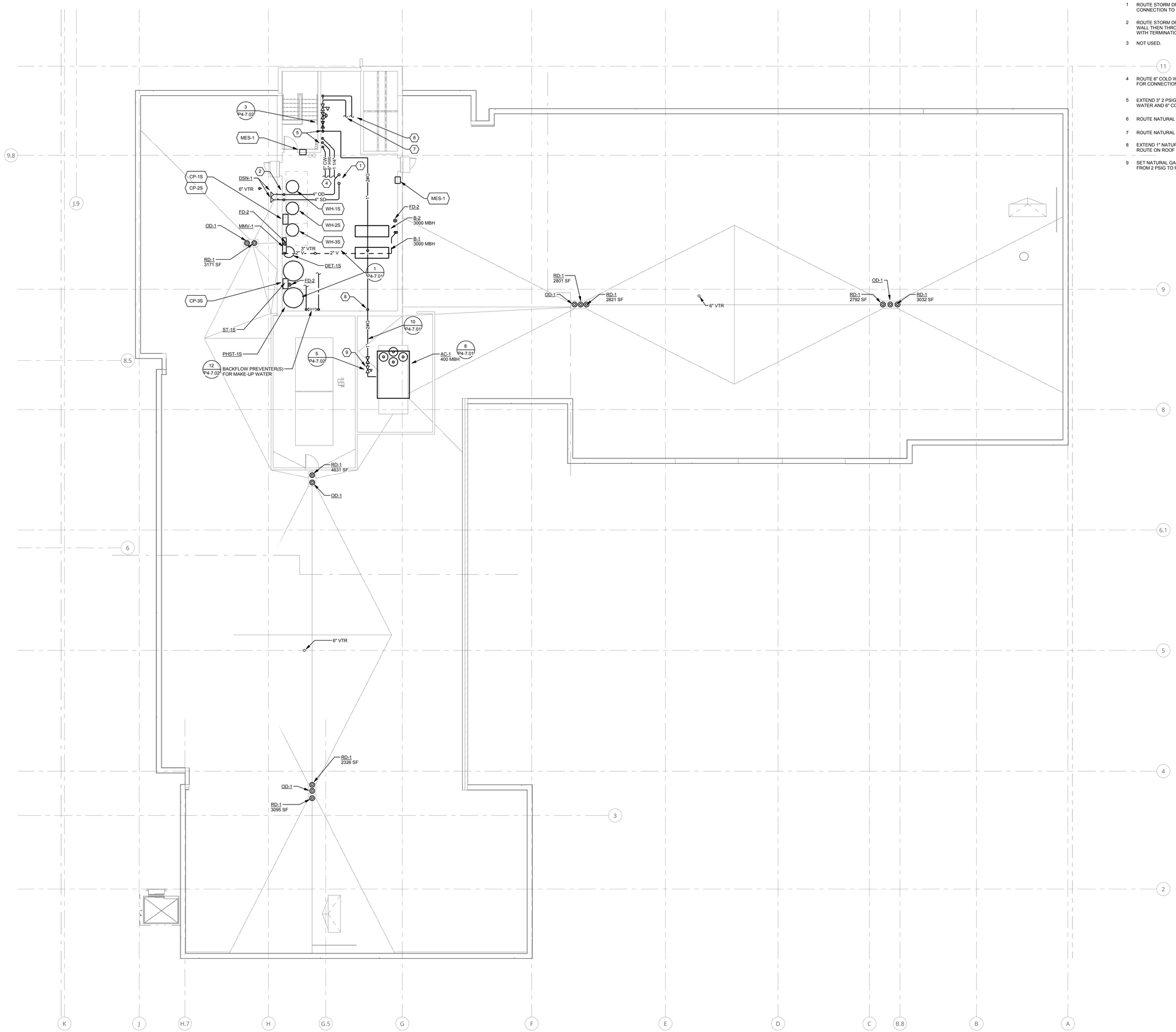


SHEET KEYNOTES

1 ROUTE STORM DRAIN AND STORM DRAIN OVERFLOW PIPING UP FOR CONNECTION TO ROOF DRAIN AND OVERFLOW DRAIN.

2 ROUTE STORM DRAIN AND STORM DRAIN OVERFLOW PIPING DOWN ALONG WALL THEN THROUGH WALL TO DAYLIGHT OVER LOWER ROOF. PROVIDE WITH TERMINATION FITTING DSN-1.

3 NOT USED.

4 ROUTE 6" COLD WATER, 6" HOT WATER AND 1-1/2' HOT WATER RETURN FOR CONNECTION TO WATER HEATING SYSTEM.

5 EXTEND 3" 2 PSIG NATURAL GAS, 1-1/4" HOT WATER RETURN, 6" HOT WATER AND 6" COLD WATER DOWN TO LEVEL BELOW.

6 ROUTE NATURAL GAS PIPING FOR CONNECTION TO HVAC BOILERS.

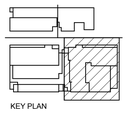
7 ROUTE NATURAL GAS PIPING FOR CONNECTION TO WATER HEATERS.

8 EXTEND 1" NATURAL GAS DOWN ALONG WALL THEN THROUGH WALL TO ROUTE ON ROOF FOR CONNECTION TO ROOFTOP MECHANICAL UNIT.

9 SET NATURAL GAS PRESSURE REGULATOR TO REDUCE LINE PRESSURE FROM 2 PSIG TO PRESSURE AS REQURED BY EQUIPMENT.

1 MECHANICAL ROOF SOUTH - PLUMBING

0' 4' 8' 16'
1/8" = 1'-0"



KEY PLAN

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT 28, 2004 ANDREW W. FRICHTL

EXPIRES: 12/31/15

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Portland, OR 97201
T 503-382-2266
PROJECT 2012-0522
CONTACT Scott Holum

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

MECHANICAL ROOF SOUTH - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER P4-2.91a
SCALE 1/8" = 1'-0"	

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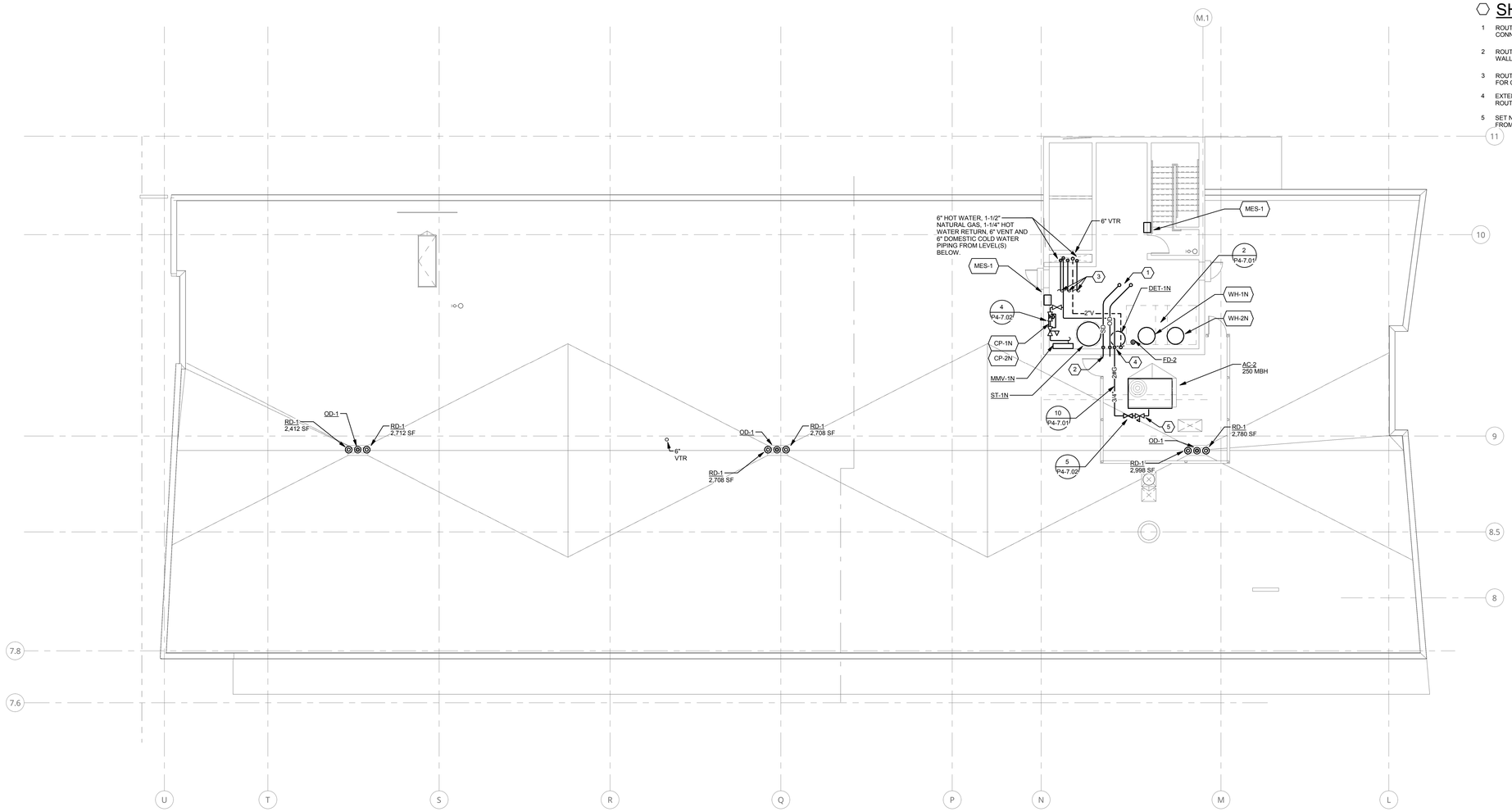
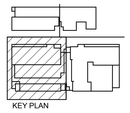


1 MECHANICAL ROOF NORTH - PLUMBING

0' 4' 8' 16'
1/8" = 1'-0"

SHEET KEYNOTES

1. ROUTE STORM DRAIN AND STORM DRAIN OVERFLOW PIPING UP FOR CONNECTION TO ROOF DRAIN AND OVERFLOW DRAIN.
2. ROUTE STORM DRAIN AND STORM DRAIN OVERFLOW PIPING DOWN ALONG WALL THEN THROUGH WALL TO DAYLIGHT OVER LOWER ROOF.
3. ROUTE 6" HOT WATER, 1-1/4" HOT WATER RETURN AND 6" COLD WATER FOR CONNECTION TO WATER HEATING SYSTEM.
4. EXTEND 3/4" NATURAL GAS DOWN ALONG WALL THEN THROUGH WALL TO ROUTE ON ROOF FOR CONNECTION TO ROOFTOP MECHANICAL UNIT.
5. SET NATURAL GAS PRESSURE REGULATOR TO REDUCE LINE PRESSURE FROM 2 PSIG TO PRESSURE AS REQUIRED BY EQUIPMENT.


KEY PLAN

REGISTERED PROFESSIONAL ENGINEER
17430
OREGON
SEPT 28, 2004
ANDREW W. FRICHTL
EXPIRES: 12/31/15

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T 503-382-2266
PROJECT 2012-0522
CONTACT Scott Holum

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

MECHANICAL ROOF NORTH - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER
SCALE 1/8" = 1'-0"	P4-2.91b

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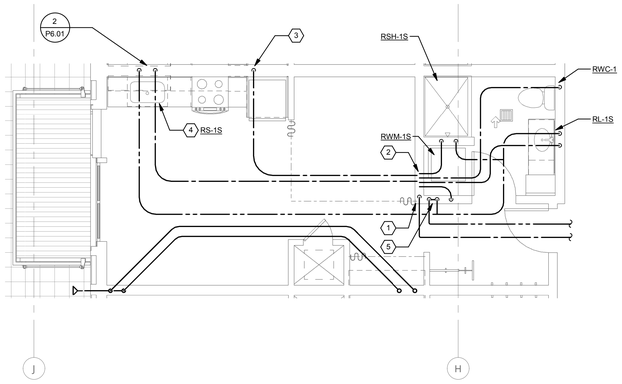
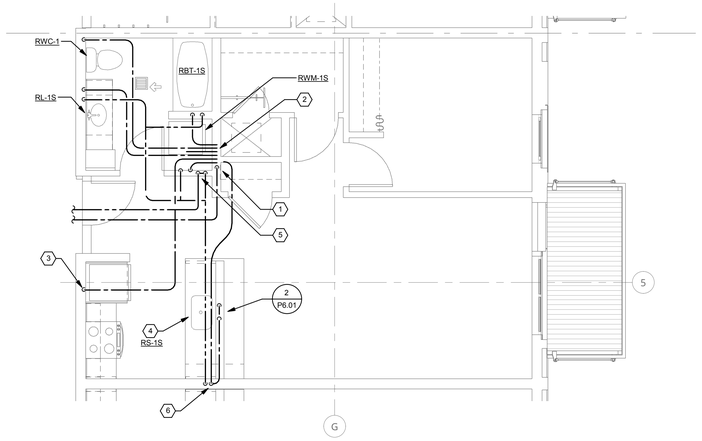


1 ENLARGED TYP. UNIT SOA - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"

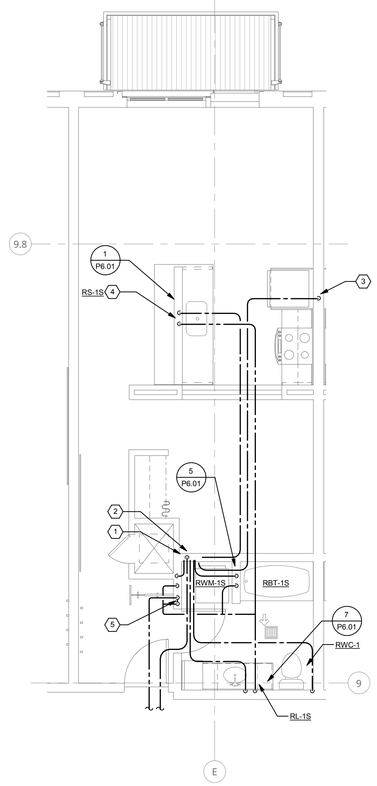


5 ENLARGED TYP. UNIT S1B - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"

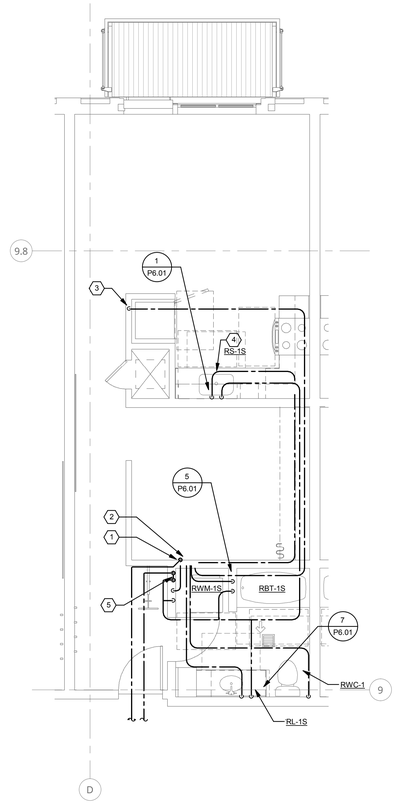
SHEET KEYNOTES

1. EXTEND 3/4" COLD WATER DOWN FOR CONNECTION TO COLD WATER PEX MANIFOLD.
2. COLD WATER PEX MANIFOLD.
3. PROVIDE COLD WATER STUB WITH ACCESSIBLE SHUT-OFF VALVE IN SUPPLY BOX FOR CONNECTION TO REFRIGERATOR ICE-MAKER.
4. PROVIDE SEPARATE HOT WATER ANGLE STOP BENEATH SINK FOR DISHWASHER. PROVIDE DISHWASHER WASTE CONNECTION ON SINK TAILPIECE.
5. EXTEND 3/4" HOT WATER DOWN IN WALL. PROVIDE WITH ACCESSIBLE SHUT-OFF VALVE. EXTEND 3/4" HW PEX PIPING FROM VALVE UP IN WALL TO ROUTE IN CEILING SPACE AS SHOWN FOR CONNECTION TO FIXTURES.
6. EXTEND 1/2" COLD WATER PEX PIPING AND 1/2" HOT WATER PEX PIPING DOWN IN WALL THEN IN LOW WALL FOR CONNECTION TO SINK.



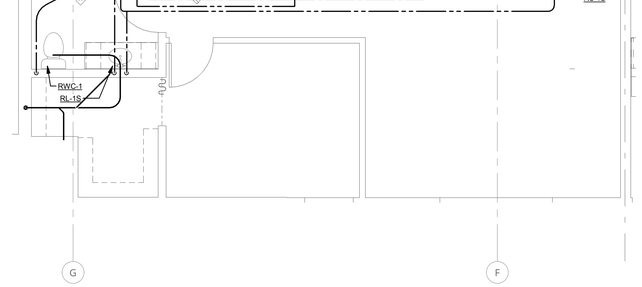
2 ENLARGED TYP. UNIT SO1A - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



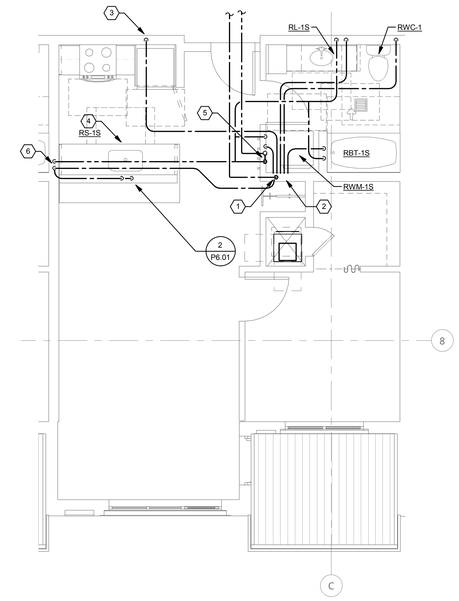
3 ENLARGED TYP. UNIT SO1B - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



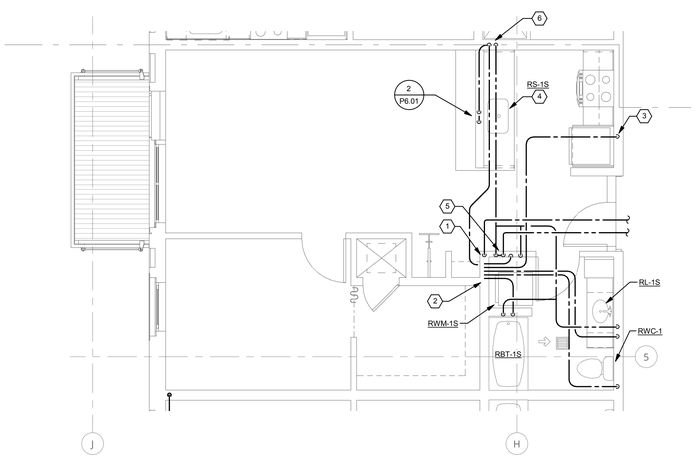
6 ENLARGED TYP. UNIT S1D - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



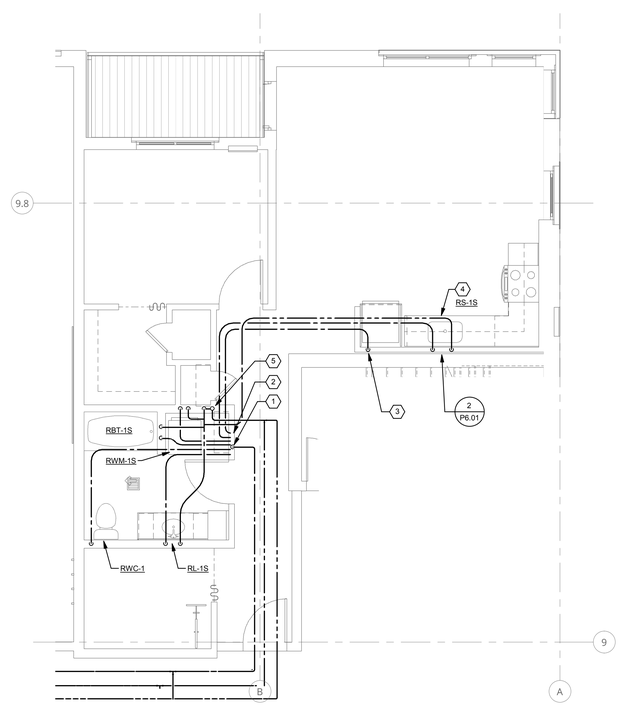
7 ENLARGED TYP. UNIT S1C - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



4 ENLARGED TYP. UNIT S1A - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



8 ENLARGED TYP. UNIT S1E - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
17430
OREGON
SEPT 28, 2004
ANDREW W. FRICHTL
EXPIRES: 12/31/15

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PROJECT 2012-0522
CONTACT Scott Holum

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

ENLARGED TYP UNIT PLANS - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER P4-5.51
SCALE 1/4" = 1'-0"	

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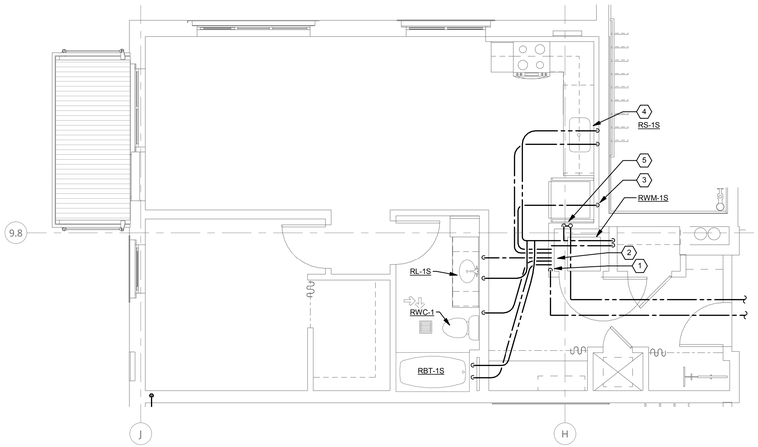
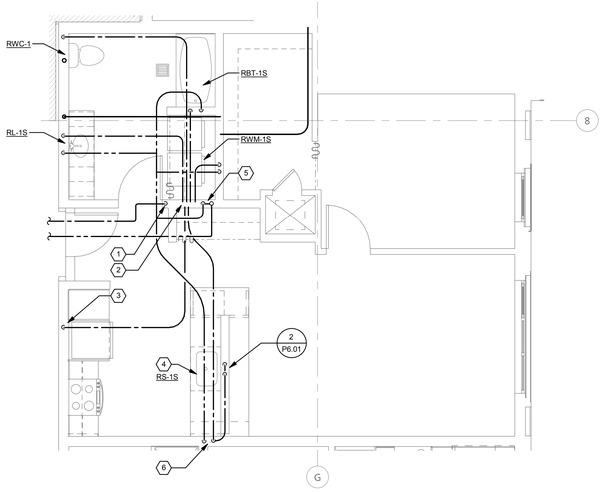
SHEET KEYNOTES

1. EXTEND 3/4" COLD WATER DOWN FOR CONNECTION TO COLD WATER PEX MANIFOLD.
2. COLD WATER PEX MANIFOLD.
3. PROVIDE COLD WATER STUB WITH ACCESSIBLE SHUT-OFF VALVE IN SUPPLY BOX FOR CONNECTION TO REFRIGERATOR ICE-MAKER.
4. PROVIDE SEPARATE HOT WATER ANGLE STOP BENEATH SINK FOR DISHWASHER. PROVIDE DISHWASHER WASTE CONNECTION ON SINK TAILPIECE.
5. EXTEND 3/4" HOT WATER DOWN IN WALL, PROVIDE WITH ACCESSIBLE SHUT-OFF VALVE. EXTEND 3/4" HW PEX PIPING FROM VALVE UP IN WALL TO ROUTE IN CEILING SPACE AS SHOWN FOR CONNECTION TO FIXTURES.
6. EXTEND 1/2" COLD WATER PEX PIPING AND 1/2" HOT WATER PEX PIPING DOWN IN WALL THEN IN LOW WALL FOR CONNECTION TO SINK.



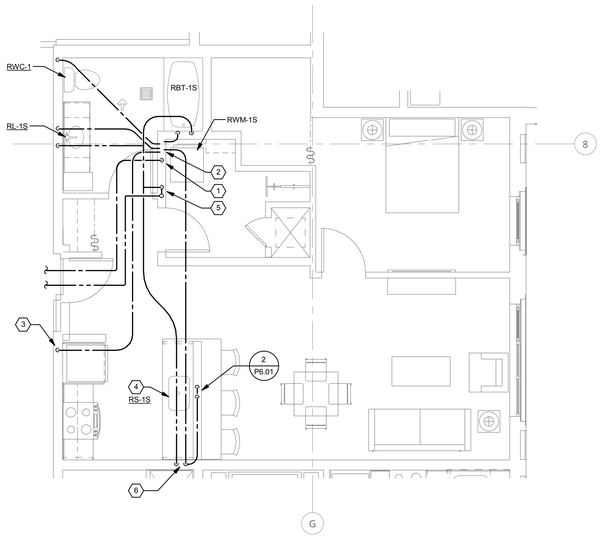
1 ENLARGED TYP. UNIT S1F - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



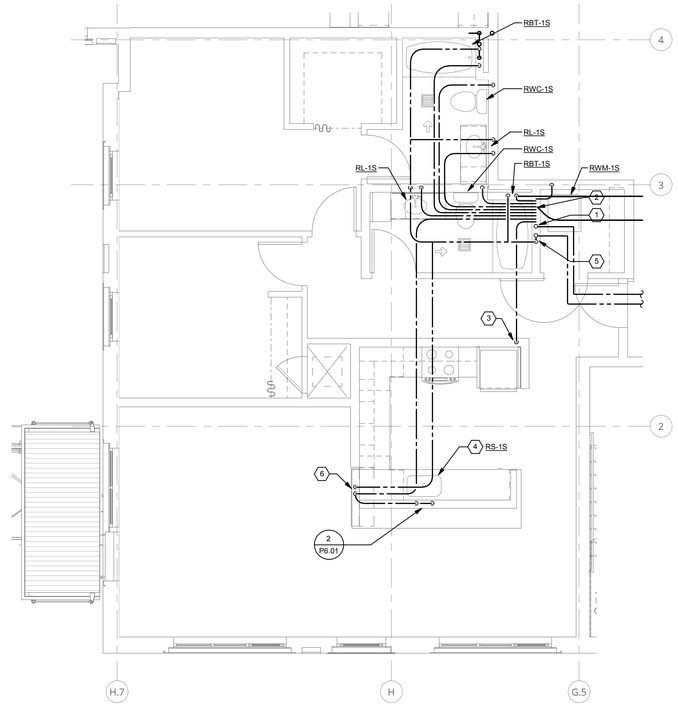
2 ENLARGED TYP. UNIT S1G TYPE A - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



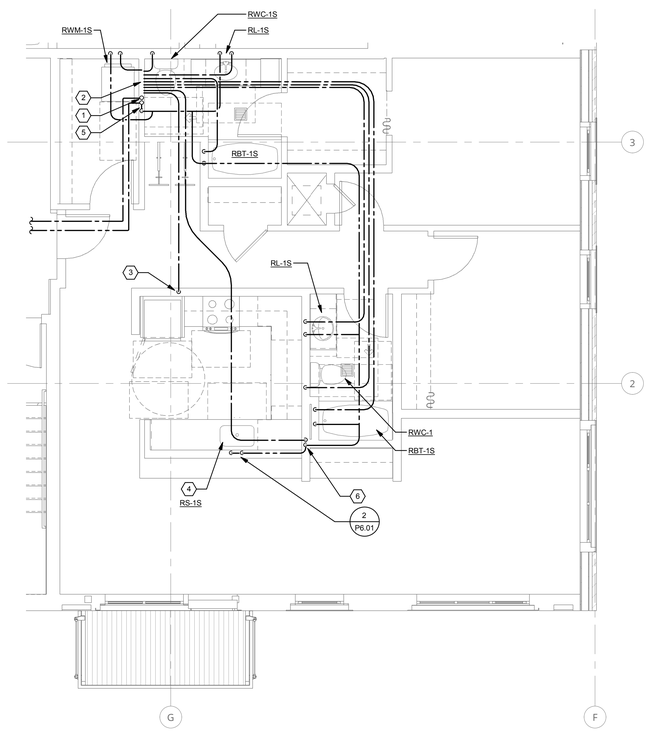
3 ENLARGED TYP. UNIT S1G TYPE B - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



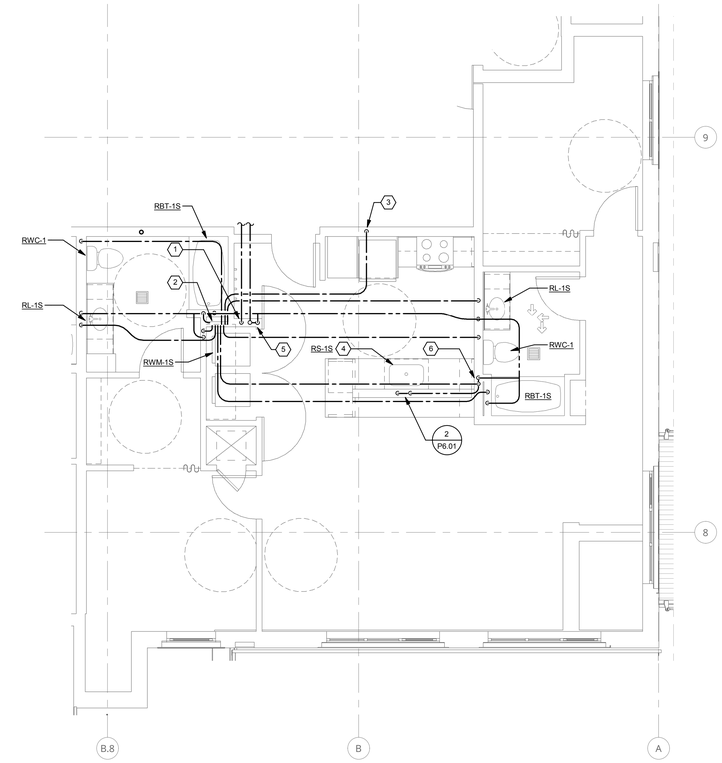
4 ENLARGED TYP. UNIT S2A - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



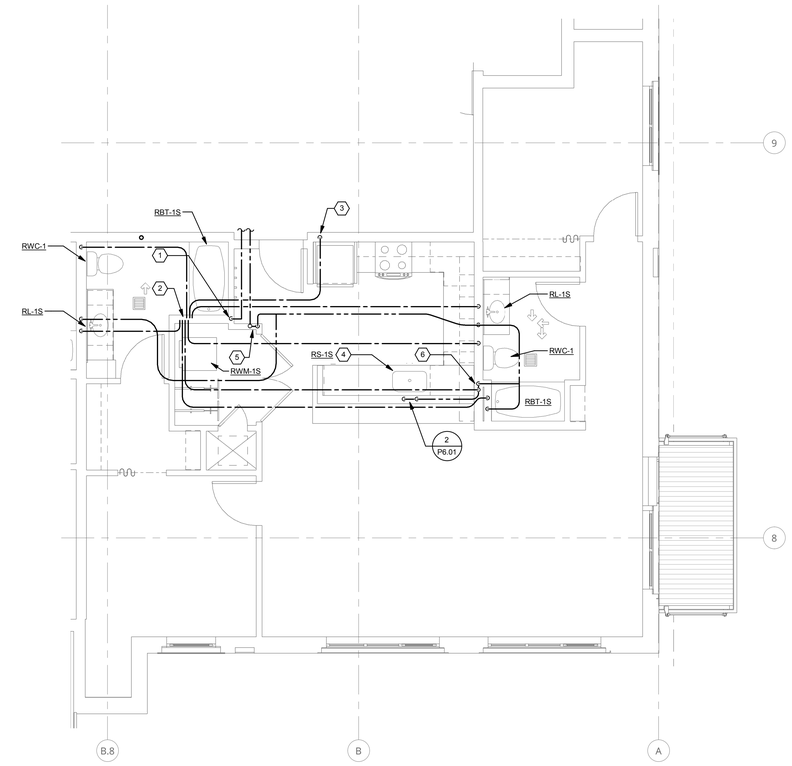
5 ENLARGED TYP. UNIT S2B - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



6 ENLARGED TYP. UNIT S2C TYPE A - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



7 ENLARGED TYP. UNIT S2C TYPE B - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1994 ANDREW W. FRICHTL

EXPIRES: 12/31/15

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CONTACT Scott Holum

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

ENLARGED TYP UNIT PLANS - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER P4-5.52
SCALE 1/4" = 1'-0"	

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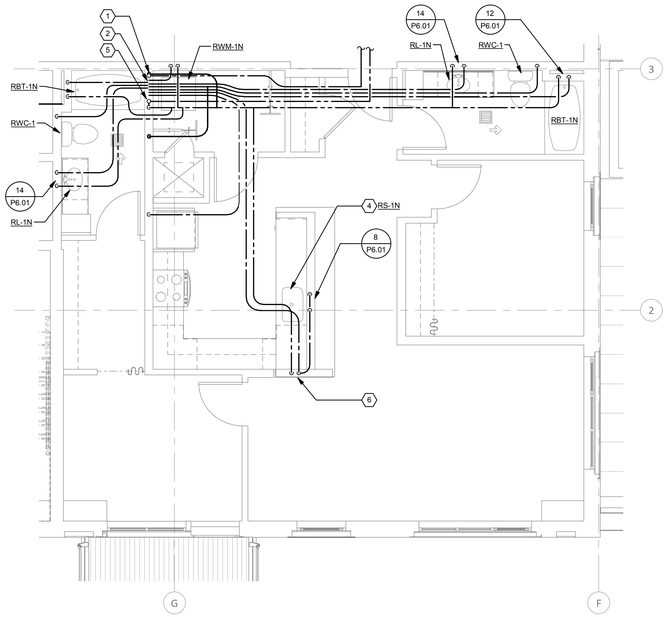
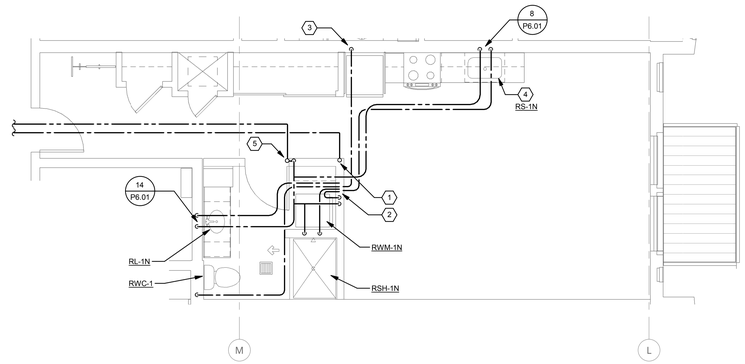


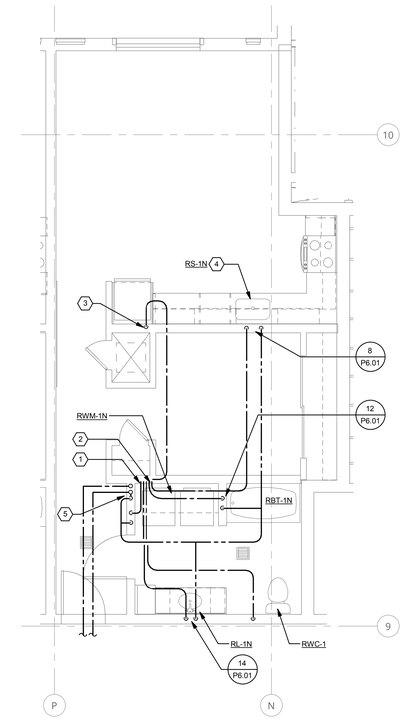
1 ENLARGED TYP. UNIT S2D - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



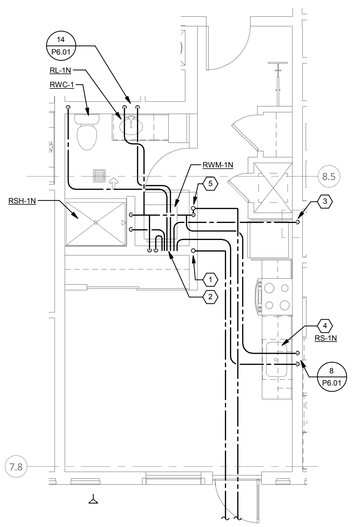
4 ENLARGED TYP. UNIT NOC - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



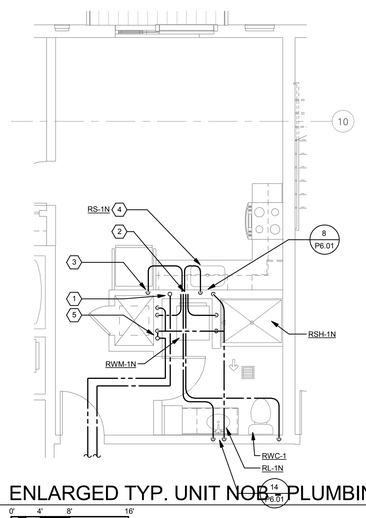
6 ENLARGED TYP. UNIT NO1B - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



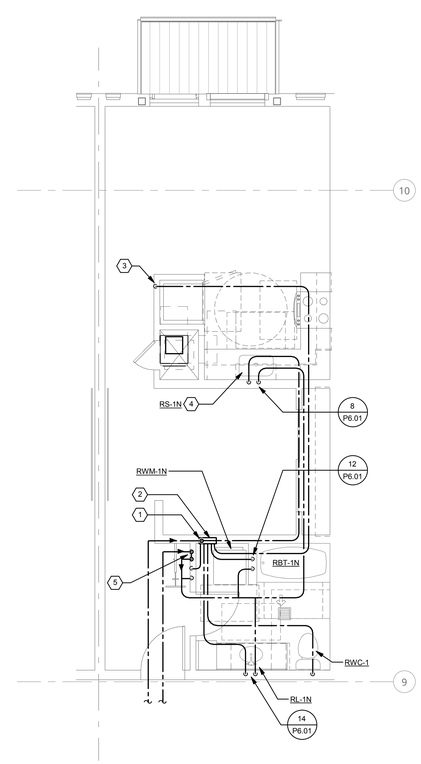
2 ENLARGED TYP. UNIT NOA - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



3 ENLARGED TYP. UNIT NOB - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



5 ENLARGED TYP. UNIT NO1A - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"

SHEET KEYNOTES

1 EXTEND 3/4" COLD WATER DOWN FOR CONNECTION TO COLD WATER PEX MANIFOLD.

2 COLD WATER PEX MANIFOLD.

3 PROVIDE COLD WATER STUB WITH ACCESSIBLE SHUT-OFF VALVE IN SUPPLY BOX FOR CONNECTION TO REFRIGERATOR ICE-MAKER.

4 PROVIDE SEPARATE HOT WATER ANGLE STOP BENEATH SINK FOR DISHWASHER. PROVIDE DISHWASHER WASTE CONNECTION ON SINK TAILPIECE.

5 EXTEND 3/4" HOT WATER DOWN IN WALL. PROVIDE WITH ACCESSIBLE SHUT-OFF VALVE. EXTEND 3/4" HW PEX PIPING FROM VALVE UP IN WALL TO ROUTE IN CEILING SPACE AS SHOWN FOR CONNECTION TO FIXTURES.

6 EXTEND 1/2" COLD WATER PEX PIPING AND 1/2" HOT WATER PEX PIPING DOWN IN WALL THEN IN LOW WALL FOR CONNECTION TO SINK.

REGISTERED PROFESSIONAL ENGINEER
17430
OREGON
SEPT 28, 1994
ANDREW W. FRICHTL
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

ENLARGED TYP UNIT PLANS - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER P4-5.53
SCALE 1/4" = 1'-0"	

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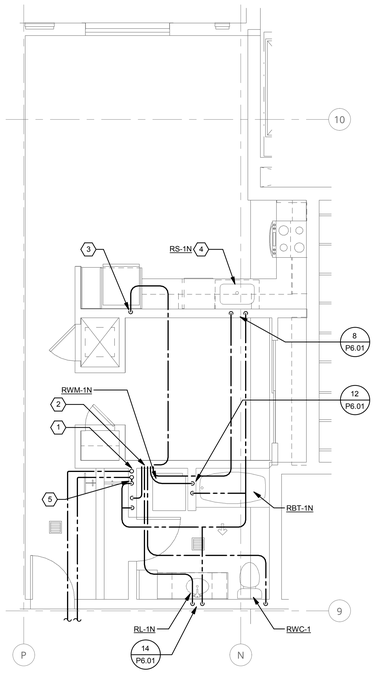
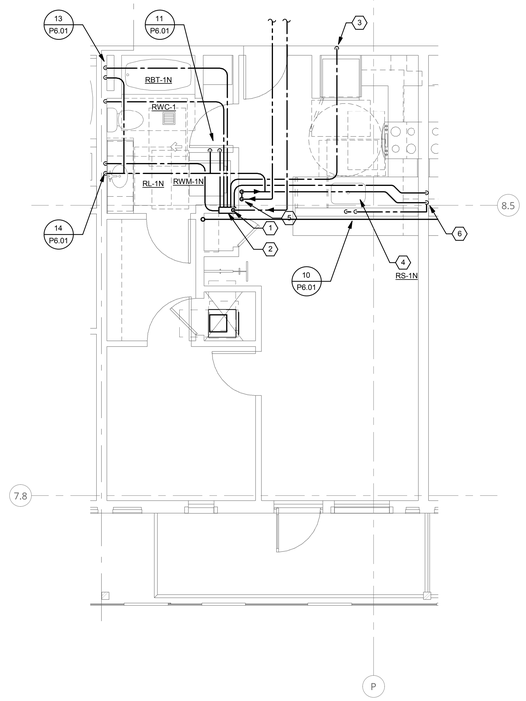


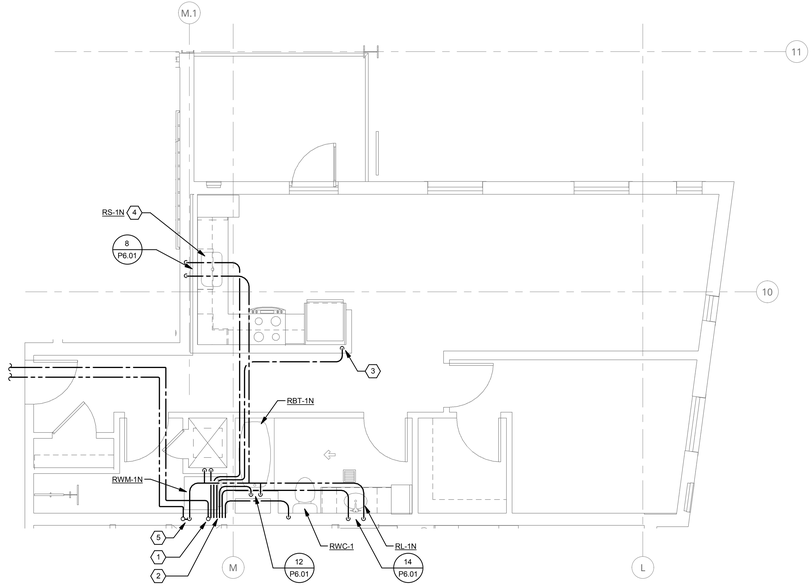
1 ENLARGED TYP. UNIT NO1B UNIT B - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



3 ENLARGED TYP. UNIT N1B - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



5 ENLARGED TYP. UNIT N1C - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"

SHEET KEYNOTES

1 EXTEND 3/4" COLD WATER DOWN FOR CONNECTION TO COLD WATER PEX MANIFOLD.

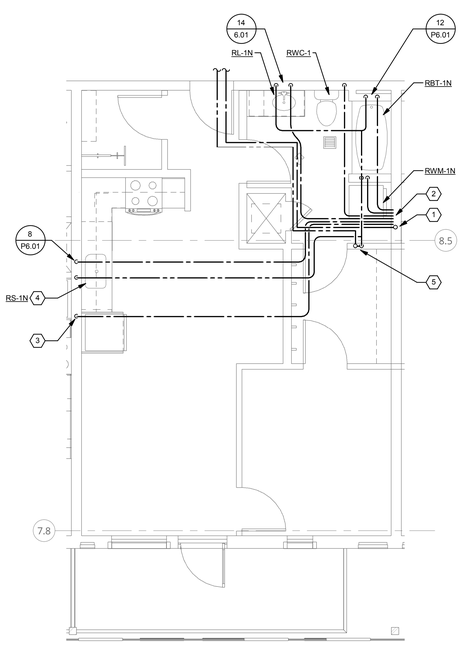
2 COLD WATER PEX MANIFOLD.

3 PROVIDE COLD WATER STUB WITH ACCESSIBLE SHUT-OFF VALVE IN SUPPLY BOX FOR CONNECTION TO REFRIGERATOR ICE-MAKER.

4 PROVIDE SEPARATE HOT WATER ANGLE STOP BENEATH SINK FOR DISHWASHER. PROVIDE DISHWASHER WASTE CONNECTION ON SINK TAILPIECE.

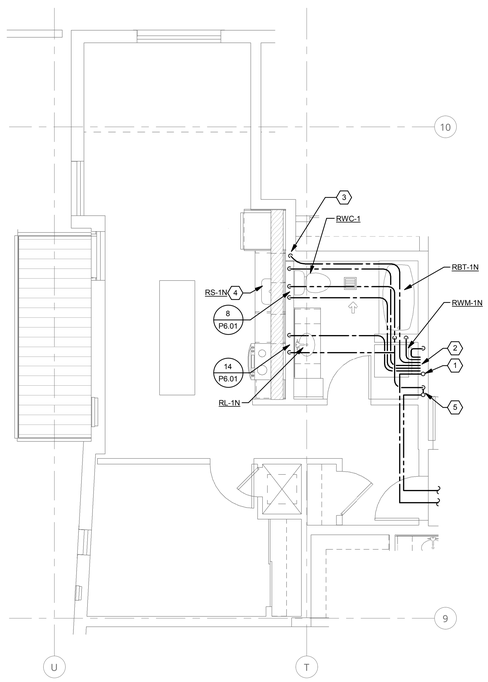
5 EXTEND 3/4" HOT WATER DOWN IN WALL. PROVIDE WITH ACCESSIBLE SHUT-OFF VALVE. EXTEND 3/4" HW PEX PIPING FROM VALVE UP IN WALL TO ROUTE IN CEILING SPACE AS SHOWN FOR CONNECTION TO FIXTURES.

6 EXTEND 1/2" COLD WATER PEX PIPING AND 1/2" HOT WATER PEX PIPING DOWN IN WALL THEN IN LOW WALL FOR CONNECTION TO SINK.



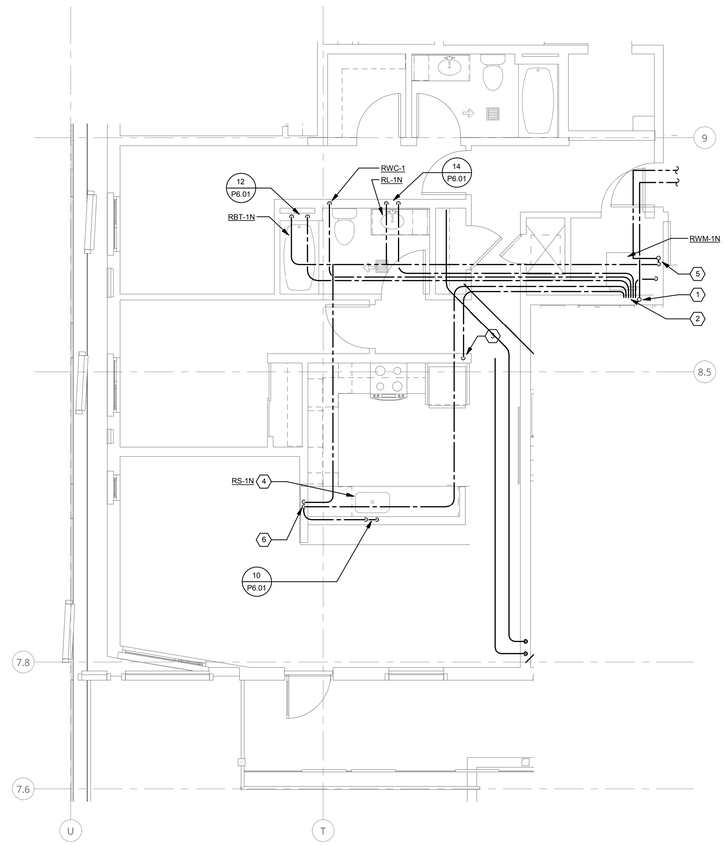
2 ENLARGED TYP. UNIT N1A - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



4 ENLARGED TYP. UNIT N1D - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"



6 ENLARGED TYP. UNIT N2A - PLUMBING

0' 4' 8' 16'
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT 28, 2004 ANDREW W. FRICHTL

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PROJECT 2012-0522
CONTACT Scott Holum

LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

ENLARGED TYP UNIT PLANS - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER P4-5.54
SCALE 1/4" = 1'-0"	

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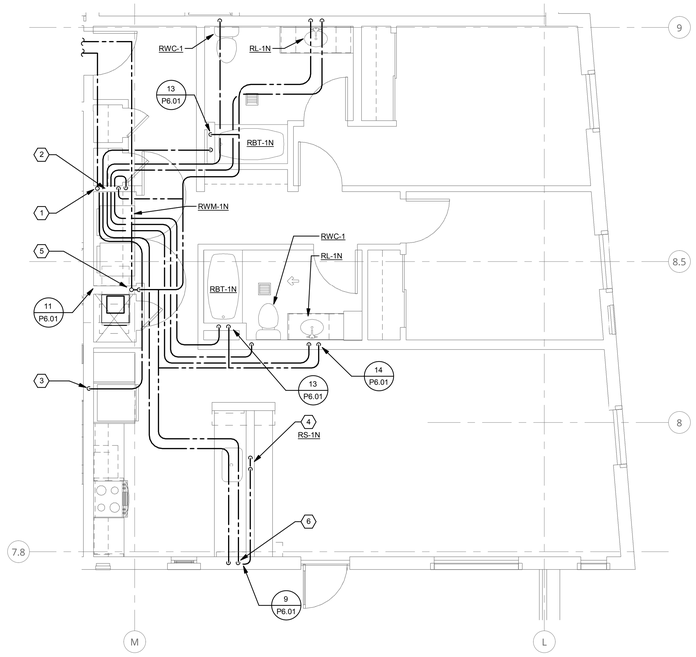
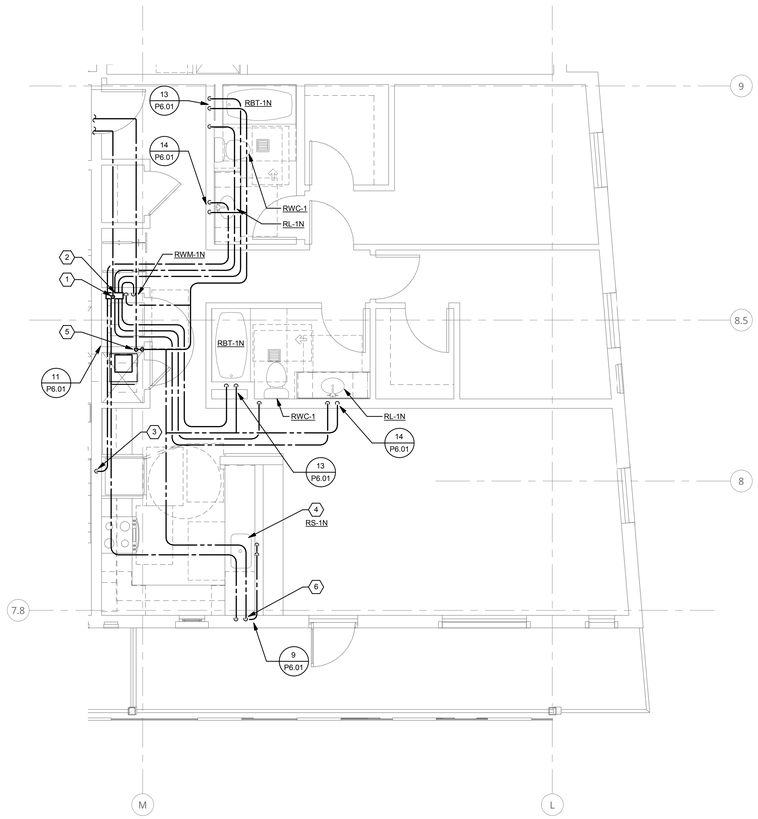


1 ENLARGED TYP. UNIT N2B (LVL 4) - PLUMBING

0' 4' 8' 16'

1/4" = 1'-0"



2 ENLARGED TYP. UNIT N2B (LVLS 5-7) - PLUMBING

0' 4' 8' 16'

1/4" = 1'-0"

SHEET KEYNOTES

1 EXTEND 3/4" COLD WATER DOWN FOR CONNECTION TO COLD WATER PEX MANIFOLD.

2 COLD WATER PEX MANIFOLD.

3 PROVIDE COLD WATER STUB WITH ACCESSIBLE SHUT-OFF VALVE IN SUPPLY BOX FOR CONNECTION TO REFRIGERATOR ICE-MAKER.

4 PROVIDE SEPARATE HOT WATER ANGLE STOP BENEATH SINK FOR DISHWASHER. PROVIDE DISHWASHER WASTE CONNECTION ON SINK TAILPIECE.

5 EXTEND 3/4" HOT WATER DOWN IN WALL. PROVIDE WITH ACCESSIBLE SHUT-OFF VALVE. EXTEND 3/4" HW PEX PIPING FROM VALVE UP IN WALL TO ROUTE IN CEILING SPACE AS SHOWN FOR CONNECTION TO FIXTURES.

6 EXTEND 1/2" COLD WATER PEX PIPING AND 1/2" HOT WATER PEX PIPING DOWN IN WALL THEN IN LOW WALL FOR CONNECTION TO SINK.

REGISTERED PROFESSIONAL ENGINEER
17430
OREGON
SEPT 28, 2004
ANDREW W. FRICHTL

EXPIRES: 12/31/15

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REVISION	DATE	REASON FOR ISSUE

ENLARGED TYP UNIT PLANS - PLUMBING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER P4-5.55
SCALE 1/4" = 1'-0"	

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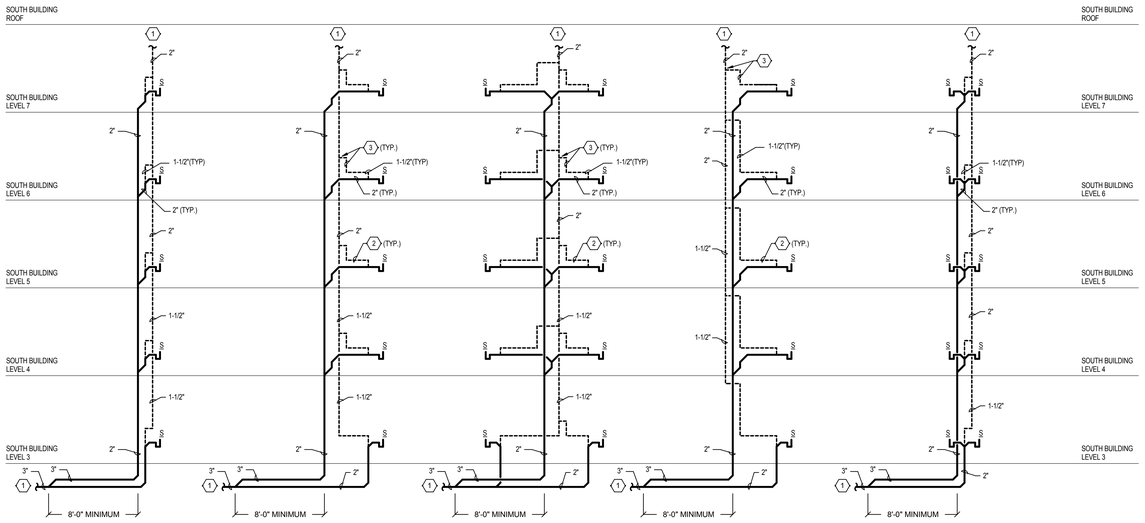
SHEET KEYNOTES

1. SEE FLOOR PLANS FOR CONTINUATION.
2. ROUTE HORIZONTAL VENT PIPING IN LOW WALL BEHIND SINK.
3. EXTEND VENT UP NOT LESS THAN SIX (6) INCHES ABOVE FLOOD RIM OF SINK BEFORE CONNECTING TO VENT RISER.
4. ROUTE TO TERMINATE INDIRECT AT FLOOR SINK OR FLOOR DRAIN IN PARKING LEVELS. SEE FLOOR PLANS FOR LOCATIONS OF RECEPTORS.



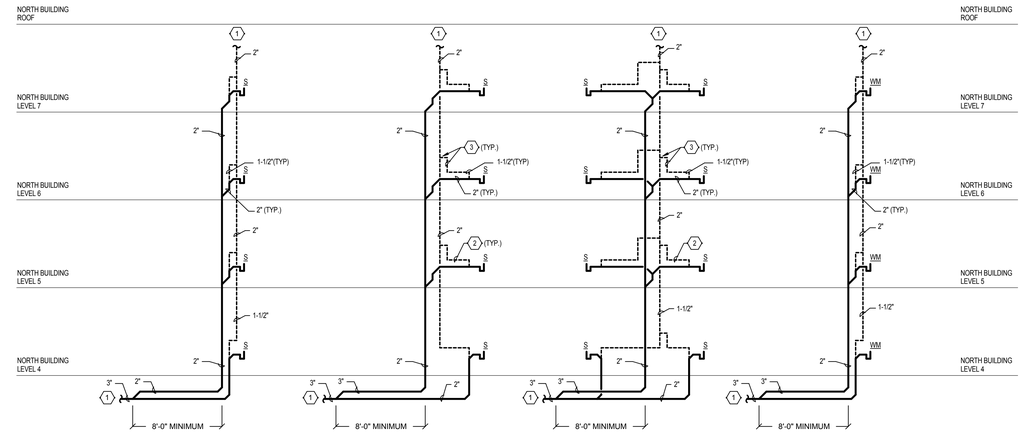
WASTE AND A1 VENT RISER
NO SCALE

WASTE AND A2 VENT RISER
NO SCALE

WASTE AND A3 VENT RISER
NO SCALE

WASTE AND A4 VENT RISER
NO SCALE

WASTE AND A5 VENT RISER
NO SCALE

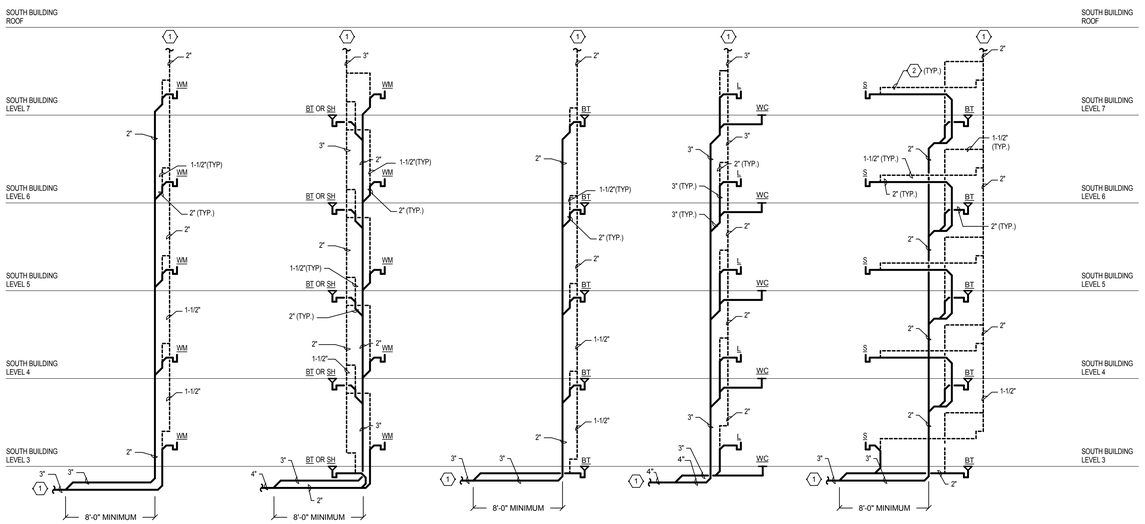


WASTE AND B1 VENT RISER
NO SCALE

WASTE AND B2 VENT RISER
NO SCALE

WASTE AND B3 VENT RISER
NO SCALE

WASTE AND B4 VENT RISER
NO SCALE



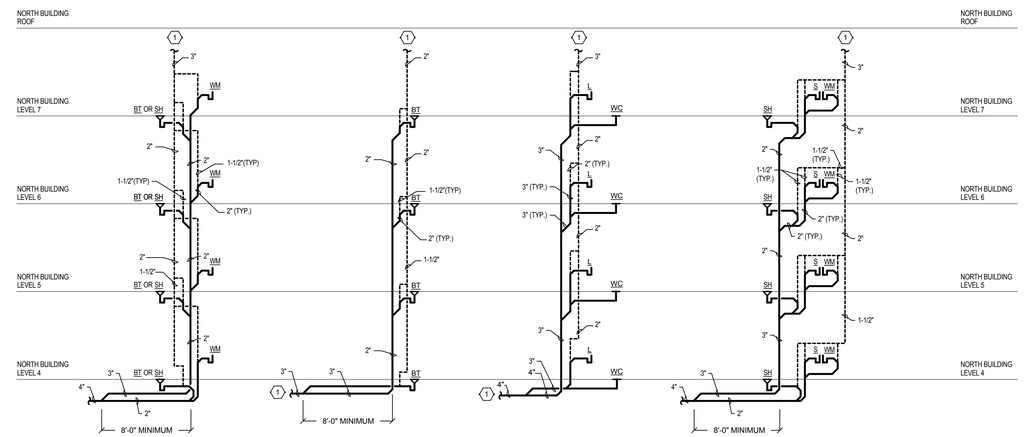
WASTE AND A6 VENT RISER
NO SCALE

WASTE AND A7 VENT RISER
NO SCALE

WASTE AND A8 VENT RISER
NO SCALE

WASTE AND A9 VENT RISER
NO SCALE

WASTE AND A10 VENT RISER
NO SCALE

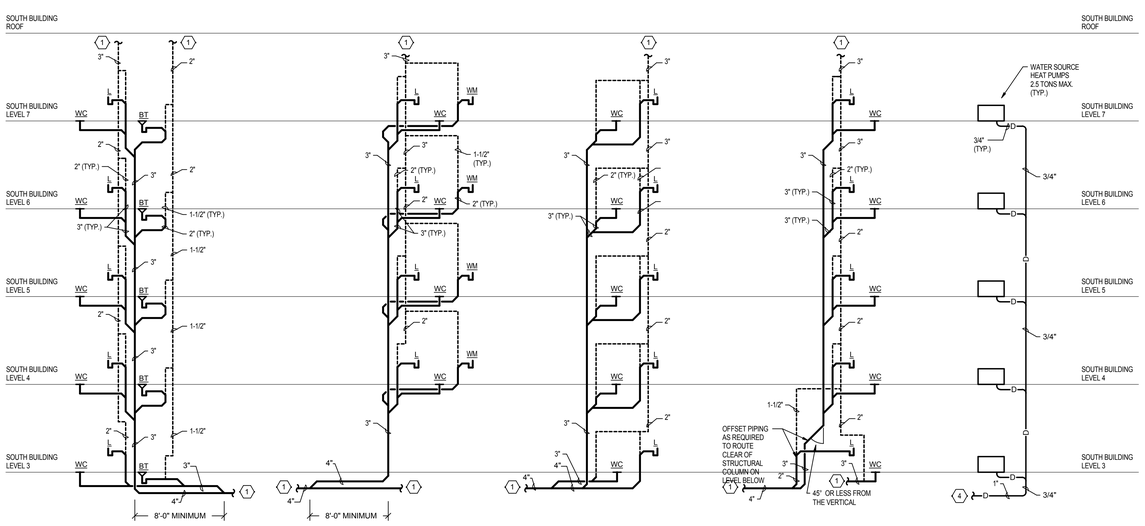


WASTE AND B5 VENT RISER
NO SCALE

WASTE AND B6 VENT RISER
NO SCALE

WASTE AND B7 VENT RISER
NO SCALE

WASTE AND B8 VENT RISER
NO SCALE



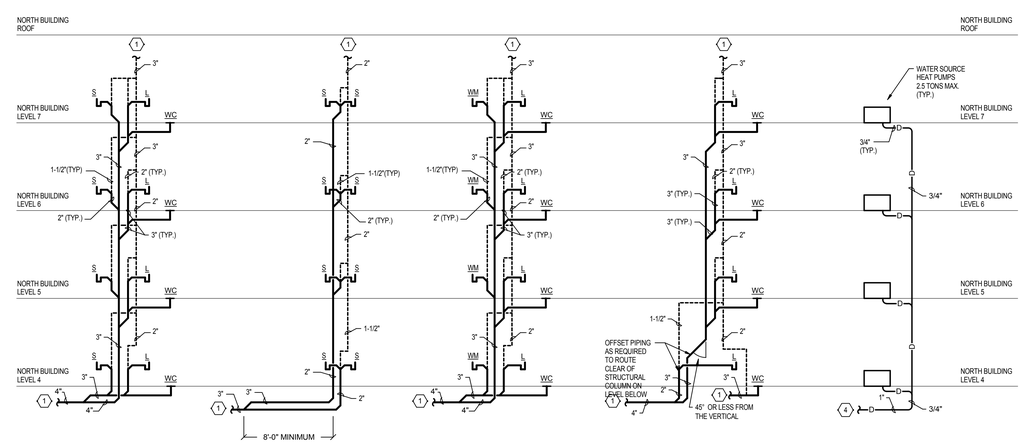
WASTE AND A11 VENT RISER
NO SCALE

WASTE AND A12 VENT RISER
NO SCALE

WASTE AND A13 VENT RISER
NO SCALE

WASTE AND A14 VENT RISER
NO SCALE

CONDENSATE A15 DRAIN RISER
NO SCALE



WASTE AND B9 VENT RISER
NO SCALE

WASTE AND B10 VENT RISER
NO SCALE

WASTE AND B11 VENT RISER
NO SCALE

WASTE AND B12 VENT RISER
NO SCALE

CONDENSATE B13 DRAIN RISER
NO SCALE

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1984 ANDREW W. FRICHTL
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
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REVISION	DATE	REASON FOR ISSUE

RISER DIAGRAMS - PLUMBING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER P4-6.01
SCALE	

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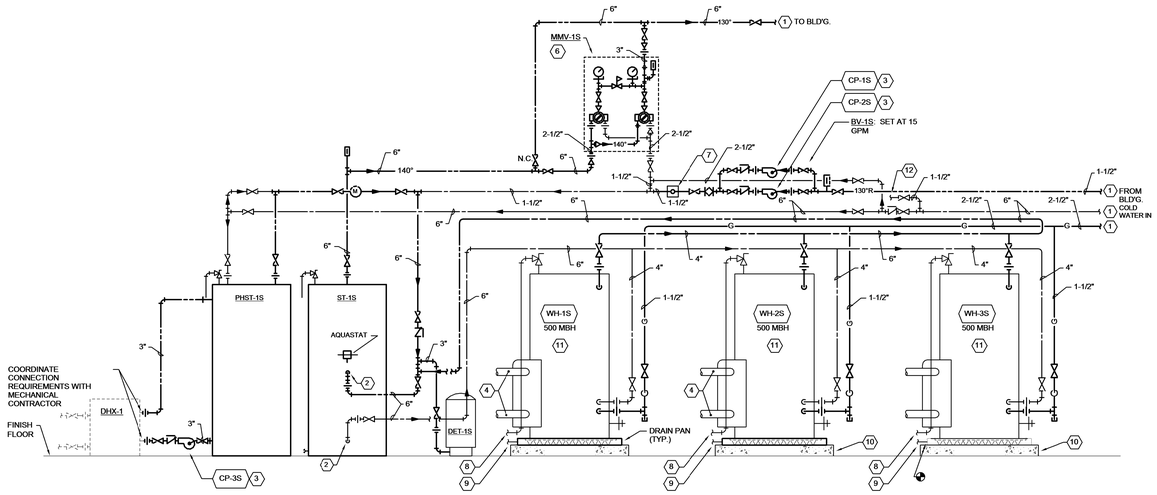


DETAIL KEYNOTES

1 SEE FLOOR PLANS FOR CONTINUATION

2 PROVIDE UNION AND SHUT-OFF VALVE AT CONNECTION TO STORAGE TANK. UNION AND SHUT-OFF VALVE TO BE SAME LINE SIZE AS SUPPLY PIPING.

3 INTERTIE PUMP WITH BAS. COORDINATE WITH CONTROLS SECTION OF SPECIFICATIONS.

4 FLUES/VENTS. SEE DIVISION 23

5 MINIMUM 5 PIPE DIAMETERS FOR SILENT SPRING LOADED CHECK VALVES.

6 SINGLE OR TWO-STAGE HI/LOW MIXING VALVE STATION BY ONE SUPPLIER INCLUDING ALL VALVES, REGULATORS THERMOMETERS AND PRESSURE GAUGES FOR COMPLETE AND BALANCED SYSTEM.

7 ROTATOR: SIGHT GLASS FLOW INDICATOR. ERNST MODEL NO. 41, BRONZE.

8 ROUTE T & P PIPING INDEPENDENTLY TO DISCHARGE FULL SIZE TO FLOOR DRAIN.

9 DISCHARGE FULL SIZE TO FLOOR DRAIN.

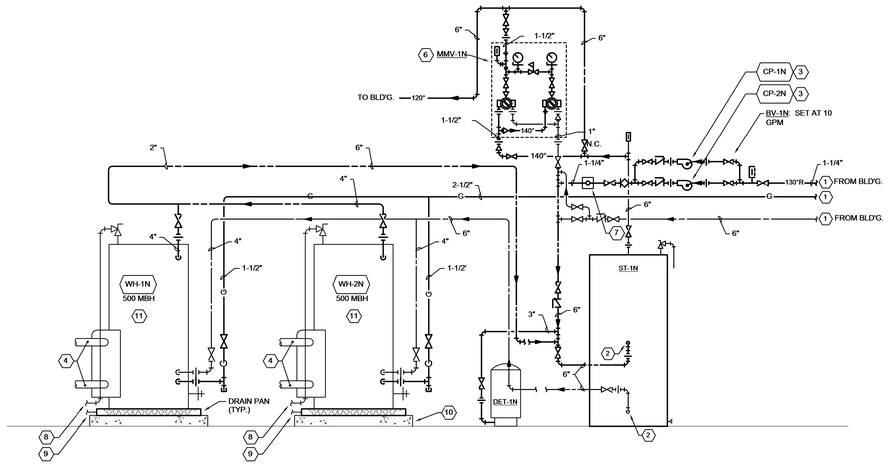
10 HOUSEKEEPING PAD. COORDINATE WITH ARCHITECT AND STRUCTURAL ENGINEER.

11 PROVIDE SEISMIC BRACING AS REQUIRED, SEE 7/P4-7.01.

12 1-1/2" COLD WATER TO MAKE-UP WATER CONNECTIONS. SEE 12/P4-7.02 FOR CONTINUATION.

1 SOUTH BUILDING WATER HEATING SYSTEM

NO SCALE



DETAIL KEYNOTES

1 SEE FLOOR PLANS FOR CONTINUATION

2 PROVIDE UNION AND SHUT-OFF VALVE AT CONNECTION TO STORAGE TANK. UNION AND SHUT-OFF VALVE TO BE SAME LINE SIZE AS SUPPLY PIPING.

3 INTERTIE PUMP WITH BAS. COORDINATE WITH CONTROLS SECTION OF SPECIFICATIONS.

4 FLUES/VENTS. SEE DIVISION 23

5 MINIMUM 5 PIPE DIAMETERS FOR SILENT SPRING LOADED CHECK VALVES.

6 SINGLE OR TWO-STAGE HI/LOW MIXING VALVE STATION BY ONE SUPPLIER INCLUDING ALL VALVES, REGULATORS THERMOMETERS AND PRESSURE GAUGES FOR COMPLETE AND BALANCED SYSTEM.

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8 ROUTE T & P PIPING INDEPENDENTLY TO DISCHARGE FULL SIZE TO FLOOR DRAIN.

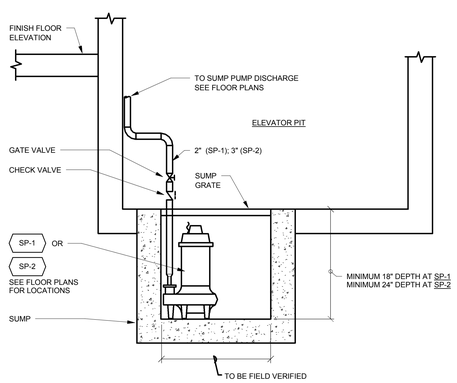
9 DISCHARGE FULL SIZE TO FLOOR DRAIN.

10 HOUSEKEEPING PAD. COORDINATE WITH ARCHITECT AND STRUCTURAL ENGINEER.

11 PROVIDE SEISMIC BRANCING AS REQUIRED, SEE 7/P4-7.01.

2 NORTH BUILDING WATER HEATING SYSTEM

NO SCALE

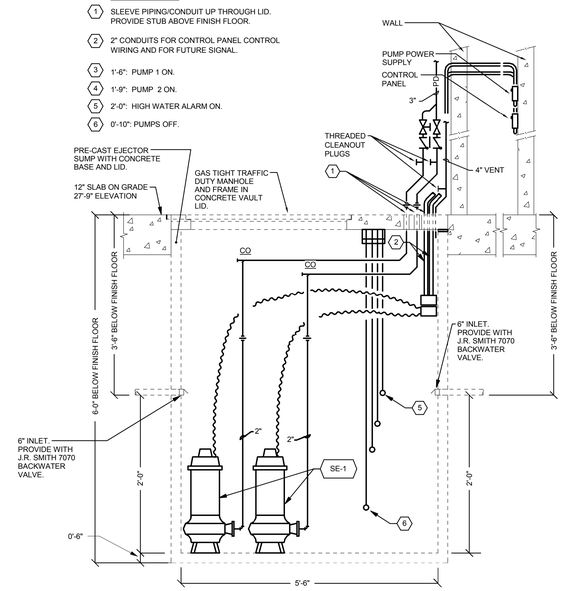


3 ELEVATOR SUMP PUMP

NO SCALE

NOTES

1. SLEEVE PIPING/CONDUIT UP THROUGH LID. PROVIDE STUB ABOVE FINISH FLOOR.
2. 2" CONDUITS FOR CONTROL PANEL CONTROL WIRING AND FOR FUTURE SIGNAL.
3. 1'-6": PUMP 1 ON.
4. 1'-9": PUMP 2 ON.
5. 2'-0": HIGH WATER ALARM ON.
6. 0'-10": PUMPS OFF.

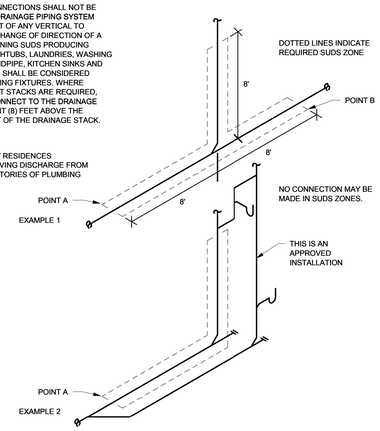


4 DUPLEX SANITARY EJECTOR SUMP

NO SCALE

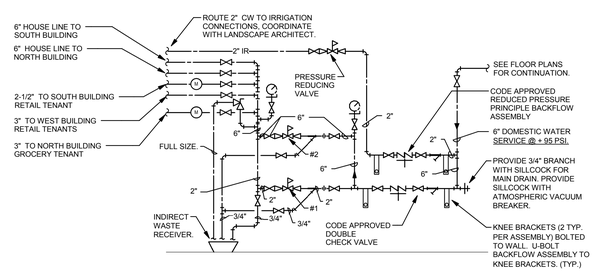
DRAINAGE CONNECTIONS SHALL NOT BE MADE INTO A DRAINAGE PIPING SYSTEM WITHIN (8) FEET OF ANY VERTICAL TO HORIZONTAL CHANGE OF DIRECTION OF A STACK CONTAINING SUDS PRODUCING FIXTURES. BATHTUBS, LAUNDRIES, WASHING MACHINE STANDPIPE, KITCHEN SINKS AND DISHWASHERS SHALL BE CONSIDERED SUDS PRODUCING FIXTURES. WHERE PARALLEL VENT STACKS ARE REQUIRED, THEY MUST CONNECT TO THE DRAINAGE STACK AT POINT (8) FEET ABOVE THE LOWEST POINT OF THE DRAINAGE STACK.

EXCEPTIONS:
SINGLE FAMILY RESIDENCES STACKS RECEIVING DISCHARGE FROM LESS THAN 3 STORIES OF PLUMBING FIXTURES.



5 SUDS RELIEF

NO SCALE



DETAIL NOTES

A PRV- #1. 2" WATTS SERIES F115 AUTOMATIC CONTROL VALVE, SET@ 77 PSI.
#2. 6" WATTS SERIES F115 AUTOMATIC CONTROL VALVE, SET@ 72 PSI.

B RELIEF VALVE - ASME RATED SET @ 100PSI.

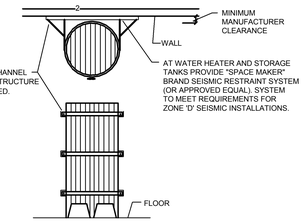
C ANCHOR ENTIRE ASSEMBLY TO WALL.

6 NORTH / SOUTH BUILDINGS PRESSURE REDUCING STATION

NO SCALE

SIZE	TANK HEIGHT ABOVE FLOOR	NO. OF STRAPS	LOCATION
66 GAL OR LESS 1/2 OF TANK.	12" OR LESS	1	BETWEEN TOP 1/3 AND
66 GAL OR LESS	MORE THAN 12"	2	TOP-IN TOP 1/3 OF TANK. BOTTOM-IN BOTTOM 1/3 OF TANK, AT A DISTANCE OF NOT LESS THAN 4" ABOVE THE CONTROLS.
66 GAL TO 100	12" OR LESS	2	TOP-IN TOP 1/3 OF TANK. BOTTOM-IN BOTTOM 1/3 OF TANK, AT A DISTANCE OF NOT LESS THAN 4" ABOVE THE CONTROLS.
66 GAL TO 100	MORE THAN 12"	3	TOP-IN TOP 1/3 OF TANK. BOTTOM-IN BOTTOM 1/3 OF TANK, AT A DISTANCE OF NOT LESS THAN 4" ABOVE THE CONTROLS. MIDDLE-CENTER OF TANK.

