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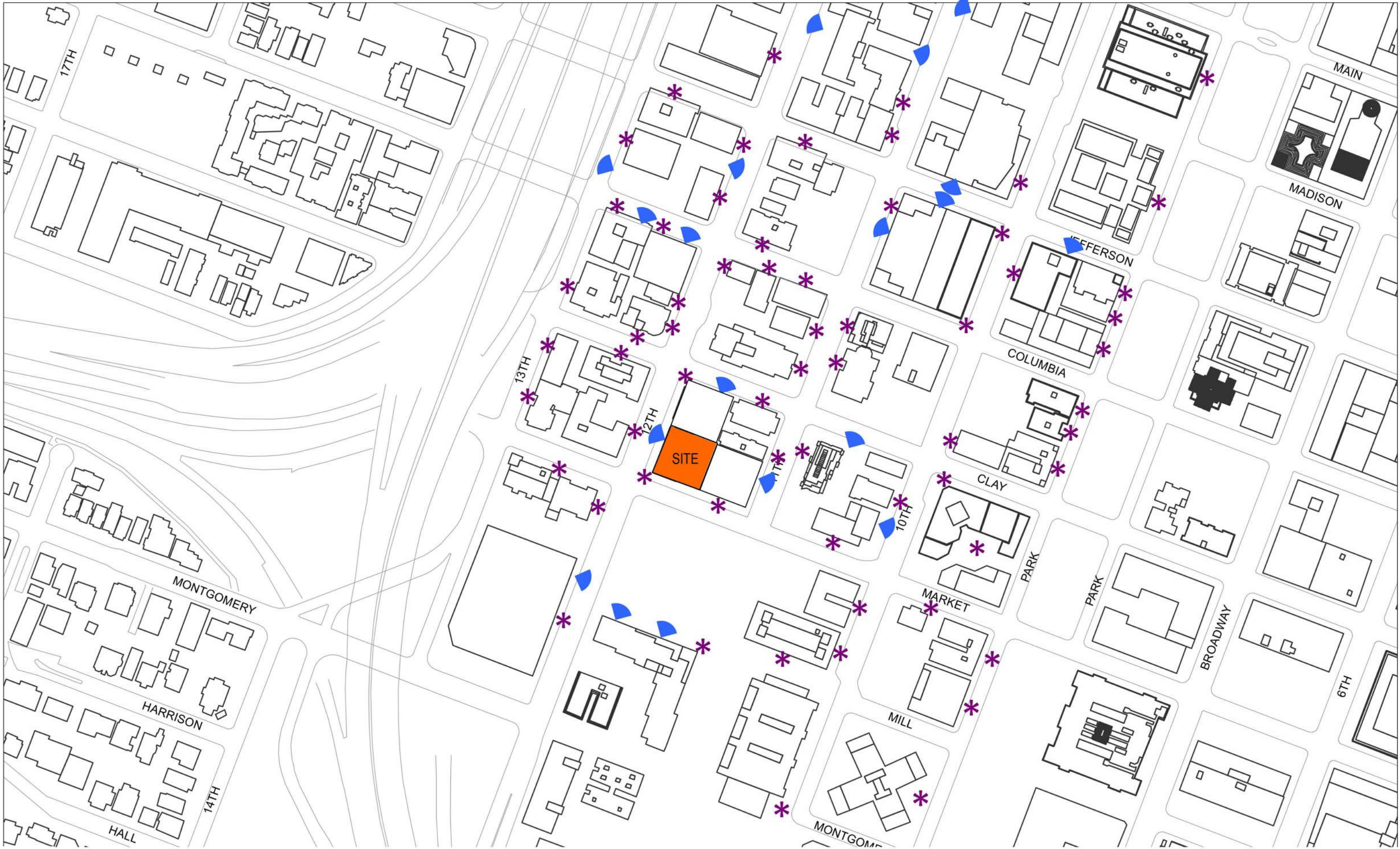
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SITE EXTENTS 







VIEW FROM SW 12th AVE



12th AVENUE TERRACE



CLAY TOWER APARTMENTS



HELEN GORDON DEVELOPMENT CENTER



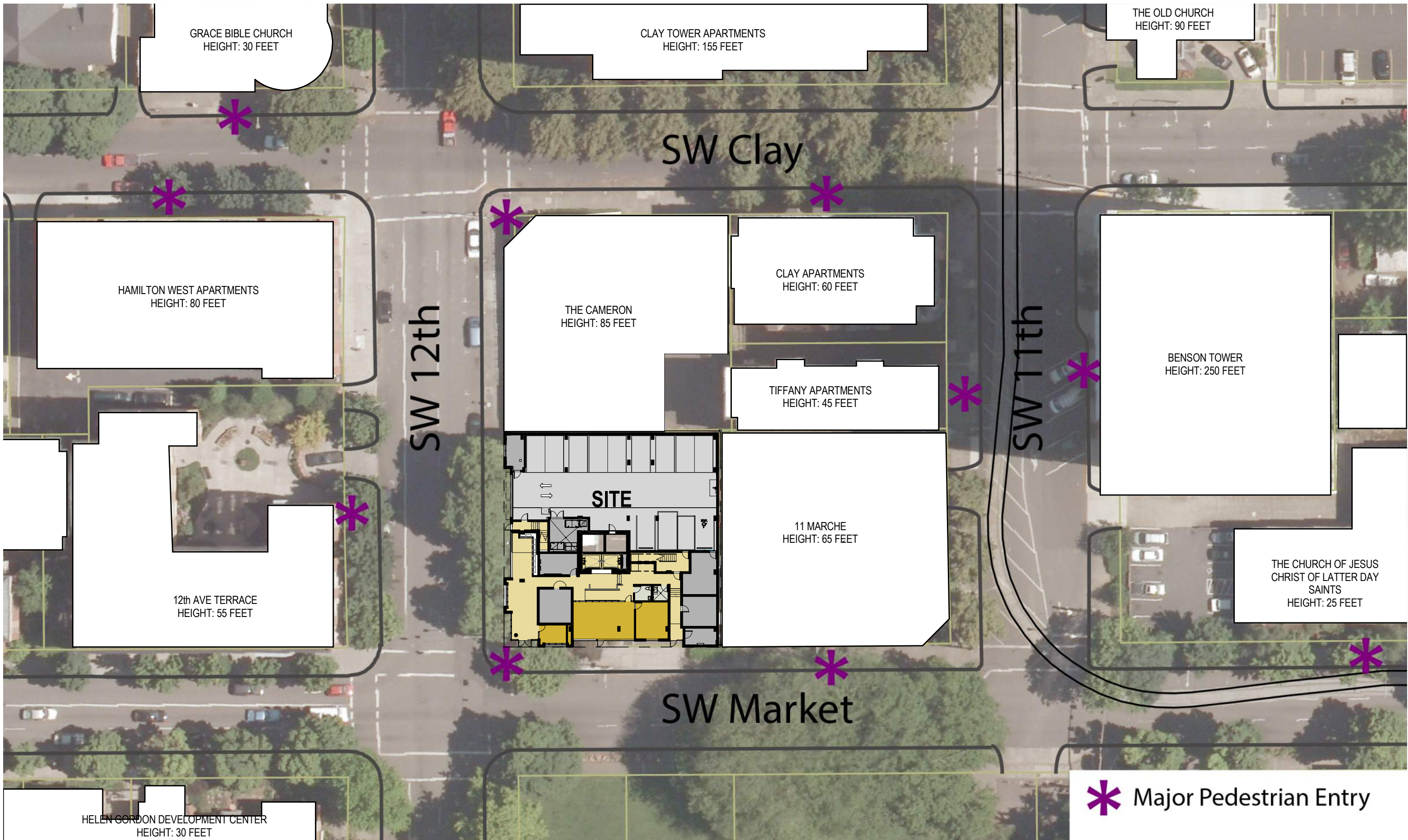
BENSON TOWER



HAMILTON WEST APARTMENTS

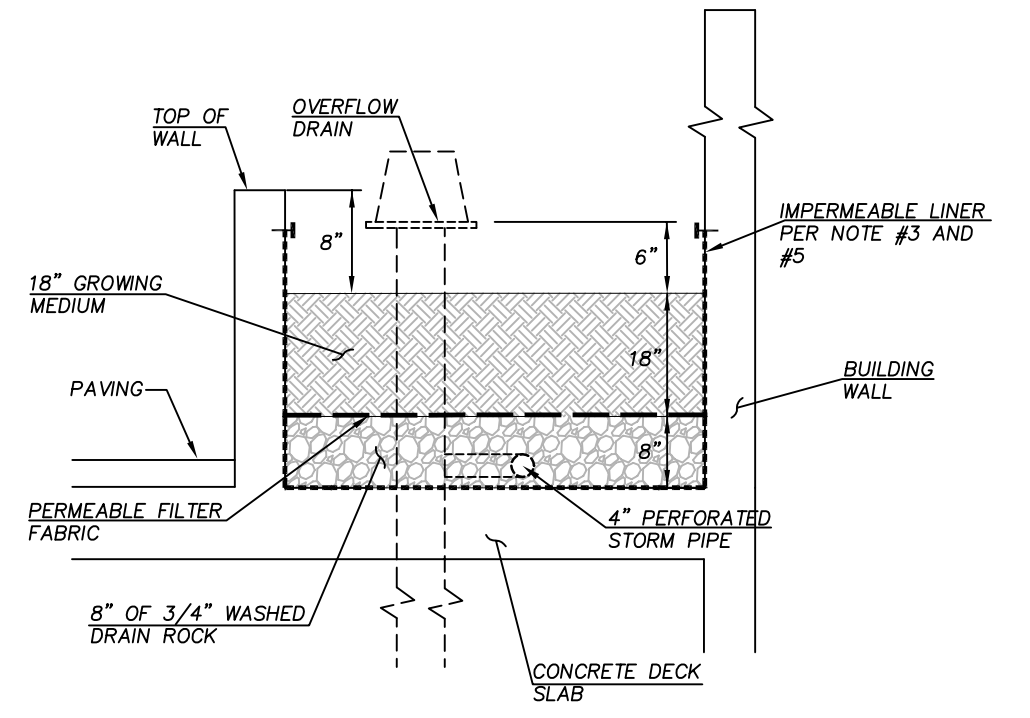
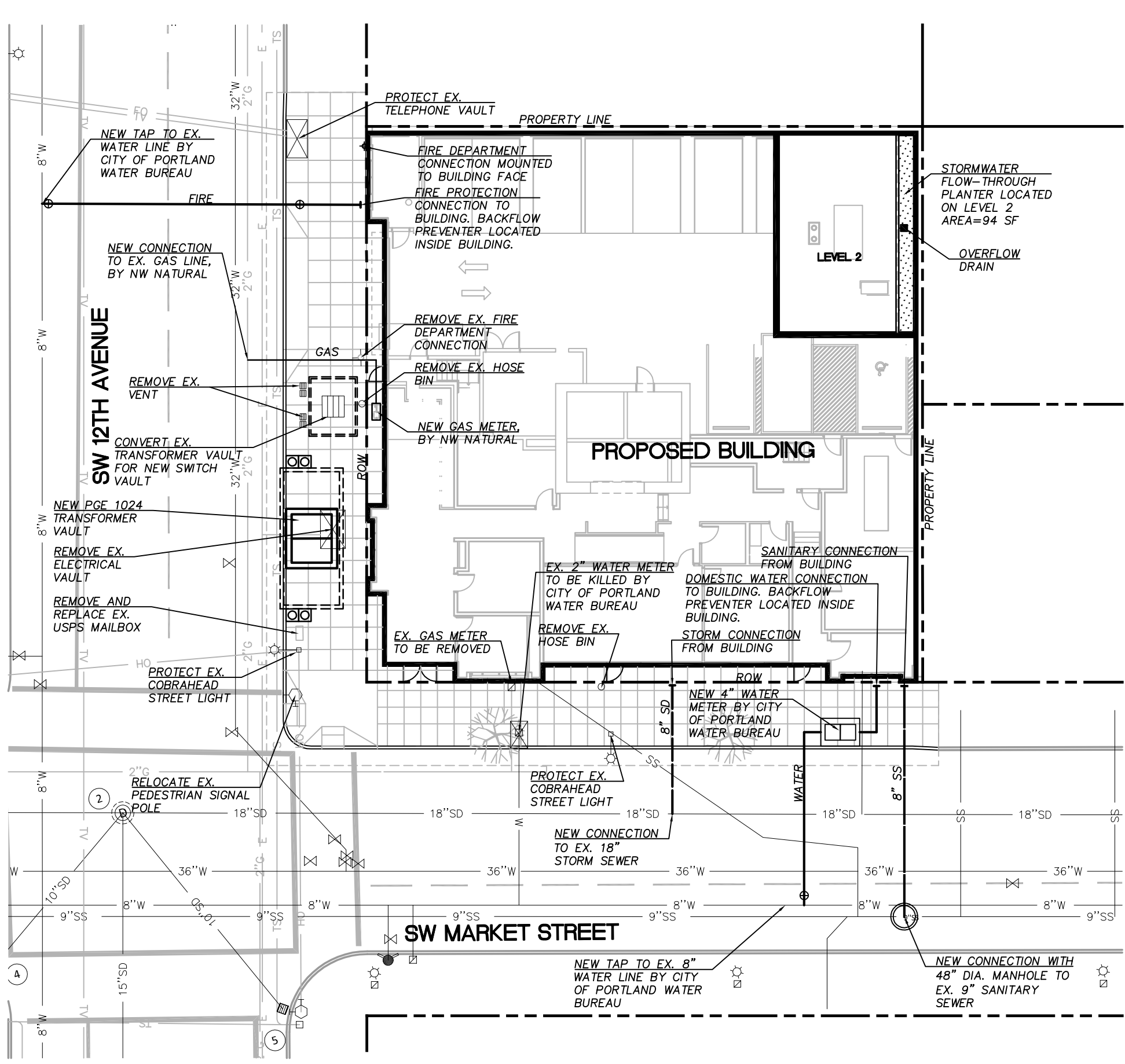


CLAY APARTMENTS



**\* Major Pedestrian Entry**





- NOTES:**
1. PLANTING PER LANDSCAPE PLANS.
  2. GROWING MEDIUM PER SPECIFICATIONS.
  3. IMPERMEABLE LINER SHALL BE 30 MIL MINIMUM. ATTACH IMPERMEABLE LINER TO CONCRETE ABOVE HIGH WATER ELEVATION.
  4. CONNECT PERFORATED PIPE TO SOLID PIPE DOWNSTREAM OF AREA DRAIN.
  5. PROVIDE WATERTIGHT PENETRATION THROUGH IMPERMEABLE LINER FOR OUTFLOW FROM AREA DRAIN.
  6. CONSTRUCT ROCK PAD AT DOWNSPOUT OUTFALLS.

**1 STORMWATER FLOW-THROUGH PLANTER**  
NTS

**STORMWATER NARRATIVE**

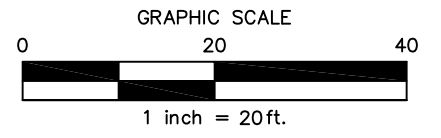
PRIVATE SITE:

WATER QUALITY  
WATER QUALITY CONTROL IS MET WITH 7,566 SF OF ECOROOF AND A FLOW-THROUGH PLANTER. THE PLANTER IS SIZED TO TREAT 2,434 SF OF IMPERVIOUS AREA.

WATER QUANTITY  
WATER QUANTITY CONTROL IS NOT REQUIRED PER BES PRE-APPLICATION CONFERENCE RESPONSE. (STORM-ONLY SEWER THAT DISCHARGES TO THE WILLAMETTE)

DISPOSAL  
INFILTRATION IS NOT POSSIBLE DUE TO LOW PERMEABILITY OF NATIVE SOILS. ALL RUNOFF FROM THE SITE WILL BE PIPED TO THE 18" STORM-ONLY PIPE IN SW MARKET STREET. THE PROJECT WILL FALL UNDER CATEGORY 3 OF THE STORMWATER DISPOSAL HIERARCHY.

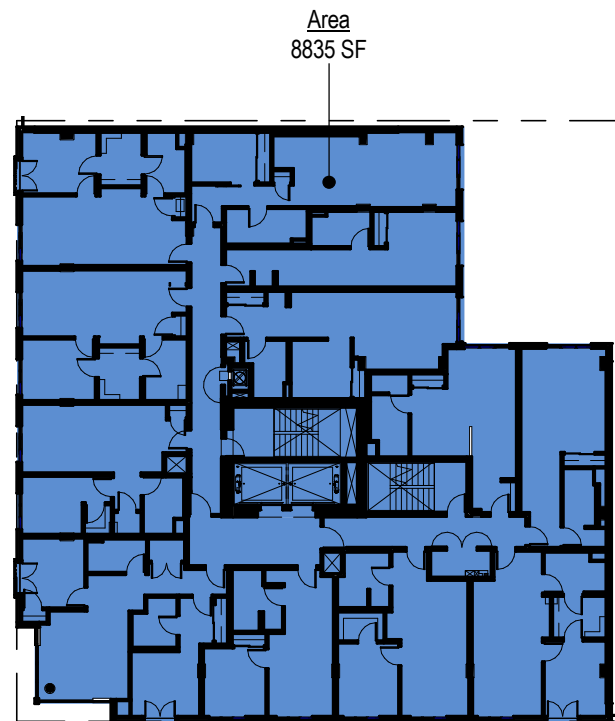
PUBLIC STREET IMPROVEMENTS:  
STORMWATER MANAGEMENT IS NOT REQUIRED FOR THE IMPROVEMENTS TO THE PUBLIC SIDEWALKS IN THE PUBLIC RIGHT OF WAY. THE EXISTING STORMWATER DRAINAGE FOR THE RIGHT OF WAY WILL BE PROTECTED DURING CONSTRUCTION.





