

388 CAMBRIDGE AVE

ARB SUBMITTAL FOR MINOR ARCHITECTURAL REVIEW | DECEMBER 27, 2022

*PRIOR ARB APPROVAL RECEIVED ON MARCH 11, 2019 UNDER #15PLN-00249

*REVISION TO APPROVED BUILDING PERMIT #19000-02033



BRERETON

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PROJECT DESCRIPTION:

The 388 Cambridge - REV 1 is a slightly updated design modification from the prior approved Major ARB project for the same property named 400 Cambridge at that time. This project received ARB approval on March 11, 2019 and subsequent full department approval on December 23, 2020. Since that time, a new developer has taken over and some modifications have been made to make the building footprint, structural system and building systems more efficient and market ready. The prior approved overall design and materials remains intact.

The 388 Cambridge development includes the assembly of three adjacent parcels to create one 35,000gsf office/retail building with parking to accommodate 14 stalls. The three existing buildings are currently addressed as 380, 400, and 410 Cambridge Avenue, Palo Alto and are located in the Community Commercial Sub District – CC(2) Zoning District. The proposed design introduces a central building entry and lobby on Cambridge Avenue along with individual Ground Level retail space entries. The entire Ground Level is comprised of retail space activating the street front and surrounding neighborhood. Accessibility to the upper office levels is addressed by the introduction of a new passenger elevator accessed from a building lobby.

The proposed architecture unifies the site and creates identity with the introduction of a primary street-front building entry accentuated as a 2-story element in the façade design. The façade both unifies and breaks down the Cambridge Elevation to introduce a massing and scale appropriate to the neighborhood and adjoining structures. The building introduces two prominent masses straddling a central building lobby. The west massing of the building is a 3-story brick structure, while the east massing introduces a 2-story brick arched base capped with a 1-story metal+glass attic or upper floor.

The Cambridge Avenue street frontage includes 3 significant recesses that break-up the overall massing of the building and create interest and events along the public sidewalk. The east-most recess introduces an area for street front tables and chairs which connects to an eastern lot line setback to create an 'L-shaped' micro plaza. These street front events, along with the architecture, help to reduce the perceived size of the building and add interest to the pedestrian experience on the Cambridge Avenue right of way.

The building includes two light wells on the west property line. These setbacks provide additional natural light and air to the adjoining condominiums. The building's east facade is articulated with concrete + steel decks and the potential for public art facing onto the adjoining public parking lot. The north facade is setback +10ft from the rear property line, which has a 7ft height fence and landscape screening between the primary and the neighboring lot.

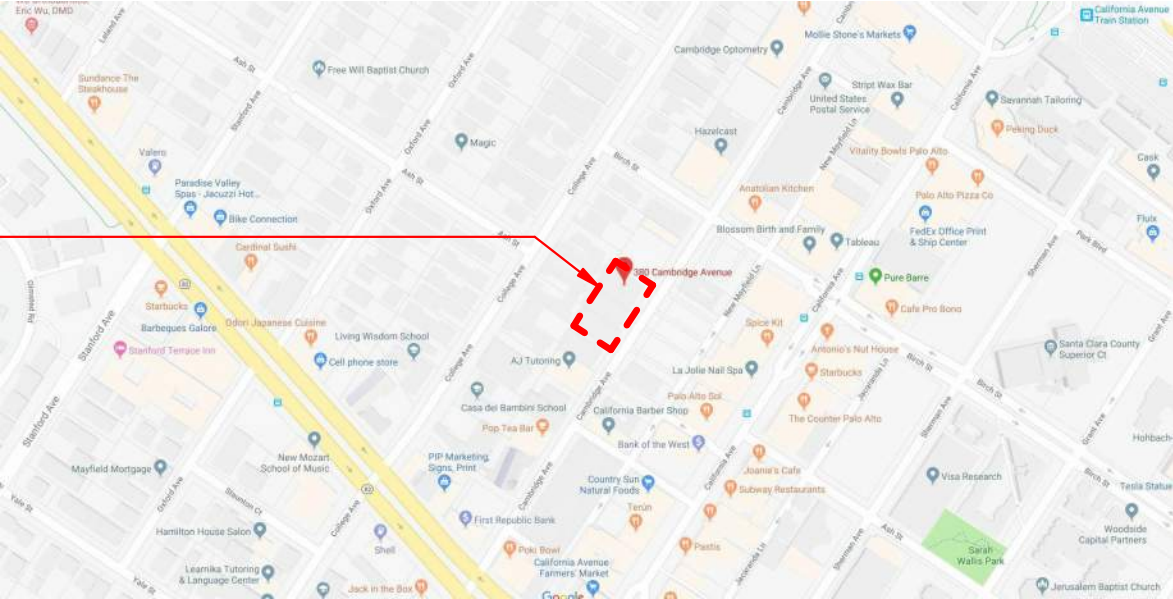


PROJECT DATA TABLE

VICINITY MAP

1. LOT AREA	= 17,500 SF
2. SITE COVERAGE:	
• EXISTING	= 16,754 SF / 17,500 SF = 0.957
• PROPOSED	= 15,495 SF / 17,500 SF = 0.885
3. FLOOR AREA:	
• EXISTING RETAIL	= 1,869 SF
• EXISTING OFFICE	= 30,214 SF
• EXISTING TOTAL SF	= 32,083 SF
• PROPOSED RETAIL	= 3,575 SF
• PROPOSED OFFICE	= 31,425 SF
• PROPOSED TOTAL SF	= 35,000 SF
• PROPOSED NEW RETAIL	= 1,706 SF
• PROPOSED NEW OFFICE	= 1,211 SF
4. SETBACKS:	
• NORTH	= 10'
• SOUTH	= 0'
• EAST	= 0'
• WEST	= 0'
5. HEIGHT (PAMC 18.04)	= 35'
6. REQUIRED PARKING	
• CAR PARKING:	
• PARKING FOR NEW RETAIL: (1,706 SF / 240 SF/SPACE)	= 8 SPACES
• PARKING FOR NEW OFFICE: (1,211 SF / 310 SF/SPACE)	= 4 SPACES
• TOTAL PARKING FOR NEW BUILDING AREA:	= 12 SPACES
• EXISTING ON SITE PARKING:	= 2 SPACES
• TOTAL REQUIRED PARKING:	= 14 SPACES
• TOTAL PROPOSED PARKING (10 RETAIL + 4 OFFICE):	= 14 SPACES

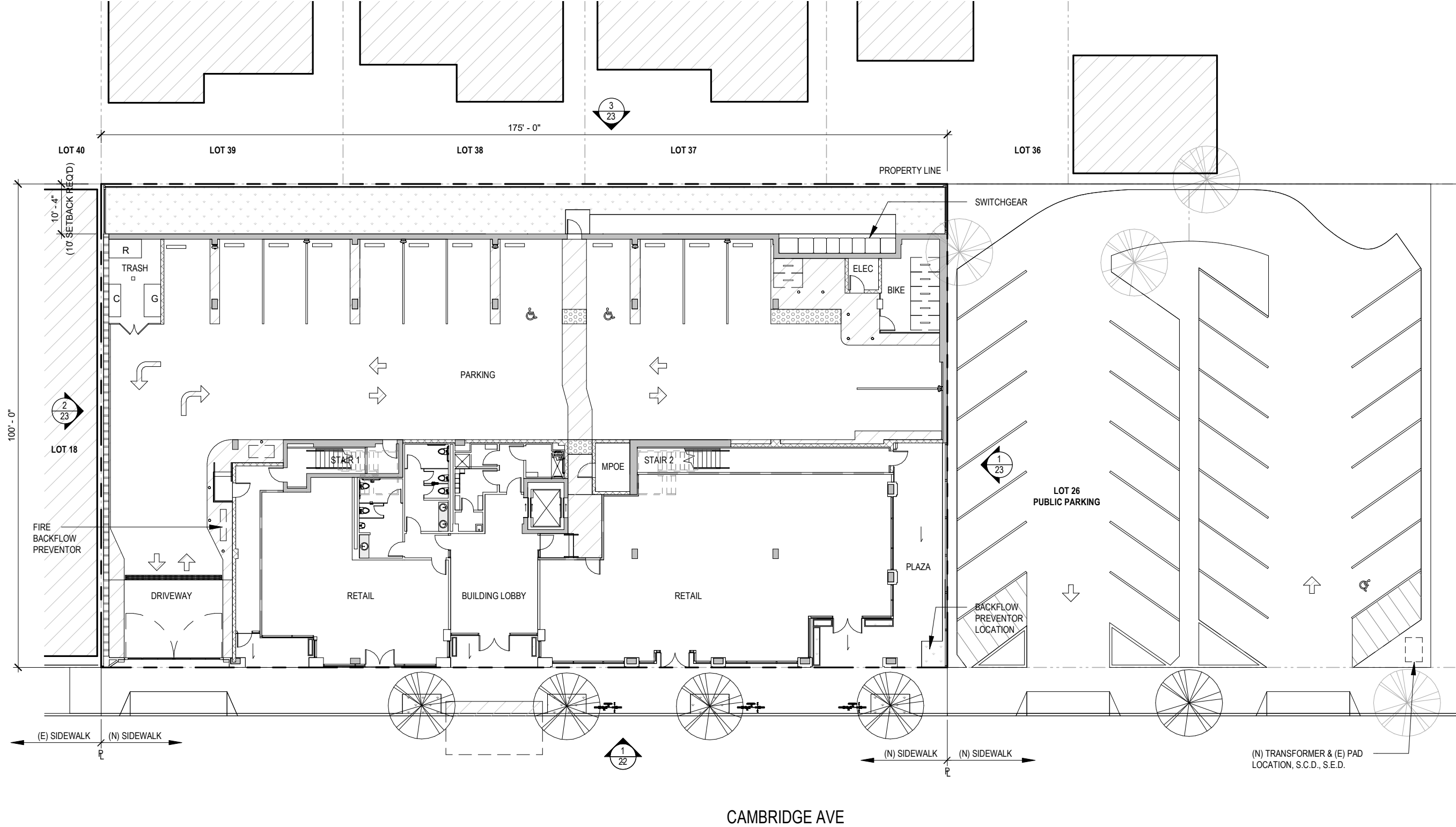
- ALL SPACES PROVIDED ARE ELECTRIC VEHICLE (EV) SPACES

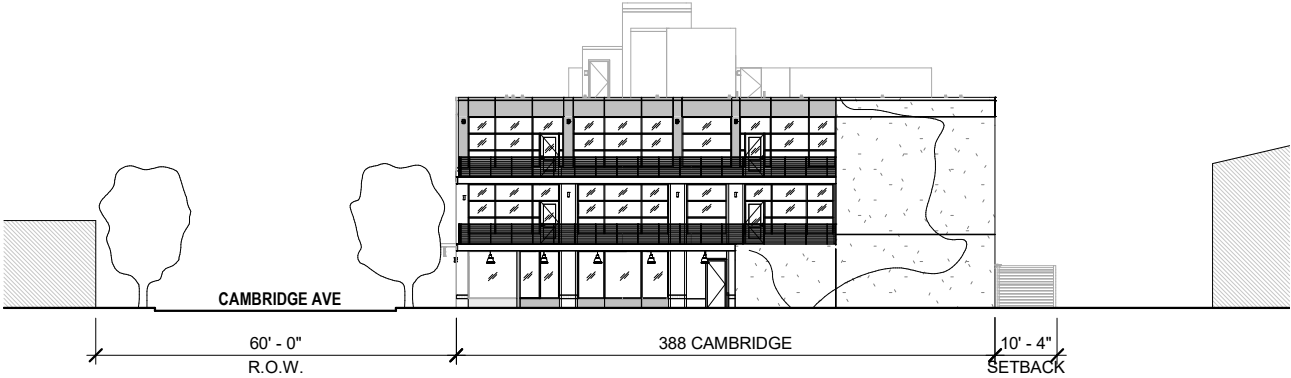


6. REQUIRED PARKING (CONT.)	
• BIKE PARKING:	
(FOR CALIFORNIA AVE PARKING ASSESSMENT DISTRICT, PER PALO ALTO MUNICIPAL CODE, SECTION 18.52.040, TABLE 2)	
• RETAIL (A, INTENSIVE):	1 PER 2,400 SF
• 3,575 SF / 2,400	= 1.49 BICYCLE PARKING SPACES
• LONG TERM	= 20% X 1.49 = 0.298
• SHORT TERM	= 80% X 1.49 = 1.192
• GENERAL BUSINESS OFFICE:	1 PER 3,100 SF
• 31,425 SF / 3,100	= 10.14 BICYCLE PARKING SPACES
• LONG TERM	= 60% X 10.14 = 6.08
• SHORT TERM	= 40% X 10.14 = 4.06
• REQUIRED LONG TERM	= 0.298 + 6.08 = 7 (6.378)
• REQUIRED SHORT TERM	= 1.192 + 4.06 = 6 (5.252)
• LOADING SPACES	= 1
7. BUILDING OCCUPANCY CLASS	= M, MERCANTILE B, OFFICE

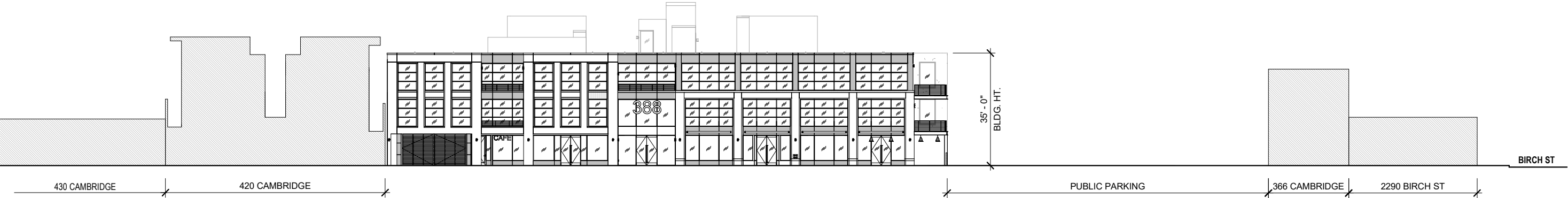


PROJECT EXTENT OF WORK
410-400-380 CAMBRIDGE

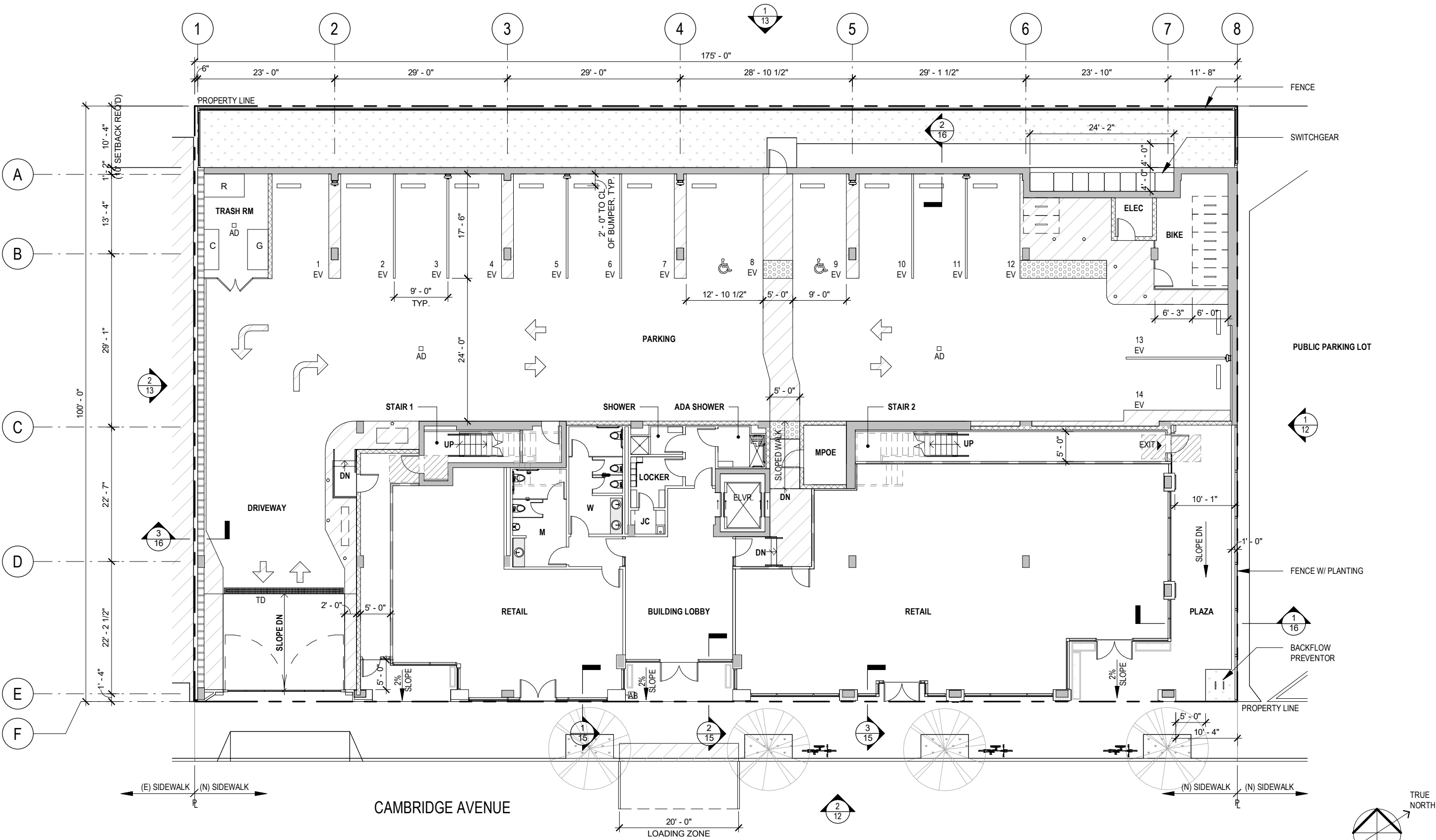


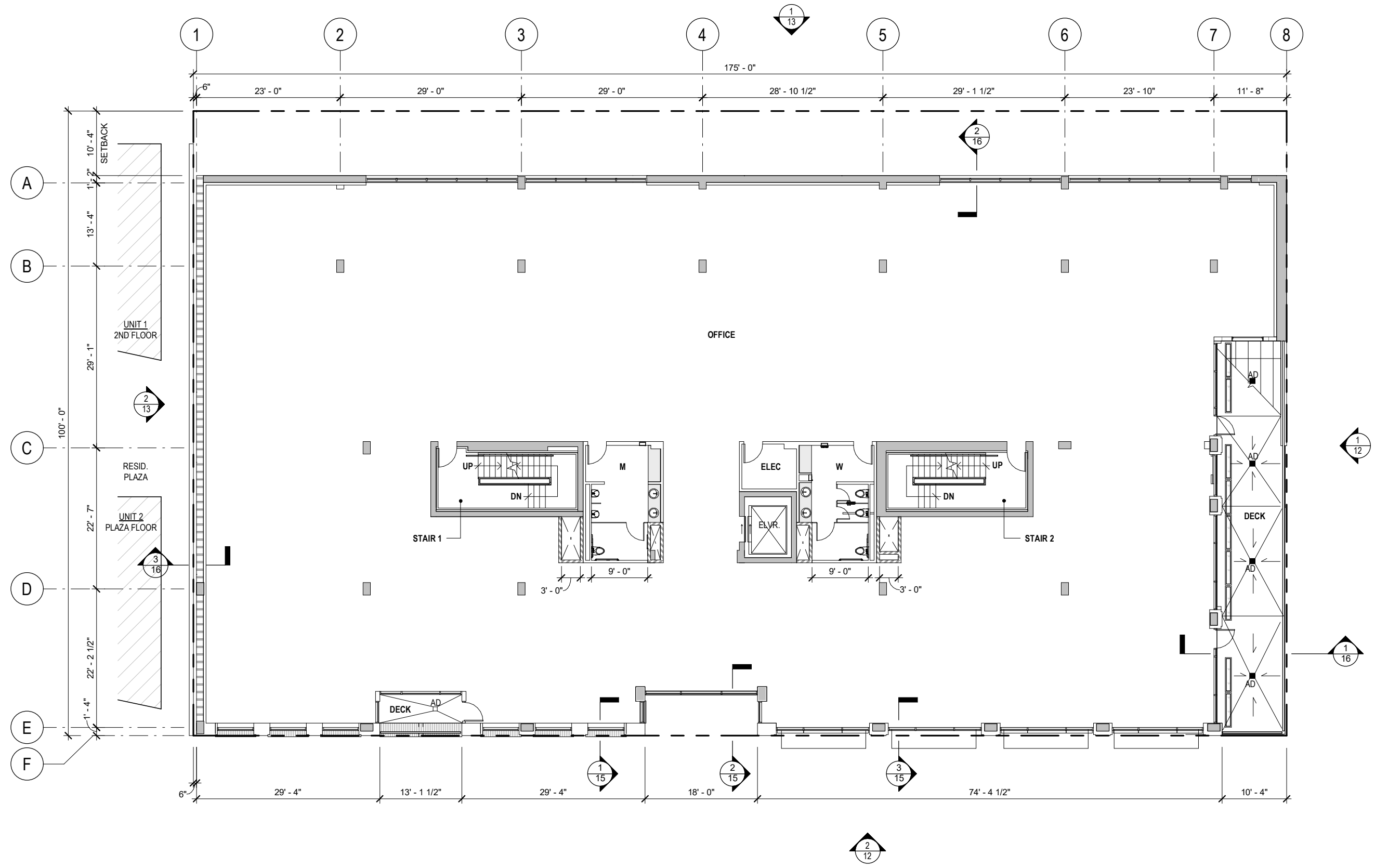


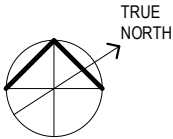
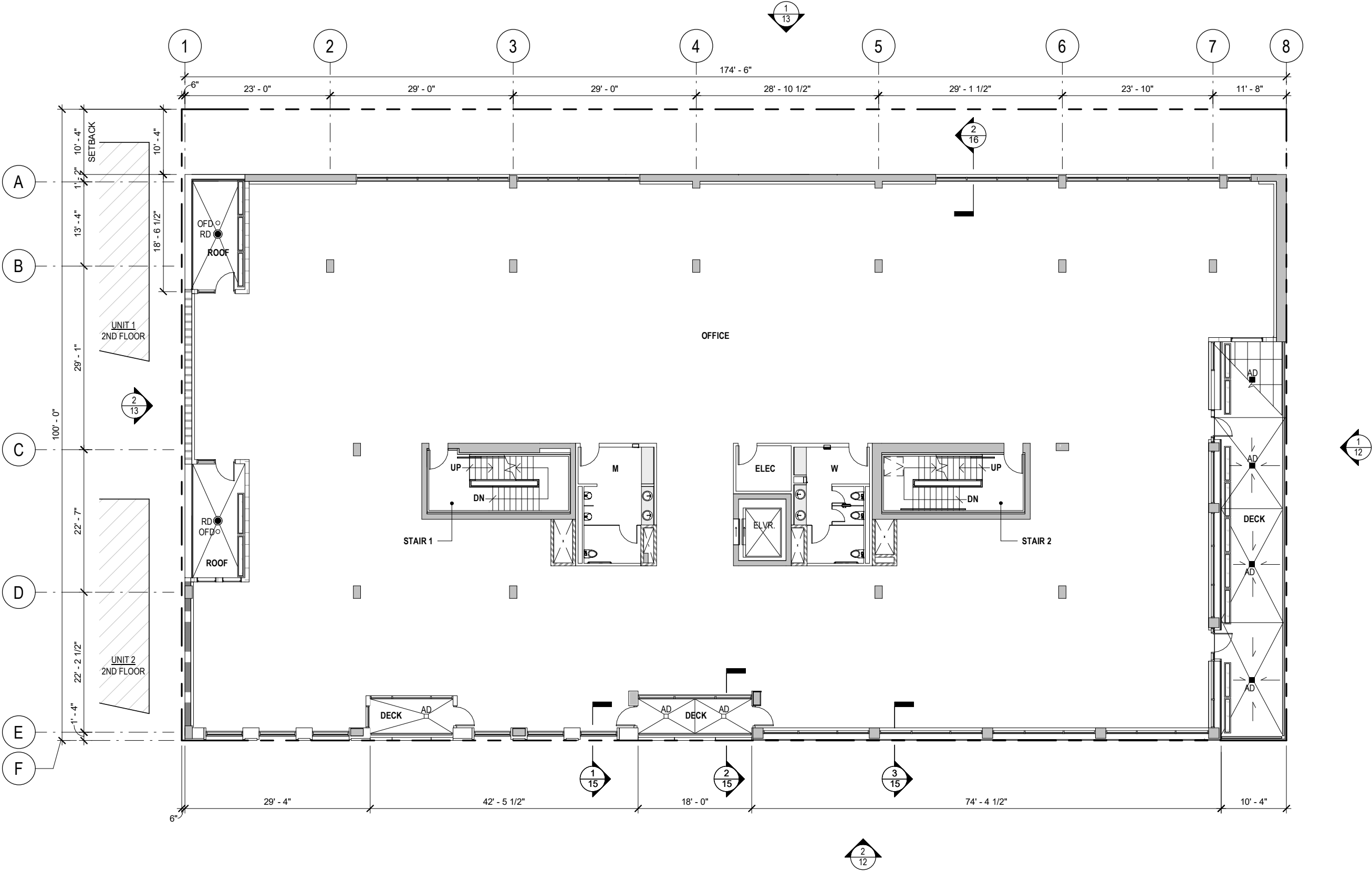
EAST/PARKING LOT - SITE SECTION/ELEVATION 2
1/32" = 1'-0"

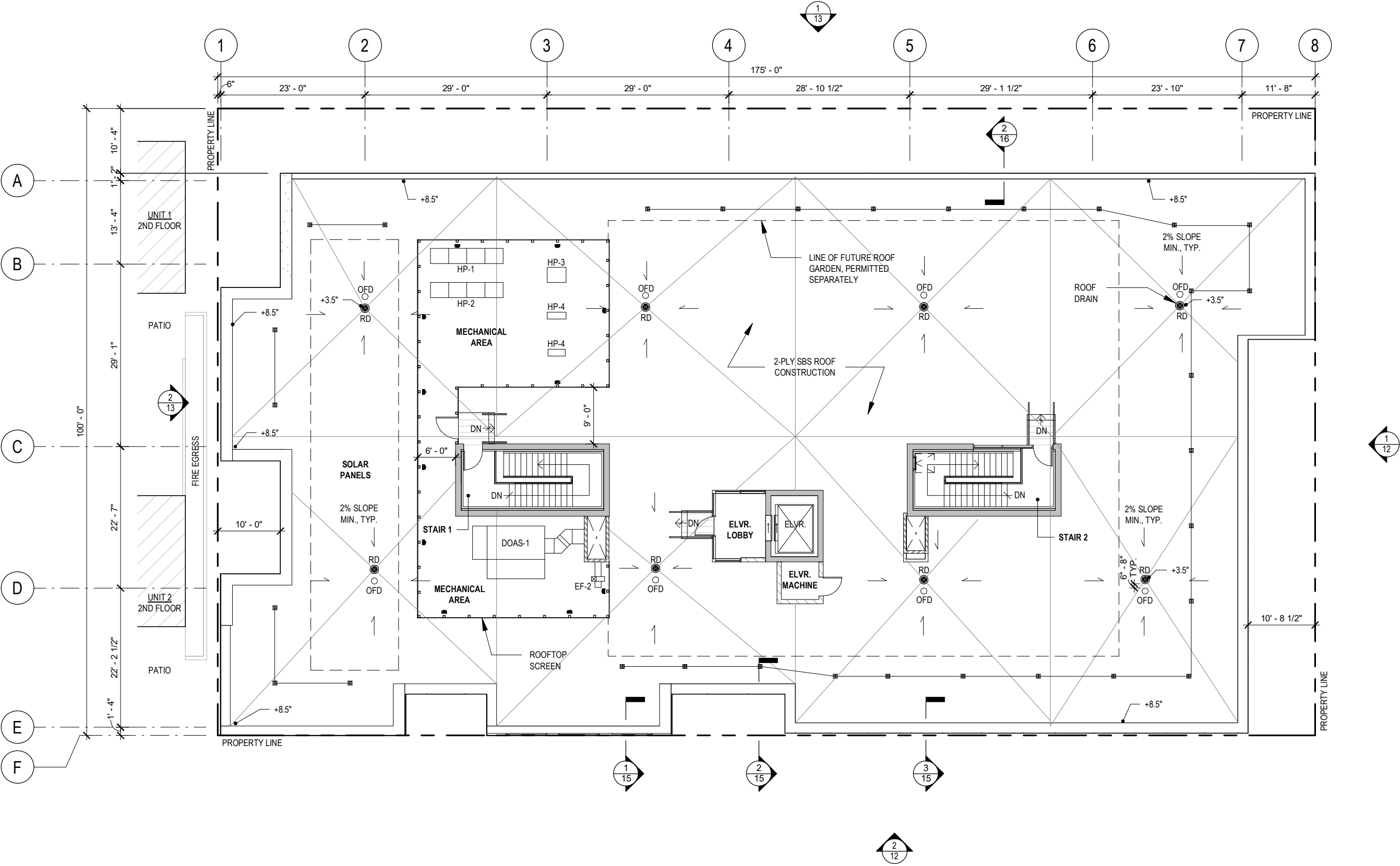


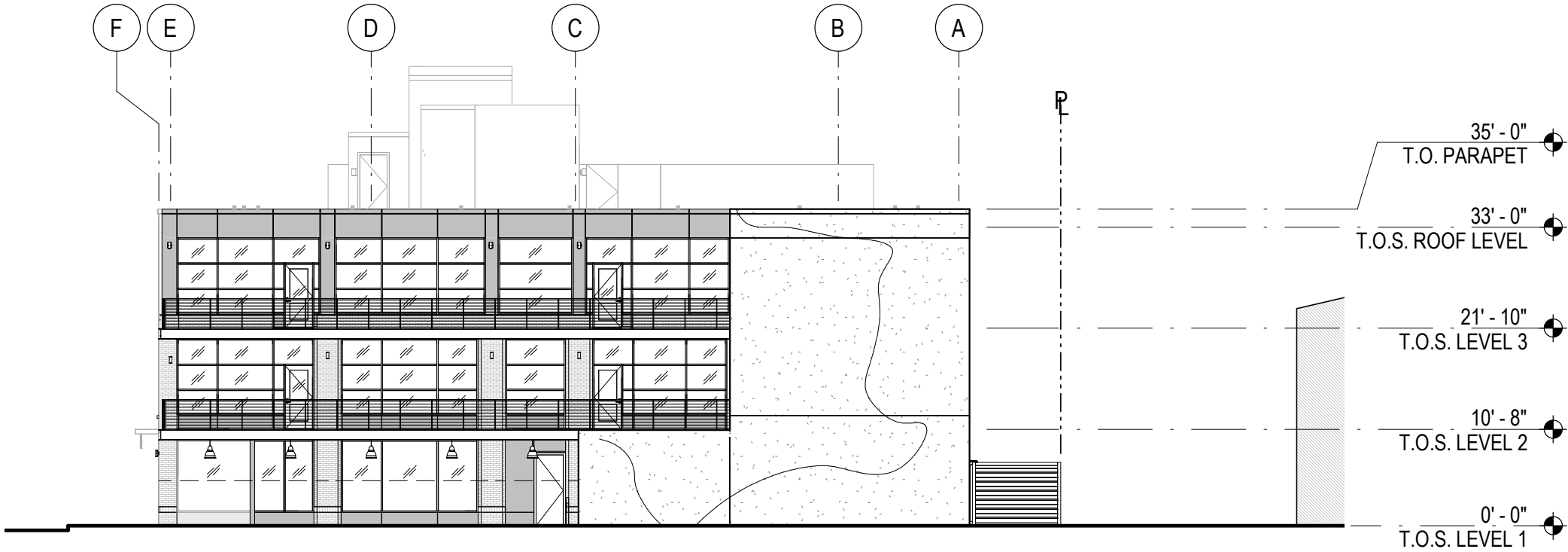
SOUTH/CAMBRIDGE AVE - STREET ELEVATION 1
1/32" = 1'-0"



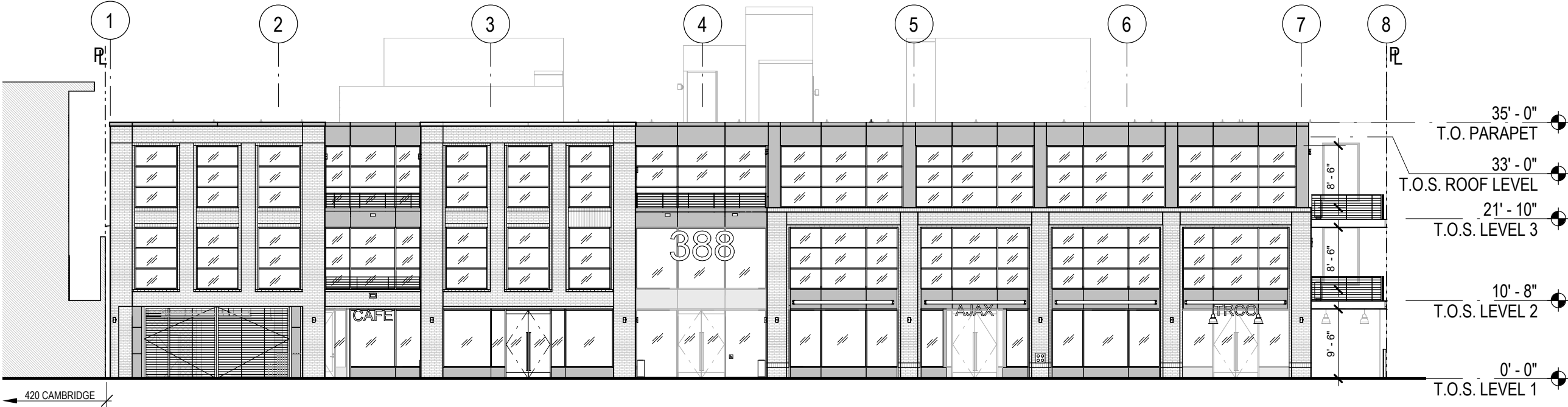




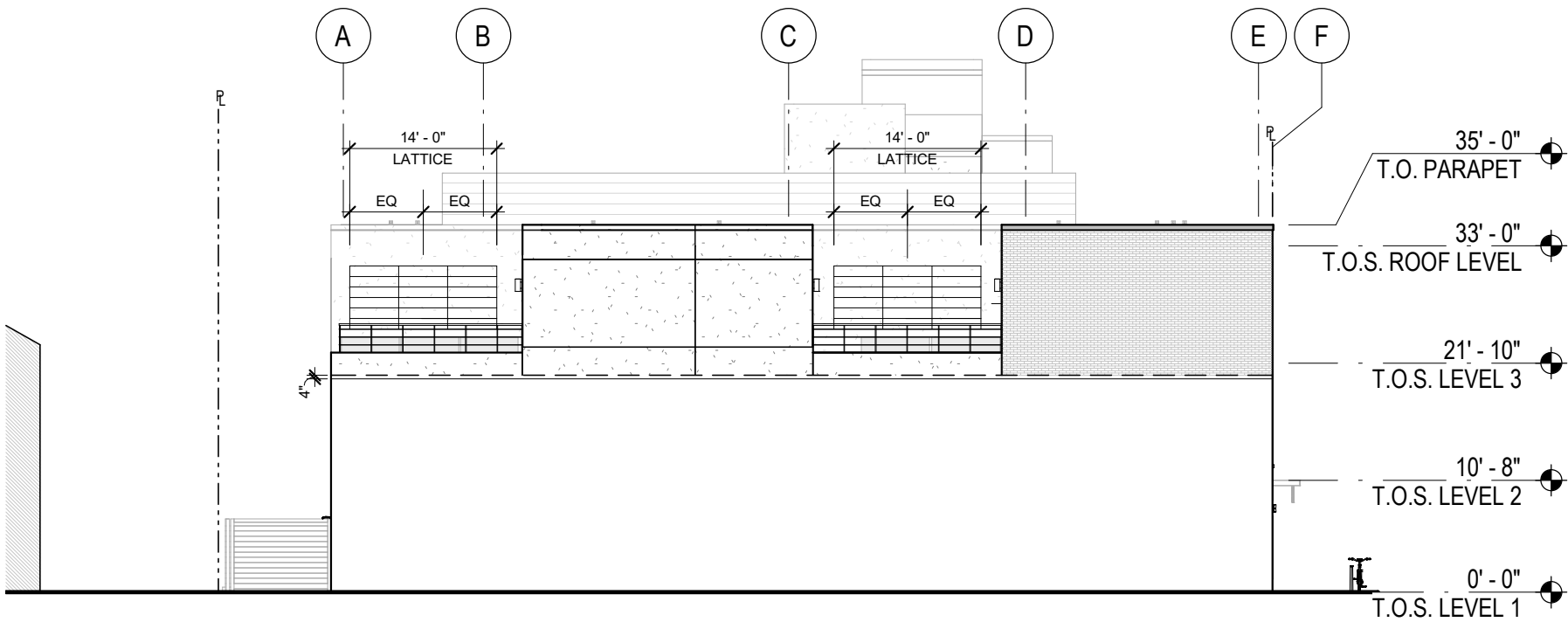




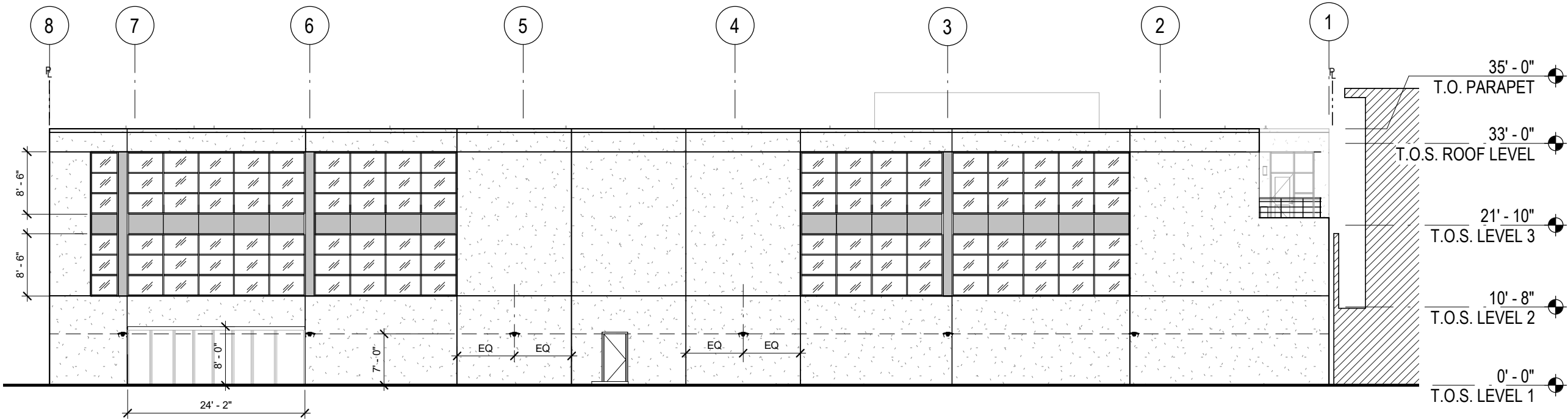
EAST ELEVATION 1
1/16" = 1'-0"



