Attachment 2

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POLLACK LLP

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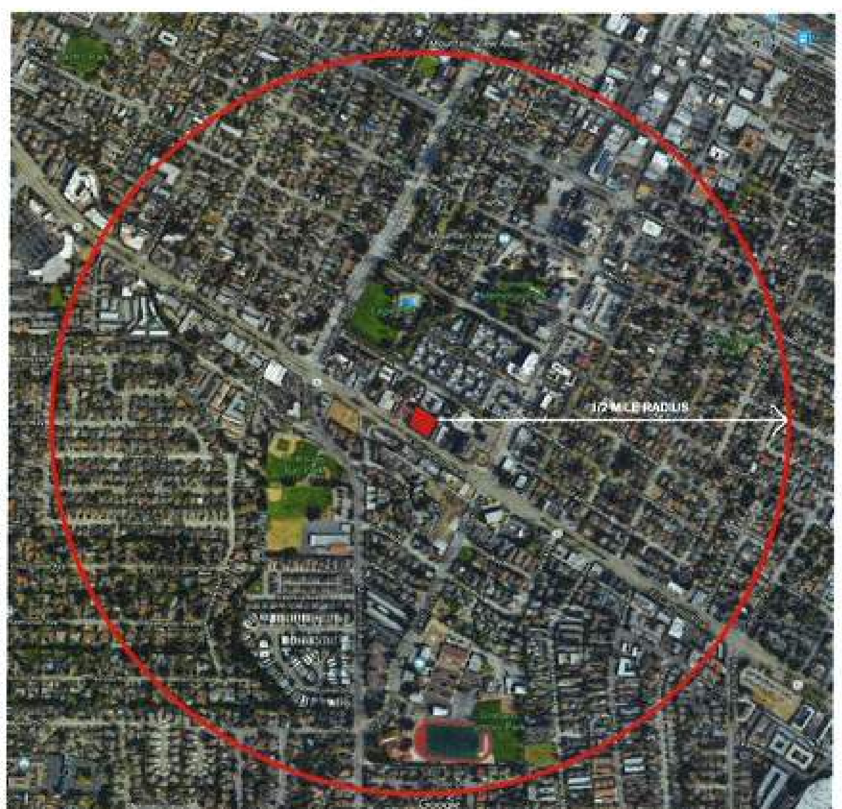
- ☐ LANDSCAPE ARCHITECT
  Hill Associates
  100 Oakdale Drive
  Aptos, CA 95003
  408-761-3184

CONTEXT MAP



PROJECT DATA

ECR Precise Plan Area:	Castro/Miramonte
APN:	158-07-019
Lot Area:	26,531 sf
FAR:	1.99
Density:	117 du/acre
Building Coverage:	28.8%
Common Usable Open Space:	9,720 sf
Total Parking:	28 car, 5 motorcycle spaces
Accessible Parking:	1 space
Bicycle Parking:	71 spaces
Storage:	71 storage units
Construction Type:	Type VA/IA

PROJECT DESCRIPTION

950 W El Camino Real is a new 71 unit affordable housing community in Mountain View. The design follows the principles of the El Camino Real Precise Plan in the Castro/Miramonte area and supports an active street frontage through a tall first floor with plentiful storefront windows, an inviting entry area, and a community room facing El Camino Real.

Transparency from the El Camino Real frontage is provided through the secure, naturally ventilated lobby that spans across the building to the north facade, and in the resident lounges on each floor that stack above the entry. A recess in massing denotes the building entry with a vertical steel structure that features colorful accent glazing. Plantings extend from the entry landscape into the building, further emphasizing the connection between the street frontage and the open air lobby.

West of the entry, a vertical tower element extends to the roof deck where it transitions into a covered common area for residents. East of the entry, a mass with metal siding and undulating sunshades overhangs the first floor. The curved area adjacent to the entry frames a screened common deck on each residential level of the building. On the El Camino Real frontage, the fifth floor is set back with a material change to deemphasize the height of the building. Massing at the east and west facades also steps back at the upper level, and there is a wide setback from the adjacent residential property to the north. Railing alternates with solid parapets around the perimeter of the building to create variation at the roof line.

The spacious common roof deck includes a raised photovoltaic canopy on a steel structure to offset energy use. The project will pursue the LEED for Homes rating system and will include a variety of other green building features, from energy efficient HVAC systems and Energy Star appliances, to low-flow fixtures and drought tolerant planting.

PROJECT DIRECTORY

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P0.1	LEGEND AND NOTES
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Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

725 Alma St
Palo Alto, CA 94301
(650) 321-9709

2/20/18 SCHEMATIC DESIGN

Job#: 1733
Date: 2/21/18
Scale: AS NOTED

A0.0

6 A0.1 **EL CAMINO REAL STREET ELEVATION**

5 A0.1 **SITE AERIAL**
STREET VIEW PERSPECTIVES MARKED IN RED

4 A0.1 **VIEW LOOKING WEST FROM EL CAMINO REAL**

2 A0.1 **VIEW LOOKING EAST FROM EL CAMINO REAL**

3 A0.1 **VIEW FROM REAR OF SITE**

1 A0.1 **VIEW LOOKING WEST FROM EL CAMINO REAL**

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Project:

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PALO ALTO HOUSING

725 Alma St
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(650) 321-9709

NEIGHBORHOOD CONTEXT

Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A0.1

1 A1.0 **ILLUSTRATIVE SITE PLAN**

SCALE: 1/16" = 1'-0"

PROJECT DATA	PLANNING		
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PROJECT DATA	BUILDING	
;"$.< %7	26,531	excludes easement
Acres	0.61	
3 °+&,+#9.<%71	SF	
Ground floor	7,643	1809 covered driveway
2nd floor	10,895	includes deck
3rd floor	10,895	includes deck
4th floor	10,895	includes deck
5th floor	10,121	includes terrace
Total	50,449	638 covered roof tower
=>(#.?>7- (.	SF	
Courtyard	679	
Lobby (Indoor/Outdoor)	943	
Second floor common deck	265	
Third floor common deck	265	
Fourth floor common deck	265	
Fifth floor common terrace	265	
Roof deck	7,038	
Total	9,720	
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Ground floor	1	manager's unit
2nd floor	17	
3rd floor	17	
4th floor	18	
5th floor	18	
Total	71	

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Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

725 Alma St
Palo Alto, CA 94301
(650) 321-9709

ILLUSTRATIVE SITE PLAN & PROJECT DATA

Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A1.0

N

SITE PLAN

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

LEGEND

1. (E) HYDRANT
2. (N) HYDRANT
3. GAS METER
4. FIRE BFP
5. FDC
6. DOMESTIC BFP
7. IRRIGATION BFP
8. TRANSFORMER VAULT
9. (N) BICYCLE RACKS. S.L.D.
10. (E) CONC. WALL
11. PERMEABLE PAVERS, S.L.D.
12. STORMATER INFILTRATION PLANTER, RAISED, S.C.D.
13. SLIDING VEHICLE GATE
14. PEDESTRIAN GATE
15. (N) WOOD FENCE
16. SEATING AREA, S.L.D.
17. (E) TREE TO REMAIN
18. (N) TREE, S.L.D.
19. (E) STREET LIGHT

PROPERTY LINE
SETBACKS
NEW FENCE
EASEMENT
BUILDING OVERHANG
TREE, S.L.D.
EV WIRED FOR FUTURE ELECTRIC VEHICULAR CHARGING STATION

NOTE: THIS DRAWING IS FULL SCALE IF PRINTED 30"X42", HALF SCALE IF PRINTED 15"X21", NOT TO SCALE IF PRINTED 11"X17"

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DETAILED SITE PLAN

Job#: 1733
Date: 2/13/18
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A1.1

3 / A1.2 **EL CAMINO REAL AERIAL**

1 / A1.2 **EL CAMINO REAL ENTRANCE**

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Project:

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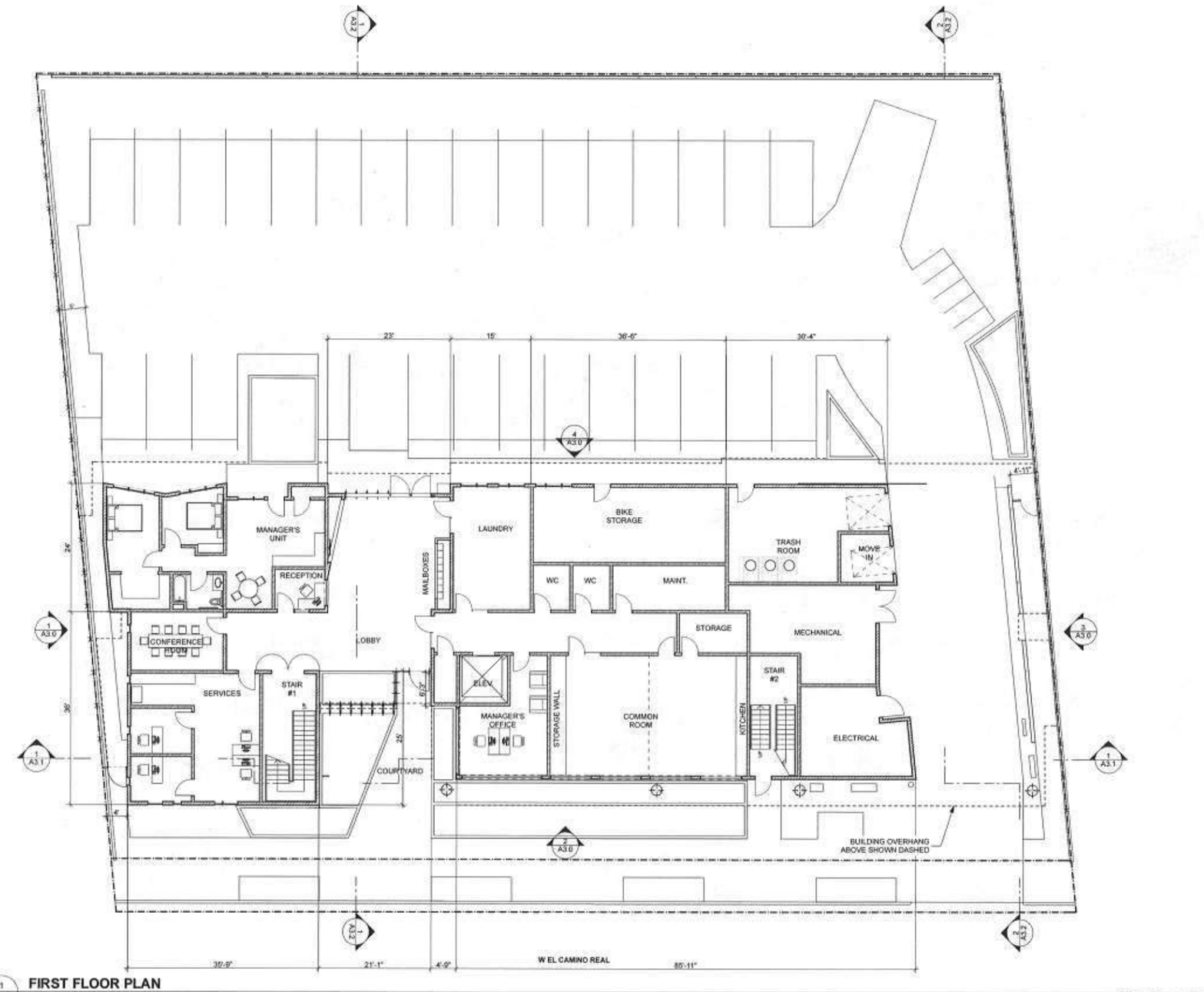
RENDERINGS

Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A1.2



1 A2.0 **FIRST FLOOR PLAN**

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

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Project:

950 W EL CAMINO REAL

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MOUNTAIN VIEW, CA 94040

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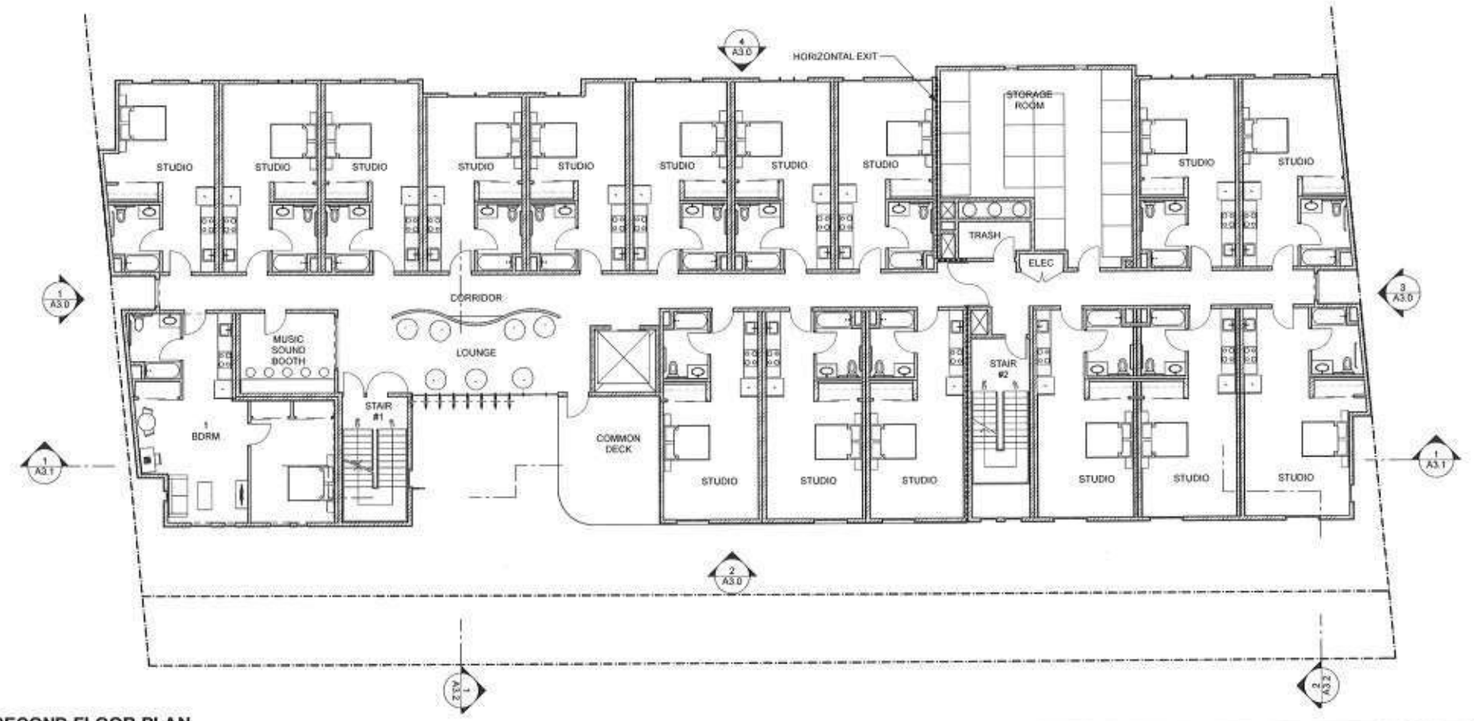
FIRST FLOOR PLAN

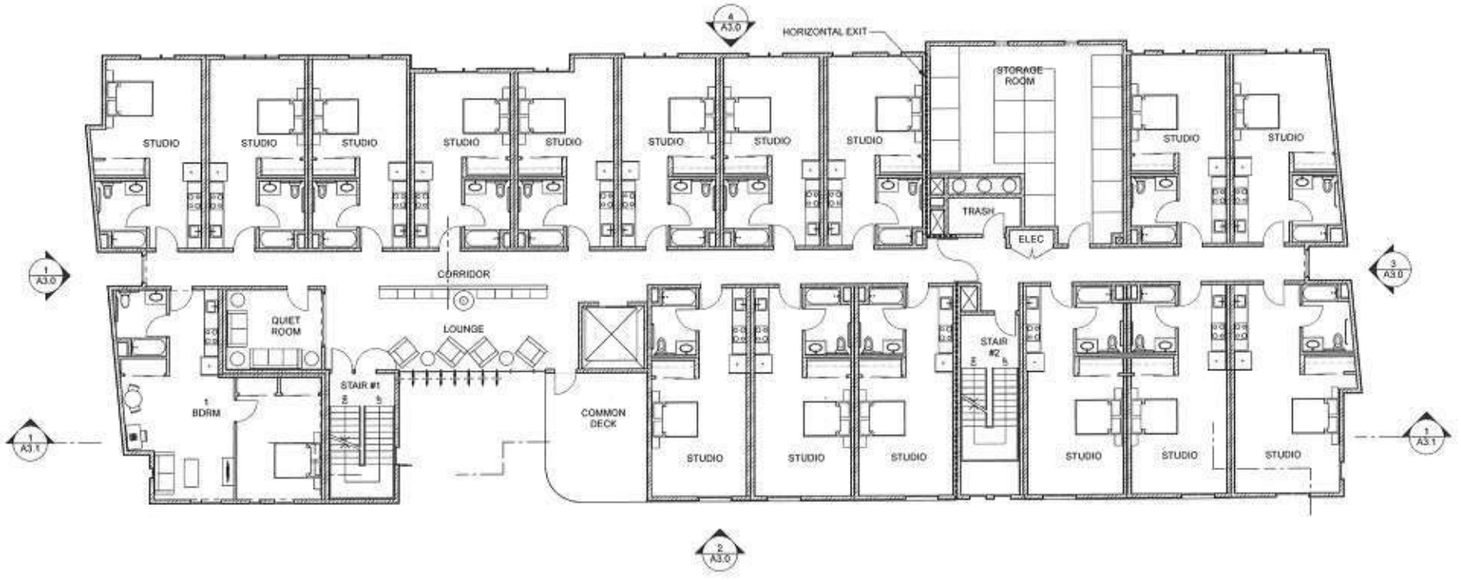
Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A2.0



1 A2.1 **SECOND FLOOR PLAN**

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



2 A2.1 **THIRD FLOOR PLAN**

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

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Project:

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950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

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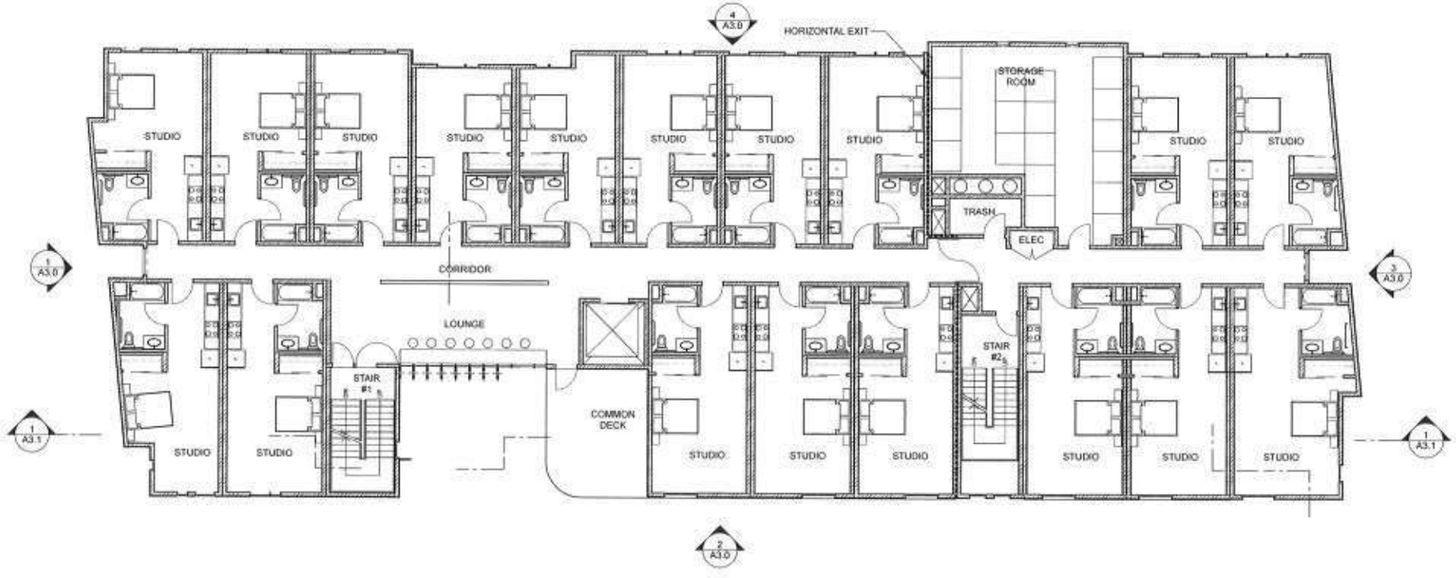
SECOND AND THIRD FLOOR PLANS

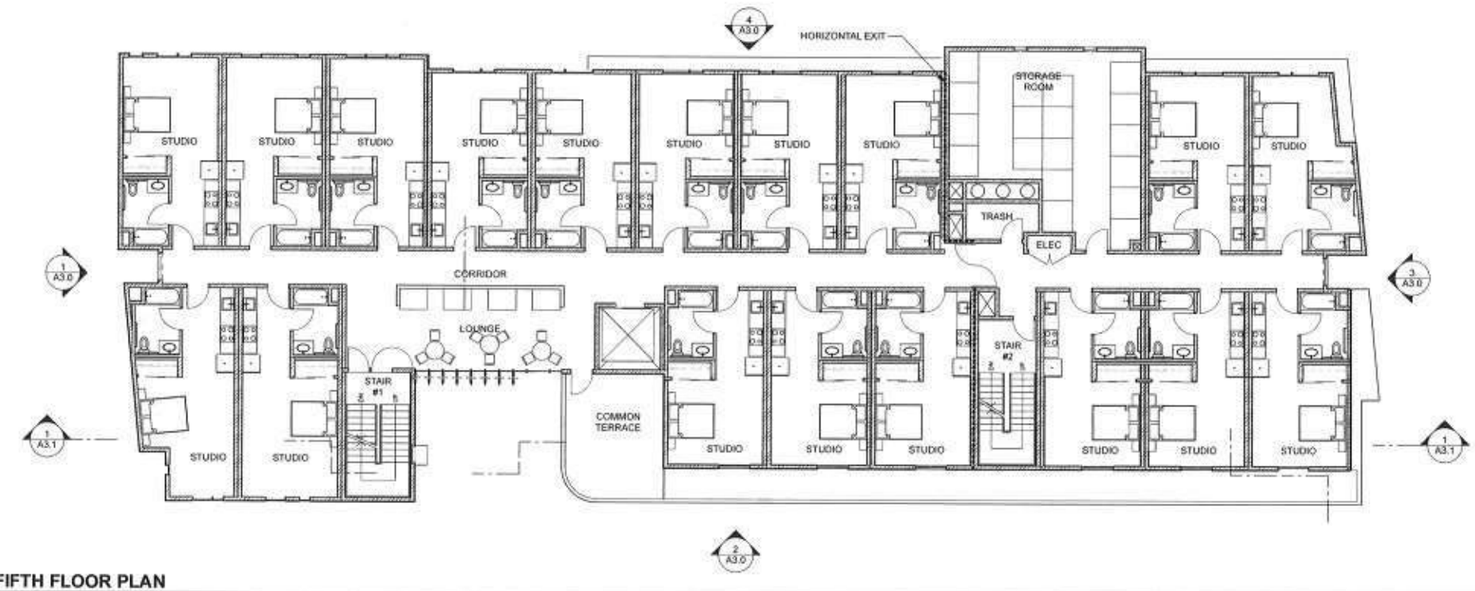
Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A2.1



1 A2.2 **FOURTH FLOOR PLAN**

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



2 A2.2 **FIFTH FLOOR PLAN**

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

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VAN METER WILLIAMS POLLACK LLP

ARCHITECTURE | URBAN DESIGN | SAN FRANCISCO | DENVER

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Project:

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950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

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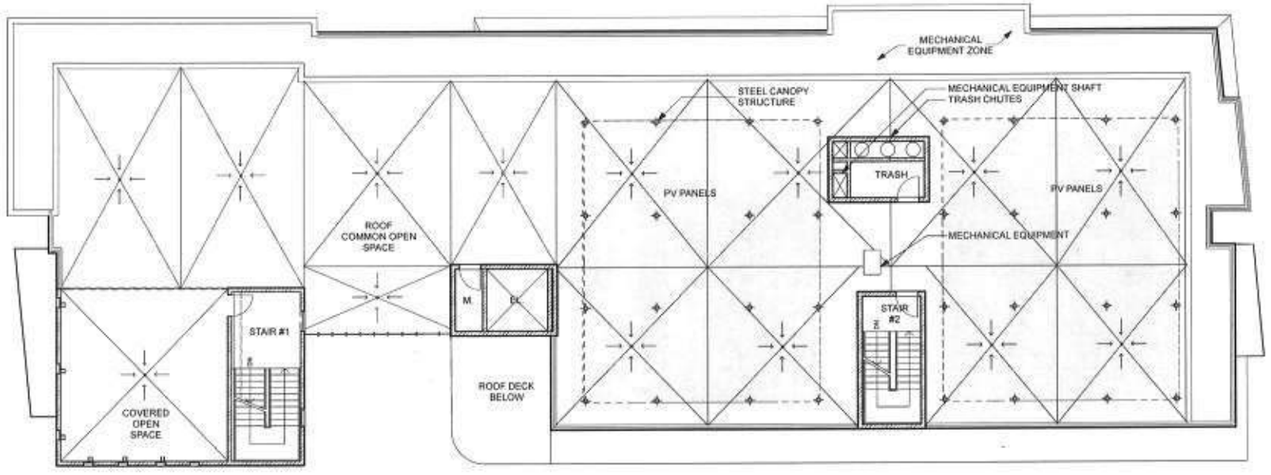
FOURTH AND FIFTH FLOOR PLANS

Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A2.2



1 A2.3 **ROOF FLOOR PLAN**

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

3 A2.3 **TYPICAL UNIT PLAN**

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

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Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

725 Alma St
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(650) 321-0709

ROOF PLAN & TYPICAL UNIT

Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A2.3

COLORS

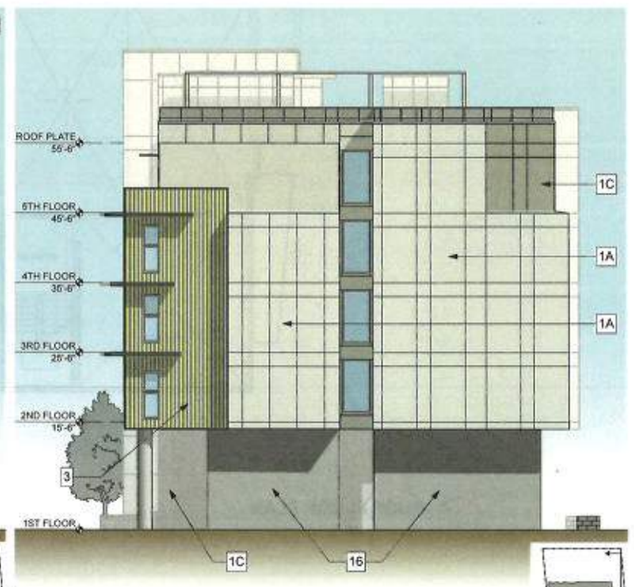
- A KM 4571 [COBBLESTONE STREET]
- B KM 5824 [WINTER'S PARK]
- C KM 4924 [THUNDERSTRUCK]

MATERIALS

- 1 CEMENT PANEL
- 2 CEMENT PLASTER
- 3 STANDING SEAM
- 4 PERFORATED STANDING SEAM
- 5 ALUMINUM WINDOW
- 6 ALUMINUM STOREFRONT SYSTEM
- 7 STEEL FINS
- 8 COLORED GLAZING
- 9 WOOD SLATS
- 10 VEHICLE GATE
- 11 BUILDING COLUMN
- 12 PV CANOPY
- 13 ALUMINUM SU
- 14 RAILING
- 15 RAISED CMU F
- 16 CONCRETE

4 A3.0 **NORTH ELEVATION**

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

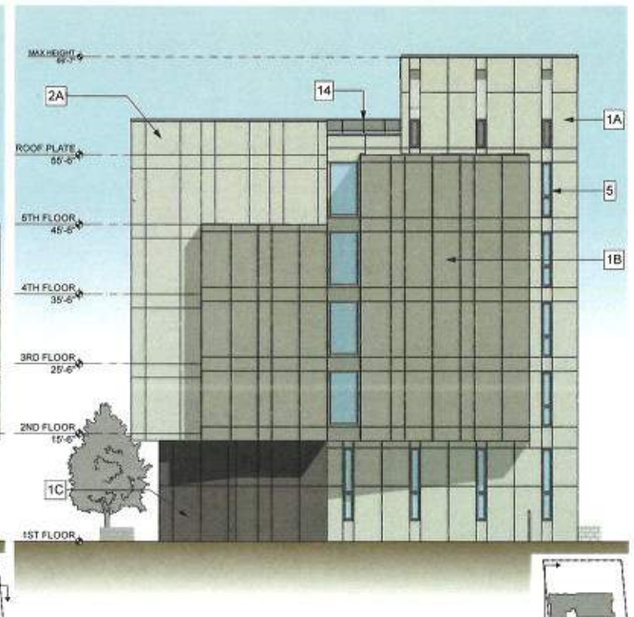


3 A3.0 **EAST ELEVATION**

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

2 A3.0 **SOUTH ELEVATION**

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



1 A3.0 **WEST ELEVATION**

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

VAN METER WILLIAMS POLLACK LLP

ARCHITECTURE | URBAN DESIGN • SAN FRANCISCO | DENVER

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  FARD Engineers
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  Walnut Creek, CA 94598
  925-932-5595
- LANDSCAPE ARCHITECT
  Hill Associates
  120 Cutcalde Drive
  Aptos, CA 95003
  408-761-3184

Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

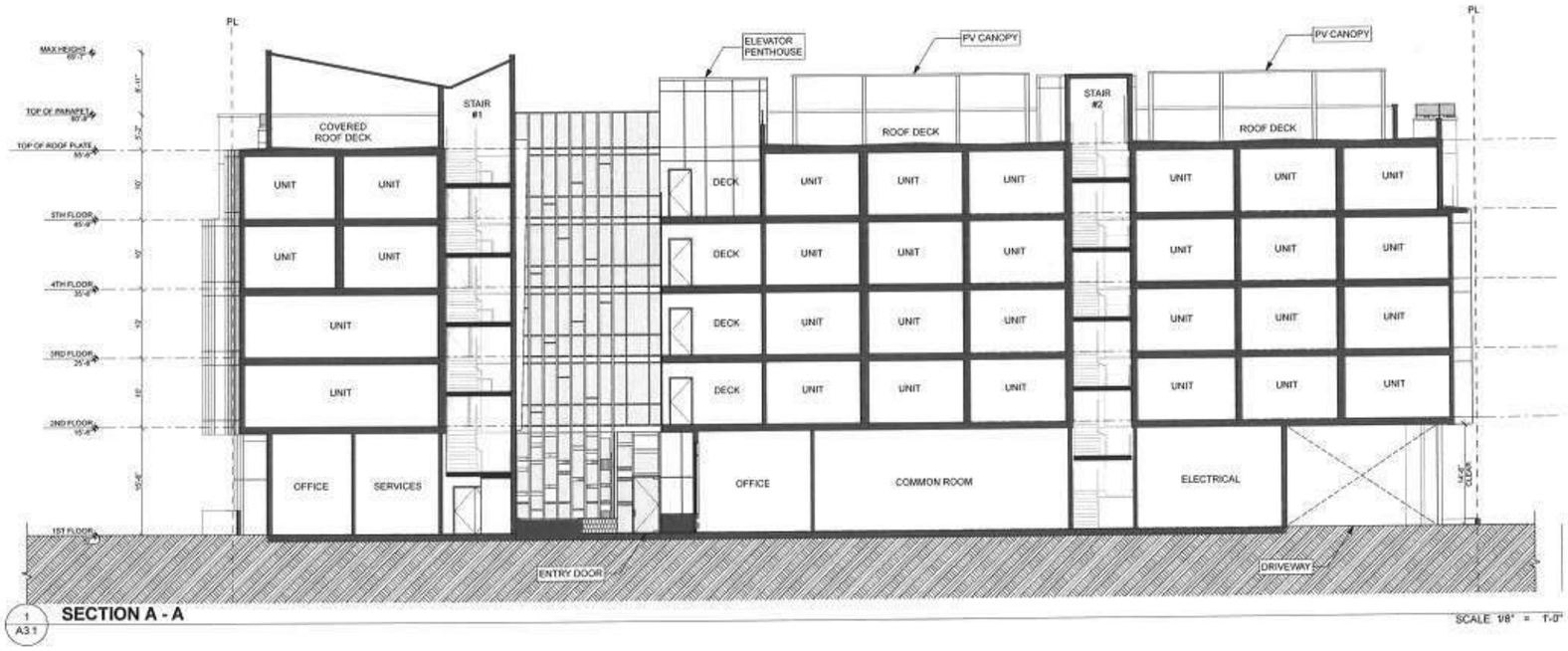
PALO ALTO HOUSING

725 Alma St
Palo Alto, CA 94301
(650) 321-9709

EXTERIOR ELEVATIONS

Job# 1733
Date: 2/13/18
Scale: AS NOTED

A3.0



1 A3.1 **SECTION A - A**

SCALE 1/8" = 1'-0"

KEY MAP

VAN METER WILLIAMS POLLACK LLP

ARCHITECTS | NEW YORK ▪ SAN FRANCISCO | BERLIN
333 Fifth Street, Suite 500, San Francisco, CA 94107 T 415 874 1800
1133 Broadway Street, Suite 914, Denver, CO 80203 T 303 296 1400

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☐ **STRUCTURAL ENGINEER**
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San Francisco, CA 94105
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☐ **LANDSCAPE ARCHITECT**
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Project:

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Client:

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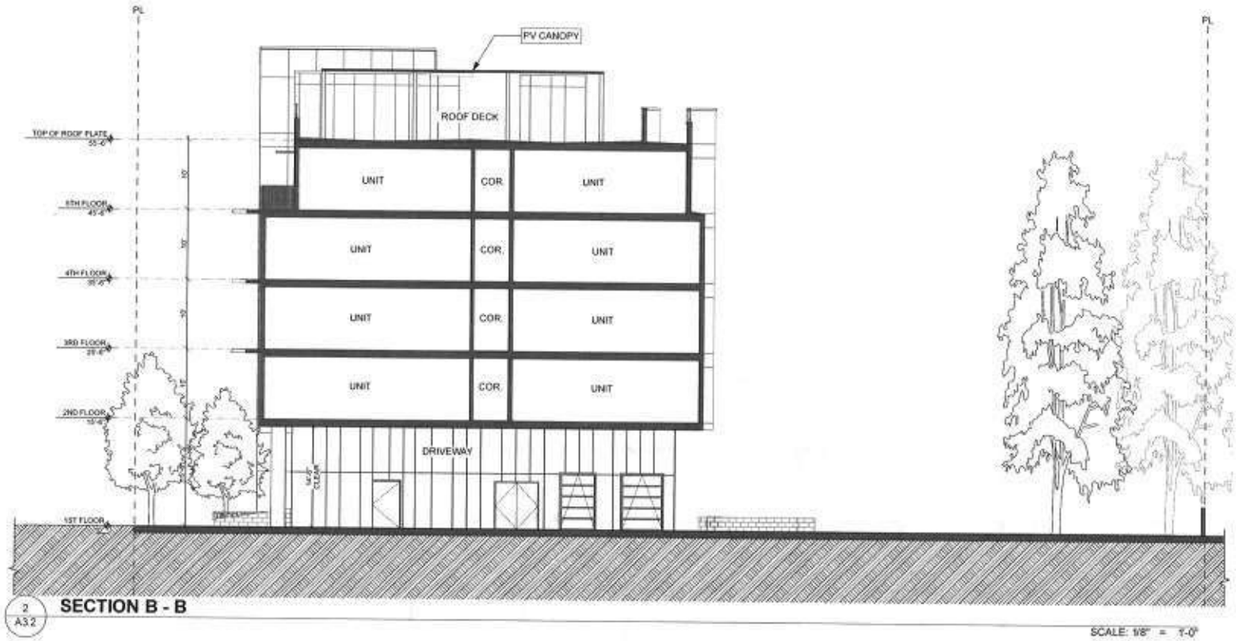
Palo Alto, CA 94301
(650) 321-9709

BUILDING SECTIONS

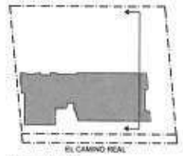
Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A3.1

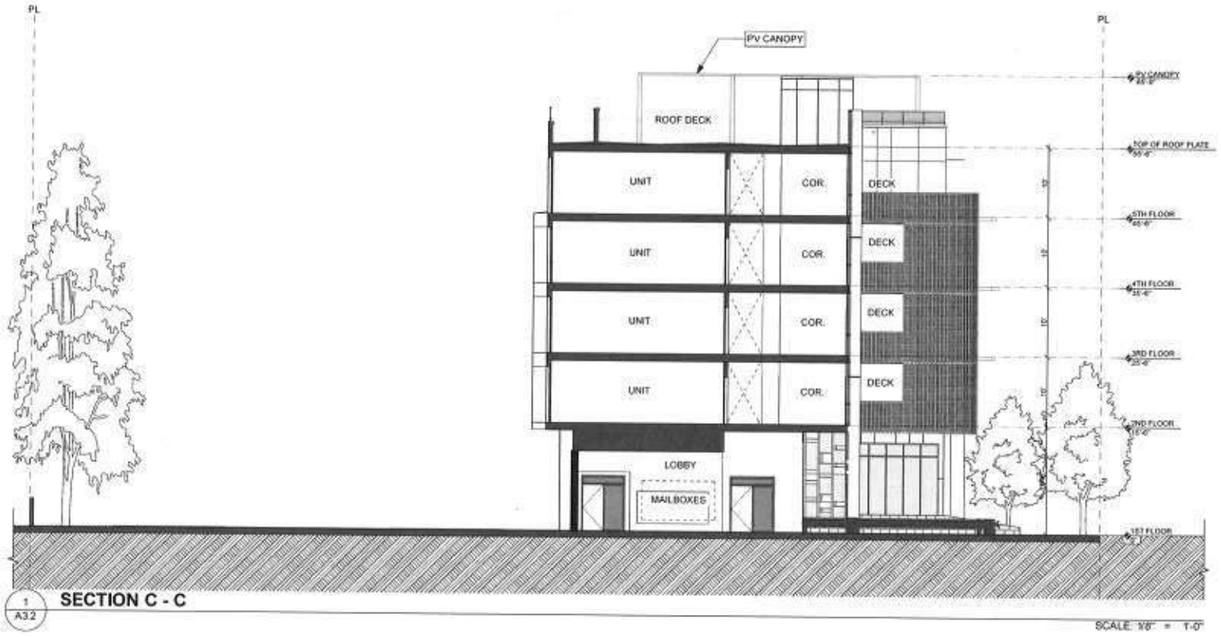


2 A3.2 **SECTION B - B**

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



KEY MAP



1 A3.2 **SECTION C - C**

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

KEY MAP

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STATE OF COLORADO
TIMOTHY C. VAN METER
309613
REGISTERED ARCHITECT

Project:

950 W EL CAMINO REAL

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MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

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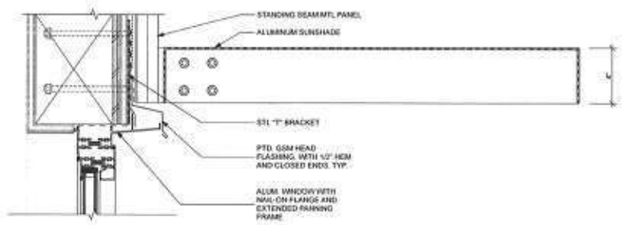
Palo Alto, CA 94301
(650) 321-9709

BUILDING SECTIONS

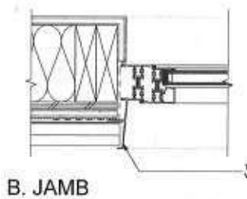
Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A3.2



7 / A5.0 **HORIZONTAL SUNSHADE AT WINDOW HEAD**

3" = 1'-0"



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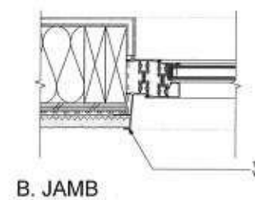

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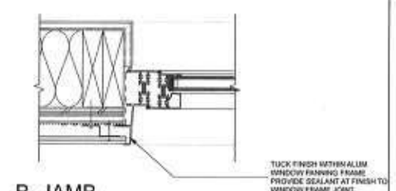

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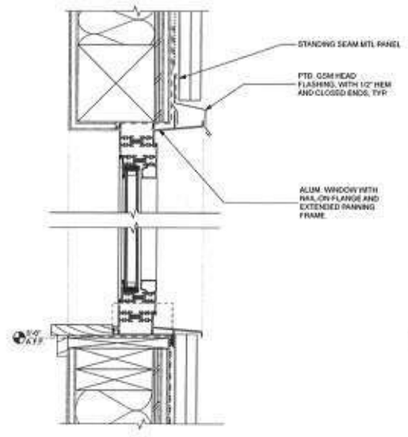
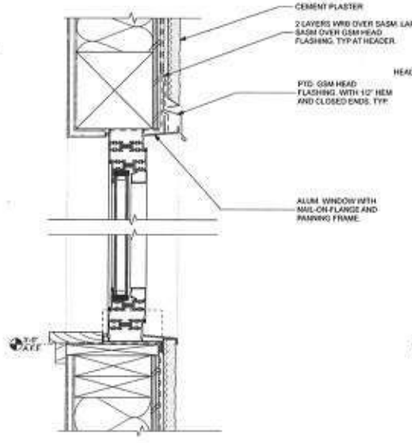


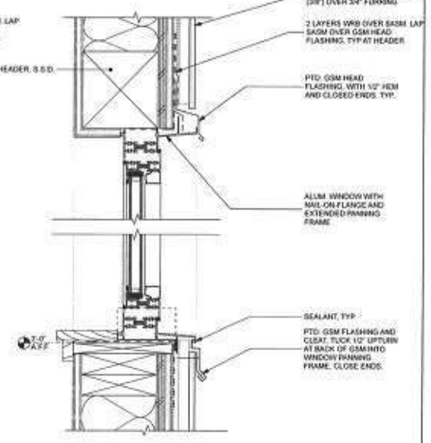
9 / A5.0 **HEAD/SILL @ STANDING SEAM**

3"=1'-0"



5 / A5.0 **HEAD/SILL @ CEMENT PLASTER**

3"=1'-0"



1 / A5.0 **HEAD/SILL @ FIBER CEMENT PANEL**

3"=1'-0"

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[illegible]

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LICENSED ARCHITECT

Project:

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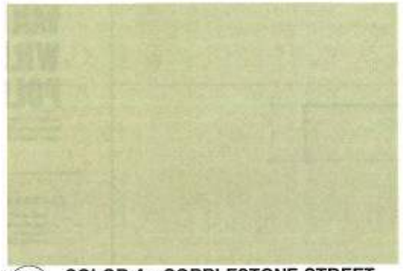
SCHEDULE DETAILS

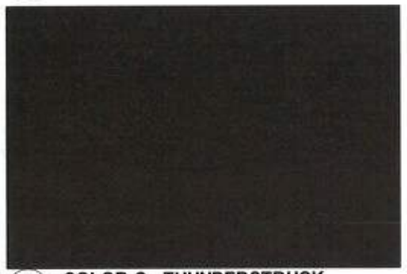
Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A5.0



14 A5.1 COLOR A - COBBLESTONE STREET

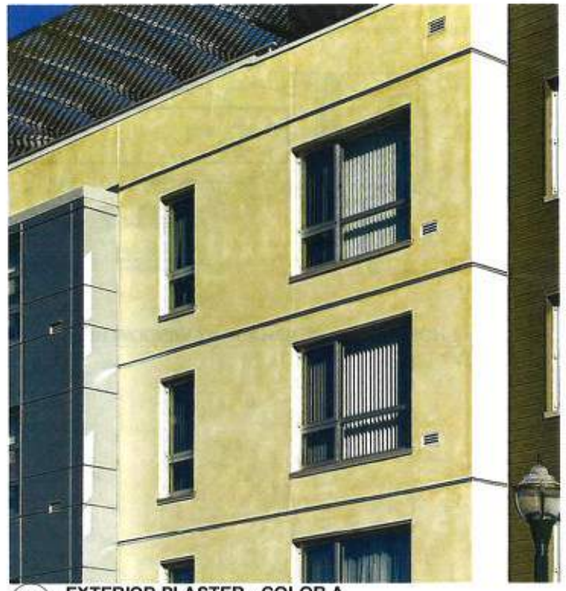
9 A5.1 COLOR B - WINTER'S PARK



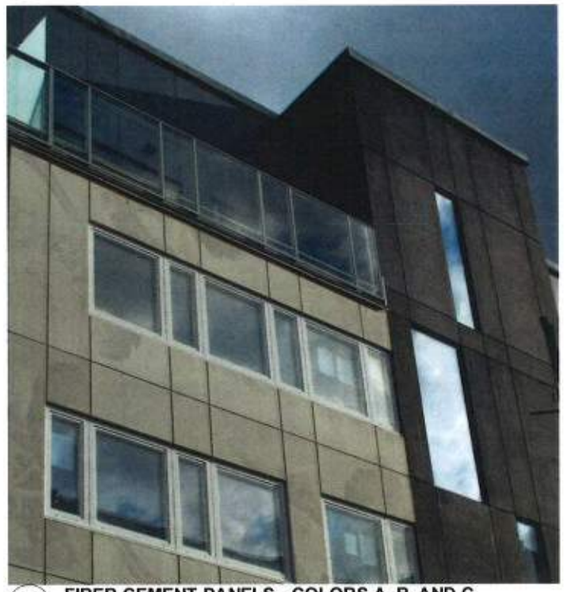
10 A5.1 COLOR C - THUNDERSTRUCK

11 A5.1 COLOR D - CHAMPAGNE

10 A5.1 PANELIZED MURAL



9 A5.1 EXTERIOR PLASTER - COLOR A



8 A5.1 FIBER CEMENT PANELS - COLORS A, B, AND C

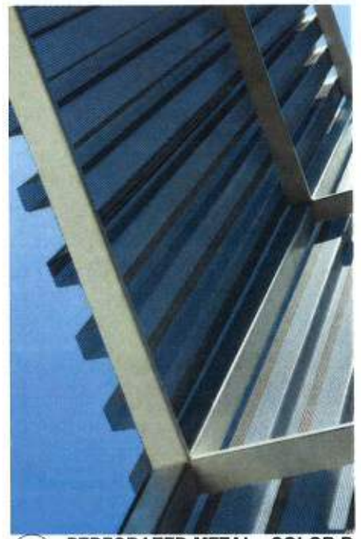
7 A5.1 CMU PLANTERS

11 A5.1 STANDING SEAM SIDING - COLOR D

10 A5.1 SUNSHADES AND ACCENT METAL - COLOR C

4 A5.1 ALUMINUM STOREFRONT

3 A5.1 ALUMINUM CASEMENT WINDOWS



2 A5.1 PERFORATED METAL - COLOR D

1 A5.1 COLORED GLASS

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Project:

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Client:

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(650) 321-9709

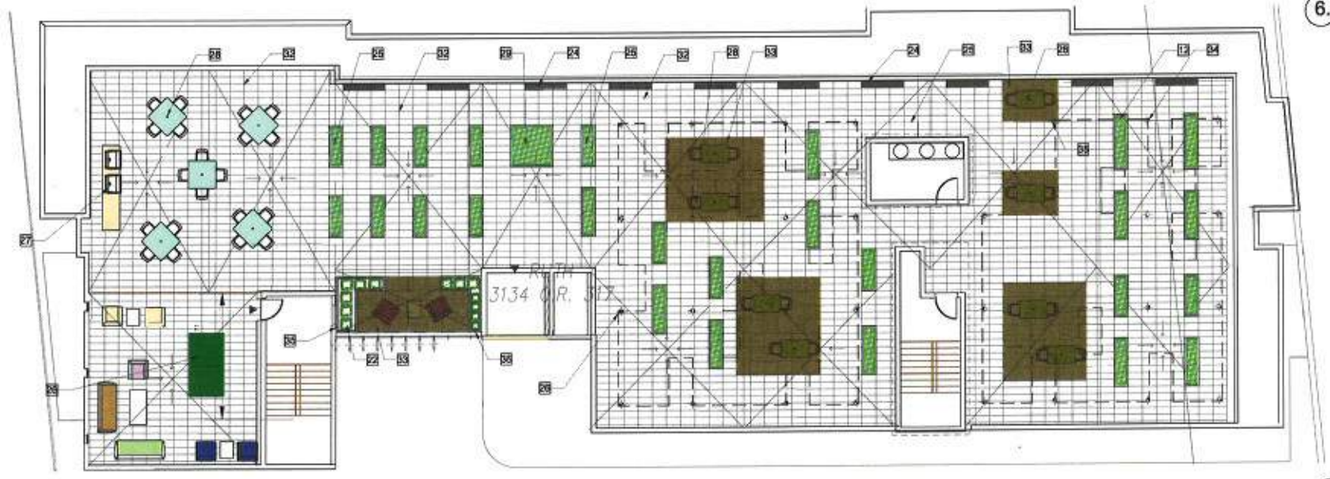
COLORS AND MATERIALS

Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A5.1

1. CONCEPTUAL LANDSCAPE PLAN

SCALE: 1" = 10'



2. CONCEPTUAL ROOF GARDEN PLAN

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

2. LEGEND

1. PERMEABLE PAVERS WITH A THREE YEAR AGED SOLAR REFLECTANCE INDEX OF .28
2. EXISTING TREE TO BE PRESERVED AND PROTECTED
3. PROPERTY LINE
4. SMALL SCALE FLOWERING ACCENT TREE
5. BIKE RACK FOR GUESTS - 8 SPACES
6. EXISTING TREE TO BE REMOVED - SEE TREE DISPOSITION PLAN
7. SHRUB AND GROUNDCOVER AREA
8. BIORETENTION PLANTER-S.A.D.
9. LINEAR CONCRETE PAVERS
10. NATURAL GRAY CONCRETE
11. LITTER RECEPT.
12. COLORED CONCRETE PAVING
13. BUILDING COLUMN
14. FLOWERING VINE ON FENCE
15. BARK MULCH LAYER UNDER EXISTING TREES
16. LARGE SCALE SHADE TREE
17. CITY STREET TREE
18. DECOMPOSED GRANITE PAVING
19. PUBLIC SIDEWALK
20. IN GROUND LIGHT
21. BACKFLOW/UTILITIES
22. EVERGREEN HEDGE
23. EVERGREEN SCREEN SHRUBS
24. BENCH WITH BACKREST
25. GARDEN PLANTER
26. PING PONG TABLE
27. BARBECUE
28. DINING TABLES AND CHAIRS
29. LARGE GARDEN PLANTER
30. POTS WITH BOLD FOLIAGE
31. SMOOTH GRANITE BOULDERS
32. PEDESTAL PAVERS
33. WOOD DECKING
34. PV CELL SUPPORT COLUMN
35. RAISED PLANTER

CITY STREET TREE
SPECIES ON EL CAMINO:
QUERCUS COCCINEA
SCARLET OAK

LARGE SCALE SHADE TREE:
QUERCUS ILEX
HOLLY OAK

SMALL SCALE FLOWERING ACCENT TREE:
CORNUS NUTTALLII
PACIFIC COAST DOGWOOD

3. TREE TYPES

20 IN GROUND LIGHTS
MANUF: BEGA
STYLE: 4 SLOT PUCK LIGHT
MODEL: 88 675
COLOR: BLACK
QTY: EIGHT

4. LANDSCAPE LIGHTING TYPE

1. PERMEABLE PAVERS
MANUF: UNILOCK
STYLE: 'ECO-PRIORA'
FINISH: STANDARD
COLOR: COBALT

9. LINEAR CONCRETE PAVERS
MANUF: ACKER-STONE
FINISH: FACE MIX, GRIND
COLOR: WHITE WITH LARGE BLACK AGGREGGATE
SIZE: 4" X 12", NO CHAMFER

12 COLORED CONCRETE
MANUF: DAVIS COLOR
FINISH: LIGHT SANDBLAST
COLOR: MESQUITE

5. PAVING TYPES - SITE

32 PEDESTAL PAVERS
MANUF: TILE TECH
FINISH: GROUND, BEVELED EDGE
COLOR: MIST BLACK
SIZE: 12" X 24"

33 WOOD DECKING
MANUF: TILE TECH
FINISH: SMOOTH
WOOD: SEALED, IPE
SIZE: 24" X 24"

6. PAVING TYPES - ROOF

24 BENCH WITH BACKREST
MANUF: FORMS + SURFACES
MODEL: KNIGHT
SLATS: IPE WOOD
SIZE: 72" LONG X 22" WIDE

11 LITTER
MANUF: FORMS + SURFACES
MODEL: SNLKI-30 'KNIGHT'
COLOR: POWDERCOAT 'ARGENTO TEXTURE'

25 GARDEN PLANTER
MANUF: CORAL COAST GUTHERIE
SIZE: 2' WIDE X VARIOUS LENGTHS

5 BIKE RACK
MANUF: BIKEPARKING.COM
MODEL: 'WELLE' LOOP
SIZE: 8 BIKE SPACES

24 POTTERY
MANUF: PLANTERS UNLIMITED
SIZE: 24" X 24"
STYLE: MODERN
COLOR: DOVE

7. SITE FURNISHINGS

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Project:

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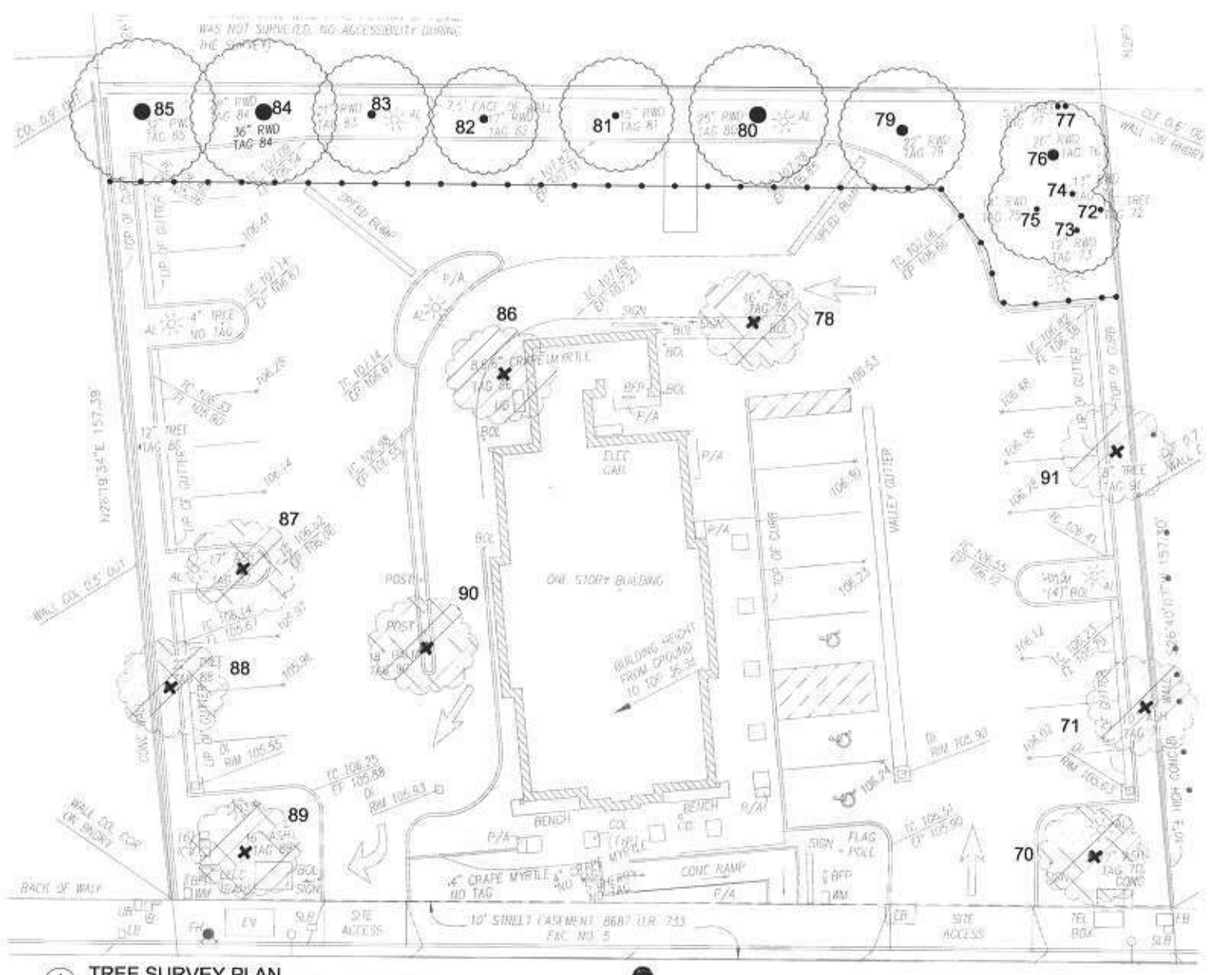
CONCEPTUAL LANDSCAPE PLAN

Job#: 1733

Scale: AS NOTED

L-1



1. TREE SURVEY PLAN

SCALE: 1" = 10' 0 10' 20' 30'

TREE REMOVAL NOTES

1. THE LOCATION OF ALL SERVICE RUNS SUCH AS WATER SUPPLY, SEWER, ELECTRICITY, TELEPHONES, CABLE, GAS, STORM DRAIN LINES, ETC. SHALL BE ASCERTAINED BEFORE TREE REMOVAL WORK IS STARTED. WHERE SUCH LINES WILL BE AFFECTED BY TREE REMOVAL, OR WHERE TREE REMOVAL MACHINERY WILL BE WORKING NEARBY, LINES SHOULD BE CAREFULLY SEALED OFF, PROTECTED OR DIVERTED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE NECESSARY PRECAUTIONARY ACTIONS.

2. REMOVE ONLY THOSE TREES INDICATED ON THIS PLAN TO BE REMOVED. TREE TRUNK DIAMETERS ARE NOTED ON PLAN. TREES INDICATED TO BE REMOVED SHALL HAVE THE ROOT SYSTEMS AND STUMP REMOVED.

3. EXCAVATIONS FROM REMOVAL OF TREE ROOT SYSTEMS SHALL BE CLEANED OF LOOSE SOIL AND ANY POTENTIALLY DELETERIOUS MATERIAL AND BACKFILLED WITH COMPACTED ENGINEERED FILL PER THE GEOTECH REPORT.

4. REFER TO SHEET L-3 FOR TREE PROTECTION FENCING NOTES, ARBORIST TREE PRESERVATION REQUIREMENTS AND TREE PROTECTION DETAILS.