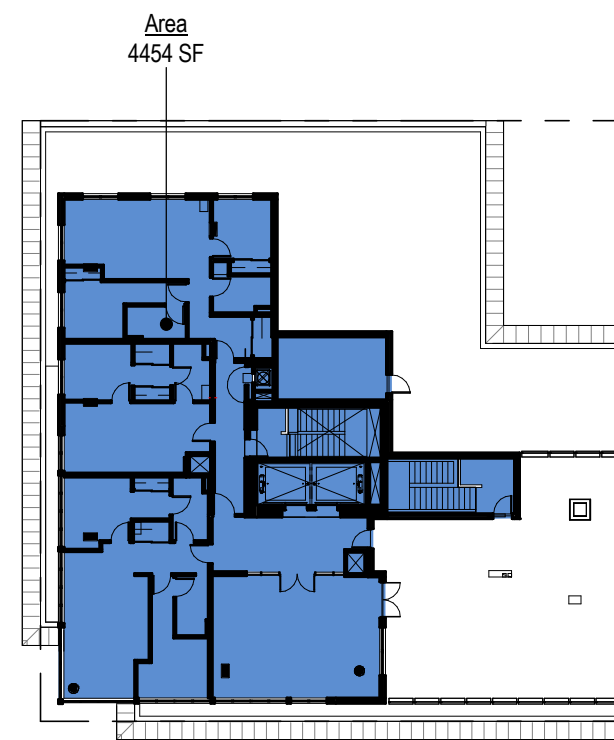
Area  
9350 SF

LEVEL 1  
1/32" = 1'-0" 1



Area  
8835 SF

LEVELS 2-13  
1/32" = 1'-0" 2



Area  
4454 SF

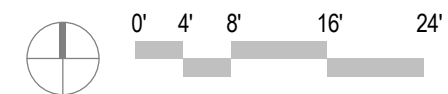
LEVEL 14 - ROOF  
1/32" = 1'-0" 3

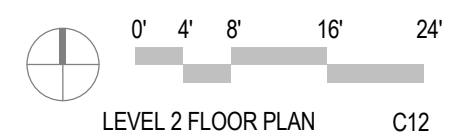
LEVEL 1	9,414 SF
LEVEL 2	8,817 SF
LEVEL 3	8,817 SF
LEVEL 4	8,817 SF
LEVEL 5	8,817 SF
LEVEL 6	8,817 SF
LEVEL 7	8,817 SF
LEVEL 8	8,817 SF
LEVEL 9	8,817 SF
LEVEL 10	8,817 SF
LEVEL 11	8,817 SF
LEVEL 12	8,817 SF
LEVEL 13	8,817 SF
LEVEL 14	4,454 SF
<b>TOTAL</b>	<b>119,672 SF</b>

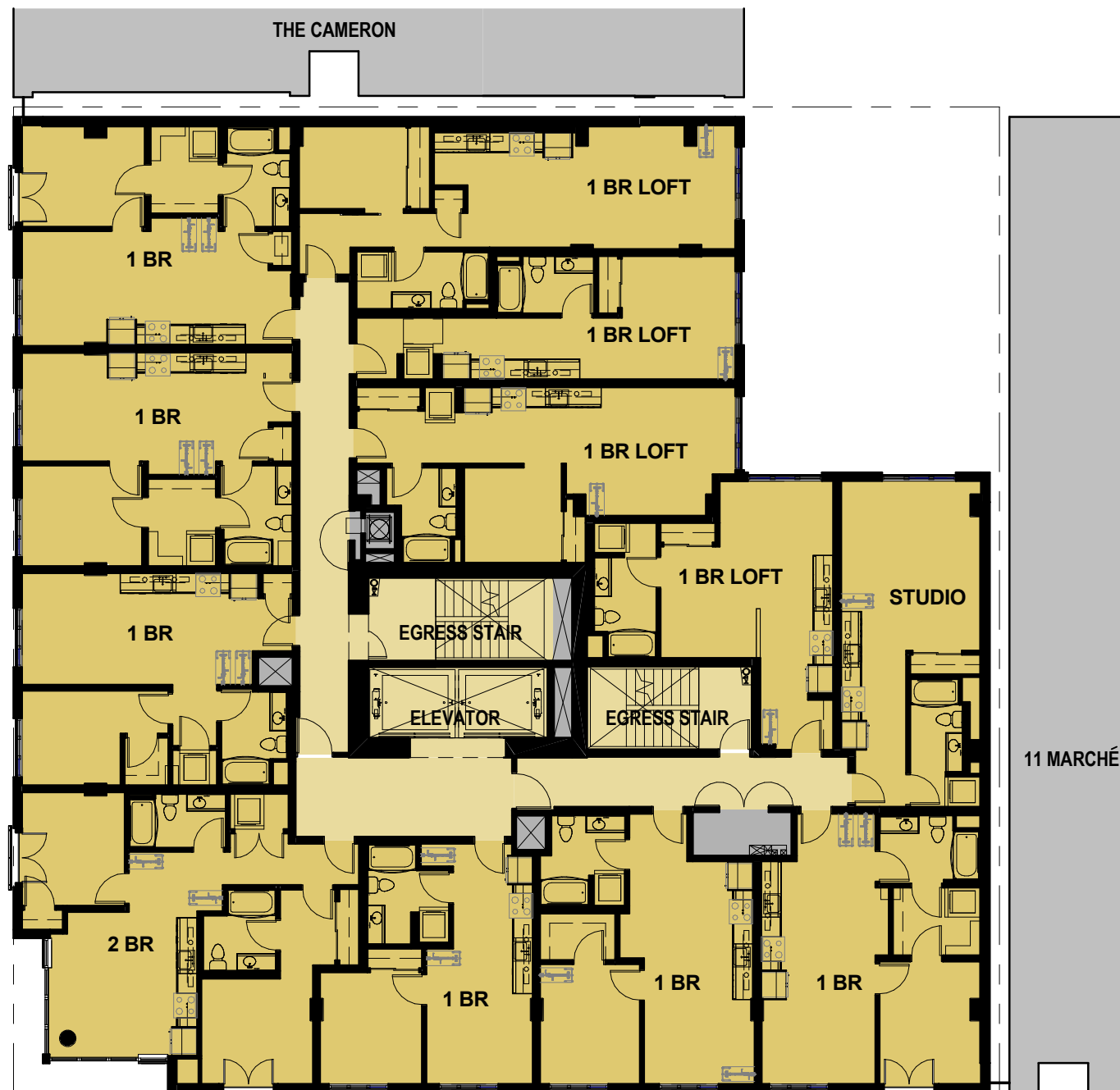
BASE ALLOWABLE FAR = 9:1 (90,000 SF)  
 BONUSES ALLOWED = 3:1 (30,000 SF)  
 TOTAL ALLOWABLE FAR = 12:1 (120,000 SF)

<b>FAR BONUS METHOD</b>			
Base FAR:	8:1	10,000 SF x 8=	<b>80,000 SF</b>
West end small development Bonus:	1:1	10,000 SF x 1=	<b>10,000 SF</b>
Large unit bonus:			<b>840 SF</b>
Transfer from 1101 SW Market:			<b>10,000 SF</b>
<u>EcoRoof Bonus:</u>			<b>20,670 SF</b>
Total FAR Earned:			<b>121,510 SF (12:1)</b>
Max FAR Allowed:			<b>120,000 SF (12:1)</b>
Actual FAR:			<b>119,672 SF (11.9:1)</b>

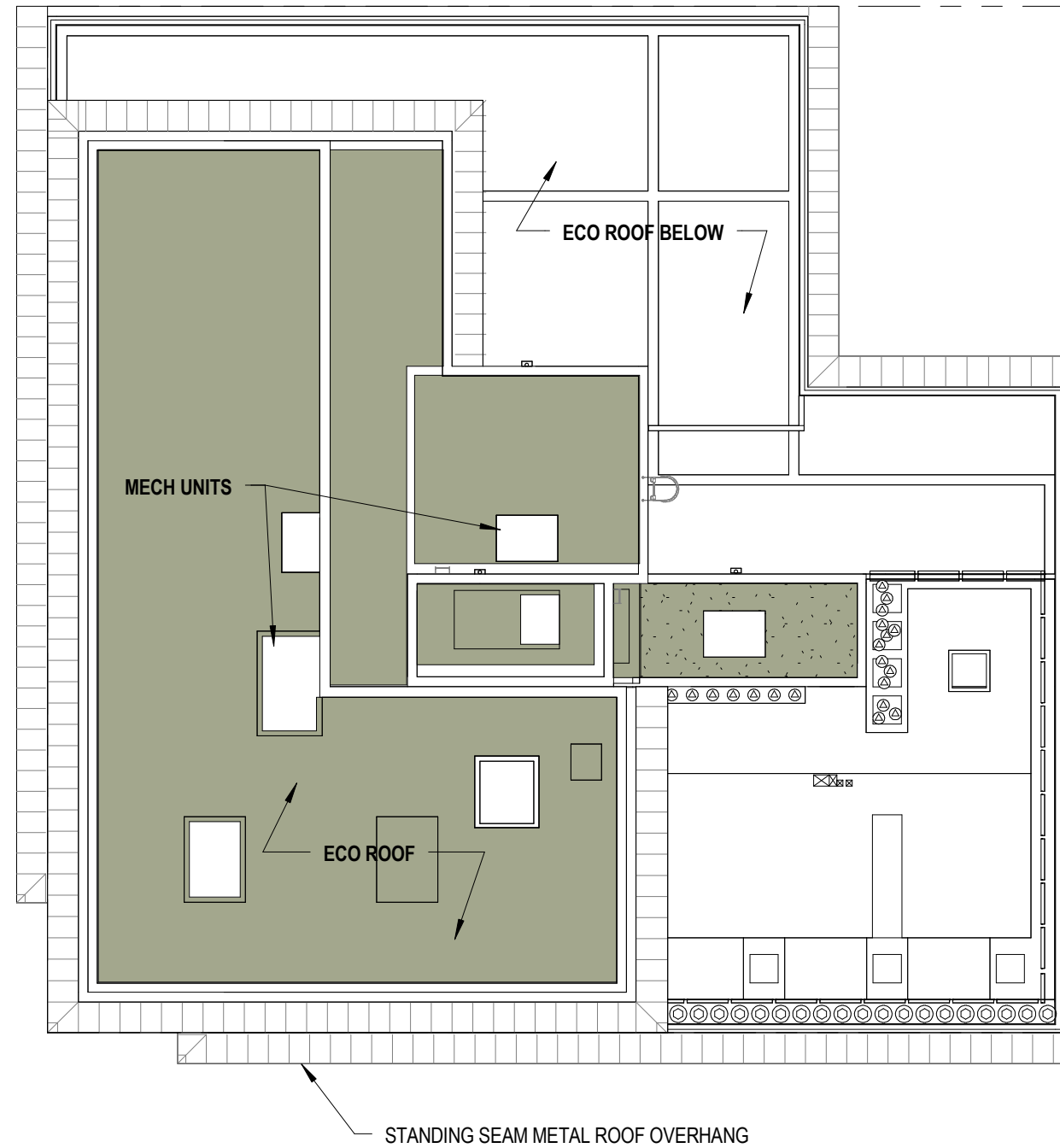
**ECO ROOF BONUS:**  
 This project proposes 6,890 SF of eco roof. The total roof area is 9,795 SF. The eco roof comprises 70% of the total roof area (see roof plan). Per 33.510.210 C 10 a 3, when the total area of an eco roof is more than 60% of the building footprint, each square foot of eco roof earns 3 SF of additional floor area. 6,890 SF x 3= 20,670 SF bonus.











FURNITURE CHARACTER



WOOD TILE PAVING



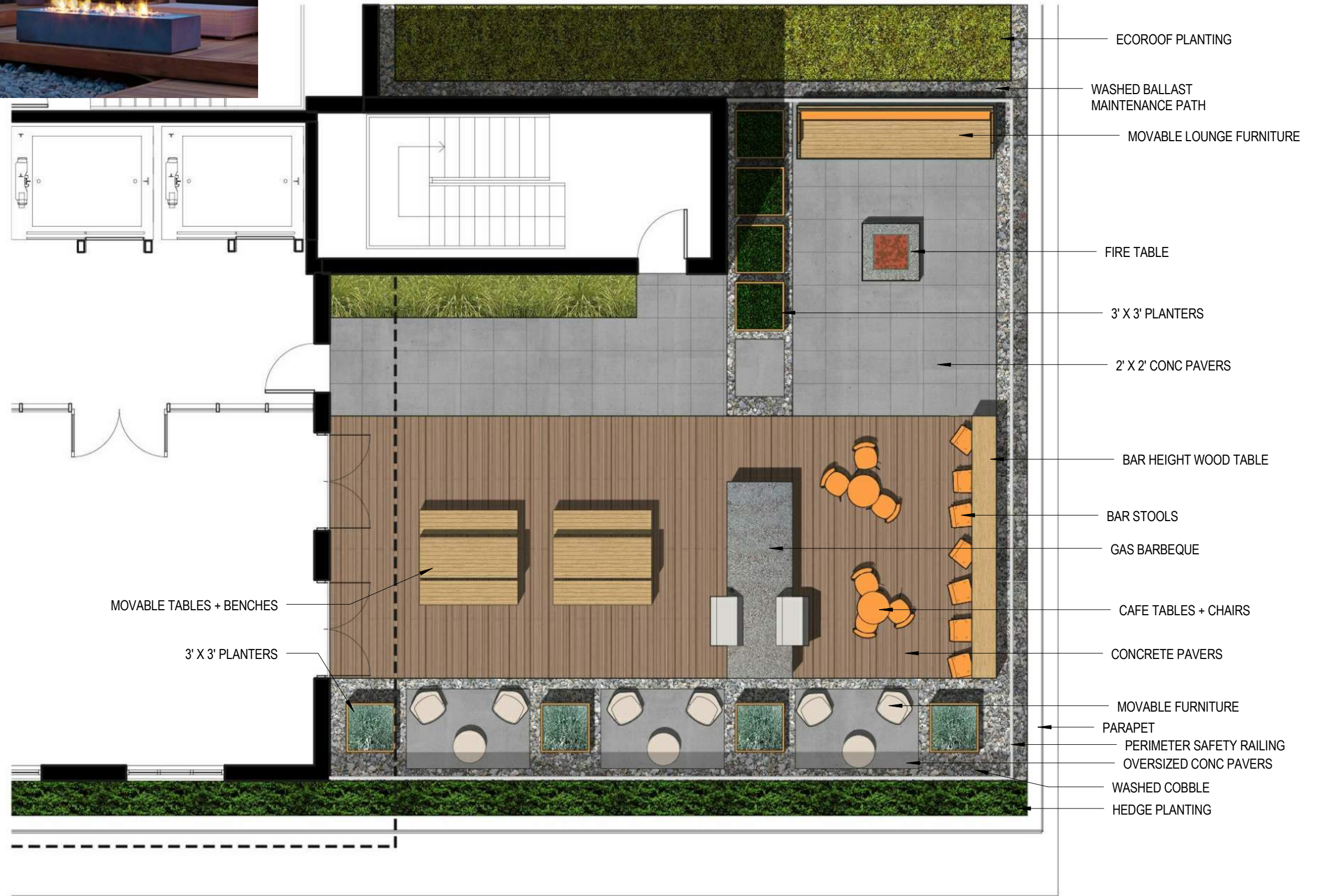
PLANTERS SET IN COBBLE



CONC PAVERS



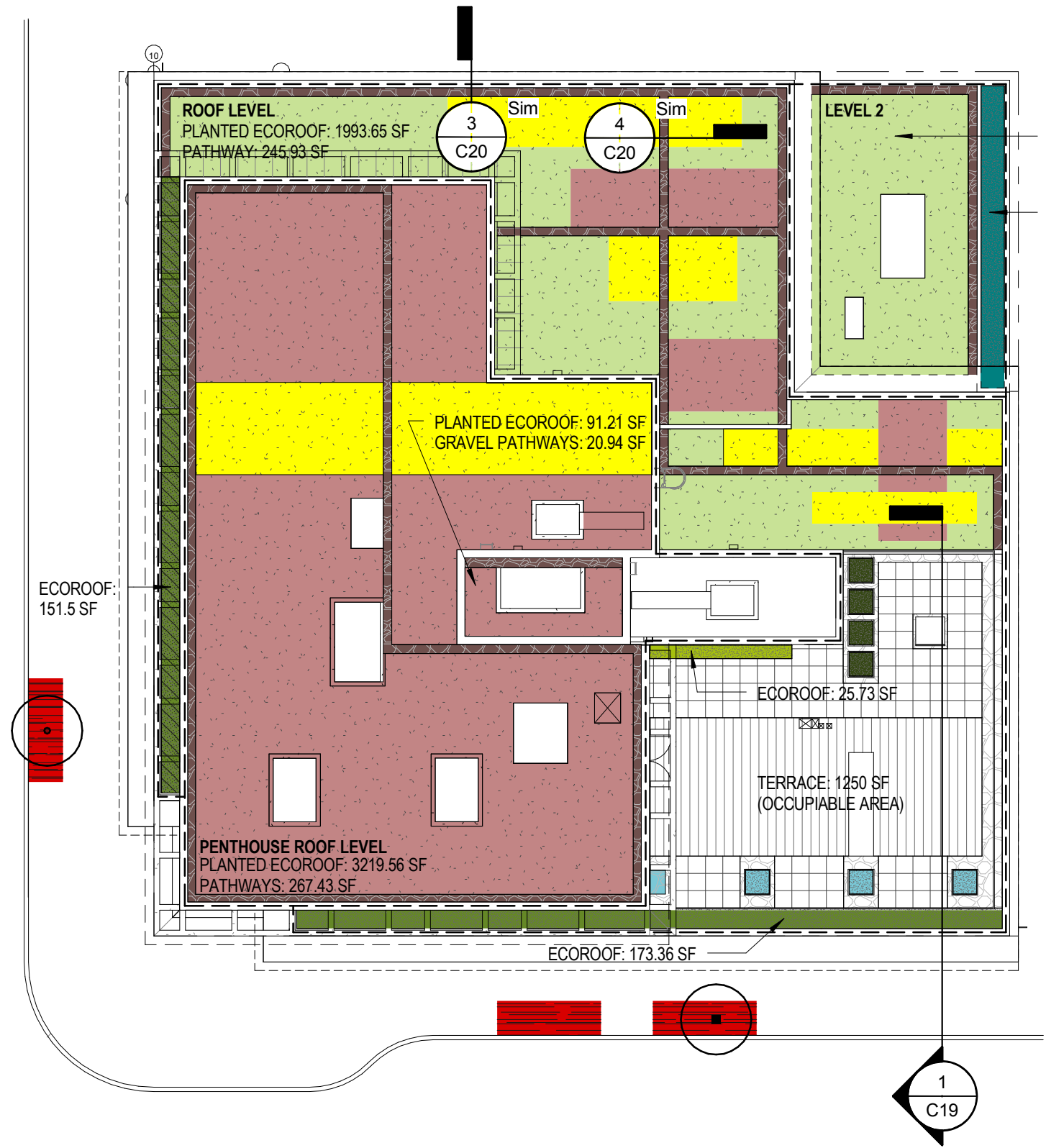
FIRE TABLE





# PLANT SCHEDULE

TYPE	BOTANICAL   COMMON NAME	SIZE
<b>TREES</b>		
	CARPINUS BETULUS 'FASTIGIATA'   PYRAMIDAL EUROPEAN HORNBEAM	3.5" CAL.
	QUERCUS FRAINETTO 'SCHMIDT'   FOREST GREEN OAK	3.5" CAL.
<b>SHRUBS</b>		
	EUONYMUS 'GREEN SPIRE'   GREEN SPIRE EUONYMUS	3 GAL.
	ILEX GLABRA 'SHAMROCK'   SHAMROCK INKBERRY	5 GAL.
<b>GRASSES</b>		
	CAREX ELATA 'AUREA'   BOWLES GOLDEN SEDGE	1 GAL.
	HELICTOTRICHON SEMPERVIRENS   BLUE OAT GRASS	1 GAL.
<b>GROUNDCOVERS</b>		
	"ALL SEASONS" SEDUM MIX PREPLANTED TRAY ECOROOF BY COLUMBIA GREEN	NONE
	"SHADE MIX" SEDUM MIX PREPLANTED TRAY ECOROOF BY COLUMBIA GREEN	NONE
	"COLOR MAX" SEDUM MIX PREPLANTED TRAY ECOROOF BY COLUMBIA GREEN	NONE
	RIGHT OF WAY PLANTER MIX CORNUS STOLONIFERA 'KELSEY'   KELSEY DOGWOOD PENNISETUM ALOPECUROIDES 'HAMELN'   DWARF FOUNTAIN GRASS RUDEBECKIA FULGIDA 'GOLDSTRUM'   BLACK-EYED SUSAN	3 GAL. 1 GAL. 1 GAL.
	STORMWATER PLANTER MIX CAREX TESTACEA   ORANGE SEDGE JUNCUS PATENS   SPREADING RUSH POLYSTICHUM MUNITUM   SWORD FERN	1 GAL. 1 GAL. 1 GAL.