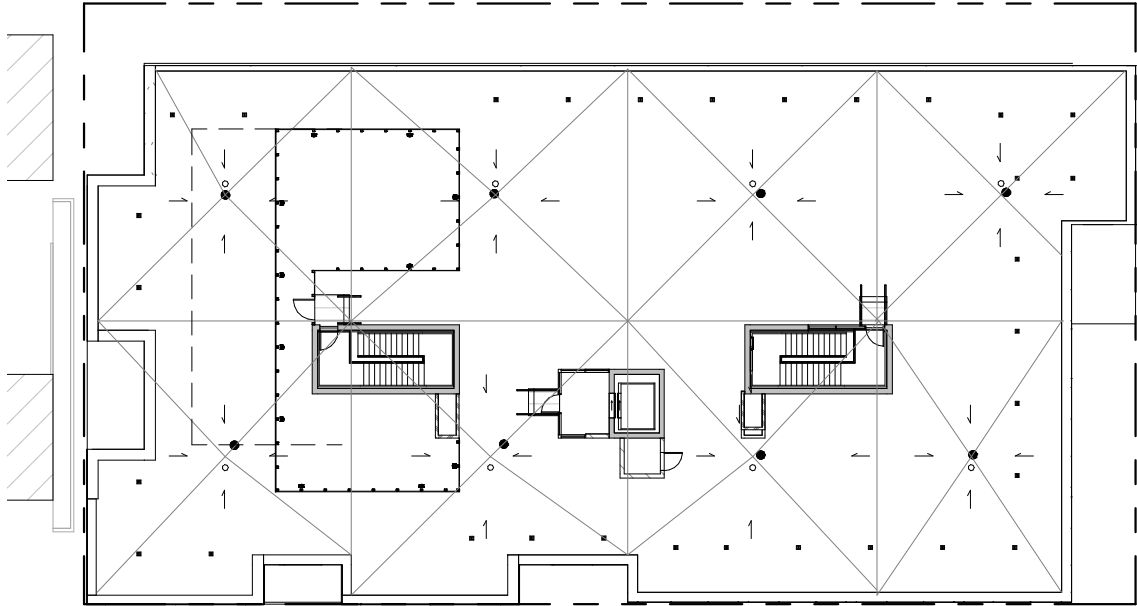
SOUTH ELEVATION 2
1/16" = 1'-0"



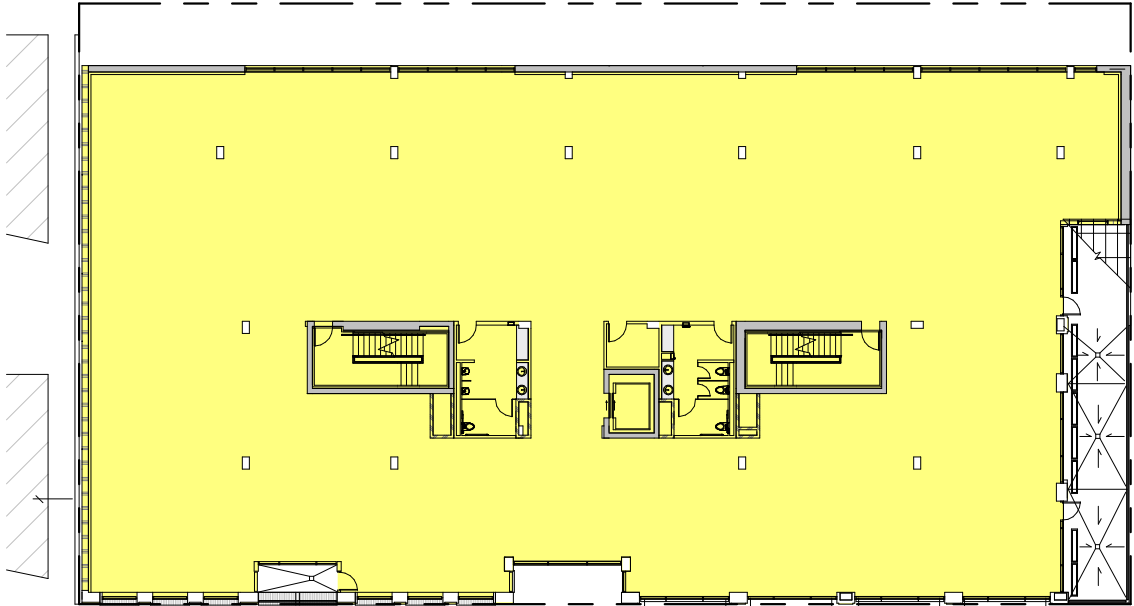
WEST ELEVATION
1/16" = 1'-0" 2



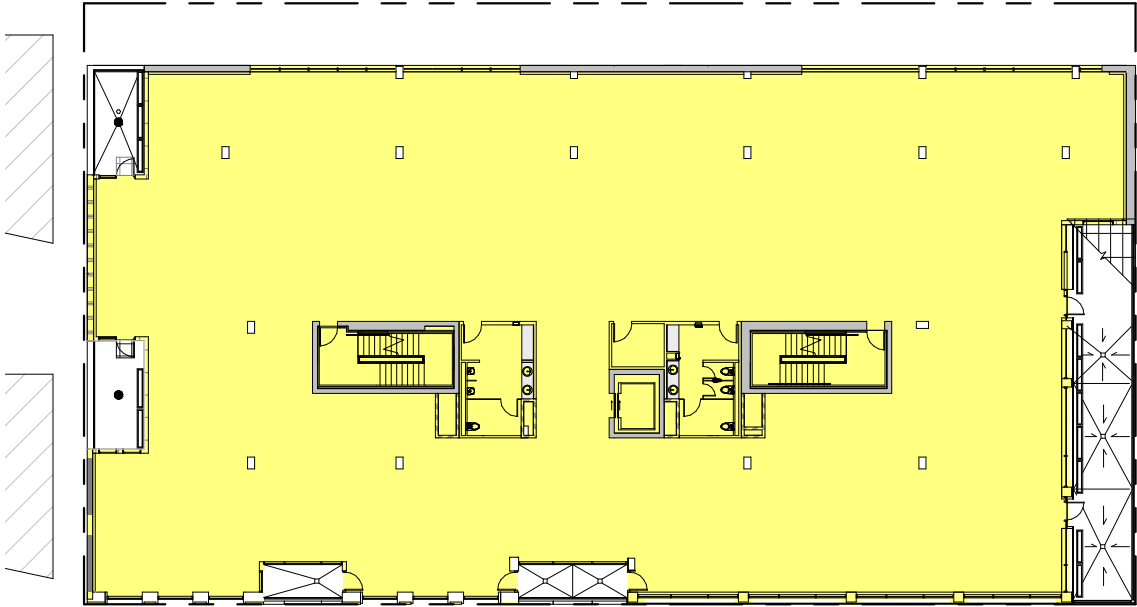
NORTH ELEVATION
1/16" = 1'-0" 1



LEVEL 4 - AREA STUDY



LEVEL 2 - AREA STUDY



LEVEL 3 - AREA STUDY



LEVEL 1 - AREA STUDY

LEGEND

- COMMON/CIRCULATION
- RETAIL
- OFFICE
- PARKING

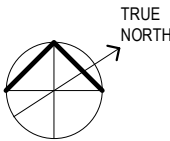
BUILDING GROSS SQUARE FOOTAGE

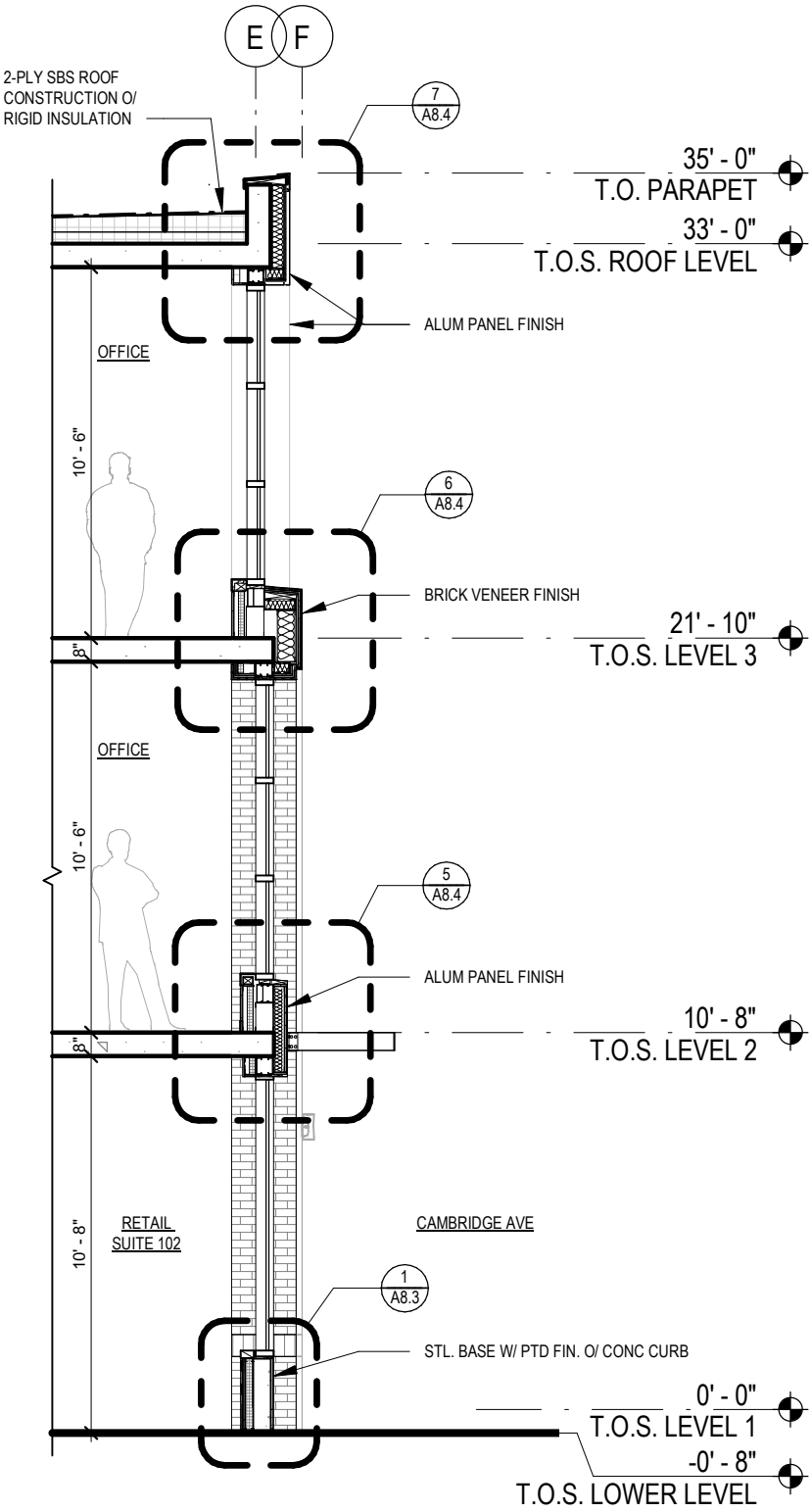
LEVEL 1
- OFFICE/COMMON: 2,438 SF
- RETAIL: 3,575 SF

LEVEL 2
- OFFICE: 14,667 SF

LEVEL 3
- OFFICE: 14,320 SF

TOTAL BUILDING AREA: 35,000 SF
(EXCLUDING PARKING)

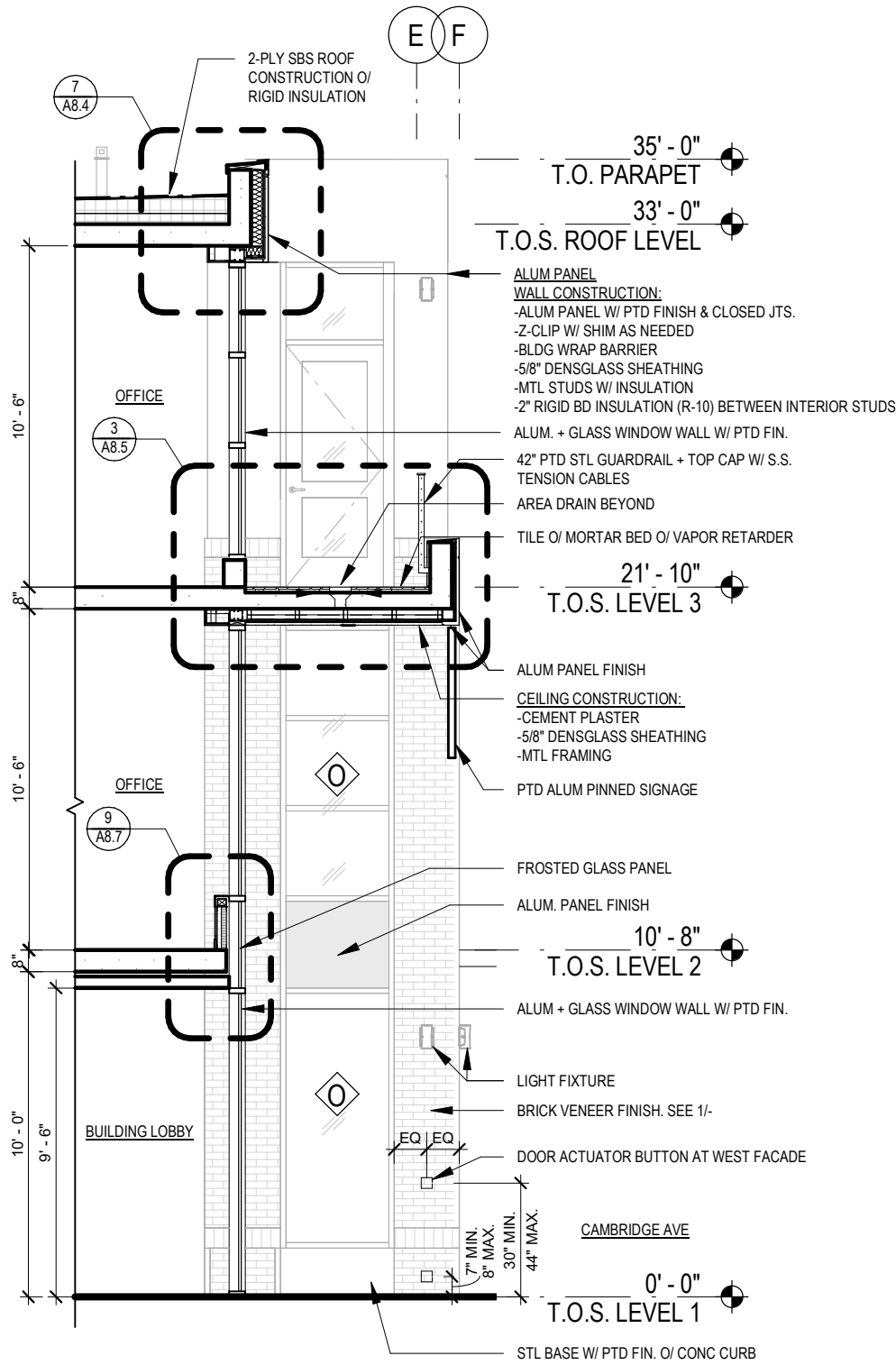




WALL SECTION C-C

3/16" = 1'-0"

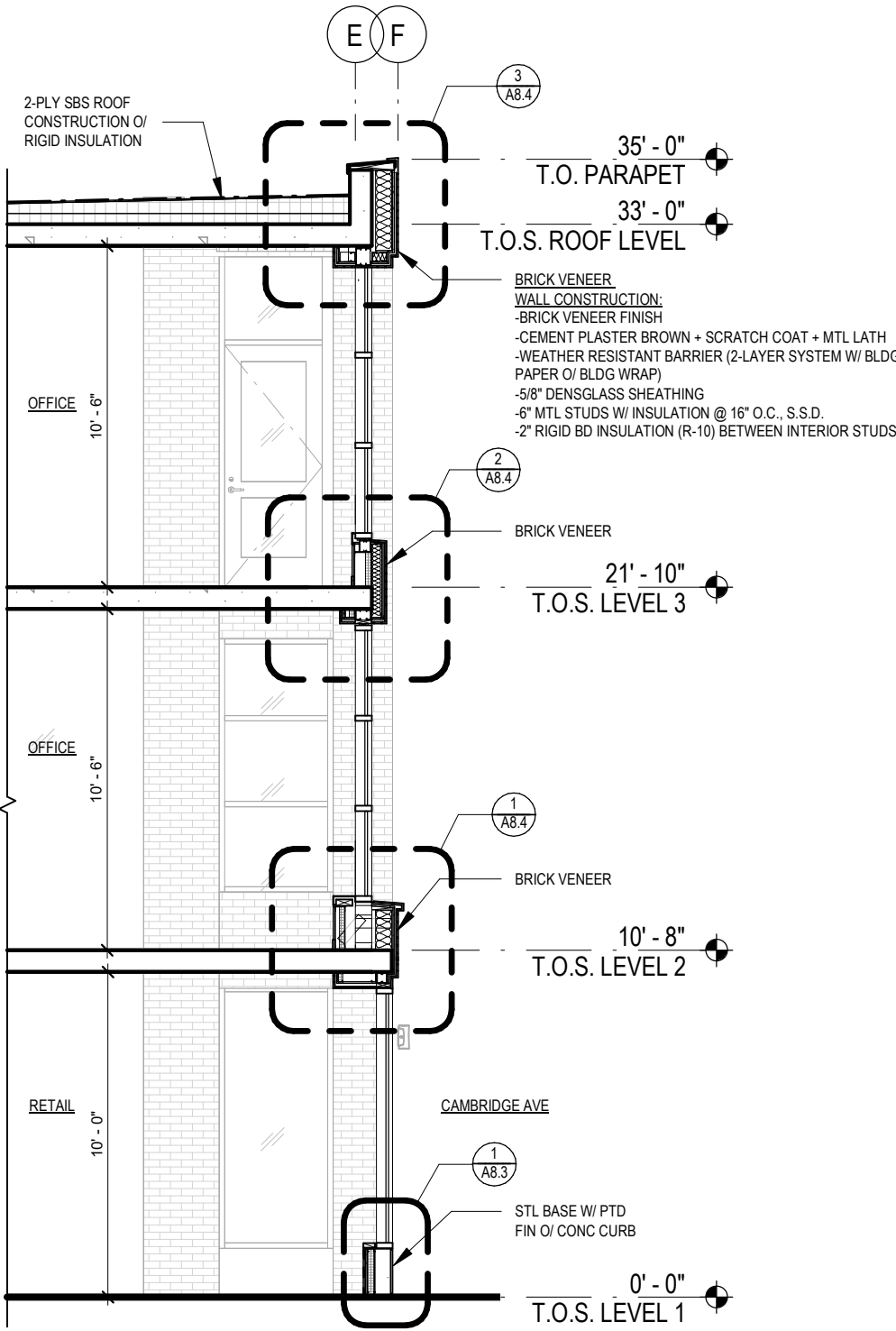
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WALL SECTION B-B

3/16" = 1'-0"

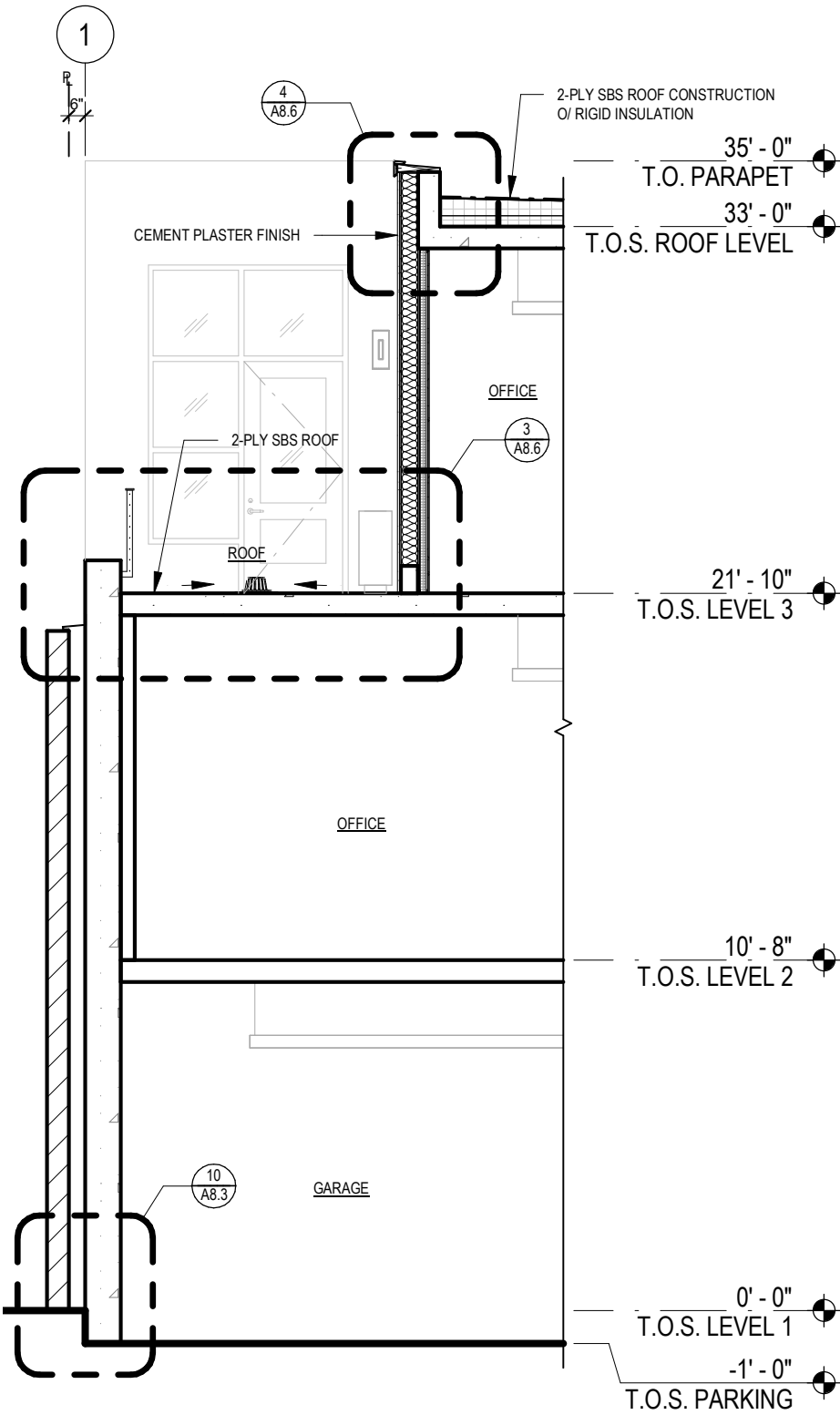
2



WALL SECTION A-A

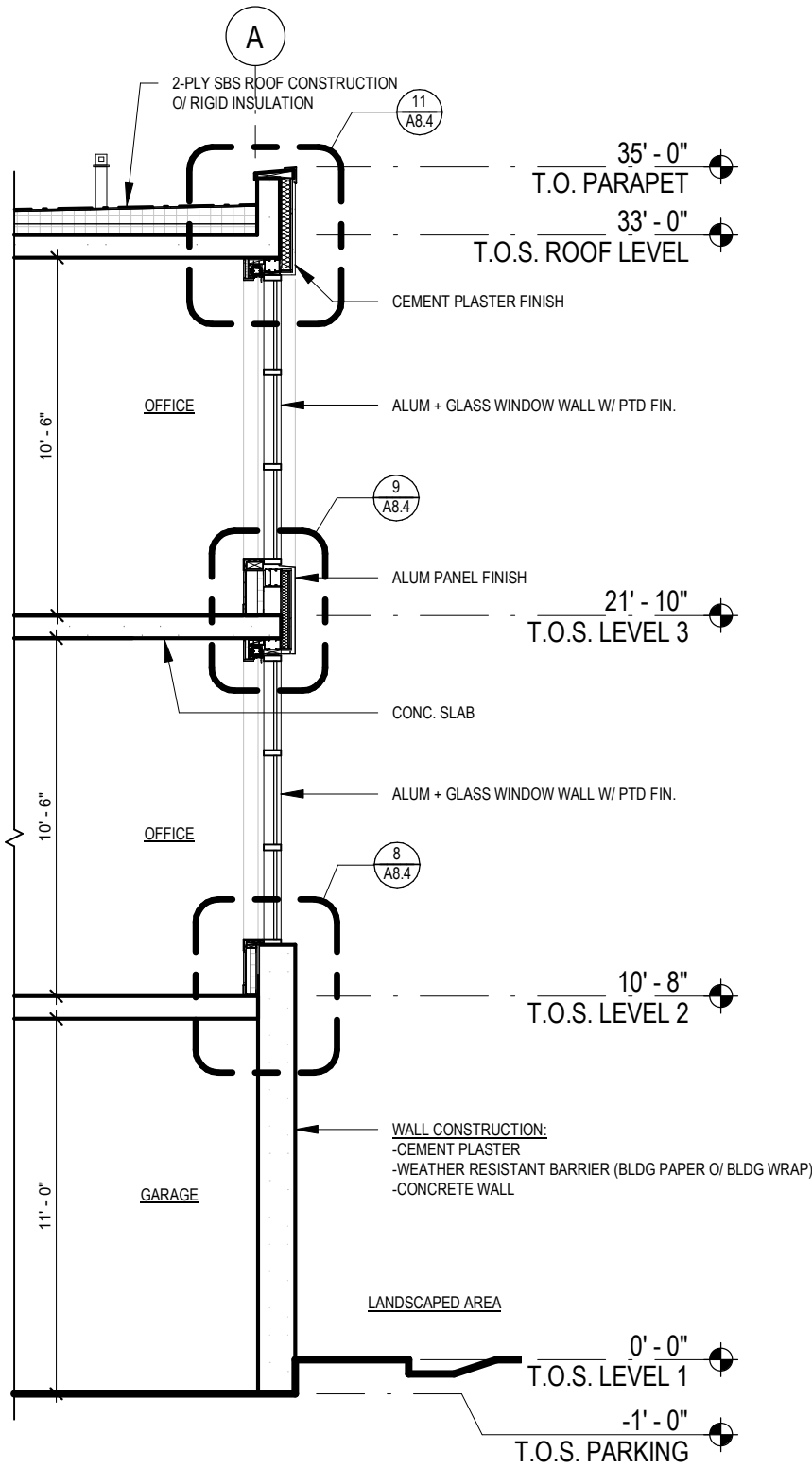
3/16" = 1'-0"

1



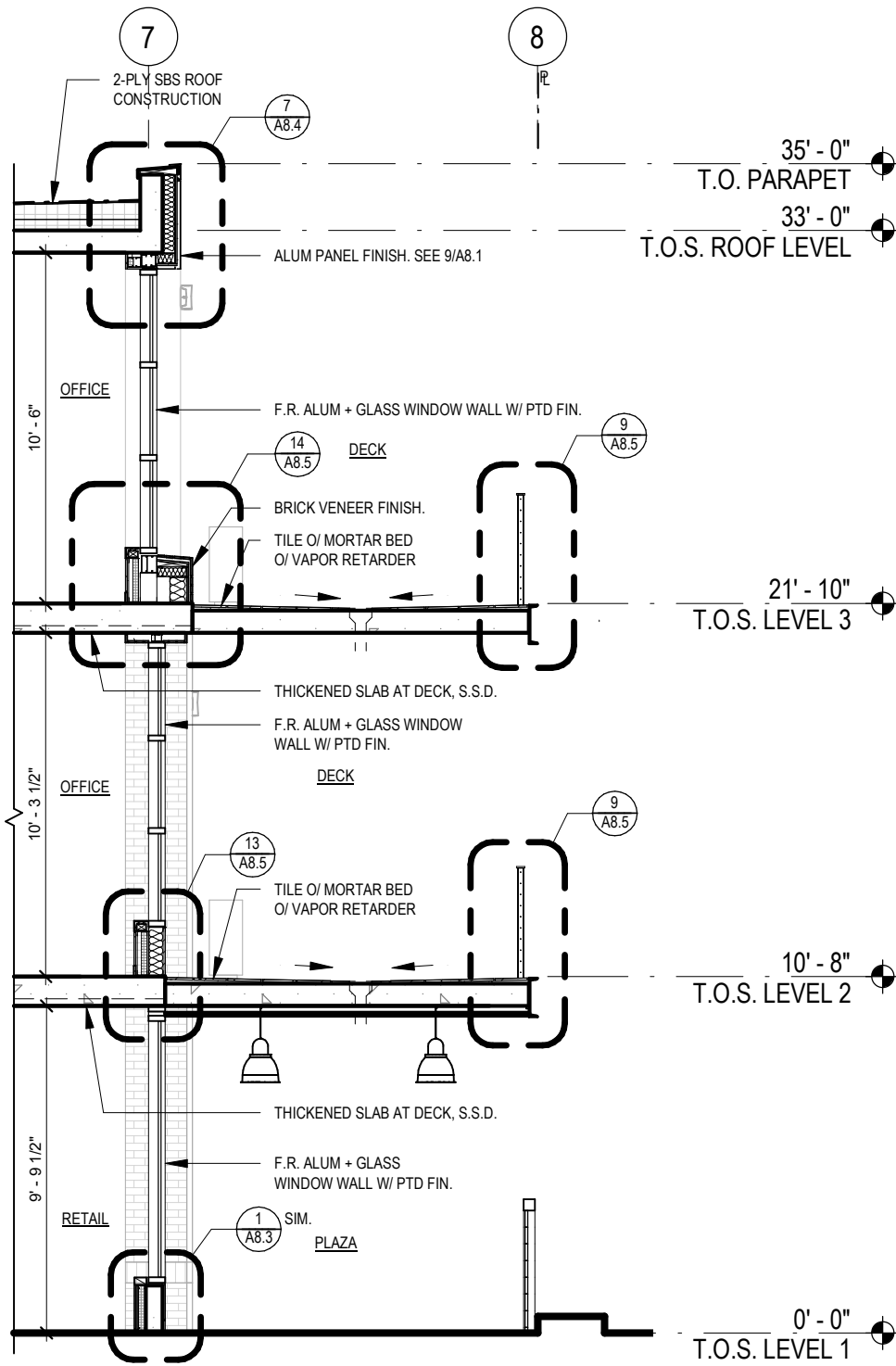
WALL SECTION F-F
3/16" = 1'-0"

3



WALL SECTION E-E
3/16" = 1'-0"

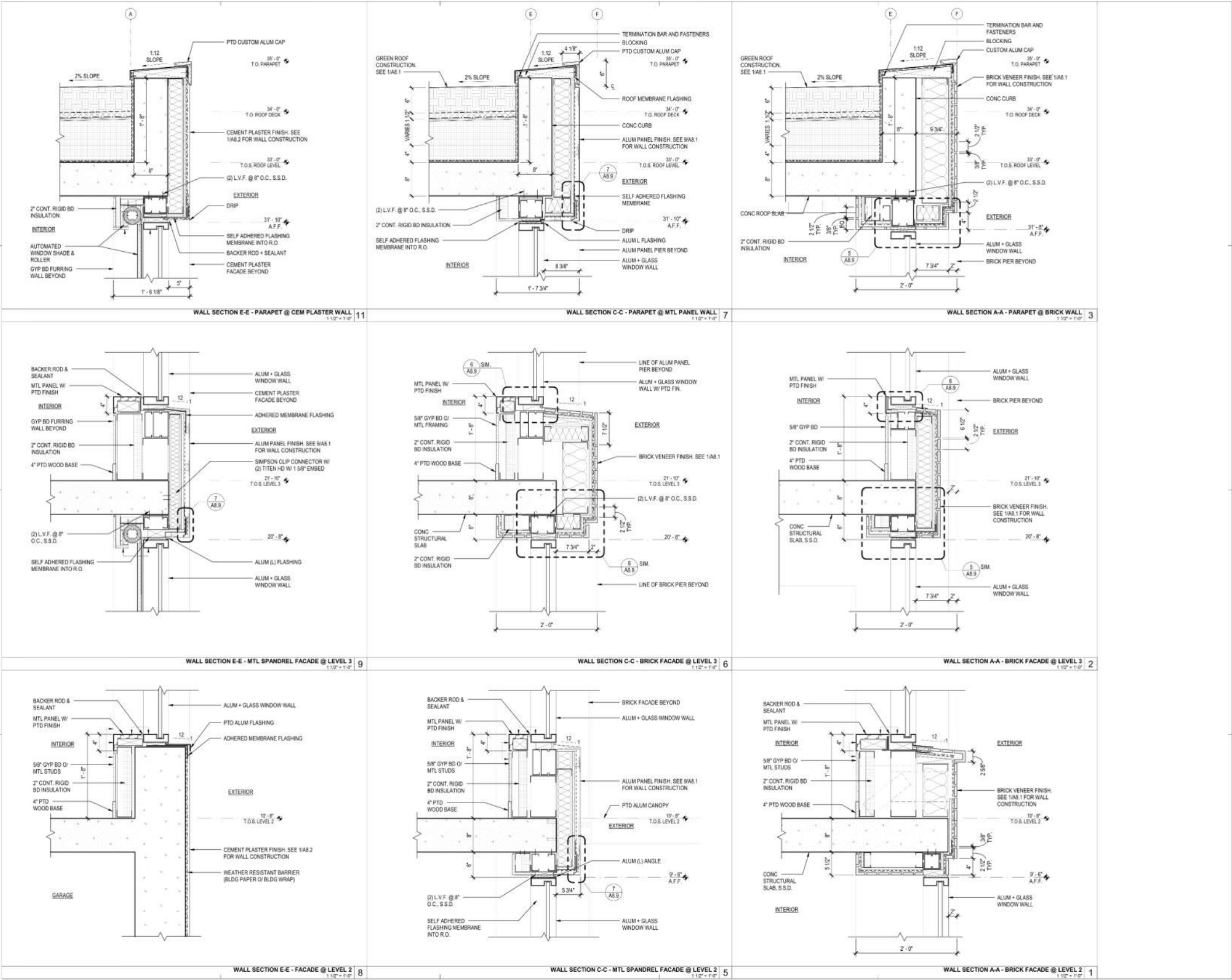
2



WALL SECTION D-D
3/16" = 1'-0"

1

FOR FULL SIZED SHEET, SEE APPENDIX, SHEET A8.4



388 CAMBRIDGE
OFFICE
BUILDING

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Issue/Revision	
No.	Description
1	06/16/2019 PERMIT & BID SET
2	04/15/2020 RESPONSE TO PLAN CHECK - 2ND ROUND
3	11/28/2022 50% CD - COORDINATION SET

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Approval Signature:

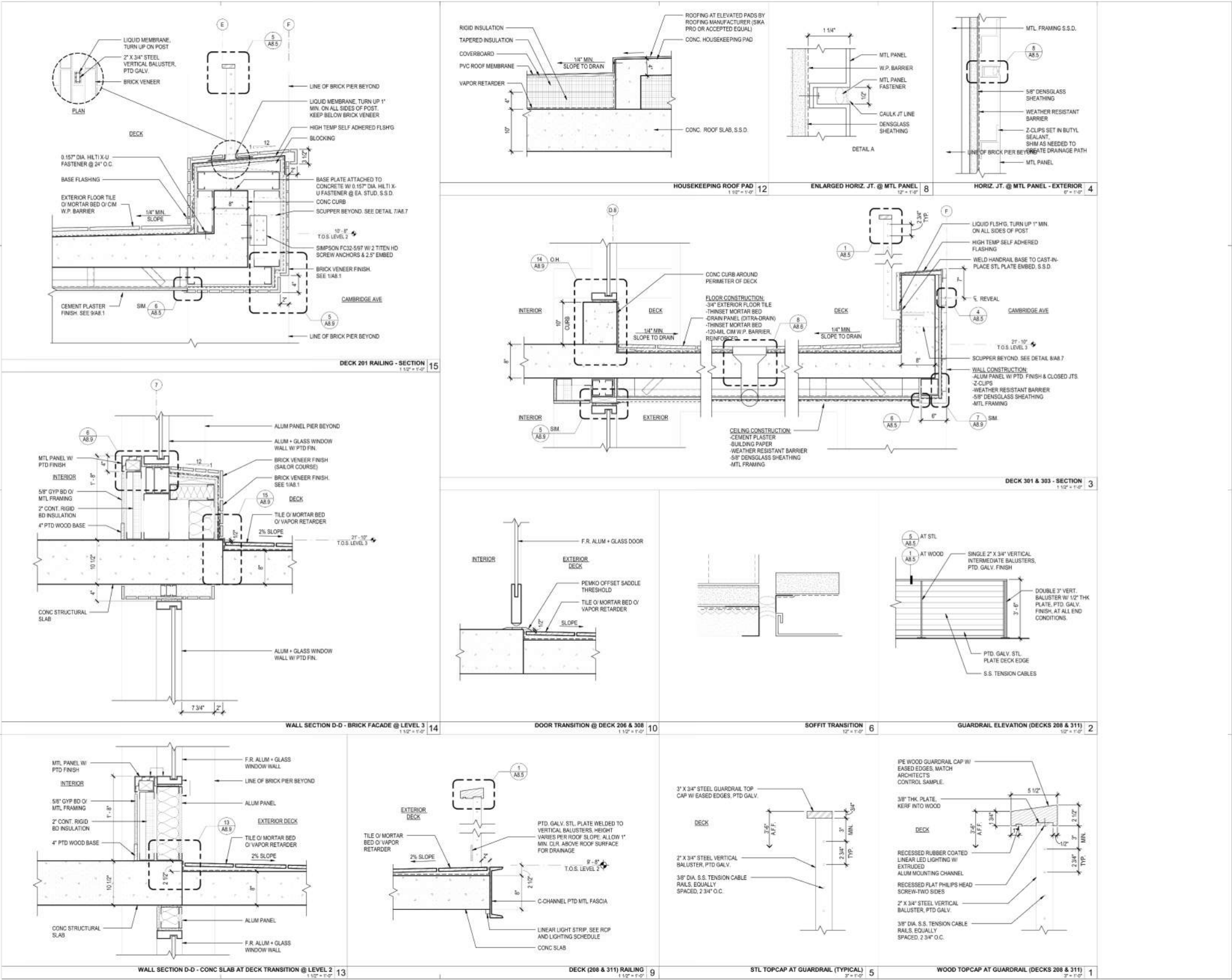
Date: _____

EXTERIOR
DETAILS

Scale: 1/16" = 1'-0" Issue Date: 10/19/2022
Drawn By: C.Y. Reviewed: SAC
Sheet: of 30 By: _____

A8.4

FOR FULL SIZED SHEET, SEE APPENDIX, SHEET A8.5



388 CAMBRIDGE
OFFICE
BUILDING

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Palo Alto, CA 94306



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brereton.com



Issue/Revision		
No.	Date	Description
1	06/16/2019	PERMIT & BID SET
2	04/15/2020	RESPONSE TO PLAN CHECK - 2ND ROUND
3	11/28/2022	50% CD - COORDINATION SET

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Approval Signature:

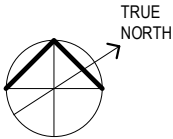
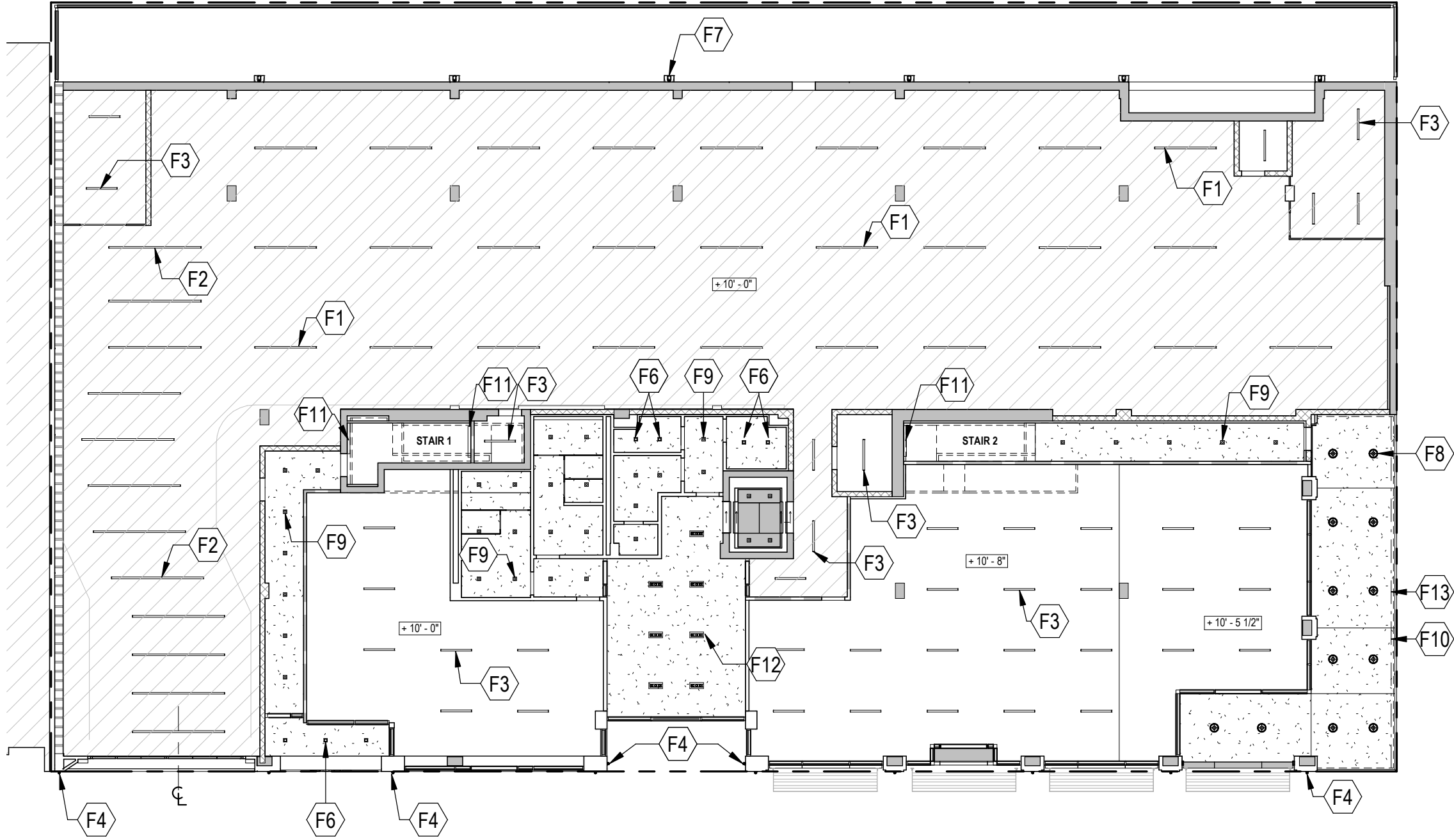
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EXTERIOR
DETAILS