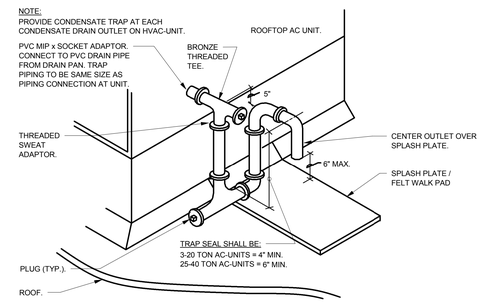
NOTE: MAINTAIN CLEARANCES TO COMBUSTIBLES AS REQUIRED BY MANUFACTURER. UTILIZE NON COMBUSTIBLE MATERIAL AS SPACER.



7 SEISMIC BRACING

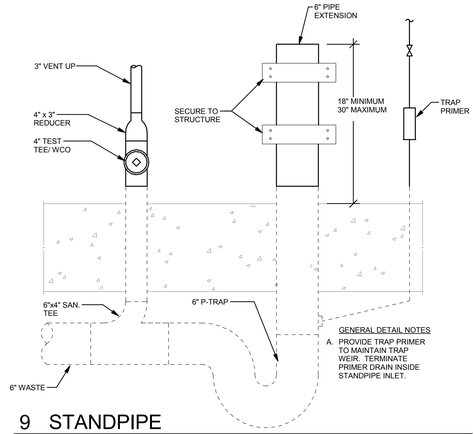
NO SCALE

NOTE:
PROVIDE CONDENSATE TRAP AT EACH CONDENSATE DRAIN OUTLET ON HVAC-UNIT.



8 CONDENSATE TRAP

NO SCALE



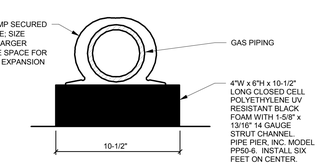
GENERAL DETAIL NOTES

A. PROVIDE TRAP PRIMER TO MAINTAIN TRAP WEIR. TERMINATE PRIMER DRAIN INSIDE STANDPIPE INLET.

9 STANDPIPE

NO SCALE

GALVANIZED PIPE CLAMP SECURED ON BOTH SIDES OF PIPE. SIZE SHALL BE 1 PIPE SIZE LARGER THAN PIPE TO PROVIDE SPACE FOR PIPE MOVEMENT THRU EXPANSION AND CONTRACTION.



10 PIPING ON ROOF

NO SCALE

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT 28, 2004 ANDREW W. FRICHTL
EXPIRES: 12/31/15

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CONTACT Scott Holum

LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFICATION

DETAILS - PLUMBING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER P4-7.01
SCALE NO SCALE	

12/17/2014 3:47:49 PM

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MECHANICAL SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

Abbreviations

(A)	ABANDON IN PLACE
(E)	EXISTING
(F)	FUTURE
(N)	NEW
(R)	RELOCATE/RELOCATED LOCATION
(X)	DEMOLISH
A/C	AIR CONDITION(ED)
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT TO DDC PANEL
AO	ANALOG OUTPUT FROM DDC PANEL
B	BOILER
BDD	BACKDRAFT DAMPER
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
CD	CEILING DIFFUSER
CD	CONDENSATE DRAIN
CF	CUBIC FOOT
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CL	CENTERLINE
CO/S/S	DIGITAL OUTPUT START/STOP SIGNAL
CONT.	CONTINUATION
COP	COEFFICIENT OF PERFORMANCE
CT	COOLING TOWER
CU	CONDENSING UNIT
CV	CHECK VALVE
CV	VALVE FLOW COEFFICIENT
CW	COLD WATER
D	DROP
DB	DECIBEL
DB	DRY BULB
DG	DOOR GRILLE
DI/CT	DIGITAL INPUT CURRENT TRANSFORMER
DI	DIGITAL INPUT TO DDC PANEL
DIA	DIAMETER
DO	DIGITAL OUTPUT FROM DDC PANEL
DP	DEW POINT, DIFFERENTIAL PRESSURE
DX	DIRECT EXPANSION
EAT	ENTERING AIR TEMPERATURE
EDH	ELECTRIC DUCT HEATER
EER	ENERGY EFFICIENCY RATING
EF	EXHAUST FAN
EFF	EFFICIENT
EL	ELEVATION
ELECT	ELECTRICAL
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
F	FAHRENHEIT
FA	FACE AREA
FC	FAN COIL
FC	FLEXIBLE CONNECTOR
FD	FIRE DAMPER
FF	FOULING FACTOR
FLA	FULL LOAD AMPS
FM	FLOW METER
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH
FT	FEET
FVEL	FACE VELOCITY
GAL	GALLONS
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HEAD
HP	HEAT PUMP
HP	HORSEPOWER
HTG	HEATING
HTR	HEATER
HWC	HOT WATER COIL
HX	HEAT EXCHANGER
ICW	INDUSTRIAL COLD WATER
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCHES
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS.	POUNDS
LH	LATENT HEAT
LWT	LEAVING WATER TEMPERATURE
MA	MIXED AIR
MAX	MAXIMUM
MBH	THOUSAND BTU'S PER HOUR
MD	MOTORIZED DAMPER
MH	MOUNTING HEIGHT
MIN	MINIMUM
MS	MOTOR STARTER
MW	MAKE-UP WATER
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
N/A	NOT APPLICABLE
NC	NOISE CRITERIA
NIC	NOT IN CONTRACT
NO.	NUMBER
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER
OS	OCCUPANCY SENSOR
OSA	OUTSIDE AIR
P	PUMP
PD	PRESSURE DROP
PH	PHASE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
QTY	QUANTITY
R	RISE
RA	RETURN AIR
REF	REFRIGERANT
RET	RETURN
RH	RELATIVE HUMIDITY
RL	REFRIGERANT LIQUID
RLD	RELIEF DAMPER
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
SA	SUPPLY AIR
SEER	SEASONAL ENERGY EFFICIENCY RATING
SF	SQUARE FEET
SH	SENSIBLE HEAT
SMK	SMOKE DETECTOR
SOV	SHUT OFF VALVE
SP	STATIC PRESSURE
SST	SATURATED SUCTION TEMPERATURE
T, TEMP	TEMPERATURE
T/FRZ	FREEZE THERMOSTAT
T	TEMPERATURE
TD	TEMPERATURE DIFFERENCE
TH	TOTAL HEAT
TP	TOTAL PRESSURE
TVE	TURNING VANE ELBOW
TX	TRANSFORMER
UD	UNDERCUT DOOR
UH	UNIT HEATER
V	VOLT
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER (HAND OPERATOR)
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
W/O	WITHOUT
W	WATT
WB	WET BULB
WC	WATER COLUMN

Control Symbols

T	AIR TEMPERATURE SENSOR
AI	ANALOG INPUT TO DDC PANEL
AO	ANALOG OUTPUT FROM DDC PANEL
CO2	CARBON DIOXIDE SENSOR
CO	CARBON MONOXIDE SENSOR
K	CONDUCTIVITY SENSOR
	DAMPER WITH ACTUATOR
DP	DIFFERENTIAL PRESSURE SENSOR
DI CT	DIGITAL INPUT CURRENT TRANSFORMER
DI	DIGITAL INPUT TO DDC PANEL
DO	DIGITAL OUTPUT FROM DDC PANEL
DO S/S	DIGITAL OUTPUT START/STOP SIGNAL
PS	DUCT PRESSURE SENSOR
SD	DUCT SMOKE DETECTOR
ES	END SWITCH
FM	FLOW METER
T FRZ	FREEZE THERMOSTAT
H	HUMIDISTAT
T E	LINE VOLTAGE THERMOSTAT
OS	OCCUPANCY SENSOR
T OSA	OUTSIDE AIR TEMPERATURE SENSOR
T AC-1	ROOM THERMOSTAT
S	SENSOR
SMK SMK	SMOKE DETECTOR
T SPACE	SPACE AIR TEMPERATURE SENSOR
SP	STATIC PRESSURE SENSOR
TX TX	TRANSFORMER

Dampers

FD	FIRE DAMPER
FSD	FIRE/SMOKE DAMPER
MD	MOTORIZED DAMPER
SD	SMOKE DAMPER
	VOLUME DAMPER

Diffusers and Grilles

	EXHAUST AIR
	RETURN AIR
	RETURN/EXHAUST AIR FLOW
	SUPPLY AIR
	SUPPLY AIR FLOW
12x12 100 CD-1	DIFFUSER OR GRILLE IDENTIFICATION
	SLOT DIFFUSER

Ductwork Fittings

	ACOUSTICALLY LINED DUCT (SIZES SHOWN ARE NET INSIDE)
	BELLMOUTH
	CONCENTRIC SQUARE TO ROUND
	CONCENTRIC TRANSITION, RECTANGULAR OR ROUND
	DUCTWORK TO BE DEMOLISHED
	ECCENTRIC TRANSITION, RECTANGULAR OR ROUND
	FLEX DUCT
	FLEXIBLE CONNECTION
	MITERED ELBOW WITH TURNING VANES
	NON-SYMMETRICAL WYE
	RADIUSED ELBOW
	RECTANGULAR DUCT DROP
	RECTANGULAR DUCT RISER
	RECTANGULAR MAIN WITH RECTANGULAR BRANCH
	RECTANGULAR MAIN WITH ROUND BRANCH
	RECTANGULAR OFFSET LESS THAN 15°
	RECTANGULAR OFFSET MORE THAN 15°
	ROUND DUCT DROP
	ROUND DUCT RISER
	ROUND DUCT WITH ROUND BRANCH
	ROUND WYE
	SYMMETRICAL WYE

General

	NEW WORK
	CONTINUATION
X X	DETAIL NUMBER AND SHEET LOCATION
XX-X	EQUIPMENT IDENTIFICATION
LOCATION X	FIXTURE TAG (LEVEL BELOW FIXTURE)
XX	FOOD SERVICE EQUIPMENT / CALCULATION TAG
X	KEYED NOTE
	PIPE BELOW GRADE
	POINT OF CONNECTION
A XXX	SECTION NUMBER AND SHEET LOCATION

Piping Fittings, Appurtenances and Equipment

S	AIR SEPARATOR
	AUTOMATIC AIR VENT
BFP	BACKFLOW PREVENTER
	CAP
	CONCENTRIC REDUCER
	CONTINUATION
	ECCENTRIC REDUCER
EJ	EXPANSION JOINT
	EXPANSION LOOP
ET	EXPANSION TANK
	FLEXIBLE CONNECTION
	FLOW DIRECTION
	FLOW METER
	FLOW SWITCH
HE	HEAT EXCHANGER
	HOSE BIBB
	MANUAL AIR VENT
	PIPE BELOW GRADE
	PIPE DROP
	PIPE GUIDE
	PIPE REMOVED IN DEMOLITION
	PIPE RISE
	PIPE TO DRAIN
	PRESSURE GAUGE WITH COCK
	PRESSURE RELIEF VALVE
	PRESSURE SENSOR
	PUMP
	SHOCK ABSORBER
	STRAINER
	T&P RELIEF VALVE WITH PIPE TO DRAIN
	TEE DOWN ON PIPE
	TEE UP ON PIPE
	TEMPERATURE SENSOR
	TEST PORT (PETE'S PLUG OR EQUAL)
	THERMOMETER
	UNION
	VENT TO ATMOSPHERE
M	WATER METER

Piping Systems

—CHWR—	CHILLED WATER RETURN
—CHWS—	CHILLED WATER SUPPLY
—CHWSR—	CHILLED WATER SUPPLY AND RETURN
—CWR—	CONDENSER WATER RETURN
—CWS—	CONDENSER WATER SUPPLY
—CWSR—	CONDENSER WATER SUPPLY AND RETURN
—HWR—	HEATING WATER RETURN
—HWS—	HEATING WATER SUPPLY
—HWSR—	HEATING WATER SUPPLY AND RETURN
—RL—	REFRIGERANT LIQUID
—RS—	REFRIGERANT SUCTION

Piping Valves

	BALANCING VALVE
	CHECK VALVE
	GATE VALVE
	GLOBE VALVE
	MOTORIZED, 2-WAY VALVE
	MOTORIZED, 3-WAY VALVE
	PRESSURE REDUCING VALVE
	QUARTER TURN VALVE
	VALVE
	VALVE, GENERAL

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REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1994 ANDREW W. FRICHTL

EXPIRES: 12/31/15

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REVISION	DATE	REASON FOR ISSUE

SYMBOLS, ABBREVIATIONS - HVAC

PHASE 2 PERMIT

DATE	REVISION
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SCALE	

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PACKAGED AIR CONDITIONING UNIT SCHEDULE

		BASIS OF DESIGN		SUPPLY FAN						DX COOLING COIL						GAS FURNACE					AIR SOURCE CONDENSER					FINAL FILTER	ELECTRICAL						
										TOTAL	SENS											QTY	QTY		EER								MAX
				TOTAL	TSP				VFD	CAP	CAP	EDB	EWB	LDB	LWB	INPUT	OUTPUT	MIN	EAT	LAT	NOM	OF	OF	AMBIENT	OR	EFF					CONTROLS	WT	
SYMBOL	AREA SERVED	MFR	MODEL	CFM	(IN H2O)	BHP	MHP	FRPM	(Y/N)	(MBH)	(MBH)	(°F)	(°F)	(°F)	(°F)	(MBH)	(MBH)	EFF.	(°F)	(°F)	TONS	COMPRESSORS	FANS	DB (°F)	SEER	MERV	VOLTS	PH	MCA	MOCP	REF	(LBS)	NOTES
AC-1	SOUTH BLDG CORRIDORS	CARRIER	48TC	5900	1.5	4.4	7.5	1000	N	228	228	90	67	58	55	400	324	80	17	68	20	2	3	95	10.8	13	460	3	47	60	DDC	2100	1,2,3,4,5,6,7
AC-2	NORTH BLDG CORRIDORS	CARRIER	48TC	3560	1.5	2.74	3	1000	N	129	129	90	67	58	55	250	205	80	17	70	10	2	2	95	11.1	13	460	3	26	30	DDC	1100	1,2,3,4,5,6,7

NOTES:
1 AMBIENT OUTSIDE AIR TEMPERATURE FOR COOLING: 90°F.
2 AMBIENT OUTSIDE AIR TEMPERATURE FOR HEATING: 17°F.
3 PROVIDE STANDARD ROOF CURB AND INTERNAL VIBRATION ISOLATION ON ALL FANS AND COMPRESSORS.
4 PROVIDE THROUGH-THE-CURB GAS CONNECTIONS.
5 SMOKE DETECTOR REQUIRED. SEE CONTROLS SPECIFICATIONS.
6 PROVIDE BACNET OR LONWORKS GATEWAY FOR CONTROL AND MONITORING THROUGH THE DDC SYSTEM.
7 PROVIDE GAS HEATING WITH MINIMUM 2 STAGES OF CONTROL.

BOILER SCHEDULE

		BASIS OF DESIGN										ELECTRICAL										
SYMBOL	SERVING	MFR	MODEL	MAX GROSS INPUT (MBH)	MAX GROSS OUTPUT (MBH)	MIN EFF (AFUE)	TURN DOWN RATIO	FLOW RATE (GPM)	FLUE SIZE (IN)	EWT (°F)	LWT (°F)	VOLTS	PH	BOILER FLA	WATER VOL (GAL	WATER PRESSURE DROP (FT H2O)	GAS INLET CONNECTION (IN)	HWS/R CONNECTION (IN)	EMERGENCY POWER	CONTROLS REF	MAX WT (LBS)	COMMENTS
B-1	HEATING WATER SYSTEM	HYDROTHERM	KN-30	3000	2700	90	5:1	270	8	100	120	120	1	6.5	42	2.40	1 1/2"	4"	N	DDC	3500	
B-2	HEATING WATER SYSTEM	HYDROTHERM	KN-30	3000	2700	90	5:1	270	8	100	120	120	1	6.5	42	2.40	1 1/2"	4"	N	DDC	3500	

WATER SOURCE HEAT PUMP SCHEDULE

		BASIS OF DESIGN		SUPPLY FAN			DX COOLING COIL								HEAT PUMP	WATER SOURCE HEAT PUMP CONDENSER							ELECTRICAL						
SYMBOL	AREA SERVED	MFR	MODEL	TOTAL CFM	MIN OSA CFM	ESP (IN H2O)	NOM TONS	TOTAL CAP (MBH)	SENS CAP (MBH)	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	APD (IN H2O)	HTG (MBH)	WATER FLOW (GPM)	MAX PD (FT H2O)	PIPE CONN. SIZE	CLG EWT	HTG EWT	EER	COP	VOLTS	PH	MCA	MOCP	CONTROLS REF	MAX WT (LBS)	NOTES
WSHP-1	APARTMENTS AND COMMON SPACES	WATER FURNACE	VERSATEC ULTRA	400	SEE OSA SCHEDULE	0.5	1	10.9	8.7	80	66	55	52	0.2	14.7	1.7	7.4	3/4"	86	68	12.7	4.4	208	1	6.7	20	DDC	120	1,2,4
WSHP-2	APARTMENTS AND COMMON SPACES	WATER FURNACE	VERSATEC ULTRA	600	SEE OSA SCHEDULE	0.5	1.5	17.6	14.1	80	66	55	52	0.2	21	2.8	6.4	3/4"	86	68	14.6	4.7	208	1	9.5	20	DDC	170	1,2,4,
WSHP-3	APARTMENTS AND COMMON SPACES	WATER FURNACE	VERSATEC ULTRA	800	SEE OSA SCHEDULE	0.5	2	23.9	19.1	80	66	55	52	0.2	27	3.8	7.2	3/4"	86	68	14.6	4.7	208	1	18.1	30	DDC	230	1,2,4
WSHP-4	APARTMENTS AND COMMON SPACES	WATER FURNACE	VERSATEC ULTRA	1000	SEE OSA SCHEDULE	0.5	2.5	29.5	23.6	80	66	55	52	0.2	34.6	4.7	7.0	3/4"	86	68	14.9	4.8	208	1	19.1	30	DDC	240	1,2,4
WSHP-5	N BLOCK ELEC	WATER FURNACE	VERSATEC ULTRA	2400	0	0.25	6	70.8	56.6	80	66	55	52	0.2	83.04	11.3	7.4	1-1/4"	86	68	14.8	4.6	460	3	18.9	25	DDC	410	1,2
WSHP-6	S BLOCK ELEC	WATER FURNACE	VERSATEC ULTRA	4000	0	0.25	10	118	94.4	80	66	55	52	0.2	138.4	18.9	7.4	1-1/2"	86	68	14.1	4.2	460	3	21.7	25	DDC	480	1,2,3

NOTES:
1 PROVIDE WITH EXTERNAL CONDENSATE PUMP. CONTACTS ON CONDENSATE PUMP WIRED TO SHUT DOWN UNIT IF WATER BACKUP IS DETECTED.
2 PROVIDE WITH MANUFACTURER'S COIL KIT WITH AUTOMATIC FLOW VALVE.
3 PROVIDE VERTICAL MODEL
4 SEE PLANS FOR VERTICAL OR HORIZONTAL ARRANGEMENT

COOLING TOWER SCHEDULE

		BASIS OF DESIGN			FLUID					AIR	FAN				ELECTRICAL					
SYMBOL	AREA SERVED	MFR	MODEL	NOM TONS	EWT (°F)	LWT (°F)	FLUID TYPE	FLOW (GPM)	WPD (FT H2O)	AMBIENT EDB/EWB (°F)	FRPM	CFM	MHP	SUMP HEATER (KW)	VOLTS	PH	MCA	VFD (Y/N)	MAX WT (LBS)	NOTES
CT-1	CONDENSER WATER LOOP	EVAPCO	AT-29-724	975	95	80	WATER	1950	13	95	1750	144000	(2) @ 25	(4) @ 4	460	3	99	Y	19,000	

NOTES:

FAN SCHEDULE

		BASIS OF DESIGN							ELECTRICAL							
SYMBOL	AREA SERVED	MFR	MODEL	TYPE	DRIVE	AIR FLOW (CFM)	ESP (IN H2O)	SOUND (SONES)	VOLTS	PH	MHP	VFD (Y/N)	CONTROLS REF	MAX WT (LBS)	COMMENTS
EF-1	RESTROOMS	PANASONIC	FV-08VKME3	CEILING	DIRECT	80	0.25	1	120	1	0.03	N	OCC SENSOR	30	4,6
EF-2	TRASH ROOM	GREENHECK	SQ	INLINE	DIRECT	220	0.9	5	120	1	0.03	N	DDC	30	3,6
EF-3	TRASH CHUTE	GREENHECK	G	INLINE	DIRECT	300	0.15	8	120	1	0.05	N	DDC	30	3,6
EF-5	SOUTH DISTRIBUTION	GREENHECK	SQ	INLINE	DIRECT	150	0.375	6	120	1	0.05	N	LINE VOLTAGE THERMOSTAT	30	3,6
EF-6	NORTH LIFE SAFETY	GREENHECK	SQ	INLINE	DIRECT	150	0.375	6	120	1	0.05	N	LINE VOLTAGE THERMOSTAT	30	3,6
EF-7	SOUTH BLDG RECYCLING/STORAGE	GREENHECK	GB	CENTRIFUGAL	BELT	600	0.375	10	120	1	0.25	N	DDC	50	5,6
EF-8	NORTH BLDG TRASH/RECYCLING	GREENHECK	GB	CENTRIFUGAL	BELT	1150	1	12.1	120	1	0.5	N	DDC	70	5,6
EF-9	SOUTH TELECOM	GREENHECK	SQ	INLINE	DIRECT	300	0.15	8	120	1	0.05	N	DDC	30	3,6
EF-10	NORTH TELECOM	GREENHECK	SQ	INLINE	DIRECT	300	0.15	8	120	1	0.05	N	DDC	30	3,6
EF-11	ELEV MACHINE ROOM	GREENHECK	SQ	INLINE	DIRECT	300	0.15	8	120	1	0.05	N	DDC	30	3,6
EF-12	SOUTH BLDG ELEC ROOMS	GREENHECK	SQ	INLINE	DIRECT	300	0.15	8	120	1	0.05	N	DDC	30	3,6
EF-13	NORTH BLDG ELEC ROOMS	GREENHECK	SQ	INLINE	DIRECT	300	0.15	8	120	1	0.05	N	DDC	30	3,6
GEF-1	BASEMENT LEVEL PKG - SE	GREENHECK	QEI	INLINE	BELT	20500	0.7	25	460	3	5	Y	DDC	850	
GEF-2	BASEMENT LEVEL PKG - SW	GREENHECK	QEI	INLINE	BELT	20500	0.4	25	460	3	5	Y	DDC	850	
GEF-3	BASEMENT/LEVEL 1 PKG - NE	GREENHECK	QEI	INLINE	BELT	35000	0.4	29	460	3	20	Y	DDC	1500	
GEF-4	BASEMENT LEVEL PKG - NW	GREENHECK	QEI	INLINE	BELT	15000	0.15	22	460	3	5	Y	DDC	540	
PF-1	SOUTH ELEVATOR HOISTWAY	COOK	QMX	MIXED FLOW INLINE	BELT	14000	1.5	71	460	3	10	Y	DIV 28	1300	1
PF-2	NORTH ELEVATOR HOISTWAY	COOK	QMX	MIXED FLOW INLINE	BELT	14000	1.5	71	460	3	10	Y	DIV 28	1300	1

NOTES:
1 FAN TO BE CONTROLLED THROUGH FIRE COMMAND CENTER. COORDINATE WITH DIVISION 28.
2 FANS TO MODULATE BASED ON CO LEVELS IN PARKING GARAGE
3 PROVIDE FAN WITH SPEED CONTROLLER
4 PROVIDE FAN WITH LED LIGHT AND OCCUPANCY SENSOR. FAN TO RUN AT CONTINUOUS 20 CFM AND RAMP UP TO 80 CFM UPON OCCUPANCY DETECTION.
5 PROVIDE WITH ROOF CURB
6 PROVIDE FAN WITH BACKDRAFT DAMPER

PUMP SCHEDULE

		BASIS OF DESIGN									ELECTRICAL										
SYMBOL	SERVING	MANUFACTURE/ MODEL	PUMP TYPE	PUMP SIZE	IMPELLER SIZE	FLUID TYPE	RPM	EFFICIENCY %	FLOW RATE (GPM)	HEAD (FT H20)	VOLTS	PH	BHP	MHP	MOTOR TYPE ODP or TEFC	VFD (Y/N)	STARTER (Y/N)	EMERGENCY POWER (Y/N)	CONTROLS REF	MAX WT (LBS)	COMMENTS
BP-1	BOILERS	B&G 80	INLINE	4x4x7	5.75"	WATER	1800	68	270	20.00	460	3	2	3	ODP	N	Y		DDC	230	
BP-2	BOILERS	B&G 80	INLINE	4x4x7	5.75"	WATER	1800	68	270	20.00	460	3	2	3	ODP	N	Y		DDC	230	
CTP-1	COOLING TOWER	B&G VSCS	BASE MOUNTED	6x8x13.5 A	10.5"	WATER	1200	78	975	40.00	460	3	12.75	15	ODP	N	Y		DDC	1900	
CTP-2	COOLING TOWER	B&G VSCS	BASE MOUNTED	6x8x13.5 A	10.5"	WATER	1200	78	975	40.00	460	3	12.75	15	ODP	N	Y		DDC	1900	
CWP-1	CONDENSER WATER LOOP	B&G e-1510	BASE MOUNTED	6G	12.875"	WATER	1200	83	975	70.00	460	3	20.8	30	ODP	Y	N		DDC	740	
CWP-2	CONDENSER WATER LOOP	B&G e-1510	BASE MOUNTED	6G	12.875"	WATER	1200	83	975	70.00	460	3	20.8	30	ODP	Y	N		DDC	740	
DHWP-1	CONDENSER LOOP HEAT RECOVERY	3 AC	CLOSE-COUPLED	3AC	5.375"	WATER	1800	64	200	20.00	460	3	1.63	2	ODP	N	Y		DDC	150	

PLATE AND FRAME HEAT EXCHANGER SCHEDULE

		BASIS OF DESIGN					HOT SIDE					COLD SIDE						
SYMBOL	AREA SERVED	MFR	MODEL	CAP (MBH)	PLATE MATERIAL	PLATE QTY	FLUID	FLOW RATE (GPM)	WPD (FT H2O)	EWT (°F)	LWT (°F)	FLUID	FLOW RATE (GPM)	WPD (FT H2O)	EWT (°F)	LWT (°F)	MAX WT (LBS)	NOTES
HX-1	CONDENSER LOOP	B&G	AP130	7,290	304 SS	286	WATER	975	11	97	82	WATER	975	11	80	80	10,400	
HX-2	CONDENSER LOOP	B&G	AP130	7,290	304 SS	286	WATER	975	11	97	82	WATER	975	11	95	95	10,400	
DHX-1	DOMESTIC PREHEAT	B&G	AP47	1,500	316 SS	44	WATER	200	11	97	82	WATER	75	2	50	89	2,000	

NOTES:

ELECTRIC WALL HEATER SCHEDULE

		BASIS OF DESIGN			ELECTRICAL					
SYMBOL	AREA SERVED	MFR	MODEL	TYPE	VOLTS	PH	HEAT KW	STAGES	MAX WT (LBS)	NOTES
EWH-1	VARIOUS SPACES	QMARK	AWH4404	SURFACE MOUNT	208	1	2	1	30	1

NOTES:
1 PROVIDE WITH INTEGRAL THERMOSTAT

FAN COIL SCHEDULE (ELEC HEAT)

		BASIS OF DESIGN		SUPPLY FAN			ELECT. RESIST. HTG (KW)	ELECTRICAL				MAX WT (LBS)	NOTES
SYMBOL	AREA SERVED	MFR	MODEL	TOTAL CFM	MIN OSA CFM	ESP (IN H2O)		VOLTS	PH	MCA	MOCP		
FC-1	SOUTH BLDG LOBBIES	CARRIER	FH4C	800	60	0.5	10	208	1	56	75	200	
FC-2	NORTH BLDG LOBBIES	CARRIER	FH4C	800	60	0.5	10	208	1	56	75	200	

NOTES:

DIFFUSER, REGISTER AND GRILLE SCHEDULE

SYMBOL	TYPE	FACE	FRAME	DAMPER	FINISH	BASIS OF DESIGN	NOTES
CD-1	CEILING DIFFUSER	LOUVERED	LAY-IN	NONE	WHITE	TITUS TDC	
CEG-1	CEILING EXHAUST GRILLE	PERFORATED	SURFACE	NONE	WHITE	TITUS PAR	
CRG-1	CEILING RETURN GRILLE	PERFORATED	SURFACE	NONE	WHITE	TITUS PAR	
EG-1	EXHAUST GRILLE	FIXED BAR	1/4" BORDER	OBD	WHITE	TITUS 350R	
RG-1	RETURN GRILLE	FIXED BAR 35 DEG. DEFL.	1/4" BORDER	OBD	WHITE	TITUS 350R	
SD-1	ARCHITECTURAL LINEAR SLOT DIFFUSER	1-SLOT, 2-INCH	SURFACE	NONE	WHITE	TITUS FL	
SG-1	SUPPLY REGISTER	DOUBLE DEFL.	1/4" BORDER	OBD	WHITE	TITUS 300R	

NOTES:

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 2004 ANDREW W. FRICHTL
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REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

SCHEDULES - HVAC

PHASE 2 PERMIT

DATE	REVISION
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SCALE	

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ELECTRIC RESISTANCE UNIT HEATER SCHEDULE

SYMBOL	AREA SERVED	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	SUPPLY FAN TOTAL CFM	SUPPLY FAN ESP (IN H2O)	ELECT. RESIST. HTG (KW)	STAGES	ELECTRICAL VOLTS	ELECTRICAL PH	ELECTRICAL MCA	ELECTRICAL MOCP	CONTROLS REF	MAX WT (LBS)	NOTES
UH-1	BIKE STORAGE	TRANE	UHEC	400	0.1	3.3	2	208	1	13.7	20	LINE VOLTAGE THERMOSTAT	70	

NOTES:

OUTSIDE AIR VENTILATION SCHEDULE*

HVAC UNIT	ROOM	AREA (SF)**	PEOPLE OUTDOOR AIRFLOW RATE (CFM/PERSON OR FIXTURE)	AREA OUTDOOR AIRFLOW RATE (CFM/SQ FT)	DEFAULT OCCUPANT DENSITY (#/1000 SQ FT)	MAXIMUM OCCUPANT LOAD (PEOPLE)	AVERAGE OCCUPANT LOAD (PEOPLE OR FIXTURES)	TOTAL OA REQUIRED (CFM)	TOTAL OA PROVIDED (CFM)
WSHP-2	NORTH RESIDENTIAL LOBBY	1498	5	0.06	10	15	7	127	180
	LOBBY RESTROOM	64	70				1	70	TRANSFER AIR
								TOTAL = 127	TOTAL = 180
WSHP-2	SOUTH RESIDENTIAL LOBBY	752	5	0.06	10	8	4	64	100
FC-1	SOUTH BLDG ELEV LOBBIES	550	5	0.06	10	6	4	53	60
FC-2	NORTH BLDG ELEV LOBBIES	530	5	0.06	10	5	4	52	60
WSHP-1	EXERCISE ROOM	437	20	0.06	10	4	3	86	150
	RESTROOM	48	70				1	70	TRANSFER AIR
								TOTAL = 86	TOTAL = 150
WSHP-4	COMMUNITY ROOM	740	5	0.06	30	22	11	100	150
WSHP-1	APARTMENT	330	15	0.00			2	30	220
	APARTMENT BATHROOM	70	80				1	80	TRANSFER
	APARTMENT KITCHEN	100	150				1	150	TRANSFER
								TOTAL = 30	TOTAL = 220
WSHP-2	APARTMENT	400	15	0.00			3	45	230
	APARTMENT BATHROOM	70	80				1	80	TRANSFER
	APARTMENT KITCHEN	100	150				1	150	TRANSFER
								TOTAL = 45	TOTAL = 230
WSHP-3	APARTMENT	1000	15	0.00			4	60	320
	APARTMENT BATHROOM	140	80				2	160	TRANSFER
	APARTMENT KITCHEN	100	150				1	150	TRANSFER
								TOTAL = 60	TOTAL = 320

NOTES:

* ACCORDING TO SECTION 403.3 OF THE 2010 OREGON MECHANICAL SPECIALTY CODE, THE OUTDOOR AIRFLOW RATE MAY BE DETERMINED ON THE BASIS OF AVERAGE VENTILATION OCCPANCY, PROVIDED THE AVERAGE IS NOT LESS THAN ONE HALF THE MINIMUM SPECIFIED IN TABLE 403.3.

** AREA IS BASED ON NET OCCUPIABLE AREA

RESIDENTIAL FLOOR AIR BALANCE

SOUTH BUILDING

	NO. OF UNITS	NO. OF KITCHENS	NO. OF BATHROOMS	NO. OF DRYERS		TOTAL EXHAUST RATE (CFM)	TOTAL OSA PROVIDED (CFM)	TOTAL REMAINING EXHAUST (CFM)
LEVEL 7	27	27	30	27		3442.5	2430	1012.5
LEVEL 6	27	27	30	27		3442.5	2430	1012.5
LEVEL 5	27	27	30	27		3442.5	2430	1012.5
LEVEL 4	27	27	30	27		3442.5	2430	1012.5
LEVEL 3	25	26	29	25		3282.5	2250	1032.5
TOTAL						17052.5	11970	5082.5
			PERCENT ON PER FLOOR					
KITCHEN EXHAUST RATE	160	CFM	25%					
BATHROOM EXHAUST RATE (OCCUPIED)	80	CFM	45%					
BATHROOM EXHAUST RATE (UNOCCUPIED)	20	CFM	45%					
DRYER EXHAUST RATE	150	CFM	25%					
UNIT VENTILATION RATE PER WSHP	90	CFM						
AC-1	5600	CFM	(10% ADDITIONAL CFM FOR PRESSURIZATION)					

NORTH BUILDING

	NO. OF UNITS	NO. OF KITCHENS	NO. OF BATHROOMS	NO. OF DRYERS		TOTAL EXHAUST RATE (CFM)	TOTAL OSA PROVIDED (CFM)	TOTAL REMAINING EXHAUST (CFM)
LEVEL 7	20	20	22	20		2540	1800	740
LEVEL 6	20	20	22	20		2540	1800	740
LEVEL 5	20	20	22	20		2540	1800	740
LEVEL 4	20	20	22	20		2540	1800	740
TOTAL						10160	7200	2960
			PERCENT ON PER FLOOR					
KITCHEN EXHAUST RATE	160	CFM	25%					
BATHROOM EXHAUST RATE (OCCUPIED)	80	CFM	45%					
BATHROOM EXHAUST RATE (UNOCCUPIED)	20	CFM	45%					
DRYER EXHAUST RATE	150	CFM	25%					
UNIT VENTILATION RATE PER WSHP	90	CFM						
AC-2	3260	CFM	(10% ADDITIONAL CFM FOR PRESSURIZATION)					

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 2004 ANDREW W. FRICHTL

EXPIRES: 12/31/15

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T 503-382-2266
PROJECT 2012-0522
CONTACT Andrew Craig

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

SCHEDULES - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER M4-0.03
SCALE	

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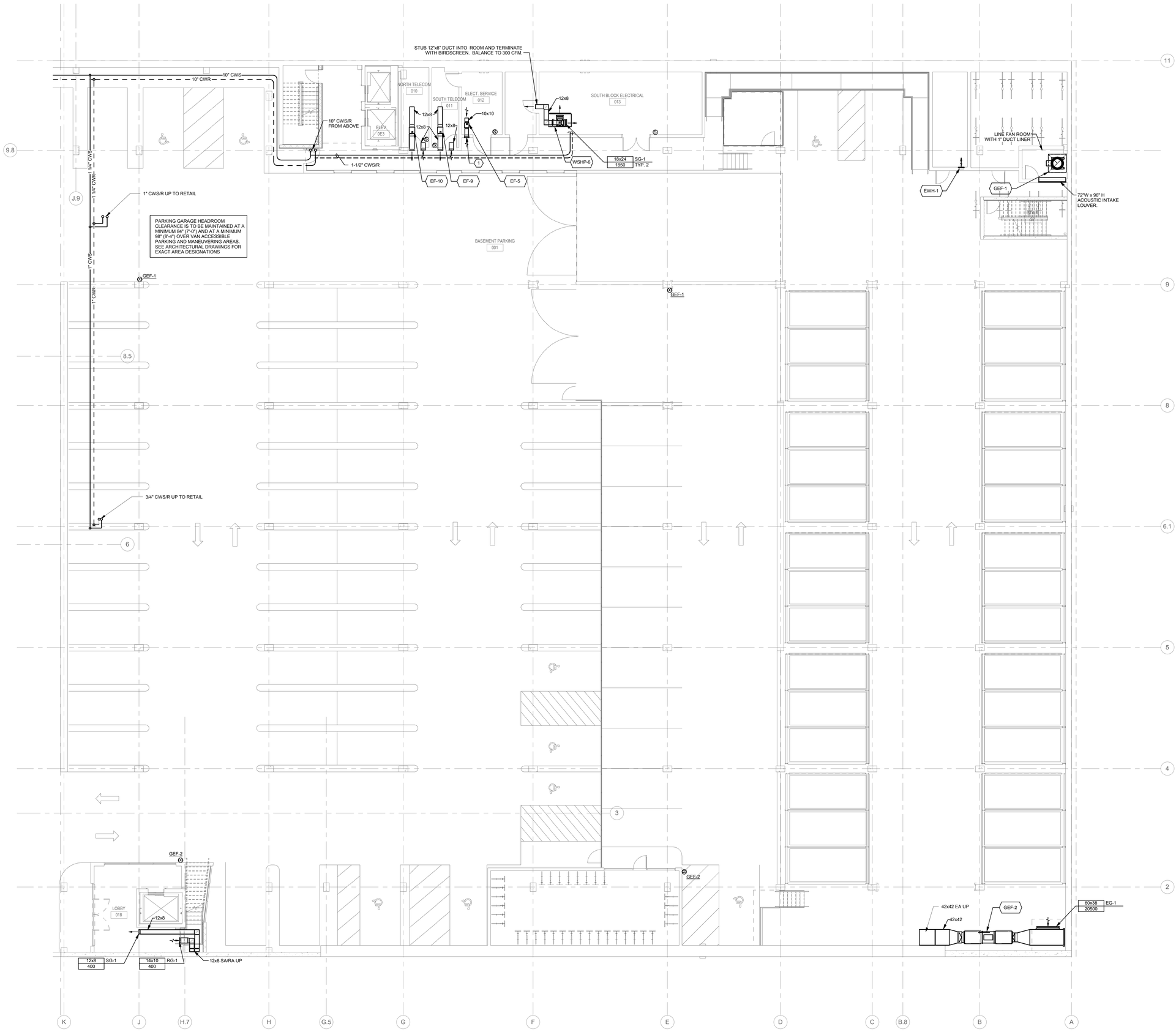
GENERAL SHEET NOTES

A. UNLESS OTHERWISE NOTED, TERMINATE ALL OPEN DUCTWORK WITH BIRDSCREEN

SHEET KEYNOTES

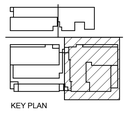
1 10"x10" SIDEWALL LOUVER TO CONNECT TO EF-5 OUTLET. MOUNT FAN AS HIGH AS POSSIBLE



1 LEVEL P1 SOUTH - HVAC

0' 4' 8' 16'

1/8" = 1'-0"



KEY PLAN

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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION
1	10/23/14	10/15/14 LS CHK RESPONSE

LEVEL P1 SOUTH - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	1
PROJECT NUMBER 123625	SHEET NUMBER M4-2.0Ba
SCALE 1/8" = 1'-0"	

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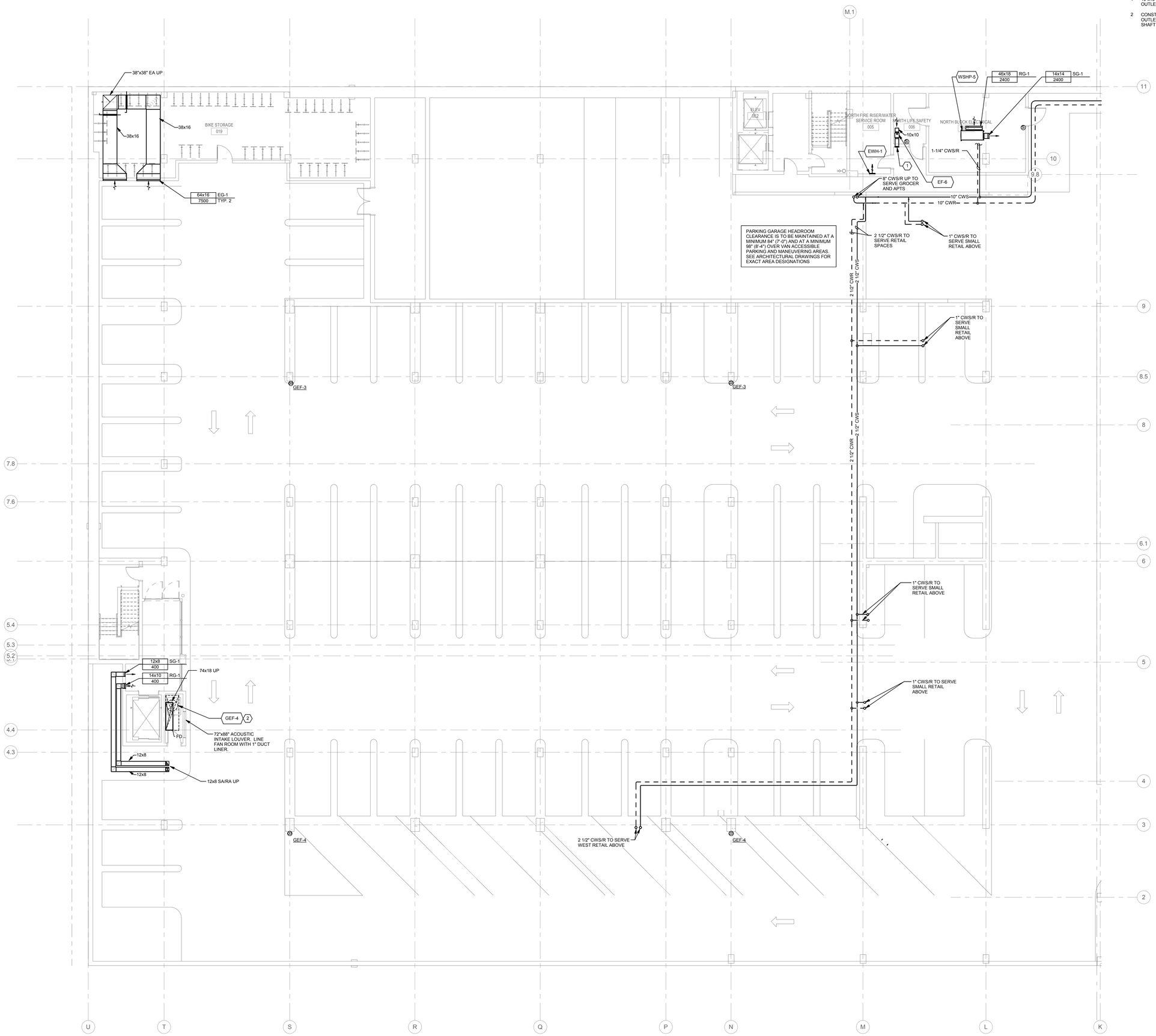
SHEET KEYNOTES

1 10"x10" SIDEWALL LOUVER TO CONNECT TO EF-6 OUTLET. MOUNT FAN AS HIGH AS POSSIBLE

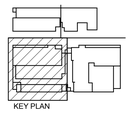
2 CONSTRUCT PLENUM ABOVE FAN TO CONNECT OUTLET INTO SHAFT. PROVIDE FIRE DAMPER AT SHAFT OPENING INTO FAN ROOM.



1 LEVEL P1 NORTH - HVAC

0' 4' 8' 16'

1/8" = 1'-0"



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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFICATION
1	10/23/14	10/15/14 LS CHK RESPONSE

LEVEL P1 NORTH - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	1
PROJECT NUMBER 123625	SHEET NUMBER M4-2.0Bb
SCALE 1/8" = 1'-0"	

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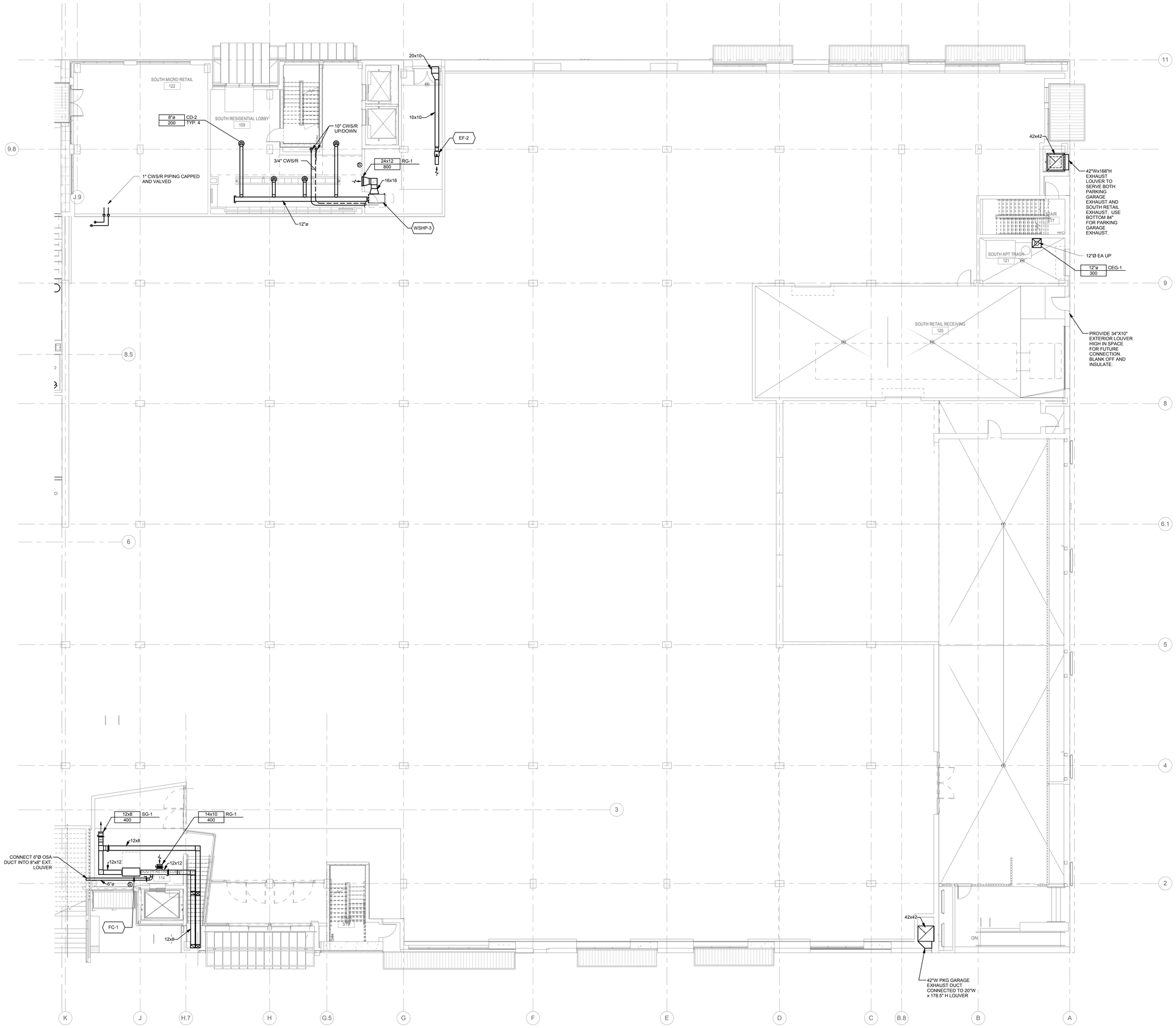
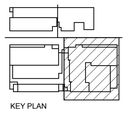


1 LEVEL 1 SOUTH - HVAC

0' 4' 8' 16'
1/8" = 1'-0"



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LOCA - SE 11TH AND BELMONT
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REVISION	DATE	REASON FOR ISSUE

LEVEL 1 SOUTH - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER
SCALE 1/8" = 1'-0"	M4-2.0Pa

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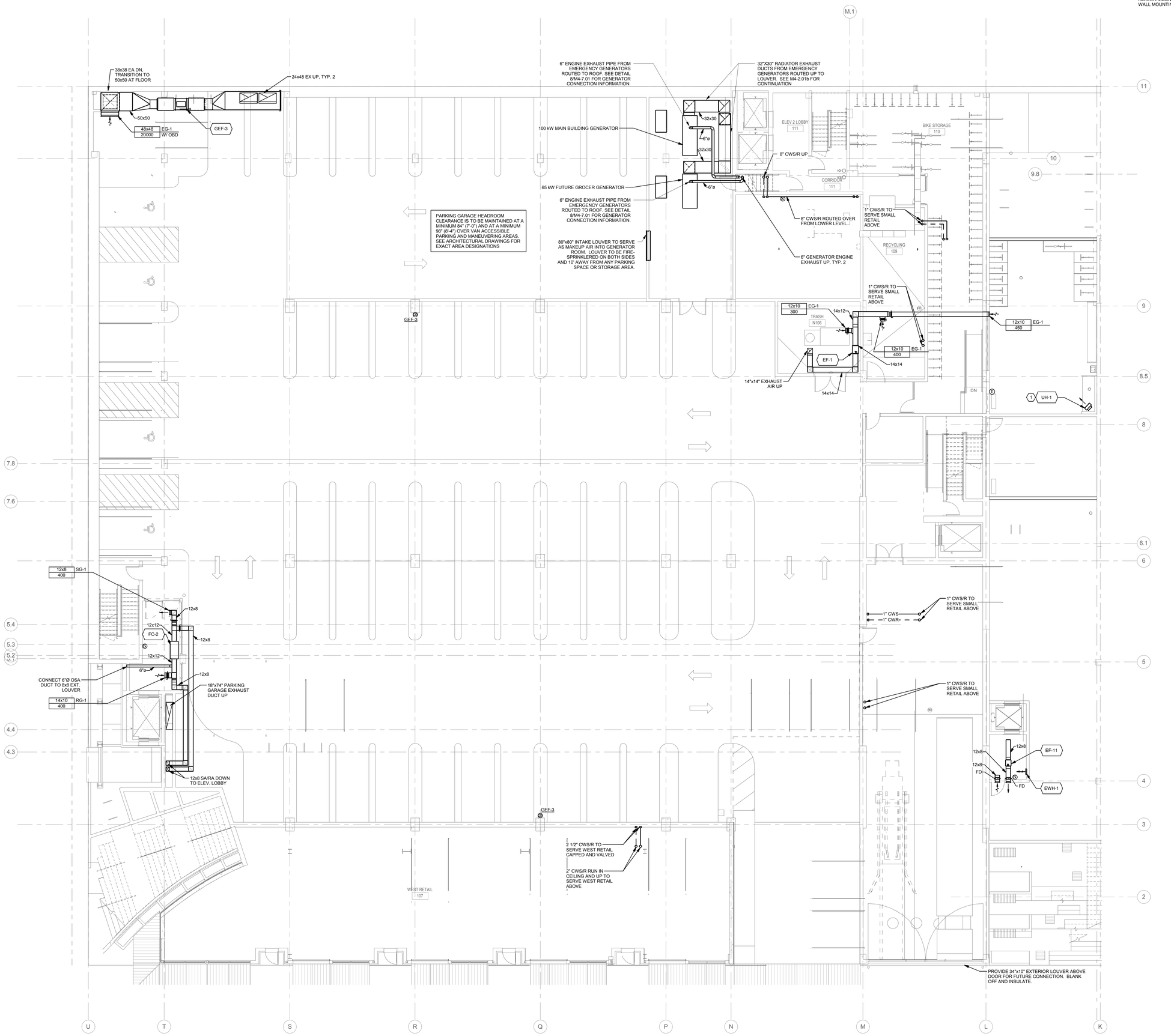
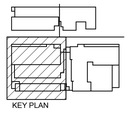
SHEET KEYNOTES

1 MOUNT UNIT HEATER AS HIGH AS POSSIBLE. COORDINATE WITH LIGHTING IN SPACE. UNIT HEATER MOUNTED ON MANUFACTURER SUPPLIED WALL MOUNTING BRACKET.



1 LEVEL P2 NORTH - HVAC

0' 4' 8' 16'
1/8" = 1'-0"



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REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION
1	10/23/14	10/15/14 LS CHK RESPONSE

LEVEL P2 NORTH - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	1
PROJECT NUMBER 123625	SHEET NUMBER M4-2.0Pb
SCALE 1/8" = 1'-0"	

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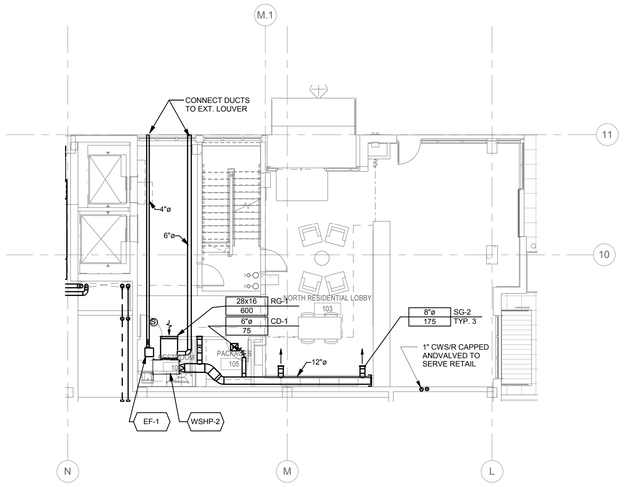
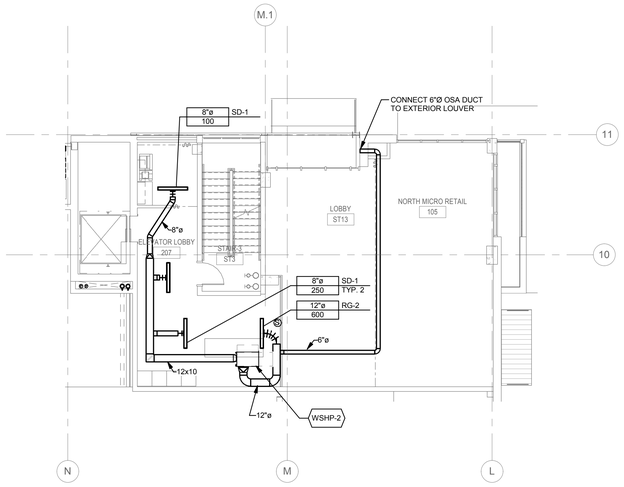


1 NORTH BUILDING RESIDENTIAL LOBBY - HVAC

0' 4' 8' 16'
1/8" = 1'-0"



2 NORTH LOBBY MEZZANINE - HVAC

0' 4' 8' 16'
1/8" = 1'-0"

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REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

NORTH RES. LOBBY PLANS - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER M4-2.0Pd
SCALE 1/8" = 1'-0"	

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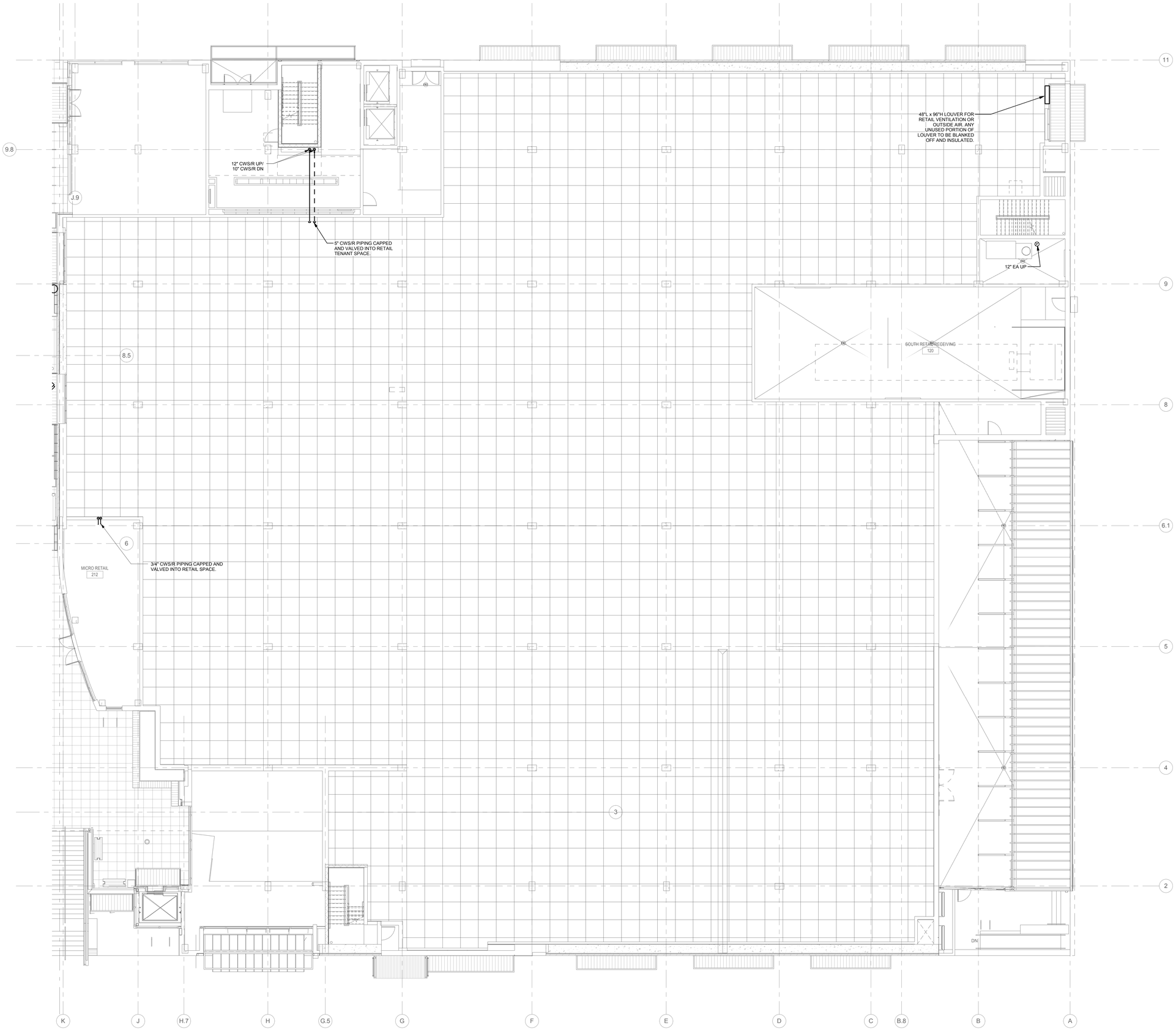
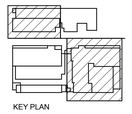


1 LEVEL 2 SOUTH -HVAC

0' 4' 8' 16'

1/8" = 1'-0"



KEY PLAN

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PROJECT 2012-0522
CONTACT Andrew Craig

LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

LEVEL 2 SOUTH - HVAC

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER M4-2.01a
SCALE 1/8" = 1'-0"	

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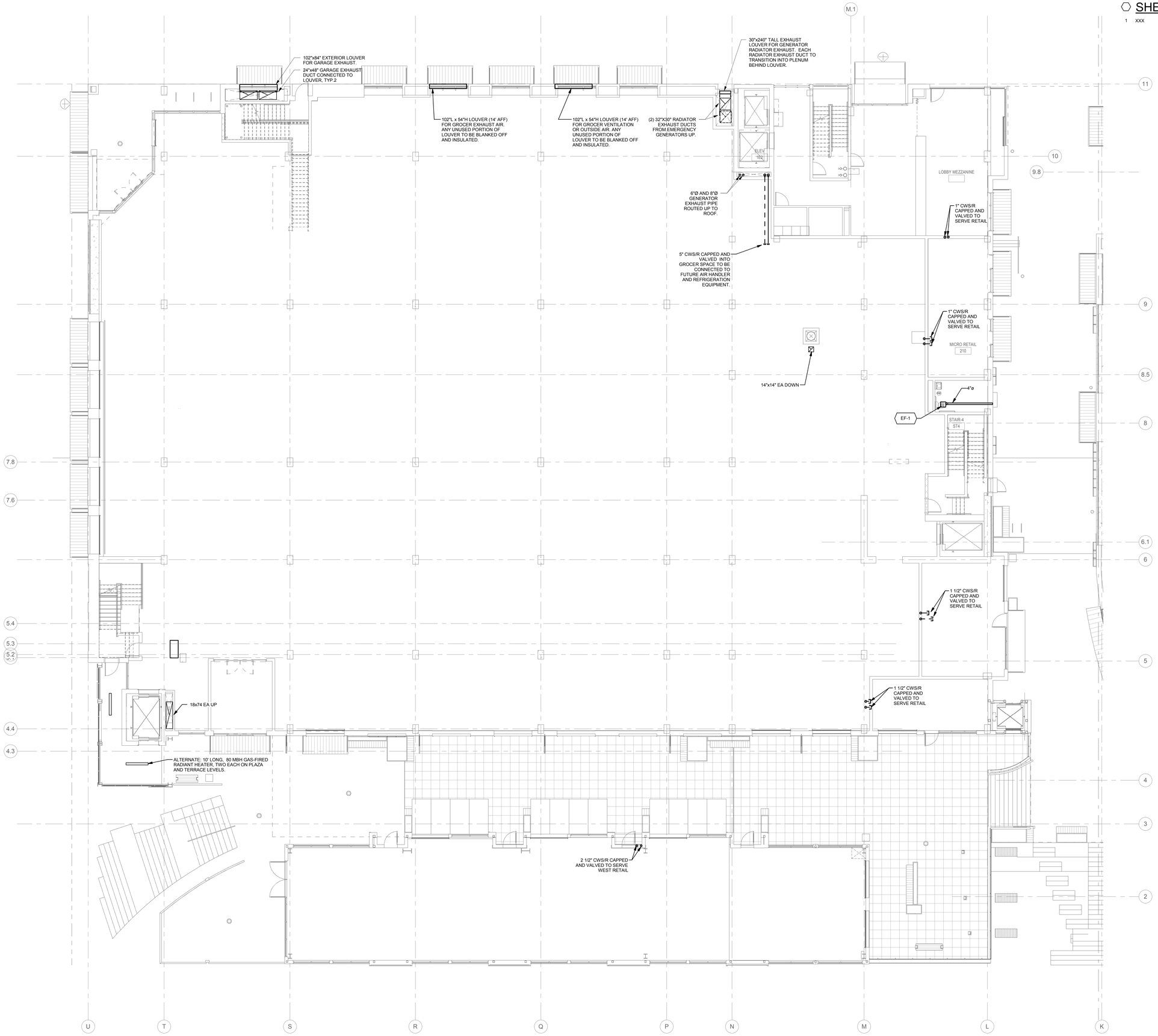
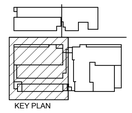
SHEET KEYNOTES

1 XXX



1 LEVEL 1 NORTH - HVAC

0' 4' 8' 16'
1/8" = 1'-0"



KEY PLAN

REGISTERED PROFESSIONAL ENGINEER
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OREGON
SEPT. 28, 2014
ANDREW W. FRICHTL
EXPIRES: 12/31/15

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PROJECT 2012-0522
CONTACT Andrew Craig

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

LEVEL 1 NORTH - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER M4-2.01b
SCALE 1/8" = 1'-0"	

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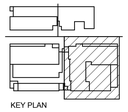
SHEET KEYNOTES

1 NOT USED

1 LEVEL 3 SOUTH - HVAC

0' 4' 8' 16'
1/8" = 1'-0"



KEY PLAN

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT 28, 2004 ANDREW W. FRICHTL

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PROJECT 2012-0522
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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

LEVEL 3 SOUTH - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER M4-2.02a
SCALE 1/8" = 1'-0"	

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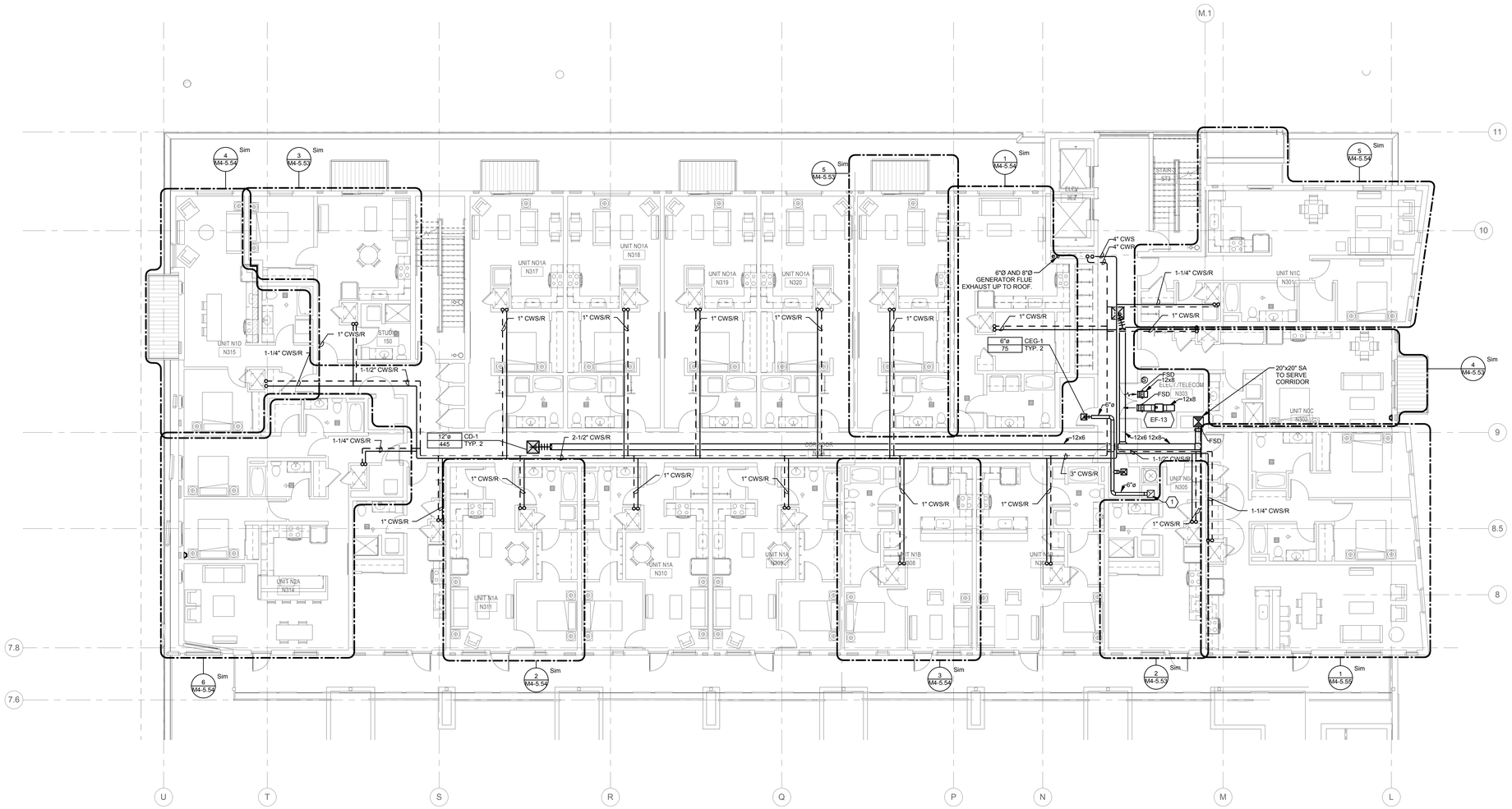
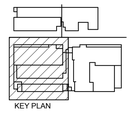
SHEET KEYNOTES

1 14"x14" EXHAUST DUCT UP TO ROOFTOP EXHAUST FAN.



1 LEVEL 4 NORTH - HVAC

0' 4' 8' 16'
1/8" = 1'-0"



REGISTERED PROFESSIONAL ENGINEER
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SEPT. 28, 2004
ANDREW W. FRICHTL
EXPIRES: 12/31/15

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PROJECT 2012-0522
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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

LEVEL 4 NORTH - HVAC

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER M4-2.02b
SCALE 1/8" = 1'-0"	

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1 TYPICAL RESIDENTIAL LEVEL SOUTH - HVAC

0' 4' 8' 16'
1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
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OREGON
SEPT 28, 2004
ANDREW W. FRICHTL
EXPIRES: 12/31/15

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5035 SE 24TH AVE
PORTLAND, OR 97202
T 503-239-4600

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Interface Engineering
MECHANICAL / ELECTRICAL / PLUMBING
100 SW Main St, Ste 1600
Portland, OR 97201
T 503-382-2266
PROJECT 2012-0522
CONTACT Andrew Craig

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

TYPICAL RESIDENTIAL LEVEL SOUTH - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER M4-2.03a
SCALE 1/8" = 1'-0"	

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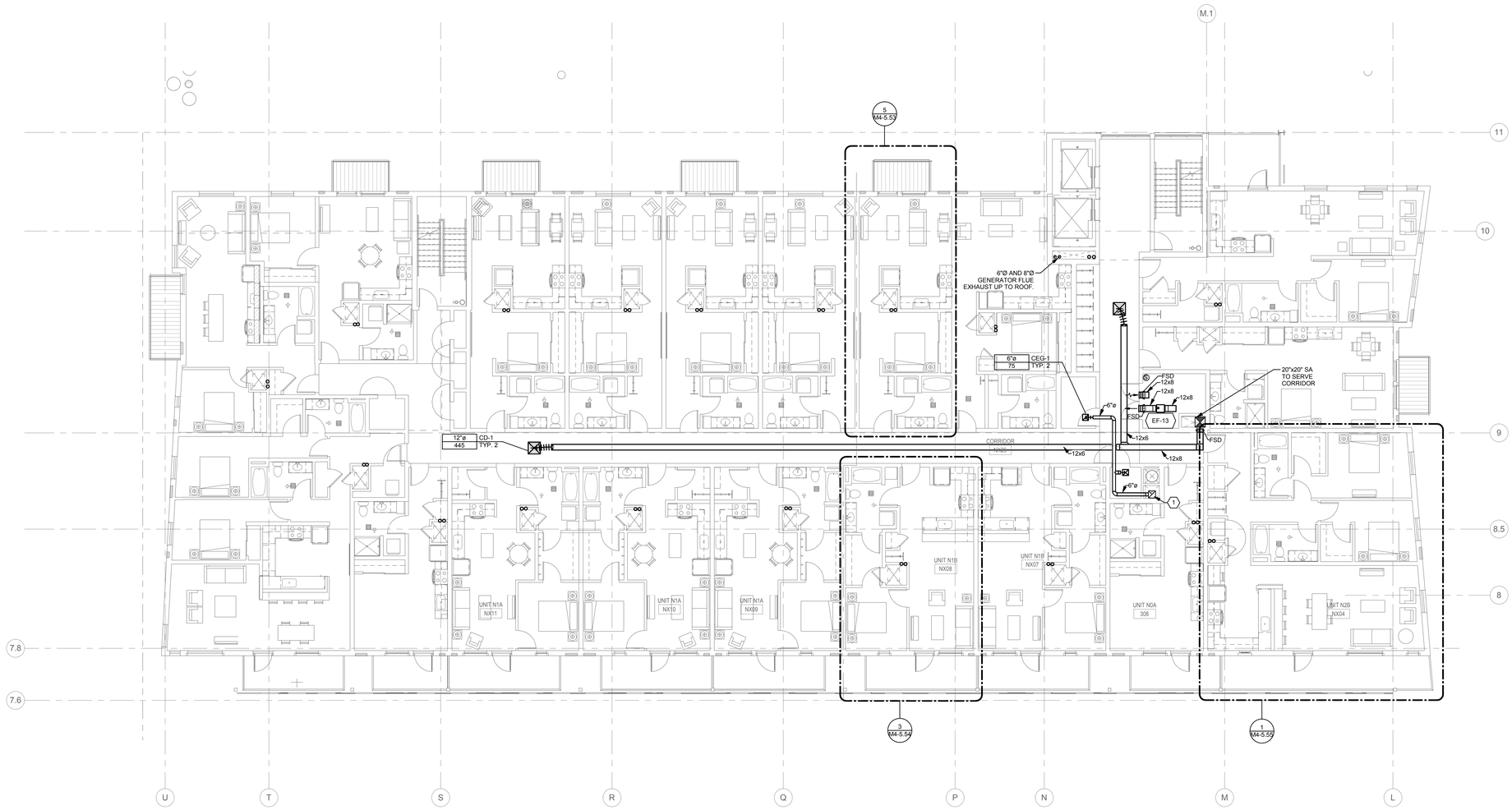
SHEET KEYNOTES

1 14"x14" EXHAUST DUCT UP TO ROOFTOP EXHAUST FAN.



1 TYPICAL RESIDENTIAL LEVEL NORTH - HVAC

0' 4' 8' 16'
1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
17430
OREGON
SEPT 28, 2004
ANDREW W. FRICHTL
EXPIRES: 12/31/15

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CONTACT Andrew Craig

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

TYPICAL RESIDENTIAL LEVEL NORTH - HVAC

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER M4-2.03b
SCALE 1/8" = 1'-0"	

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1 LEVEL 7 SOUTH - HVAC

0' 4' 8' 16'

1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT 28, 2004 ANDREW W. FRICHTL

EXPIRES: 12/31/15

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T 503-382-2266

PROJECT 2012-0522
CONTACT Andrew Craig

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

LEVEL 7 SOUTH - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER M4-2.07a
SCALE 1/8" = 1'-0"	

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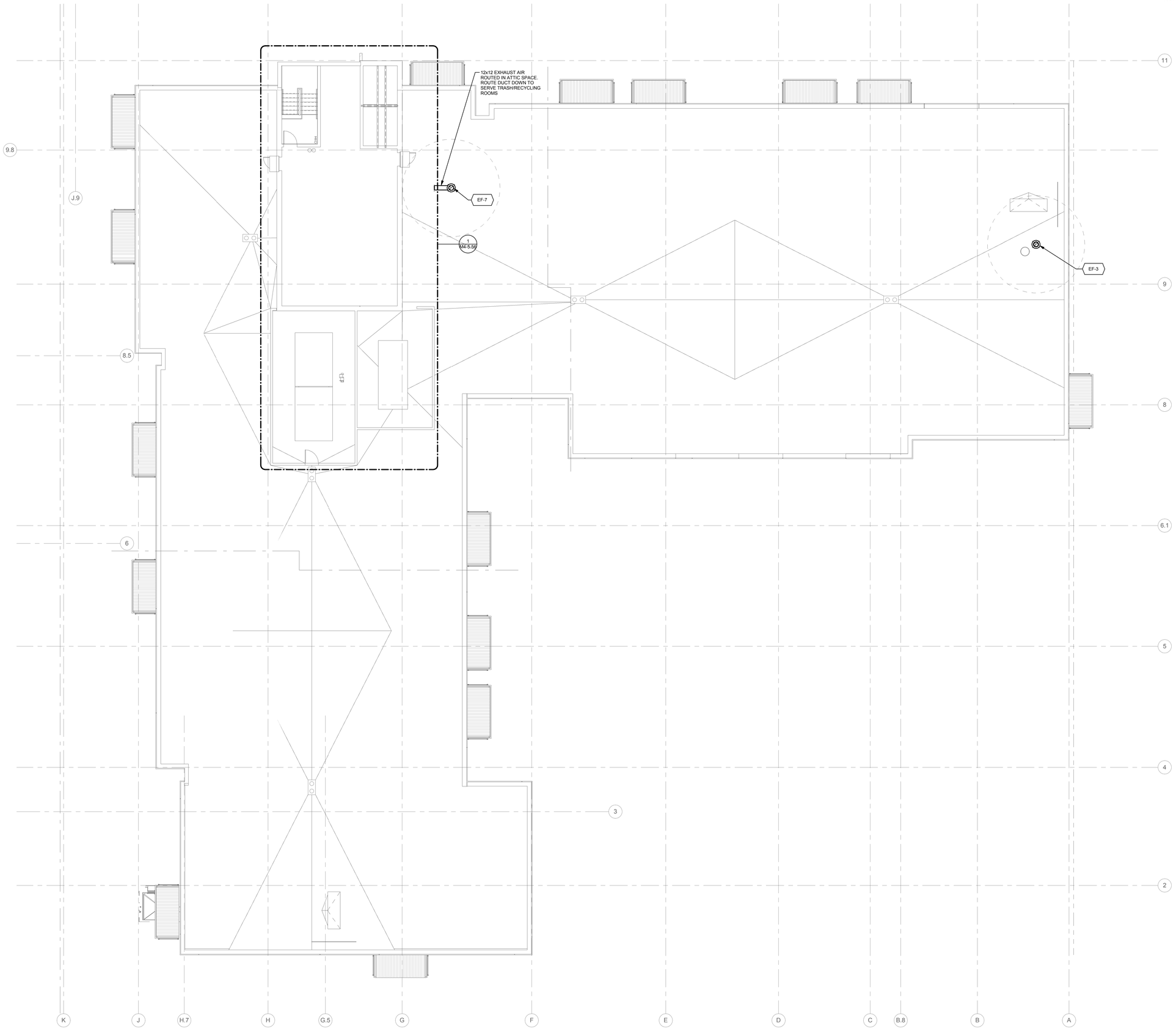
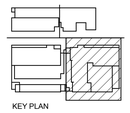
SHEET KEYNOTES

1 XXX



1 ROOF SOUTH - HVAC

0' 4' 8' 16'
1/8" = 1'-0"



KEY PLAN

REGISTERED PROFESSIONAL ENGINEER
17430
OREGON
SEPT 28, 2004
ANDREW W. FRICHTL

EXPIRES: 12/31/15

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PROJECT 2012-0522
CONTACT Andrew Craig

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

ROOF SOUTH - HVAC

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER M4-2.91a
SCALE 1/8" = 1'-0"	

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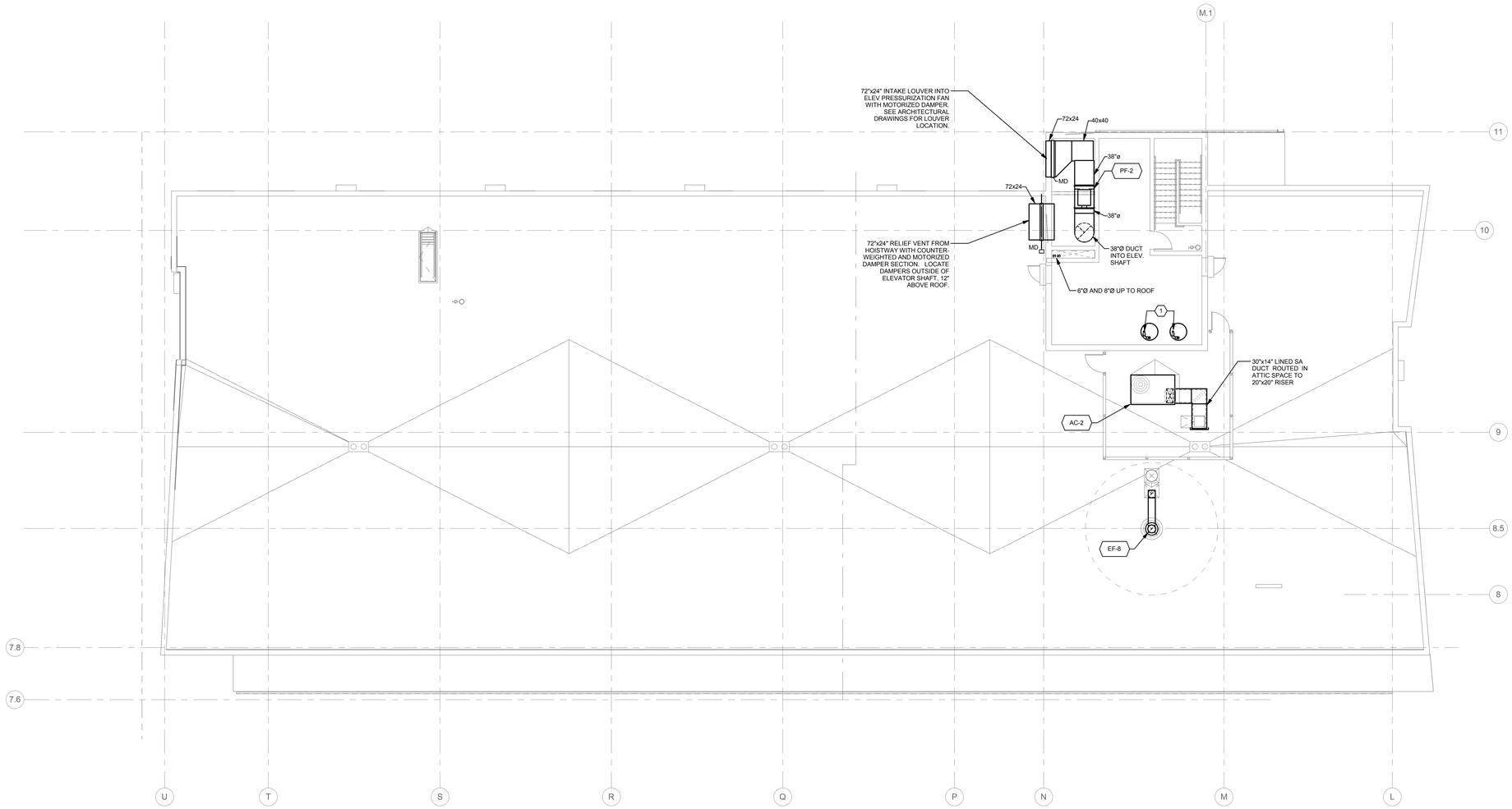
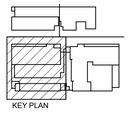


SHEET KEYNOTES

1 PROVIDE 4"Ø FLUE AND COMBUSTION AIR DUCTS TO WATER HEATERS. TERMINATE WITH MANUFACTURER SUPPLIED CONCENTRIC VENT KIT AT MECHANICAL ROOM ROOF.