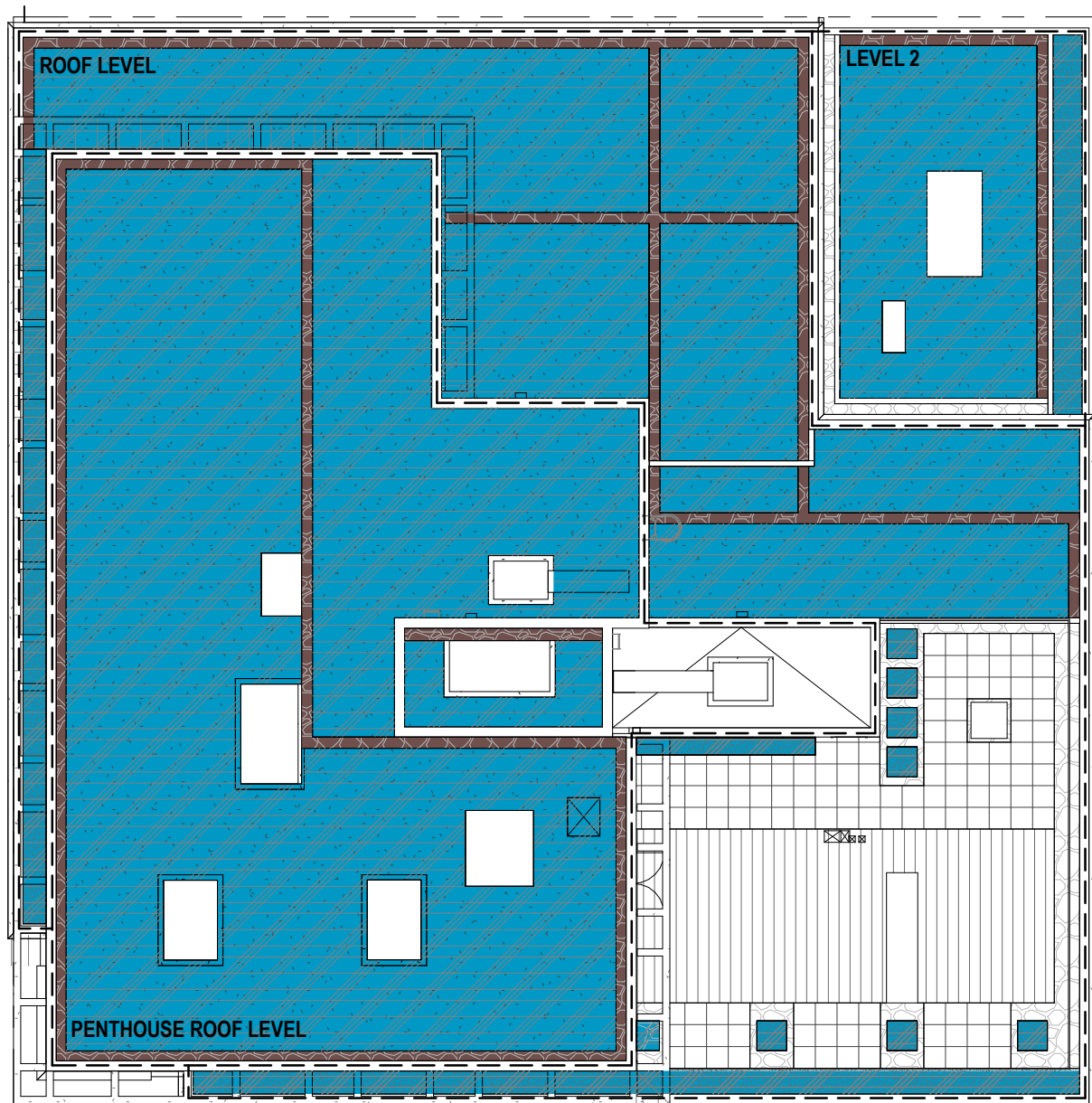


## CITY OF PORTLAND ECO-ROOF FAR BONUS INFO:

- TOTAL BUILDING FOOTPRINT: 9795 sf  
(w/o mechanical pads: 9453 sf)
- ECOROOF PLANTING PLAN SQUARE FOOTAGE BREAKDOWN:
 

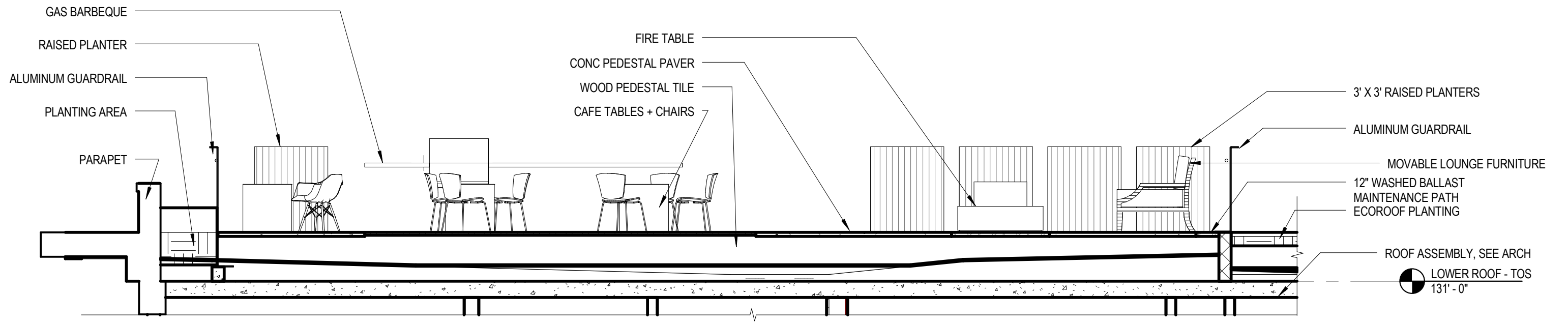
A. PENTHOUSE ROOF PLANTED ECOROOF:	3310.77 sf
B. PENTHOUSE ROOF PATHWAYS:	288.37 sf
C. ROOF LEVEL PLANTED ECOROOF:	2344.24 sf
D. ROOF LEVEL PATHWAYS:	245.93 sf
E. LEVEL 2 PLANTED ECOROOF:	524.15 sf
F. LEVEL 2 PATHWAYS:	134.8 sf
- TOTAL ECOROOF: 6848.26 sf
- TOTAL PATHWAYS: 669.1 sf
- %PATHWAYS: 9.7%
- STORMWATER PLANTER: 94 sf





## LEGEND - IRRIGATION

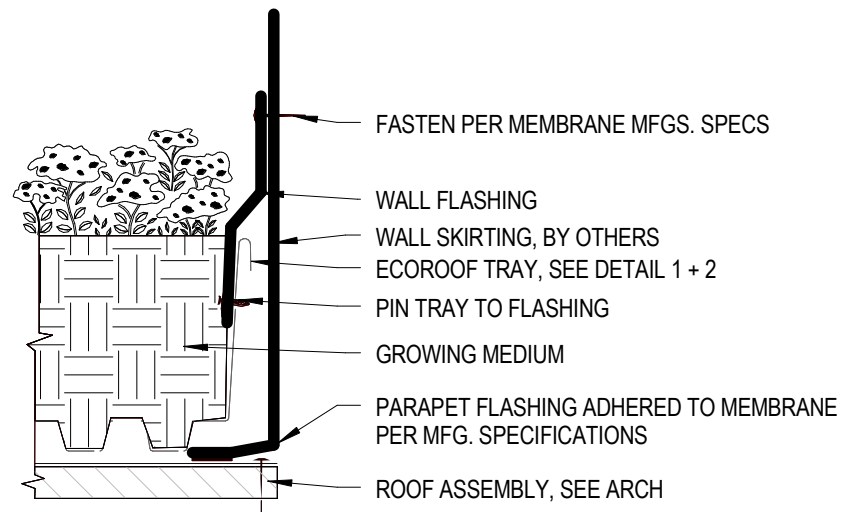
- IN-LINE DRIP IRRIGATION
- P.O.C. POINT OF CONNECTION, LOCATION TO BE DETERMINED
- ⊕ AUTOMATIC CONTROL VALVE, LOCATION TO BE DETERMINED
- ⊙ QUICK COUPLER, LOCATIONS TO BE DETERMINED
- Ⓢ AUTOMATIC "SMART" CONTROLLER, LOCATION TO BE DETERMINED
- IRRIGATION MAINLINE, LOCATION TO BE DETERMINED



TERRACE CROSS SECTION

1

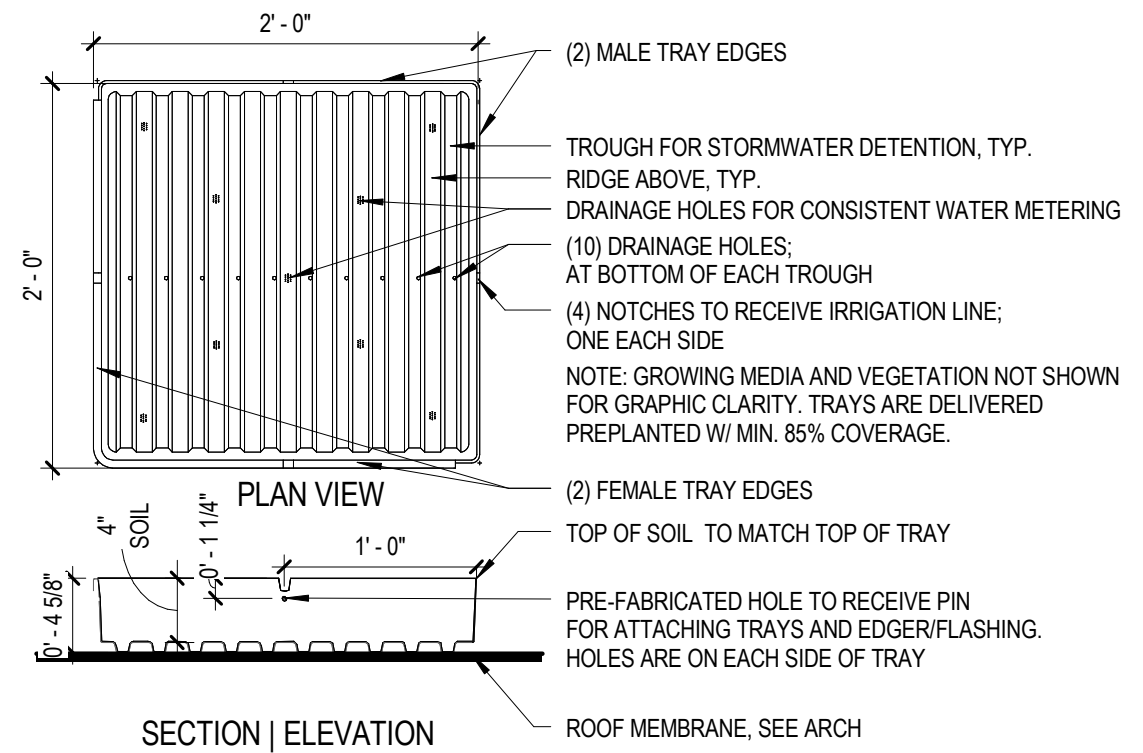
1/4" = 1'-0"



ECOROOF TRAY AT WALL

3" = 1'-0"

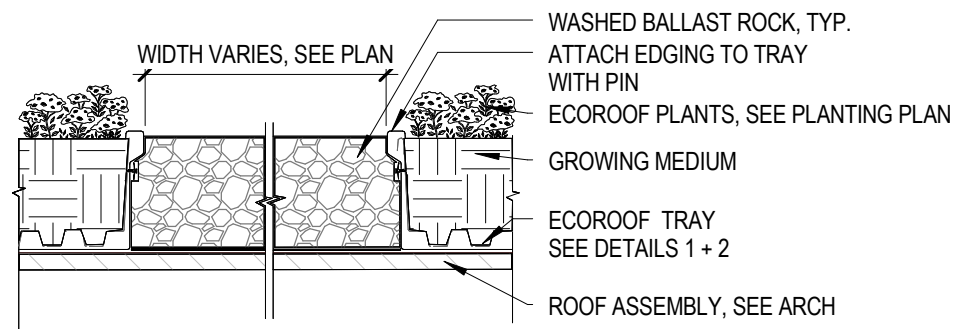
3



ECOROOF PREPLANTED TRAY DETAIL

1" = 1'-0"

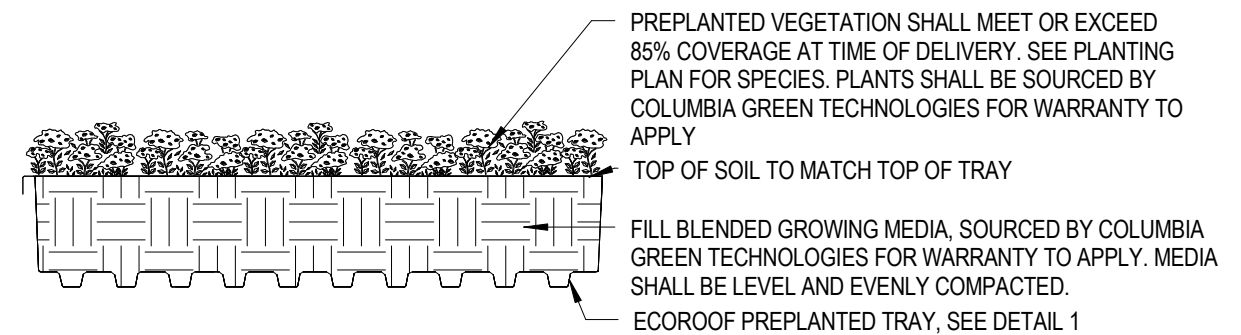
1



ECOROOF AT INTERIOR BALLAST WALK

1 1/2" = 1'-0"

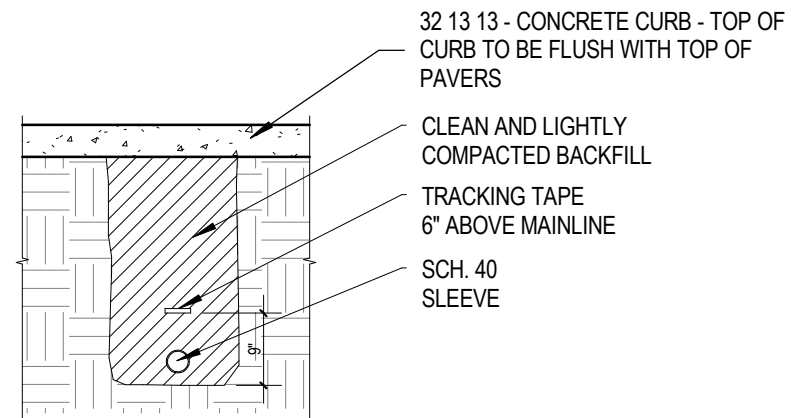
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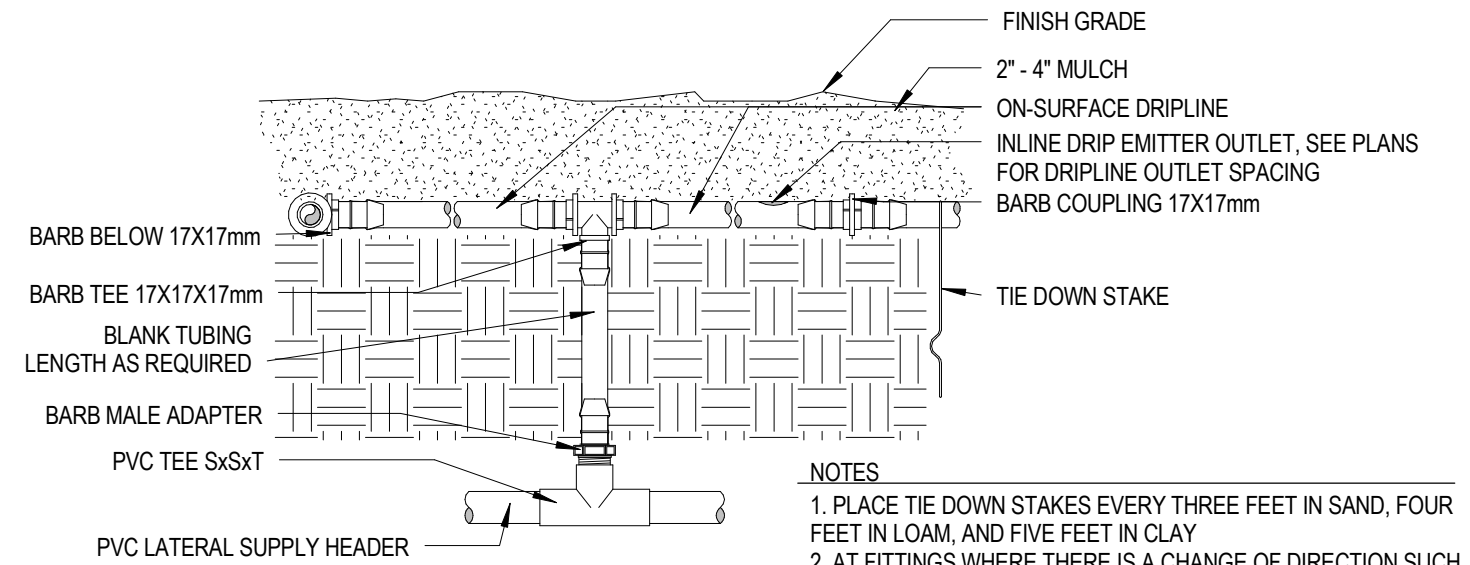
ECOROOF TRAY PLANTING DETAIL

1 1/2" = 1'-0"

2



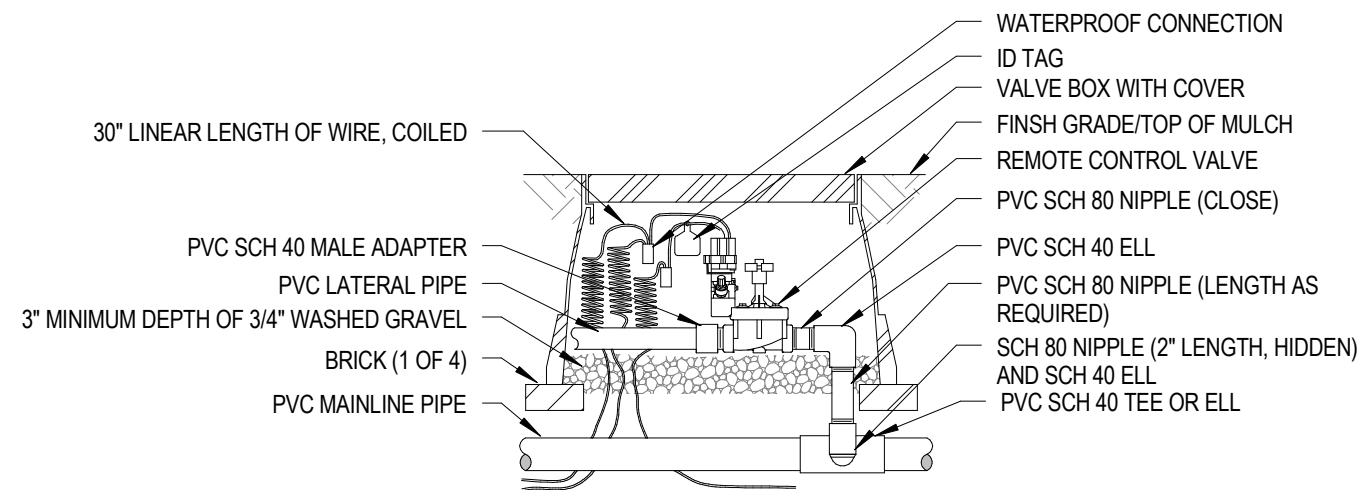
IRRIGATION SLEEVE 3  
1/2" = 1'-0"



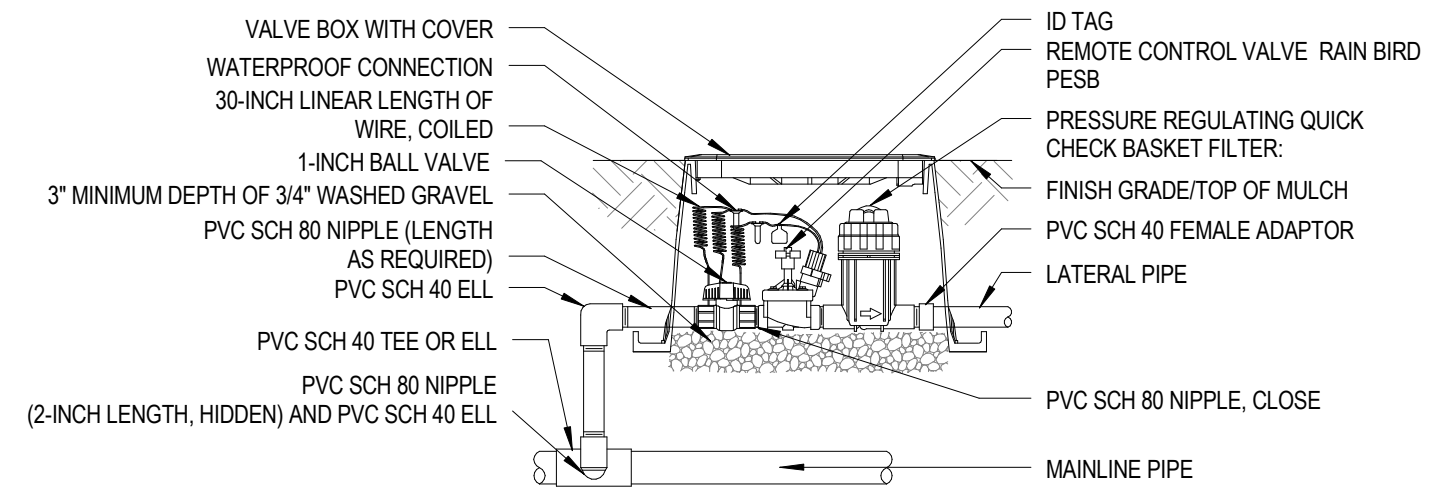
NOTES

1. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND FIVE FEET IN CLAY
2. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.