SYMBOL LEGEND

70 — NON HERITAGE TREE TO BE REMOVED NUMBER CORRESPONDS TO ARBORIST TREE TAG

70 — HERITAGE TREE TO BE REMOVED NUMBER CORRESPONDS ARBORIST TREE TAG NINE HERITAGE TREES TO BE REMOVED

70 — HERITAGE TREE TO BE PRESERVED NUMBER CORRESPONDS ARBORIST TREE TAG

TREE REMOVAL SCHEDULE

TREE TAG NUMBER	BOTANIC NAME	COMMON NAME	DIAMETER	PRESERVE/ REMOVE	STATUS	SUITABILITY FOR PRESERVATION
70	FRAXINUS OXY. 'RAYWOOD'	RAYWOOD ASH	1'-5"	REMOVE	HERITAGE	LOW
71	FRAXINUS OXY. 'RAYWOOD'	RAYWOOD ASH	5'-10"	REMOVE	NONE	LOW
72	ACACIA MELANOXYLON	BLACKWOOD ACACIA	1'-5"	PRESERVE	HERITAGE	LOW
73	SEQUOIA SEMPERVIRENS	COAST REDWOOD	1'-5"	PRESERVE	HERITAGE	HIGH
74	SEQUOIA SEMPERVIRENS	COAST REDWOOD	1'-1"	PRESERVE	HERITAGE	HIGH
75	SEQUOIA SEMPERVIRENS	COAST REDWOOD	14"	PRESERVE	HERITAGE	HIGH
76	SEQUOIA SEMPERVIRENS	COAST REDWOOD	33"	PRESERVE	HERITAGE	HIGH
77	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	8'-5"	PRESERVE	NONE	LOW
78	FRAXINUS OXY. 'RAYWOOD'	RAYWOOD ASH	1'-4"	REMOVE	HERITAGE	LOW
79	SEQUOIA SEMPERVIRENS	COAST REDWOOD	1'-10"	PRESERVE	HERITAGE	HIGH
80	SEQUOIA SEMPERVIRENS	COAST REDWOOD	2'-1"	PRESERVE	HERITAGE	MODERATE
81	SEQUOIA SEMPERVIRENS	COAST REDWOOD	1'-3"	PRESERVE	HERITAGE	MODERATE
82	SEQUOIA SEMPERVIRENS	COAST REDWOOD	1'-6"	PRESERVE	HERITAGE	HIGH
83	SEQUOIA SEMPERVIRENS	COAST REDWOOD	1'-9"	PRESERVE	HERITAGE	MODERATE
84	SEQUOIA SEMPERVIRENS	COAST REDWOOD	2'-4"	PRESERVE	HERITAGE	MODERATE
85	SEQUOIA SEMPERVIRENS	COAST REDWOOD	2'-6"	PRESERVE	HERITAGE	MODERATE
86	LAGERSTROEMIA INDICA	CRAPE MYRTLE	0'-8"	REMOVE	NONE	WITHIN BLDG
87	FRAXINUS OXY. 'RAYWOOD'	RAYWOOD ASH	1'-5"	REMOVE	HERITAGE	LOW
88	FRAXINUS OXY. 'RAYWOOD'	RAYWOOD ASH	1'-10"	REMOVE	HERITAGE	LOW
89	FRAXINUS OXY. 'RAYWOOD'	RAYWOOD ASH	1'-4"	REMOVE	HERITAGE	WITHIN BLDG
90	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	1'-8"	REMOVE	HERITAGE	WITHIN BLDG
91	FRAXINUS OXY. 'RAYWOOD'	RAYWOOD ASH	8	REMOVE	NONE	LOW
92	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	0'-8"	PRESERVE	OFF SITE NONE	MODERATE
93	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	0'-6"	PRESERVE	OFF SITE, NONE	MODERATE
94	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	0'-8"	PRESERVE	OFF SITE, NONE	MODERATE
95	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	0'-7"	PRESERVE	OFF SITE, NONE	MODERATE
96	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	0'-6"	PRESERVE	OFF SITE, NONE	MODERATE
97	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	0'-6"	PRESERVE	OFF SITE, NONE	MODERATE
98	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	0'-4"	PRESERVE	OFF SITE, NONE	MODERATE
99	OLEA	OLIVE	0'-10"	PRESERVE	OFF SITE, NONE	MODERATE
100	FICUS	FIG	0'-6"	PRESERVE	OFF SITE, NONE	LOW
TOTAL TREES REMOVED: 9						
TOTAL HERITAGE TREES REMOVED: 6						

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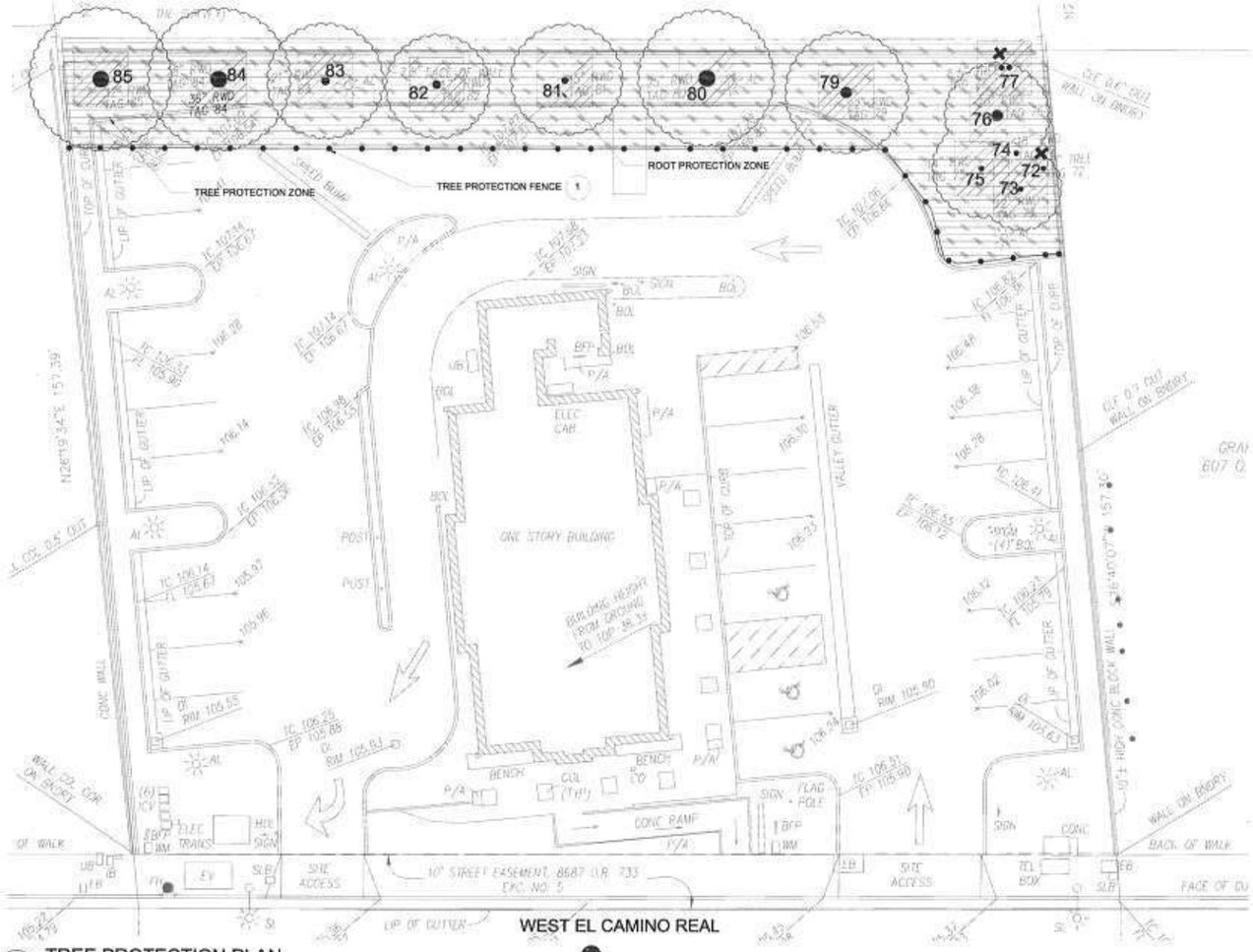
TREE DISPOSITION PLAN

Job#: 1733

Scale: AS NOTED

L-2



1. TREE PROTECTION PLAN

SCALE: 1" = 10' 0 10' 20' 30'

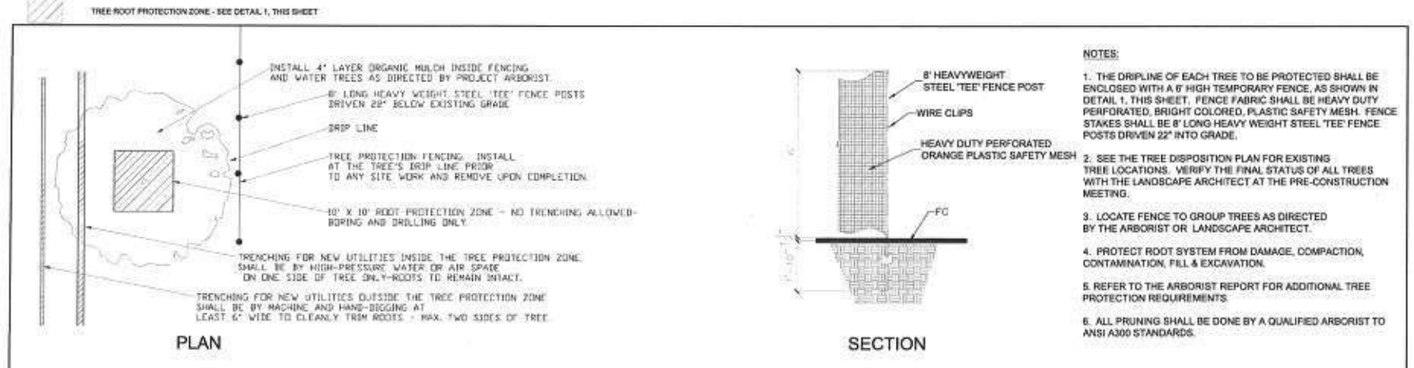
SYMBOL LEGEND

70 — TREE TO BE PRESERVED AND PROTECTED NUMBER CORRESPONDS ARBORIST TREE TAG

TREE PROTECTION ZONE REFER TO ARBORIST REPORT, THIS SHEET.

TREE PROTECTION FENCE (1)

TREE ROOT PROTECTION ZONE - SEE DETAIL 1, THIS SHEET



NOTES:

1. THE DRIPLINE OF EACH TREE TO BE PROTECTED SHALL BE ENCLOSED WITH A 6' HIGH TEMPORARY FENCE, AS SHOWN IN DETAIL 1, THIS SHEET. FENCE FABRIC SHALL BE HEAVY DUTY PERFORATED, BRIGHT COLORED, PLASTIC SAFETY MESH. FENCE STAKES SHALL BE 8' LONG HEAVY WEIGHT STEEL 'TEE' FENCE POSTS DRIVEN 22" INTO GRADE.
2. SEE THE TREE DISPOSITION PLAN FOR EXISTING TREE LOCATIONS. VERIFY THE FINAL STATUS OF ALL TREES WITH THE LANDSCAPE ARCHITECT AT THE PRE-CONSTRUCTION MEETING.
3. LOCATE FENCE TO GROUP TREES AS DIRECTED BY THE ARBORIST OR LANDSCAPE ARCHITECT.
4. PROTECT ROOT SYSTEM FROM DAMAGE, COMPACTION, CONTAMINATION, FILL & EXCAVATION.
5. REFER TO THE ARBORIST REPORT FOR ADDITIONAL TREE PROTECTION REQUIREMENTS.
6. ALL PRUNING SHALL BE DONE BY A QUALIFIED ARBORIST TO ANSI A300 STANDARDS.

1. TREE PROTECTION DETAILS

ARBORIST PRELIMINARY TREE PROTECTON GUIDELINES

The goal of tree preservation is not merely tree survival during development but maintenance of tree health and beauty for many years. Trees retained on sites that are either subject to extensive injury during construction or are inadequately maintained become a liability rather than an asset. The response of individual trees will depend on the amount of excavation and grading, the care with which demolition is undertaken, and the construction methods. Coordinating any construction activity inside the **TREE PROTECTION ZONE** can minimize these impacts.

The following recommendations will help reduce impacts to trees from development and maintain and improve their health and vitality through the clearing, grading and construction phases.

Design recommendations

1. All plans affecting trees shall be reviewed by the Consulting Arborist with regard to tree impacts. These include, but are not limited to, demolition plans, grading and utility plans, landscape and irrigation plans.
2. A **TREE PROTECTION ZONE** must be established for trees to be preserved, in which no disturbance is permitted. **TREE PROTECTION ZONES** shall be identified for trees to be preserved by the Consulting Arborist once project plans have been finalized. No grading, excavation, construction or storage of materials shall occur within that zone.
   a. For design purposes, the **TREE PROTECTION ZONES** for coast redwoods shall be the existing planter area for trees #73-76; and the TPZ for #79-85 shall be a rectangle that extends the length of the property line and whose width encloses the drip lines.
3. Underground services including utilities, sub-drains, water or sewer shall be routed around the **TREE PROTECTION ZONE**. Where encroachment cannot be avoided, special construction techniques such as hand digging or tunneling under roots shall be employed where necessary to minimize root injury.
4. No underground services including utilities, sub-drains, water or sewer shall be placed in the **TREE PROTECTION ZONE**.
5. **Tree Preservation Notes**, prepared by the Consulting Arborist, should be included on all plans.
6. Do not lime within 25' of any tree. Lime is toxic to tree roots.
7. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use.
8. Irrigation systems must be designed so that no trenching will occur not within the **TREE PROTECTION ZONE**.

Pre-construction treatments and recommendations

1. The construction superintendent shall meet with the Consulting Arborist before beginning work to discuss work procedures and tree protection.
2. Fence all trees to be retained to completely enclose the **TREE PROTECTION ZONE** prior to demolition, grubbing or grading. Fences shall be 6 ft. chain link or equivalent as approved by Consulting Arborist. Fences are to remain until all grading and construction is completed.
3. Pruning trees to provide construction and access clearance may be required. Off-site trees will likely require some amount of pruning to provide a construction clearance.
4. Prune trees to be preserved to clean the crown and to provide clearance. All pruning shall be done by a State of California Licensed Tree Contractor (C61/D49). All pruning shall be done by Certified Arborist or Certified Tree Worker in accordance with the Best Management Practices for Pruning (International Society of Arboriculture, 2002) and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300).
5. All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. To the extent feasible tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted prior to tree work. Qualified biologists should be involved in establishing work buffers for active nests.

Recommendations for tree protection during construction

1. Prior to beginning work, the contractors working in the vicinity of trees to be preserved are required to meet with the Consulting Arborist at the site to review all work procedures access routes, storage areas and tree protection measures.
2. All contractors shall conduct operations in a manner that will prevent damage to trees to be preserved.
3. No grading, construction, demolition or other work shall occur within the **TREE PROTECTION ZONE**. Any modifications must be approved and monitored by the Consulting Arborist.
4. Fences have been erected to protect trees to be preserved. Fences define a specific **TREE PROTECTION ZONE** for each tree or group of trees. Fences are to remain until all site work has been completed. Fences may not be relocated or removed without permission of the Consultant.
5. Construction trailers, traffic and storage areas must remain outside fenced areas at all times.
6. Prior to grading, pad preparation, excavation for foundations/footings/walls, trenching, trees may require root pruning outside the **TREE PROTECTION ZONE**. Any root pruning required for construction purposes shall receive the prior approval of, and be supervised by, the Consulting Arborist.
7. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.
8. No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored within the **TREE PROTECTION ZONE**.
9. Any additional tree pruning needed for clearance during construction must be performed by a Certified Arborist and not by construction personnel.

Maintenance of Impacted trees

Preserved trees will experience a physical environment different from that pre-development. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority. As trees age, the likelihood of failure of branches or entire trees increases; therefore, annual inspection for hazard potential is recommended.

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950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

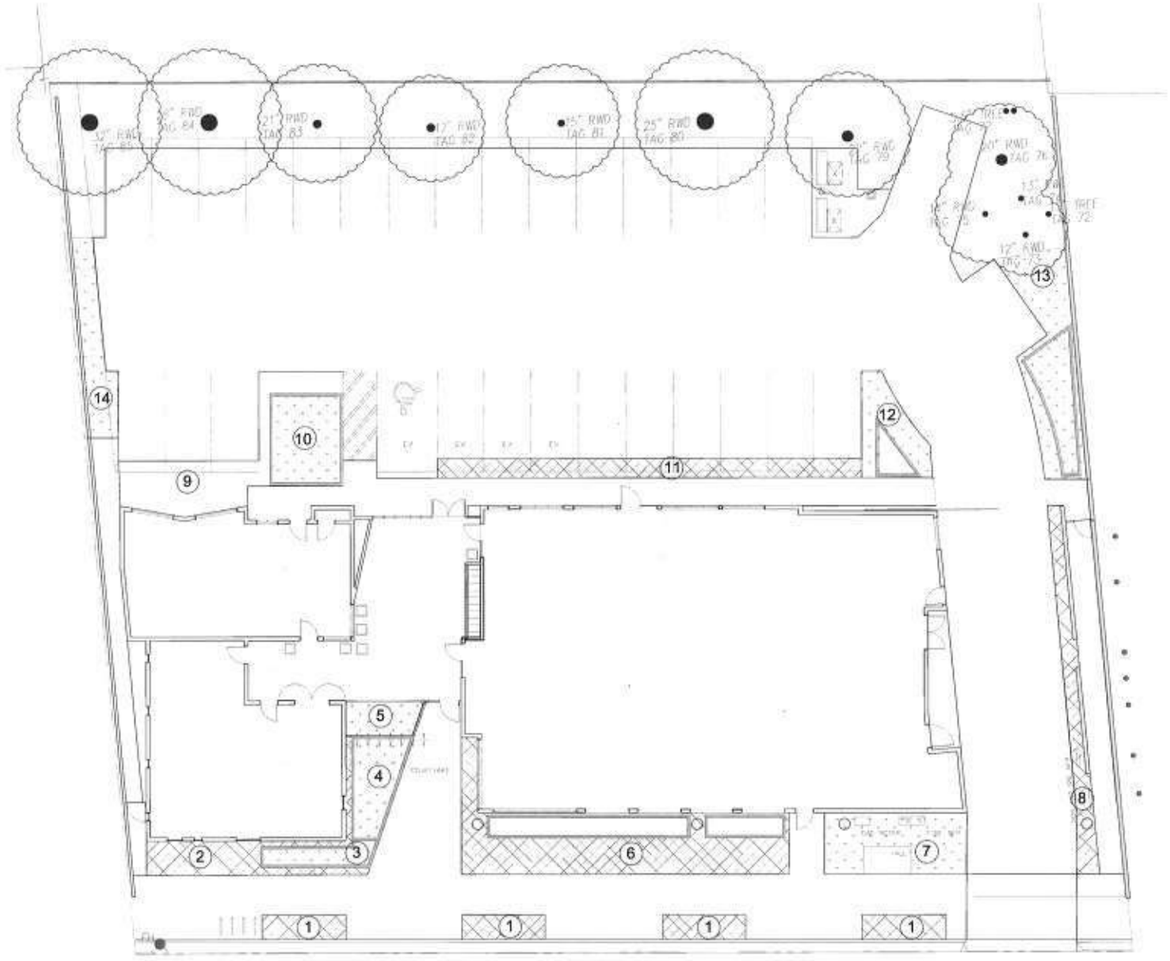
725 Alma St
Palo Alto, CA 94301
(650) 321-9709

TREE PROTECTION PLAN

Job#: 1733

Scale: AS NOTED

L-3



1. IRRIGATION ZONE PLAN

SCALE: 1" = 10' 0 10' 20' 30'

LEGEND

- LOW WATER USE PLANTED AREA -SUB SURFACE DRIP AND BUBBLERS
- MODERATE WATER USE PLANTED AREA -SUB SURFACE DRIP AND BUBBLERS
- EXISTING TREE TO BE PRESERVED

SUMMARY OF HYDROZONE AREA INFORMATION	
SUM OF LOW WATER USE AREAS	1,378
SUM OF MODERATE WATER USE AREAS	1751
SUM OF ALL LANDSCAPE AREAS	3,129

TABLE A-2 INPUT VALUES FOR THE MAWA CALCULATION					
ETo	CONVERSION FACTOR	LANDSCAPE AREA	SPECIAL LANDSCAPE AREA	ETAF	MAXIMUM APPLIED WATER ALLOWANACE
43	62	3129	0	0.45	37539

TABLE A-1 HYDROZONE AREA INFORMATION

HYDROZONE	PLANT WATER USE TYPE	HYDROZONE AREA
1	MODERATE	268
2	MODERATE	182
3	LOW	60
4	LOW	127
5	LOW	82
6	MODERATE	462
7	LOW	231
8	MODERATE	182
9	MODERATE	393
10	LOW	187
11	MODERATE	264
12	LOW	171
13	LOW	360
14	LOW	160
TOTALS		3129

TABLE B-1 PLANT FACTOR AND IRRIGATION INFORMATION

HYDROZONE	PLANT WATER USE TYPE	IRRIGATION TYPE	PLANT FACTOR	HYDROZONE AREA	PFXHA	IRRIGATION EFFICIENCY	PFXHA/IE	ESTIMATED TOTAL WATER USE (PFXHA/IE)X(ETo)X(0.62)
1	MODERATE	TREE BUBBLERS	0.5	268	134	0.81	165.4	4418.4
2	MODERATE	SUB SURFACE DRIP	0.5	182	91	0.81	112.3	2999.1
3	LOW	SUB SURFACE DRIP	0.3	60	18	0.81	22.2	592.4
4	LOW	SUB SURFACE DRIP	0.3	127	38.1	0.81	47.0	1254
5	LOW	SUB SURFACE DRIP	0.3	82	24.6	0.81	30.4	805.7
6	MODERATE	SUB SURFACE DRIP	0.5	462	231	0.81	285.2	7603
7	LOW	SUB SURFACE DRIP	0.3	231	69.3	0.81	85.6	2280.9
8	MODERATE	SUB SURFACE DRIP	0.5	182	91	0.81	112.3	2995.1
9	MODERATE	SUB SURFACE DRIP	0.5	393	196.5	0.81	242.6	6467.5
10	LOW	SUB SURFACE DRIP	0.3	187	56.1	0.81	69.3	1846.5
11	MODERATE	SUB SURFACE DRIP	0.5	264	132	0.81	162.9	4344.6
12	LOW	SUB SURFACE DRIP	0.3	171	51.3	0.81	63.3	1688.5
13	LOW	SUB SURFACE DRIP	0.3	360	108	0.81	133.3	3554.7
14	LOW	SUB SURFACE DRIP	0.3	160	48	0.81	59.3	1579.9
TOTALS				3,129				59946

2. IRRIGATION WATER USE CALCULATIONS

NOTE: REFER TO PLANT LIST, SHEET L-5
FOR PLANT MATERIALS WUCOLS RATINGS
ETWU DOES NOT EXCEED MAXIMUM ALLOWED

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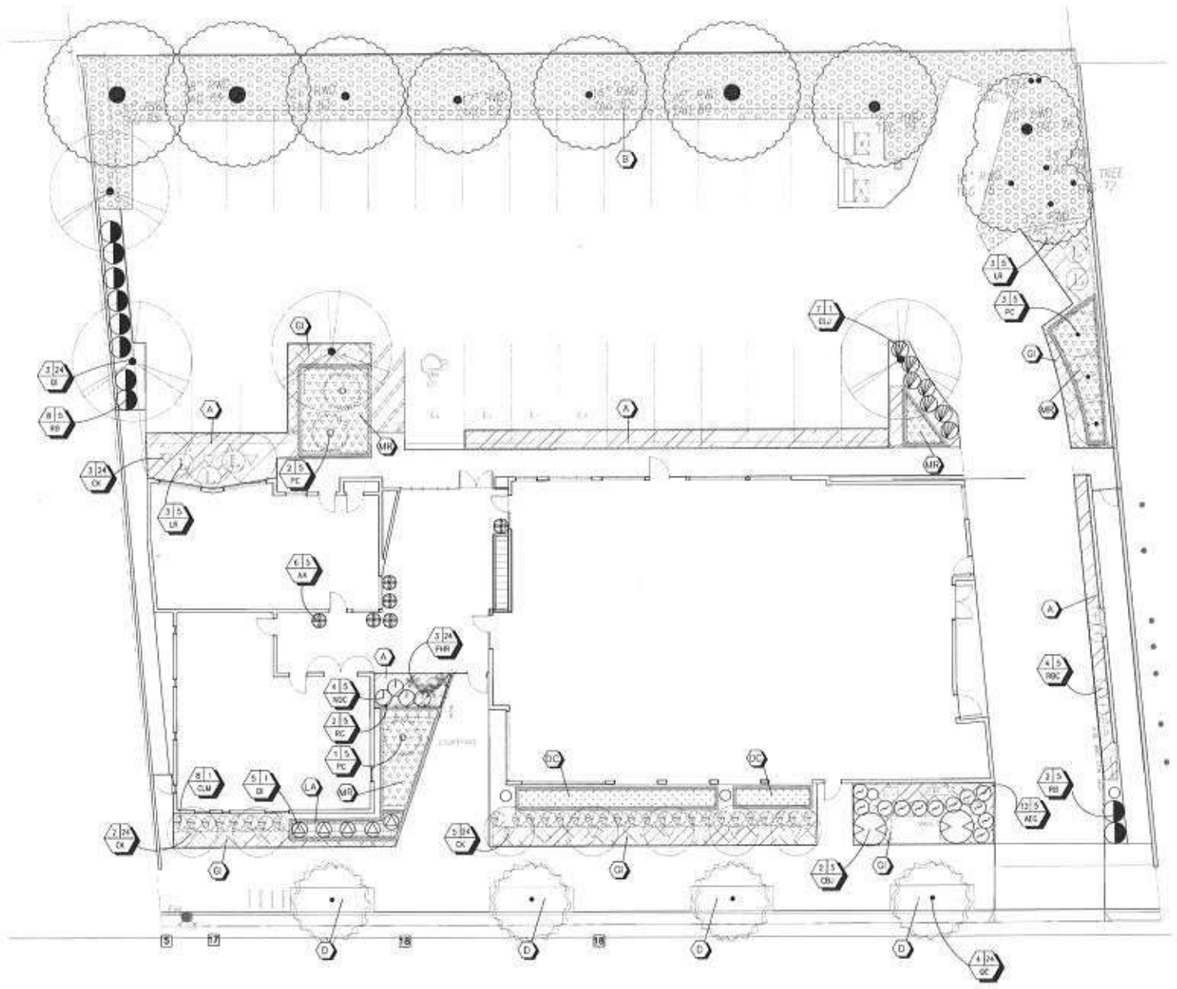
IRRIGATION WATER USE CALCULATIONS

Job#: 1733

Scale: AS NOTED

L-4



1. LANDSCAPE PLANTING PLAN

SCALE: 1" = 10' 0 10' 20' 30'

PLANT PALETTE

TREES

SYMBOL	KEY	BOTANIC NAME	COMMON NAME	SIZE	HEIGHT AND SPREAD WHEN PLANTED	NOTES/SPACING	QUANTITY	W.U.C.O.L.S WATER USE
	CK	CORNUS KOUSA	KOUSA DOGWOOD	24" BOX	8'-10' X 4'-6'	DOUBLE STAKE	10	MOD
	QC	QUERCUS COCCINEA	SCARLET OAK	24" BOX	8'-10' X 4'-6'	DOUBLE STAKE	4	LOW
	QI	QUERCUS ILEX	HOLLY OAK	24" BOX	15'-12' X 4'-6'	DOUBLE STAKE	4	LOW

SHRUBS AND VINES

SYMBOL	KEY	BOTANIC NAME	COMMON NAME	SIZE	HEIGHT AND SPREAD WHEN PLANTED	NOTES/SPACING	QUANTITY	W.U.C.O.L.S WATER USE
	AED	ABELIA GRA. 'EDWARD GOUCHER'	EDWARD GOUCHER ABELIA	5 GAL.	18" X 18"		12	MOD
	CLJ	CALLISTEMON CITRINUS 'LITTLE JOHN'	DWARF BOTTLEBRUSH	5 GAL.	18" X 18"		7	LOW
	CEU	CEANOTHUS 'BLUE JEANS'	CEANOTHUS VAR. 'BLUE JEANS'	5 GAL.	12" X 12"		3	LOW
	CLH	CISTUS CORBARIENSIS 'LITTLE MISS SUNSHINE'	N.C.N.	1 GAL.	12" X 12"		30	LOW
	EX	DIETES BICOLOR X JASMINUM POLYANTHUM	N.C.N.	1 GAL.	12" X 12"		8	LOW
	LCR	LONICERA SUP. CHINENSE VAR. 'RAZZLEBERRY'	CHINESE FRAISE FLOWER VAR. 'RAZZLEBERRY'	5 GAL.	12" X 12"		6	LOW
	NDC	NANDINA DOMESTICA VAR. 'COMPACTA'	HEAVENLY BAMBOO VAR. COMPACTA	5 GAL.	12" X 12"		4	LOW
	PHR	PHOENIX ROEBELLINI	PYGMY DATE PALM	24" BOX	36" X 36"		3	LOW
	RIB	RAPHIOLEPIS INDICA 'BALLERINA'	INDIA HAWTHORN VAR. 'BALLERINA'		12" X 12"		10	LOW
	RBC	RIBES SANGUINEUM VAR. 'BARRIE COAT'	PINK WINTER CURRENT VAR. 'BARRIE COAT'	5 GAL.	18" X 18"		4	LOW
	RC	ROSA 'CECILE BRUNNER'	SWEETHEART ROSE	5 GAL.	MIN. OF 18" RUNNERS PER PLANT		2	LOW

PERENNIALS AND SUCCULENTS

SYMBOL	KEY	BOTANIC NAME	COMMON NAME	SIZE	HEIGHT AND SPREAD WHEN PLANTED	NOTES/SPACING	QUANTITY	W.U.C.O.L.S WATER USE
	AA	AGAVE ATTENUATA	FOXTAIL AGAVE	15 GAL.	24"X 36"		6	LOW

GROUND COVERS

SYMBOL	KEY	BOTANIC NAME	COMMON NAME	SIZE	HEIGHT AND SPREAD WHEN PLANTED	NOTES/SPACING	QUANTITY	W.U.C.O.L.S WATER USE
	A	ASARUM CAUDATUM	CALIFORNIA GINGER	1 GAL.	12" X 12"	24" O.C. TRIANGULAR	833 S.F.	MOD
	GI	GERANIUM INCANUM	CARPET GERANIUM	4" POTS	8" X 8"	6" O.C. TRIANGULAR	784 S.F.	LOW
	LM	LANTANA MONTEVIDENSIS	LANTANA	1 GAL.	12" X 12"	36" O.C. TRIANGULAR	96 S.F.	LOW
	B	4" LAYER OF BARK MULCH BENEATH TREES TO BE PRESERVED					2383 S.F.	
	D	3" LAYER OF DECOMPOSED GRANITE					2.6 C.Y.	

BIORETENTION AREA PLANTS

SHRUBS

SYMBOL	KEY	BOTANIC NAME	COMMON NAME	SIZE	HEIGHT AND SPREAD WHEN PLANTED	NOTES/SPACING	QUANTITY	W.U.C.O.L.S WATER USE
	MA	MAHONIA REPENS	CREEPING MAHONIA	1 GAL	12" X 12"	36" O.C. TRIANGULAR	489 S.F.	LOW
	PC	PHYSOCARPUS CAPITATUS	NINEBARK	5 GAL.	12" X 12"		3	LOW

GRASSES

SYMBOL	KEY	BOTANIC NAME	COMMON NAME	SIZE	HEIGHT AND SPREAD WHEN PLANTED	NOTES/SPACING	QUANTITY	WATER USE W.U.C.O.L.S
	DC	DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	1 GAL.	12"X 12"	12" O.C. TRIANGULAR	139 S.F.	LOW

INDICATES EXTENT OF STRUCTURAL SOIL AT NEW STREET TREES - SEE DETAIL X, SHEET L-X

PLANTING NOTES

1. REFER TO SPECIFICATIONS FOR MATERIAL AND WORKMANSHIP REQUIREMENTS, SOIL AMENDMENTS, INSPECTION SCHEDULES AND GENERAL CONDITIONS.

2. THE LANDSCAPE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AT THE SITE PRIOR TO THE START OF ANY WORK. REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT IMMEDIATELY.

3. ALL PLANTED AREAS WILL BE WATERED WITH A FULLY AUTOMATIC DRIP IRRIGATION SYSTEM.

4. THE FINAL LOCATION OF ALL TREES AND SHRUBS SHALL BE ADJUSTED IN THE FIELD BY THE LANDSCAPE ARCHITECT TO ACCOMMODATE EXISTING SITE CONDITIONS. CONTACT THE LANDSCAPE ARCHITECT 48 HOURS PRIOR TO PLANT LAYOUT FOR APPROVAL.

5. ALL PLANTED AREAS, EXCEPT BIORETENTION AREAS SHALL RECEIVE A 4" LAYER FIR OR REDWOOD BARK CHIPS APPLIED AFTER THE COMPLETION OF PLANTING OPERATIONS, "PRO-CHIP" WITH COLORANT OR APPROVED EQUIVALENT. SUBMIT SAMPLE TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO PLACING BARK MULCH. REJECTED MATERIAL WILL BE REMOVED FROM THE SITE AT THE EXPENSE OF THE CONTRACTOR. BIORETENTION AREAS SHALL RECIEVE A 3" LAYER OF COMPOSTED, NON-FLOATABLE ORGANIC MULCH ONLY (NO BARK MULCH) IN AREAS BETWEEN PLANTINGS AND SIDE SLOPES.

6. ALL SHRUBS SHALL BE PLANTED 1" ABOVE FINISH GRADE TO ALLOW FOR SETTLEMENT.

7. ALL LANDSCAPING, IRRIGATION AND MAINTENANCE OF SAME SHALL CONFORM TO THE CITY OF MOUNTAIN VIEW LANDSCAPE GUIDELINES.

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Client:

PALO ALTO HOUSING

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(650) 321-9709

LANDSCAPE PLANTING PLAN

Job#: 1733

Scale: AS NOTED

L-5

REFERENCED TITLE INSURANCE POLICY

TITLE COMPANY:	OLD REPUBLIC TITLE COMPANY 275 BATTERY STREET, SUITE 1500 SAN FRANCISCO, CA 94111
REPORT NO.:	0227019838-MN
REPORT DATE:	AUGUST 16, 2017
ESCROW OFFICER:	MARTHA NAKAGAWA
TITLE VESTED IN:	RAKESH KUMAR AND PREMILA KUMAR, TRUSTEES OF RAKESH KUMAR AND PREMILA KUMAR REVOCABLE FAMILY TRUST U/D/T DATED FEBRUARY 15, 2012
NATURE OF TITLE:	FEE

MAP NOTES

PROPERTY ADDRESS:	950 WEST EL CAMINO REAL, MOUNTAIN VIEW, CA 94040
ASSESSOR'S PARCEL NO.:	158-07-019
FLOOD ZONE DESIGNATION:	ZONE X AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN PER INSURANCE RATE MAP (FIRM), NO. 06085C0039H, COMMUNITY NO. 060347 (CITY OF MOUNTAIN VIEW), PANEL 0226, SUFFIX H, EFFECTIVE DATE MAY 18, 2009 FROM FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
LAND AREA:	0.648 ACRES±
LAND USE:	COMMERCIAL
ZONING:	MS – INDUSTRIAL AND SERVICE
PARKING COUNT:	STANDARD: 24 SPACES DISABLED: 3 SPACES TOTAL: 27 SPACES

SURVEY NOTES

EXTERIOR DIMENSIONS OF THE BUILDING WAS TAKEN ALONG THE EXTERIOR FOOTPRINT OF BUILDING ENVELOPE AT GROUND LEVEL.

BUILDING SQUARE FOOTAGE WAS CALCULATED BASED ON THE EXTERIOR FOOTPRINT OF BUILDING ENVELOPE AT GROUND LEVEL.

THERE ARE NO OBSERVED EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS ON THE DAY OF FIELD SURVEY.

THERE ARE NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES AFFECTING THE PROPERTY.

THERE IS NO OBSERVED EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS AFFECTING THE PROPERTY ON THE DAY OF FIELD SURVEY.

THERE WAS NO OBSERVED EVIDENCE OF WETLAND DELINEATION MARKERS ON SITE.

PROPERTY DESCRIPTION

THE LAND REFERRED TO IN THIS REPORT IS SITUATED IN THE COUNTY OF SANTA CLARA, CITY OF MOUNTAIN VIEW, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTHEASTERLY LINE OF STATE HIGHWAY SAN FRANCISCO AND SAN JOSE ROAD AS IT NOW EXISTS AND WHERE SAID NORTHEASTERLY LINE IS INTERSECTED BY THE WESTERLY LINE OF THE PARCEL OF LAND CONVEYED BY DOROTHY GRAHAM, ALSO KNOWN AS DOROTHY B. GRAHAM TO EMANUEL IUDICE BY DEED DATED MARCH 17, 1932 AND RECORDED MARCH 18, 1932 IN BOOK 607 OF OFFICIAL RECORDS, PAGE 161, SAID POINT ALSO BEING DISTANT NORTH-WESTERLY ALONG SAID LINE NORTH 58° 32' WEST 475 FEET FROM THE ORIGINAL WESTERLY LINE OF CASTRO STREET; THENCE NORTHEASTERLY AND ALONG THE WESTERLY LINE OF LAND CONVEYED TO SAID EMANUEL IUDICE AND ALONG THE WESTERLY LINE OF LAND CONVEYED BY DOROTHY B. GRAHAM, A WIDOW TO JOHN IUDICE, DEED RECORDED DECEMBER 17, 1931 IN BOOK 591 OF OFFICIAL RECORDS, PAGE 551, NORTH 25° 08' EAST 157.30 FEET TO A POINT THAT IS DISTANT THEREON SOUTH 25° 43' 30" WEST 2.70 FEET FROM THE SOUTHEASTERLY CORNER OF LAND CONVEYED BY VALLEY TITLE COMPANY OF SANTA CLARA COUNTY, TO A CORPORATION TO HOWARD RUTH, JR. ET UX, BY DEED RECORDED APRIL 5, 1955 IN BOOK 3134 OF OFFICIAL RECORDS, PAGE 317; THENCE PARALLEL WITH THE SOUTHWESTERLY LINE OF SAID RUTH PARCEL OF LAND NORTH 58° 23' WEST TO A POINT ON THE SOUTHWESTERLY PROLONGATION OF THE NORTHWESTERLY LINE OF SAID RUTH PARCEL OF LAND; THENCE ALONG SAID SOUTHWESTERLY PROLONGATION SOUTH 26° 08' WEST 157.5 FEET MORE OR LESS TO A POINT ON THE NORTHEASTERLY LINE OF SAID SAN FRANCISCO AND SAN JOSE ROAD; THENCE ALONG SAID LAST NAMED LINE SOUTH 58° 23' EAST 180.96 FEET, MORE OR LESS TO THE POINT OF BEGINNING AND BEING A PORTION OF THE RANCHO PASTORIA DE LAS BORREGAS.

EXCEPTIONS TO COVERAGE

1. Taxes and assessments, general and special, for the fiscal year 2017–2018, a lien, but not yet due or payable.
NOT A SURVEY ITEM.

2. Taxes and assessments, general and special, for the fiscal year 2016–2017, as follows:

Assessor's Parcel No	:	158-07-019
Bill No.	:	158-07-019-00
Code No.	:	005-000
1st Installment	:	$9,557.22 Marked Paid
2nd Installment	:	$9,557.22 Marked Paid
Land Value	:	$1,414,172.00
Imp. Value	:	$163,170.00

NOT A SURVEY ITEM.

3. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Section 75, et seq., of the Revenue and Taxation Code of the State of California.
NOT A SURVEY ITEM.

4. Rights of the public, County and/or City, in and to that portion of said land lying within the lines of El Camino Real.
SOUTHWESTERLY PORTION OF PROPERTY HAS A 10 FOOT WIDE CITY OF MOUNTAIN VIEW EASEMENT FOR STREET PURPOSES; AS SHOWN ON SURVEY.

5. An easement affecting that portion of said land and for the purposes stated herein and incidental purposes as provided in the following

Instrument	:	Street Easement
Granted To	:	City of Mountain View
For	:	Use as a Street and for the purpose of laying, installing, maintaining, repairing, protecting and replacing sanitary sewers, water mains, storm drains, gas mains, poles, overhead and underground electrical and telephone wires, electroliers and other municipal uses
Dated	:	September 24, 1969
Recorded	:	September 30, 1969 in Book B887 of Official Records, Page 733 under Recorder's Serial Number 3993273
Affects	:	Front 10 feet

PLOTTED; AS SHOWN ON SURVEY.

6. Matters as contained or referred to in an instrument.

Entitled	:	Agreement
Executed By	:	City of Mountain View and Verne D. Freeman
Dated	:	February 24, 1970
Recorded	:	February 26, 1970 in Book 8836 of Official Records, Page 480 under Recorder's Serial Number 3768721
Which Among Other Things Provides	:	Terms and Conditions as contained therein
Returned to Address	:	P.O. Box 10, Mountain View, CA 94042

Reference is hereby made to said document for full particulars.
NOT A SURVEY ITEM.

7. An unrecorded lease upon the terms, covenants, and conditions contained or referred to therein.

Lessor	:	United Express Land, LLC, an Oregon limited liability company
Lessee	:	United Express Foods, Inc., an Oregon corporation
Disclosed by	:	Memorandum of Lease
Dated	:	November 19, 1999
Recorded	:	November 24, 1999 in Official Records under Recorder's Serial Number 15068892
Return to Address	:	3636 North Central Avenue, Suite 350, Phoenix, AZ 85012

NOTE: The present ownership of said leasehold or leaseholds and other matters affecting the interest of the lessee or lessees are not shown herein.
NOT A SURVEY ITEM.

8. Deed of Trust to secure an indebtedness of the amount stated below and any other amounts payable under the terms thereof.

Amount	:	$2,485,000.00
Trustor/Borrower	:	Kumar Management, Corporation
Trustee	:	UPF Incorporated, a Washington corporation
Beneficiary/Lender	:	County Bank
Dated	:	August 25, 2006
Recorded	:	August 29, 2006 in Official Records under Recorder's Serial Number 19976582
Loan No.	:	7706327929
Returned to	:	San Jose #29, P.O. Box 3859, Merced, CA 95344

In Connection therewith, said trustors executed an Assignment of Rents,

Dated	:	August 25, 2006
Recorded	:	August 29, 2006 in Official Records under Recorder's Serial Number 19976583
Returned to Address	:	San Jose #29, P.O. Box 3859, Merced, CA 95344

Hazardous Substances Certificate and Indemnity Agreement, pertaining to said Deed of Trust executed by Kumar Management, Corporation.

Dated	:	August 25, 2006
Recorded	:	August 29, 2006 in Official Records under Recorder's Serial Number 19976584

NOT A SURVEY ITEM.

9. An unrecorded lease upon the terms, covenants, and conditions contained or referred to therein.

Lessee	:	Crazy Check Cashing, Inc.
Disclosed by	:	Notice of Non-Responsibility
Dated	:	October 6, 2010
Recorded	:	October 15, 2010 in Official Records under Recorder's Serial Number 20915156

NOTE: The present ownership of said leasehold or leaseholds and other matters affecting the interest of the lessee or lessees are not shown herein.
NOT A SURVEY ITEM.

10. Deed of Trust to secure an indebtedness of the amount stated below and any other amounts payable under the terms thereof.

Amount	:	$1,228,500.00
Trustor/Borrower	:	Rakesh Kumar and Premila Kumar, Trustees of Rakesh Kumar and Premila Kumar Revocable Family Trust U/D/T dated February 15, 2012
Trustee	:	Chicago Title Company
Beneficiary/Lender	:	Umpqua Bank
Dated	:	March 6, 2012
Recorded	:	March 27, 2012 in Official Records under Recorder's Serial Number 21599910

Modification/amendment of the terms of said Deed of Trust, by an instrument

Entitled	:	Modification of Deed of Trust
Executed By	:	Rakesh Kumar and Premila Kumar, Trustees of Rakesh Kumar and Premila Kumar Revocable Family Trust U/D/T dated February 15, 2012 and Umpqua Bank
Dated	:	December 10, 2012
Recorded	:	December 17, 2012 in Official Records under Recorder's Serial Number 22006231

Modification/amendment of the terms of said Deed of Trust, by an instrument

Entitled	:	Modification of Deed of Trust
Executed By	:	Rakesh Kumar and Premila Kumar, Trustees of Rakesh Kumar and Premila Kumar Revocable Family Trust U/D/T dated February 15, 2012 and Umpqua Bank
Dated	:	April 8, 2015
Recorded	:	April 21, 2015 in Official Records under Recorder's Serial Number 22922521

Hazardous Substances Certificate and Indemnity Agreement, pertaining to said Deed of Trust executed by Rakesh Kumar and Premila Kumar, Trustees of Rakesh Kumar and Premila Kumar Revocable Family Trust U/D/T dated February 15, 2012 and Umpqua Bank.

Dated	:	March 6, 2012
Recorded	:	March 27, 2012 in Official Records under Recorder's Serial Number 21599911

NOT A SURVEY ITEM.

EXCEPTIONS TO COVERAGE (CONTINUED)

11. A financing statement given as additional security for the payment of the indebtedness secured by the Deed of Trust

Shown As	:	UCC Financing Statement
Debtor	:	The Rakesh Kumar and Premila Kumar Revocable Family Trust
Secured Party	:	Umpqua Bank
Recorded	:	March 27, 2012 in Official Records under Recorder's Serial Number 21599912

NOT A SURVEY ITEM.

12. Terms and conditions contained in the Rakesh Kumar and Premila Kumar Revocable Family Trust U/D/T dated February 15, 2012 as disclosed by Grant Deed.

Dated	:	February 14, 2012
Recorded	:	March 27, 2012 in Official Records under Recorder's Serial Number 21599909

The requirement that:

A Certification of Trust be furnished in accordance with Probate Code Section 18100.5; and if the acting trustee is a successor trustee the additional requirement the Company is provided a complete copy of the trust, with all amendments and any intervening trustee is no longer acting in that capacity by providing copies of resignation letters, etc.

The Company reserves the right to make additional exceptions and/or requirements upon review of the above.
NOT A SURVEY ITEM.

13. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
NOT A SURVEY ITEM.

14. The requirement that this Company be provided with an opportunity to inspect the land (the Company reserves the right to make additional exceptions and/or requirements upon completion of its inspection).
NOT A SURVEY ITEM.

15. The requirement that this Company be provided with a suitable Owner's Declaration (form ORT 174). The Company reserves the right to make additional exceptions and/or requirements upon review of the Owner's Declaration.
NOT A SURVEY ITEM.

16. Any unrecorded and subsisting leases.
NOT A SURVEY ITEM.

17. The effect of instruments, proceedings, liens, decrees or other matters which do not specifically describe said land but which, if any do exist, may affect the title or impose liens or encumbrances thereon. The name search necessary to ascertain the existence of such matters has not been completed and, in order to do so, we require a signed Statement of Identity from or on behalf of Rakesh Kumar.
NOT A SURVEY ITEM.

BOLD LETTERING RESPONSE IN THE EXCEPTIONS ARE THE SURVEYOR'S COMMENT.

VICINITY MAP
NOT TO SCALE

SURVEYOR'S CERTIFICATE

PALO ALTO HOUSING CORPORATION; AND
OLD REPUBLIC TITLE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b)(1), 7(c), 8, 9, 10, 13, 14, 16, 17, 18 AND 20 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON SEPTEMBER 21, 2017.

JOHN KOROYAN
P.L.S. NO. 8883
JKOROYAN@BKF.COM

NOVEMBER 13, 2017
DATED

JOHN KOROYAN
No. 8883
REGISTERED LAND SURVEYOR
STATE OF CALIFORNIA

BKF
ENGINEERS / SURVEYORS / PLANNERS
1730 N. FIRST STREET
SUITE 600
SAN JOSE, CA 95112
408-467-9100
408-467-9199 (FAX)

ALTA/NSPS LAND TITLE SURVEY
950 W. EL CAMINO REAL
MOUNTAIN VIEW, CA 94040
CITY OF MOUNTAIN VIEW
SANTA CLARA COUNTY
CALIFORNIA

No.	Revisions

Date: 11-13-2017
Scale: NO SCALE
Design: MK
Drawn: SG
Approved: MK
Job No: 20170834

Drawing Number:
1 OF 2

MOUNTAIN VIEW

ELEVATION BENCHMARK

CITY OF MOUNTAIN VIEW BENCHMARK< IV-24

BRASS DISK STAMPED "IV-24" SET IN THE TOP OF CURB AT THE NORTHWESTERLY CORNER OF CASTRO STREET AND EL CAMINO REAL APPROXIMATELY 100 FEET WEST OF THE WESTERLY R/W OF CASTRO STREET

ELEVATION = 104.781 FEET BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

BASIS OF BEARINGS

THE BEARING N28°28'20"E OF THE MONUMENT LINE OF CASTRO STREET, BETWEEN FOUND MONUMENTS, AS SHOWN ON THAT CERTAIN PARCEL MAP, FILED FOR RECORD OCTOBER 29, 2015 IN BOOK 887 OF MAPS AT PAGES 46 THROUGH 48 INCLUSIVE, RECORDS OF SANTA CLARA COUNTY, CALIFORNIA.

LEGEND

●	FOUND MONUMENTS AS NOTED ON MAP
APN	ASSESSOR'S PARCEL NUMBER
ASV	AIR/I-SIPHON VALVE
BLDG	BUILDING
BNDRY	BOUNDARY
BOL	BOLLARDS
CB	CATCH BASIN
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
COL	COLUMN
COMM.	COMMUNICATION
CONC.	CONCRETE
CSJ	CITY OF SAN JOSE
CATV	CABLE TV
DI	DRAIN INLET
EB	ELECTRIC BOX
EP	EDGE OF PAVEMENT
EV	ELECTRIC VAULT
FF	FINISHED FLOOR
FH	FIRE HYDRANT
GV	GAS VALVE
HB	HOSE BIB
HCR	HANDICAP RAMP
ICV	IRRIGATION CONTROL VALVE
MH	MANHOLE
MON	MONUMENT
P/A	PLANTER AREA
PG&E	PACIFIC GAS & ELECTRIC
RCP	REINFORCED CONCRETE PIPE
SDCB	STORM DRAIN CATCH BASIN
SLB	STREET LIGHT BOX
SDMH	STORM DRAIN MANHOLE
SSCO	SANITARY SEWER CLEAN OUT
SSMH	SANITARY SEWER MANHOLE
TEL	TELEPHONE
TRANF.	TRANSFORMER
TSB	TRAFFIC SIGNAL BOX
UB	UTILITY BOX
UTIL	UTILITY
WB	WATER BOX
WM	WATER METER
WV	WATER VALVE
ESMT	EASEMENT
PM	PARCEL MAPS
EXC. NO.	EXCEPTION NUMBER
IN	INSIDE SUBJECT BOUNDARY
OUT	OUTSIDE SUBJECT BOUNDARY
(1)	RECORD DATA 607 O.R. 161
(2)	RECORD DATA 3134 O.R. 317
(3)	RECORD DATA 591 O.R. 551
(4)	RECORD DATA DOC. 21599909 (TITLE REPORT PARCEL)
(5)	RECORD DATA 111 M 31
(6)	RECORD DATA 140 M 17
(7)	RECORD DATA 557 M 4
(8)	RECORD DATA 703 M 16-17

S. SHORELINE BLVD. (FORMERLY BAILEY AVE.)

FRANKLIN ST. (60' WIDE)

HIGH SCHOOL WAY

CASTRO ST. (FORMERLY MAYFIELD AVENUE)

FOUND STANDARD CITY MON PER 943 M 26 (5' x 10' OFFSET)

FOUND STANDARD CITY MON PER 703 M 16-17 (5' x 5' OFFSET)

FOUND STANDARD CITY MON PER 557 M 4 & 943 M 26 (5' x 5' OFFSET)

N60°18'34"W 1486.87' CL SHORELINE BLVD. – CL CASTRO ST. (N60°28'20"W 1487.20')

S60°18'34"E 179.57' (S60°28'20"E 179.37') (S60°27'51"E 179.57')

N29°41'26"E 25.00'

N29°41'26"E 2.70'

N60°18'34"W 2.70'

N29°41'26"E 2.70'

RUSH 3134 O.R. 317

AUDICE 591 O.R. 551

GRAHAM 607 O.R. 161

VANDANA HOSPITALITY DOC. 19402199

ONE STORY BUILDING

ROUND HEIGHT FROM GRADE TO TOP OF SIGN

SPEED RAMP

6'± HIGH CONC WALL (THIS PORTION OF FENCE WAS NOT SURVEYED, NO ACCESSIBILITY DURING THE SURVEY)

APPROX LOCATION, BLOCKED ABOUT 2' FROM CONC, UNABLE TO TRACE FURTHER FROM THIS POINT

S59°10'44"E 180.66' (S59°27'00"E 180.94') (S59°27'21"E 180.65')

N59°10'44"W 179.71'

S59°07'21"E 179.68' (S59°27'00"E 180.94') (S59°10'44"E 179.71')

S31°52'39"W 50.00'

N59°07'21"W 475.00'

S31°52'39"W 50.00'

N59°07'21"W 1095.83' CL-CL (N59°10'44"W 1095.85')

N29°41'26"E 515.53' CL-CL (N30°00'E)

N29°41'26"E 515.38'

N29°37'54"E

N60°22'06"E 33.00'

N60°37'54"W 33.38'

N29°41'26"E 68.87'

FOUND STANDARD CITY MON PER 557 M 4

FOUND STANDARD CITY MON PER 111 M 31

TRUE POINT OF BEGINNING OF PROPERTY DESCRIPTION

10' STREET EASEMENT (PART OF R.S. 733 EXC NO. 5)

SIGN

FLAG POLE

CONC RAMP

SIGN (TYP)

SIDE ACCESS

BACK OF WALK

LIP OF GUTTER

FACE OF CURB

FACE OF WALL

0 10 20 40 (SCALE IN FEET)

288.36'

176.68'

512.95'

65'

65'

45'

35'

EL CAMINO REAL

(STATE HIGHWAY 82)

(WIDTH VARIES)

S. OAK STREET (60' WIDE)

CASTRO ST. (FORMERLY MAYFIELD AVENUE)

MOUNTAIN VIEW

CALIFORNIA

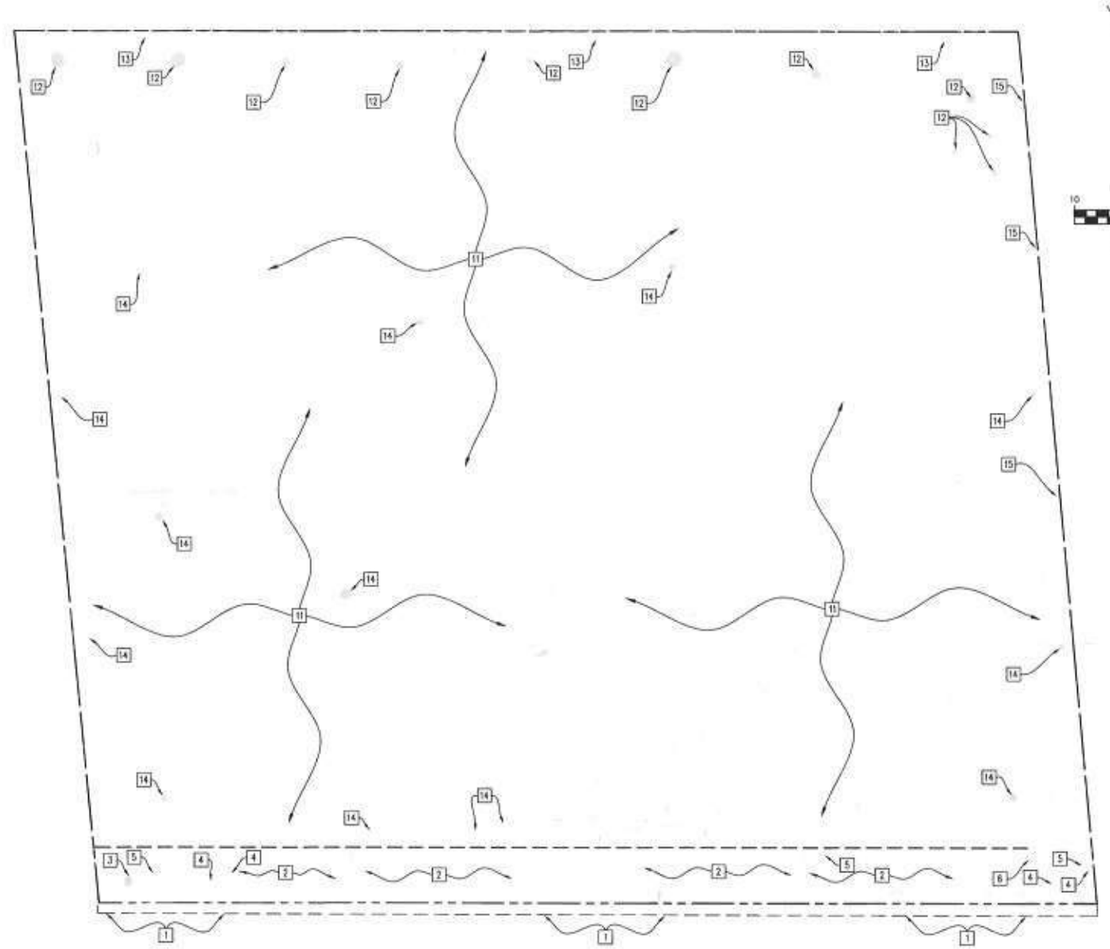
ALTA/NSPS LAND TITLE SURVEY
950 W. EL CAMINO REAL
MOUNTAIN VIEW, CA 94040
SANTA CLARA COUNTY

BKF ENGINEERS / SURVEYORS / PLANNERS

Date: 11-13-2017
Scale: 1"=20'
Design: JW
Drawn: SS
Approved: MH
Job No: 20176234

Drawing Number:

2 OF 2



DEMOLITION NOTES (OFFSITE):

1. LIMIT OF IMPROVEMENT. CONTRACTOR SHALL CONFORM TO EXISTING GRADE AND PROVIDE SMOOTH TRANSITION. CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS TO REMAIN AND REPAIR ANY DAMAGED IMPROVEMENTS DUE TO THE CONSTRUCTION ACTIVITY BEYOND THE LIMIT OF WORK. CONTRACTOR SHALL CONFORM TO EXISTING GRADE AND PROVIDE SMOOTH TRANSITION. CONTRACTOR SHALL INSTALL TEMPORARY SCREENED FENCE AROUND THE WORK AREA PRIOR TO BEGINNING WORK.
2. SAW CUT 2' EXISTING AC PAVEMENT AND REMOVE EXISTING ASPHALT CONCRETE, CONCRETE BASE, SIDEWALK, DRIVEWAY, CURB AND GUTTER FOR CONSTRUCTION OF NEW IMPROVEMENTS. REFER TO GRADING PLAN FOR MORE INFORMATION. REPAIR ANY DAMAGED IMPROVEMENTS WITHIN THE PUBLIC RIGHT OF WAY PER CITY OF MOUNTAIN VIEW REQUIREMENTS.
3. EXISTING FIRE HYDRANT TO REMAIN. CONTRACTOR TO EXERCISE EXTREME CAUTION DURING CONSTRUCTION IN ORDER NOT TO DAMAGE EXISTING FIRE HYDRANT, IF DAMAGED, CONTRACTOR SHALL PAY FOR EXPENSES. CONTRACTOR SHALL ADJUST THEM TO MATCH FINAL GRADE AND PROTECT THEM DURING THE ENTIRE CONSTRUCTION PERIOD.
4. EXISTING STREET LIGHT AND STREET LIGHT BOX AND ASSOCIATED UNDERGROUND LINES TO REMAIN. CONTRACTOR SHALL ADJUST THEM TO MATCH FINAL GRADE AND PROTECT THEM DURING THE ENTIRE CONSTRUCTION PERIOD.
5. EXISTING ELECTRICAL BOX AND HIGH VOLTAGE ASSOCIATED UNDERGROUND LINES TO REMAIN. CONTRACTOR SHALL ADJUST THEM TO MATCH FINAL GRADE AND PROTECT THEM DURING THE ENTIRE CONSTRUCTION PERIOD.
6. EXISTING TELEPHONE BOX AND UNDERGROUND TELEPHONE LINES TO REMAIN. CONTRACTOR SHALL ADJUST THEM TO MATCH FINAL GRADE AND PROTECT THEM DURING THE ENTIRE CONSTRUCTION PERIOD.