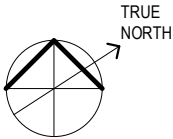
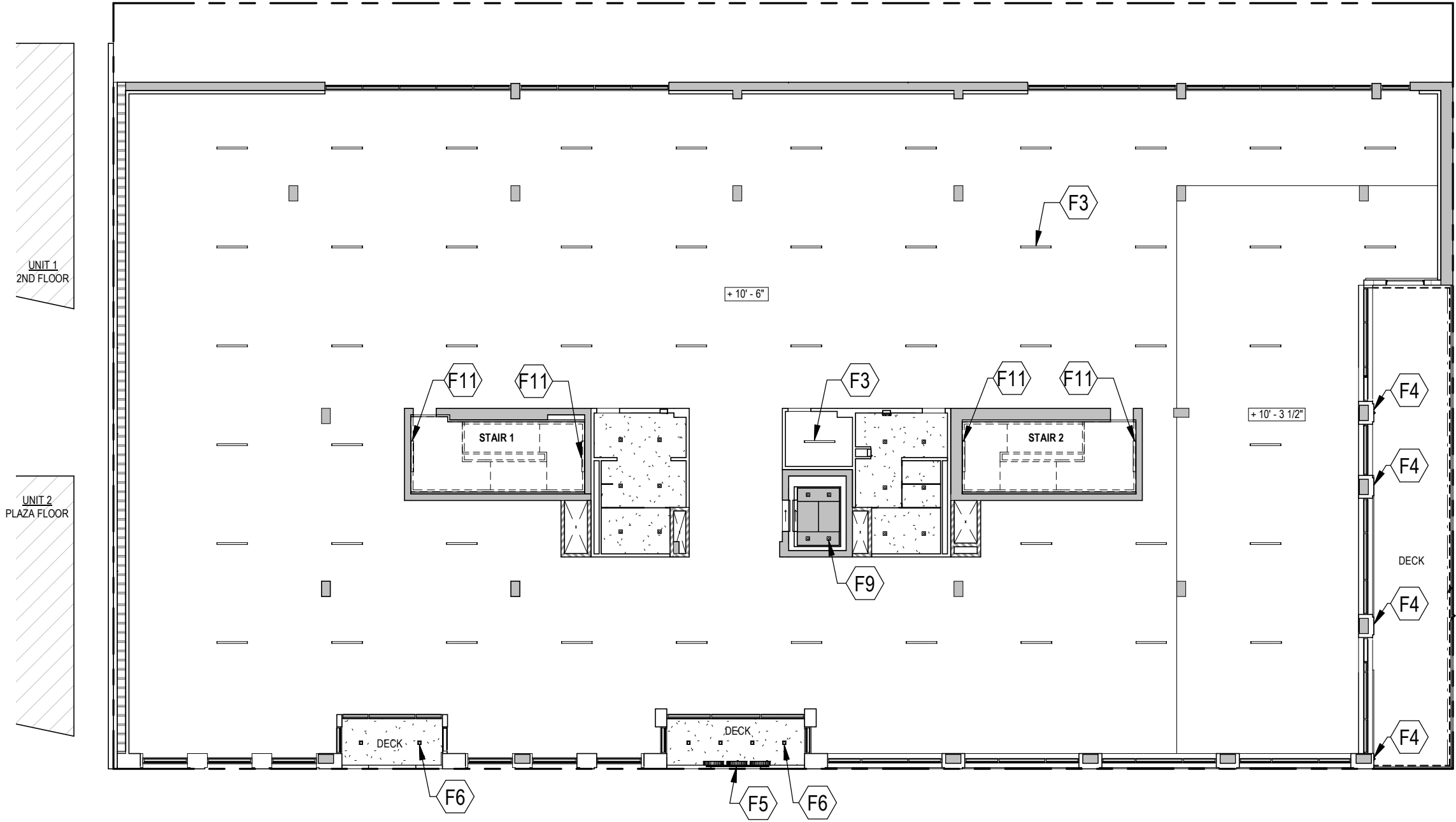
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Drawn By: _____ Author Reviewed: _____
Sheet: _____ of 30 By: _____

A8.5

*SEE APPENDIX FOR LIGHTING CUT SHEETS



*SEE APPENDIX FOR LIGHTING CUT SHEETS

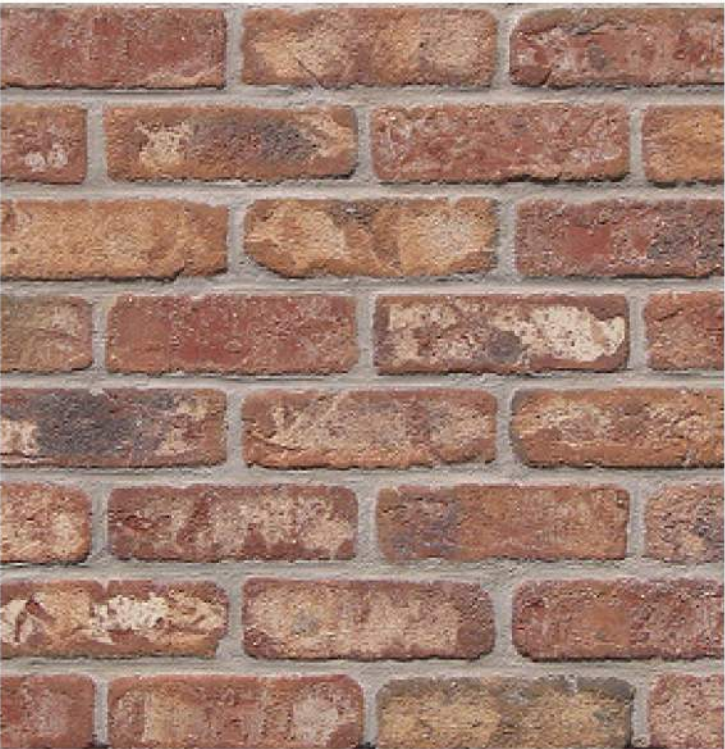




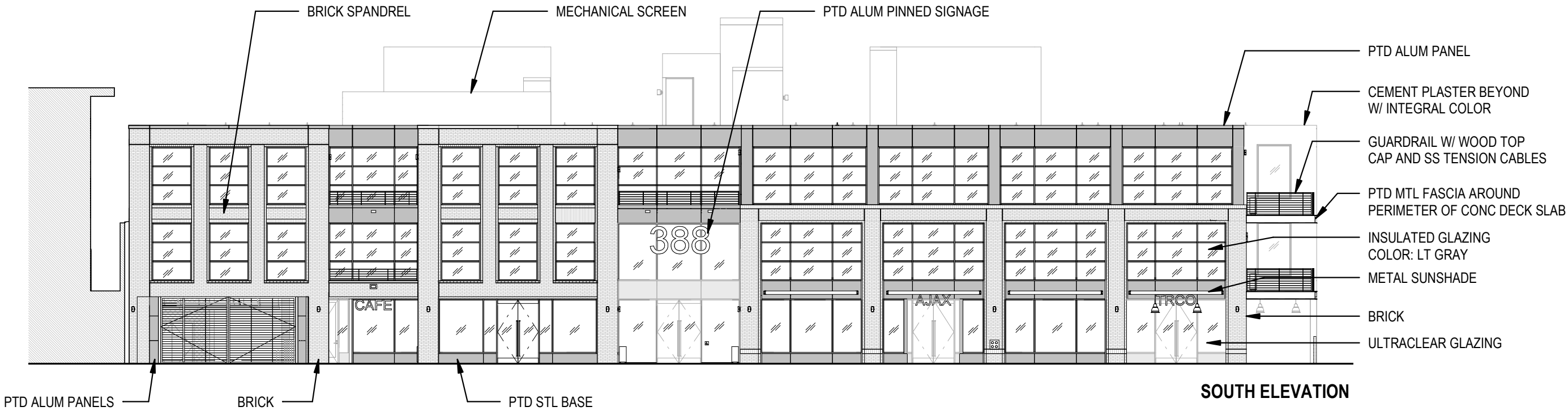
Painted Metal Paneling
PPG, Cosmic Gray Mica

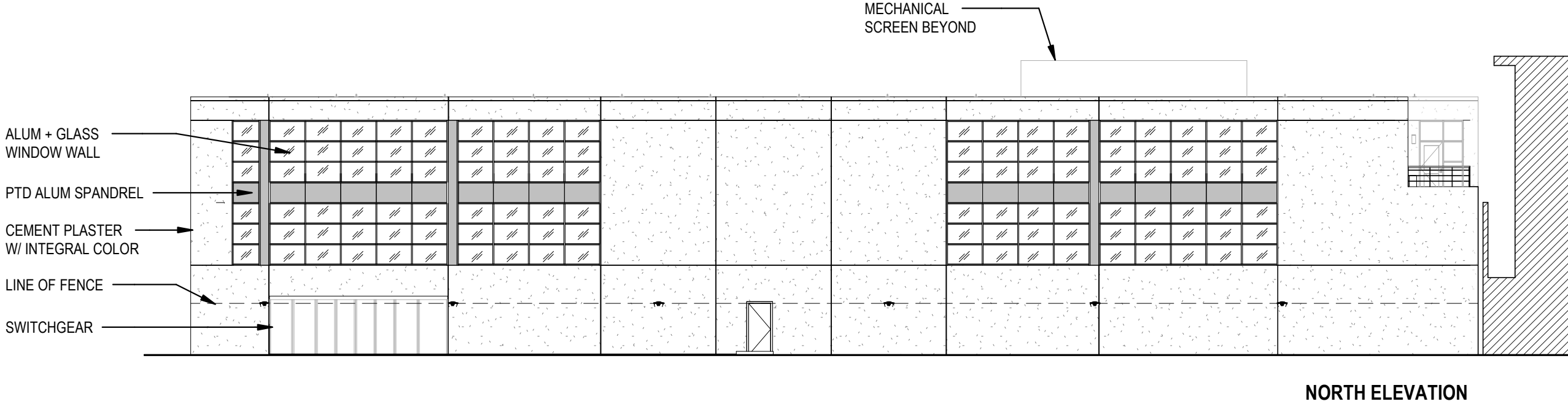
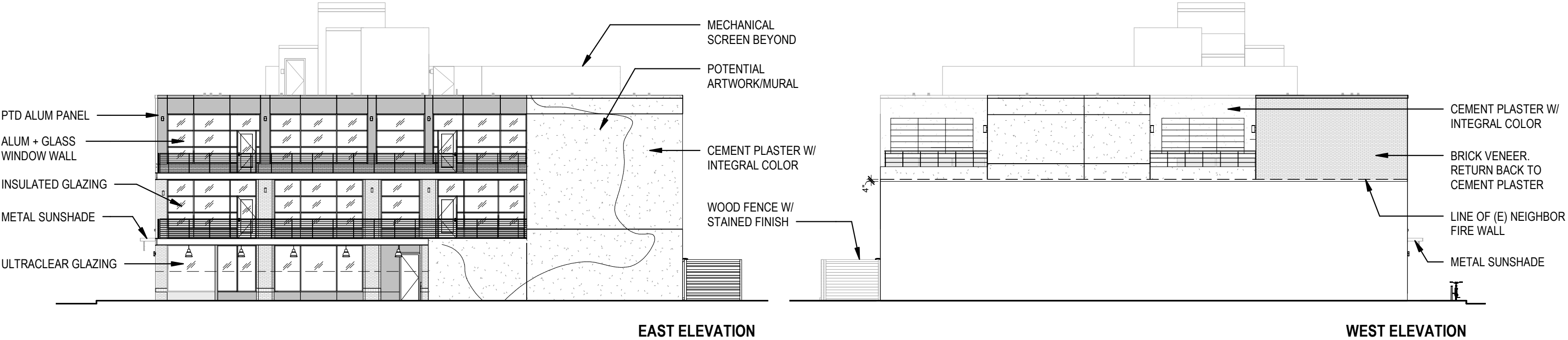


Cement Plaster w/ Smooth Finish



Brick Veneer
McNear, Verona
(Alternate: Muddox Brick, Mission Flashed)











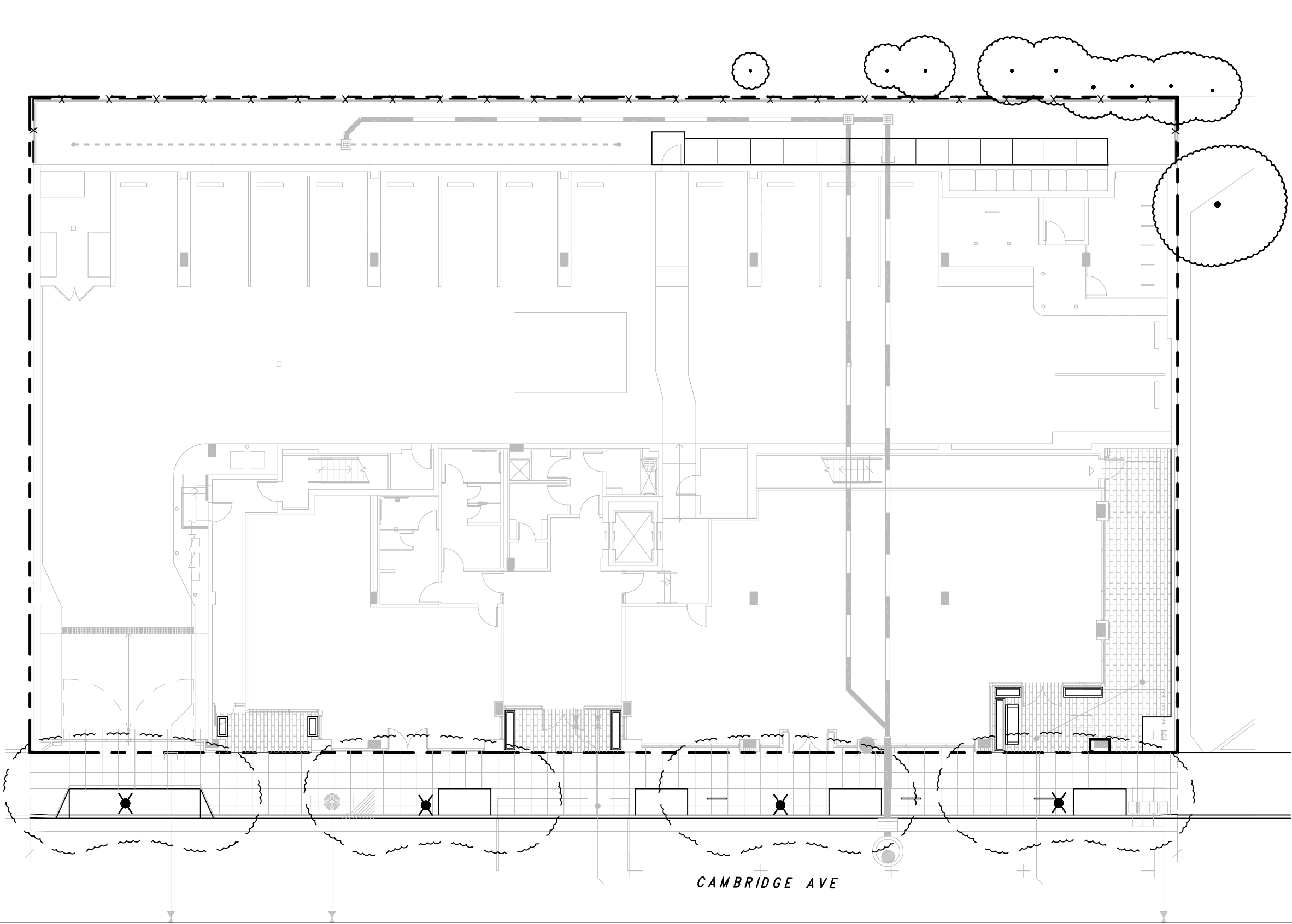




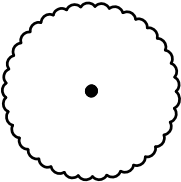




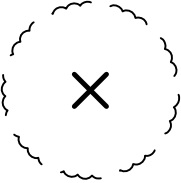




LEGEND



TREE TO REMAIN



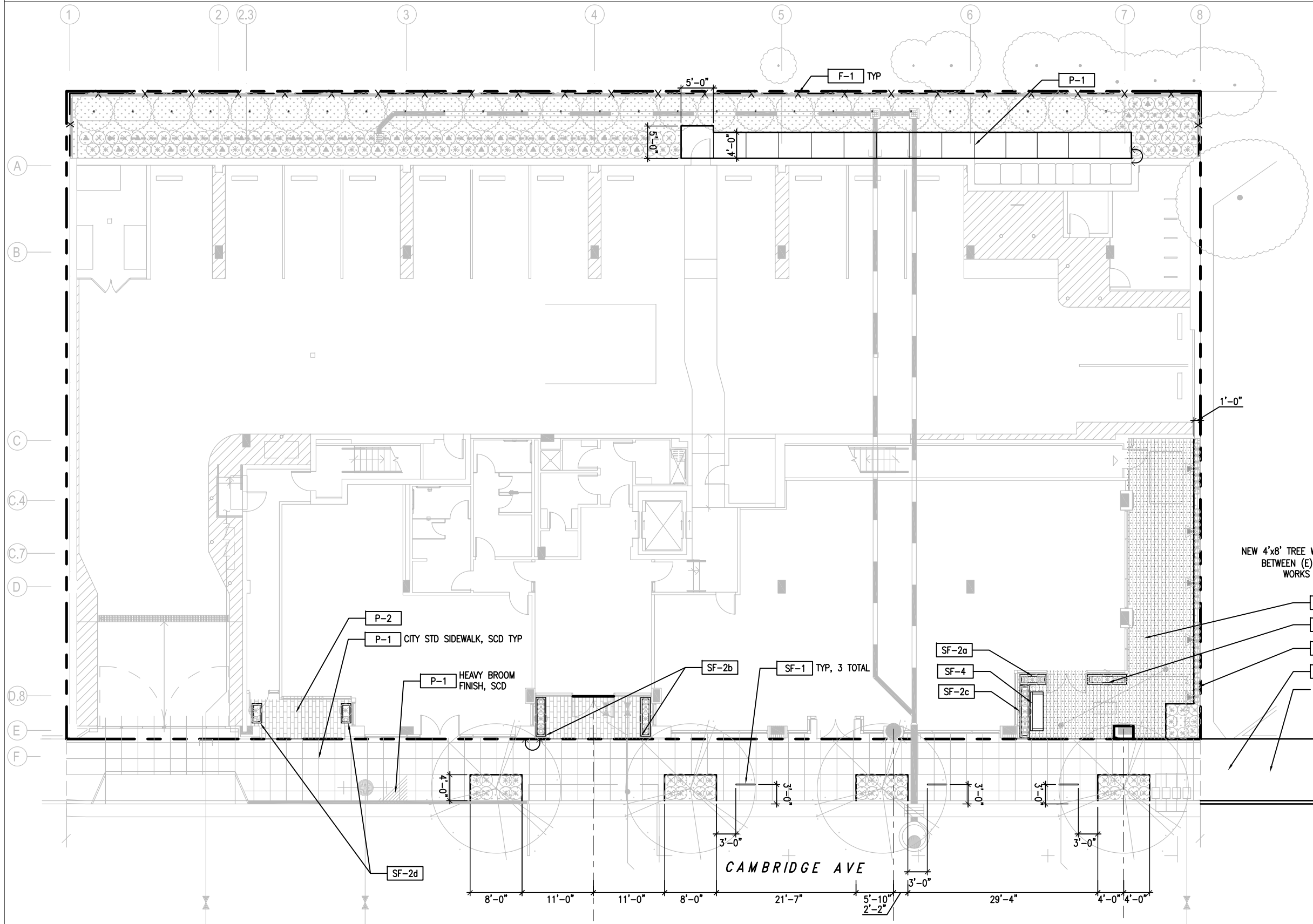
TREE TO BE REMOVED

TREE REPLACEMENT NOTES

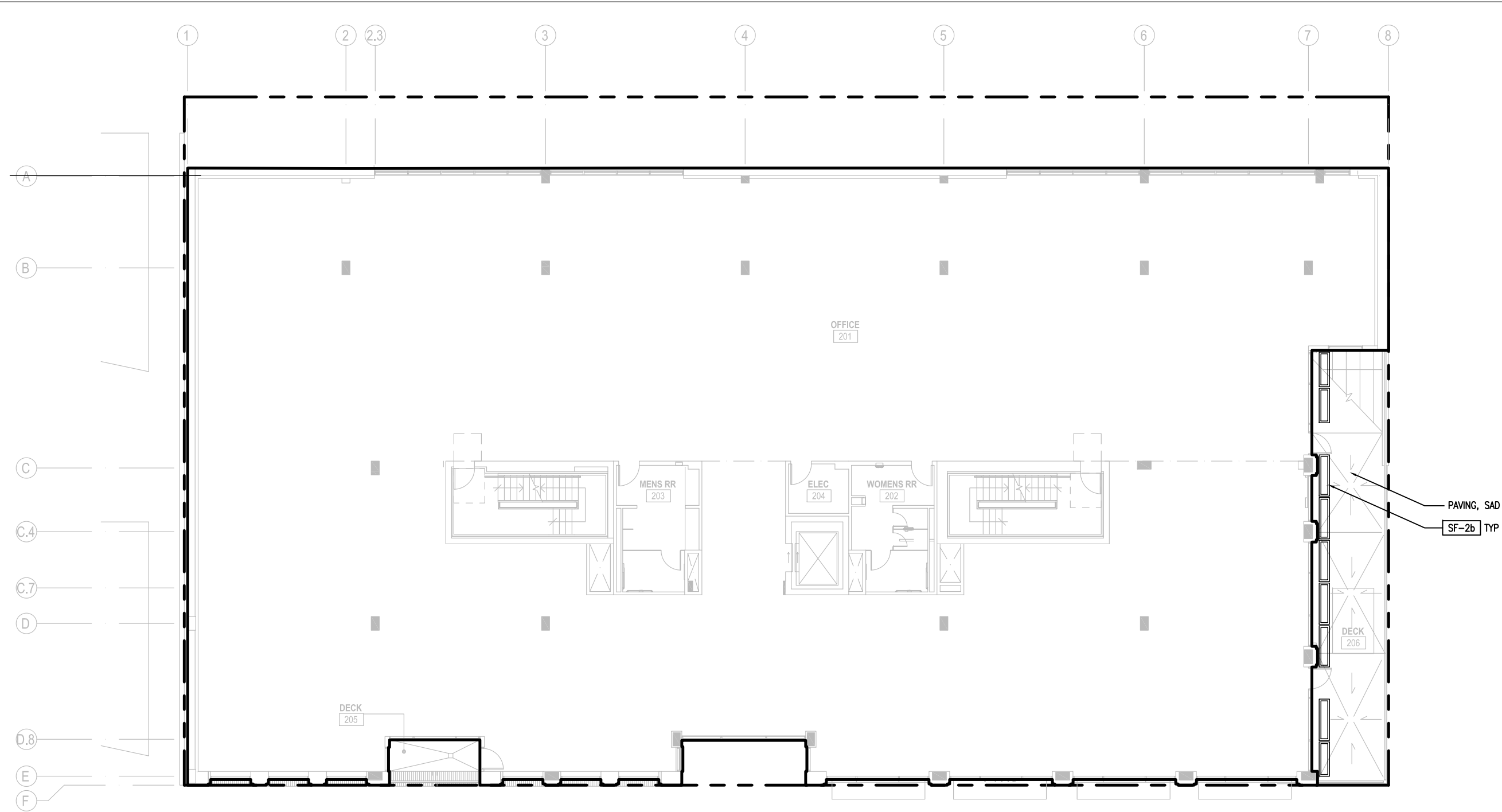
1. ONE EXISTING STREET TREE, CHINESE PISTACHE #5, IS APPROVED FOR REMOVAL WITH THE REPLACEMENT OF TWO 24" SIZE CHINESE PISTACHE. ONE TREE SHALL BE LOCATED 10' FROM THE NEW DRIVEWAY, ONE OFF SITE TREE ALIGNED WITH THE NEXT DOOR PARKING LOT SIDEWALK SITE, BETWEEN DRIVEWAY APRONS. IRRIGATION SHALL BE PROVIDED FOR THE TWO REPLACEMENT TREES, 2 BUBBLER HEADS EACH.



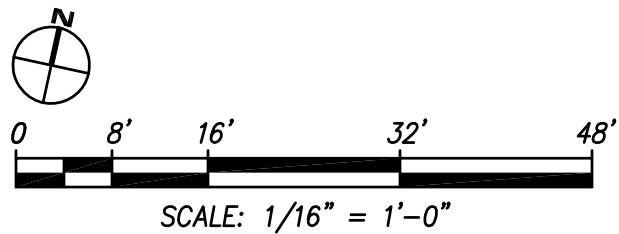
SCALE: 1/16" = 1'-0"

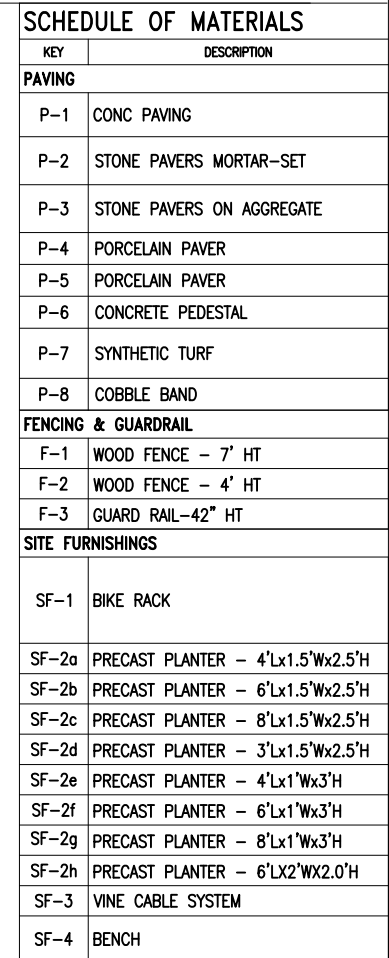


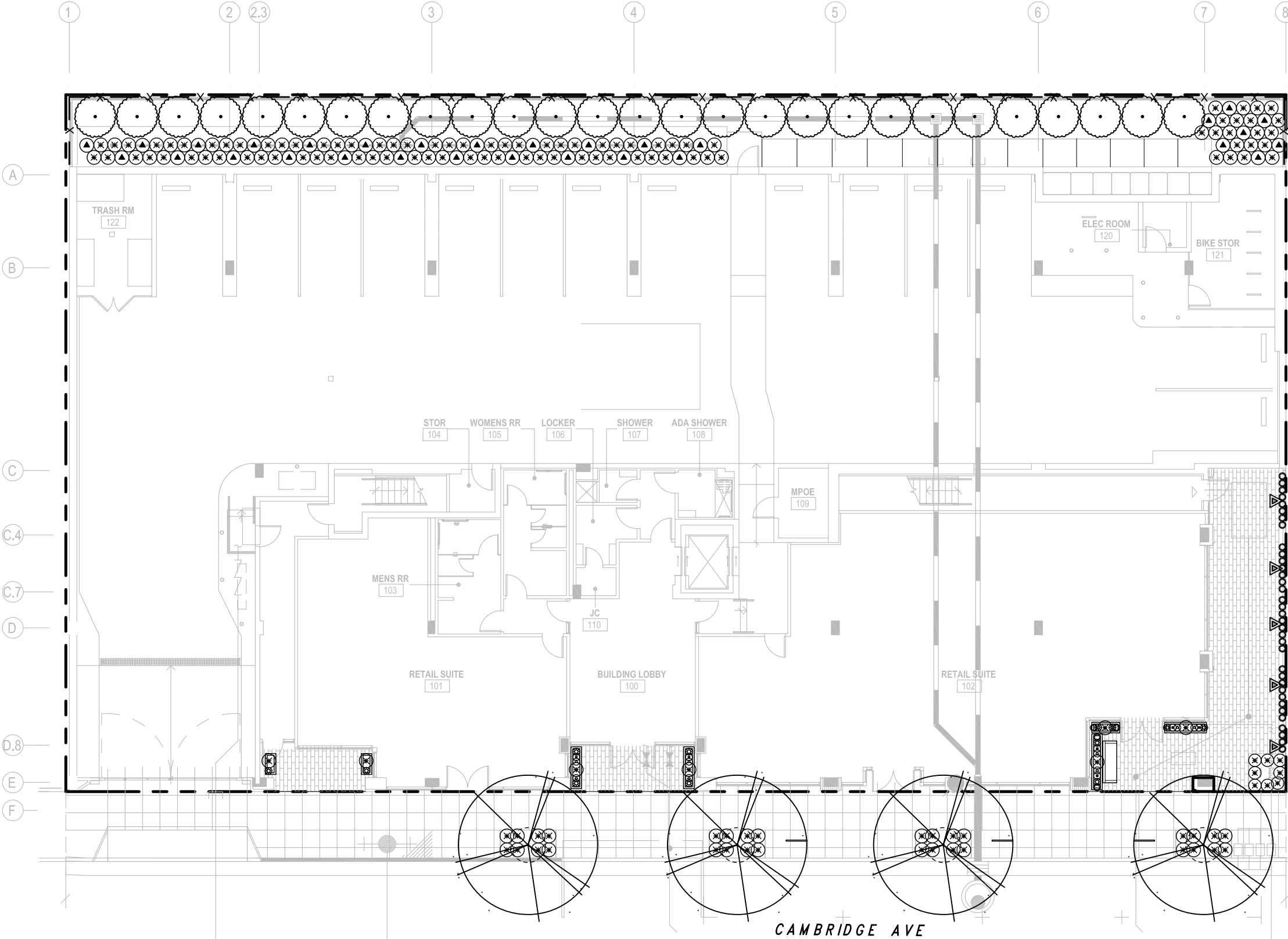
SCHEDULE OF MATERIALS	
KEY	DESCRIPTION
PAVING	
P-1	CONC PAVING
P-2	STONE PAVERS MORTAR-SET
P-3	STONE PAVERS ON AGGREGATE
P-4	PORCELAIN PAVER
P-5	PORCELAIN PAVER
P-6	CONCRETE PEDESTAL
P-7	SYNTHETIC TURF
P-8	COBBLE BAND
FENCING & GUARDRAIL	
F-1	WOOD FENCE - 7' HT
F-2	WOOD FENCE - 4' HT
F-3	GUARD RAIL-42" HT
SITE FURNISHINGS	
SF-1	BIKE RACK
SF-2a	PRECAST PLANTER - 4'Lx1.5'Wx2.5'H
SF-2b	PRECAST PLANTER - 6'Lx1.5'Wx2.5'H
SF-2c	PRECAST PLANTER - 8'Lx1.5'Wx2.5'H
SF-2d	PRECAST PLANTER - 3'Lx1.5'Wx2.5'H
SF-2e	PRECAST PLANTER - 4'Lx1'Wx3'H
SF-2f	PRECAST PLANTER - 6'Lx1'Wx3'H
SF-2g	PRECAST PLANTER - 8'Lx1'Wx3'H
SF-2h	PRECAST PLANTER - 6'Lx2'Wx2.0'H
SF-3	VINE CABLE SYSTEM
SF-4	BENCH



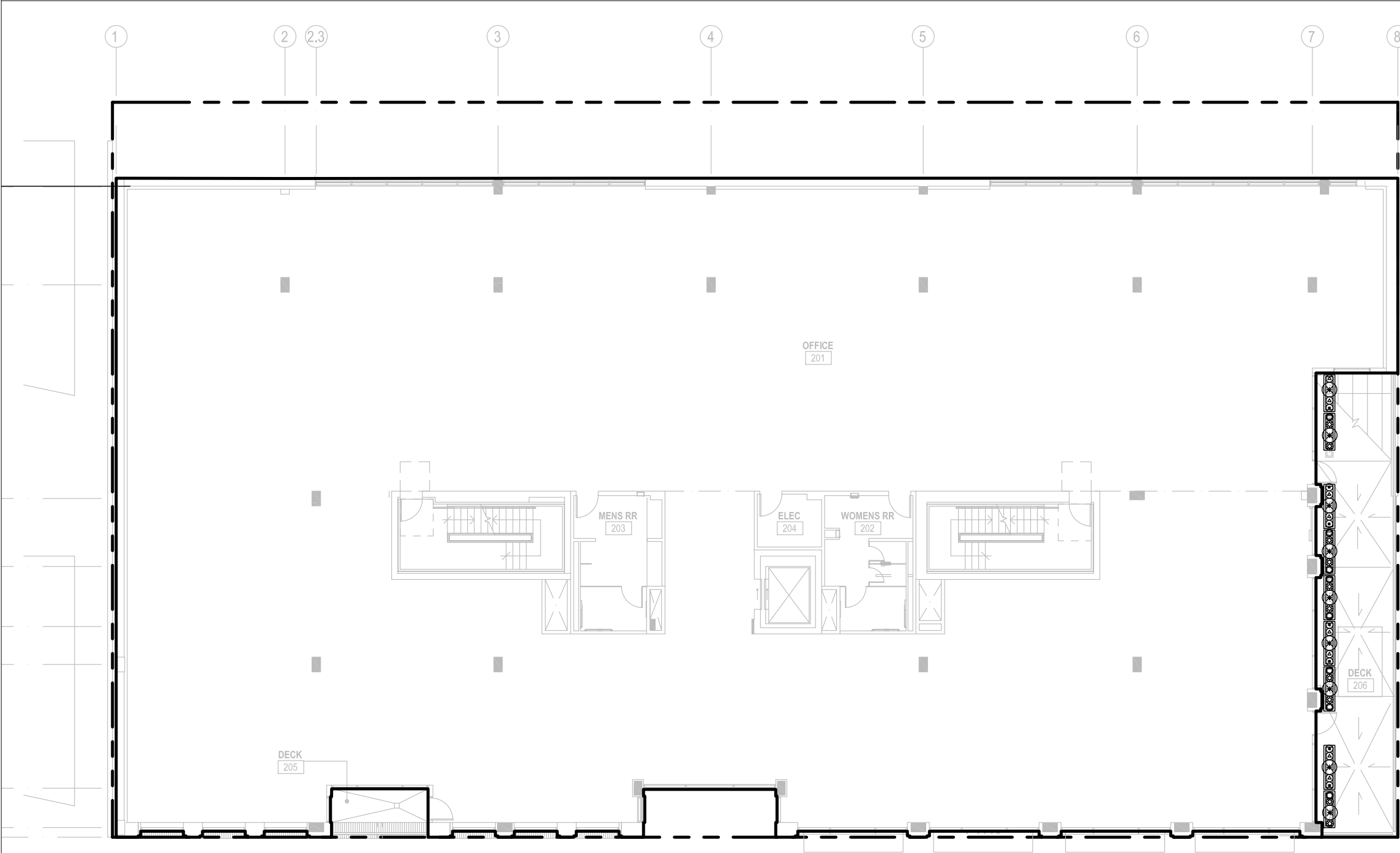
SCHEDULE OF MATERIALS	
KEY	DESCRIPTION
PAVING	
P-1	CONC PAVING
P-2	STONE PAVERS MORTAR-SET
P-3	STONE PAVERS ON AGGREGATE
P-4	PORCELAIN PAVER
P-5	PORCELAIN PAVER
P-6	CONCRETE PEDESTAL
P-7	SYNTHETIC TURF
P-8	COBBLE BAND
FENCING & GUARDRAIL	
F-1	WOOD FENCE - 7' HT
F-2	WOOD FENCE - 4' HT
F-3	GUARD RAIL-42" HT
SITE FURNISHINGS	
SF-1	BIKE RACK
SF-2a	PRECAST PLANTER - 4'Lx1.5'Wx2.5'H
SF-2b	PRECAST PLANTER - 6'Lx1.5'Wx2.5'H
SF-2c	PRECAST PLANTER - 8'Lx1.5'Wx2.5'H
SF-2d	PRECAST PLANTER - 3'Lx1.5'Wx2.5'H
SF-2e	PRECAST PLANTER - 4'Lx1'Wx3'H
SF-2f	PRECAST PLANTER - 6'Lx1'Wx3'H
SF-2g	PRECAST PLANTER - 8'Lx1'Wx3'H
SF-2h	PRECAST PLANTER - 6'LX2'WX2.0'H
SF-3	VINE CABLE SYSTEM
SF-4	BENCH



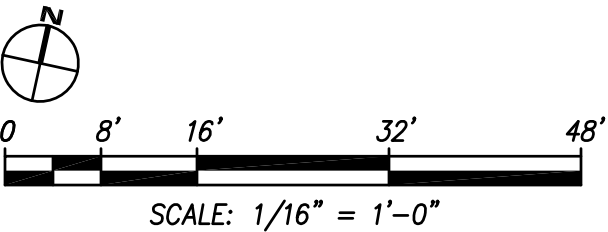


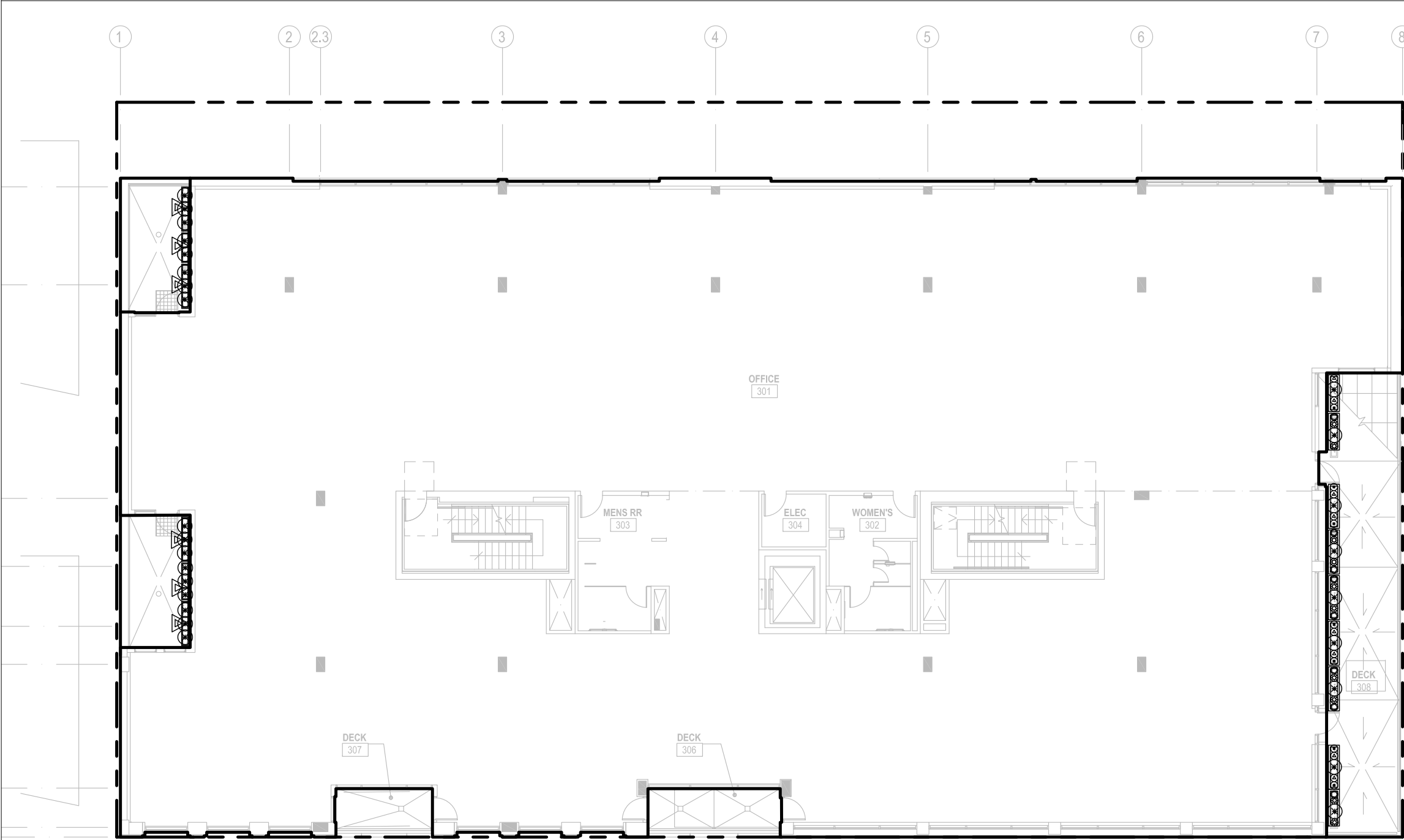


PRELIMINARY PLANT LIST							
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	OC SPACING	WUCOLS	CA NATIVE	QTY
TREES							
PIS CH	PISTACHIA CHINESIS 'KEITH DAVEY'	KEITH DAVEY CHINESE PISTACHE	36" BOX	PER PLAN	L	N	5
SCREEN PLANT OPTIONS							
	DODONAEA VISCOSA 'PURPUREA'	PURPLE HOPSEED BUSH	15 GAL	6'-0"	L	N	27
SHRUBS & GRASSES							
	ANEMONE X HYBRIDA 'HONORINE JOBERT'	JAPANESE ANEMONE	5 GAL	2'-0"	M	N	8
	CAREX TUMULICOLA	BERKELEY SEDGE	1 GAL	2'-0"	L	Y	76
	HEUCHERA 'GREEN SPICE'	GREEN SPICE CORAL BELLS	1 GAL	1'-0"	L	N	24
	HEUCHERA MAXIMA	ISLAND ALUMN ROOT	1 GAL	1'-0"	L	Y	20
	OPHIPOGON JAPONICUS 'NIGRESCENS'	BLACK MONDO GRASS	1 GAL	1'-0"	M	N	18
	POLYSTICHUM MUNITUM	WESTERN SWORD FERN	5 GAL	3'-0"	M	Y	15
	SEDUM PALMERI	PALMER'S SEDUM	1 GAL	1'-0"	L	N	55
VINES							
	HARDENBERGIA VIOLACEA 'HAPPY WANDERER'	PURPLE LILAC VINE	5 GAL	PER PLAN	L	N	6
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	5 GAL	PER PLAN	L	N	5
STORMWATER							
	CAREX TUMULICOLA	BERKELEY SEDGE	1 GAL	2'-0"	L	Y	185
	JUNCUS PATENS 'ELK BLUE'	RUSH	1 GAL	2'-0"	L	Y	60