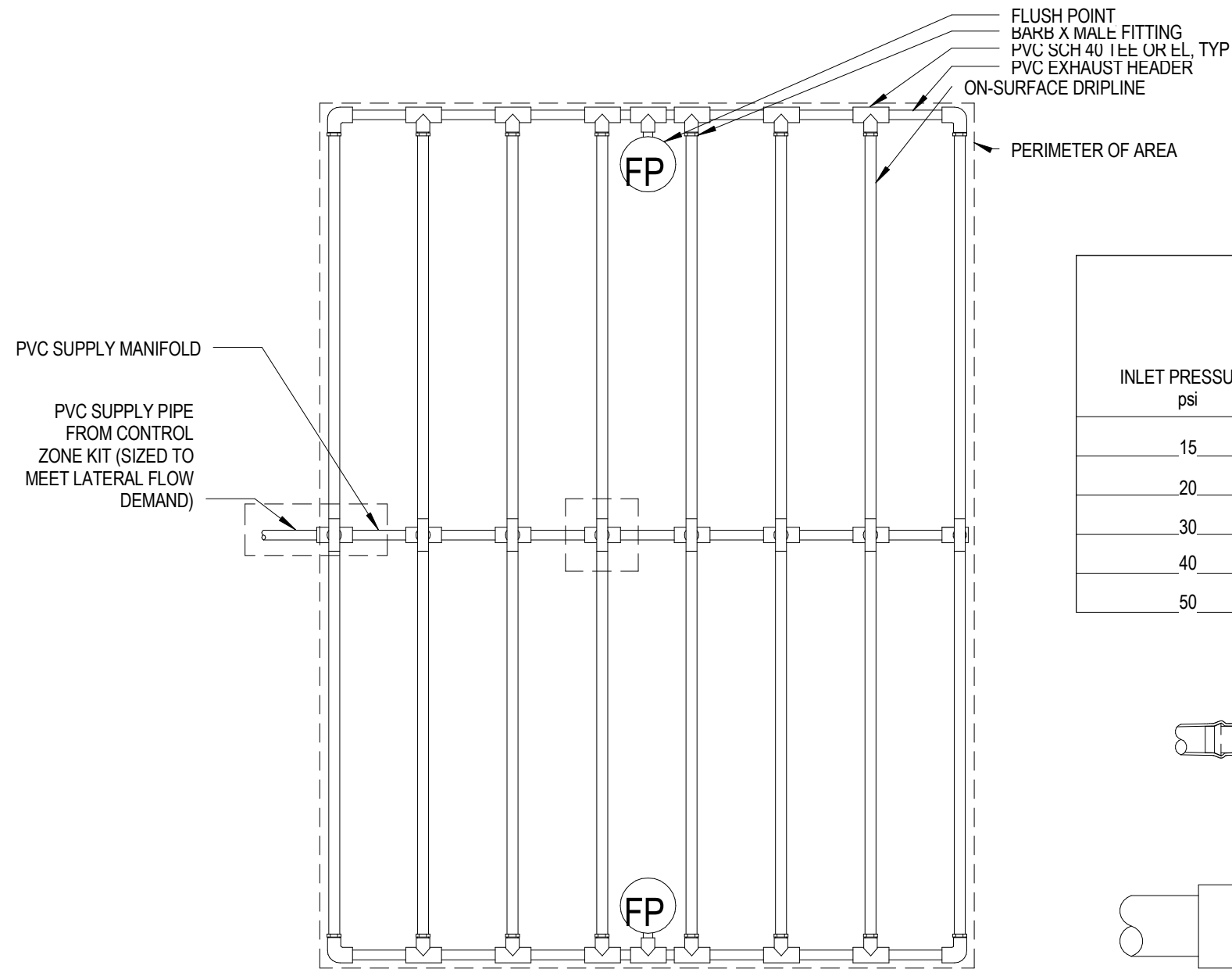
ON-SURFACE DRIPLINE RISER ASSEMBLY 1  
1/4" = 1'-0"



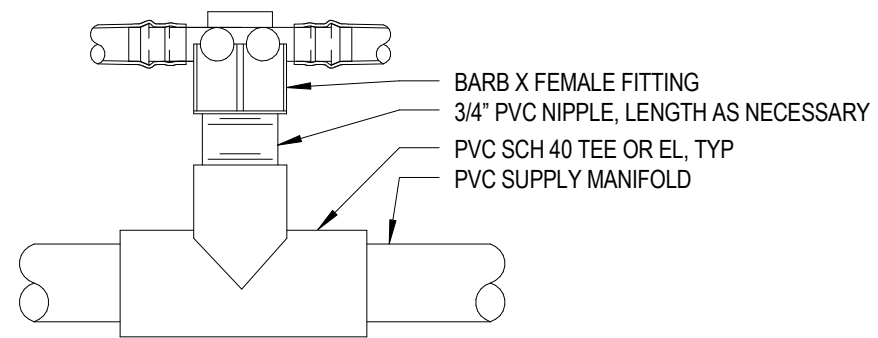
ELECTRIC REMOTE-CONTROL VALVE 4  
3/4" = 1'-0"



DRIP CONTROL ZONE KIT 2  
3/4" = 1'-0"



INLET PRESSURE psi	12" SPACING		18" SPACING		24" SPACING	
	NOMINAL FLOW (GPH)		NOMINAL FLOW (GPH)		NOMINAL FLOW (GPH)	
	.6	.9	.6	.9	.6	.9
15	255	194	357	273	448	343
20	291	220	408	313	514	394
30	350	266	494	378	622	478
40	396	302	560	428	705	541
50	434	333	614	470	775	594



NOTES:  
 1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION.  
 2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.

DR - DRIPLINE CENTER + FEED LAYOUT

3/8" = 1'-0"

1

# ECOROOF OPERATIONS AND MAINTENANCE MANUAL

Ecoroofs are vegetative systems that retain and filter stormwater and provide aesthetic and energy conservation benefits. The Extensive Ecoroof filters stormwater with a plant palette composed primarily of sedum plants.

Soil medium, vegetation, irrigation and drains shall be inspected for proper operations throughout the life of the ecoroof. All elements shall be inspected annually. Facilities personnel shall keep a log, recording all inspection dates, observations, and maintenance activities. Work orders and invoices shall be kept on file and made available to City inspector upon request. The following items shall be inspected and maintained as stated:

Soil Substrate / Growing Medium shall sustain healthy plant cover and infiltrate within 48 hours

- Growing medium shall be inspected for evidence of erosion from wind, water and settlement. If erosion channels are evident, they shall be stabilized with additional soil substrate/growth medium and covered with additional plants. All depressions as the result of maintenance foot traffic activity, settlement, etc. shall be filled flush with adjacent medium. Plant mortality as a result of foot traffic shall be replaced immediately. Bare soil shall be planted per the planting design. Soil shall drain within 48 hours.

Ecoroof System shall be operated and maintained in accordance with manufacturer's requirements. Drain inlets shall be kept unrestricted

- Inlet pipe shall be cleared when soil substrate, vegetation, debris, litter or other materials clog the drain inlet. Sources of sediment and debris shall be identified and corrected.
- Determine if drain inlet pipe is in good condition and correct as needed.
- Contact membrane manufacturer if tears or perforations are found in the membrane.

Vegetation shall be maintained to provide 95% plant cover.

- During the Establishment Period, dead or damaged plants shall be replaced by contractor once per month as needed until expiration of warranty after which the Owner or building facilities shall be responsible for maintenance. During the LongTerm Period, dead plants shall generally be replaced once per year in the fall months.
- Fallen leaves and debris from deciduous plant foliage shall be removed.
- Nuisance and prohibited vegetation from the Portland Plant List shall be removed when discovered.
- Weeding shall be manual with no herbicides or pesticides used. Weeds shall be removed regularly and not allowed to

accumulate.

- Vegetation must cover at least 90% of the facility at maturity. Plants should be replanted from the original planting plan or can be substituted from the plant list in the SWMM.

Irrigation of Extensive Ecoroof

- During the Establishment Period (2 years), the irrigation timer shall be set to assure plant establishment at a rate of .25 inch every 14th day during the months of June and September (warm periods) and .25 inch every seventh day during July and August (hot dry periods).
- During Long-Term Period (after 2 full years), water at a rate of .25 inch every 14th day during the months of July and August to maintain plant cover. Irrigation at the same rate may be used during the months of May, June, September, and October only as needed. No irrigation is allowed from the beginning of November through the end of April.
- Irrigation watering times shall be modified as needed to accommodate fluctuations in dry and wet periods with the exception that at no time shall the irrigation exceed .5 inches per ten days. Accurate monitoring and assessment of temperature and rainfall shall dictate schedule and watering lengths. Automatic rain shut off valves are to be inspected and any debris removed during irrigation regime.

Spill prevention measures from mechanical systems located on roof shall be exercised when handling substances that can contaminate stormwater

- Release if pollutants shall be corrected as soon as identified.

- Best management practices shall be implemented to prevent hazardous wastes from contaminating stormwater.

Record time, date, weather and site conditions when site activities contaminate stormwater.

Training and/or written guidance information

- A copy of O&M Plan for maintaining Ecoroofs shall be provided to the Owner's maintenance personnel for reference.

Building facilities / maintenance personnel shall receive instruction as to needs and regular schedules for properly maintaining the health and vigor of the ecoroof plantings and associated drainage surface.

Access and Safety to the Ecoroof

- No tenant circulation or egress routes are proposed or allowed on extensive ecoroof areas. Maintenance personnel shall access roof via utility access points and tie into safety points as needed when inspecting or maintaining perimeter areas that pose a safety concern.

- Aesthetics of the Ecoroof shall be maintained as an asset to the property owner and community

- Evidence of damage or vandalism shall be repaired and accumulation of trash debris shall be removed upon discovery.

Insects shall not be harbored at the Ecoroof

- Standing water creating an environment for development of insect larvae shall be eliminated by manual means. Chemical sprays shall not be used.

- Record time, date, weather, and site conditions when insect or rodent activity is observed. Record when insect or rodent activity abated or ended.

Annual Maintenance Schedule:

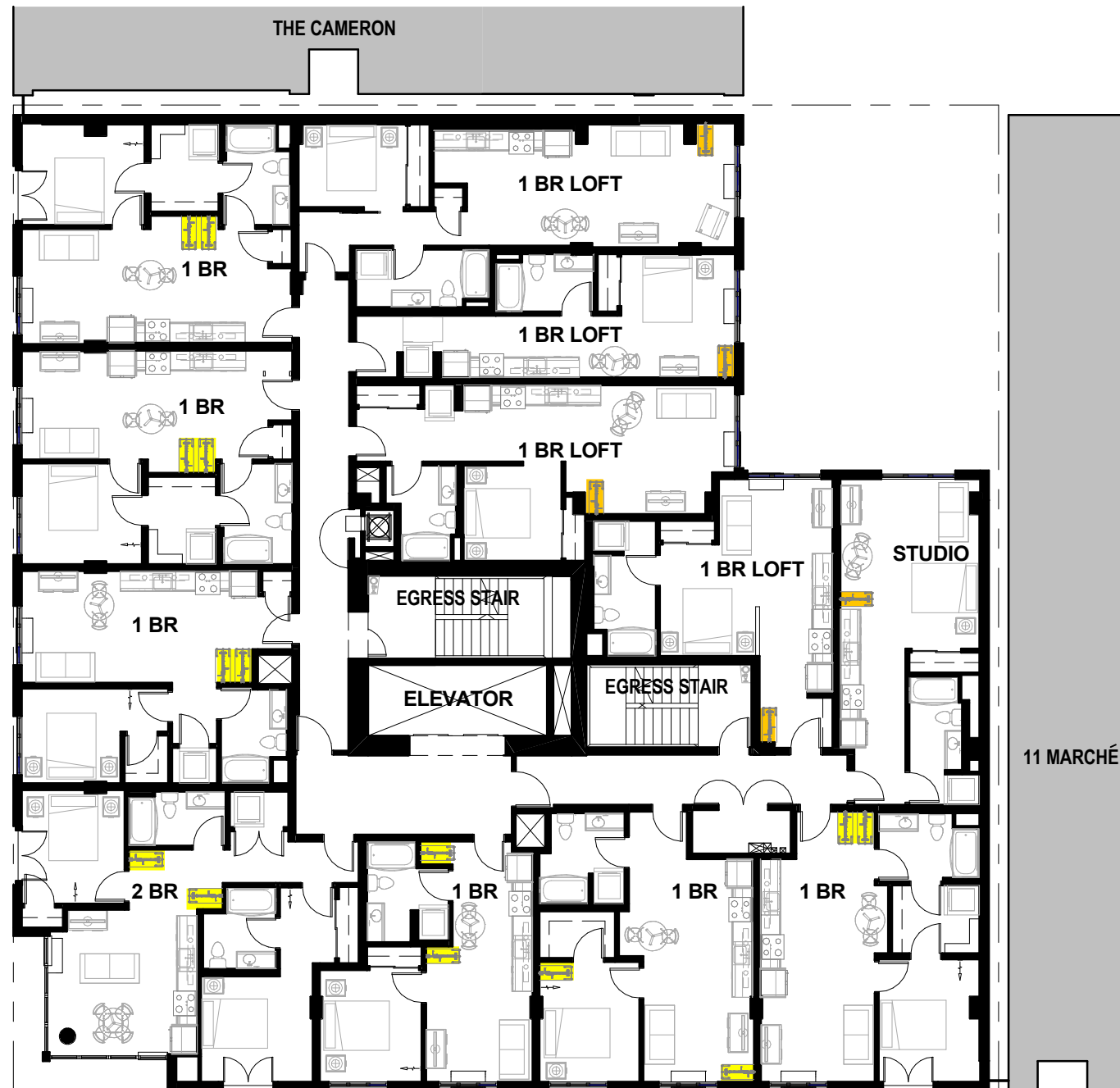
*Summer:* Make necessary repairs. Improve growing medium as needed. Clear drains. Irrigate as described above.

*Fall:* Replace exposed soil and dead plants. Remove sediment and debris from drains. Provide erosion controls for base soil if necessary.

*Winter:* Monitor infiltration/flow rates. Clear drains as needed.

*Spring:* Replant exposed soil and dead plants. Remove sediment and debris from drains.

*All Seasons:* Weed as necessary.



= (1) WALL-MOUNTED BIKE PARKING SPOT  
 = (2) WALL-MOUNTED BIKE PARKING SPOTS

**BIKE PARKING PROVIDED:**

LEVELS 2-13:  
 (1) BIKE PER UNIT x (5) UNITS = (7) BIKES  
 (2) BIKES PER UNIT x (7) UNITS = (14) BIKES  
 BIKE SPOTS PER LEVEL = (19) BIKES x (12 LEVELS)  
 LEVELS 2-13 TOTAL = (228) BIKES