DEMOLITION NOTES (ONSITE):

11. THE CONTRACTOR SHALL PERFORM ALL CLEARING, DEMOLITION, REMOVAL OF OBSTRUCTIONS AND SITE PREPARATIONS NECESSARY FOR THE PROPER EXECUTION OF ALL WORK SHOWN ON THE PLANS AND AS DESCRIBED WITHIN THE SPECIFICATIONS FOR NEW IMPROVEMENTS. CLEAR SITE OF ALL OBSTRUCTIONS, INCLUDING EXISTING BUILDING, CONCRETE WALKS, STEPS, ASPHALT PAVEMENT, BURIED FOUNDATIONS, SLABS, UTILITY LINES, LIGHT, POLE, VEGETATION, AND DEBRIS. CLEAR HOLES RESULTING FROM REMOVAL OF UNDERGROUND OBSTRUCTIONS EXTENDING BELOW FINISH GRADE. BACKFILL TO SUBGRADE WITH MATERIAL CONFORMING TO THE GEOTECHNICAL REPORT REQUIREMENTS, AND COMPACT TO 95% COMPACTION. CONTRACTOR SHALL COORDINATE WITH THE EXISTING UTILITY OWNERS TO PERFORM THEIR WORK TO SHUT OFF EXISTING UTILITIES AND COORDINATE THEIR WORK SO AS NOT TO DELAY THE SCHEDULE OF THE CONTRACTOR. REFER TO PROJECT SPECIFICATIONS FOR MORE DETAILS.
12. EXISTING TREES TO REMAIN AND SHALL BE PROTECTED BY ORANGE TEMPORARY CONSTRUCTION FENCING OR AN APPROVED FENCING. FENCING SHALL NOT BE CLOSER THAN 5' FROM OUTSIDE EDGE OF TRUNK – PREFERRED DISTANCE IS 8' MINIMUM – TO DELINEATE TREE PROTECTION ROOT DISTANCE. NO DEMOLITION SHALL BEGIN UNTIL FENCING IS IN PLACE. CONTRACTOR SHALL PROTECT EXISTING TREE AND IRRIGATION SYSTEM DURING THE CONSTRUCTION PERIOD AND PROVIDE IRRIGATION WATER. NO EXCAVATION SHALL OCCUR WITHIN FENCING WITHOUT ARBORIST SUPERVISION.
13. EXISTING CONCRETE WALL TO REMAIN. CONTRACTOR SHALL PROTECT THROUGHOUT ENTIRE CONSTRUCTION PROCESS.
14. REMOVE EXISTING TREES AND ENTIRE ROOT SYSTEM PER LANDSCAPING PLANS. BACKFILL IN ACCORDANCE WITH GEOTECHNICAL REPORTS AND EARTHWORK SPECIFICATIONS.
15. REMOVE EXISTING CONCRETE WALL, FENCE, POST AND THEIR FOOTING. CONTRACTOR SHALL COORDINATE WITH ADJOINER FOR REMOVAL AND PROVIDE LETTER NOTIFYING ADJOINER AND OUTLINING FENCE FOR REMOVAL. OWNER SHALL OBTAIN ANY REQUIRED PERMISSION FROM ADJACENT PROPERTY OWNER PRIOR TO CONTRACTOR MOBILIZING FOR THE REMOVAL OF THE WALL AND FENCE THAT IS REQUIRED IN THIS NOTE.
16. REMOVE EXISTING CONCRETE CURB ALONG WESTERN PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH ADJOINER AS NEEDED TO REMOVE CURB AND PROTECT ADJACENT WALL ON ADJOINER'S PROPERTY. OWNER SHALL OBTAIN ANY REQUIRED PERMISSION FROM ADJACENT PROPERTY OWNER PRIOR TO CONTRACTOR MOBILIZING FOR THE REMOVAL OF THE CURB THAT IS REQUIRED IN THIS NOTE.

TREE PROTECTION NOTES

A) PRIOR TO DEMOLITION OF THE EXISTING STRUCTURES, THE CONTRACTOR SHALL CONTACT THE CONSULTING ARBORIST TO BE ON SITE AT THE START OF DEMOLITION.

B) PRIOR TO ANY GRADING OR CONSTRUCTION, THE CONTRACTOR SHALL SET UP A TREE PROTECTION ZONE.

C) TREE PROTECTION FENCING SHALL BE 6-FT HIGH FIXED POST CHAIN LINK PER CITY REQUIREMENTS, AND INSPECTED BY THE CITY ARBORIST PRIOR TO ANY WORK.

D) ALL EQUIPMENT TRACKS SHALL REMAIN OUTSIDE OF THE DRIP LINE AND AVOID CONTACT WITH ANY PART OF ANY PROTECTED TREE.

E) TREES TO BE SAVED SHALL BE FLAGGED AND MARKED PRIOR TO ANY CLEARING OR STRIPPING WORK. PROTECTIVE FENCING, WHERE REQUIRED BY THE CITY, SHALL BE INSTALLED PRIOR TO COMMENCING ANY GRADING. LOCATIONS OF FENCING SHALL BE DETERMINED IN THE FIELD BY THE CITY.

F) NO ADDITIONAL TREE REMOVAL OTHER THAN ALREADY APPROVED SHALL OCCUR ON SITE UNTIL A TREE REMOVAL PERMIT HAS BEEN OBTAINED FROM THE CITY ARBORIST.

G) THE CONTRACTOR SHALL APPLY A 6-INCH LAYER OF MULCH FROM TREE CHIPPINGS OVER THE SOILS SURFACE IN THE TREE PROTECTION ZONE. THIS SHALL BE DONE WITH THE SUPERVISION OF THE CONSULTING ARBORIST.

H) ALL PROTECTED TREES SHALL BE IRRIGATED DURING CONSTRUCTION PER THE RECOMMENDATION OF THE CONSULTING ARBORIST.

I) NO STOCKPILING, TRENCHING FOR UTILITIES OR DRAINAGE, GRADING, OR SOIL COMPACTING SHALL BE ALLOWED WITHIN THE TREE PROTECTION ZONE.

J) ALL SOLVENTS, FUELS AND CONSTRUCTION DEBRIS SHALL BE KEPT OUTSIDE OF THE TREE PROTECTION ZONE.

K) ALL PRUNING NEEDS SHALL BE DISCUSSED WITH THE CONSULTING ARBORIST FIRST, AND PERFORMED BY ISA CERTIFIED TREE WORKERS OR ARBORISTS.

L) ALL FOOT TRAFFIC SHALL BE KEPT OUTSIDE OF THE TREE PROTECTION ZONE. IF IT BECOMES NECESSARY TO ACCESS THE TREE PROTECTION ZONE AREA FOR WORK ACCESS SUCH AS SCAFFOLD WORK, ETC. THE CONSULTING ARBORIST SHALL BE NOTIFIED.

M) THE INSTALLATION OF THE 6-INCH LAYER OF WOOD CHIPS SHALL BE A MINIMUM REQUIREMENT TO PREVENT COMPACTION IF ENTERING THE TREE PROTECTION ZONE.

N) AN ARBORIST SHALL BE CALLED ON THE SITE PRIOR TO ANY EXCAVATION WITH THE DRIPLINE OF ANY PROTECTED TREE.

O) THE DEVELOPER SHALL MAINTAIN ALL PROTECTION FENCING IN AN UPRIGHT, STURDY MANNER AT THE PRESCRIBED LOCATIONS THROUGHOUT THE ENTIRE CONSTRUCTION PHASE.

P) ALL TRENCHING AND/OR POST DIGGING WITHIN THE DRIPLINE OF PROTECTED TREES SHALL BE DONE WITH MAN-POWERED TOOLS.

Q) REFER TO ARBORIST'S REPORT PREPARED BY BARRIE D. COATE & ASSOCIATES DATED OCTOBER 21, 2010 FOR TREE PROTECTION PLAN AND MEASURES.

LEGEND

LIMIT OF IMPROVEMENT. CONTRACTOR SHALL PROTECT EXISTING SITE FEATURES OUTSIDE THE IMPROVEMENT LIMIT AND MATCH EXISTING ELEVATION TO PROVIDE SMOOTH TRANSACTION AND POSITIVE DRAINAGE PATTERN. PROTECT ALL UNDERGROUND UTILITY LINES AND PIPES IN THE LIMIT OF IMPROVEMENTS, UNLESS OTHERWISE SPECIFIED ON THIS PLAN

811 Know what's below. Call before you dig.

KRST SURVEYING INC. BY VIEWPORT
SNAP SHOT: BY VIEWPORT

VAN METER WILLIAMS POLLACK LLP

CIVIL ENGINEER
Luk and Associates
738 Alfred Nobel Drive
Hercules, CA 94547
510-724-3388

STRUCTURAL ENGINEER
Murphy Burr Curry
85 Second Street, Suite 6010
San Francisco, CA 94105
415-568-5322

MEP ENGINEER
Fard Engineers
301 Lennon Lane, Suite 200
Walnut Creek, CA 94598
925-932-5535

LANDSCAPE ARCHITECT
Hill Associates
100 Cascade Drive
Aptos, CA 95003
408-761-3184

Stamp:

REV	REVISION	DATE

Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

725 ALMA STREET
PALO ALTO, CA 94301
650-321-9709

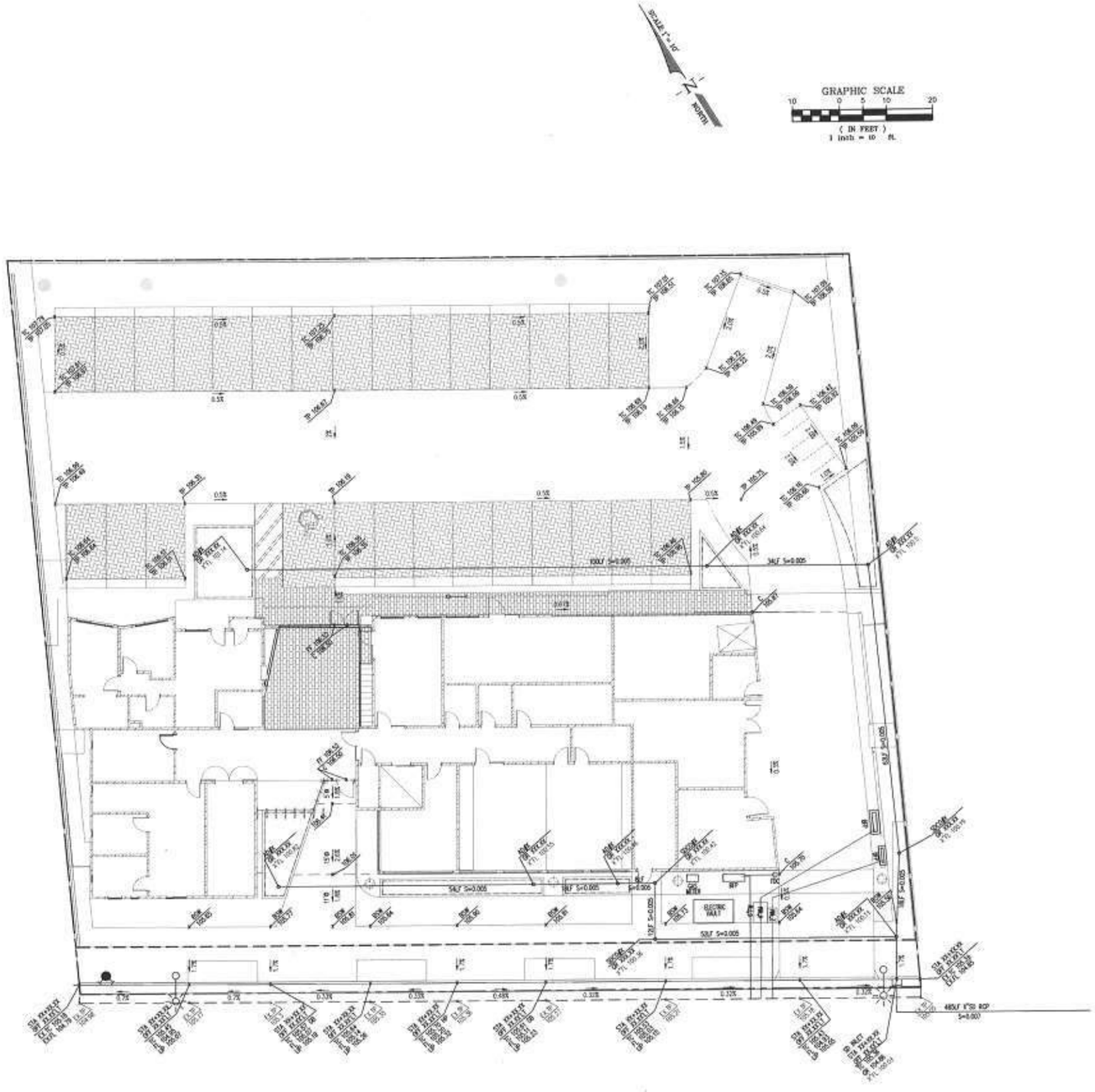
Title:

PRELIMINARY DEMOLITION PLAN

Job#: 17155A10
Scale: 1" = 10'
Date: FEBRUARY, 2018
File#: DEMO-17155A10.dwg
Drawn By: D.A.D.
Checked By: J.L. / J.C.
Sheet#:

C-3

DD
KEY DATE: FEBRUARY 2018



EL CAMINO REAL

WEST - SURVEYOR'S MONUMENT, SITE, ROOF

SNAP SHOT: BY WEATHERT

VAN METER WILLIAMS POLLACK LLP

ARCHITECTURE | URBAN DESIGN — SAN FRANCISCO | SYDNEY

☐ **CIVIL ENGINEER**
Luk and Associates
735 Alfred Nobel Drive
Hercules, CA 94547
510-724-3388

☐ **STRUCTURAL ENGINEER**
Murphy Burr Curry
65 Second Street, Suite 4010
San Francisco, CA 94105
415-669-5322

☐ **MEP ENGINEER**
Fard Engineers
301 Lennon Lane, Suite 200
Walnut Creek, CA 94598
925-932-5505

☐ **LANDSCAPE ARCHITECT**
HII Associates
130 Cascade Drive
Aptos, CA 95003
408-761-3184

Stamp:

REV	REVISION	DATE

Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

725 ALMA STREET
PALO ALTO, CA 94301
650-321-9709

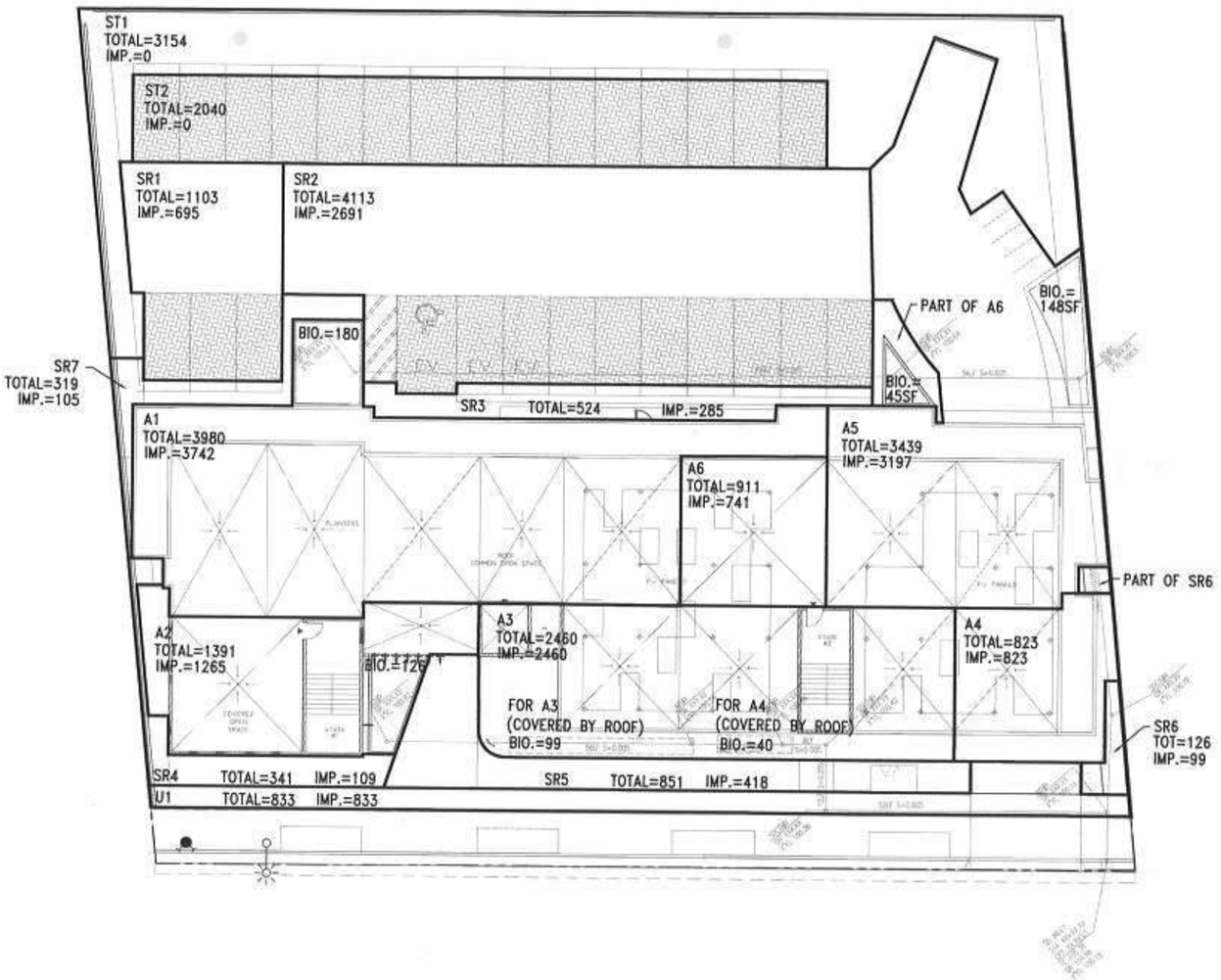
Title:

IMPROVEMENT PLAN

Job#: 17155A10
Scale: 1" = 10'
Date: JANUARY , 2018
File#: MASTER-P-17155A.dwg
Drawn By: D.A.D.
Checked By: J.L. / J.C.
Sheet#:

C-4.1

DD



EL CAMINO REAL

STORM TREATMENT NOTES:

SOILS CLASS D (CLAY)

PER SANTA CLARA COUNTYWIDE WATER POLLUTION PREVENTION PROGRAM PUBLICATION "C.3 STORMWATER TECHNICAL GUIDANCE" WITH LATEST UPDATES IN JUNE 2016.

1) THE TOTAL PROPOSED IMPERVIOUS AREA IS 0.36 ACRES. THE PROPOSED PROJECT CREATES LESS THAN 1 ACRE OF IMPERVIOUS SURFACE, HENCE, HYDROMODIFICATION MANAGEMENT DOES NOT APPLY.

2) THE PREDOMINANT EXISTING SOIL TYPES ARE SANDY LEAN CLAYS (CL) AND CLAYEY SANDS (SC). THE HISTORIC HIGH GROUNDWATER LEVEL IS APPROXIMATELY 33 FT BELOW GROUND SURFACE. NATIVE SOIL INFILTRATION RATE TESTS WERE NOT COMPLETED DURING THE INITIAL GEOTECHNICAL STUDY. DUE TO THE EXPECTED LOW INFILTRATION RATES BASED ON THE CLAYEY NATURE OF THE NATIVE SOIL, BMPS WILL BE LINED.

3) THE PROJECT SITE IS DELINEATED INTO THE DRAINAGE MANAGEMENT AREAS SHOWN ON THE DESIGN CHART ON THIS SHEET.

4) THE TREATMENT METHOD IS CHOSEN TO BE BIORETENTION FACILITY.

A = CONFIGURATION OF AREA

CRITERIA APPLY TO BIORETENTION FACILITY [FOR TREATMENT AND FLOW CONTROL]:
- SIZING FACTOR (SF) [BIORETENTION FACILITY] = 0.04 * (IMPERVIOUS AREA + 10% OF PERVIOUS AREA)
- SURFACE RESERVOIR DEPTH = 6 INCHES
- SOIL MIX DEPTH = 18 INCHES TYPICAL (5 IN/HR MINIMUM –10 IN/HR MAXIMUM)
- UNDERDRAIN = 4 INCH DIA. [MIN] PVC PERFORATED PIPE (SDR 35 OR EQUIVALENT)

5) FOR SELF-RETAINING AREAS, THE RATIO OF IMPERVIOUS TO PERVIOUS AREA SHALL BE LESS THAN OR EQUAL TO 2:1. SELF-RETAINING AREAS SHALL CAPTURE AND FLOW CONTROL A 1" PRECIPITATION DEPTH PER COUNTY DESIGN STANDARDS.

6) FOR SELF-TREATING AREAS, THE DRAINAGE AREA MAY INCLUDE CONSERVED NATURAL OPEN AREAS, LANDSCAPING, GREEN ROOFS AND PERVIOUS PAVEMENT PER COUNTY DESIGN STANDARDS. HARDSCAPE WITHIN THE SELF-TREATING AREA CAN NOT EXCEED 5% OF THE TOTAL AREA.

STORM TREATMENT DESIGN (PER SANTA CLARA COUNTY)

D.M.A. NAME	TYPE	A SIZING FACTOR	SURFACE SIZING FACTOR	RUNOFF SURFACE TYPE	D.M. AREA (S.F.)	TREATMENT MIN. SIZE (S.F.)	TREATMENT PROPOSED SIZE (S.F.)
A1	BIORETENTION PLANTER	0.04	1.0	IMPERVIOUS	3742	151	180
			0.1	PERVIOUS	238		
A2	BIORETENTION PLANTER	0.04	1.0	IMPERVIOUS	1265	51	126
			0.1	PERVIOUS	126		
A3	BIORETENTION PLANTER	0.04	1.0	IMPERVIOUS	2460	99	99
			0.1	PERVIOUS	0		
A4	BIORETENTION PLANTER	0.04	1.0	IMPERVIOUS	823	33	40
			0.1	PERVIOUS	0		
A5	BIORETENTION PLANTER	0.04	1.0	IMPERVIOUS	3197	129	148
			0.1	PERVIOUS	242		
A6	BIORETENTION PLANTER	0.04	1.0	IMPERVIOUS	741	30	45
			0.1	PERVIOUS	170		
SR1	SELF-RETAINING	2:1 MAX 1" CAP.	1.0	IMPERVIOUS	695	347 MIN. (2:1 MAX.)	408 (1.70:1)
			0.1	PERVIOUS	408		
			–	PAVERS PROVIDED	408		
SR2	SELF-RETAINING	2:1 MAX 1" CAP.	1.0	IMPERVIOUS	2691	1346 MIN. (2:1 MAX.)	1422 (1.89:1)
			0.1	PERVIOUS	1422		
			–	PAVERS PROVIDED	1422		
SR3	SELF-RETAINING	2:1 MAX 1" CAP.	–	IMPERVIOUS	285	142 MIN. (2:1 MAX.)	239 (1.19:1)
			–	PERVIOUS	239		
SR4	SELF-RETAINING	2:1 MAX 1" CAP.	–	IMPERVIOUS	109	54 MIN. (2:1 MAX.)	232 (0.47:1)
			–	PERVIOUS	232		
SR5	SELF-RETAINING	2:1 MAX 1" CAP.	–	IMPERVIOUS	418	209 MIN. (2:1 MAX.)	433 (0.97:1)
			–	PERVIOUS	433		
SR6 SEE NOTE 1	SELF-RETAINING	2:1 MAX 1" CAP.	–	IMPERVIOUS	99	50 MIN. (2:1 MAX.)	126 (0.79:1)
			–	PERVIOUS	(126)		
SR7	SELF-RETAINING	2:1 MAX 1" CAP.	–	IMPERVIOUS	105	53 MIN. (2:1 MAX.)	214 (0.49:1)
			–	PERVIOUS	214		
ST1	SELF-TREATING	---	–	IMPERVIOUS	0	---	---
			–	PERVIOUS	3154		
ST2	SELF-TREATING	---	–	IMPERVIOUS	0	---	---
			–	PERVIOUS	2040		
U1	UNTREATED	---	–	IMPERVIOUS	833	PUBLIC SIDEWALK AND BRICK WALK- SHEET FLOWS INTO BIO SWALE ON STREET OUTSIDE OF ROW	
			–	PERVIOUS	0		

STORM TREATMENT DESIGN TABLE NOTES:
1) FOR AREA SR6, THERE IS A LONG, MOSTLY COVERED LANDSCAPE STRIP (176 SF) THAT RUNS PARALLEL TO THE MOSTLY COVERED PERIMETER WALKWAY. RUNOFF FROM THE AT-GRADE HARDSCAPE WILL SHEET INTO THIS LANDSCAPE STRIP AS A SELF-RETAINING AREA. THE LANDSCAPE STRIP WILL BE EXPOSED TO SUNLIGHT TO ALLOW THE PLANTING TO BE ESTABLISHED AND MAINTAINED. DESIGNER IS CONSIDERING THE ENTIRE LANDSCAPE STRIP FOR THE SELF-RETAINING RATIO THRESHOLD.

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Stamp:

REV	REVISION	DATE

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Title:

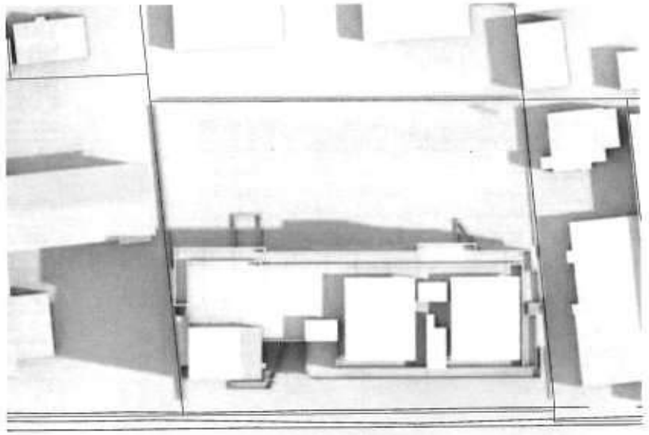
PRELIMINARY STORMWATER CONTROL PLAN

Job#: 17155A10
Scale: 1" = 10'
Date: JANUARY ,2018
File#: MASTER-P-17155A.dwg
Drawn By: D.A.D.
Checked By: J.L. / J.C.
Sheet#:

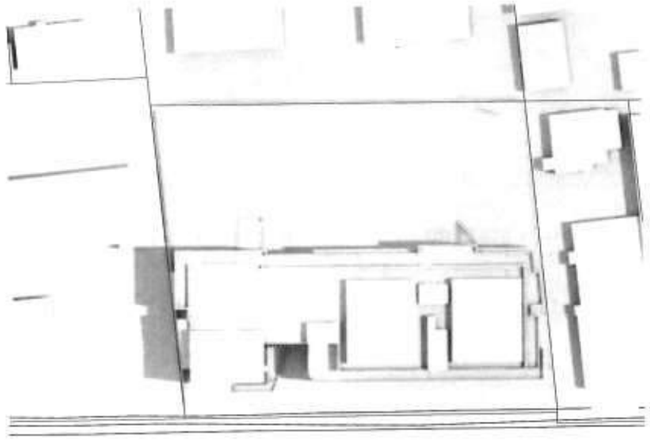
C-5

DO
PLOT DATE: FEBRUARY 2, 2018

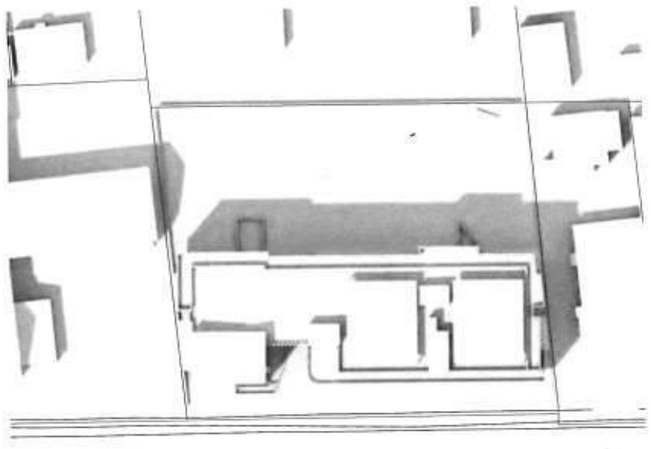
SNAP SHOT: BY VIEWPORT
XREF SURVEY/GRADING, SITE, ROOF



9 A6.0 **SUMMER SOLSTICE 9AM**

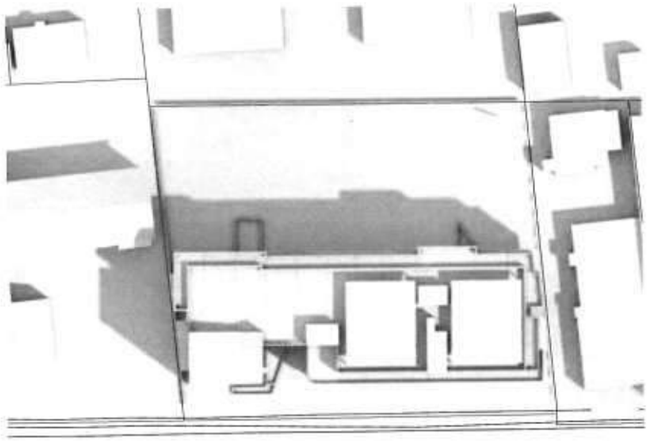


8 A6.0 **SUMMER SOLSTICE 12PM**

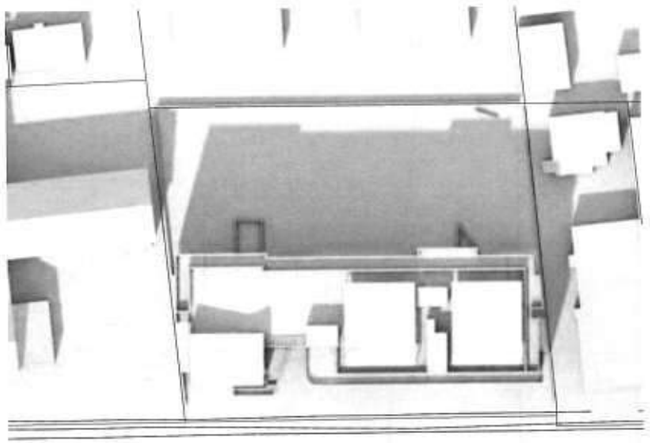


7 A6.0 **SUMMER SOLSTICE 3PM**

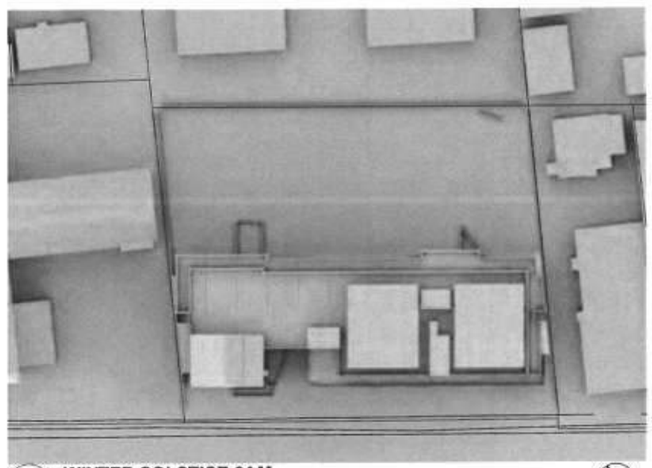
6 A6.0 **EQUINOX 9AM**



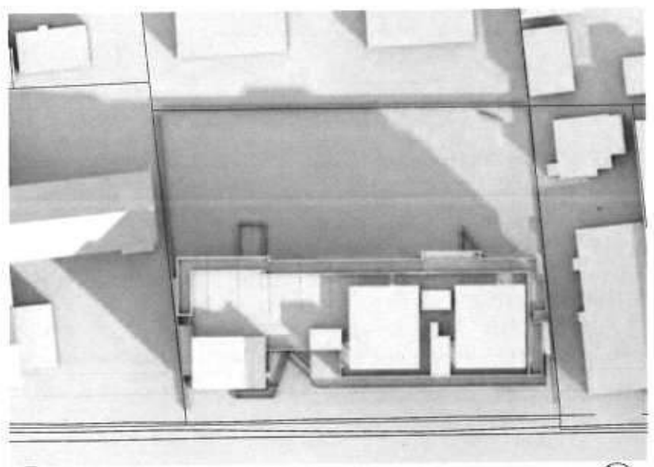
5 A6.0 **EQUINOX 12PM**



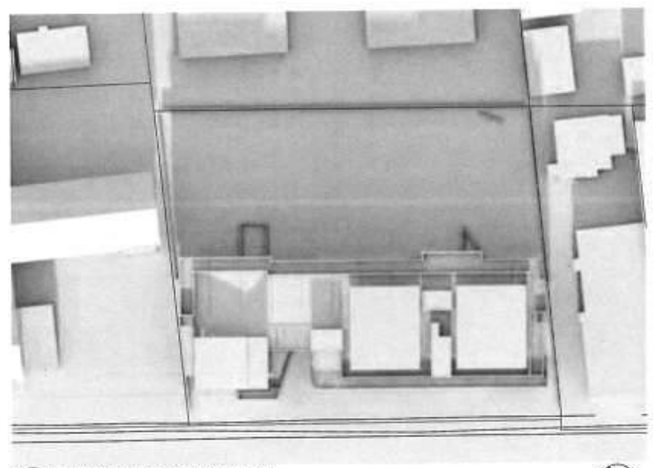
4 A6.0 **EQUINOX 3PM**



3 A6.0 **WINTER SOLSTICE 9AM**



2 A6.0 **WINTER SOLSTICE 12PM**



1 A6.0 **WINTER SOLSTICE 3PM**

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SOLAR STUDY

Job# 1733
Date: 2/13/18
Scale: AS NOTED

A6.0

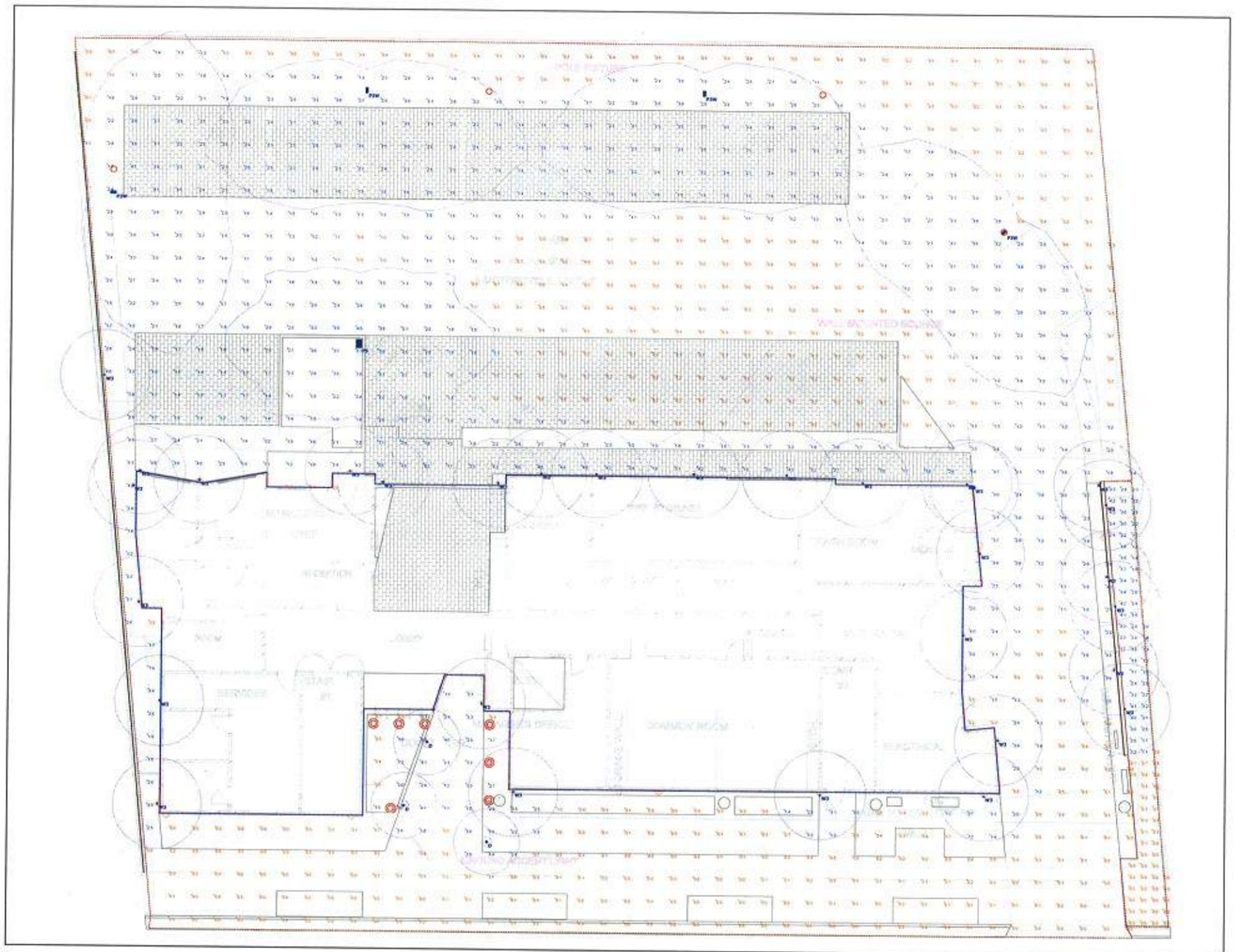
4 A6.1 **EXTERIOR SCONCE**
TECH LIGHTING PITCH

5 A6.1 **PARKING AREA POLE**
SELUX AVANZA 450

3 A6.1 **ENTRY BOLLARD**
ERCO CASTOR

2 A6.1 **GROUND ACCENT**
BEGA IN-GRADE

Schedule									
Symbol	Label	QTY	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage
	W 2	39	FWDWSPITTC-LED930	LED Wall-Mount Luminaire	LED	1	803.0645	0.85	24.2
	P2 W	4	A64-SI-3T-L05-83H-40-120 SX 936 42-3 JCT	Avanza 450 w/ 3T Tilt	4274 lm, 56 W	1	4274	0.85	56
	P1	1	A64-SI-3T-L05-83-40-120 SX 934 42-3	Avanza 600 w/ 3T Tilt	4319 lm, 56 W	1	4319	0.85	56
	D	3	33288000_WH	Castor bollard luminaire	LED 16m warm white	1	422	0.85	20



1 A6.1 **SITE PHOTOMETRIC PLAN**

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

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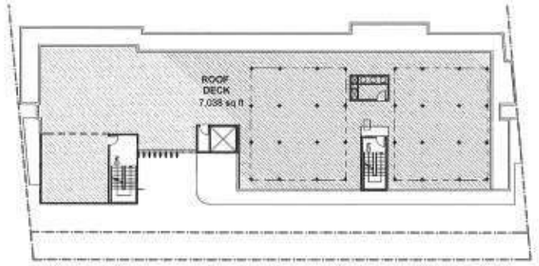
PHOTOMETRIC PLAN & FIXTURES

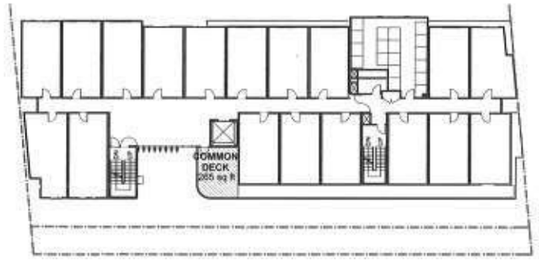
Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A6.1



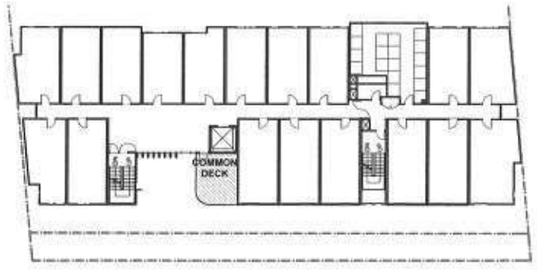
7 A6.2 **ROOF USABLE OPEN SPACE**

SCALE: 1" = 20'



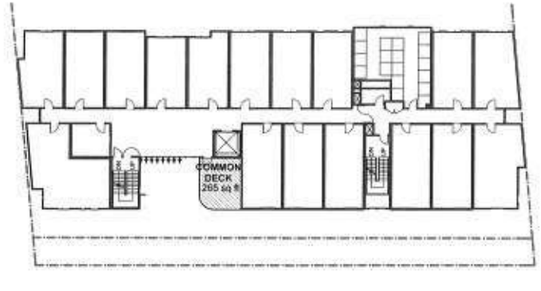
6 A6.2 **FIFTH FLOOR USABLE OPEN SPACE**

SCALE: 1" = 20'



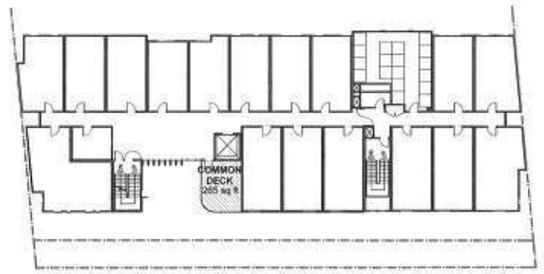
5 A6.2 **FOURTH FLOOR USABLE OPEN SPACE**

SCALE: 1" = 20'



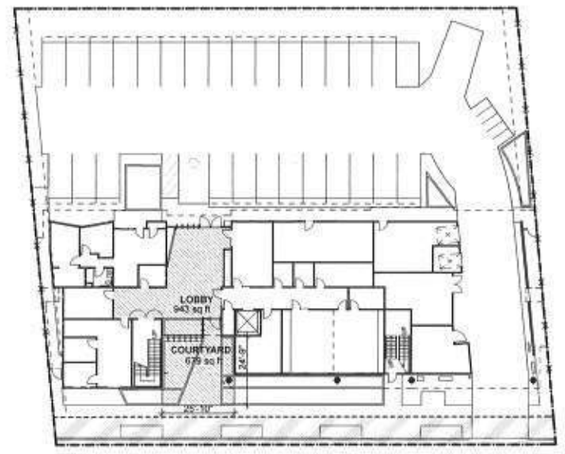
4 A6.2 **THIRD FLOOR USABLE OPEN SPACE**

SCALE: 1" = 20'



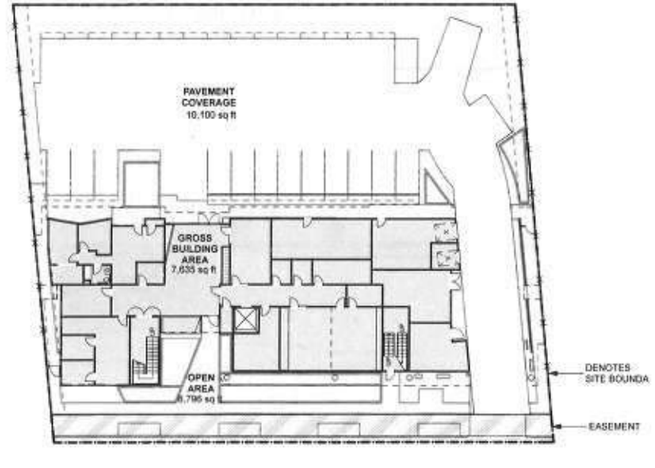
3 A6.2 **SECOND FLOOR USABLE OPEN SPACE**

SCALE: 1" = 20'



2 A6.2 **GROUND FLOOR USABLE OPEN SPACE**

SCALE: 1" = 20'



1 A6.2 **GROUND FLOOR OPEN AREA**

SCALE: 1" = 20'

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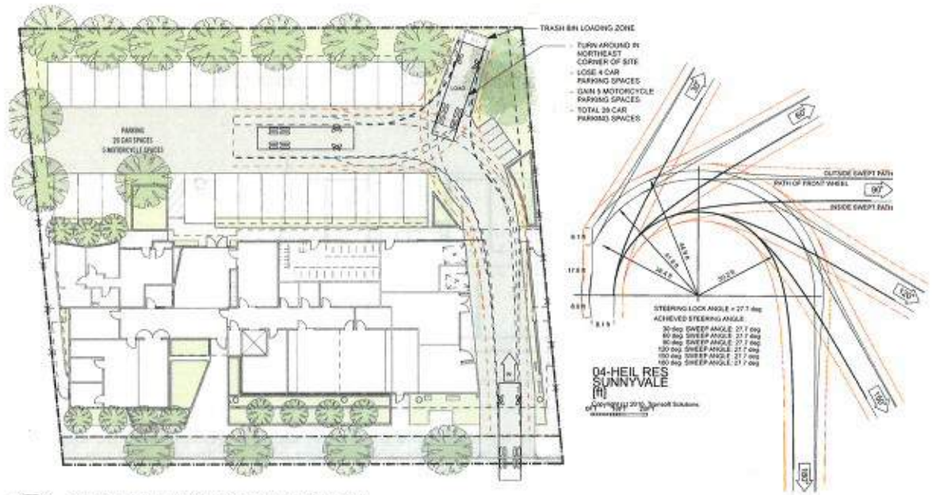
OPEN SPACE DIAGRAMS

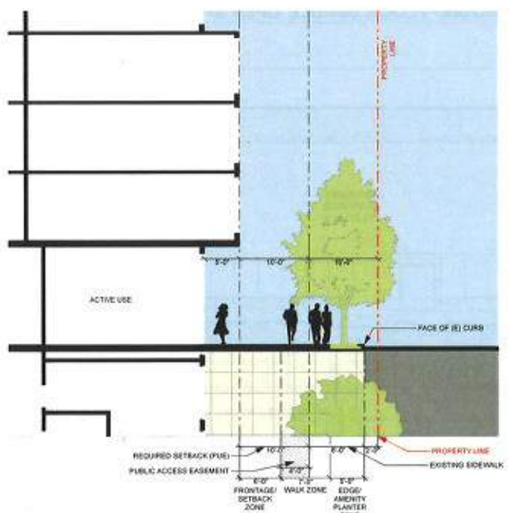
Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A6.2



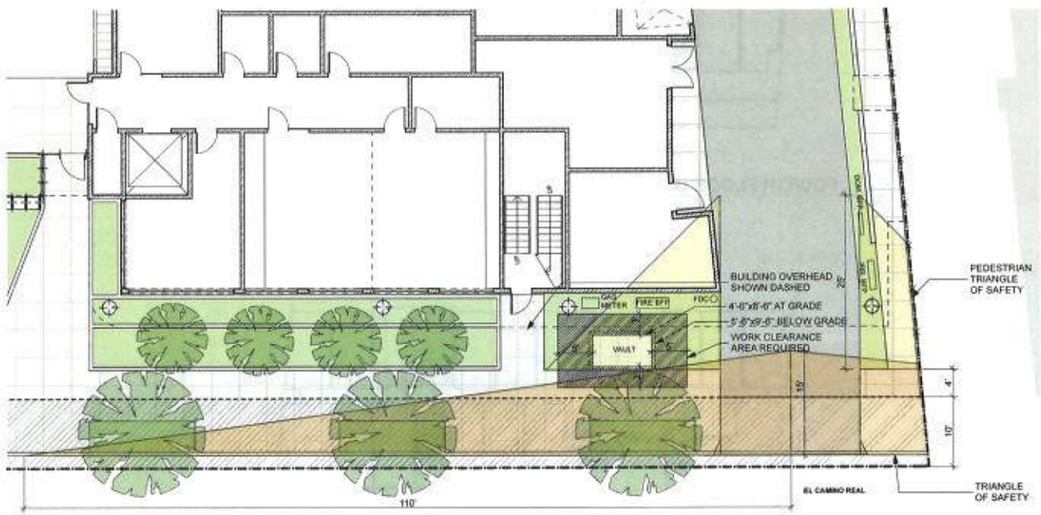
1 A6.3 **TRASH TRUCK ACCESS DIAGRAM**

SCALE: 1" = 20'



5 A6.3 **SIDEWALK SECTION DIAGRAM**

SCALE: 1" = 20'



6 A6.3 **SITE UTILITY & VISIBILITY DIAGRAM**

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

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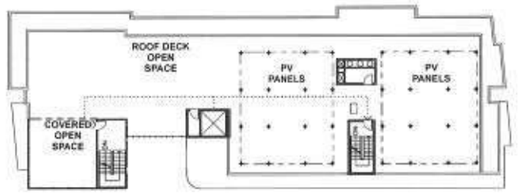
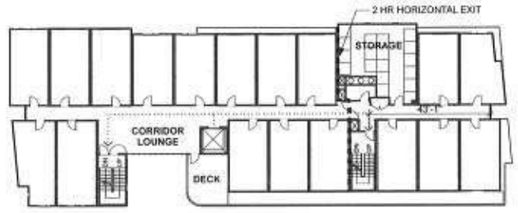
PLANNING & FIRE DIAGRAMS

Job#: 1733
Date: 2/13/18
Scale: AS NOTED

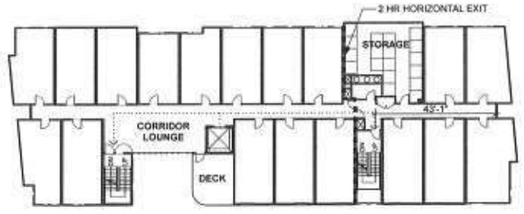
A6.3



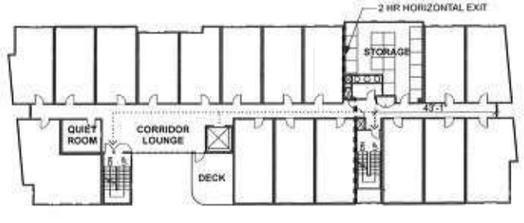
6 A6.4 **FIFTH FLOOR EXITING DIAGRAM** SCALE: 1" = 20'



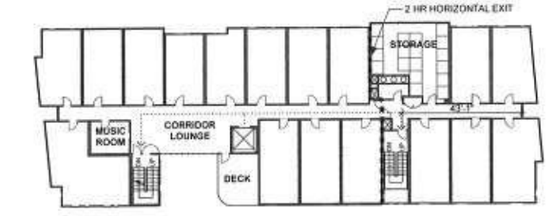
5 A6.4 **FIFTH FLOOR EXITING DIAGRAM** SCALE: 1" = 20'



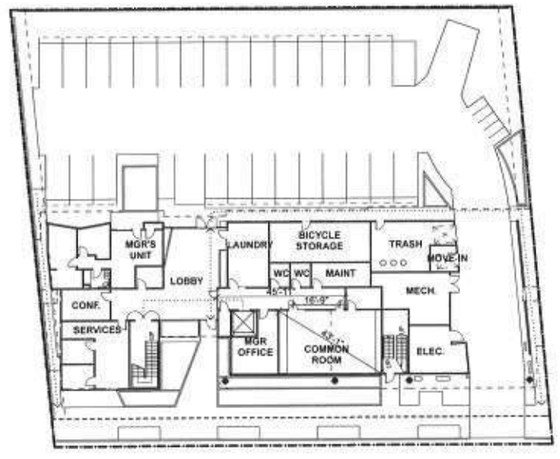
4 A6.4 **FOURTH FLOOR EXITING DIAGRAM** SCALE: 1" = 20'



3 A6.4 **THIRD FLOOR EXITING DIAGRAM** SCALE: 1" = 20'



2 A6.4 **SECOND FLOOR EXITING DIAGRAM** SCALE: 1" = 20'



1 A6.4 **GROUND FLOOR EXITING DIAGRAM** SCALE: 1" = 20'

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EXITING DIAGRAMS

Job#: 1733
Date: 2/13/16
Scale: AS NOTED

A6.4

OCCUPANCY CLASSIFICATION & EXITING

FLOOR / ROOM DESIGNATION	OCCUPANCY GROUP [CBC Chapter 3]	LOAD FACTOR [CBC Table 1004.1.2]	FLOOR AREA [Gross Area per CBC 1002]	OCCUPANT LOAD [floor area / load factor]	MAX LOAD FOR 1 EXIT [CBC Table 1005.1]	EGRESS INCHES [CBC 1005.3] STAIRWAY	EGRESS INCHES [CBC 1005.3] OTHER	EXITS REQUIRED FROM SPACE
LEVEL ONE SERVICES	B	100	658 sf	7.0	49	2	1	1
LEVEL ONE CONFERENCE ROOM	B	100	201 sf	3.0	49	1	1	1
LEVEL ONE MANAGER'S OFFICE	B	100	312 sf	4.0	49	1	1	1
LEVEL ONE RECEPTION	B	100	88 sf	1.0	49	0	1	1
LEVEL ONE COMMON ROOM	A-3	15	865 sf	58.0	49	17	12	2
LEVEL ONE COMMON STORAGE	R-2 ACCESSORY	300	104 sf	1.0	10	0	1	1
LEVEL ONE MANAGER'S UNIT	R-2	200	840 sf	5.0	10	2	1	1
LEVEL ONE LAUNDRY	R-2 ACCESSORY	300	364 sf	2.0	10	1	1	1
LEVEL ONE RESTROOM	R-2 ACCESSORY	300	68 sf	1.0	10	0	1	1
LEVEL ONE RESTROOM	R-2 ACCESSORY	300	68 sf	1.0	10	0	1	1
LEVEL ONE STORAGE CLOSET	R-2 ACCESSORY	300	47 sf	1.0	10	0	1	1
LEVEL ONE MAINTENANCE	U	300	189 sf	1.0	49	0	1	1
LEVEL ONE BIKE STORAGE	U	300	524 sf	2.0	49	1	1	1
LEVEL ONE MOVE-IN	U	300	105 sf	1.0	49	0	1	1
LEVEL ONE TRASH	U	300	455 sf	2.0	49	1	1	1
LEVEL ONE MECHANICAL	U	300	421 sf	2.0	49	1	1	1
LEVEL ONE ELECTRICAL	U	300	335 sf	2.0	49	1	1	1
LEVEL ONE EGRESS COMPONENTS	R-2	200	1,830 sf	-	-	-	-	-
TOTAL			7,424 sf	-				
TOTAL FLOOR ACCESSORY OCCUPANCY SF [10% MAX PER CBC 508.2.1] :			651 sf	PERCENT OF FLOOR AREA :	8.77%			
LEVEL TWO RESIDENTIAL	R-2	200	7,286 sf	37.0	10	12	8	2
LEVEL TWO MUSIC ROOM	B*	100	181 sf	2.0	49	1	1	1
LEVEL TWO STORAGE	R-2 ACCESSORY	300	715 sf	3.0	10	1	1	1
LEVEL TWO TRASH	U	300	89 sf	1.0	49	0	1	1
LEVEL TWO ROOF DECK	A-3	15	265 sf	18.0	49	5	4	1
LEVEL TWO EGRESS COMPONENTS	R-2	200	2,087 sf	-	-	-	-	-
TOTAL (excludes roof decks)			10,358 sf	-				
TOTAL FLOOR ACCESSORY OCCUPANCY SF [10% MAX PER CBC 508.2.1] :			715 sf	PERCENT OF FLOOR AREA :	6.90%			
LEVEL THREE RESIDENTIAL	R-2	200	7,286 sf	37.0	10	12	8	2
LEVEL THREE QUIET ROOM	B*	100	181 sf	2.0	49	1	1	1
LEVEL THREE STORAGE	R-2 ACCESSORY	300	715 sf	3.0	10	1	1	1
LEVEL THREE TRASH	U	300	89 sf	1.0	49	1	1	1
LEVEL THREE ROOF DECK	A-3	15	265 sf	18.0	49	6	4	1
LEVEL THREE EGRESS COMPONENTS	R-2	200	2,087 sf	-	-	-	-	-
TOTAL (excludes roof decks)			10,358 sf	-				
TOTAL FLOOR R-2 ACCESSORY OCCUPANCY SF [10% MAX PER CBC 508.2.1 :			715 sf	PERCENT OF FLOOR AREA :	6.90%			
LEVEL FOUR RESIDENTIAL	R-2	200	7,467 sf	38.0	10	12	8	2
LEVEL FOUR STORAGE	R-2 ACCESSORY	300	715 sf	3.0	49	1	1	1
LEVEL FOUR TRASH	U	300	89 sf	1.0	10	1	1	1
LEVEL FOUR ROOF DECK	A-3	15	265 sf	18.0	10	6	4	1
LEVEL FOUR EGRESS COMPONENTS	R-2	200	2,087 sf	-	-	-	-	-
TOTAL (excludes roof decks)			10,358 sf	-				
TOTAL FLOOR R-2 ACCESSORY OCCUPANCY SF [10% MAX PER CBC 508.2.1 :			715 sf	PERCENT OF FLOOR AREA :	6.90%			
LEVEL FIVE RESIDENTIAL	R-2	200	6,777 sf	34.0	10	11	7	2
LEVEL FIVE STORAGE	R-2 ACCESSORY	300	715 sf	3.0	10	1	1	1
LEVEL FIVE TRASH	U	300	89 sf	1.0	49	1	1	1
LEVEL FIVE ROOF TERRACE	A-3	15	265 sf	18.0	49	5	4	1
ROOF DECK	A-3		7,039 sf					
LEVEL FIVE EGRESS COMPONENTS	R-2	200	2,027 sf	-	-	-	-	-
TOTAL (excludes roof decks)			9,806 sf	58.0				
TOTAL FLOOR R-2 ACCESSORY OCCUPANCY SF [10% MAX PER CBC 508.2 :			715 sf	PERCENT OF FLOOR AREA :	7.44%			

TOTAL BUILDING (GROSS) AREA [PER CBC 1002] = **48,106 sf**

* Small Assembly Space occupancy classified per CBC 303.1.2

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Walnut Creek, CA 94598
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LANDSCAPE ARCHITECT
Hill Associates
100 Oakdale Drive
Aptos, CA 95003
408-761-3484

Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

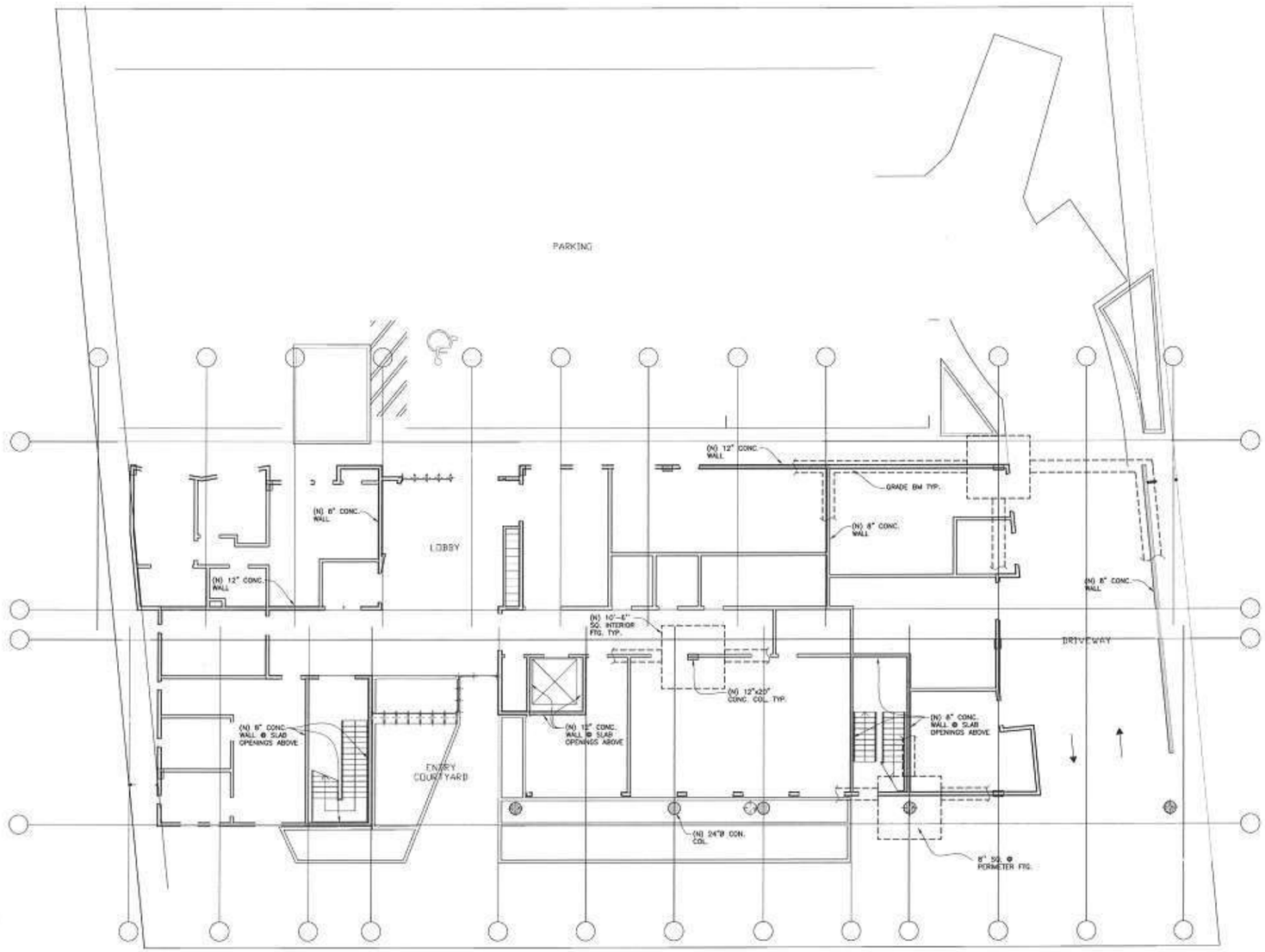
PALO ALTO HOUSING

725 Alma St
Palo Alto, CA 94301
(650) 321-9709

OCCUPANCY TABLE

Job#: 1733
Date: 2/13/18
Scale: AS NOTED

A6.5



1 S2.0 FIRST FLOOR PLAN

1/8" = 1'-0"