1 ROOF NORTH - HVAC

0' 4' 8' 16'
1/8" = 1'-0"



REGISTERED PROFESSIONAL ENGINEER
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OREGON
SEPT 28, 2004
ANDREW W. FRICHTL
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

ROOF NORTH - HVAC

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER M4-2.91b
SCALE 1/8" = 1'-0"	

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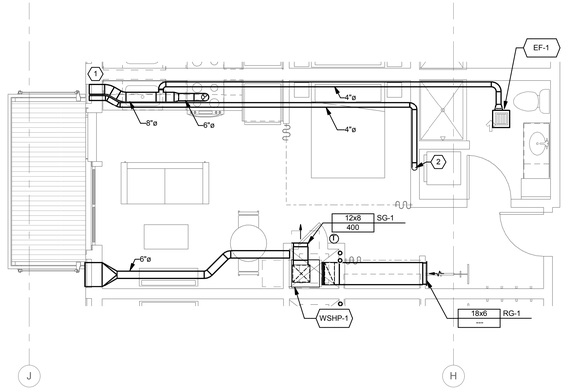
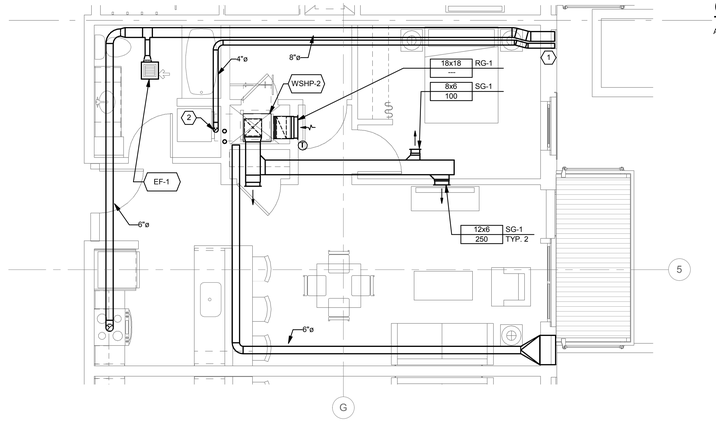


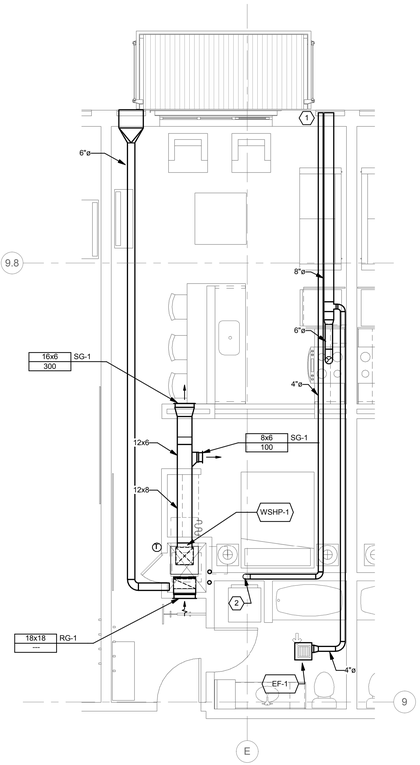
1 ENLARGED TYP. UNIT SOA - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



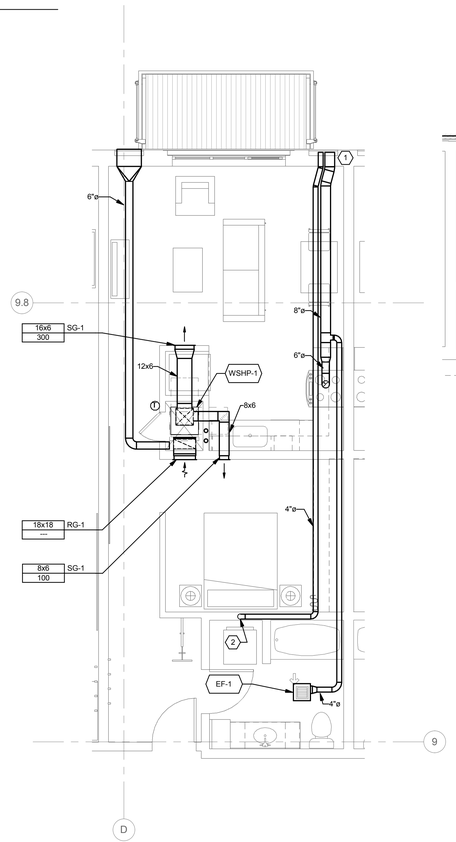
5 ENLARGED TYP. UNIT S1B - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



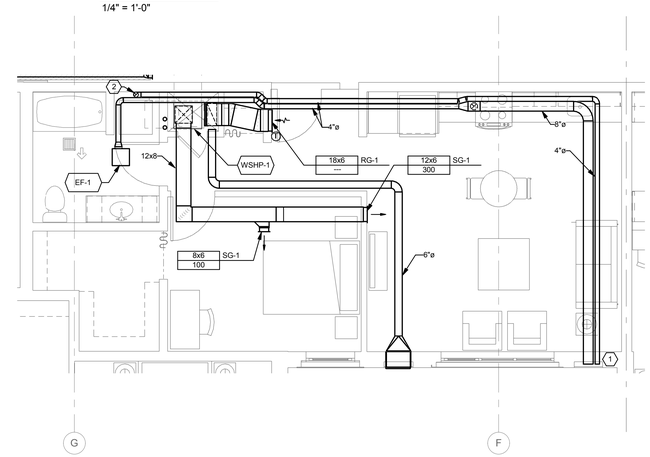
2 ENLARGED TYP. UNIT SO1A - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



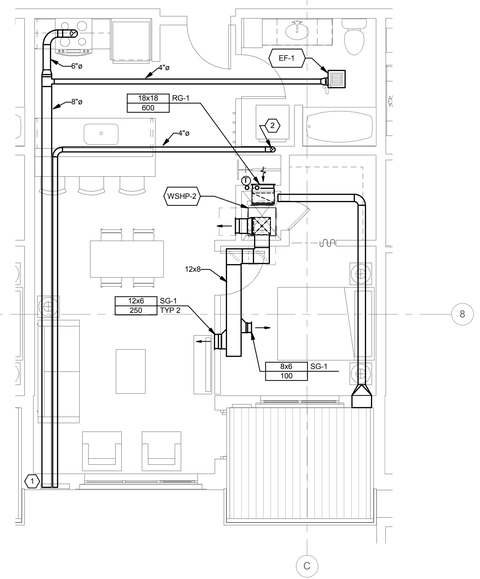
3 ENLARGED TYP. UNIT SO1B - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



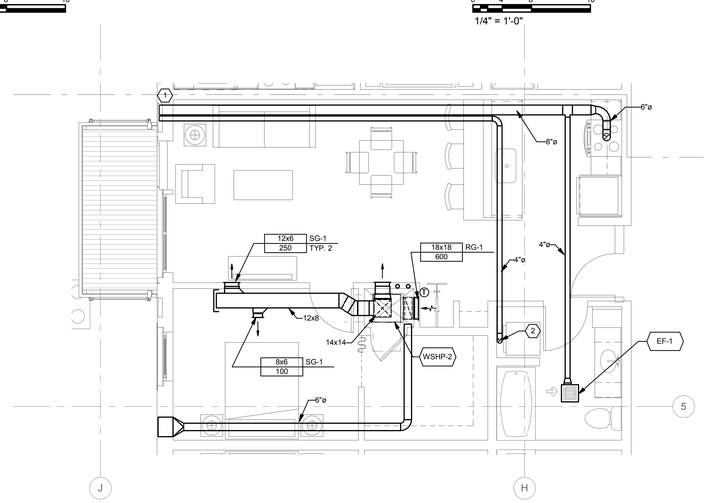
6 ENLARGED TYP. UNIT S1D - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



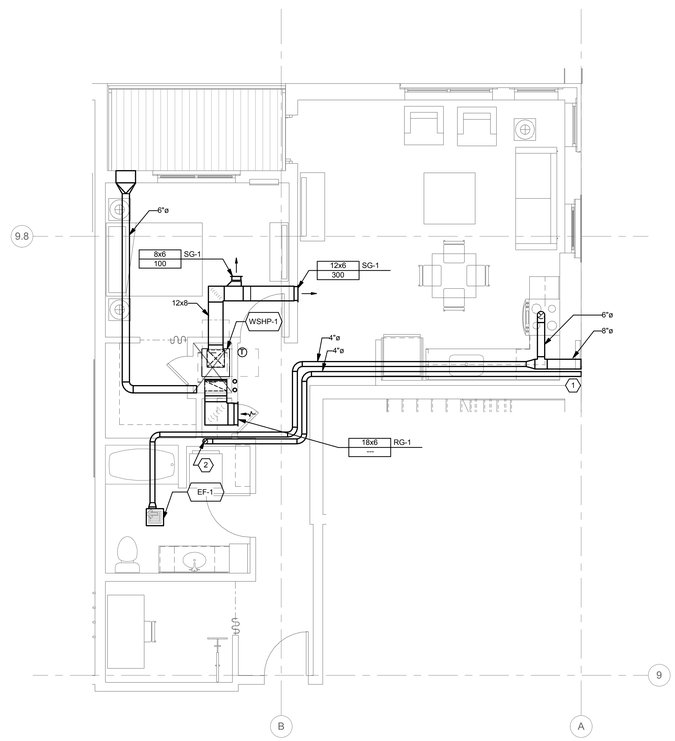
7 ENLARGED TYP. UNIT S1C - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



4 ENLARGED TYP. UNIT S1A - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



8 ENLARGED TYP. UNIT S1E - HVAC

0' 4' 8' 16'
1/4" = 1'-0"

GENERAL SHEET NOTES

A. CONNECT 6"Ø VENTILATION DUCT TO RETURN AIR PLENUM OF WATER SOURCE HEAT PUMP, TYPICAL ALL RESIDENTIAL UNITS.

SHEET KEYNOTES

1 CONNECT DRYER AND GENERAL UNIT EXHAUST DUCTS TO SHEET METAL PLENUM, SAME SIZE AS EXTERIOR LOUVER.

2 CONNECT 4"Ø DRYER EXHAUST DUCT TO DRYER.

REGISTERED PROFESSIONAL ENGINEER
17430
OREGON
SEPT 28, 1984
ANDREW W. FRICHTL
EXPIRES: 12/31/15

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T 503-382-2266
PROJECT 2012-0522
CONTACT Andrew Craig

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

ENLARGED TYP UNIT PLANS - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER
SCALE 1/4" = 1'-0"	M4-5.51

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12/17/2014 2:18:27 PM

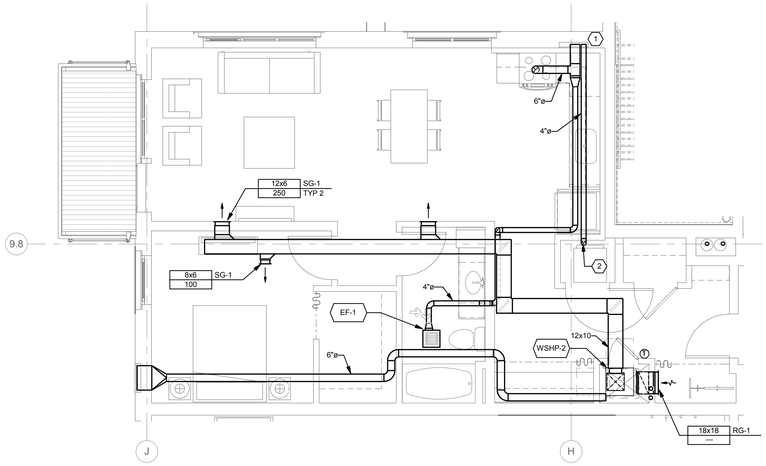
GENERAL SHEET NOTES

A. CONNECT 6"Ø VENTILATION DUCT TO RETURN AIR PLENUM OF WATER SOURCE HEAT PUMP, TYPICAL ALL RESIDENTIAL UNITS.

SHEET KEYNOTES

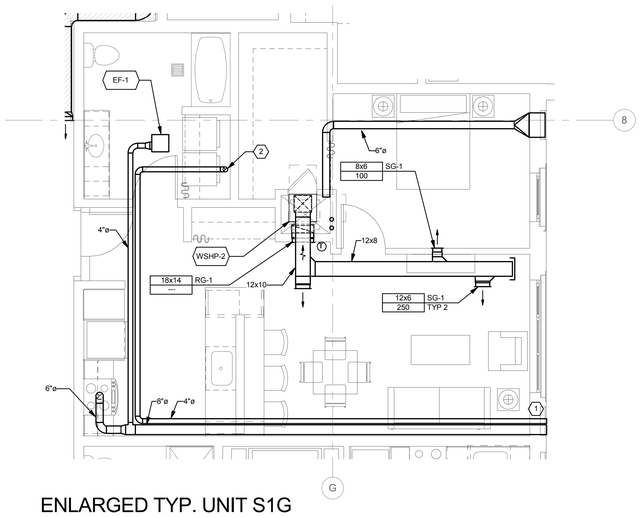
1 CONNECT DRYER AND GENERAL UNIT EXHAUST DUCTS TO SHEET METAL PLENUM, SAME SIZE AS EXTERIOR LOUVER.

2 CONNECT 4"Ø DRYER EXHAUST DUCT TO DRYER.



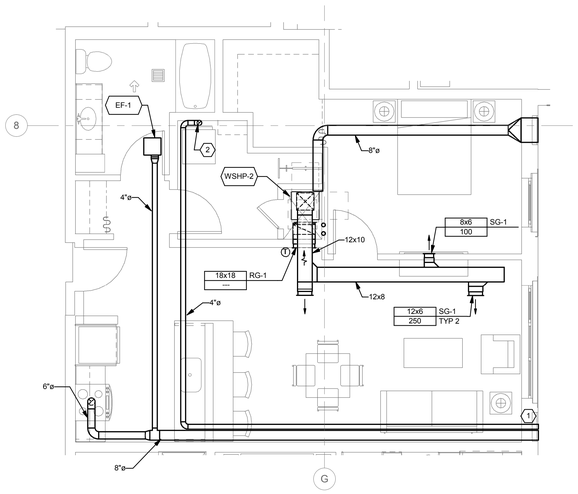
1 ENLARGED TYP. UNIT S1F - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



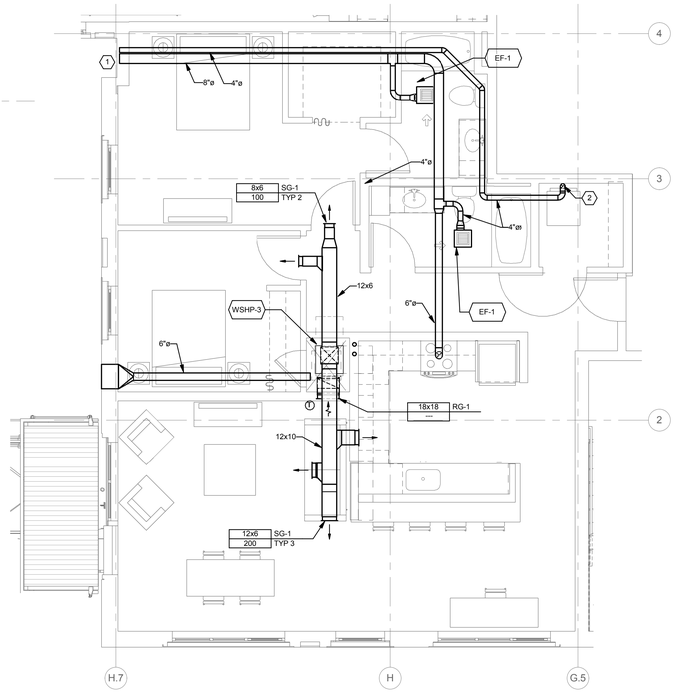
ENLARGED TYP. UNIT S1G
2 TYPE A (RES. LVL 2-3) - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



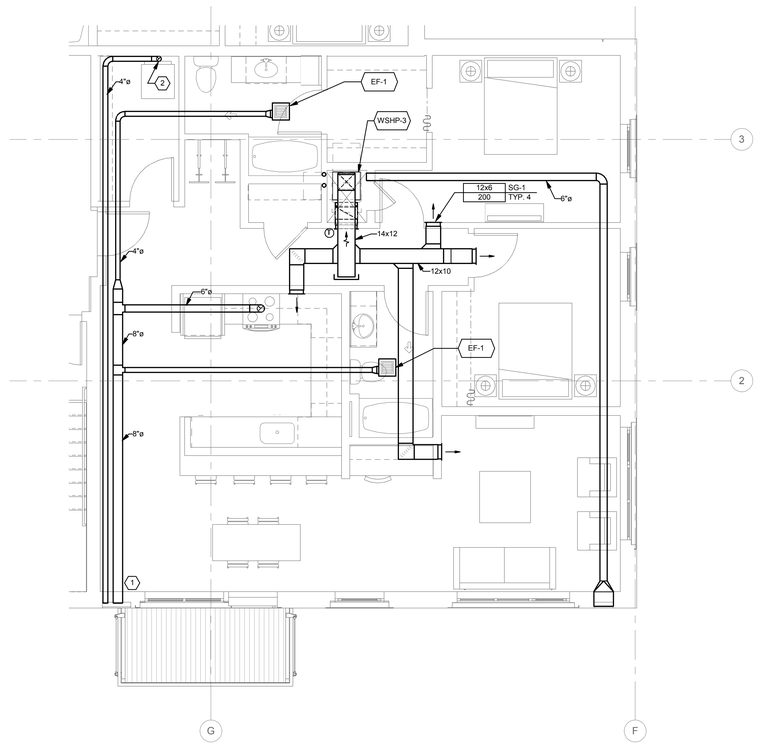
ENLARGED TYP. UNIT S1G
3 TYPE B (RES. LVL 4-5) - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



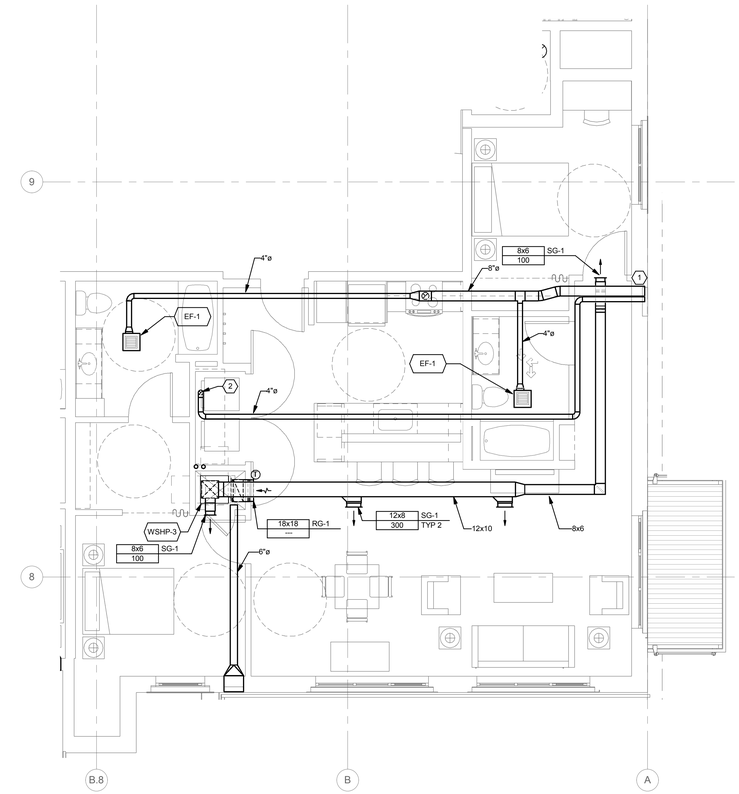
4 ENLARGED TYP UNIT S2A - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



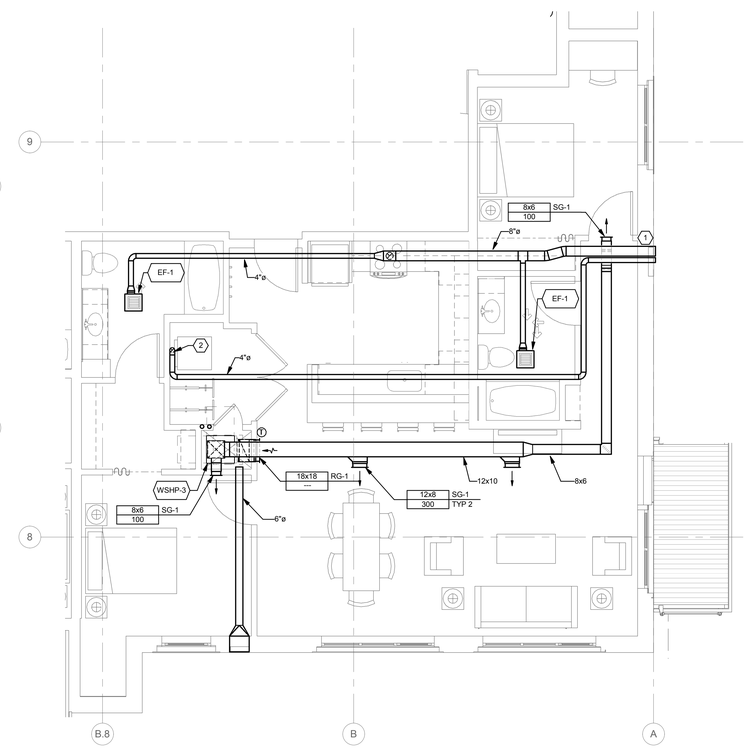
5 ENLARGED TYP. UNIT S2B - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



ENLARGED TYP. UNIT S2C
6 TYPE A (RES. LVL 1) - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



ENLARGED TYP. UNIT S2C
7 TYPE B (RES. LVL 2-5) - HVAC

0' 4' 8' 16'
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT. 28, 1994 ANDREW W. FRICHTL
EXPIRES: 12/31/15

AMERICAN HEATING, INC. BUILT ON TRUST
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LOCA - SE 11TH AND BELMONT
Portland, OR 97214
Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

ENLARGED TYP UNIT PLANS - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER M4-5.52
SCALE 1/4" = 1'-0"	

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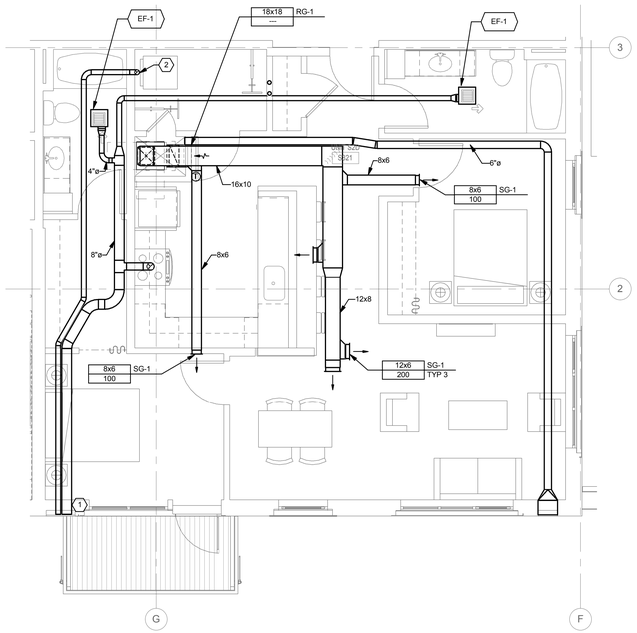
SHEET KEYNOTES

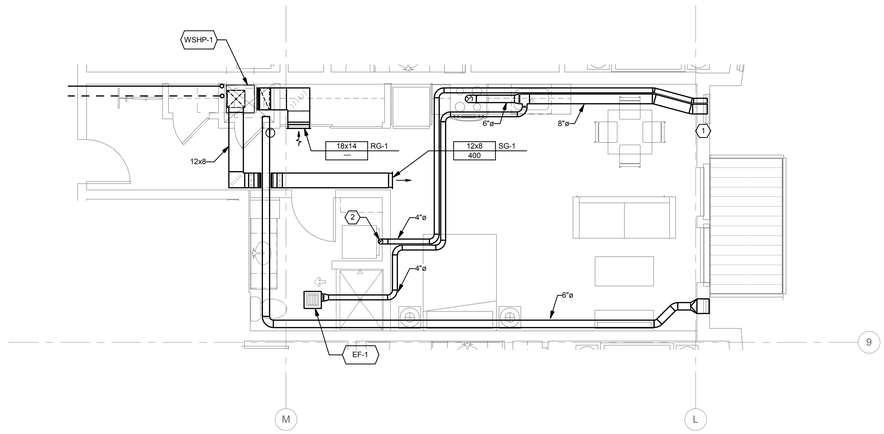
1 CONNECT DRYER AND GENERAL UNIT EXHAUST DUCTS TO SHEET METAL PLENUM, SAME SIZE AS EXTERIOR LOUVER.

2 CONNECT 4"Ø DRYER EXHAUST DUCT TO DRYER.



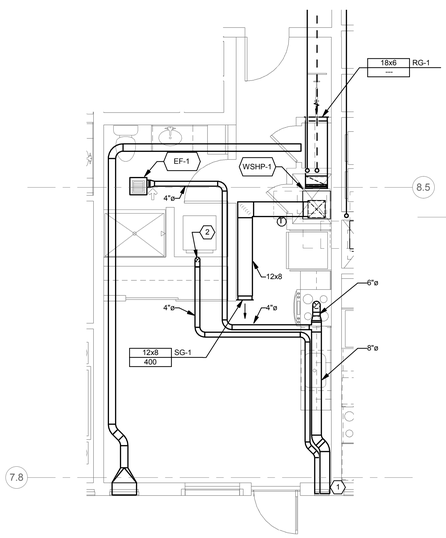
1 ENLARGED TYP UNIT S2D - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



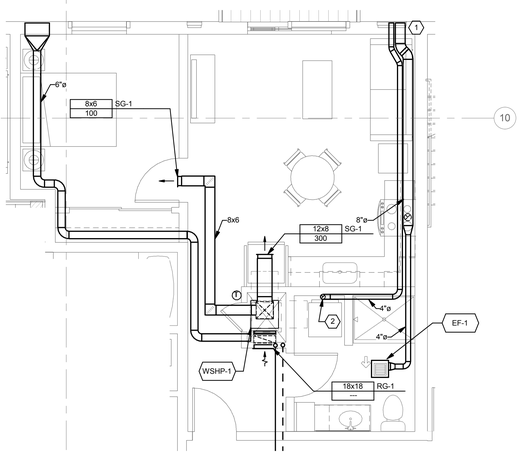
4 ENLARGED TYP. UNIT NOC - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



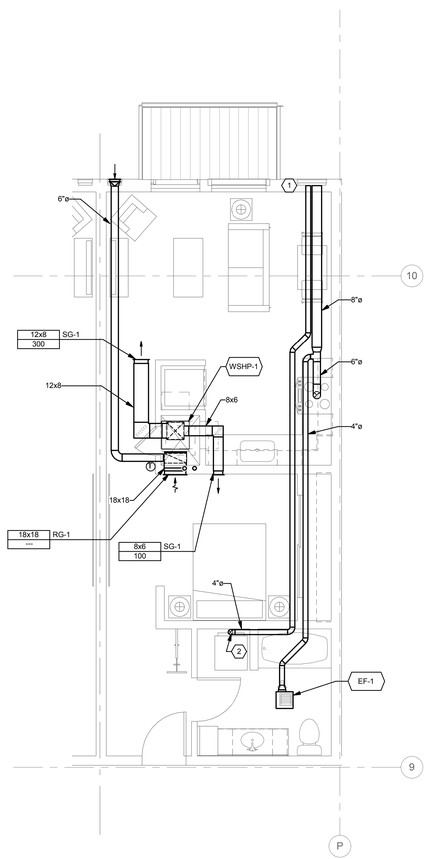
2 ENLARGED TYP. UNIT NOA - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



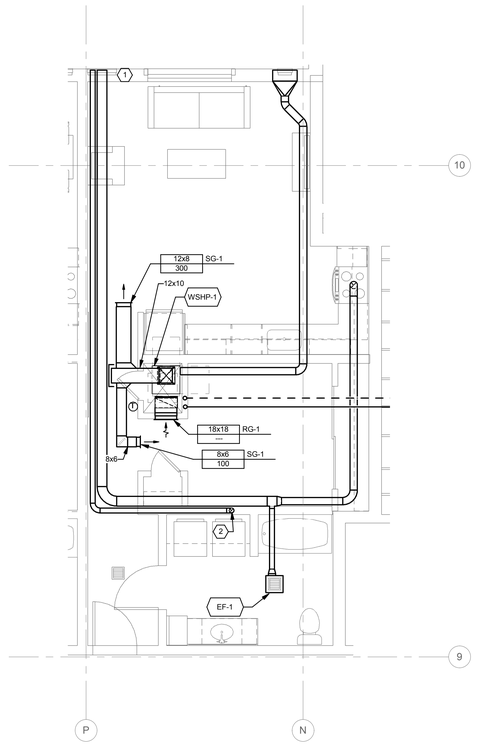
3 ENLARGED TYP. UNIT N1E - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



5 ENLARGED TYP.UNIT NO1A - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



6 ENLARGED TYP. UNIT NO1B (RES. LVL 1) - HVAC

0' 4' 8' 16'
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
17430
OREGON
SEPT. 28, 2004
ANDREW W. FRICHTL
EXPIRES: 12/31/15

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Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

ENLARGED TYP UNIT PLANS - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER M4-5.53
SCALE 1/4" = 1'-0"	

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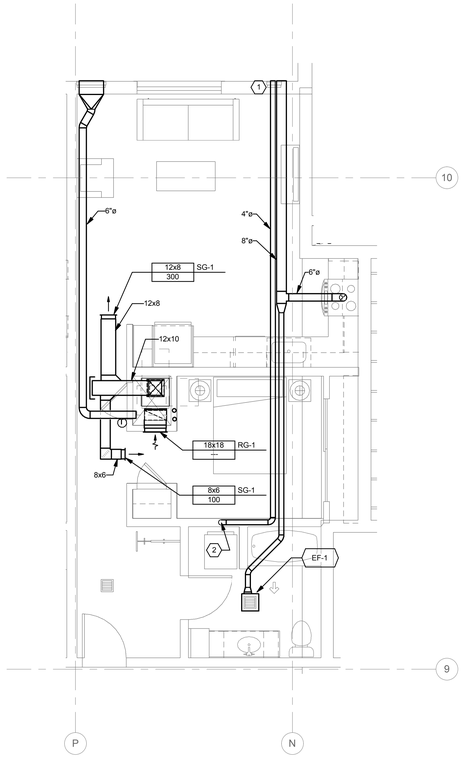
12/17/2014 2:17:19 PM

SHEET KEYNOTES

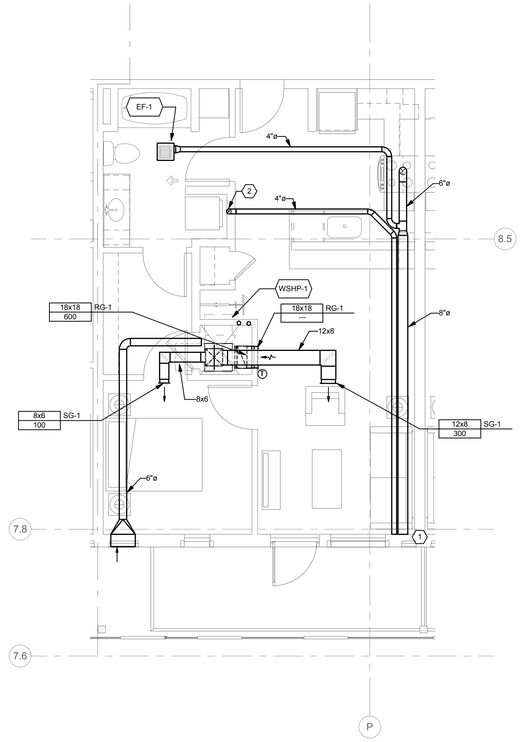
1 CONNECT DRYER AND GENERAL UNIT EXHAUST DUCTS TO SHEET METAL PLENUM, SAME SIZE AS EXTERIOR LOUVER.

2 CONNECT 4"Ø DRYER EXHAUST DUCT TO DRYER.



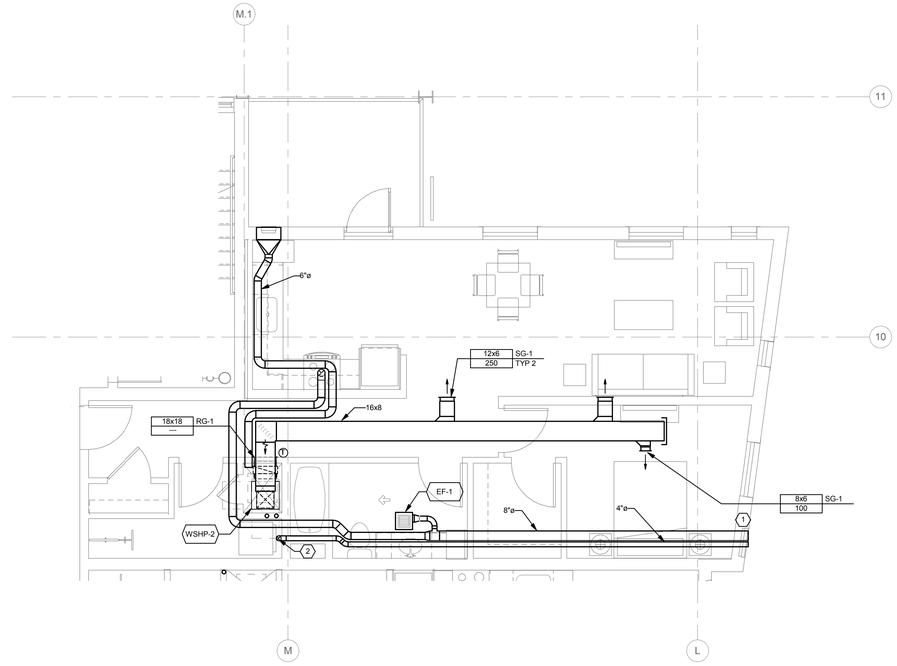
1 ENLARGED TYP. UNIT NO1B UNIT B (RES. LVL 2-4) - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



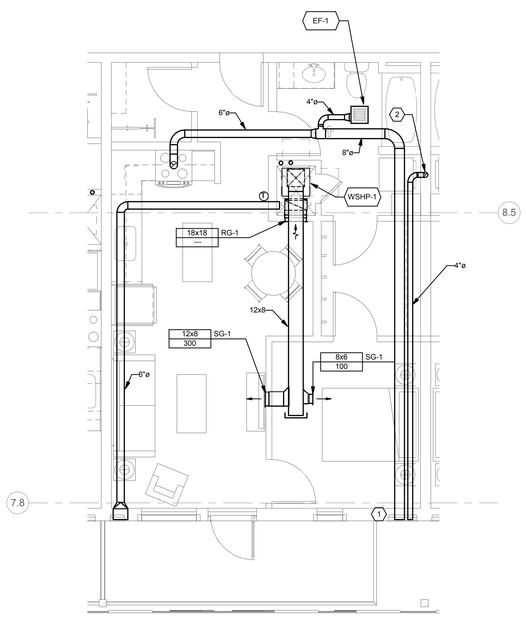
3 ENLARGED TYP. UNIT N1B - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



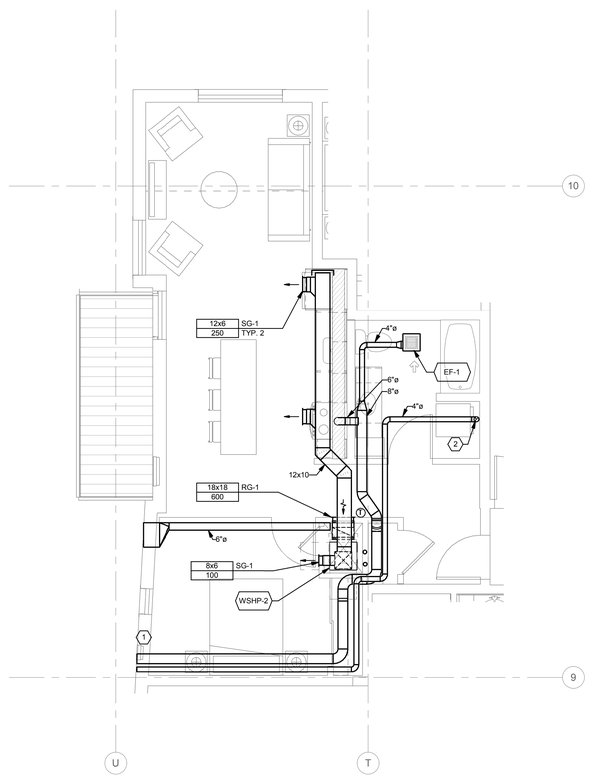
5 ENLARGED TYP. UNIT N1C - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



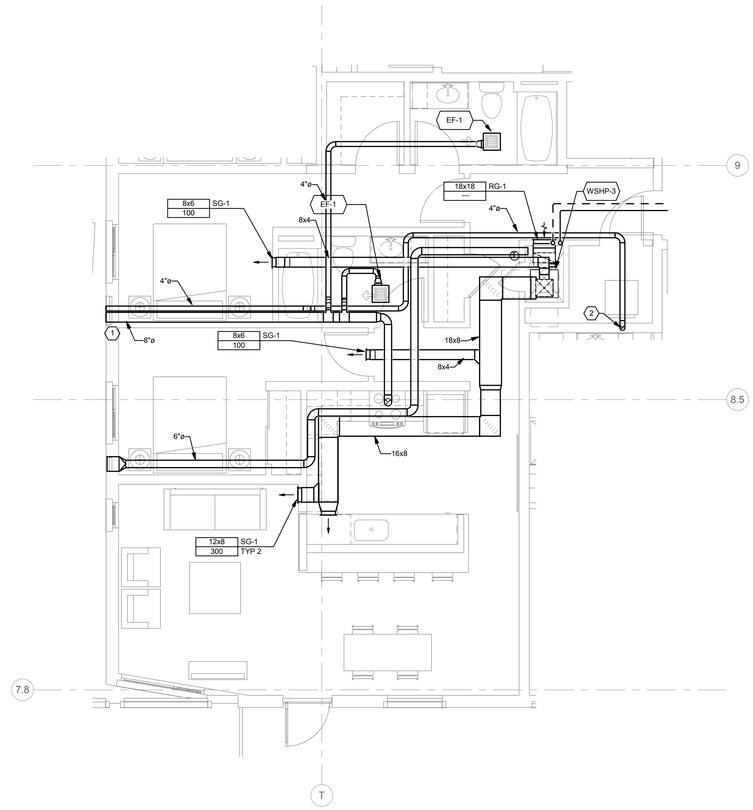
2 ENLARGED TYP. UNIT N1A - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



4 ENLARGED TYP. UNIT N1D - HVAC

0' 4' 8' 16'
1/4" = 1'-0"



6 ENLARGED TYP. UNIT N2A - HVAC

0' 4' 8' 16'
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER 17430 OREGON SEPT 28, 1984 ANDREW W. FRICHTL
EXPIRES: 12/31/15

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PROJECT 2012-0522
CONTACT Andrew Craig

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

ENLARGED TYP UNIT PLANS - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER M4-5.54
SCALE 1/4" = 1'-0"	

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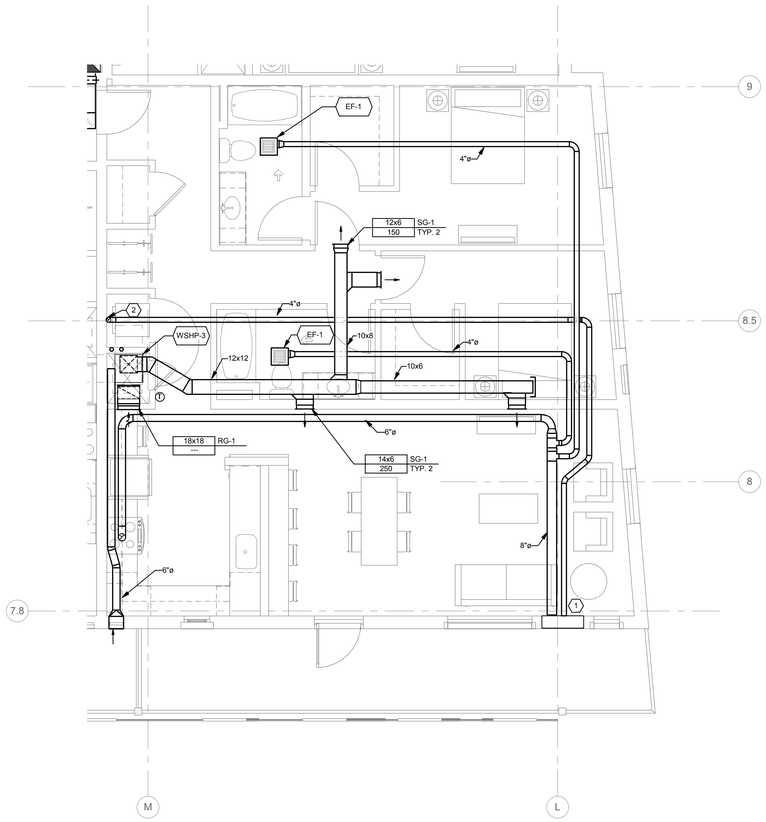
SHEET KEYNOTES

1 CONNECT DRYER AND GENERAL UNIT EXHAUST DUCTS TO SHEET METAL PLENUM, SAME SIZE AS EXTERIOR LOUVER.

2 CONNECT 4"Ø DRYER EXHAUST DUCT TO DRYER.



1 ENLARGED TYP. UNIT N2B (RES. LVL 2-4) - HVAC

0' 4' 8' 16'
1/4" = 1'-0"

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17430
OREGON
SEPT 28, 2004
ANDREW W. FRICHTL

EXPIRES: 12/31/15

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REVISION	DATE	REASON FOR ISSUE

ENLARGED TYP UNIT PLANS - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER M4-5.55
SCALE 1/4" = 1'-0"	

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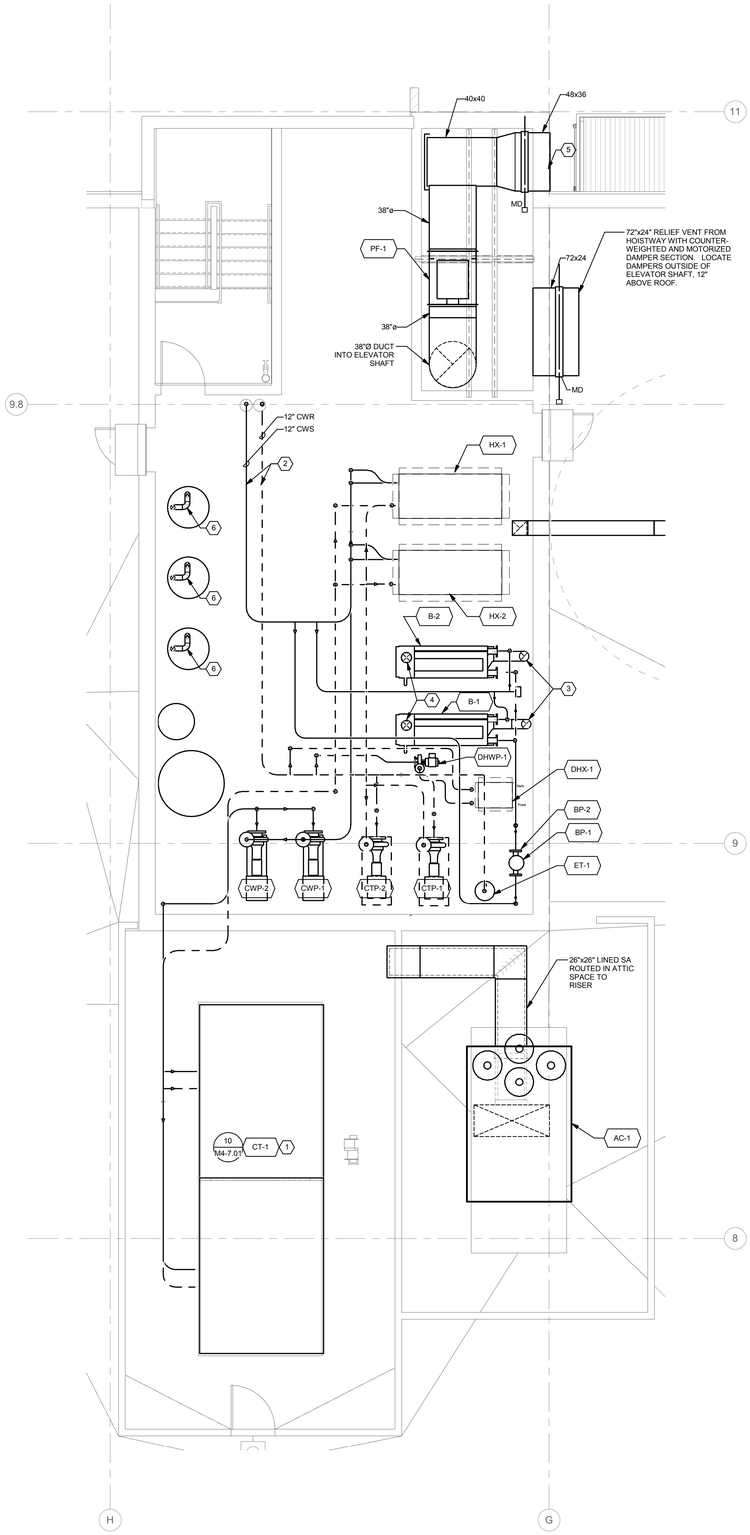

1 ENLARGED MECHANICAL ROOM - HVAC

0' 4' 8' 16'

1/4" = 1'-0"

SHEET KEYNOTES

1. PROVIDE RACKING TO SUPPORT COOLING TOWER PIPING.
2. ALL HVAC PIPING IN MECHANICAL ROOM AND SERVING COOLING TOWER TO BE HUNG WITH SPRING ISOLATED HANGERS WITH MINIMUM 0.75" STATIC DEFLECTION.
3. ROUTE 8"Ø BOILER FLUE VENT IN AL29-4C UP TO MECHANICAL ROOM ROOF. TERMINATE WITH RAIN CAP AND STORM COLLAR (BASIS OF DESIGN: DURAVENT FAS-N-SEAL)
4. ROUTE 8"Ø COMBUSTION AIR INTAKE UP TO MECHANICAL ROOM ROOF. PROVIDE GOOSENECK TERMINATION WITH BIRDSCREEN AT END OF DUCT.
5. 48"x36" INTAKE LOUVER INTO ELEVATOR PRESSURIZATION FAN WITH MOTORIZED DAMPER. SEE ARCHITECTURAL DRAWINGS FOR LOUVER LOCATION.
6. PROVIDE 4"Ø FLUE AND COMBUSTION AIR DUCTS TO WATER HEATERS. TERMINATE WITH MANUFACTURER SUPPLIED CONCENTRIC VENT KIT AT MECHANICAL ROOM ROOF.

REGISTERED PROFESSIONAL ENGINEER
17430
OREGON
SEPT. 28, 1984
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ENLARGED MECH ROOM - HVAC

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER M4-5.56
SCALE 1/4" = 1'-0"	

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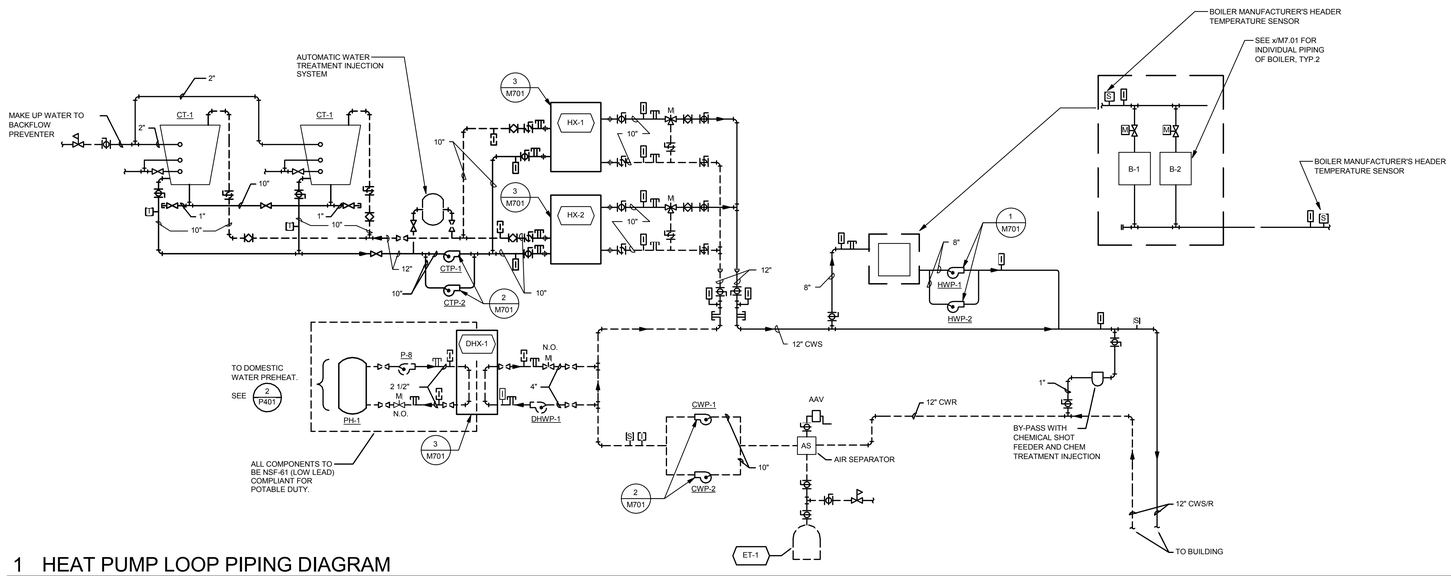
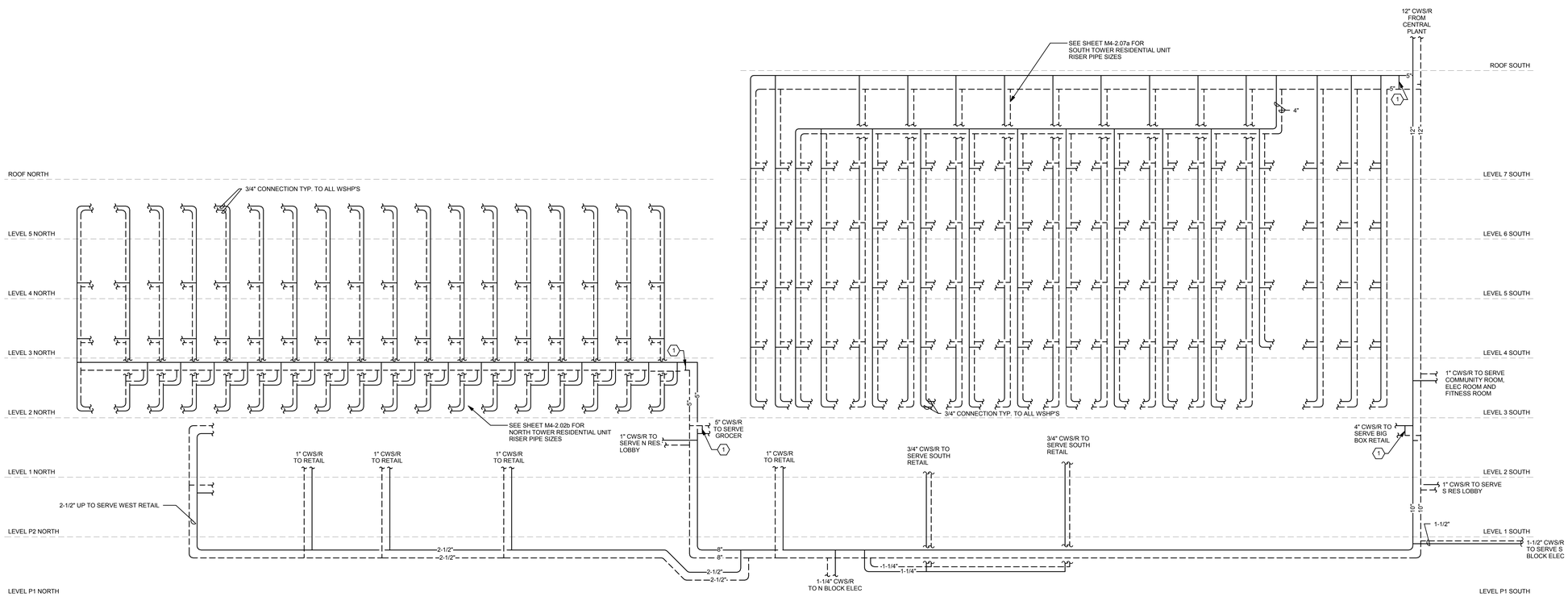
SHEET KEYNOTES

1 PROVIDE DIFFERENTIAL PRESSURE CONTROL ASSEMBLY ACROSS CONDENSER BRANCH LINE WHERE SHOWN. BASIS OF DESIGN: TOUR AND ANDERSON SERIES 793/794.



1 HEAT PUMP LOOP PIPING DIAGRAM

NO SCALE



2 CONDENSER WATER PIPING RISER

NO SCALE

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EXPIRES: 12/31/15

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Portland, OR 97214

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REVISION	DATE	REASON FOR ISSUE

DIAGRAMS - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER M4-6.01
SCALE As indicated	

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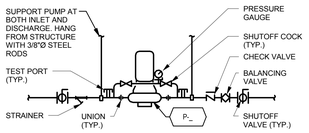
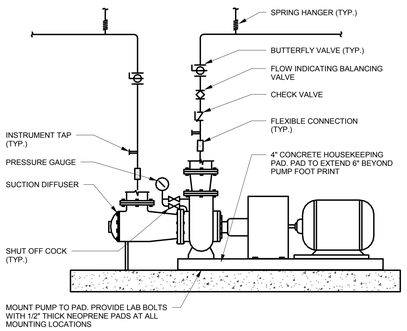


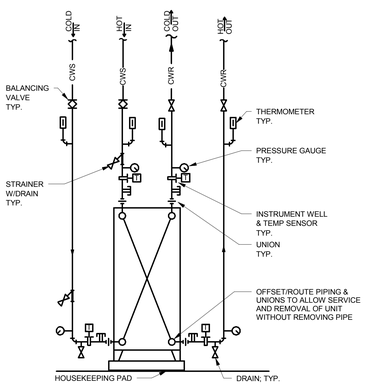
1 IN-LINE PUMP

NO SCALE



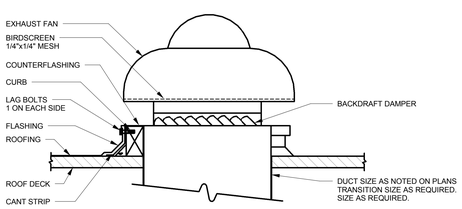
2 BASE MOUNTED PUMP

NO SCALE



3 HEAT EXCHANGER DETAIL

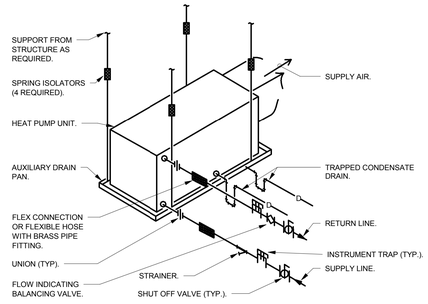
NO SCALE



NOTE:
COORDINATE SIZE AND LOCATION OF ROOF PENETRATION WITH GENERAL CONTRACTOR.
COORDINATE ALL ROOFING AND CURB INSTALLATION WITH GENERAL CONTRACTOR.

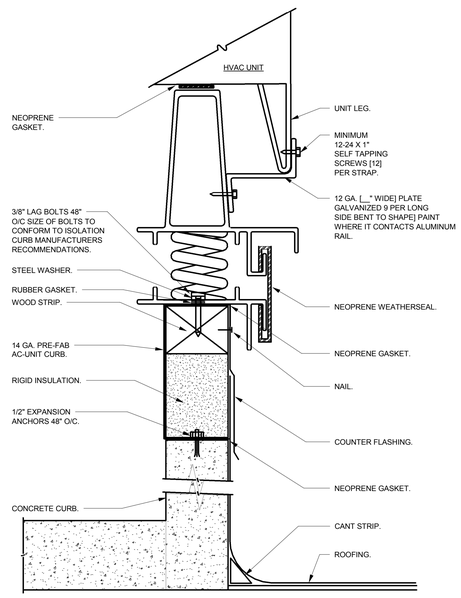
4 ROOF EXHAUST FAN

NO SCALE



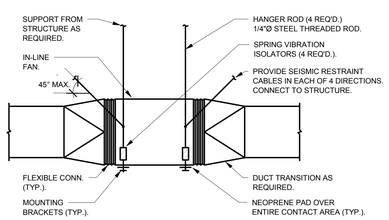
5 HEAT PUMP PIPING DIAGRAM

NO SCALE



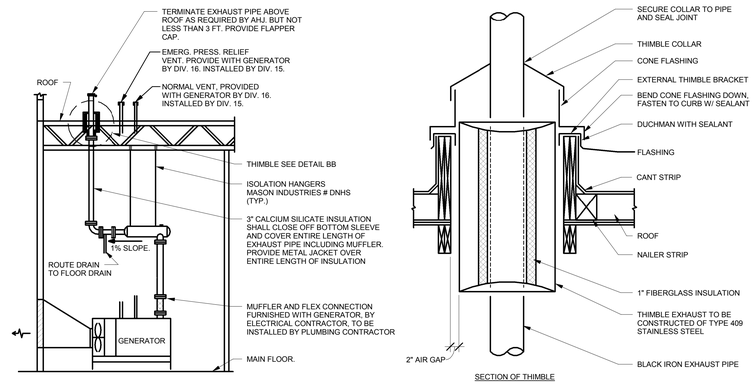
6 AC UNIT CURB W/ SPRING

NO SCALE



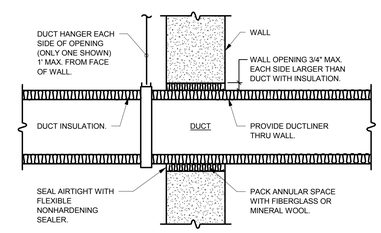
7 IN-LINE FAN

NO SCALE



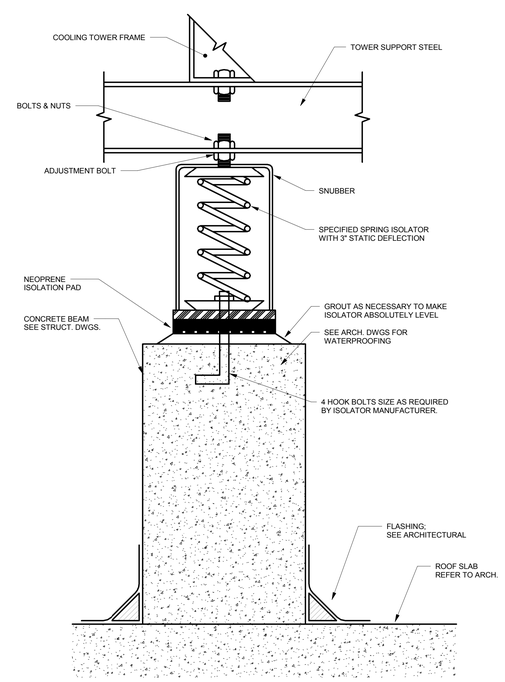
8 GENERATOR EXHAUST PIPE SYSTEM

NO SCALE



9 ACOUSTICAL WALL DUCT PENETRATION

NO SCALE



10 COOLING TOWER MOUNTING

NO SCALE

REGISTERED PROFESSIONAL ENGINEER
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SEPT. 28, 2004
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EXPIRES: 12/31/15

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PROJECT 2012-0522
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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

DETAILS - HVAC

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER M4-7.01
SCALE NO SCALE	

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ELECTRICAL SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

Abbreviations

(N)	NEW
(X)	DEMOLISH
2SPD	TWO SPEED STARTER
A	AMPERES, AMBER
AC	ALTERNATING CURRENT, AIR CONDITIONER
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AI	ANALOG INPUT
AIC	AVAILABLE INTERRUPTING CAPACITY
ALS	AREA LIGHT STANDARD
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AO	ANALOG OUTPUT
ARF	ABOVE RAISED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
B	BLUE
BAS	BUILDING AUTOMATION SYSTEM
BB	BASE BOARD HEATER
BC	BARE COPPER
C	CONDUIT, CLOSE, CONTROL
CA	CABLE
CAT	CATEGORY
CB	CIRCUIT BREAKER
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CFOI	CONTRACTOR FURNISHED OWNER INSTALLED
CLG	CEILING
CNTL	CONTROL
COM	COMMUNICATION
COORD	COORDINATE
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER
CU	COPPER
dB	DECIBEL
DC	DIRECT CURRENT
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DN	DOWN
DPDT	DOUBLE POLE DOUBLE THROW
DTL	DETAIL
DWG	DRAWING
E	EMERGENCY
EA	EACH
EF	EXHAUST FAN
EL	ELEVATION
EM	EMERGENCY LIGHT BALLAST
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NON-METALLIC TUBING
ESD	ELECTROSTATIC DISCHARGE
ETM	ELAPSED TIME METER
F	FUSE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FC	FAIL CLOSED
FF	FINISH FLOOR
FLP	FAIL LAST POSITION
FM	FACTORY MUTUAL
FMS	FACILITY MANAGEMENT SYSTEMS
FO	FAIL OPEN
FS	FLOAT SWITCH
FT	FOOT, FEET
FVC	FULL VOLTAGE CONTACTOR
FVNR	FULL VOLTAGE NON REVERSING
FVR	FULL VOLTAGE REVERSING
G, GND	GROUND
G	GREEN
GE	GROUNDING EQUALIZER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GP	GAS PACK
GRC	GALVANIZED RIGID STEEL CONDUIT
HC	HORIZONTAL CROSS CONNECT
HD	HAND DRYER
HH	HANDHOLE
HLO	HANDLE LOCK ON
HOA	HAND OFF AUTO
HPS	HIGH PRESSURE SODIUM
HT	HEIGHT
I	INTERLOCK
ID	IDENTIFICATION
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
IN	INCH, INCHES
INST	INSTANTANEOUS
ISO	ISOLATION, INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ISR	INTRINSICALLY SAFE RELAY
KV	KILOVOLT
KVA	KILOVOLT AMPERES
KW	KILOWATT
LA	LIGHTING ARRESTOR
LED	LIGHT EMITTING DIODE
LNC	LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
LOS	LOCK OFF STOP OR LOCK-OUT STOP PUSH BUTTON
LPU	LINE PROTECTION UNIT
LV	LOW VOLTAGE
M	MOTOR
MA	MANUAL-AUTO
mA	MILLIAMPERES
MCA	MINIMUM CIRCUIT AMPS
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDB	MAIN DISTRIBUTION BOARD
MDP	MAIN DISTRIBUTION PANEL
MDU	MULIT-DWELLING UNIT
MH	MANHOLE, MAINTENANCE HOLE
MHz	MEGAHERTZ
MIN	MINIMUM
MISC	MISCELLANEOUS
MMS	MOTOR MOISTURE SENSOR
MOA	MANUAL-OFF-AUTO
MOCP	MAXIMUM OVERCURRENT PROTECTION
MOD	MODULE
MOT	MOTOR OVERTEMPERATURE SENSOR
MOV	MOTOR OPERATED VALVE
MSB	MAIN SWITCHBOARD
MT, MTD	MOUNT, MOUNTED
MT	EMPTY CONDUIT WITH NYLON PULL CORD
MTS	MANUAL TRANSFER SWITCH
N.I.C.	NOT IN CONTRACT
N/A	NOT APPLICABLE
N	NEUTRAL
NA	NON AUTOMATIC
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NESC	NATIONAL ELECTRIC SAFETY CODE
NO	NORMALLY OPEN
NP	NAMEPLATE
NTS	NOT TO SCALE
O	OPEN
OC	ON CENTER
OCA	OPEN-CLOSE-AUTO
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OS	OCCUPANCY SENSOR
PB	PUSHBUTTON, PULLBOX
PH	PHASE
PMP	PUMP
PNL	PANEL
PT	POTENTIAL TRANSFORMER
PTT	PUSH TO TEST
PVC	POLY-VINYL-CHLORIDE
PWR	POWER
QTY	QUANTITY
R	RED, RISER
REF	REFERENCE
RFI	REQUEST FOR INFORMATION
RSC/PVC	RIGID STEEL CONDUIT, PVC COATED
RSC	RIGID STEEL CONDUIT
SDP	SUB DISTRIBUTION PANEL
SIM	SIMILAR
SPD	SURGE PROTECTION DEVICE
SS	SURGE SUPPRESSOR
ST	SHUNT TRIP
STD	STANDARD
SWBD	SWITCHBOARD
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBD	TO BE DETERMINED
TELE	TELEPHONE
TGB	TELECOMMUNICATIONS GROUNDING BUS BAR
TTB	TELEPHONE TERMINAL BOARD
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS, VOLTAGE
VAV	VARIABLE AIR VOLUME BOX
VFD	VARIABLE FREQUENCY DRIVE
VRFY	VERIFY
W/	WITH
W/O	WITHOUT
W	WIRE, WHITE
WG	WIRE GUARD
WH	WATER HEATER
WP	WEATHERPROOF
XFMR	TRANSFORMER

Connections / Equipment

- FSD — FIRE SMOKE DAMPER
- SD — SMOKE DAMPER
- HD — HEAVY DUTY FUSED DISCONNECT SWITCH
- J OR J — JUNCTION BOX
- J — JUNCTION BOX WITH FLEX CONNECTION TO EQUIPMENT
- J — WALL-MOUNTED JUNCTION BOX
- MOTOR CONNECTION
- MOTOR STARTER
- R — RELAY
- R UL — RELAY (UL 924)
- SV — SOLENOID VALVE CONNECTION
- T — TRANSFORMER

General

- EXISTING WORK
- NEW WORK
- X / X — DETAIL NUMBER AND SHEET LOCATION
- SP-1 — FUTURE SUMP PUMP
- SE-1 — FUTURE SEWAGE EJECTOR PUMP
- 1 — KEYED NOTE
- A / XXX — SECTION NUMBER AND SHEET LOCATION

Miscellaneous

- AUTOMATIC TRANSFER SWITCH
- G — BARE COPPER GROUND CONDUCTOR BELOW GRADE
- G — BARE COPPER GROUND CONDUCTORS BONDED TOGETHER
- #10 B-27,29,31. — BRANCH CIRCUIT WIRING. ARROW INDICATES HOME RUN TO PANEL WITH CIRCUITS AS NOTED. WIRE SIZE IS #12 AWG MINIMUM UNLESS NOTED OTHERWISE. SHORT TICK MARKS INDICATE PHASE CONDUCTORS. LONG TICK MARKS INDICATE NEUTRAL CONDUCTORS. A SINGLE CURVED TICK MARK INDICATES INSULATED GREEN GROUND CONDUCTOR. SECOND CURVED TICK MARK INDICATES "ISOLATED GROUND" (GREEN INSULATION WITH YELLOW STRIPE) CONDUCTOR.
- BRANCH PANEL
- CIRCUIT BREAKER
- CIRCUIT BREAKER WITH CURRENT LIMITING FUSES
- GFI — CIRCUIT BREAKER WITH GROUND FAULT INTERRUPTING
- KI — CIRCUIT BREAKER WITH KIRK-KEY LOCK SYSTEM
- S — CIRCUIT BREAKER WITH SHUNT TRIP
- CURRENT TRANSFORMER
- XXX — DESIGNER RESERVED EQUIPMENT ENCLOSURE. DEFINE LETTERS INSIDE OF SYMBOL
- M — SUB-METER TIED TO BILLING SOFTWARE
- DRY TYPE TRANSFORMER
- FLUSH MOUNT EQUIPMENT ENCLOSURE AS NOTED
- FLUSH WALL MOUNTED BRANCH PANEL
- FUSE
- FUSED DISCONNECT SWITCH OR SWITCH/FUSE IN SWITCHBOARD
- GB — GROUND BAR
- G — GROUND CONDUCTOR IN CEILING SPACE
- GROUND ROD
- GR — GROUND ROD BONDED TO BARE COPPER GROUND CONDUCTOR
- GROUNDING POINT
- MAIN DISTRIBUTION PANEL / SUB DISTRIBUTION PANEL
- M — METER WITH CONNECTION
- NORMALLY CLOSED CONTACT
- NORMALLY OPEN CONTACT
- PP — POWER UTILITY POLE
- G — STANDBY/EMERGENCY GENERATOR
- CV — SUBGRADE VAULT CATV
- PV — SUBGRADE VAULT POWER
- TV — SUBGRADE VAULT TELEPHONE
- SURFACE MOUNT EQUIPMENT ENCLOSURE AS NOTED
- SPD — SURGE PROTECTION DEVICE
- SWITCH
- TP — TELEPHONE UTILITY POLE
- UT — UTILITY TRANSFORMER PAD/VAULT
- WATER PIPE GROUND CONNECTION

Raceways

- CONDUIT CONCEALED IN WALL OR CEILING SPACE
- CONDUIT ROUTED BELOW FLOOR / GRADE
- CONDUIT ELLED DOWN
- CONDUIT ELLED UP
- CONDUIT/WIRING CONTINUATION
- CONDUIT/WIRING STUBBED OUT WITH END CAP OR INSULATED PLASTIC BUSHING
- FLEXIBLE CONDUIT
- EXISTING CONDUIT CONCEALED IN WALL OR CEILING SPACE
- EXISTING CONDUIT ROUTED BELOW FLOOR / GRADE
- GROUNDING POINT
- HH — HANDHOLE WITH ID NUMBER
- INTERCEPT EXISTING RACEWAY AND EXTEND CIRCUIT TO NEW/EXISTING OUTLET
- OC — OVERHEAD CATV SERVICE
- OP — OVERHEAD PRIMARY SERVICE
- OS — OVERHEAD SECONDARY SERVICE
- OT — OVERHEAD TELEPHONE SERVICE
- PB — PULL BOX
- SURFACE RACEWAY
- T — TELECOM RACEWAY
- VT — TELECOMMUNICATIONS VAULT
- TELEPHONE BACKBOARD
- TELEPHONE UTILITY POLE
- C — UNDERGROUND CABLE TELEVISION SERVICE
- P — UNDERGROUND PRIMARY SERVICE
- S — UNDERGROUND SECONDARY SERVICE
- T — UNDERGROUND TELEPHONE SERVICE

Switches and Receptacles

- DUPLEX RECEPTACLE (MULTIPLE LETTERS INDICATE MULTIPLE OPTIONS)
  - A = ABOVE COUNTER
  - C = FLUSH CEILING MOUNTED
  - F = ARC FAULT PROTECTED BY BREAKER IN PANEL
  - G = GROUND FAULT CIRCUIT INTERRUPTER
  - L = ISOLATED GROUND
  - S = SPLIT WIRED
  - T = TAMPER RESISTANT SHUTTERED RECEPTACLE
  - W = WEATHERPROOF CONTINUOUS USE COVER, GFCI PROTECTED, WITH WEATHER-RESISTANT RECEPTACLE
- DUPLEX RECEPTACLE, FLUSH FLOOR
- DOUBLE DUPLEX RECEPTACLE. SEE LETTER CODE LIST AT DUPLEX RECEPTACLE FOR OPTIONS
- EQUIPMENT ELECTRICAL CONNECTION
- SPECIAL PURPOSE RECEPTACLE. LETTER CODE DENOTES RECEPTACLE CONFIGURATION
  - LX-XXR = NEMA CONFIGURATION TWIST-LOCK RECEPTACLE
  - X-XXR = NEMA CONFIGURATION STRAIGHT BLADE RECEPTACLE
  - P = PENDANT MOUNT WITH CORD GRIPS. VERIFY PENDANT LENGTH
  - X = COORDINATE RECEPTACLE CONFIGURATION WITH EQUIPMENT BEING SUPPLIED
- FLUSH POKE-THRU WITH DUPLEX RECEPTACLE AND RACEWAY FOR SIGNAL CABLES

GENERAL SHEET NOTES

A FOUNDATION SET SCOPE OF WORK IS LIMITED TO CONDUITS AND SLEEVING FOR ELECTRICAL WORK BELOW SLAB-ON-GRADE, AND PENETRATIONS THROUGH THE WALL OF THE GARAGE, INCLUDING PULL STRINGS FOR PULLING OF FUTURE FEEDER AND BRANCH CIRCUIT CONDUCTORS. WIRING IS SHOWN FOR REFERENCE ONLY.

B CONTACT AND COORDINATE WITH POWER AND TELECOMMUNICATIONS UTILITIES, AND CONDUCT ON SITE MEETING WITH REPRESENTATIVES FROM THESE UTILITIES AND ENGINEER-OF-RECORD PRIOR TO START OF WORK. SCOPE OF WORK INSTALLED BEFORE COMPLETING THESE STEPS IS SUBJECT TO REMOVAL AND REPLACEMENT AT NO COST TO OWNER.

C INSTALL PULL VAULTS SHOWN ON DRAWINGS FOR PURPOSES OF PULLING/SPLICING OF UTILITY-OWNED CONDUCTORS TO THE STANDARDS OF THAT UTILITY.