*BUILDING TOTAL = (228) BIKE PARKING SPOTS*

**BIKE PARKING REQUIRED:**

LONG TERM:  
 (1.5) BIKES PER (146) UNITS = (219) BIKES PARKING SPOTS

SHORT TERM:  
 (1) PER (20) UNITS = (8) SPACES VIA BICYCLE PARKING FUND





CHILEHAUS  
HAMBERG



CHILEHAUS  
HAMBERG

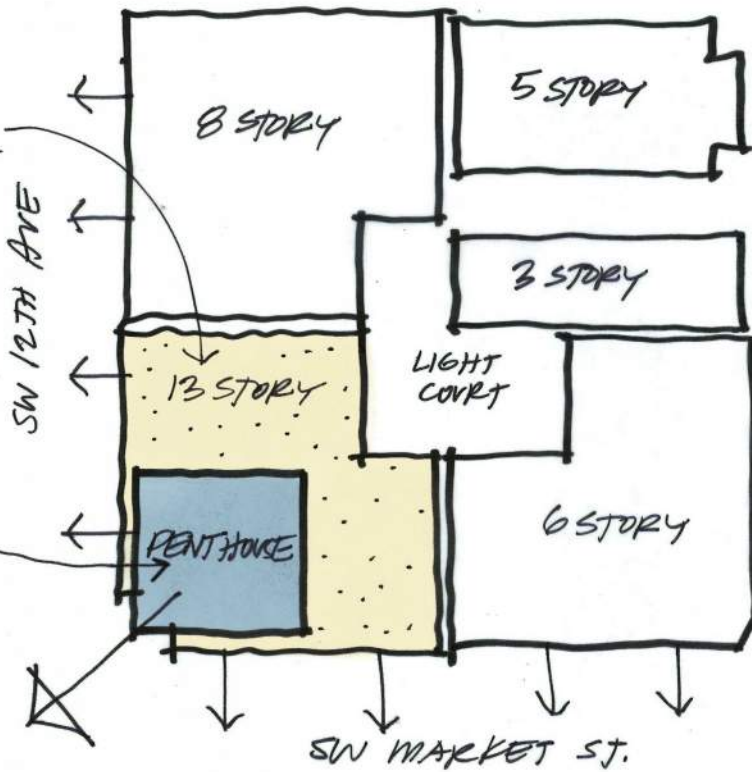


SPALDING BUILDING  
PORTLAND

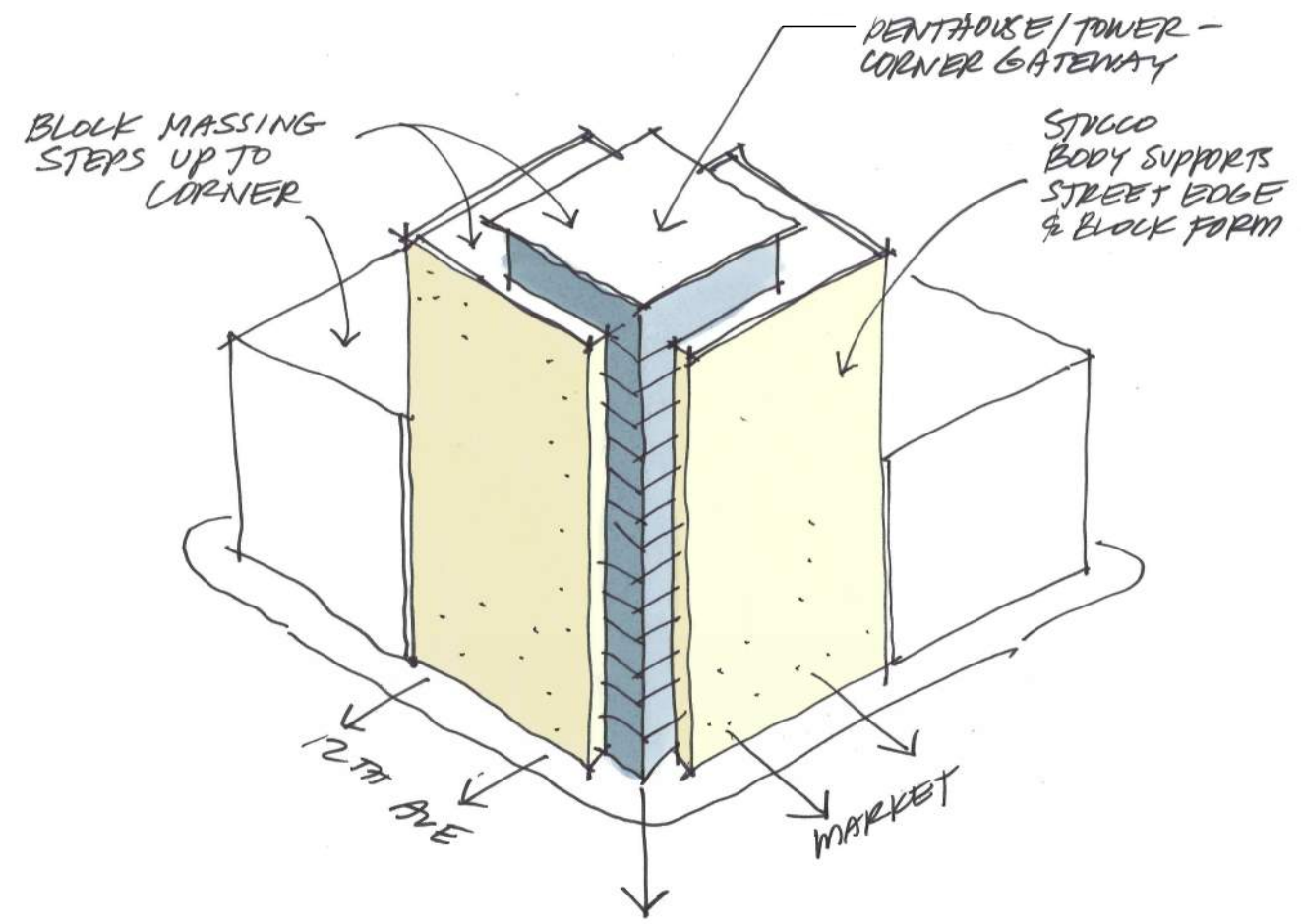


WEATHERLY BUILDING  
PORTLAND

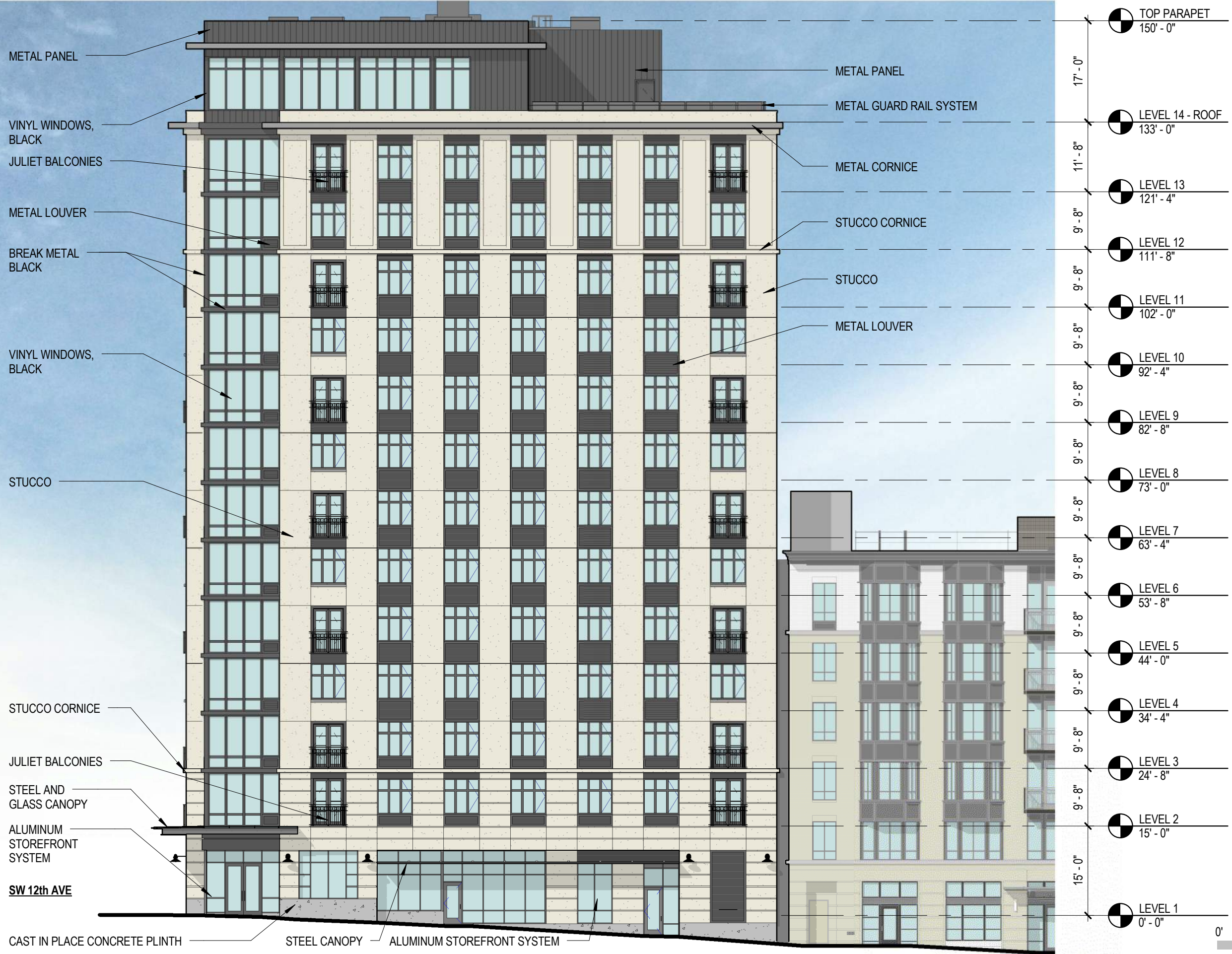
- BLOCK MASSING STEPS UP TO SW CORNER
- STUCCO BODY SUPPORTS STREET EDGE/FABRIC
- PENTHOUSE AT CORNER CREATES GATEWAY