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STRUCTURAL ENGINEER
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85 Second Street, Suite 501
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415-546-0431

ID	NAME	DATE
	100% SD	2-20-18

Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

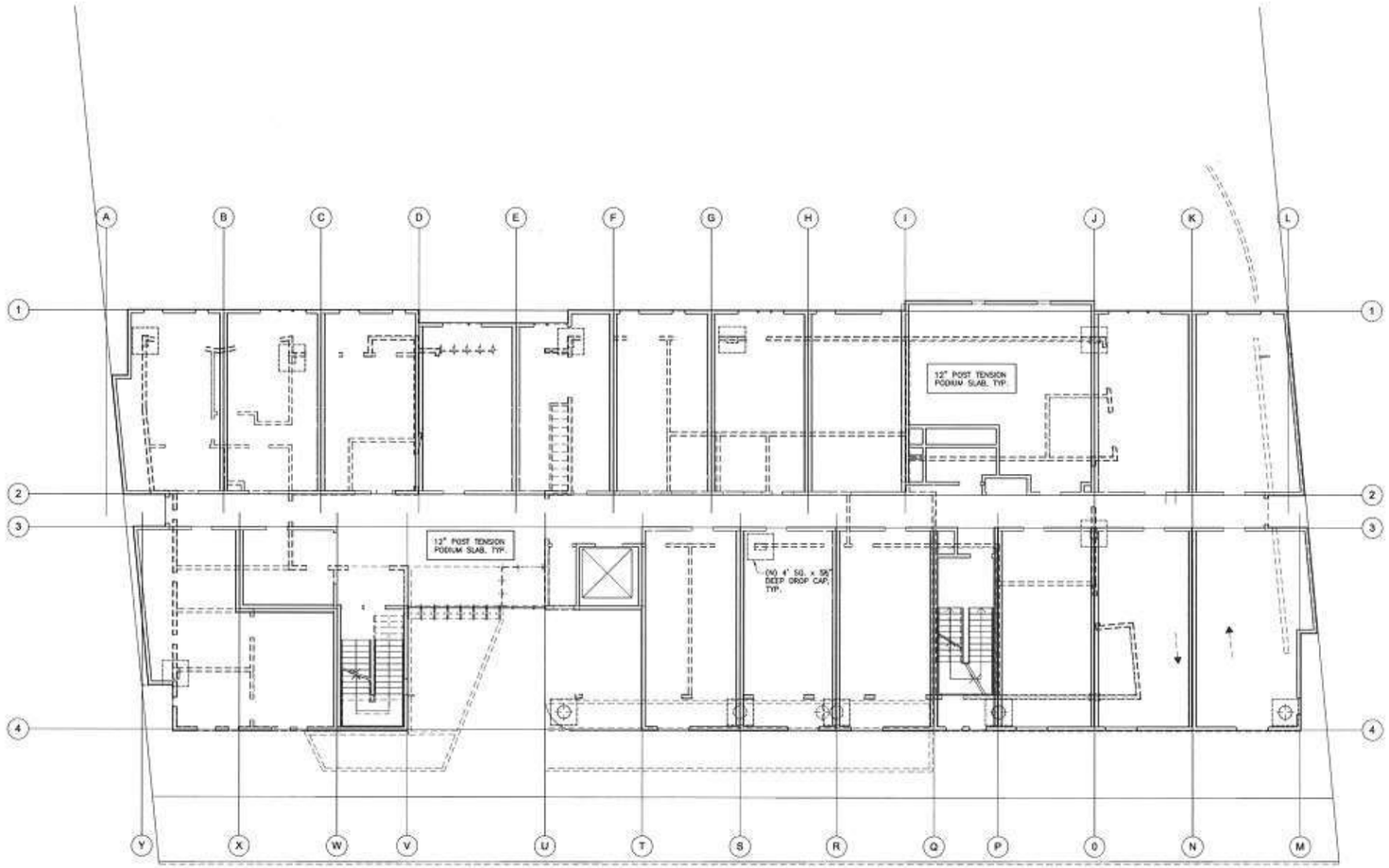
PALO ALTO HOUSING

725 Alma St
Palo Alto, CA 94301
(650) 321-9709

FIRST FLOOR PLAN

Job#: 217-363
Scale: AS NOTED
Date: 02-06-18

S2.0



1 / S2.1 SECOND FLOOR PLAN

1/8" = 1'-0"

VAN METER WILLIAMS POLLACK LLP

ARCHITECTURE | URBAN DESIGN | SAN FRANCISCO | BOSTON

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ID	NAME	DATE
	100% SD	2-20-18

Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

725 Alma St
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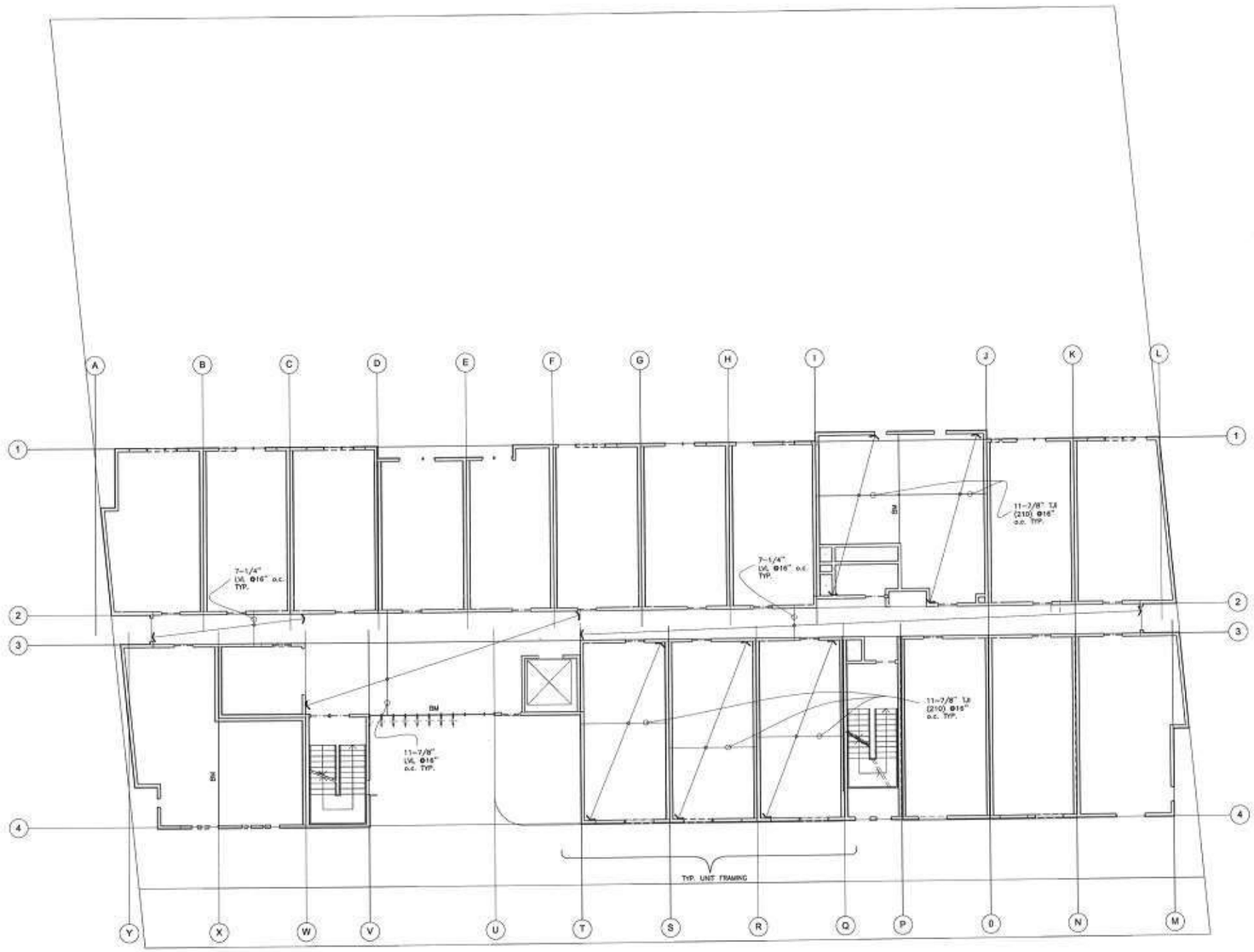
(650) 321-9709

SECOND FLOOR PLAN

Job#: 217-363
Scale: AS NOTED
Date: 02-06-18

S2.1



1/52.2 THIRD FLOOR PLAN

1/8" = 1'–0"

VAN METER WILLIAMS POLLACK LLP

ARCHITECTS | URBAN DESIGN | SAN FRANCISCO | BOSTON
[illegible]

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ID	NAME	DATE
	100% SD	2-20-18

Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

725 Alma St
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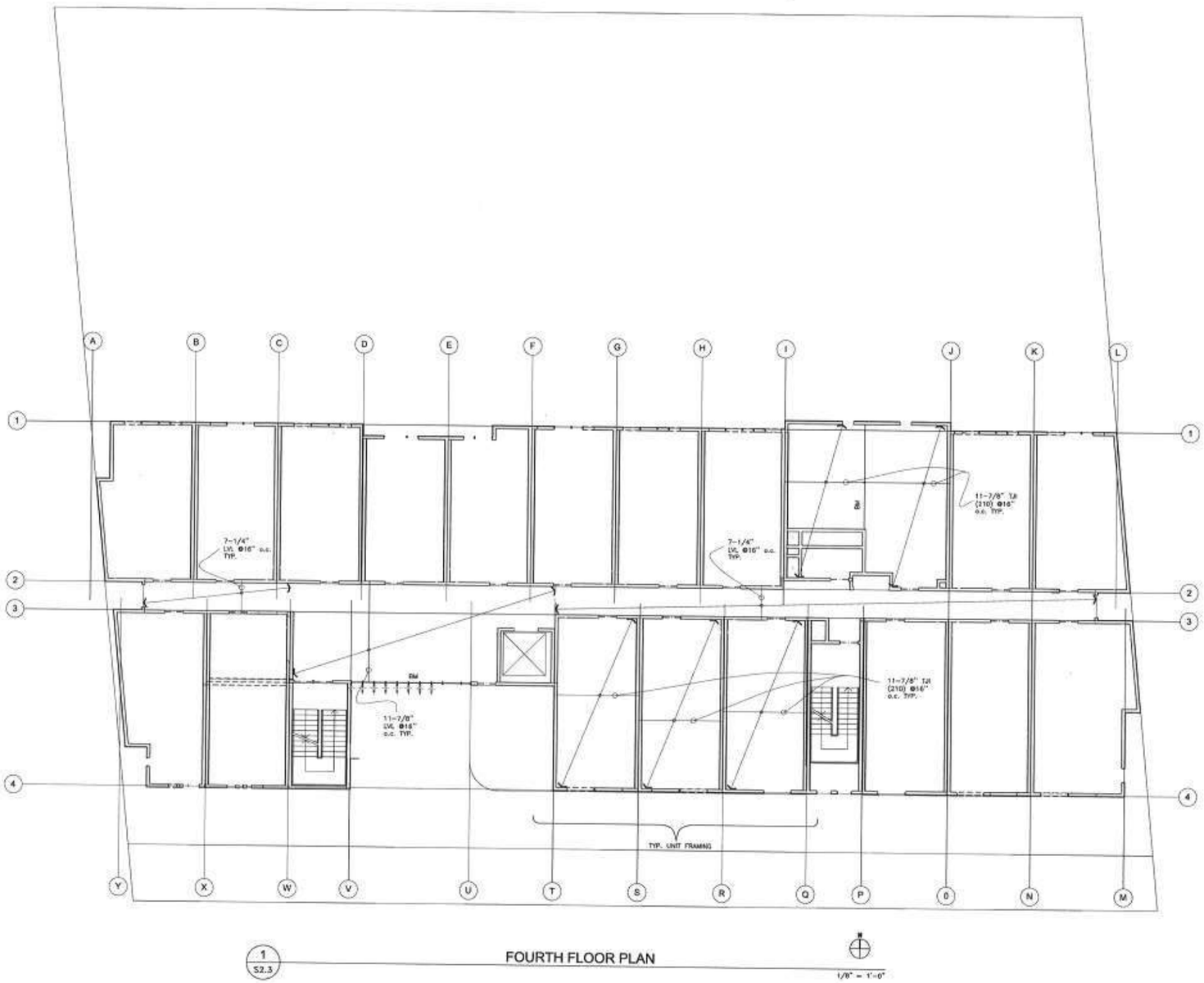
THIRD FLOOR PLAN

Job#: 217-363
Scale: AS NOTED
Date: 02-06-18

S2.2



1 / S2.3 FOURTH FLOOR PLAN

1/8" = 1'-0"

VAN METER WILLIAMS POLLACK LLP

STRUCTURAL ENGINEER
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ID	NAME	DATE
	100% SD	2-20-18

Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

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Palo Alto, CA 94301
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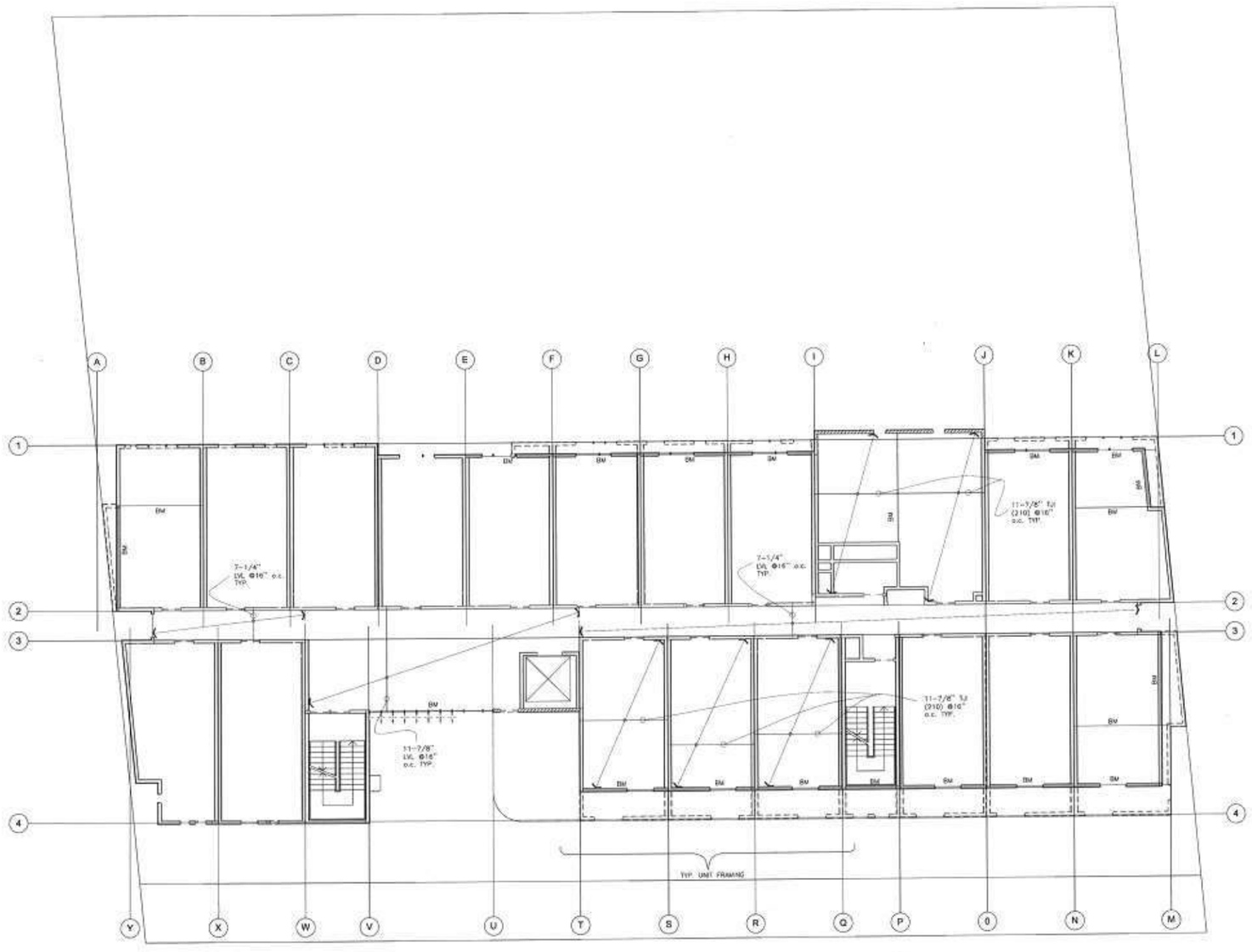
FOURTH FLOOR PLAN

Job#: 217-363
Scale: AS NOTED
Date: 02-06-18

S2.3



1/S2.4 FIFTH FLOOR PLAN

1/8" = 1'-0"

VAN METER WILLIAMS POLLACK LLP

ARCHITECTURE | URBAN DESIGN | SAN FRANCISCO | BOSTON

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ID	NAME	DATE
	100% SD	2-20-18

Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

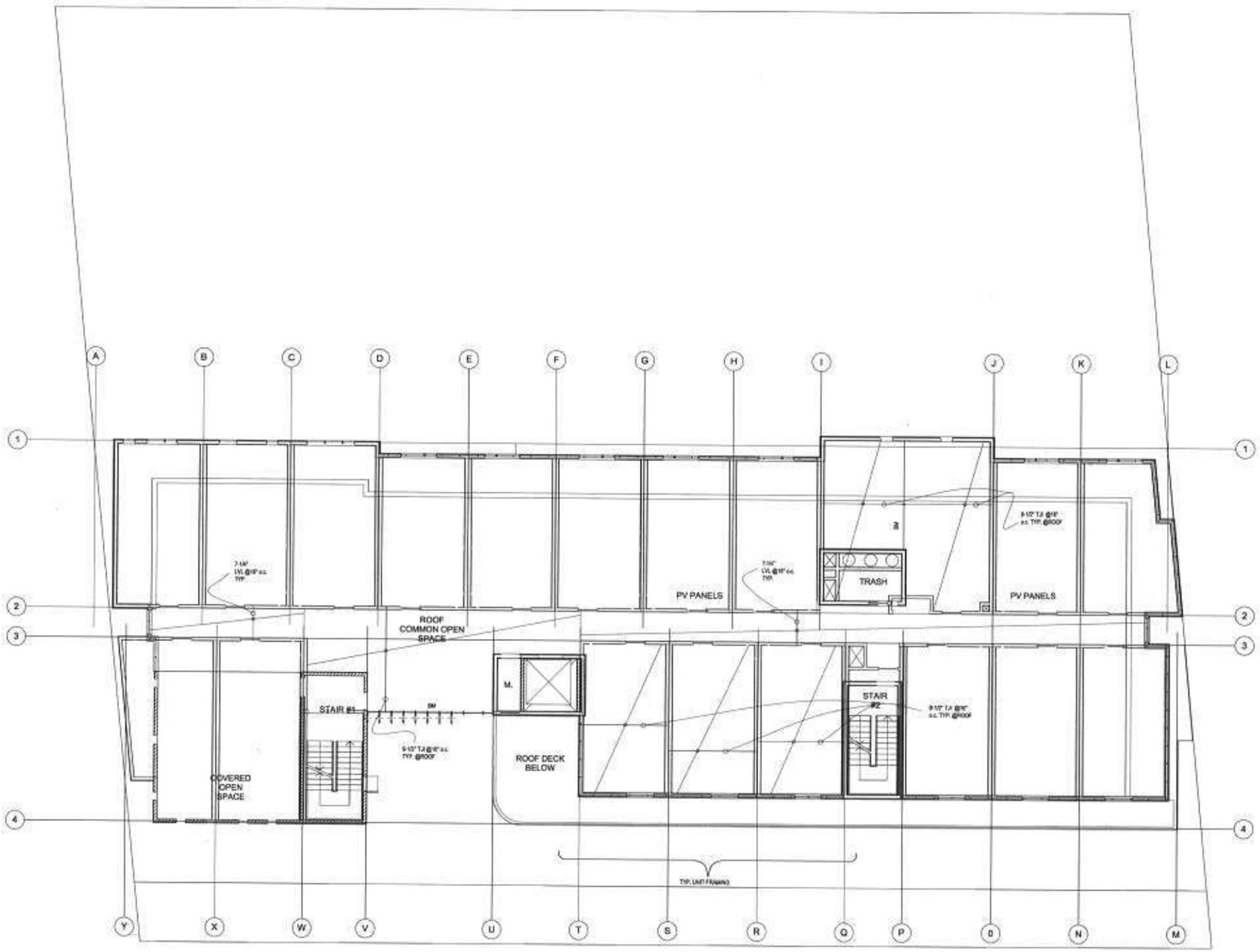
PALO ALTO HOUSING

725 Alma St
Palo Alto, CA 94301
(650) 321-9709

FIFTH FLOOR PLAN

Job#: 217-363
Scale: AS NOTED
Date: 02-06-18

S2.4



1 S2.5 **ROOF FLOOR PLAN**

1/8" = 1'-0"

VAN METER WILLIAMS POLLACK LLP

ARCHITECTURE | DESIGN WORK | SAN FRANCISCO | BOSTON

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1730 Embarcadero Road, Suite 100, Palo Alto, CA 94303 650.289.1400

☐ **STRUCTURAL ENGINEER**
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ID	NAME	DATE
	100% SD	2-20-18

Project:

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950 W EL CAMINO REAL
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Client:

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(650) 321-9709

Job#: 217-363
Scale: AS NOTED
Date: 02-06-18

MECHANICAL SYMBOLS

SYMBOL	DESCRIPTION
	DUCTWORK
	LINED DUCTWORK
	DUCTWORK BREAK
	CROSS SECTION OF SUPPLY DUCT OR CEILING SUPPLY DIFFUSER
	CROSS SECTION OF RETURN DUCT OR CEILING RETURN GRILLE
	CROSS SECTION OF EXHAUST DUCT OR CEILING EXHAUST GRILLE
	DUCT RISE
	FLEXIBLE DUCTWORK
SIZE / CFM / TYPE	AIR TERMINAL INDICATING FLOW DIRECTION, TYPE, SIZE AND CFM
	CONCENTRIC SQUARE TO ROUND TRANSITION
	MANUAL VOLUME DAMPER
	MOTORIZED DAMPER
(S)	COMBINATION FIRE/SMOKE DAMPER
(FD)	FIRE DAMPER
(SD)	SMOKE DAMPER
DD	DUCT SMOKE DETECTION
	INTAKE OR EXHAUST
	AIRFLOW DIRECTION
	CEILING EXHAUST FAN
	ACCESS PANEL
	TEMPERATURE SENSOR (SPACE)
	THERMOSTAT (4'-0" AFF)
	CARBON MONOXIDE SENSOR
	CARBON DIOXIDE SENSOR
S	SWITCH
AM	AIRFLOW MONITORING STATION
CD	CONDENSATE DRAIN

NOTE: THIS IS A STANDARD LIST OF COMMONLY USED DUCTWORK SYMBOLS. SOME OF THE SYMBOLS SHOWN ABOVE MAY NOT HAVE BEEN USED IN THE DRAWING PACKAGE.

GENERAL SYMBOLS

SYMBOL	DESCRIPTION
1	SHEET NOTE
EF-1	EQUIPMENT CALLOUT
1 / A5.0	DETAIL REFERENCE: DETAIL CALLOUT / SHEET CALLOUT
1 / A5.0	SECTION CALLOUT
	POINT OF CONNECTION
1	REVISION TAG

ABBREVIATIONS

ABC ABOVE CEILING	KW KILOWATT
ABV ABOVE	
AP ACCESS PANEL	LAT LEAVING AIR TEMPERTURE
AC AIR CONDITIONING UNIT	LBS POUNDS
AFF ABOVE FINISHED FLOOR	LWT LEAVING WATER TEMPERTURE
AFG ABOVE FINISHED GRADE	LVR LOUVER
AHU AIR HANDLING UNIT	
ARCH ARCHITECTURAL	MAX MAXIMUM
	MBH THOUSAND BTUH
BEL BELOW	MCA MAXIMUM CURRENT AMPS
BF BELOW FINISHED FLOOR	MCC MOTOR CONTROL CENTER
BG BELOW FINISHED GRADE	MECH MECHANICAL
BHP BRAKE HORSEPOWER	MFR MANUFACTURER
BLDG BUILDING	MIN MINIMUM
BOD BOTTOM OF DUCT	MOCP MAXIMUM OVER CURRENT PROTECTION
BTU BRITISH THERMAL UNIT	
BTUH BTU HOUR	MTD MOUNTED
BDD BACK DRAFT DAMPER	MVD MANUAL VOLUME DAMPER
BC BELOW CEILING	
	N NEW
CC COOLING COIL	NC NORMALLY CLOSED
CLG CEILING	NO NORMALLY OPEN
CFM AIRFLOW RATE - CUBIC FEET PER MINUTE	NTS NOT TO SCALE
CHWR CHILLED WATER RETURN	OA OUTSIDE AIR
CHWS CHILLED WATER SUPPLY	
CONT CONTINUATION	PC PREHEAT COIL
CONTR CONTRACTOR	PD PRESSURE DROP
CWR CONDENSER WATER RETURN	PH PHASE
CWS CONDENSER WATER SUPPLY	PLBG PLUMBING
	PRV PRESSURE REDUCING VALVE
D DROP	
DB DRY BULB	PSI POUNDS PER SQUARE INCH
DEG DEGREES	POC POINT OF CONNECTION
DL DOOR LOUVER	
DIA DIAMETER	REF REFRIGERATION
DN DOWN	REQD REQUIRED
DV DRYER VENT	RET RETURN
DWG DRAWING	RM ROOM
	RPM REVOLUTIONS PER MINUTE
E EXISTING	
EAT ENTERING AIR TEMPERATURE	SAD SEE ARCHITECTURAL DRAWINGS
EDB ENTERING DRY BULB	SA SUPPLY AIR
EER ENERGY EFFICIENCY RATIO	SEER SEASONAL ENERGY EFFICIENCY RATIO
EF EXHAUST FAN	
EL ELEVATION	SENS SENSIBLE
ELEC ELECTRIC/ELECTRICAL	SP STATIC PRESSURE
EQUIP EQUIPMENT	SPEC SPECIFICATION
ESP EXTERNAL STATIC PRESSURE	SS STAINLESS STEEL
EWB ENTERING WET BULB	SSD SEE STRUCTURAL DRAWINGS
EXH EXHAUST	STD STANDARD
	STRUC STRUCTURAL
°F DEGREES FAHRENHEIT	SA SUPPLY AIR
FC FLEXIBLE CONNECTION	SYM SYMBOL
FFE FINISHED FLOOR ELEVATION	
	T&P TEMPERATURE AND PRESSURE
FLA FULL LOAD AMPS	TC TIME CLOCK
FL FLOOR	TE TOILET EXHAUST
FPI FINS PER INCH	TEMP TEMPERTURE
FPM FEET PER MINUTE	TOD TOP OF DUCT
FT FOOT	TYP TYPICAL
GA GAUGE	UG UNDERGROUND
GPM GALLONS PER MINUTE	UL UNDERWRITERS' LABORATORIES
	UON UNLESS OTHERWISE NOTED
HC HEATING COIL	UC DOOR UNDER CUT
HP HORSEPOWER	
HT HEIGHT	V VOLTS
HTG HEATING	VD VOLUME DAMPER
HVAC HEATING VENTILATION AND AIR CONDITIONING	W WITH
HHWR HEATING HOT WATER RETURN	W/O WITHOUT
HHWS HEATING HOT WATER SUPPLY	WT WEIGHT
	WB WET BULB
IE INVERT ELEVATION	
IFW IN FURRED WALL	
KE KITCHEN EXHAUST	

NOTE: THIS IS A STANDARD LIST OF COMMONLY USED ABBREVIATIONS. SOME OF THE ABBREVIATIONS SHOWN ABOVE MAY NOT HAVE BEEN USED IN THE DRAWING PACKAGE.

GENERAL NOTES:

1. HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS SHALL COMPLY WITH 2016 CALIFORNIA MECHANICAL CODE, 2016 CALIFORNIA TITLE 24 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE. CITY ORDINANCE AND OTHER APPLICABLE CODES.
2. DUCT LINING MATERIAL OWENS/CORNING ACROMAT DUCT LINER. MATERIAL SHALL HAVE A MOLD-HUMIDITY-AND-EROSION RESISTANT SURFACE THAT MEETS THE REQUIREMENTS OF U.L. 181 C.M.C. 604.0.
3. FACTORY MADE AIR DUCTS SHALL BE CLASS 0 OR CLASS 1, U.L. 181, C.M.C. 602.3. ALL AIR DUCTS PENETRATING SEPARATION WALL, RATED WALLS, CEILING BETWEEN GARAGE AND LIVING AREA, RATED COLUMNS SHALL BE 26 GA. GALVANIZED SHEET METAL.
4. INSULATION APPLIED TO THE EXTERIOR SURFACE OF DUCTS LOCATED IN BUILDING SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED RATING OF NOT MORE THAN 50 WHEN TESTED AS A COMPOSITE INSTALLATION INCLUDING INSULATION, FACING MATERIALS, TAPES AND ADHESIVES AS NORMALLY APPLIED.
5. DUCT SHALL BE SUPPORTED PER THE MINIMUM REQUIREMENT OF SMACNA HVAC CONSTRUCTION STANDARDS AND SHALL BE BRACED AND GUYED TO PREVENT LATERAL OR HORIZONTAL SWING. THE USE OF LATERAL OR HORIZONTAL SEISMIC RESTRAINT GUIDELINES PER "SMACNA" IS ALSO APPLICABLE.
6. PROVIDE INSTALLATION INSTRUCTIONS FOR ALL LISTED EQUIPMENT FOR FIELD INSPECTOR AT TIME OF INSPECTION. CMC 303.1
7. ALL MECHANICAL EQUIPMENT SHALL BE ANCHORED OR STRAPPED TO STRUCTURE TO RESIST EARTHQUAKE MOTION (PER CMC, SECTION 304.3)
8. DUCT CONSTRUCTION. DUCT AND PLENUM CONSTRUCTION SHALL BE IN ACCORDANCE WITH CMC CHAPTER 6 & SMACNA HVAC CONSTRUCTION STANDARDS
9. ALL PIPING AND DUCTWORK SHALL BE INSULATED CONSISTENT WITH THE REQUIREMENTS OF CALIFORNIA TITLE 24.
10. DRYER EXHAUST DUCT SHALL BE GALVANIZED STEEL OR ALUMINUM WITH SMOOTH INTERIOR SURFACES, MINIMUM 30 GAUGE STEEL OR 26 GAUGE ALUMINUM. DUCTS SHALL NOT BE CONNECTED OR INSTALLED WITH SHEET METAL SCREWS OR OTHER FASTENERS WHICH WILL OBSTRUCT THE FLOW.
11. KITCHEN HOOD EXHAUST DUCT SHALL BE GALVANIZED STEEL WITH MINIMUM 26 GAUGE THICKNESS. DUCTS SHALL NOT BE CONNECTED OR INSTALLED WITH SHEET METAL SCREWS.
12. FLEXIBLE DUCTWORK SHALL BE J.P. GENEFLEX, OR EQUAL. INSULATED FLEXIBLE DUCT RATED TO APPROXIMATELY 2" OPERATING PRESSURE FOR DIFFUSERS. FLEXIBLE DUCT SHALL COMPLY WITH UL-181 STANDARDS. USE WITH MANUFACTURER'S APPROVED BAND AND TAPE MATERIALS ONLY. SUPPORT FLEXIBLE DUCT AT 4 FEET INTERVALS. DUCT HANGERS SHALL BE A MINIMUM OF 1-1/2" INCH WIDE. OTHERWISE PROVIDE SHEET METAL SADDLE TO COVER ONE-HALF OF DUCT CIRCUMFERENCE. PROVIDE SHEET METAL SLEEVE AT WALL AND FLOOR PENETRATION. PROVIDE ACOUSTIC FLEXIBLE AIR DUCT WHERE NOTED.
13. PROVIDE AIR BALANCE FOR ALL AIR HANDLING SYSTEMS. SUBMIT AIR BALANCE REPORT. PROVIDE OUTSIDE AIR FLOW TEST & BALANCE FOR ONE OUT OF SEVEN FOR EACH TYPE OF UNIT.
14. PROVIDE OPERATION AND MAINTENANCE MANUAL FOR THE BUILDING OCCUPANT OR OWNER PER CALIFORNIA GREEN CODE, CGC 4.410
15. CLEANING AT THE TIME OF ROUGH INSTALLATION OR DURING STORAGE, DUCT COMPONENTS AND PLENUM OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL, OR OTHER METHODS THAT WILL REDUCE THE AMOUNT OF DUST OR DEBRIS WHICH MAY COLLECT IN THE SYSTEM PRIOR TO FINAL PER CGC 4.504.3
16. ADHESIVE, SEALANTS, AND CAULKING SHALL BE COMPLIANT WITH VOC OR OTHER TOXIC COMPOUND LIMITS. CGC 4.504.4.1
17. INDOOR AIR QUALITY PER CGC 4.506.1, OUTSIDE AIR DELIVERY IN ACCORDANCE WITH T-24, CGC 4.506.2, DEMAND CONTROL PER T-24
18. ENVIRONMENTAL COMFORT SYSTEM DESIGN CGC 5.507
19. FILTERS. AIR FILTERS SHALL COMPLY WITH CMC, CGC SECTION 4.504.5.3
20. PROVIDE SMART THERMOSTAT FOR HVAC SYSTEM. HONEYWELL PRESTIGE 2-0 OR EQUAL
21. ECONOMIZER FAULT DETECTION AND DIAGNOSTICS. APPLY TO AIR COOLED UNITARY EQUIPMENT EQUIPPED WITH ECONOMIZER WITH 4 ½ TON CAPACITY & LARGER. PROVIDE SENSOR & DEVICES PER T-24. 120.2(I)
22. INSULATE REFRIGERANT PIPING WITH MINIMUM 1/2"THICK, R-4.2 INSULATION. PROVIDE INSULATION PROTECTION FOR OUTDOOR PIPING. ADD E-FLEX GUARD REFRIGERANT SUCTION LINE VAPOR RETARDANT.
23. HEATING AND AIR-CONDITIONING SYSTEM DESIGN CGC 4.507.2
    DUCT SYSTEMS ARE SIZED, DESIGNED, AND EQUIPMENT IS SELECTED USING THE FOLLOWING METHODS:
    a. HEAT LOSS AND HEAT GAIN VALUES DESIGNED ACCORDING TO ENERGY-PRO SOFTWARE, APPROVED BY DOE AND STATE OF CALIFORNIA WHICH IS EQUIPMENT TO ANSI/ACCA 2 MANUAL J-2004
    b. SIZE DUCT SYSTEMS ACCORDING TO ASHRAE STANDARD HANDBOOK OF FUNDAMENTALS WHICH IS EQUIPMENT TO ANSI/ACCA 1 MANUAL D-2009.
    c. SELECT HEATING AND COOLING EQUIPMENT ACCORDING TO SPACE LOAD CALCULATIONS WHICH IS EQUIPMENT TO ANSI/ACCA 3 MANUAL S-2004.
24. INSTALLER TRAINING, CGC 702.1
    HVAC SYSTEM INSTALLERS ARE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS. HVAC SYSTEM INSTALLERS SHALL BE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS AND EQUIPMENT BY A RECOGNIZED TRAINING OR CERTIFICATION PROGRAM. EXAMPLES OF ACCEPTABLE HVAC TRAINING AND CERTIFICATION PROGRAMS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
    a. STATE CERTIFIED APPRENTICESHIP PROGRAMS
    b. PUBLIC UTILITY TRAINING PROGRAMS.
    c. TRAINING PROGRAMS SPONSORED BY TRADE, LABOR OR STATEWIDE ENERGY CONSULTING OR VERIFICATION ORGANIZATIONS.
    d. PROGRAMS SPONSORED BY MANUFACTURING ORGANIZATIONS.
    e. OTHER PROGRAMS ACCEPTABLE TO THE ENFORCING AGENCY.

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ID	DATE	NAME
	12-22-17	PRELIMINARY DRAWING
	02-13-18	100% SD

Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

725 Alma St
Palo Alto, CA 94301
(650) 321-9709

LEGEND AND NOTES MECHANICAL

Job#: 1779

Scale: AS NOTED

M0.1

FAN SCHEDULE

TAG	MANUFACTURER/ MODEL	TYPE	DRIVE	SERVICE	FAN CFM	FAN ESP	FAN RPM	MOTOR (HP)	VOLT/PH	VIBRATION ISOLATION	CONTROLS	WEIGHT (LBS)	SOUND (SONES)	REMARKS
EF-1	PANASONIC FV-05-11VK1 PLUS FV-VS15VK1 SPEED MODULE	CEILING	DIRECT	UNIT BATHS	40-80	0.25	–	11 WATTS	120/1	NEOPRENE PAD	CONTINUOUS	15	0.4	NOTES: #1,2
EF-2	PANASONIC OR FV-0510VS1	CEILING	DIRECT	SINGLE TOILET	75	0.25	–	22 WATTS	120/1	NEOPRENE PAD	LIGHT SWITCH	15	1.0	NOTES: #1
EF-3	COOK CPV	UTILITY	BELT	TRASH ROOM EXHAUST	740	0.5	–	–	120/1	SPRING ISOLATORS	CONTINUOUS	–	–	NOTES: #7
EF-4	COOK GC	CEILING	DIRECT	CORRIDOR EXHAUST	80	0.25	–	–	120/1	NEOPRENE PAD	CONTINUOUS	–	–	NOTES: #4
EF-4	COOK GC	CEILING	DIRECT	CORRIDOR EXHAUST	150	0.25	–	–	120/1	NEOPRENE PAD	CONTINUOUS	–	–	NOTES: #4
SF-1	AIR KING QFAM	INLINE	DIRECT	UNIT O.A FAN	60-120	0.26		30 WATTS	120/1	NEOPRENE PAD	CONTINUOUS	20	–	NOTES: #6, APT UNITS
SF-2	COOK 90DSPB	INLINE	BELT	CORRIDOR SUPPLY	1000	0.75	1121	0.5	120/1	SPRING ISOLATORS	CONTINUOUS	150	67dBA	NOTES: #3
SF-3	COOK CPV	UTILITY	BELT	TRASH ROOM SUPPLY	200	0.5	–	–	120/1	SPRING ISOLATORS	CONTINUOUS	–	–	NOTES: #7

NOTES:
1. ENERGY STAR CERTIFIED. COMPLETE WITH BACKDRAFT DAMPER AND GRILLE.
2. PROVIDE WITH MULTI-SPEED WITH TIME DELAY AND MOTION SENSOR FOR CONTINUOUS OPERATION AT LOW SPEED. PROVIDE DEDICATED CIRCUIT WITH LABEL TO READ "AQ FAN,SHALL NOT TURN OFF WHILE THE UNIT IS OCCUPIED.
3. PROVIDE WITH BACKDRAFT DAMPER, MERV 8 FILTER, AND SPEED CONTROLLER.
4. PROVIDE WITH BACKDRAFT DAMPER.
5. NOT USED.
6. OUTSIDE AIR SUPPLY FAN WITH FILTER HOUSING AND MERV-8 AIR FILTER. PROVIDE SPEED CONTROLLER TO BALANCE AIR FLOW PER UNIT VENTILATION REQUIREMENT. FAN TO RUN 24/7. PROVIDE OVERRIDE SWITCH IN CLOSET WITH LABEL TO READ "FAN SHALL NOT TURN OFF WHILE UNIT IS OCCUPIED".
7. FULLY WELDED STEEL CONSTRUCTION. PROVIDE WITH ISOLATION RAILS, SPRING ISOLATORS, AND MOTOR COVER.

DX FAN COIL SCHEDULE

TAG	MANUFACTURER/ MODEL	TYPE	NOMINAL CAPACITY (TONS)	FAN SECTION CFM	FAN SECTION ESP	FAN SECTION BHP	COOLING TOTAL/SENS (MBH)	COOLING EDB/EWB (°F)	HEATING HEAT PUMP (MBH)	HEATING ELEC (KW)	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL VOLT/Ø	VIBRATION ISOLATION	CONTROLS	WEIGHT (LBS)	OSA (CFM)	REMARKS
FC-1	DAIKIN	DUCTLESS	1.0	–	–	–	–	75/63	–	–	–	–	–	NEOPRENE ISOLATORS	THERMOSTAT	–	–	NOTES: #1,2,3 APT. UNITS
FC-2	DAIKIN MULTIZONE	DUCTLESS	1.5	–	–	–	–	75/63	–	–	–	–	–	NEOPRENE ISOLATORS	THERMOSTAT	–	–	NOTES: #1,2,3 APT. UNITS
FC-3	DAIKIN MULTIZONE	DUCTLESS	3.0	–	–	–	–	75/63	–	–	–	–	–	NEOPRENE ISOLATORS	THERMOSTAT	–	–	NOTES: #1,2,3 APT. UNITS

NOTES:
1. PROVIDE UNIT COMPLETE WITH EC MOTOR, FACTORY INSTALLED 7AV, INSULATED ENCLOSURE, SOLID ACCESS PANEL, HEAT PUMP KIT, ENCLOSURE "CAP KIT" FOR ABOVE CEILING INSTALLATION CONDENSATE OVERFLOW SWITCH.
2. PROVIDE WITH 7-DAY PROGRAMMABLE THERMOSTAT WITH TIME DELAY RELAY, WIRELESS CONNECTIVITY – TITLE-24 COMPLIANT. THERMOSTAT NEST SMART THERMOSTAT.
3. PROVIDE UNIT WITH FACTORY INSTALLED, SINGLE CIRCUIT ELECTRIC HEATER.

HEAT PUMP SCHEDULE

TAG	MANUFACTURER/ MODEL	SERVICE	NOMINAL CAPACITY (TONS)	COOLING TOTAL (MBH)	COOLING EAT (°F)	COOLING SEER/ EER	HEATING TOTAL (MBH)	HEATING EAT (°F)	HEATING COP/ HSPF	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL VOLT/Ø	VIBRATION ISOLATION	WEIGHT (LBS)	REMARKS
HP-1	DAIKIN	FC-1	–	–	–	–	–	–	–	–	–	208/1	SPRING ISOLATOR	–	NOTES: #2
HP-2	DAIKIN	FC-2	–	–	–	–	–	–	–	–	–	208/1	SPRING ISOLATOR	–	NOTES: #2
HP-3	DAIKIN	FC-2	–	–	–	–	–	–	–	–	–	208/1	SPRING ISOLATOR	–	NOTES: #2

NOTES:
1. PROVIDE UNIT WITH CRANKCASE HEATER, START ASSIST, LIQUID LINE SOLENOID VALVE AND LONG LINE APPLICATION KIT.
2. INDOOR UNITS RECEIVE POWER FROM OUTDOOR UNITS THROUGH FIELD SUPPLIED INTERCONNECTED WIRING.

DX FAN COIL SCHEDULE

TAG	MANUFACTURER/ MODEL	TYPE	NOMINAL CAPACITY (TONS)	FAN SECTION CFM	FAN SECTION ESP	FAN SECTION BHP	COOLING TOTAL/SENS (MBH)	COOLING EDB/EWB (°F)	HEATING HEAT PUMP (MBH)	HEATING ELEC (KW)	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL VOLT/Ø	VIBRATION ISOLATION	CONTROLS	WEIGHT (LBS)	OSA (CFM)	REMARKS
CFC-1	CARRIER 40MAQB18D---8	DUCTLESS MI-WALL	1.5	425	--	0.76 AMP	18/14.4	80/63	–	–	1	SEE CU	208/1	--	THERMOSTAT	30	–	NOTES: #1 ELEV. MACHINE ROOM

NOTES:
1. PROVIDE UNIT WITH WIRED, WALL-MOUNTED PROGRAMMABLE CONTROLLER AND MINI-CONDENSATE PUMP. UNIT POWERED FROM OUTDOOR UNIT.

CONDENSING UNIT SCHEDULE

TAG	MANUFACTURER/ MODEL	SERVICE	NOMINAL CAPACITY (TONS)	COOLING TOTAL (MBH)	COOLING EAT (°F)	COOLING SEER/ EER	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL VOLT/Ø	VIBRATION ISOLATION	WEIGHT (LBS)	REMARKS
CU-1	CARRIER 38MAQB18R---3	CFC-1 ELEV. MACH RM	1.5	18	95	20 SEER	18	25	208/1	NEOPRENE PAD	120	NOTES: #1

NOTES:
1. INVERTER COMPRESSOR. OUTDOOR UNIT POWERS INDOOR UNIT.

MAKE-UP AIR UNIT SCHEDULE

TAG	MANUFACTURER/ MODEL	FAN SECTION CFM	FAN SECTION ESP	FAN SECTION MOTOR HP	HEATING INPUT (MBH)	HEATING OUTPUT (MBH)	HEATING STAGES	ELECTRICAL EAT/LAT (°F)	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL VOLT/Ø	VIBRATION ISOLATION	CONTROLS	WEIGHT (LBS)	REMARKS
AHU-1	REZNOR RDH-175	3000	1.0	2	175	141.75	2	31/72	9.75	15	208/3	2"SD	RX	1000	NOTES: 1, 2, 3, 4 100% O.A.

NOTES:
1. PROVIDE UNIT WITH MERV-8 FILTER, GAS CONTROL ELECTRONIC MODULATION W/DUCT SENS & OVRD. STAT, DISCONNECT SWITCH, WEATHER HOOD, THERMOSTAT-7DAY PROGRAMMABLE, LOCKING THERMOSTAT COVER, HINGED ACCESS DOORS.
2. PROVIDE VIBRATION ISOLATOR WITH 2" STATIC DEFLECTION.
3. SMOKE DETECTORS ARE REQUIRED INSTALLED BY MECHANICAL, PROVIDED AND WIRED BY ELECTRICAL. INTERLOCK WIRING FROM SMOKE DETECTOR TO UNIT IS BY ELECTRICAL.
4. PROVIDE WEATHER RAIN SHIELD FOR EXPOSED DUCT SMOKE DETECTOR.

AIR TERMINAL SCHEDULE

TAG	MANUFACTURER/ MODEL	ORD. DAMPER	FRAME	DESCRIPTION	NOTES
CD WSR	SHOEMAKER 950	YES	SURFACE	ALUMINUM ADJUSTABLE REGISTER WITH AIRFOIL BLADES	#1,2
FG	SHOEMAKER 935-FG1	NO	SURFACE	STEEL, 45°, INDIVIDUALLY WELDED FIXED HORIZONTAL BLADES, 2" FILTER WITH TOP HINGE AND LATCH SYSTEM	#1,2,3
CD1	TITUS TDC	NO, #4	SURFACE MOUNTED	STEEL LOUVERED CEILING DIFFUSER WITH REMOVABLE CORE. PROVIDE FILTER PANEL FOR T-BAR CEILING.	#1,2
CFR TG FG	TITUS 50F	NO	LAY-IN/ SURFACE	ALUMINUM EGGCRATE GRILLE WITH 1/2"X1/2"X1" DEEP CORE. PROVIDE WITH FILLER PANEL FOR T-BAR CEILINGS.	#1,2
MSR1	TITUS 350RS	YES	SURFACE/ EXPOSED DUCT	STEEL DOUBLE DEFLECTION SUPPLY GRILLE WITH 3/4" BLADE SPACING. FRONT BLADES PARALLEL TO SHORT DIMENSION.	#1,2
CRG1 WRG1	TITUS 350RL	YES	SURFACE/ EXPOSED DUCT	STEEL RETURN GRILLE, 35° DEFLECTION BLADES, PARALLEL TO LONG DIMENSION	#1,2

NOTES:
1. SIZE SHOWN ON PLAN IN NECK DIMENSIONS. PROVIDE DUCT ADAPTER AS REQUIRED. WHITE FINISH
2. PROVIDE SQUARE TO ROUND ADAPTER AS REQUIRED.
3. PROVIDE 3 SETS OF FILTERS, ONE AT INSTALLATION, ONE DURING CONSTRUCTION, AND ONE AT TURN OVER
4. PROVIDE VOLUME DAMPER IN BRANCH DUCT

MISC EQUIPMENT SCHEDULE

TAG	ITEM	MANUFACTURER/ MODEL	REMARKS
FSD	RECTANGULAR FIRE/SMOKE DAMPER	RUSKIN FSD 36	1-1/2 HOUR VERTICAL OR HORIZONTAL COMBUSTION FIRE SMOKE DAMPER WITH ELECTRIC FUSE LINK, ACTUATOR, TEST SWITCH, FACTORY SLEEVE. DUCT SMOKE DETECTOR BY ELECTRICAL.
FSD	ROUND FIRE/SMOKE DAMPER	RUSKIN FSD25	1-1/2 HOUR VERTICAL OR HORIZONTAL COMBUSTION FIRE SMOKE DAMPER WITH ELECTRIC FUSE LINK, ACTUATOR, FACTORY SLEEVE. DUCT SMOKE DETECTOR BY ELECTRICAL.
FSD	GRILLE ACCESS FIRE/SMOKE DAMPER	RUSKIN FSD60FA-BL	1-1/2 HOUR GRILLE ACCESS COMBINATION FIRE/SMOKE DAMPER WITH ELECTRIC FUSE LINK, ACTUATOR, FACTORY SLEEVE 3-POSITION ACTUATOR FOR AIRFLOW BALANCING. DUCT SMOKE DETECTOR BY ELECTRICAL.

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ID	DATE	NAME
	12-22-17	PRELIMINARY DRAWING
	02-13-18	100% SD

Project:

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

725 Alma St
Palo Alto, CA 94301
(650) 321-9709

SCHEDULES MECHANICAL

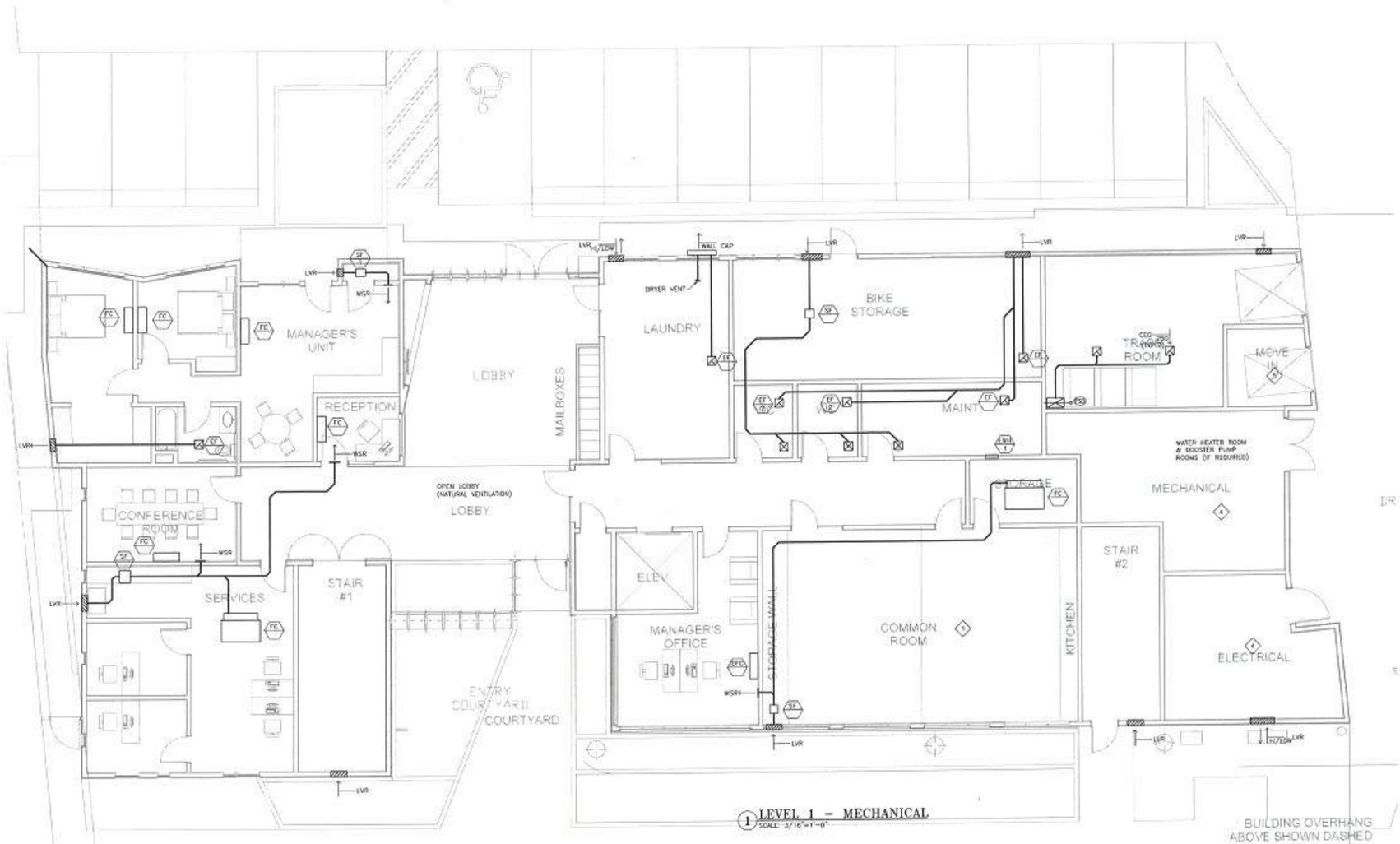
Job#: 1779

Scale: AS NOTED

M0.2

SHEET NOTES:

1. PROVIDE SPLIT SYSTEM HEAT PUMP. MITSUBISHI PEAD/PUZ SYSTEM. CONCEALED FAN COIL UNIT DUCT DISTRIBUTION AND TRIM. PROVIDE VENTILATION OUTSIDE SUPPLY AIR FAN AND TRIM.
2. PROVIDE DUCTLESS SPLIT HEAT PUMP AND VENTILATION. (VENTILATION MAY BE SUPPLIED BY ADJACENT SPACE DUCTED SYSTEM)
3. PROVIDE MECHANICAL VENTILATION AND MAKE UP AIR.
4. PROVIDE GRAVITY HIGH LOW WALL LOUVERS.
5. PRE-MANUFACTURED WARM ROOM PACKAGE UNIT, NORLAKE OR EQUAL, TEMPERATURE CONTROL ROOM, MAINTAIN ROOM TEMPERATURE OF 125 DEGREE OR HIGHER. 208V/1PHASE 20AMP.



1 LEVEL 1 - MECHANICAL
SCALE: 3/16"=1'-0"

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MOUNTAIN VIEW, CA 94040

Client

PALO ALTO HOUSING

725 Alma St
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(650) 321-9709

LEVEL 1
MECHANICAL

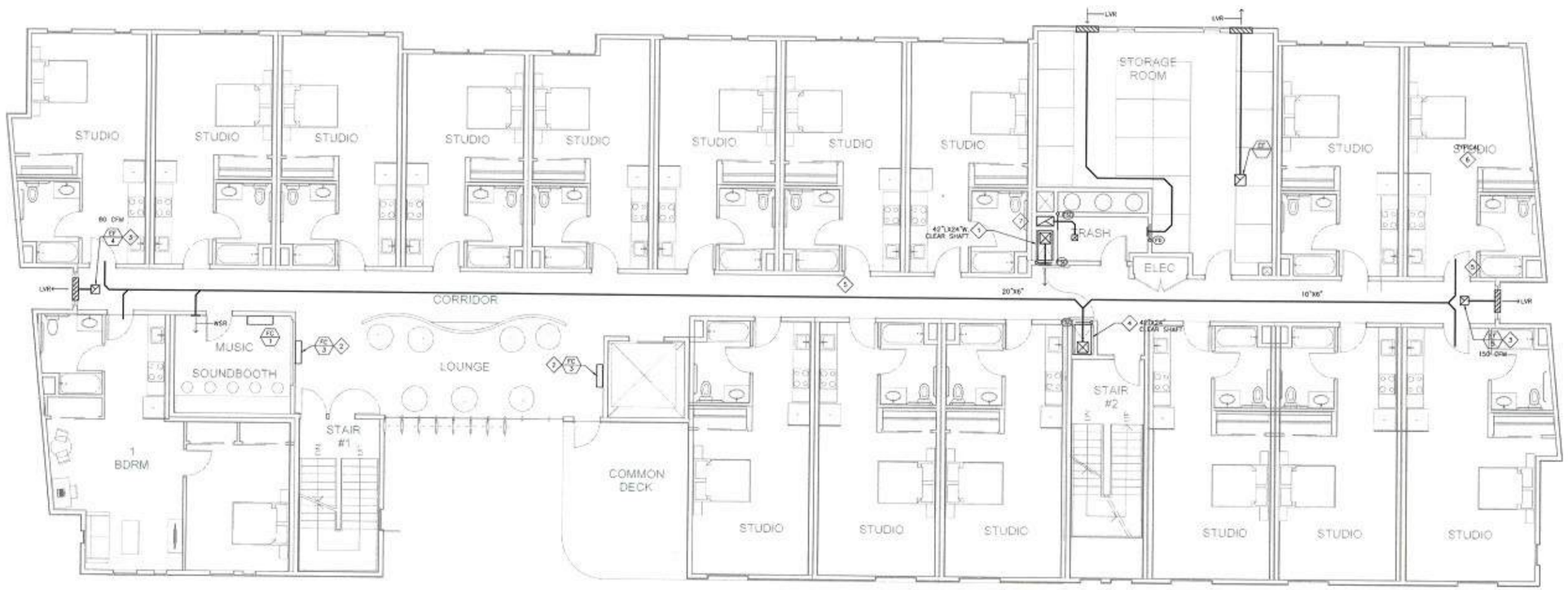
Job#: 1779

Scale: AS NOTED

M2.1

SHEET NOTES:

1. CORRIDOR VENTILATION DUCT RISER TO SERVE EACH FLOOR. UP TO ROOF TOP OUTSIDE AIR SUPPLY FAN. PROVIDE FIRE/SMOKE DAMPER @ WALL REGISTER @ EACH FLOOR.
2. PROVIDE SPLIT SYSTEM VRF SYSTEM WITH SINGLE HEAT RECOVERY UNIT ON ROOF TO SERVE DUCTLESS WALL FAN COIL UNITS ON EACH FLOOR.
3. CEILING EXHAUST FAN IN DROP CEILING.
4. APARTMENT UNIT VENTILATION DUCT RISER UP TO ROOF TOP AIR HANDLING UNIT WITH GAS FIRED HEATING TO TEMPER OUTSIDE AIR.
5. MINIMUM 26GA SHEET METAL DUCT. PROVIDE FIRE STOP AT PENETRATION INTO EACH UNIT. TYPICAL.
6. PROVIDE SPLIT SYSTEM HEAT PUMP DUCTLESS WALL MOUNTED FAN COIL HEAT PUMP. LOCATED ON ROOF OR ON GRADE WHERE FEASIBLE.
7. TRASH ROOM VENTILATION EXHAUST & MAKE UP AIR SHAFT.