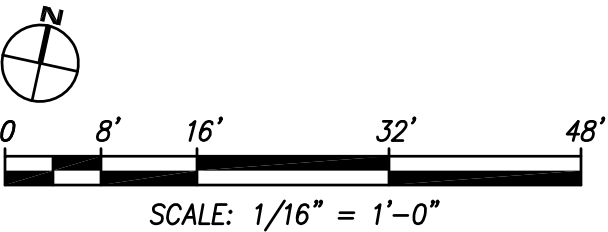


PRELIMINARY PLANT LIST							
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	OC SPACING	WUCOLS	CA NATIVE	QTY
TREES							
PIS CH	PISTACHIA CHINESIS 'KEITH DAVEY'	KEITH DAVEY CHINESE PISTACHE	36" BOX	PER PLAN	L	N	5
SCREEN PLANT OPTIONS							
	DODONAEA VISCOSA 'PURPUREA'	PURPLE HOPSEED BUSH	15 GAL	6'-0"	L	N	27
SHRUBS & GRASSES							
	ANEMONE X HYBRIDA 'HONORINE JOBERT'	JAPANESE ANEMONE	5 GAL	2'-0"	M	N	8
	CAREX TUMULICOLA	BERKELEY SEDGE	1 GAL	2'-0"	L	Y	76
	HEUCHERA 'GREEN SPICE'	GREEN SPICE CORAL BELLS	1 GAL	1'-0"	L	N	24
	HEUCHERA MAXIMA	ISLAND ALUMN ROOT	1 GAL	1'-0"	L	Y	20
	OPHIPOGON JAPONICUS 'NIGRESCENS'	BLACK MONDO GRASS	1 GAL	1'-0"	M	N	18
	POLYSTICHUM MUNITUM	WESTERN SWORD FERN	5 GAL	3'-0"	M	Y	15
	SEDUM PALMERI	PALMER'S SEDUM	1 GAL	1'-0"	L	N	55
VINES							
	HARDENBERGIA VIOLACEA 'HAPPY WANDERER'	PURPLE LILAC VINE	5 GAL	PER PLAN	L	N	6
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	5 GAL	PER PLAN	L	N	5
STORMWATER							
	CAREX TUMULICOLA	BERKELEY SEDGE	1 GAL	2'-0"	L	Y	185
	JUNCUS PATENS 'ELK BLUE'	RUSH	1 GAL	2'-0"	L	Y	60





PRELIMINARY PLANT LIST							
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	OC SPACING	WUCOLS	CA NATIVE	QTY
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	CAREX TUMULICOLA	BERKELEY SEDGE	1 GAL	2'-0"	L	Y	76
	HEUCHERA 'GREEN SPICE'	GREEN SPICE CORAL BELLS	1 GAL	1'-0"	L	N	24
	HEUCHERA MAXIMA	ISLAND ALUMN ROOT	1 GAL	1'-0"	L	Y	20
	OPHIPOGON JAPONICUS 'NIGRESCENS'	BLACK MONDO GRASS	1 GAL	1'-0"	M	N	18
	POLYSTICHUM MUNITUM	WESTERN SWORD FERN	5 GAL	3'-0"	M	Y	15
	SEDUM PALMERI	PALMER'S SEDUM	1 GAL	1'-0"	L	N	55
VINES							
	HARDENBERGIA VIOLACEA 'HAPPY WANDERER'	PURPLE LILAC VINE	5 GAL	PER PLAN	L	N	6
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	5 GAL	PER PLAN	L	N	5
STORMWATER							
	CAREX TUMULICOLA	BERKELEY SEDGE	1 GAL	2'-0"	L	Y	185
	JUNCUS PATENS 'ELK BLUE'	RUSH	1 GAL	2'-0"	L	Y	60



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The above photo of tree ID #2 shows the exposed roots after air spading. The area along the right is closest to the building and is where two large 5" roots were observed growing together under the sidewalk. These roots would need to be pruned and may compromise the stability and health of this tree.

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The above photo (Tree ID #1) shows a utility conduit line running under the roots along the building side of the trunk.

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Tree ID#1 - Northeastern most tree, located in front of 378 Cambridge Avenue.

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Arborist Report

388 Cambridge Avenue
Palo Alto, CA 94306

Prepared by:
Doug Hagge
ISA Certified Arborist WE-4508A

Arborwell Professional Tree Management
2337 American Avenue
Hayward, CA 94545

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In the above photo, the tape is laid across two roots that combined are 11" across. These roots would require pruning, would be possibly exceed 25% of the total roots on the northwest side of the trunk.

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Tree ID #2

The *Pistachia chinensis*, Chinese Pistache tree located in front of 378 Cambridge Avenue, has a diameter of 16.6" at breast height and a canopy spread of 24 feet. It is growing within a sidewalk cut out that is 42"x 62". One large root that may consist of two roots was measured to be approximately 11" across is located on the building side of the trunk. Pruning of this root would remove at least 2 separate roots that are 5" in diameter or greater. I spoke with the project manager from W.L. Butler and asked if they could slope the sidewalk in this area, but he pointed out to me, that sidewalk currently slopes downward away from the tree as you move towards the building entrance to the old barber shop. Due to this, root pruning would result in the removal of the large root mass on the northwest side of the tree, exceeding a 25% level of root loss. Therefore, I recommend that this tree be removed and replaced with - one 36" Box size replacement trees per the Tree Canopy Replacement Standard (City of Palo Alto Tree Technical Manual).

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Tree ID #1: Decayed 6" diameter root near northwest corner of planter towards building (Above left). A second 6" root along the rear (building) side of the sidewalk.

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Introduction and Overview

Arborwell was contracted by W.L. Butler to inspect three tree street trees located in front of 388-400 Cambridge Avenue. On February 13, 2020, Arborwell excavated the roots through the use of a pneumatic air spade to remove the soil and expose the tree roots for inspection. The purpose of this report is determine the size & location of the roots and understand the impact would be to each tree if roots were pruned for the installation of a new sidewalk which is a requirement of this project. This report addresses my findings and how the required and recommended practices may impact these trees.

Description of Trees

Tree ID #1- Northeastern most tree

The *Pistachia chinensis*, Chinese Pistache tree located in front of 378 Cambridge Avenue, has a diameter of 16.2" at breast height and a canopy spread of 22 feet. This was the last tree to be excavated during my visit. Along the building side of the trunk, I measured two large roots at 6" each. One of these roots has significant decay on the root that heads towards the northwest (rear) corner of the planter. The removal of these three large roots would exceed the recommended threshold of root removal as per the Best Management Practice. As a result of the amount of root loss, it is my recommendation that this tree be removed and replaced with - one 36" Box size replacement trees per the Tree Canopy Replacement Standard (City of Palo Alto Tree Technical Manual).


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The above photo of Tree ID#3, shows the largest root along the northwest (Building) side of the trunk. This root, along with 2 others would require pruning, which would be more than 25% of the total root system on this side of the tree.


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Tree ID #3 is shown in the photo above after it was excavated. Along the left side of this photo, three large roots 6" in diameter are visible.

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Recommendations

Based on the above observations, in my professional opinion that tree ID #1, 2 & 3 should be removed and replaced, due to the amount of root loss that exceeds the recommendations for best management practices from the International Society of Arboriculture. Tree replacements must follow the Tree Canopy Replacement Standard (City of Palo Alto Tree Technical Manual) with consideration of any other improvements to sidewalk design, engineered soil, root barriers or other acceptable improvement that would mitigate the number and size of tree replacements for this project. Based on the existing conditions such as underground utilities, design of building and spacing, it is recommended that only four trees be planted.

Arborwell Professional Tree Management

The following report was prepared on 2/27/20 and is based on observations from 2/13/20. Trees are living organisms with specific requirements needed in order to thrive. As conditions change, trees need to be inspected to ensure that hazards and liabilities are reduced.

Doug Hagge
ISA Certified Arborist # WE-4508A

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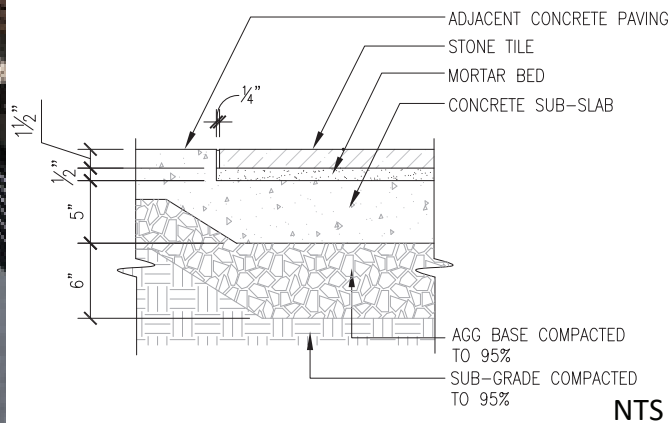
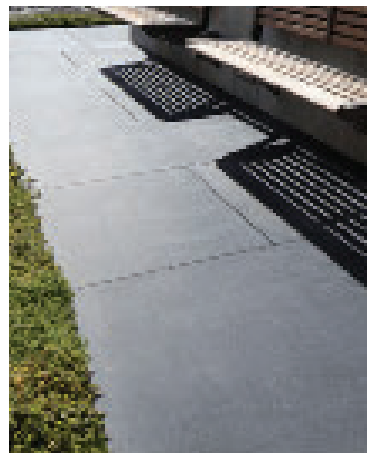
9 FENCE



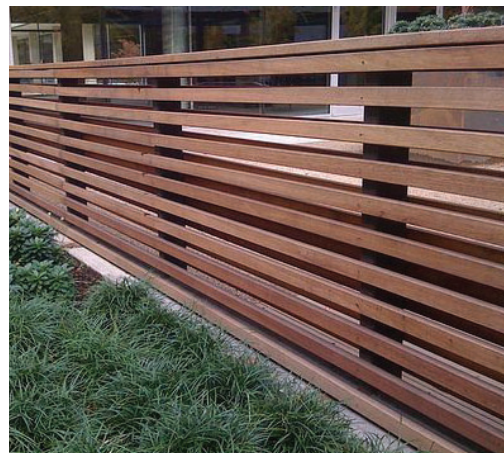
2 SCREEN



5 PRECAST PLANTERS



4 SPECIALTY TILE PAVING



11 4' HEIGHT WOOD FENCE W/VINES AT NORTH PROPERTY LINE

SHRUBS &
GRASSES



ANEMONE X HYBRIDA
'HONORINE JOBERT'
JAPANESE ANEMONE



CAREX TUMULICOLA
BERKELEY SEDGE



HEUCHERA MAXIMA
ISLAND ALUMN ROOT



HEUCHERA 'GREEN SPICE'
REEN SPICE CORAL BELLS



OPHIOGON JAPONICUS
'NIGRA'
MONDO GRASS

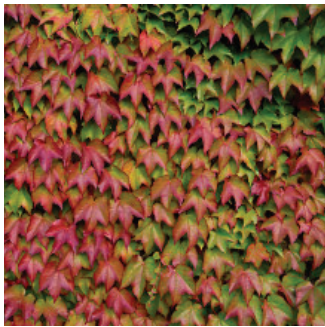


POLYSTICHUM MUNITUM
WESTERN SWORD FERN



SEDUM PALMERI
PALMER'S SEDUM

VINES



PARTHENOCISSUS
TRICUSPIDATA
BOSTON IVY
(DECIDUOUS)

SCREEN
PLANTING
OPTIONS



DODONEA VISCOSA 'PURPUREA'
PURPLE HOPSEED BUSH
12'-16' HIGH



FARGESIA NITIDA 'GREAT WALL'
CLUMPING BAMBOO
10'-15' HIGH



HIMALAYACALAMUS HOOKERIANUS
BLUE BAMBOO
12'-20' HIGH

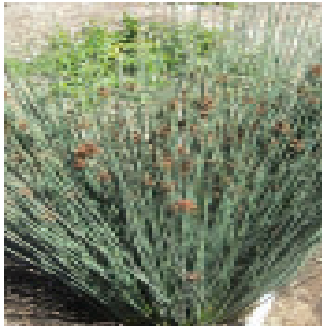


PHYLLOSTACHYS AUREA
GOLDEN BAMBOO
15'-30' HIGH

STORMWATER



CAREX TUMULICOLA
BERKELEY SEDGE



JUNCUS PATENS 'ELK BLUE'
RUSH

REPLACEMENT
STREET TREES



PISTACIA CHINENSIS 'KEITH DAVEY'
KEITH DAVEY CHINESE
PISTACHE

- NOTES:
1. IRRIGATION SYSTEM IS TO BE A FULLY AUTOMATIC WEATHER-BASED SYSTEM USING LOW FLOW DRIP AND BUBBLER DISTRIBUTION.
 2. ALL PLANT MATERIAL USED SHALL BE ODOR/FRAGRANCE FREE.
 3. SEE PLANTING PLAN FOR WATER USE AND CALIFORNIA NATIVE IDENTIFICATION.
 4. ALL PLANTING PLAN SHALL BE IN FULL COMPLIANCE WITH THE CITY OF PALO ALTO WATER EFFICIENT LANDSCAPE ORDINANCE AND OTHER APPLICABLE CODES AND ORDINANCES.



BRERETON



TA-1
FLOW THROUGH
PLANTERS
(SEE NOTE 4)

LANDS OF LOUIE MARCUS J (TRUSTEE) &
LOUIE LENORA J (TRUSTEE)
APN 124-32-027

LANDS OF 397 COLLEGE AVENUE APARTMENTS LLC
APN 124-32-028

LANDS OF ABRAHAM GEORGE M (TRUSTEE) &
ABRAHAM BLOSSOM G (TRUSTEE)
APN 124-32-029

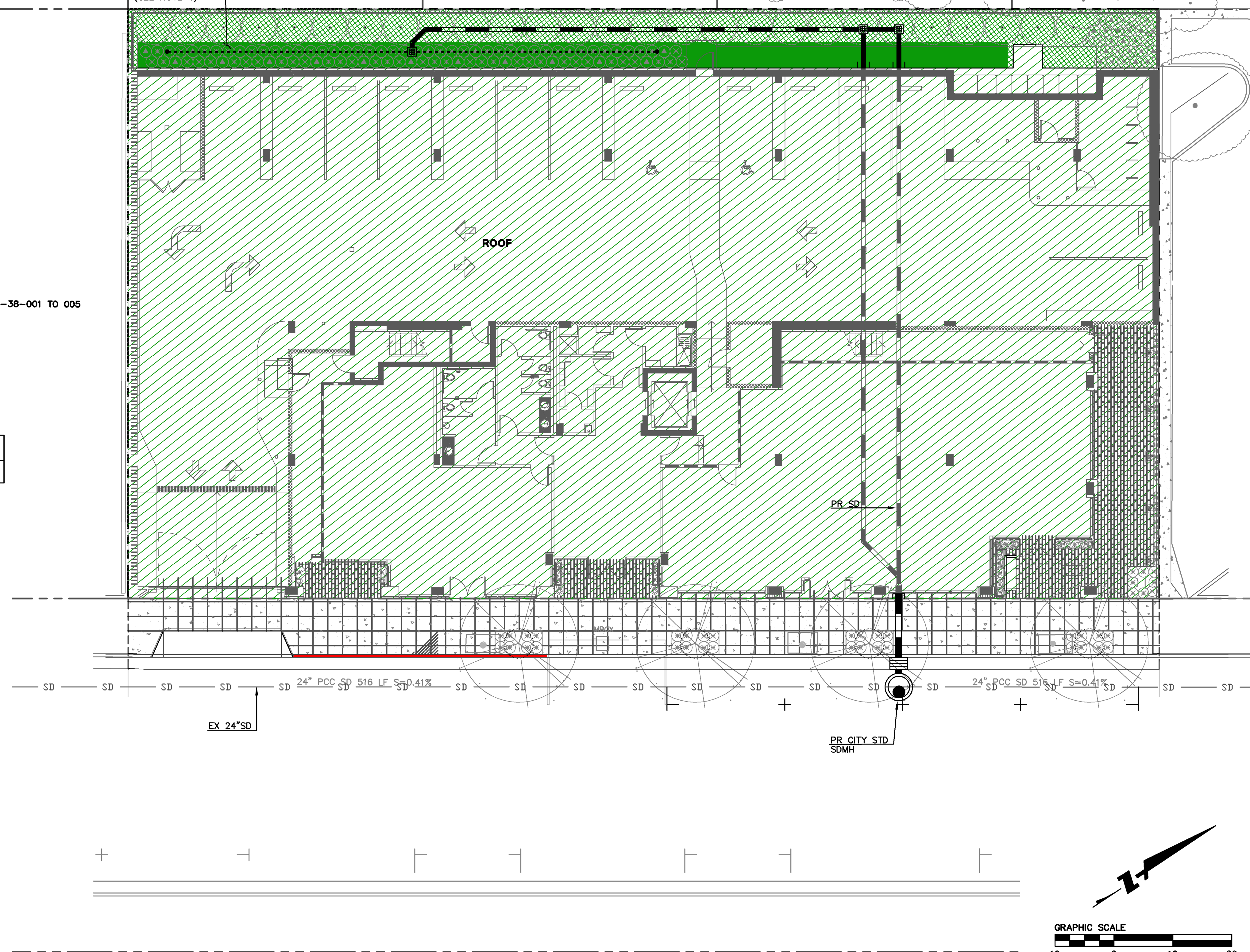
LANDS OF ROBIN W PFAFF
APN 124-32-030

APNS 124-38-001 TO 005

CATCHMENT AREA IDENTIFIER/COLOR	IMPERVIOUS SQ. FT.	PERVIOUS AREA	PERVIOUS SQ. FT.	TREATMENT AREA IDENTIFIER/COLOR	SQ. FT.	TREATMENT AREA REQUIRED (4%), SQ. FT.	MEETS REQUIREMENT
CA-1 	15,773		1,087	TA-1 	640	631	YES

NOTES:

1. TREATMENT AREAS SHOWN ARE DRAWN TO SCALE AND PROVIDE ADEQUATE TREATMENT FOR THE CONTRIBUTING CATCHMENTS.
2. STORMWATER RUNOFF FROM EACH ROOF OR DECK WILL BE COLLECTED BY DOWNSPOUTS AND CONVEYED TO FLOW-THROUGH PLANTERS LOCATED AT GROUND LEVEL. DRAINAGE FROM THE GROUND LEVEL FLOW-THROUGH PLANTERS WILL DISCHARGE THROUGH THE SITE STORM DRAIN LATERAL THAT ULTIMATELY CONNECTS TO THE CITY STORM DRAIN SYSTEM.
3. REFER TO LANDSCAPE DETAILS FOR STORMWATER RUNOFF CONVEYANCE FROM ROOF WATER LEADER TO FLOW-THROUGH PLANTER.
4. IMPERVIOUS SURFACES ONSITE WILL DRAIN TO BASMAA APPROVED LID STORMWATER QUALITY TREATMENT STRUCTURES PRIOR TO DISCHARGING FROM THE SITE.
5. STORMWATER RUNOFF RATE FROM BIORETENTION BASINS FOR 10 YEAR STORM IS 0.59 CFS, RUNOFF FROM 100 YEAR STORM IS 0.85 CFS. REFER TO SHEET A0.7 IN ARCHITECTURE PLANS FOR GREEN BUILDING CHECKLIST.
6. CATCHMENT AREA 1 INCLUDES 1,727 SQUARE FEET OF PERVIOUS SURFACE THAT IS ASSUMED TO BE SELF-TREATING.
7. FOR ALL C.3 FEATURES, VENDOR SPECIFICATIONS REGARDING INSTALLATION AND MAINTENANCE SHOULD BE FOLLOWED AND PROVIDED TO CITY STAFF. COPIES MUST ALSO BE SUBMITTED TO PAM BOYLE RODRIGUEZ AT pamela.boylerodriguez@cityofpalmdaleto.org.
8. STAFF FROM STORMWATER PROGRAM (WATERSHED PROTECTION DIVISION) MAY BE PRESENT DURING INSTALLATION OF STORMWATER TREATMENT MEASURES. CONTACT PAM BOYLE RODRIGUEZ, STORMWATER PROGRAM MANAGER, AT (650) 329-2421 BEFORE INSTALLATION.
9. DO NOT USE CHEMICALS FERTILIZERS, PESTICIDES, HERBICIDES OR COMMERCIAL SOIL AMENDMENT. USE ORGANIC MATERIALS REVIEW INSTITUTE (OMRI) MATERIALS AND COMPOST. REFER TO THE BAY-FRIENDLY LANDSCAPE GUIDELINES: <http://www.stowwaste.org/resource/brochures/bay-friendly-landscape-guidelines-sustainable-practices-landscape-professional> FOR GUIDANCE.
10. AVOID COMPACTING SOIL IN AREAS THAT WILL BE UNPAVED.
11. CONTRACTOR SHALL REFERENCE THE STORM WATER SOIL LOSS PREVENTION PLAN THROUGHOUT THE DURATION OF THIS PROJECT. THE STORM WATER SOIL LOSS PREVENTION PLAN SHALL ALSO BE ACCESSIBLE ONSITE THROUGHOUT THE DURATION OF THE PROJECT.
12. AT THE TIME OF INSTALLATION OF THE REQUIRED STORM WATER TREATMENT MEASURES AND PRIOR TO THE ISSUANCE OF ANY OCCUPANCY PERMIT, A THIRD-PARTY REVIEWER SHALL ALSO SUBMIT TO THE CITY A CERTIFICATION FOR APPROVAL THAT THE PROJECT'S PERMANENT MEASURES WERE CONSTRUCTED AND INSTALLED IN ACCORDANCE TO THE APPROVED PERMIT DRAWINGS.



GRAPHIC SCALE

A horizontal graphic scale bar with alternating black and white segments. Below the bar are numerical labels: -10, 0, 10, and 20.

SCALE: 1"=10'
11X17 SCALE: 1"=10'

appendix



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LANDSCAPE ARCHITECTURE + DESIGN
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925.254.5422 · www.jett.land



Issue/Revision

No.	Date:	Description
	08/16/2019	PERMIT & BID SET
1	10/25/2019	RESPONSE TO PLAN CHECK
2	04/15/2020	RESPONSE TO PLAN CHECK - 2ND ROUND
3	07/24/2020	RESPONSE TO PLAN CHECK - 3RD ROUND
	11/28/2022	50% CD - COORDINATION SET

FOR REFERENCE
ONLY

Copyright Statement:
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Approval Signature: _____

Co/ Title: _____ Date: _____

SPECIAL TREE PROTECTION INSTRUCTION SHEET

Scale: N/A Issue Date: 10/23/202
 Drawn By: RV,HS,CY Reviewed
 Sheet: of 30 By:


T-1

City of Palo Alto
Tree Protection - It's Part of the Plan!

Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. **An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree.**

For detailed information on Palo Alto's regulated trees and protection during development, review the **City Tree Technical Manual** (TTM) found at www.cityofpaloalto.org/trees/.



TREE DISCLOSURE STATEMENT

CITY OF PALO ALTO
 Planning Division, 2505 Hamilton Avenue
 Palo Alto, CA 94301
 (650) 329-2441
<http://www.cityofpaloalto.org>

Palo Alto Municipal Code, Chapter 8.10.040, requires disclosure and protection of certain trees located on private and public property and that they be shown on approved site plans. A completed disclosure statement must accompany all building permit applications that include exterior work, all demolition or grading permit applications, or other development activity.

PROPERTY ADDRESS: 388 CAMBRIDGE AVENUE PALO ALTO, CA 94306

Are there **Regulated** trees on or adjacent to the property? YES NO (If no, proceed to Section 4)

[Sections 1-4 MUST be completed by the applicant. Please circle either and check where applicable.]

1. Where are the trees? Check those that apply. (Plans must be submitted showing over 4" diameter trees)

☐ On the property
☒ On adjacent property overhanging the project site
☒ In the City planter strip or right-of-way easement within 30' of property line (Street Trees)*

*Street Trees require special protection by a fenced enclosure, per the attached instructions. Prior to receiving any permit, you must provide an authorized Street Tree Protection Verification form by calling Public Works Operations at 493-5953 for inspection of required type I, II or III fencing (see attached Detail #605).

2. Are there any Protected or Designated Trees? YES (Check where applicable) NO

☐ Protected Tree (s)
☐ Designated Tree (s)
☐ On or overhanging the property


3. Is there activity or grading within the drip-line? (radius 10 times the trunk diameter) of these trees? YES NO

If **YES**, a **Protection Report** must be prepared by an IS certified arborist and submitted for staff review (see TTT - Section 6.2.5). Attach this report to Sheet T-1, "Tree Protection, is part of the Plan", per Site Plan Requirements.

4. Are the Site Plan Requirements* completed? YES NO

**Protection of Regulated trees during development require the following: (1) Plans must show the measured trunk diameter and canopy drip-line; (2) Plans must denote, as a bolded shade line, a fenced enclosure area on to the drip-line, per Sheet T-1 and Detail #605 - <http://www.cityofpaloalto.org/trees/forms.htm> (See also TDM, Section 2.15 for area to be fenced)

I, the undersigned, agree to the conditions of this disclosure. I understand that knowingly or negligently providing false or misleading information in response to this disclosure requirement constitutes a violation of the Palo Alto Municipal Code Section 8.10.040, which can lead to a criminal and/or civil legal action.

Signature: 

Print: **BRUCE JETT**

Date: **5.28.2019**

FOR STAFF USE:

Protective Fencing
 Sections 5-6 must be completed by staff for the issuance of any development permit (demolition, grading or building permit).

5. **Protected Trees.** The specified tree fencing is for the issuance of any development permit (demolition, grading or building permit). YES NO
 (N/A if there are no protected trees, check here [X])


6. **Street Trees.** A signed Public Works Street Tree Protection Verification form is attached. YES NO
 (N/A if there are no street trees, check here [X]).

* Regulated Trees - a) Street trees - trees on public property; b) Protected trees - Coast Live Oaks or Valley Oaks which are 11.5" in diameter or larger; Coast Redwoods which are 18" in diameter or larger, when measured 54" above natural grade; and Heritage trees are trees designated by City Council; and c) Designated Trees - commercial or non-residential property trees, which are part of an approved landscape plan.


Palo Alto Tree Technical Manual (TTM) contains instructions for all requirements for all items, available at <http://www.cityofpaloalto.org/planning/communities/tree-technical-manual.html>


S:\Plan\Draw\Forms\Tree Disclosure Info\Tree Disclosure Statement

Revised 08/01



City of Palo Alto
250 Hamilton Avenue, Palo Alto, CA 94301





Home

City-owned Trees

Privately-owned Trees

About the Tree Ordinance

Title 8.10

Heritage Trees

Forms

Tree Technical Manual

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Tree Technical Manual

To purchase the Tree Technical Manual

June, 2013 First Edition

View by section:

- Table of Contents (PDF, 878KB)
- Intent and Purpose (PDF, 1.059MB)
- Introduction - Use of Manual (PDF, 1.059MB)
 - Section 1.0 - Definitions (PDF, 948KB)
 - Section 2.0 - Protection of Trees During Construction (PDF, 259KB)
 - Section 3.0 - Removal, Replacement & Planting of Trees (PDF, 117KB)
 - Section 4.0 - Hazardous Trees (PDF, 105KB)
 - Section 5.0 - Tree Maintenance Guidelines (PDF, 110KB)
 - Section 6.0 - Tree Reports (PDF, 994KB)

View ALL sections:

- Tree Technical Manual - Full (PDF, 1.849MB)

APPENDICES

- A: Palo Alto Municipal Code Chapter 8.10, Tree Preservation & Management Regulations
- B: Tree City - USA
- C: ISA Hazard Evaluation Form
- D: List of Inherent Failure Patterns for Selected Species (Reference source)
- E: ISA Tree Pruning Guidelines (PDF, 1.899MB)
- F: Tree Care Safety Standards, ANSI Z133.1-1994 (Reference source)
- G: Pruning Performance Standards, ANSI A300-1995 (Reference source) H: Planting Details, Diagram 504 & 505
- I: Tree Disclosure Statement
- J: Palo Alto Standard Tree Protection Instructions

For written specifications associated with illustrations below, see Public Works Specifications Section 3.1. Detailed specifications found in the Palo Alto Tree Technical Manual (TTM) (www.cityofpaloalto.org/trees)

Tree Protection Zone (TPZ) shown in gray (radius of TPZ equals 10-times the diameter of the tree or 10-feet, whichever is greater).

* **Restricted activity area** - see Tree Technical Manual Section 2.15(4)

* **Tree preservation area** - see Tree Technical Manual Section 2.20C(2), any proposed trench or work within TPZ of a protected tree requires approval from Public Works Operations. Call 650-496-9593.

Type I Tree Protection: Layout configuration applies to all regulated Trees, matching the site diagram with the tree preservation report (TPR) distances written for this project.

Type II Tree Protection: Layout configuration applies to all regulated Trees when exclusively authorized for sidewalk cut-outs. To be used only with approval from Public Works Operations.

Type III Tree Protection: Layout configuration applies to all regulated Trees when exclusively authorized for sidewalk cut-outs. To be used only with approval from Public Works Operations.

Required protection shall be executed before demolition, excavation or site work occurs.

PALO ALTO STREET TREE PROTECTION INSTRUCTIONS —SECTION 31—

APPENDIX J

31-1 General

Tree protection has three primary functions: 1) to keep the foliage and branching structure clear from equipment, materials and activities; 2) to preserve roots and soil conditions in an intact and non-compacted state; and 3) to protect the trunk of the tree. If a tree is damaged or its disturbance is permitted and activities are restricted, unless otherwise approved.

b. **The Tree Protection Zone** is the area around the trunk of the tree with a radius of ten times the diameter of the tree's trunk or its root, whichever is greater, enclosed by fencing.

31-2 Reference Documents

a. **Detail 085** – Illustrations of situations described below.
b. **Tree Technical Manual (TTCM) Form** (<http://www.paloalto.gov/DocumentCenter/View/1000>)
1. **Treeing Restrictive Zones (TTCM Section 2.20.3)**
2. **Arborist Reporting Worksheet**
3. **Site Plan Requirements (TTCM Section 6.13)**
4. **Tree Dislocation Statement**
c. **Street Tree Inventory (STVI) Form** (<http://www.paloalto.gov/DocumentCenter/View/1000>)

31-3 Excavation

a. **Type I Tree Protection:** The fence shall enclose the entire TPTZ if the tree is to be protected throughout the life of the construction project. In some parking areas, if fencing is located on paving or concrete that will be demolished, then the posts may be supported by an appropriate grade level concrete base, if approved by the City.

b. **Type II Tree Protection:** For trees situated within a planting strip, only the planting strip and yard side of the TPTZ shall be enclosed with fencing. Fencing shall extend to the outer edge of the sidewalk and street open for public use.

c. **Tree Protection:** To be used only with approval of Public Works Operations. Trees situated in a tree well or sidewalk planting pit, shall be surrounded with 2-inches of concrete base (fencing from the ground to the first fence and overlaid with 2-inch thick wooden stakes bound securely along the fence so as not to dig into the bark). During installation of the plastic fencing, cautions shall be used to avoid damaging any branches. Major lifts may require plastic fencing directed by the City Arborist.

d. **Site type and area to be fenced.** All trees to be protected shall be protected with six (6) ft high chain link fences. Fences are to be mounted on two-inch diameter galvanized iron posts, driven into the ground to a depth of at least 24-inches or to bedrock, whichever is deeper. Fencing shall extend to the outer branching, unless specifically approved on the STVI form.

e. **Warning Signs.** A warning sign shall be weather proof and prominently displayed on each fence at 8-foot intervals. The sign shall be minimum 8.5 inches x 11 inches and clearly state in both large and small full letters: "WARNING: Tree Protection Zone. No Entry. No Parking. No Stopping. No Turning. No Driveway Access." as defined in PAMC Section 8.10.110.

f. **Excavation.** Tree fencing shall be erected before backfilling and construction begins and remains in place until final inspection of the project; except for work specifically allowed in the TPTZ. In case of soil disturbance in the TPTZ, requires approval by the project arboret or City Arborist (in the work of work around Street Trees). Excavations within the public right-of-way require a Street Use Permit from Public Works.

31-4 During construction

a. All neighbors' trees that overhang the project shall be protected from impact of any kind.
b. The applicant shall be responsible for the repair or replacement plus penalty of any publicly owned trees that are damaged during the construction project. The applicant shall be removed with a fine according to the City of Palo Alto Municipal Code.
c. The following tree preservation measures apply to all trees to be retained:
i. No use of material, support, vehicle or equipment shall be permitted within the TPTZ.
ii. No groundwater and/or surface water shall be allowed to enter the TPTZ.
iii. The grower/owner and/or surface water shall not be affected.
iv. Trees to be retained but not removed shall be monitored and necessary to ensure survival.


END OF SECTION

City of Palo Alto, 2004 Standard Drawings and Specifications
Street Tree Verification of Protection

Revised 08/06

Table 2-2: **Fals Alto Tree Technical Manual**


CONTRACTOR & ARBORIST INSPECTION SCHEDULE



Reference the Fals Alto Tree Technical Manual is available at <http://www.ciroschools.org/environments/>

ALL CHECKED ITEMS APPLY TO THIS PROJECT:

1. ☒ **Inspection of Protective Tree Fencing:** For Public Trees, the Street Tree Verification Form shall be signed by the City Arborist. For Protected Trees, the project site arborist should provide an initial Monthly Tree Activity Report from a photograph verifying that he has conducted a field inspection of the tree, and that the correct type of protective fencing is in place around the designated tree protection zone (TPZ) prior to issuance of a demolition, grading, or building permit. (See TM, Verification of Tree Protection, Section 1.39).
2. ☒ **Pre-Construction Meeting:** Prior to commencement of construction, the applicant or contractor shall conduct a pre-construction meeting to discuss tree protection with the job site superintendent, grading operators, project site arborist, City Arborist, and, if a city maintained irrigation system is involved, the Parks Manager (Contact: 650-496-6962).
3. ☒ **Inspection of Rough Grading or Trenching:** Contractor shall ensure the project site arborist performs an inspection during the course of rough grading or trenching adjacent to or within the TPZ to ensure trees will not be injured by compaction, cut or fill, damage and breaching, and, if required, install irrigation system, tree wells, drains and special grading. The contractor shall provide the project arborist at least 24 hours advance notice of this activity.
4. ☒ **Monthly Tree Activity Inspection Report:** The project site arborist shall perform a minimum monthly activity inspection to monitor and advise on conditions, tree health and retention or, immediately if there are *any revisions* to the approved plans or protection measures. The Tree Technical Manual Monthly Tree Activity Report format shall be used and sent to the Planning Dept. (Planning Dept. work staff no later than 14 days after issuance of building permit) and to (650) 339-2154. (See TTM, Monthly Tree Activity Inspection Report, Addendum 11 and section 1.17).
5. ☒ **Special activity within the Tree Protection Zone:** Work in the zone (see also #7 below) requires the direct on-site supervision of the project arborist (see TM, Trenching, Excavation & Equipment, Section 2.20 C).
6. ☒ **Landscape Architect Inspection:** For discretionary development projects, prior to temporary or permanent removal of a tree or contractor shall arrange for the Landscape Architect to perform an on site inspection of all plant stock, quality of the materials and planting (see TM, Planting Quality, Section 5.20.1 A) and that the irrigation is functioning consistent with the approved construction plans. The Planning Dept. landscape review staff shall be in receipt of written verification of Landscape Architect approval prior to concluding the final inspection, unless otherwise approved.
7. ☒ **List Other (please describe as called out in the site Tree Preservation Report, Sheet T-1, T-2, etc.)**

	<p>City of Palo Alto</p> <p>Trees Department</p> <p>Public Works Operations 600 Ewa 10250 Palo Alto, CA 94303 650-446-5953 FAX: 650-952-4289 treenewstree@cpo-paloalto.org</p>
<h2 style="margin: 0;">Verification of Street Tree Protection</h2>	
<p><i>Applicant Instructions: Complete upper portion of this form. Mail or FAX this form along with signed Tree Disclosure Statement to Public Works Dept. Public Works Tree Staff will inspect and notify applicant.</i></p>	
APPLICANT DATE:	
ADDRESS LOCATION OF STREET TREES TO BE PROTECTED:	
APPLICANT'S NAME:	
APPLICANT'S ADDRESS:	
APPLICANT'S TELEPHONE & FAX NUMBERS:	
<p><i>This section to be filled out by City Tree Staff</i></p>	
<p>1. The Street Trees at the above address(es) are adequately protected. The type of protection used is:</p>	<p>YES <input type="checkbox"/> NO* <input type="checkbox"/></p> <p>* If NO, go to #2 below</p>
<p>Dated by:</p> <p>Date of Inspection:</p>	
<p>2. The Street Trees at the above address are NOT adequately protected. The following modifications are required:</p> <p>Indicate how the required modifications were communicated to the applicant.</p>	
<p><i>Subsequent Inspection</i></p> <p>Street trees at above address were found to be adequately protected:</p> <p style="text-align: right;">YES <input type="checkbox"/> NO* <input type="checkbox"/></p> <p>* If NO, indicate in "Notes" below the disposition of cases.</p> <p>Inspected by:</p> <p>Date of Inspection:</p>	
<p>Notes: List City street trees by species, size, condition and type of tree protection installed. Also note if pictures were taken. Use back of sheet if necessary.</p>	
<p>Return approved sheet to Applicant for demolition or building permit issuance.</p>	

Arboretum Field Data Sheet		City of Palo Alto Tree Technical Manual		ADDENDUM II	
				RCA/TSA Certified Arborist #783-000 Email: arbor@cityofpaloalto.org Contact Cell #: _____	
Monthly Tree Activity Report- Construction Site					
Inspection Date:	Site address:	Contractor: Main site Contact information	#1: Job site superintendent Company: _____ Email: job site _____ Cell: _____ Mail: _____		
Inspection #	Palo Alto, CA		Also present: • _____ • _____ • _____		
Distribution:	1. City of Palo Alto 2. Others _____	Attn: Dave Dockter	dave.dockter@cityofpaloalto.org 650-329-2440		

Provide the requested minimum information with each report, customize as necessary. To be completed by project site arboret. Send monthly to city arboret at above report email upon completion. Use additional sheets as needed.