BLOCK MASSING CONCEPT



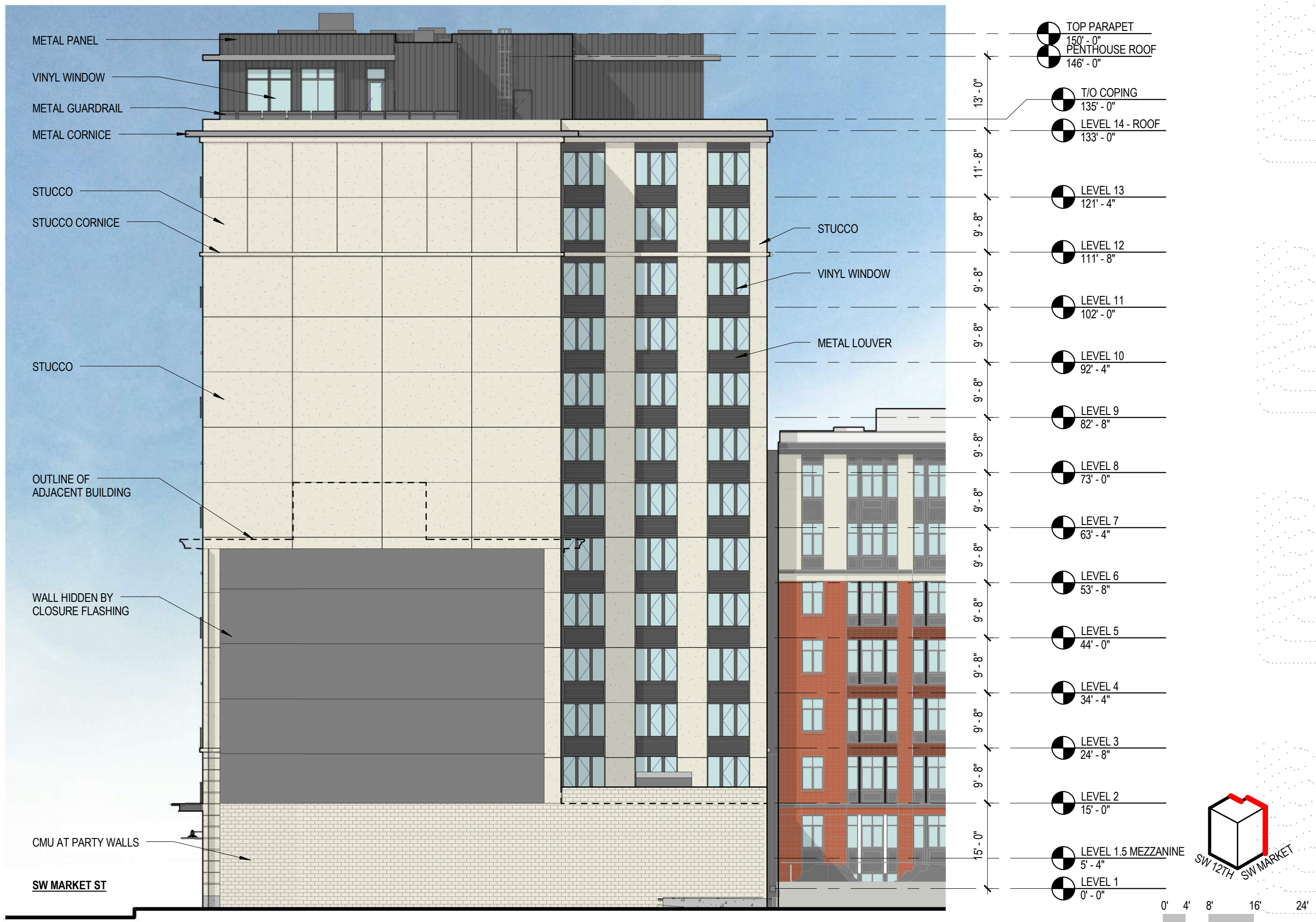
BUILDING MASSING CONCEPT

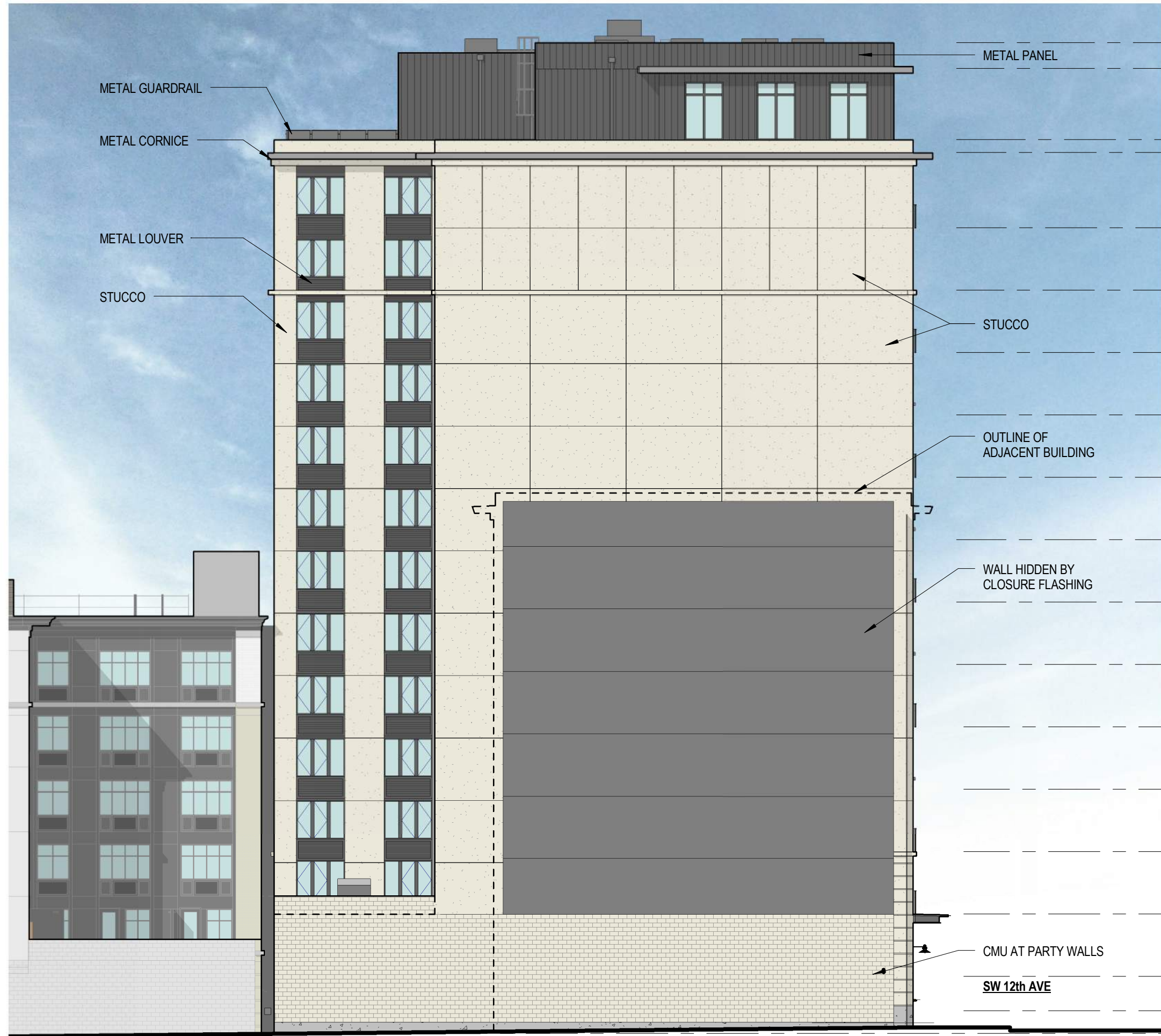


**SW 12th AVE**

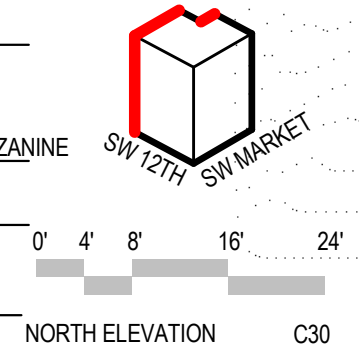


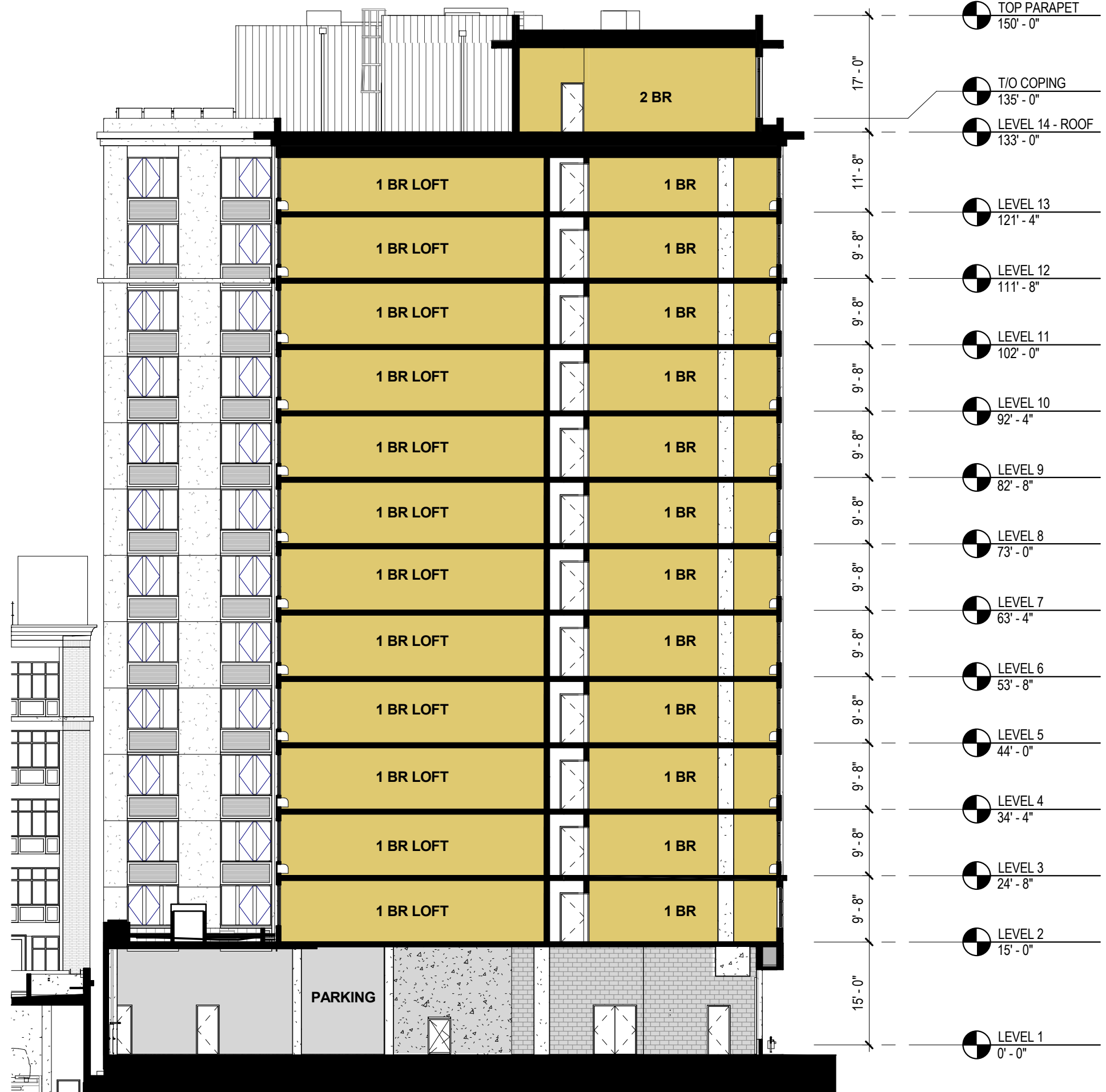






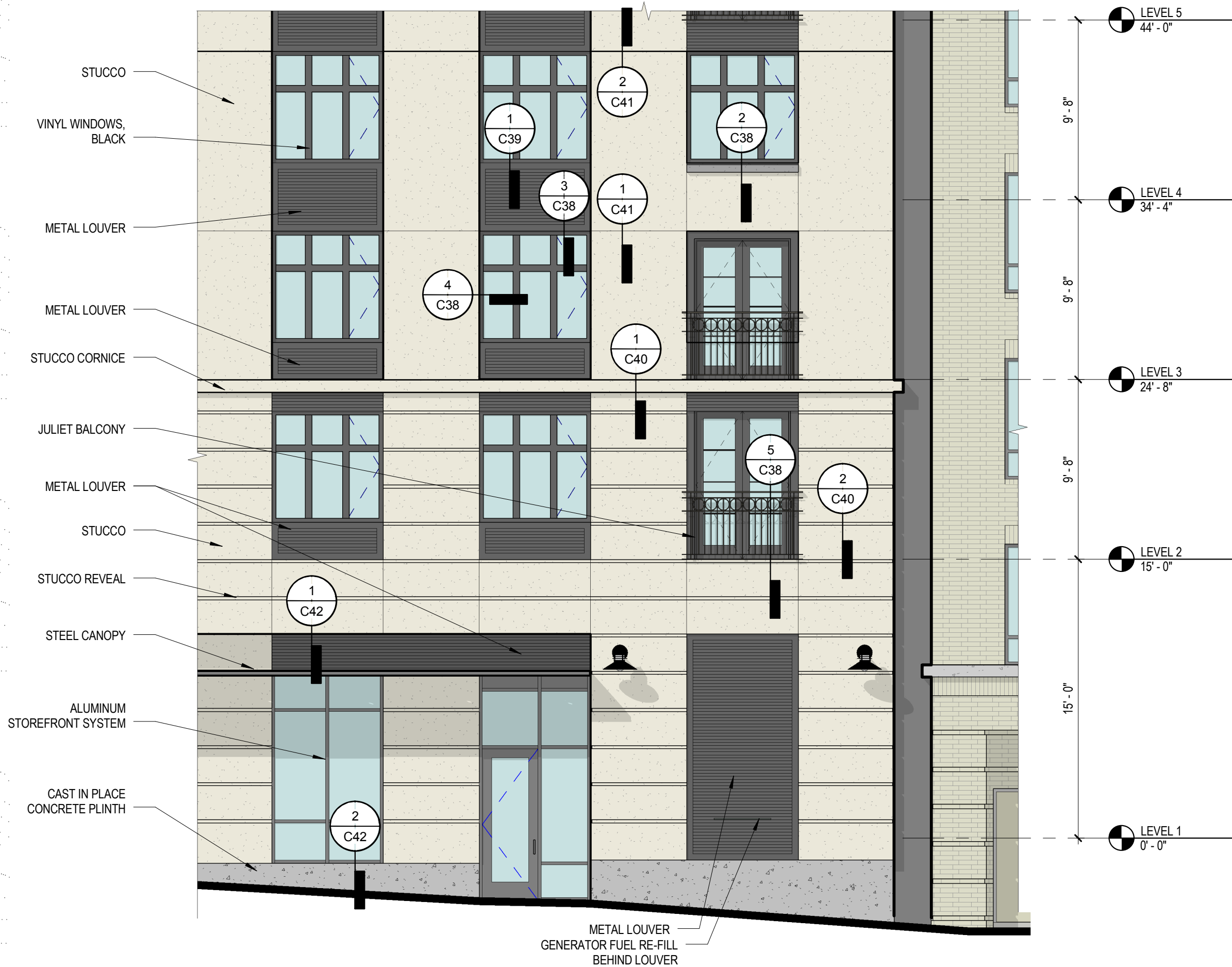
150' - 0"	TOP PARAPET
146' - 0"	PENTHOUSE ROOF
135' - 0"	T/O COPING
133' - 0"	LEVEL 14 - ROOF
121' - 4"	LEVEL 13
111' - 8"	LEVEL 12
102' - 0"	LEVEL 11
92' - 4"	LEVEL 10
82' - 8"	LEVEL 9
73' - 0"	LEVEL 8
63' - 4"	LEVEL 7
53' - 8"	LEVEL 6
44' - 0"	LEVEL 5
34' - 4"	LEVEL 4
24' - 8"	LEVEL 3
15' - 0"	LEVEL 2
5' - 4"	LEVEL 1.5 MEZZANINE
0' - 0"	LEVEL 1
-3' - 6"	LEVEL 0

















METAL PANEL - 12" WIDE  
FLUSH INTERLOCK

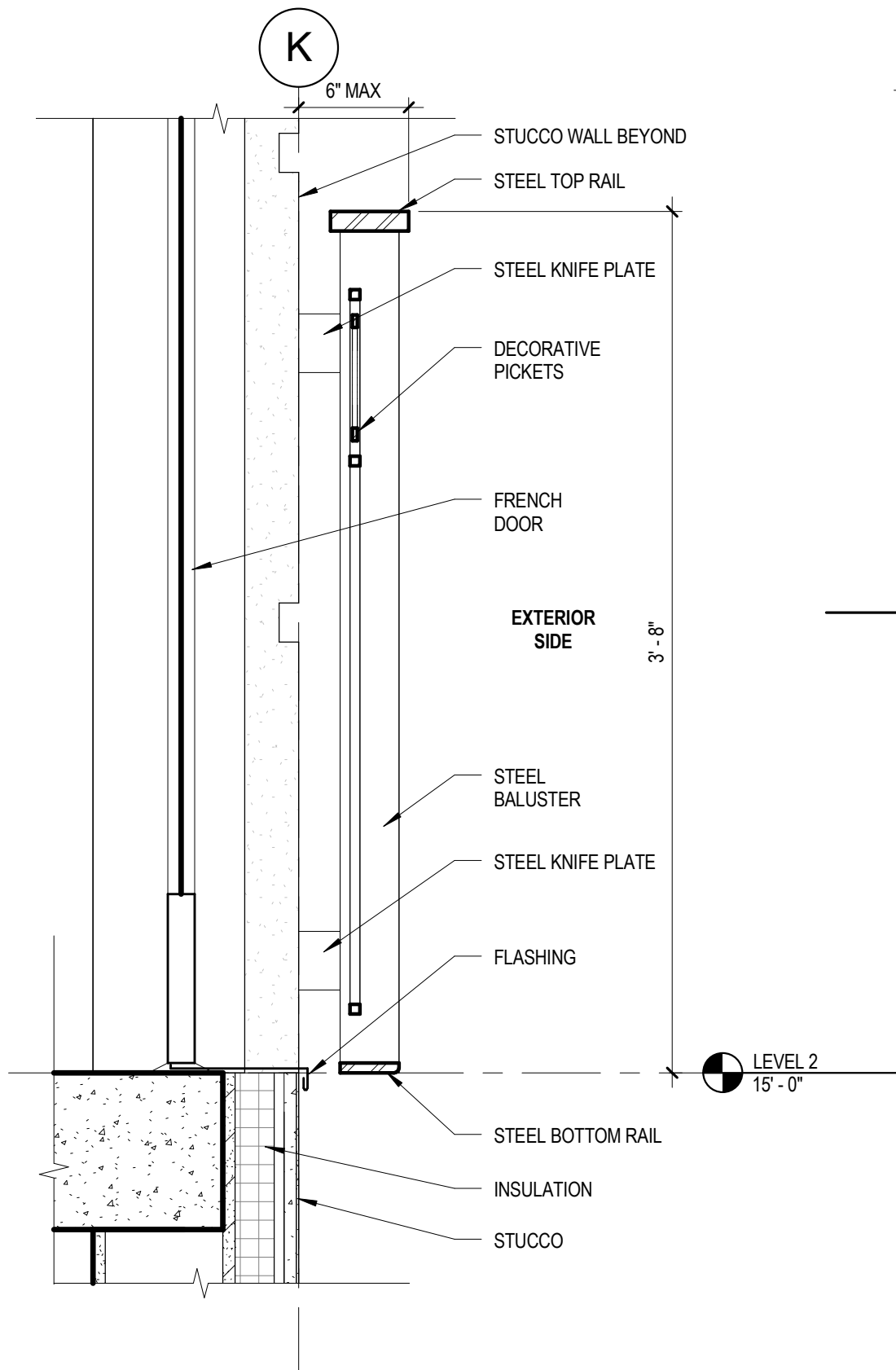


PERFORATED HIGH-SPEED  
COILING DOOR



GLASS CANOPY  
ALUMINUM  
STOREFRONT GLAZING  
BLACK VINYL WINDOWS  
STUCCO

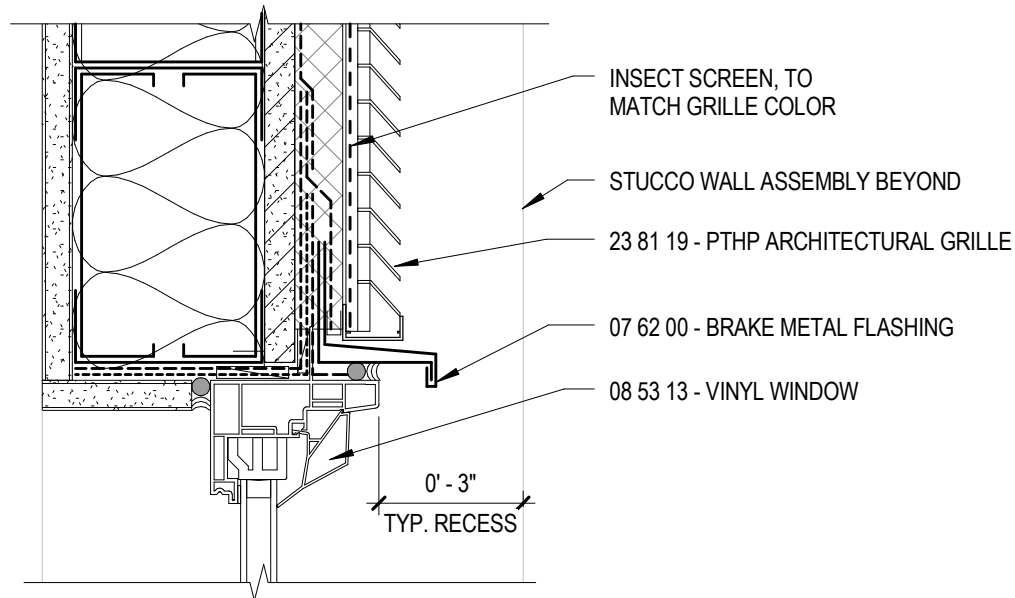




JULIET BALCONY SECTION

1 1/2" = 1'-0"

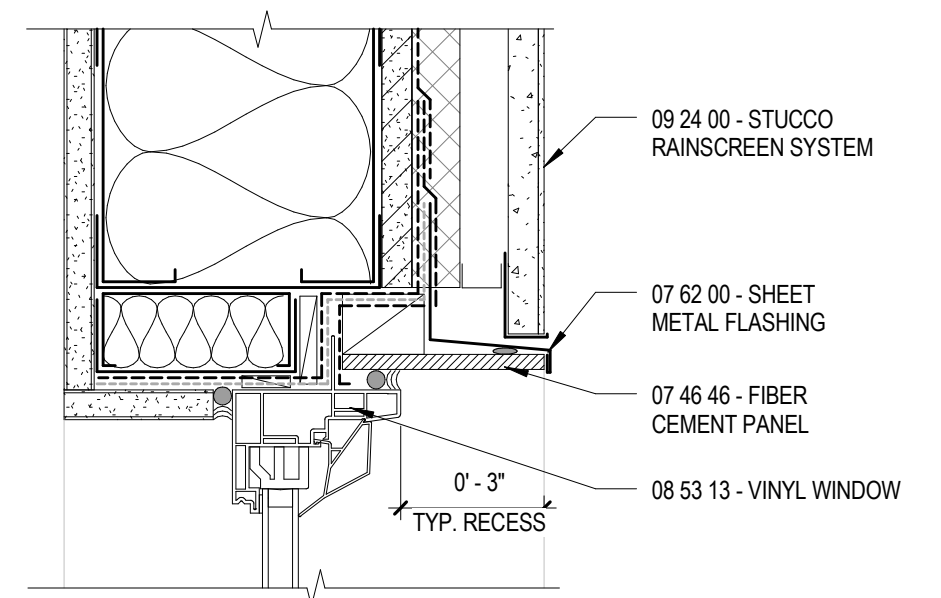
5



WINDOW HEAD @ METAL LOUVER

3" = 1'-0"

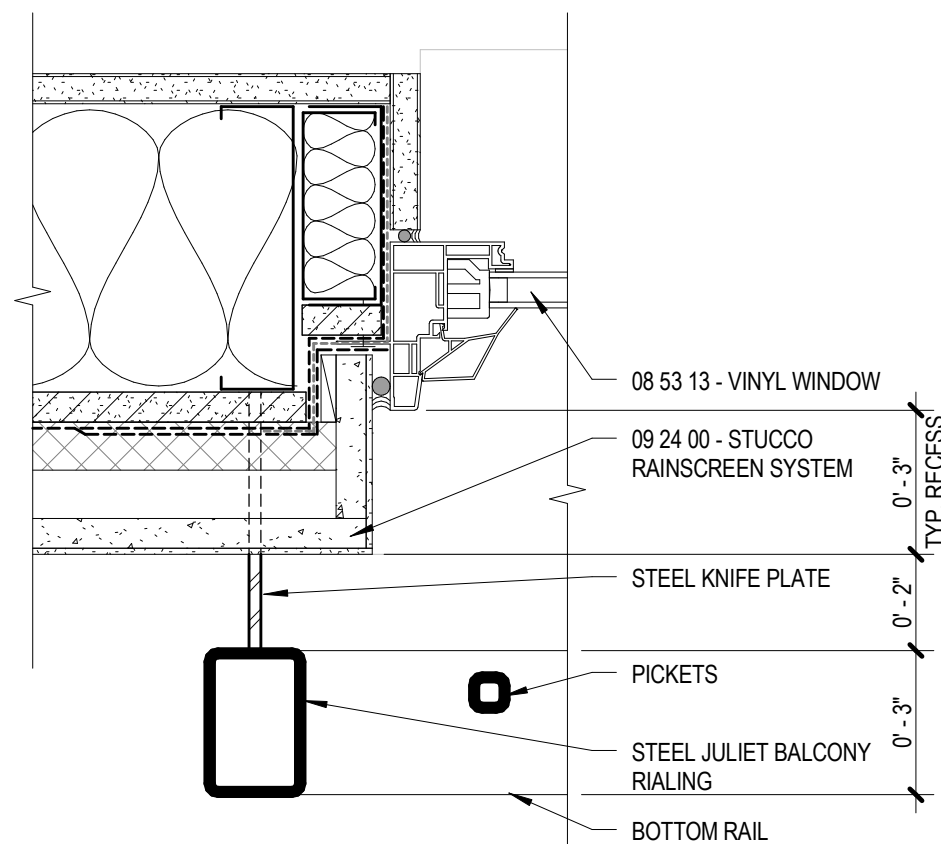
3



WINDOW HEAD @ STUCCO

3" = 1'-0"

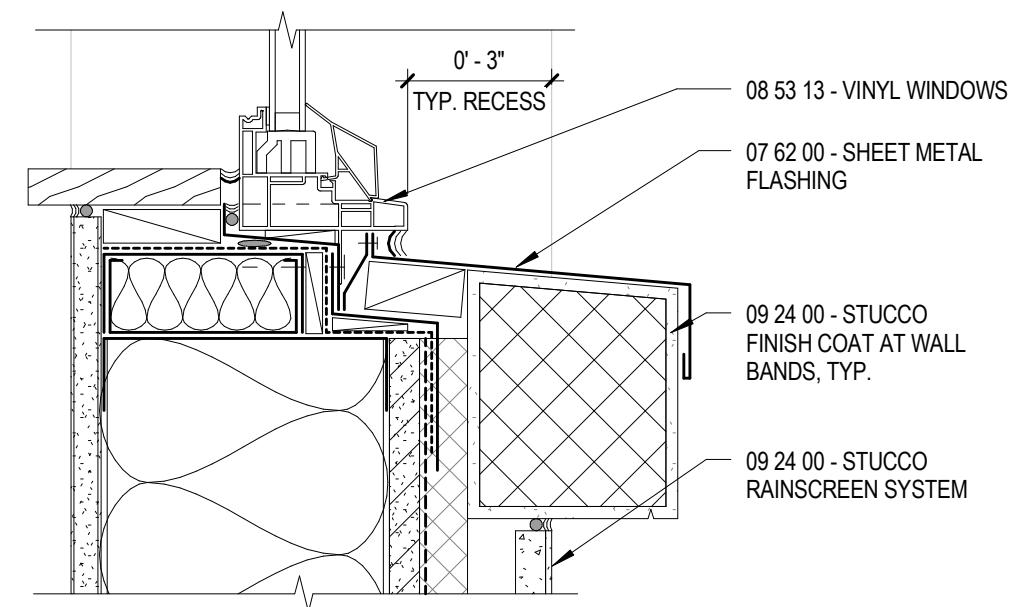
1



WINDOW JAMB @ STUCCO

3" = 1'-0"

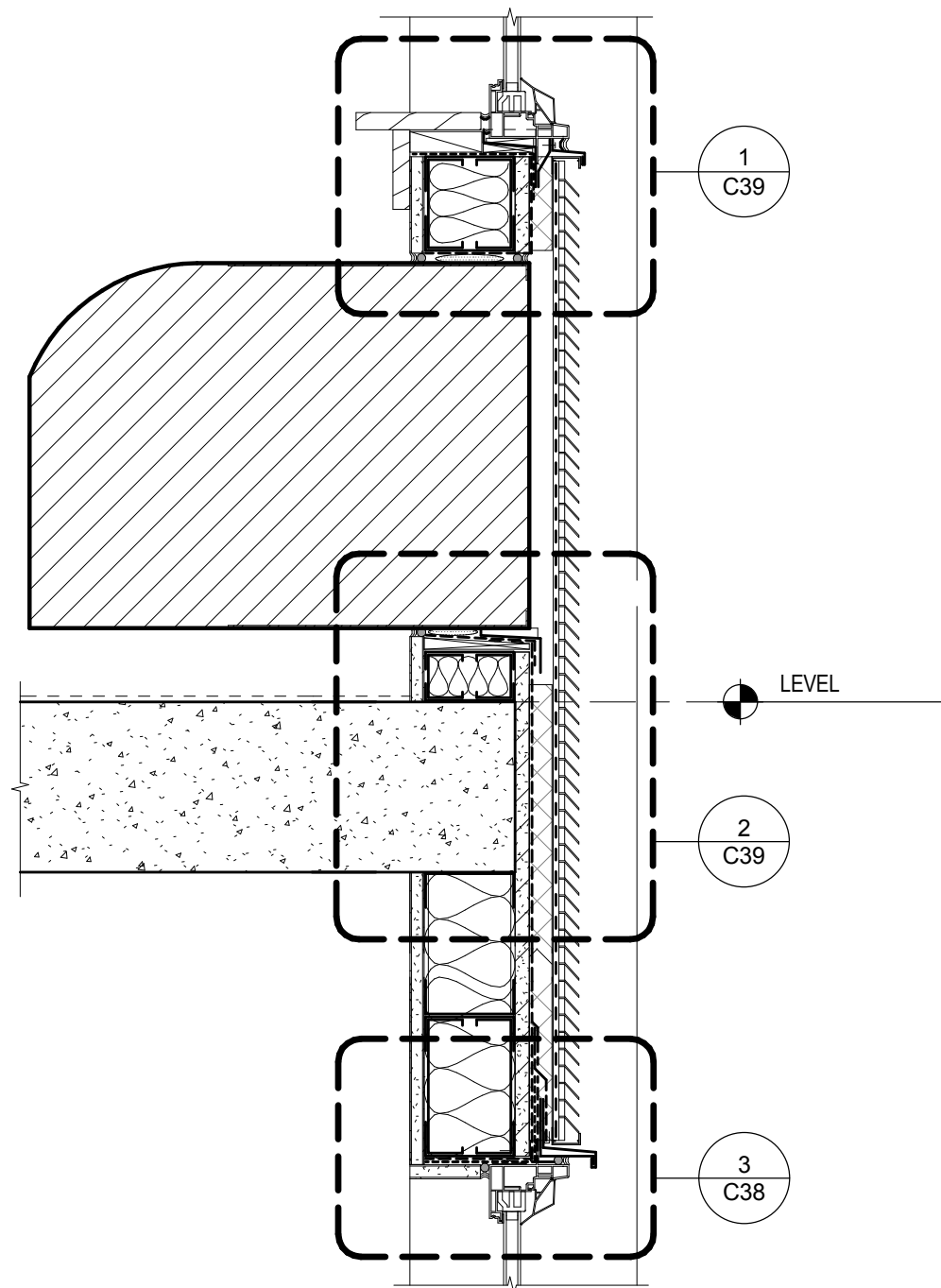
4



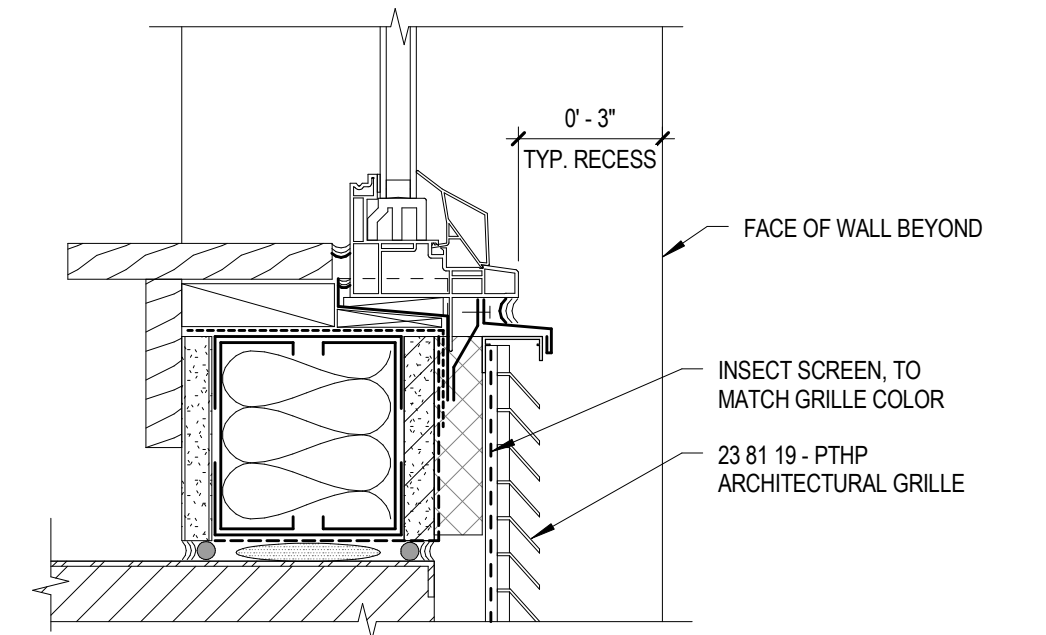
WINDOW SILL @ STUCCO LEDGE

3" = 1'-0"