1 LEVEL 2 - MECHANICAL (HVAC FLOORS 3,4,5 IS SIMILAR)
SCALE: 3/16"=1'-0"

NOTE:
(HVAC WORK FOR 3RD, 4TH, & 5TH FLOOR IS SIMILAR)

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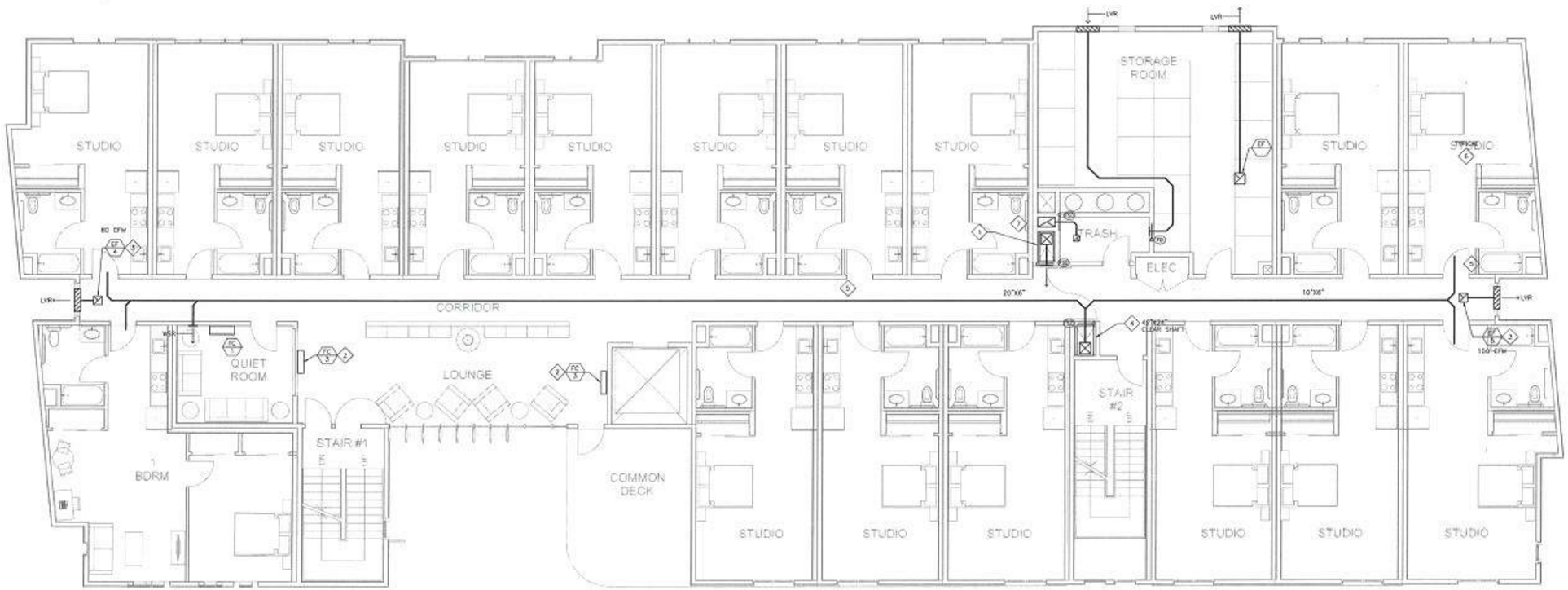
LEVEL 2 MECHANICAL

Job#: 1779

Scale: AS NOTED

M2.2



1 LEVEL 3 – MECHANICAL
SCALE: 3/16"=1'-0"
NOTE:
(HVAC WORK FOR 4TH, & 5TH FLOOR IS SIMILAR)

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Project

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Client

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LEVEL 3
MECHANICAL

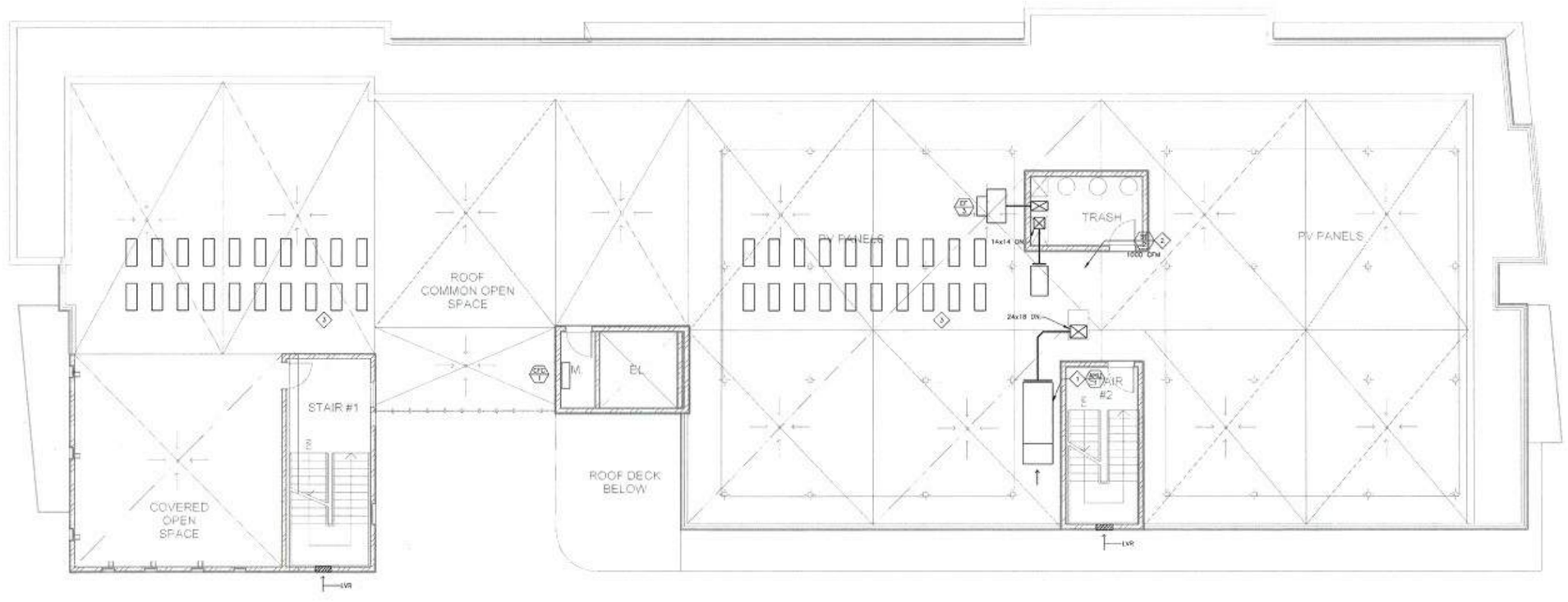
Job#: 1779

Scale: AS NOTED

M2.3

SHEET NOTES:

1. APARTMENT UNITS VENTILATION AIR HANDLING UNIT WITH GAS FIRED HEATER.
2. CORRIDOR VENTILATION SUPPLY FAN
3. APARTMENT UNIT HEAT PUMP. SIMPLE LAY-OUT IS SHOWN FOR REFERENCE.



1 ROOF PLAN – MECHANICAL
SCALE: 3/16"=1'-0"

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ROOF PLAN MECHANICAL

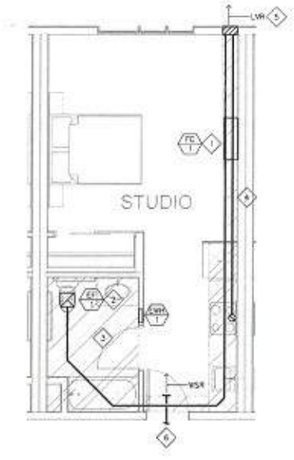
Job#: 1779

Scale: AS NOTED

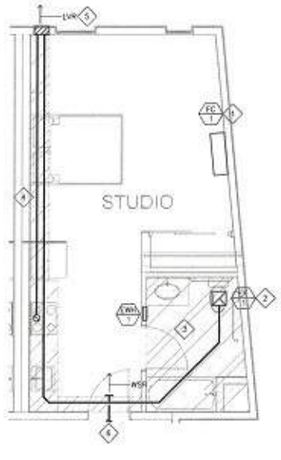
M2.6

SHEET NOTES:

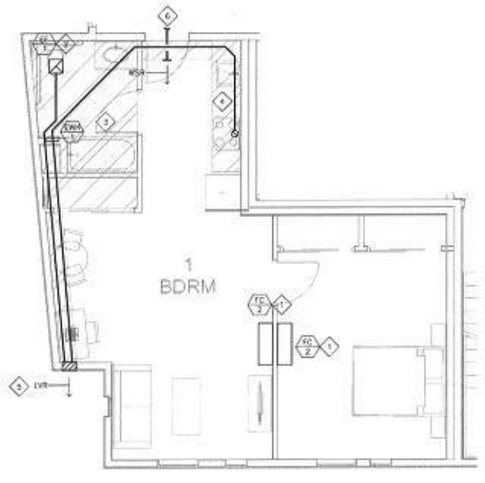
1. DUCTLESS, WALL MOUNTED SPLIT SYSTEM HEAT PUMP. MITSUBISHI OR EQUAL. RUN REFRIGERANT LINE SETS TO HEAT PUMPS ON ROOF.
2. EXHAUST FAN IN DROPPED CEILING.
3. DUCTWORK IN DROP SOFFIT/CEILING
4. 26 GA KITCHEN EXHAUST DUCT.
5. EXHAUST VENT LOUVER LOCATED MINIMUM 3'-0" FROM OPERABLE WINDOWS, DOORS AND INTAKES TO BUILDING. WHERE MULTIPLE VENTS ARE LOCATED ADJACENT TO ONE ANOTHER, PROVIDE ONE COMMON VENT CAP. SEE DETAILS FOR VENT CAP.
6. VENTILATION AIR FROM CORRIDOR SUPPLY DUCT. SEE FLOOR PLANS FOR CONTINUATION.



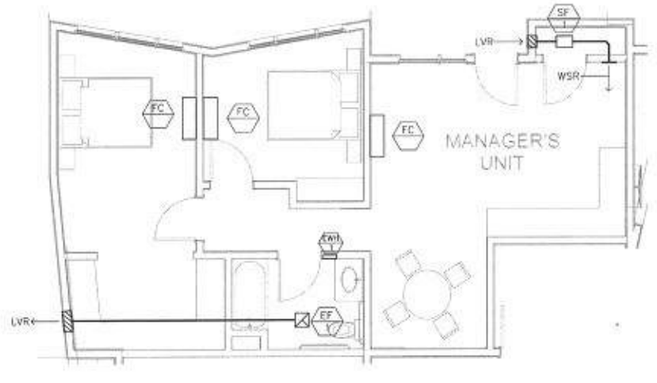
1 STUDIO
SCALE: 1/4"=1'-0"



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



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



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

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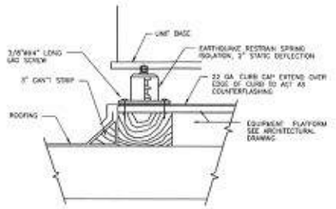
UNIT PLANS MECHANICAL

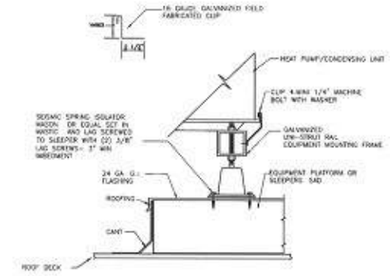
Job#: 1779

Scale: AS NOTED

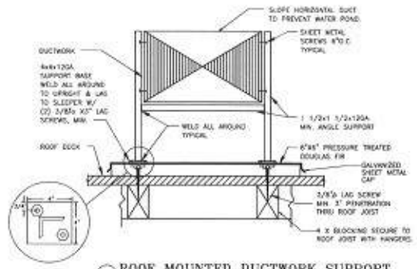
M4.1



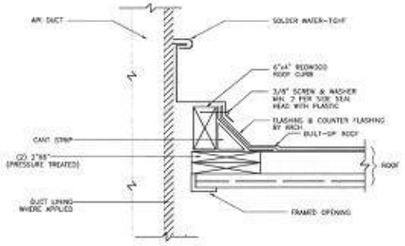
1 Roof Equipment (AHU/EF) Support Detail
NOT TO SCALE



2 HEAT PUMP EQUIPMENT RAIL SUPPORT DETAIL
NOT TO SCALE

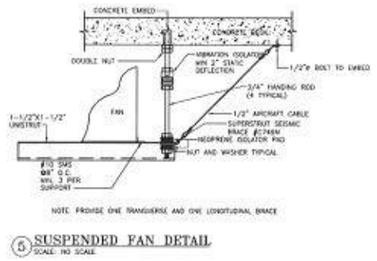


3 ROOF MOUNTED DUCTWORK SUPPORT
NOT TO SCALE



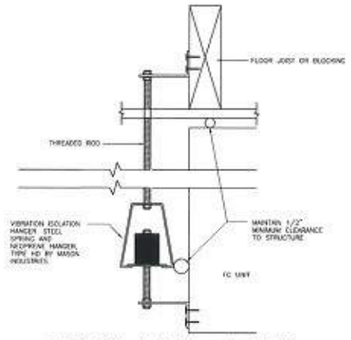
4 Duct Thru Roof Detaill
NOT TO SCALE

NOTE:
STANDARD MANUFACTURED METAL ROOF CURB MAY BE USED IN PLACE OF BUILT-UP ROOF CURB



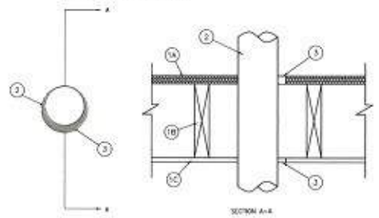
NOTE: PROVIDE ONE TRANSVERSE AND ONE LONGITUDINAL BRACE

5 SUSPENDED FAN DETAIL
SCALE: NO SCALE



6 FAN COIL Unit Support Detail
NOT TO SCALE

U.L. SYSTEM NO. F-C-7014
F-RATING - 1HR
T-RATING - 1HR



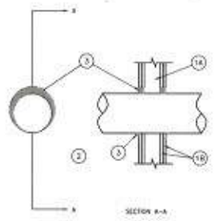
1. FLOOR - CEILING ASSEMBLY - THE 1 HR FIRE-RATED WOOD JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY, AS SUMMARIZED BELOW:
A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. DIAMETER OF OPENING IS TO BE MAX 1 IN. LARGER THAN DIAM OF STEEL DUCT.
B. WOOD JOISTS - NOM 10 IN. DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH SPACING AS REQUIRED AND WITH ENDS FIRESTOPPED.
C. GYPSUM BOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS AS REQUIRED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. DIAM OF OPENING IS TO BE MAX 1 IN. LARGER THAN DIAM OF STEEL DUCT.
1A. CHASE WALL - (OPTIONAL, NOT SHOWN) - THE THROUGH PENETRANT (ITEM 2) MAY BE ROUTED THROUGH A 1 HR FIRE RATED SINGLE, DOUBLE OR STAGGERED WOOD STUD/GYPSUM BOARD CHASE WALL. DEPTH OF CHASE WALL/STUD CAVITY TO BE MIN 1/2 IN. GREATER THAN DIAMETER OF OPENING CUT IN SOLE AND TOP PLATES TO ACCOMMODATE THE THROUGH PENETRANT (ITEM 2). THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U900 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS - NOM 2 BY 4 IN., 2 BY 6 IN. OR DOUBLE NOM 2 BY 4 IN. LUMBER STUDS.
B. SOLE PLATE - NOM 2 BY 4 IN., 2 BY 6 IN. OR PARALLEL 2 BY 4 IN. LUMBER PLATES, TIGHTLY BUTTED. DIAM OF OPENING IS TO BE MAX 1 IN. LARGER THAN DIAM OF STEEL PIPE.
C. TOP PLATE - THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOM 2 BY 4 IN., TWO NOM 2 BY 6 IN. OR TWO SETS OF PARALLEL 2 BY 4 IN. LUMBER PLATES, TIGHTLY BUTTED. DIAM OF OPENING IS TO BE MAX 1 IN. LARGER THAN DIAM OF STEEL DUCT.
D. GYPSUM BOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN.
2. STEEL DUCT - ONE NOM 4 IN. DIAM (OR SMALLER) NO. 20 GA (0.04 HEAVIER) STEEL DUCT OR ONE NOM 10 IN. DIAM (OR SMALLER) NO.28 GA (0.04 HEAVIER) STEEL DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE OPENING. ANNULAR SPACE TO BE MIN 0 IN. (POINT CONTACT) TO MAX 1 IN. STEEL DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR-CEILING ASSEMBLY.
3. FILL VOID OR CAVITY MATERIAL* - SEALANT - MIN 3/4 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH THE TOP SURFACE OF THE FLOOR OR SOLE PLATE. MIN 5/8 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTTOM SURFACE OF CEILING OR TOP PLATE. MIN 1/4 IN. DIAM BEAD OF FILL MATERIAL APPLIED AT POINT CONTACT LOCATION ON THE TOP SURFACE OF FLOOR OR CHASE WALL SOLE PLATE AND AT THE PENETRANT/CEILING OR CHASE WALL TOP PLATE INTERFACE.
SPECIFIED TECHNOLOGIES INC - SPECSEAL LO SEALANT
*BEARING THE UL CLASSIFICATION MARK
NOTE: U.L. SYSTEM NO. F-C-7014 FOR 1-HR "F" RATING AND 1-HR "T" RATING

DETAIL IS SHOWN FOR REFERENCE. REFER TO ARCHITECTURAL DWG SHEET A04.3 FOR PENETRATION DETAIL

DUCT PENETRATION THRU FLOOR/CEILING ASSEMBLY OR THRU CEILING MEMBRANE
SCALE: NOT TO SCALE

NOTE: FOR CEILING/ROOF ASSEMBLY PENETRATIONS:
PROVIDE THE PENETRATION SYSTEM FIRE STOP AT CEILING MEMBRANE PENETRATION.

U.L. SYSTEM NO. W-L-7042
F-RATING 1 & 2-HR
T-RATING - 0 HR

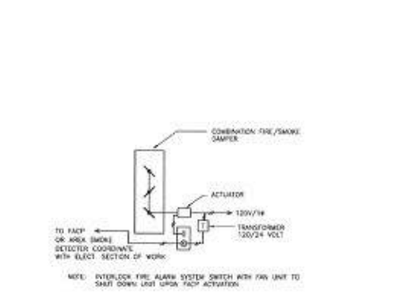


1. WALL ASSEMBLY - THE 1 OR 2 HR FIRE RATED WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC. STEEL STUDS TO BE MIN 2-1/2 IN. WIDE AND SPACED 24 IN. OC.
B. GYPSUM BOARD* - FOR 1 HR ASSEMBLY, ONE LAYER OF MIN 5/8 IN. THICK WALLBOARD AS REQUIRED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. FOR 2 HR ASSEMBLY, TWO LAYERS OF MIN 5/8 IN. THICK WALLBOARD AS REQUIRED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MIN DIAM OF OPENING IS 14-1/2 IN. FOR WOOD STUD WALLS AND 21-3/4 FOR STEEL STUD WALLS. THE HOURLY F AND T RATINGS OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.
2. THROUGH PENETRANT - DAUV STEEL DUCT TO BE INSTALLED CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN THE DUCT AND PERIMETER OF OPENING SHALL BE 0 IN. (POINT CONTACT) AND MAX 1-1/2 IN. DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.
A. SPIRAL WOUND HVAC DUCT - NOM 20 IN. DIAM (OR SMALLER) NO.28 MSG (OR HEAVIER) GALV SHEET STEEL DUCT.
3. FILL, VOID OR CAVITY MATERIAL* - SEALANT - MIN 5/8 IN. AND 1-1/4 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL ASSEMBLY FOR 1 OR 2 HR RATED WALLS, RESPECTIVELY, AT THE POINT CONTACT LOCATION BETWEEN DUCT AND WALLBOARD. A MIN 1/2 IN. DIAM BEAD OF SEALANT SHALL BE APPLIED AT THE WALLBOARD/DUCT INTERFACE ON BOTH SURFACES OF WALL ASSEMBLY.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC- CP601S ELASTOMERIC FIRESTOP SEALANT.
FS-ONE SEALANT OR CP606 FLEXIBLE FIRESTOP SEALANT
*BEARING THE UL CLASSIFICATION MARK
NOTE: UL SYSTEM NO. W-L-7042 FOR 1 & 2 HR F-RATING AND 0 HR T-RATING

DETAIL IS SHOWN FOR REFERENCE. REFER TO ARCHITECTURAL DWG SHEET A04.3 FOR PENETRATION DETAIL

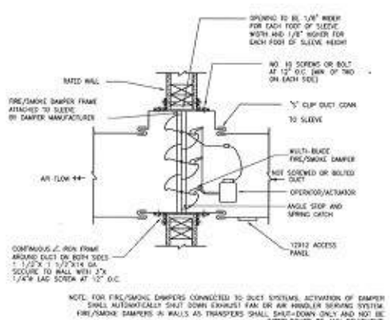
DUCT PENETRATION THRU WALL OR WALL MEMBRANE
NOT TO SCALE

NOTE: FOR EXTERIOR WALL PENETRATIONS:
PROVIDE THE PENETRATION SYSTEM SEALANT AT INTERIOR MEMBRANE PENETRATION ONLY.



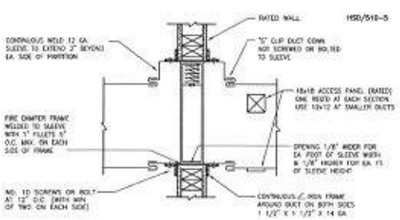
NOTE: INTERLOCK FIRE ALARM SYSTEM SWITCH WITH FAN UNIT TO SHUT DOWN UNIT UPON FACP ACTUATION

7 Combination Fire / Smoke Damper Control
NOT TO SCALE



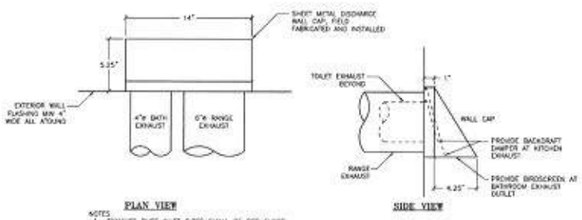
NOTE: FOR FIRE/SMOKE DAMPERS CONNECTED TO DUCT SYSTEMS, ACTIVATION OF DAMPER SHALL AUTOMATICALLY SHUT DOWN EXHAUST FAN OR AIR HANDLER SERVING SYSTEM. FIRE/SMOKE DAMPERS IN WALLS AS TRANSFERS SHALL SHUT-DOWN ONLY AND NOT BE INTERLOCKED TO ANY EQUIPMENT.

8 Fire / Smoke Damper
NOT TO SCALE



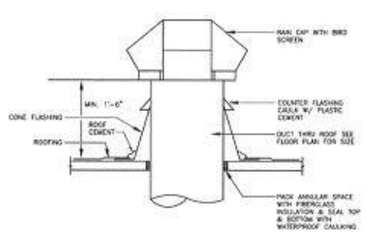
NOTES: 1. VERTICAL RUSKIN MODEL EHD22 CURTAIN TYPE ULSSS

11 Fire Damper Detail
NOT TO SCALE

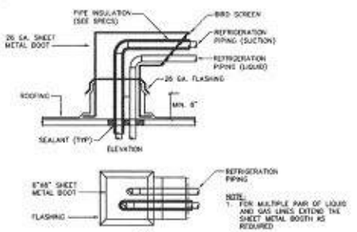


NOTES
1. EXHAUST DUCT INLET SIZES SHALL BE PER FLOOR PLANS.
2. ADJUST NUMBER OF EXHAUST DUCT OUTLETS BASED ON FLOOR PLAN LAYOUT.
3. SPOT WELD ALL CONNECTIONS. PAINT CAP TO MATCH EXTERIOR WALL COLOR

12 Exhaust Wall Cap
NOT TO SCALE



13 Duct Thru Roof Detail
NOT TO SCALE



NOTE:
1. FOR MULTIPLE PAIR OF LIQUID AND GAS LINES EXTEND THE SHEET METAL BOOTH AS REQUIRED

14 Refrigeration Piping Thru Roof Detail
NOT TO SCALE

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ID	DATE	NAME
	12-22-17	PRELIMINARY DRAWING
	02-13-18	100% SD

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DETAILS MECHANICAL

Job#: 1779

Scale: AS NOTED

M5.1

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
○	PIPING UP/STACK/RISER
—⊖	PIPING DOWN
	UNION
	SHUT-OFF VALVE
	GAS COCK
	GAS PRESSURE REGULATOR
	PRESSURE REDUCING VALVE
	BALANCE VALVE
	CHECK VALVE
	MIXING VALVE
	GAS CONNECTION
	SPRINKLER RISER/VALVE IN BOX
	FLOOR DRAIN
	FLOOR SINK
	FLOOR/GRADE CLEANOUT
	CLEAN OUT/WALL CLEAN OUT
	HOSE BIBB
	PIPE SLOPE IN DIRECTION OF ARROW
	CAP
	SANITARY SEWER ABOVE GROUND/FLOOR
	SANITARY SEWER BELOW GROUND/FLOOR
—SD—	STORM SEWER ABOVE GROUND/FLOOR
— —SD— —	STORM SEWER BELOW GROUND/FLOOR
—GW—	GREASE WASTE BELOW FLOOR
	COLD WATER
	HOT WATER
	HOT WATER RETURN
	VENT
	VENT BELOW FLOOR
—CD—	CONDENSATE DRAIN
—IRR—	IRRIGATION

NOTE: THIS IS A STANDARD LIST OF COMMONLY USED PLUMBING SYMBOLS. SOME OF THE SYMBOLS SHOWN ABOVE MAY NOT HAVE BEEN USED IN THE DRAWING PACKAGE.

GENERAL SYMBOLS

SYMBOL	DESCRIPTION
	SHEET NOTE
	EQUIPMENT CALLOUT
	DETAIL REFERENCE — DETAIL CALLOUT / SHEET CALLOUT
	SECTION CALLOUT
	POINT OF CONNECTION
	REVISION TAG

ABBREVIATIONS

ABC	ABOVE CEILING	LBS	POUNDS
ABV	ABOVE	LWT	LEAVING WATER TEMPERTURE
AP	ACCESS PANEL		
AC	AIR CONDITIONING UNIT	MAX	MAXIMUM
AFF	ABOVE FINISHED FLOOR	MBH	THOUSAND BTUH
AFG	ABOVE FINISHED GRADE	MCA	MAXIMUM CURRENT AMPS
ARCH	ARCHITECTURAL	MCC	MOTION CONTROL CENTER
		MECH	MECHANICAL
BEL	BELOW	MFR	MANUFACTURER
BF	BELOW FINISHED FLOOR	MIN	MINIMUM
BG	BELOW FINISHED GRADE	MOCP	MAXIMUM OVER CURRENT
BHP	BRAKE HORSEPOWER		PROTECTION
BLDG	BUILDING	MPG	MEDIUM PRESSURE GAS
BOD	BOTTOM OF DUCT	MTD	MOUNTED
BTU	BRITISH THERMAL UNIT		
BTUH	BTU HOUR	N	NEW
		NC	NORMALLY CLOSED
CD	CONDENSATE	NO	NORMALLY OPEN
CLG	CEILING	NTS	NOT TO SCALE
CO	CLEANOUT		
CONT	CONTINUATION	PD	PRESURE DROP
CONTR	CONTRACTOR	PH	PHASE
CW	DOMESTIC COLD WATER	PLBG	PLUMBING
		PRV	PRESSURE REDUCING VALVE
D	DROP	PSI	POUNDS PER SQUARE INCH
DEG	DEGREES	POC	POINT OF CONNECTION
DIA	DIAMETER		
DN	DOWN	REF	REFRIGERATION
DWG	DRAWING	REQD	REQUIRED
		RET	RETURN
E	EXISTING	RM	ROOM
EL	ELEVATION	RPM	REVOLUTIONS PER MINUTE
ELEC	ELECTRIC/ELECTRICAL	RWL	RAINWATER LEADER
EQUIP	EQUIPMENT		
		SAD	SEE ARCHITECTURAL DRAWINGS
F	DEGREES FAHRENHEIT	SAN	SANITARY SEWER
FC	FLEXIBLE CONNECTION	SD	STORM DRAIN
FCO	FLOOR CLEANOUT	SP	STATIC PRESSURE
FD	FLOOR DRAIN	SPEC	SPECIFICATION
FFE	FINISHED FLOOR ELEVATION	SS	SANITARY SEWER
FLA	FULL LOAD AMPS	SSD	SEE STRUCTURAL DRAWINGS
FL	FLOOR	STD	STANDARD
FP	FIRE PROTECTION	STRUC	STRUCTURAL
FPM	FEET PER MINUTE	SYM	SYMBOL
FT	FOOT		
FU	FIXTURE UNIT	T&P	TEMPERATURE AND PRESSURE
		TC	TIME CLOCK
G	LOW PRESSURE GAS	TEMP	TEMPERATURE
GA	GAUGE	TYP	TYPICAL
GCO	GRADE CLEANOUT		
GPF	GALLONS PER FLUSH	UG	UNDERGROUND
GPM	GALLONS PER MINUTE	UL	UNDERWRITERS' LABORATORIES
GW	GREASE WASTE	UON	UNLESS OTHERWISE NOTED
HC	HOT/COLD WATER RISER	V	VENT
HP	HORSEPOWER	VTR	VENT THROUGH ROOF
HT	HEIGHT		
HTG	HEATING	W	SANITARY WASTE
HVAC	HEATING VENTILATION AND AIR CONDITIONING	W/	WITH
		W/O	WITHOUT
HW	DOMESTIC HOT WATER	WCO	WALL CLEANOUT
HWR	HOT WATER RETURN	WFU	WATER FIXTURE UNIT
		WT	WEIGHT
IE	INVERT ELEVATION	WV	WASTE/VENT RISER
IFW	IN FURRED WALL		
IRR	IRRIGATION		
KW	KILOWATT		

NOTE: THIS IS A STANDARD LIST OF COMMONLY USED ABBREVIATIONS. SOME OF THE ABBREVIATIONS SHOWN ABOVE MAY NOT HAVE BEEN USED IN THE DRAWING PACKAGE.

Hangers and Supports

Materials	Type of Joint	Horizontal	Vertical
Cast-Iron Hubless	Standard Coupling	5 every other joint, unless over 4 feet (1,219 mm), then support each joint	Base and each floor not to exceed 15 feet (4,572 mm)
Copper Tube and Pipe	Soldered or Brazed	1-1/2 inches (38 mm) and smaller, 6 feet (1,829 mm); 2 inches (50 mm) and larger, 10 feet (3,048 mm)	Each floor, not to exceed 10 feet (3,048 mm)
Steel and Brass Pipe for Water or HWV	Threaded or Welded	3/4 inch (20 mm) and smaller, 10 feet (3,048 mm); 1 inch (25 mm) and larger, 12 feet (3,658 mm)	Every other floor, not to exceed 35 feet (4,420 mm)
Steel, Brass, and Tinned Copper Pipe for Gas	Threaded or Welded	1 inch (25 mm) & 1 1/4 inch (32 mm), 8 feet (2,438 mm); 1 1/2 inch (40 mm) and larger, 10 feet (3,048 mm)	1 inch (25 mm) & 1 1/4 inch (32 mm), 6 feet (1,829 mm); 1 1/2 inch (40 mm) and 2 inch (50 mm), 8 feet (2,438 mm); 3 inch (80 mm) and larger, every floor level
Schedule 40 PVC and ABS DWV	Solvent Cemented	All sizes, 4 feet (1,219 mm). Allow for expansion every 50 feet (9,144 mm).[1]	Base and each floor. Provide mid-story guides. Provide for expansion every 50 feet (9144 mm).[1]
CPVC	Solvent Cemented	1 inch (25 mm) and smaller, 3 feet (914.4 mm); 1 1/4 inch (032 mm) and larger, 4 feet (1,219 mm)	Base and each floor. Provide mid-story guides.[1]
PEX	Metal Insert and Metal Compression	32 inches (800 mm)	Base and each floor. Provide mid-story guides.

Notes:

1. Support adjacent to joint, not to exceed eighteen (18) inches (457 mm).
2. Brace at not more than forty-foot (12,192 mm) intervals or as per our horizontal movement.
3. Support at each horizontal branch connection.
4. Hangers shall not be placed on the coupling.
5. Vertical water lines may be supported in accordance with recognized engineering principles with regard to expansion and contraction where first approved by the Authority Having Jurisdiction.
6. See the appropriate IAPMO installation Standard for expansion and other special requirements.
7. Pipe hangers for individual pipes: 3/8" dia pre-sizes up to 4", 1/2" dia pre sizes up to 8" and 5/8" for pipe sizes up to 12".
8. Pipe hangers for trapeze suspension: Rods shall be of a diameter sufficient to support the load with a safety factor of 5.

GENERAL NOTES

1. COMPLY WITH ALL LOCAL, COUNTY, STATE AND FEDERAL CODES, ORDINANCES, RULES AND REGULATIONS. 2016 CPC, 2016 CALIFORNIA GREEN BUILDING STANDARDS, 20 CBC.
2. COMPLY WITH REQUIREMENTS OF THE SERVING AGENCIES.
3. COMPLY WITH REFERENCED COMMERCIAL STANDARDS, SPECIFICATIONS, CODES, RULES, ETC.
4. SEE PLUMBING PIPING SCHEDULE PORTION FOR DOMESTIC PIPE MATERIAL.
5. SOIL, WASTE, DRAIN AND VENT PIPING, USE NO HUB CAST IRON PIPE WITH STAINLESS STEEL COUPLING AND NEOPRENE GASKETS.
6. INSTALL DIELECTRIC FITTING BETWEEN FERROUS AND NON-FERROUS MATERIALS.
7. PIPE RELIEF DRAIN FOR WATER HEATER TO AN APPROVED RECEPTOR.
8. PLUMBING SYSTEMS SHALL COMPLY WITH CALIFORNIA PLUMBING CODE 2016 CPC.
9. PROVIDE STOP VALVES IN EACH WATER SUPPLY AT EACH PLUMBING FIXTURE.
10. GAS PIPING SHALL BE BLACK STEEL SCHEDULE 40. PIPING EXPOSED TO WEATHER SHALL BE GALVANIZED. MEDIUM PRESSURE GAS SHALL BE LABELLED EVERY 5'-0" O.C.
11. COORDINATE WORK PRIOR TO INSTALLATION TO PROVIDE FOR PROPER CLEARANCES BETWEEN EQUIPMENT, DUCT WORK, PIPING, JOISTS, CEILING, ETC.
12. REFER TO HVAC PLANS FOR EXACT LOCATION OF HVAC EQUIPMENT . COORDINATE ROUGH-IN LOCATIONS CONDENSATE DRAINS WITH MECHANICAL CONTRACTOR.
13. UNLESS IMPRACTICAL DUE TO EXISTING CONDITIONS ALL SANITARY PIPING SHALL BE SLOPED TO 1/4" PER FOOT MIN. FOR NEW CONSTRUCTION.
14. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF PLUMBING FIXTURES.
15. VENT PIPE SHALL TERMINATE VERTICALLY NOT LESS THAN 6 INCHES ABOVE ROOF NOR LESS THAN 12 INCHES FROM ANY ANY VERTICAL SURFACE. EACH VENT SHALL TERMINATE NOT LESS THAN 10 FEET FROM OR AT LEAST 3 FEET ABOVE ANY OPERABLE WINDOW, DOOR, OPENING, AIR INTAKE, OR VENT SHAFT.
16. CROSS CONNECTION PROTECTION SHALL BE PROVIDED AT ALL POTABLE WATER SUPPLIED APPLIANCES AND EQUIPMENT (OTHER THAN THOSE LISTED IN INFORMATION BULLETIN 103).
17. PROVIDE PIPE INSULATION PER 2016 T-24 INSULATE HOT WATER PIPING SUPPLY AND RETURN CIRCULATING LOOP WITH FIBERGLASS 25ASJ 2-PIECE HEAVY DENSITY PIPE INSULATION 1" THICK FOR PIPING LESS THAN 1", 1-1/2" THICK FOR PIPING 1" AND LARGER. APPLY INSULATION AS PER MANUFACTURER'S INSTRUCTION. INSULATE FITINGS WITH FIBERGLASS INSULATING CEMENT TO THICKNESS EQUAL TO ADJOINING PIPE INSULATION.
18. PROVIDE OPERATION AND MAINTENANCE MANUAL FOR THE BUILDING OCCUPANT OR OWNER PER CALIFORNIA GREEN CODE, CGC 4.410.1.
19. FLUSH-OUT WATER PIPING PER CPC.
20. BACKFLOW PREVENTERS SHALL BE CERTIFIED PRIOR TO FINAL INSPECTION FOR THE PROJECT.

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ID	DATE	NAME
	12-22-17	PRELIMINARY DRAWING
	02-13-19	100% SD

Project:

950 W EL CAMINO REAL

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MOUNTAIN VIEW, CA 94040

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LEGEND AND NOTES PLUMBING

Job#: 1779

Scale: AS NOTED

P0.1

DOMESTIC WATER CALCULATIONS(TBD)

PER CPC APPENDIX A	
SITE STATIC PRESSURE	73 PSI
WATER METER PD	-4 PSI
BACK BLOW PREVENTER PD	-10 PSI
ELEVATION LOSS 76 FT X 1/2.31, NOTE #1	-33 PSI
MINIMUM RESIDUAL PRESSURE REQUIRED	-20 PSI
HOT WATER MIXING VALVE PD	-5 PSI
SUB-METER PD (N/A)	-0 PSI
FRICTION LOSS WITHIN UNIT (40FT@6PSI/100FT)	-2.4 PSI
RISER FRICTION LOSS (70FT@6PSI/100FT)	-4.2 PSI
PIPING MAIN LONGEST RUN (300FT@2 PSI/100FT)	-6 PSI
TOTAL SYSTEM REQUIRED PRESSURE(NOTE #)	-84.6 PSI
SITE AVAILABLE PRESSURE	73 PSI
BOOSTER PUMP MINIMUM LIFT (NOTE #1)	15 PSI
USE MAX. MAIN PRESS. LOSS 2PSI/100FT FOR ALL PIPES SIZED 2" AND LARGER	

NOTES:
1. PROVIDE BOOSTER PUMP WITH 15 PSI LIFT.

MAXIMUM FIXTURE UNITS ALLOWED FOR EACH SIZE OF COPPER PIPE :

COLD WATER & HOT WATER SUPPLY SIZING

PIPE SIZE (INCH)	FRICTION LOSS CW/HW(PSI/100FT)	MAX. F.U. CW/HW	FLOW RATE CW/HW(GPM)	VELOCITY-CW/HW (FT/SEC)
1/2"	5.5/5.5	2/2	2.5/2.5	3.5/3.5
3/4"	6.3/6.3	8/8	7/7	5/5
1"	6/4.5	21/16	13/12	6/5
1 1/4"	4.8/3.5	34/28	22/19	6/5
1 1/2"	3.7/2.8	60/49	33/28	6/5
2"	2.7/2	160/115	57/47	6/5
2 1/2"	2/1.5	337/250	92/75	6/5
3"	2.0/1.2	638/408	159/105	8/5
4"	1.3/0.9	1755/874	300/190	8/5
5"	1.7/1.4	2765/1845	410/310	8/5
6"	1.3/1.2	5100/3150	670/450	8/5

HOT WATER RETURN SIZING

PIPE SIZE (INCH)	FRICTION LOSS HWR(PSI/100FT)	FLOW RATE HWR(GPM)	VELOCITY HWR(FT/SEC)
1/2"	2.5	1	2
3/4"	1.5	3	2
1"	1.1	5	2
1 1/4"	0.8	8	2
1 1/2"	0.6	13	2
2"	0.5	20	2
2 1/2"	0.4	30	2
3"	0.3	45	2
4"	0.2	83	2

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	SPECIFICATION	CW (IN)	HW (IN)	W (IN)	V (IN)	GAS (MBH)	
BT-1	BATH TUB	SEE OWNERS SPEC.	1/2	1/2	2	1-1/2	-	PROVIDE DRAIN & OVERFLOW FITTING REGULAR UNIT 1.8GPM
BV-1	BALANCE VALVE	GRISWOLD AUTO FLOW BALANCING VALVE. SET FOR 0.75 GPM	-	1/2	-	-	-	
CP-1	CIRC PUMP	TACO MODEL 0014-BF1-1(4PCB3) XXX GPM 12 FT HEAD 1/8 HP.	-	-	-	-	-	120V/1ø 1/8 HP
DW-1	DISHWASHER	PROVIDED BY OTHER. ROUGH-IN AND FINAL CONNECTION BY PLUMBING.	-	1/2	-	-	-	#6 INDIRECT WASTE W/ AIR GAP
FCO-1	FLOOR CLEAN OUT	ZURN Z-1400 ADJUSTABLE FLOOR CLEANOUT, DURA-COATED CAST IRON BODY, TAPER THREAD ABS PLUG AND ROUND SCORIATED SECURED TOP.	-	-	-	-	-	
FD-1	FLOOR DRAIN	ZURN MODEL ZN-415 TYPE B 6" POLISHED NICKEL BRONZE STRAINER, P-TRAP, TRAP PRIMER	1/2	-	3	2	-	TRAP PRIMER CONNECTION (1/2")
FD-2	FLOOR DRAIN	ZURN ZN-607-P-Y-G 7" MEDIUM DUTY DRAIN	1/2	-	3	2	-	TRAP PRIMER CONNECTION (1/2")
FS-1	FLOOR SINK	ZURN Z-1900-XC-LD-2 12" X 12" FLOOR SINK WITH 1/2 GRATE, BOTTOM STRAINER	-	-	3	2	-	TRAP PRIMER CONNECTION (1/2")
HB-1	HOSE BIBB	WOODFORD MODEL 24 SERIES WITH INTEGRAL VACUUM BREAKER & HOSE THREADED NOZZLE	3/4	-	-	-	-	
L-1	LAVATORY COUNTER TOP	DURAVIT STARCK 3 MODEL# 0305480000 GROHE ESSENCE MODEL# 23592. PROVIDE WITH P-TRAP, STOPS AND TRIM	1/2	1/2	1-1/2	1-1/2	-	METAL DRAIN, #1 1.0 GPM
MXV-1	MIXING VALVE	LEONARD MODEL MEGATRON 7N-LF, XXX GPM, AT 10 PSI, COMPLETE WATER TEMPRATURE CONTROL SYSTEM	-	-	-	-	-	120V/1ø SET AT 120 DEGREE
SA-1	SHOCK ABSORBER	ZURN SHOCKTROL Z-1700 SERIES. PROVIDE ACCESS PANEL	-	-	-	-	-	
SK-1	KITCHEN SINK RESIDENTIAL	GROHE ESSENCE MODEL# 30271, OLIVERI SONETTO MODEL#SD9301 STAINLESS STEEL SINK. PROVIDE WITH P-TRAP, STOPS AND TRIM	1/2	1/2	2	1-1/2	-	PROVIDE W/CO-1 1.75 GPM
TP-1	TRAP PRIMER	EAS 1/2" BRASS VALVE WITH VACUUM BRAKE DEAD END TYPE WITH ACCESS PANEL	1/2	-	-	-	-	
WC-1	WATER CLOSET FLUSH TANK APTS	SEE OWNERS SPEC.	1/2	-	3	2	-	DUAL FLUSH 0.8/1.28GPF ADA
L-2A	LAVATORY	TOTO LT191, ADA. FAUCET KOHLER K-45345-BA-CP, ADA.	1/2	1/2	1/2	2	-	#5 0.5GPM
TD-1	TRENCH DRAIN	ZURN MODEL Z-886-HD-HYDE MODULAR CHANNEL SECTIONS W/BOTTOM OUTLET AND END CAPS.						
WC-2A	WATER CLOSET	SEE OWNER SPECIFICATION	1/2	-	3	2	-	#3

NOTES:
1. PROVIDE HOT WATER & DRAIN LINE INSULATION KIT, ECONO-KIR & 2032 FOR ACCESSIBLE LAVATORIES.
2. PROVIDE TEMPERATURE AND PRESSURE BALANCING VALVE.
3. FLUSH HANDLE TO BE ON WIDE SIDE OF FIXTURE.
4. PROVIDE SHOCK ABSORBER AT DISHWASHER AND CLOTHES WASHERS.
5. PROVIDE MIXING VALVE UNDER EACH LAVATORY TO DELIVER 105 DEGREE HOT WATER.
6. DRAIN DOES NOT REQUIRE TRAP, PARKING LEVEL DRAINAGE WILL BE TRAPPED AT SAND-OIL INTERCEPTOR.

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	SPECIFICATION	CW (IN)	HW (IN)	W (IN)	V (IN)	GAS (MBH)	
WH-1A WH-1B ST-1 ET-1	WATER HEATER	A.O. SMITH BTH-250, 100 GAL, 250MBH INPUT.	-	-	-	-	-	-
WM-1	WASHING MACHINE OUTLET BOX	IPS MODEL #B2583T METAL, FR-12, FIRE RATED, WHITE RECESS WALL UNIT - 2"DRAIN OPENING-1/2"MP VALVES & EXPOSED SHOCK ABSORBERS-ROUGH-IN AND FINAL CONNECTION BY PLUMBING	1/2	1/2	2	1-1/2	-	#4
D-1	CLOTH DRYER	BY OTHERS, PROVIDE ROUGH-IN AND FINAL CONNECTION.	-	-	-	-	-	
GD-1	GARBAGE DISPOSAL	IN SINK ERATOR 1/2 HP, 120V/1ø	-	-	-	-		1/2 HP 120V 1ø, #4
AD-1	AREA DRAIN	ZURN MODEL ZN-534 DECK DRAIN 12" DURA COATED CAST IRON HEAVY DUTY GRATE						
RR-2	TRASH ROOM	CHICAGO MODEL 305-VBCP	1/2	1/2	-	-	-	---
IWMD-1	ICE MAKER WALL BOX	GUY GRAY ICE MAKER HOOK UP MODEL BMB75, 1/2" INLET WITH COMPRESSION ANGLE VALVE.	1/2	-	-	-	-	---
BT-2	BATH TUB ADA	SEE OWNERS SPEC.	1/2	1/2	2	1-1/2	-	PROVIDE DRAIN & OVERFLOW FITTING REGULAR UNIT 1.8GPM
WC-2	WATER CLOSET FLUSH VALVE	SEE OWNERS SPEC.	1		3	2		ADA 1.1 GPF

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ID	DATE	NAME
	12-22-17	PRELIMINARY DRAWING
	02-13-18	100% SD

Project

950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

725 Alma St
Palo Alto, CA 94301
(650) 321-9709

SCHEDULES
PLUMBING

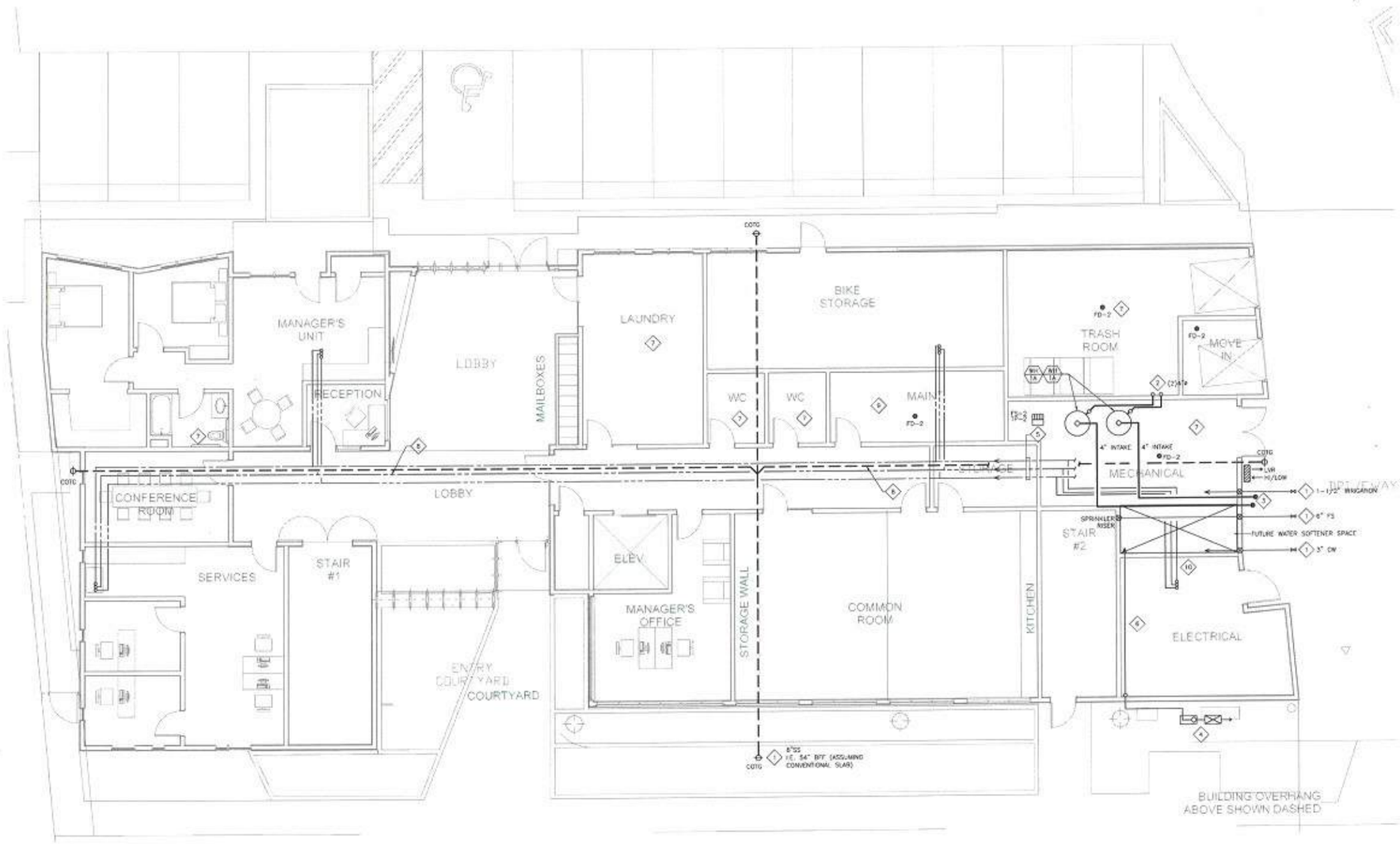
Job#: 1779

Scale: AS NOTED

P0.2

SHEET NOTES:

1. UTILITY SERVICES. CONNECT TO SITE WORK 5' FROM BUILDING. COORDINATE WITH SITE WORK FOR EXACT LOCATION AND PIPE INVERT.
2. WATER HEATER FLUE VENT UP TO ROOF IN DEDICATED SHAFT.
3. WATER HEATER COMBUSTION AIR INTAKE. TERMINATE @ EXTERIOR WALL W/ 90° ELBOW PER MFGR GUIDELINES.
4. PG&E GAS METER. COORDINATE WITH DRY UTILITY JOINT TRENCH SITE WORK. PROVIDE SEISMIC SHUT-OFF VALVE.
5. COLD/HOF/HOT WATER RETURN PIPING AS HIGH AS POSSIBLE TO SERVICE STACK OF UNITS ABOVE.
6. GAS PIPE CROSSOVER IN FURRED WALL.
7. PROVIDE PLUMBING FIXTURE AND TRIM.
8. SANITARY SEWER BELOW SLAB.
9. PROVIDE FLOOR DRAIN, MOP SINK, AND UTILITY SINK.
10. PROVIDE DRAIN GUTTER UNDER PIPING IN ELECTRICAL WITH 2" DRAIN TO TERMINATE OVER FLOOR SINK.



1 LEVEL 1 – PLUMBING
SCALE: 3/16"=1'-0"

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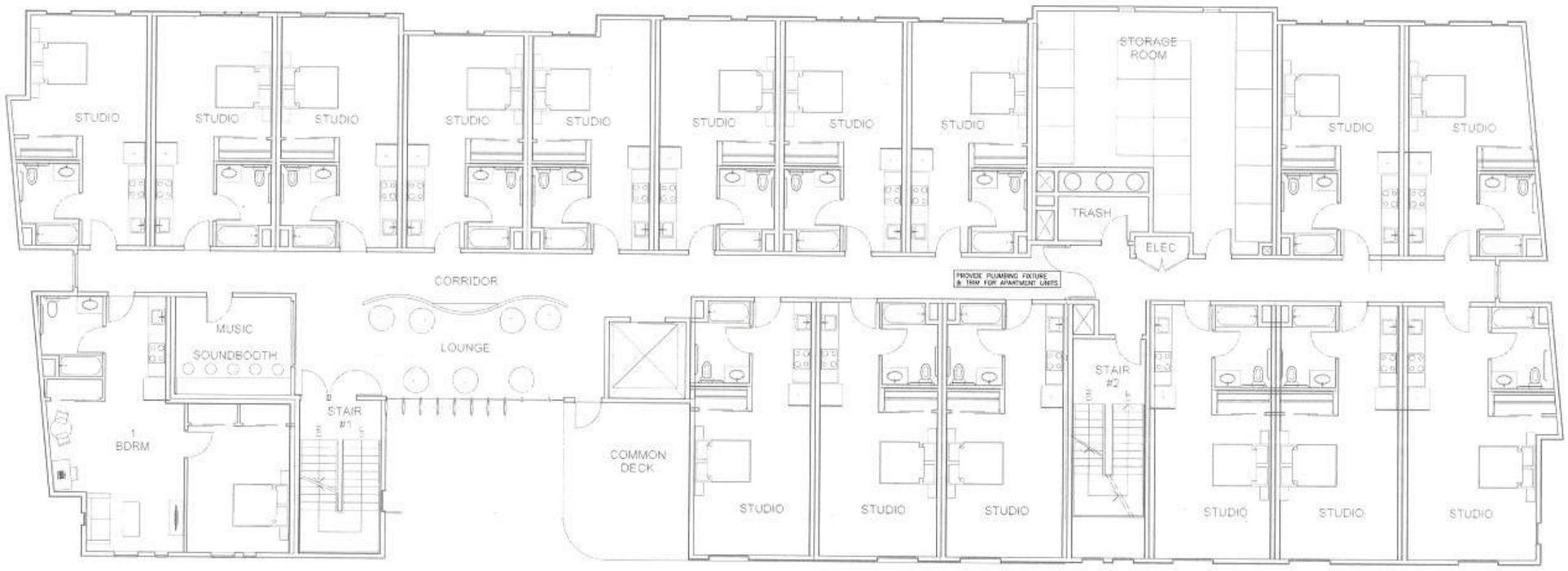
LEVEL 1
PLUMBING

Job#: 1779

Scale: AS NOTED

P2.1



1 LEVEL 2 – PLUMBING
SCALE: 3/16"=1'-0"

NOTE:
(PLUMBING WORK FOR 3RD, 4TH, & 5TH FLOOR IS SIMILAR)

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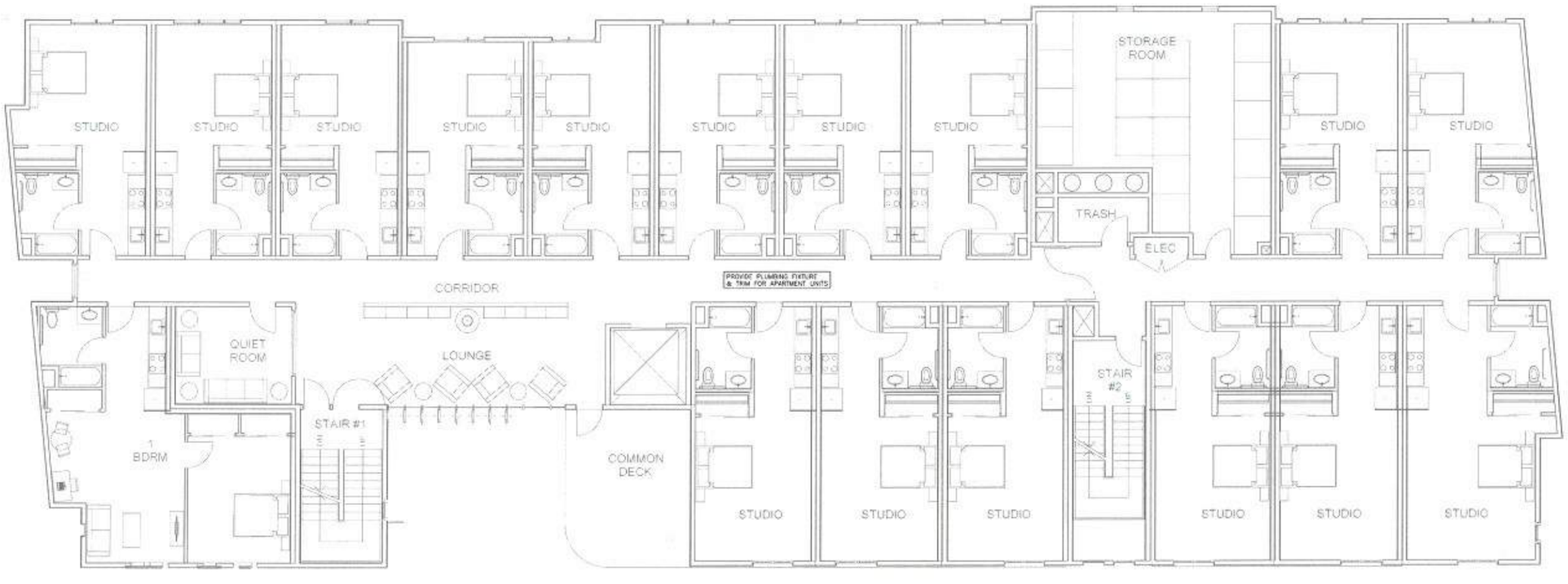
LEVEL 2
PLUMBING

Job#: 1779

Scale: AS NOTED

P2.2



1 LEVEL 3 – PLUMBING
SCALE: 3/16"=1'-0"

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Client:

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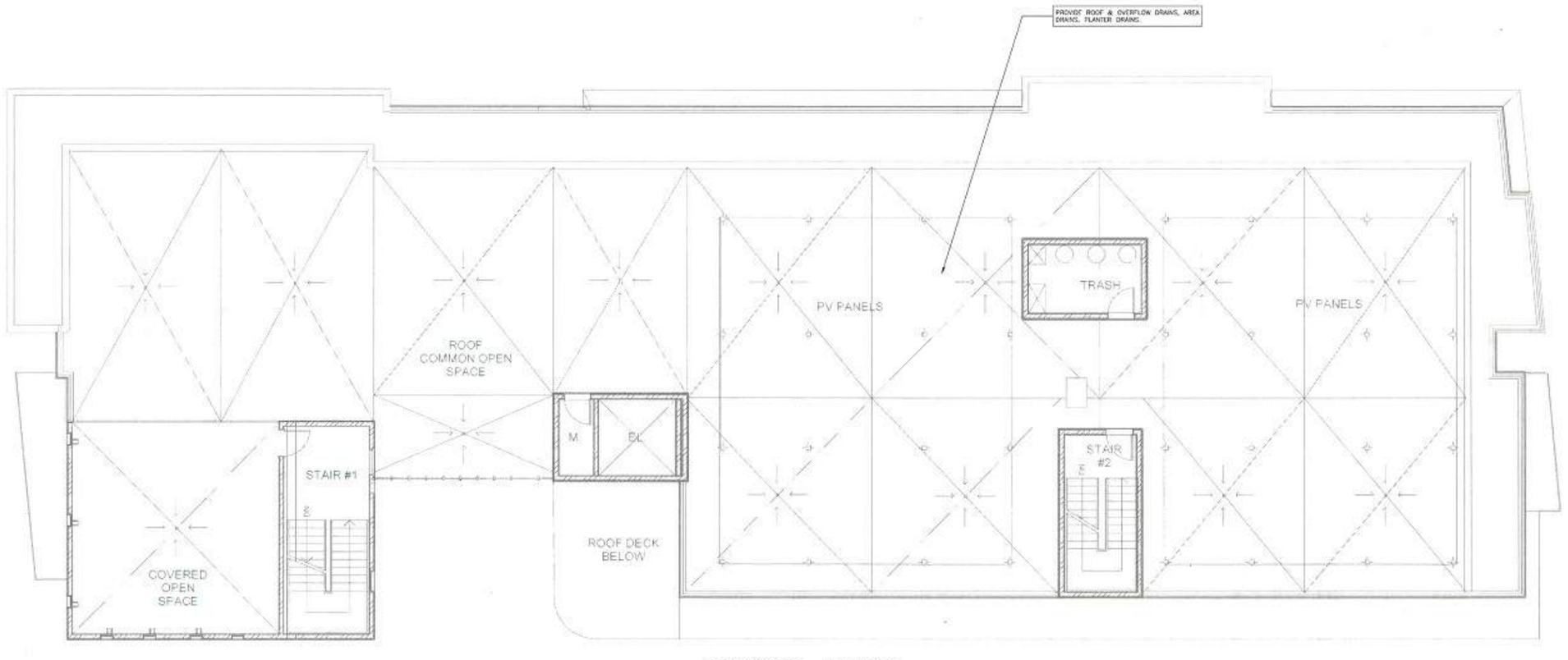
LEVEL 3
PLUMBING

Job#: 1779

Scale: AS NOTED

P2.3



1 ROOF PLAN – PLUMBING
SCALE: 3/16"=1'-0"

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Client:

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ROOF PLAN PLUMBING

Job#: 1779

Scale: AS NOTED

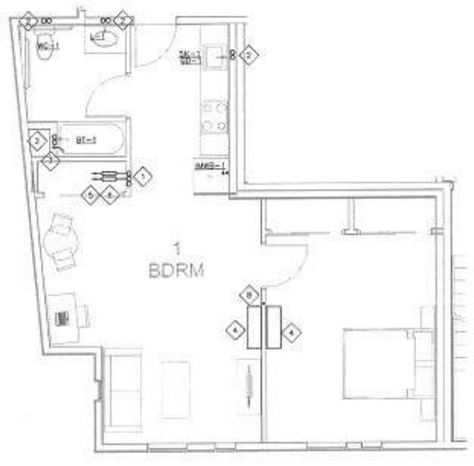
P2.6

SHEET NOTES:

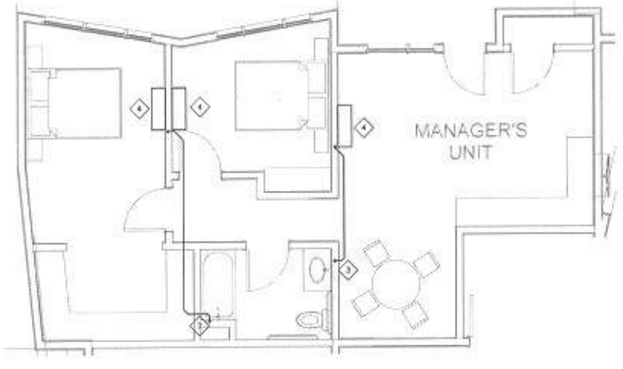
1. HOT/COLD/HOT WATER RETURN RISERS.
2. WASTE/VENT RISERS.
3. TERMINATE 3/4" CONDENSATE TO LAVATORY TAILPIECE.
4. DUCTLESS FAN COIL UNIT. SEE MECHANICAL PLANS FOR EXACT LOCATION.
5. PROVIDE SHUT-OFF VALVE. PROVIDE PROVISIONS FOR FUTURE SUB-METER.
6. PEX PIPING MANIFOLD. RUN HW/CW LINES TO FIXTURES.
7. TERMINATE 3/4" CONDENSATE TO BATHTUB OVERFLOW.
8. PROVIDE 1" CONDENSATE DRAIN RISER IN WALL. TERMINATE FAN COIL CONDENSATE DRAIN INTO RISER.