SHEET INDEX

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E4-2.0Ba	LEVEL P1 SOUTH - POWER/SIGNAL	FOR REFERENCE ONLY
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E4-2.0Pa	LEVEL 1 SOUTH - POWER/SIGNAL	FOR REFERENCE ONLY
E4-2.0Pb	LEVEL P2 NORTH - POWER/SIGNAL	FOR REFERENCE ONLY
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E4-6.01	SECTIONS - ELECTRICAL	
E4-6.02	SECTIONS - ELECTRICAL	

REFERENCE ONLY

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 14, 1989 — DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

SYMBOLS, ABBREVIATIONS - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-0.01U
SCALE	

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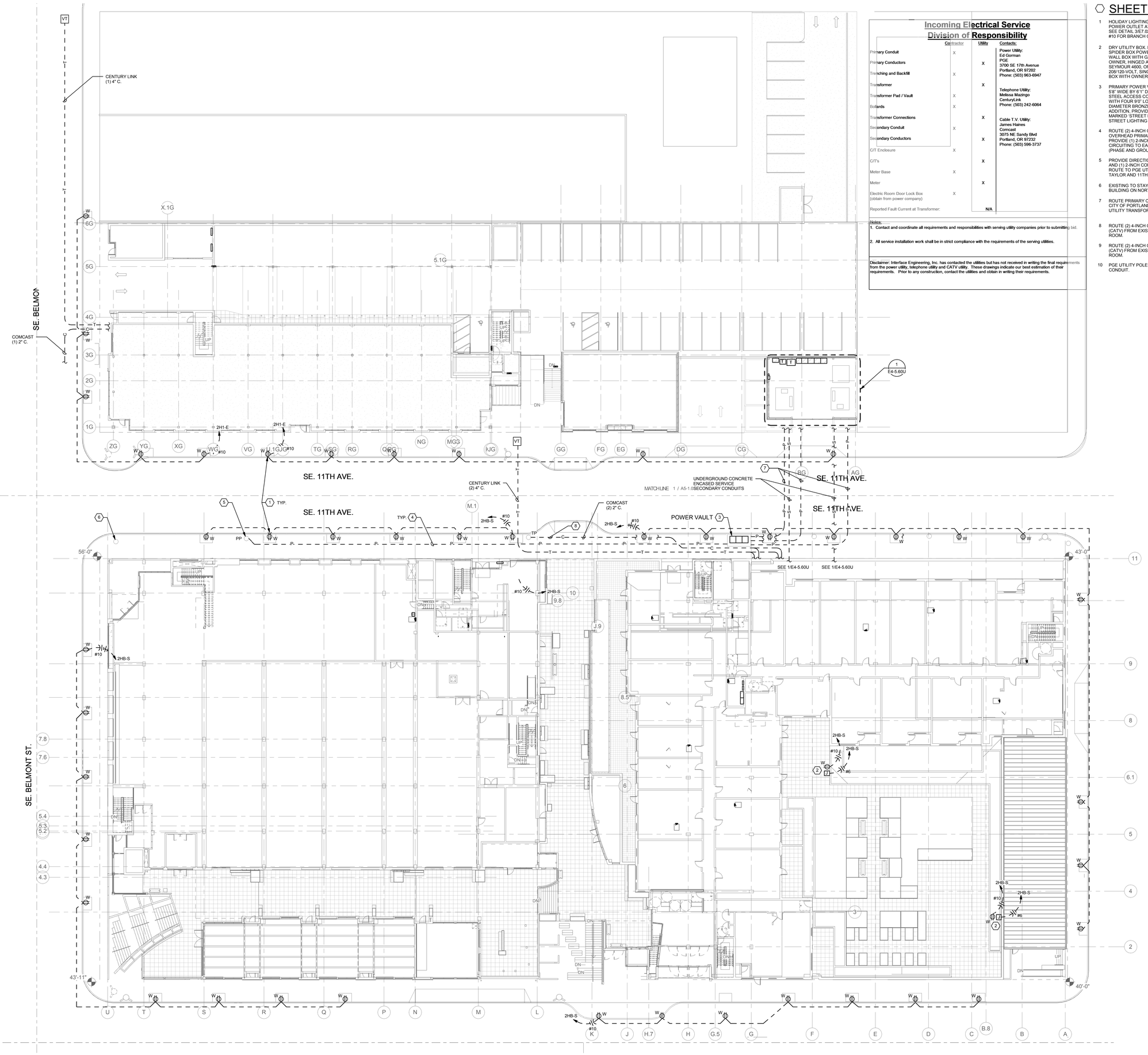


Incoming Electrical Service Division of Responsibility

	Contractor	Utility	Contacts:
Primary Conduit	X		Power Utility: Ed Gorman PGE 3700 SE 17th Avenue Portland, OR 97202 Phone: (503) 963-6947
Primary Conductors		X	
Trenching and Backfill	X		
Transformer		X	
Transformer Pad / Vault	X		Telephone Utility: Melissa Mazingo CenturyLink Phone: (503) 242-6064
Bollards	X		
Transformer Connections		X	Cable T.V. Utility: James Haines Comcast 3075 NE Sandy Blvd Portland, OR 97232 Phone: (503) 596-3737
Secondary Conduit	X		
Secondary Conductors		X	
C/T Enclosure	X		
C/T's		X	
Meter Base	X		
Meter		X	
Electric Room Door Lock Box (obtain from power company)	X		
Reported Fault Current at Transformer:		N/A	

Notes:

1. Contact and coordinate all requirements and responsibilities with serving utility companies prior to submitting bid.
2. All service installation work shall be in strict compliance with the requirements of the serving utilities.

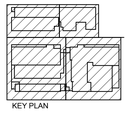
Disclaimer: Interface Engineering, Inc. has contacted the utilities but has not received in writing the final requirements from the power utility, telephone utility and CATV utility. These drawings indicate our best estimation of their requirements. Prior to any construction, contact the utilities and obtain in writing their requirements.

SHEET KEYNOTES

1. HOLIDAY LIGHTING: PROVIDE STANCHION MOUNTED WEATHERPROOF POWER OUTLET AT EACH TREEWELL SHOWN ON PLANS BY SIDEWALKS. SEE DETAIL 3/E7.02. MAX. 4 DUPLEX RECEPTACLES PER 20A CIRCUITL; MIN. #10 FOR BRANCH CIRCUIT WIRING.
2. DRY UTILITY BOX. PROVIDE RECESSED CONCRETE WALL BOXS FOR SPIDER BOX POWER OUTLET AND GENERAL USE RECEPTACLE. CUSTOM WALL BOX WITH GASKETED LID, LID WITH LOCK KEYED AS DIRECTED BY OWNER, HINGED ALONG THE TOP. HEAVY CAST ALUMINUM (PASS & SEYMOUR 4600, OR APPROVED). BOX SHALL ENCLOSE 50-AMP. 208/120-VOLT, SINGLE PHASE OUTLET. VERIFY NEMA CONFIGURATION OF BOX WITH OWNER PRIOR TO ORDERING MATERIALS.
3. PRIMARY POWER VAULT: PROVIDE UTILITY VAULT PGE-5106 (11'2" LONG BY 5'8" WIDE BY 6'1" DEEP) WITH THREE PEDESTRIAN DIAMOND-PATTERN STEEL ACCESS COVERS, INCLUDING PGE ROSE-CITY PATTERN. PROVIDE WITH FOUR 9'0" LONG STEEL C-CHANNEL INSERTS, AND TWO ½-INCH DIAMETER BRONZE GROUNDING INSERTS FOR BONDING REBAR. IN ADDITION, PROVIDE SEPARATE SYNERTECH UTILITY VAULT (12"X18") MARKED 'STREET LIGHTING' FOR UNDERGROUND CONDUIT ROUTED TO STREET LIGHTING POLES.
4. ROUTE (2) 4-INCH CONDUITS TO ALLOW PGE TO REROUTE UNDERGROUND OVERHEAD PRIMARY ALONG WEST SIDE OF 11TH AVENUE. IN ADDITION, PROVIDE (1) 2-INCH CONDUIT TO RECONNECT STREET LIGHTING CIRCUITING TO EACH UTILITY POLE. PROVIDE MINIMUM #8 CONDUCTORS (PHASE AND GROUND) TO STREET LIGHTING.
5. PROVIDE DIRECTIONAL BORING AS NEEDED TO STUB (3) 4-INCH CONDUITS AND (1) 2-INCH CONDUIT FOR STREET LIGHTING UNDER SE TAYLOR TO ROUTE TO PGE UTILITY POLE ON IMMEDIATE SOUTH SIDE OF CORNER OF TAYLOR AND 11TH.
6. EXISTING TO STAY FOR TRANSFORMERS SUPPLYING POWER TO COUNTY BUILDING ON NORTH SIDE OF BELMONT.
7. ROUTE PRIMARY CONDUITS WITHIN PGE EASEMENTS ESTABLISHED WITH CITY OF PORTLAND UNDER 11TH AVENUE. TWO 4-INCH CONDUIT TO EACH UTILITY TRANSFORMER.
8. ROUTE (2) 4-INCH CONDUITS (PHONE/FIBER OPTIC) AND (1) 2-INCH CONDUIT (CATV) FROM EXISTING UTILITY POLE TO WEST BLOCK TELECOM DEMARK ROOM.
9. ROUTE (2) 4-INCH CONDUITS (PHONE/FIBER OPTIC) AND (1) 2-INCH CONDUIT (CATV) FROM EXISTING UTILITY POLE TO WEST BLOCK TELECOM DEMARK ROOM.
10. PGE UTILITY POLE: STARTING POINT OF UNDERGROUND PRIMARY CONDUIT.

1 UNDERGROUND SITE PLAN - POWER/SIGNAL

0' 4' 8' 16'
1/16" = 1'-0"



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DAVID NORMAN CHESLEY
OREGON
JULY 14, 1989
EXPIRES: 12/31/15

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Portland, OR 97214

Belmont Investments, LLC

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UNDERGROUND SITE PLAN - POWER/SIGNAL

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DATE 12/10/14	REVISION
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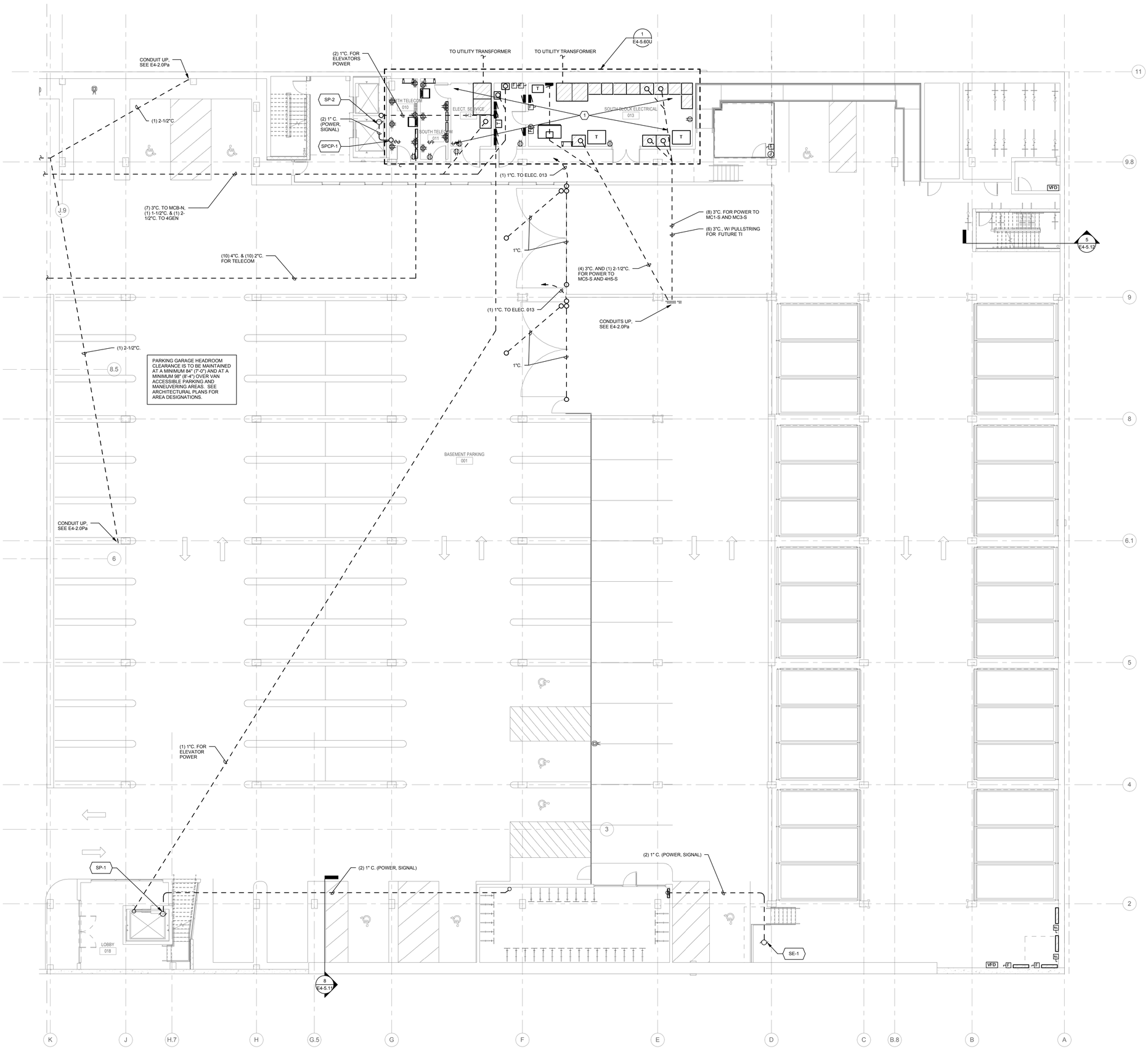
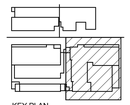


SHEET KEYNOTES

1 CONDUIT LAYOUT PER BASIS OF DESIGN EQUIPMENT. VERIFY EXACT CONDUIT STUBUP LOCATIONS WITH APPROVED SUBMITTALS PRIOR TO ROUGHING IN AT ELECTRICAL ROOM.

1 UNDERGROUND LEVEL P1 SOUTH - POWER/SIGNAL

0' 4' 8' 16'
1/8" = 1'-0"



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LEVEL P1 SOUTH - POWER/SIGNAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.0BaU
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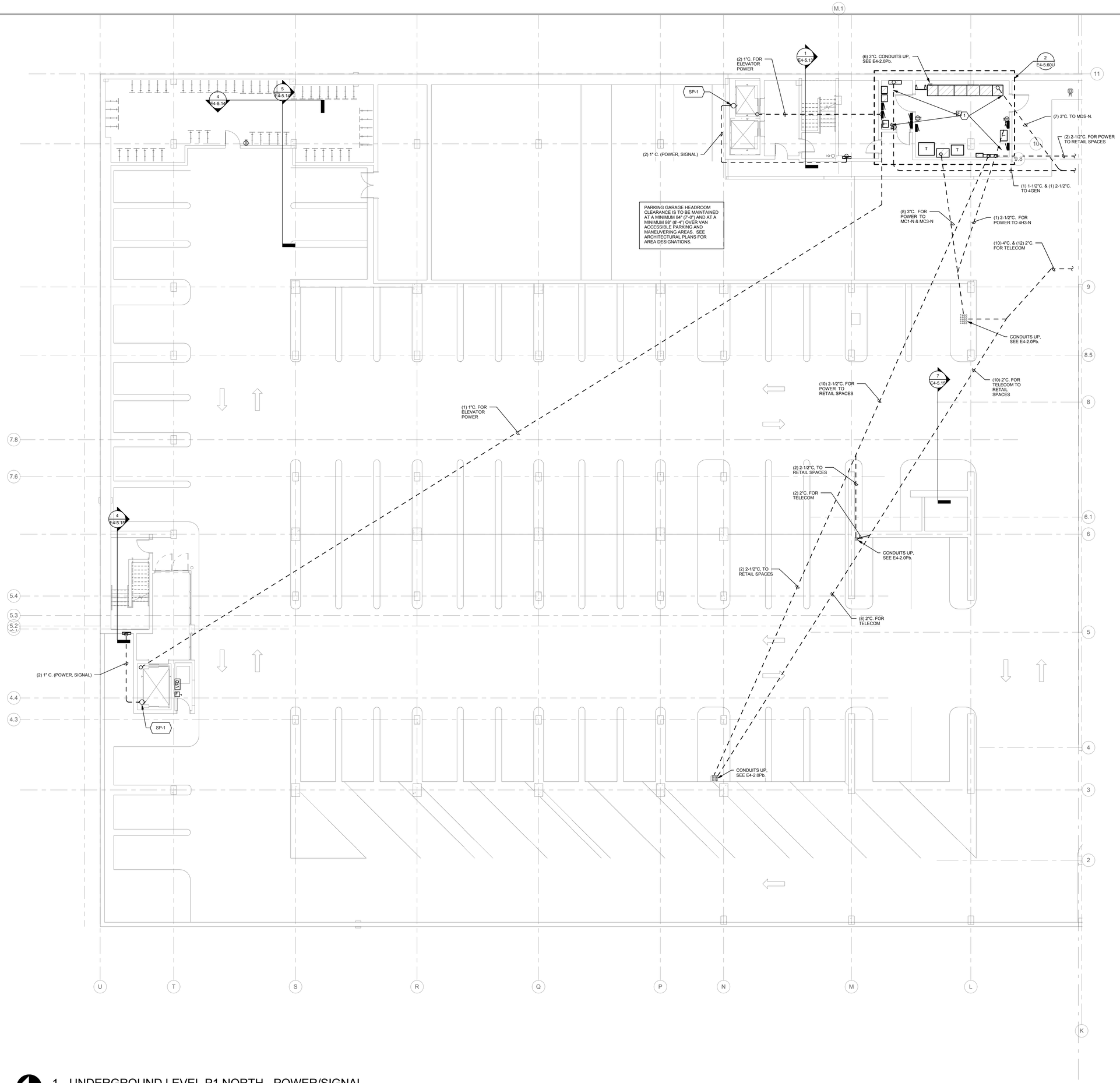

SHEET KEYNOTES

1 CONDUIT LAYOUT PER BASIS OF DESIGN EQUIPMENT. VERIFY EXACT CONDUIT STUBUP LOCATIONS WITH APPROVED SUBMITTALS PRIOR TO ROUGHING IN AT ELECTRICAL ROOM.

1 UNDERGROUND LEVEL P1 NORTH - POWER/SIGNAL

0' 4' 8' 16'
1/8" = 1'-0"

KEY PLAN

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LEVEL P1 NORTH - POWER/SIGNAL

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PROJECT NUMBER 123625	SHEET NUMBER
SCALE 1/8" = 1'-0"	E4-2.0BbU

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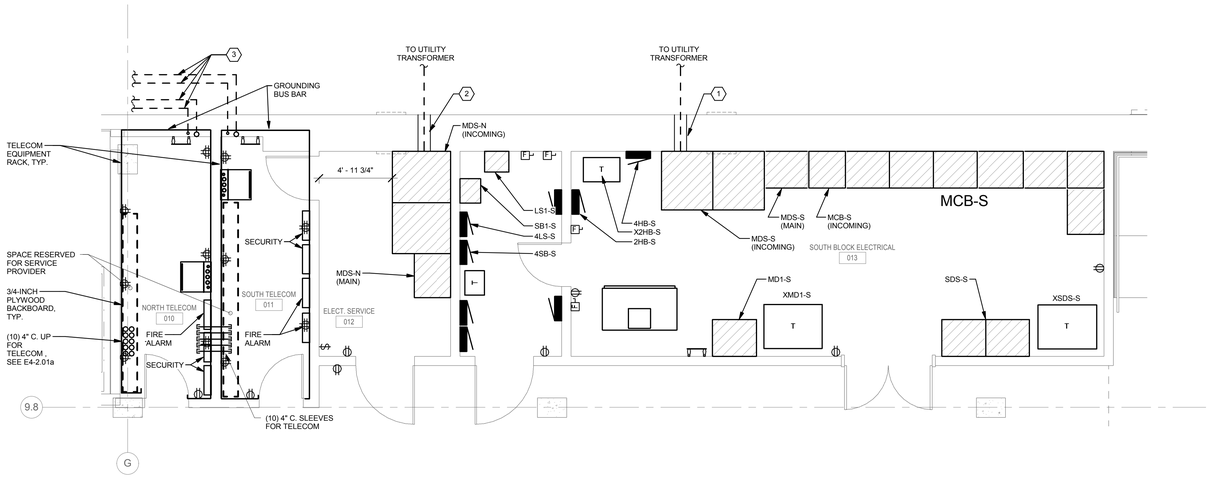
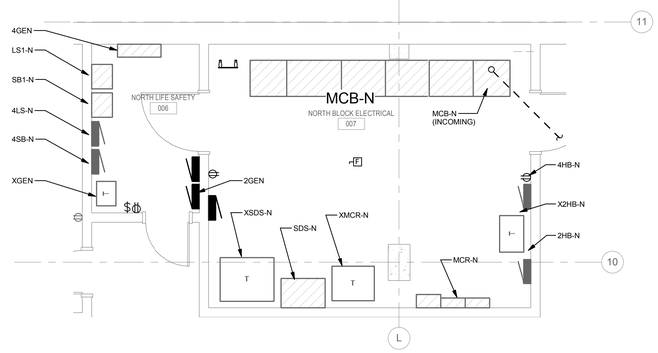
SHEET KEYNOTES

1. PROVIDE SLEEVING THROUGH CONCRETE FOR (9) " C., SEE DETAIL 1/E4-6.01.
2. PROVIDE SLEEVING THROUGH CONCRETE FOR (7) 5" C., SEE DETAIL 1/E4-6.02.
3. (1) 4" C. AND (1) 2" C. TO NEAREST TELECOM VAULT FROM EACH TELECOM ROOM.



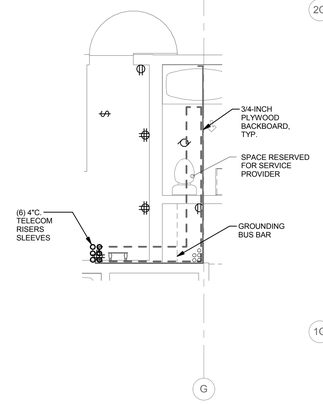
1 SOUTH BLOCK ELECTRICAL ROOM - POWER/SIGNAL

0' 2' 4' 8'
1/4" = 1'-0"



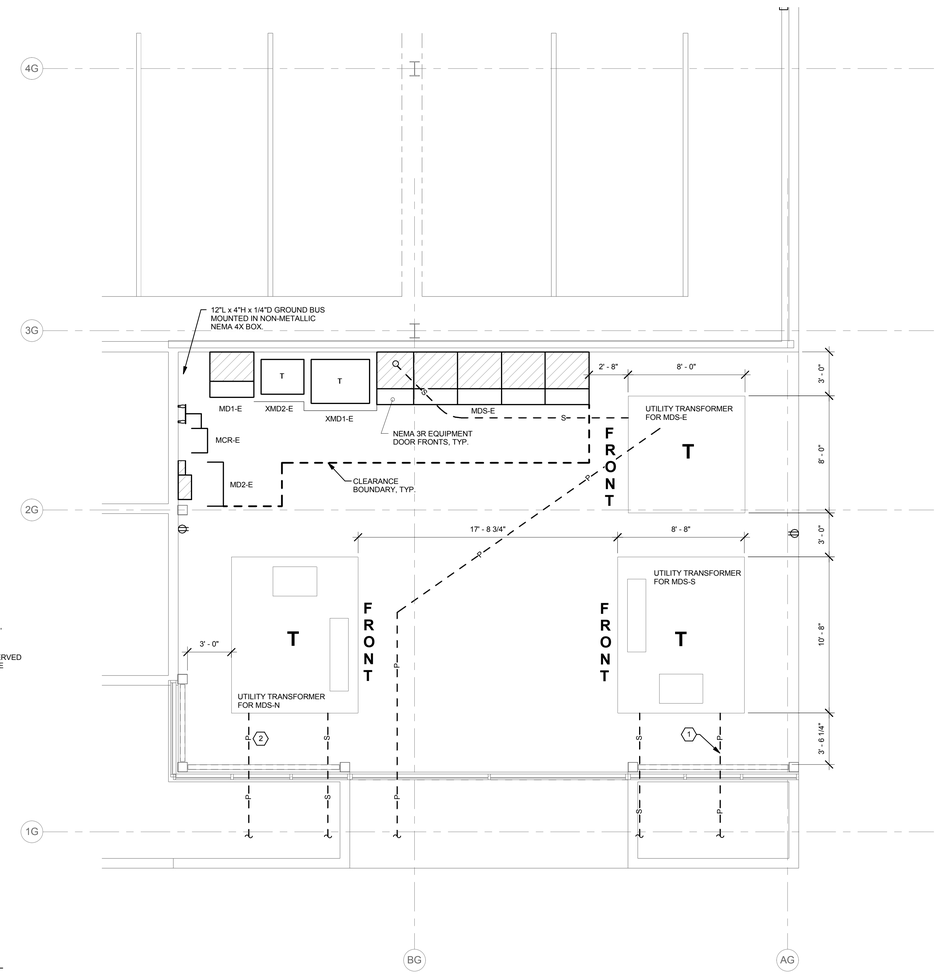
2 NORTH BLOCK ELECTRICAL ROOM - POWER/SIGNAL

0' 2' 4' 8'
1/4" = 1'-0"



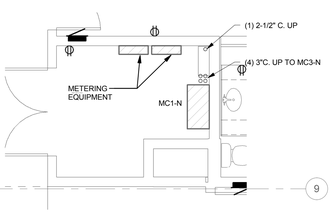
5 S. LVL 4 & 6 TELECOM CLOSET

0' 2' 4' 8'
1/4" = 1'-0"



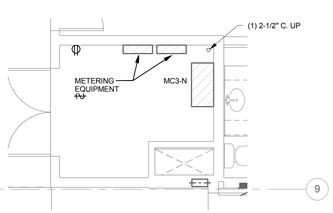
7 EAST SIDE TRANSFORMER YARD - POWER/SIGNAL

0' 4' 8' 16'
1/4" = 1'-0"



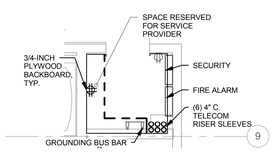
3 N. LVL 4 ELECTRICAL CLOSET

0' 2' 4' 8'
1/4" = 1'-0"



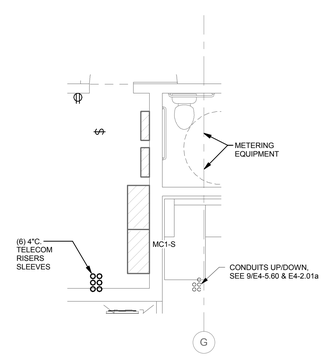
4 N. LVL 6 ELECTRICAL CLOSET

0' 2' 4' 8'
1/4" = 1'-0"



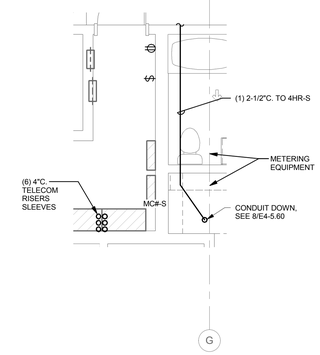
6 NORTH TYPICAL TELECOM CLOSET LEVELS 4-7

0' 4' 8' 16'
1/4" = 1'-0"



8 S. LVL 3 ELECTRICAL CLOSET

0' 2' 4' 8'
1/4" = 1'-0"



9 S. LVL 5 & 7 ELECTRICAL CLOSET

0' 2' 4' 8'
1/4" = 1'-0"

REFERENCE ONLY

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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Portland, OR 97214

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ENLARGED ELECTRICAL ROOMS - POWER/SIGNAL

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DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-5.60U
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ELECTRICAL SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

Abbreviations

(N)	NEW
(X)	DEMOLISH
A	AMPERES, AMBER
AC	ALTERNATING CURRENT, AIR CONDITIONER
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AVAILABLE INTERRUPTING CAPACITY
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
B	BLUE
BAS	BUILDING AUTOMATION SYSTEM
BC	BARE COPPER
C	CONDUIT, CLOSE, CONTROL
CA	CABLE
CB	CIRCUIT BREAKER
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CFOI	CONTRACTOR FURNISHED OWNER INSTALLED
CLG	CEILING
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DIM	DIMENSION
DIV	DIVISION
DN	DOWN
E	EMERGENCY
EA	EACH
EM	EMERGENCY LIGHT BALLAST
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NON-METALLIC TUBING
F	FUSE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FC	FAIL CLOSED
FO	FAIL OPEN
FS	FLOAT SWITCH
FT	FOOT, FEET
G, GND	GROUND
G	GREEN
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GRC	GALVANIZED RIGID STEEL CONDUIT
HH	HANDHOLE
I	INTERLOCK
ID	IDENTIFICATION
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
IN	INCH, INCHES
ISO	ISOLATION, INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
KV	KILOVOLT
KVA	KILOVOLT AMPERES
KW	KILOWATT
LED	LIGHT EMITTING DIODE
LV	LOW VOLTAGE
M	MOTOR
MA	MANUAL-AUTO
mA	MILLIAMPERES
MCA	MINIMUM CIRCUIT AMPS
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDB	MAIN DISTRIBUTION BOARD
MDP	MAIN DISTRIBUTION PANEL
MDU	MULIT-DWELLING UNIT
MH	MANHOLE, MAINTENANCE HOLE
MHz	MEGAHERTZ
MIN	MINIMUM
MISC	MISCELLANEOUS
MOCP	MAXIMUM OVERCURRENT PROTECTION
MT, MTD	MOUNT, MOUNTED
MT	EMPTY CONDUIT WITH NYLON PULL CORD
MTS	MANUAL TRANSFER SWITCH
N.I.C.	NOT IN CONTRACT
N/A	NOT APPLICABLE
N	NEUTRAL
NA	NON AUTOMATIC
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NESC	NATIONAL ELECTRIC SAFETY CODE
NO	NORMALLY OPEN
NP	NAMEPLATE
NTS	NOT TO SCALE
O	OPEN
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OS	OCCUPANCY SENSOR
PB	PUSHBUTTON, PULLBOX
PH	PHASE
PNL	PANEL
PVC	POLY-VINYL-CHLORIDE
PWR	POWER
QTY	QUANTITY
R	RED, RISER
REF	REFERENCE
RFI	REQUEST FOR INFORMATION
RSC/PVC	RIGID STEEL CONDUIT, PVC COATED
RSC	RIGID STEEL CONDUIT
SIM	SIMILAR
SPD	SURGE PROTECTION DEVICE
SS	SURGE SUPPRESSOR
ST	SHUNT TRIP
STD	STANDARD
SWBD	SWITCHBOARD
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBD	TO BE DETERMINED
TELE	TELEPHONE
TGB	TELECOMMUNICATIONS GROUNDING BUS BAR
TTB	TELEPHONE TERMINAL BOARD
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS, VOLTAGE
VFD	VARIABLE FREQUENCY DRIVE
VRFY	VERIFY
W/	WITH
W/O	WITHOUT
W	WIRE, WHITE
WG	WIRE GUARD
WP	WEATHERPROOF
XFMR	TRANSFORMER

Connections / Equipment

FSD	FIRE SMOKE DAMPER
SD	SMOKE DAMPER
F	HEAVY DUTY FUSED DISCONNECT SWITCH
J OR J	JUNCTION BOX
J	JUNCTION BOX WITH FLEX CONNECTION TO EQUIPMENT
	WALL-MOUNTED JUNCTION BOX
	MOTOR CONNECTION
	MOTOR STARTER
R	RELAY
R UL	RELAY (UL 924)
SV	SOLENOID VALVE CONNECTION
T	TRANSFORMER

General

	EXISTING WORK
	NEW WORK
X / X	DETAIL NUMBER AND SHEET LOCATION
XX-X LOCATION	EQUIPMENT IDENTIFICATION
1	KEYED NOTE
A / XXX	SECTION NUMBER AND SHEET LOCATION

Miscellaneous

	AUTOMATIC TRANSFER SWITCH
	BARE COPPER GROUND CONDUCTOR BELOW GRADE
G	BARE COPPER GROUND CONDUCTORS BONDED TOGETHER
#10 B-27,29,31.	BRANCH CIRCUIT WIRING. ARROW INDICATES HOME RUN TO PANEL WITH CIRCUITS AS NOTED. WIRE SIZE IS #12 AWG MINIMUM UNLESS NOTED OTHERWISE. SHORT TICK MARKS INDICATE PHASE CONDUCTORS. LONG TICK MARKS INDICATE NEUTRAL CONDUCTORS. A SINGLE CURVED TICK MARK INDICATES INSULATED GREEN GROUND CONDUCTOR. SECOND CURVED TICK MARK INDICATES "ISOLATED GROUND" (GREEN INSULATION WITH YELLOW STRIPE) CONDUCTOR.
	BRANCH PANEL
	CIRCUIT BREAKER
	CIRCUIT BREAKER WITH CURRENT LIMITING FUSES
GFI	CIRCUIT BREAKER WITH GROUND FAULT INTERRUPTING
KR	CIRCUIT BREAKER WITH KIRK-KEY LOCK SYSTEM
S	CIRCUIT BREAKER WITH SHUNT TRIP
	CURRENT TRANSFORMER
XXX	DESIGNER RESERVED EQUIPMENT ENCLOSURE. DEFINE LETTERS INSIDE OF SYMBOL
M	SUB-METER TIED TO BILLING SOFTWARE
	DRY TYPE TRANSFORMER
	FLUSH MOUNT EQUIPMENT ENCLOSURE AS NOTED
	FLUSH WALL MOUNTED BRANCH PANEL
	FUSE
	FUSED DISCONNECT SWITCH OR SWITCH/FUSE IN SWITCHBOARD
GB	GROUND BAR
	GROUND CONDUCTOR IN CEILING SPACE
	GROUND ROD

Lighting

	CEILING FAN
	EXIT SIGN CEILING MOUNTED, ARROW(S) INDICATES DIRECTION IF SHOWN
	EXIT SIGN WALL MOUNTED, ARROW(S) INDICATES DIRECTION IF SHOWN
	AREA BOLLARD LUMINAIRE WITH CONCRETE BASE
	AREA LUMINAIRE ARM MOUNTED WITH POLE AND CONCRETE BASE
	AREA LUMINAIRE POLE TOP MOUNTED WITH POLE AND CONCRETE BASE
	FLOODLIGHT
	GROUND MOUNTED LANDSCAPE LUMINAIRE
	LUMINAIRE RECESSED IN WALL
	RECESSED 1' X 4' LUMINAIRE
	RECESSED 1' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT
	RECESSED 1' X 8' LUMINAIRE
	RECESSED 2' X 2' LUMINAIRE
	RECESSED 2' X 2' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT
	RECESSED 2' X 4' LUMINAIRE
	RECESSED 2' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT
	RECESSED 6" X 2' LUMINAIRE
	RECESSED 6" X 3' LUMINAIRE
	RECESSED 6" X 4' LUMINAIRE
	RECESSED 6" X 8' LUMINAIRE
	RECESSED ADJUSTABLE OR WALL WASH LUMINAIRE
	RECESSED LUMINAIRE
	RECESSED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT
	SURFACE MOUNTED 2' X 2' LUMINAIRE
	SURFACE MOUNTED 2' X 2' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT
	SURFACE MOUNTED 2' X 4' LUMINAIRE
	SURFACE MOUNTED 2' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT
	SURFACE MOUNTED ADJUSTABLE LUMINAIRE
	SURFACE MOUNTED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT
	SURFACE OR PENDANT MOUNTED 1' X 4' LUMINAIRE
	SURFACE OR PENDANT MOUNTED 1' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT
	SURFACE OR PENDANT MOUNTED 1' X 8' LUMINAIRE
	SURFACE OR PENDANT MOUNTED 6" X 8' LUMINAIRE
	SURFACE OR PENDANT MOUNTED LUMINAIRE
	SURFACE OR PENDANT MOUNTED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT
	SURFACE OR PENDANT MOUNTED DUAL MOUNTED STRIPLIGHT
	TRACKLIGHT WITH LUMINAIRE(S)
	WALL MOUNTED 12" WIDE LUMINAIRE
	WALL MOUNTED 12" WIDE LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
	WALL MOUNTED 6" WIDE LUMINAIRE
	WALL MOUNTED 6" WIDE LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
	WALL MOUNTED LUMINAIRE
	WALL MOUNTED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
GR	GROUND ROD BONDED TO BARE COPPER GROUND CONDUCTOR
	GROUNDING POINT
	MAIN DISTRIBUTION PANEL / SUB DISTRIBUTION PANEL
M	METER WITH CONNECTION
	NORMALLY CLOSED CONTACT
	NORMALLY OPEN CONTACT
PP	POWER UTILITY POLE
G	STANDBY/EMERGENCY GENERATOR
SV	SUBGRADE VAULT CATV
SV	SUBGRADE VAULT POWER
SV	SUBGRADE VAULT TELEPHONE
	SURFACE MOUNT EQUIPMENT ENCLOSURE AS NOTED
SPD	SURGE PROTECTION DEVICE
	SWITCH
TP	TELEPHONE UTILITY POLE
SV	UTILITY TRANSFORMER PAD/VAULT
	WATER PIPE GROUND CONNECTION

Raceways

	CONDUIT CONCEALED IN WALL OR CEILING SPACE
	CONDUIT ROUTED BELOW FLOOR / GRADE
	CONDUIT ELLED DOWN
	CONDUIT ELLED UP
	CONDUIT/WIRING CONTINUATION
	CONDUIT/WIRING STUBBED OUT WITH END CAP OR INSULATED PLASTIC BUSHING
	FLEXIBLE CONDUIT
	EXISTING CONDUIT CONCEALED IN WALL OR CEILING SPACE
	EXISTING CONDUIT ROUTED BELOW FLOOR / GRADE
	GROUNDING POINT
HH	HANDHOLE WITH ID NUMBER
	INTERCEPT EXISTING RACEWAY AND EXTEND CIRCUIT TO NEW/EXISTING OUTLET
—OC—	OVERHEAD CATV SERVICE
—OP—	OVERHEAD PRIMARY SERVICE
—OS—	OVERHEAD SECONDARY SERVICE
—OT—	OVERHEAD TELEPHONE SERVICE
PB	PULL BOX
	SURFACE RACEWAY
—T—	TELECOM RACEWAY
VT	TELECOMMUNICATIONS VAULT
	TELEPHONE BACKBOARD
	TELEPHONE UTILITY POLE
—C—	UNDERGROUND CABLE TELEVISION SERVICE
—P—	UNDERGROUND PRIMARY SERVICE
—S—	UNDERGROUND SECONDARY SERVICE
—T—	UNDERGROUND TELEPHONE SERVICE

Switches and Receptacles

	SURFACE OR PENDANT MOUNTED LUMINAIRE
	SURFACE OR PENDANT MOUNTED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT
	DUPLEX RECEPTACLE (MULTIPLE LETTERS INDICATE MULTIPLE OPTIONS) A = ABOVE COUNTER C = FLUSH CEILING MOUNTED F = ARC FAULT PROTECTED BY BREAKER IN PANEL G = GROUND FAULT CIRCUIT INTERRUPTER K = CHILD RESISTANT COVER L = ISOLATED GROUND P = PENDANT MOUNTED WITH CORD GRIPS. VERIFY PENDANT LENGTH S = SPLIT WIRED T = TAMPER RESISTANT SHUTTERED RECEPTACLE U = USB RECEPTACLE: TAMPER RESISTANT OUTLET WITH 2 USB PORTS, (P&S TM8USB, LEVITON T5630, HUBBELL USB15X OR APPROVED) W = WEATHERPROOF CONTINUOUS USE COVER. GFCI PROTECTED, WITH WEATHER-RESISTANT RECEPTACLE
	DUPLEX RECEPTACLE, FLUSH FLOOR
	DOUBLE DUPLEX RECEPTACLE. SEE LETTER CODE LIST AT DUPLEX RECEPTACLE FOR OPTIONS
	EQUIPMENT ELECTRICAL CONNECTION
	SPECIAL PURPOSE RECEPTACLE. LETTER CODE DENOTES RECEPTACLE CONFIGURATION LX-XXR = NEMA CONFIGURATION TWIST-LOCK RECEPTACLE X-XXR = NEMA CONFIGURATION STRAIGHT BLADE RECEPTACLE P = PENDANT MOUNT WITH CORD GRIPS. VERIFY PENDANT LENGTH X = COORDINATE RECEPTACLE CONFIGURATION WITH EQUIPMENT BEING SUPPLIED
	FLUSH POKE-THRU WITH DUPLEX RECEPTACLE AND RACEWAY FOR SIGNAL CABLES
OS	CEILING MOUNTED OCCUPANCY SENSOR P = PASSIVE INFRARED D = DUAL TECHNOLOGY U = ULTRASONIC, 360 DEG RANGE H = ULTRASONIC, HALLWAY PATTERN
OS	WALL MOUNTED OCCUPANCY SENSOR P = PASSIVE INFRARED D = DUAL TECHNOLOGY
SS	WALL MOUNTED OCCUPANCY SENSOR/SWITCH S = PASSIVE INFRARED WITH INTEGRAL "OFF" SWITCH T = DUAL RELAY PASSIVE INFRARED WITH TWO INTEGRAL "OFF" SWITCHES D = PASSIVE INFRARED WITH INTEGRAL DIMMER TO OFF.
	MULTIPLE CHANNEL SURFACE METAL RECEPTACLE RACEWAY WITH LOW VOLTAGE DIVIDERS, LENGTH AND RECEPTACLES AS INDICATED
	SURFACE METAL RECEPTACLE RACEWAY
DIM	MULTI CHANNEL DIMMER CONTROLLER
	PHOTO ELECTRIC SWITCH: SEE DETAIL 5/E4-7.01 D = CONTINUOUS DIMMING PHOTOCELL S = SWITCHED PHOTOCELL
	SINGLE POLE SWITCH 3 = THREE-WAY SWITCH a THRU z (LOWERCASE) = LUMINAIRE CONTROL DESIGNATION D = DIMMER F = FAN SPEED CONTROL K = KEY OPERATED SWITCH L = LIGHTED HANDLE M = MANUAL MOTOR STARTER WITH THERMAL OVERLOAD P = SWITCH WITH PILOT LIGHT S = SENTRY SWITCH T = INTERVAL TIMER W = WEATHERPROOF SWITCH V = LOW VOLTAGE SWITCH
AS	WALL MOUNTED AUTOMATIC SWITCH A = AUTOMATIC (SENTRY) WALL SWITCH T = TIMER SWITCH

Telecommunications

	RACEWAY ONLY DATA OUTLET. PROVIDE DOUBLE GANG BACK BOX AND SINGLE GANG ADAPTER PLATE WITH 1" C. AND PULLSTRING TO ACCESSIBLE CEILING SPACE. SEE LETTER CODE LIST AT DATA/TELEPHONE OUTLET FOR OPTIONS.
	RACEWAY ONLY DATA/TELEPHONE OUTLET. PROVIDE DOUBLE GANG BACK BOX AND SINGLE GANG ADAPTER PLATE WITH 1" C. AND PULLSTRING TO ACCESSIBLE CEILING SPACE. (MULTIPLE LETTERS INDICATE MULTIPLE OPTIONS) A = ABOVE COUNTER B = EMERGENCY BLUE PHONE C = CEILING MOUNTED ABOVE ACCESSIBLE CEILING F = FLUSH CEILING MOUNTED R = SURFACE MOUNTED ON RACEWAY
	RACEWAY ONLY FLUSH FLOOR DATA/TELEPHONE OUTLET WITH 1" UNDER SLAB CONDUIT AND PULLSTRING TO ACCESSIBLE CEILING SPACE. SEE LETTER CODE LIST AT DATA/TELEPHONE OUTLET FOR OPTIONS.
	RACEWAY ONLY TELEPHONE OUTLET. PROVIDE DOUBLE GANG BACK BOX AND SINGLE GANG ADAPTER PLATE WITH 3/4" C. AND PULLSTRING TO ACCESSIBLE CEILING SPACE. SEE LETTER CODE LIST AT DATA/TELEPHONE OUTLET FOR OPTIONS.
TV	TELEVISION OUTLET, WITH RG-6 CABLE AND 1"C. TO ACCESSIBLE CEILING.

Electronic Security

NOTE: FROM ROUGH-IN FOR EACH DEVICE BELOW, PROVIDE 1/2-INCH CONDUIT WITH PULL STRING TO NEAREST IT ROOM.

D	DOOR POSITION SWITCH/CONTACT
L	ELECTRIC LATCH CONNECTION
ES	ELECTRIC STRIKE DOOR LOCKS
H	HANDICAP ACCESS BUTTON
PS	J-BOX CONTAINING POWER SUPPLY FOR DOOR HARDWARE.
M	MAGNETIC DOOR LOCKS
	PANIC BUTTON LOCATION. INSTALL AT +42"
REX	REQUEST TO EXIT DEVICE
SC	VIDEO SURVEILLANCE CAMERA, REFER TO CAMERA SCHEDULE
C	WALL MOUNTED ACCESS CONTROL CARD READER
K	WALL MOUNTED KEYPAD

PRICING NOTES

A TELECOM (BACKBONE): FROM MAIN TELECOM ROOM TO EACH BRANCH TELECOM ROOM/SPACE FOR HOUSE OUTLETS. PROVIDETHE FOLLOWING: (1) 6-STRAND 50/125 MM OM3 FIBER OPTIC CABLE. (1) 25-PAIR COPPER RISER CABLE. PROVIDE FIBER DISTRIBUTION UNIT FOR TERMINATION OF FIBER OPTIC CABLE AT EACH END. TERMINATE BOTH ENDS WITH LC CONNECTORS.

B TELECOM (RESIDENCES): PROVIDE OUTLET BOXES AND MDU IN EACH APARTMENT AS SHOWN ON ENLARGED PLANS. TELECOM AND CABLE TV CABLING TO APARTMENT MDU AND FROM APARTMENT MDU TO APARTMENT OUTLETS BY OTHERS.

C TELECOM (HOUSE LOADS): WHERE TELE/DATA OUTLET IS SHOWN ON FLOOR PLANS IN SHELL/CORE AREAS, PROVIDE (2) CAT 6 JACKS FROM NEAREST TELECOM ROOM. PROVIDE ONE CAT 6 OUTLET TO THE FOLLOWING SHELL/CORE EQUIPMENT FROM NEAREST TELECOM ROOM: EACH ELEVATOR CONTROLLER, EACH BAS CONTROLLER, AND EACHLIGHTING RELAY PANEL.

D TELECOM (WIFI): PROVIDE CEILING OUTLETS (ONE CAT 6 CABLE TO EACH OUTLET), ONE EVERY 2000SF FOR COVERAGE OF COMMONS SPACES (FITNESS AND LOUNGE AREA), ROOFTOP ECO-DECK, OUTDOOR PLAZA AREA AND LOBBIES (EXCLUDES PARKING GARAGE).

E TELECOM (GROUNDING): IN EACH TELECOM SPACE, PROVIDE 12-INCH BY 4-INCH BY ½-INCH GROUND BUS BAR BONDED TO GROUND BUS OF PANELBOARD SERVING OUTLETS WITHIN ROOM SPACE VIA ONE #6 COPPER GROUNDING CONDUCTOR, OR TMGB IN MAIN TELECOM ROOM IN GARAGE, WHICHEVER IS CLOSER.

F SECURITY: PROVIDE DOOR ENTRY SYSTEM (AUDIO ONLY) FOR SECURITY ENTRY TO EACH RESIDENCE. DOOR KING OR APPROVED.

G HVAC/PLUMBING: REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR LAYOUT OF EQUIPMENT REQUIRING ELECTRICAL CONNECTION. DIVISION 26 TO PROVIDE FUSED DISCONNECT AND INSTALL STARTER FOR EACH EQUIPMENT.

H DISTRIBUTED ANTENNA SYSTEM (DAS): PROVIDE ALLOWANCE IN PARKING GARAGE AND STAIRWELLS AREAS FOR $0.75 PER SQUARE FOOT FOR CODE REQUIRED DAS TO ENABLE PORTLAND FIRE DEPARTMENT TWO-WAY RADIOS TO HAVE SUFFICIENTLY STRONG SIGNAL.

I ELEVATOR WARNING: POWER FEEDERS ARE SIZED BASED ON HIGHLY EFFICIENT MACHINE-ROOM LESS ELEVATORS, AND SO ARE LESS THAN 50% OF SIZE IF THEY WERE HYDRAULIC. VE EFFORT TO CHANGE THESE ELEVATORS TO LESS EXPENSIVE STANDARD HYDRAULIC OR TRACTION ELEVATORS NEEDS TO INCLUDE ADDED COST FOR LARGE POWER FEEDERS, UPSTREAM PANELBOARDS, AND GENERATOR FOR CODE-REQUIRED STANDBY POWER.

J SECURITY: PROVIDE PRICING TO OWNER FOR INTRUSION DETECTION AND ACCESS CONTROL (CARD READER) SYSTEMS PER DIVISION 28 SPECS, IN ADDITION TO BASE SCOPE FOR ROUGH-IN ONLY. DEVICES AS SHOWN ON DRAWING. PROVIDE DOOR ENTRY SYSTEM WITH VIDEO AT EACH LOBBY FOR SECURED ENTRY FROM EACH RESIDENCE. CARD READER IN EACH HOUSE ELEVATOR AND AT ENTRY FROM STAIRWELL TO HALLWAY (OTHER THAN ON FIRST FLOOR).

GENERAL SHEET NOTES

1 SWITCHES AND ELECTRICAL OUTLETS ARE TO BE WHITE EXCEPT WHEN LOCATED ON CASEWORK OR SPECIAL WALL FINISHES. REFER TO ARCHITECTURAL DRAWINGS FOR THESE CONDITIONS. ARCHITECT TO SELECT COLOR.

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E4-2.91a	MECHANICAL ROOF SOUTH - ELECTRICAL
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E4-8.01	PANEL SCHEDULES - ELECTRICAL
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REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

SYMBOLS, ABBREVATIONS - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-0.01
SCALE	

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LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	HOUSING	SHIELDING	MOUNTING	FINISH	UL/IP RATING	BALLAST	LAMP(S)	INPUT WATTS	MFG/CATALOG #	NOTES
D	DECORATIVE RLM PENDANT	NOMINAL 13-INCH DIAMETER BY 12-INCH TALL, SPUN ALUMINUM	FROSTED GLASS LENS	COORDINATE WITH ARCHITECTURAL ELEVATIONS AND DETAILS	AS SELECTED BY ARCHITECT			ONE 21 WATT LED A-LAMP	21 WATTS	HI-LITE H-506 SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
D1	DECORATIVE RLM PENDANT WITH RIBBED CLEAR GLASS REFLECTOR	NOMINAL 12-INCH DIAMETER BY 14-INCH TALL, STEEL AND GLASS		COORDINATE WITH ARCHITECTURAL ELEVATIONS AND DETAILS	AS SELECTED BY ARCHITECT			ONE 21 WATT LED A-LAMP	21 WATTS	HI-LITE H-23630 ARIES SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
D2	DECORATIVE LANTERN PENDANT WITH RIBBED CLEAR GLASS REFLECTOR	NOMINAL 6-INCH DIAMETER BY 14-INCH TALL, STEEL AND GLASS		COORDINATE WITH ARCHITECTURAL ELEVATIONS AND DETAILS	AS SELECTED BY ARCHITECT			ONE 21 WATT LED A-LAMP	21 WATTS	HI-LITE H-46006 SEA LANTERN SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
D3	DECORATIVE LANTERN PENDANT WITH CLEAR CAST GLASS REFLECTOR	NOMINAL 8-INCH DIAMETER BY 7.5-INCH TALL, STEEL AND GLASS		COORDINATE WITH ARCHITECTURAL ELEVATIONS AND DETAILS	AS SELECTED BY ARCHITECT			ONE 21 WATT LED A-LAMP	21 WATTS	HI-LITE H-51008 TITAN SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
D4	DECORATIVE WALL SCONCE WITH SPUN ALUMINUM FACTORY SHADE NO 3 REFLECTOR	NOMINAL 7-INCH DIAMETER BY 11-INCH TALL, BRASS		COORDINATE WITH ARCHITECTURAL ELEVATIONS AND DETAILS	AS SELECTED BY ARCHITECT			ONE 21 WATT LED A-LAMP	21 WATTS	SCHOOLHOUSE ELECTRIC MONTCLAIR SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
D5	DECORATIVE SURFACE MOUNT	NOMINAL 7-INCH DIAMETER BY 5-INCH TALL, METAL AND GLASS	FROSTED RIBBED GLASS LENS	COORDINATE WITH ARCHITECTURAL ELEVATIONS AND DETAILS	AS SELECTED BY ARCHITECT			ONE 21 WATT LED A-LAMP	21 WATTS	HI-LITE H-62105-B NEPTUNE SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
D6	PENDANT MOUNT INDUSTRIAL PIPE DECORATIVE	NOMINAL 42-INCH WIDE BY 36-INCH TALL, STEEL	GLASS LENS	PENDANT	AS SELECTED BY ARCHITECT			SIXTEEN EDISON FILAMENT 40 WATT A-LAMP	640 WATTS	CUSTOM BASED ON F3818 SERIES BY TROY LIGHTING	
D7	PENDANT MOUNT INDUSTRIAL PIPE DECORATIVE WITH VARIES REFLECTOR	NOMINAL 17-INCH WIDE BY 17-INCH TALL BY 46-IN LONG, STEEL	FROSTED GLASS LENS	PENDANT	AS SELECTED BY ARCHITECT			SEVEN EDISON FILAMENT 40 WATT A-LAMP	280 WATTS	CUSTOM BASED ON F3819 SERIES BY TROY LIGHTING PROVIDE $1000 ALLOWANCE	
D8	DECORATIVE PENDANT METAL "BALL"	NOMINAL 12-INCH DIAMETER, PERFORATED METAL		PENDANT	STAINLESS STEEL			ONE 21 WATT LED A-LAMP	21 WATTS	TOM DIXON ETCH SHADE SERIES OR APPROVED	
D9	DECORATIVE WALL MOUNT STEEL AND GLASS SCONCE	NOMINAL 6-INCH WIDE BY 14-INCH TALL BY 8.5-INCH DEEP, STEEL	PRESSED CLEAR GLASS	WALL	AS SELECTED BY ARCHITECT			ONE 60W INCANDESCENT	60 WATTS	TRO LIGHTING B3131 "MENLO PARK" SERIES OR APPROVED	
D_10	DECORATIVE LINEAR PENDANT WITH GLASS SHADES	NOMINAL 6-INCH WIDE BY 42-INCH TALL BY 45-INCH LONG, STEEL	PRESSED GLASS LENS	PENDANT	AS SELECTED BY ARCHITECT			FIVE EDISON FILAMENT 40 WATT CAND BASE	200 WATTS	TROY LIGHTING F3818 "MENLO PARK" SERIES OR APPROVED	
F1	FLUORESCENT WRAPAROUND	NOMINAL 6-INCH WIDE BY 4-INCH HIGH BY 4-FOOT LONG ROLLED STEEL GEAR TRAY	TRANSPARENT POLYCARBONATE LENS	SURFACE	WHITE		ELECTRONIC	TWO 32 WATT T8 FLUORESCENT	59 WATTS	SLS LINDA SERIES, ZUMTOBEL, BEGHELLI OR APPROVED	PROVIDE OPTIONAL INTEGRAL OCCUPANCY SENSOR WHERE NOTED ON DRAWINGS
F2	FLUORESCENT WRAPAROUND	NOMINAL 6-INCH WIDE BY 4-INCH HIGH BY 4-FOOT LONG ROLLED STEEL GEAR TRAY	TRANSPARENT POLYCARBONATE LENS	SURFACE	WHITE		ELECTRONIC	ONE 32 WATT T8 FLUORESCENT	30 WATTS	SLS LINDA SERIES, ZUMTOBEL, BEGHELLI OR APPROVED	
F3	SURFACE MOUNTED FLUORESCENT STRIPLIGHT	4-FOOT COLD ROLLED STEEL CHANNEL			WHITE		ELECTRONIC	TWO 32 WATT T8 FLUORESCENT	59 WATTS	LITHONIA C SERIES, METALUX, DAYBRITE, COLUMBIA, LIGHTOLIER, HE WILLIAMS, OR APPROVED	
F4	SMALL SCALE FLUORESCENT STRIP	NOMINAL 1.5-INCH WIDE BY 3-INCH HIGH BY 4-FOOT LONG DIE-FORMED STEEL			AS SELECTED BY ARCHITECT		ELECTRONIC STEP DIMMING	ONE 28 WATT T5 FLUORESCENT	30 WATTS	PRUDENTIAL STRAND SERIES, BARTCO OR APPROVED	
F5	SURFACE/PENDANT MOUNT FLUORESCENT STRIP WITH PERFORATED METAL COVER	NOMINAL 4-INCH WIDE BY 4-INCH TALL BY 48-INCH OVERALL LENGTH, FORMED STEEL	PERFORATED METAL	COORDINATE MOUNTING WITH ARCHITECTURAL ELEVATIONS	AS SELECTED BY ARCHITECT		ELECTRONIC	TWO 32 WATT T8 FLUORESCENT	59 WATTS	BARTCO BC037 SERIES OR APPROVED	
F6	SMALL SCALE FLUORESCENT WRAPAROUND WITH INTEGRAL OCCUPANCY SENSOR	NOMINAL 2-INCH WIDE BY 3-INCH HIGH BY 4-FOOT LONG DIE FORMED STEEL	SATIN ACRYLIC LENS		AS SELECTED BY ARCHITECT		ELECTRONIC STEP DIMMING	TWO 32 WATT T8 FLUORESCENT	59 WATTS	PRUDENTIAL SNAP SERIES, BARTCO OR APPROVED	
L1	SMALL SCALE RECESSED LINEAR LED SLOT	NOMINAL 2-INCH WIDE BY 5/8-INCH HIGH BY LENGTH SHOWN ON DRAWING	HIGH TRANSMISSION ACRYLIC LENS	COORDINATE WITH ARCHITECTURAL DETAIL	WHITE		REMOTE DRIVER	NOMINAL 350 LUMEN 3000K LED PER FOOT	9.8 WATTS PER FOOT	DADO SIMPLELINE SERIES OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LEDS AND DRIVER
L2	SURFACE MOUNT LED DOWN LIGHT	NOMINAL 8-INCH DIAMETER BY 1-INCH TALL STEEL		SURFACE	AS SELECTED BY ARCHITECT		INTEGRAL DIMMING DRIVER	NOMINAL 700 LUMEN 3000K LED	12.5 WATTS	HALO SLD606830WH SERIES OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LEDS AND DRIVER
L3	SURFACE MOUNTED LED STRIPLIGHT	NOMINAL 3-INCH WIDE BY 2-INCH TALL BY 4-FOOT COLD ROLLED STEEL CHANNEL			WHITE		0-10V DIMMING DRIVER	NOMINAL 3200 LUMEN 3500K LED	28.3 WATTS	METALUX SNLED SERIES, LITHONIA OR APPROVED	
L4	EXTERIOR LINEAR LED FLOOD WITH 5 DEGREE DISTRIBUTION	NOMINAL 3-INCH WIDE BY 2.5-INCH TALL BY LENGTH AS SHOWN ON DRAWING, EXTRUDED ALUMINUM	CLEAR ACRYLIC LENS	PER ARCHITECTURAL DETAIL	NATURAL ALUMINUM	IP65	REMOTE DRIVER	NOMINAL 850 LUMENS PER FOOT 3500K	11 WATTS PER FOOT	IO LIGHTING LINE 2.0 SERIES, WINONA OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LEDS AND DRIVER
L5	SURFACE MOUNT LED VANDAL RESISTANT WITH TYPE V-C DISTRIBUTION AND INTEGRAL OCCUPANCY SENSOR	NOMINAL 5-INCH WIDE BY 4-INCH TALL BY 30-INCH LONG, ALUMINUM		SURFACE	AS SELECTED BY ARCHITECT	IP66	INTEGRAL DIMMING DRIVER	NOMINAL 4600 LUMEN 4000K LED	54 WATTS	VISIONARE BOW-1 SERIES, ALBEO OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LEDS AND DRIVER. LUMINAIRE TO DIM 50% DURING UNOCCUPIED TIMES.
L6	SURFACE MOUNT OUTLET BOX LAMP HOLDER WITH GU24 SOCKET	NOMINAL 4-INCH DIAMETER BY 2-INCH DEEP		SURFACE	AS SELECTED BY ARCHITECT			NOMINAL 600 LUMEN 3000L LED	10 WATTS	LEVITON, COOPER OR APPROVED	
S1	EXTERIOR WALL MOUNT SHIELDED "JELLY JAR"	NOMINAL 6-INCH DIAMETER BY 11-INCH LONG STEEL	OPAL GLASS LENS	COORDINATE WITH ARCHITECTURAL ELEVATIONS	AS SELECTED BY ARCHITECT		ELECTRONIC	ONE 18 WATT COMPACT FLUORESCENT	22 WATTS	BEGA 3016P, LIGMAN OR APPROVED	
S2	EXTERIOR ARCHITECTURAL FULL-CUTOFF LED LUMINAIRE WITH TYPE III DISTRIBUTION	NOMINAL 13-INCH WIDE BY 24-INCH LONG BY 2-INCH DIE-CAST ALUMINUM		15-FOOT HIGH, STRAIGHT STEEL ROUND POLE. POLE TO WITHSTAND 100 MILE PER HOUR WINDS WITH A GUST FACTOR OF 1.3.	AS SELECTED BY ARCHITECT	WET	INTEGRAL DRIVER	NOMINAL 6000 LUMEN 4000K LED	52 WATTS	GARDCO ECOFORM SERIES, LITHONIA OR APPROVED	
S3	EXTERIOR SINGLE-LAMP COMPACT FLUORESCENT DECORATIVE CYLINDER	NOMINAL 6-INCH DIAMETER BY 21-INCH TALL BY 8-INCH DEEP ALUMINUM	TEMPERED CLEAR GLASS	COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS	BLACK POWDER COAT	WET		NOMINAL 1700 LUMEN 4000K LED	36 WATTS	BEGA 6519LED SERIES, OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LED AND DRIVER
S4	EXTERIOR LED CYLINDER DOWNLIGHT	NOMINAL 6-INCH DIAMETER BY 7-INCH DIECAST ALUMINUM		COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS	AS SELECTED BY ARCHITECT	WET	INTEGRAL DRIVER	NOMINAL 1300 LUMEN 4000K LED	20 WATTS	BEGA 6509LED SERIES, WE-EF OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LED AND DRIVER
S5	EXTERIOR DECORATIVE FLOOR LAMP	NOMINAL 20-INCH DIAMETER ACRYLIC SHADE	CLEAR LENS			WET		ONE 21 WATT LED A-LAMP	21 WATTS	DESIGN PLAN GINEVRA OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
S6	EXTERIOR LED FLOODLIGHT WITH NARROW SPOT DISTRIBUTION	NOMINAL 17-INCH TALL BY 7-INCH DIAMETER DIE-CAST ALUMINUM	CLEAR TEMPERED GLASS LENS	COORDINATE WITH ARCHITECTURAL ELEVATIONS AND DETAILS	AS SELECTED BY ARCHITECT	IP66	INTEGRAL DRIVER	NOMINAL 3700 LUMEN 4000K LED	36 WATTS	WE-EF 665-7121 SERIES, HYDREL OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LEDS AND DRIVER
S7	EXTERIOR LED FLOODLIGHT WITH NARROW SPOT DISTRIBUTION	NOMINAL 14-INCH TALL BY 6-INCH DIAMETER DIE-CAST ALUMINUM	CLEAR TEMPERED GLASS LENS	COORDINATE WITH ARCHITECTURAL ELEVATIONS AND DETAILS	AS SELECTED BY ARCHITECT	IP66	INTEGRAL DRIVER	NOMINAL 2400 LUMEN 4000K LED	24 WATTS	WE-EF 665-3121 SERIES, HYDREL OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LEDS AND DRIVER
S8	EXTERIOR SMALL SCALE LED FLOODLIGHT WITH FLOOD DISTRIBUTION	NOMINAL 3-INCH DIAMETER BY 4-INCH LONG DIE-CAST ALUMINUM	CLEAR TEMPERED GLASS LENS		AS SELECTED BY ARCHITECT	WET	INTEGRAL DRIVER	NOMINAL 600 LUMEN 3000K	8 WATTS	BK LIGHTING ARTISTAIR SERIES, KIM, LUMASCAPE OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LEDS AND DRIVER
S9	EXTERIOR LIGHT COLUMN	NOMINAL 8-INCH DIAMETER BY 12-FOOT TALL	MULTI-PRISM ACRYLIC	9-FOOT HIGH, STRAIGHT ROUND POLE. POLE TO WITHSTAND 100 MILE PER HOUR WINDS WITH A GUST FACTOR OF 1.3.	AS SELECTED BY ARCHITECT	WET	INTEGRAL DRIVER	NOMINAL 6600 LUMEN 4000K LED	90 WATTS	SELUX MTR SERIES, LIGMAN OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LED AND DRIVER
S 10	EXTERIOR LINEAR FLUORESCENT SLOT	NOMINAL 5-INCH WIDE BY 3.5-INCH TALL BY 4-FOOT IN LENGTH ALUMINUM	PRISMATIC LENS	COORDINATE WITH ARCHITECTURAL ELEVATIONS	AS SELECTED BY ARCHITECT	WET IP65	ELECTRONIC	ONE 32 WATT T8 FLUORESCENT	30 WATTS	SELUX M125 SERIES, AXIS OR APPROVED	
S 11	EXTERIOR ARCHITECTURAL LINEAR LED WALL MOUNT WITH TYPE V DISTRIBUTION	NOMINAL 3-INCH WIDE BY 65-INCH LONG EXTRUDED ALUMINUM	TEMPERED GLASS LENS		AS SELECTED BY ARCHITECT	IP66	INTEGRAL DRIVER	NOMINAL 2000 LUMEN 3000K LED	35.2 WATTS	PIL SYSTEM PARK LINE SERIES OR APPROVED	
S 12	EXTERIOR FULL-CUTOFF WALL MOUNTED TRAPEZOIDAL WEDGE LED WITH TYPE III DISTRIBUTION	NOMINAL 12-INCH WIDE BY 5.5-INCH TALL WITH 7-INCH PROJECTION DIE-CAST ALUMINUM	TEMPERED GLASS LENS	COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS	AS SELECTED BY ARCHITECT	WET	INTEGRAL ELECTRONIC DRIVER	NOMINAL 2000 LUMEN 4000K LED	28 WATTS	GARDCO 111L SERIES, LITHONIA, OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LED'S AND DRIVER
S13	CUSTOM LIGHT BOX	NOMINAL 24-INCH TALL BY 24-INCH WIDE BY 2-INCH DEEP ALUMINUM	DIFFUSE	COORDINATE WITH ARCHITECTURAL DETAIL	NATURAL ALUMINUM	DAMP	REMOTE ELECTRONIC DRIVER	NOMINAL 2500 LUMEN 4000K LED	24 WATTS	VISUAL LIGHTING ELP-L SERIES, TRAXON OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LED AND DRIVER
S14	EXTERIOR LED FLOODLIGHT WITH FLOOD DISTRIBUTION	NOMINAL 14-INCH TALL BY 6-INCH DIAMETER DIE-CAST ALUMINUM	CLEAR TEMPERED GLASS LENS	COORDINATE WITH ARCHITECTURAL ELEVATIONS AND DETAILS	AS SELECTED BY ARCHITECT	IP66	INTEGRAL DRIVER	NOMINAL 2400 LUMEN 4000K LED	24 WATTS	WE-EF 665-3121 SERIES, HYDREL OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LEDS AND DRIVER
S15	EXTERIOR RECESSED ROUND STEP LIGHT	NOMINAL 3-INCH DIAMETER BY 3-INCH DEEP STAINLESS STEEL	CLEAR TEMPERED GLASS LENS	COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS	STAINLESS STEEL	IP68	REMOTE ELECTRONIC DRIVER	NOMINAL 290 LUMEN 4000K LED	4.5 WATTS	BEGA 3827LED SERIES OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LED AND DRIVER
S16	EXTERIOR LED CYLINDER DOWNLIGHT	NOMINAL 5-INCH DIAMETER BY 6-INCH DIECAST ALUMINUM		COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS	BLACK POWDER COAT	WET	INTEGRAL DRIVER	NOMINAL 700 LUMEN 4000K LED	10.5 WATTS	BEGA 6450LED SERIES OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LED AND DRIVER
UA	PENDANT CEILING MOUNT WITH BLACK PORCELAIN INSULATOR	NOMINAL 16-INCH DIAMETER BY 14-INCH TALL SPUN STEEL		COORDINATE HEIGHT WITH ARCHITECTURAL ELEVATIONS	BLACK POWDER COAT			ONE 21 WATT LED A-LAMP	21 WATTS	SCHOOLHOUSE FACTORY LIGHT NO. 7 OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX". PROVIDE RED CHEVRON CLOTH WRAPPED CORD
UAE	SURFACE CEILING MOUNT	NOMINAL 16-INCH DIAMETER BY 12-INCH TALL SPUN STEEL		SURFACE CEILING	AS SELECTED BY ARCHITECT			ONE 11W COMPACT FLUORESCENT PLUMEN LAMP	12 WATTS	SCHOOLHOUSE FACTORY LIGHT NO. 5 OR APPROVED	PROVIDE FACTORY LABEL "25 WATT MAX"
UAS	NOT USED										
UBE	SURFACE WALL MOUNT VANITY WITH PERFORATED SHIELD	NOMINAL 3-INCH WIDE BY 3-INCH TALL BY 36-INCH LONG	PERFORATED STEEL FACIA	COORDINATE HEIGHT WITH ARCHITECTURAL ELEVATIONS	AS SELECTED BY ARCHITECT		ELECTRONIC	ONE 21 WATT T5 FLUORESCENT	25 WATTS	PRUDENTIAL STRAND SERIES OR APPROVED	
UBN	DECORATIVE WALL MOUNT VANITY	NOMINAL 8-INCH DIAMETER BY 5-INCH TALL, SPUN ALUMINUM		8M-3 WALL BRACKET	AS SELECTED BY ARCHITECT			THREE 21 WATT LED A-LAMP	63 WATTS	HI-LITE H-7106 SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX" FOR EACH SOCKET
UC	DECORATIVE 'SCHOOL HOUSE' CEILING MOUNT	NOMINAL 10-INCH DIAMETER BY 6-INCH TALL	OPAL GLASS LENS	SURFACE CEILING	AS SELECTED BY ARCHITECT			ONE 21 WATT LED A-LAMP	21 WATTS	HI-LITE H-93710 SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
UD	SURFACE CEILING MOUNT	NOMINAL 12-INCH DIAMETER BY 8-INCH TALL, SPUN ALUMINUM		SURFACE CEILING	AS SELECTED BY ARCHITECT			ONE 21 WATT LED A-LAMP	21 WATTS	HI-LITE H-15412 SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
UF	DECORATIVE PENDANT	NOMINAL 8-INCH DIAMETER BY 8-INCH TALL, SPUN ALUMINUM		COORDINATE HEIGHT WITH ARCHITECTURAL ELEVATIONS	AS SELECTED BY ARCHITECT			ONE 21 WATT LED A-LAMP	21 WATTS	HI-LITE H-16608 SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
UG	NOT USED										
UH	SURFACE CEILING LED DOWN LIGHT	NOMINAL 8-INCH DIAMETER BY 1-INCH TALL, STEEL		SURFACE	AS SELECTED BY ARCHITECT		INTEGRAL DRIVER	NOMINAL 700 LUMEN 3000K	12.5 WATTS	HALO SLD606830WH SERIES OR APPROVED	PROVIDE 5 YEAR WARRANTY ON LEDS AND DRIVER
UJ	SMALL SCALE LINEAR FLUORESCENT WRAP	NOMINAL 2.75-INCH TALL BY 2-INCH WIDE BY 48-INCH LONG, STEEL	LINEAR PRISMATIC LENS	SURFACE CEILING	AS SELECTED BY ARCHITECT		ELECTRONIC	ONE 28 WATT T5 FLUORESCENT	30 WATTS	BARTCO IST55 SERIES OR APPROVED	
UK	DECORATIVE PENDANT	NOMINAL 12-INCH DIAMETER BY 7-INCH TALL, SPUN ALUMINUM		COORDINATE WITH ARCHITECTURAL DRAWINGS	AS SELECTED BY ARCHITECT			ONE 21 WATT LED A-LAMP	21 WATTS	HI-LITE H-4110 SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
UL	DECORATIVE PENDANT	NOMINAL 8-INCH DIAMETER BY 5-INCH TALL, SPUN ALUMINUM		COORDINATE WITH ARCHITECTURAL DRAWINGS	AS SELECTED BY ARCHITECT			ONE 21 WATT LED A-LAMP	21 WATTS	HI-LITE H-7106 SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
UM	DECORATIVE PENDANT	NOMINAL 10-INCH DIAMETER BY 7-INCH TALL, SPUN ALUMINUM	FROSTED GLASS LENS	PENDANT	AS SELECTED BY ARCHITECT			ONE 21 WATT LED A-LAMP	21 WATTS	HI-LITE H-1410 SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
UN	SURFACE CEILING DECORATIVE PENDANT DROP SOCKET WITH FABRIC COVERED CABLE AND EXPOSED LAMP	NOMINAL 2-INCH DIAMETER BY 7.5-INCH TALL, METAL		PENDANT	AS SELECTED BY ARCHITECT			ONE 11W COMPACT FLUORESCENT PLUMEN LAMP	12 WATTS	PLUMEN DROP CAP PENDANT OR APPROVED	
UP	DECORATIVE 3 LIGHT PENDANT	NOMINAL 4-INCH DIAMETER BY 14-INCH TALL BY 36-INCH OVERALL WIDTH, SPUN METAL	OPAL GLASS	PENDANT	AS SELECTED BY ARCHITECT			THREE 21 WATT LED A-LAMP	63 WATTS	LBL MEZZO 3 SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX" FOR EACH SOCKET
UQ	SURFACE MOUNT MONOPOINT ADJUSTABLE TRACK HEAD WITH PAR20 SHADE	NOMINAL 3-INCH DIAMETER BY 4.5-INCH LONG BY 6-INCH TALL, PAINTED METAL		COORDINATE STEM LENGTHYHEIGHT WITH ARCHITECTURAL ELEVATIONS	AS SELECTED BY ARCHITECT			ONE 7W LED PAR20 FLOOD	10 WATTS	CONTECH CTL610 SERIES OR APPROVED	PROVIDE FACTORY LABEL "25 WATT LED MAX"
X	UNIVERSAL MOUNTED THIN PROFILE SINGLE FACE EXIT SIGN	NOMINAL 12-INCH WIDE BY 8.5-INCH TALL BY 0.5-INCH DEEP DIE-CAST ALUMINUM HOUSING. CONTRACTOR TO VERIFY BACKBOX REQUIREMENTS DURING ROUGH-IN		COORDINATE WITH ARCHITECTURAL ELEVATIONS	BRUSHED ALUMINUM			GREEN LED	NOMINAL 2 WATTS	EVENLITE RAZOR SERIES, ISOLITE, PATHWAY, SURE-LITES OR APPROVED	PROVIDE NICKEL CADMIUM BATTERY BACK-UP, ARROWS PER DRAWINGS
X1	UNIVERSAL MOUNTED THIN PROFILE DOUBLE FACE EXIT SIGN	NOMINAL 12-INCH WIDE BY 8.5-INCH TALL BY 0.5-INCH DEEP DIE-CAST ALUMINUM HOUSING. CONTRACTOR TO VERIFY BACKBOX REQUIREMENTS DURING ROUGH-IN		COORDINATE WITH ARCHITECTURAL ELEVATIONS	BRUSHED ALUMINUM			GREEN LED	NOMINAL 2 WATTS	EVENLITE RAZOR SERIES, ISOLITE, PATHWAY, SURE-LITES OR APPROVED	PROVIDE NICKEL CADMIUM BATTERY BACK-UP, ARROWS PER DRAWINGS
X2	UNIVERSAL MOUNTED THIN PROFILE SINGLE FACE WET LABELED EXIT SIGN	NOMINAL 12-INCH WIDE BY 9-INCH TALL BY 2.5-INCH DEEP POLYCARBONATE. CONTRACTOR TO VERIFY BACKBOX REQUIREMENTS DURING ROUGH-IN		COORDINATE WITH ARCHITECTURAL ELEVATIONS	AS SELECTED BY ARCHITECT			GREEN LED	NOMINAL 2 WATTS	EVENLITE TELESIS SERIES, ISOLITE, PATHWAY, SURE-LITES OR APPROVED	PROVIDE NICKEL CADMIUM BATTERY BACK-UP, ARROWS PER DRAWINGS

NOTES:

1. THIS LUMINAIRE SCHEDULE IS NOT COMPLETE WITHOUT A COPY OF THE PROJECT MANUAL CONTAINING THE ELECTRICAL SPECIFICATIONS.
2. FLUORESCENT BALLASTS: UNIVERSAL VOLTAGE, PROGRAM START WITH END-OF-LIFE PROTECTIVE CIRCUITRY.
3. METAL HALIDE BALLASTS: PULSE START FOR LAMPS ABOVE 150 WATTS AND ELECTRONIC FOR LAMPS 150 WATTS AND BELOW, UNLESS OTHERWISE NOTED.
4. DIMMING CONTROL PROTOCOL (0-10VDC, LINE VOLTAGE, DALI, ETC.) COMPATIBLE WITH LIGHTING CONTROL SYSTEM AS SPECIFIED AND SHOWN ON DRAWINGS.
5. T8 LAMPS: NOMINAL 4 FOOT LAMPS TO HAVE INITIAL 3100 LUMENS. MINIMUM 36000 HOURS RATED LIFE ON 3 HOUR SWITCHING CYCLE AND 42000 HOURS ON 12 HOUR SWITCHING CYCLE.
6. T5 LAMPS: NOMINAL 4 FOOT LAMPS TO BE RATED FOR 20000 HOURS ON 3 HOUR SWITCHING CYCLES.
7. T5HO LAMPS: NOMINAL 4 FOOT LAMPS TO BE RATED FOR 25000 HOURS ON 3 HOUR SWITCHING CYCLES AND 35000 HOURS ON 12 HOUR SWITCHING CYCLES.
8. FLUORESCENT LAMPS TO HAVE 4100K COLOR TEMPERATURE AND 85+ CRI FOR LINEAR LAMPS AND 82+ CRI FOR COMPACT FLUORESCENT LAMPS UNLESS OTHERWISE NOTED.
9. CERAMIC METAL HALIDE LAMPS: 80+ CRI WITH MAXIMUM +/- 150K COLOR SHIFT OVER LAMP LIFE.
10. PROVIDE +/- 12 INCH ADJUSTABILITY IN AIRCRAFT CABLE LENGTH WHERE USED.
11. COORDINATE ALL CEILING TYPES WITH LUMINAIRE LOCATIONS PRIOR TO ORDERING LUMINAIRES. COORDINATE INSTALLATION WITH REFLECTED CEILING PLAN.
12. SPECIFIED MANUFACTURERS ARE APPROVED TO SUBMIT BID. INCLUSION DOES NOT RELIEVE MANUFACTURER FROM SUPPLYING PRODUCT AS DESCRIBED.
13. PROVIDE SUBMITTALS THAT INCLUDE THE LUMINAIRE, LAMP AND BALLAST INFORMATION OF EACH LUMINAIRE, WITH APPLICABLE OPTIONS CLEARLY CHECKED OR HIGHLIGHTED. SUBMITTALS NOT INCLUDING THIS INFORMATION WILL BE RETURNED AS REJECTED BY THE ENGINEER OF RECORD.
14. REMOTE BALLASTS/DRIVERS: UL LISTED FOR THEIR APPLICATION. BALLASTS/DRIVERS MARKED AS UL RECOGNIZED COMPONENT BUT NOT UL LISTED ARE SUBJECT TO REMOVAL AND REPLACEMENT AT NO COST TO OWNER.