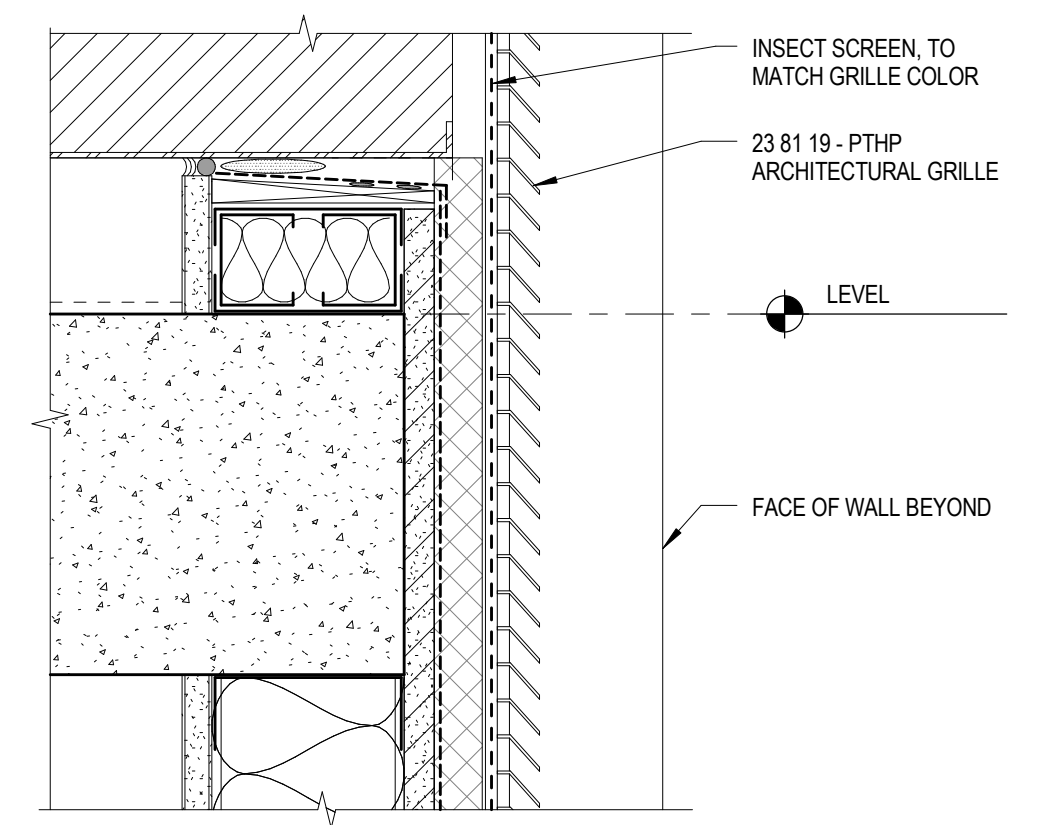
2



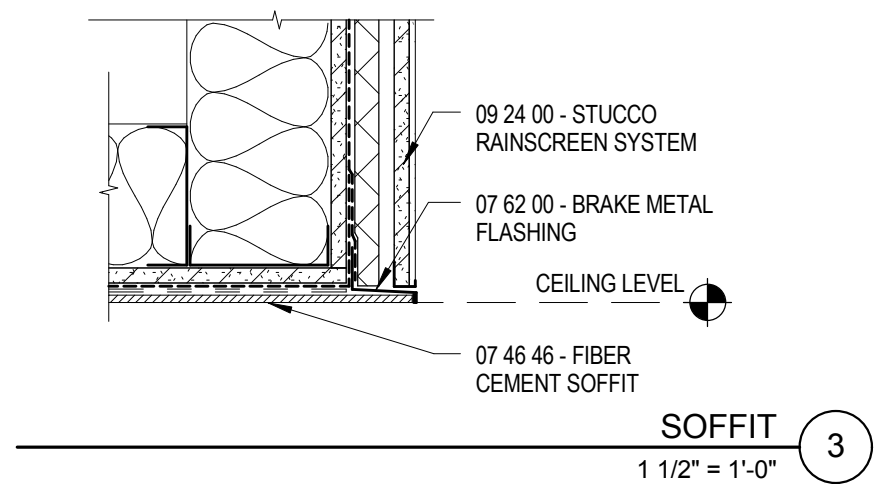
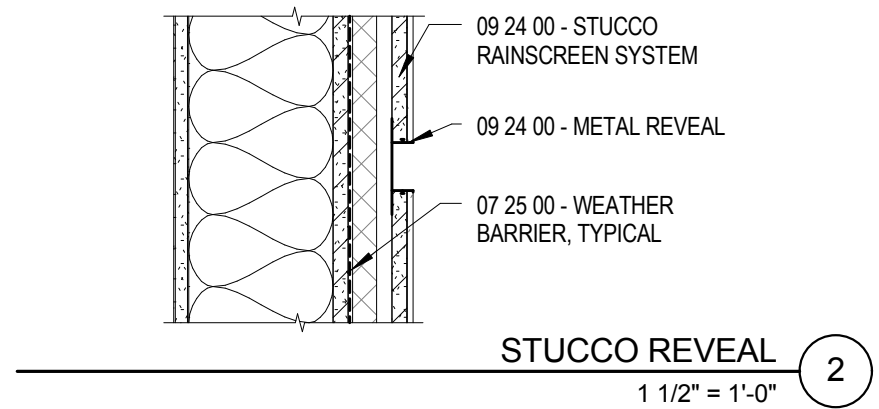
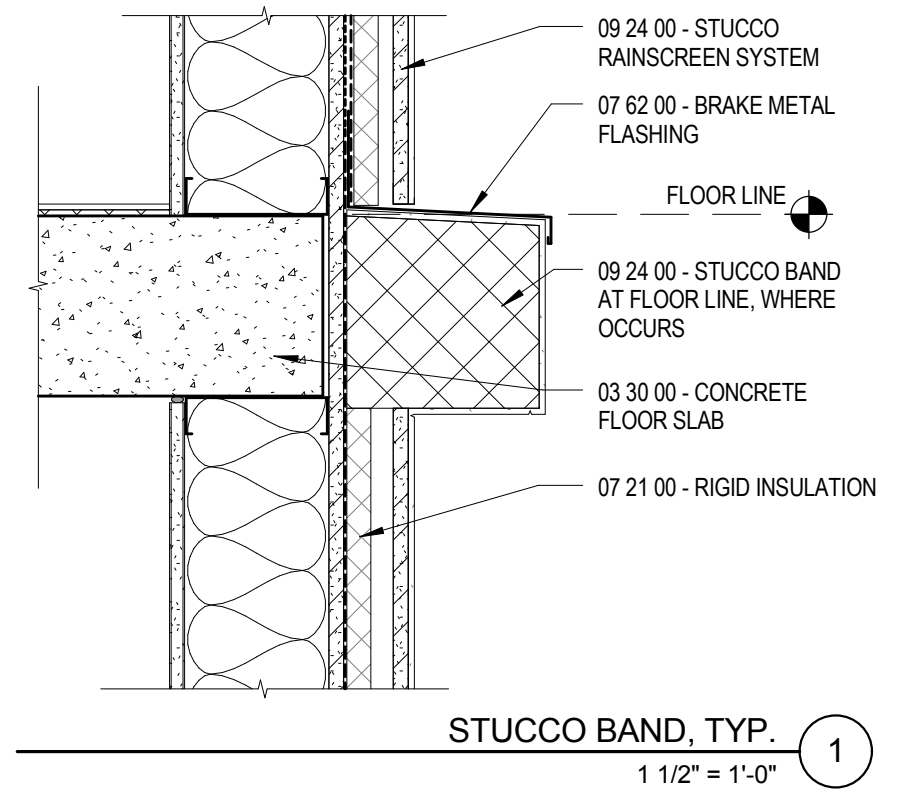
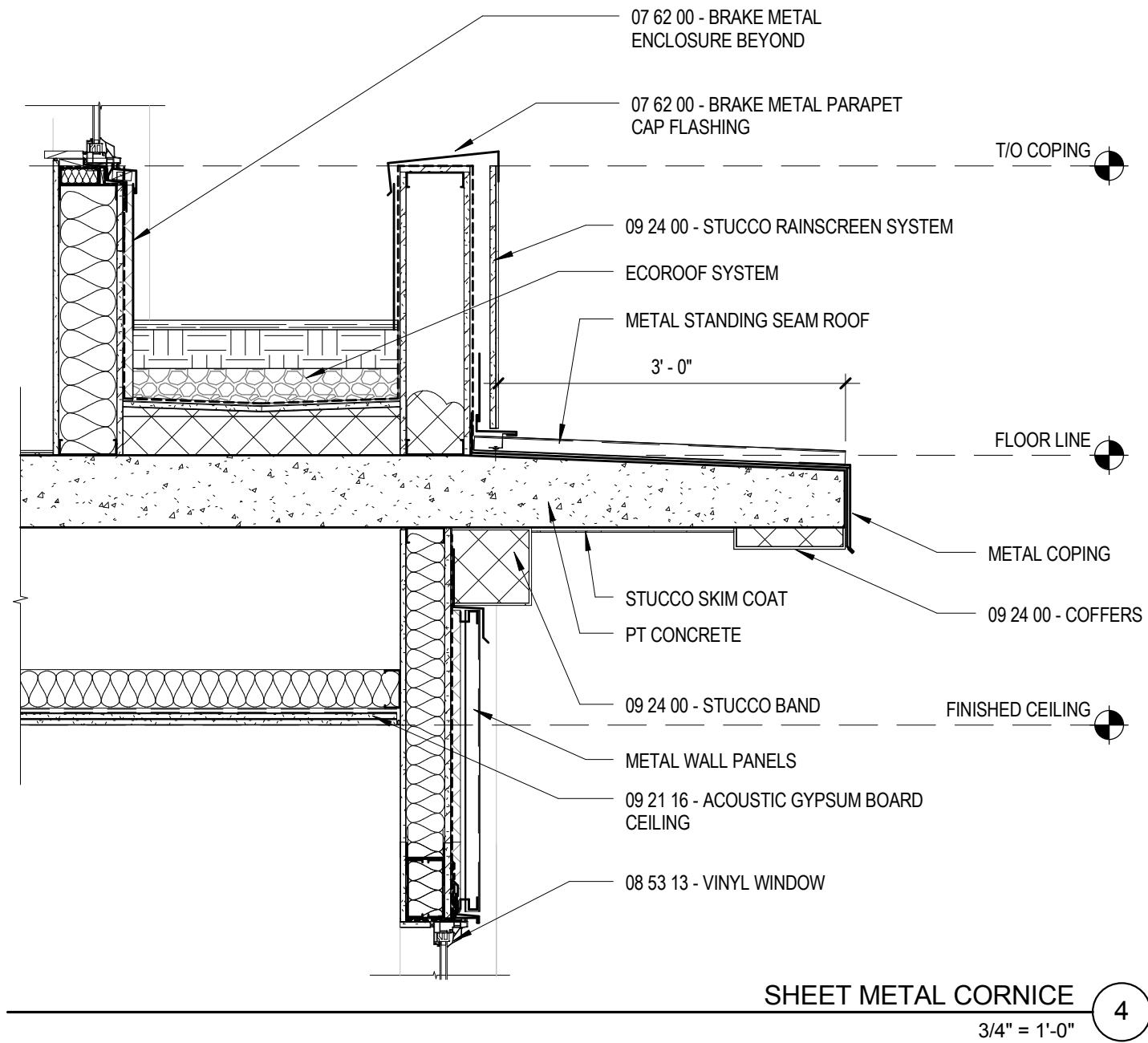
PTHP OVERALL  
1 1/2" = 1'-0" 3



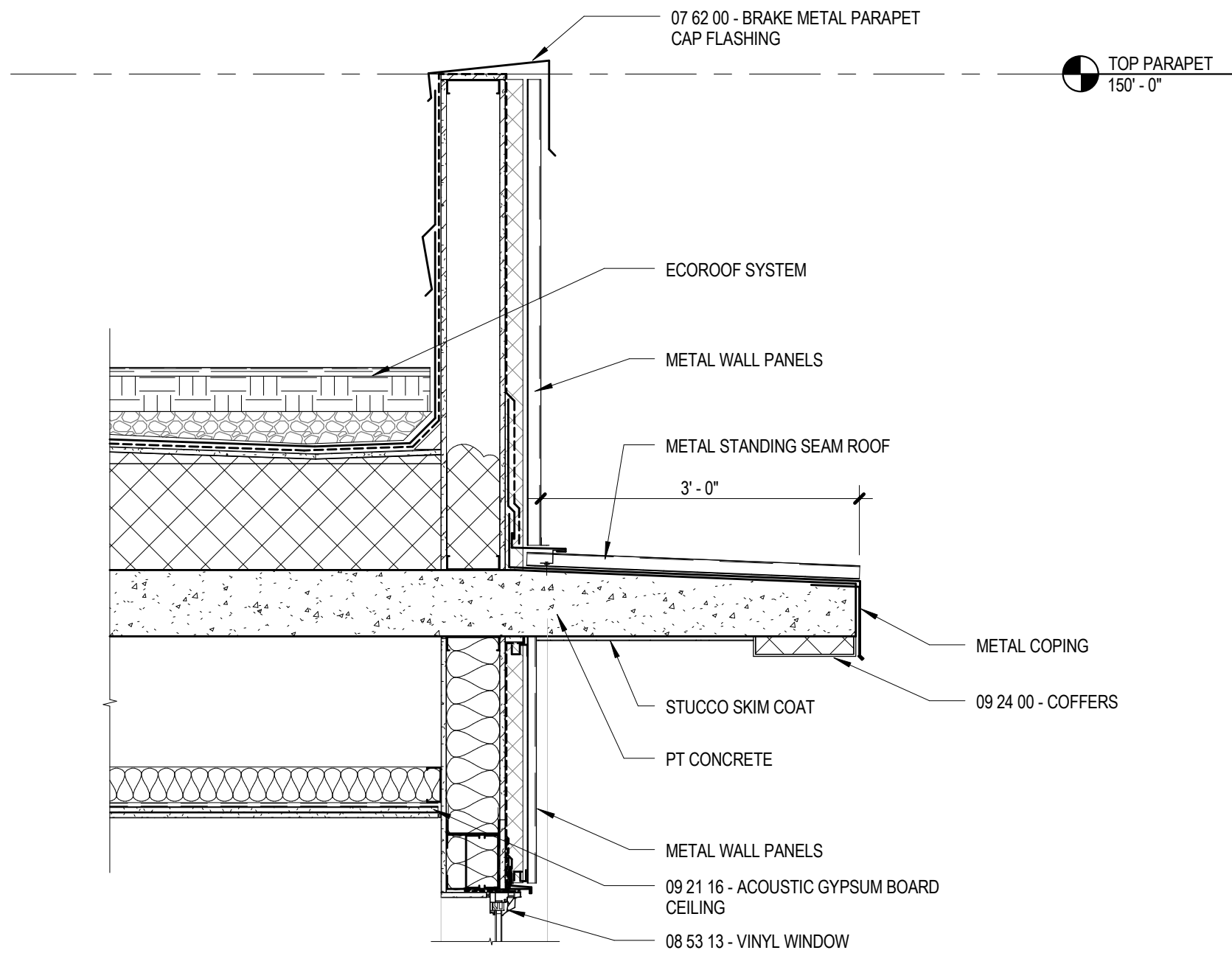
WINDOW SILL @ PTHP 1  
3" = 1'-0"



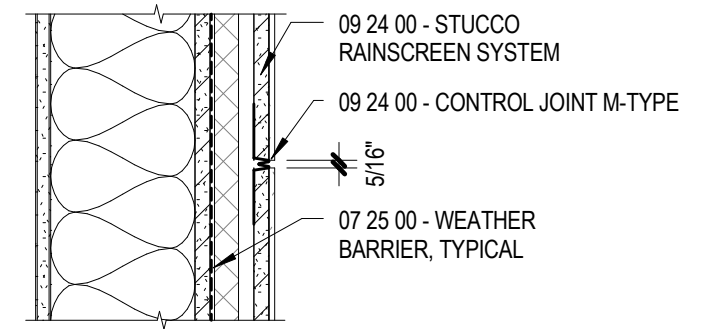
PTHP SILL 2  
3" = 1'-0"



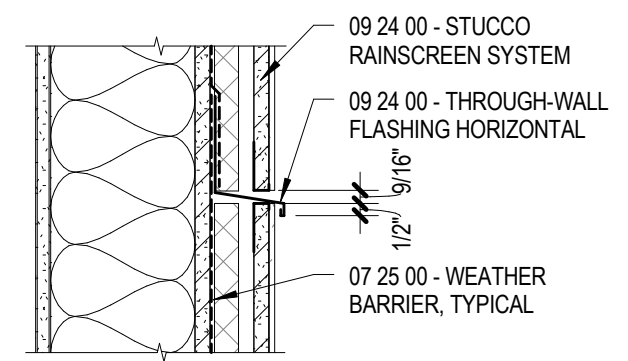




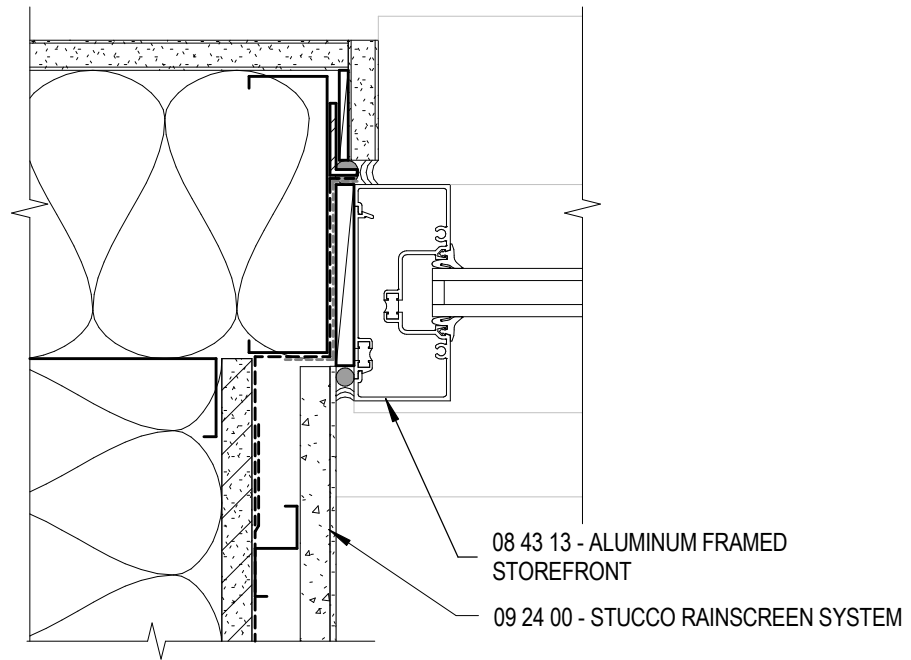
**PENTHOUSE ROOF PARAPET & CORNICE DETAIL** 3  
3/4" = 1'-0"