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

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



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



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

VAN METER WILLIAMS POLLACK LLP

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Project:

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MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

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Palo Alto, CA 94301
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UNIT PLANS
PLUMBING

Job#: 1779

Scale: AS NOTED

P4.1

GENERAL NOTES

A. IT IS INTENT OF THESE PLANS AND SPECIFICATIONS THAT A COMPLETE AND WORKABLE ELECTRICAL INSTALLATION BE PROVIDE FOR ALL THE EQUIPMENT DESCRIBED OR SHOWN AS BEING IN THIS CONTRACT. TOWARD THIS END, CONTRACTOR SHALL FURNISH ALL LABOR AND TOOLS NECESSARY, FURNISH AND INSTALL ALL APPARATUS, MATERIALS, AND EQUIPMENT IN A MANNER COMPLYING WITH ALL APPLICABLE CODES, INCLUDING ITEMS REQUIRED BUT NOT NECESSARY SHOWN, SUCH AS LAMP,COUPLINGS, HANGERS, BRACKETS, CLAMPS, BOXES, CONNECTORS AND HARDWARE.

B. ALL CONDUCTORS SHALL BE COPPER, TYPE "THWN/THHN" 90 DEGREE INSULATION. ALL LUGS SHALL BE 75 DEGREE MINIMUM.

C. BEFORE SUBMITTING THE BID PROPOSAL, CONTRACTOR SHALL VISIT THE JOB SITE TO FULLY FAMILIARIZE HIMSELF WITH THE SITE CONDITIONS, REQUIREMENTS, INCLUDING ALL NECESSARY ADDITIONAL SCOPE OF WORK, WHETHER SHOWN ON DRAWING(S) OR NOT, BUT REQUIRED FOR PROVIDING A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM.

D. CONTRACTOR SHALL REFER TO MECHANICAL DRAWINGS AND WIRING DIAGRAMS FOR ITEMS AND DEVICES TO BE FURNISHED, INSTALLED AND/OR CONNECTED FOR A COMPLETE AND OPERABLE HEATING, VENTILATION AND AIR CONDITIONING (HVAC) SYSTEM. VERIFY EXACT LOCATION OF HVAC EQUIPMENT AND CONDUIT TERMINATION AT EQUIPMENT WITH MECHANICAL CONTRACTOR.

E. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE LOCATION OF OUTLETS AND EQUIPMENT THOUGH NOT NECESSARY INDICATING THE ACTUAL ROUTES OF CONDUITS. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS PROPER COORDINATION WITH THE WORK OF OTHER TRADES AND SPACE WILL PERMIT. SIMPLY INSTALLATION WHEREVER POSSIBLE BUT SUBJECT TO APPROVAL OF OWNER'S REPRESENTATIVE FOR VISUAL AND STRUCTURAL REASONS. IT IS NOT WITHIN THE SCOPE OF THE DRAWINGS TO SHOW ALL NECESSARY OFFSETS, BENDS, PULL BOXES AND OBSTRUCTIONS. THE DRAWINGS ARE NOT INTENDED TO BE SCALED AND THE CONTRACTOR SHALL REFER TO THE GENERAL ARCHITECTURAL DRAWINGS FOR DIMENSIONS.

F. ALL PERMITS SHALL BE PROCURED FROM ALL LEGALLY CONSTITUTED AUTHORITIES,ARRANGE FOR ALL INSPECTION AND PAY ALL COSTS FOR FEES AND TESTS IN CONNECTION THEREWITH, COMPLY WITH CODES. PRESENT THE SIGNED CERTIFICATE OF FINAL INSPECTION TO THE OWNER'S REPRESENTATIVE PRIOR TO PRESENTING THE WORK FOR FINAL ACCEPTANCE.

G. CONTRACTOR SHALL ERECT AND MAINTAIN SUITABLE BARRIERS, PROTECTIVE DEVICES, LIGHTS AND WARNING SIGNS WHERE REQUIRED FOR THE PROTECTION OF THE PUBLIC AND EMPLOYEES ABOUT THE BUILDING.

H. CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL SERVICE FOR CONSTRUCTION POWER AND ILLUMINATION FOR ALL TRADES. ALL COSTS OF LABOR AND COST MATERIAL REQUIRED FOR THE TEMPORARY ELECTRICAL SERVICE SHALL BE INCLUDED IN THE ELECTRICAL CONTRACT.

I. ELECTRICAL ROOMS HAVING A TRANSFORMER(S) RATED 112.5KVA OR ABOVE SHALL BE PROVIDED WITH 1-HOUR FIRE ENCLOSURE.

J. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR SUBMITTALS, ACCEPTABLE MATERIALS, COORDINATION REQUIREMENTS, TESTING, STARTUP, TRAINING AND PROJECT CLOSEOUT.

K. PROVIDE A CODE APPROVED DISCONNECT SWITCH OR BREAKER WITHIN SIGHT OF EVERY MOTOR. FOR LOCATION OF DISCONNECT SWITCH, COORDINATE WITH DIVISION 15 CONTRACTOR TO DETERMINE THE BEST LOCATION ON SITE WHILE REMAINING ACCESSIBLE.

L. CONTRACTOR SHALL TEST ALL WIRING AND CONNECTIONS FOR CONTINUITY, GROUNDS, SHORT CIRCUITS, AND OTHER DEFECTS BEFORE ANY EQUIPMENT OR FIXTURES ARE CONNECTED THERETO. CABLES SHALL BE CHECKED FOR CONTINUITY, SHORTS, INSULATION RESISTANCE, AND PROPER PHASING.

M. PROVIDE PULL ROPE IN ALL EMPTY CONDUITS.

N. COORDINATE ROUTING OF RACEWAYS FEEDERS AND HOMERUNS IN COOPERATION WITH THE WORK OF OTHER TRADES.

O. DO NOT EMBED CONDUITS OR SLEEVES IN STRUCTURAL CONCRETE, INCLUDING CONCRETE ON METAL DECK WITHOUT SPECIFIC ACCEPTANCE FROM ARCHITECT. LOCATE ELECTRICAL CONDUIT A MINIMUM OF 3" APART AND WITHIN MIDDLE ⅓ OF MEMBER.

P. INSTALL EXPOSED CONDUITS PARALLEL AND AT RIGHT ANGLES TO THE NEARBY SURFACES AND STRUCTURAL MEMBERS. IN PUBLIC AREAS, GROUP RACEWAYS IN MINIMUM GROUPS OF THREE RACEWAYS ON A COMMON SUPPORT SYSTEM.

Q. PROVIDE EQUIPMENT GROUNDING CONDUCTOR IN ALL LIGHTING AND POWER CONDUITS.

R. LIGHTING:
- I. ALL LIGHTING FIXTURES SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
- II. CONTRACTOR SHALL VERIFY THE TYPE OF CEILING, COORDINATE WITH ARCHITECTURAL DRAWINGS BEFORE ORDERING FIXTURES. CONTRACTOR IS FULLY RESPONSIBLE FOR PROVIDING ALL FIXTURES MOUNTING HARDWARE TO FIT CEILING CONDITIONS AT NO EXTRA COST TO THE OWNER.
- III. SEE ARCHITECTURAL CEILING PLANS FOR EXACT DIMENSIONS, CEILING CONFIGURATION, LIGHTING PLACEMENT AND QUANTITIES.
- IV. SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND MOUNTING HEIGHT OF WALL MOUNTED LIGHTING FIXTURES.
- V. LIGHTING IN ELECTRICAL, MECHANICAL TELE/COM AND EQUIPMENT ROOMS ARE SHOWN FOR QUANTITY ONLY. ACTUAL FIXTURE LOCATIONS TO BE DETERMINED AFTER COORDINATING WITH WORK OF ALL OTHER TRADES. FIXTURES TO BE LOCATED SO THAT MAINTENANCE AND LIGHT OUTPUT ARE NOT OBSTRUCTED. FIXTURES ARE TO BE INSTALLED AFTER ALL OTHER WORK IS SUBSTANTIALLY COMPLETE.

S. NO MORE THAN THREE CIRCUITS PER HOME RUN. DO NOT COMBINE HOMERUNS WITHOUT PRIOR APPROVAL.

T. NO INTERMEDIATE SPLICING OF FEEDERS OR BRANCH CIRCUITS SHALL BE DONE WITHOUT PRIOR APPROVAL.

U. POWER:
- I. PROVIDE CONCRETE PADS (MINIMUM 4" HIGH OR AS INDICATED) FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT INSTALLED IN EQUIPMENT ROOMS AND IN AREAS SUSCEPTIBLE TO BEING WET OR HOSED DOWN. SUBMIT PAD DETAIL PLANS INCLUDING DIMENSIONS FOR APPROVAL.
- II. THE LOCATION OF ALL OUTLETS SHALL BE COORDINATED WITH ARCHITECTURAL PLANS BY THE CONTRACTOR PRIOR TO INSTALLATION. MOUNTING HEIGHTS OF RECEPTACLES, SWITCHES, WIRING DEVICES AND DEDICATED EQUIPMENT OUTLETS SHALL BE COORDINATED WITH OTHER TRADES PRIOR TO INSTALLATION.
- III. ALL DISCONNECT SWITCHES SHALL BE PAD-LOCKABLE IN THE "OFF" POSITION.
- IV. ALL FEEDER LENGTH SHOWN ON SINGLE LINE DIAGRAM ARE FOR VOLTAGE DROP CALCULATION ONLY. DO NOT USE FOR ANY OTHER PURPOSES.
- V. VERIFY AND COORDINATE EXACT LOCATION, POWER REQUIREMENTS AND METHOD OF CONNECTION OF ALL MECHANICAL EQUIPMENT AND PENETRATION ITEMS AND DEVICES PRIOR TO INSTALLATION OF ELECTRICAL SYSTEM.
- VI. PROVIDE A MINIMUM OF 12" SEPARATION BETWEEN POWER AND COMMUNICATION CONDUITS, WHERE THEY ARE INSTALLED IN PARALLEL OR IN THE SAME TRENCH.
- VII. LABEL ALL RECEPTACLES, J-BOXES, DISCONNECT SWITCHES AND CONTROL DEVICES WITH THEIR SERVING CIRCUIT NUMBERS. LABELS SHALL BE PER THE SPECIFICATION.
- VIII. PROVIDE A MINIMUM 24" HORIZONTAL SEPARATION THAT USUALLY APPLIES BETWEEN BOXES INSTALLED ON OPPOSITE SIDES OF THE WALL IN ORDER TO MAINTAIN THE FIRE-RESISTIVE RATING OF ASSEMBLIES WHERE PENETRATION OR OPENINGS ARE MADE.

V. GROUNDING:
- I. THE EQUIPMENT GROUNDING CONDUCTOR SHALL RUN CONTINUOUS FROM PANEL TO LAST OUTLET. THIS WIRE SHALL BE PIGTAILED TO BOX AND DEVICE. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED GREEN CONDUCTORS.
- II. GROUNDING OF CABLE TRAY SHALL BE PER NEC 392.60.

W. DEMOLITION:
- I. SURVEY EXISTING CONDITIONS, INVENTORY AND RECORD THE CONDITION OF ITEMS TO BE REMOVED AND REINSTALLED.
- II. RECORD EXISTING CONDITION BY USE OF MEASURED DRAWINGS, PRECONSTRUCTION PHOTOGRAPHS, AND/OR VIDEO TAPES. RECORD CONDITION OF AREAS ADJACENT TO DEMOLITION IN ADDITION TO AREAS TO BE DEMOLISHED.
- III. WHERE UTILITIES, FEEDERS, RACEWAYS PASS THROUGH AREAS OR WALLS TO BE DEMOLISHED, DETERMINE SOURCE, FUNCTION AND LOAD PRIOR TO DEMOLITION. IF THESE ARE SERVING AREAS OR LOADS THAT ARE TO REMAIN, PROVIDE PROVISIONS FOR RELOCATING PRIOR TO DEMOLITION.
- IV. AREAS OR LOADS THAT ARE TO REMAIN, PROVIDE PROVISIONS FOR RELOCATING PRIOR TO DEMOLITION. SOURCE OR FIRST UP STREAM DEVICE TO REMAIN IN SERVICE.
- V. REMOVE ALL ABANDONED RACEWAY, CABLES AND EQUIPMENT FROM AREAS TO BE DEMOLISHED/REMODELED UNLESS NOTED OTHERWISE. DEMOLITION TO INCLUDE POWER, LIGHTING FIRE ALARM DEVICES AND RACEWAYS, COMMUNICATION DEVICES AND RACEWAYS, LOW VOLTAGE AND CONTROL SYSTEMS.
- VI. WHERE RACEWAYS ENTER OR EXIT SLABS OR PARTITIONS TO REMAIN, CUT RACEWAYS FLUSH WITH FINISH SURFACE, REMOVE CONDUCTORS AND PREPARE FOR REFINISH OF AREA.
- VII. VERIFY THAT UTILITIES HAVE BEEN DISCONNECTED AND MADE SAFE PRIOR TO COMMENCING DEMOLITION.

X. PENETRATIONS IN WALLS REQUIRING PROTECTED OPENINGS MUST BE FIRESTOPPED WITH AN APPROVED MATERIAL IN ACCORDANCE WITH SECTION 709.6. SPACE BETWEEN PENETRATING MATERIALS (DESCRIBED BELOW) MUST BE DESIGNED TO PREVENT THE SPREAD OF HOT FLAME OR GASES.
- I. COPPER OR FERROUS PIPES OR CONDUITS MAY PENETRATE THE WALLS OR PARTITIONS, PROVIDED THEY ARE FIRESTOPPED.
- II. OPENINGS FOR STEEL, ELECTRICAL OUTLET BOXES NOT EXCEEDING 16 SQUARE INCHES ARE PERMITTED PROVIDED OPENINGS DO NOT AGGREGATE MORE THAN 100 SQUARE INCHES OR 100 SQUARE FEET OF WALL OF PARTITIONS. OUTLET BOXES ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY A HORIZONTAL DISTANCE OF 24 INCHES.

Y. AESTHETIC CRITERIA NOTES:
- I. ALL EXPOSED CONDUIT, RACEWAYS AND BOXES SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO ADJACENT BUILDING ELEMENTS AND FASTENED NEATLY AND CONSISTENTLY.
- II. MANUFACTURERS LABELS SHALL BE TURNED AWAY FROM PUBLIC VIEW. NO CONSTRUCTION NOTATIONS SHALL BE VISIBLE IN AREAS EXPOSED TO PUBLIC VIEW.
- III. ALL NEW DEVICES, OUTLETS, SWITCHES, CONTROLS, ETC. SHALL BE INSTALLED WITH CONCERN FOR ALIGNMENT WITH WORK OF OTHER TRADES. PROVIDE VERTICAL AND HORIZONTAL ALIGNMENT WITH EQUAL SPACING BETWEEN CENTER LINES. IF DOCUMENTS DO NOT INDICATE ALIGNMENT AND/OR SPACING CONSULT WITH ARCHITECT PRIOR TO ROUGH IN.

Z. ACOUSTICAL NOTES:
- I. ALL PENETRATIONS INTO SOUND RATED PARTITIONS OR FLOOR-CEILING ASSEMBLIES WILL BE SEALED, LINED OR INSULATED WITH APPROVED PERMANENT RESILIENT ACOUSTIC SEALANT AND FIRE CAULK (WHERE APPLIES).
- II. ALL RIGID CONDUIT LOCATED IN SOUND ASSEMBLIES WILL BE ISOLATED FROM THE BUILDING CONSTRUCTION BY MEANS OF RESILIENT SLEEVES, MOUNTS OR MINIMUM 1/4" THICK APPROVED RESILIENT MATERIAL.
- III. ELECTRICAL OUTLETS BOXES IN OPPOSITE FACES OF SEPARATION WALLS WILL BE SEPARATED HORIZONTALLY BY 24" AND NOTE THAT BACK AND SIDES OF BOXES WILL BE SEALED WITH 1/8" RESILIENT SEALANT AND BACKED BY MINIMUM OF 2" THICK MATERIAL FIBER INSULATION. (TV, TELEPHONE AND INTERCOM OUTLETS MUST BE INSTALLED IN BOXES ACCORDINGLY.
- IV. NO ELECTRICAL PANEL SHALL BE INSTALLED IN SOUND RATED PARTITIONS.

AA. COORDINATION:
- I. THERE IS NO ASSURANCE THAT LOCATION OF SUBSTRUCTURES SHOWN ON THIS DRAWING ARE ACCURATE, OR THAT ALL EXISTING SUBSTRUCTURES ARE SHOWN ON THIS DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL SUBSTRUCTURES WHETHER SHOWN OR NOT. ANY DAMAGE TO THE EXISTING SUBSTRUCTURES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- II. CONTRACTOR TO CLEAR PROJECT SITE AREA WITHIN THE CONFINES OF THE DEMOLITION LIMIT LINE. CONTRACTOR SHALL DEMOLISH AND REMOVE FROM THE SITE ALL EXISTING UTILITIES, STRUCTURES, PLANTERS, TREES, AND ALL OTHER SITE FEATURES, UNLESS OTHERWISE NOTED ON THE PLAN.
- III. COORDINATE WITH LANDSCAPE CONSULTANT FOR TREE LOCATIONS. DO NOT DISTURB ROOT BALL.

AB. STRUCTURAL NOTES:
- I. ALL CONDUIT RUNS ARE TO BE PLACED IN THE MIDDLE 1/3 OF THE DEPTH OF SLAB.
- II. CONDUITS MUST BE SUPPORTED ON APPROVED CHAIRS AFFIXED TO THE SLAB FORMWORK, AND TIGHTLY SECURED TO ADJACENT REINFORCING STEEL WHERE FEASIBLE SO AS TO ASSURE NO MOVEMENT DURING CONCRETE PLACEMENT.
- III. MULTIPLE LAYERS OF CONDUIT CROSSING EACH OTHER WITHIN THE 1/3" PLACEMENT ZONE IS ACCEPTABLE; HOWEVER, NO LESS THAN 3/4" VERTICAL CLEARANCE BETWEEN STACKED CONDUITS IS ALLOWED, AND NO MORE THAN THREE LAYERS OF CONDUIT WITHIN THE 1/3" PLACEMENT ZONE ARE ALLOWED AT ANY ONE LOCATION.
- IV. MULTIPLE CONDUITS PLACED SIDE-BY SIDE MUST MAINTAIN AT LEAST 1 CONDUIT DIAMETER HORIZONTAL CLEARANCE, BASED ON THE LARGER OF ADJACENT CONDUITS.
- V. CONDUIT "BANKS" CONSISTING OF 4 OF MORE CONDUITS MUST BE PLACED IN PLAN VIEW WITHIN THE MIDDLE THIRD OF THE DISTANCE BETWEEN COLUMNS OR BETWEEN COLUMNS AND ENDS/FACES OF WALLS. NO SINGLE "BANK" OF CONDUITS SHALL EXCEED 25 CONDUITS OR A TOTAL WIDTH OF 5 FEET, INCLUDING REQUIRED SPACING BETWEEN CONDUITS.
- VI. NO CONDUITS ARE ALLOWED TO CROSS OVER THE STUD RAILS/ BETWEEN STUDS LOCATED AT COLUMNS AND CERTAIN WALL LOCATIONS. CONDUITS RUNNING ADJACENT TO STUD RAILS MUST HAVE AT LEAST 12" CLEARANCE BETWEEN STUDS AND CONDUIT.
- VII. JUNCTION BOXES ARE NOT ALLOWED IN THE ZONE AROUND COLUMNS OR ENDS OF WALLS WHERE STUD RAILS ARE LOCATED. THE OUTER PERIMETER OF THE ZONE OF EXCLUSION IS DEFINED BY CONNECTING THE ENDS OF ALL STUD RAILS BY A STRAIGHT LINE.
- VIII. WHERE NO STUD RAILS ARE SHOWN NEAR COLUMNS OR ENDS OF WALLS, JUNCTION BOXES ARE NOT ALLOWED WITHIN 18" OF THE COLUMN FACE OR WITHIN A ZONE DEFINED BY A 36" DIAMETER CIRCLE CENTERED ON THE FACE OF THE WALL AT THE CENTER OF THE WALL.
- IX. JUNCTION BOXES MAY NOT BE PLACED CLOSER TO EACH OTHER THAN THE LARGEST PLAN DIMENSION OF THE BOX IN EITHER DIRECTION. NO MORE THAN TWO JUNCTION BOXES MAY BE PLACED ADJACENT TO EACH OTHER.
- X. THE CONTRACTOR MUST SUBMIT FOR APPROVAL A DETAILED LAYOUT OF CONDUIT BANKS. THE LOCATIONS OF INDIVIDUAL CONDUIT RUNS OR RUNS OF UP TO THREE ADJACENT CONDUITS DO NOT NEED TO BE PRE-APPROVED, BUT MUST FOLLOW ALL APPLICABLE REQUIREMENTS SET FORTH IN THE DOCUMENTS.
- XI. NO CONCRETE FLOOR SLABS ARE ALLOWED TO BE POURED WITHOUT APPROVAL OF THE CONDUIT LAYOUT PLAN.
- XII. EXCEPTIONS TO THE ABOVE RULES WILL BE EVALUATED BY THE STRUCTURAL ON A CASE-BY-CASE BASIS.

TITLE 24 NOTES

1. INCLUDE COMMISSIONING REQUIREMENTS FOR ENERGY LOAD VERIFICATION/CERTIFICATION REQUIRED POST CONSTRUCTION PER TITLE 24, 2016 SECTION 120.8.
2. INCLUDE COMMISSIONING REQUIREMENTS FOR LIGHTING SYSTEM CONTROLS ACCEPTANCE AND CERTIFICATION COMPLIANCE WITH TITLE 24, 2016 SECTION 130.4.

FIRE ALARM

FIRE ALARM SYSTEM IS DESIGN/BUILT WORK. PROVIDE SHOP DRAWINGS AS PER SPECIFICATION SECTION 16700. THE BUILDING FIRE ALARM SYSTEM MUST HAVE FULL AUTOMATIC DETECTION COVERAGE IN CORRIDORS, STORAGE ROOMS, COMMON AREA, ETC.

SEPARATION DISTANCES BETWEEN POWER AND DATA CABLE

CONDITION	MINIMUM SEPARATION DISTANCE		
	< 2KVA	2–5 KVA	> 5KVA
UNSHIELDED POWER LINES OR ELECTRICAL EQUIPMENT IN PROXIMITY TO OPEN OR NONMETAL PATHWAYS.	5"	12"	24"
UNSHIELDED POWER LINES OR ELECTRICAL EQUIPMENT IN PROXIMITY TO OPEN OR NONMETAL PATHWAYS.	2.5"	6"	12"
UNSHIELDED POWER LINES OR ELECTRICAL EQUIPMENT IN PROXIMITY TO OPEN OR NONMETAL PATHWAYS.		3"	6"
ELECTRICAL MOTORS AND TRANSFORMERS			48"

SEPARATION DISTANCES BETWEEN DATA CABLES AND SPECIFIC EM SOURCES

SOURCE OF DISTURBANCE	MINIMUM SEPARATION DISTANCE
FLUORESCENT LAMPS	6"
NEON LAMPS	6"
MERCURY VAPOR LAMPS	6"
HIGH-INTENSITY DISCHARGE LAMPS	6"
MINIMUM SEPARATION DISTANCE	6"
ARC WELDERS	6"
FREQUENCY INDUCTION HEATING	40"

CONDUIT INSTALLATION NOTES

ASSOCIATED WITH DIVISION 16

THE RACEWAY SYSTEM FOR TELECOM CABLE SHALL FOLLOW THE NEC AND ALL LOCAL CODES GOVERNING THIS PROJECT. ADDITIONAL REQUIREMENTS ARE AS FOLLOWS:

1. A PULL CORD (NYLON, 1/8" MINIMUM) SHALL BE INSTALLED WITHIN ALL CONDUITS.
2. CONDUIT SHALL RUN IN MOST DIRECT ROUTE POSSIBLE, USUALLY PARALLEL WITH BUILDING LINES.
3. CONDUIT SLEEVES SHOULD BE RIGID GALVANIZED STEEL FOR PENETRATIONS OF CONCRETE SLABS, CONCRETE WALLS. ALL SLEEVES SHALL RIGIDLY INSTALLED USING APPROPRIATE FITTINGS AND ALL PENETRATIONS SHALL BE GROUTED AROUND THE SLEEVE. SLEEVES SHALL PROJECT A MINIMUM OF 4" BEYOND WALL OR FLOOR SURFACE. ALL PENETRATIONS SHALL BE FIRESTOPPED.
4. CONDUIT RUN SHALL CONTAIN NO CONTINUOUS SECTIONS LONGER THAN 100 FEET. IF RUNS TOTAL MORE THAN 100 FEET, PULL POINTS OR PULL BOXES SHALL BE INSERTED.
5. CONDUIT RUNS TO WORK AREAS SHALL SERVE NO MORE THAN ONE COMMUNICATION OUTLET.
6. CONDUIT SHALL HAVE NO MORE THAN TWO 90 DEGREES OF BENDS AT ANY POINT OR MORE THAN 180 DEGREES OF CUMULATIVE BENDS BETWEEN PULL POINTS.
7. INSTALL CONDUITS WITH A MINIMUM OF BENDS AND OFFSETS. BENDS SHALL NOT KINK OR DESTROY INTERIOR CROSS SECTION OF RACEWAY. FACTORY MADE BENDS SHALL BE USED FOR RACEWAY'S 1" TRADE SIZE AND LARGER. BENDS RADIUS SHALL BE 6 TIMES INTERNAL DIAMETER FOR CONDUIT SIZES UP TO 2". A CONDUIT GREATER THAN 2" SHALL HAVE BEND RADIUS AT LEAST 10 TIMES DIAMETER OF CONDUIT.
8. DO NOT INSTALL CONDUIT OVER OR ADJACENT TO BOILERS, INCINERATORS, HOT WATER LINES, OR STEAM LINES.
9. REAM ALL CONDUIT ENDS AND FIT THEM WITH AN INSULATED BUSHING TO ELIMINATE SHARP EDGES THAT MAY DAMAGE CABLES.
10. AFTER INSTALLATION, LEAVE CONDUITS CLEAN, DRY AND UNOBSTRUCTED, REAMED AND FITTED WITH BUSHINGS.
11. ELECTRICAL METALLIC TUBING, RIGID METAL CONDUIT, FLEXIBLE METAL CONDUIT AND RIGID PVC ARE ALLOWED CONDUIT TYPES.
12. CONDUIT SYSTEM INSTALLATION.
    - 12.1. CABLE IN EXTERIOR, ABOVE GRADE LOCATIONS: RIGID GALVANIZED STEEL.
    - 12.2. INTERIOR LOCATIONS: EMT.
    - 12.3. CABLE BELOW GRADE: SCHEDULE 40 PVC.
13. ALL METALLIC CONDUITS SHALL BE APPROPRIATELY GROUNDED AS SPECIFIED IN THE NEC, ANSI/TIA/EIA J-STD-607-A AND PER MANUFACTURER'S SPECIFICATIONS.
14. CONDUITS ARE TO BE CLEARLY MARKED AT EACH END TO INDICATE THE TRADE (E.G. AV, TELECOM) THAT THE CONDUIT IS INTENDED TO SUPPORT.
15. CABLE PATHWAY SHOULD BE LESS THAN 285 FEET.

GENERAL PROJECT NOTES

A. ALL WORK SHALL CONFORM TO THE 2014 NATIONAL ELECTRICAL CODE AND CALIFORNIA AMENDMENT (CEC-2016).

B. CONDUCTOR SIZING SHALL BE IN ACCORDANCE WITH ARTICLE 110-14(C) AND ARTICLE 310-15.

C. BONDING OF PIPING SYSTEM IN ACCORDANCE WITH ARTICLE 250-50 SHALL INCLUDE BONDING OF METALLIC WATER, GAS, FIRE SPRINKLER, COMPRESSED AIR AND OTHER METALLIC PIPING.

D. ALL ELECTRICAL EQUIPMENT AND DEVICES SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.

E. ALL SWITCHBOARDS & PANELBOARDS SHALL COMPLY WITH ARCH FLASH HAZARD PER 2016 CEC 110-16.

F. CF-2R-LTG FORMS MUST BE COMPLETED BY LIGHTING INSTALLER AND PROVIDED TO CITY INSPECTOR PRIOR TO FINAL INSPECTION.

G. ALL MOUNTING HEIGHTS ARE TO THE CENTER LINE OF THE DEVICES BACHBOX UNLESS NOTED OTHERWISE.

H. ALL BOXES AND CONDUITS IN WALLS AND CEILINGS SHALL BE FLUSH MOUNTED OR CONCEALED UNLESS NOTED OTHERWISE.

I. ALL EXTERIOR OUTLETS SHALL BE WEATHERPROOF.

J. EXACT LOCATION OF ALL TELECOM OUTLETS LOCATED IN FURNITURE AND MILLWORK TO BE VERIFIED WITH ARCHITECT PRIOR TO INSTALLATION.

K. PROVIDE PANEL DIRECTORY AT EACH PANEL. REFERENCE SPECIFICATION SECTION 260500-3.15 & PANEL SCHEDULES. PANEL DIRECTORY TO CLEARLY AND ACCURATELY LABEL ALL CIRCUITS AND SPARES.

CIRCUITING

NOTE: WHERE OUTLETS AND LIGHTS ARE SHOWN, BUT INTERCONNECTION WIRING IS NOT INDICATED, THE CONTRACTOR SHALL PROVIDE COMPLETE WIRING. MINIMUM 3/4" CONDUIT, UON.

SYMBOL	DESCRIPTION
	IN WALL OR ABOVE CEILING
	IN FLOOR OR BELOW GRADE
—T— C,S,TV,P, OH,FO	CIRCUITING TYPE: T = TELEPHONE, C = CONTROL, S = SECONDARY, TV = TELEVISION, P = PRIMARY, OH = OVERHEAD SERVICE, FO = FIBER OPTIC
	STUB OUT: MARK AND CAP
	CIRCUITING UP
	CIRCUITING DOWN
A-1,3,5	BRANCH CIRCUIT HOMTRUN TO PANEL 'A', CIRCUIT No.s 1,3 AND 5. 3/4" CONDUIT AND #12 AWG MINIMUM, PROVIDE NEUTRAL AND GROUND UON, NUMBER OF CONDUCTORS AS REQUIRED BY NEC AND CIRCUITS

SINGLE LINE AND SCHEMATICS

SYMBOL	DESCRIPTION
AF AT P AIC	CIRCUIT BREAKER: AF = AMP FRAME, AT = AMP TRIP, P = POLE, AIC = AMPERES INTERRUPTING CAPACITY
/3 FU	FUSIBLE SWITCH: _/3 = SWITCH SIZE AND POLES, ___ = FUSE SIZE
	NORMALLY OPEN CONTACT, NORMALLY CLOSED CONTACT
C	CONTACTOR COIL
R	RELAY COIL
	FOUR POLE AUTOMATIC TRANSFER SWITCH
	TRANSFORMER
PANEL	PANEL - SEE PANEL SCHEDULE FOR DETAILS
	MOTOR STARTER: NUMBER=NEMA STARTER SIZE
	MOTOR OVERLOADS
	CURRENT TRANSFORMERS
M	UTILITY COMPANY METER WITH CURRENT TRANSFORMERS
GFR	GROUND FAULT RELAY
SPD	SURGE PROTECTION DEVICE
ST	SHUNT TRIP UNIT
N.C., N.O. TM SL SP	NORMALLY CLOSED, NORMALLY OPEN; THERMAL MAGNETIC TRIP UNIT; SOLID STATE TRIP UNIT; 3 POLE SPACE
xxxx AIC	AVAILABLE INTERRUPTING CURRENT

SIGNAL SYMBOLS

NOTE: VERIFY ALL LOW VOLTAGE DEVICES AND ROUTING REQUIREMENTS WITH LOW VOLTAGE DRAWINGS. VERIFY FIRE ALARM DEVICES AND REQUIREMENTS WITH FIRE ALARM DESIGN BUILD CONTRACTOR. VERIFY SECURITY DEVICES AND REQUIREMENTS WITH SECURITY.

SYMBOL	DESCRIPTION
	CAMERA OUTLET
CR	CARD ACCESS READER. PROVIDE & INSTALL 4-11/16" SQ. X 2-1/8" DEEP BOX AND CONDUIT TO NEAREST IDF CLOSET.
RX	REQUEST TO EXIT. PROVIDE AND INSTALL 4-11/16" SQ. X 2-1/8" DEEP BOX AND CONDUIT TO NEAREST IDF CLOSET.
	TELEPHONE ENTRY SYSTEM. PROVIDE AND INSTALL 4-11/16" SQ. X 2-1/8" DEEP BOX AND CONDUIT TO NEAREST IDF CLOSET.
	SELF CONTAINED SMOKE DETECTOR W/ AUDIO ALARM 120 VOLT AND BATTERY BACK.
	COMBINATION SMOKE DETECTOR AND CO SENSOR.
	DUCT DETECTOR
	HEAT DETECTOR.
	SYSTEM SMOKE DETECTOR.
F	PULL STATION. +48" AFF, UON.
	FIRE ALARM HORN/STROBE: +80" AFF, UON
	FIRE ALARM STROBE LIGHT: +80" AFF, UON.
	FIRE ALARM HORN/STROBE LIGHT: +80" AFF, UON.
DH	DOOR HOLD OPEN.
FS	SPRINKLER WATER FLOW SWITCH.
SS	SPRINKLER SUPERVISORY SWITCH.
TS	TAMPER SWITCH.
PIV	POST INDICATOR VALVE.
FSD	FIRE SMOKE DAMPER

TELECOM SYMBOLS

TELECOMMUNICATION IS A DESIGN BUILD SCOPE ELECTRICAL CONTRACTOR MUST COORDINATE ALL OUTLET LOCATIONS & QUANTITY WITH OWNER PRIOR TO SUBMIT BID.

SYMBOL	DESCRIPTION
	ELEVATOR PHONE OUTLET-PROVIDE ONE ANALOG VOICE DROP COMPLETE WITH CABLE, CONNECTOR AND TERMINATION AS REQUIRED. ROUT ONE 1.25" CONDUIT FROM ELEVATOR EQUIPMENT BOX TO ACCESSIBLE CEILING ON THE SAME FLOOR AS SHOWN UNO. COORDINATE EXACT LOCATION WITH ELEVATOR VENDOR.
	WALL PHONE OUTLET-PROVIDE ONE DROP COMPLETE WITH CABLE, CONNECTOR AND TERMINATION AS REQUIRED. STUB ONE 1.25" CONDUIT FROM 4.6875" SQUARE BY 2.125" DEEP GALVANIZED STEEL BOX WITH SINGLE GANG PLASTER RING TO ACCESSIBLE CEILING ON THE SAME FLOOR AS SHOWN. MOUNT AT 54" AFF UNO.
	TELECOMMUNICATION OUTLET: IN COMMON AREA PROVIDE ONE DATA AND ONE VOICE DROPS COMPLETE WITH CABLES, CONNECTORS AND TERMINATIONS AS REQUIRED. IN RESIDENTIAL AREAS SEE RISER DIAGRAM FOR REQUIREMENTS.
	SAME AS ABOVE EXCEPT FLOOR MOUNT OUTLET. EXACT LOCATION TO BE COORDINATED WITH ARCHITECT
	WIRELESS COMMUNICATION OUTLET-PROVIDE TWO DATA DROPS COMPLETE WITH CABLES, CONNECTORS AND TERMINATIONS AS REQUIRED. STUB ONE 1.25" CONDUIT FROM 4.6875" SQUARE BY 2.125" DEEP GALVANIZED STEEL BOX WITH SINGLE GANG PLASTER RING TO ACCESSIBLE CEILING ON THE SAME FLOOR AS SHOWN UNO. COIL ADDITIONAL 15 FEET OF CABLE FOR RELOCATION OF OUTLET AFTER WIRELESS SITE SURVEY (BY OTHERS) IS COMPLETE. MOUNT ABOVE CEILING.
	TELECOM/DATA OUTLET SUBSCRIPTS: XX" = OUTLET ELEVATION FROM AFF TO MIDDLE OF BOX. B = BLANK COVER PLATE FOR FUTURE USE. XX = QUANTITY OF DROPS COMPLETE WITH CABLES, CONNECTORS AND TERMINATIONS AS REQUIRED.
TV	TV OUTLET WITH ONE COAX CABLE UON, VERIFY MOUNTING HEIGHT

SWITCHES

SWITCHES AND DEVICES NOTES: MOUNTING HEIGHTS SHALL MEASURE FORM TOP OF THE SWITCH OUTLET BOXES (48" AFF) AND BOTTOM OF THE RECEPTACLE OUTLET BOXES (15" AFF).

LIGHTING CONTROLS TO BE CERTIFIED FOR BY T-20 AND COMPLY WITH 2016, TITLE 24 STANDARDS - SECTION 110-9 LIGHTING REQUIREMENTS.

SYMBOL	DESCRIPTION
S	SINGLE POLE: 20A, 120V OR 277V, +48" AFF TO TOP UON
S_2 S_3 S_4	TWO POLE, THREE WAY, WALL SWITCHES, +48" AFF, UON
S_a S_p S_k S_{MC}	SWITCH SUBSCRIPTS: a,b,c = DEVICE CONTROLLED, p = PILOT LIGHT, k = KEYED, mc = MOMENTARY CONTACT.
S_{TM}	SINGLE POLE, 120V, MANUAL MOTOR STARTER WITH BUILT IN THERMAL OVERLOAD PROTECTION SIZED TO SUITE MOTOR NAMEPLATE RATING. MOUNTED AT +72" UNLESS NOTED.
S_{2TM}	DOUBLE POLE, 208V, MANUAL MOTOR STARTER WITH BUILT IN THERMAL OVERLOAD PROTECTION SIZED TO SUITE MOTOR NAMEPLATE RATING. MOUNTED AT +72" UNLESS NOTED.
S_D	DIMMER SWITCH, +48" AFF, UON. DIMMER TO BE COMPATIBLE WITH LUMINAIRE BALLAST/DRIVER.
	LOW VOLTAGE SWITCH - WALL MOUNTED AT +48" TO TOP UON; X INDICATES NUMBER OF BUTTONS.
	COMBINATION OCCUPANCY SENSOR & DIMMER SWITCH +48" TO TOP UON.
	WALL MOUNTED OCCUPANCY SENSOR WITH MANUAL ON/OFF AND AUTO OFF. +48" AFF, UON.
	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
	PHOTOCELL ELECTRIC SWITCH. 1800VA UON
	MULTI BUTTON LOW LEVEL LIGHTING SWITCH W/SLIDE DIM. x= NO. OF BUTTONS, WATTSTOPPER #LMSW-10_ OR EQUAL
	WALL MOUNTED VACANCY SENSOR WITH MANUAL ON/OFF AND AUTO OFF. +48" AFF, UON.
	LUTRON ENERGY SAVOR NODE, #QSN-2ECO-S
	POWER PACK FOR LOW VOLTAGE SENSORS
	DIMMING ROOM CONTROLLER WATTSTOPPER #LMRC OR EQUAL
	PRIMARY DAY LIGHTING ZONE
	SECONDARY DAY LIGHTING ZONE

RECEPTACLES

SYMBOL	DESCRIPTION
	SINGLE: 20A, 125V, NEMA 5-20R, +24" AFF TO BOTTOM UON
	DUPLEX: 20A, 125V, NEMA 5-20R, +24" AFF TO BOTTOM UON
	SINGLE: 20A, 250V, NEMA 6-30R, +24" AFF TO BOTTOM UON
	DOUBLE DUPLEX: 20A, 125V, NEMA 5-20R, +24" AFF TO BOTTOM UON
	HALF SWITCHED DUPLEX: 20A, 125V, NEMA 5-20R, +24" AFF TO BOTTOM UON (TOP HALF SWITCHED)
	DUPLEX GFCI: 20A, 125V, GFCI, NEMA 5-20R GFCI, +24" AFF TO BOTTOM UON
	FLOOR MOUNTED POWER AND TELE/DATA OUTLET BOX
	SPECIAL RECEPTACLE - AS INDICATED ON PLANS. VERIFY WITH EQUIPMENT MANUFACTURER, +24" AFF TO BOTTOM UON
C U CT CLG D E	OUTLET SUBSCRIPTS: C = OUTLET MOUNTED ABOVE COUNTER; U = COMBINATION RECEPTACLE AND USB PORT OUTLET. CT = SWITCHE/CONTROLLED RECEPTACLE. CLG = CEILING D = DEDICATED, E = EMERGENCY POWER

DESIGNATIONS

SYMBOL	DESCRIPTION
F1	LIGHTING FIXTURE: F1 = TYPE, 3 = QTY, TYP = TYPICAL TYPES:
1	SHEET NOTE
AC 1	MECHANICAL EQUIPMENT
XXX	FEEDER CIRCUITRY TAG
X / XX	DETAIL CALLOUT ON PLANS X= DETAIL NUMBER XX= SHEET NUMBER

METHODS

SYMBOL	DESCRIPTION
	SHADING INDICATES: FIXTURE ON EMERGENCY 'X' OR NIGHT LIGHT 'NL' CIRCUIT
a,b	LETTERS INDICATE FIXTURE CONTROLLED BY SWITCHES 'a' & 'b'.
	INDICATES FIXTURE WITH INTEGRATED MOTION SENSOR OR DAYLIGHT SENSOR AS INDICATED ON PLANS
	FLUSH FLOOR MOUNTED WIRING DEVICES
	FLUSH FLOOR MOUNTED WIRING DEVICES IN SINGLE MULTI-COMPARTMENT BOX
	RECEPTACLE OR JUNCTION BOX MOUNTED AT CEILING
	FINE DASHING INDICATES EXISTING EQUIPMENT AND DEVICES TO BE REMOVED

MISCELLANEOUS

SYMBOL	DESCRIPTION
T	THERMOSTAT: MOUNT AT +48" TO TOP UON (PER MECHANICAL PLANS)
F	EXHAUST FAN: FRACTIONAL HORSEPOWER
1	MOTOR: NUMBER = HORSEPOWER
EPO	EMERGENCY POWER OFF PUSH BUTTON
	GROUND ROD
	GROUND WELL

EQUIPMENT

SYMBOL	DESCRIPTION
	SWITCHBOARD
	PANELBOARD AND LOAD CENTER - SURFACE MOUNTED
	PANELBOARD AND LOAD CENTER - FLUSH MOUNTED
	TERMINAL CABINET - SURFACE MOUNTED
	TERMINAL CABINET - FLUSH MOUNTED
	TELEPHONE AND OTHER SIGNAL CABINET/BOARD.
T	TRANSFORMER
R	RELAY
C	CONTACTOR
	MOTOR OUTLET AND CONNECTION INCLUDING MANUAL MOTOR STARTER, WHERE NOT SHOWN.
	MAGNETIC MOTOR STARTER
	MANUAL MOTOR STARTER SWITCH. HORSEPOWER RATED W/ OVERLOAD.
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH SIZE AS REQUIRED BY MANUF.
	CIRCUIT BREAKER DISCONNECT, SIZE AND TYPE AS INDICATED ON PLANS. MATCH HP RATING WHEN USED WITH MOTOR.
VFD	VARIABLE FREQUENCY DRIVE
	JUNCTION BOX (FLOOR, CEILING, AND WALL MOUNTED). SIZE AS REQUIRED BY NEC
	ELECTRIC VEHICLE CHARGING STATION: JUNCTION BOX RUN (1)-1"C (POWER), ONE FOR EACH CHARGING STATION TO ELECTRICAL PANEL RUN (1)-1.25"C (PHONE/DATA) TO NEAREST TELECOM ROOM
	UNDERGROUND PULL BOX, SIZE PER NEC
	PLUG MOLD SURFACE RACEWAY AND DEVICES
	TELEPOWER POLE
P	POWER POLE
	DOOR OPEN PUSH PLATE

ABBREVIATIONS

A, AMP	AMPERES
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
A/V	AUDIO/VISUAL
BDF	BUILDING DISTRIBUTION FACILITY
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT: WITH PULLCORD IF OTHERWISE EMPTY
CB, C/B	CIRCUIT BREAKER
CLG	CEILING, CEILING MOUNTED
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EC	EMPTY CONDUIT
EM	EMERGENCY
EMT	ELECTRIC METALLIC TUBING
FAAP	FIRE ALARM ANNUNCIATION PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FLUOR	FLUORESCENT
FU	FUSE: DUAL-ELEMENT, TIME DELAY
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
G,GND	GROUND
HOA	HAND-OFF-AUTOMATIC
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
IDF	INTERMEDIATE DISTRIBUTION FACILITY
IG	ISOLATED GROUND
INCAND	INCANDESCENT
Kcmil	THOUSAND CIRCULAR MILS (1k = 1000MILS)
KW	KILOWATT
KVA	KILOVOLT AMPS
LPS	LOW PRESSURE SODIUM
LTG	LIGHTING
LV	LOW VOLTAGE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDF	MAIN DISTRIBUTION FACILITY
MOCP	MAXIMUM OVERCURRENT PROTECTIVE DEVICE
MPOE	MINIMUM POINT OF ENTRY FOR TEL/DATA SERVICES
NACB	NON-ADJUSTABLE CIRCUIT BREAKER
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
N,NEUT	NEUTRAL
NIC	NOT IN CONTRACT
NID	NETWORK INTERFACE DEVICE
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OC	ON CENTER
PNL	PANEL
PVC	POLYVINYL CHLORIDE CONDUIT
RGS	RIGID GALVANIZED STEEL
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
TBD	TO BE DETERMINED
TYP	TYPICAL
UG	UNDER GROUND
UNSW	UNSWITCHED
UON/UNO	UNLESS OTHERWISE NOTED/UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
WP	WEATHER PROOF (NEMA 3R)
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
(D)	EXISTING TO BE REMOVED
(E)	EXISTING TO REMAIN
(ER)	EXISTING RELOCATED
(N)	NEW EQUIPMENT OR DEVICE
(R)	EXISTING TO BE RELOCATED
(X)	EXISTING TO BE REMOVED

SHEET INDEX

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NOTES, LEGENDS AND SCHEDULES

Job#: 1779

Scale: AS NOTED

E0.1

LIGHTING FIXTURE SCHEDULE

TAG	SYMBOL ON PLAN	DESCRIPTION	ACCEPTABLE MANUFACTURER CATALOG NO.	NO. & TYPE OF LAMP	FIXTURE WATT	VOLT	MOUNTING	NOTES
A1	A1	7" LED SURFACE DOWNLIGHT, DIMMABLE, 1000 LUMENS, 3500K	PHILIPS LIGHTOLIER, OR EQUAL SYR-835-10-2100 (1)	10.5W LED	12	120	RECESSED	CORRIDORS, LOBBY, LOUNGE
AE	AE	SIMILAR TO TYPE "A" BUT CONNECTED TO EM. LIGHTING INVERTER	PHILIPS LIGHTOLIER, OR EQUAL SYR-835-10-2100 (1)	10.5W LED	12	120	RECESSED	CORRIDORS, LOBBY, LOUNGE
A2	A2	6" LED RECESSED DOWNLIGHT, DIMMABLE, 2000 LUMENS, 3500K	PHILIPS LIGHTOLIER, OR EQUAL PRR-D-20-N-Z1D-U-WB-- PRR-D-835-WB-PRR-D-CL (3)(1)	20.7W LED	22	120	WALL	MUSIC BOOTH, QUITE ROOM
A3	A3	4" LED RECESSED DOWNLIGHT, DIMMABLE, 1000 LUMENS, 3500K	PHILIPS LIGHTOLIER, OR EQUAL PAR-D-10-N-Z1D-U-WB-EM- PAR-D-835-WB-PAR-D-CL (1)	10.3W LED	12	120	SURFACE	CORRIDOR AT ELEVATOR
B1	B1	4' LINEAR LED STRIP LIGHT	PHILIP FLUXSTREAM, OR EQUAL LF-4-FR-39-35-U-SZF (1)	42W LED	42	120	SURFACE	MECH/ELECT /STORAGE /TRASH RM
C1	C1	2X2 RECESSED LED TROFFER	COOPER HALO RSS-10-ED10-PDM6A-835-E4WH (1)	12.1W LED	14	120	RECESSED	CORR., TRASH, LOBBY, MAIL STORAGE
S1	S1	4' LED WRAPAROUND W/ MOTION SENSOR, 50% STEPPED DIMMING BALLAST AND 90-MIN BATTERY BACK	HC WILLIAMS, OR EQUAL SLT-4-4-ED-PL43/830-HM-EM/BSL310-0CCSS-ED20S0*UT-120 (1)	42W LED	42	120	SURFACE	STAIRS
P1	P1	14' LED POLE LIGHT, DISTRIBUTION TYPE II	SELUX LIGHTING, OR EQUAL AW4-S1-0'-L105-R2W-40-120 SX 936 42-9 /CF (1)	56W LED	56	120	FLOOR @ 14'-0"	PARKING LOT
P2	P2	14' LED POLE LIGHT, DISTRIBUTION TYPE V	SELUX LIGHTING, OR EQUAL AW4-S1-0'-L105-R5-40-120 SX 934 42-9 (1)	56W LED	56	120	FLOOR @ 14'-0"	PARKING LOT
W1	W1	LED WALL PACK	TECH LIGHTING PITCH, OR EQUAL 700OWSPITSR-LED830 (1)	28.2W LED	28	120	WALL @ 8'-0"	BUILDING EXTERIOR, WALKWAYS & TERRACE
W2	W2	LED WALL PACK WITH INTEGRAL MOTION SENSOR	LEDREK ESETA, OR EQUAL ES1-24H-MV-NW-A-ER-350-MSL2 (1)	LED	30	120	WALL @ 8'-0"	ROOF
EB	EB	LED BOLLARD	ERCO, OR EQUAL 33286000_V01 (1)	20W LED	20	120	SURFACE	EXTERIOR WALKWAY
EG	EG	LED BOLLARD	BEGA, OR EQUAL 77 060 (1)	13.4W LED	14	120	IN-GROUND	ENTRANCE FACADE
X1	X1	SINGLE FACE EMERGENCY EXT LIGHT, RED LETTERS ON WHITE, W/ 90-MIN BATTERY BACKUP	DUAL LITE, OR EQUAL LX-U-R-W-E-I (1)	4W LED	3	120	SURFACE	---
X2	X2	DUAL FACE EMERGENCY EXIT LIGHT, RED LETTERS ON WHITE, W/ 90-MIN BATTERY BACKUP	DUAL LITE, OR EQUAL LX-U-R-W-E-I (1)	4W LED	5	120	SURFACE	---
EM	EM	EMERGENCY LIGHTING UNIT, W/ 90-MIN BATTERY BACKUP, WET RATED	DUAL LITE, OR EQUAL LZ-10-03L (1)	10W LED	10	120	SURFACE	---

LIGHTING FIXTURES SCHEDULE NOTES:

1. OR EQUAL AS APPROVED BY OWNER.
2. VERIFY THAT FIXTURE TYPE/WATTAGE/DISTRIBUTION AND LUMEN OUTPUT IS EQUAL TO WHAT IS SPECIFIED PRIOR TO ORDERING.
3. VERIFY FIXTURE TYPE, QUANTITY, LOCATION AND REQUIREMENT WITH ARCHITECTURAL, LANDSCAPE AND ID DRAWINGS.

LIGHTING FIXTURES GENERAL NOTES:

1. FIXTURES WHERE SHOWN HALF SHADED ARE ON EMERGENCY CIRCUIT OR 90 MIN. BATTERY BACK-UP.
2. ALL FLUORESCENT AND COMPACT FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS.
3. VERIFY TYPE & COLOR OF ALL RECESSED FIXTURES TRIMS WITH ARCHITECT.
4. ALL LIGHT FIXTURES ASSEMBLY TO COMPLY WITH CURRENT T-24 REQUIREMENTS.
5. BEFORE ORDERING VERIFY THE DEPTH OF ALL RECESSED FIXTURE, FINAL VOLTAGE AND CEILING TRIM. PROVIDE IC HOUSING FOR ALL FIXTURE IN CEILING WITH INSULATION.
6. ALL EXTERIOR FIXTURES SHALL BE GASKETED, UL LISTED FOR WET LOCATIONS. PERFORM NIGHT-TIME LIGHT TEST TO VERIFY BACK SPILL BEFORE ROUGH-IN.
7. ALL COMPACT FLUORESCENT LAMPS SHALL HAVE COLOR RENDITION OF 2700K.
8. ALL EXTERIOR LIGHT FIXTURES SHALL BE SHARP CUT-OFF WITH CONCEALED SOURCE. PROVIDE HOUSE SIDE SHIELDS TO REDUCE BACK SPILL LIGHT IF REQUIRED.
9. ALLOW FOR 10 ADDITIONAL EMERGENCY EXIT AND EMERGENCY LIGHTS TO BE INSTALLED PER INSPECTOR'S DIRECTION.
10. ALL WORK SHALL CONFORM TO THE 2011 NATIONAL ELECTRICAL CODE AND CALIFORNIA AMENDMENT (CEC 2013).
11. CONDUCTOR SIZING SHALL BE IN ACCORDANCE WITH ARTICLE 210.19 AND 215.2.
12. BONDING OF PIPING SYSTEM IN ACCORDANCE WITH ARTICLE 250.50 SHALL INCLUDE BONDING OF METALLIC WATER, GAS, FIRE SPRINKLER, COMPRESSED AIR AND OTHER METALLIC PIPING.
13. ALL SWITCHBOARDS & PANELBOARDS SHALL COMPLY WITH ARCH FLASH HAZARD PER ARTICLE 110.16.
14. ALL CONDUIT BENDS SHALL COMPLY WITH NEC CHAPTER-9, TABLE-2.
15. ELECTRICAL WIRING, DEVICES, APPLIANCES AND OTHER EQUIPMENT THAT IS MODIFIED OR DAMAGED WHICH CAN CAUSE FIRE HAZARD SHALL NOT BE USED.
16. EXTENSION CORDS AND FLEXIBLE CORDS SHALL NOT BE A SUBSTITUTE FOR PERMANENT WIRING.