- Assignment Activity (Demolition/grading/sever/trenching/foundation/list relevant visits)
 - Pre-construction meeting/requirement with sub-contractors
 - Inspect to verify that tree protection measures are in place
 - Determine if field adjustments, variances or plan revisions may be needed
- Field Observations (general site-wide and list by individual tree number)
 - Tree Protection Features (TPF) are ...
 - Trenching has/will occur ...
- Action Items (list issue with tree number and date to be satisfied) and Due Date
 - Tree Protection Feature (TPF) needs adjusting (tree #x, x=3)
 - Root zone buffer material (wood chips) can be installed next
 - Schedule severer trench, waterline dig with ...
- Photographs (use photos)
- Tree Location Map (mandatory 8.5 x 11 sheet)
- Recommendations, notes or monitor items for project/attn/schedule
 -
- Past visits (list carry-over items satisfied/until outstanding)
 -

Respectfully submitted,

Project site arboretist
 Consultant contact information (Include email, cell#, and mailing)
 CC: _____

Enter Date: _____ CPA Monthly Tree Activity Report: Type site address here _____ Page #1 of 1

---WARNING---

Tree Protection Zone

This fencing shall not be removed without City Arborist approval (650-496-5953)

Removal without permission is subject to a \$500 fine per day*

****Palo Alto Municipal Code Section 8.10.110***

City of Palo Alto Tree Protection Instructions are located at <http://www.city.palo-alto.ca.us/trees/technical-manual.html>

SPECIAL INSPECTIONS	PLANNING DEPARTMENT
TREE PROTECTION INSPECTIONS MANDATORY	
<p>PAMC 8.10 PROTECTED TREES: CONTRACTOR SHALL ENSURE PROJECT SITE ARBORIST IS PERFORMING REQUIRED TREE INSPECTION AND SITE MONITORING. PROVIDE WRITTEN MONTHLY TREE ACTIVITY REPORTS TO THE PLANNING DEPARTMENT LANDSCAPE REVIEW STAFF FORTY DAYS AFTER BUILDING PERMIT ISSUANCE.</p> <p>BUILDING PERMIT DATE: _____</p> <p>DATE OF 1ST TREE ACTIVITY REPORT: _____</p> <p>CITY STAFF: _____</p>	
<p>REPORTING DETAILS OF THE MONTHLY TREE ACTIVITY REPORT SHALL CONFORM TO SHEET T-1: FORMAT, VERIFY THAT ALL TREE PROTECTION MEASURES ARE IMPLEMENTED AND WILL INCLUDE ALL CONTRACTOR ACTIVITY, SCHEDULED OR UNSCHEDULED, WITHIN A TREE PROTECTION ROOT ZONE. NON-COMPLIANCE IS SUBJECT TO VIOLATION OF PAMC 8.10.080. REFERENCE: PALO ALTO TREE TECHNICAL MANUAL, SECTION 2.0.0 AND ADDENDUM 1.</p>	

Apply Tree Protection Report on sheet(s) T-2

Use additional "T" sheets as needed

Project Data

T-1



All other tree-related reports shall be added to the space provided on this sheet (adding as needed).
Include this sheet(s) on Project Sheet Index or Legend Page.
A copy of T-1 can be downloaded at
<http://www.cityofpaloalto.org/civica/filebank/blobload.asp?BlobID=6460>

Special Tree Protection Instruction Sheet

City of Palo Alto



T-1

Scale: N/A Issue Date: 10/23/202
Drawn By: RV,HS,CY Reviewed
Sheet: of 30 By:

Arborist Report

388 Cambridge Avenue
Palo Alto, CA 94306

Prepared by:
Doug Hagge
ISA Certified Arborist WE-4508A

Arborwell Professional Tree Management
2337 American Avenue
Hayward, CA 94545

2337 AMERICAN AVE, HAYWARD, CA 94545
2949 EDISON WAY, REDWOOD CITY, CA 94063
1592 LITTLE ORCHARD STREET, SAN JOSE, CA 95110
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24551 RAYMOND WAY, SUITE 151, LAKE FOREST, CA 92630

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The above photo (Tree ID #1) shows a utility conduit line running under the roots along the building side of the trunk.

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Tree ID #3

The first tree that was excavated via air spading was tree ID#3 and is located in a sidewalk cutout that is 70" x 38". It has a diameter of 14.6" at (dbh) with a canopy spread of 24 feet. Once the roots were exposed, two sets of large roots could be seen along the rear of the sidewalk cutout nearest the building to the northwest. One measured to be 6" in diameter, while the other consisted of two larger roots growing together that are 13" across. Best Management Practices according to the International Society of Arboriculture (ISA) recommends removing less than 25% of the root system and linear cuts be made at a distance of 6 times the diameter of the trunk, or 87.6" away. Pruning the two large roots along the building side of the trunk would result in 25% removal of the roots at a distance of 2 times the diameter of the trunk. Due to this significant amount of root loss, it is my recommendation that this tree be removed and replaced with - one 36" Box size replacement trees per the Tree Canopy Replacement Standard (City of Palo Alto Tree Technical Manual).

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Introduction and Overview

Arborwell was contracted by W.L. Butler to inspect three tree street trees located in front of 388-400 Cambridge Avenue. On February 13, 2020, Arborwell excavated the roots through the use of a pneumatic air spade to remove the soil and expose the tree roots for inspection. The purpose of this report is determine the size & location of the roots and understand the impact would be to each tree if roots were pruned for the installation of a new sidewalk which is a requirement of this project. This report addresses my findings and how the required and recommended practices may impact these trees.

Description of Trees

Tree ID #1--Northeastern most tree

The *Pistachia chinensis*, Chinese Pistache tree located in front of 378 Cambridge Avenue, has a diameter of 16.2" at breast height and a canopy spread of 22 feet. This was the last tree to be excavated during my visit. Along the building side of the trunk, I measured two large roots at 6" each. One of these roots has significant decay on the root that heads towards the northwest (rear) corner of the planter. The removal of these three large roots would exceed the recommended threshold of root removal as per the Best Management Practice. As a result of the amount of root loss, it is my recommendation that this tree be removed and replaced with - one 36" Box size replacement trees per the Tree Canopy Replacement Standard (City of Palo Alto Tree Technical Manual).

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Tree ID #2

The *Pistachia chinensis*, Chinese Pistache tree located in front of 378 Cambridge Avenue, has a diameter of 16.0" at breast height and a canopy spread of 24 feet. It is growing within a sidewalk cut out that is 42" x 62". One large root that may consist of two roots was measured to be approximately 11" across is located on the building side of the trunk. Pruning of this root would remove at least 2 separate roots that are 5" in diameter or greater. I spoke with the project manager from W.L. Butler and asked if they could slope the sidewalk in this area, but he pointed out to me, that sidewalk currently slopes downward away from the tree as you move towards the building entrance to the old barber shop. Due to this, root pruning would result in the removal of the large root mass on the northwest side of the tree, exceeding a 25% level of root loss. Therefore, I recommend that this tree be removed and replaced with - one 36" Box size replacement trees per the Tree Canopy Replacement Standard (City of Palo Alto Tree Technical Manual).

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Tree ID #3 is shown in the photo above after it was excavated. Along the left side of this photo, three large roots 6" in diameter are visible.

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Tree ID#1--Northeastern most tree, located in front of 378 Cambridge Avenue.

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The above photo of tree ID #2 shows the exposed roots after air spading. The area along the right is closest to the building and is where two large 5" roots were observed growing together under the sidewalk. These roots would need to be pruned and may compromise the stability and health of this tree.

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The above photo of Tree ID#3, shows the largest root along the northwest (building) side of the trunk. This root, along with 2 others would require pruning, which would be more than 25% of the total root system on this side of the tree.

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Tree ID #1: Decayed 6" diameter root near northwest corner of planter towards building (Above left). A second 6" root along the rear (building) side of the sidewalk.

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In the above photo, the tape is laid across two roots that combined are 11" across. These roots would require pruning, would be possibly exceed 25% of the total roots on the northwest side of the trunk.

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Recommendations

Based on the above observations, if my professional opinion that tree ID #1, 2 & 3 should be removed and replaced, due to the amount of root loss that exceeds the recommendations for best management practices from the International Society of Arboriculture. Tree replacements must follow the Tree Canopy Replacement Standard (City of Palo Alto Tree Technical Manual) with consideration of any other improvements to sidewalks design, engineered soil, root barriers or other acceptable improvement that would mitigate the number and size of tree replacements for this project. Based on the existing conditions such as underground utilities, design of building and spacing, it is recommended that only four trees be planted.

Arborwell Professional Tree Management

The following report was prepared on 2/27/20 and is based on observations from 2/13/20. Trees are living organisms with specific requirements needed in order to thrive. As conditions change, trees need to be inspected to ensure that hazards and liabilities are reduced.

Doug Hagge
ISA Certified Arborist # WE-4508A

388 Cambridge Ave
Palo Alto, CA 94306

909 Montgomery St. Suite 260
San Francisco, California 94133
T 415 546 1212
brereton.com

Issue/Revision

No.	Date:	Description
1	08/16/2019	PERMIT & BID SET
1	10/25/2019	RESPONSE TO PLAN CHECK
2	04/15/2020	RESPONSE TO PLAN CHECK - 2ND ROUND
3	07/24/2020	RESPONSE TO PLAN CHECK - 3RD ROUND
	11/28/2022	50% CD - COORDINATION SET

FOR REFERENCE ONLY

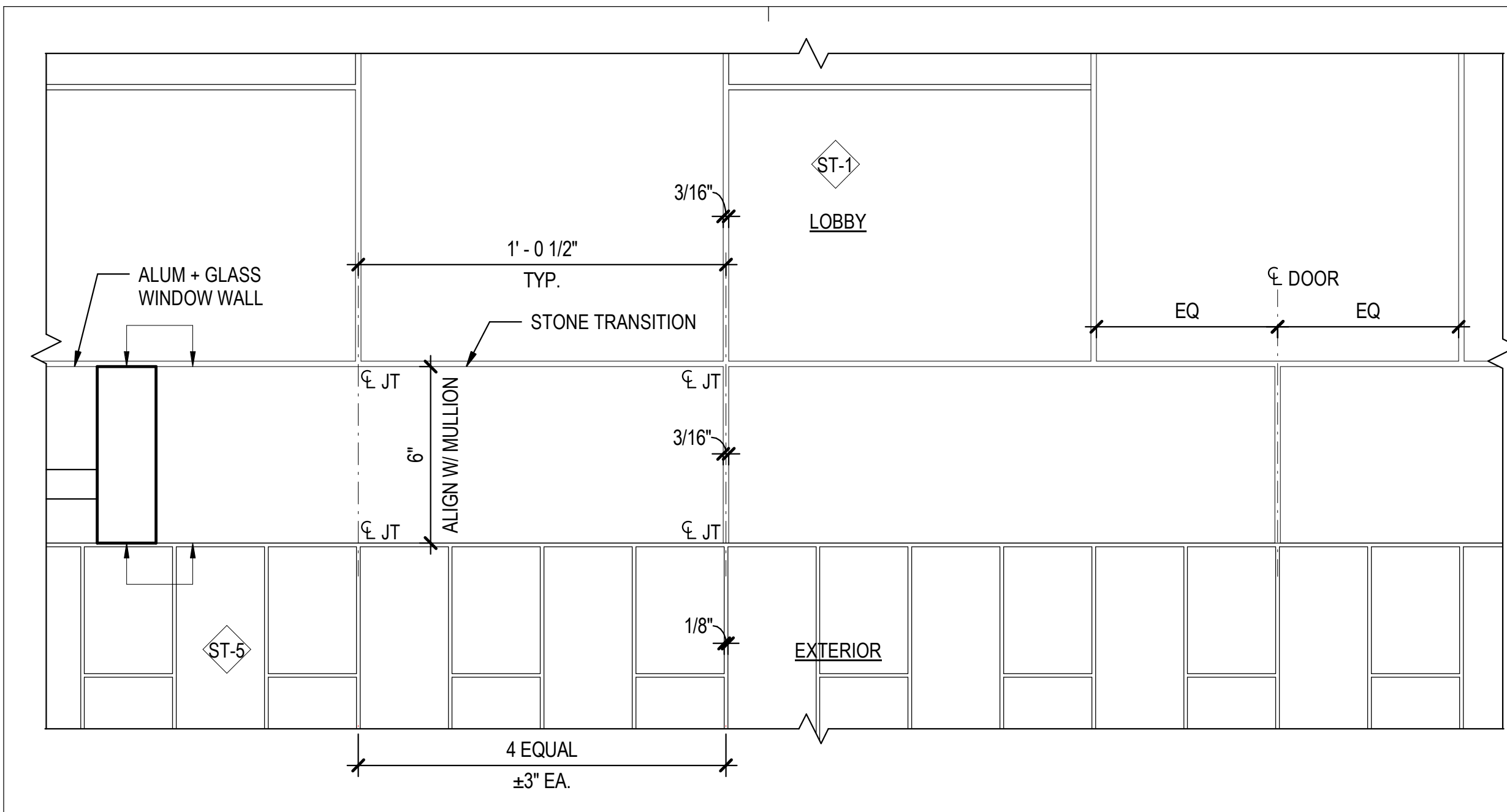
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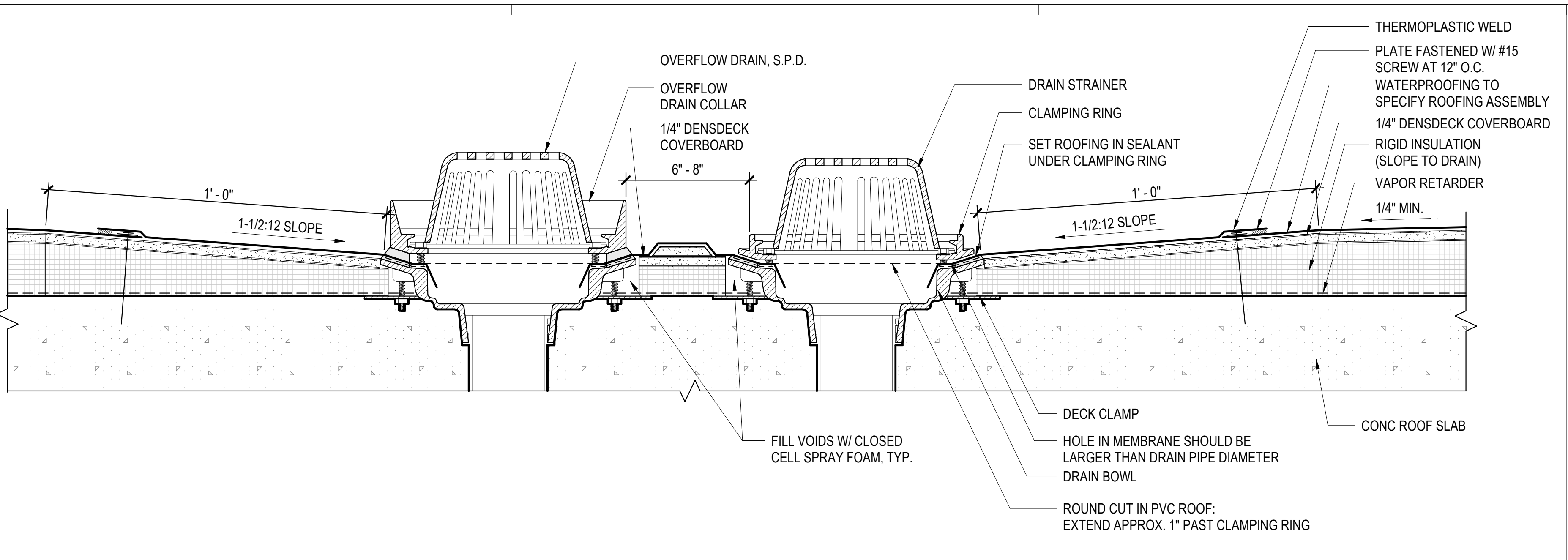
Co/ Title: Date:

ARBORIST REPORT

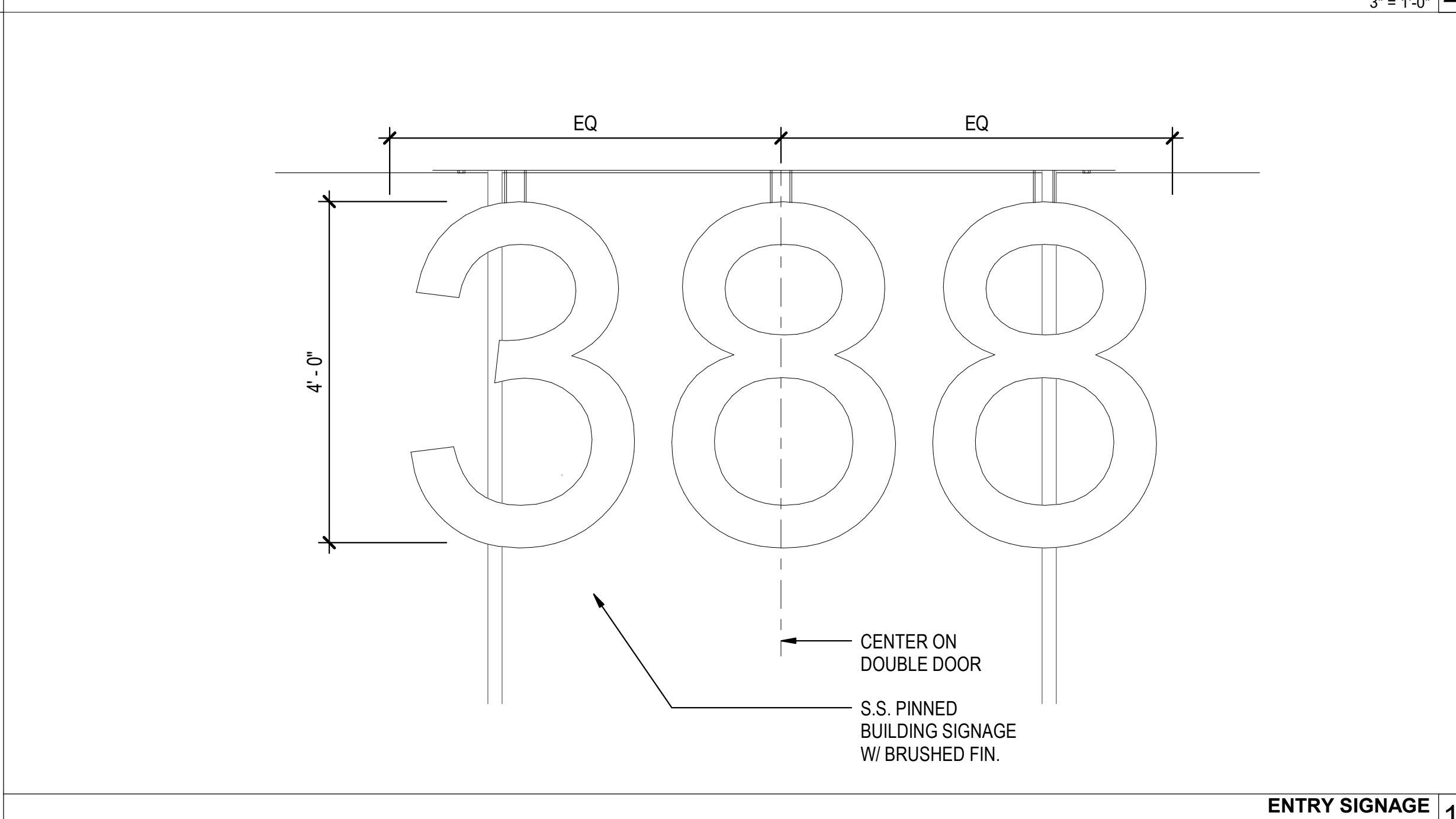
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Drawn By: RV,HS,CY Reviewed
Sheet: of 30 By:



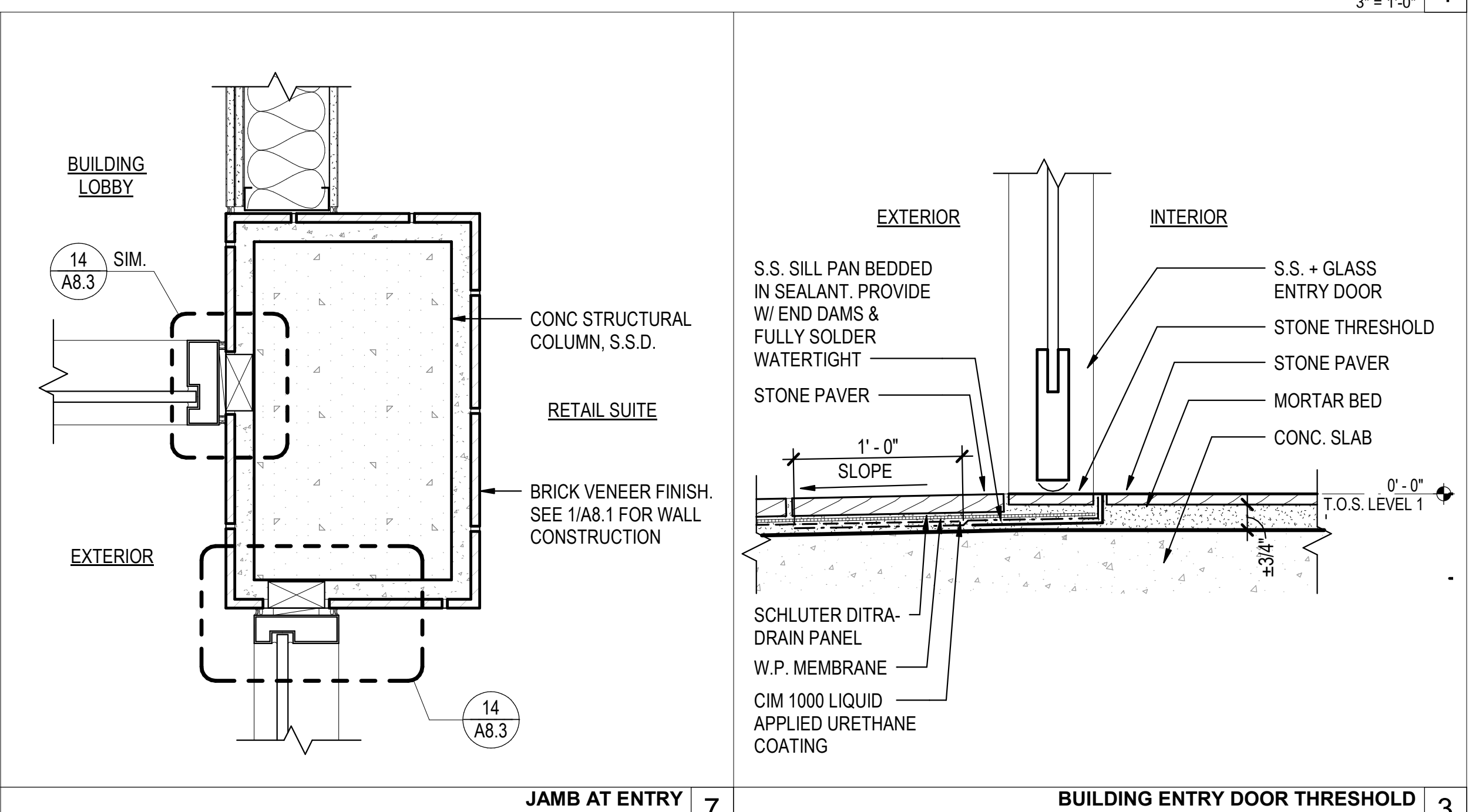
LOBBY PAVING & TRANSITION PATTERN
3" = 1'-0"



ROOF DRAIN
3" = 1'-0"

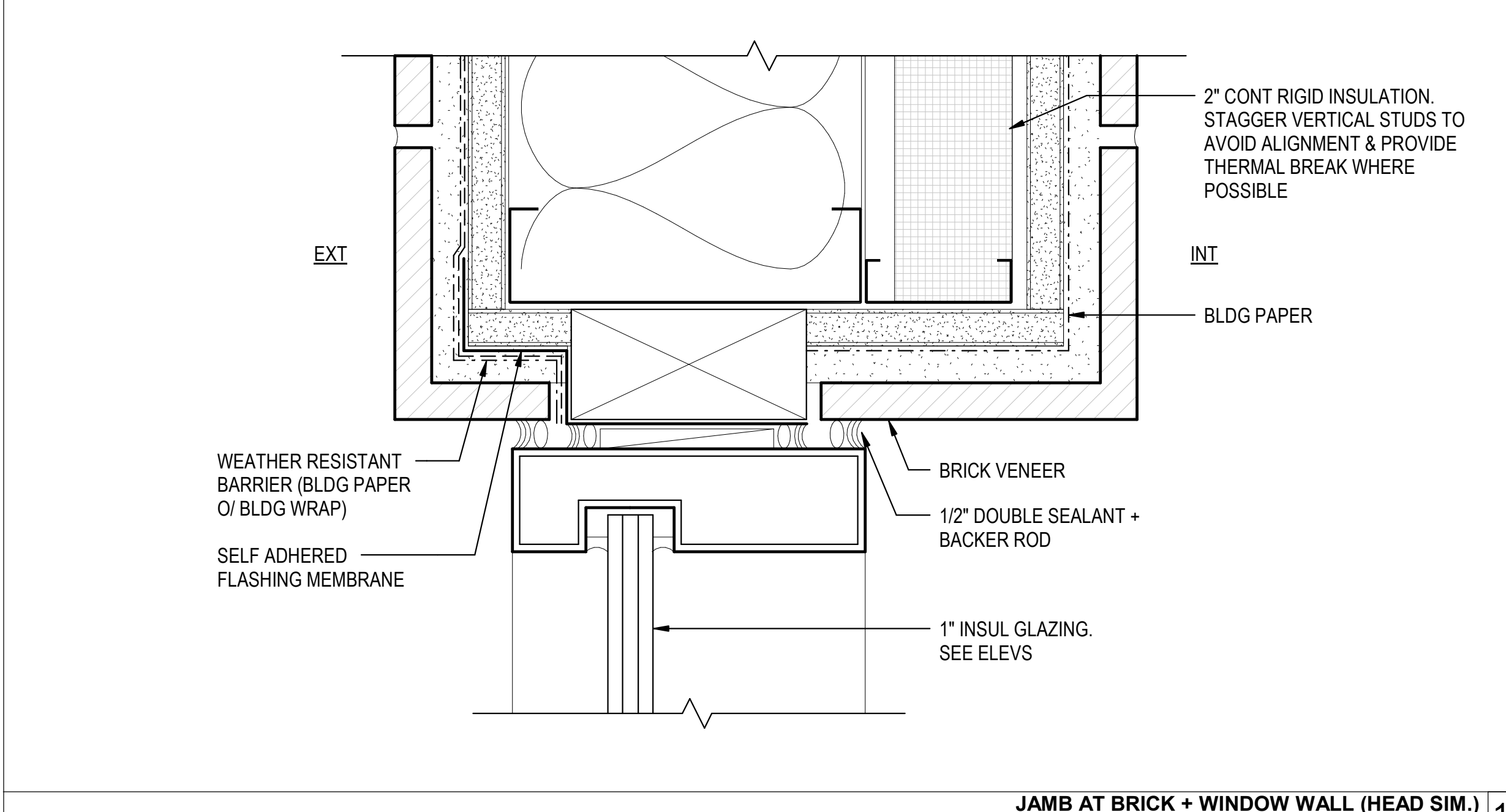


ENTRY SIGNAGE
3/4" = 1'-0"

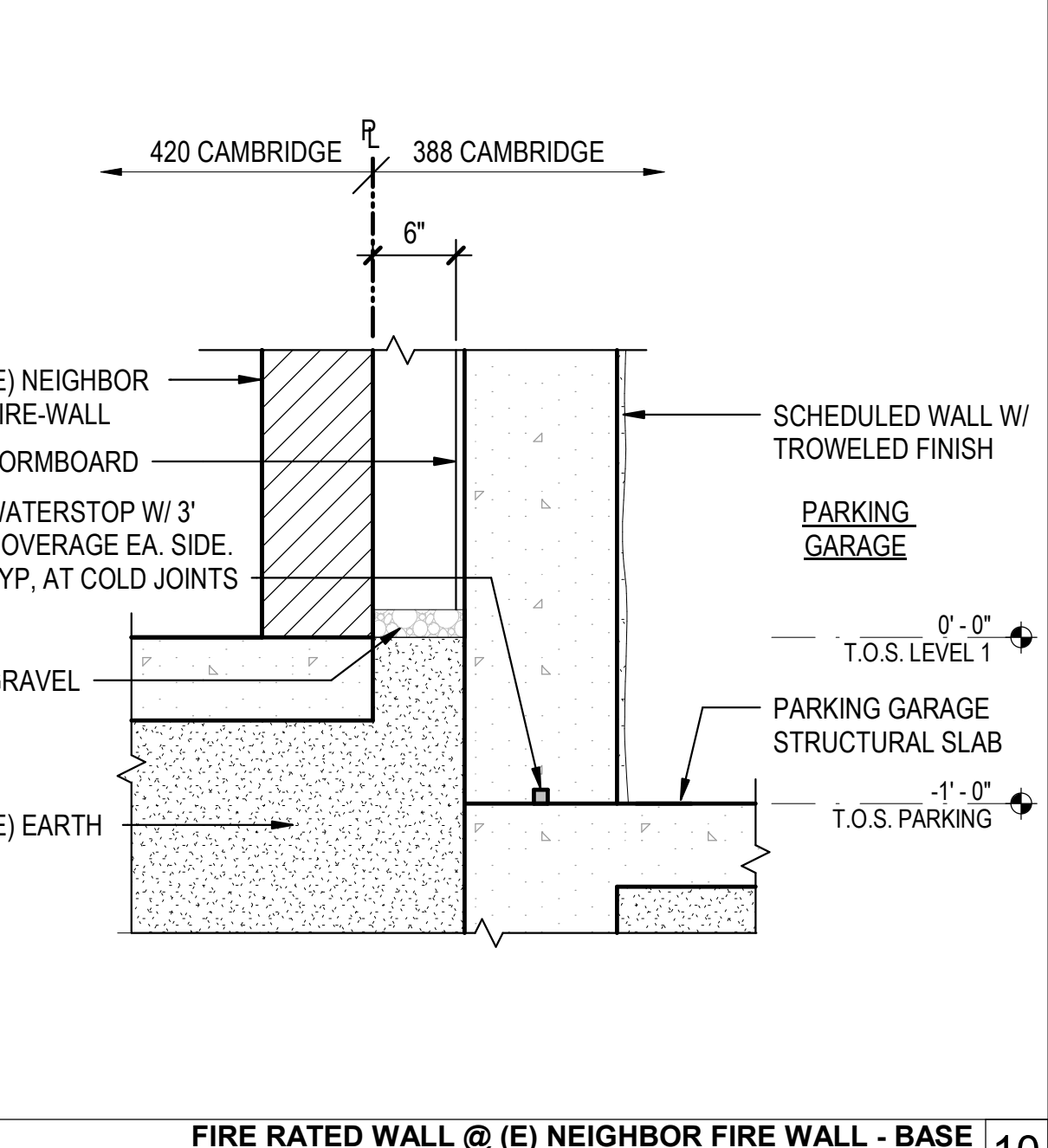


JAMB AT ENTRY
1 1/2' = 1'-0"

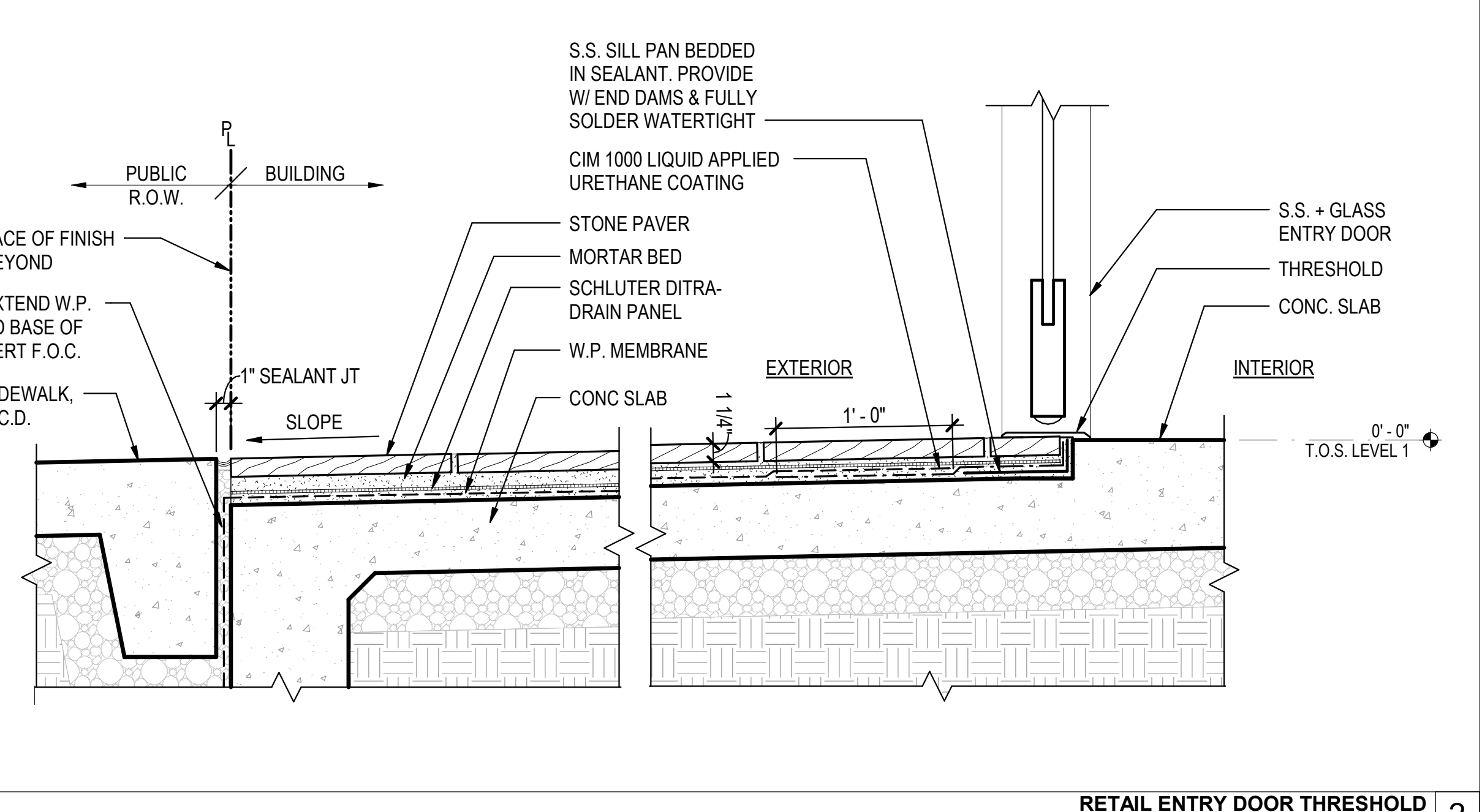
BUILDING ENTRY DOOR THRESHOLD
1 1/2' = 1'-0"



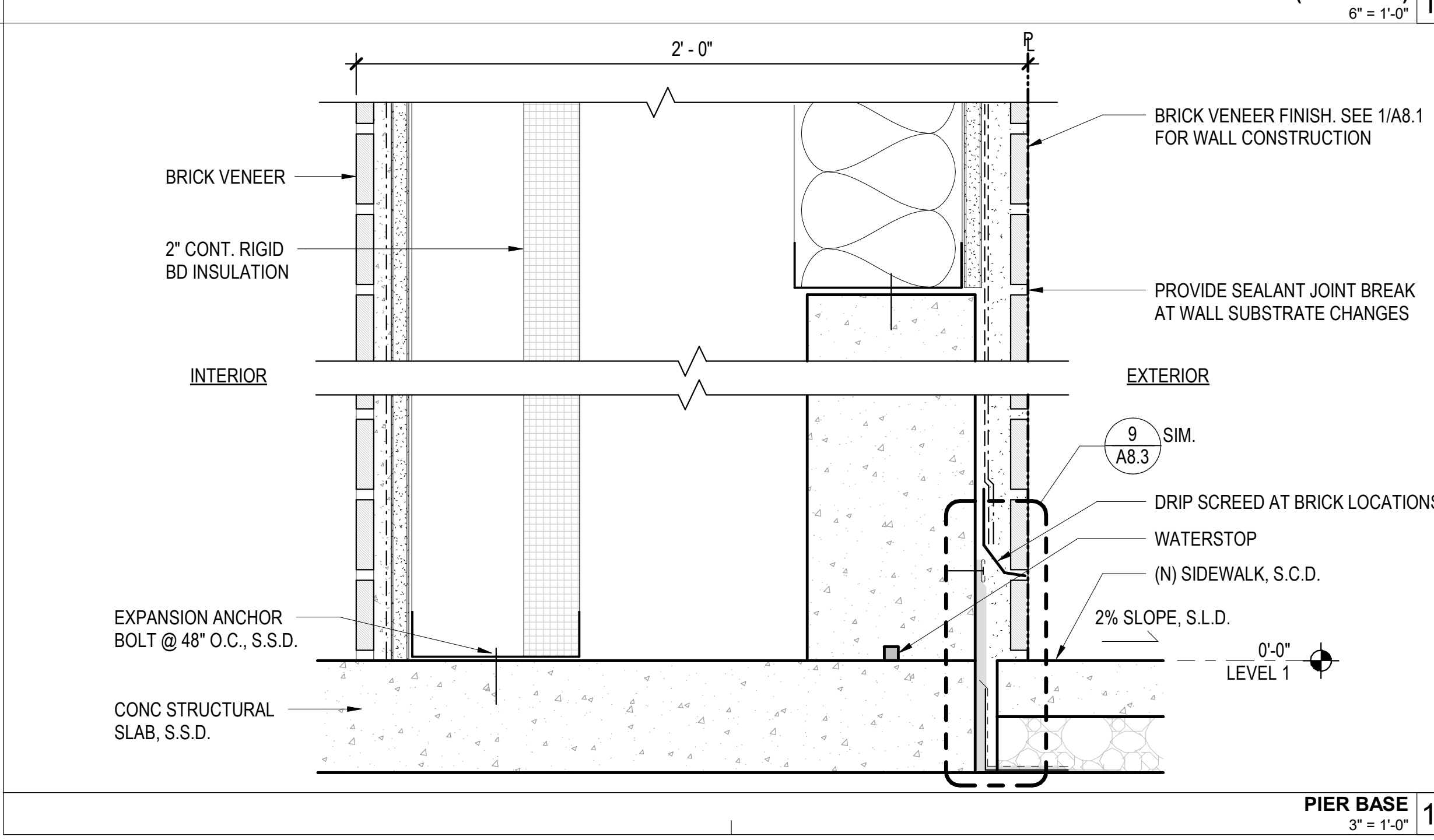
JAMB AT BRICK + WINDOW WALL (HEAD SIM.)
6" = 1'-0"