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 14, 1978 — DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

LUMINAIRE SCHEDULE

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER E4-0.02
SCALE	

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LOAD SUMMARY AT
Main Switchboard MDS-N

LOAD TYPE	LOAD DESCRIPTION	UNITS	TOTAL CONNECTED LOAD	DEMAND FACTOR	TOTAL DEMAND LOAD
G	General (Non-Continuous)	KVA	449.74	100%	449.74
L	Lighting	KVA	26.96	125%	33.70
R	Receptacles - to 10 KVA	KVA	10.00	100%	10.00
	over 10 KVA	KVA	4.94	50%	2.47
K	Kitchen	KVA	0.00	100%	0.00
H	Heating	KVA	25.28	100%	25.28
M	Motors	KVA	99.32	100%	99.32
LM	Largest Motor	KVA	24.93	125%	31.16
WH	Water Heater	KVA	19.20	125%	24.00
C	Continuous General Load	KVA	0.00	125%	0.00
EL	5 Elevators	KVA	82.27	82%	67.46
	TOTAL LOADS (480V, 3 PHASE):	KVA	742.6		743.1
		AMPS	893.3		893.9

GENERAL SHEET NOTES

A. PANELBOARD/CIRCUIT BREAKER FAULT RATING: PANELS ARE 42KAIC (FULLY RATED) IF LOCATED IN MAIN ELECTRICAL ROOMS OR UTILITY YARD, ELSE 22KAIC (FULLY RATED). PROVIDE (42) 20A/1P CIRCUIT BREAKERS IN EACH PANELBOARD, UNLESS OTHERWISE NOTED.

B. ALLOWED SUBSTITUTES (FROM DEDUCTIVE ALTERNATES 1 AND 2): PROVIDE NMB FOR CABLING IN APARTMENTS, AND SER CABLE FOR FEEDER CABLE TO APARTMENT LOAD CENTERS.

FEEDER SCHEDULE

Key

A, C, S, X
A = Aluminum
C = Conduit only
S = Service secondary
X = Separately derived system

303A	3 #8 AL, 1 #10 AL GND., IN 3/4" C.
503A	3 #4 AL, 1 #8 AL GND., IN 1-1/4" C.
604A	4 #2 AL, 1 #6 AL GND., IN 1-1/4" C.
1003A	3 #1/0 AL, 1 #6 AL GND., IN 1-1/2" C.
1004A	4 #1/0 AL, 1 #6 AL GND., IN 1-1/2" C.
1253A	3 #2/0 AL, 1 #4 AL GND., IN 2" C. (ALTERNATIVE: INSTALLED AS MC CABLE)
2004A	4 - 250 kcmil AL, 1 #4 AL GND., IN 2-1/2" C.
2254A	4 - 300 kcmil AL, 1 #2 AL GND., IN 2-1/2" C.
225C	ONE 2-1/2" DIAMETER EMPTY CONDUIT WITH PULL CORD
3004A	4 - 500 kcmil AL, 1 #2 AL GND., IN 3" C.
3503A	2 SETS OF (3 - #4/0 AL, 1 #1 AL GND., IN 2" C.)
6004A	2 SETS OF (4 - 500 kcmil AL, 1 #2/0 AL GND., IN 3" C.)
8004A	3 SETS OF (4 - 400 kcmil AL, 1 #3/0 AL GND., IN 3" C.)
12003A	4 SETS OF (3 - 500 kcmil AL, 1 250 kcmil AL GND., IN 3" C.)
12004A	4 SETS OF (4 - 500 kcmil AL, 1 250 kcmil AL GND., IN 3" C.)
20004A	7 SETS OF (4 - 500 kcmil AL, 1 - 400 kcmil AL GND., IN 4" C.)
2000C	EIGHT 5" DIAMETER EMPTY CONDUIT WITH PULL CORD

ELECTRIC SUB-METERING NARRATIVE

A. THIS DEVELOPMENT IS BASED ON THREE 480-VOLT SERVICES TO SERVE THE WEST AND EAST BLOCKS, INCLUDING THE CENTRAL UTILITY PLANT ON THE ROOF LEVEL OF THE SOUTH BLOCK. PGE WOULD HAVE REQUIRED FIVE TO SEVEN 208-VOLT SERVICES AND UTILITY TRANSFORMERS TO PROVIDE UTILITY METERS FOR THE ELECTRICAL SERVICE TO EACH RESIDENCE.

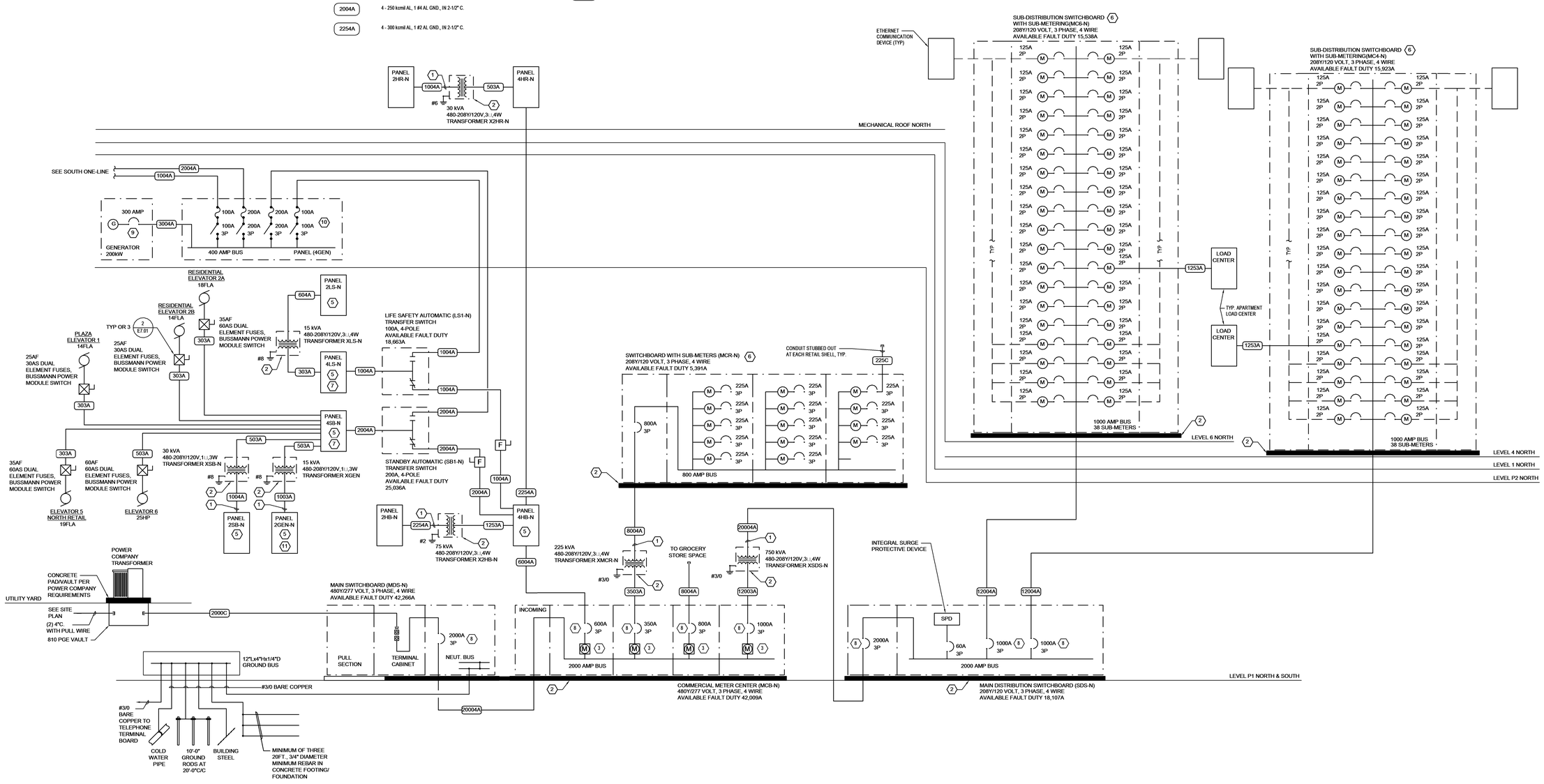
B. PORTLAND GENERAL ELECTRIC (PGE) HAS SAID THROUGH THEIR REPRESENTATIVE, ED GORMAN, THAT THEY TAKE NO EXCEPTION TO THE USE OF ELECTRIC SUB-METERS WITH BILLING SOFTWARE PROVIDED THAT (A) RESIDENTS ARE NOT BILLED WITH ANY MARKUP ON THE BILL THEY OTHERWISE WOULD HAVE RECEIVED FROM PGE, AND (B) WE ARE COMPLIANT WITH APPLICABLE STATE STATUTES (ORS 455.420) FOR ELECTRIC METERING.

C. ELECTRIC SUB-METERS ARE BEING USED SO WE CAN INSTALL 480-VOLT SERVICES FOR THE MIXED USE DEVELOPMENT, AND WITH THE HIGHER VOLTAGE ALLOW FOR THE HVAC DESIGN OF A CENTRAL UTILITY PLANT WHICH SIGNIFICANTLY LOWERS THE ENERGY CONSUMPTION FOR THE APARTMENTS FOR THEIR HEATING/COOLING. THE APARTMENTS USE A WATER SOURCE HEAT PUMP (WSHP) INSTEAD OF THE USUAL PTAC UNIT.

D. IN COMPLIANCE WITH ORS 455.420, EACH APARTMENT WILL (A) RECEIVE A MONTHLY BILL FROM THE OWNER'S BILLING SOFTWARE USING THE SAME RATE SCHEDULE THEY WOULD HAVE RECEIVED FROM PGE, (B) RECEIVE DATA FROM THEIR MONTHLY BILL ON ENERGY CONSUMPTION, (C) HAVE A LOWER BILL DUE TO THE MORE EFFICIENT HVAC SYSTEM.

SHEET KEYNOTES

1. INSTALL FEEDER FROM TRANSFORMER SECONDARY TO MAIN BREAKER IN SWITCHBOARD/PANEL, NOT TO EXCEED 25 FEET PER NEC 240.21(C)(6).
2. PROVIDE 3-1/2 INCH HIGH CONCRETE HOUSEKEEPING PAD UNDER TRANSFORMER/SWITCHBOARD.
3. CURRENT TRANFORMER/TERMINAL CABINET PER POWER COMPANY REQUIREMENTS.
4. NOT USED
5. PROVIDE INTEGRAL SURGE SUPPRESSOR.
6. PROVIDE POWER/ENERGY SUB-METER PER SPECIFICATION SECTION 262713. CONNECT METERS TOGETHER VIA MODBUS; METERS TO CONNECT TO ETHERNET COMMUNICATIONS DEVICE TO REPORT TO LAN-BASED BILLING SOFTWARE. PROVIDE CAT 6 JACK TELECOM OUTLET (ALLOW FOR ONE ETHERNET COMMUNICATOR AND TELECOM OUTLET PER 16 METERS). SEE DETAIL 6/E4-7.01.
7. FUSED PANELBOARD: BUSSMANN TYPE EP; UL CLASS CC FUSES, 42-POLE.
8. PROVIDE SOLID-STATE CIRCUIT BREAKER WITH LSIG TRIP SETTINGS, SHUNT TRIP INPUT, AND DUAL-ARC FLASH SETTINGS SUCH THAT ACTIVATION OF PUSHBUTTON AT ENTRY POINT TO ELECTRICAL CONTAINING THIS GEAR REDUCES THE LET-THRU ARC FLASH ENERGY IF THE EQUIPMENT MUST BE WORKED ON LIVE, CHANGING THE PPE RATING PER NFPA 70E.
9. PROVIDE WITH SOLID-STATE LS1-TRIP MAIN BREAKER WITH GROUND-FAULT ALARM.
10. USE CLASS J FUSES.
11. 30-POLE, FILL WITH 20A/1P BREAKERS (EXCEPTION: 40A/2P FOR GENERATOR BLOCK HEATER).



1 ONE-LINE POWER DISTRIBUTION DIAGRAM (SUPERBLOCK - NORTH-HALF)

NO SCALE

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 14, 1989 — DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

ONE-LINE DIAGRAM - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-0.03
SCALE NO SCALE	

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LOAD SUMMARY AT Main Switchboard MDS-S

LOAD TYPE	LOAD DESCRIPTION	UNITS	TOTAL CONNECTED LOAD	DEMAND FACTOR	TOTAL DEMAND LOAD
G	General (Non-Continuous)	KVA	834.47	100%	834.47
L	Lighting	KVA	17.86	125%	22.33
R	Receptacles - to 10 KVA	KVA	10.00	100%	10.00
	over 10 KVA	KVA	19.70	50%	9.85
K	Kitchen	KVA	8.00	100%	8.00
H	Heating	KVA	9.00	100%	9.00
M	Motors	KVA	293.96	100%	293.96
LM	Largest Motor	KVA	65.81	125%	82.27
WH	Water Heater	KVA	6.80	125%	8.50
C	Continuous General Load	KVA	0.00	125%	0.00
	TOTAL LOADS (480V, 3 PHASE):	KVA	1,265.6		1,278.4
		AMPS	1,522.3		1,537.6

GENERAL SHEET NOTES

A. PANELBOARD/CIRCUIT BREAKER FAULT RATING: PANELS ARE 42KAIC (FULLY RATED) IF LOCATED IN MAIN ELECTRICAL ROOMS OR UTILITY YARD, ELSE 22KAIC (FULLY RATED). PROVIDE (42) 20A/1P CIRCUIT BREAKERS IN EACH PANELBOARD, UNLESS OTHERWISE NOTED.

B. ALLOWED SUBSTITUTES (FROM DEDUCTIVE ALTERNATES 1 AND 2): PROVIDE NMB FOR CABLING IN APARTMENTS, AND SER CABLE FOR FEEDER CABLE TO APARTMENT LOAD CENTERS.

FEEDER SCHEDULE

Key

A, C, S, X — A = Aluminum; C = Conduit only; S = Service secondary; X = Separately derived system

303A	3 #8 AL, 1 #10 AL GND., IN 3/4" C.
403A	3 #6 AL, 1 #8 AL GND., IN 1-1/4" C.
503A	3 #4 AL, 1 #8 AL GND., IN 1-1/4" C.
604A	4 #2 AL, 1 #6 AL GND., IN 1-1/4" C.
703A	3 #2 AL, 1 #6 AL GND., IN 1-1/4" C.
1004A	4 #1/0 AL, 1 #6 AL GND., IN 1-1/2" C.
1253A	3 #2/0 AL, 1 #4 AL GND., IN 2" C. (ALTERNATIVE: INSTALLED AS MC CABLE)
1504A	4 #3/0 AL, 1 #4 AL GND., IN 2" C.
2003A	3 - 250 kcmil AL, 1 #6 AL GND., IN 2" C.
2004A	4 - 250 kcmil AL, 1 #6 AL GND., IN 2-1/2" C.
2254A	4 - 300 kcmil AL, 1 #2 AL GND., IN 2-1/2" C.
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8003A	3 SETS OF (3 - 400 kcmil AL, 1 #3/0 AL GND., IN 3" C.)
8004A	3 SETS OF (4 - 400 kcmil AL, 1 #3/0 AL GND., IN 3" C.)
10004A	4 SETS OF (4 - 350 kcmil AL, 1 #4/0 AL GND., IN 3" C.)
12003A	4 SETS OF (3 - 500 kcmil AL, 1 250 kcmil AL GND., IN 3" C.)
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20004A	7 SETS OF (4 - 500 kcmil AL, 1 - 400 kcmil AL GND., IN 4" C.)
25004A	9 SETS OF (4 - 500 kcmil AL, 1 - 600 kcmil AL GND., IN 4" C.)
2500C	TEN 5" DIAMETER EMPTY CONDUIT WITH PULL CORD

ELECTRIC SUB-METERING NARRATIVE

A. THIS DEVELOPMENT IS BASED ON THREE 480-VOLT SERVICES TO SERVE THE WEST AND EAST BLOCKS, INCLUDING THE CENTRAL UTILITY PLANT ON THE ROOF LEVEL OF THE SOUTH BLOCK. PGE WOULD HAVE REQUIRED FIVE TO SEVEN 208-VOLT SERVICES AND UTILITY TRANSFORMERS TO PROVIDE UTILITY METERS FOR THE ELECTRICAL SERVICE TO EACH RESIDENCE.

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SHEET KEYNOTES

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4. NOT USED
5. PROVIDE INTEGRAL SURGE SUPPRESSOR.
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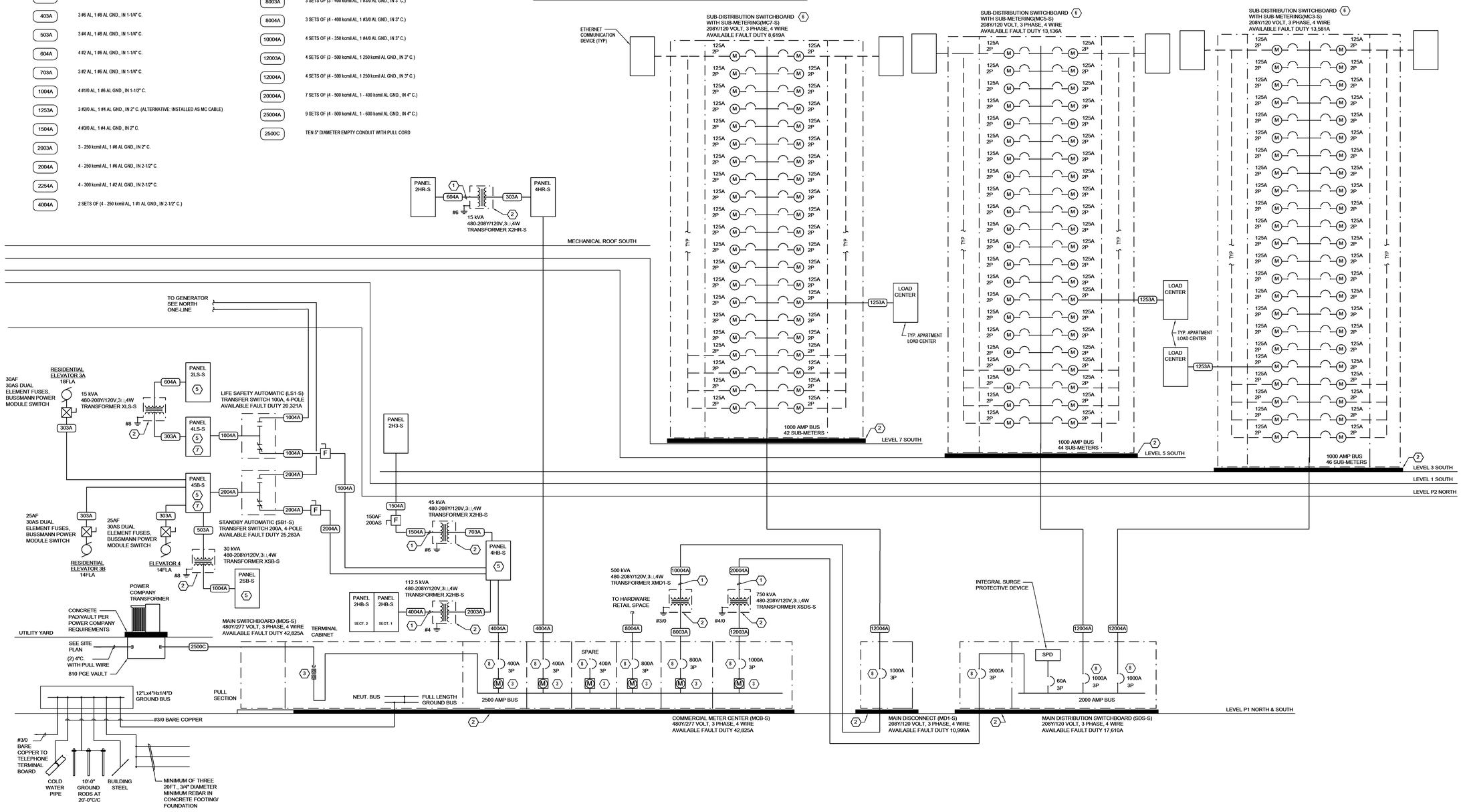
7. FUSED PANELBOARD: BUSSMAN TYPE EP; UL CLASS CC FUSES, 42-POLE.
8. PROVIDE SOLID-STATE CIRCUIT BREAKER WITH LSIG TRIP SETTINGS, SHUNT TRIP INPUT, AND DUAL-ARC FLASH SETTINGS SUCH THAT ACTIVATION OF PUSHBUTTON AT ENTRY POINT TO ELECTRICAL CONTAINING THIS GEAR REDUCES THE LET-THRU ARC FLASH ENERGY IF THE EQUIPMENT MUST BE WORKED ON LIVE, CHANGING THE PPE RATING PER NFPA 70E.



1 ONE-LINE POWER DISTRIBUTION DIAGRAM (SUPERBLOCK - SOUTH-HALF)

NO SCALE

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 14, 1995 — DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214
Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

ONE-LINE DIAGRAM - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-0.04
SCALE NO SCALE	

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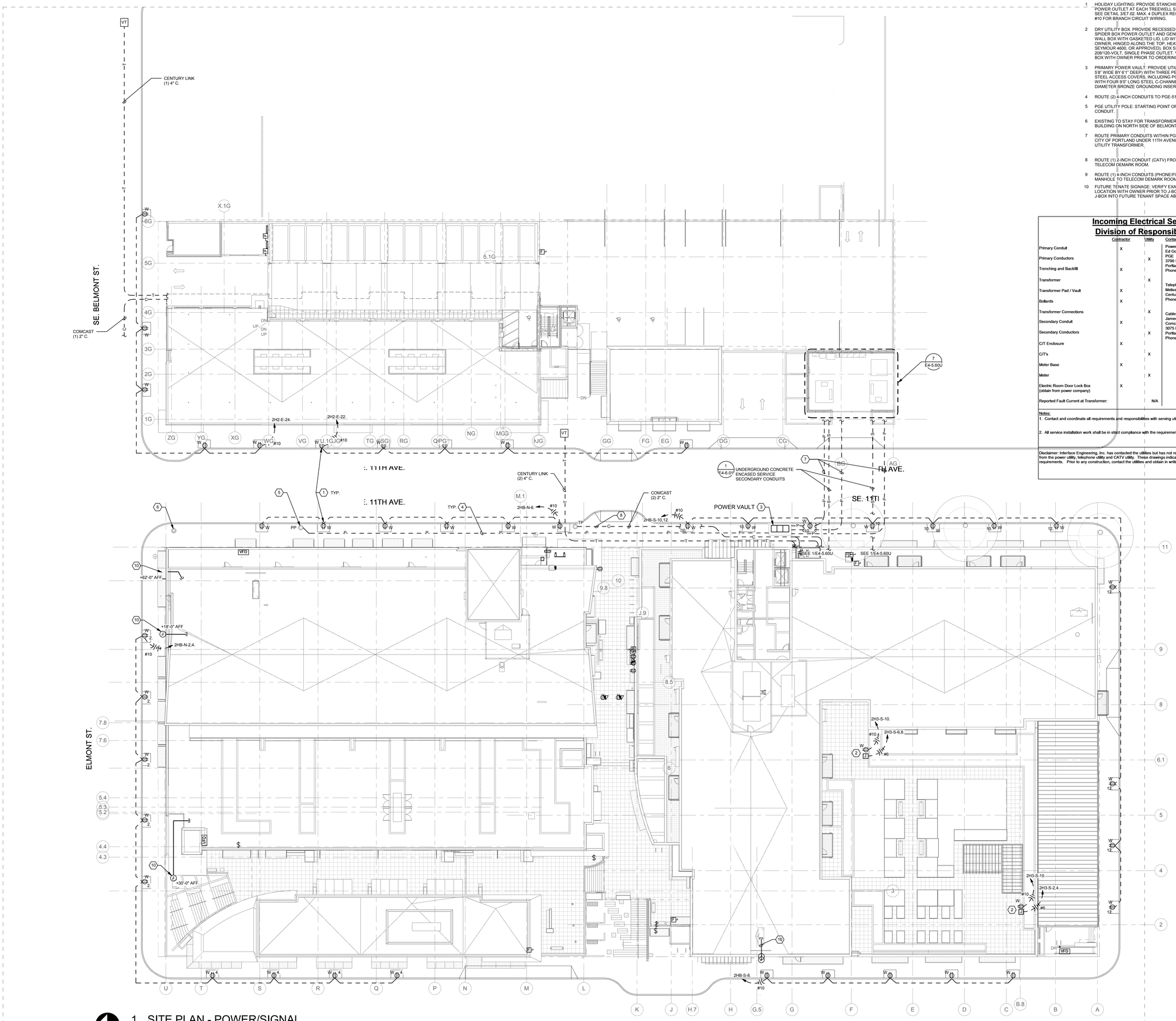

1 SITE PLAN - POWER/SIGNAL

1/16" = 1'-0"

SHEET KEYNOTES

1. HOLIDAY LIGHTING: PROVIDE STANCHION MOUNTED WEATHERPROOF POWER OUTLET AT EACH TREEWELL SHOWN ON PLANS BY SIDEWALKS. SEE DETAIL 3/E7.02. MAX. 4 DUPLEX RECEPTACLES PER 20A CIRCUITL; MIN. #10 FOR BRANCH CIRCUIT WIRING.
2. DRY UTILITY BOX. PROVIDE RECESSED CONCRETE WALL BOXS FOR SPIDER BOX POWER OUTLET AND GENERAL USE RECEPTACLE. CUSTOM WALL BOX WITH GASKETED LID, LID WITH LOCK KEYED AS DIRECTED BY OWNER, HINGED ALONG THE TOP, HEAVY CAST ALUMINUM (PASS & SEYMOUR 4600, OR APPROVED). BOX SHALL ENCLOSE 50-AMP, 208/120-VOLT, SINGLE PHASE OUTLET. VERIFY NEMA CONFIGURATION OF BOX WITH OWNER PRIOR TO ORDERING MATERIALS.
3. PRIMARY POWER VAULT: PROVIDE UTILITY VAULT PGE-5106 (11'2" LONG BY 5'8" WIDE BY 6'1" DEEP) WITH THREE PEDESTRIAN DIAMOND-PATTERN STEEL ACCESS COVERS, INCLUDING PGE ROSE-CITY PATTERN. PROVIDE WITH FOUR 9'0" LONG STEEL C-CHANNEL INSERTS, AND TWO ½-INCH DIAMETER BRONZE GROUNDING INSERTS FOR BONDING REBAR.
4. ROUTE (2) 4-INCH CONDUITS TO PGE-5106 UTILITY VAULT WITH PULL WIRE.
5. PGE UTILITY POLE: STARTING POINT OF UNDERGROUND PRIMARY CONDUIT.
6. EXISTING TO STAY FOR TRANSFORMERS SUPPLYING POWER TO COUNTY BUILDING ON NORTH SIDE OF BELMONT.
7. ROUTE PRIMARY CONDUITS WITHIN PGE EASEMENTS ESTABLISHED WITH CITY OF PORTLAND UNDER 11TH AVENUE. TWO 4-INCH CONDUIT TO EACH UTILITY TRANSFORMER.
8. ROUTE (1) 2-INCH CONDUIT (CATV) FROM EXISTING UTILITY POLE TO TELECOM DEMARK ROOM.
9. ROUTE (1) 4-INCH CONDUITS (PHONE/FIBER OPTIC) FROM EXISTING CTL MANHOLE TO TELECOM DEMARK ROOM.
10. FUTURE TENATE SIGNAGE: VERIFY EXACT MOUNTING HEIGHT AND LOCATION WITH OWNER PRIOR TO J-BOX ROUGH-IN. STUB CONDUIT FROM J-BOX INTO FUTURE TENANT SPACE ABOVE DROP CEILING LEVEL.

Incoming Electrical Service Division of Responsibility

	Contractor	Utility	Contacts:
Primary Conduit	X		Power Utility: Ed Gorman PGE 3700 SE 17th Avenue Portland, OR 97202 Phone: (503) 963-6947
Primary Conductors		X	
Trenching and Backfill	X		
Transformer		X	
Transformer Pad / Vault	X		Telephone Utility: Melissa Mazingo CenturyLink Phone: (503) 242-6064
Bollards	X		
Transformer Connections		X	Cable T.V. Utility: James Haines Comcast 3075 NE Sandy Blvd Portland, OR 97232 Phone: (503) 596-3737
Secondary Conduit	X		
Secondary Conductors		X	
C/T Enclosure	X		
C/T's		X	
Meter Base	X		
Meter		X	
Electric Room Door Lock Box (obtain from power company)	X		
Reported Fault Current at Transformer:		N/A	

Notes:
1. Contact and coordinate all requirements and responsibilities with serving utility companies prior to submitting bid.
2. All service installation work shall be in strict compliance with the requirements of the serving utilities.

Disclaimer: Interface Engineering, Inc. has contacted the utilities but has not received in writing the final requirements from the power utility, telephone utility and CATV utility. These drawings indicate our best estimation of their requirements. Prior to any construction, contact the utilities and obtain in writing their requirements.

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 14, 1989 — DAVID NORMAN CHESLEY

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LOCA - SE 11TH AND BELMONT

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Belmont Investments, LLC

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SITE PLAN - POWER/SIGNAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-1.01
SCALE 1/16" = 1'-0"	

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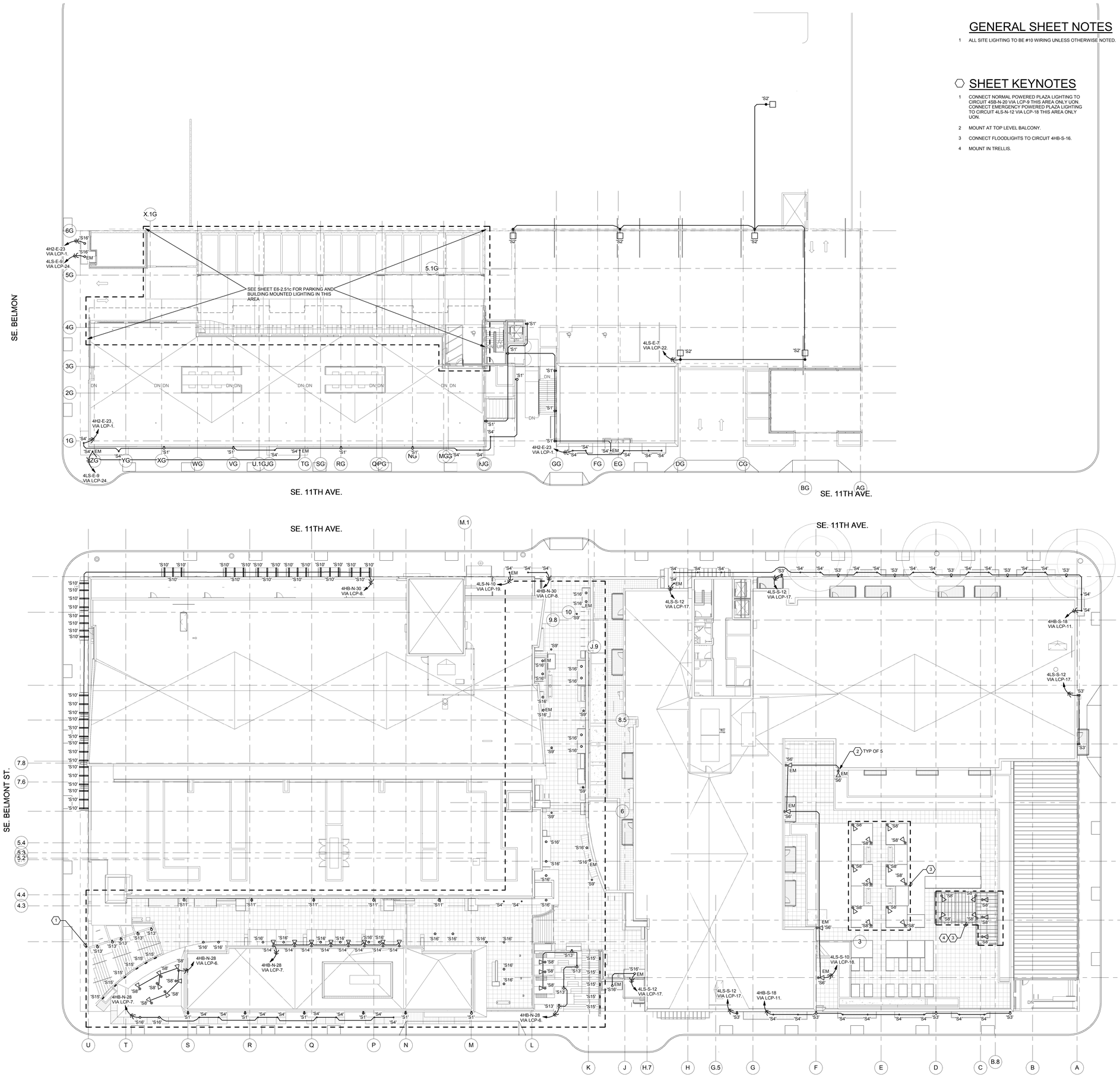

GENERAL SHEET NOTES

1 ALL SITE LIGHTING TO BE #10 WIRING UNLESS OTHERWISE NOTED.

SHEET KEYNOTES

1 CONNECT NORMAL POWERED PLAZA LIGHTING TO CIRCUIT 4SB-N-20 VIA LCP-9 THIS AREA ONLY UON. CONNECT EMERGENCY POWERED PLAZA LIGHTING TO CIRCUIT 4LS-N-12 VIA LCP-18 THIS AREA ONLY UON.

2 MOUNT AT TOP LEVEL BALCONY.

3 CONNECT FLOODLIGHTS TO CIRCUIT 4HB-S-16.

4 MOUNT IN TRELLIS.

1 SITE PLAN - LIGHTING

1/16" = 1'-0"

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SITE PLAN - LIGHTING

PHASE 2 PERMIT

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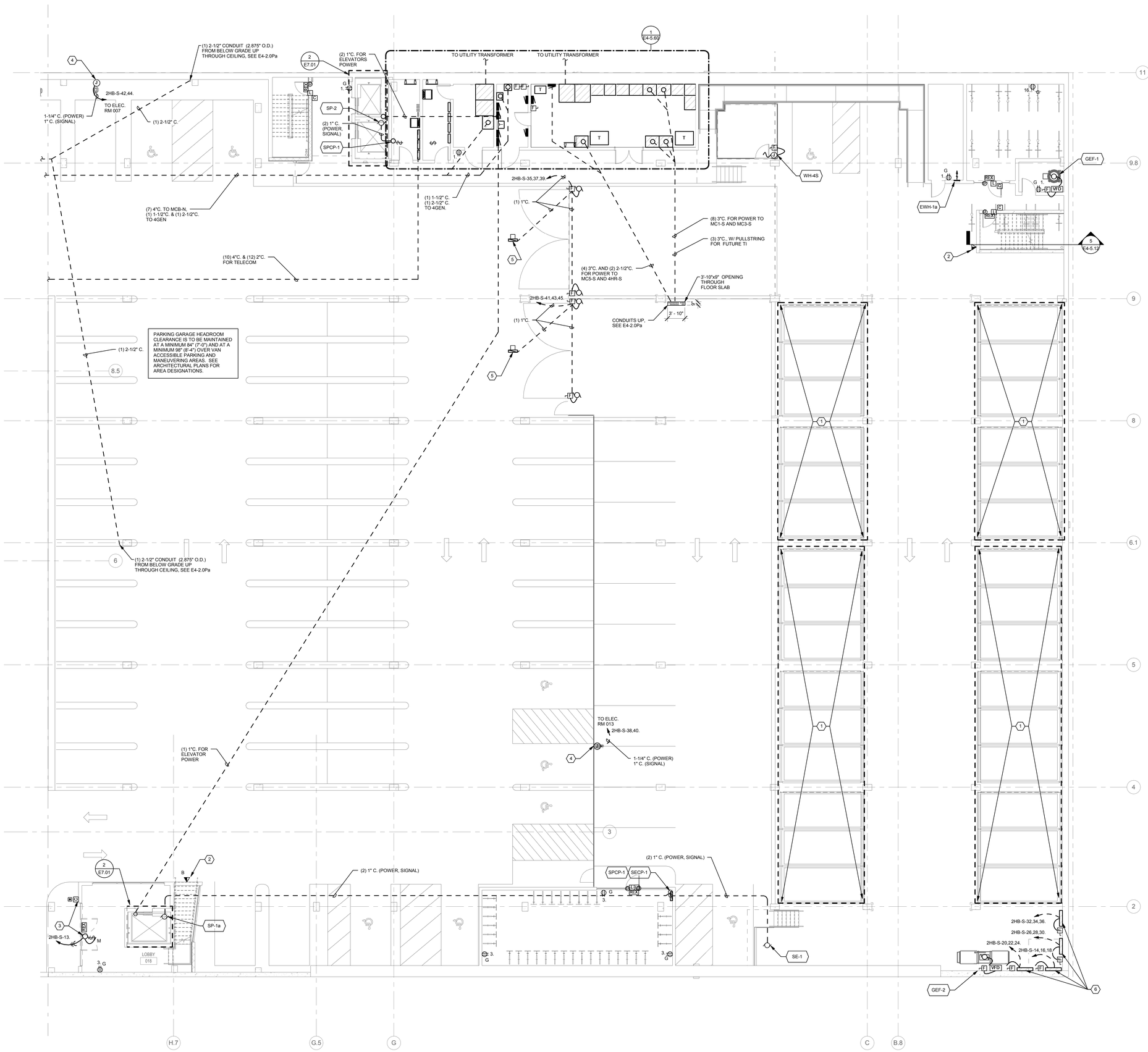


1 LEVEL P1 SOUTH - POWER/SIGNAL

0' 4' 8' 16'

1/8" = 1'-0"

GENERAL SHEET NOTES

A HEAT TRACE: PROVIDE SEVEN DEDICATED GFEP TRIP CIRCUIT BREAKERS CONNECTED TO THE STANDBY PANEL FOR UP TO 10KW OF HEAT TRACE DIVIDED EVENLY.

B MOUNT ALL POWER OUTLETS IN GARAGE AT +24" AFF. UON.

C PROVIDE ALLOWANCE FOR WATER LOOP DETECTION SYSTEM ON STANDBY POWER AT LOW POINT OF GARAGE, TO TRIGGER WHEN THERE IS AT LEAST FOUR TO SIX INCHES STANDING WATER AND NOTIFY THROUGH BAS.

D ALL CIRCUIT NUMBERS NEXT TO A DEVICE IS TO PANEL 2HB-S UNLESS OTHERWISE NOTED. TYPICAL THIS SHEET.

SHEET KEYNOTES

1 PARKING MACHINE: WORK BY OTHERS - SEE NOTE 6 FOR POWER CONNECTION TO OPERATION MODULE FOR PARKING MACHINE.

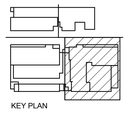
2 EMERGENCY BLUE PHONE: (1) CAT6 CABLE TO NEAREST TELECOM ROOM. MOUNT OUTLET WITHIN PHONE ENCLOSURE.

3 MOTORIZED ADA DOOR: 120V, 20A POWER CONNECTION. PROVIDE LOCAL DISCONNECT PER CODE. CONNECT TO NEAREST HOUSE PANEL VIA #10 WIRING.

4 CAR CHARGING STATION: PROVIDE 50-AMP FEEDER IN ONE 1.25-INCH CONDUIT FROM NEAREST 208/120V HOUSE PANEL FOR POWER, ONE 1-INCH CONDUIT FROM NEAREST TELECOM SPACE FOR LAN/PHONE ACCESS. CHARGEPOINT CT4021 DUAL BOLLARD CAR CHARGE STATION, 280V/40-AMP, SINGLE PHASE, INTEGRAL METER AND USER INTERFACE.

5 RESIDENTIAL GATE ACCESS: PROVIDE 208V, 3PH, 30A POWER CONNECTION WITH FUSED SAFETY DISCONNECT. CONNECT TO PROXIMITY CARD READER / CONTROLLER LOCATED WITHIN 50-FEET VIA 1-INCH CONDUIT. PROVIDE (1) 1-INCH CONDUIT AND 120V, 20A CIRCUIT TO CONTROLLER.

6 OPERATION MODULE FOR PARKING MACHINES: PROVIDE DEDICATED 208-VOLT, 3-PHASE, 20-AMP CIRCUIT AND FUSED SAFETY DISCONNECT FOR CONNECTION TO OPERATION MODULE. ONE MODULE SERVES FOUR PARKING MACHINES. ELECTRICAL WORK (CONDUIT, BOXES, WIRE, CONNECTIONS AND DEVICES) DOWNSTREAM OF OPERATION MODULE BY PARKING MACHINE SYSTEM INSTALLER.



KEY PLAN

REGISTERED PROFESSIONAL ENGINEER OREGON JULY 14, 1989 DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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PROJECT 2012-0522
CONTACT David Chesley

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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFICATION
1	10/23/14	10/15/14 LS CHK RESPONSE

LEVEL P1 SOUTH - POWER/SIGNAL

PHASE 2 PERMIT

DATE	REVISION
12/10/14	1
PROJECT NUMBER 123625	SHEET NUMBER E4-2.0Ba
SCALE 1/8" = 1'-0"	

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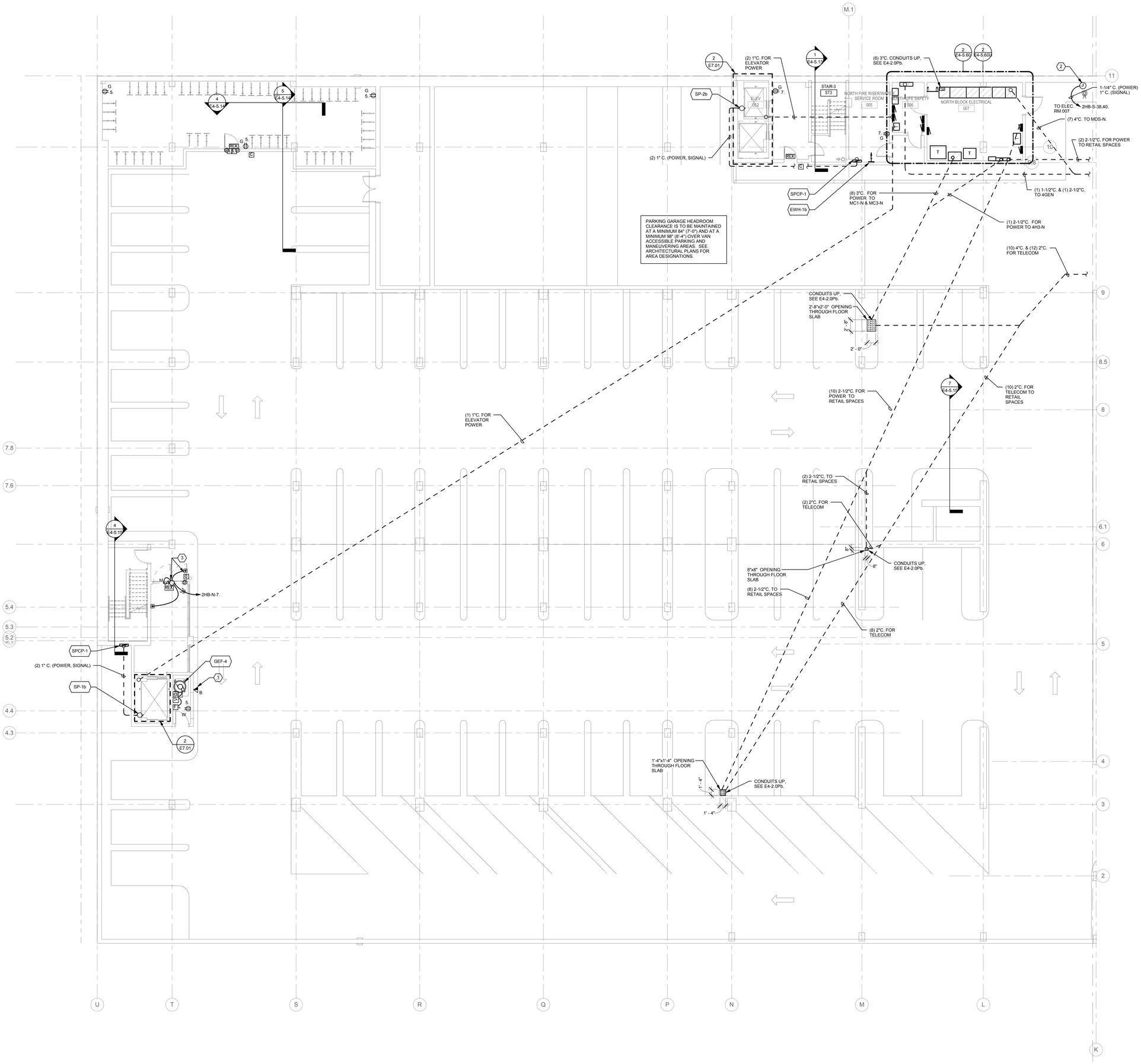


1 LEVEL P1 NORTH - POWER/SIGNAL

1/8" = 1'-0"

GENERAL SHEET NOTES

A HEAT TRACE: PROVIDE EIGHT DEDICATED GFEP TRIP CIRCUIT BREAKERS CONNECTED TO THE STANDBY PANEL FOR UP TO 12KW OF HEAT TRACE DIVIDED EVENLY.

B MOUNT ALL POWER OUTLETS IN GARAGE AT +24" AFF, UON.

C PROVIDE ALLOWANCE FOR WATER LOOP DETECTION SYSTEM ON STANDBY POWER AT LOW POINT OF GARAGE, TO TRIGGER WHEN THERE IS AT LEAST FOUR TO SIX INCHES STANDING WATER AND NOTIFY THROUGH BAS.

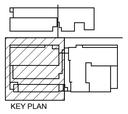
D ALL CIRCUIT NUMBERS NEXT TO A DEVICE IS TO PANEL 2HB-N UNLESS OTHERWISE NOTED. TYPICAL THIS SHEET.

SHEET KEYNOTES

1 EMERGENCY BLUE PHONE: (1) CAT6 CABLE TO NEAREST TELECOM ROOM. MOUNT OUTLET WITHIN PHONE ENCLOSURE.

2 CAR CHARGING STATION: PROVIDE 50-AMP FEEDER IN ONE 1.25-INCH CONDUIT FROM NEAREST 208/120V HOUSE PANEL FOR POWER, ONE 1-INCH CONDUIT FROM NEAREST TELECOM SPACE FOR LAN/PHONE ACCESS. CHARGEPOINT CT4021 DUAL BOLLARD CAR CHARGE STATION, 280V/40-AMP, SINGLE PHASE, INTEGRAL METER AND USER INTERFACE.

3 MOTORIZED ADA DOOR: 120V, 20A POWER CONNECTION. PROVIDE LOCAL DISCONNECT PER CODE. CONNECT TO NEAREST HOUSE PANEL VIA #10 WIRING.


KEY PLAN

REGISTERED PROFESSIONAL ENGINEER — ELECTRICAL — OREGON — JULY 14, 1989 — DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
1	10/23/14	10/15/14 LS CHK RESPONSE

LEVEL P1 NORTH - POWER/SIGNAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION 1
PROJECT NUMBER 123625	SHEET NUMBER E4-2.0Bb
SCALE 1/8" = 1'-0"	

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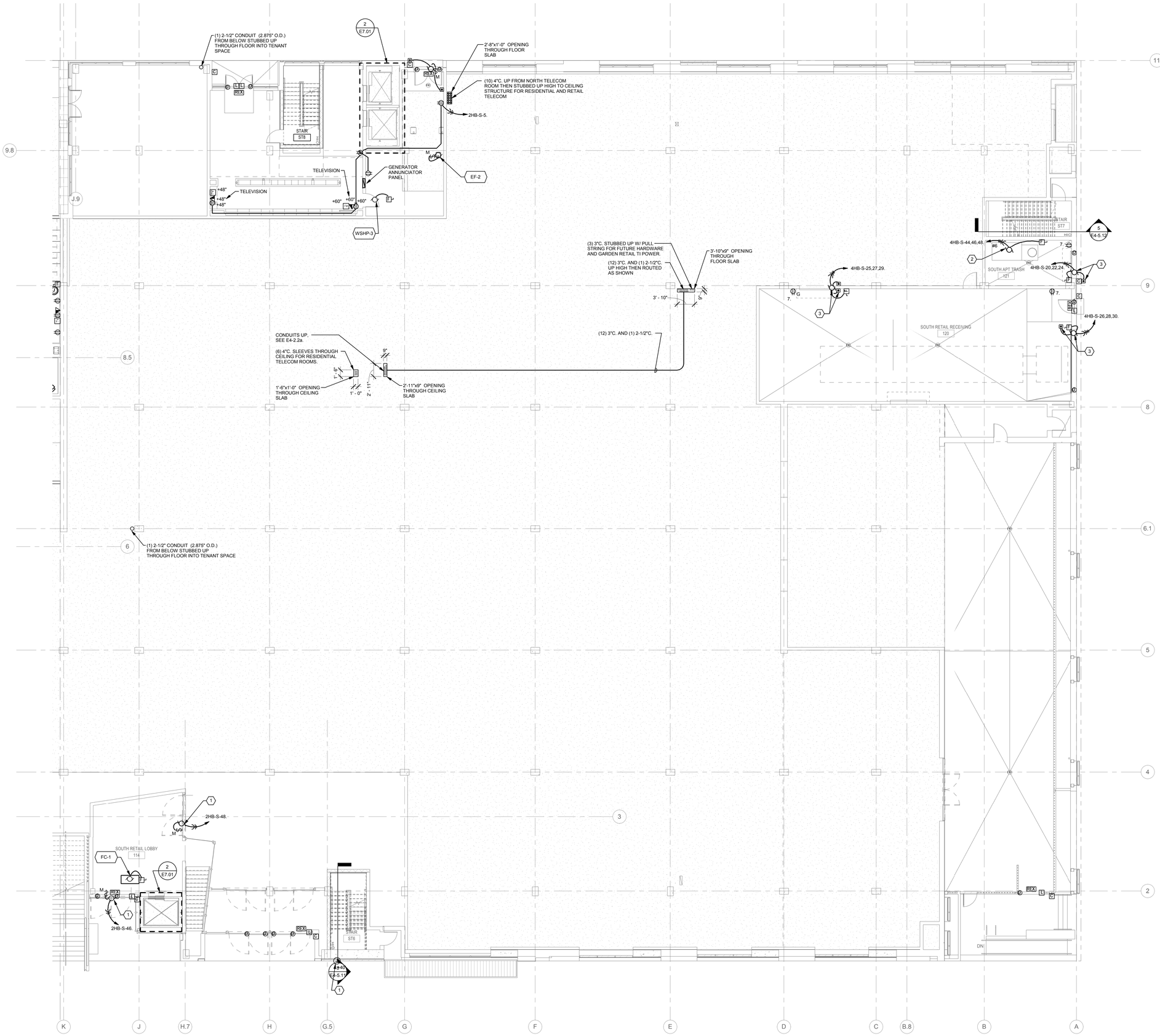


1 LEVEL 1 SOUTH - POWER/SIGNAL

SCALE 0' 4' 8' 16' 1/8" = 1'-0"

GENERAL SHEET NOTES

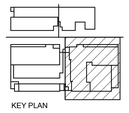
A ALL CIRCUIT NUMBERS NEXT TO A DEVICE IS TO PANEL 2HB-S UNLESS OTHERWISE NOTED. TYPICAL THIS SHEET.

SHEET KEYNOTES

1 MOTORIZED ADA DOOR: 120V, 20A POWER CONNECTION. PROVIDE LOCAL DISCONNECT PER CODE. CONNECT TO NEAREST HOUSE PANEL VIA #10 WIRING.

2 TRASH COMPACTOR: 480V, 3PH, 50-AMP CONNECTION WITH ONE 1-INCH CONDUIT TO WALL MOUNTED CONTROLLER, ITSELF POWERED BY 120V, 20A CIRCUIT. PROVIDE ONE 1-INCH CONDUIT FOR SIGNAL ANNUNCIATION TO NEAREST TELECOM ROOM.

3 MOTORIZED DOOR: 480 VOLT, 3 PHASE, 20 AMP.


KEY PLAN

REGISTERED PROFESSIONAL ENGINEER OREGON JULY 14, 1989 DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

LEVEL 1 SOUTH - POWER/SIGNAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.0Pa
SCALE 1/8" = 1'-0"	

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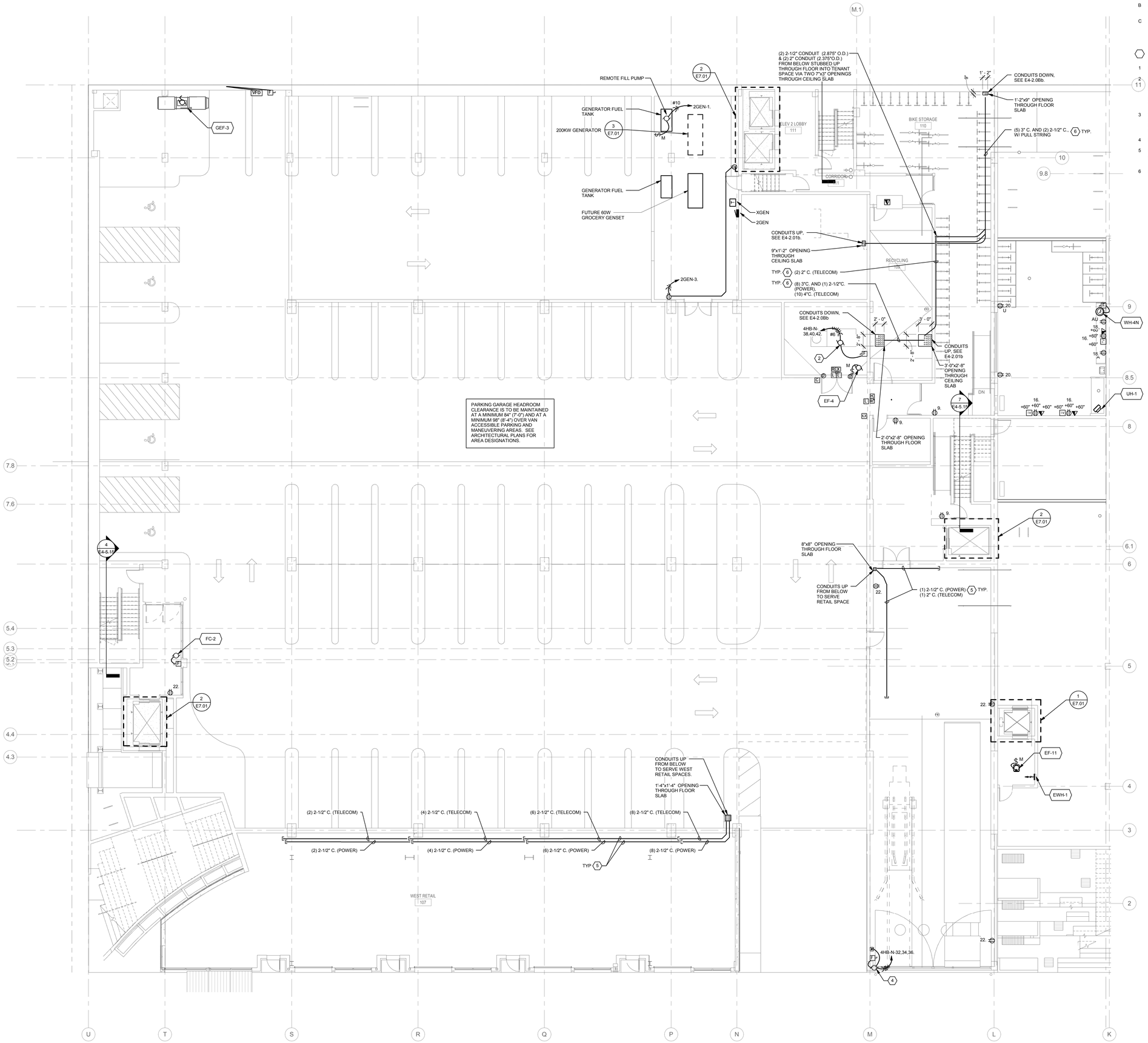

GENERAL SHEET NOTES

A HEAT TRACE: PROVIDE ELEVEN DEDICATED GFEP TRIP CIRCUIT BREAKERS CONNECTED TO THE STANDBY PANEL FOR UP TO 16KW OF HEAT TRACE DIVIDED EVENLY.

B MOUNT ALL POWER OUTLETS IN GARAGE AT +24" AFF, UON.

C ALL CIRCUIT NUMBERS NEXT TO A DEVICE IS TO PANEL 2HB-N UNLESS OTHERWISE NOTED. TYPICAL THIS SHEET.

SHEET KEYNOTES

1 MOTORIZED DOOR: 480 VOLT, 3 PHASE, 20 AMP.

2 TRASH COMPACTOR: 480V, 3PH, 50-AMP CONNECTION WITH ONE 1-INCH CONDUIT TO WALL MOUNTED CONTROLLER, ITSELF POWERED BY 120V, 20A CIRCUIT. PROVIDE ONE 1-INCH CONDUIT FOR SIGNAL ANNUNCIATION TO NEAREST TELECOM ROOM.

3 TICKET DISPENSER: 120V, 20A DEDICATED CIRCUIT FROM HOUSE PANEL, AND ONE 1-INCH CONDUIT FOR FUTURE SIGNAL TO NEAREST TELECOM SPACE.

4 MOTORIZED DOOR: 480 VOLT, 3 PHASE, 20 AMP.

5 ROUTE CONDUITS UP HIGH TIGHT TO STRUCTURE AND CAP FOR FUTURE LEVEL P2 AND LEVEL 1 TENANT SPACE T.I.

6 ROUTE CONDUITS UP HIGH TIGHT TO STRUCTURE.

1 LEVEL P2 NORTH - POWER/SIGNAL

1/8" = 1'-0"

KEY PLAN

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 14, 1989 — DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
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Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
1	10/23/14	10/15/14 LS CHK RESPONSE

LEVEL P2 NORTH - POWER/SIGNAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION 1
PROJECT NUMBER 123625	SHEET NUMBER E4-2.0Pb
SCALE 1/8" = 1'-0"	

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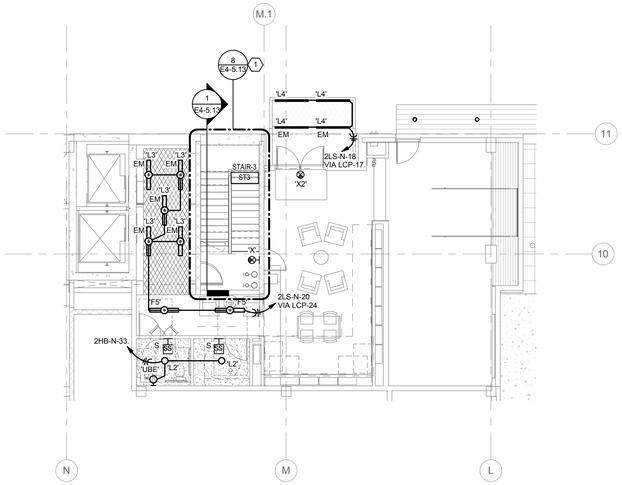
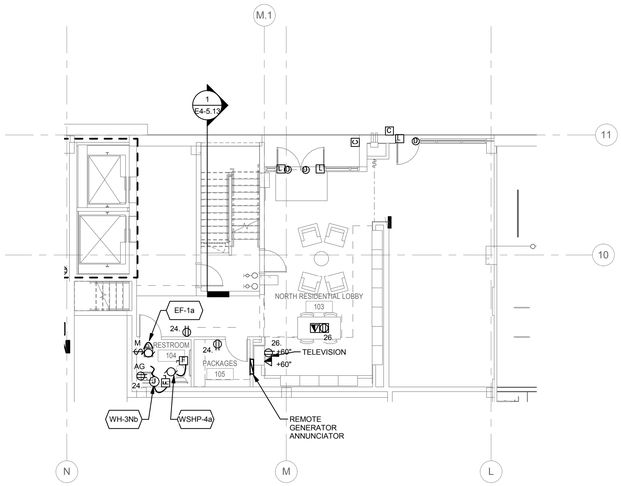


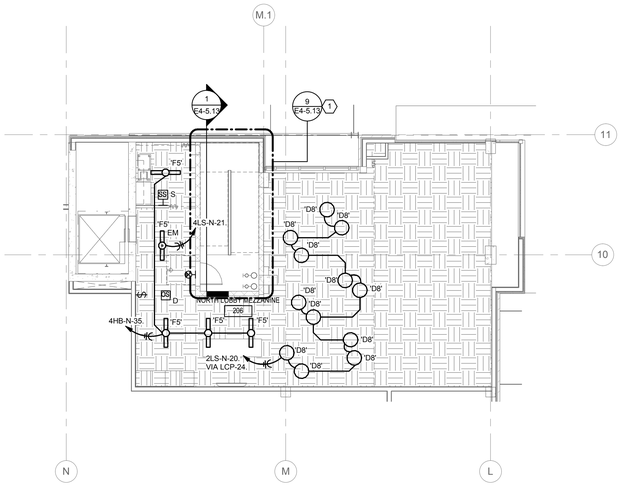
1 NORTH RES. LOBBY - LIGHTING

0' 4' 8' 16'
1/8" = 1'-0"



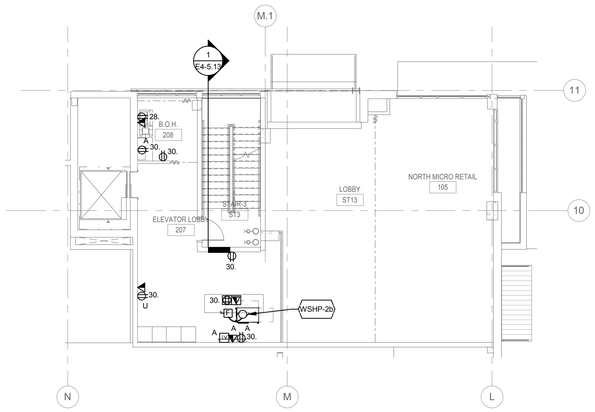
3 NORTH RES. LOBBY - POWER/SIGNAL

0' 4' 8' 16'
1/8" = 1'-0"



2 NORTH LOBBY MEZZANINE - LIGHTING

0' 4' 8' 16'
1/8" = 1'-0"



4 NORTH LOBBY MEZZANINE - POWER/SIGNAL

0' 4' 8' 16'
1/8" = 1'-0"

GENERAL SHEET NOTES

A PROVIDE TYPE F1 LUMINAIRES WITH INTEGRAL OCCUPANCY SENSOR OPTION.

B CONNECT EXIT SIGNS TO CIRCUIT 4LS-N-8.

C LOBBY SEQUENCE OF OPERATION FOR LIGHTING CONTROLS: DASHED OUTLINE INDICATES LIGHTING AREA WHERE LIGHTING INSIDE OUTLINE IS SWITCHED OFF BY LOCAL PHOTOSENSOR. NORMAL AND EMERGENCY LIGHTING IS ROUTED THROUGH LIGHTING RELAY PANEL TO GIVE ABILITY TO TURN OFF NORMAL LIGHTING (AND/OR EMERGENCY LIGHTING) AT LATE HOURS.

D EXIT SIGNS: ROUTE UNSWITCHED POWER TO EXIT SIGNS; EXIT SIGNS ON AT ALL HOURS.

E ALL CIRCUIT NUMBERS NEXT TO A DEVICE IS TO PANEL 2HB-N UNLESS OTHERWISE NOTED. TYPICAL THIS SHEET.

SHEET KEYNOTES

1 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-N-7.

REGISTERED PROFESSIONAL ENGINEER
DAVID NORMAN CHESLEY
JULY 14, 1998
OREGON
EXPIRES: 12/31/15

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Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

NORTH RES. LOBBY - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.0Pd
SCALE 1/8" = 1'-0"	

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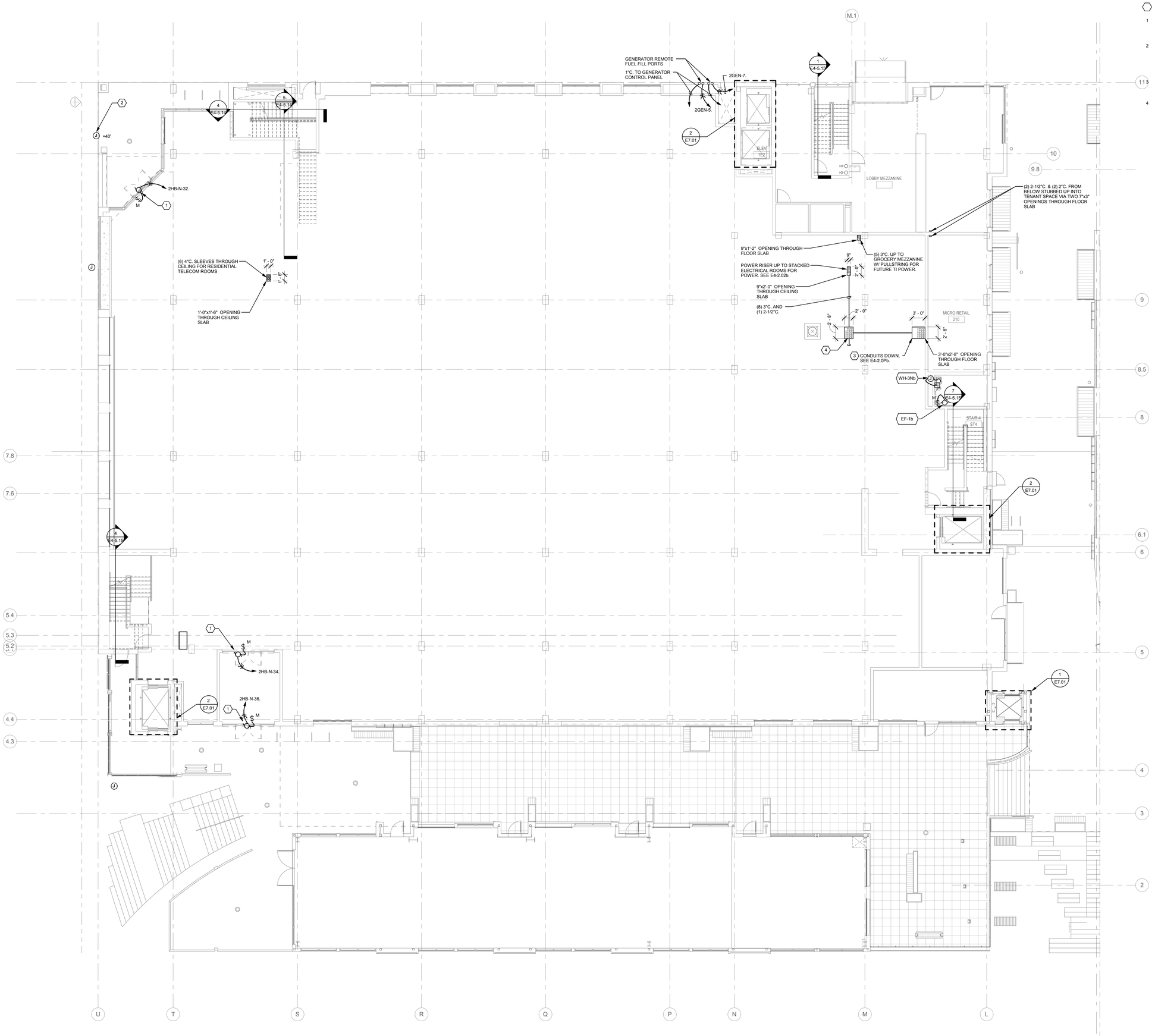

SHEET KEYNOTES

1 MOTORIZED ADA DOOR: 120V, 20A POWER CONNECTION. PROVIDE LOCAL DISCONNECT PER CODE. CONNECT TO NEAREST HOUSE PANEL VIA #10 WIRING.

2 ICONIC SIGNAGE: PROVIDE DEDICATED 120V, 20A POWER CONNECTION FOR SIGNAGE, WITH CONDUIT STUBBED INTO TI SPACE FOR CONNECTION TO FUTURE TI PANEL, PLUS ONE SPARE 1-INCH CONDUIT WITH WP JUNCTION BOX FOR FUTURE SIGNAL.

3 POWER/TECHNOLOGY CONDUITS ROUTED FROM BELOW UP TO CEILING SPACE BELOW MEZZANINE THEN NORTH.

4 ROUTE CONDUITS UP THROUGH MEZZANINE FLOOR TO CEILING STRUCTURE. ROUTE (8) 3"C. & (1) 2-1/2"C. POWER CONDUITS EAST TO RESIDENTIAL ELECTRICAL ROOM AS SHOWN. STUBOUT (4) 4"C. FOR DEDICATED GROCERY TELECOM AND (6) 4"C. FOR RESIDENTIAL TELECOM. CONDUITS TO BE ROUTED TIGHT TO CEILING STRUCTURE.

1 LEVEL 1 NORTH AND WEST - POWER/SIGNAL

1/8" = 1'-0"

KEY PLAN

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 14, 1989 — DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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CONTACT David Chesley

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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

LEVEL 2 NORTH AND WEST - POWER/SIGNAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.01b
SCALE 1/8" = 1'-0"	

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GENERAL SHEET NOTES

A. ALL CIRCUIT NUMBERS NEXT TO A DEVICE IS TO PANEL 2H3-S UNLESS OTHERWISE NOTED. TYPICAL THIS SHEET.

1 LEVEL 3 SOUTH - POWER/SIGNAL

0' 4' 8' 16'

1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 14, 1989 — DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT

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Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

LEVEL 3 SOUTH - POWER/SIGNAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.02a
SCALE 1/8" = 1'-0"	

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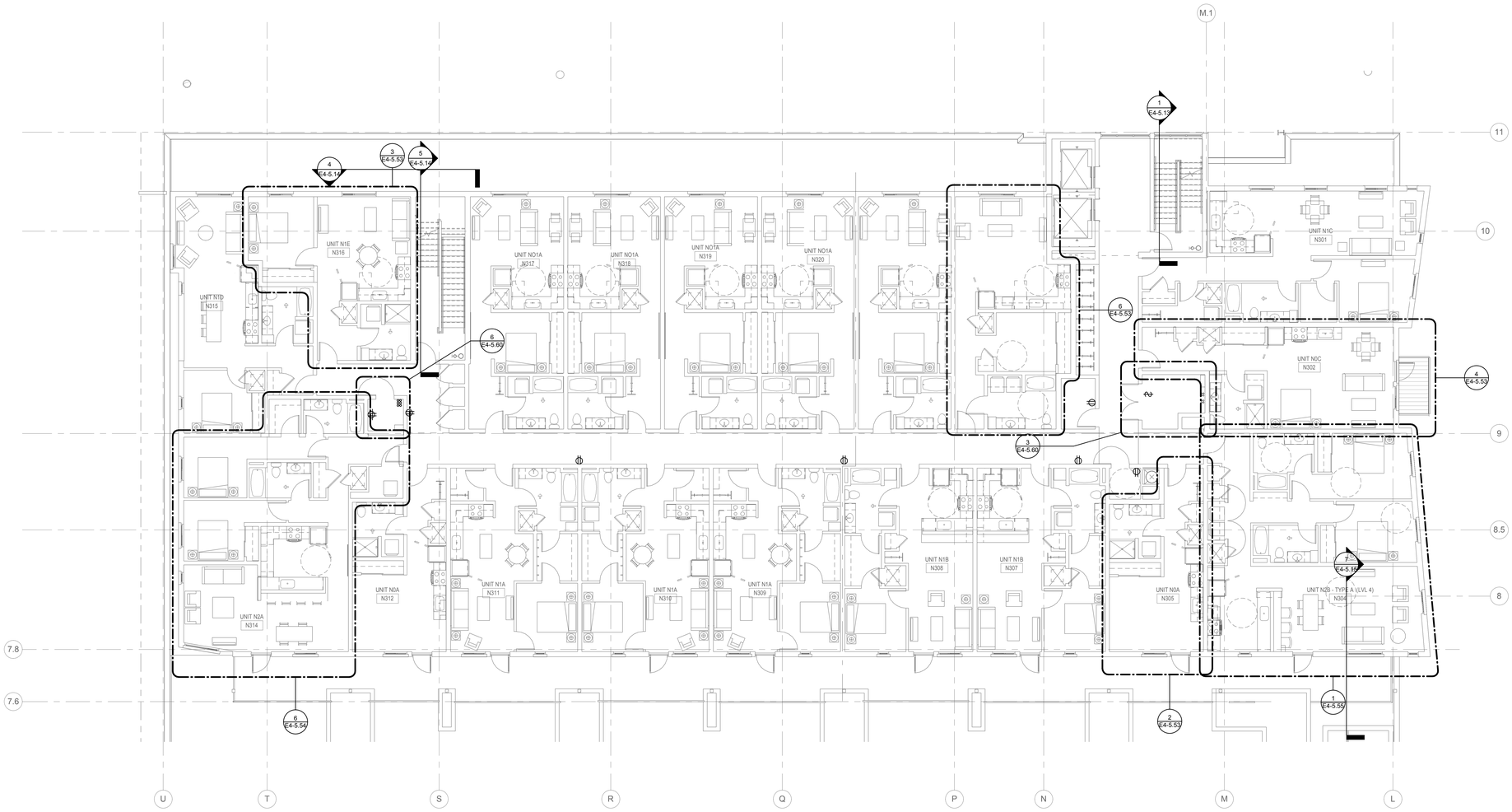
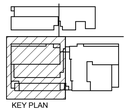
GENERAL SHEET NOTES

A CIRCUIT HALLWAY AND STORAGE CONVIENCE RECEPTACLES THIS SHEET NO MORE THAN 8 TO A CIRCUIT. CIRCUIT NUMBERS PER LEVEL AS FOLLOWS: LEVEL 4 - 2HR-N-8.



1 LEVEL 4 NORTH - POWER/SIGNAL

0' 4' 8' 16'
1/8" = 1'-0"



REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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REVISION	DATE	REASON FOR ISSUE

LEVEL 4 NORTH - POWER/SIGNAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.02b
SCALE 1/8" = 1'-0"	

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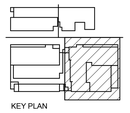
GENERAL SHEET NOTES

A CIRCUIT HALLWAY AND STORAGE CONVIENCE RECEPTACLES THIS SHEET NO MORE THAN 8 TO A CIRCUIT. CIRCUIT NUMBERS PER LEVEL AS FOLLOWS: LEVEL 4 - 2H3-S-16&18.; LEVEL 5 - 2H3-S-20&22.; LEVEL 6 - 2H3-S-24&26.; LEVEL 7 2H3-S-28&30.

1 TYPICAL LEVEL 4-7 SOUTH - POWER/SIGNAL

1/8" = 1'-0"



REGISTERED PROFESSIONAL ENGINEER
LEO GODE
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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PROJECT 2012-0522
CONTACT David Chesley

Koch Landscape Architecture

LANDSCAPE
1621 NE 2nd Ave
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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

TYPICAL LEVEL 4-7 SOUTH - POWER/SIGNAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.03a
SCALE 1/8" = 1'-0"	

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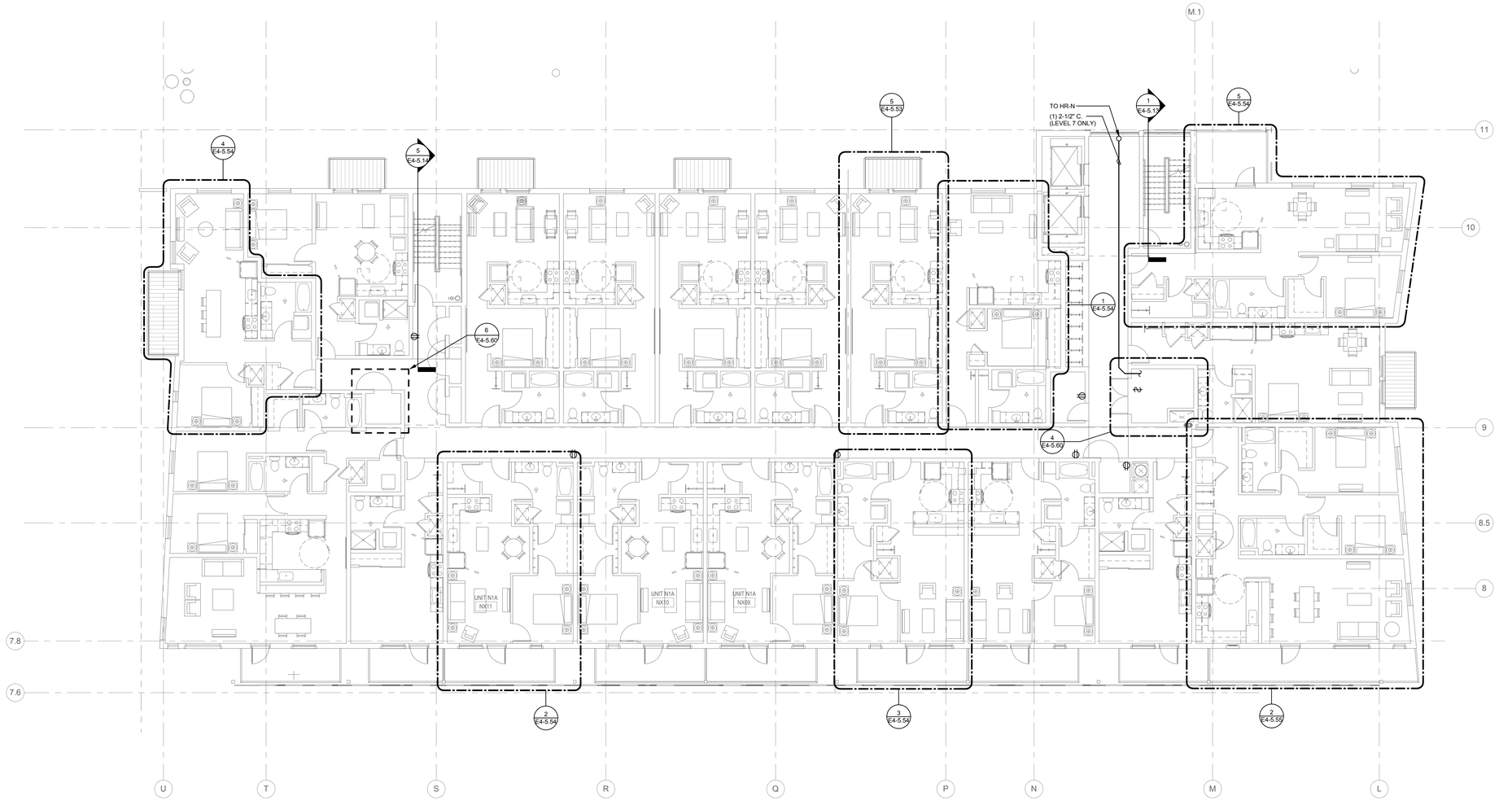
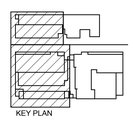
GENERAL SHEET NOTES

A CIRCUIT HALLWAY AND STORAGE CONVIENCE RECEPTACLES: THIS SHEET NO MORE THAN 8 TO A CIRCUIT. CIRCUIT NUMBERS PER LEVEL AS FOLLOWS: LEVEL 5 - 2HR-N-2.; LEVEL 6 - 2HR-N-4.; LEVEL 7 - 2HR-N-6.