**STUCCO - CONTROL JOINT** 1  
1 1/2" = 1'-0"



**STUCCO - EXPANSION JOINT** 2  
1 1/2" = 1'-0"

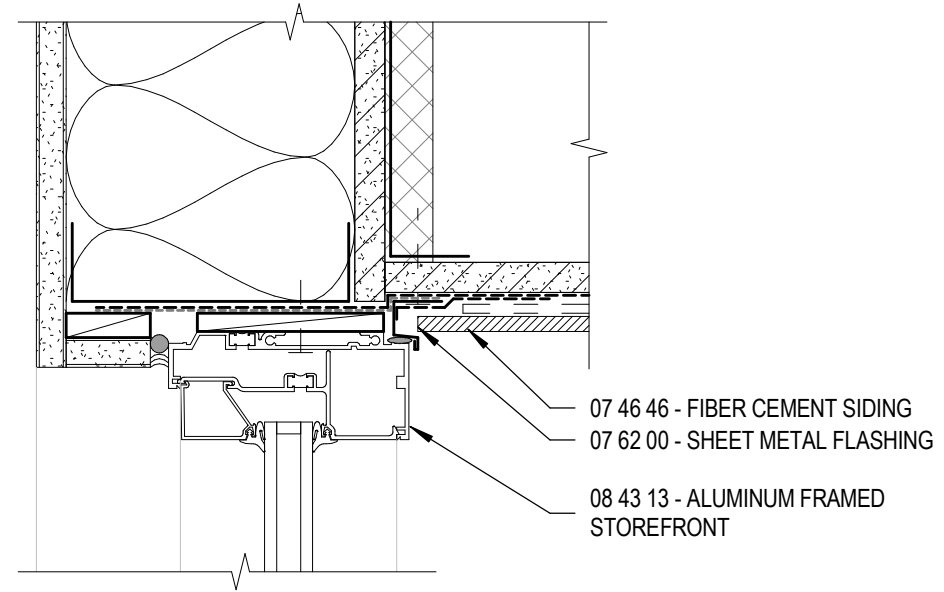


08 43 13 - ALUMINUM FRAMED STOREFRONT  
09 24 00 - STUCCO RAINSCREEN SYSTEM

STOREFRONT JAMB @ STUCCO

3" = 1'-0"

3

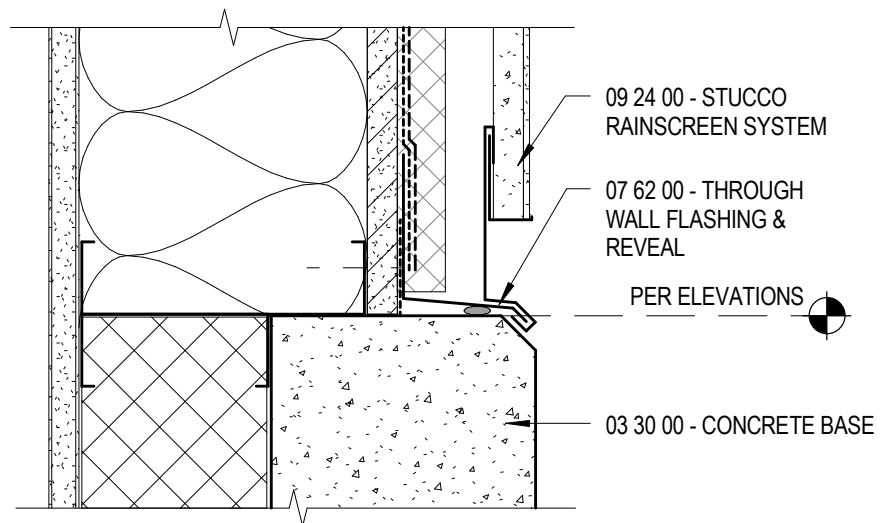


07 46 46 - FIBER CEMENT SIDING  
07 62 00 - SHEET METAL FLASHING  
08 43 13 - ALUMINUM FRAMED STOREFRONT

STOREFRONT HEAD @ SOFFIT

3" = 1'-0"

1

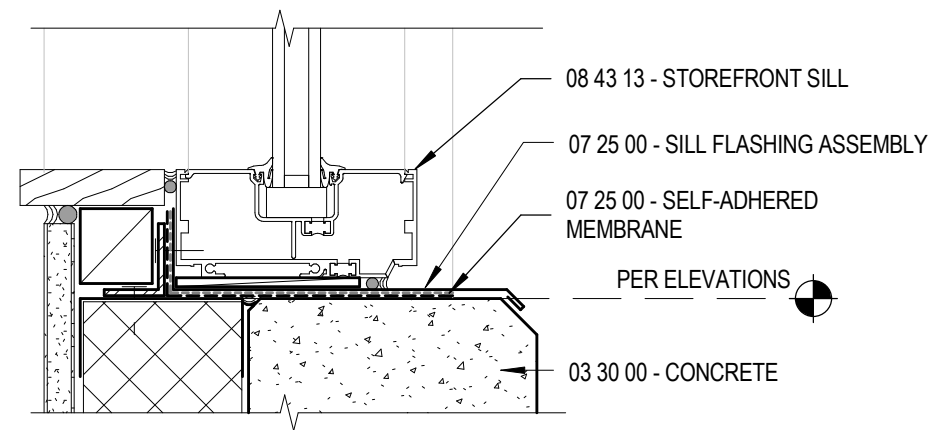


09 24 00 - STUCCO RAINSCREEN SYSTEM  
07 62 00 - THROUGH WALL FLASHING & REVEAL  
PER ELEVATIONS  
03 30 00 - CONCRETE BASE

STUCCO @ CONC. BASE

3" = 1'-0"

4

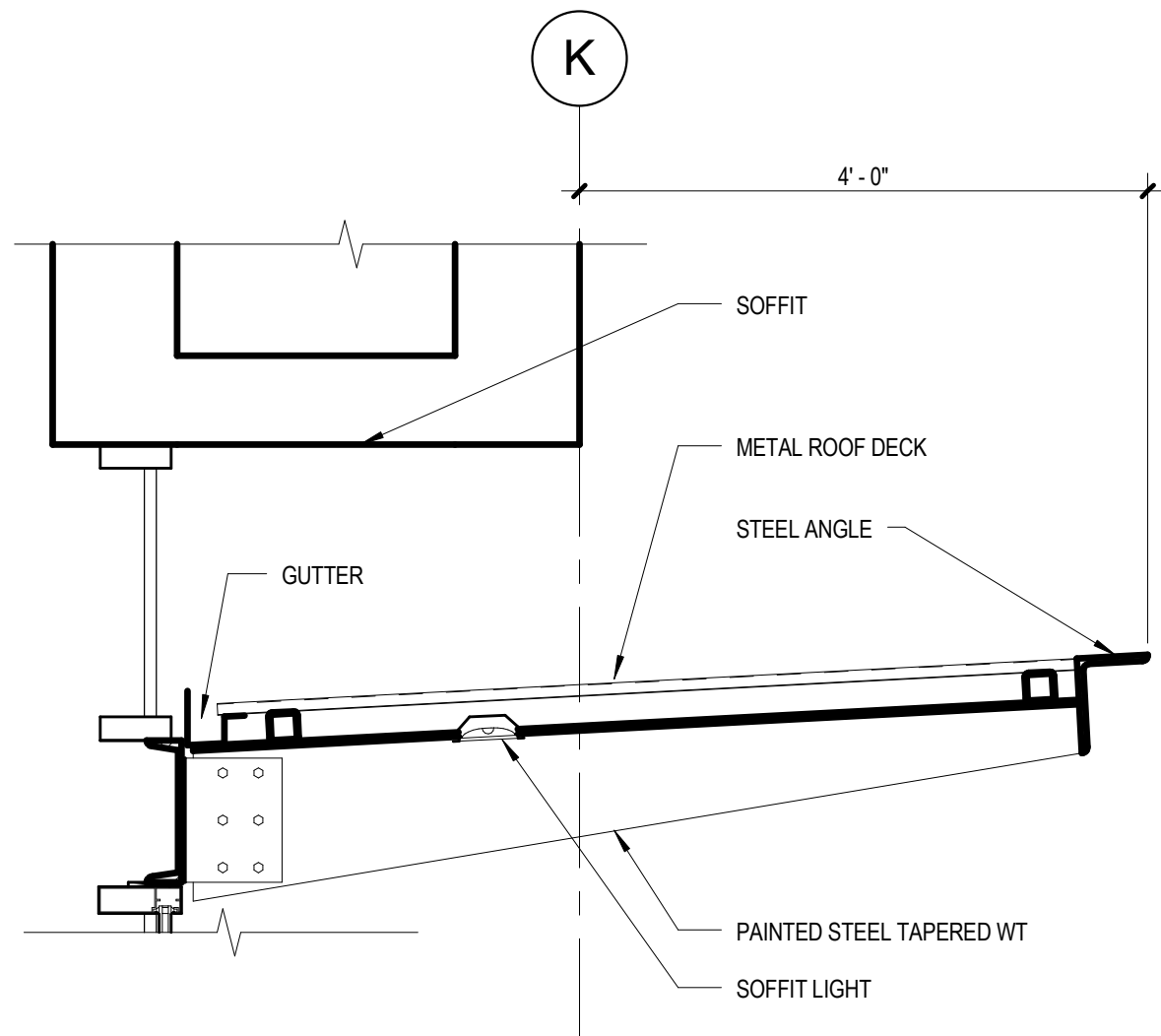


08 43 13 - STOREFRONT SILL  
07 25 00 - SILL FLASHING ASSEMBLY  
07 25 00 - SELF-ADHERED MEMBRANE  
PER ELEVATIONS  
03 30 00 - CONCRETE

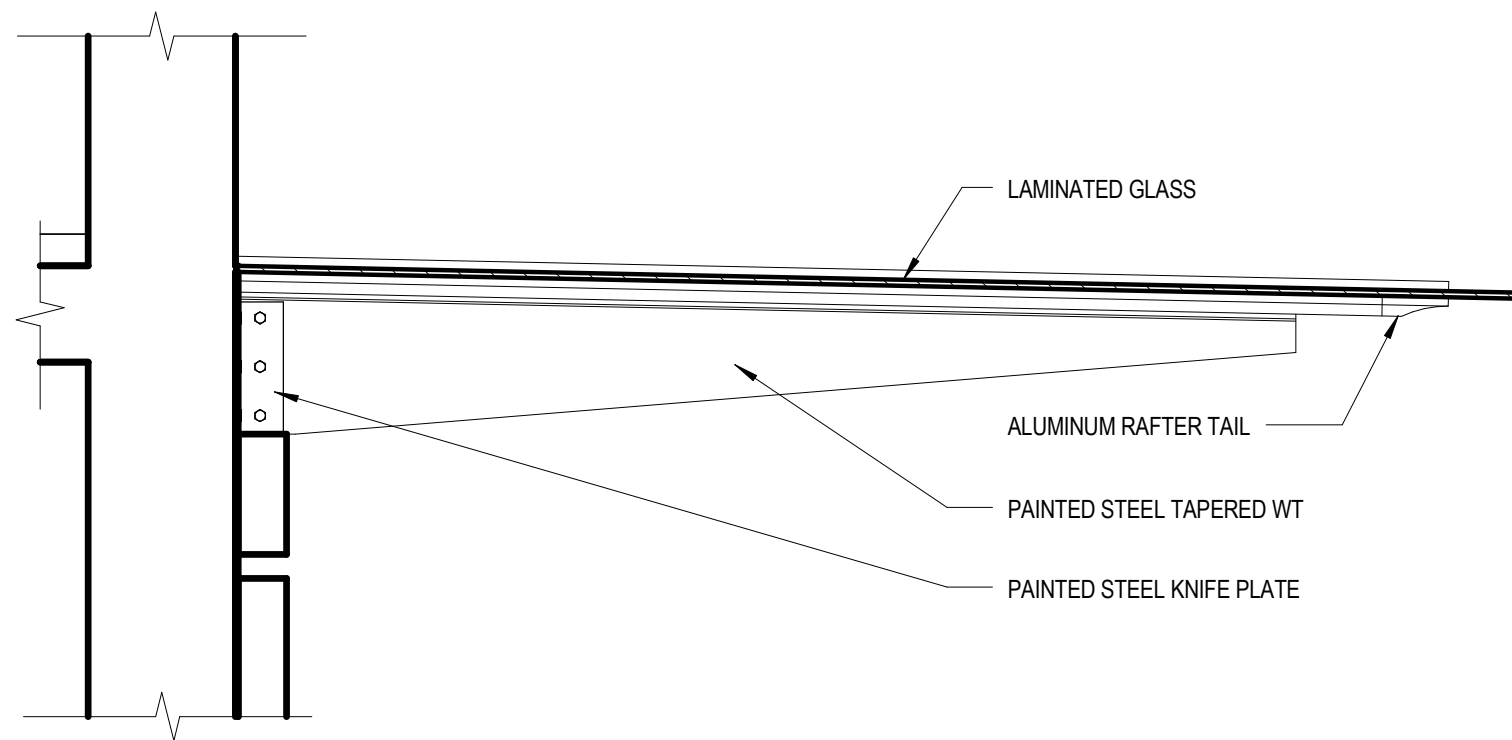
STOREFRONT SILL @ CONC. BASE

3" = 1'-0"

2



CANOPY 2 SECTION 3  
 3/4" = 1'-0"



GLASS CANOPY 1 SECTION 1  
 3/4" = 1'-0"



FIXTURE TYPE SF1 & SF2  
WALL-MOUNTED STRIP



FIXTURE TYPE SD1  
RECESSED SOFFIT

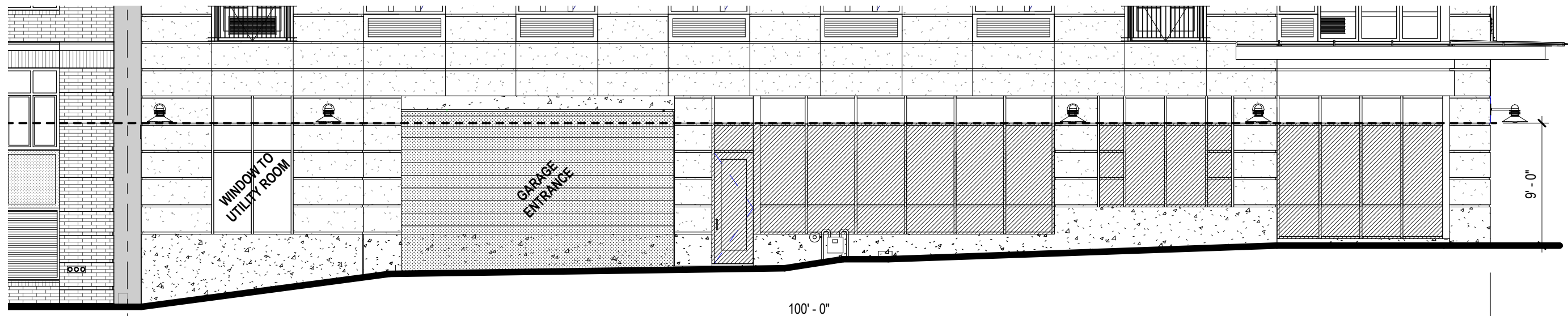


FIXTURE TYPE SG1  
WALL-MOUNTED



FIXTURE TYPE SC1  
WALL-MOUNTED





**GROUND FLOOR WINDOW STANDARDS:**

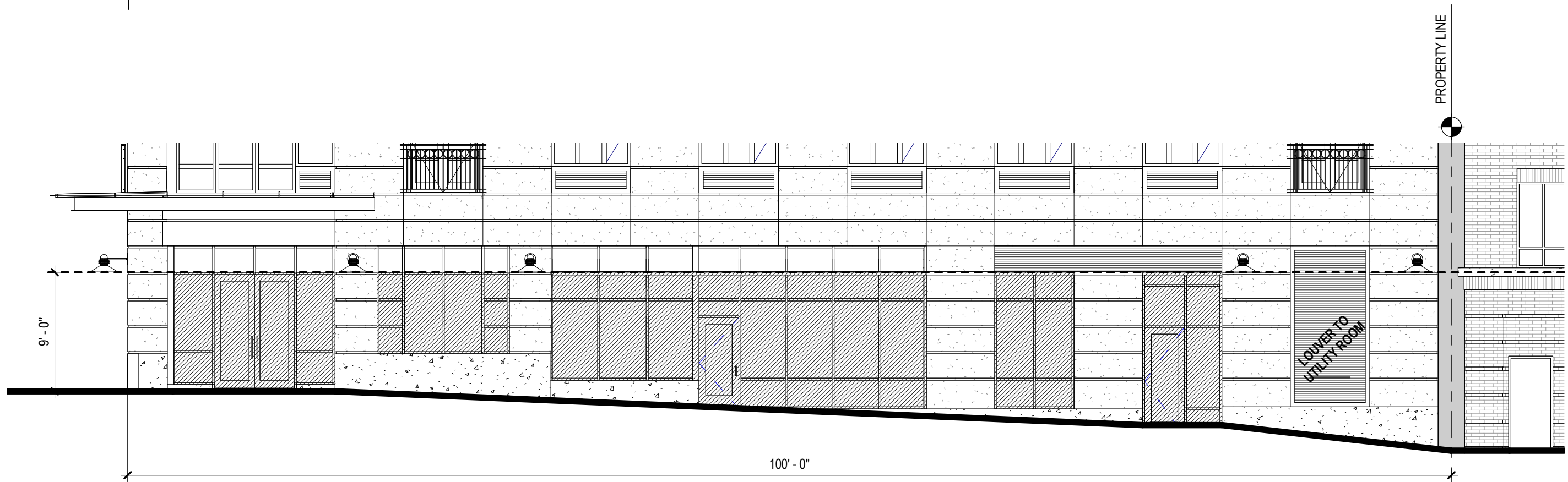
	REQUIRED:	PROPOSED:
WINDOW LENGTH (MIN 50% WINDOW LENGTH PER TOTAL GROUND LEVEL WALL LENGTH)	50'	50'
WINDOW AREA (MIN 25% WINDOW AREA PER TOTAL GROUND LEVEL WALL AREA)	270 SF	374 SF

**GROUND FLOOR GLAZING - SW 12TH**

1/8" = 1'-0"

2

PROPERTY LINE



**GROUND FLOOR WINDOW STANDARDS:**

	REQUIRED:	PROPOSED:
WINDOW LENGTH (MIN 50% WINDOW LENGTH PER TOTAL GROUND LEVEL WALL LENGTH)	50'	63'-2"
WINDOW AREA (MIN 25% WINDOW AREA PER TOTAL GROUND LEVEL WALL AREA)	263 SF	566 SF

**GROUND FLOOR GLAZING - SW MARKET**

1/8" = 1'-0"

1