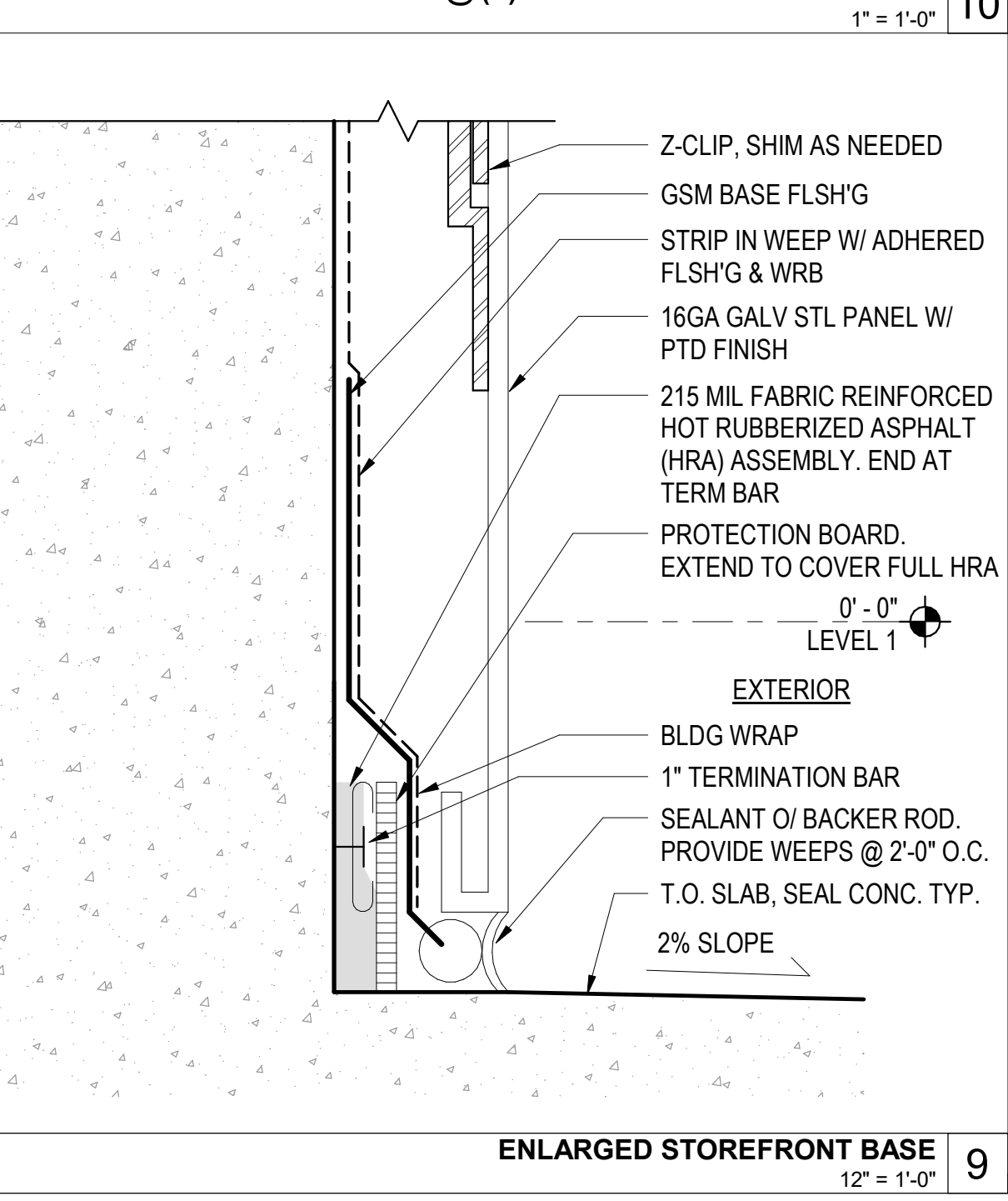
FIRE RATED WALL @ (E) NEIGHBOR FIRE WALL - BASE
1" = 1'-0"



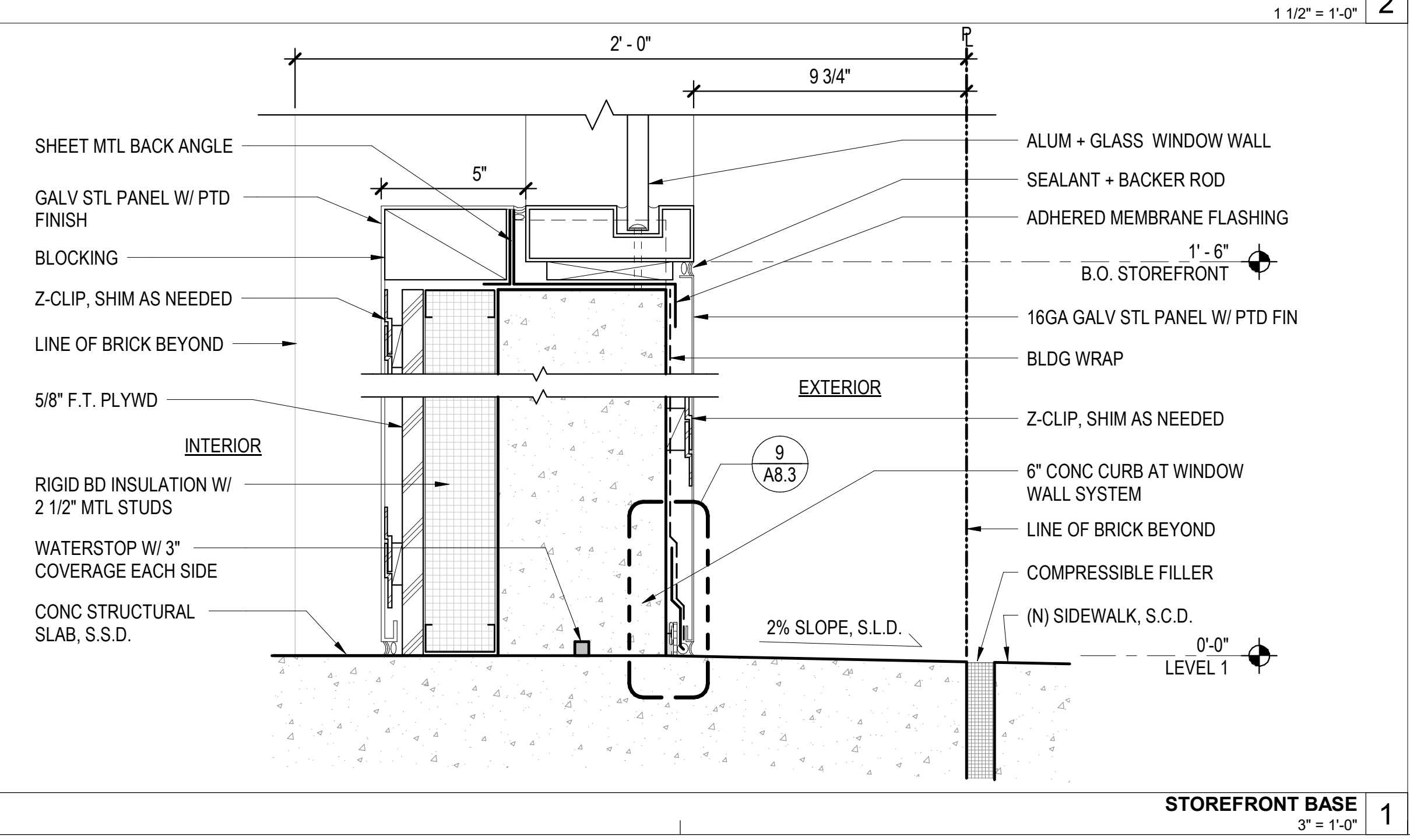
RETAIL ENTRY DOOR THRESHOLD
1 1/2' = 1'-0"



PIER BASE
3" = 1'-0"



ENLARGED STOREFRONT BASE
12" = 1'-0"



STOREFRONT BASE
3" = 1'-0"

388 CAMBRIDGE OFFICE BUILDING

388 Cambridge Ave
Palo Alto, CA 94306



909 Montgomery St., Suite 260
San Francisco, California 94133
T 415 546 1212
brereton.com



Issue/Revision		
No.	Date:	Description
2	08/16/2019	PERMIT & BID SET
	04/15/2020	RESPONSE TO PLAN CHECK - 2ND ROUND
	11/28/2022	50% CD - COORDINATION SET

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Col Title: Date:

EXTERIOR DETAILS

Scale: As indicated Issue Date: 10/19/2022
Drawn By: CY Reviewed: MJC
Sheet: of 30 By:

A8.3



Issue/Revision		
No.	Date	Description
2	08/16/2019	PERMIT & BID SET
	04/15/2020	RESPONSE TO PLAN CHECK - 2ND ROUND
	11/28/2022	50% CD - COORDINATION SET

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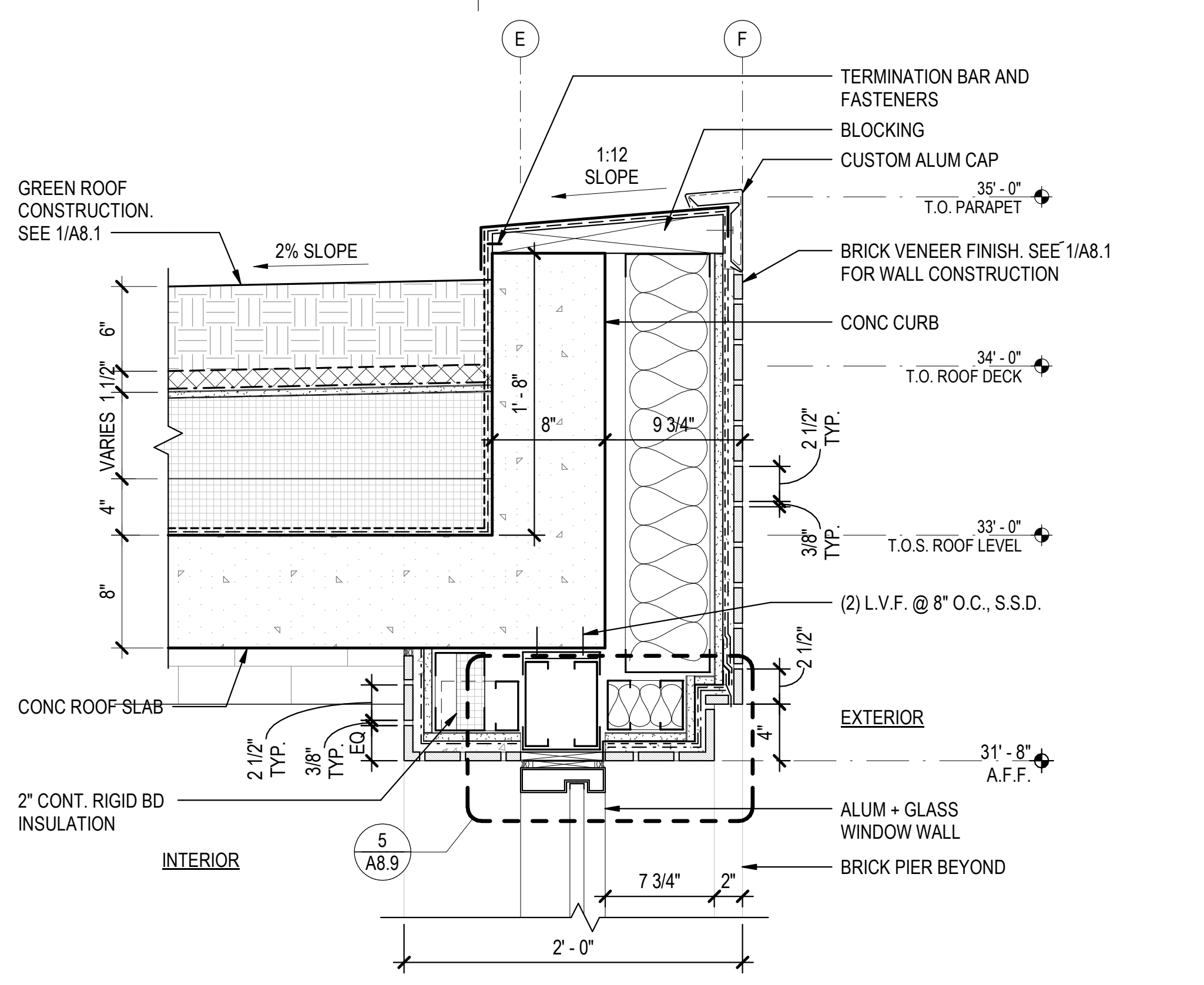
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Col Title: Date:

EXTERIOR DETAILS

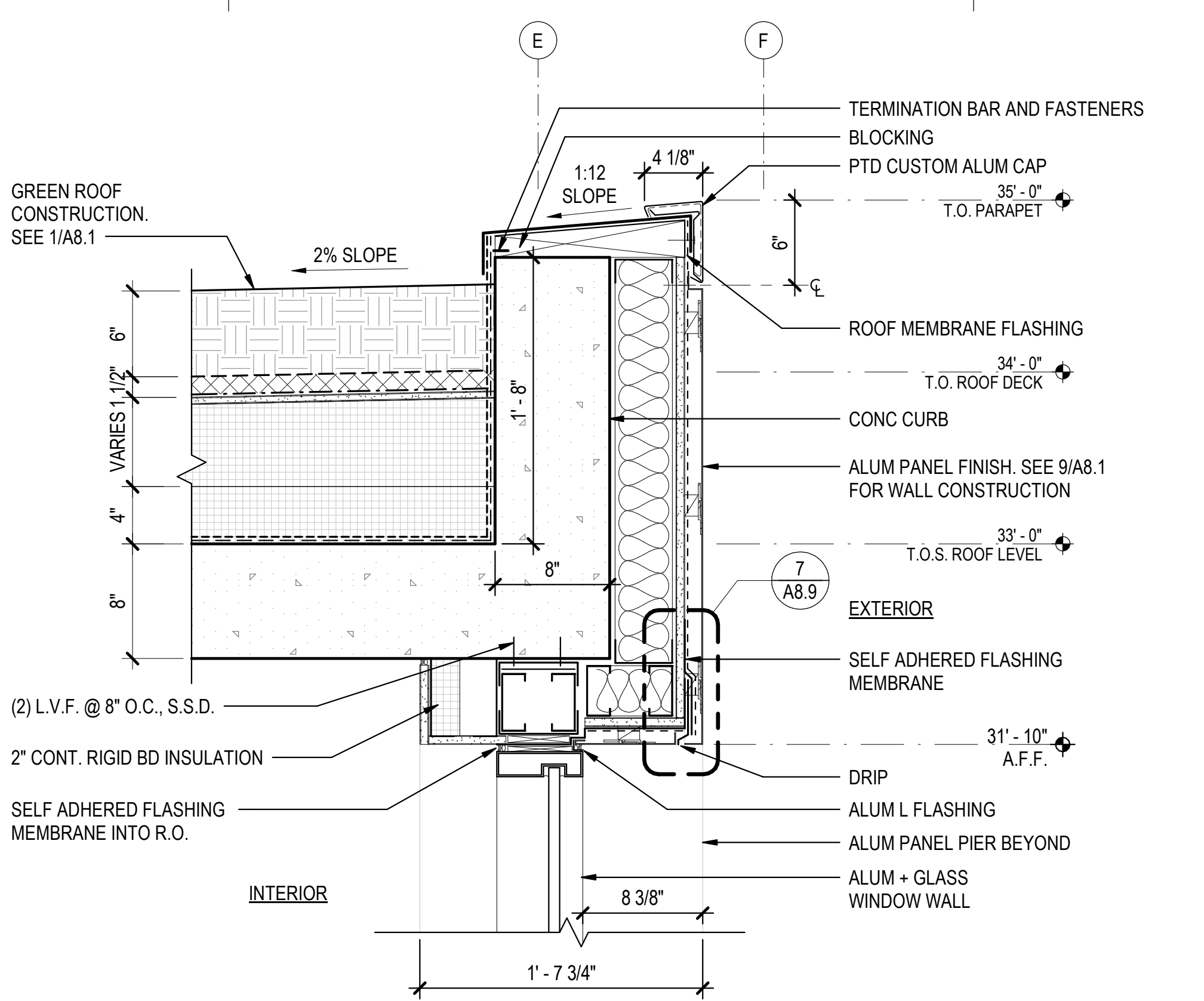
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Drawn By: CY Reviewed: MJC
Sheet: of 30 By:

A8.4



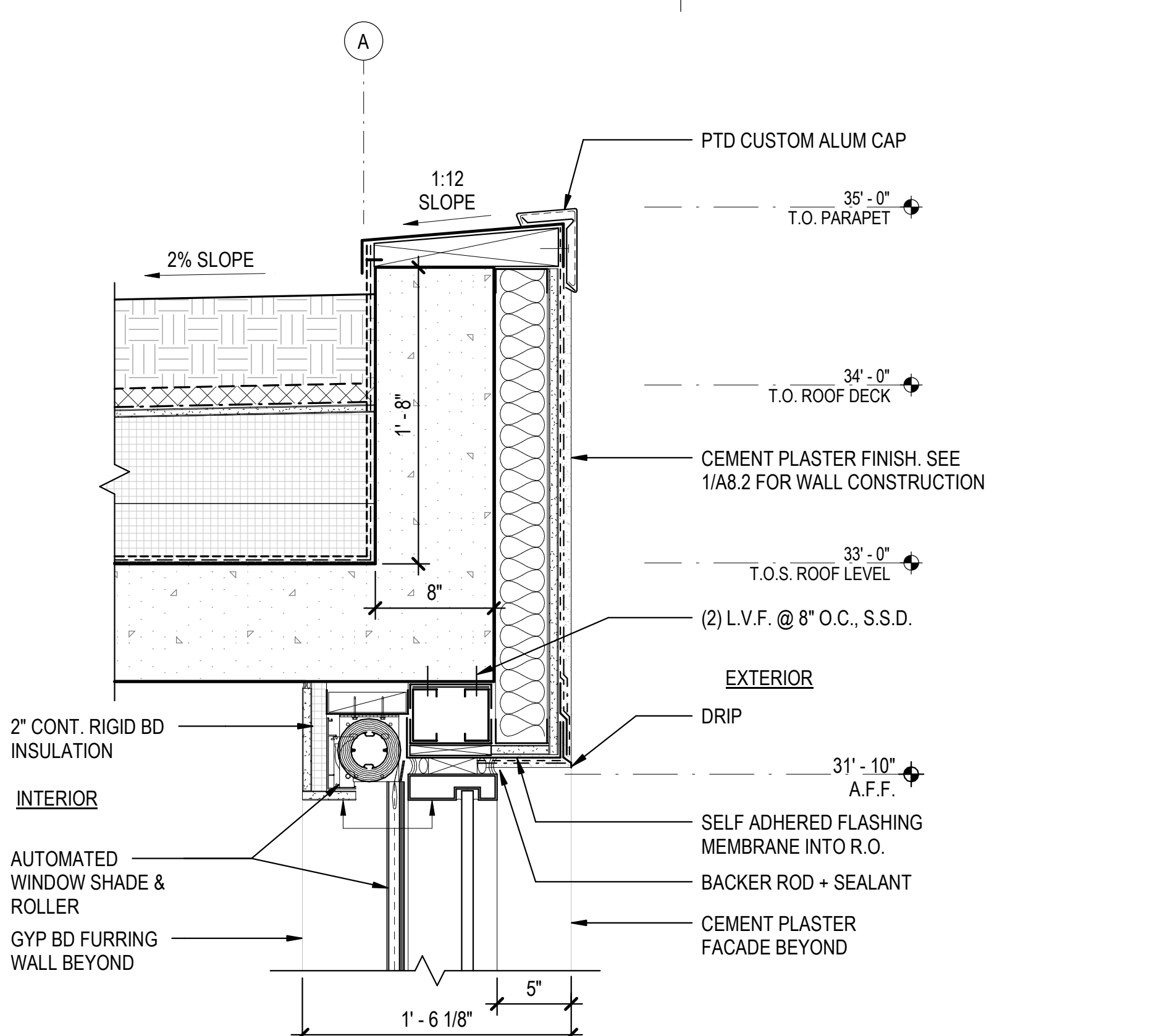
WALL SECTION A-A - PARAPET @ BRICK WALL
1 1/2" = 1'-0"

3



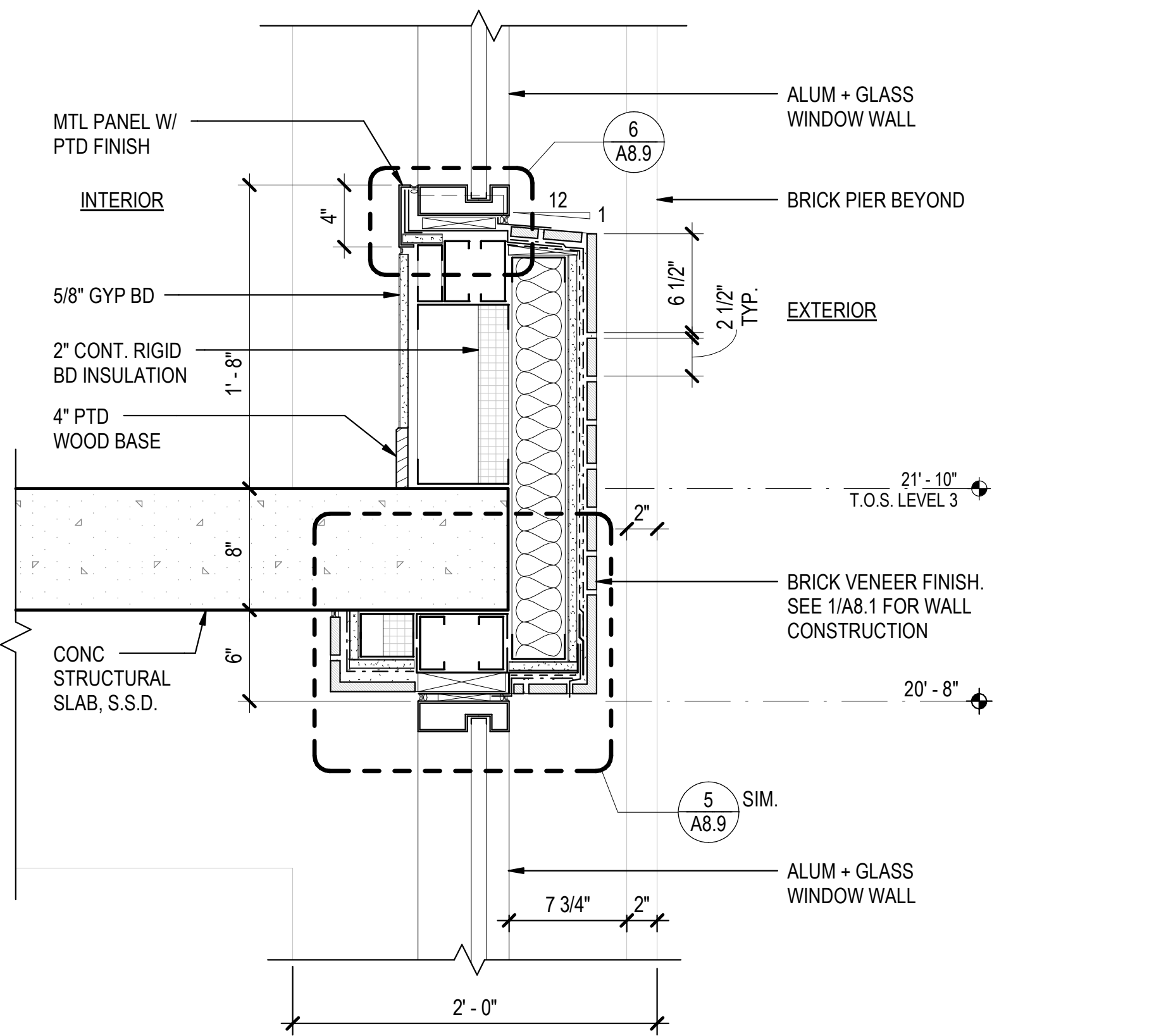
WALL SECTION C-C - PARAPET @ MTL PANEL WALL
1 1/2" = 1'-0"

7



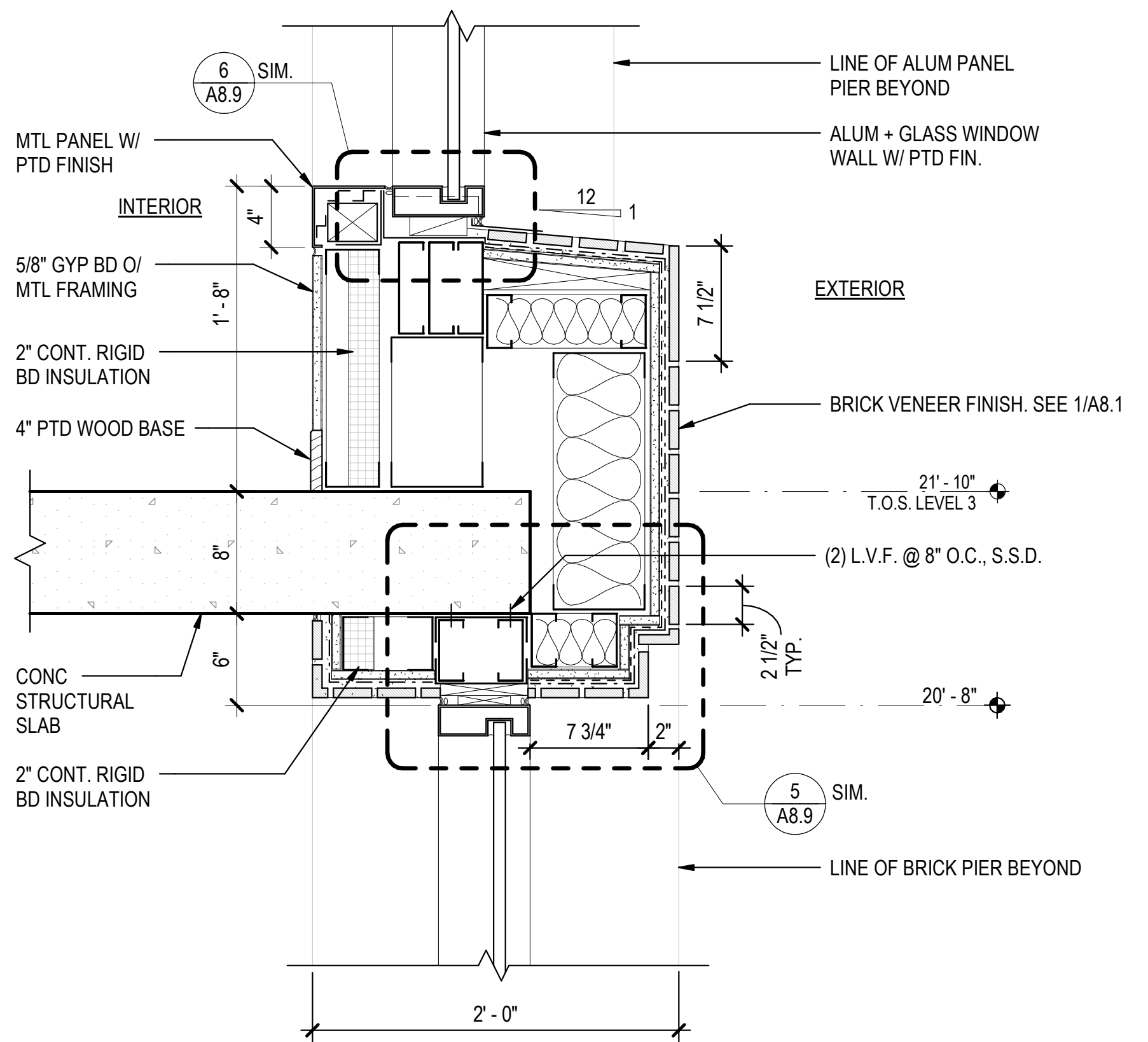
WALL SECTION E-E - PARAPET @ CEM PLASTER WALL
1 1/2" = 1'-0"

11



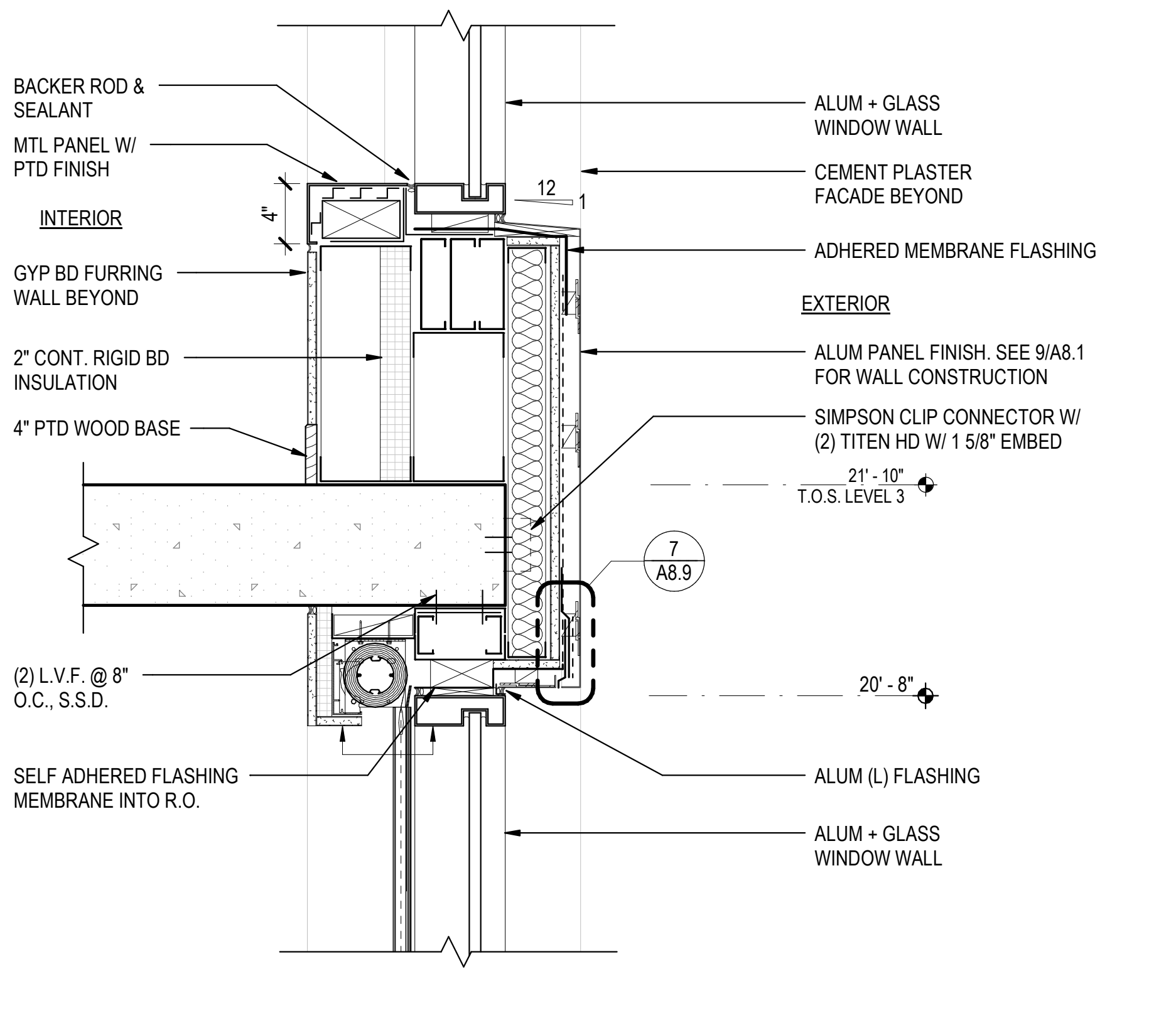
WALL SECTION A-A - BRICK FACADE @ LEVEL 3
1 1/2" = 1'-0"

2



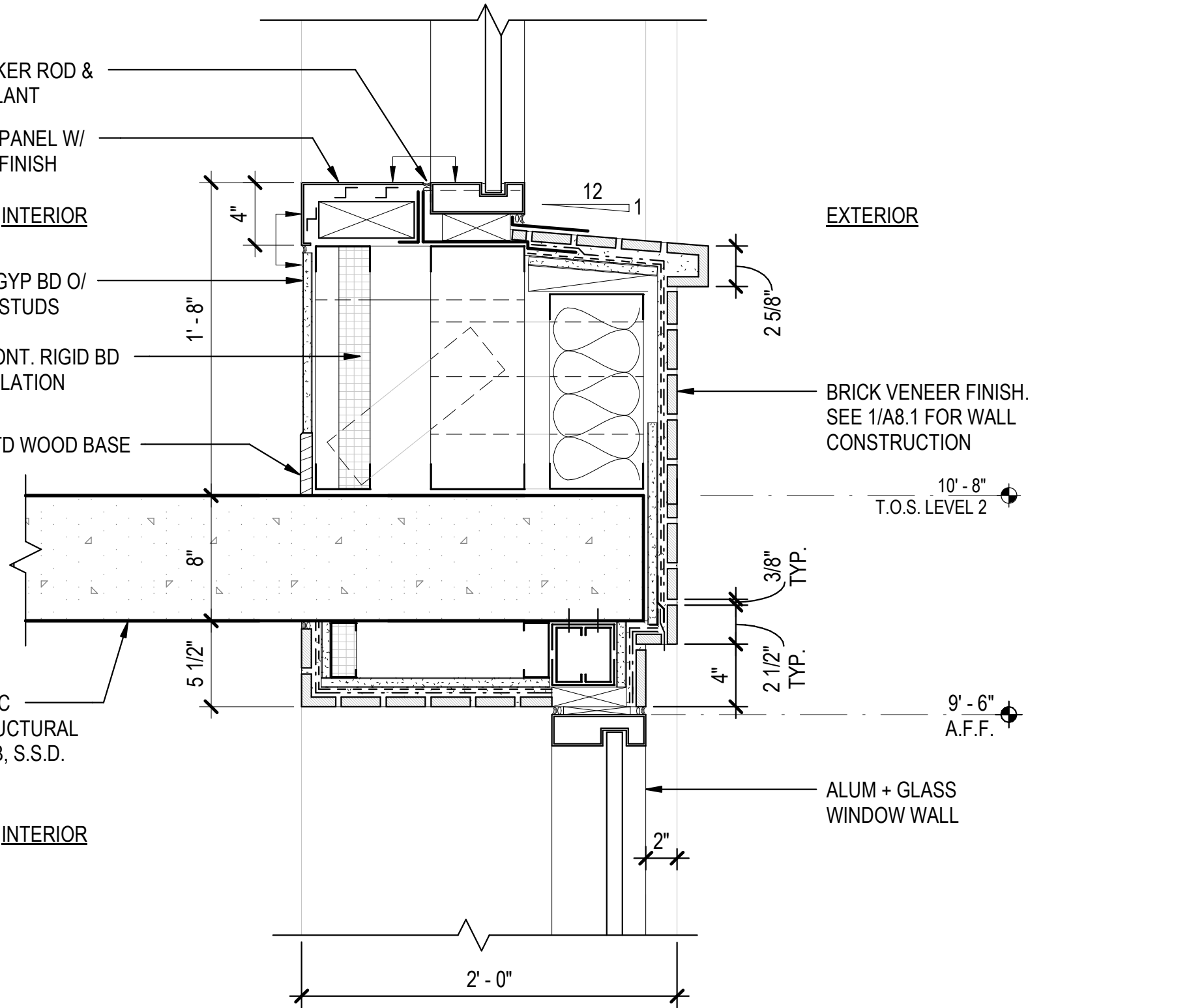
WALL SECTION C-C - BRICK FACADE @ LEVEL 3
1 1/2" = 1'-0"

6



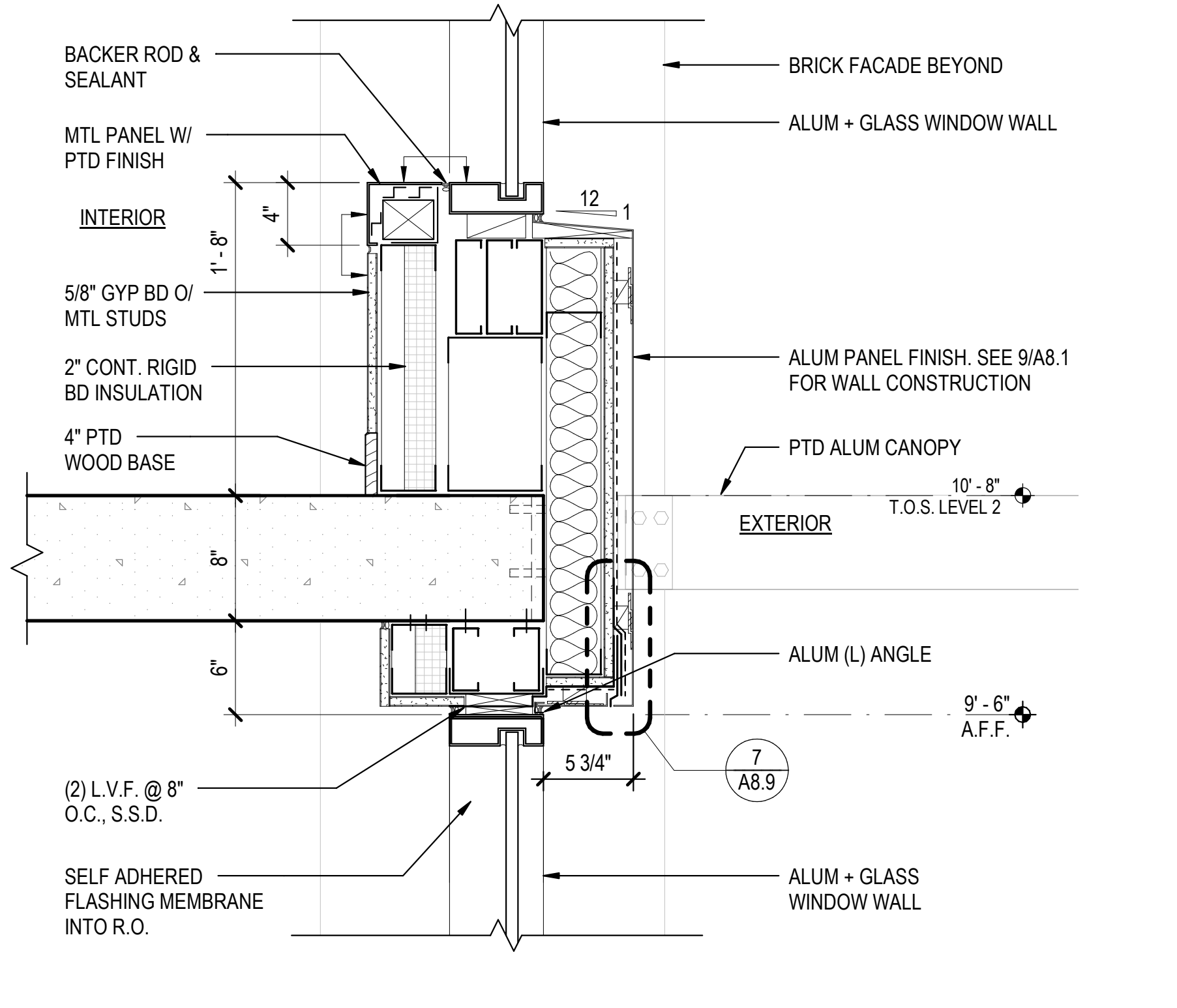
WALL SECTION E-E - MTL SPANDREL FACADE @ LEVEL 3
1 1/2" = 1'-0"