1 TYPICAL LEVEL 5-7 NORTH - POWER/SIGNAL

0' 4' 8' 16'
1/8" = 1'-0"



REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

TYPICAL LEVEL 5-7 NORTH - POWER/SIGNAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.03b
SCALE 1/8" = 1'-0"	

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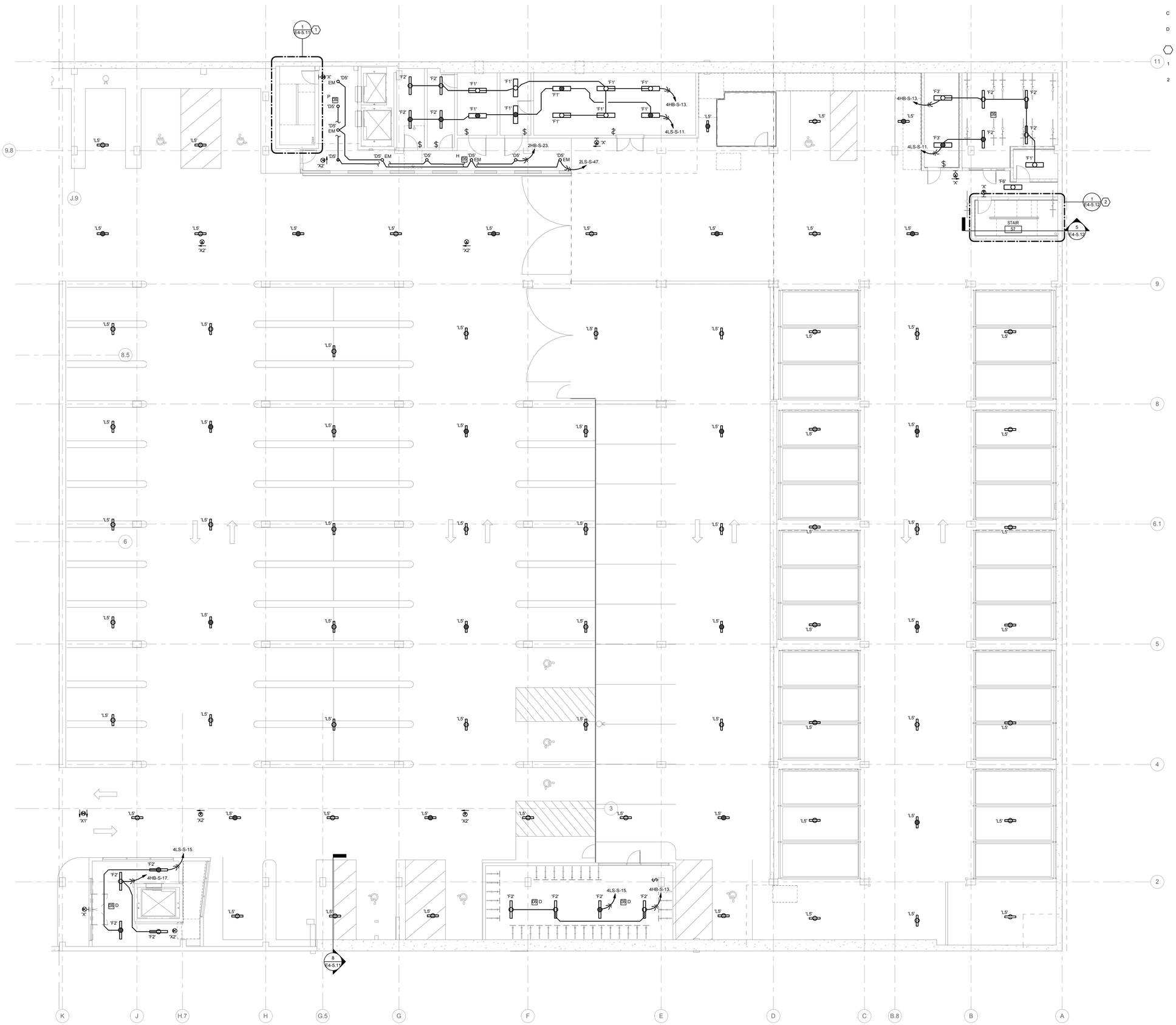


GENERAL SHEET NOTES

A PROVIDE TYPE F1 LUMINAIRES WITH INTEGRAL OCCUPANCY SENSOR OPTION.

B CONNECT ALL EMERGENCY LIGHTING IN PARKING LOT TO CIRCUIT 4LS-S-13 THIS SHEET ONLY, UON.

C CONNECT ALL NORMAL LIGHTING IN PARKING LOT TO CIRCUIT 4HB-S-15 THIS SHEET ONLY, UON.

D CONNECT ALL EXIT SIGNS TO UNSWITCHED LEG OF CIRCUIT 4LS-S-8 THIS SHEET ONLY.

SHEET KEYNOTES

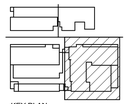
1 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-S-7 THIS SHEET ONLY.

2 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-S-9 THIS SHEET ONLY.

1 LEVEL P1 SOUTH - LIGHTING

0' 4' 8' 16'

1/8" = 1'-0"



KEY PLAN

REGISTERED PROFESSIONAL ENGINEER OREGON JULY 14, 1989 DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

LEVEL P1 SOUTH - LIGHTING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.5Ba
SCALE 1/8" = 1'-0"	

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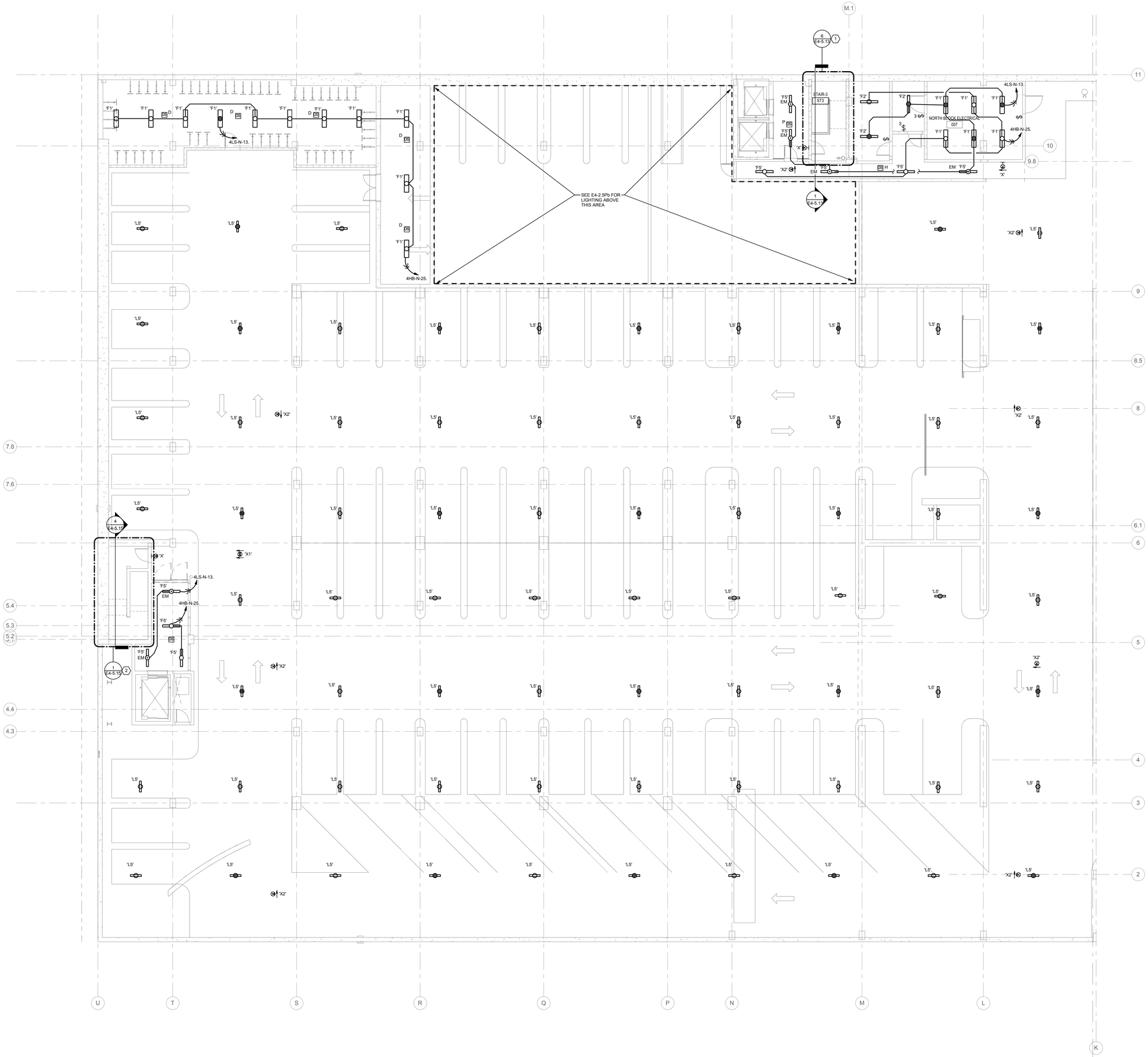

GENERAL SHEET NOTES

A PROVIDE TYPE F1 LUMINAIRES WITH INTEGRAL OCCUPANCY SENSOR OPTION.

B CONNECT ALL EMERGENCY LIGHTING IN PARKING LOT TO CIRCUIT 4LS-N-11 THIS SHEET ONLY, UON.

C CONNECT ALL NORMAL LIGHTING IN PARKING LOT TO CIRCUIT 4HB-N-27 THIS SHEET ONLY, UON.

D CONNECT EXIT SIGNS TO UNSWITCHED LEG OF CIRCUIT 4LS-N-8 THIS SHEET ONLY.

SHEET KEYNOTES

1 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-N-7 THIS SHEET ONLY.

2 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-N-9 THIS SHEET ONLY.

1 LEVEL P1 NORTH - LIGHTING

0' 4' 8' 16'
1/8" = 1'-0"

KEY PLAN

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1995
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFICATION

LEVEL P1 NORTH - LIGHTING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER
SCALE 1/8" = 1'-0"	E4-2.5Bb

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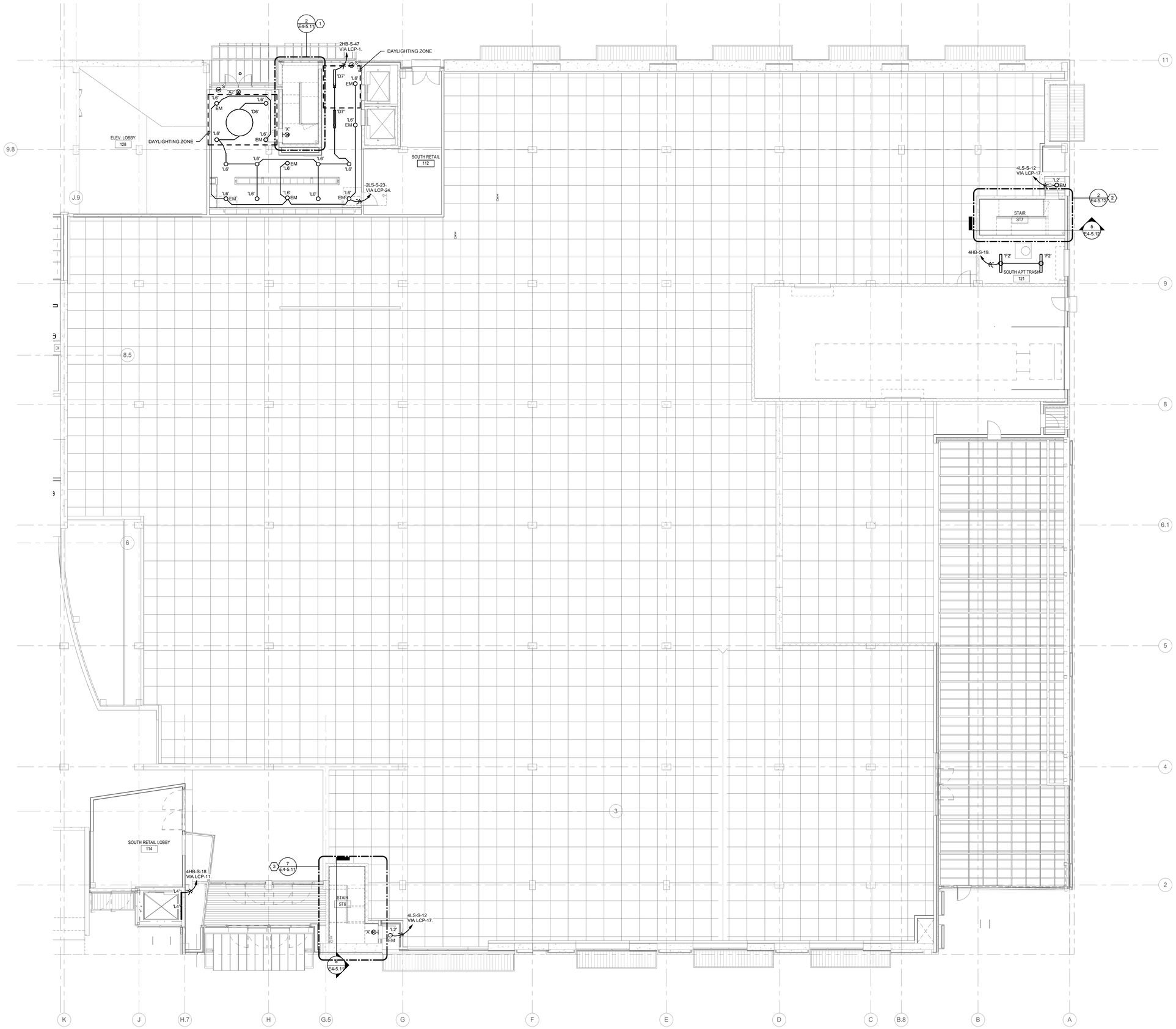

1 LEVEL 1 SOUTH - LIGHTING

0' 4' 8' 16'
1/8" = 1'-0"

GENERAL SHEET NOTES

A PROVIDE TYPE F1 LUMINAIRES WITH INTEGRAL OCCUPANCY SENSOR OPTION.

B EXIT SIGNS: ROUTE UNSWITCHED POWER TO EXIT SIGNS; EXIT SIGNS ON AT ALL HOURS. CONNECT TO UNSWITCHED LEG OF CIRCUIT 4LS-S-8 THIS SHEET ONLY.

C LOBBY SEQUENCE OF OPERATION FOR LIGHTING CONTROLS: DASHED OUTLINE INDICATES LIGHTING AREA WHERE LIGHTING INSIDE OUTLINE IS SWITCHED OFF BY LOCAL PHOTOSENSOR. NORMAL AND EMERGENCY LIGHTING IS ROUTED THROUGH LIGHTING RELAY PANEL TO GIVE ABILITY TO TURN OFF NORMAL LIGHTING (AND/OR EMERGENCY LIGHTING) AT LATE HOURS.

SHEET KEYNOTES

1 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-S-7 THIS SHEET ONLY.

2 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-S-9 THIS SHEET ONLY.

3 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-S-19 THIS SHEET ONLY.

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

LEVEL 1 SOUTH - LIGHTING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.5Pa
SCALE 1/8" = 1'-0"	

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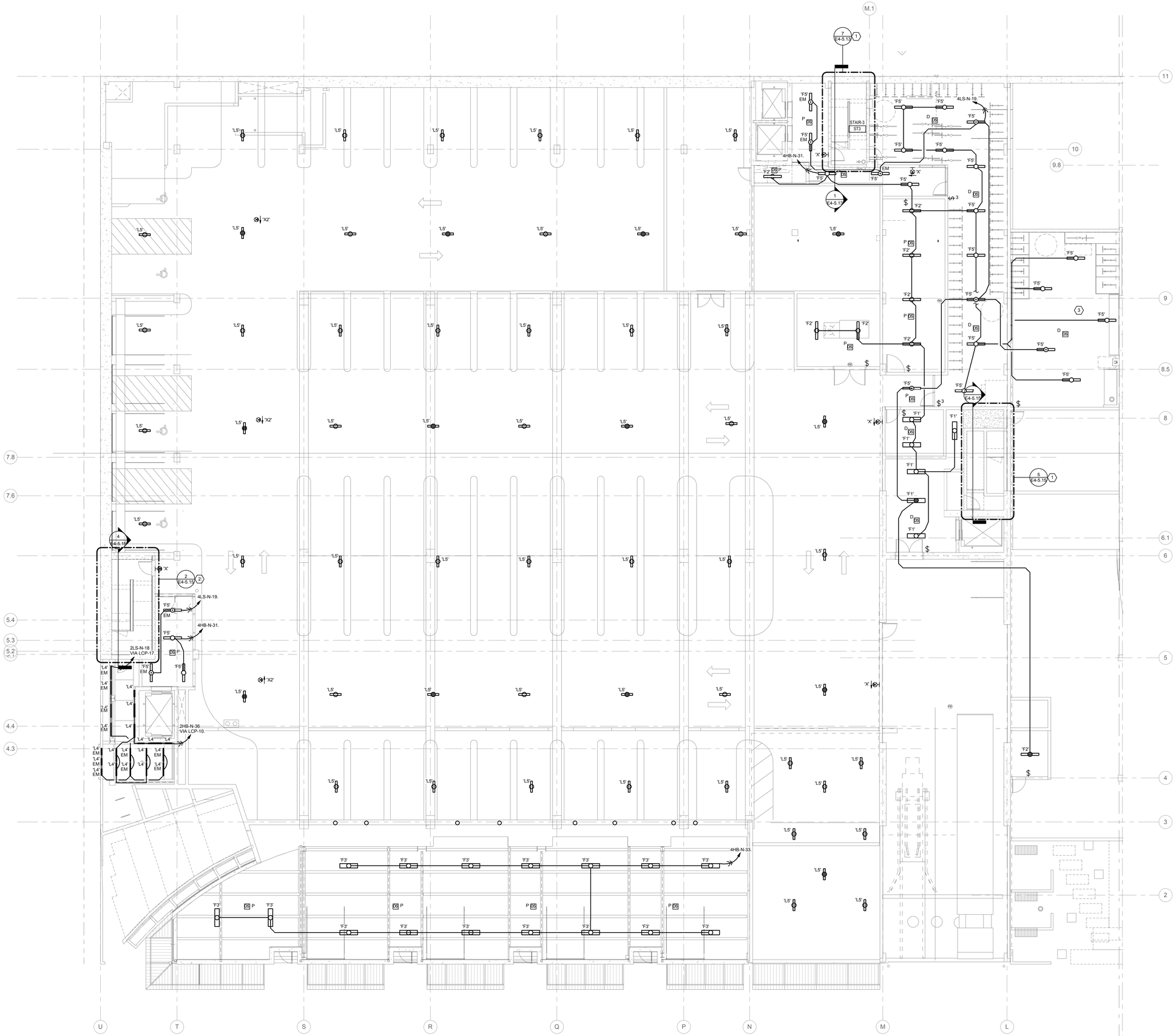


GENERAL SHEET NOTES

A PROVIDE TYPE F1 LUMINAIRES WITH INTEGRAL OCCUPANCY SENSOR OPTION.

B CONNECT ALL EMERGENCY LIGHTING IN PARKING LOT TO CIRCUIT 4LS-N-17 THIS SHEET ONLY, UON.

C CONNECT ALL NORMAL LIGHTING IN PARKING LOT TO CIRCUIT 4HB-N-29 THIS SHEET ONLY, UON.

D CONNECT EXIT SIGNS TO UNSWITCHED LEG OF CIRCUIT 4LS-N-8 THIS SHEET ONLY.

SHEET KEYNOTES

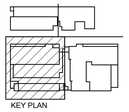
1 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-N-7 THIS SHEET ONLY.

2 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-N-9 THIS SHEET ONLY.

3 PROVIDE SURFACE MOUNTED IMC CONDUIT AND STEEL BOXES FOR ALL RACEWAY IN THIS AREA. ROUTE CONDUITS NEATLY TO FOLLOW BUILDING LINES AS DIRECTED BY ARCHITECT. EXPOSED CONDUIT IS PART OF ARCHITECTURAL FINISHES FOR THIS AREA.

1 LEVEL P2 NORTH - LIGHTING

1/8" = 1'-0"



REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1995
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT

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Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

LEVEL P2 NORTH - LIGHTING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.5Pb
SCALE 1/8" = 1'-0"	

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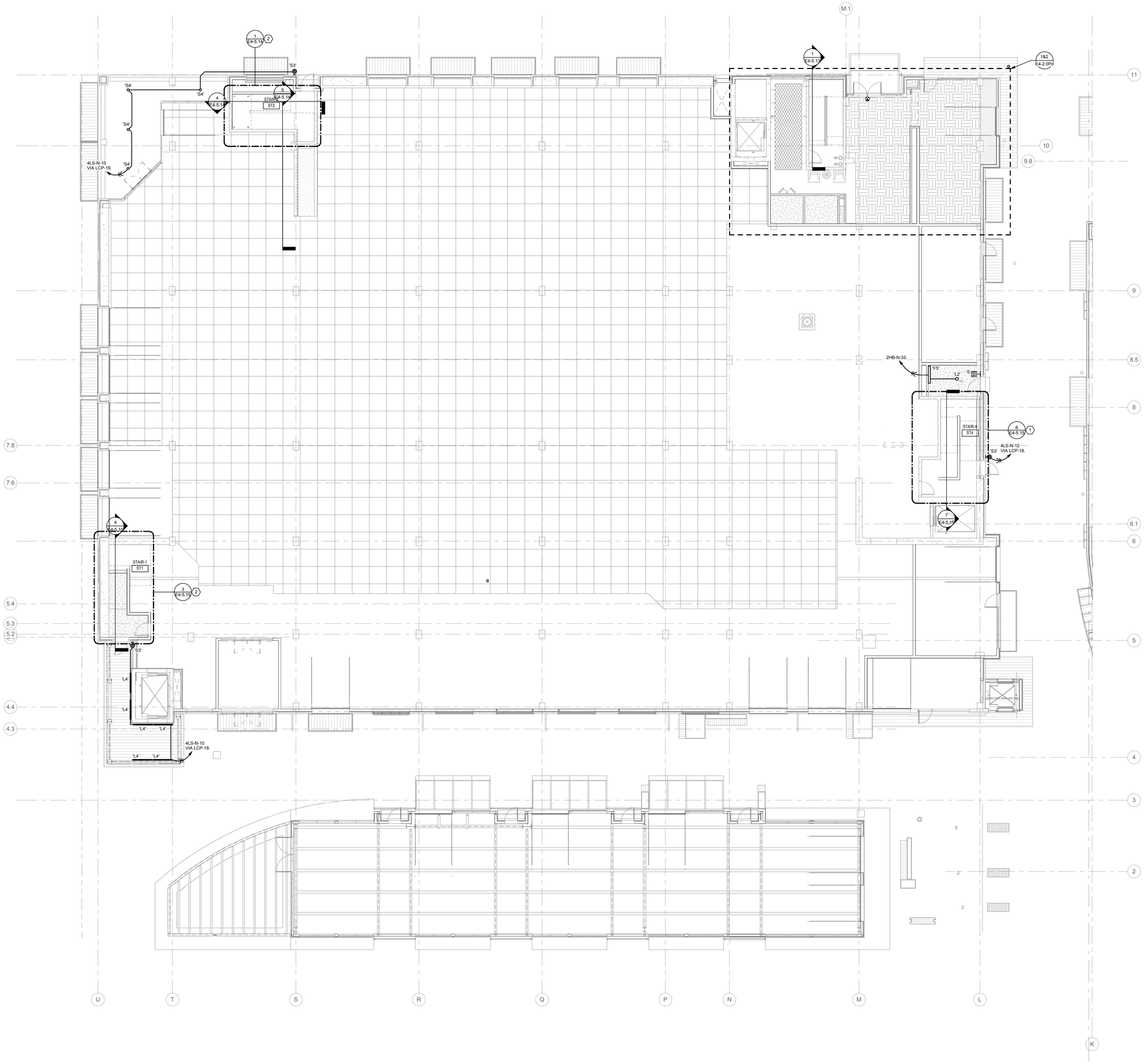

1 LEVEL 2 NORTH AND WEST

0' 4' 8' 16'
1/8" = 1'-0"

GENERAL SHEET NOTES

A PROVIDE TYPE F1 LUMINAIRES WITH INTEGRAL OCCUPANCY SENSOR OPTION.

B CONNECT ALL EXIT SIGNS TO UNSWITCHED LEG OF CIRCUIT 4LS-N-8 THIS SHEET ONLY.

SHEET KEYNOTES

1 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-N-7 THIS SHEET ONLY.

2 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-N-9 THIS SHEET ONLY.

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
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Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

LEVEL 2 NORTH AND WEST - LIGHTING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER E4-2.50b
SCALE 1/8" = 1'-0"	

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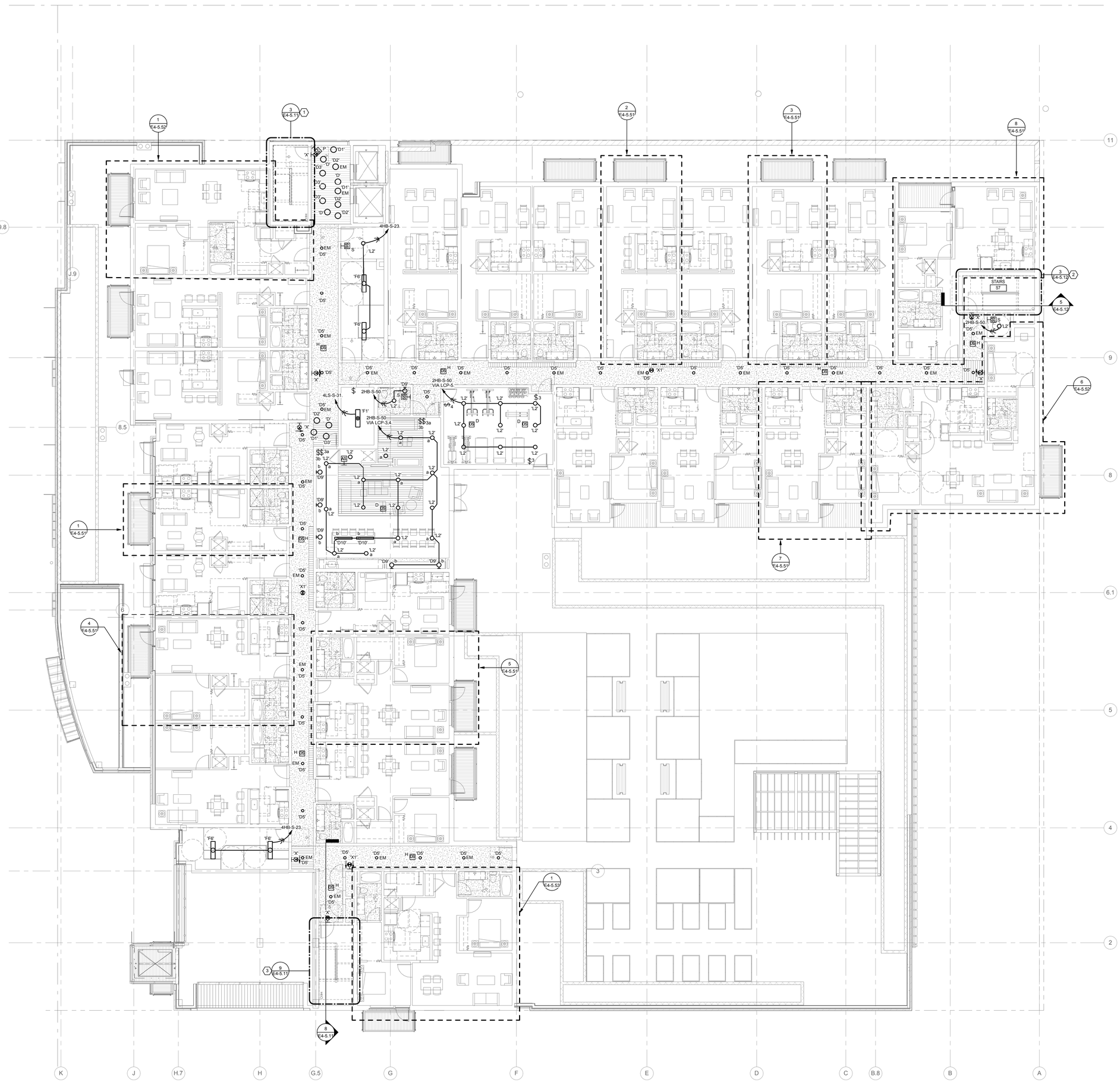


1 LEVEL 3 SOUTH - LIGHTING

0' 4' 8' 16'
1/8" = 1'-0"

GENERAL SHEET NOTES

A PROVIDE TYPE F1 LUMINAIRES WITH INTEGRAL OCCUPANCY SENSOR OPTION.

B EXIT SIGNS: ROUTE UNSWITCHED POWER TO EXIT SIGNS; EXIT SIGNS ON AT ALL HOURS. CONNECT TO UNSWITCHED LEG OF CIRCUIT 4LS-S-8 THIS SHEET ONLY.

C CONNECT NORMAL LIGHTING IN CORRIDOR TO 2HB-S-49 VIA LCP-2.

D CONNECT EMERGENCY LIGHTING IN CORRIDOR TO CIRCUIT 2LS-S-25 VIA LCP-23.

E CORRIDOR SEQUENCE OF OPERATION FOR LIGHTING CONTROLS: NORMAL LIGHTING AUTO-ON/AUTO-OFF BY OCCUPANCY SENSOR. EMERGENCY LIGHTING NORMALLY ON AT ALL TIMES, BUT CONTROLLED WITH EMERGENCY LIGHTING RELAY TO ALLOW OPTION TO SWITCH ON/OFF WITH NORMAL LIGHTING IN THE FUTURE. ROUTE NORMAL AND EMERGENCY LIGHTING THROUGH LIGHTING RELAY PANEL AS SHOWN TO ALLOW FUTURE SCHEDULED ON/OFF CONTROL (EXAMPLE: NORMAL LIGHTING OFF AT LATE HOURS WHILE EMERGENCY LIGHTING REMAINS ON AT ALL HOURS).

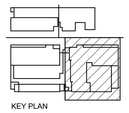
F EXIT SIGNS; ROUTE UNSWITCHED POWER TO EXIT SIGNS; EXIT SIGNS ON AT ALL HOURS.

SHEET KEYNOTES

1 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-S-7 THIS SHEET ONLY.

2 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-S-9 THIS SHEET ONLY.

3 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-S-19 THIS SHEET ONLY.



KEY PLAN

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

LEVEL 3 SOUTH - LIGHTING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.51a
SCALE 1/8" = 1'-0"	

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GENERAL SHEET NOTES

A PROVIDE TYPE F1 LUMINAIRES WITH INTEGRAL OCCUPANCY SENSOR OPTION.

B EXIT SIGNS: ROUTE UNSWITCHED POWER TO EXIT SIGNS; EXIT SIGNS ON AT ALL HOURS. CONNECT TO UNSWITCHED LEG OF CIRCUIT 4LS-N-8 THIS SHEET ONLY.

C CONNECT NORMAL LIGHTING IN CORRIDOR TO CIRCUIT 2HB-N-35 VIA LCP-2.

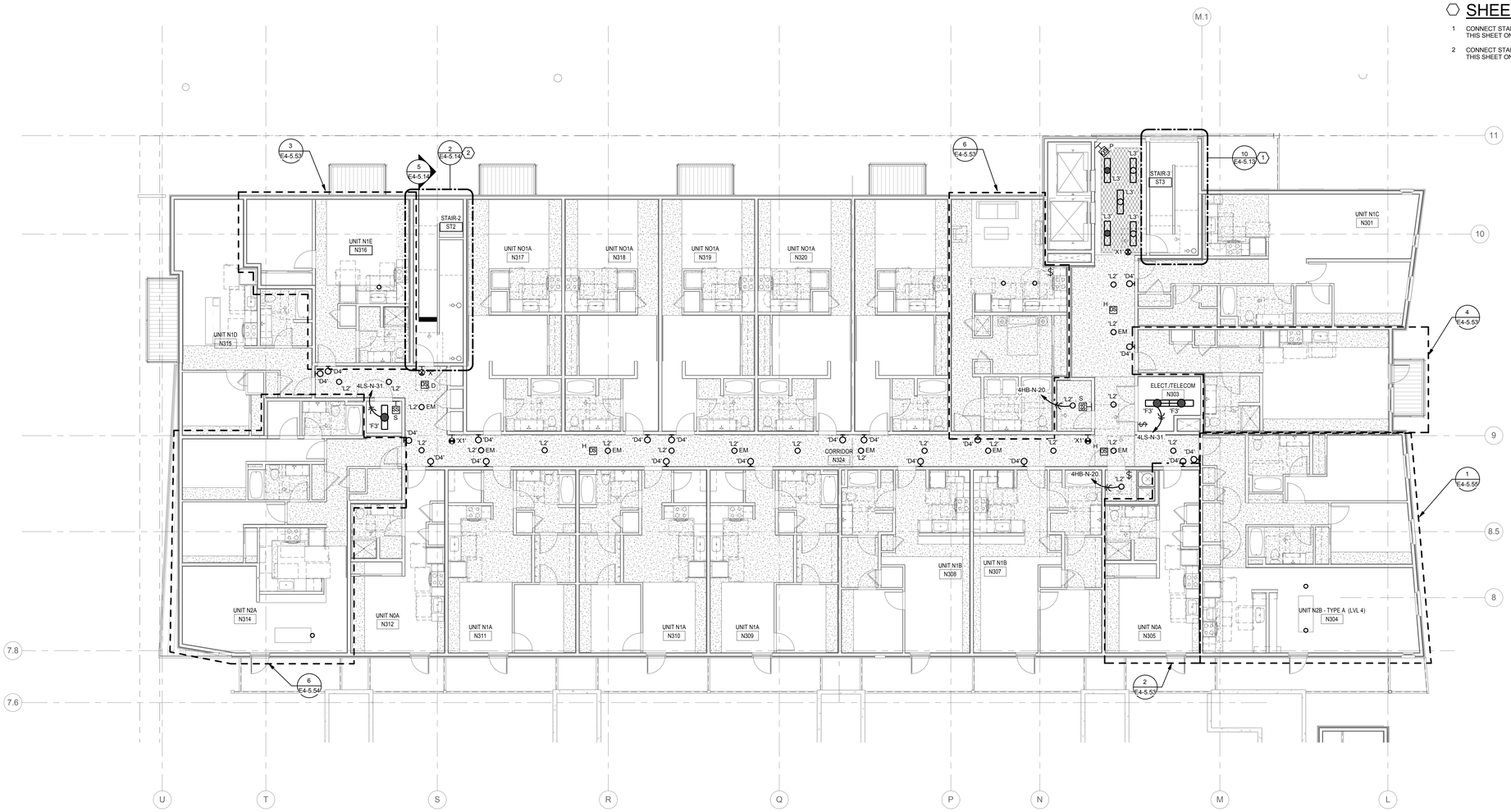
D CONNECT EMERGENCY LIGHTING IN CORRIDOR TO CIRCUIT 2LS-N-17 VIA LCP-23.

E CORRIDOR SEQUENCE OF OPERATION FOR LIGHTING CONTROLS: NORMAL LIGHTING AUTO-ON/AUTO-OFF BY OCCUPANCY SENSOR. EMERGENCY LIGHTING NORMALLY ON AT ALL TIMES, BUT CONTROLLED WITH EMERGENCY LIGHTING RELAY TO ALLOW OPTION TO SWITCH ON/OFF WITH NORMAL LIGHTING IN THE FUTURE. ROUTE NORMAL AND EMERGENCY LIGHTING THROUGH LIGHTING RELAY PANEL AS SHOWN TO ALLOW FUTURE SCHEDULED ON/OFF CONTROL (EXAMPLE: NORMAL LIGHTING OFF AT LATE HOURS WHILE EMERGENCY LIGHTING REMAINS ON AT ALL HOURS).

SHEET KEYNOTES

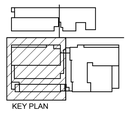
1 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-N-7 THIS SHEET ONLY.

2 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-N-9 THIS SHEET ONLY.



1 LEVEL 4 NORTH - LIGHTING

1/8" = 1'-0"



REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

LEVEL 4 NORTH - LIGHTING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.51b
SCALE 1/8" = 1'-0"	

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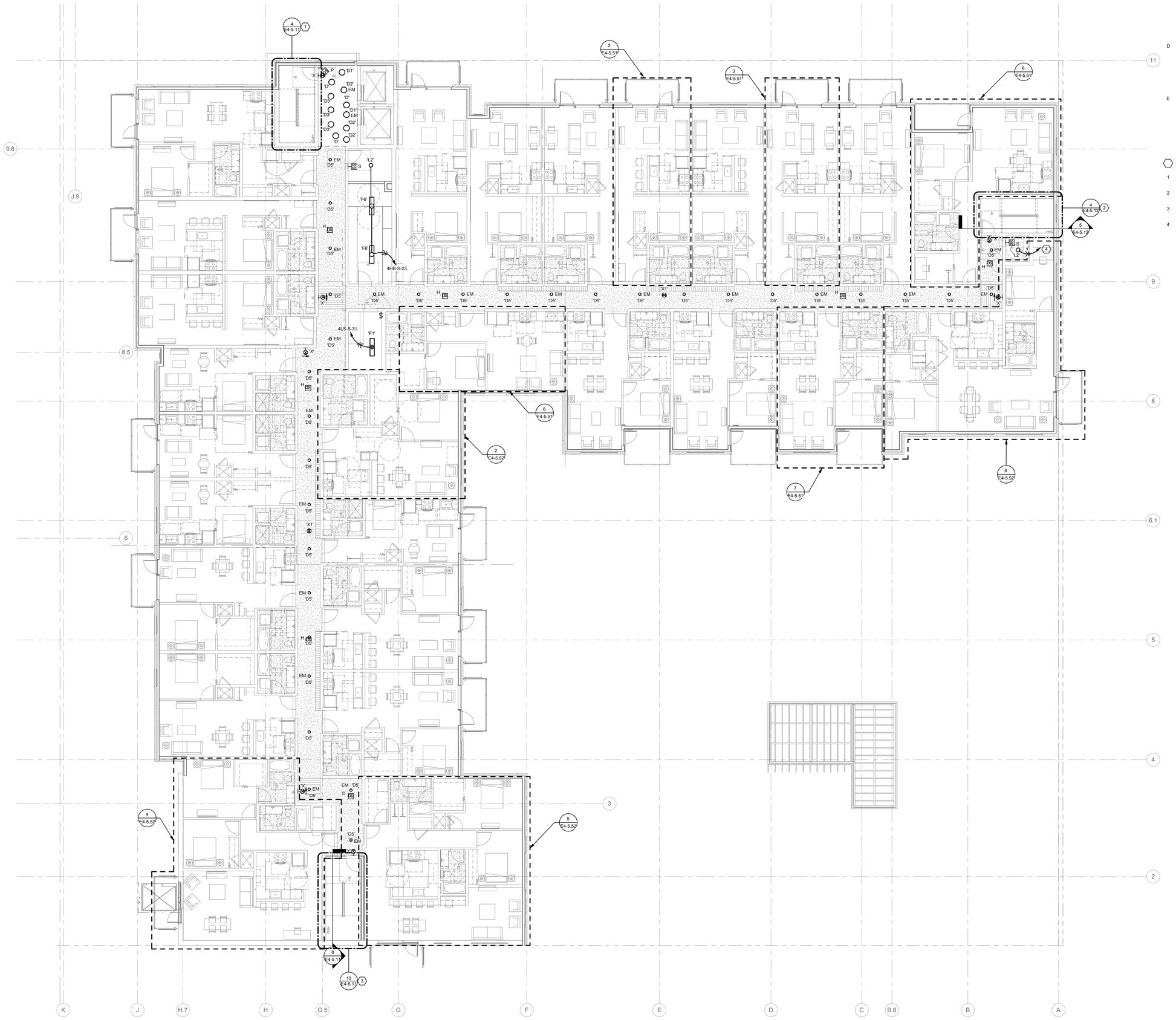


1 TYPICAL LEVEL 4-7 SOUTH - LIGHTING

1/8" = 1'-0"

GENERAL SHEET NOTES

A PROVIDE TYPE F1 LUMINAIRES WITH INTEGRAL OCCUPANCY SENSOR OPTION.

B EXIT SIGNS: ROUTE UNSWITCHED POWER TO EXIT SIGNS; EXIT SIGNS ON AT ALL HOURS. CONNECT TO UNSWITCHED LEG OF CIRCUIT 4LS-S-8 THIS SHEET ONLY.

C CONNECT NORMAL LIGHTING IN CORRIDOR AS FOLLOWS:

LEVEL 4: 2HB-S-51 VIA LCP-6.

LEVEL 5: 2HB-S-53 VIA LCP-7.

LEVEL 6: 2HB-S-55 VIA LCP-8.

LEVEL 7: 2HB-S-57 VIA LCP-9.

D CONNECT EMERGENCY LIGHTING IN CORRIDOR AS FOLLOWS:

LEVEL 4: 2LS-S-27 VIA LCP-22.

LEVEL 5: 2LS-S-29 VIA LCP-21.

LEVEL 6: 2LS-S-31 VIA LCP-20.

LEVEL 7: 2LS-S-33 VIA LRP-19.

E CORRIDOR SEQUENCE OF OPERATION FOR LIGHTING CONTROLS: NORMAL LIGHTING AUTO-ON/AUTO-OFF BY OCCUPANCY SENSOR. EMERGENCY LIGHTING NORMALLY ON AT ALL TIMES, BUT CONTROLLED WITH EMERGENCY LIGHTING RELAY TO ALLOW OPTION TO SWITCH ON/OFF WITH NORMAL LIGHTING IN THE FUTURE. ROUTE NORMAL AND EMERGENCY LIGHTING THROUGH LIGHTING RELAY PANEL AS SHOWN TO ALLOW FUTURE SCHEDULED ON/OFF CONTROL (EXAMPLE: NORMAL LIGHTING OFF AT LATE HOURS WHILE EMERGENCY LIGHTING REMAINS ON AT ALL HOURS).

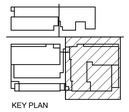
SHEET KEYNOTES

1 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-S-7 THIS SHEET ONLY.

2 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-S-9 THIS SHEET ONLY.

3 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-S-19 THIS SHEET ONLY.

4 CONNECT LIGHTING IN RECYCLING ROOM TO SAME CIRCUIT AS NORMAL CORRIDOR LIGHTING.



KEY PLAN

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

Ankrom Moisan™

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T 503-382-2667
PROJECT 2012-0522
CONTACT David Chesley

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1621 NE 2nd Ave
Portland, OR 97220
T 503-286-7979

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

TYPICAL LEVEL 4-7 SOUTH - LIGHTING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.52a
SCALE 1/8" = 1'-0"	

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GENERAL SHEET NOTES

A PROVIDE TYPE F1 LUMINAIRES WITH INTEGRAL OCCUPANCY SENSOR OPTION.

B EXIT SIGNS: ROUTE UNSWITCHED POWER TO EXIT SIGNS; EXIT SIGNS ON AT ALL HOURS. CONNECT TO UNSWITCHED LEG OF CIRCUIT 4LS-N-8 THIS SHEET ONLY.

C CONNECT NORMAL LIGHTING IN CORRIDOR AS FOLLOWS:

LEVEL 5: 2HB-N-37 VIA LCP-3.

LEVEL 6: 2HB-N-39 VIA LCP-4.

LEVEL 7: 2HB-N-41 VIA LCP-5.

D CONNECT EMERGENCY LIGHTING IN CORRIDOR AS FOLLOWS:

LEVEL 5: 2LS-N-19 VIA LCP-22.

LEVEL 6: 2LS-N-21 VIA LCP-21.

LEVEL 7: 2LS-N-23 VIA LCP-20.

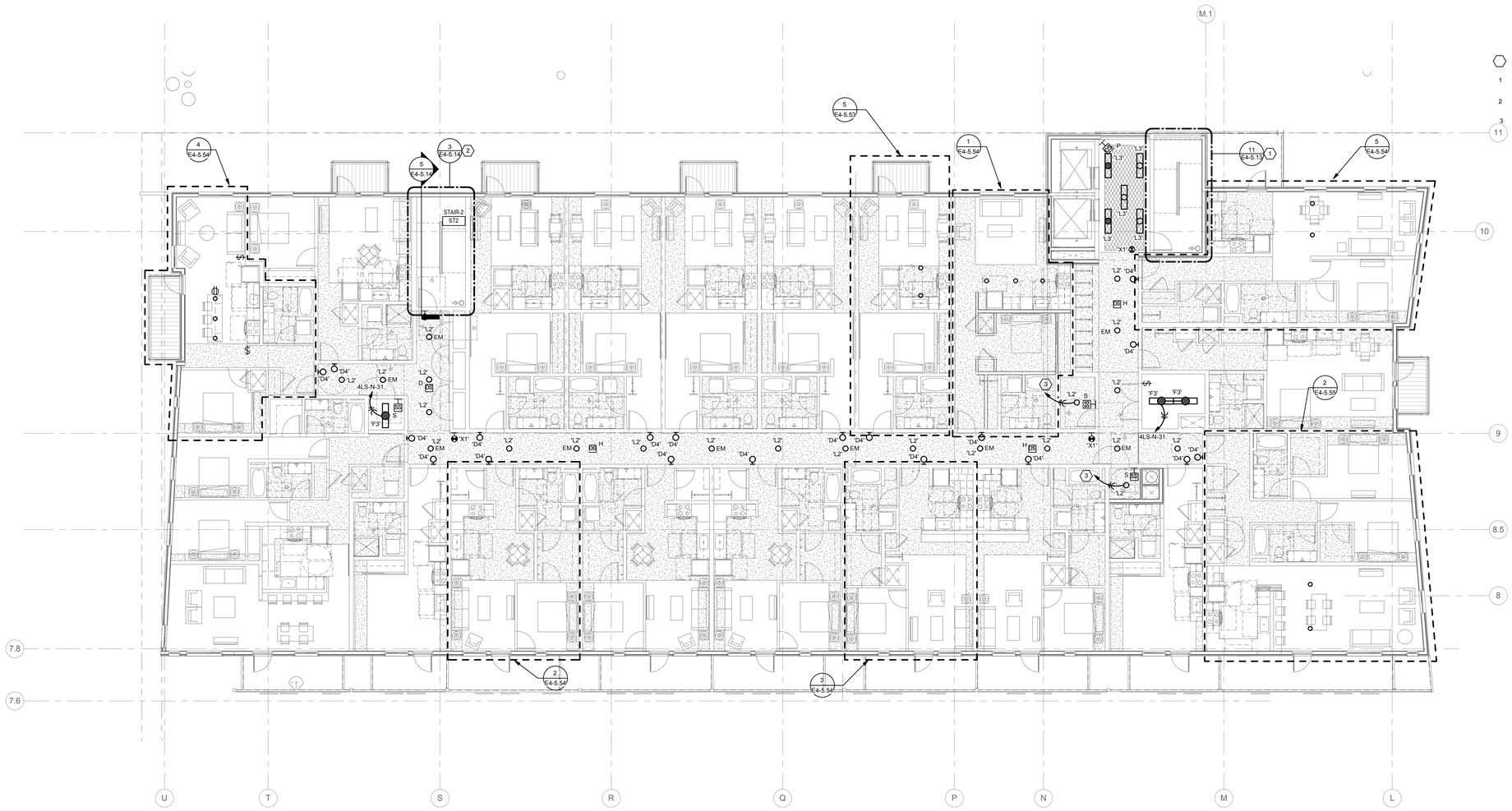
E CORRIDOR SEQUENCE OF OPERATION FOR LIGHTING CONTROLS: NORMAL LIGHTING AUTO-ON/AUTO-OFF BY OCCUPANCY SENSOR. EMERGENCY LIGHTING NORMALLY ON AT ALL TIMES, BUT CONTROLLED WITH EMERGENCY LIGHTING RELAY TO ALLOW OPTION TO SWITCH ON/OFF WITH NORMAL LIGHTING IN THE FUTURE. ROUTE NORMAL AND EMERGENCY LIGHTING THROUGH LIGHTING RELAY PANEL AS SHOWN TO ALLOW FUTURE SCHEDULED ON/OFF CONTROL (EXAMPLE: NORMAL LIGHTING OFF AT LATE HOURS WHILE EMERGENCY LIGHTING REMAINS ON AT ALL HOURS).

SHEET KEYNOTES

1 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-N-7 THIS SHEET ONLY.

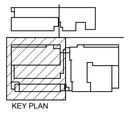
2 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-N-9 THIS SHEET ONLY.

3 CONNECT LIGHTING IN RECYCLING ROOM TO SAME CIRCUIT AS NORMAL CORRIDOR LIGHTING.



1 TYPICAL LEVEL 5-7 NORTH - LIGHTING

0' 4' 8' 16'
1/8" = 1'-0"


KEY PLAN

REGISTERED PROFESSIONAL ENGINEER
JAMES NORMAN CHESLEY
OREGON
JULY 14, 1989
EXPIRES: 12/31/15

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PROJECT 2012-0522
CONTACT David Chesley

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1621 NE 2nd Ave
Portland, OR 97220
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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

TYPICAL LEVEL 5-7 NORTH - LIGHTING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.52b
SCALE 1/8" = 1'-0"	

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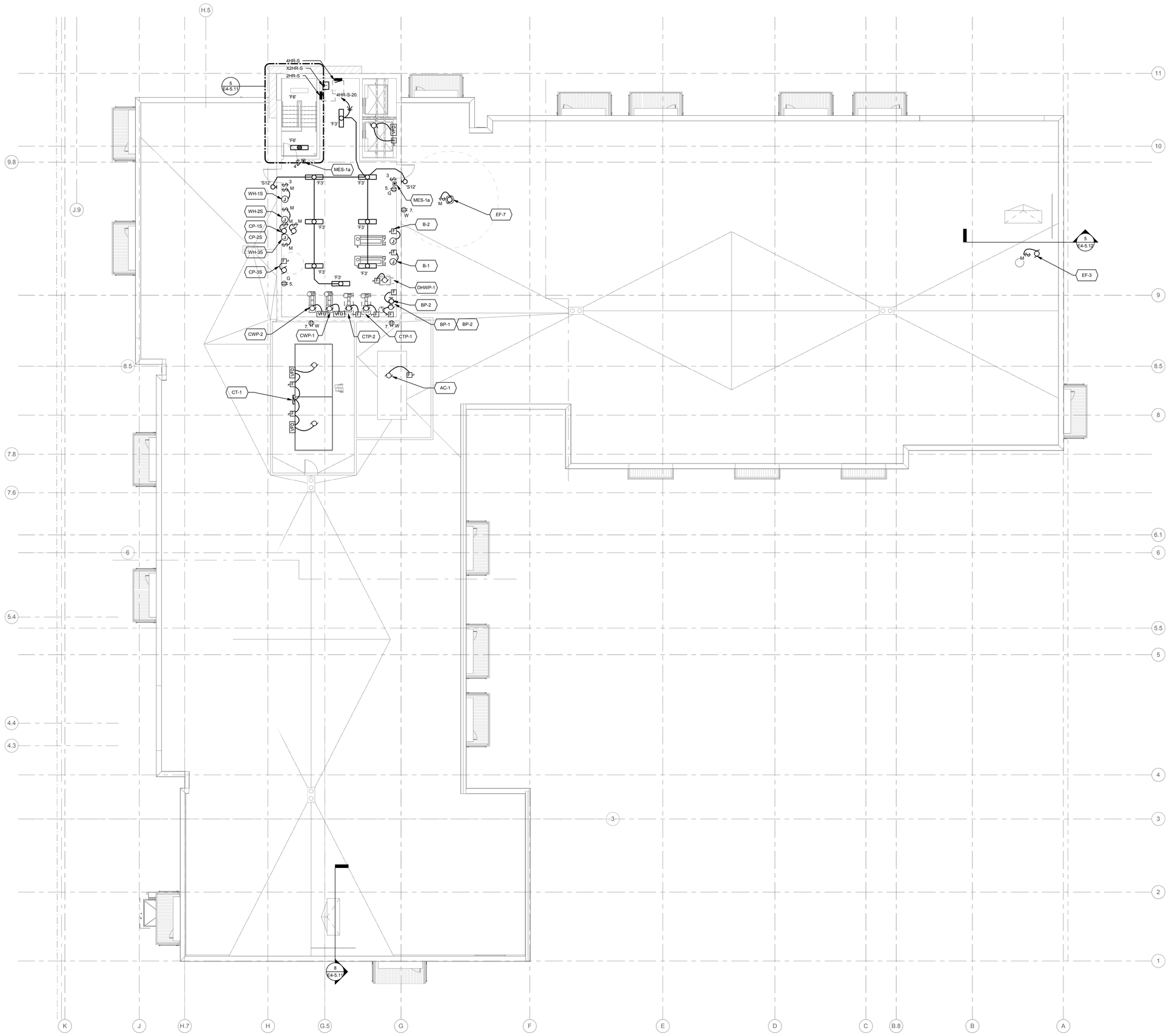
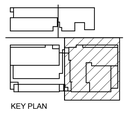
GENERAL SHEET NOTES

A ALL CIRCUIT NUMBERS NEXT TO A DEVICE IS TO PANEL 2HR-S UNLESS OTHERWISE NOTED. TYPICAL THIS SHEET.



1 MECHANICAL ROOF SOUTH - ELECTRICAL

0' 4' 8' 16'
1/8" = 1'-0"



KEY PLAN

REGISTERED PROFESSIONAL ENGINEER
LEE GOODE
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

MECHANICAL ROOF SOUTH - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.91a
SCALE 1/8" = 1'-0"	

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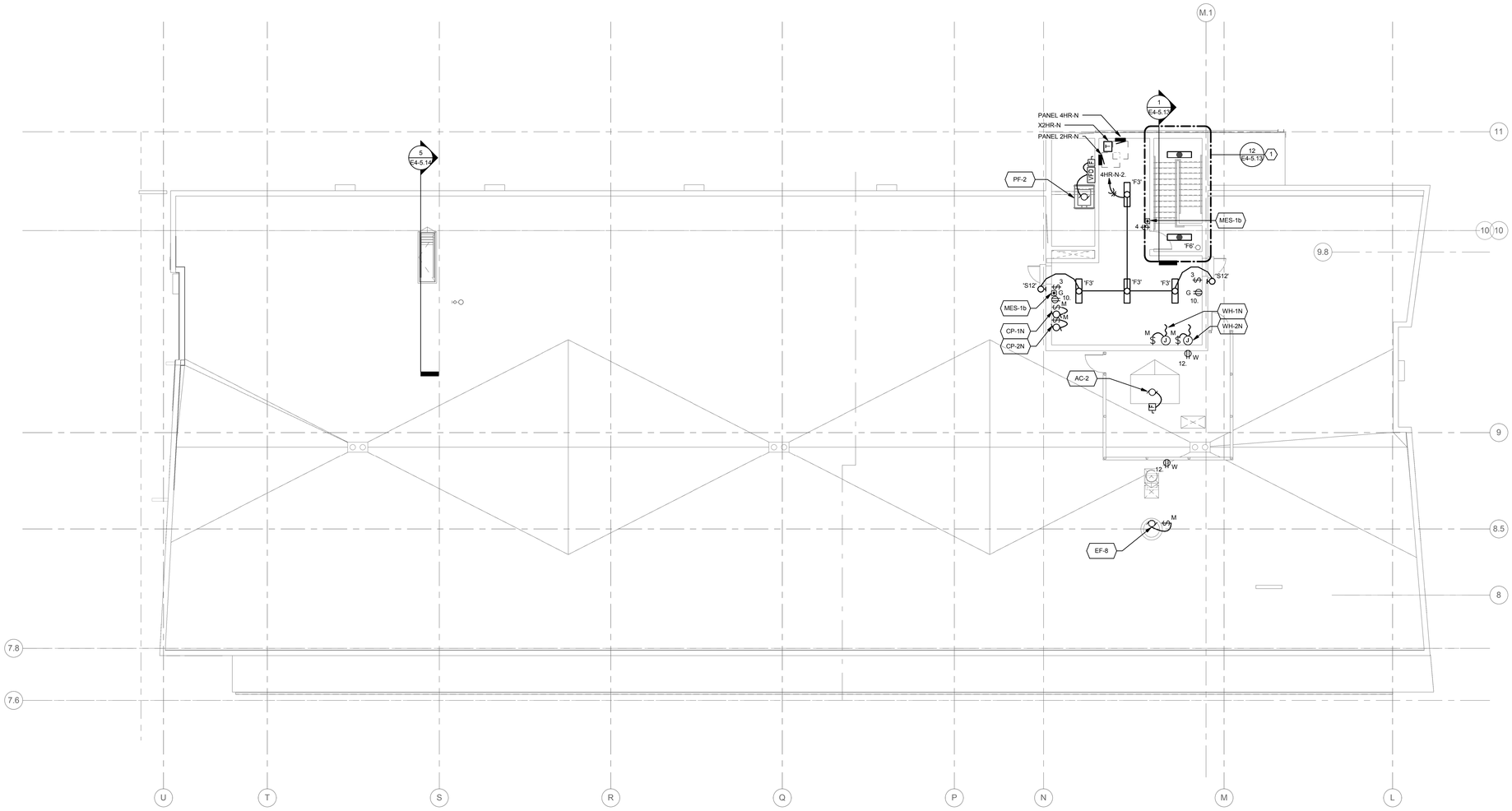
GENERAL SHEET NOTES

A ALL CIRCUIT NUMBERS NEXT TO A DEVICE IS TO PANEL 2HR-N UNLESS OTHERWISE NOTED. TYPICAL THIS SHEET.

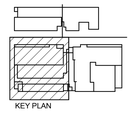
SHEET KEYNOTES

1 CONNECT STAIRWAY LIGHTING TO CIRCUIT 4LS-N-7.



1 MECHANICAL ROOF NORTH - ELECTRICAL

0' 4' 8' 16'
1/8" = 1'-0"


KEY PLAN

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

MECHANICAL ROOF NORTH - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-2.91b
SCALE 1/8" = 1'-0"	

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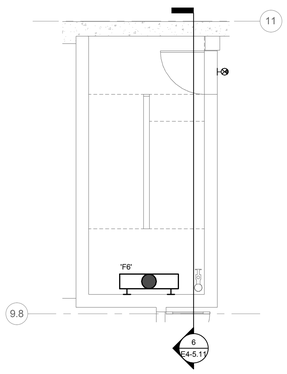
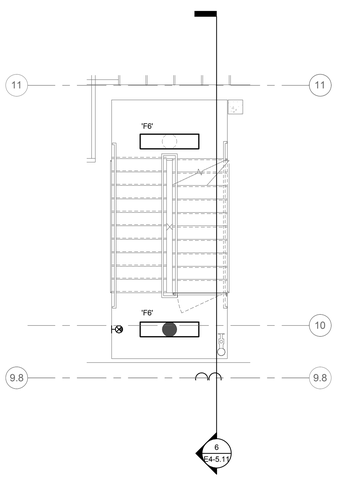


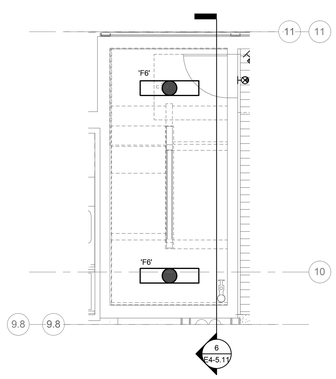
1 S RES STAIR, ST-8, LVL P1- LIGHTING

0' 2' 4' 8'
1/4" = 1'-0"



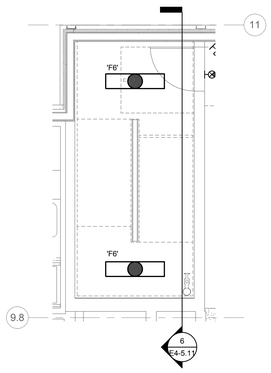
2 S RES STAIR, ST-8, LVL 1 - LIGHTING

0' 2' 4' 8'
1/4" = 1'-0"



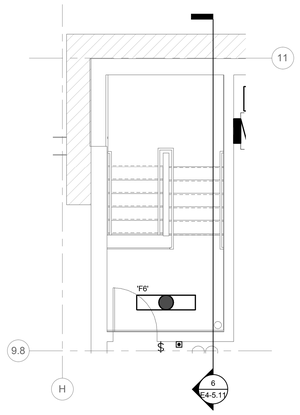
3 S RES STAIR, ST-8, LVL 3 - LIGHTING

0' 2' 4' 8'
1/4" = 1'-0"



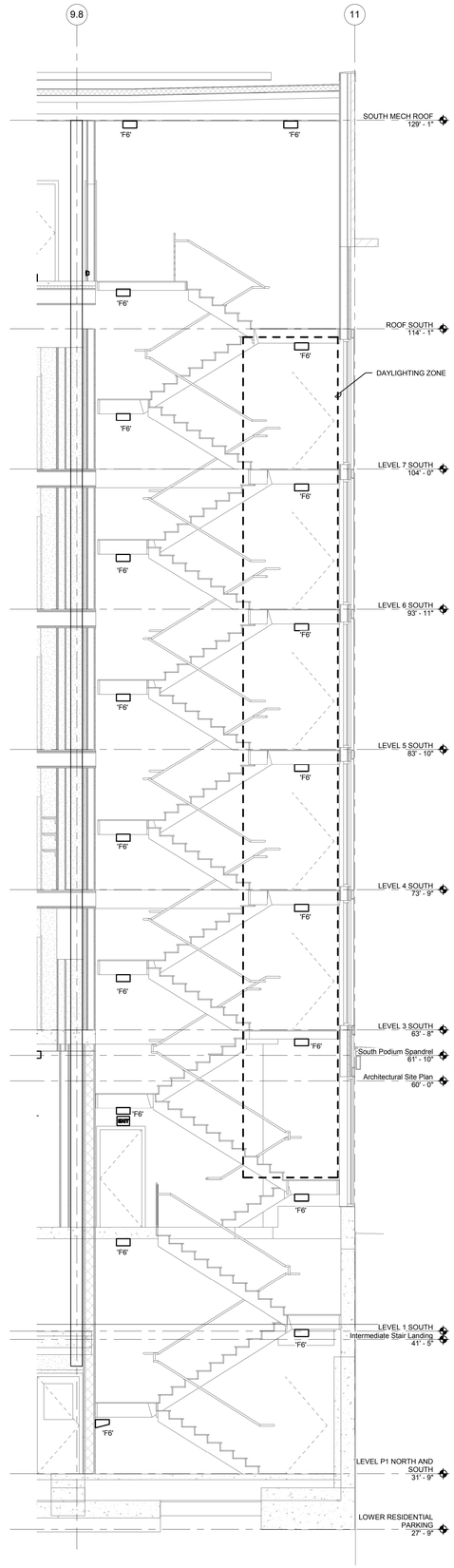
4 S RES STAIR, ST-8, LVLS 4-7 - LIGHTING

0' 2' 4' 8'
1/4" = 1'-0"



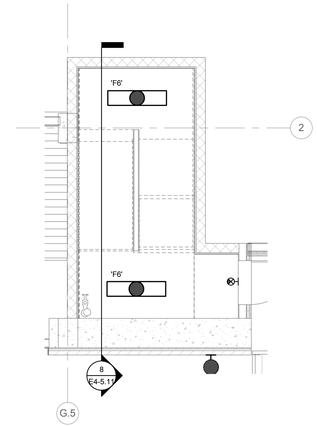
5 S RES STAIR, ST-8, MECH ROOF - LIGHTING

0' 2' 4' 8'
1/4" = 1'-0"



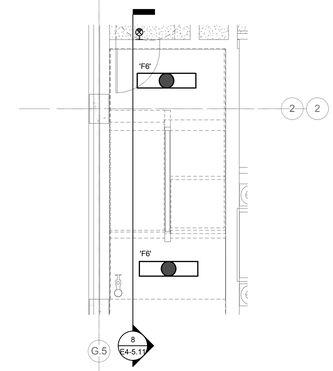
6 S RES STAIR ST-8 SECTION

0' 4' 8' 16'
1/4" = 1'-0"



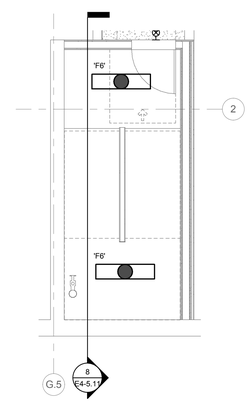
7 S RES STAIRS, ST-6, LVL 1 - LIGHTING

0' 2' 4' 8'
1/4" = 1'-0"



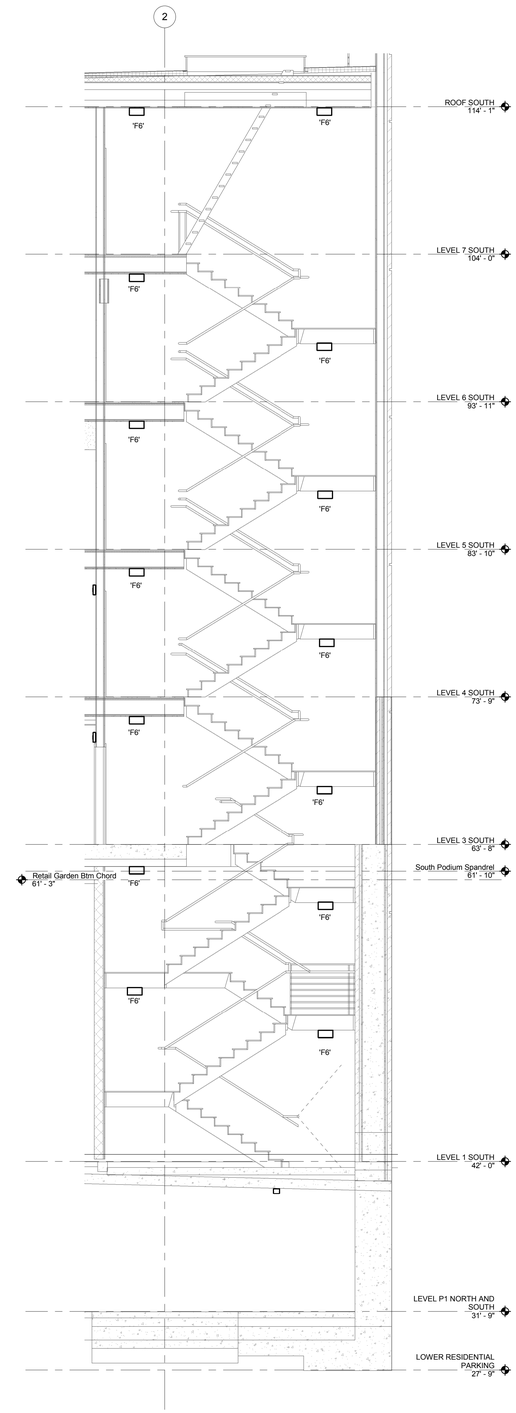
9 S RES STAIR, ST-6, LVL 3 - LIGHTING

0' 2' 4' 8'
1/4" = 1'-0"



10 S RES STAIR, ST-6, LVL 4-7 - LIGHTING

0' 2' 4' 8'
1/4" = 1'-0"



8 S RES STAIRS ST-6 SECTION

0' 4' 8' 16'
1/4" = 1'-0"

REFERENCE ONLY

REGISTERED PROFESSIONAL ENGINEER
CA GOODE
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

Ankrom Moisan™

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PROJECT 2012-0522
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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

SOUTH STAIR SECTIONS - LIGHTING

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER E4-5.11
SCALE 1/4" = 1'-0"	

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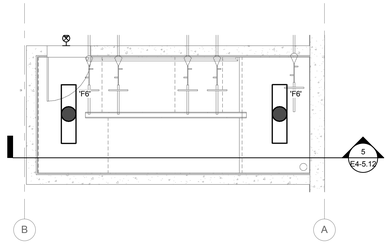
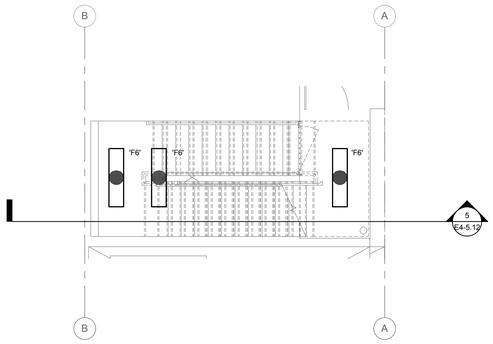


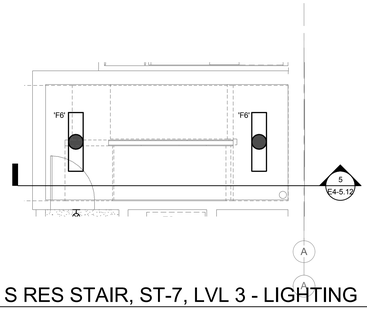
1 S RES STAIR, ST-7, LVL P1 - LIGHTING

0' 4' 8' 16'
1/4" = 1'-0"



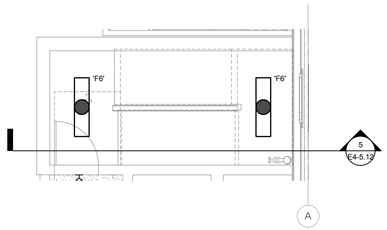
2 S RES STAIR, ST-7, LVL 1 - LIGHTING

0' 4' 8' 16'
1/4" = 1'-0"



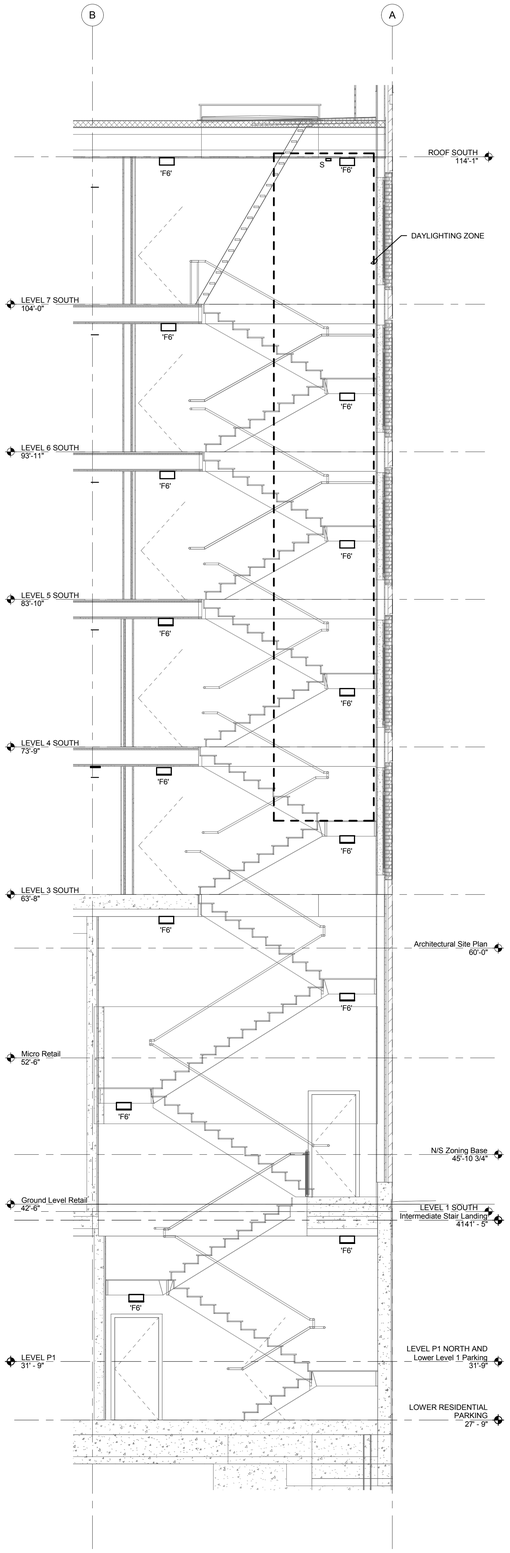
3 S RES STAIR, ST-7, LVL 3 - LIGHTING

0' 4' 8' 16'
1/4" = 1'-0"



4 S RES STAIR, ST-7, LVLS 4-7 - LIGHTING

0' 4' 8' 16'
1/4" = 1'-0"



5 S RES STAIR, ST-7 SECTION

0' 4' 8' 16'
1/4" = 1'-0"

REFERENCE ONLY

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

SOUTH STAIR SECTIONS - LIGHTING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-5.12
SCALE 1/4" = 1'-0"	

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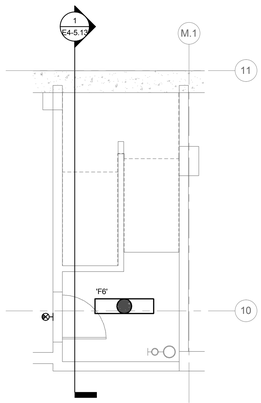
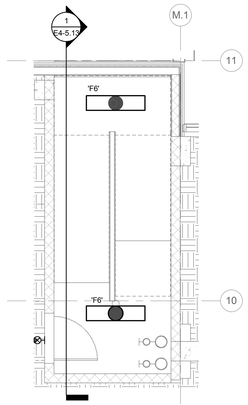


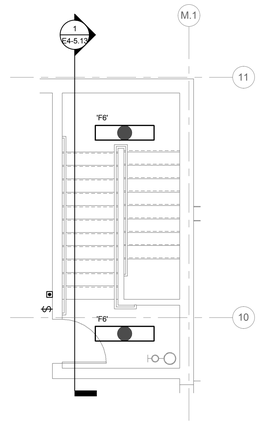
6 N RES STAIR, ST-3, LVL P1 - LIGHTING

1/4" = 1'-0"



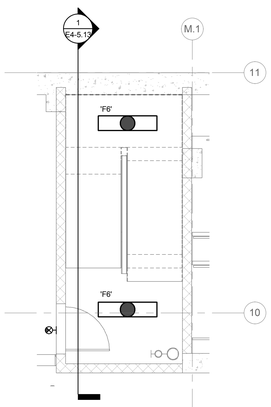
9 N RES STAIR, ST-3, LVL 3 MEZZANINE - LIGHTING

1/4" = 1'-0"



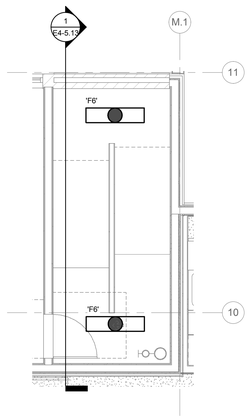
12 N RES STAIR, ST-3, MECH ROOF - LIGHTING

1/4" = 1'-0"



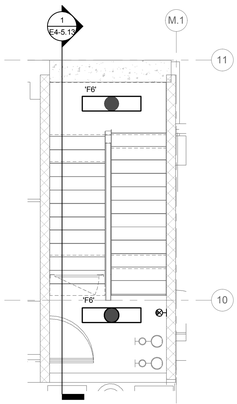
7 N RES STAIR, ST-3, LVL P2 - LIGHTING

1/4" = 1'-0"



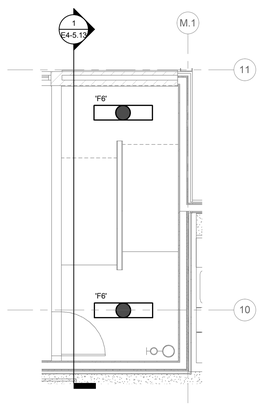
10 N RES STAIR, ST-3, LVL 4 - LIGHTING

1/4" = 1'-0"



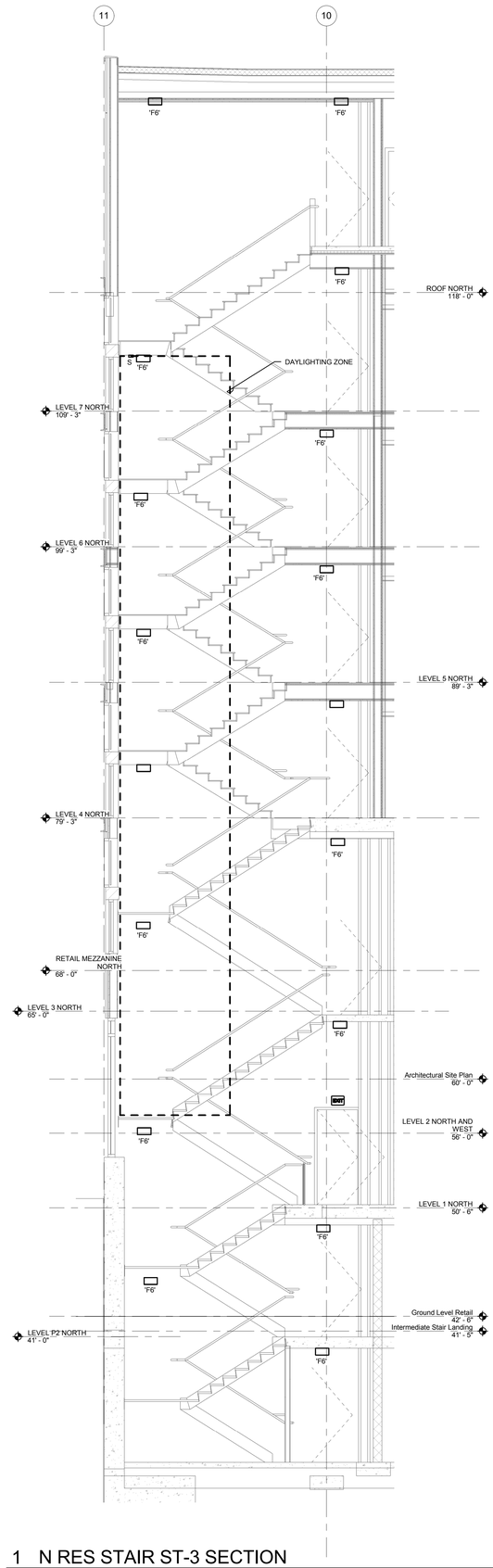
8 N RES STAIR, ST-3, LVL 1 LOBBY - LIGHTING