MOTION/OCCUPANCY SENSOR SYMBOLS

SYMBOL	DESCRIPTION	VOLT	WATTSTOPPER OR EQUAL
$\circledS_{H}$	ONE OR TWO-WAY, CEILING MTD. (HALLWAY) ULTRASONIC SENSOR. AREA: 90LF. (MAX.)	120	UT-355-3 HALLWAY
$\circledS_{U1}$	TWO-WAY, CEILING MTD. (360') ULTRASONIC SENSOR. AREA: 500 SQ. FT.	120	UT-355-1
$\circledS_{U2}$	TWO-WAY, CEILING MTD. (360') ULTRASONIC SENSOR. AREA: 1,000 SQ.FT.	120	UT-355-2
$\circledS_{U3}$	TWO-WAY, CEILING MTD. (360') ULTRASONIC SENSOR. AREA: 2,000 SQ. FT.	120	UT-355-3
HS	WALL SWITCH TYPE P.I.R. SENSOR WITH SINGLE INTEGRAL OVERRIDE SWITCH. UP TO 300 SQ. FT.: 180'	120	UMPW-101
HS D.O	WALL SWITCH TYPE P.I.R. SENSOR WITH DUAL INTEGRAL OVERRIDE SWITCH. UP TO 300 SQ. FT.: 180'	120	UMPW-102 (0-1200W)
HS WP D.O	EXTERIOR ONE OR TWO-WAY, CEILING OR WALL MOUNTED PASSIVE INFRARED SENSOR WITH AREA: UP TO 35FT. - 90'	120	EN-100
HS	WALL SWITCH TYPE P.I.R. SENSOR WITH SINGLE INTEGRAL OVERRIDE SWITCH. TITLE 24 COMPLIANT, UP TO 600 SQ. FT.: 180'	120	CS-50
HS D.O	MULTI-WAY WALL SWITCH TYPE P.I.R. VACANCY SENSOR WITH SINGLE INTEGRAL OVERRIDE SWITCH, TITLE 24 COMPLIANT. UP TO 800 SQ.FT. 180'	120	CH-250

OCCUPANCY SENSOR GENERAL NOTES

FINAL DETERMINATION OF CIRCUITING, VOLTAGE AND QUANTITY OF POWER PACKS REQUIRED, AND SETTING OF SENSITIVITY/TIME ADJUSTMENTS ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND/OR COMMISSIONING AGENT. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHOULD BE ADHERED TO

1. VERIFY SENSOR MODELS WITH WATTSTOPPER REP, REFERENCE E7.3.
2. ALL SENSOR LOCATIONS ARE APPROXIMATE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO INSTALLATION. IF PENDANT MOUNTED FIXTURES ARE PRESENT, LOCATION AND COVERAGE OF SENSORS SHOULD BE REVIEWED. COORDINATE WITH ARCHITECT ALL MOUNTING HEIGHT AND LOCATIONS OF OCCUPANCY SENSOR AND ACCESSORIES PRIOR TO ROUGH-IN.
3. ULTRASONIC CEILING MOUNT SENSORS REQUIRE THEY BE LOCATED NO CLOSER THAN 6' TO AIR SUPPLY / RETURN REGISTERS.
4. CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS. VERIFICATION OF MANUFACTURER'S RECOMMENDED PLACEMENT AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK PLACEMENT.
5. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS.
   A. ONE POWER PACK IS REQUIRED FOR EACH CIRCUIT THAT IS TO BE CONTROLLED WITH LOW VOLTAGE OCCUPANCY SENSOR. POWER PACK LOCATIONS SHALL NOT BE EXPOSED. COORDINATE WITH ARCHITECT FOR PLACEMENT.
   B. MAXIMUM NUMBER OF SENSORS THAT CAN BE WIRED IN PARALLEL TO A SINGLE POWER PACK IS DEPENDENT ON SENSOR MODEL (SEE INDIVIDUAL SENSOR DATA SHEETS FOR MA CONSUMPTION).

LIGHTING CONTROLS NARRATIVE

LVL	ROOM	CONTROL DEVICES	FUNCTION	REMARKS
1	ELECTRICAL ROOMS, TELECOM ROOMS, MECH ROOM	WALL ON/OFF SWITCH	MANUAL ON/OFF	
1	TRASH ROOM	WALL DIMMER SWITCH AND CEILING OCCUPANCY SENSOR	WALL DIMMER SWITCH TO TURN LIGHTS ON/OFF AND DIM, AND OCCUPANCY SENSOR TO AUTOMATICALLY SHUT-OFF LIGHTS AT NO OCCUPANCY	
1	STAIRWELLS	FIXTURE INTEGRAL MOTION SENSOR WITH STEP DIMMING	INTEGRATE EMOTION SENSOR TO DIM TO 40%, AND BACK TO 100% DURING OCCUPANCY	
ALL	CORRIDORS	CEILING OCCUPANCY SENSOR AND KEYED DIMMER SWITCH AT STAIR ENTRANCES	CEILING SENSOR TO TURN NON 0 FIXTURE TYPE A OFF DURING NO OCCUPANCY. DIMMER SWITCH CONTROL BY MANAGEMENT ONLY	
1	SMALL STORAGE ROOM	WALL OCCUPANCY SENSOR SWITCH	MANUAL ON/OFF BY SWITCH AND AUTO OFF BY MOTION SENSOR	
1	MAINT ROOM	WALL MOUNTED DIMMING OCCUPANCY SENSOR SWITCH	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR	
1	WC ROOMS	WALL OCCUPANCY SENSOR SWITCH	MANUAL ON/OFF BY SWITCH AND AUTO OFF BY MOTION SENSOR	
1	BIKE STORAGE	WALL DIMMER SWITCH AND CEILING OCCUPANCY SENSOR	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR	
1	LAUNDRY ROOM	3-WAY WALL DIMMER SWITCH AND CEILING OCCUPANCY SENSOR	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR	
1	LOBBY	WALL DIMMER SWITCH AND CEILING OCCUPANCY SENSOR, PHOTOCELL	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR, PHOTOCELL TO AUTOMATICALLY ADJUST LIGHTING FOR DAY-LIGHT HARVESTING	
1	RECEPTION	WALL MOUNTED DIMMING OCCUPANCY SENSOR SWITCH	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR	
1	CONFERENCE ROOM	WALL MOUNTED DIMMING OCCUPANCY SENSOR SWITCH	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR	
1	SERVICES	WALL DIMMER SWITCH AND CEILING OCCUPANCY SENSOR	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR	
1	SMALL OFFICES	WALL MOUNTED DIMMING OCCUPANCY SENSOR SWITCH	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR	
1	MANAGERS OFFICE	WALL DIMMER SWITCH AND CEILING OCCUPANCY SENSOR, PHOTOCELL	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR, PHOTOCELL TO AUTOMATICALLY ADJUST LIGHTING FOR DAY-LIGHT HARVESTING	
1	COMMON ROOM	WALL DIMMER SWITCH AND CEILING OCCUPANCY SENSOR, PHOTOCELL	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR, PHOTOCELL TO AUTOMATICALLY ADJUST LIGHTING FOR DAY-LIGHT HARVESTING	
2	MUSIC SOUND BOOTH	WALL MOUNTED DIMMING OCCUPANCY SENSOR SWITCH	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR	
2,3,4,5	LOUNGE	WALL DIMMER SWITCH AND CEILING OCCUPANCY SENSOR, PHOTOCELL	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR, PHOTOCELL TO AUTOMATICALLY ADJUST LIGHTING FOR DAY-LIGHT HARVESTING	
2,3,4,5	SMALL TRASH ROOMS	WALL OCCUPANCY SENSOR SWITCH	MANUAL ON/OFF BY SWITCH AND AUTO OFF BY MOTION SENSOR	
2,3,4,5	ELECT. CLOSETS	WALL SWITCH	MANUAL ON/OFF	
2,3,4,5	LARGE STORAGE ROOMS	WALL DIMMER SWITCH AND CEILING OCCUPANCY SENSOR	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR	
3	QUIET ROOM	WALL MOUNTED DIMMING OCCUPANCY SENSOR SWITCH	MANUAL ON/OFF & DIM BY SWITCH AND AUTO OFF BY MOTION SENSOR	
1	EXTERIOR LIGHTS		DUSK TO DAWN OPERATION VIA PHOTOCELL THROUGH HUB OR LIGHTING CONTROL PANEL	

Miscellaneous Motor & Equipment Schedule

TAG	DESCRIPTION	LOAD	VOLT ④	CONTROL	STARTER ⑦	Disc. ⑤	Motor Prot.	REMARKS

⊖ MISCELLANEOUS MOTOR & EQUIPMENT SCHEDULE NOTES:

1. VERIFY BREAKER/FUSE SIZE WITH EQUIPMENT MANUFACTURER.
2. STARTERS SHALL BE PROVIDED & CONNECTED UNDER ELECT. SECTION.
3. PROVIDE INTERLOCK CONDUIT, WIRING AND CONNECT TO CORRESPONDING FAN COIL UNIT, SMD.
4. PROVIDE COMBINATION OF DISCONNECT AND STARTER FOR ALL EXHAUST FANS ON ROOF.
5. OUTDOOR UNIT POWERS INDOOR UNIT. RUN WIRE FROM OUTDOOR UNIT TO INDOOR UNIT.
6. UNIT WITH CONTROL PANEL, COORDINATE WITH PLUMBING.
7. PROVIDE NEUTRAL WIRE FOR INTEGRATED CONDENSATE PUMP, COORDINATE WITH MECHANICAL.
8. EXHAUST FAN WITH INTEGRATED LIGHT, CONNECT THE LIGHT TO THE LIGHTING SWITCH.

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SCHEDULES

Job#: 1779

Scale: AS NOTED

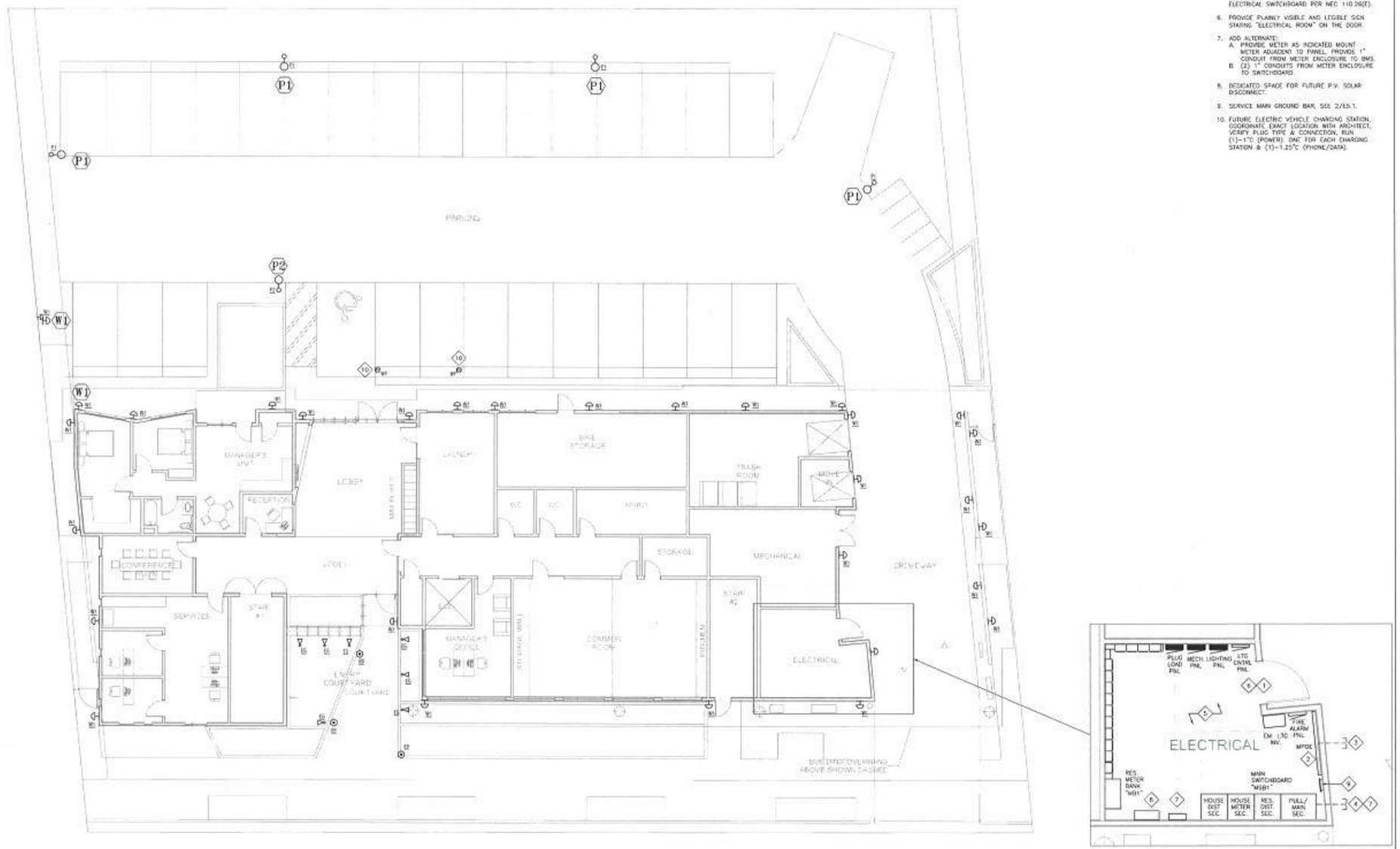
E0.2

GENERAL NOTES:

1. ALL WIRING, DEVICES MOUNTED ON EXTERIOR SHALL BE WEATHERPROOF.
2. SEE PANEL SCHEDULES FOR WIRE SIZE AND VOLTAGE DROP.
3. BRANCH CIRCUIT CONDUIT SIZING SHALL BE BY NEC. PROVIDE JUNCTION BOXES AS REQUIRED.
4. COORDINATE SITE LIGHTING WITH LANDSCAPE.

SHEET NOTES:

1. PROVIDE PANIC HARDWARE PER NEC-110.26(C)(3). SEE ARCHITECTURAL DRAWING.
2. 3/4" X 8'H FIRE RATED PLYWOOD BACKBOARD. PROVIDE #6 GROUND PER PHONE COMPANY REQUIREMENT. ONE MPOE ONLY FOR ENTIRE BUILDING. VERIFY EXACT MPOE LOCATION WITH JOINT TRENCH. FOUR LOCATIONS SHOWN FOR REFERENCE ONLY.
3. RUN PHONE/DATA CONDUITS 10' BEYOND THE MPOE ROOM BELOW. SEE LOW VOLTAGE RISER DIAGRAM FOR CONDUIT SIZE. COORDINATE WITH JOINT TRENCH CONTRACTOR FOR EXACT TERMINATION POINT.
4. SEE JOINT TRENCH PLANS FOR PG&E TRANSFORMER LOCATION. RUN PG&E SECONDARY CONDUITS FROM SWITCHBOARD PULL BOX TO PG&E TRANSFORMER. SEE JOINT TRENCH DRAWING FOR TRANSFORMER LOCATION, CONDUIT SIZE AND EXACT NUMBER OF CONDUITS REQUIRED. COORDINATE CONDUIT RUNS WITH STRUCTURAL DRAWING TO MAKE SURE THEY DO NOT RUN THROUGH ANY FOOTINGS OR FOUNDATION WALLS.
5. NO FOREIGN OBJECT OR EQUIPMENT IS ALLOWED IN THE DEDICATED SPACE FOR ELECTRICAL INSTALLATION ABOVE THE ELECTRICAL SWITCHBOARD PER NEC 110.26(F).
6. PROVIDE PLAINLY VISIBLE AND LEGIBLE SIGN STATING "ELECTRICAL ROOM" ON THE DOOR
7. ADD ALTERNATE:
   A. PROVIDE METER AS INDICATED MOUNT METER ADJACENT TO PANEL. PROVIDE 1" CONDUIT FROM METER ENCLOSURE TO BMS.
   B. (2) 1" CONDUITS FROM METER ENCLOSURE TO SWITCHBOARD.
8. DEDICATED SPACE FOR FUTURE P.V. SOLAR DISCONNECT.
9. SERVICE MAIN GROUND BAR, SEE 2/E5.1.
10. FUTURE ELECTRIC VEHICLE CHARGING STATION. COORDINATE EXACT LOCATION WITH ARCHITECT. VERIFY PLUG TYPE & CONNECTION. RUN (1)-1"C (POWER) ONE FOR EACH CHARGING STATION & (1)-1.25"C (PHONE/DATA).



1 SITE PLAN – ELECTRICAL
SCALE: 1/8"=1'-0"

2 ENLARGED ELECTRICAL ROOM PLAN
SCALE: 1/4"=1'-0"

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SITE PLAN ELECTRICAL

Job#: 1779

Scale: AS NOTED

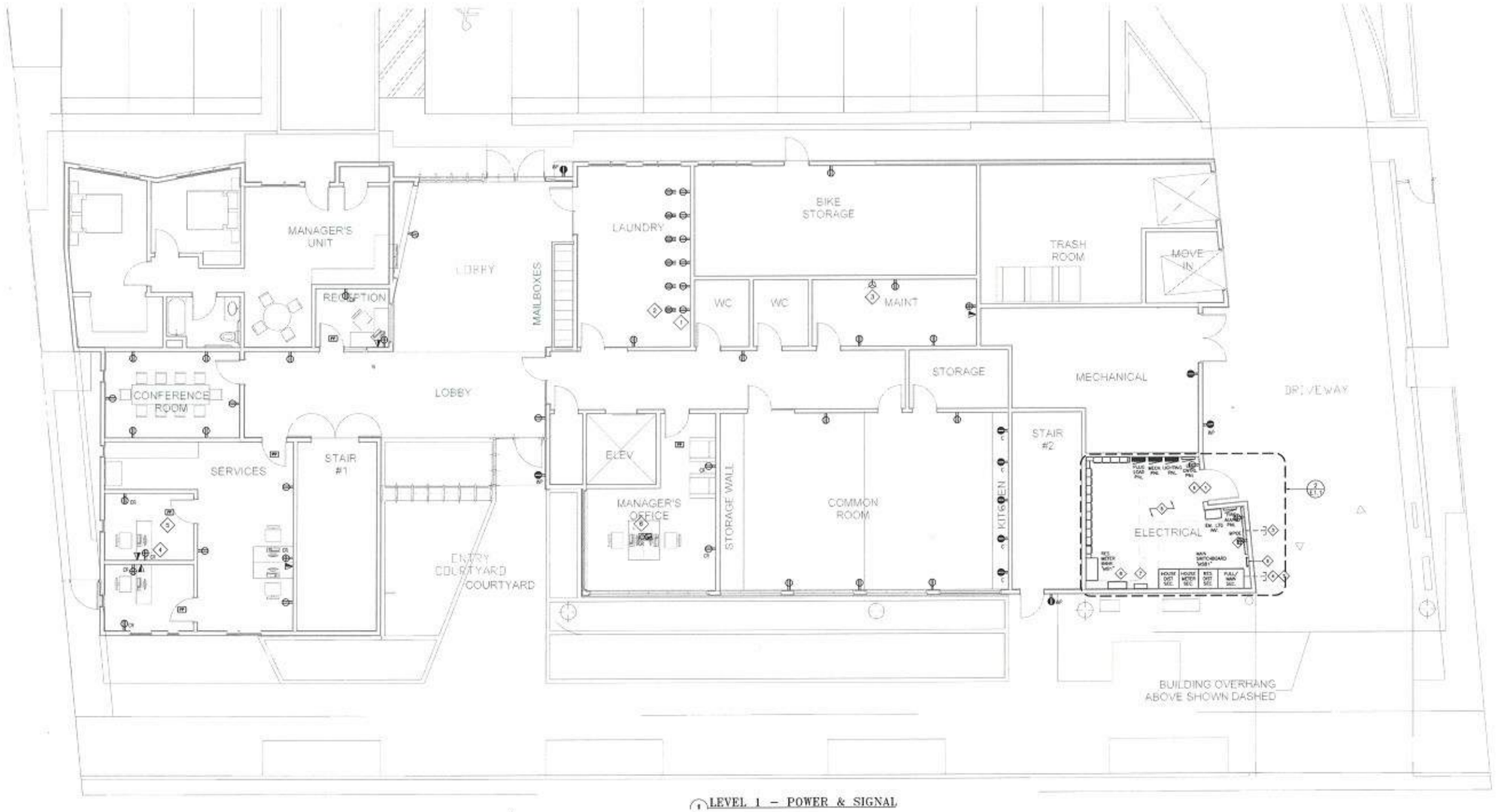
E1.1

GENERAL NOTES:

1. COORDINATE WITH MECHANICAL AND PLUMBING PLANS FOR EQUIPMENT LOCATION AND REQUIREMENT.
2. VERIFY POWER AND DATA/SIGNAL OUTLETS WITH OWNER.

SHEET NOTES:

1. TYPICAL IN LAUNDRY ROOM. ELECTRIC CLOTHES WASHER, 120V, VERIFY WITH OWNER.
2. TYPICAL IN LAUNDRY ROOM. ELECTRIC CLOTHES DRYER, 208V, 30A, VERIFY WITH OWNER.
3. 208V, 30A SPECIAL OUTLET FOR EQUIPMENT TESTING, VERIFY WITH OWNER.
4. TYPICAL OUTLET WITH SUBSCRIPT "CR" INDICATES CONTROLLED RECEPTACLE PER TITLE 24 REQUIREMENT.
5. TYPICAL. PROVIDE POWER PACK OR RELAY TO TURN OFF CONTROLLED RECEPTACLE AFTER 30 MIN. OF NO OCCUPANCY PER TITLE 24 REQUIREMENTS. CONNECT POWER PACK TO ROOM OCCUPANCY SENSOR. REFERENCE LIGHTING PLANS FOR OCCUPANCY SENSOR.
6. FLOOR OUTLET, LEGRAND #880S2 OR EQUAL. PROVIDE CORE TO CLOSEST WALL.



1 LEVEL 1 – POWER & SIGNAL

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950 W EL CAMINO REAL

950 W EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

Client:

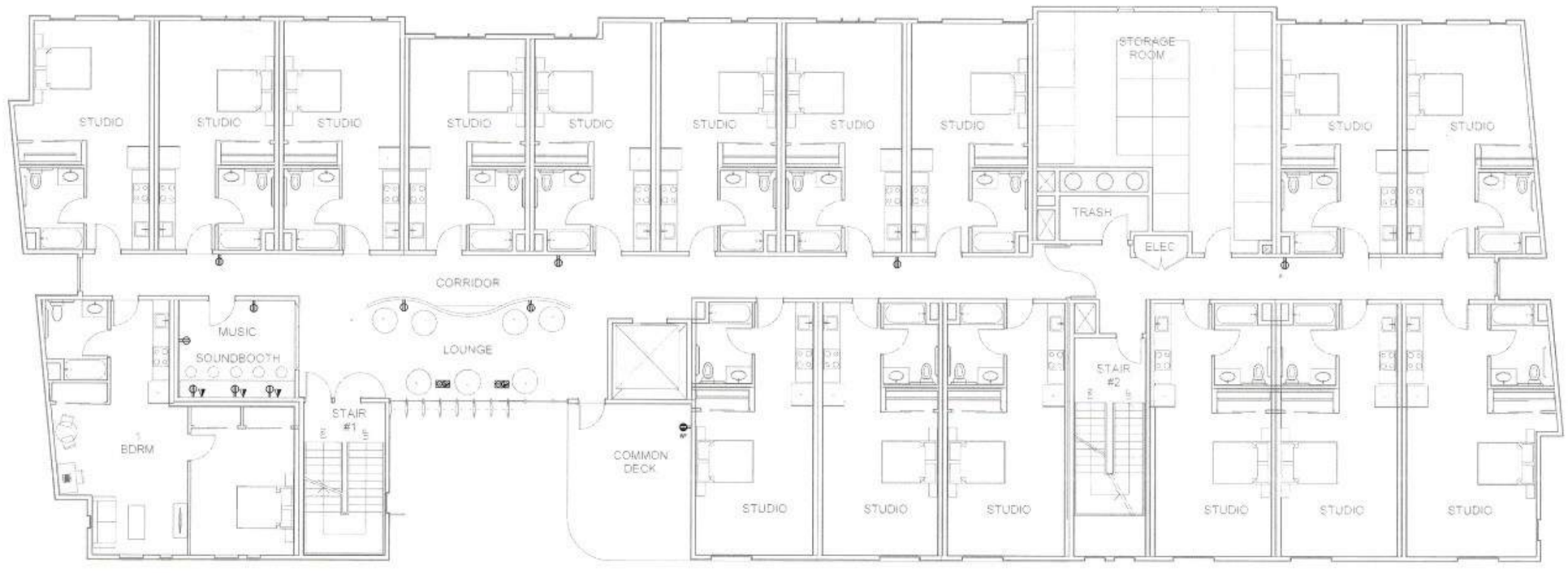
PALO ALTO HOUSING

725 Alma St
Palo Alto, CA 94301
(650) 321-9709

LEVEL 1
POWER & SIGNAL

Job#: 1779
Scale: AS NOTED

E2.1



1 LEVEL 2 - POWER & SIGNAL
SCALE: 3/16"=1'-0"

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San Francisco, CA 94105
415-669-5322

MEP ENGINEER
FARD Engineers
309 Lennon Ln # 200
Walnut Creek, CA 94598
925-932-5505

LANDSCAPE ARCHITECT
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Aptos, CA 95003
408-761-3164

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ID	DATE	NAME
	12-22-17	PRELIMINARY DRAWING
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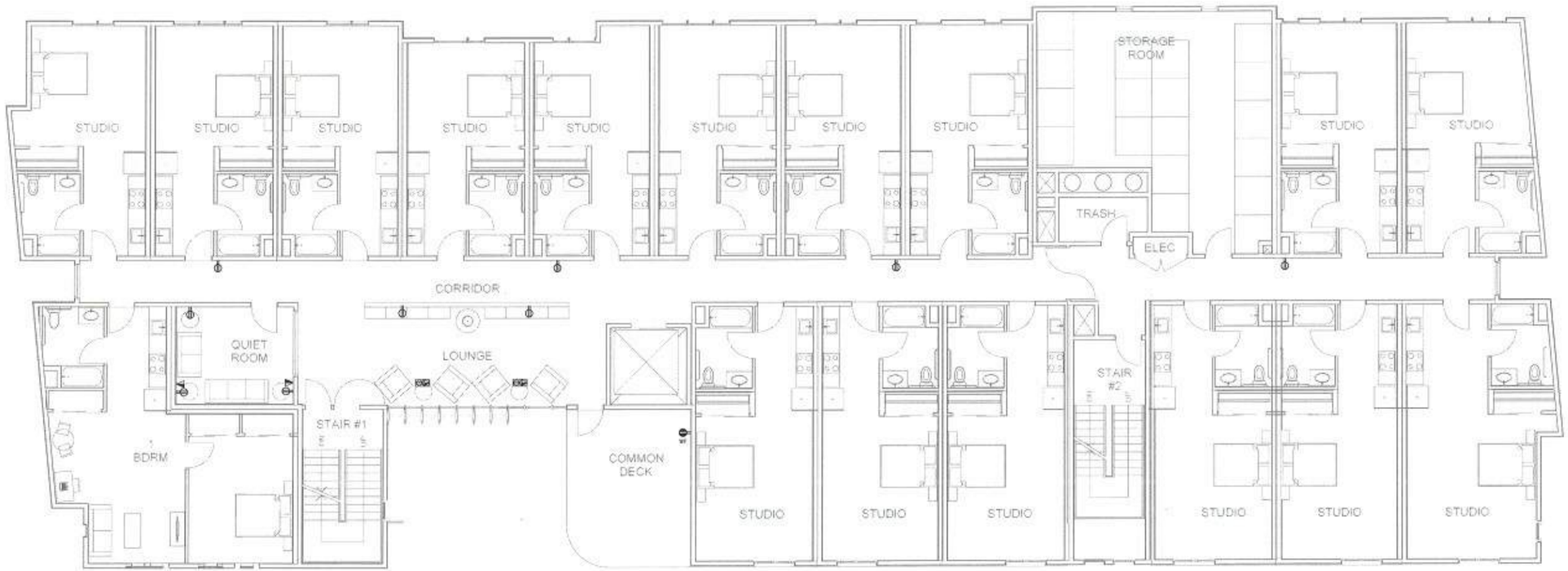
LEVEL 2
POWER & SIGNAL

Job#: 1779

Scale: AS NOTED

E2.2



1 LEVEL 3 – POWER & SIGNAL
SCALE: 3/16"=1'-0"

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LEVEL 3
POWER & SIGNAL

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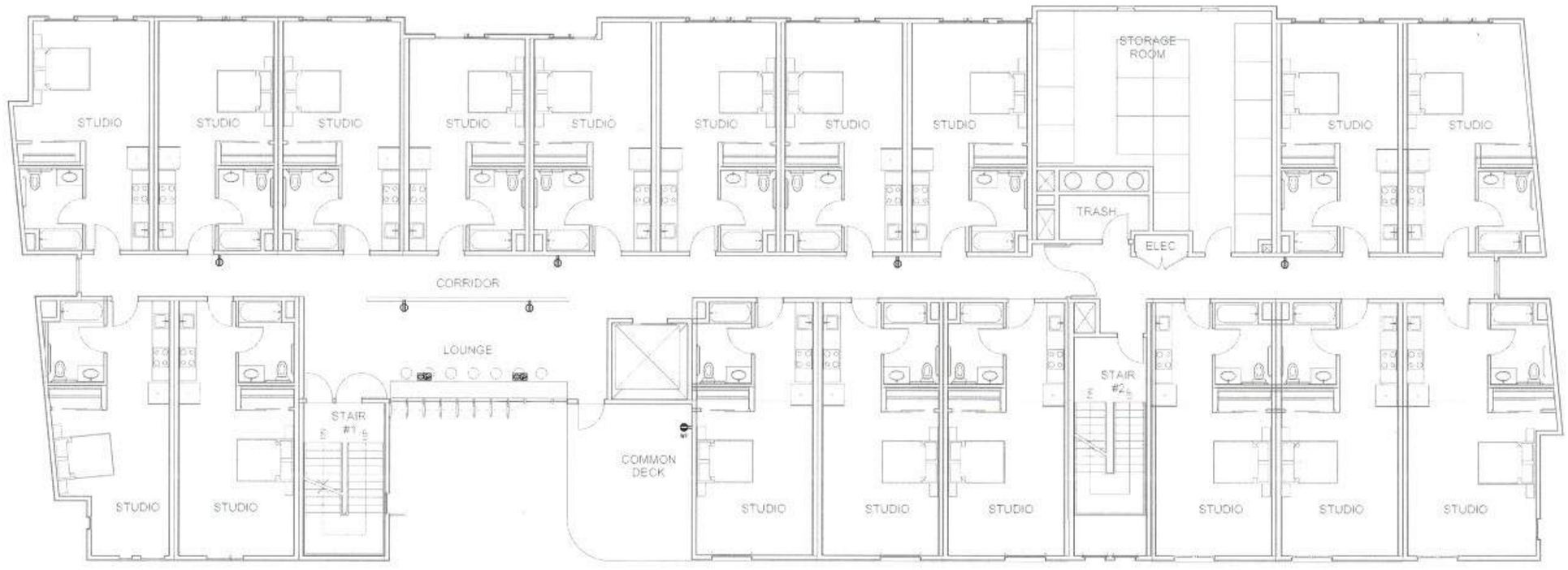
Scale: AS NOTED

E2.3



1 LEVEL 4 - POWER & SIGNAL
SCALE: 3/16"=1'-0"

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PALO ALTO HOUSING

725 Alma St
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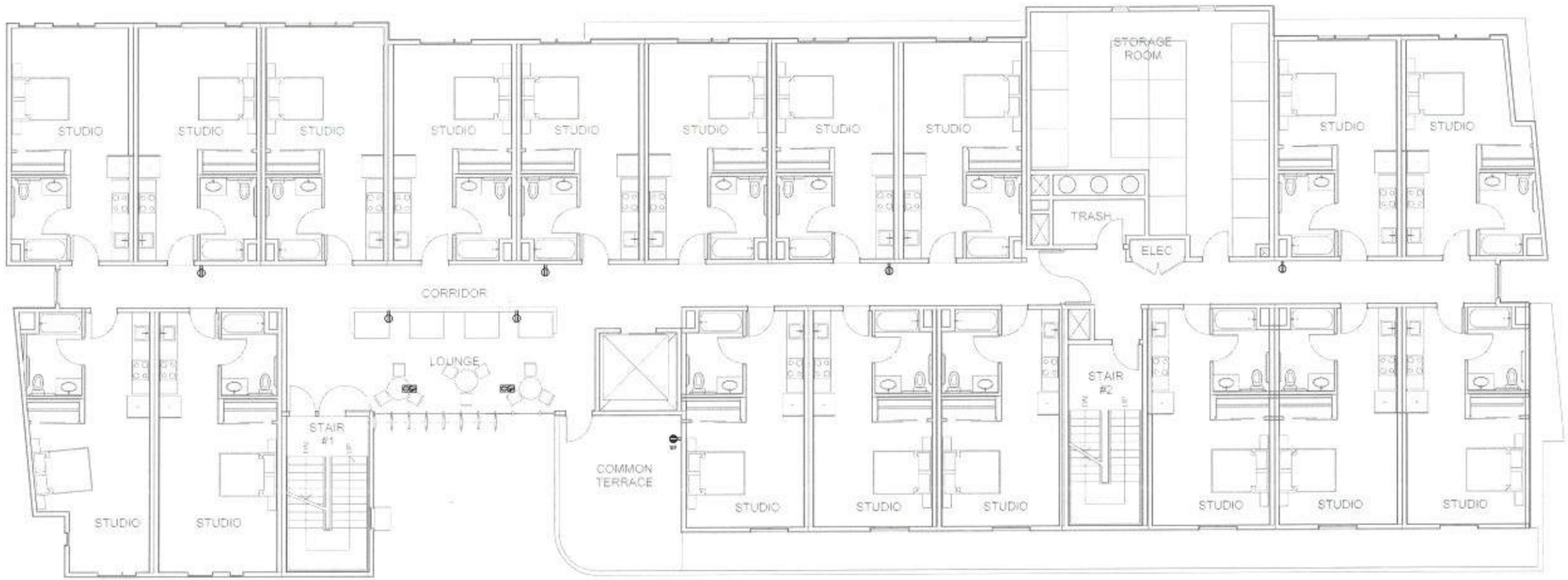
LEVEL 4
POWER & SIGNAL

Job#: 1778

Scale: AS NOTED

E2.4



1 LEVEL 5 - POWER & SIGNAL
SCALE: 3/16"=1'-0"

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MOUNTAIN VIEW, CA 94040

Client:

PALO ALTO HOUSING

725 Alma St
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(650) 321-9709

LEVEL 5
POWER & SIGNAL

Job#: 1779

Scale: AS NOTED

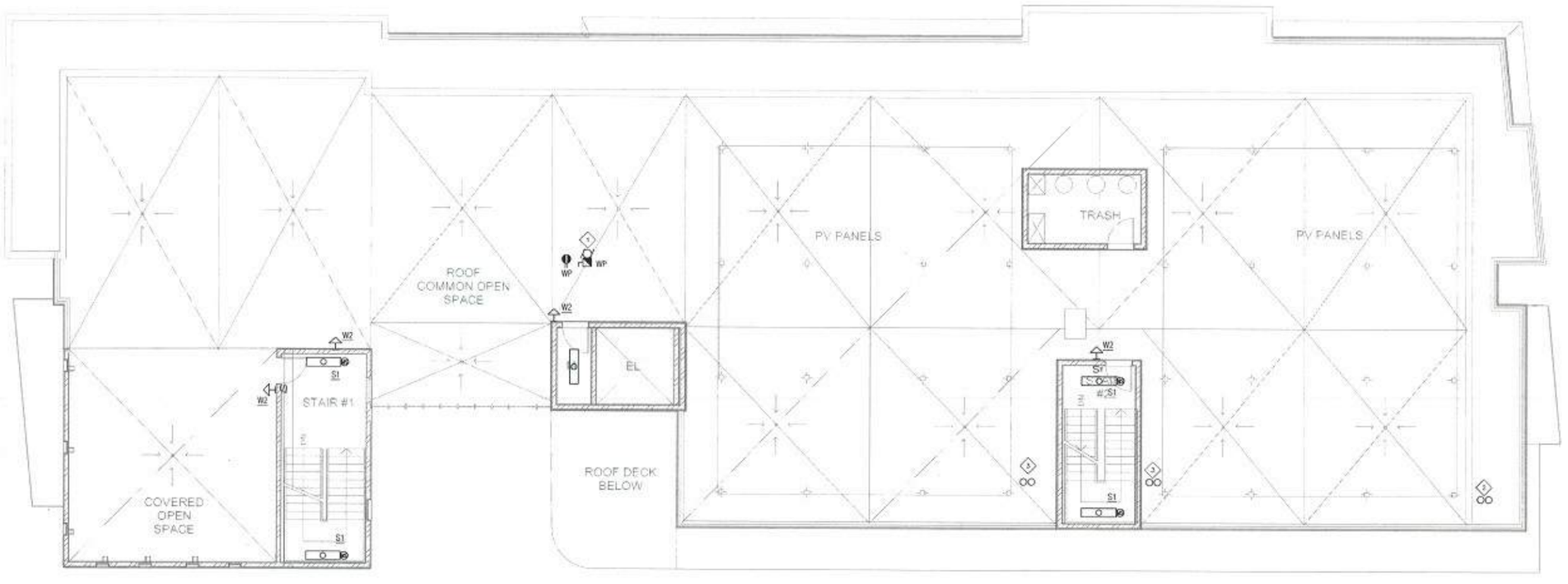
E2.5

GENERAL NOTES:

1. ALL WIRING, DEVICES MOUNTED ON EXTERIOR SHALL BE WEATHERPROOF.
2. PROVIDE CONTROL WIRING FOR HVAC EQUIPMENT PER MECHANICAL DRAWINGS.
3. SIZE ALL FUSES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4. ALL U.L. LISTED EQUIPMENT SHALL BE INSTALLED AS PER THEIR LISTING OR LABELING.
5. PROVIDE NAME TAG IDENTIFICATION OF PANEL NUMBER AND BREAKER NUMBER WITH PERMANENT MARKER ON EACH DISCONNECT SWITCH FOR HVAC EQUIPMENT.
6. ROUTE CONDUIT BELOW ROOF. DO NOT RUN ANY CONDUIT ON THE ROOF.
7. VERIFY ALL MECHANICAL EQUIPMENT EXACT LOCATION WITH MECHANICAL DRAWING.
8. PROVIDE GFCI RECEPTACLES WITHIN 25' OF MECHANICAL EQUIPMENT ON THE ROOF.
9. PROVIDE COMBINATION OF DISCONNECT AND STARTER FOR ALL EXHAUST FANS ON ROOF. ACTIVATION OF ASSOCIATED FSD SHALL TURN OFF THE FAN AND NOTIFY FACP.

SHEET NOTES:

1. TYPICAL IN LAUNDRY ROOM, ELECTRIC CLOTHES WASHER, 120V, VERIFY WITH OWNER.
2. TYPICAL IN LAUNDRY ROOM, ELECTRIC CLOTHES DRYER, 208V, 30A, VERIFY WITH OWNER.
3. 208V, 30A SPECIAL OUTLET FOR EQUIPMENT TESTING, VERIFY WITH OWNER.
4. TYPICAL OUTLET WITH SUBSCRIPT "CR" INDICATES CONTROLLED RECEPTACLE PER TITLE 24 REQUIREMENT.
5. TYPICAL, PROVIDE POWER PACK OR RELAY TO TURN OFF CONTROLLED RECEPTACLE AFTER 30 MIN. OF NO OCCUPANCY PER TITLE 24 REQUIREMENTS. CONNECT POWER PACK TO ROOM OCCUPANCY SENSOR. REFERENCE LIGHTING PLANS FOR OCCURANCY SENSOR.
6. FLOOR OUTLET, LEGRAND #88052 OR EQUAL PROVIDE CORE TO CLOSEST WALL.



1 ROOF PLAN – ELECTRICAL
SCALE: 3/16"=1'-0"

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Project:

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Client:

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725 Alma St
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(650) 321-9709

ROOF PLAN ELECTRICAL

Job#: 1779

Scale: AS NOTED

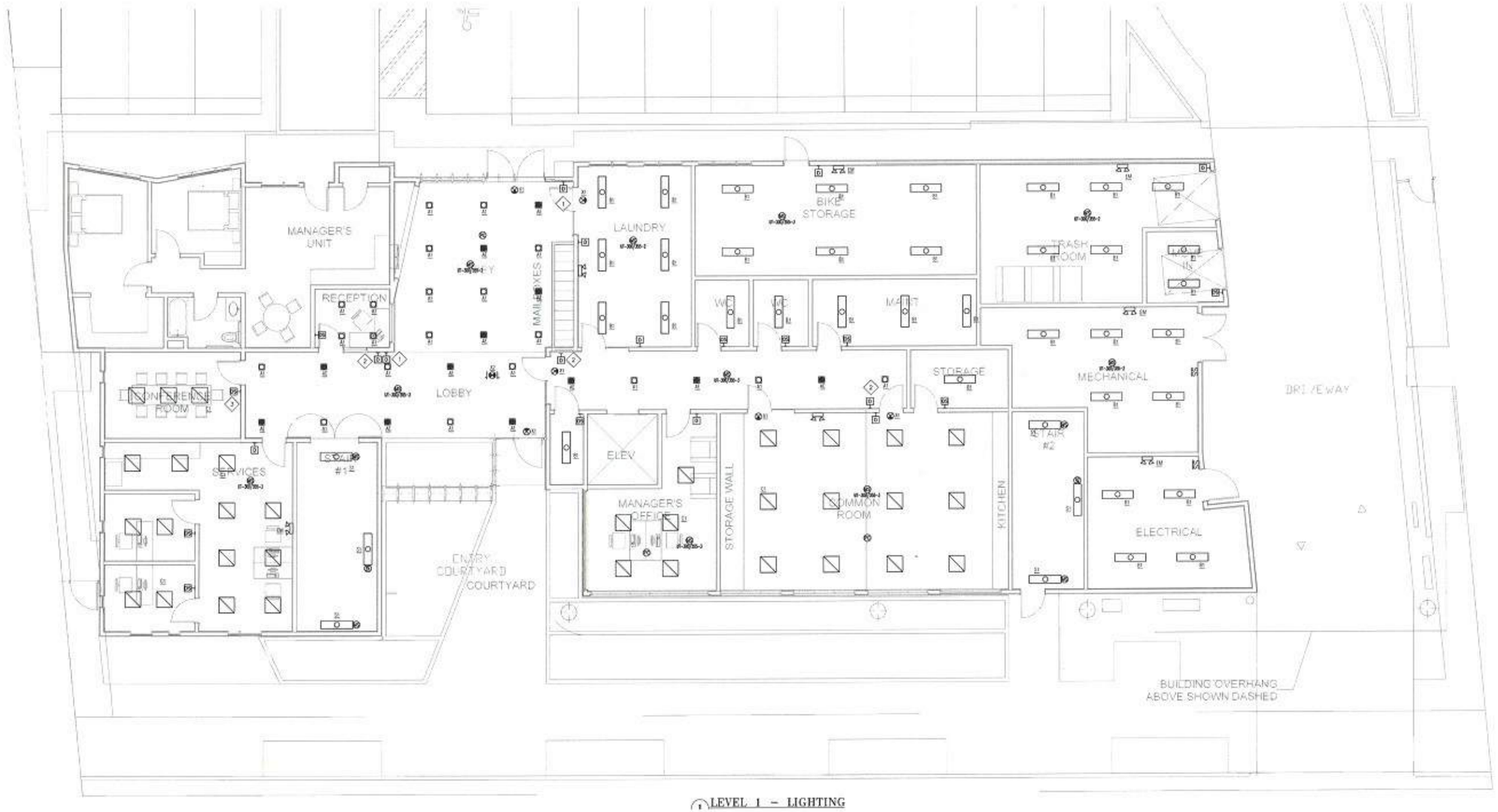
E2.6

GENERAL NOTES:

1. COORDINATE LIGHT FIXTURE LAYOUT WITH ARCHITECT.
2. PROVIDE UN-INTERRUPTED HOT TO FIXTURES WITH EMERGENCY BATTERY PACK FROM SAME CIRCUIT IN THE SAME ROOM.
3. PROVIDE LIGHTING CONTROLS IN COMPLIANCE WITH TITLE 24, 2016.
4. UNLESS OTHERWISE NOTED, CEILING OCCUPANCY SENSORS ARE WATTSTOPPER, WITH SLOSCRPT MODEL NUMBER.

SHEET NOTES:

1. DIMMER SWITCH TO CONTROL LOBBY LIGHTS.
2. DIMMER SWITCH TO CONTROL CORRIDOR LIGHTS.
3. TYPICAL WALL MOUNTED DIMMING OCCUPANCY SENSOR.



1 LEVEL 1 - LIGHTING

VAN METER WILLIAMS POLLACK LLP

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Client:

PALO ALTO HOUSING

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(650) 321-9709

LEVEL 1
LIGHTING

Job#: 1779

Scale: AS NOTED

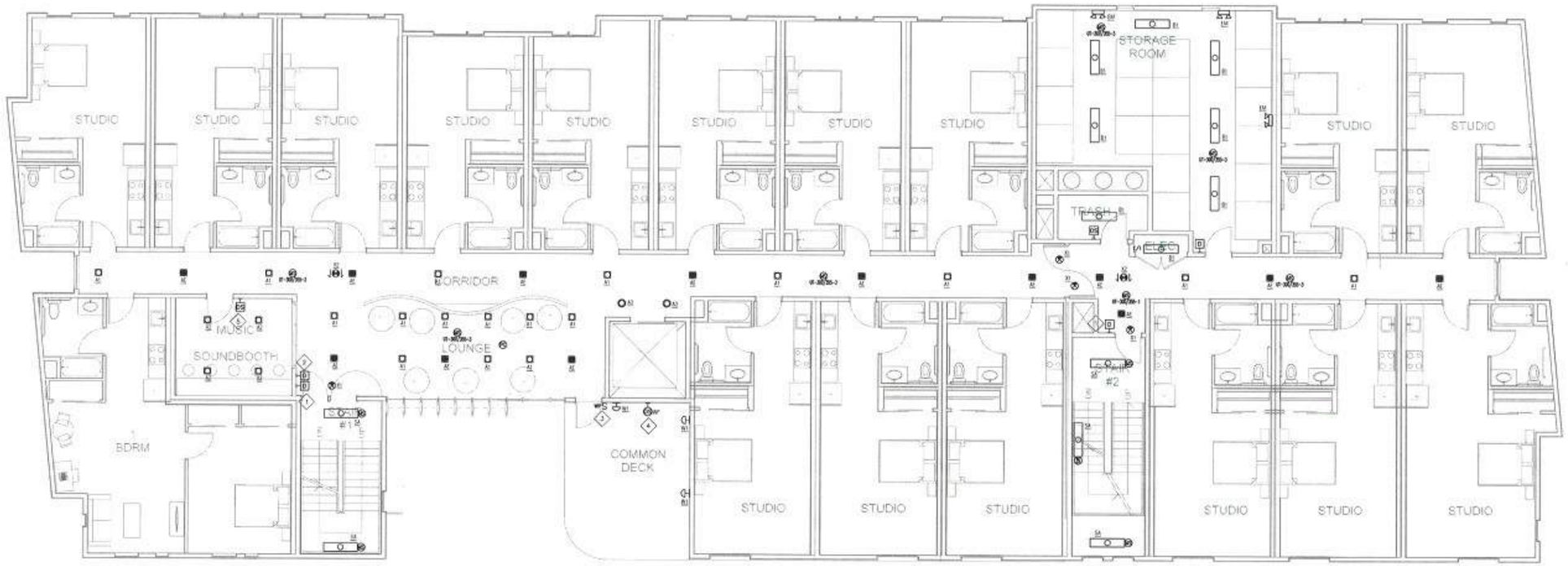
E3.1

GENERAL NOTES:

1. COORDINATE LIGHT FIXTURE LAYOUT WITH ARCHITECT.
2. PROVIDE UN-INTERRUPTED HOT TO FIXTURES WITH EMERGENCY BATTERY PACK FROM SAME CIRCUIT IN THE SAME ROOM.
3. PROVIDE LIGHTING CONTROLS IN COMPLIANCE WITH TITLE 24, 2016
4. UNLESS OTHERWISE NOTED, CEILING OCCUPANCY SENSORS ARE WATTSTOPPER, WITH SUBSCRIPT MODEL NUMBER.

SHEET NOTES:

1. LOCKABLE DIMMER SWITCH TO CONTROL CORRIDOR LIGHTS.
2. DIMMER SWITCH TO CONTROL LOUNGE LIGHTS.
3. WEATHERPROOF EXTERIOR SWITCH TO CONTROL TERRACE LIGHTS.
4. EXTERIOR RATED WEATHERPROOF MOTION SENSOR TO CONTROL TERRACE LIGHTS.
5. DIMMING WALL OCCUPANCY SENSOR.



1 LEVEL 2 - LIGHTING
SCALE: 3/16"=1'-0"

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PALO ALTO HOUSING

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LEVEL 2
LIGHTING

Job#: 1779

Scale: AS NOTED

E3.2

GENERAL NOTES:

1. COORDINATE LIGHT FIXTURE LAYOUT WITH ARCHITECT.
2. PROVIDE UN-INTERRUPTED HOT TO FIXTURES WITH EMERGENCY BATTERY PACK FROM SAME CIRCUIT IN THE SAME ROOM.
3. PROVIDE LIGHTING CONTROLS IN COMPLIANCE WITH TITLE 24, 2016.
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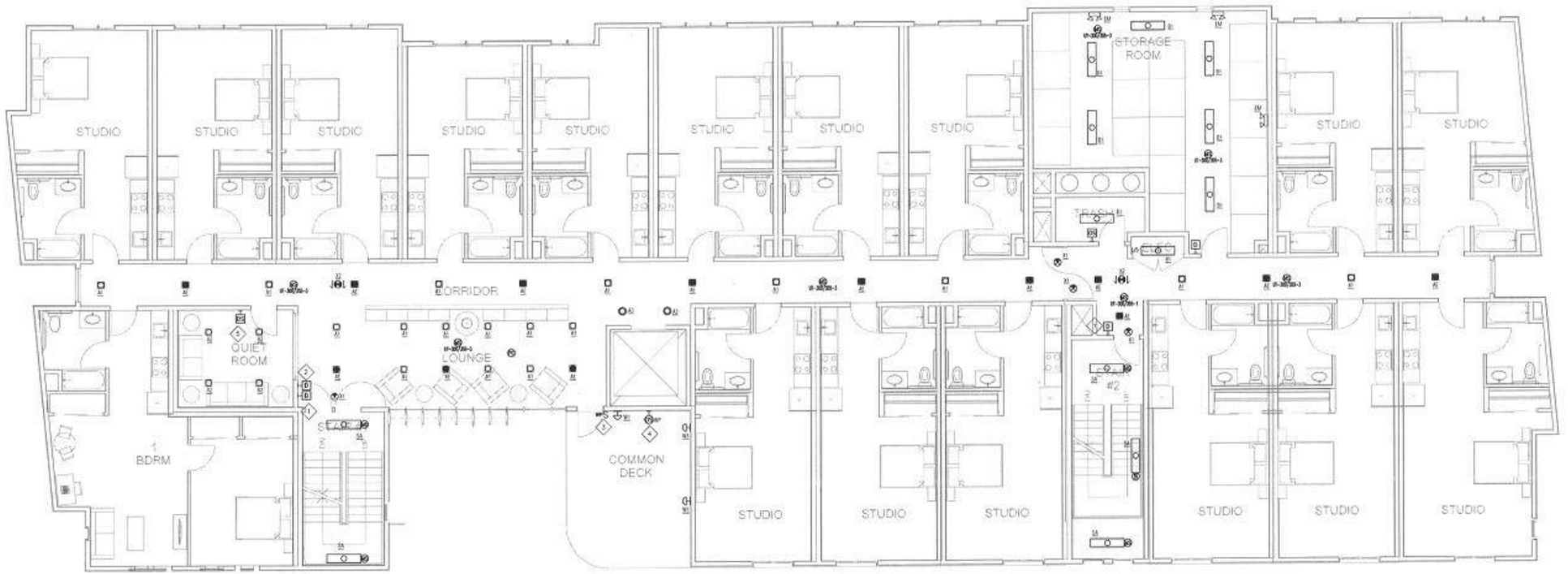
SHEET NOTES:

1. LOCKABLE DIMMER SWITCH TO CONTROL CORRIDOR LIGHTS.
2. DIMMER SWITCH TO CONTROL LOUNGE LIGHTS.
3. WEATHERPROOF EXTERIOR SWITCH TO CONTROL TERRACE LIGHTS.
4. EXTERIOR RATED WEATHERPROOF MOTION SENSOR TO CONTROL TERRACE LIGHTS.
5. DIMMING WALL OCCUPANCY SENSOR



1 LEVEL 3 - LIGHTING
SCALE: 3/16"=1'-0"

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LEVEL 3 LIGHTING

Job#: 1779

Scale: AS NOTED

E3.3

GENERAL NOTES:

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2. PROVIDE UNINTERRUPTED HOT TO FIXTURES WITH EMERGENCY BATTERY PACK FROM SAME CIRCUIT IN THE SAME ROOM.
3. PROVIDE LIGHTING CONTROLS IN COMPLIANCE WITH TITLE 24, 2016.
4. UNLESS OTHERWISE NOTED, CEILING OCCUPANCY SENSORS ARE WATTSTOPPER, WITH SUBSCRIPT MODEL NUMBER.

SHEET NOTES:

1. LOCKABLE DIMMER SWITCH TO CONTROL CORRIDOR LIGHTS.
2. DIMMER SWITCH TO CONTROL LOUNGE LIGHTS.
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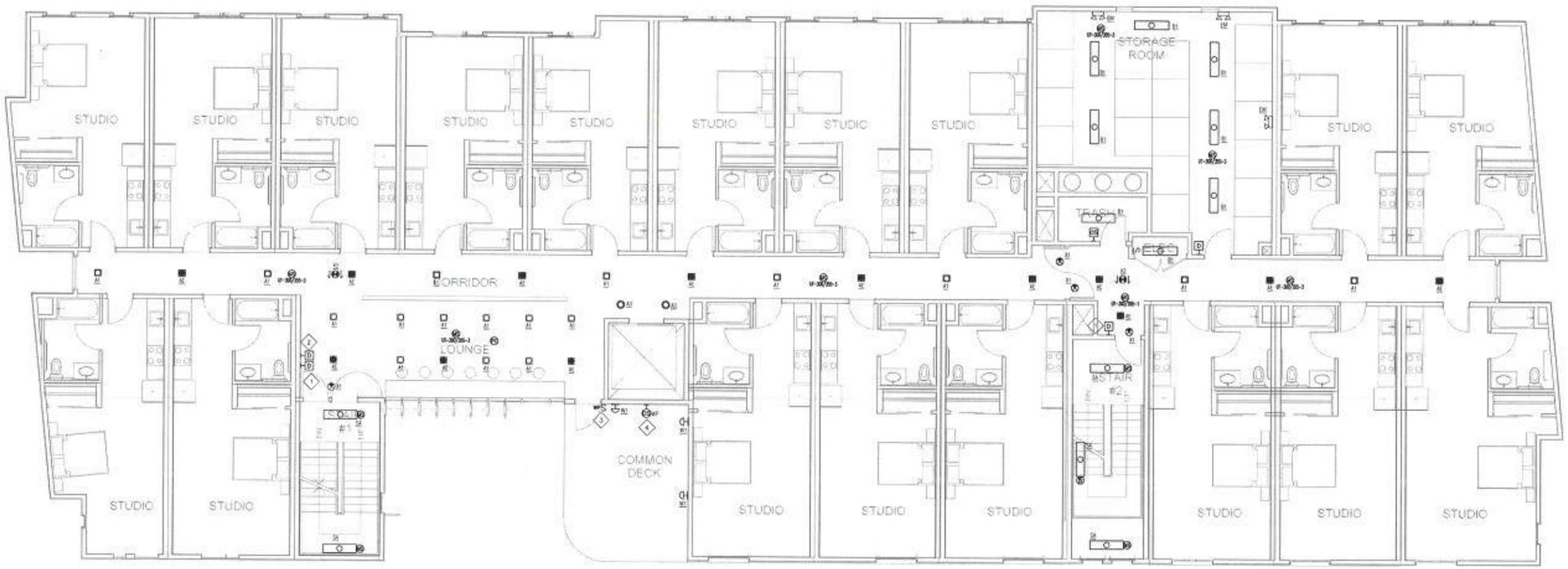

1 LEVEL 4 - LIGHTING
SCALE: 3/16"=1'-0"

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LEVEL 4
LIGHTING

Job#: 1779

Scale: AS NOTED

E3.4

GENERAL NOTES:

1. COORDINATE LIGHT FIXTURE LAYOUT WITH ARCHITECT.
2. PROVIDE UN-INTERRUPTED HOT TO FIXTURES WITH EMERGENCY BATTERY PACK FROM SAME CIRCUIT IN THE SAME ROOM.
3. PROVIDE LIGHTING CONTROLS IN COMPLIANCE WITH TITLE 24, 2016
4. UNLESS OTHERWISE NOTED, CEILING OCCUPANCY SENSORS ARE WATTSTOPPER, WITH SUBSCRIPT MODEL NUMBER.
5. PROVIDE FOLLOWING LIGHTING LEVELS:
   a. OFFICES: 40FC
   b. LOBBIES: 20 FC
   c. CORRIDORS AND MEANS OF EGRESS: 15FC
   d. CONFERENCE ROOMS: 30 FC
   e. RESTROOMS: 20FC
   f. COMPUTER ROOMS/DATA CENTER: 50FC
   g. EXTERIOR LIGHTING: 2FC MAXIMUM.

SHEET NOTES:

1. LOCKABLE DIMMER SWITCH TO CONTROL CORRIDOR LIGHTS.
2. DIMMER SWITCH TO CONTROL LOUNGE LIGHTS.
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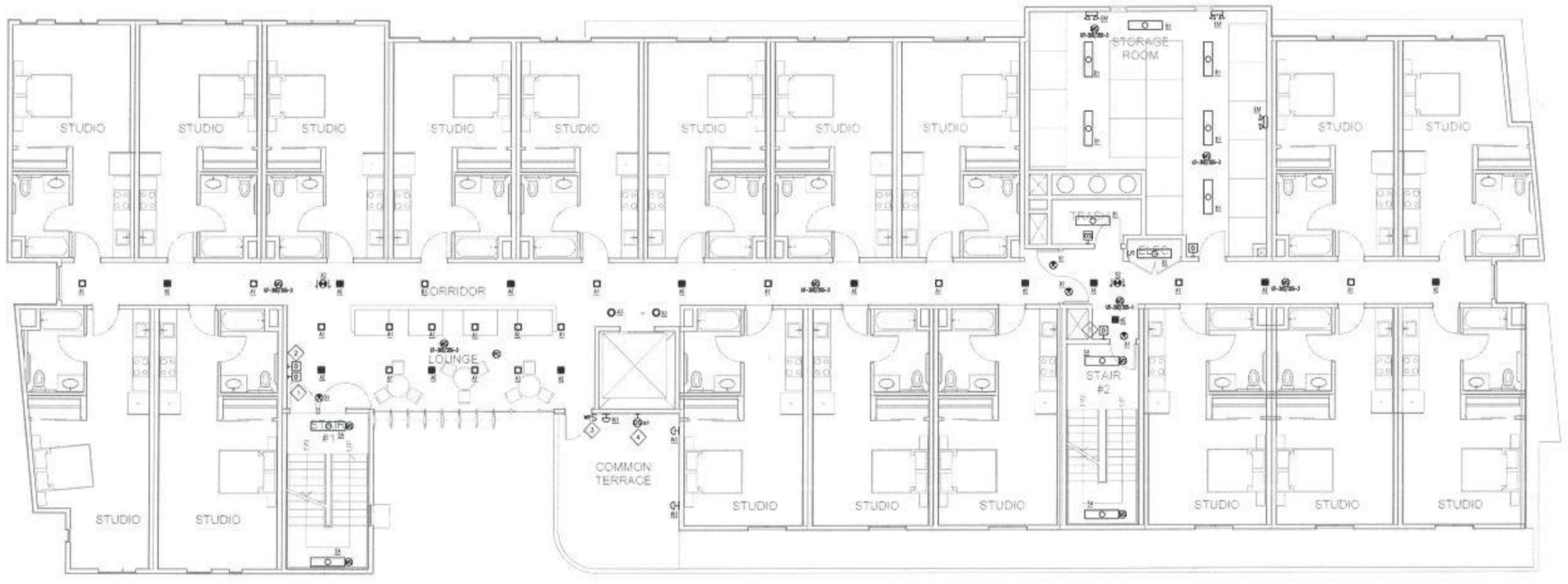

1 LEVEL 5 - LIGHTING
SCALE: 1/16"=1'-0"

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(650) 321-9709

LEVEL 5 LIGHTING

Job#: 1779

Scale: AS NOTED

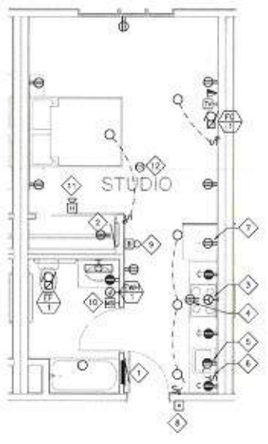
E3.5

SHEET NOTES:
(APPLICABLE TO ALL FLOOR PLANS.)