9



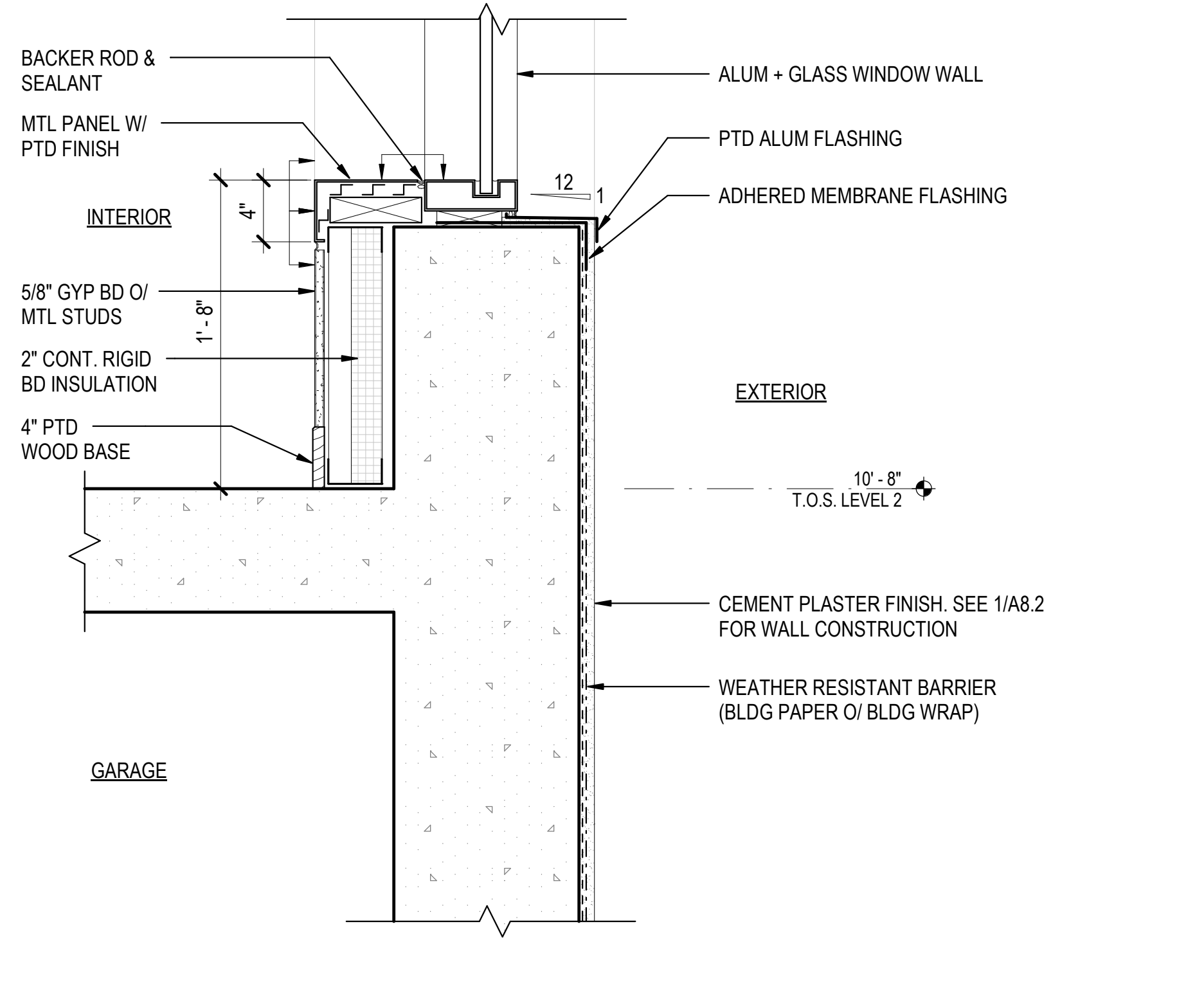
WALL SECTION A-A - BRICK FACADE @ LEVEL 2
1 1/2" = 1'-0"

1



WALL SECTION C-C - MTL SPANDREL FACADE @ LEVEL 2
1 1/2" = 1'-0"

5



WALL SECTION E-E - FACADE @ LEVEL 2
1 1/2" = 1'-0"

8

Issue/Revision		
No.	Date	Description
2	08/16/2019	PERMIT & BID SET
	04/15/2020	RESPONSE TO PLAN CHECK - 2ND ROUND
	11/28/2022	50% CD - COORDINATION SET

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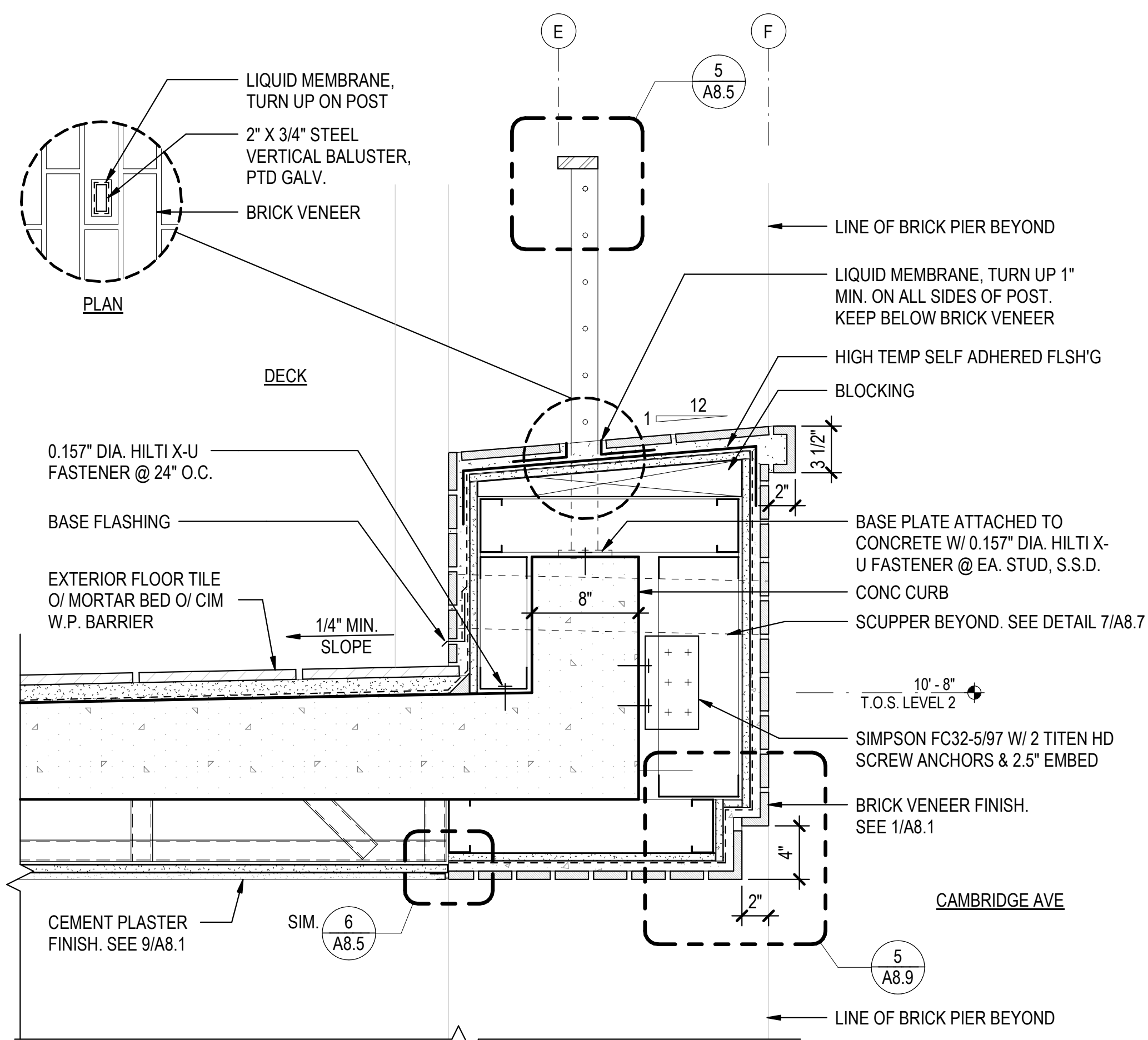
Approval Signature:

Col Title: Date:

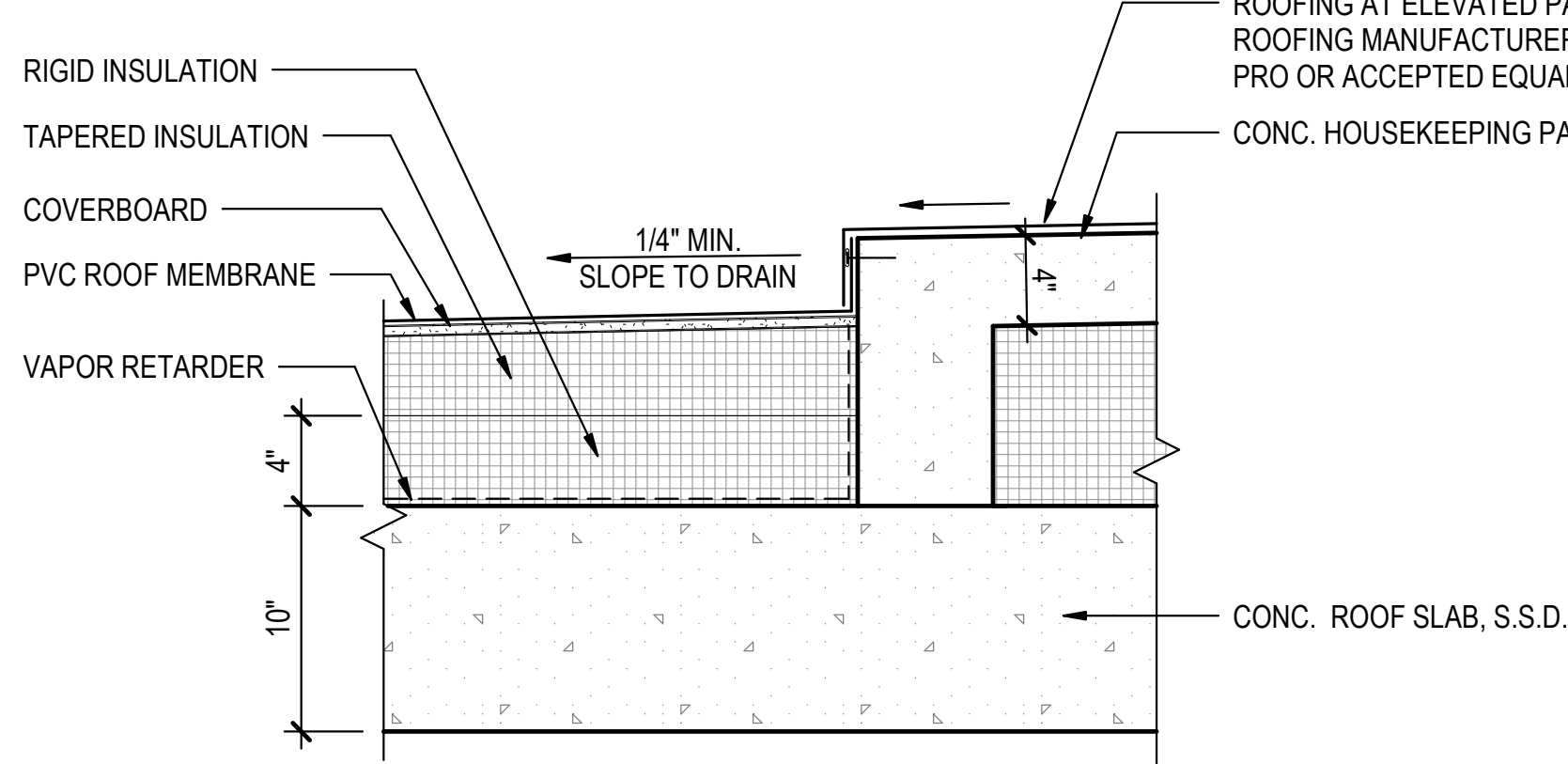
EXTERIOR DETAILS

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Drawn By: Author Reviewed: Checker
Sheet: of 30 By:

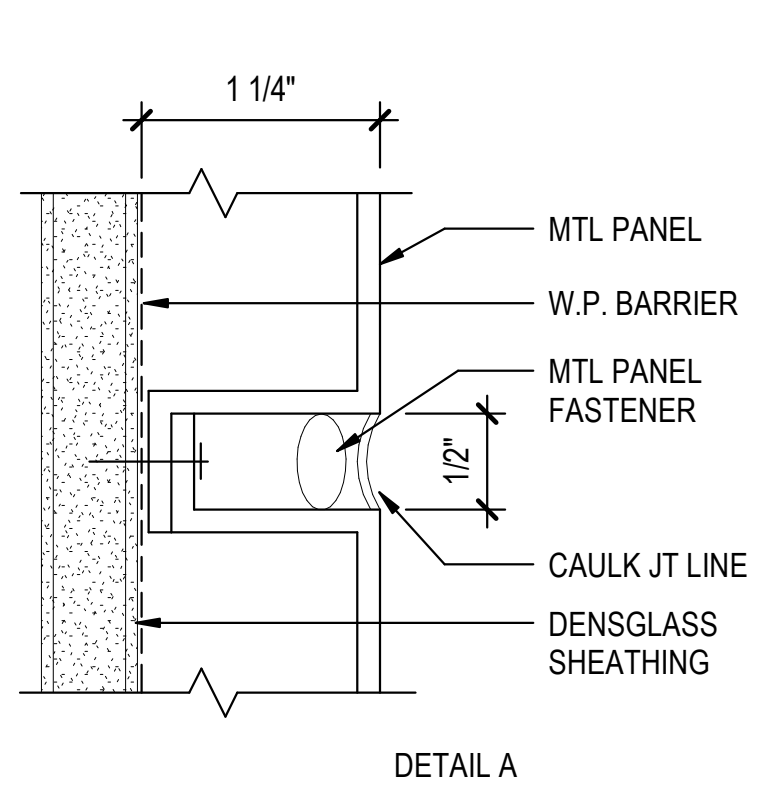
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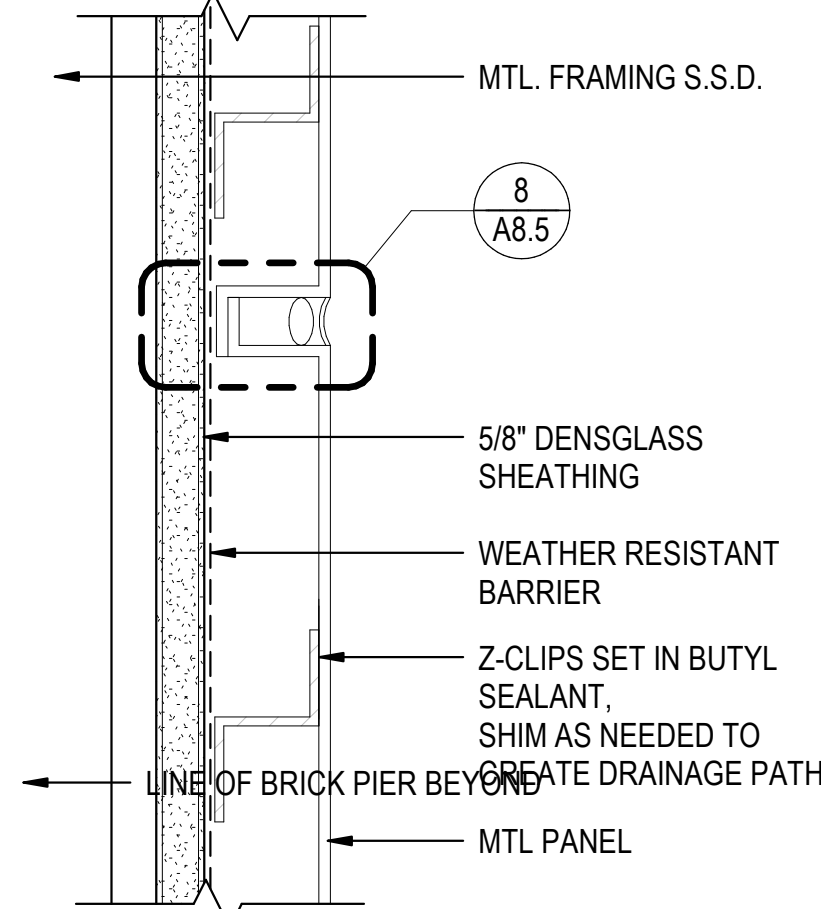
DECK 201 RAILING - SECTION
1 1/2" = 1'-0"



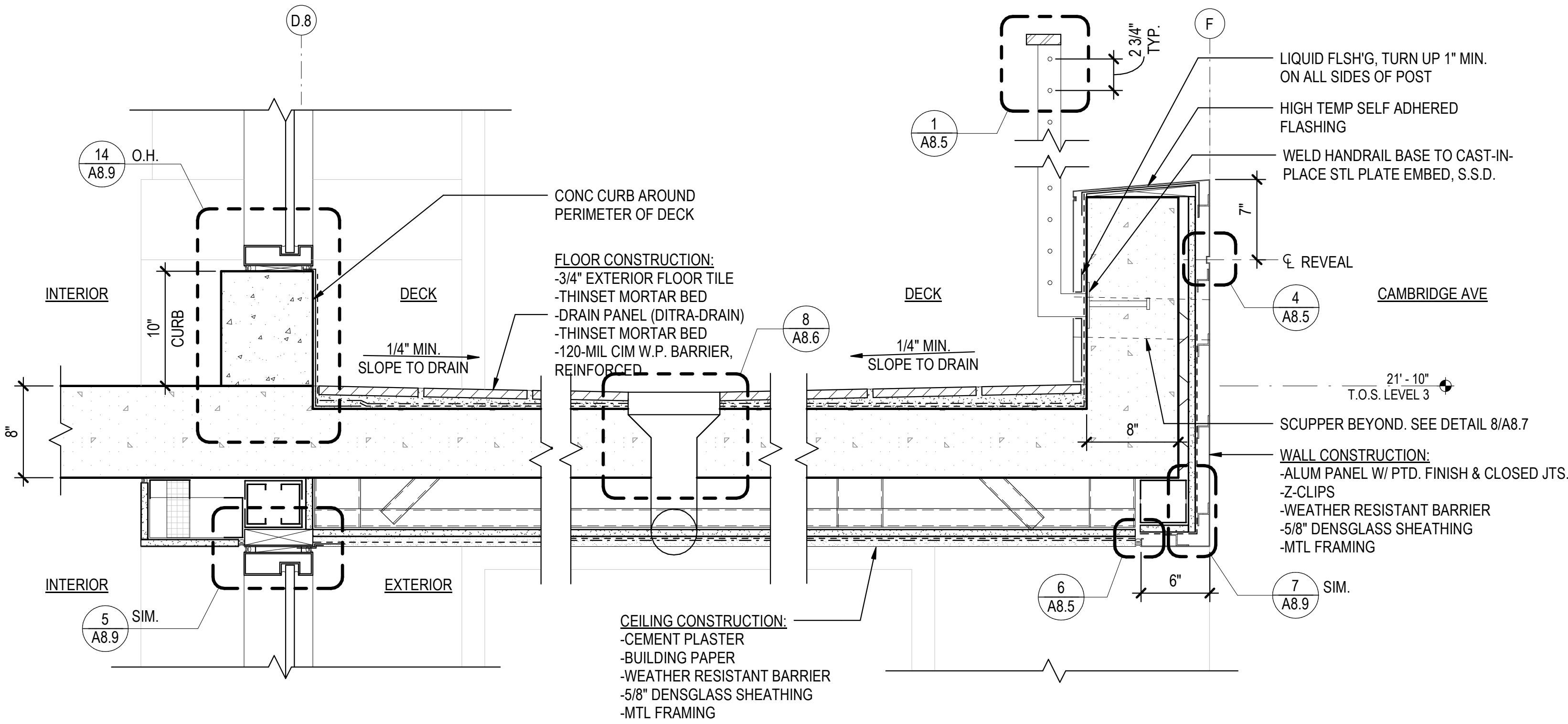
HOUSEKEEPING ROOF PAD
1 1/2" = 1'-0"



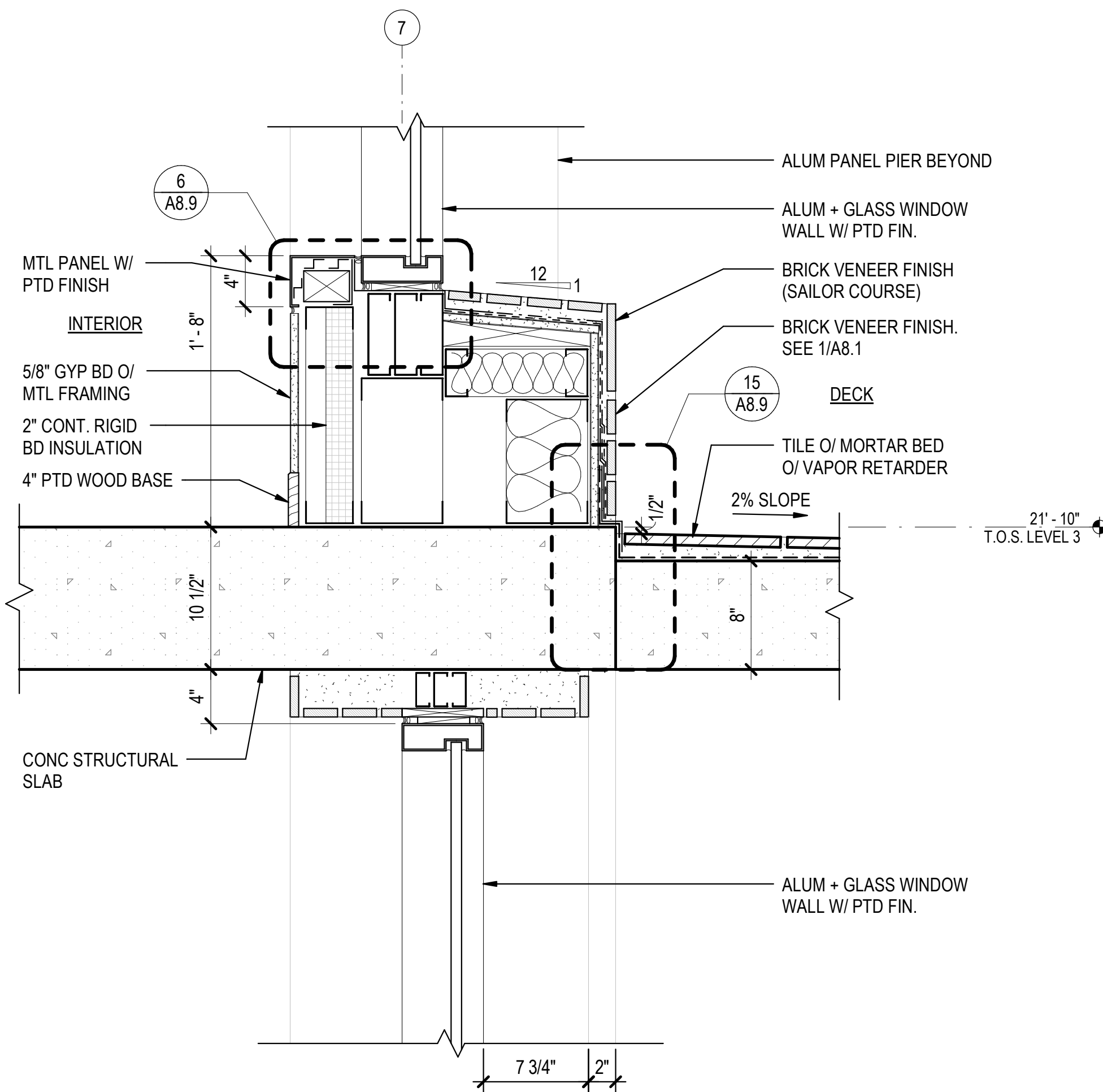
ENLARGED HORIZ. JT. @ MTL PANEL
1/2" = 1'-0"



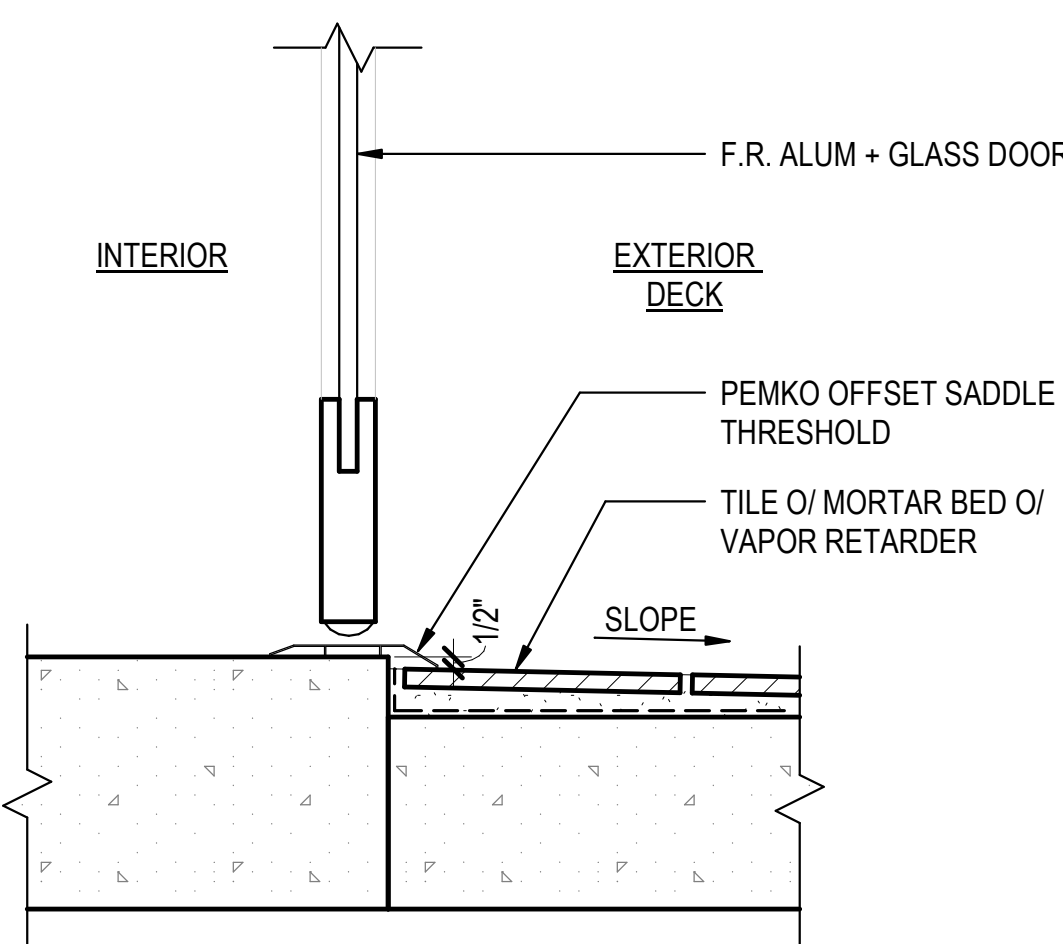
HORIZ. JT. @ MTL PANEL - EXTERIOR
6" = 1'-0"



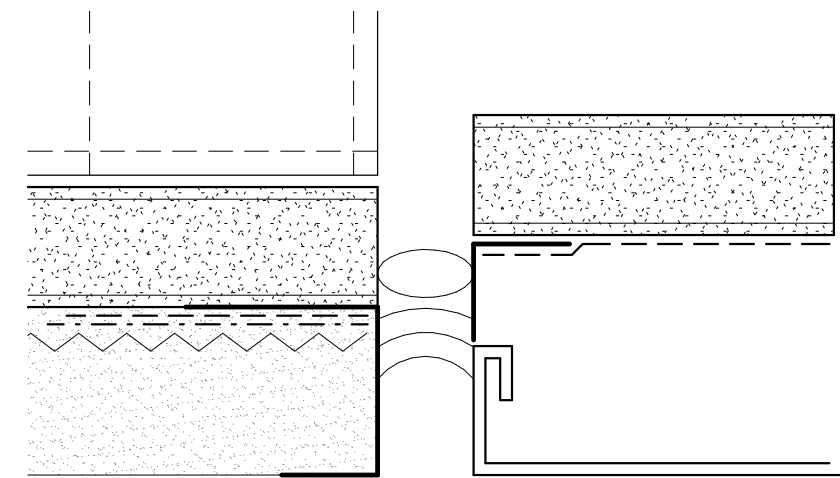
DECK 301 & 303 - SECTION
1 1/2" = 1'-0"



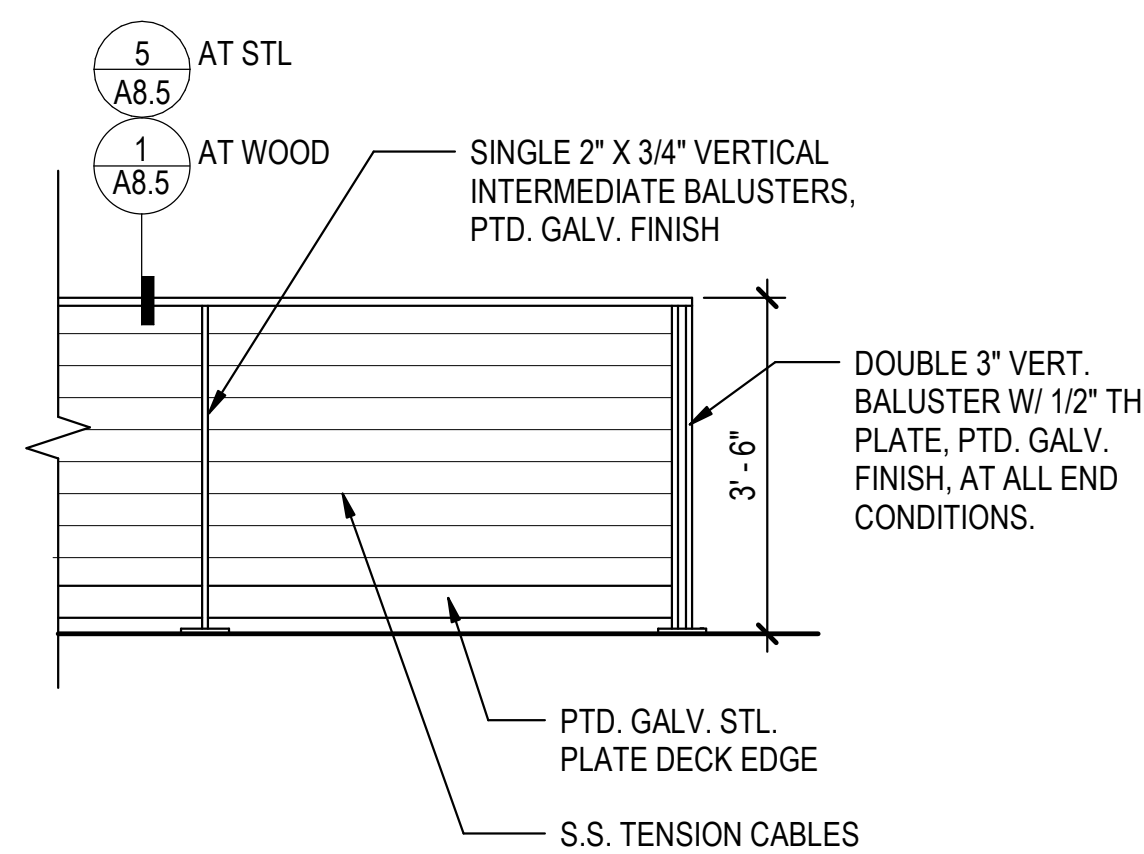
WALL SECTION D-D - BRICK FACADE @ LEVEL 3
1 1/2" = 1'-0"



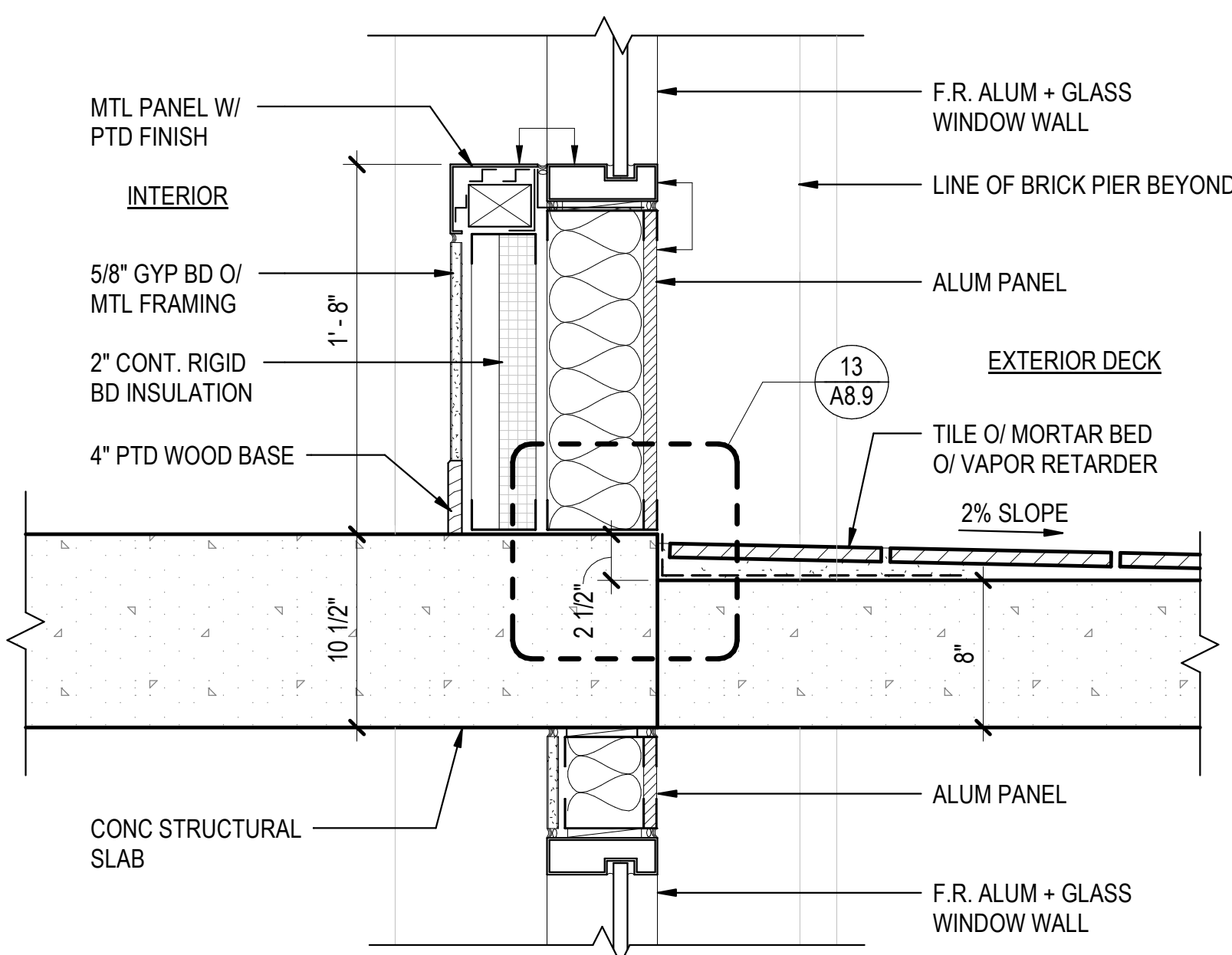
DOOR TRANSITION @ DECK 206 & 308
1 1/2" = 1'-0"



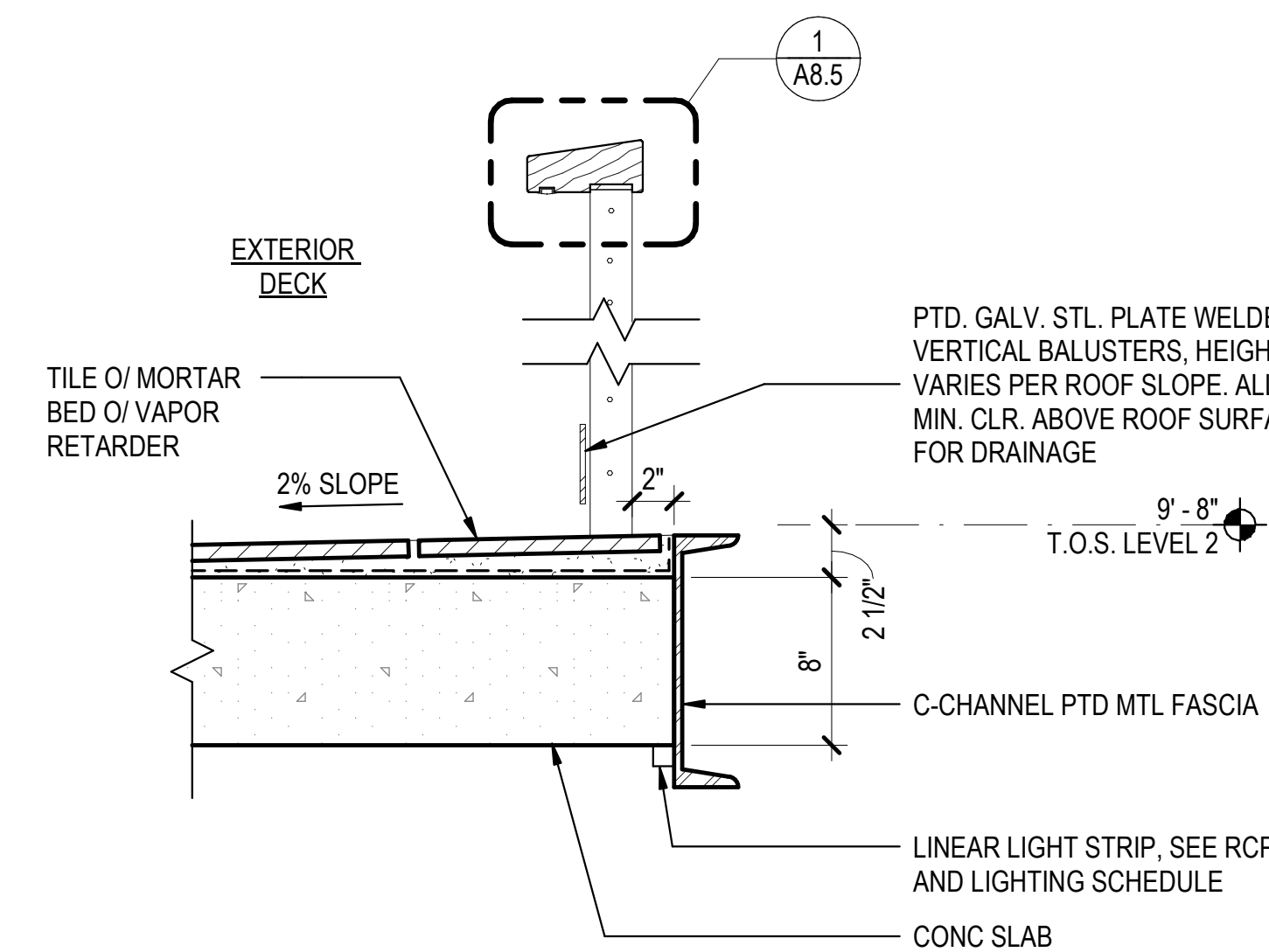
SOFFIT TRANSITION
1/2" = 1'-0"



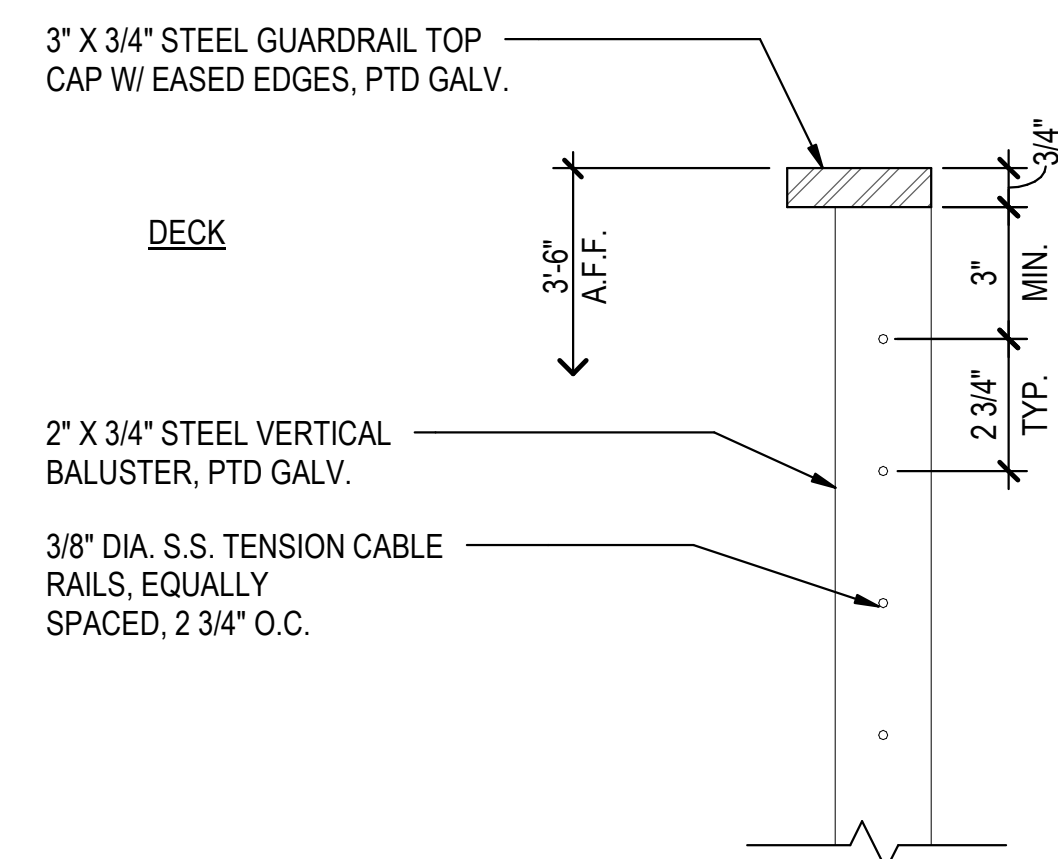
GUARDRAIL ELEVATION (DECKS 208 & 311)
1/2" = 1'-0"