1/4" = 1'-0"



11 N RES STAIR, ST-3, LVL 5-7 - LIGHTING

1/4" = 1'-0"



1 N RES STAIR ST-3 SECTION

1/4" = 1'-0"

REFERENCE ONLY

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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PROJECT 2012-0522
CONTACT David Chesley

Koch Landscape Architecture

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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

NORTH STAIR SECTIONS - LIGHTING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-5.13
SCALE 1/4" = 1'-0"	

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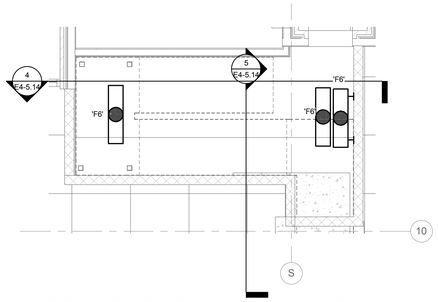
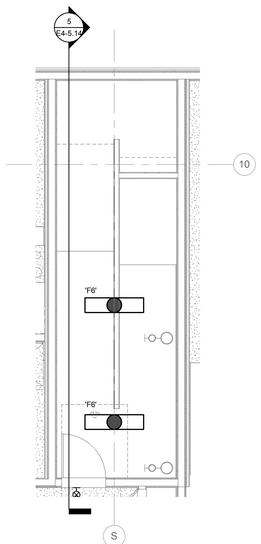


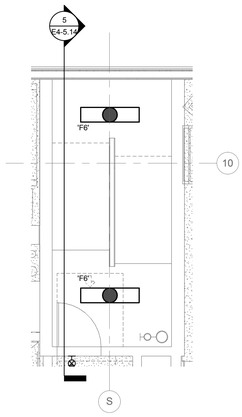
1 N RES STAIR, ST-2, LVL 2 - LIGHTING

0' 4' 8' 16'
1/4" = 1'-0"



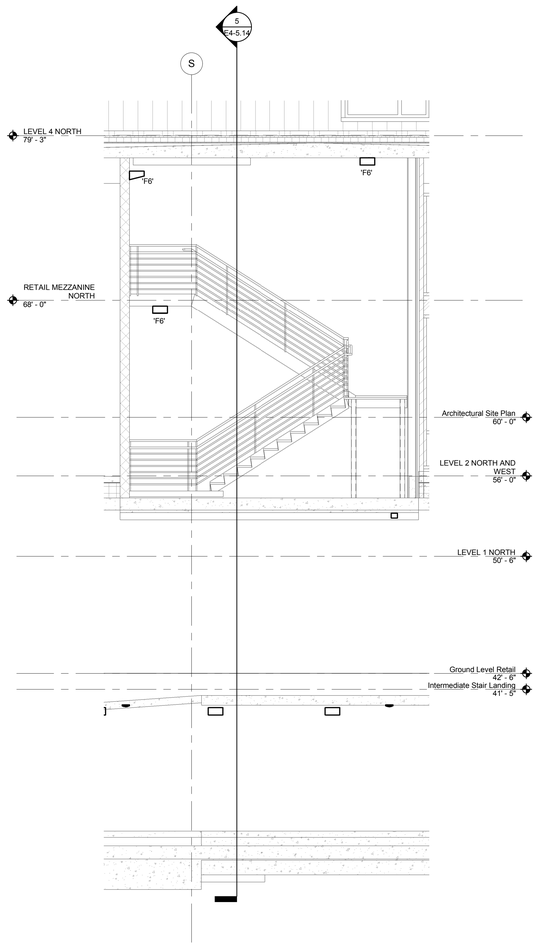
2 N RES STAIR, ST-2, LVL 4 - LIGHTING

0' 4' 8' 16'
1/4" = 1'-0"



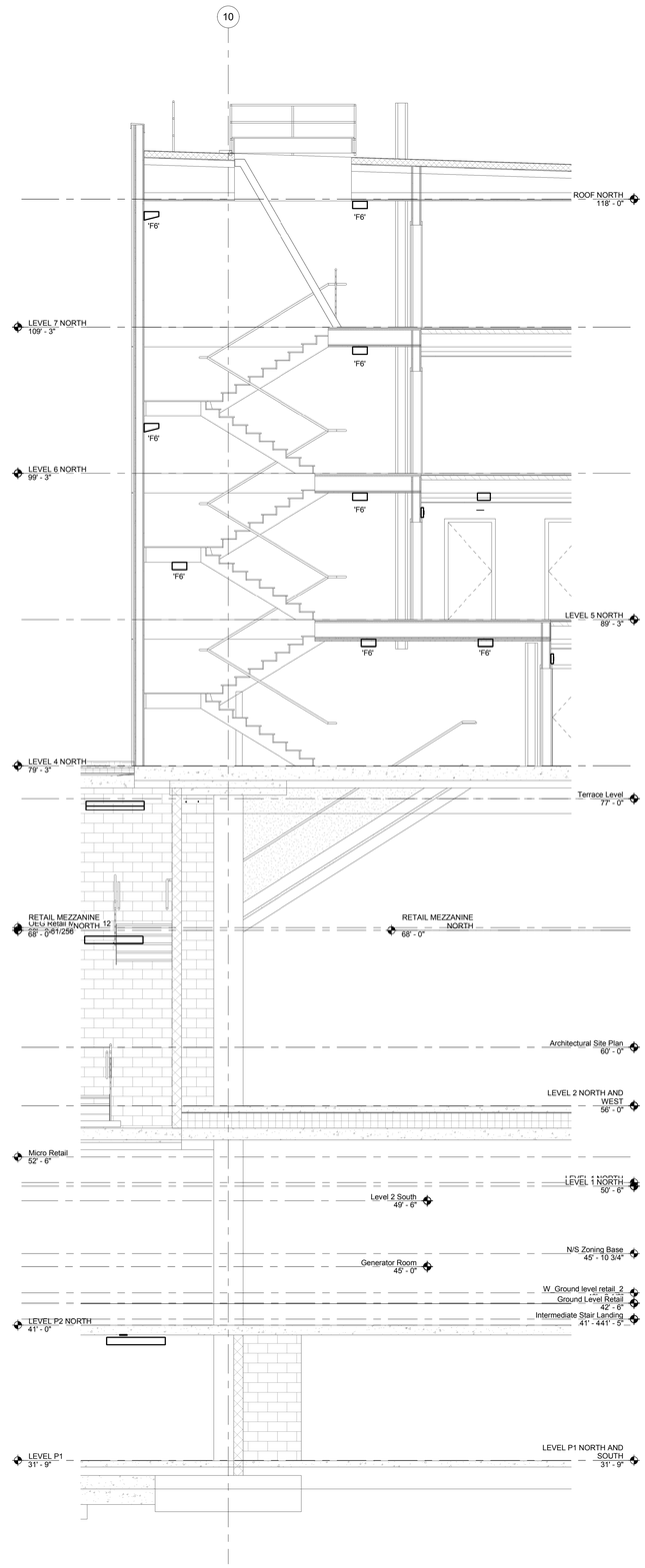
3 N RES STAIR, ST-2, LVL 5-7 - LIGHTING

0' 4' 8' 16'
1/4" = 1'-0"



4 N RES STAIR, ST-2 LVL 2 SECTION

0' 4' 8' 16'
1/4" = 1'-0"



5 N RES STAIR, ST-2 SECTION

0' 4' 8' 16'
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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PROJECT 2012-0522
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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

NORTH STAIR SECTIONS - LIGHTING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-5.14
SCALE 1/4" = 1'-0"	

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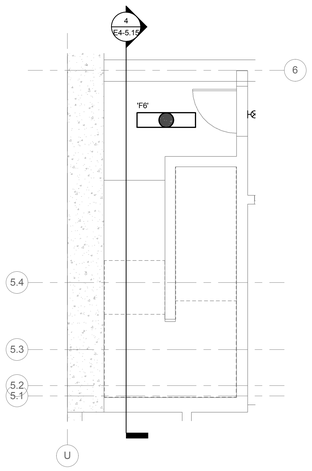
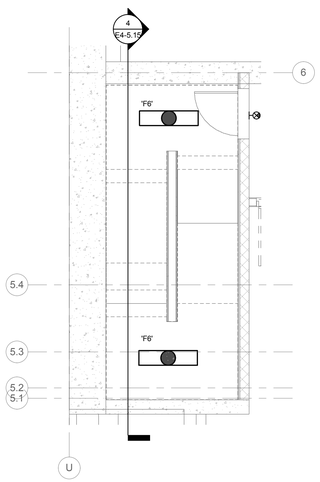


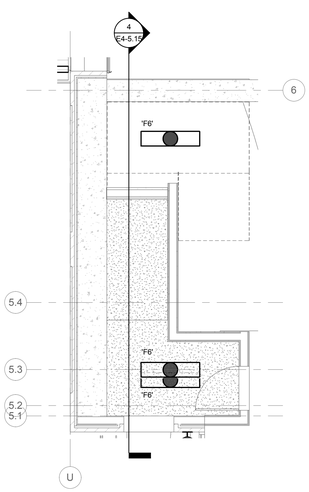
1 N RES STAIRS, ST-1, LVL P1 - LIGHTING

0' 4' 8' 16'
1/4" = 1'-0"



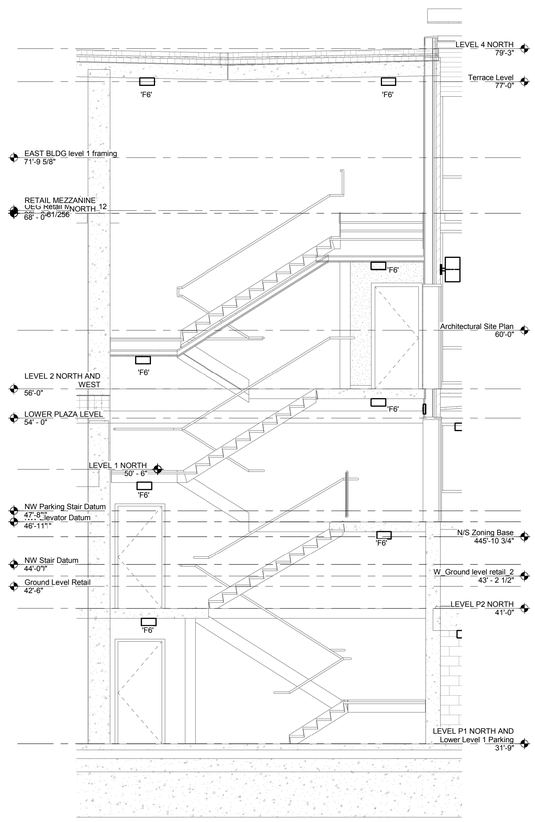
2 N RES STAIRS, ST-1, LVL P2 - LIGHTING

0' 4' 8' 16'
1/4" = 1'-0"



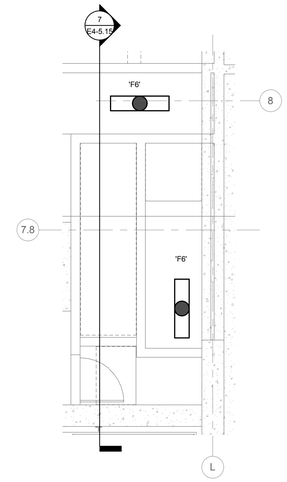
3 N RES STAIRS, ST-1, LVL 2 - LIGHTING

0' 4' 8' 16'
1/4" = 1'-0"



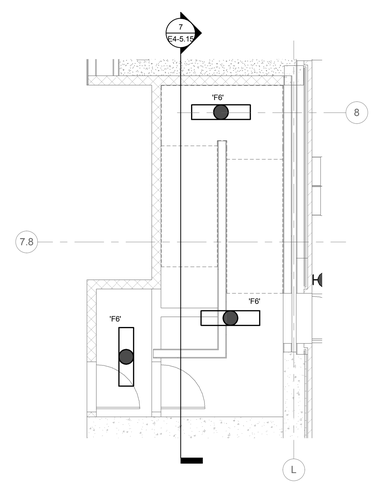
4 N RES STAIRS ST-1 SECTION

0' 4' 8' 16'
1/4" = 1'-0"



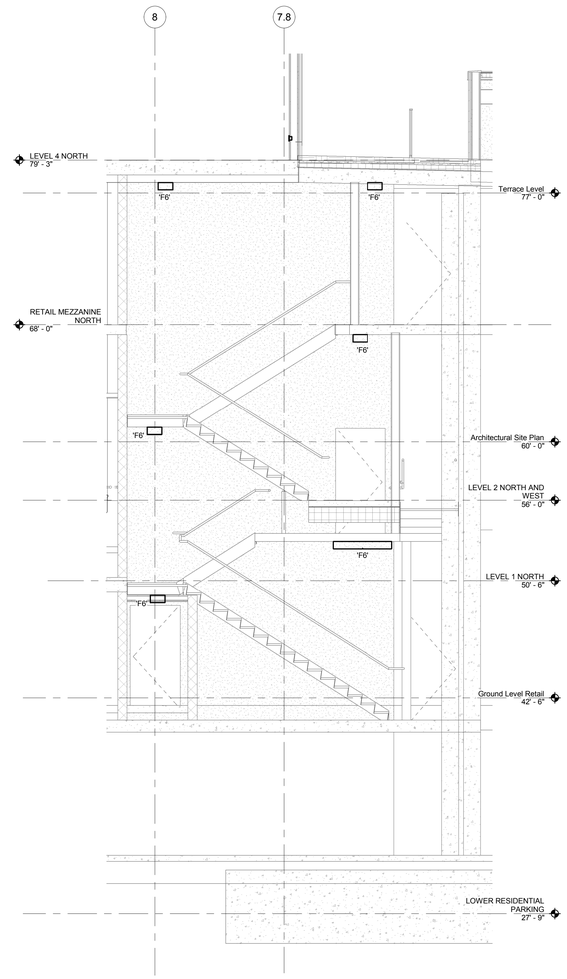
5 N RES STAIRS, ST-4, LVL P2 - LIGHTING

0' 4' 8' 16'
1/4" = 1'-0"



6 N RES STAIRS, ST-4, LVL 2 - LIGHTING

0' 4' 8' 16'
1/4" = 1'-0"



7 N RES STAIRS, ST-4 SECTION

0' 4' 8' 16'
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

NORTH STAIR SECTIONS - LIGHTING

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-5.15
SCALE 1/4" = 1'-0"	

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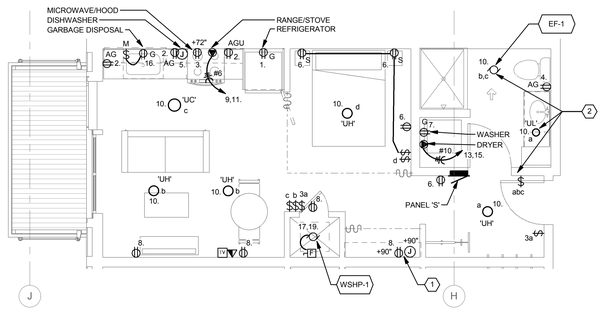
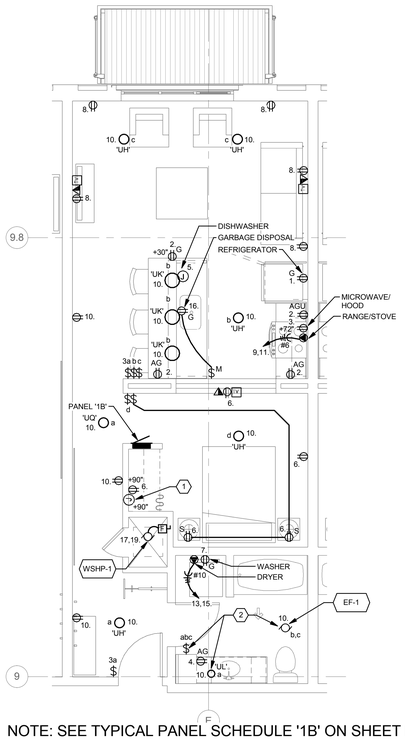


NOTE: SEE TYPICAL PANEL SCHEDULE 'S' ON SHEET E4-8.01

1 ENLARGED TYP UNIT SOA - ELECTRICAL

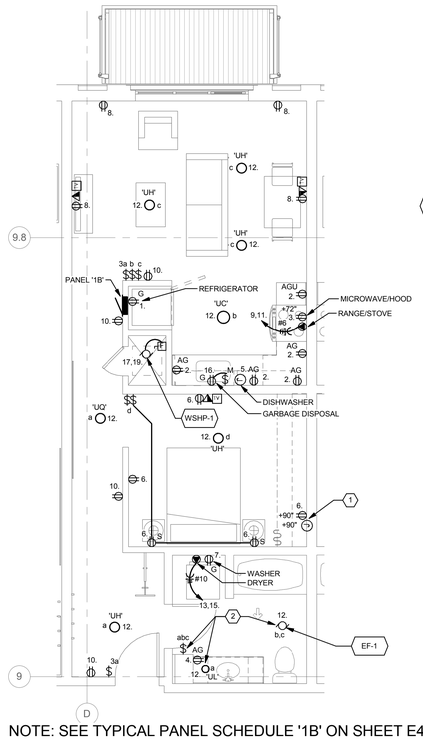
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

2 ENLARGED TYP UNIT SO1A - ELECTRICAL

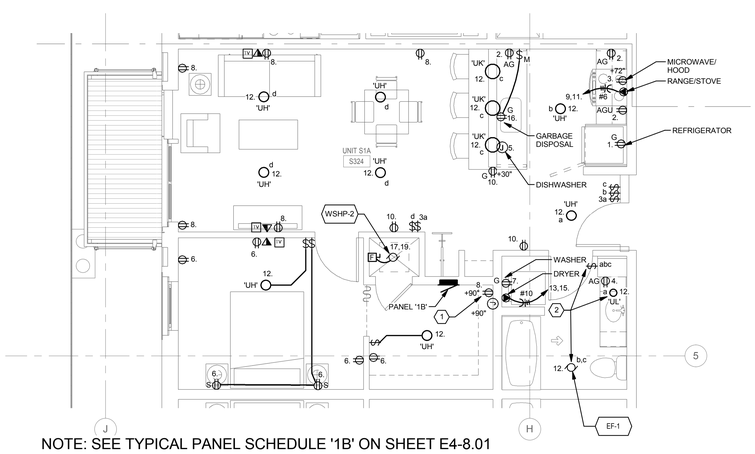
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

3 ENLARGED TYP UNIT SO1B - ELECTRICAL

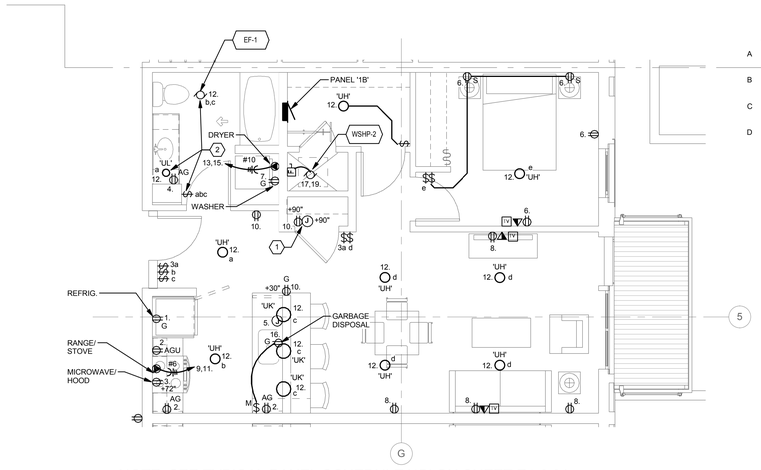
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

4 ENLARGED TYP UNIT S1A - ELECTRICAL

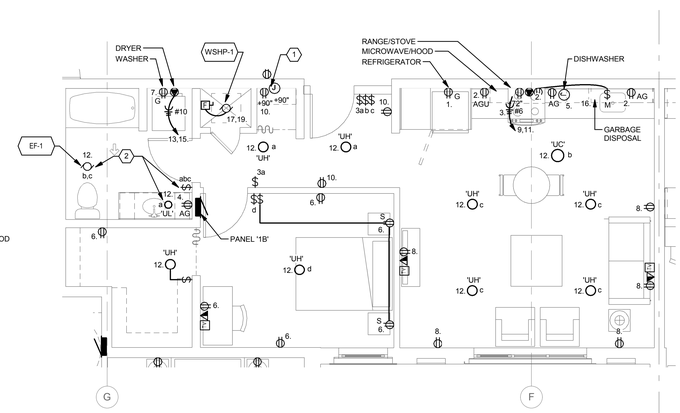
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

5 ENLARGED TYP UNIT S1B - ELECTRICAL

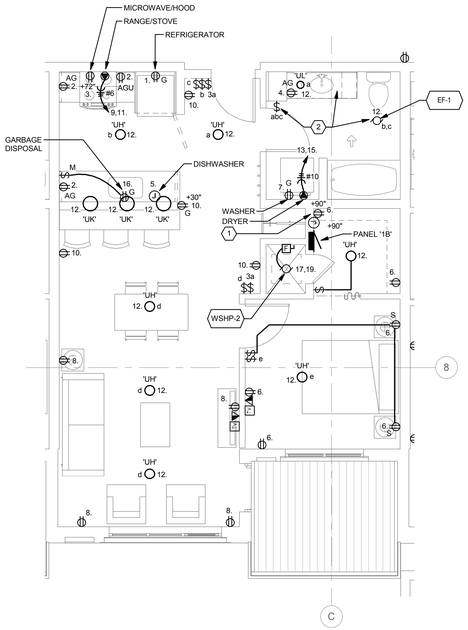
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

6 ENLARGED TYP UNIT S1D - ELECTRICAL

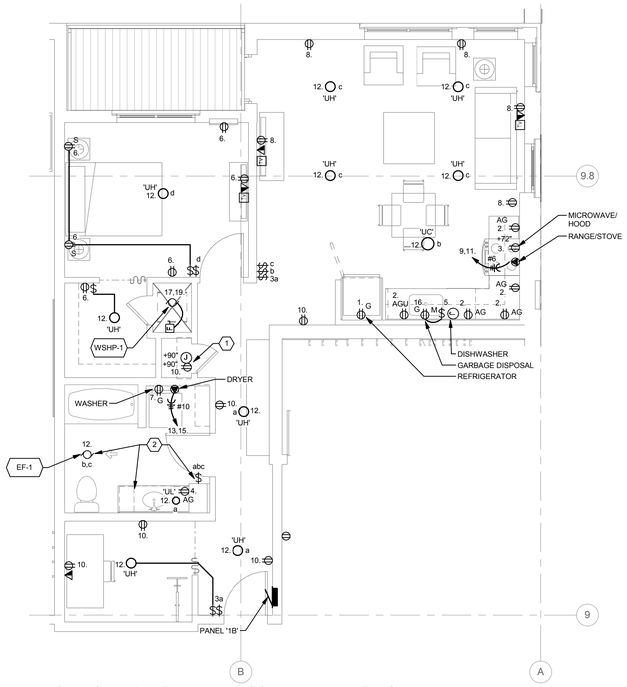
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

7 ENLARGED TYP UNIT S1C - ELECTRICAL

0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

8 ENLARGED TYP UNIT S1E - ELECTRICAL

0' 4' 8' 16'
1/4" = 1'-0"

GENERAL SHEET NOTES

A PROVIDE TAMPER RESISTANT SHUTTERED TYPE RECEPTACLES IN APARTMENTS. TYPICAL OF ALL RECEPTACLES THIS SHEET.

B SEE TYPICAL PANEL SCHEDULES FOR CIRCUIT ASSIGNMENTS OF CARBON MONOXIDE DETECTORS IN APARTMENTS THIS SHEET.

C SEE ARCHITECHTURAL DRAWINGS FOR UNIT LIGHTING DIMENSIONED LOCATIONS.

D SEE ARCHITECHTURAL DRAWINGS FOR ACCESSIBILITY MOUNTING HEIGHTS AND ACCESSIBILITY PLAN LOCATIONS OF ELECTRICAL CONTROLS.

SHEET KEYNOTES

1 PROVIDE 14-INCH WIDE BY 14-INCH HIGH BY 3.7-INCH DEEP RECESSED PULL BOX WITH FLUSH COVER FOR EXTENSION OF FUTURE TELEPHONE/CATV CABLING TO APARTMENT UNIT OUTLETS. PROVIDE ADJACENT POWER OUTLET FOR FUTURE MODEM/WIFI DEVICE.

2 SEE DETAIL 4/E7.02 FOR BATHROOM LIGHTING AND EXHAUST WIRING DIAGRAM.

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

ENLARGED TYP UNIT PLANS - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-5.51
SCALE 1/4" = 1'-0"	

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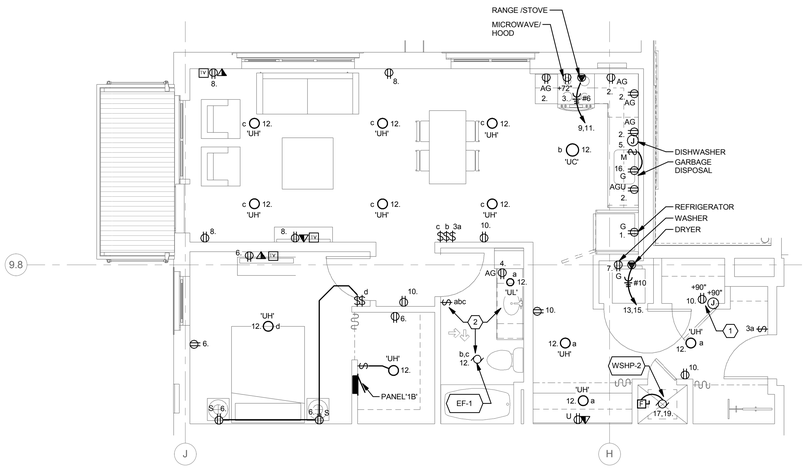
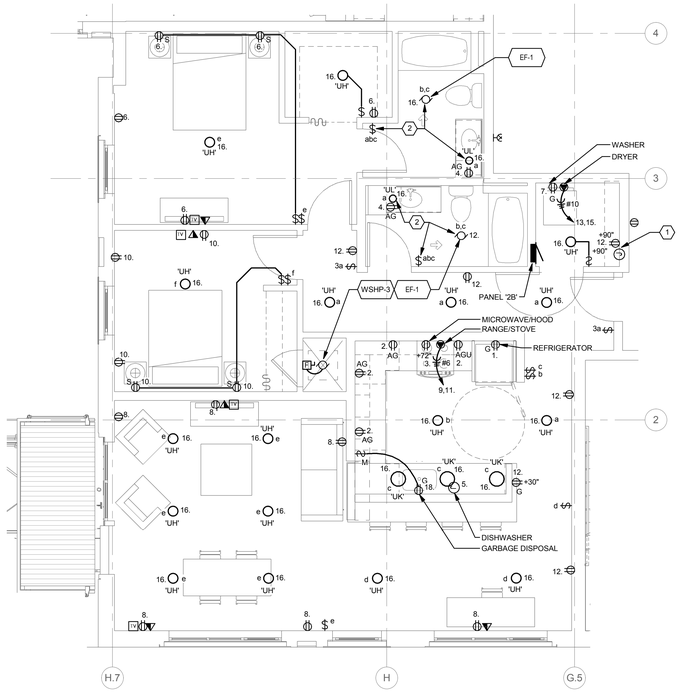


NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

1 ENLARGED TYP UNIT S1F - ELECTRICAL

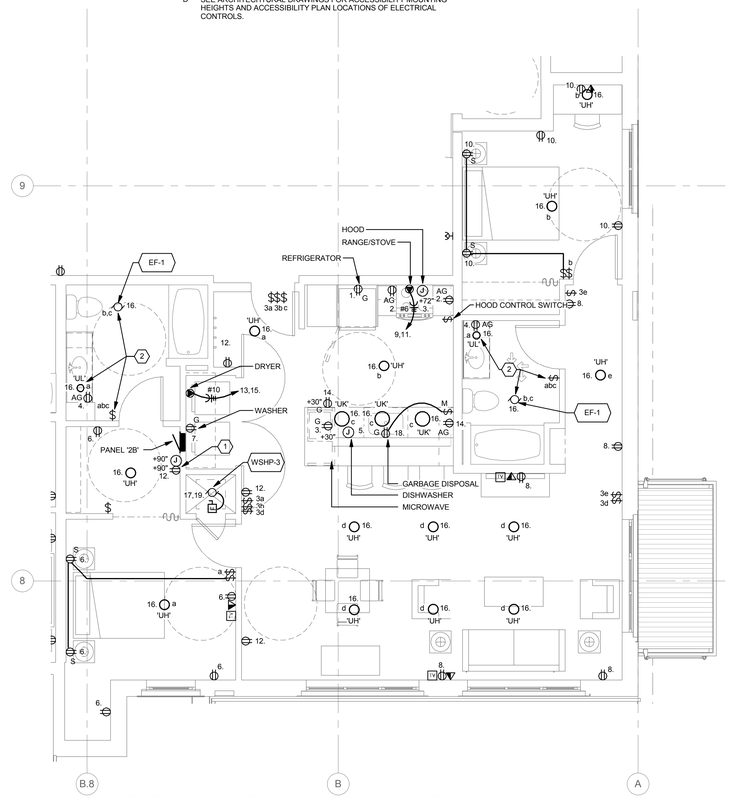
0' 2' 4' 8'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '2B' ON SHEET E4-8.01

4 ENLARGED TYP UNIT S2A - ELECTRICAL

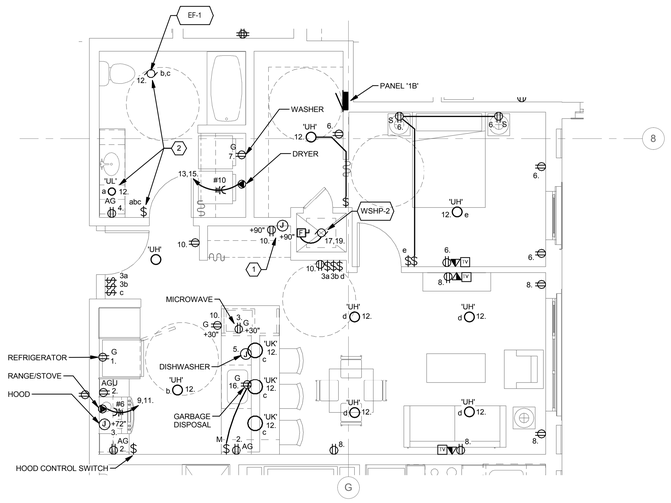
0' 2' 4' 8'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '2B' ON SHEET E4-8.01

6 ENLARGED TYP. UNIT S2C TYPE A (RES. LVL 1) - ELECTRICAL

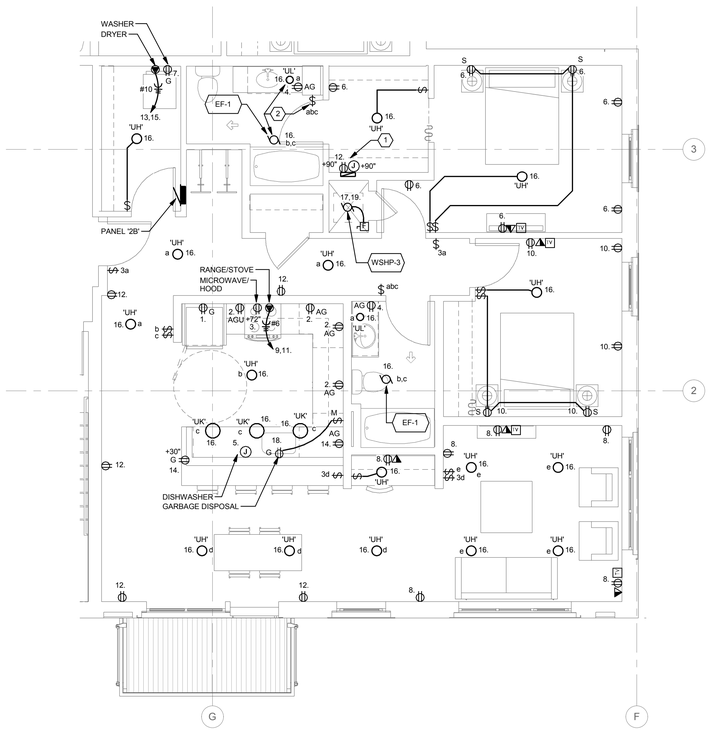
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

2 ENLARGED TYP. UNIT S1G TYPE A (RES. LVL 2-3) - ELECTRICAL

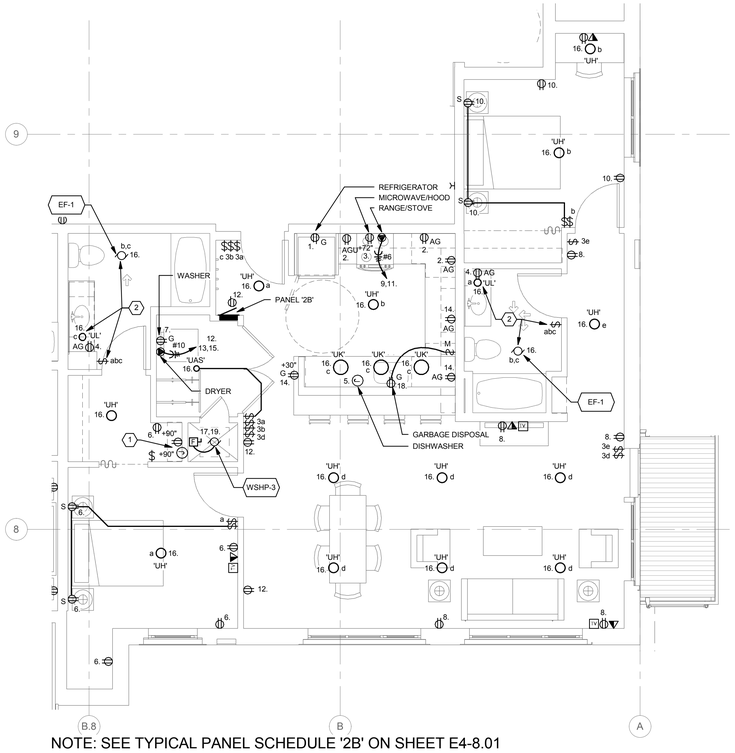
0' 2' 4' 8'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '2B' ON SHEET E4-8.01

5 ENLARGED TYP UNIT S2B - ELECTRICAL

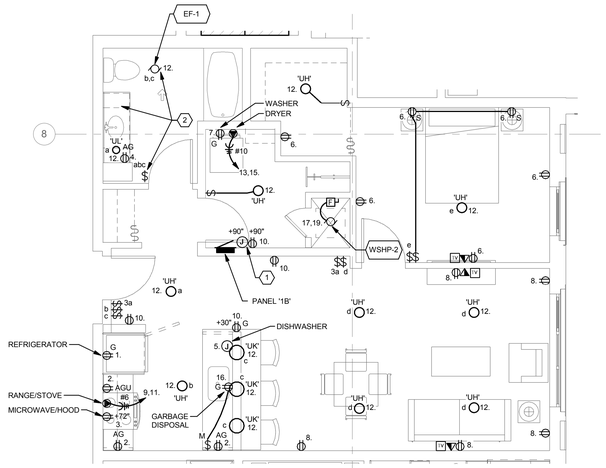
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '2B' ON SHEET E4-8.01

7 ENLARGED TYP. UNIT S2C TYPE B (RES. LVL 2-5) - ELECTRICAL

0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

3 ENLARGED TYP. UNIT S1G TYPE B (RES. LVL 4-5) - ELECTRICAL

0' 4' 8' 16'
1/4" = 1'-0"

GENERAL SHEET NOTES

A PROVIDE TAMPER RESISTANT SHUTTERED TYPE RECEPTACLES IN APARTMENTS. TYPICAL OF ALL RECEPTACLES THIS SHEET.

B SEE TYPICAL PANEL SCHEDULES FOR CIRCUIT ASSIGNMENTS OF CARBON MONOXIDE DETECTORS IN APARTMENTS THIS SHEET.

C SEE ARCHITECHTURAL DRAWINGS FOR UNIT LIGHTING DIMENSIONED LOCATIONS.

D SEE ARCHITECHTURAL DRAWINGS FOR ACCESSIBILITY MOUNTING HEIGHTS AND ACCESSIBILITY PLAN LOCATIONS OF ELECTRICAL CONTROLS.

SHEET KEYNOTES

1 PROVIDE 14-INCH WIDE BY 14-INCH HIGH BY 3.7-INCH DEEP RECESSED PULL BOX WITH FLUSH COVER FOR EXTENSION OF FUTURE TELEPHONE/CATV CABLING TO APARTMENT UNIT OUTLETS. PROVIDE ADJACENT POWER OUTLET FOR FUTURE MODEM/WIFI DEVICE.

2 SEE DETAIL 4/E7.02 FOR BATHROOM LIGHTING AND EXHAUST WIRING DIAGRAM.

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214
Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

ENLARGED TYP UNIT PLANS - ELECTRICAL

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER E4-5.52
SCALE 1/4" = 1'-0"	

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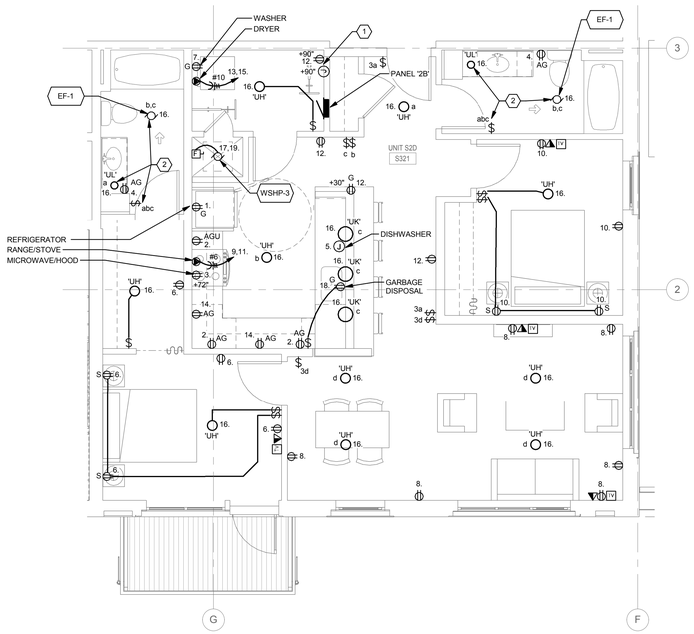
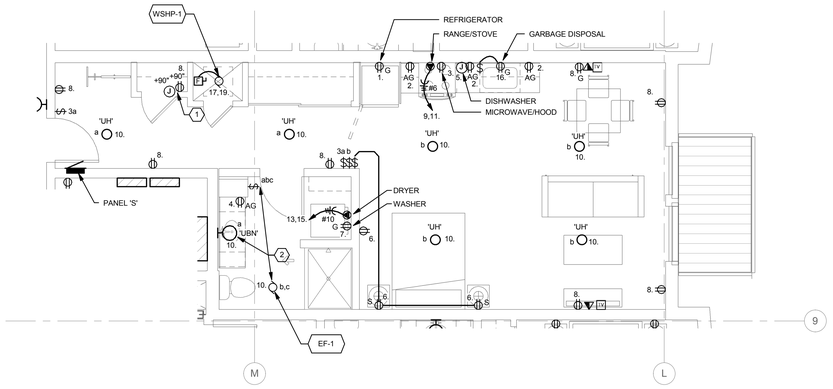


NOTE: SEE TYPICAL PANEL SCHEDULE '2B' ON SHEET E4-8.01

1 ENLARGED TYP UNIT S2D - ELECTRICAL

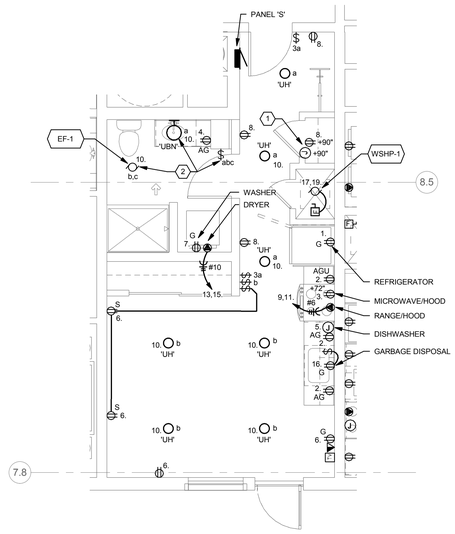
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE 'S' ON SHEET E4-8.01

4 ENLARGED TYP. UNIT NOC - ELECTRICAL

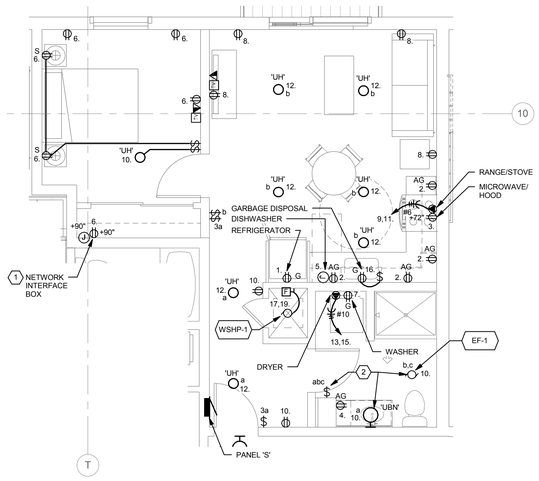
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE 'S' ON SHEET E4-8.01

2 ENLARGED TYP. UNIT NOA - ELECTRICAL

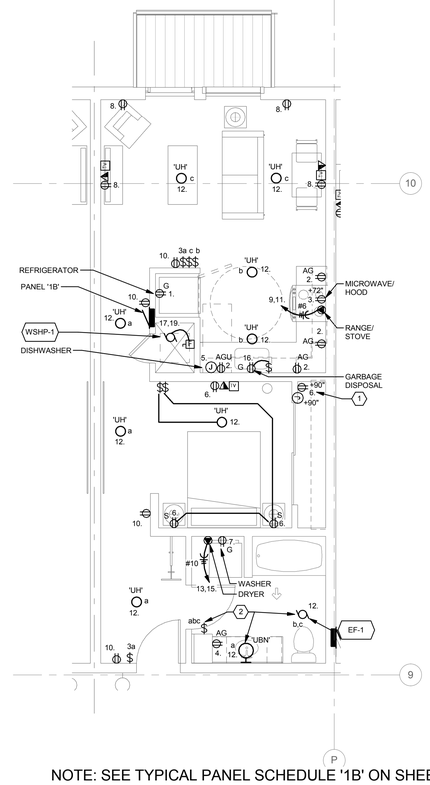
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

3 ENLARGED TYP. UNIT N1E - ELECTRICAL

0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

5 ENLARGED TYP. UNIT NO1A - ELECTRICAL

0' 4' 8' 16'
1/4" = 1'-0"

GENERAL SHEET NOTES

A PROVIDE TAMPER RESISTANT SHUTTERED TYPE RECEPTACLES IN APARTMENTS. TYPICAL OF ALL RECEPTACLES THIS SHEET.

B SEE TYPICAL PANEL SCHEDULES FOR CIRCUIT ASSIGNMENTS OF CARBON MONOXIDE DETECTORS IN APARTMENTS THIS SHEET.

C SEE ARCHITECHTURAL DRAWINGS FOR UNIT LIGHTING DIMENSIONED LOCATIONS.

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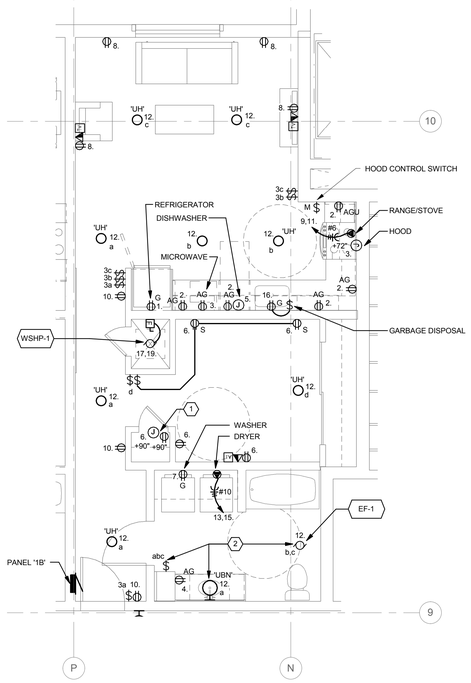

NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

6 ENLARGED TYP. UNIT NO1B TYPE A (RES. LVL 1) -ELECTRICAL

0' 4' 8' 16'
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
STATE OF OREGON
JULY 14, 1998
DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

ENLARGED TYP UNIT PLANS - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-5.53
SCALE 1/4" = 1'-0"	

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GENERAL SHEET NOTES

A PROVIDE TAMPER RESISTANT SHUTTERED TYPE RECEPTACLES IN APARTMENTS. TYPICAL OF ALL RECEPTACLES THIS SHEET.

B SEE TYPICAL PANEL SCHEDULES FOR CIRCUIT ASSIGNMENTS OF CARBON MONOXIDE DETECTORS IN APARTMENTS THIS SHEET.

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D SEE ARCHITECHTURAL DRAWINGS FOR ACCESSIBILITY MOUNTING HEIGHTS AND ACCESSIBILITY PLAN LOCATIONS OF ELECTRICAL CONTROLS.

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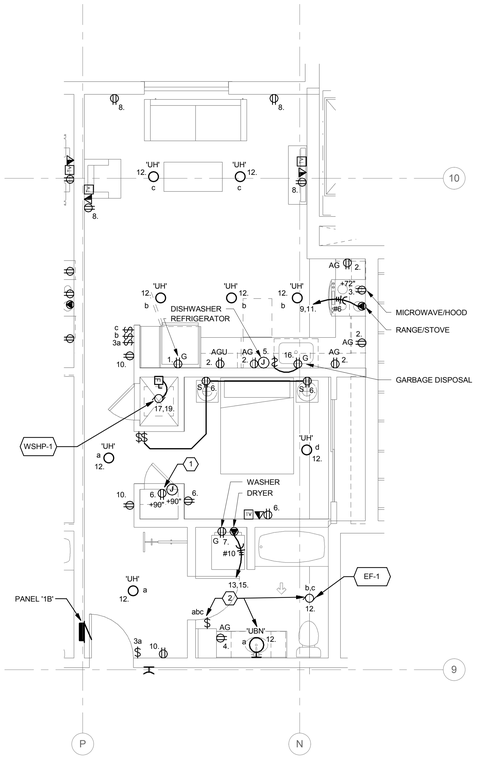
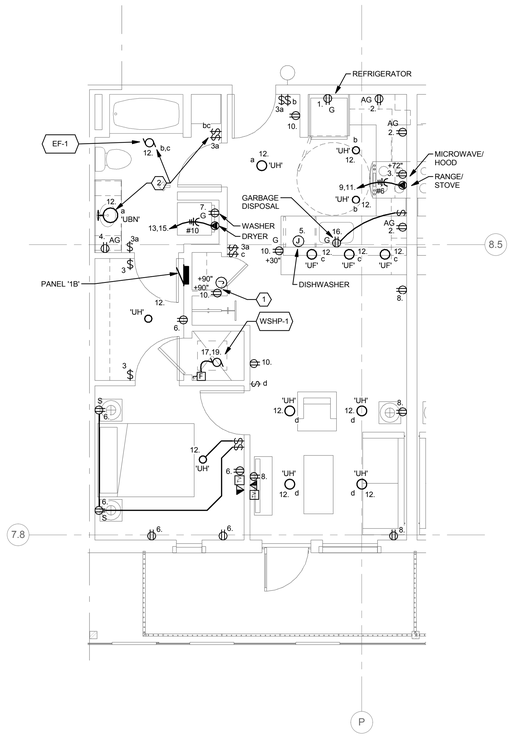
2 SEE DETAIL 4/E7.02 FOR BATHROOM LIGHTING AND EXHAUST WIRING DIAGRAM.



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

1 ENLARGED TYP. UNIT NO1B UNIT B (RES. LVL 2-4) - ELECTRICAL

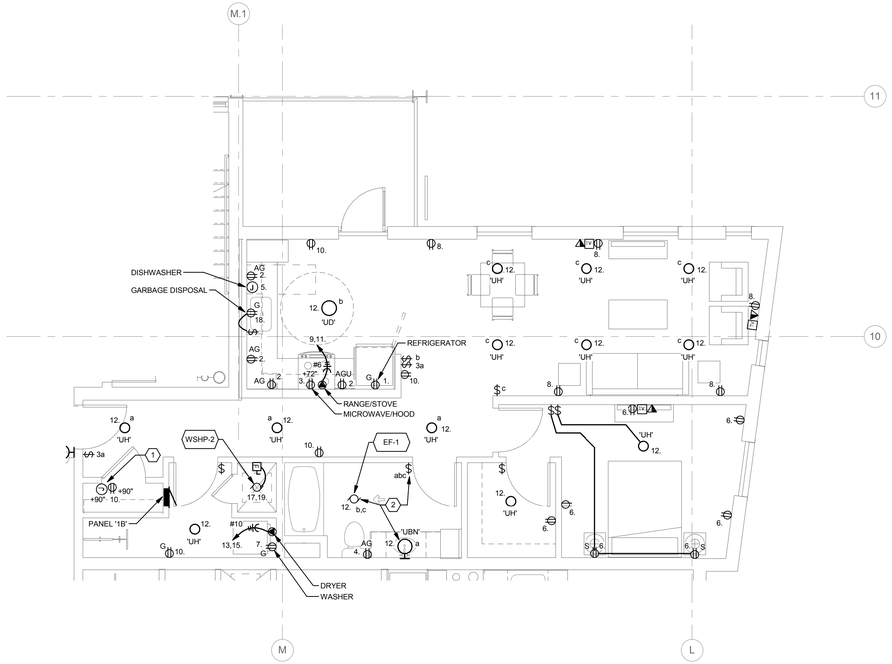
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

3 ENLARGED TYP. UNIT N1B - ELECTRICAL

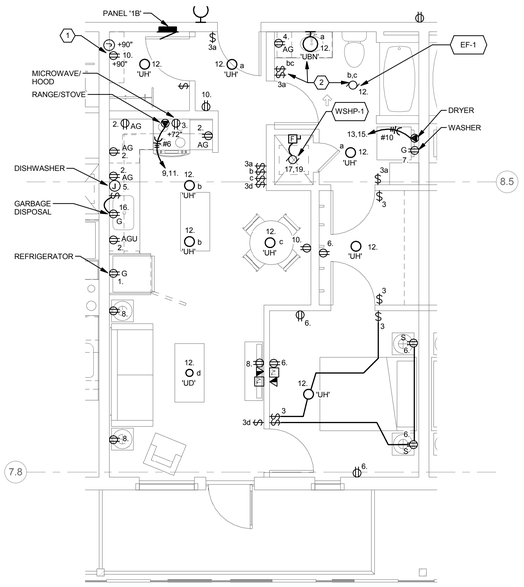
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

5 ENLARGED TYP. UNIT N1C - ELECTRICAL

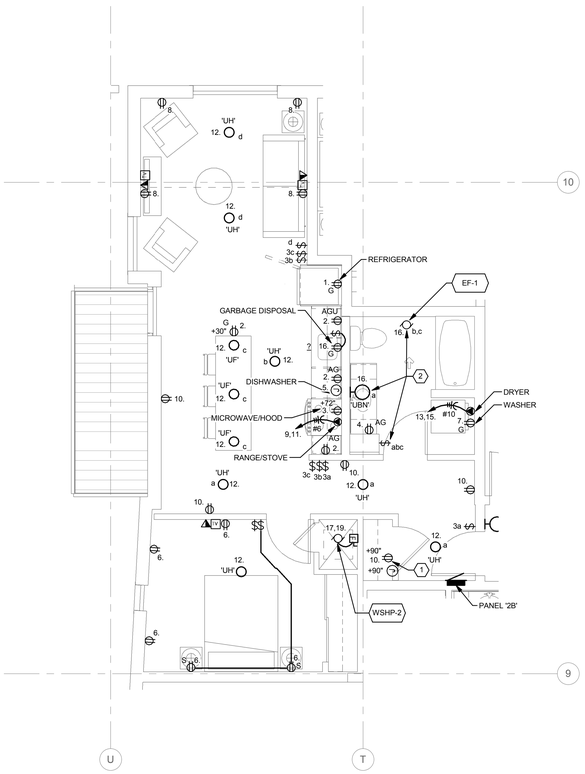
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

2 ENLARGED TYP. UNIT N1A - ELECTRICAL

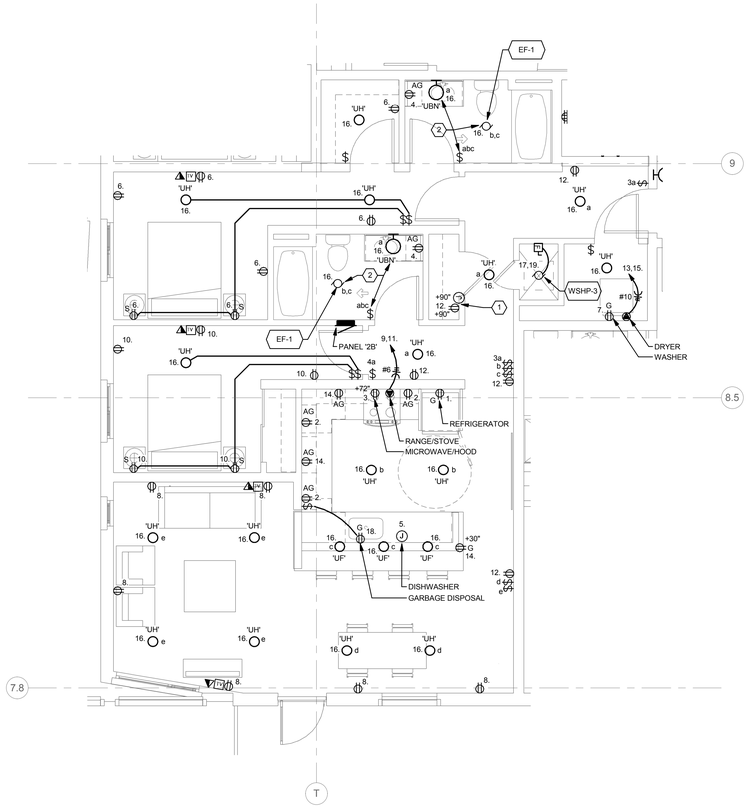
0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '1B' ON SHEET E4-8.01

4 ENLARGED TYP. UNIT N1D - ELECTRICAL

0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '2B' ON SHEET E4-8.01

6 ENLARGED TYP. UNIT N2A - ELECTRICAL

0' 4' 8' 16'
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 14, 1989 — DAVID NORMAN CHESLEY
EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFICATION

ENLARGED TYP UNIT PLANS - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-5.54
SCALE 1/4" = 1'-0"	

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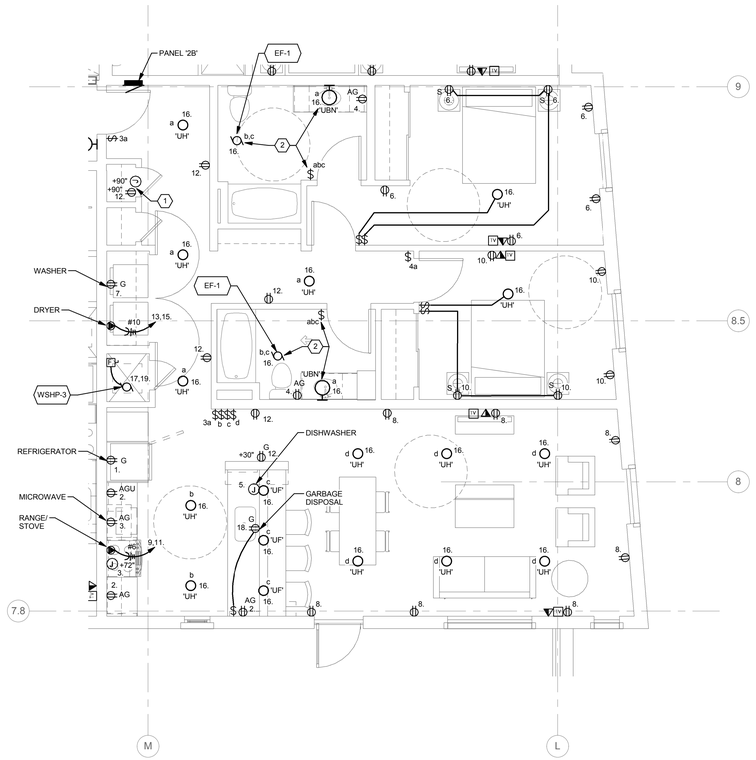
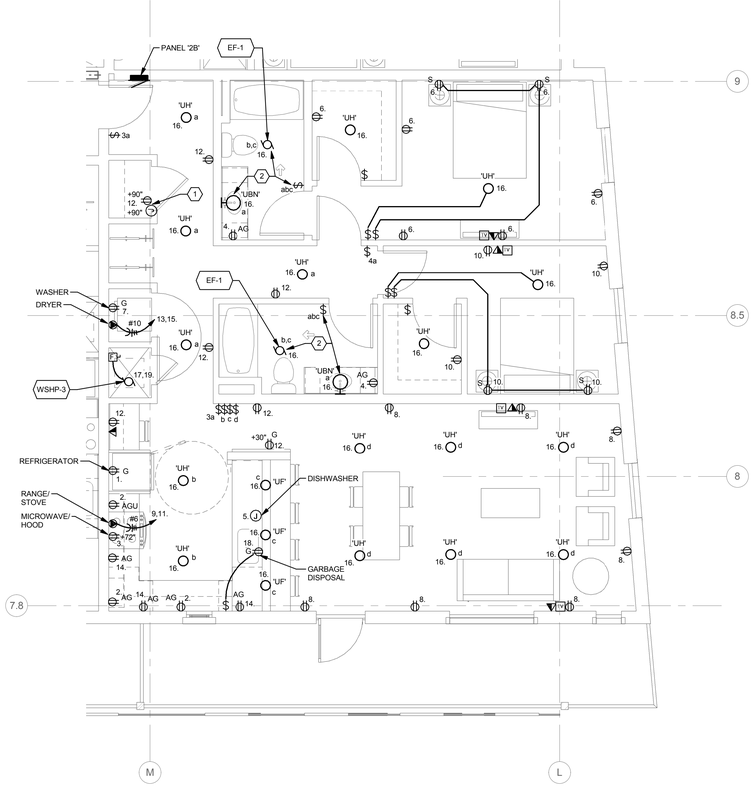


NOTE: SEE TYPICAL PANEL SCHEDULE '2B' ON SHEET E4-8.01

1 ENLARGED TYP. UNIT N2B TYPE A (RES. LVL 1) - ELECTRICAL

0' 4' 8' 16'
1/4" = 1'-0"



NOTE: SEE TYPICAL PANEL SCHEDULE '2B' ON SHEET E4-8.01

2 ENLARGED TYP. UNIT N2B (RES. LVL 2-4) - ELECTRICAL

0' 4' 8' 16'
1/4" = 1'-0"

GENERAL SHEET NOTES

A PROVIDE TAMPER RESISTANT SHUTTERED TYPE RECEPTACLES IN APARTMENTS. TYPICAL OF ALL RECEPTACLES THIS SHEET.

B SEE TYPICAL PANEL SCHEDULES FOR CIRCUIT ASSIGNMENTS OF CARBON MONOXIDE DETECTORS IN APARTMENTS THIS SHEET.

C SEE ARCHITECHTURAL DRAWINGS FOR UNIT LIGHTING DIMENSIONED LOCATIONS.

D SEE ARCHITECHTURAL DRAWINGS FOR ACCESSIBILITY MOUNTING HEIGHTS AND ACCESSIBILITY PLAN LOCATIONS OF ELECTRICAL CONTROLS.

SHEET KEYNOTES

1 PROVIDE 14-INCH WIDE BY 14-INCH HIGH BY 3.7-INCH DEEP RECESSED PULL BOX WITH FLUSH COVER FOR EXTENSION OF FUTURE TELEPHONE/CATV CABLING TO APARTMENT UNIT OUTLETS. PROVIDE ADJACENT POWER OUTLET FOR FUTURE MODEM/WIFI DEVICE.

2 SEE DETAIL 4/E7.02 FOR BATHROOM LIGHTING AND EXHAUST WIRING DIAGRAM.

REGISTERED PROFESSIONAL ENGINEER
CAMODE
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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REVISION	DATE	REASON FOR ISSUE

ENLARGED TYP UNIT PLANS - ELECTRICAL

PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER
SCALE 1/4" = 1'-0"	E4-5.55

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GENERAL SHEET NOTES

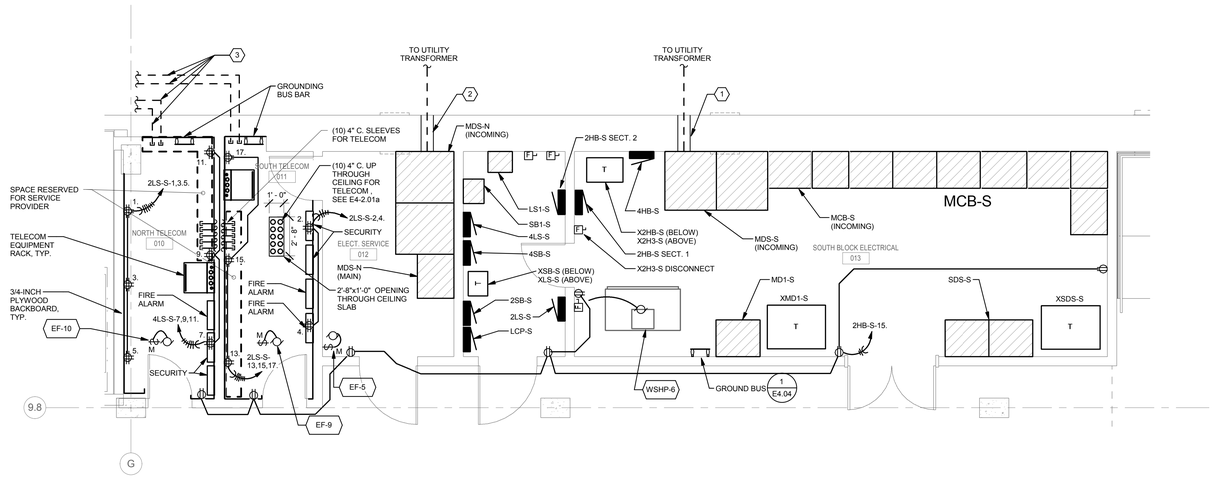
A NORTH ELECTRICAL BLOCK. ALL CIRCUIT NUMBERS NEXT TO A DEVICE IS TO PANEL 2HB-N UNLESS OTHERWISE NOTED. TYPICAL THIS SHEET.

SHEET KEYNOTES

1 PROVIDE SLEEVING THROUGH CONCRETE FOR (9) " C., SEE DETAIL 1/E4-6.01.

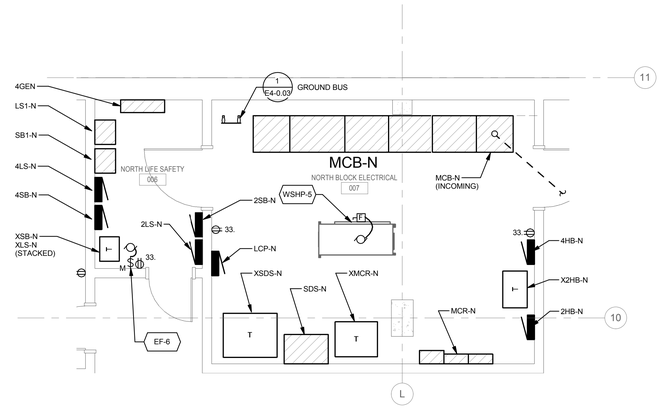
2 PROVIDE SLEEVING THROUGH CONCRETE FOR (7) 5" C., SEE DETAIL 1/E4-6.02.

3 (1) 4" C. AND (1) 2" C. TO NEAREST TELECOM VAULT FROM EACH TELECOM ROOM.



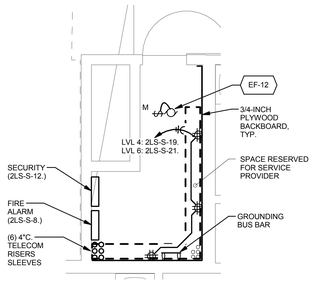
1 SOUTH BLOCK ELECTRICAL ROOM - POWER/SIGNAL

0' 4' 8' 16'
1/4" = 1'-0"



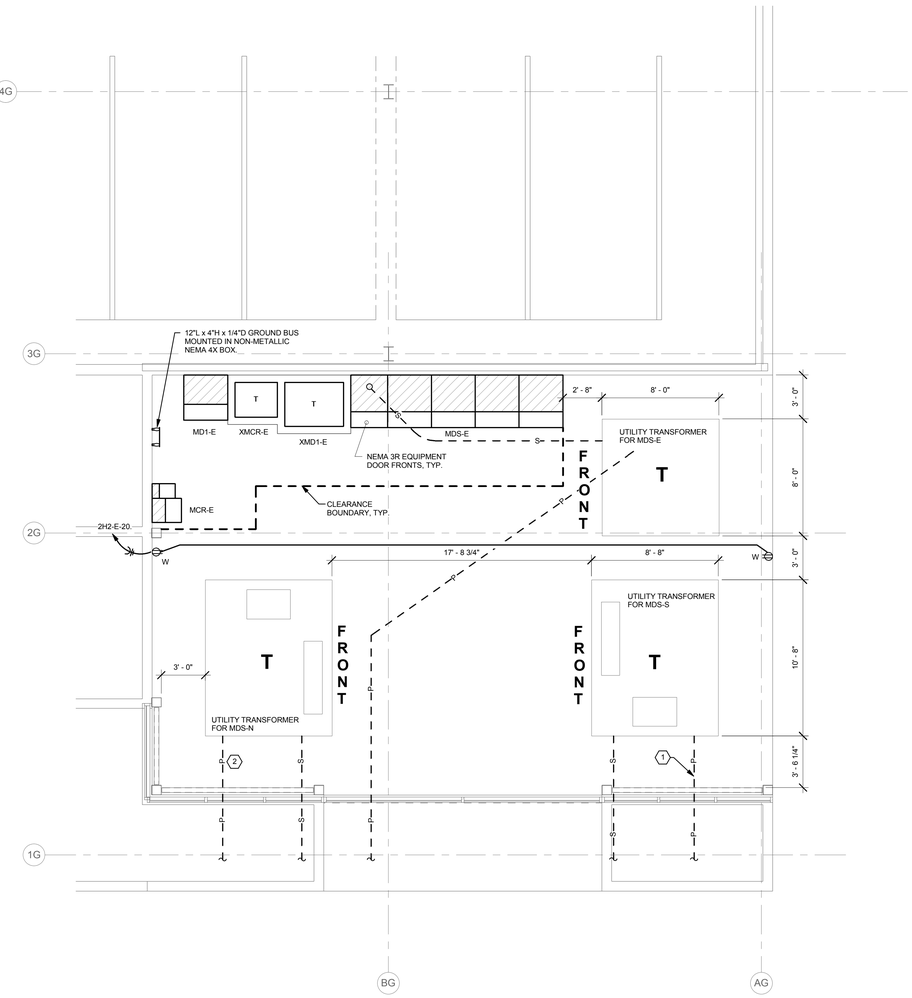
2 NORTH BLOCK ELECTRICAL ROOM - POWER/SIGNAL

0' 4' 8' 16'
1/4" = 1'-0"



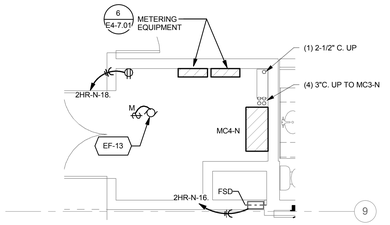
5 S. LVL 4 & 6 TELECOM CLOSET

0' 4' 8' 16'
1/4" = 1'-0"



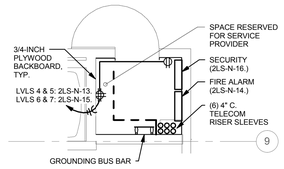
7 EAST SIDE TRANSFORMER YARD - POWER/SIGNAL

0' 4' 8' 16'
1/4" = 1'-0"



3 N. LVL 4 ELECTRICAL CLOSET

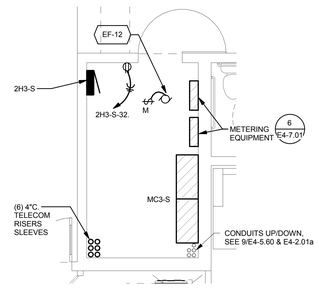
0' 4' 8' 16'
1/4" = 1'-0"



NORTH TYPICAL TELECOM CLOSET LEVELS 4-7

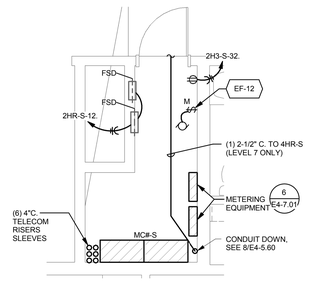
6

0' 4' 8' 16'
1/4" = 1'-0"



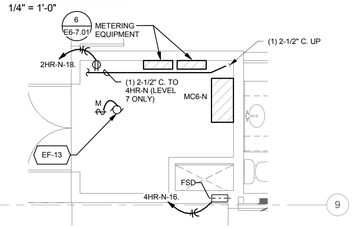
8 S. LVL 3 ELECTRICAL CLOSET

0' 4' 8' 16'
1/4" = 1'-0"



9 S. LVL 5 & 7 ELECTRICAL CLOSET

0' 4' 8' 16'
1/4" = 1'-0"



4 N. LVL 6 ELECTRICAL CLOSET

0' 4' 8' 16'
1/4" = 1'-0"

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REGISTERED PROFESSIONAL ENGINEER
JASON DEGOEDE
OREGON
JULY 14, 1998
JASON NORMAN CHESLEY
EXPIRES: 12/31/15

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PROJECT 2012-0522
CONTACT David Chesley

Koch Landscape Architecture
LANDSCAPE
1621 NE 2nd Ave
Portland, OR 97220
T 503-286-7979

LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE
	9/17/14	IN PROGRESS CLARIFCATION

ENLARGED ELECTRICAL ROOMS - POWER/SIGNAL

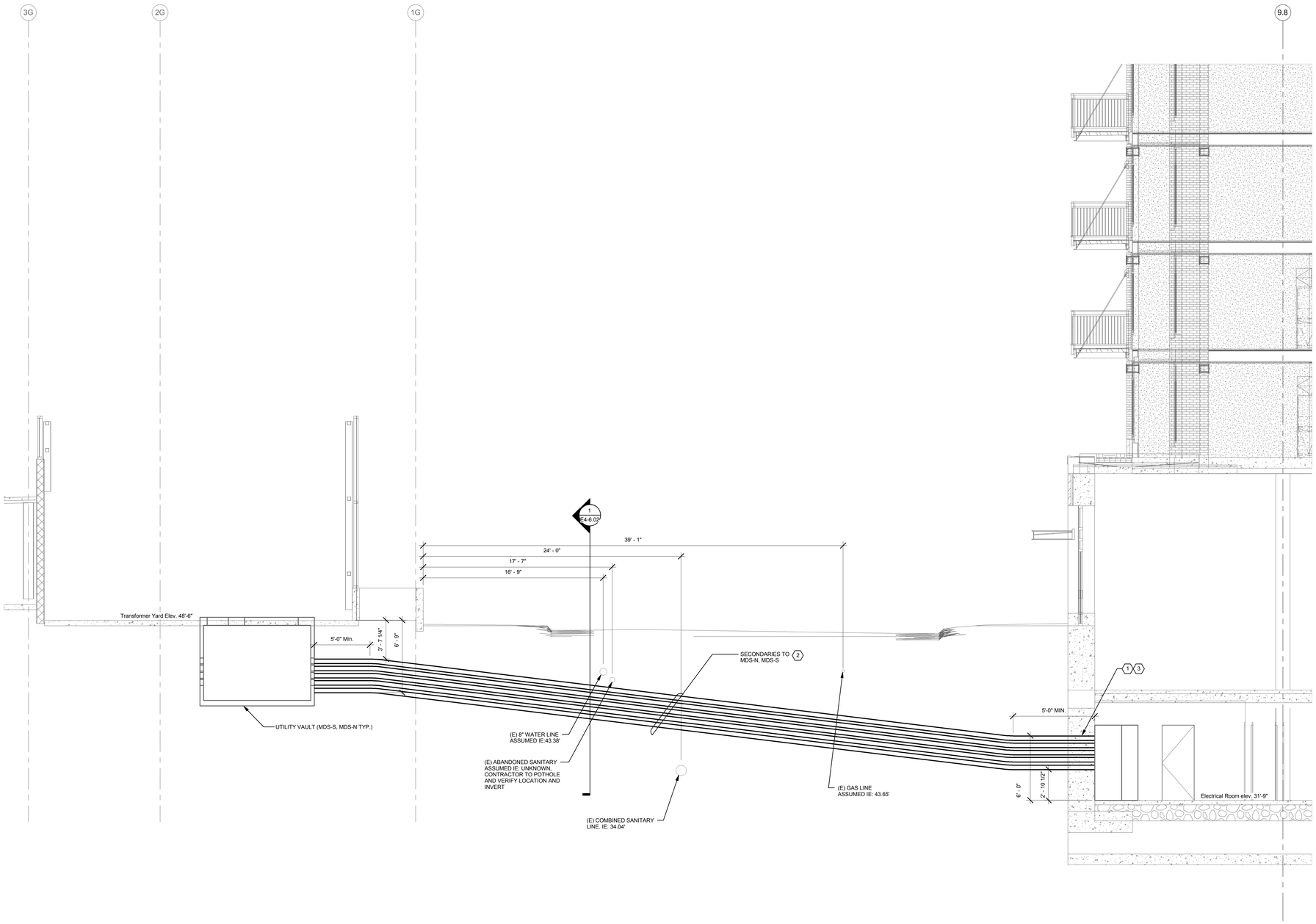
PHASE 2 PERMIT

DATE	REVISION
12/10/14	
PROJECT NUMBER 123625	SHEET NUMBER E4-5.60
SCALE 1/4" = 1'-0"	

12/17/2014 5:09:55 PM

SHEET KEYNOTES

1. PROVIDE WATER TIGHT SEALS AROUND CONDUIT PENETRATIONS THROUGH WALL - LINK SEAL MODEL CS SERIES OR APPROVED.
2. PROVIDE SCHEDULE 80 PVC CONDUIT.
3. COORDINATE EXACT PLACEMENT OF SECONDARY CONDUITS AT POINT OF CONNECTION TO SIDE WALL OF GARAGE WITH APPROVED ELECTRICAL SUBMITTALS FOR SWITCHGEAR, AND PGE REQUIREMENTS FOR INSTALLATION OF ELECTRICAL SERVICES LOCATED BELOW GRADE (LOWER ELEVATION THAN UTILITY TRANSFORMER).