1. RESIDENTIAL UNIT SERVICE PANEL, UNIT SUB-PANEL BREAKERS SHALL NOT BE MORE THAN 48" AFF.
2. NETWORK INTERFACE CABINET (NIC). HEIGHT OF CABINET SHALL BE AT 5'-0" TO TOP OF CABINET. PROVIDE 120V. RECEPTACLE INSIDE THE CABINET. SEE LOW VOLTAGE CONSULTANT DRAWINGS FOR EXACT LOCATION.
3. ELECTRIC RANGE: 240V, 1ø.
4. MICROWAVE OVEN: 120V, 1ø. ASSIGN DEDICATED 20A BREAKER. OUTLET TO BE AFCI PROTECTED. VERIFY OUTLET HEIGHT WITH INSTALLATION REQUIREMENTS.
5. SPLIT DISPOSAL/DISHWASHER OUTLET (1/2 HOT). DISHWASHER OUTLET TO BE GFCI AND AFCI PROTECTED.
6. DISPOSAL SWITCH: MOUNT ABOVE COUNTER HEIGHT. COORDINATE WITH ARCHITECTURAL DRAWINGS. SEE HANDICAP NOTES FOR INSTALLATION REQUIREMENTS ON HANDICAP UNITS.
7. REFRIGERATOR: 120V, 1ø. MOUNT RECEPTACLE AT +42" AFF UNLESS OTHERWISE NOTED.
8. PUSH BUTTON AND DOOR BELL: NUTONE STUCCO PUSH BUTTON - CDH1SWH. COORDINATE LOCATION WITH ARCHITECTURAL DRAWINGS. SEE HANDICAP NOTES FOR INSTALLATION REQUIREMENTS ON HANDICAP UNITS.
9. DOOR BELL CHIME LOW VOLTAGE TRANSFORMER
10. MANUAL ON VACANCY SENSOR SHALL CONTROL VANITY LIGHT, EXHAUST FAN SHOULD RUN CONTINUOUSLY AT LOW SPEED, AND EXHAUST FAN TO TURN UP TO HIGH SPEED WHEN THE INTEGRAL MOTION SENSOR IS ACTIVATED. ALL EXH. FANS IN UNITS TO BE CONNECTED TO ONE DEDICATED CIRCUIT BREAKER & TAGGED CLEARLY.
11. FIRE ALARM LOW FREQUENCY HORN. COORDINATE LOCATION WITH FIRE ALARM DRAWINGS PRIOR TO ROUGH-IN.
12. 120V COMBINATION CARBON MONOXIDE AND SMOKE DETECTOR WITH INTEGRAL BATTERY BACK UP. SEE HANDICAP NOTES FOR INSTALLATION REQUIREMENTS. MAINTAIN MIN. 3' CLEAR FROM ALL HVAC REGISTERS AS WELL AS 3' AWAY FROM BATHROOM DOOR OPENINGS.
13. 120V SMOKE DETECTOR WITH INTEGRAL BATTERY BACK UP UNIT. SEE HANDICAP NOTES FOR INSTALLATION REQUIREMENTS. MAINTAIN MIN. 3' CLEAR FROM ALL HVAC REGISTERS AS WELL AS 3' AWAY FROM BATHROOM DOOR OPENINGS.

GENERAL NOTES:
(APPLICABLE TO ALL FLOOR PLANS.)

1. COORDINATE AND VERIFY EXACT LOCATION OF ALL CEILING MOUNTED LIGHT FIXTURES AND OTHER ELECTRICAL DEVICES WITH MECHANICAL DWG's AND ARCHITECT/OWNER BEFORE ROUGH-IN.
2. THE OUTLETS, DEVICES, LIGHT FIXTURES ETC. SHOWN ON UNIT PLANS ARE DIAGRAMMATIC. THE EXACT LOCATION, MOUNTING HEIGHT DETAIL, ETC. MUST BE VERIFIED WITH ARCHITECT AND SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS.
3. CONNECT ALL MECHANICAL EQUIPMENT TO ITS RESPECTIVE APT LOAD CENTER.
4. OUTLET BOXES IN PLUMBING WALLS OR ON OPPOSITE SIDES OF SOUND RATED PARTITIONS ARE TO BE SEPARATED BY 16" AND ONE EMPTY STUD BAY. THE EXPOSED BACKS AND SIDES SHOULD BE TREATED WITH LORRYS PADS. LOW VOLTAGE DEVICES, SUCH AS CABLE AND TELEPHONE JACKS, SHOULD BE PLACED IN OUTLET BOXES TREATED AS SUCH.
5. WHERE IT IS NOT POSSIBLE TO PROVIDE 16" SEPARATION, SUCH AS WITH CONVENIENCE OUTLETS IN SMALL APARTMENTS THAT CAN NOT BE RELOCATED, A GYPSUM BOARD OR SHEET METAL BACKED PLATE SHOULD BE ATTACHED TO THE INNER FACE OF ONE ROW OF STUDS. THE BACKER IS TO EXTEND 8" BEYOND THE EDGE OF THE BOXES IN QUESTIONS AS SHOWN ON ACOUSTICAL REPORT.
6. RECESSED LIGHTING, SPEAKERS, ETC. SHOULD ONLY BE INSTALLED IN SOFFITS OR DROPPED CEILINGS, IF THEY ARE INSTALLED IN THE DEMISING CEILINGS, THEN THERE WILL NEED TO BE GYPSUM BOARD ENCLOSURES BEHIND THEM, WHICH WILL NEED TO BE FIRE SEALED IN A WAY THAT DOES NOT COMPROMISE THE ACOUSTICAL EFFECTIVENESS OF THE RESILIENT CHANNELS.
7. ALL EXTERIOR ELECTRICAL DEVICES SHALL BE WEATHER PROOF.
8. THE MOUNTING HEIGHT OF ALL DEVICES IN HANDICAPPED UNITS SHALL COMPLY WITH THE LATEST ADA REQUIREMENTS PLUS CBC & FFHA REQUIREMENTS WHERE APPLICABLE.
9. ALL THERMOSTAT ARE FURNISHED BY MECHANICAL. INSTALL AND CONNECT FOR FULL WORKING CONDITION. SEE MECHANICAL DWG's FOR EXACT LOCATIONS AND REQUIREMENTS.
10. PROVIDE TAMPER-RESISTANT RECEPTACLES FOR ALL 15A AND 20A, 125V RECEPTACLES.
11. ALL GFCI OUTLETS IN BATHROOMS SHALL BE ON SEPARATE CIRCUITS PER NEC 210.52(D). OUTLETS SHALL BE MOUNTED 12" MAXIMUM FROM CENTERLINE OF OUTLET TO WALL (WHERE APPLICABLE).
12. ALL KITCHEN RECEPTACLES INCLUDING ANY RECEPTACLES WITHIN 6' OF THE OUTSIDE EDGE OF A SINK MUST BE GFCI PROTECTED PER CEC 210.8(A) (7) INCLUDING DISHWASHERS CEC210.8(D)
13. ALL 120-VOLT BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN KITCHEN, FAMILY, DINING, LIVING, PARLORS, DENS, BEDROOMS, LIBRARIES, RECREATION, SUNROOMS, CLOSETS, HALLWAYS OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER PER CEC 210.12. THIS INCLUDES LIGHT FIXTURES, SMOKE DETECTORS, 120VOLT HEATERS, EXHAUST FANS, ETC.
14. COORDINATE MECHANICAL HVAC EQUIPMENT WITH MECHANICAL PLANS. DUCTLESS FAN COIL UNIT POWER FROM CONDENSER UNIT ON ROOF. VERIFY LOCATION WITH MECHANICAL.
15. PRE-WIRE ALL RESIDENTIAL UNITS FOR HEARING IMPAIRED OCCUPANTS PER CFC 907.9.1.
    1) ALL DWELLING UNITS SHALL BE EQUIPPED WITH ONE HORN IN THE LIVING AREA WITH THE CAPABILITY TO SUPPORT A VISUAL ALARM NOTIFICATION APPLIANCE.
    2) ALL BEDROOMS AND OR SLEEPING AREAS SHALL BE PRE-WIRED WITH BACK BOXES FOR FUTURE ADAPTABILITY OF VISUAL NOTIFICATION APPLIANCES.
    3) ALL BATHROOMS SHALL BE PRE-WIRED WITH BACK BOXES FOR FUTURE ADAPTABILITY OF VISUAL NOTIFICATION APPLIANCE.
    4) NOTIFICATION CIRCUITS SHALL BE SIZED TO ACCOMMODATE FUTURE APPLIANCES. VOLTAGE DROP CALCULATIONS SHALL INCLUDE AN ADDITIONAL 25% LOAD CAPACITY.
    5) DOOR BELL SYSTEM SHALL HAVE VISUAL SIGNAL.
16. ALL INTERIOR AND EXTERIOR LIGHTING CONTROL MUST BE HIGH EFFICACY AND COMPLY WITH 2016 TITLE 24.
17. ALL INTERIOR LIGHTING MUST BE CONTROLLED BY A DIMMER SWITCH OR VACANCY SENSOR EXCEPT HALLWAYS AND CLOSETS LESS THAN 70 SQUARE FEET.
18. ALL LAUNDRY ROOMS, GARAGES, UTILITY ROOMS AND BATHROOMS MUST BE CONTROLLED BY VACANCY SENSOR.
19. LIGHTING IN EXHAUST FANS MUST BE CONTROLLED SEPARATELY FROM FAN.
20. ALL OUTDOOR LIGHTING IN PRIVATE PATIOS, ENTRANCES, BALCONIES AND PORCHES MUST BE HIGH EFFICACY CONTROLLED BY ONE OF THE FOLLOWINGS: 1. PHOTOCELL AND MOTION SENSOR 2. PHOTOCELL AND TIME SWITCH 3. ASTRONOMICAL TIME CLOCK.



1 STUDIO
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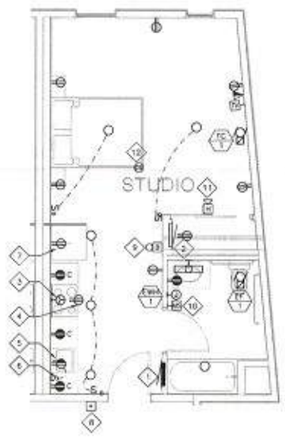

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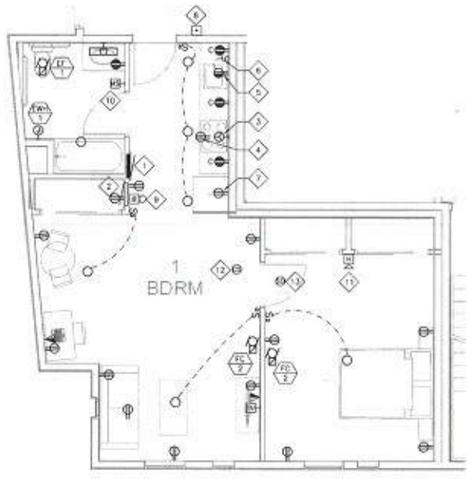

3 1-BR
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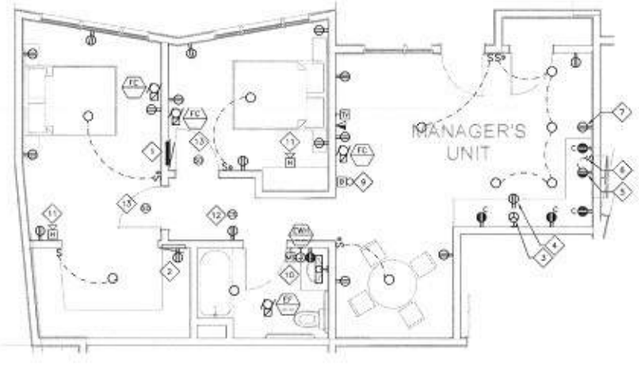

4 MANAGER UNIT
SCALE: 1/4"=1'-0"

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ID	DATE	NAME
	12-22-17	PRELIMINARY DRAWING
	02-13-18	100% SD

Project:

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ENLARGED UNIT PLANS
ELECTRICAL

Job#: 1779

Scale: AS NOTED

E4.1

SCHEDULE NOTES

1. VERIFY BREAKER RATING WITH EQUIPMENT. CORRESPONDING RATING.
2. ALL NONLOCKING 125-VOLT, 15- AND 20-AMP RECEPTACLES INSTALLED IN DWELLING UNITS SHALL BE TAMPER-RESISTANT AS REQUIRED PER NEC 406.12.
3. SEE SHEET E0.1 FOR UNIT FAN COIL & CONDENSING BREAKERS SIZE. COORDINATE FAN COIL & CONDENSING TYPE WITH MECHANICAL SCHEDULE AND DRAWING.
4. ALL KITCHEN RECEPTACLES, DISHWASHER & DISPOSAL, BATHROOMS, LAUNDRY, GARAGE, OUTDOOR INCLUDING IF FROM SINK, TUB & SHOWER SHALL BE GFCI PROTECTED PER NEC CEC 210.8
5. ALL 120-VOLT BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN KITCHEN, FAMILY, DINING, LIVING, PARLORS, DENS, BEDROOMS, LIBRARIES, RECREATION, SUNROOMS, CLOSETS, HALLWAYS, SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER PER CEC 210.12. THIS INCLUDES LIGHT FIXTURES, SMOKE DETECTORS, 120VOLT HEATERS, EXHAUST FANS, ETC.
6. GFCI OUTLETS IN BATHROOMS SHALL BE ON A SEPARATE 20 AMP CIRCUIT PER NEC 210.11(C).
7. BASED ON 65 KAIC AVAILABLE FAULT CURRENT AND DISTANCE LOAD CENTERS SHALL HAVE THE FOLLOWING SHORT CIRCUIT RATING:
   0' TO 50' DISTANCE: 22 KAIC
   50' TO 99' DISTANCE: 10 KAIC
   100' AND MORE DISTANCE: 10 KAIC
   HOWEVER, THE SHORT CIRCUIT RATING CAN BE ADJUSTED IF THE AVAILABLE SHORT CIRCUIT RATING IS DIFFERENT. CONTRACTOR TO PROVIDE CALCULATIONS TO SUPPORT THE CHANGES.
8. CONTRACTOR MAY USE #14 AWG CONDUCTORS FOR LIGHTING AND RECEPTACLE CIRCUITS WHERE #12 AWG IS USED. USE 20A/1P CIRCUIT BREAKERS.
9. WHERE BATHROOM FAN IS USED FOR FRESH AIR SUPPLY PROVIDE A DEDICATED BREAKER/CIRCUIT FOR EXHAUST FAN. PROVIDE A LABEL FOR BREAKER STATING: "BREAKER FOR TOILET EXHAUST FAN. THIS BREAKER TO BE ON AT ALL TIME".
10. CONTRACTOR MAY USE LISTED COMBINATION AFCI & GFCI BREAKERS FOR KITCHEN, DISHWASHER, DISPOSAL AND LAUNDRY RECEPTALES TO COMPLY WITH CODE REQUIRED READILY ACCESSIBLE MEANS FOR GFCI

TYPE: PLUG-IN
SERVICE: 120/208V~1Ø~3W
BUS: 125A

LOAD CENTER (1)(2)(3)(4)(5)(6)(7)(8)(9)(10)

MAIN: MLO
MTG: RECESSED
AIC: (7)

LOAD SERVED	LCL	KVA	BREAKER TRIP	BREAKER POLE	BREAKER NO.	PHASE	BREAKER NO.	BREAKER POLE	BREAKER TRIP	KVA	LCL	LOAD SERVED
GENERAL LIGHTING (2)(3)(8)			20	1	1	A	2	1	20			EXHAUST FAN (5)
GENERAL LIGHTING (2)(3)(8)			20	1	3	B	4	1	20			MICROWAVE/HOOD (5)
GENERAL LIGHTING (2)(3)(8)			20	1	5	A	6	1	20			SMALL APPLIANCE (5)(4)(10)
GENERAL LIGHTING (2)(3)(8)			20	1	7	B	8	1	20			SMALL APPLIANCE (5)(4)(10)
BATHROOM RCPT (2)(6)			20	1	9	A	10	1	20			DISHWASHER (5)(4)(10)
AID (2)(5)			20	1	11	B	12	1	20			GARBAGE DISPOSAL (5)(4)(10)
CONDENSER UNIT (1)(3)			XX		13	A	14		50			RANGE (1)
				2	15	B	16	2				
SPACE					17	A	18					SPACE
					19	B	20					
					21	A	22					
					23	B	24					

3 TYP. APARTMENT LOAD CENTER
SCALE: NOT TO SCALE

VOLTAGE DROP CALCULATIONS (COPPER CONDUCTOR) 2%
WIRE SIZE VS DISTANCE 75C (IN FEET)

APARTMENT TYPE	LOAD (AMP)	#2 (AWG)	#1 (AWG)	#1/0 (AWG)	#2/0 (AWG)	#3/0 (AWG)	#4/0 (AWG)	250 KCMIL	300 KCMIL
	70	148	186	234	294	373	475	565	666
	75	158	173	218	275	345	475	518	662
	80	130	193	205	257	326	475	488	583
STUDIO & 1 BED	85	122	153	193	242	307	475	557	549
	90	115	144	182	229	290	475	432	518
2 BED	95	109	137	172	217	275	475	409	491
	100	103	130	164	206	261	475	388	466
	105	99	124	156	196	250	475	370	444
	110	94	118	150	187	237	475	353	424
	115	90	113	142	180	227	475	338	406
	120	X	108	136	172	217	475	324	389
	125	X	104	130	165	366	475	311	373
	130	X	100	126	158	256	475	300	360

NOTE:
1. CONTRACTOR SHALL PROVIDE ADAPTER TO REDUCE CONDUCTOR SIZE TO CONNECT TO PANEL/LOAD CENTER BUS AS REQUIRED
2. CONTRACTOR TO FIELD VERIFY LENGTH AND SIZE OF FEEDER ADEQUATE FOR VOLTAGE DROP

VOLTAGE DROP CALCULATIONS (ALUMINUM CONDUCTOR) 2%
WIRE SIZE VS DISTANCE 75C (IN FEET)

APARTMENT TYPE	LOAD (AMP)	#2 (AWG)	#1 (AWG)	#1/0 (AWG)	#2/0 (AWG)	#3/0 (AWG)	#4/0 (AWG)	250 KCMIL	300 KCMIL	350 KCMIL
	70	93	117	148	187	235	297	350	420	491
	75	86	110	137	174	220	277	327	392	459
	80	X	103	130	164	205	258	307	370	430
STUDIO & 1 BED	85	X	97	122	154	194	245	289	346	409
	90	X	91	115	145	183	230	273	327	382
2 BED	95	X	87	109	138	174	220	258	310	362
	100	X	82	104	130	165	208	245	294	344
	105	X	X	99	124	157	198	234	280	327
	110	X	X	94	120	150	190	223	267	312
	115	X	X	90	114	144	180	214	256	300
	120	X	X	86	109	138	173	205	245	286
	125	X	X	X	105	132	166	196	235	275
	130	X	X	X	100	127	160	189	226	265

NOTE:
1. CONTRACTOR SHALL PROVIDE ADAPTER TO REDUCE CONDUCTOR SIZE TO CONNECT TO PANEL/LOAD CENTER BUS AS REQUIRED
2. CONTRACTOR TO FIELD VERIFY LENGTH AND SIZE OF FEEDER ADEQUATE FOR VOLTAGE DROP.

GENERAL NOTES:

1. VERIFY AVAILABLE SHORT CIRCUIT RATING WITH PG&E PRIOR TO ORDERING EQUIPMENT. AIC RATING OF ALL EQUIPMENT SHALL BE EQUAL OR GREATER THAN AVAILABLE SHORT CIRCUIT.
2. MAIN SWITCHBOARDS TO BE 100% RATED

SHEET NOTES:

1. 8" PG&E SMART METER CONDUIT IS RUN UNDERGROUND OR IN CONCRETE RIGID STEEL MUST BE USED. IF PG&E SMART METER CONDUIT IS RUN SURFACE MOUNT EMT CONDUIT CAN BE USED
2. GROUND PER DETAIL 2/ES.01.
3. TO EQUIPMENT HOUSING MIN. 500 MCM CU. PER NEC 250.28 & 408.3.C.
4. SEE DETAIL 2/ES.2 FOR UNIT TYPICAL PANEL SCHEDULE. FEEDER SCHEDULE WITH VOLTAGE DROP.
5. PROVIDE 2#10 AWG WIRE FROM ELEVATOR SHUNT TRIP BREAKER TO THE ELEVATOR MACHINE ROOM.
6. VERIFY DISCONNECT, BRANCH CIRCUIT BREAKER, CONDUCTORS AND FUSE SIZE WITH ELEVATOR SHOP DRAWING.
7. PROVIDE DESIGNATED SPACE IN ELECTRICAL ROOM FOR P.V. SOLAR DISCONNECT. PROVIDE SPACE ON ROOF FOR FUTURE P.V. SOLAR INVERTER/DISCONNECT. COORDINATE WITH ARCHITECT.
8. 6"X6"X6" J-BOX ON TOP OF METERING SECTION PER PG&E REQUIREMENTS. VERIFY WITH UTILITY.
9. 2" CONDUIT MUST TERMINATE IN A NEMA ENCLOSURE 6 TO 10 FEET ABOVE GRADE ON OUTSIDE OF BUILDING. 6"X6"X6" NEMA 3R WITH FACE PLATE. VERIFY WITH UTILITY.

FEEDER SCHEDULE

FEEDER TAG	(COPPER CONDUCTORS) CONDUCTORS PHASE	NEUTRAL	EQUIP. @ GROUND	CONDUIT	MAXIMUM PROTECTIVE DEVICE	(ALUMINUM CONDUCTORS) CONDUCTORS PHASE	NEUTRAL	EQUIP. @ GROUND	CONDUIT
30	3#10	1#10	1#10	(1) 3/4"	30A/3P	3#8	1#8	1#8	(1) 3/4"
40	3#8	1#8	1#10	(1) 3/4"	40A/3P	3#6	1#6	1#8	(1) 1.00"
60	3#6	1#8	1#10	(1) 1.00"	60A/3P	3#3	1#3	1#6	(1) 1.25"
70	3#4	1#4	1#8	(1) 1.25"	70A/3P	3#3	1#3	1#6	(1) 1.25"
90	3#2	1#2	1#6	(1) 1.25"	90A/3P	3#1/0	1#1/0	1#6	(1) 2.00"
100	3#2	1#2	1#6	(1) 1.25"	100A/3P	3#1/0	1#1/0	1#6	(1) 2.00"
100A	2#2	1#2	1#6	(1) 1.25"	100A/2P	2#1/0	1#1/0	1#6	(1) 2.00"
125	3#1	1#1	1#6	(1) 1.50"	125A/3P	3#2/0	1#2/0	1#4	(1) 2.00"
125A	2#1	1#1	1#6	(1) 1.50" OR SER CABLE	125A/2P	2#2/0	1#2/0	1#4	(1) 1.50" OR SER CABLE
150	3#1/0	1#1/0	1#6	(1) 2.00"	150A/3P	3#3/0	1#3/0	1#4	(1) 2.00"
150A	2#1/0	1#1/0	1#6	(1) 1.50"	150A/2P	2#3/0	1#3/0	1#4	(1) 2.00"
175	3#2/0	1#2/0	1#6	(1) 2.50"	175A/3P	3#4/0	1#4/0	1#4	(1) 2.50"
175A	2#2/0	1#2/0	1#6	(1) 2.50"	175A/2P	2#4/0	1#4/0	1#4	(1) 2.50"
200	3#3/0	1#3/0	1#6	(1) 2.00"	200A/3P	3#250	1#250	1#4	(1) 3.00"
225	3#4/0	1#4/0	1#4	(1) 2.50"	225A/3P	3#300	1#300	1#2	(1) 3.00"
250	3#250	1#250	1#4	(1) 3.00"	250A/3P	3#350	1#350	1#2	(1) 3.00"
275	3#300	1#300	1#4	(1) 3.00"	275A/3P	3#500	1#500	1#2	(1) 3.50"
300	3#350	1#350	1#4	(1) 3.00"	300A/3P	3#500	1#500	1#2	(1) 3.50"
400	3#500	1#500	1#2	(1) 4.00"	400A/3P	2 (3#250)	2#250	2#1	(2) 3.00"
500	2 (3#250)	2#250	2#2	(2) 3.00"	500A/3P	2 (3#350)	2#350	2#1/0	(2) 3.00"
600	2 (3#350)	2#350	2#1	(2) 3.00"	600A/3P	2 (3#500)	2#500	2#2/0	(2) 3.50"
800	2 (3#500)	2#500	2#1/0	(2) 3.50"	800A/3P	3 (3#400)	3#400	3#3/0	(3) 3.00"
1000	3 (3#400)	3#400	3#2/0	(3) 3.00"	1000A/3P	4 (3#350)	4#350	4#4/0	(4) 3.00"
1200	4 (3#400)	4#400	4#3/0	(4) 3.00"	1200A/3P	4 (3#500)	4#500	4#250	(4) 3.50"
1600	5 (3#400)	5#400	5#4/0	(5) 3.00"	1600A/3P	5 (3#600)	5#600	5#350	(5) 4.00"
2000	6 (3#400)	6#400	6#250	(6) 3.00"	2000A/3P	6 (3#600)	6#600	6#400	(6) 4.00"
2500	7 (3#500)	7#500	7#350	(7) 3.50"	2500A/3P	8 (3#600)	8#600	8#600	(8) 4.00"
3000	8 (3#500)	8#500	8#400	(8) 3.50"	3000A/3P	9 (3#600)	9#600	9#600	(9) 4.00"
4000	11 (3#500)	11#500	11#400	(11) 3.50"	4000A/3P	12 (3#600)	12#600	12#600	(12) 4.00"

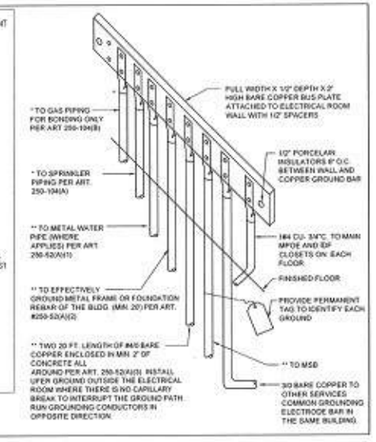
* EQUIPMENT GROUNDING CONDUCTORS FOR GROUNDING GROUNDING RACEWAY AND EQUIPMENT (250.122) SHALL BE SIZED AS FOLLOWS:

OVERCURRENT DEVICE SIZE	GROUND CONDUCTOR SIZE CU	AL
200A	6	4
300A	4	2
400A	3	1
500A	2	1/0
600A	1	2/0
800A	1/0	3/0
1000A	2/0	4/0
1200A	3/0	250
1600A	4/0	350
2000A	250	400
2500A	350	600
3000A	400	600
4000A	500	750
5000A	700	1200
6000A	800	1200

** GROUNDING ELECTRODE CONDUCTOR & MAIN BONDING JUMPER SHALL BE SIZED PER 250-66. OVER 1100 KCM COPPER OR 1750 KCM ALUMINUM, THE BONDING JUMPER SHALL HAVE AN AREA THAT IS NOT LESS THAN 12.5% OF THE AREA OF THE LARGEST PHASE CONDUCTOR. SEE 250.28(D)(1):

SERVICE SIZE	CU. CONDUCTOR
0–1,000A	#3/0
1,200A	#4/0
1,600A	#250KCM
2,000A	#300KCM
2,500A–3,000A	#500KCM
4,000A	#600KCM

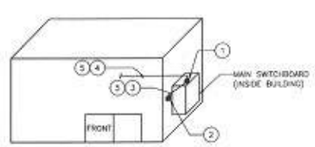
NOTE: REFERENCE 250.66 & 250.66 FOR COMPLETE TABLES



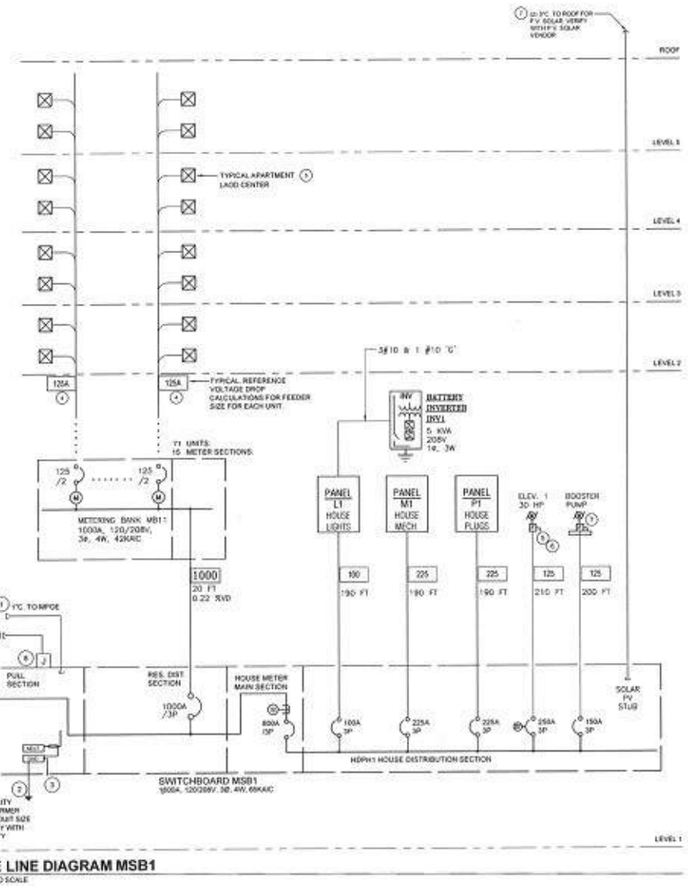
2 MAIN GROUND SYSTEM DETAIL
NOT TO SCALE

NOTES:

1. PROVIDE 6"X6"X6" J-BOX ON TOP OF SWITCHBOARD PER PG&E METERING REQUIREMENTS.
3. PROVIDE 6"X6"X6" NEMA 3R ENCLOSURE WITH FACE PLATE, MOUNT ON EXTERIOR AT 8 TO 10 FEET ABOVE GRADE
3. PROVIDE 2"C. EMT WITH PULL CORD FROM EXTERIOR J-BOX TO INTERIOR J-BOX ABOVE SWITCHBOARD.
4. 1" CONDUIT WITH PULL CORD TO MPOE
5. 500LB PULLING ROPE IN ALL CONDUITS



4 PG&E REQUIREMENT FOR SMART METER
NO SCALE



1 SINGLE LINE DIAGRAM MSB1
SCALE: NOT TO SCALE

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ID	DATE	NAME
	12-22-17	PRELIMINARY DRAWING
	02-13-18	100% SD

Project:

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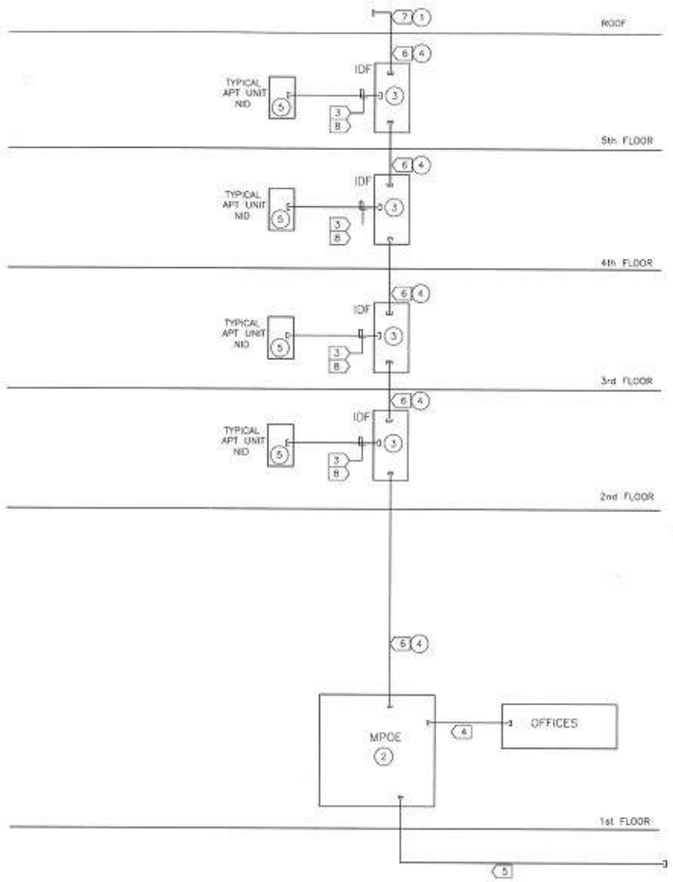
SINGLE LINE DIAGRAM

Job#: 1779

Scale: AS NOTED

E5.1



NOTES:

(1) STUB UP CONDUIT 8" ABOVE ROOF AND TERMINATE WITH 90 DEGREE ELBOW WITH WEATHER HEAD AND CAP FOR FUTURE USE.

(2) PROVIDE THE FOLLOWING IN MPOE:

A. ONE 4'X8' FIRE RATED PLYWOOD FOR EACH PROVIDER WITH (1) FOURPLEX ELECTRICAL OUTLET (20 AMP DEDICATED CIRCUIT).

B. PROVIDE ONE GROUND BUS WITH 1#2 GROUND CONDUCTOR BACK TO MAIN SWITCHBOARD.

C. PROVIDE MINIMUM 10' PIGTAIL FOR ALL CABLES IN MPOE ROOM.

(3) PROVIDE THE FOLLOWING IN IDF:

A. ONE 4'X8' FIRE RATED PLYWOOD FOR EACH PROVIDER WITH (1) FOURPLEX ELECTRICAL OUTLET (20 AMP DEDICATED CIRCUIT).

B. PROVIDE ONE GROUND BUS WITH 1#2 GROUND CONDUCTOR BACK TO MAIN SWITCHBOARD.

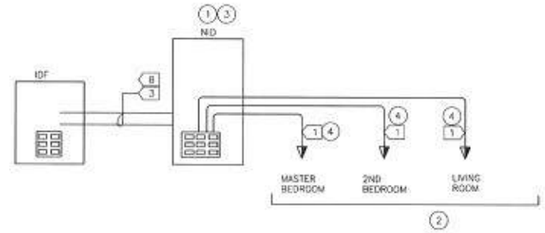
C. PROVIDE 10' RG6 PIGTAIL COILED UP IN CEILING.

D. TERMINATE CABLES USING 66 BLOCK PER PROVIDER SPECIFICATION.

(4) STUB OUT CONDUIT 6" BELOW CEILING OR ABOVE FLOOR. PROVIDE SMOKE STOP IN ALL RACEWAYS AS REQUIRED. CAP OFF ALL SPARE AND UNUSED CONDUITS.

(5) 42" LOW VOLTAGE DISTRIBUTION PANEL WITH LOUVERED DOOR AND RECEPTACLE AS MANUFACTURED BY SUTTLE SAE-42DC-42".

(1) TYPICAL TEL/DATA RISER DIAGRAM COPPER DISTRIBUTION
NOT TO SCALE



TYPICAL WIRING DIAGRAM FROM NID TO SIGNAL OUTLETS

COMMUNICATION SYSTEM CABLE SCHEDULE		
TAG	DESCRIPTION	CABLE TYPE
1	PHONE/DATA CATV/SAT	(1) 4-PR CAT-5E (2) RG-6
2	PHONE/DATA	(1) 4-PR CAT-5E
3	CABLE TV	(2) RG-6 (FOR <150') (2) RG-11 (FOR >150') (3) TERMINATION BY PROVIDER
4	1" CONDUIT WITH PULL ROPE	ELEVATOR MACHINE ROOM, ELECTRICAL ROOM,
5	PHONE/CATV MAIN FEED TO BLDG	(1)-4"C. AT&T (1)-4"C. COCAS (2)-4"C. SPARE
6	PHONE/CATV RISER	(3)-4"C. (1)-4"C. FROM MPOE TO IDF CLOSET (1)-4"C. STUB IN IDF FLOOR/CLG
7	SATELLITE	(2)-2"C. STUB OUT TO ROOF TURN 90D. W/ WEATHER HEAD AND CAP FOR SATELLITE, PV LINE & FIRE RESCUE ANTENNA
8	PHONE/DATA	(1) 4-PR CAT-5E 10' PIGTAIL IN IDF & 3' IN NID. TERMINATION BY PROVIDER

NOTES:

(1) NETWORK INTERFACE DEVICE (42" CABINET WITH LOUVERED DOOR & INTEGRAL RECEPTACLE (PER FIBER PROVIDER). 28" CABINET FOR COPPER INSTALLATION.

(2) REFER TO UNIT PLANS FOR EXACT NUMBER OF OUTLETS IN EACH UNIT. PROVIDE DEDICATED HOME RUN FOR EACH SIGNAL OUTLET DIRECTLY TO NID. REFER TO COMMUNICATION SPECIFICATION SECTION 16300 FOR SPECIFIC WORK.

(3) (1) RG6 TO BE USED NOW & (1) FOR SPARE. COIL UP SPARE CABLE IN CEILING & TAG W/ UNIT NUMBER & AS SPARE. PROVIDE 10' PIGTAIL FOR ALL CABLES IN IDF CLOSETS & MPOE.

(4) ALL LOW-VOLTAGE DEVICES SHOULD BE PLACED IN AN OUTLET BOX AND BE TREATED WITH LOWRY'S PADS. NO RING AND STRINGS ARE ALLOWED FOR LOW VOLTAGE DEVICES.

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ID	DATE	NAME
	12-22-17	PRELIMINARY DRAWING
	02-13-18	100% SD

Project:

950 W EL CAMINO REAL

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MOUNTAIN VIEW, CA 94040

Client:

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LOW VOLTAGE RISER DIAGRAM

Job#: 1779

Scale: AS NOTED

E5.2

FIRE ALARM SYSTEM IS DESIGN/BUILT. PROVIDE COMPLETE DESIGN DRAWINGS AND SHOP DRAWINGS SUBMITTED AS PER SPECIFICATION SECTION 28 31 00. THE BUILDING FIRE ALARM SYSTEM MUST HAVE FULL AUTOMATIC DETECTION COVERAGE IN CORRIDORS, STORAGE ROOMS, COMMON AREA, ETC.

FIRE ALARM NOTES

1. NO UNDERGROUND SPLICES ARE ALLOWED ALL SPLICES MUST BE MADE IN ABOVE GROUND JUNCTION BOXES, TERMINAL CABINETS, ETC.

2. APPLICABLE CODES:
   CBC (PART 2, TITLE-24): 2012 IBC WITH CA AMENDMENTS.
   CEC (PART 3, TITLE-24): 2014 NEC WITH CA AMENDMENTS.
   CMC (PART 4, TITLE-24): 2012 UMC WITH CA AMENDMENTS.
   CFC (PART 9, TITLE-24): 2012 IFC WITH CA AMENDMENTS.
   CA REFERENCED STANDARDS CODE (PART 12, TITLE-24)
   2016 CBSC STANDARDS WITH CA AMENDMENTS.
   PUBLIC SAFETY (TITLE-19), STATE FIRE MARSHAL.
   NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE, 2013.

3. WITNESS OF FINAL FIRE ALARM TEST BY LOCAL FIRE AUTHORITY AND INSPECTOR OF RECORD "I.O.R." LOCAL FIRE AUTHORITY SHALL BE NOTIFIED OF DATE AND TIME OF FINAL FIRE ALARM TESTING AND SHALL ASSIST AND WITNESS SUCH TESTING WHEN ABLE.

4. WIRE TYPE AND SIZE:
   WIRE SIZING SHALL BE PER VOLTAGE DROP CALCULATIONS WHICH ALLOW FOR 20% SPARE CAPACITY.

5. UNDERGROUND AND EXTERIOR CONDUITS TO HAVE WATERTIGHT FITTINGS AND WIRES TO BE APPROVED FOR WET LOCATIONS.

6. MOUNTING HEIGHTS:
   - PULL STATION: 48" TO CENTER LINE OF DEVICE FROM FINISH FLOOR.
   - HORN: 90" TO TOP OF DEVICE ABOVE FINISH FLOOR, NOT LESS THAN 6" FROM CEILING.
   - STROBE: 80" TO BOTTOM OF DEVICE AND NOT GREATER THAN 96" ABOVE FINISH FLOOR, NOT LESS THAN 6" FROM CEILING.

   AUDIBLE DEVICE(S) TO BE AT LEAST 15dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL BUT NOT LESS THAN 75dBA AT 10' OR MORE THAN 110dBA AT THE MINIMUM HEARING DISTANCE.

   NOTIFICATION APPLIANCES SHALL MEET ALL REQUIREMENTS OF NFPA-72 LATEST EDITION IN EFFECT.

7. FIRE-STOPPING SHALL BE PROVIDED WHERE PENETRATING ITEMS PASS ENTIRELY THROUGH BOTH PROTECTIVE MEMBRANES OF BEARINGS WALL REQUIRED TO HAVE A FIRE-RESISTIVE RATING AND WALLS REQUIRING PROTECTED OPENINGS. FIRE-STOPPING SHALL ALSO BE PROVIDED AT PENETRATIONS OF FIRE RESISTIVE FLOORS AND FLOORS WHICH ARE PART OF A CEILING-FLOOR ASSEMBLY. FIRE-STOPPING SHALL HAVE AN "F" OR "T" RATING AS DETERMINED BY TESTS CONDUCTED IN ACCORDANCE WITH UBC SECTION 714. SEE SPECIFICATIONS.

8. TIE FIRE ALARM SYSTEM TO A CENTRAL STATION AGENCY PER FIRE DEPARTMENT REQUIREMENTS. CENTRAL STATION REPORTING SHALL COMPLY WITH NFPA-72.

9. FIRE ALARM SYSTEM IS DESIGN/BUILT WORK. PROVIDE COMPLETE DESIGN DRAWINGS AND SHOP DRAWINGS SUBMITTED AS PER SPECIFICATION SECTION 283100.

10. SHOP DRAWINGS SUBMITTED TO THE CITY FOR APPROVAL SHALL INCLUDE A BY DEVICE TABLE INDICATING DEVICE ADDRESS AND PROPOSED TEXT OF ALARM MESSAGE BROKEN OUT AS FOLLOWS: TYPE OF DEVICE, BUILDING, FLOOR, COMPARTMENT AND TEXTUAL IDENTIFICATION OF LOCATION. PROPOSED TEXT OF ALARM MESSAGE SHALL BE SUBMITTED AS PART OF THE FIRE ALARM SHOP DRAWING SUBMITTAL.

11. VERIFY WITH SITE AND SPRINKLER SYSTEM CONTRACTORS FOR EXACT LOCATION OF SPRINKLER SYSTEM SWITCHES (NOT SHOWN ON PLANS), BASED ON FIRE PROTECTION SHOP DRAWINGS. THIS INCLUDES FIV, SPRINKLER FLOW SWITCHES, BACKFLOW PREVENTION DEVICES, AND TAMPER SWITCHES – PROVIDE CONNECTION TO FIRE ALARM CONTROL PANEL, AS REQUIRED.

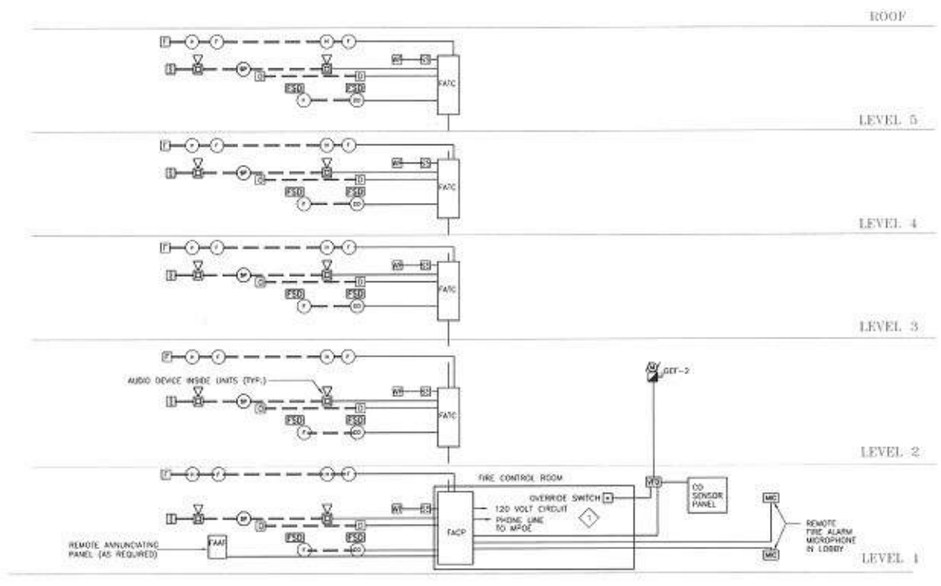
12. VERIFY EXACT LOCATION OF FIRE SMOKE DAMPERS WITH MECHANICAL. REFER TO PLANS FOR QUANTITY, TYPE, AND LOCATION OF DEVICES. CONTRACTOR SHALL INCLUDE ALL COSTS FOR POSSIBLE ADDITIONAL DEVICES AND WIRING AS MAYBE REQUIRED BY FIRE MARSHAL OR NFPA 72 AS PER FINAL DESIGN PLANS PREPARED BY IBM.

13. ALL ALARM INITIATING DEVICES SHALL BE ADDRESSABLE, INCLUDING SMOKE DETECTORS, DUCT DETECTORS, PULL STATIONS, ETC.

14. MAXIMUM VOLTAGE DROP TO THE LAST SIGNALING DEVICE SHALL BE 8%.

15. ALL WORK SHALL BE AS PER NFPA 72 AND SHALL MEET LOCAL FIRE MARSHAL REQUIREMENTS AND APPROVAL.

16. FIRE ALARM CONTRACTOR SHALL REVIEW MECHANICAL DRAWINGS, FURNISH DUCT DETECTORS (INSTALLED BY MECHANICAL CONTRACTOR). COORDINATE SEQUENCE OF OPERATION WITH MECHANICAL CONTRACTOR FOR PROPER OPERATION AND SHUT DOWN.



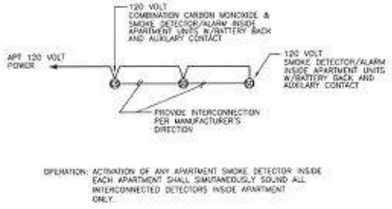
1 TYPICAL FIRE ALARM SYSTEM RISER DIAGRAM

LEGEND

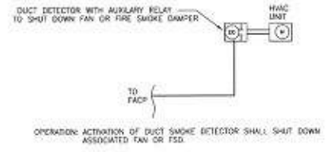
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FSD	MOTORIZED FIRE SMOKE DAMPER
F	MANUAL PULL STATION +48" U.O.N.
D	MAGNETIC DOOR HOLDER
F	FIRE ALARM HORN (SINGLE)
FS	FIRE ALARM STROBE/HORN & SPEAKER (G=GUARD)
FS	FIRE ALARM STROBE
SS	SPRINKLER SUPERVISORY SWITCH
WF	SPRINKLER WATER FLOW SWITCH
(F)	SYSTEM FIRE ALARM SMOKE DETECTOR
(DD)	DUCT SMOKE DETECTOR
(SD)	SELF CONTAINED SMOKE DETECTOR W/ AUDIO ALARM, 120 VOLT AND BATTERY BACK UP. APARTMENT UNIT ONLY
SP	FIRE ALARM CEILING MOUNT SPEAKER FOR FIRE ALARM COMMUNICATION SYSTEM
(H)	HEAT DETECTOR.

SHEET NOTES:

1. THE EXHAUST FAN ZONE(S) SHALL BE CONFIGURED WITH FIRE SPRINKLER SYSTEMS. MULTI FIRE SPRINKLER ZONES MAY BE REQUIRED FOR THE GARAGE LEVEL. EACH ZONE SHALL OPERATE AUTOMATICALLY WHEN THE GARAGE LEVEL FIRE SPRINKLER HEAD ACTIVATES. THE CONTROL PANEL SHALL CONSIST OF GRAPHIC DISPLAY AND MANUAL CONTROLS FOR EACH ZONE. STEP BY STEP OPERATIONAL INSTRUCTION, PICTORIAL DIRECTIONS AND GRAPHIC ANNUNCIATION FOR EACH FIRE SYSTEM AND RELATED COMPONENTS SHALL BE APPROVED AND SIGNED OFF BY THE FIRE DEPARTMENT REPRESENTATIVE.



3 Apartments 120 Volt Smoke Detector



2 Duct Smoke Detector
REFER TO MECHANICAL PLAN FOR LOCATION

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FIRE ALARM RISER DIAGRAM

Job#: 1779

Scale: AS NOTED

E5.3

SINGLE APARTMENT CALCULATIONS (OPTIONAL METHOD - NEC 220 - 82)

APT. TYPE: Studio

NO	LOAD DESCRIPTION ("OTHER" LOADS)	UNIT	QTY	KVA	TOTAL (KVA)
1	GENERAL LIGHTING At 3WSq.ft	SQ FT	406		1.20
2	SMALL APPLIANCE CIRCUIT	EA	2	1.5	3.00
3	LAUNDARY CIRCUIT (ELECTRIC WASHER)			1.5	
4	ELECTRIC RANGE		1	8	8.00
5	COMPACTOR (N/A)				
6	DISH WASHER		1	1	1.00
7	KITCHEN DISPOSAL		1	0.7	0.70
8	MICROWAVE/HOOD		1	1.5	1.50
9	TOILET EXHAUST FANS		1	0.15	0.15
10	ELECTRIC DRYER			5	
11					
12					
13					
	TOTAL "OTHER" LOADS IN KVA				15.55

	HEATING	COOLING
AIR CONDITIONER / HEAT PUMP LOADS (KVA)	3.331	5
NO. OF BASEBOARD HEATERS / TOTAL WATTAGE OF ALL BASEBOARDS ____ KVA		
ELECTRIC HEATER (65% UP TO 3.6 40% 4 OR MORE PER NEC 220.82(B)(1)) in KVA		
SUBTOTAL	3.33	5

LARGEST OF THE TWO (COOLING / HEATING) KVA 5.00 KVA

FEEDER / BREAKER SIZE: LARGEST OF HEATING OR COOLING + FIRST 10KVA OF OTHER LOAD + .4 OF REMAINDER OF OTHER LOADS:

5.00 + 10.00 + 2.22 KVA = 17.22 KVA

17.22 KVA EQUALS 82.79 AMPERES AT 208 VOLT SELECTED FEEDER 100 A

1 STUDIO UNIT LOAD CALCULATOIN
NOT TO SCALE

SINGLE APARTMENT CALCULATIONS (OPTIONAL METHOD - NEC 220 - 82)

APT. TYPE: 2 Bed

NO	LOAD DESCRIPTION ("OTHER" LOADS)	UNIT	QTY	KVA	TOTAL (KVA)
1	GENERAL LIGHTING At 3WSq.ft	SQ FT	777		2.33
2	SMALL APPLIANCE CIRCUIT	EA	2	1.5	3.00
3	LAUNDARY CIRCUIT (ELECTRIC WASHER)			1.5	
4	ELECTRIC RANGE		1	8	8.00
5	COMPACTOR (N/A)				
6	DISH WASHER		1	1	1.00
7	KITCHEN DISPOSAL		1	0.7	0.70
8	MICROWAVE/HOOD		1	1.5	1.50
9	TOILET EXHAUST FANS		1	0.15	0.15
10	ELECTRIC DRYER			5	
11					
12					
13					
	TOTAL "OTHER" LOADS IN KVA				16.681

	HEATING	COOLING
AIR CONDITIONER / HEAT PUMP LOADS (KVA)	3.331	6
NO. OF BASEBOARD HEATERS / TOTAL WATTAGE OF ALL BASEBOARDS ____ KVA		
ELECTRIC HEATER (65% UP TO 3.6 40% 4 OR MORE PER NEC 220.82(B)(1)) in KVA		
SUBTOTAL	3.33	6

LARGEST OF THE TWO (COOLING / HEATING) KVA 6.00 KVA

FEEDER / BREAKER SIZE: LARGEST OF HEATING OR COOLING + FIRST 10KVA OF OTHER LOAD + .4 OF REMAINDER OF OTHER LOADS:

6.00 + 10.00 + 2.6724 KVA = 18.67 KVA

18.67 KVA EQUALS 89.77 AMPERES AT 208 VOLT SELECTED FEEDER 125 A

2 2 BEDROOM UNIT LOAD CALCULATOIN
NOT TO SCALE

"RETAIL & COMMON AREA" LOAD CALCULATIONS (ESTIMATED CONNECTED LOAD)

No.	LOAD DESCRIPTION	Sq.Ft. / HP / KVA	LIGHTING W/ Sq.Ft.	LIGHTING Load (kVA)	POWER W/ Sq.Ft.	POWER Load (kVA)	QTY	TOTAL kVA
1	CORRIDOR/STORAGE/TRASH	10,673	0.6	6.40	0.2	2.13	1	8.54
2	Exterior	19,178	0.2	3.84	0.2	3.84	1	7.67
3	LAUNDRY	1,330	1.0	1.33	1.0	1.33	1	2.66
4	Electrical / Mechanical / Utility Rms	540	0.6	0.32	1.0	0.54	1	0.84
5	OFFICES	2,873	1.0	2.87	29.5	81.46	1	84.33
6	Lobbies / Lounge	829	1.2	0.99	15.0	12.44	1	13.43
7	Yoga Studio			0.00		0.00	1	0.00
8	Workroom / Maintenance	1,300	1.0	1.30	10.0	13.00		0.00
9	Clubhouse			0.00		0.00		0.00
10	Storage Rooms / Loading			0.00		0.00		0.00
11	ELECT CLOTHES WASHER			0.00		1.80	10	18.00
12	GAS CLOTHES DRYER			0.00		0.78	10	7.80
13	Elevators (MRL)	5				33.00	1	33.00
14	Corridor HVAC / Fans	2HP				3.00	5	15.00
15	Garage Exhaust Fans					0.00		0.00
16	Trash Compactor	5HP				6.00	1	6.00
17	Sewage Ejector Pumps					3.00		0.00
18	Circulating Pumps	1/2HP				0.60	2	1.20
19	Duplex Booster Pumps	2HP				3.00	1	3.00
20	VRF CENTRAL HVAC					139.00		0.00
21	Boiler Pumps / Water Heaters	1HP				1.00	1	1.00
22	Domestic Water Booster Pumps	7.5HP				5.60	1	5.60
23	Telephone / Data Equipment	5				5.00	1	5.00
24	Fire Pump					200.00		0.00
25	Stair/Elev. Shaft Pressure Fans					11.53		0.00
26	Electric Vehicle Charger					7.20	4	28.80
27	Parking Stacker					6.40	3	0.00
28	Retail space		2.0	0.80	30.0	0.00		0.00
29	Restaurant		1.0	0.80	40.0	0.00		0.00
30	Tesla Charging station			0.00		10.20		0.00
31	SPARE CAPACITY (%)	5%						10.61
				16.70			TOTAL	222.71

619 AMP at 208V/3Ph. 268 AMP at 277/480V

800AMP switchboard at 208 Volt, 400 AMP at 480V

5 ESTIMATED HOUSE LOAD CALCULATOINS
NOT TO SCALE

*** MULTIPLE APARTMENT MAIN FEEDER CALCULATIONS OPTIONAL METHOD (NEC 220 -84)** PANEL OR SWBD: MSB

APT. W/ ELECTRIC COOKING OR SIMULATED COOKING & SPACE ELECTRIC HEATING OR AIR CONDITIONING OR BOTH:

APARTMENT TYPE	NO. OF APTS	NEC CAL LOAD KVA LARGEST OF HEAT (-1000)	NEC CAL LOAD KVA TOTAL OTHER (1001 thru 4)	NEC CAL LOAD KVA See note "B" "ELECTRICDRYER" INCL	TOTAL VA EA.APT.	TOTAL KVA , ALL APTS
Studio	70	5.00	15.55	INCL	20.55	1,438.50
1 Bedroom		5.00	14.35	INCL	19.35	-
2 Bedroom	1	6.00	16.68	INCL	22.68	22.68
						-
						-
						-
						-
						-
						-
						-
						-
						-
TOTAL	71					1,461.18

1 TOTAL APT LOAD IN KVA = 1,461.18 x D.F. 0.23 = 1 336.07
(D.F. FROM NEC TABLE 220-32)

2 TOTAL HOUSE LOAD IN KVA 222 x D. F. 1 = 2 222.71

3 TOTAL LOAD (KVA)= HOUSE+ RESIDENTIAL LOAD 558.79

558.79 KVA, EQUALS 1,551 AMP @ 208 VOLT 3 PH

SELECTED FEEDER 1000 AMPERES

DESIGN NOTE: THIS CALC CAN BE USED FOR APT OF ANY SIZE, AS LONG AS THEY HAVE ELEC. HEATING AND OR AIR CONDITIONING

(a) USE OPTIONAL APT. CALC FORM TO GET FIGURES FOR THESE COLUMNS (FIGURES BEFORE DEMAND APPLIED)

(b) FOR APARTMENTS WITHOUT ELECTRIC COOKING, PUT 8000 VA (FOR APARTMENTS WITH ELECTRIC COOKING, RANGE LOAD ALREADY ACCOUNTED IN "OTHER LOAD" - PUT "INCL"

3 MAIN SWITCHBOARD LOAD CALCULATOIN
NOT TO SCALE

*** MULTIPLE APARTMENT MAIN FEEDER CALCULATIONS OPTIONAL METHOD (NEC 220 -84)** PANEL OR SWBD: MB1

APT. W/ ELECTRIC COOKING OR SIMULATED COOKING & SPACE ELECTRIC HEATING OR AIR CONDITIONING OR BOTH:

APARTMENT TYPE	NO. OF APTS	NEC CAL LOAD KVA LARGEST OF HEAT (-1000)	NEC CAL LOAD KVA TOTAL OTHER (1001 thru 4)	NEC CAL LOAD KVA See note "B" "ELECTRICDRYER" INCL	TOTAL VA EA.APT.	TOTAL KVA , ALL APTS
Studio	70	5.00	15.55	INCL	20.55	1,438.50
1 Bedroom		5.00	14.35	INCL	19.35	-
2 Bedroom	1	6.00	16.68	INCL	22.68	22.68
						-
						-
						-
						-
						-
						-
						-
						-
						-
TOTAL	71					1,461.18

1 TOTAL APT LOAD IN KVA = 1,461.18 x D.F. 0.23 = 1 336.07
(D.F. FROM NEC TABLE 220-32)

2 TOTAL HOUSE LOAD IN KVA ____ x D. F. 1 = 2

3 TOTAL LOAD (KVA)= HOUSE+ RESIDENTIAL LOAD 336.07

336.07 KVA, EQUALS 933 AMP @ 208 VOLT 3 PH

SELECTED FEEDER 1000 AMPERES

DESIGN NOTE: THIS CALC CAN BE USED FOR APT OF ANY SIZE, AS LONG AS THEY HAVE ELEC. HEATING AND OR AIR CONDITIONING

(a) USE OPTIONAL APT. CALC FORM TO GET FIGURES FOR THESE COLUMNS (FIGURES BEFORE DEMAND APPLIED)

(b) FOR APARTMENTS WITHOUT ELECTRIC COOKING, PUT 8000 VA (FOR APARTMENTS WITH ELECTRIC COOKING, RANGE LOAD ALREADY ACCOUNTED IN "OTHER LOAD" - PUT "INCL"

4 METERING BANK LOAD CALCULATOIN
NOT TO SCALE

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	02-13-18	100% SD

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LOAD CALCULATIONS

Job#: 1779

Scale: AS NOTED

E6.1