1 MDS-S/MDS-N SECONDARY FEEDER CROSSING AT 11TH STREET - ELECTRICAL

0' 4' 8' 16'
1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 14, 1989 — DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

SECTIONS - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-6.01
SCALE 1/4" = 1'-0"	

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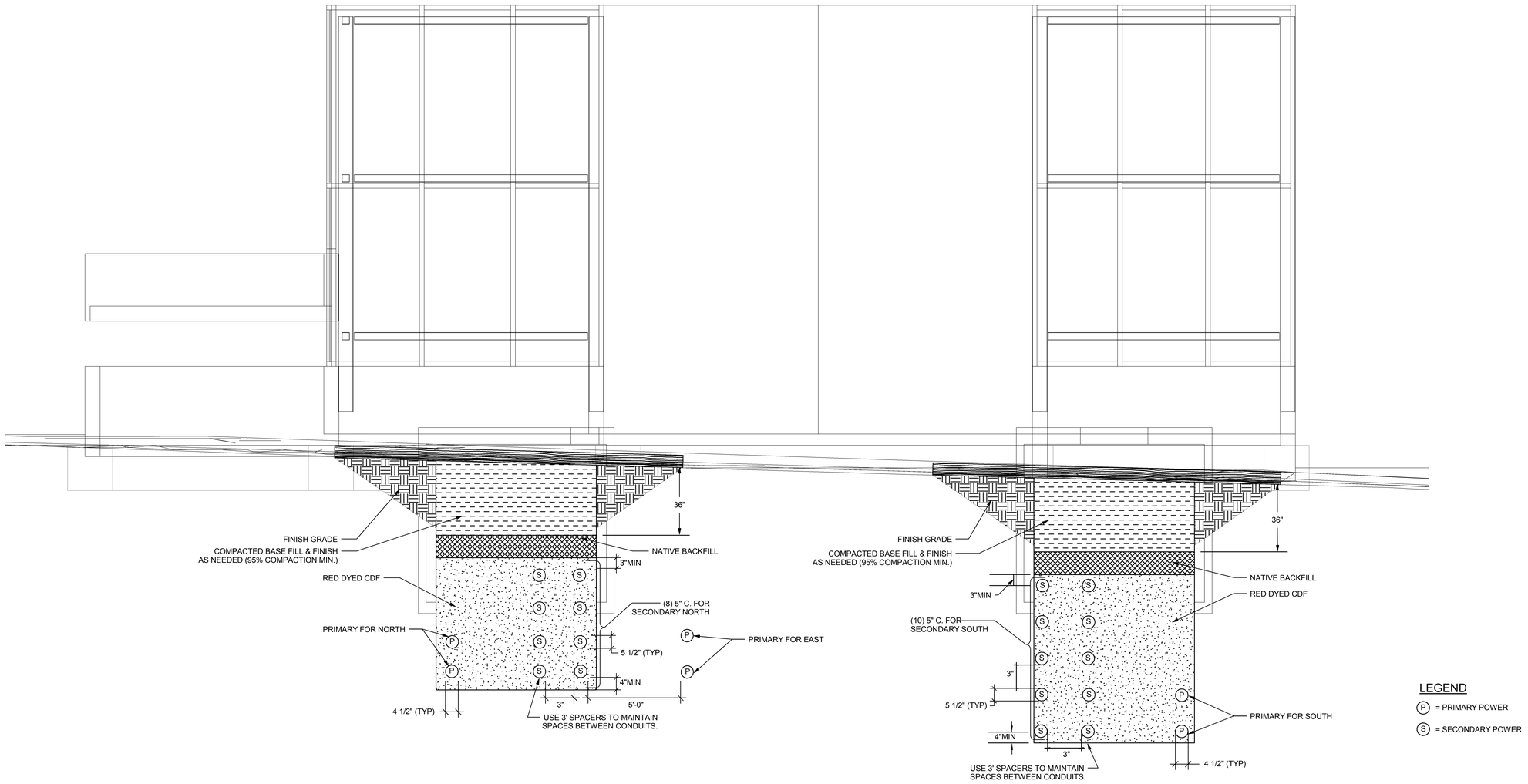

1 TRENCH DETAIL AT 11TH STREET - ELECTRICAL

NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1989
DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

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PROJECT 2012-0522
CONTACT David Chesley

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LOCA - SE 11TH AND BELMONT

Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

SECTIONS - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-6.02
SCALE NOT TO SCALE	

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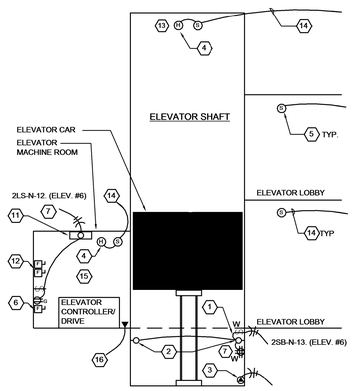
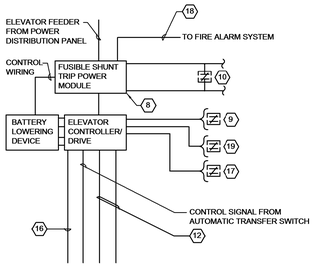
12/17/2014 5:10:01 PM

NOTES THIS DETAIL

1. MOUNT WEATHERPROOF TOGGLE SWITCH FOR PIT LIGHTING CIRCUIT BY TOP OF PIT LADDER.
2. PROVIDE NEMA 4 SURFACE MOUNTED FLUORESCENT GASKETED LUMINAIRE. FOUR FOOT WHITE POLYCARBONATE HOUSING WITH POLYCARBONATE DIFFUSER. TWO 32 WATT T8 LAMPS. BEGHELLI ILLUMINIA SERIES, METALUX, DAYBRITE, HUBBELL, LIGHTOLIER OR APPROVED. TYPICAL OF TWO. MOUNT ONE LUMINAIRE ON THE FRONT ELEVATOR PIT WALL, THE SECOND ON THE REAR ELEVATOR PIT WALL. AVOID LOCATING LUMINAIRES DIRECTLY BEHIND BEAMS OR STRUCTURE THAT WOULD BLOCK LIGHT. WIRING SHALL BE IDENTIFIED FOR WET LOCATIONS.
3. CONNECT TO ELEVATOR PIT SUMP PUMP ON AREA OF PIT WALL CLOSEST TO SUMP HOLE WITH LIQUIDTIGHT FLEXIBLE CONDUIT. PROVIDE DEDICATED CIRCUIT. SEE FLOOR PLANS AND MECHANICAL SCHEDULE.
4. MOUNT 135° FIXED TEMPERATURE HEAT DETECTOR TO WITHIN 24 INCHES OF EACH SPRINKLER HEAD IN ELEVATOR MACHINE ROOM AND HOISTWAY.
5. MOUNT SMOKE DETECTOR IN ELEVATOR LOBBY ON CEILING TO WITHIN 21 FEET OF ELEVATOR DOOR.
6. MOUNT SHUNT POWER MODULE TO WITHIN 24 INCHES OF STRIKE SIDE OF DOOR TO ELEVATOR MACHINE ROOM.
7. PROVIDE DEDICATED CIRCUIT. ROUTE INCOMING CIRCUIT TO LUMINAIRES UPSTREAM OF GFCI RECEPTACLE IN BOTH MACHINE ROOM AND ELEVATOR PIT, PER N.E.C. ARTICLES 620.23 AND 620.24.
8. PROVIDE FUSIBLE SHUNT TRIP POWER MODULE WITH CONTROL TRANSFORMER, TEST SWITCH, PILOT LIGHT, AUXILIARY CONTACTS AND ALARM CONTACTS. SIZE OF POWER MODULE AS NOTED ON DRAWINGS. BUSSMANN, FERRAZ-SHAWMUT, LITTLEFUSE OR APPROVED.
9. PROVIDE ADDRESSABLE F.A. CONTROL RELAY AND WIRING TO ELEVATOR CONTROLLER/DRIVE FOR ELEVATOR PRIMARY RECALL, SEE WIRING SCHEMATIC.
10. PROVIDE ADDRESSABLE F.A. CONTROL RELAY AND WIRING TO SHUNT TRIP CONTROL OF ELEVATOR POWER, SEE WIRING SCHEMATIC.
11. ROOM LIGHTING; SEE FLOOR PLAN FOR TYPE AND QUANTITY.
12. PROVIDE SEPARATE DEDICATED CIRCUITS AND LOCKABLE ENCLOSED CIRCUIT BREAKERS NEXT TO ELEVATOR MACHINE ROOM ENTRY DOOR FOR ELEVATOR CAR LIGHTS AND HVAC: ELEVATOR #6 - CIRCUIT 2LS-N-8. (LIGHTS), CIRCUIT 2LS-N-10. (HVAC). PROVIDE A SIGN TO IDENTIFY THE OVERCURRENT PROTECTIVE DEVICES. INDICATE CAR NUMBER AND TYPE OF LOAD NEXT TO EACH ENCLOSED CIRCUIT BREAKER. PROVIDE ENCLOSED CIRCUIT BREAKER FOR EACH ELEVATOR CAR.
13. PROVIDE HEAT AND SMOKE DETECTORS AT THE TOP OF EACH ELEVATOR SHAFT, WHEN SPRINKLERED.
14. CONNECT TO F.A. SYSTEM INITIATING DEVICE CIRCUIT.
15. COORDINATE WALL MOUNTING SPACE FOR ELECTRICAL EQUIPMENT WITH ELEVATOR SUPPLIER/INSTALLER PRIOR TO ROUGH-IN.
16. PROVIDE DEDICATED PHONE LINE IN 3/4" C. TO TELEPHONE TERMINAL BOARD.
17. PROVIDE ADDRESSABLE F.A. CONTROL RELAY AND WIRING TO ELEVATOR CONTROLLER TO ACTIVATE FIREMAN HAT LIGHT IN ELEVATOR CAB UPON INITIATION OF SMOKE DETECTION IN ELEVATOR SHAFT OR MACHINE ROOM.
18. CONNECT TO F.A. SYSTEM FOR MONITORING OF CONTROL POWER.
19. PROVIDE ADDRESSABLE F.A. CONTROL RELAY AND WIRING TO ELEVATOR CONTROLLER FOR ELEVATOR ALTERNATE RECALL. SEE WIRING SCHEMATIC.



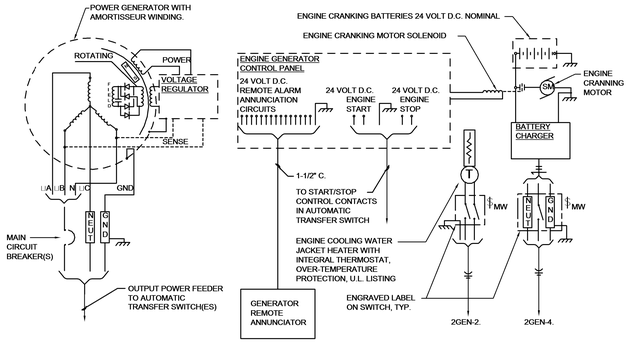
ELEVATION



WIRING SCHEMATIC

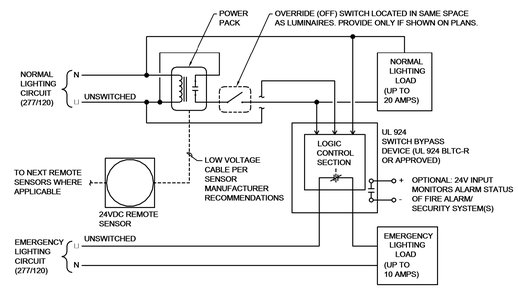
1 HYDRAULIC TYPE ELEVATOR DETAIL

NO SCALE



3 ENGINE GENERATOR DETAIL

NO SCALE

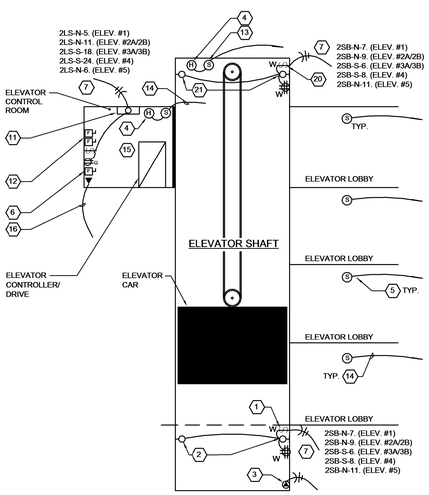


4 OCCUPANCY SENSOR/SWITCH WITH RELAY SCHEMATIC

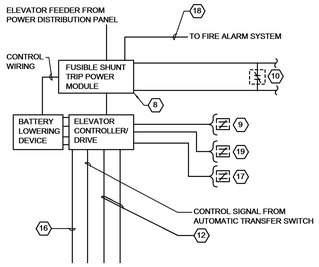
NO SCALE

NOTES THIS DETAIL

1. MOUNT WEATHERPROOF TOGGLE SWITCH FOR PIT LIGHTING CIRCUIT BY TOP OF PIT LADDER.
2. PROVIDE SURFACE MOUNTED FLUORESCENT STRIPLIGHT. FOUR FOOT COLD ROLLED STEEL CHANNEL. WHITE FINISH, WIREGUARD. LAMPS GUARDED WITH CLEAR PLASTIC SLEEVES. TWO 32 WATT T8 LAMPS LITHONIA 'C' SERIES, METALUX, DAYBRITE, HUBBELL, LIGHTOLIER OR APPROVED. TYPICAL OF TWO. MOUNT ONE LUMINAIRE ON THE FRONT ELEVATOR PIT WALL, THE SECOND ON THE REAR ELEVATOR PIT WALL. AVOID LOCATING LUMINAIRES DIRECTLY BEHIND BEAMS OR STRUCTURE THAT WOULD BLOCK LIGHT.
3. CONNECT TO ELEVATOR PIT SUMP PUMP ON AREA OF PIT WALL CLOSEST TO SUMP HOLE WITH LIQUIDTIGHT FLEXIBLE CONDUIT. PROVIDE DEDICATED CIRCUIT. SEE FLOOR PLANS AND MECHANICAL SCHEDULE.
4. MOUNT 135° FIXED TEMPERATURE HEAT DETECTOR TO WITHIN 24 INCHES OF EACH SPRINKLER HEAD IN ELEVATOR MACHINE ROOM AND HOISTWAY.
5. MOUNT SMOKE DETECTOR IN ELEVATOR LOBBY ON CEILING TO WITHIN 21 FEET OF ELEVATOR DOOR.
6. MOUNT SHUNT TRIP POWER MODULE TO WITHIN 24 INCHES OF STRIKE SIDE OF DOOR TO ELEVATOR MACHINE ROOM.
7. PROVIDE DEDICATED CIRCUIT. ROUTE INCOMING CIRCUIT TO LUMINAIRES UPSTREAM OF GFCI RECEPTACLE IN BOTH MACHINE ROOM AND ELEVATOR PIT, PER N.E.C. ARTICLES 620.23 AND 620.24.
8. PROVIDE FUSIBLE SHUNT TRIP POWER MODULE WITH CONTROL TRANSFORMER, TEST SWITCH, PILOT LIGHT, CONTROL POWER MONITORING, AUXILIARY CONTACTS AND ALARM CONTACTS. SIZE OF POWER MODULE AS NOTED ON DRAWINGS. BUSSMANN, FERRAZ-SHAWMUT, LITTLEFUSE OR APPROVED.
9. PROVIDE ADDRESSABLE F.A. CONTROL RELAY AND WIRING TO ELEVATOR CONTROLLER/DRIVE FOR ELEVATOR PRIMARY RECALL, SEE WIRING SCHEMATIC.
10. PROVIDE ADDRESSABLE F.A. CONTROL RELAY AND WIRING TO SHUNT TRIP CONTROL OF ELEVATOR POWER, SEE WIRING SCHEMATIC.
11. ROOM LIGHTING; SEE FLOOR PLAN FOR TYPE AND QUANTITY.
12. PROVIDE SEPARATE DEDICATED CIRCUITS AND LOCKABLE ENCLOSED CIRCUIT BREAKERS NEXT TO ELEVATOR MACHINE ROOM ENTRY DOOR FOR ELEVATOR CAR LIGHTS AND HVAC: ELEVATOR #1 - CIRCUIT 2LS-N-1. (LIGHTS), CIRCUIT 2LS-N-3. (HVAC). ELEVATOR #2A/2B - CIRCUIT 2LS-N-7. (LIGHTS), CIRCUIT 2LS-N-9. (HVAC). ELEVATOR #3A/3B - CIRCUIT 2LS-S-14. (LIGHTS), CIRCUIT 2LS-S-16. (HVAC). ELEVATOR #4 - CIRCUIT 2LS-S-20. (LIGHTS), CIRCUIT 2LS-S-22. (HVAC). ELEVATOR #5 - CIRCUIT 2LS-N-2. (LIGHTS), CIRCUIT 2LS-N-4. (HVAC). PROVIDE A SIGN TO IDENTIFY THE OVERCURRENT PROTECTIVE DEVICES. INDICATE CAR NUMBER AND TYPE OF LOAD NEXT TO EACH ENCLOSED CIRCUIT BREAKER. PROVIDE ENCLOSED CIRCUIT BREAKER FOR EACH ELEVATOR CAR.
13. PROVIDE HEAT AND SMOKE DETECTORS AT THE TOP OF EACH ELEVATOR SHAFT, WHEN SPRINKLERED.
14. CONNECT TO FIRE ALARM SYSTEMS SUPERVISED MONITORING CIRCUIT.
15. COORDINATE WALL MOUNTING SPACE FOR ALL ELECTRICAL EQUIPMENT WITH ELEVATOR SUPPLIER/INSTALLER PRIOR TO ROUGH-IN.
16. PROVIDE DEDICATED PHONE LINE IN 3/4" C. TO TELEPHONE TERMINAL BOARD.
17. PROVIDE ADDRESSABLE F.A. CONTROL RELAY AND WIRING TO ELEVATOR CONTROLLER TO ACTIVATE FIREMAN HAT LIGHT IN ELEVATOR CAB UPON INITIATION OF SMOKE DETECTION IN ELEVATOR SHAFT OR MACHINE ROOM.
18. CONNECT TO FIRE ALARM SYSTEM FOR MONITORING OF CONTROL POWER.
19. PROVIDE ADDRESSABLE F.A. CONTROL RELAY AND WIRING TO ELEVATOR CONTROLLER FOR ELEVATOR ALTERNATE RECALL, SEE WIRING SCHEMATIC.
20. MOUNT WEATHERPROOF TOGGLE SWITCH FOR ELEVATOR OVERRUN LIGHTING WITHIN REACH OF ELEVATOR HATCH WHEN THE CABIN IS AT THE TOP OF THE SHAFT.
21. PROVIDE SURFACE MOUNTED FLUORESCENT STRIPLIGHT. FOUR FOOT COLD ROLLED STEEL CHANNEL. WHITE FINISH, WIREGUARD. LAMPS GUARDED WITH CLEAR PLASTIC SLEEVES. TWO 32 WATT T8 LAMPS. LITHONIA 'C' SERIES, METALUX, DAYBRITE, HUBBELL, LIGHTOLIER OR APPROVED. TYPICAL OF TWO. MOUNT LUMINAIRES ON OPPOSITE WALLS OF OVERRUN. AVOID LOCATING LUMINAIRES DIRECTLY BEHIND BEAMS OR STRUCTURE THAT WOULD BLOCK LIGHT.



ELEVATION



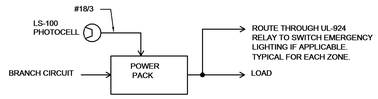
WIRING SCHEMATIC

2 GEAR-LESS TRACTION TYPE ELEVATOR DETAIL

NO SCALE

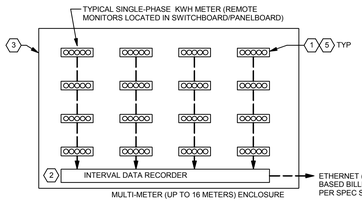
DESIGNER NOTE

1. THIS DETAIL USES THE WATTSTOPPER LS-100 SINGLE ZONE SWITCHED PHOTOCELL CONTROLLER AND POWER PACK. SPECIFY PHOTOCELL AS APPLICABLE.



5 LOCAL DAYLIGHT SENSOR

NO SCALE



DETAIL KEYNOTES

1. (RESIDENTIAL TENANTS) PROVIDE ENERGY CONSUMPTION (KWH) SINGLE-PHASE METER FOR EACH RESIDENCE (EMON CLASS 1000 SERIES METERS; SEE SPEC SECTION 262713). PROVIDE 200-AMP RATED SPLIT-CORE CTS WITH ACCURACY COMPLIANT TO EUSERC AND PGE ACCURACY REQUIREMENTS FOR UTILITY METERS (EMON E-MIPS-SPL SERIES OR APPROVED). CONNECT METER TO REMOTE CTS AND VOLTAGE PROBES. CONNECT METER COMMUNICATION TO MULTI-METER MONITOR AS DIRECTED BY MANUFACTURER.
2. PROVIDE INTERVAL DATA RECORDER OR 'IDR' (SEE SPEC SECTION 262713) ACCEPTS UP TO 16 SINGLE-PHASE METERS AND PROVIDES INFORMATION TO BILLING SOFTWARE VIA ETHERNET COMMUNICATIONS (EMON MULTI-MON BRANCH CIRCUIT ENERGY MONITOR OR APPROVED).
3. PROVIDE MULTI-METER ENCLOSURE (SEE SPEC SECTION 262713), NEMA 1 RATED, SUITABLE FOR UP TO 16 METERS AND DEVICES, INCLUDING INTERVAL DATA RECORDER.
4. PROVIDE ETHERNET CABLING FROM EACH MULTI-METER ENCLOSURE IDR TO NEAREST BUILDING IT ROOM / SERVER CABINET. COORDINATE WITH OWNER FOR IP ADDRESS FOR EACH IDR. PROVIDE BILLING SOFTWARE PER SPEC SECTION 262713 SO EACH TENANT RECEIVES MONTHLY UTILITY BILL USING IDENTICAL BILLING RATES TO THOSE USED BY PORTLAND GENERAL ELECTRIC FOR EACH RESIDENTIAL TENANT. MONTHLY BILL TO BE IDENTICAL FOR BILLED RATE THAT RESIDENCE WOULD HAVE RECEIVED FROM PGE UTILITY METER.
5. (MICRO-RETAIL TENANTS) SAME AS NOTE 1, EXCEPT PROVIDE THREE-PHASE KWH/KW DEMAND SUBMETER. EMON CLASS 2000 METER. MAY BE BUILT WITH UP TO 8 MULTI-METER ENCLOSURE.

6 SUB-METER ENCLOSURE FOR RESIDENCES AND MICRO RETAIL TENANTS

NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 14, 1989 — DAVID NORMAN CHESLEY

EXPIRES: 12/31/15

Ankrom Moisan™

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

DETAILS - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-7.01
SCALE NOT TO SCALE	

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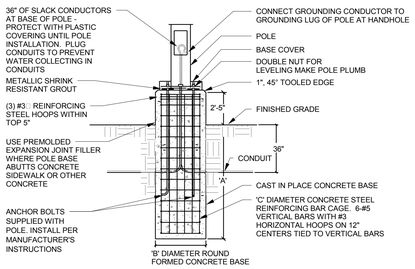
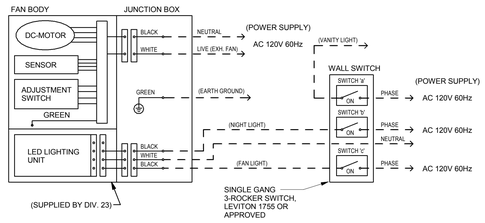


NOTE:
CONDUCTORS THROUGH POLE TO LUMINAIRE TO BE RATED 90° C

BASE DIMENSIONS	POLE HEIGHT			
	UP TO 15'	UP TO 22'	UP TO 35'	UP TO 40'
'A'	4'- 0"	4'- 0"	6'- 0"	7'- 0"
'B'	18"	24"	24"	24"
'C'	14"	20"	20"	20"

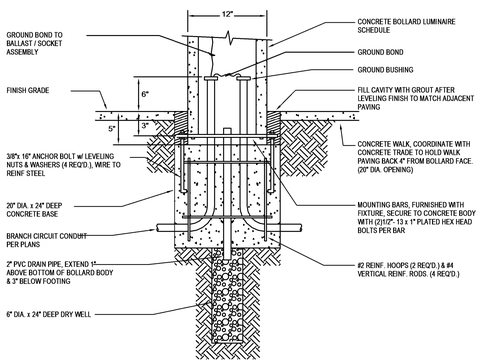
1 SECTION - AREA LUMINAIRE STANDARD PEDESTAL ANCHOR BASE

NO SCALE



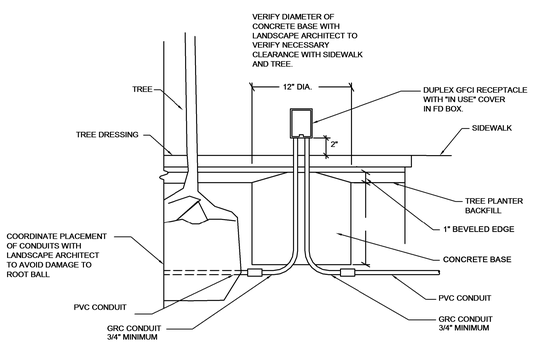
4 EXHAUST FAN/LIGHT WIRING DIAGRAM

NO SCALE



2 BOLLARD BASE DETAIL

0' 4' 8' 16'
12" = 1'-0"



3 LANDSCAPE RECEPTACLE AT TREE WELL

0' 4' 8' 16'
12" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
71430
OREGON
SEPT. 28, 2004
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EXPIRES: 12/31/15

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LOCA - SE 11TH AND BELMONT
Portland, OR 97214

Belmont Investments, LLC

REVISION	DATE	REASON FOR ISSUE

DETAILS - ELECTRICAL

PHASE 2 PERMIT

DATE 12/10/14	REVISION
PROJECT NUMBER 123625	SHEET NUMBER E4-7.02
SCALE NO SCALE	

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NORTH/SOUTH MECHANICAL EQUIPMENT CONNECTION SCHEDULE

ITEM	DESCRIPTION	LOCATION	VOLTS / PHASE	LOAD	MCA	MOCP	WIRE / CONDUIT	CIRCUIT	NOTES
AC-1	AIR CONDITIONING UNIT	S. ROOFTOP	480/3		47	60	503	4HR-S-8,10,12.	
AC-2	AIR CONDITIONING UNIT	N. ROOFTOP	480/3		26	35	303	4HR-N-7,9,11.	
B-1	BOILER	S. ROOF PENTHOUSE	120/1	6.5 FLA		20	202	2HR-S-2.	
B-2	BOILER	S. ROOF PENTHOUSE	120/1	6.5 FLA		20	202	2HR-S-4.	
BP-1	BOOSTER PUMP	S. ROOF PENTHOUSE	480/3	3.0 HP		20	203	4HR-S-1,3,5.	
BP-2	BOOSTER PUMP	S. ROOF PENTHOUSE	480/3	3.0 HP		20	203	4HR-S-7,9,11.	
CP-1N	CIRCULATION PUMP	N. ROOF PENTHOUSE	120/1	3/4 HP		25	302	2HR-N-11	
CP-2N	CIRCULATION PUMP	N. ROOF PENTHOUSE	120/1	3/4 HP		25	302	2HR-N-13.	
CP-1S	CIRCULATION PUMP	S. ROOF PENTHOUSE	120/1	3/4 HP		25	302	2HR-S-1.	
CP-2S	CIRCULATION PUMP	S. ROOF PENTHOUSE	120/1	3/4 HP		25	302	2HR-S-3.	
CP-3S	CIRCULATION PUMP	S. ROOF PENTHOUSE	480/3	3/4 HP		20	302	4HR-S-14,16,18.	
CT-1	COOLING TOWER	ROOFTOP	480/3		99	150	1003	4HR-S-2,4,6.	4,VFD
CTP-1	COOLING TOWER PUMP	S. ROOF PENTHOUSE	480/3	15 HP		40	303	4HR-S-13,15,17.	
CTP-2	COOLING TOWER PUMP	S. ROOF PENTHOUSE	480/3	15 HP		40	303	4HR-S-19,21,23.	
CWP-1	CONDENSER WATER LOOP	ROOF PENTHOUSE	480/3	30 HP		70	503	4HR-S-25,27,29.	4,VFD
CWP-2	CONDENSER WATER LOOP	ROOF PENTHOUSE	480/3	30 HP		70	503	4HR-S-31,33,35.	4,VFD
DHWP-1	CONDENSER WATER LOOP	ROOF PENTHOUSE	480/3	2 HP		20	203	4HR-S-14,16,18.	
EA-1	ELEVATOR ALARM	VARIES	120/1	1 A		15	202	2SB-S-2.	5
EF-1a	EXHAUST FAN	RESTROOM 104	120/1	1/16 HP		15	202	2HB-N-21.	
EF-1b	EXHAUST FAN	COMMON TOILET	120/1	1/16 HP		15	202	2HB-N-21.	
EF-1c	EXHAUST FAN	COMMUNITY RM TOILET	120/1	1/16 HP		15	202	2HB-S-17.	
EF-2	EXHAUST FAN	S. RES./RETAIL RECYC. 123	120/1	1/16 HP		15	202	2HB-S-17.	
EF-3	EXHAUST FAN	ROOFTOP	120/1	1/16 HP		15	202	2HR-S-9.	
EF-4	EXHAUST FAN	TRASH 22	120/1	1/5 HP		15	202	2HB-N-11.	
EF-5	EXHAUST FAN	N. ELECT. SERVICE 012	120/1	1/16 HP		15	202	2HB-S-17.	
EF-6	EXHAUST FAN	N. LIFE SAFETY 006	120/1	1/16 HP		15	202	2SB-N-5.	
EF-7	EXHAUST FAN	S. ROOFTOP	120/1	1/4 HP		15	202	2HR-S-9.	
EF-8	EXHAUST FAN	N. ROOFTOP	120/1	1/2 HP		20	202	2HR-N-5.	
EF-9	EXHAUST FAN	SOUTH TELECOM 011	120/1	1/16 HP		15	202	2SB-S-9.	
EF-10	EXHAUST FAN	NORTH TELECOM 010	120/1	1/16 HP		15	202	2SB-S-9.	
EF-11	EXHAUST FAN	ELEVATOR MACH. RM	120/1	1/16 HP		15	202	2HB-N-21.	
EF-12	EXHAUST FAN	SOUTH ELECTICAL RMS	120/1	1/16 HP		20	202	2H3-S-1.	
EF-13	EXHAUST FAN	NORTH ELECTRICAL RMS	120/1	1/16 HP		20	202	2HR-N-1.	
EWH-1a	ELECTRIC WALL HEATER	S. FIRE RISER/WATER 014	208/1	2.0 KW		15	202	2SB-S-1,3.	
EWH-1b	ELECTRIC WALL HEATER	N. FIRE RISER/WATER 005	208/1	2.0 KW		15	202	2SB-N-1,3.	
EWH-1c	ELECTRIC WALL HEATER	ELEVATOR MACH. RM.	208/1	2.0 KW		15	202	2SB-N-15,17.	
FC-1	FAN COIL	S. RETAIL LOBBY 114	208/1		56	75	602	2HB-S-19,21.	
FC-2	FAN COIL	N. RETAIL LOBBY 126	208/1		56	75	602	2HB-N-13,15.	
GEF-1	GARAGE EXHAUST FAN	S. PARKING GARAGE P1	480/3	5 HP		15	203	4HB-S-1,3,5.	4,VFD
GEF-2	GARAGE EXHAUST FAN	S. PARKING GARAGE P1	480/3	5 HP		15	203	4HB-S-2,4,6.	4,VFD
GEF-3	GARAGE EXHAUST FAN	N. PARKING GARAGE P2	480/3	20 HP		50	403	4HB-N-14,16,18.	4,VFD
GEF-4	GARAGE EXHAUST FAN	N. PARKING GARAGE P1	480/3	5 HP		15	203	4HB-N-13,15,17.	4,VFD
MES-1a	MASTER EMERGENCY SHUT-OFF	ROOF PENTHOUSE	120/1	1 A		20	202	2HR-S-10.	1
MES-1b	MASTER EMERGENCY SHUT-OFF	ROOF PENTHOUSE	120/1	1 A		20	202	2HR-N-14.	1
PF-1	ELEVATOR PRESSURE FAN	S. ROOFTOP	480/3	10 HP		25	303	4LS-S-2,4,6.	4,VFD
PF-2	ELEVATOR PRESSURE FAN	N. ROOFTOP	480/3	10 HP		25	303	4LS-N-2,4,6.	4,VFD
SE-1	SEWER EJECTOR PUMP	BASEMENT PARKING 001	480/3	2 HP		20	203	4SB-S-2,4,6.	
SECP-1	SEWER EJECTOR PUMP	BASEMENT PARKING 001				20	203	SEE SE-1	
SP-1a	SUMP PUMP	S. PARKING GARAGE P1	120/1	1/2 HP		20	202	2SB-S-4.	3
SP-1b	SUMP PUMP	N. PARKING GARAGE P1	120/1	1/2 HP		20	202	2SB-N-4.	3
SP-2a	SUMP PUMP	S. PARKING GARAGE P1	480/3	1 1/2 HP		15	203	4SB-S-8,10,12.	3
SP-2b	SUMP PUMP	N. PARKING GARAGE P1	480/3	1 1/2 HP		15	203	4SB-N-14,16,18.	3
SPCP-1	SUMP PUMP CONTROL PANEL	VARIES	120/1					SEE SP-#	3
UH-1	UNIT HEATER	BIKE REPAIR/DOG WASH	208/1		13.7	20	202	2SB-N-1,3.	
WH-1N	WATER HEATER	N. ROOF PENTHOUSE	120/1	5.0 A		15	202	2HR-N-15.	
WH-2N	WATER HEATER	N. ROOF PENTHOUSE	120/1	5.0 A		15	202	2HR-N-17.	
WH-3Na	WATER HEATER	N. RES. LOBBY RESTROOM	208/1	6.5 KW		45	502	2HB-N-8,10.	
WH-3Nb	WATER HEATER	N. RETAIL RESTROOM	208/1	6.5 KW		45	502	2HB-N-12,14.	
WH-4N	WATER HEATER	DOG WASH	208/3	4.5 KW		20	203	2HB-N-27,29,31.	
WH-1S	WATER HEATER	S. ROOF PENTHOUSE	120/1	5.0 A		15	202	2HR-S-1.	
WH-2S	WATER HEATER	S. ROOF PENTHOUSE	120/1	5.0 A		15	202	2HR-S-13.	
WH-3S	WATER HEATER	S. ROOF PENTHOUSE	120/1	5.0 A		15	202	2HR-S-15.	
WH-4S	WATER HEATER	DOG WASH	208/3	4.5 KW		20	203	2HB-S-2,4,6.	
WSHP-1	WATER SOURCE HEAT PUMP	EXERCISE 315A	208/1		6.7	20	202	2HB-S-31,33.	
WSHP-2b	WATER SOURCE HEAT PUMP	N. LOBBY MEZZ. 206	208/1		9.5	20	202	2HB-N-23,25.	
WSHP-3	WATER SOURCE HEAT PUMP	S. RESIDENTIAL LOBBY 109	208/1		18.1	30	302	2HB-S-23,25.	
WSHP-4a	WATER SOURCE HEAT PUMP	PACKAGES 105	208/1		19.1	30	302	2HB-N-17,19.	
WSHP-4b	WATER SOURCE HEAT PUMP	COMMUNITY ROOM S315	208/1		19.1	30	302	2HB-S-27,29.	
WSHP-5	WATER SOURCE HEAT PUMP	N. ELECTRICAL RM 007	480/3		18.9	25	303	4HB-N-19,21,23.	
WSHP-6	WATER SOURCE HEAT PUMP	S. ELECTRICAL RM 013	480/3		21.7	25	303	4HB-S-7,9,11.	

GENERAL MECHANICAL EQUIPMENT CONNECTION SCHEDULE NOTES

A. THE ABOVE INFORMATION IS FOR A SPECIFIC MANUFACTURER. ACTUAL MANUFACTURER FOR EQUIPMENT MAY BE DIFFERENT. COORDINATE WITH MECHANICAL EQUIPMENT SUBMITTALS FOR LOADS AND OVER CURRENT PROTECTION REQUIREMENTS PRIOR TO INSTALLATION OF WIRING.

B. MOCP = MAXIMUM OVER CURRENT PROTECTION
MCA = MINIMUM CIRCUIT AMPACITY

C. PROVIDE DISCONNECTING MEANS FOR EACH ITEM OF EQUIPMENT LISTED IN THE SCHEDULE ABOVE, EXCEPT AS SPECIFICALLY NOTED OTHERWISE IN SCHEDULE NOTES, BELOW.

MECHANICAL EQUIPMENT CONNECTION SCHEDULE NOTES

1 SEE DETAIL 3&4/P4-7.02.
2 SEE RESIDENTIAL UNITS AND TYPICAL PANEL SCHEDULES FOR CIRCUIT ASSIGNMENT.
3 SEE DETAIL 1&2/E4-7.01 FOR CIRCUIT ASSIGNMENT. SEE DETAIL 3/P4-7.01.
4 INSTALL VARIABLE FREQUENCY DRIVE SUPPLIED BY DIVISION 22/23.
5 SEE DETAIL 3/P4-7.01.

WIRE / CONDUIT SCHEDULE

202 2 #12 CU, 1 #12 CU GND., IN 3/4" C.
203 3 #12 CU, 1 #12 CU GND., IN 3/4" C.
302 2 #10 CU, 1 #10 CU GND., IN 3/4" C.
303 3 #10 CU, 1 #10 CU GND., IN 3/4" C.
403 3 #8 CU, 1 #10 CU GND., IN 3/4" C.
502 2 #6 CU, 1 #10 CU GND., IN 3/4" C.
503 3 #6 CU, 1 #10 CU GND., IN 3/4" C.
602 2 #4 CU, 1 #10 CU GND., IN 1" C.

NORTH-SOUTH APARTMENT MECHANICAL EQUIPMENT CONNECTION SCHEDULE

ITEM	DESCRIPTION	LOCATION	VOLTS / PHASE	LOAD	MCA	MOCP	WIRE / CONDUIT	CIRCUIT	NOTES
EF-1	EXHAUST FAN	VARIES	120/1	0.5 A		15	202		1
WSHP-1	WATER SOURCE HEAT PUMP	RESIDENTIAL UNITS	208/1		6.7	20	202		1
WSHP-2	WATER SOURCE HEAT PUMP	RESIDENTIAL UNITS	208/1		9.5	20	202		1
WSHP-3	WATER SOURCE HEAT PUMP	RESIDENTIAL UNITS	208/1		18.1	30	302		1
WSHP-4	WATER SOURCE HEAT PUMP	RESIDENTIAL UNITS	208/1		19.1	30	302		1

GENERAL MECHANICAL EQUIPMENT CONNECTION SCHEDULE NOTES

A. THE ABOVE INFORMATION IS FOR A SPECIFIC MANUFACTURER. ACTUAL MANUFACTURER FOR EQUIPMENT MAY BE DIFFERENT. COORDINATE WITH MECHANICAL EQUIPMENT SUBMITTALS FOR LOADS AND OVER CURRENT PROTECTION REQUIREMENTS PRIOR TO INSTALLATION OF WIRING.

B. MOCP = MAXIMUM OVER CURRENT PROTECTION
MCA = MINIMUM CIRCUIT AMPACITY

MECHANICAL EQUIPMENT CONNECTION SCHEDULE NOTES

1 SEE RESIDENTIAL UNITS AND TYPICAL PANEL SCHEDULES FOR CIRCUIT ASSIGNMENT.

WIRE / CONDUIT SCHEDULE

202 2 #12 CU, 1 #12 CU GND., IN 3/4" C.
302 2 #10 CU, 1 #10 CU GND., IN 3/4" C.

Typical Panel 'S'

2012-0522

120/208V, 1Ph, 3W.; 125A Bus with Main Lug Only Flush Mounted Load Center with a minimum Available Fault rating of 9186A RMS

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	R - REFRIGERATOR	1,000	DL	20/1	1	A	1	15/1	540	DL	R - KITCHEN	2
3	R - MICROWAVE	1,000	DL	20/1	1	C	1	15/1	180	DL	R - BATHROOM	4
5	R - DISHWASHER	1,500	DL	20/1	1	A	1	15/1	720	DL	R - BEDROOM	6
7	WASHER	1,000	DL	20/1	1	C	1	15/1	540	DL	R - LIVING	8
9	RANGE/STOVE	4,000	DL	50/2		A		15/1	110	DL	L - LIGHTS, EF-1	10
11	---	4,000	DL	-		C		15/1			SPARE	12
13	DRYER	2,000	DL	30/2		A		15/1			SPARE	14
15	---	2,000	DL	-		C		20/1	1,176	DL	GARBAGE DISPOSAL	16
17	WATER SOURCE HEAT PUMP		M		2	A	1	15/1			SPARE	18
19	---		M		2	C	1	15/1			SPARE	20
21	R - NETWORK INTERFACE BOX	180	R	15/1	1	A	1	15/1			SPARE	22
23	CARBON MONOXIDE DETECTOR	50	G	15/1	1	C	1	15/1			SPARE	24

Connected Load:	Ph. A	10,050 VA	84 Amps	Panel Connected Load:	20.0 KVA	96.1 Amps
				Sub-Fed Connected Load:	0.0 KVA	0.0 Amps
Connected Load:	Ph. C	9,946 VA	83 Amps	**Total Demand Load:**	14.1 **KVA**	68.0 **Amps**

Notes:
1. PROVIDE AFCI BREAKER.
2. SEE APARTMENT EQUIPMENT SCHEDULE FOR WSHP FEEDER AND CIRCUIT BREAKER SIZE.
3.
4.
5.

Accessories:

Typical Panel '1B'

2012-0522

120/208V, 1Ph, 3W.; 125A Bus with Main Lug Only Flush Mounted Load Center with a minimum Available Fault rating of 9186A RMS

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	R - REFRIGERATOR	1,000	DL	20/1	1	A	1	15/1	900	DL	R - KITCHEN	2
3	R - MICROWAVE	1,000	DL	20/1	1	C	1	15/1	180	DL	R - BATHROOM	4
5	R - DISHWASHER	1,500	DL	20/1	1	A	1	15/1	720	DL	R - BEDROOM	6
7	WASHER	1,000	DL	20/1	1	C	1	15/1	1,080	DL	R - LIVING RM	8
9	RANGE/STOVE	4,000	DL	50/2		A	1	15/1	720	DL	R - KITCHEN/HALL	10
11	---	4,000	DL	-		C		15/1	200	DL	L - LIGHTING,EF-1	12
13	DRYER	2,000	DL	30/2		A	1	15/1			SPARE	14
15	---	2,000	DL	-		C	1	20/1	1,176	DL	GARBAGE DISPOSAL	16
17	WATER SOURCE HEAT PUMP		M		2	A	1	15/1			SPARE	18
19	---		M		2	C	1	15/1			SPARE	20
21	SPARE			15/1	1	A	1	15/1			SPARE	22
23	CARBON MONOXIDE DETECTOR	50	G	15/1	1	C	1	15/1			SPARE	24

Connected Load:	Ph. A	10,840 VA	90 Amps	Panel Connected Load:	21.5 KVA	103.5 Amps
				Sub-Fed Connected Load:	0.0 KVA	0.0 Amps
Connected Load:	Ph. C	10,686 VA	89 Amps	**Total Demand Load:**	14.6 **KVA**	70.4 **Amps**

Notes:
1. PROVIDE AFCI BREAKER.
2. SEE APARTMENT EQUIPMENT SCHEDULE FOR WSHP FEEDER AND CIRCUIT BREAKER SIZE.
3.
4.
5.

Accessories:

Typical Panel '2B'

2012-0522

120/208V, 1Ph, 3W.; 125A Bus with Main Lug Only Flush Mounted Load Center with a minimum Available Fault rating of 9186A RMS

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	R - REFRIGERATOR	1,000	DL	20/1	1	A	1	15/1	720	DL	R - KITCHEN	2
3	R - MICROWAVE	1,000	DL	20/1	1	C	1	15/1	360	DL	R - BATHROOM	4
5	R - DISHWASHER	1,500	DL	20/1	1	A	1	15/1	1,080	DL	R - BEDROOM	6
7	WASHER	1,000	DL	20/1	1	C	1	15/1	1,080	DL	R - DINING/LIVING RM	8
9	RANGE/STOVE	4,000	DL	50/2		A	1	15/1	1,080	DL	R - BEDROOM	10
11	---	4,000	DL	-		C	1	15/1	900	DL	R - KITCHEN/HALL	12
13	DRYER	2,000	DL	30/2		A	1	15/1	720	DL	R - KITCHEN	14
15	---	2,000	DL	-		C		15/1	200	DL	L - LIGHTING, EF-1	16
17	WATER SOURCE HEAT PUMP		M		2	A	1	20/1	1,176	DL	GARBAGE DISPOSAL	18
19	---		M		2	C	1	15/1			SPARE	20
21	SPARE			15/1	1	A	1	15/1			SPARE	22
23	CARBON MONOXIDE DETECTOR	50	G	15/1	1	C	1	15/1			SPARE	24

Connected Load:	Ph. A	13,276 VA	111 Amps	Panel Connected Load:	23.9 KVA	114.7 Amps
				Sub-Fed Connected Load:	0.0 KVA	0.0 Amps
Connected Load:	Ph. C	10,590 VA	88 Amps	**Total Demand Load:**	15.6 **KVA**	74.9 **Amps**

Notes:
1. PROVIDE AFCI BREAKER.
2. SEE APARTMENT EQUIPMENT SCHEDULE FOR WSHP FEEDER AND CIRCUIT BREAKER SIZE.
3.
4.
5.

Accessories:

Panel '2HB-N'

2012-0522

120/208V, 3 Ph., 4 W.; 225A Bus with 225A Main Circuit Breaker Surface Mounted Panelboard with a minimum Available Fault rating of 2243A RMS

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	UH-1	1,140	H	20/2		A		20/1	900	R	R - TREE RECEPTACLES	2
3	---	1,140	H	-		B		20/1	900	R	R - TREE RECEPTACLES	4
5	R-BIKE 019/FAN RM N025	720	R	20/1		C		20/1	1,080	R	R - TREE RECEPTACLES	6
7	MOTORIZED DOOR	800	M	20/1		A		45/2	3,250	WH	WH-3Na	8
9	GEN. P2 RECPTS	540	M	20/1		B		-	3,250	WH	---	10
11	EF-4	528	M	15/1		C		45/2	3,250	WH	WH-3Nb	12
13	FC-2	4,659	M	75/2		A		-	3,250	WH	---	14
15	---	4,659	M	-		B		20/1	540	R	R-BIKE LOUNGE 110A	16
17	WSHP-4a	1,589	M	30/2		C		20/1	360	R	R-BIKE LOUNGE 110A	18
19	---	1,589	M	-		A		20/1	360	R	R-BIKE LOUNGE 110A	20
21	EF-1a/b, EF-11	240	M	15/1		B		20/1	720	R	N RECEIVING/ST1 LOBBY	22
23	WSHP-2b	790	M	20/2		C		20/1	540	R	N RES LOBBY	24
25	---	790	M	-		A		20/1	360	R	N RES LOBBY	26
27	WH-4N	1,667	WH	20/3		B		20/1	500	G	PRINTER/COPIER	28
29	---	1,667	WH	-		C		20/1	900	R	ELEV LOBBY 207	30
31	---	1,667	WH	-		A		20/1	800	M	MOTORIZED DOOR ENTRY 204	32
33	L - N. LOBBY 103, MEZZ. 206, TOILET 220	386	L	20/1		B		20/1	800	M	MOTORIZED DOOR ENTRY 204	34
35	L - N. LVL 4 CORRIDOR	622	L	20/1		C		20/1	280	L	L - BLDG. EXT. LIGHTING	36
37	L - N. LVL 5 CORRIDOR	622	L	20/1		A		20/1			SPARE	38
39	L - N. LVL 6 CORRIDOR	622	L	20/1		B		20/1			SPARE	40
41	L - N. LVL 7 CORRIDOR	622	L	20/1		C		20/1			SPARE	42
43	SPARE			20/1		A		20/1			SPARE	44
45	SPARE			20/1		B		20/1			SPARE	46
47	SPARE			20/1		C		20/1			SPARE	48
49	SPARE			20/1		A		20/1			SPARE	50
51	SPARE			20/1		B		20/1			SPARE	52
53	SPARE			20/1		C		20/1			SPARE	54

Total Connected Load:	Ph. A	20,187 VA	168 Amps	Panel Connected Load:	49.1 KVA	136.4 Amps
Total Connected Load:	Ph. B	15,964 VA	133 Amps	Sub-Fed Connected Load:	0.0 KVA	0.0 Amps
Total Connected Load:	Ph. C	12,948 VA	108 Amps	**Total Demand Load:**	56.7 **KVA**	157.5 **Amps**

Notes:
1.
2.
3.
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5.

Accessories:

Panel '2HR-N'

2012-0522

120/208V, 3 Ph., 4 W.; 100A Bus with 100A Main Circuit Breaker Surface Mounted Panelboard with a minimum Available Fault rating of 366A RMS

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	EF-13	400	M	20/1		A		20/1	1,260	R	R - LEVEL 5 CORRIDOR	2
3	SPARE			20/1		B		20/1	1,260	R	R - LEVEL 6 CORRIDOR	4
5	EF-8	696	M	15/1		C		20/1	1,260	R	R - LEVEL 7 CORRIDOR	6
7	SPARE			20/1		A		20/1	1,260	R	R - LEVEL 4 CORRIDOR	8
9	SPARE			20/1		B		20/1	360	R	R - PENTHOUSE	10
11	CP-1N	1,656	M	25/1		C		20/1	360	R	R - ROOFTOP	12
13	CP-2N	1,656	M	25/1		A		20/1	200	G	MES-1b	14
15	WH-1N	600	WH	15/1		B		20/1	100	G	FSD	16
17	WH-2N	600	WH	15/1		C		20/1	360	R	R - ELECT. CLOSET	18
19	SPARE			20/1		A		20/1			SPARE	20
21	SPARE			20/1		B		20/1			SPARE	22
23	SPARE			20/1		C		20/1			SPARE	24
25	SPARE			20/1		A		20/1			SPARE	26
27	SPARE			20/1		B		20/1			SPARE	28
29	SPARE			20/1		C		20/1			SPARE	30
31	SPARE			20/1		A		20/1			SPARE	32
33	SPARE			20/1		B		20/1			SPARE	34
35	SPARE			20/1		C		20/1			SPARE	36
37	SPARE			20/1		A		20/1			SPARE	38
39	SPARE			20/1		B		20/1			SPARE	40
41	SPARE			20/1		C		20/1			SPARE	42

Total Connected Load:	Ph. A	4,776 VA	40 Amps	Panel Connected Load:	12.0 KVA	33.4 Amps
Total Connected Load:	Ph. B	2,320 VA	19 Amps	Sub-Fed Connected Load:	0.0 KVA	0.0 Amps
Total Connected Load:	Ph. C	4,932 VA	41 Amps	**Total Demand Load:**	12.7 **KVA**	35.4 **Amps**

Notes:
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Accessories:

Panel '2GEN'

2012-0522

120/208V, 3 Ph., 4 W.; 100A Bus with 60A Main Circuit Breaker Surface Mounted Panelboard with a minimum Available Fault rating of 257A RMS

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	REMOTE FILL PUMP	500	M	20/1		A		20/1	1,000	G	GENERATOR JACKET HEATER	2
3	GEN RECPTS	360	R	20/1		B		20/1	200	G	GENERATOR BATTERY CHARGER	4
5	REMOTE FUEL FILL PORT	500	G	20/1		C		20/1			SPARE	6
7	REMOTE FUEL FILL PORT	500	G	20/1		A		20/1			SPARE	8
9	SPARE			20/1		B		20/1			SPARE	10
11	SPARE			20/1		C		20/1			SPARE	12
13	SPARE			20/1		A		20/1			SPARE	14
15	SPARE			20/1		B		20/1			SPARE	16
17	SPARE			20/1		C		20/1			SPARE	18
19	SPARE			20/1		A		20/1			SPARE	20
21	SPARE			20/1		B		20/1			SPARE	22
23	SPARE			20/1		C		20/1			SPARE	24

Total Connected Load:	Ph. A	2,000 VA	17 Amps	Panel Connected Load:	3.1 KVA	8.5 Amps
Total Connected Load:	Ph. B	560 VA	5 Amps	Sub-Fed Connected Load:	0.0 KVA	0.0 Amps
Total Connected Load:	Ph. C	500 VA	4 Amps	**Total Demand Load:**	3.2 **KVA**	8.8 **Amps**

Notes:
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Accessories:

Panel '4HB-N'

2012-0522

277/480V, 3 Ph., 4 W.; 600A Bus with Main Lug Only Surface Mounted Panelboard with a minimum Available Fault rating of 36633A RMS

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	Panel '2HB-N'	20,187	S	110/3		A		200/3	41,584	S	Panel '4SB-N'	2
3	---	15,964	S	-		B		-	38,990	S	VIA SB1-N	4
5	---	12,948	S	-		C		-	37,874	S	---	6
7	Panel '4HR-N'	10,774	S	225/3		A		100/3	10,362	S	Panel '4LS-N'	8
9	---	8,082	S	-		B		-	6,679	S	VIA LS1-N	10
11	---	10,694	S	-		C		-	8,076	S	---	12
13	GEF-4	2,105	M	15/3		A		50/3	7,479	M	GEF-3	14
15	---	2,105	M	-		B		-	7,479	M	---	16
17	---	2,105	M	-		C		-	7,479	M	---	18
19	WSHP-5	4,188	M	25/3		A		20/1			SPARE	20
21	---	4,188	M	-		B		20/1			SPARE	22
23	---	4,188	M	-		C		20/1			SPARE	24
25	L - LVL P1 RM 019,26,24,3,5,6,7	975	L	20/1		A		20/1			SPARE	26
27	L - P1 PARKING	2,754	L	20/1		B		20/1	549	L	PLAZA LIGHTING	28
29	L - P2 PARKING	2,376	L	20/1		C		20/1	1,230	L	CANOPY LIGHTING	30
31	L - N. LOBBY 3,STOR. 110, 109,131,101	2,126	L	20/1		A		20/3	600	M	N. RECEIVING MOTORIZED DOOR	32
33	L - RETAIL SPACE 107	944	L	20/1		B		-	600	M	---	34
35	L - MEZZ. 206	236	L	20/1		C		-	600	M	---	36
37	SPARE			20/1		A		50/3	8,310	M	N. TRASH COMPACTOR	38
39	SPARE			20/1		B		-	8,310	M	---	40
41	SPARE			20/1		C		-	8,310	M	---	42

Total Connected Load:	Ph. A	#### VA	392 Amps	Panel Connected Load:

12/17/2014 5:10:06 PM

Lighting Control Panel South (LCP-S)

In NEMA 1 enclosure and Surface Mounted

Relay #	Circuit	Description	Control	Notes
1	2HB-S-47.	S. NORMAL LOBBY LIGHTING		
2	2HB-S-49.	S. NORMAL LVL. 3 LIGHTING	OC	
3	2HB-S-50.	S. COMMUNITY ROOM	$a, OC	
4	2HB-S-50.	S. COMMUNITY ROOM	$b, OC	
5	2HB-S-50.	S. FITNESS ROOM	$, OC	
6	2HB-S-51.	S. LVL. 4 CORRIDOR	OC	
7	2HB-S-53.	S. LVL. 5 CORRIDOR	OC	
8	2HB-S-55.	S. LVL. 6 CORRIDOR	OC	
9	2HB-S-57.	S. LVL. 7 CORRIDOR	OC	
10	4HB-S-16.	S. TERRACE LIGHTING	ZONE 1	
11	4HB-S-18.	S. EXT. BLDG NORMAL	ZONE 1	
12				
13				
14				
15				
16				
17	4LS-S-12.	S. EXT. BLDG. LIGHTING	ZONE 1	
18	4LS-S-10.	S. BALCONY EM EGRESS LIGHTING		
19	2LS-S-33.	S. LVL. 7 CORRIDOR EM		
20	2LS-S-31.	S. LVL. 6 CORRIDOR EM		
21	2LS-S-29.	S. LVL. 5 CORRIDOR EM		
22	2LS-S-27.	S. LVL. 4 CORRIDOR EM		
23	2LS-S-25.	S. LVL 3 CORRIDOR EM		
24	2LS-S-23.	S. LOBBY EM		

Inputs: PC, BAS, FA

Abbreviations:

TC	Timeclock	OC	OCCUPANCY SENSOR
PC	Photocell	$	LOCAL SWITCH (a, b SWITCH LEG)
FA	Fire Alarm		
SS	Security System		
BAS	Building Automation System		

Control Zones:

Zone 1:	CURFEW: ON/OFF WITH PHOTOSENSOR, OFF WITH SCHEDULE FROM BAS. TURNS BACK ON IF FIRE ALARM OR SECURITY SYSTEM GOES INTO ALARM DURING NIGHTTIME HOURS. (BAS,FA,SS,PC)
Zone 2:	NON-CURFEW: ON/OFF WITH PHOTOSENSOR. (FA,SS,PC)
Zone 3:	
Zone 4:	

2012-0522

Lighting Control Panel North (LCP-N)

In NEMA 1 enclosure and Surface Mounted

Relay #	Circuit	Description	Control	Notes
1	2HB-N-33.	N. LOBBY/MEZZANIN NORMAL LIGHT		
2	2HB-N-35.	N. LVL 4 CORRIDOR	OC	
3	2HB-N-37.	N. LVL 5 CORRIDOR	OC	
4	2HB-N-39.	N. LVL 6 CORRIDOR	OC	
5	2HB-N-41.	N. LVL 7 CORRIDOR	OC	
6	4HB-N-28.	PLAZA UPLIGHTING (LANDSCAPE)	ZONE 1	
7	4HB-N-28.	BLDG. EXT. LIGHTING	ZONE 1	
8	4HB-N-30.	CANOPY LIGHTING	ZONE 1	
9	4HB-N-30.	PLAZA LIGHTING NORMAL	ZONE 1	
10	2HB-N-36.	BLDG. EXT. LIGHTING	ZONE 1	
11				
12				
13				
14				
15				
16				
17	2LS-N-18.	EXT. BLDG. EM	ZONE 1	
18	4LS-N-12.	PLAZA EM LIGHTING	ZONE 1	
19	4LS-N-10.	EXT. BLDG. EM	ZONE 1	
20	2LS-N-23.	N. LVL 7 CORRIDOR		
21	2LS-N-21.	N. LVL 6 CORRIDOR		
22	2LS-N-19.	N. LVL 5 CORRIDOR		
23	2LS-N-17.	N. LVL 4 CORRIDOR		
24	2LS-N-20.	N. LOBBY EM LIGHT		

Inputs: PC, BAS, FA

Abbreviations:

TC	Timeclock	OC	OCCUPANCY SENSOR
PC	Photocell		
FA	Fire Alarm		
SS	Security System		
BAS	Building Automation System		

Control Zones:

Zone 1:	CURFEW: ON/OFF WITH PHOTOSENSOR, OFF WITH SCHEDULE FROM BAS. TURNS BACK ON IF FIRE ALARM OR SECURITY SYSTEM GOES INTO ALARM DURING NIGHTTIME HOURS. (BAS,FA,SS,PC)
Zone 2:	NON-CURFEW: ON/OFF WITH PHOTOSENSOR. (FA,SS,PC)
Zone 3:	
Zone 4:	

2012-0522

Panel '4HR-S'

277/480V, 3 Ph., 4 W.; 400A Bus with Main Lug Only Surface Mounted Panelboard with a minimum Available Fault rating of 22102A RMS

2012-0522

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	BP-1	1,330	M	20/3		A		150/3	21,938	M	CT-1	2
3	---	1,330	M	-		B		-	21,938	M	---	4
5	---	1,330	M	-		C		-	21,938	M	---	6
7	BP-2	1,330	M	20/3		A		60/3	10,415	M	AC-1	8
9	---	1,330	M	-		B		-	10,415	M	---	10
11	---	1,330	M	-		C		-	10,415	M	---	12
13	CTP-1	5,817	M	40/3		A		20/3	1,385	M	CP-3S, DHWP-1	14
15	---	5,817	M	-		B		-	1,385	M	---	16
17	---	5,817	M	-		C		-	1,385	M	---	18
19	CTP-2	5,817	M	40/3		A		20/1	472	L	L - PENTHOUSE	20
21	---	5,817	M	-		B		20/1			SPARE	22
23	---	5,817	M	-		C		20/1			SPARE	24
25	CWP-1	11,080	M	70/3		A		20/1			SPARE	26
27	---	11,080	M	-		B		20/1			SPARE	28
29	---	11,080	M	-		C		20/1			SPARE	30
31	CWP-2	11,080	M	70/3		A		20/1			SPARE	32
33	---	11,080	M	-		B		20/1			SPARE	34
35	---	11,080	M	-		C		20/1			SPARE	36
37	Panel '2HR-S'	3,576	S	50/3		A		20/1			SPARE	38
39	---	4,052	S	-		B		20/1			SPARE	40
41	---	1,060	S	-		C		20/1			SPARE	42

Total Connected Load:	Ph. A	74,240 VA	268 Amps	Panel Connected Load:	211.0 KVA	253.9 Amps
Total Connected Load:	Ph. B	74,244 VA	268 Amps	Sub-Fed Connected Load:	8.7 KVA	10.5 Amps
Total Connected Load:	Ph. C	71,252 VA	257 Amps	**Total Demand Load:**	236.8 **KVA**	284.5 **Amps**

Notes:
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Accessories:

Panel '4LS-S'

277/480V, 3 Ph., 4 W.; 100A Bus with Main Lug Only Surface Mounted Panelboard with a minimum Available Fault rating of 16473A RMS

2012-0522

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	Panel '2LS-S'	4,002	S	30/3		A		25/3	3,878	M	PF-1	2
3	---	4,002	S	-		B		-	3,878	M	---	4
5	---	2,786	S	-		C		-	3,878	M	---	6
7	L - STAIR ST-8	1,062	L	20/1		A		20/1	110	L	EXIT SIGNS	8
9	L - STAIR ST	885	L	20/1		B		20/1	180	L	L - S. BALCONY EGRESS LIGHTING	10
11	L - RMS 010-015	431	L	20/1		C		20/1	130	L	L - EXT. BLDG LIGHTING	12
13	L - LVL P1 PARKING	1,026	L	20/1		A		20/1			SPARE	14
15	L - LOBBY 018, STOR. 022	90	L	20/1		B		20/1			SPARE	16
17	SPARE			20/1		C		20/1			SPARE	18
19	L - STAIRWAY ST-6	767	L	20/1		A		20/1			SPARE	20
21	SPARE			20/1		B		20/1			SPARE	22
23	SPARE			20/1		C		20/1			SPARE	24
25	SPARE			20/1		A		20/1			SPARE	26
27	SPARE			20/1		B		20/1			SPARE	28
29	SPARE			20/1		C		20/1			SPARE	30
31	L - ELEC- RMS LVL 3-7	295	L	20/1		A		20/1			SPARE	32
33	SPARE			20/1		B		20/1			SPARE	34
35	SPARE			20/1		C		20/1			SPARE	36
37	SPARE			20/1		A		20/1			SPARE	38
39	SPARE			20/1		B		20/1			SPARE	40
41	SPARE			20/1		C		20/1			SPARE	42

Total Connected Load:	Ph. A	11,140 VA	40 Amps	Panel Connected Load:	16.6 KVA	20.0 Amps
Total Connected Load:	Ph. B	9,035 VA	33 Amps	Sub-Fed Connected Load:	10.8 KVA	13.0 Amps
Total Connected Load:	Ph. C	7,225 VA	26 Amps	**Total Demand Load:**	32.3 **KVA**	38.8 **Amps**

Notes:
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Accessories:

Panel '2HR-S'

120/208V, 3 Ph., 4 W.; 100A Bus with 60A Main Circuit Breaker Surface Mounted Panelboard with a minimum Available Fault rating of 259A RMS

2012-0522

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	CP-1S	1,656	M	25/1		A		20/1	780	G	B-1	2
3	CP-2S	1,656	M	25/1		B		20/1	780	G	B-2	4
5	R - PENTHOUSE	360	R	20/1		C		20/1			SPARE	6
7	R - ROOFTOP	540	R	20/1		A		20/1			SPARE	8
9	EF-3, EF-7	816	M	15/1		B		20/1	200	G	MES-1a	10
11	WH-1S	600	WH	20/1		C		20/1	100	G	F-SD	12
13	WH-2S	600	WH	20/1		A		20/1			SPARE	14
15	WH-3S	600	WH	20/1		B		20/1			SPARE	16
17	SPARE			20/1		C		20/1			SPARE	18
19	SPARE			20/1		A		20/1			SPARE	20
21	SPARE			20/1		B		20/1			SPARE	22
23	SPARE			20/1		C		20/1			SPARE	24

Total Connected Load:	Ph. A	3,576 VA	30 Amps	Panel Connected Load:	8.7 KVA	24.1 Amps
Total Connected Load:	Ph. B	4,052 VA	34 Amps	Sub-Fed Connected Load:	0.0 KVA	0.0 Amps
Total Connected Load:	Ph. C	1,060 VA	9 Amps	**Total Demand Load:**	9.6 **KVA**	26.5 **Amps**

Notes:
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Accessories:

Panel '2LS-S'

120/208V, 3 Ph., 4 W.; 100A Bus with 60A Main Circuit Breaker Surface Mounted Panelboard with a minimum Available Fault rating of 207A RMS

2012-0522

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	R - N. TELECOM	360	R	20/1		A		20/1	360	R	R - S. TELECOM	2
3	R - N. TELECOM	360	R	20/1		B		20/1	360	R	R - S. TELECOM	4
5	R - N. TELECOM	360	R	20/1		C		20/1	200	G	N. FIRE ALARM PANEL	6
7	R - N. TELECOM	360	R	20/1		A		20/1	200	G	S. FIRE ALARM PANEL	8
9	R - N. TELECOM	360	R	20/1		B		20/1	200	G	N. SECURITY PANEL	10
11	R - N. TELECOM	360	R	20/1		C		20/1	200	G	S. SECURITY PANEL	12
13	R - S. TELECOM	360	R	20/1		A		20/1	200	L	ELEV. #3A/3B LIGHTS	14
15	R - S. TELECOM	360	R	20/1		B		20/1	200	M	ELEV. #3A/3B HVAC	16
17	R - S. TELECOM	360	R	20/1		C		20/1	280	G	ELEV. #3A/3B MACH. ROOM LIGHT/RECP.	18
19	R - S. TELECOM CLOSET	1,080	R	20/1		A		20/1	200	L	ELEV. #4 LIGHTS	20
21	R - S. TELECOM CLOSET	1,080	R	20/1		B		20/1	200	M	ELEV. #4 HVAC	22
23	L - S. ELEV. LOBBY P1, LEVEL 1	305	L	20/1		C		20/1	280	G	ELEV. #4 MACH. ROOM LIGHT/RECP.	24
25	L - S. LVL 3 CORRIDOR	441	L	20/1		A		20/1			SPARE	26
27	L - S. LVL 4 CORRIDOR	441	L	20/1		B		20/1			SPARE	28
29	L - S. LVL 5 CORRIDOR	441	L	20/1		C		20/1			SPARE	30
31	L - S. LVL 6 CORRIDOR	441	L	20/1		A		20/1			SPARE	32
33	L - S. LVL 7 CORRIDOR	441	L	20/1		B		20/1			SPARE	34
35	SPARE			20/1		C		20/1			SPARE	36
37	SPARE			20/1		A		20/1			SPARE	38
39	SPARE			20/1		B		20/1			SPARE	40
41	SPARE			20/1		C		20/1			SPARE	42

Total Connected Load:	Ph. A	4,002 VA	33 Amps	Panel Connected Load:	10.8 KVA	30.0 Amps
Total Connected Load:	Ph. B	4,002 VA	33 Amps	Sub-Fed Connected Load:	0.0 KVA	0.0 Amps
Total Connected Load:	Ph. C	2,786 VA	23 Amps	**Total Demand Load:**	11.6 **KVA**	32.1 **Amps**

Notes:
1.
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Accessories:

Panel '4HB-S'

277/480V, 3 Ph., 4 W.; 400A Bus with Main Lug Only Surface Mounted Panelboard with a minimum Available Fault rating of 36193A RMS

2012-0522

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	GEF-1	2,105	M	20/3		A		20/3	2,105	M	GEF-2	2
3	---	2,105	M	-		B		-	2,105	M	---	4
5	---	2,105	M	-		C		-	2,105	M	---	6
7	WSHP-6	4,809	M	25/3		A		20/1			SPARE	8
9	---	4,809	M	-		B		20/1			SPARE	10
11	---	4,809	M	-		C		20/1			SPARE	12
13	L - RMS 010-015	727	L	20/1		A		20/1			SPARE	14
15	L - LVL P1 PARKING	2,970	L	20/1		B		20/1	152	L	L - TERRACE	16
17	L - LOBBY 018,STOR. 022	150	L	20/1		C		20/1	688	L	L - EXT. BLDGING	18
19	L - TRASH 121	60	L	20/1		A		20/3	600	M	S. RECEIVING MOTORIZED DOOR	20
21	SPARE			20/1		B		-	600	M	---	22
23	L - LVL S322,S300	295	L	20/1		C		-	600	M	---	24
25	S. RECEIVING MOTORIZED DOOR	600	M	20/3		A		20/3	600	M	S. TRASH MOTORIZED DOOR	26
27	---	600	M	-		B		-	600	M	---	28
29	---	600	M	-		C		-	600	M	---	30
31	Panel '2H3-S'	10,200	S	70/3		A		100/3	11,140	S	Panel '4LS-S'	32
33	---	10,040	S	-		B		-	9,035	S	VIA LS1-S	34
35	---	7,320	S	-		C		-	7,225	S	---	36
37	Panel '2HB-S'	29,267	S	175/3		A		200/3	18,755	S	Panel '4SB-S'	38
39	---	26,254	S	-		B		-	19,741	S	VIA SB1-S	40
41	---	21,286	S	-		C		-	17,515	S	---	42
43	SPARE			20/1		A		50/3	8,310	M	S. TRASH COMPACTOR	44
45	SPARE			20/1		B		-	8,310	M	---	46
47	SPARE			20/1		C		-	8,310	M	---	48
49	SPARE			20/1		A		20/1			SPARE	50
51	SPARE			20/1		B		20/1			SPARE	52
53	SPARE			20/1		C		20/1			SPARE	54

Total Connected Load:	Ph. A	89,278 VA	322 Amps	Panel Connected Load:	62.4 KVA	75.1 Amps
Total Connected Load:	Ph. B	87,321 VA	315 Amps	Sub-Fed Connected Load:	187.8 KVA	225.9 Amps
Total Connected Load:	Ph. C	73,608 VA	266 Amps	**Total Demand Load:**	252.6 **KVA**	303.9 **Amps**

Notes:
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Accessories:

Panel '4SB-S'

277/480V, 3 Ph., 4 W.; 200A Bus with Main Lug Only Surface Mounted Panelboard with a minimum Available Fault rating of 20949A RMS

2012-0522

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	RESIDENTIAL ELEVATOR 3A	4,986	M	45/3		A		20/3	942	M	SE-1/SECP-1	2
3	---	4,986	M	-		B		-	942	M	---	4
5	---	4,986	M	-		C		-	942	M	---	6
7	RESIDENTIAL ELEVATOR 3B	3,878	M	35/3		A		20/3	831	M	SP-2a	8
9	---	3,878	M	-		B		-	831	M	---	10
11	---	3,878	M	-		C		-	831	M	---	12
13	ELEVATOR 4	3,878	M	35/3		A		20/1			SPARE	14
15	---	3,878	M	-		B		20/1			SPARE	16
17	---	3,878	M	-		C		20/1			SPARE	18
19	SPARE			20/1		A		20/1			SPARE	20
21	SPARE			20/1		B		20/1			SPARE	22
23	SPARE			20/1		C		20/1			SPARE	24
25	SPARE			20/1		A		20/1			SPARE	26
27	SPARE			20/1		B		20/1			SPARE	28
29	SPARE			20/1		C		20/1			SPARE	30
31	SPARE			20/1		A		20/1			SPARE	32
33	SPARE			20/1		B		20/1			SPARE	34
35	SPARE			20/1		C		20/1			SPARE	36
37	Panel '2SB-S'	4,240	S	50/3		A		20/1			SPARE	38
39	---	5,226	S	-		B		20/1			SPARE	40
41	---	3,000	S	-		C		20/1			SPARE	42

Total Connected Load:	Ph. A	18,755 VA	68 Amps	Panel Connected Load:	43.5 KVA	52.4 Amps
Total Connected Load:	Ph. B	19,741 VA	71 Amps	Sub-Fed Connected Load:	12.5 KVA	15.0 Amps
Total Connected Load:	Ph. C	17,515 VA	63 Amps	**Total Demand Load:**	59.9 **KVA**	71.9 **Amps**

Notes:
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Accessories:

Panel '2HB-S'

120/208V, 3 Ph., 4 W.; 400A Bus with 400A Main Circuit Breaker Surface Mounted Panelboard with a minimum Available Fault rating of 211SA RMS

2012-0522

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	R - GENERAL P1 RECEPT.	900	R	20/1		A		20/3	1,667	WH	WH-4S	2
3	R - GENERAL P1 RECEPT.	720	R	20/1		B		-	1,667	WH	---	4
5	R - S. LOBBY	900	R	20/1		C		-	1,667	WH	---	6
7	R - RECEIVING/TRASH	540	R	20/1		A		20/1	900	R	R - SITE TREE RECEPTACLES	8
9	SPARE			20/1		B		20/1	1,080	R	R - SITE TREE RECEPTACLES	10
11	SPARE			20/1		C		20/1	900	R	R - SITE TREE RECEPTACLES	12
13	MOTORIZED DOOR	800	M	20/1		A		20/3	1,680	G	PARKING MACHINE	14
15	S. ELECTRICAL RM	1,080	R	20/1		B		-	1,680	G	---	16
17	EF-5,EF-2,EF-1c	1,800	M	15/1		C		-	1,680	G	---	18
19	FC-1	4,659	M	75/2		A		20/3	1,680	G	PARKING MACHINE	20
21	---	4,659	M	-		B		-	1,680	G	---	22
23	WSHP-3	1,506	M	30/2		C		-	1,680	G	---	24
25	---	1,506	M	-		A		20/3	1,680	G	PARKING MACHINE	26
27	WSHP-4b	1,589	M	30/2		B		-	1,680	G	---	28
29	---	1,589	M	-		C		-	1,680	G	---	30
31	WSHP-1	557	M	20/2		A		20/3	1,680	G	PARKING MACHINE	32
33	---	557	M	-		B		-	1,680	G	---	34
35	MOTORIZED GATE P1	1,800	M	30/3		C		-	1,680	G	---	36
37	---	1,800	M	-		A		40/2	2,496	G	CAR CHARGER	38
39	---	1,800	M	-		B		-	2,496	G	---	40
41	MOTORIZED GATE P1	1,800	M	30/3		C		40/2	2,496	G	CAR CHARGER	42
43	---	1,800	M	-		A		-	2,496	G	---	44
45	---	1,800	M	-		B		20/1	800	M	S. RETAIL LOOBY DOOR	46
47	L - S. ELEV. LOBBY P1, LEVEL 1	105	L	20/1		C		20/1	800	M	S. RETAIL LOOBY DOOR	48
49	L - LVL 3 CORRIDOR	643	L	20/1		A		20/1	1,140	L	L - RM S316, S317, S310	50
51	L - LVL 4 CORRIDOR	643	L	20/1		B		20/1			SPARE	52
53	L - LVL 5 CORRIDOR	643	L	20/1		C		20/1			SPARE	54
55	L - LVL 6 CORRIDOR	643	L	20/1		A		20/1			SPARE	56
57	L - LVL 7 CORRIDOR	643	L	20/1		B		20/1			SPARE	58
59	SPARE			20/1		C		20/1			SPARE	60
61	SPARE			20/1		A		20/1			SPARE	62
63	SPARE			20/1		B		20/1			SPARE	64
65	SPARE			20/1		C		20/1			SPARE	66
67	SPARE			20/1		A		20/1			SPARE	68
69	SPARE			20/1		B		20/1			SPARE	70
71	SPARE			20/1		C		20/1			SPARE	72
73	SPARE			20/1		A		20/1			SPARE	74
75	SPARE			20/1		B		20/1			SPARE	76
77	SPARE			20/1		C		20/1			SPARE	78
79	SPARE			20/1		A		20/1			SPARE	80
81	SPARE			20/1		B		20/1			SPARE	82
83	SPARE			20/1		C		20/1			SPARE	84

Total Connected Load:	Ph. A	29,255 VA	244 Amps	Panel Connected Load:	76.8 KVA	213.4 Amps
Total Connected Load:	Ph. B	26,151 VA	218 Amps	Sub-Fed Connected Load:	0.0 KVA	0.0 Amps
Total Connected Load:	Ph. C	21,355 VA	177 Amps	**Total Demand Load:**	76.8 **KVA**	213.4 **Amps**

Notes:
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Accessories:

Panel '2HH-S'

120/208V, 3 Ph., 4 W.; 200A Bus with Main Lug Only Surface Mounted Panelboard with a minimum Available Fault rating of 5974A RMS

2012-0522

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	Note	C.B. A/Pole	Load (VA)	Type	Description / Location	Ckt. No.
1	R - COMMUNITY RM S315 - REFRIG.	1,000	G	20/1		A		50/2	0	R	SPIDER BOX OUTLET	2
3	---	1,000	G	20/1		B		-	0	R	---	4
5	R - COMMUNITY RM S315 - FREEZER	1,000	G	20/1		C		50/2	0	R	SPIDER BOX OUTLET	6
7	R - COMMUNITY RM S315 - MICRO.	1,200	G	20/1		A		-	0	R	---	8
9	R - COMMUNITY RM S315 TV	360	R	20/1		B		20/1	360	R	R - TERRACE	10
11	R - COMMUNITY RM S315	1,080	R	20/1		C		20/1	1,260	R	R - LVL 3 CORRIDOR	12
13	R - COMMUNITY RM S315	360	R	20/1		A		20/1	1,260	R	R - LVL 3 CORRIDOR	14
15	R - COMMUNITY RM S315	360	R	20/1		B		20/1	900	R	R - LVL 4 CORRIDOR	16
17	R - COMMUNITY RM S315	360	R	20/1		C		20/1	1,080	R	R - LVL 4 CORRIDOR	18
19	R - COMMUNITY RM S315 - RANGE	4,000	K	50/2		A		20/1	900	R	R - LVL 5 CORRIDOR	20
21	---	4,000	K	-		B		20/1	1,080	R	R - LVL 5 CORRIDOR	22
23	R - EXERCISE RM 315A	180	R	20/1		C		20/1	900	R	R - LVL 6 CORRIDOR	24
25	R - EXERCISE RM 315A	180	R	20/1		A		20/1	1,080	R	R - LVL 6 CORRIDOR	26
27	R - EXERCISE RM 315A	180	R	20/1		B		20/1	900	R	R - LVL 7 CORRIDOR	28
29	R - EXERCISE RM 315A	180	R	20/1		C		20/1	1,080	R	R - LVL 7 CORRIDOR	30
31	R - EXERCISE RM 315A	180	R	20/1		A		20/1	540	R	R - ELECTRICAL RM	32
33	R - EXERCISE RM 315A	900	R	20/1		B		20/1			SPARE	34
35	R - COMMUNITY RM S315 - VENT HOOD	200	M	20/1		C		20/1			SPARE	36
37	SPARE			20/1		A		20/1			SPARE	38
39	SPARE			20/1		B		20/1			SPARE	40
41	SPARE			20/1		C		20/1			SPARE	42

Total Connected Load:	Ph. A	10,200 VA	85 Amps	Panel Connected Load:	27.6 KVA	76.6 Amps
Total Connected Load:	Ph. B	10,040 VA	84 Amps	Sub-Fed Connected Load:	0.0 KVA	0.0 Amps
Total Connected Load:	Ph. C	7,320 VA	61 Amps	**Total Demand Load:**	24.9 **KVA**	69.0 **Amps**

Notes:
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Accessories:

Meter Center MC3-S Load Calculation (SOUTH):

	Unit Total		Connected VA per Unit		Total Load	
2BD	4	x	28,976	=	115,904 VA	
1BD	19	x	24,876	=	472,644 VA	
OPEN 1BD	11	x	24,576	=	270,336 VA	
STUDIO	8	x	23,976	=	191,808 VA	
Units	42				1,050,692 VA	2919 A

Total Meter Center (MC1-S) Load **1,050,692 VA** **2919 A**
Demand per NEC Table 220-32:
Quantity of Units = 42 (Demand factor per NEC Table 220.84)
Total Demand Load **1,050,692** VA x **28%** = **294,194 VA**
@208Y/120V = **817 A**

Meter Center MC4-N Load Calculation (NORTH):

	Unit Total		Connected VA per Unit		Total Load	
2BD	6	x	28,976	=	173,856 VA	
1BD	12	x	24,876	=	298,512 VA	
OPEN 1BD	12	x	24,576	=	294,912 VA	
STUDIO	8	x	23,976	=	191,808 VA	
Units	38				959,088 VA	2664 A

Total Meter Center (MC1-N) Load **959,088 VA** **2664 A**
Demand per NEC Table 220-32:
Quantity of Units = 38 (Demand factor per NEC Table 220.84)
Total Demand Load **959,088** VA x **29%** = **278,136 VA**
@208Y/120V = **773 A**

Meter Center MC5-S Load Calculation (SOUTH):

	Unit Total		Connected VA per Unit		Total Load	