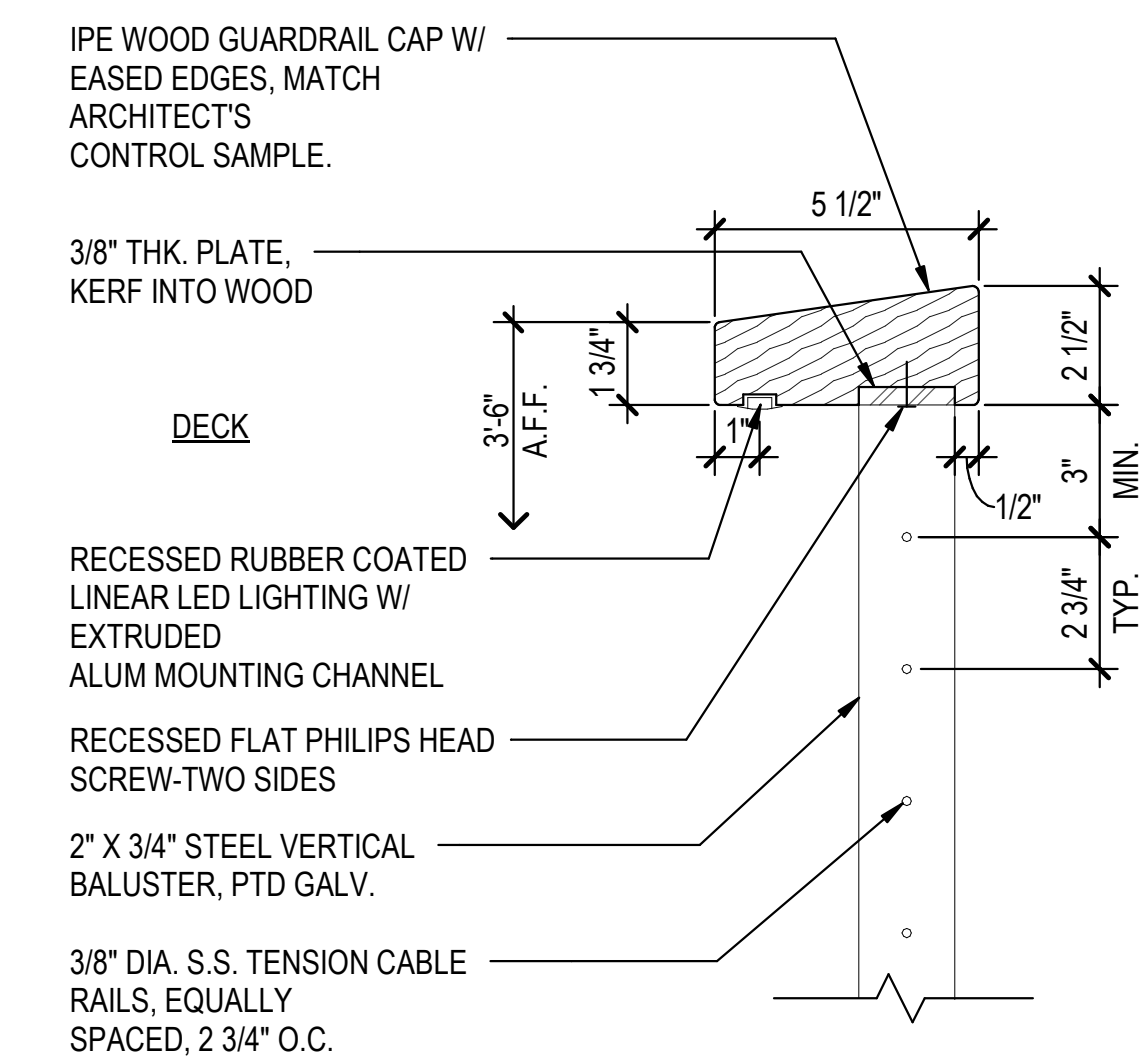
WALL SECTION D-D - CONC SLAB AT DECK TRANSITION @ LEVEL 2
1 1/2" = 1'-0"



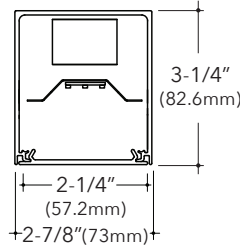
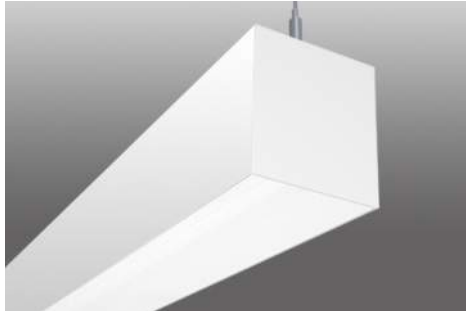
DECK (208 & 311) RAILING
1 1/2" = 1'-0"



STL TOPCAP AT GUARDRAIL (TYPICAL)
3" = 1'-0"



WOOD TOPCAP AT GUARDRAIL (DECKS 208 & 311)
3" = 1'-0"



EDGE EX33

3"x 3" Suspended Direct Linear

Key Features

- 6063-T5 Extruded aluminum housing
- Highly reflective die-formed white painted reflector
- Wiring access available through bottom of housing
- 5-year limited warranty covers LED, driver and fixture
- UL and cUL listed
- Approved for dry/damp location unless otherwise noted
- Maximum weight is 15 lbs. for a standard 4' fixture
- Buy American Act compliant



Example Part #: EX33-A-N-830HO-26'-AC48G1-U-OL2-1-0-W

EX33	-A	-N										
	DIRECT SHIELDING	INDIRECT SHIELDING	CRI, CCT & OUTPUT	LENGTH OR PATTERN	MOUNTING	VOLTAGE	DRIVER	CIRCUITING	BATTERY & EMERGENCY	FINISH	FIXTURE OPTIONS	CONTROLS

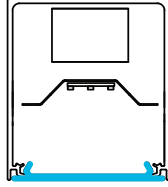
A	N		
DIRECT SHIELDING	INDIRECT SHIELDING	CRI, CCT & OUTPUT	LENGTH OR PATTERN ¹
A - Satine Lens <i>Shielding pg. 2</i>	N - None <i>Shielding pg. 2</i>	8 <ul style="list-style-type: none"> 27 - 2700K 30 - 3000K 35 - 3500K 40 - 4000K CL - Custom Lumens CW - Custom Watts <i>Lumen Output pg. 2</i> Example: 830HO is 8 = 80 CRI; 30 = 3000K; HO = High Output; Blank = Standard Output	<ul style="list-style-type: none"> 8 - Individual Fixture S - Continuous Row S - Square R_X - Rectangle L_X - L Shape U_X - U-Shape M - Mod Layout <i>Length and Pattern pg. 2-3</i>
MOUNTING ²	VOLTAGE	DRIVER	CIRCUITING
<ul style="list-style-type: none"> AC_G - AC to Grid AC_JB - AC to J Box AC_ST - AC to Structure AC5_G - 5" Non-Power Canopy AC5_JB - 5" Non-Power Canopy SQ_G - 5" Square Canopy SQ_JB - 5" Square Canopy PP_JB - Pendant Pipe to J Box PP_ST - Pendant Pipe to Structure WA - Wall Mount S - Surface <i>Mounting pg. 3</i>	U - Universal (120 thru 277V) 1 - 120V 2 - 277V 3 - 347V <i>Voltage pg. 4</i>	FSD - Factory Select Driver (1%, 0-10v) PL2 - Advance Xitanium (1%, 0-10v) OL4 - Osram 347v (1%, 0-10v) EE1 - eldoLED ECoDrive (1%, 0-10v) ES1 - eldoLED SOLOdrive (0%, 0-10v) LH1 - Lutron Hi-lume (1%, EcoSystem) PS1 - Advance Xitanium (50%/100%) OL2 - Osram (1%, 0-10v) <i>Driver pg. 4</i>	<ul style="list-style-type: none"> 1 - Single Circuit M - Multi Circuit E - Emergency (entire fixture) N - Night Light (entire fixture) <i>Circuiting pg. 5</i>
BATTERY & EMERGENCY ³	FINISH	CONTROLS	
0 - None _FSG - Factory Select ALCR _GI - Iota ETS DR _GB - Bodine GTD _P - Bodine 10W Integral (low profile) _IC - Iota 10W Integral (low profile) _E - Emergency Section _N - Night Light Section _L - Life Safety Section <i>Battery and Emergency pg. 5</i>	W - White S - Metallic Silver BL - Textured Black BR - Bronze GR - Graphite CC - Custom Color <i>Finish pg. 5</i> by architect	Pinnacle is able to accommodate different control solutions from different manufacturers. Consult Factory for more information.	

¹ Individual fixtures come in 2', 3', 4', 5', 6', 8' & 12' lengths. Continuous row come in 1' increments. For Mod layouts specify pattern shape and overall dimensions. Example: L6x4: L pattern that is 6'x4'. ² Example AC48G9 = 48" AC to G9 grid. Specify AC length, 48", 120, 240". Specify grid: G1=15/16", G9=9/16", GS=Screw Slot. Example AC48G1. Pendant Pipe, specify length 12", 18" 24". Example PP18JB = 18" Pendant Pipe to J Box. ³ Enter quantity for Battery and Emergency, Example 2PL.



Direct Shielding

A
Satine Lens



Indirect Shielding

N
None

Output

- Specify either 80 or 90 CRI
- Longer lead-time may apply for 90 CRI. Consult factory
- 80 CRI = R9≥19 and 90 CRI = R9≥61

Custom Output- Lumens OR Wattage

CL _____	Specify CRI, CCT and desired lumens (i.e. CL835500)	Specify lumens between standard offering listed below. Lumens are specified per color temp
CW _____	Specify CRI, CCT and desired wattage (i.e. CW9407)	Specify watts between standard offering listed below

80 CRI

	Color	Output	Watts per foot	Shielding A Satine	
				Lumens/ft	LPW
830	3000K	Standard	4.6	335	72.8
830HO	3000K	High	8.6	612	71.0
835	3500K	Standard	4.6	345	75.0
835HO	3500K	High	8.6	630	73.0
840	4000K	Standard	4.6	352	76.5
840HO	4000K	High	8.6	642	74.4

90 CRI

927	2700K	Standard	4.6	265	57.6
927HO	2700K	High	8.6	484	56.1
930	3000K	Standard	4.6	309	67.2
930HO	3000K	High	8.6	564	65.4
935	3500K	Standard	4.6	311	67.6
935HO	3500K	High	8.6	567	65.7
940	4000K	Standard	4.6	314	68.3
940HO	4000K	High	8.6	573	66.4

Length

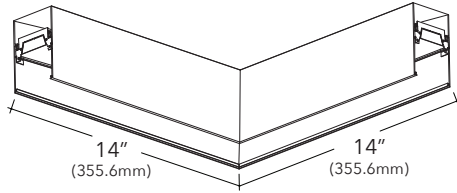
- All individual units cannot be joined, SJT cord and end plates are factory installed and cannot be removed
- For Continuous Runs, add 1/16" (1.6mm) for each end plate or 1/8" (3.2mm) to the overall length of the row
- For patterns, refer to Pattern section on next page

2	3	4	5	6	8	12	—
Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Cont. Run Specify nominal overall row length to the 1'
24-1/8" (612.7mm)							
36-1/8" (917.6mm)							
48-1/8" (1222.4mm)							
60-1/8" (1527.2mm)							
72-1/8" (1831.9mm)							
96-1/8" (2441.6mm)							
144-1/8" (3660.8mm)							

Specify to the 1' >>>

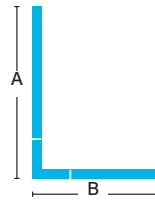
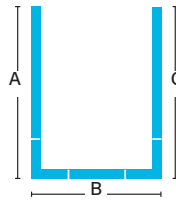
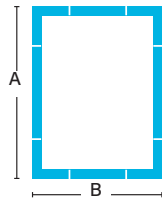
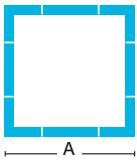


Pattern



- Specify pattern shape and overall dimensions (includes corner dimensions)
- Refer to dimensions table below for available standard lengths
- All connectors are direct only
- 90 degree horizontal corners are 14"x14" (overall, outside dimension)
- Not all drivers available with all patterns; consult factory
- Angles and shapes not shown require Mod Pattern; consult factory

S	R_x	U_x_x	L_x	M
Square Provide A dimension Example: S4' Nominal Length- 4'x4' Minimum Length- 4'4"x4'4"	Rectangle Provide AxB dimensions Example: R4'x4' Nominal Length- 4'x4' Minimum Length- 4'4"x4'4"	U-Shape Provide AxBxC dimensions Example: U3'x4'x3' Nominal Length- 3'x4'x3' Minimum Length- 3'2"x4'4"x3'2"	L-Shape Provide AxB dimensions Example: L3'x3' Nominal Length- 3'x3' Minimum Length- 3'2"x3'2"	ModLayout For patterns or lengths not shown or standard

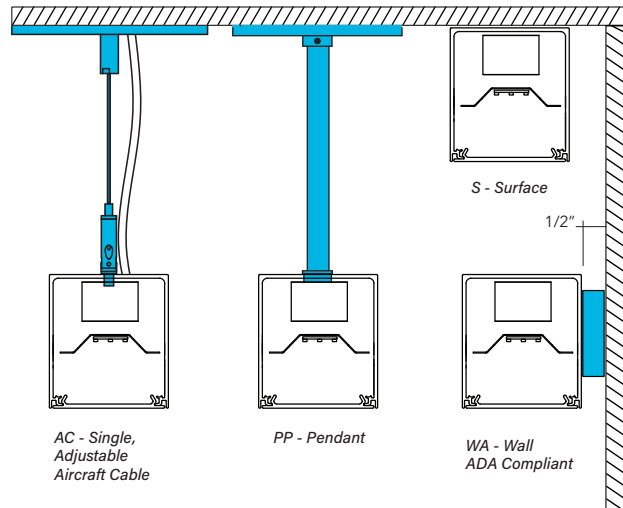


Mounting

- Specify cable length in ordering code (AC48G1)
- Standard 48" adjustable cable. Specify up to 350"
- End plates and standard white power cord attached at factory
- Aircraft Cable (AC) mounts on 4'-0" (1219.2mm) and 8'-0" (2438.4mm) centers
- Aircraft Cable supplied with 5" (127mm) power and 2" (50.8mm) non-power canopies
- 3/8" diameter pendant pipe lengths are 12", 18", and 24"

- Canopies and pendants match fixture finish, power cords are white, grey, or black depending on fixture finish. See Finish section for additional details
- Approved for dry/damp location unless otherwise noted
- Refer to installation instructions during installation at the jobsite
- Maximum fixture weight is 15 lbs for a standard 4' fixture

AC_G1	Aircraft Cable 1" (15/16") T-Bar
AC_G9	Aircraft Cable 9/16" T-Bar
AC_GS	Aircraft Cable Screw Slot T-Bar
AC_JB	Aircraft Cable Junction Box
AC_ST	Aircraft Cable Structure
AC5_G	Aircraft Cable 5" (127mm) Non-Power Canopy
AC5_JB	Aircraft Cable 5" (127mm) Non-Power Canopy
SQ_G	Aircraft Cable 5" (127mm) Square Canopy
SQ_JB	Aircraft Cable 5" (127mm) Square Canopy
PP_JB	Pendant Pipe Junction Box
PP_ST	Pendant Pipe Structure
WA	Wall Mount
S	Surface





Voltage

- Some EX33 configurations will not accommodate all voltage options; consult with factory

U	Universal
1	120 volt
2	277 volt
3	347 volt

Driver

- Standard Driver Option = FSD
- Driver Lifetime: 50,000 hours at 25°C ambient operating conditions
- For more driver options, see Pinnacle Resource Guide
- Some EX33 configurations will not accommodate all driver options; consult with factory

0-10V Drivers	
FSD	Factory Select Driver 1%, 0-10v
PL2	Signify Advance Xitanium 1%, 0-10v
PL4	Advance Xitanium 347v 1%, 0-10v, requires 347v
OL2	Osram Optotronic, 1%, 0-10v
OL4	Osram Optotronic 347v, 1% 0-10v, requires 347v option
EE1	eldoLED ECOdrive 1%, 0-10v Logarithmic
EE2	eldoLED ECOdrive 1%, 0-10v Linear
ES1	eldoLED SOLOdrive 0-10v, 0% Logarithmic
ES2	eldoLED SOLOdrive 0-10v, 0% Linear
DALI Drivers	
EE3	eldoLED SOLOdrive .1%, DALI (logarithmic)
EE4	eldoLED SOLOdrive .1%, DALI (linear)
OD1	Osram Optotronic 1%, DEXAL
OD2	Osram Optotronic 1%, DALI 2 Channel
Lutron Drivers	
LH1	Lutron Hi-lume Soft-on, Fade-to-black 1%, EcoSystem, LDE1
LH4	Lutron Hi-Lume 1%, 2-wire, Lutron-LTEA2W, 120v only
Alternate Drivers	
PS1	Signify Advance Xitanium Step Dimming 50%/100%
EH1	ELV 120v only, 0-10v universal

How to specify Circuiting, Battery and Emergency

1

- Select fixture circuiting from options below
- Some EX33 configurations will not accommodate all circuiting options, consult with factory

Circuiting

1	Single Circuit
M	Multi Circuit
E	Emergency Circuit only
N	Night Light Circuit only

2

+

3

- Battery and emergency section options are available in addition to fixture circuit
- Select battery and emergency section options below; factory shop drawing required
- Some EX33 configurations will not accommodate all circuiting options, consult with factory

Battery and/or Emergency If Required

0	No battery or specific emergency section required
---	---



Battery

- Select battery section type if required, indicate total QTY. *Example 2PL*
- 90 minute battery runtime; test button is remote to fixture and requires an additional drop
- No battery option available for 2' lengths
- Entire direct fixture housing is on battery for lengths up to 5'
- Half of fixture is on battery for 6' or 8'; 1/3 of fixture is on battery 12' housing lengths
- For more battery options available, see Pinnacle Resource Guide

0	No Battery
_ILL	Iota 10w Integral Lithium, Self Testing
_IRH	Iota 20w Remote
_PLL	Bodine 10w Integral Lithium, Self Testing
_PRH	Bodine 20w Remote

For Approximate Battery Lumen Output

- Multiply battery wattage X fixture LPW shown on Lumen Table
- 92.3 (LPW) x 10 (watts) = 923 battery lumen output

Emergency

- Select emergency section type if required, indicate total QTY. *Example 1E*
- Combine battery and emergency section ordering codes if both options are selected

_FSG	Factory Select ALCR, Automatic Load Control Relay
_GI	Iota ETS DR, Emergency Lighting Control Device
_GB	Bodine GTD, Emergency Lighting Control Device
_E	Emergency circuit section
_N	Night Light circuit section
_L	Life Safety circuit section NO THROUGH WIRE

Combination Section Ordering Examples

- Single circuit, (1) 10w battery, (1) emergency section Ordering Code: 1-1PL1E
- Multi circuit, (2) 10w battery, (2) emergency sections Ordering Code: M-2PL2E
- Single circuit, (1) night light section Ordering Code: 1-1N

Battery OR Emergency Ordering Examples

- Single circuit, 10w Integral Battery Ordering Code: 1-1PL
- Emergency only, 10w Integral Battery Ordering Code: E-1PL
- Single circuit, GTD required Ordering Code: 1-1G

Finish

- Standard powder-coat textured white, metallic silver, textured black, graphite or bronze painted finish; consult factory for chip of standard paint finishes
- Selecting a fixture finish other than white may impact lumen output; consult factory for more information

W	White (<i>white cord/white canopy</i>)
S	Metallic Silver (<i>grey cord/silver canopy</i>)
BL	Textured Black (<i>black cord/black canopy</i>)
BR	Bronze (<i>white cord/bronze canopy</i>)
GR	Graphite (<i>white cord/graphite canopy</i>)
CC	Custom Color (<i>white cord/color match canopy</i>)

Controls

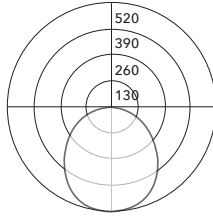
- Pinnacle is able to accommodate different control solutions from different manufacturers. Consult Factory for more information.



Photometrics

Satine Lens

Test #	ITL86382
Catalog #	EX33-A-N-840-4
Lumens	1406 lm
Watts	18.4 W
Efficacy	76 LPW



Candela Distribution

Vert Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	520	520	520	520	520
5	517	516	515	515	515
10	510	505	505	504	504
15	496	492	491	490	488
20	479	471	472	470	468
25	455	446	447	444	441
30	428	419	419	415	413
35	397	389	388	384	382
40	363	357	355	351	348
45	327	321	320	316	315
50	290	285	284	279	279
55	252	249	247	243	243
60	214	210	209	206	206
65	175	172	170	168	168
70	138	135	132	131	131
75	100	98	97	96	96
80	64	62	61	61	61
85	32	31	30	29	29
90	0	0	0	0	0

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5080	4970	4891
55	4819	4722	4644
65	4555	4422	4369
75	4238	4108	4065
85	3981	3724	3595

For all available IES files, please visit our website at pinnacle-ltg.com. Photometry testing in accordance to IESNA-LM-79-08 at an NVLAP accredited testing laboratory. Testing conducted at 25°C ambient conditions

Applications & Certificates

Construction: 6063-T5 Extruded aluminum housing. Highly reflective die-formed white painted reflector.

Shielding: Diffuse snap-in acrylic lens, removable for maintenance.

Mounting: Aircraft cable, Pendant Pipe and Wall mount available. The aircraft cable mounts on 4'-0" (1219.2mm) and 8'-0" (2438.4mm) centers. Aircraft Cable supplied with 5" (127mm) power and 2" (50.8mm) non-power canopies. Pendant Pipe lengths are 12", 18", and 24". Refer to installation instructions for appropriate ceiling detail. Canopies are painted white unless otherwise specified. Maximum fixture weight is 15 lbs. per 4' fixture.

LED: 25°C test environment. Lumen output/wattage has a margin of +/- 5%; 2' or 3' lengths may have a greater wattage deviation. All luminaire configurations tested in accordance with IES LM-79. Diodes tested in accordance with IES LM-80. Minimum lifetime greater than 60,000 hours. L70 = 136,200 hours and L90 = 41,100 hours. MacAdam 3-Step Ellipses. Not all products are Lighting Facts listed. For all available IES files, please visit our website at pinnacle-ltg.com.

CRI, CCT & Output: Two lumen packages available. Standard and High (HO). Custom outputs are available. Specify custom lumens or watts between standard offering listed on CRI, CCT & Output page. 80 CRI is available for 3000K, 3500K, and 4000K. 90 CRI is available for 2700K, 3000K, 3500K, and 4000K. 80 CRI = R9≥19 and 90 CRI = R9≥61.

Voltage: Universal (U), 120 volt (1), 277 volt (2) and 347 volt (3) options available. Must specify OL4 in Driver section when 347 volt (3) is selected. Some EX configurations will not accommodate all voltage options; consult with factory.

Driver: Standard Driver Option is Advance Xitanium 0-10V, 1% = PL2. Electronic driver, Power factor is >0.9 with a THD <20%. Driver Lifetime: 50,000 hours at 25°C ambient operating conditions. Ambient operating range: -20°F/-30°C to 114°F/46°C. For more driver options, see Pinnacle Resource Guide. Some EX configurations will not accommodate all driver options.

Circuiting: Select from single circuit (1), Multi circuit - For multiple circuiting and zone control, requires factory shop drawing (M), Emergency circuit (E), Night Light circuit (N) or Life Safety (L). For emergency circuiting situations that require no through wire or circuit separation, Life Safety Circuit should be selected. This will provide a separate power feed and only the Life Safety Circuit in that section. Some EX configurations will not accommodate all circuiting options; consult with factory.

Battery & Emergency: Select battery or emergency options if required. If battery or emergency option is not required, enter 0. Battery duration is 90 minutes as standard. Test button is remote to fixture. For more Battery options, see Pinnacle Resource Guide.

Finish: Standard powder-coat textured white, metallic silver, textured black, graphite or bronze painted finish; consult factory for chip of standard paint finishes. Pendants and canopies painted white unless specified differently in the options section of the part number. Contact factory for additional custom color and finish options.

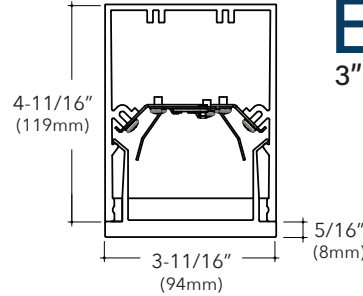
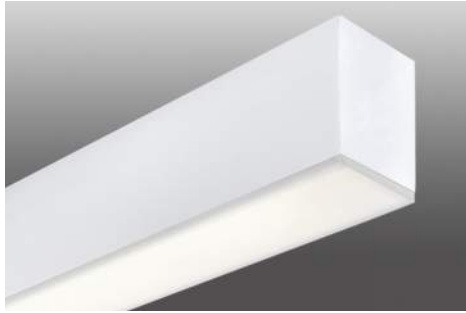
Controls: Consult factory.

Labels: UL and cUL Listed. Standard and HO lumen packages are approved for dry/damp location unless otherwise noted.

Fixture Weight: Maximum fixture weight is 15 lbs. per 4' fixture.

Buy American Act Compliant

Warranty: EX LED offered with a 5-year limited warranty. Covers LED, driver and fixture.



EDGE EX3WET

3" Suspended Direct Linear WET

Key Features

- Approved for wet location unless otherwise noted. IP65 and IK10 rated
- 6063-T5 Extruded aluminum housing
- Highly reflective die-formed white painted reflector
- All-inclusive module houses all LED system components in one compact unit
- Unit easily releases from the housing for room-side maintenance
- Wiring access available through bottom of housing
- 5-year limited warranty covers LED, driver and fixture
- ETL listed conforming to UL 1598 in US and CSA 250 in Canada
- Buy American Act compliant



Example Part #: EX3-WET-N-830HO-8'-IND-AC48G1-U-OL2-1-0-W

EX3 - **WET** - **N** - _____ - _____ - _____ - _____ - _____ - _____ - _____ - _____ - _____

DIRECT SHIELDING INDIRECT SHIELDING CRI, CCT & OUTPUT LENGTH MOUNTING VOLTAGE DRIVER CIRCUITING BATTERY & EMERGENCY FINISH FIXTURE OPTIONS

WET	N	_____	_____
DIRECT SHIELDING	INDIRECT SHIELDING	CRI, CCT & OUTPUT ¹	LENGTH ²
WET - Satine Wet Lens <i>Shielding pg. 2</i>	N - None <i>Shielding pg. 2</i>	8 _27_ - 2700K _30_ - 3000K _35_ - 3500K _40_ - 4000K _50_ - 5000K _CL_ - Custom Lumens _CW_ - Custom Watts <i>Lumen Output pg. 2</i>	_ _ - Individual Fixture <i>Length pg. 2</i> 12'

_____	_____	_____	_____
POSITION ³	MOUNTING ⁴	VOLTAGE	DRIVER
IND - Individual Fixture BOR - Beginning of Row MOR - Middle of Row EOR - End of Row <i>Position pg. 3</i>	PP - JB - Pendant to J Box PP - ST - Pendant to Structure WA - Wall Mount S - Surface Mount <i>Mounting pg. 3</i>	U - Universal (120 thru 277V) 1 - 120V 2 - 277V 3 - 347V <i>Voltage pg. 3</i>	FSD - Factory Select Driver (1%, 0-10v) PL2 - Advance Xitanium (1%, 0-10v) OL4 - Osram 347v (1%, 0-10v) EE1 - eldoLED ECOdrive (1%, 0-10v) ES1 - eldoLED SOLOdrive (0%, 0-10v) LH1 - Lutron Hi-lume (1%, EcoSystem) PS1 - Advance Xitanium (50%/100%) OL2 - Osram (1%, 0-10v) <i>Driver pg. 3</i>

_____	_____	_____	_____	_____
CIRCUITING	BATTERY & EMERGENCY ⁵	FINISH	FIXTURE OPTIONS ⁶	CONTROLS
1 - Single Circuit M - Multi Circuit E - Emergency (entire fixture) N - Night Light (entire fixture) <i>Circuiting pg. 4</i>	0 - None FSG - Factory Select ALCR GI - Iota ETS DR GB - Bodine GTD P - Bodine 10w Integral IC - Iota 10w Integral (CES listed) E - Emergency Section N - Night Light Section L - Life Safety Section <i>Battery and Emergency pg. 4</i>	W - White S - Metallic Silver BL - Textured Black BR - Bronze GR - Graphite CC - Custom Color <i>Finish pg. 4</i> specify Finish	GLR - Internal Fast Blow Fuse EPF - End Power Feed DSP - Customer Supplied Battery/Driver/Sensor N - Natatorium <i>(corrosion resistant hardware) Fixture Options pg. 5</i>	<i>Pinnacle is able to accommodate different control solutions from different manufacturers. Consult Factory for more information.</i>

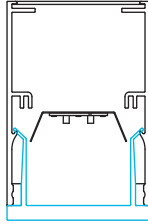
¹When specifying OUTPUT the first _ is for specifying either 8 - 80CRI or 9 - 90CRI. The ending _ _ are for specifying output, example HO - High Output. See output charts for more information. ²Individual fixtures come in nominal 2', 3', 4', 5', 6', 7', & 8' lengths, see pg. 2 for actual lengths. ³Specify position of fixture. Use IND for an individual fixture, use BOR, MOR, or EOR for building connected rows. ⁴Specify pendant length of either 12", 18" or 24". Pendant options not available with Natatorium. ⁵Enter quantity for Battery and Emergency, Example 2P. ⁶Natatorium not available with pendant options.

Specifications and dimensions subject to change without notice. Specification sheets that appear on pinnacle-ltg.com are the most recent version and supersede all other previously printed or electronic versions.



Direct Shielding

WET
Satine Wet Lens



Indirect Shielding

N
None

Output

- Specify either 80 or 90 CRI
- Longer lead-time may apply for 90 CRI. Consult factory
- 80 CRI = R9≥19 and 90 CRI = R9≥61

Custom Output- Lumens OR Wattage

CL _____	Specify CRI, CCT and desired lumens (i.e. CL835500)	Specify lumens between standard offering listed below. Lumens are specified per color temp
CW _____	Specify CRI, CCT and desired wattage (i.e. CW9407)	Specify watts between standard offering listed below

80 CRI

	Color	Output	Watts per foot	Shielding WET Satine Wet Lumens/ft	LPW
830	3000K	Standard	4.7	436	92.8
830HO	3000K	High	8.7	788	91.1
835	3500K	Standard	4.7	445	94.7
835HO	3500K	High	8.7	804	92.9
840	4000K	Standard	4.7	457	97.2
840HO	4000K	High	8.7	827	95.6
850	5000K	Standard	4.7	456	97.0
850HO	5000K	High	8.7	825	95.4

90 CRI

927	2700K	Standard	4.7	344	73.2
927HO	2700K	High	8.7	623	72.0
930	3000K	Standard	4.7	370	78.7
930HO	3000K	High	8.7	668	77.2
935	3500K	Standard	4.7	391	83.2
935HO	3500K	High	8.7	706	81.6
940	4000K	Standard	4.7	391	83.2
940HO	4000K	High	8.7	706	81.6

Length

2	3	4	5	6	7	8
Individual Fixture	Individual Fixture	Individual Fixture	Individual Fixture	Individual Fixture	Individual Fixture	Individual Fixture
27-1/8" (689mm)						
	39" (991mm)					
		50-3/4" (1289mm)				
			62-5/8" (1591mm)			
				74-5/8" (1895mm)		
					86-1/2" (2197mm)	
						98-3/8" (2499mm)

Specifications and dimensions subject to change without notice. Specification sheets that appear on pinnacle-ltg.com are the most recent version and supersede all other previously printed or electronic versions.

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EX3_WET_LED_SPEC_OCT2022



Position

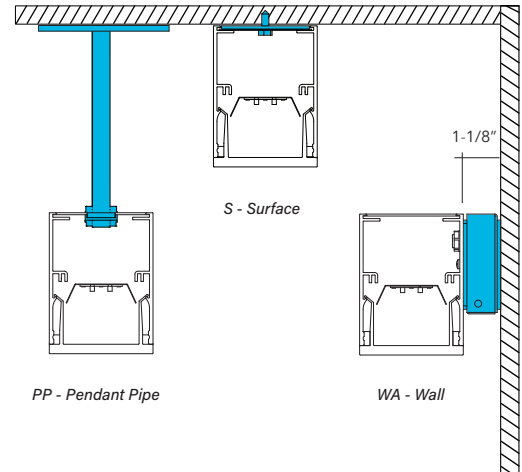
- When making rows with EDGE Wet, the rows must be ordered as individual units with a position specified
- Positions can either be "BOR" - Beginning of Row, "MOR" - Middle of Row, or "EOR" - End of Row
- The connection between fixtures is less than 1/8"
- For single, non-connected units, specify as "IND" for individual

IND	BOR	MOR	EOR
Individual Fixture	Beginning of Row	Middle of Row	End of Row

Mounting

- 1/2" diameter rigid stem pendant and wall mount available
- Specify overall pendant length of 12", 18" or 24"
- Specify pendant length in ordering code (PP12JB)
- Utilize Surface Mount for in-wall application. Building surface waterproofing by others
- End trims and power cord attached at factory
- Canopies and pendants match fixture finish, see Finish section for additional details
- Approved for wet location unless otherwise noted
- Refer to installation instructions during installation at the jobsite
- Fixtures may only be installed with the direct lens facing down. For an in-wall application with the lens facing outward, please see the EDGE Wet Recessed Spec Sheet

PP_JB	Pendant Pipe to J-Box
PP_ST	Pendant Pipe to Structure
WA	Wall Mount
S	Surface



Voltage

- Some EDGE Wet configurations will not accommodate all voltage options; consult with factory

U	Universal
1	120 volt
2	277 volt
3	347 volt

Driver

- Standard Driver Option = FSD
- Driver Lifetime: 50,000 hours at 25°C ambient operating conditions
- For more driver options see Pinnacle Resource Guide
- Some EDGE Wet configurations will not accommodate all driver options; consult with factory

0-10V Drivers	
FSD	Factory Select Driver 1%, 0-10v
PL2	Signify Advance Xitanium 1%, 0-10v
PL4	Advance Xitanium 347v 1%, 0-10v, requires 347v
OL2	Osram Optotronic, 1%, 0-10v
OL4	Osram Optotronic 347v, 1% 0-10v, requires 347v option
EE1	eldoLED ECOdrive 1%, 0-10v Logarithmic
EE2	eldoLED ECOdrive 1%, 0-10v Linear
ES1	eldoLED SOLOdrive 0-10v, 0% Logarithmic
ES2	eldoLED SOLOdrive 0-10v, 0% Linear
DALI Drivers	
EE3	eldoLED SOLOdrive .1%, DALI (logarithmic)
EE4	eldoLED SOLOdrive .1%, DALI (linear)
OD1	Osram Optotronic 1%, DEXAL
OD2	Osram Optotronic 1%, DALI 2 Channel
Lutron Drivers	
LH1	Lutron Hi-lume Soft-on, Fade-to-black 1%, EcoSystem, LDE1
LH4	Lutron Hi-Lume 1%, 2-wire, Lutron-LTEA2W, 120v only
Alternate Drivers	
PS1	Signify Advance Xitanium Step Dimming 50%/100%
EH1	ELV 120v only, 0-10v universal
OD1	Osram Optotronic 1%, DEXAL



How to specify Circuiting, Battery and Emergency

- 1**
- Select fixture circuiting from options below
 - Some EDGE Wet configurations will not accommodate all circuiting options, consult with factory

Circuiting

1	Single Circuit
M	Multi Circuit
E	Emergency Circuit only
N	Night Light Circuit only

- 2** + **3**
- Battery and emergency section options are available in addition to fixture circuit
 - Select battery and emergency section options below; factory shop drawing required
 - Some EDGE Wet configurations will not accommodate all circuiting options, consult with factory

Battery and/or Emergency If Required

- 0** No battery or specific emergency section required

Battery

- Select battery section type if required, indicate total QTY. *Example 2P*
- 90 minute battery runtime; test button is integral to fixture
- No battery option available for 2' lengths
- Entire direct fixture housing is on battery for lengths up to 5'
- Half of direct fixture is on battery for 6', 7' or 8' housing lengths
- For more battery options available, see Pinnacle Resource Guide

0	No Battery
_ILL	Iota 10w Integral Lithium, Self Testing
_IRH	Iota 20w Remote
_PLL	Bodine 10w Integral Lithium, Self Testing
_PRH	Bodine 20w Remote

For Approximate Battery Lumen Output

- Multiply battery wattage X fixture LPW shown on Lumen Table
- 92.3 (LPW) x 10 (watts) = 923 battery lumen output

Emergency

- Select emergency section type if required, indicate total QTY. *Example 1E*
- Combine battery and emergency section ordering codes if both options are selected

_FSG	Factory Select ALCR, Automatic Load Control Relay
_GI	Iota ETS DR, Emergency Lighting Control Device
_GB	Bodine GTD, Emergency Lighting Control Device
_E	Emergency circuit section
_N	Night Light circuit section
_L	Life Safety circuit section NO THROUGH WIRE

Combination Section Ordering Examples

- Single circuit, (1) 10w battery, (1) emergency section Ordering Code: 1-1P1E
- Multi circuit, (2) 10w battery, (2) emergency sections Ordering Code: M-2P2E
- Single circuit, (1) night light section Ordering Code: 1-1N

Battery OR Emergency Ordering Examples

- Single circuit, 10w Integral Battery Ordering Code: 1-1P
- Emergency only, 10w Integral Battery Ordering Code: E-1P
- Single circuit, GTD required Ordering Code: 1-1G

Finish

- Standard powder-coat textured white, metallic silver, textured black, graphite or bronze painted finish; consult factory for chip of standard paint finishes
- Selecting a fixture finish other than white may impact lumen output; consult factory for more information

W	White (<i>white pendant & canopy</i>)
S	Metallic Silver (<i>silver pendant & canopy</i>)
BL	Textured Black (<i>black pendant & canopy</i>)
BR	Bronze (<i>bronze pendant & canopy</i>)
GR	Graphite (<i>graphite pendant & canopy</i>)
CC	Custom Color (<i>color match pendant & canopy</i>)



Fixture Options

- Additional options to enhance the fixture and finish of the product

GLR	Internal Fast Blow Fuse
DSP	Customer Supplied Battery/Driver/Sensor
EPF	End Power Feed
N	Natatorium (corrosion resistant hardware)

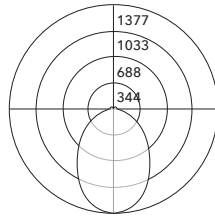
Controls

- Pinnacle is able to accommodate different control solutions from different manufacturers. Consult Factory for more information.

Photometrics

Satine Wet Lens

Test #	Scaled from ITL86500
Catalog #	EX3-WET-N-840HO-4
Lumens	3307
Watts	34.6
Efficacy	95 LPW



Candela Distribution

Vert Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1377	1377	1377	1377	1377
5	1367	1367	1367	1366	1363
10	1341	1337	1333	1328	1325
15	1298	1285	1279	1270	1260
20	1236	1215	1206	1190	1177
25	1156	1131	1118	1095	1080
30	1062	1039	1019	989	974
35	961	939	915	882	870
40	855	836	809	775	763
45	747	730	705	672	657
50	635	626	603	573	562
55	531	526	505	480	473
60	432	430	415	394	388
65	337	339	329	316	312
70	252	255	252	247	243
75	171	178	183	183	182
80	102	112	123	127	129
85	46	60	75	84	87
90	3	19	37	49	53

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8673	7738	7081
55	7587	6670	6078
65	6512	5659	5157
75	5329	4711	4405
85	4082	4074	4177

For all available IES files, please visit our website at pinnacle-ltg.com. Photometry testing in accordance to IESNA-LM-79-08 at an NVLAP accredited testing laboratory. Testing conducted at 25°C ambient conditions

Applications & Certificates

Construction 6063-T5 extruded aluminum housing with welded ends. Internal lens gaskets seal housing to prevent moisture and debris from entering the fixture. Pressure equalizing vent allows fixture to "breathe" preventing condensation.

Shielding Solid acrylic diffuse snap-in lens with matte finish with an EPDM gasketed for complete wet seal.

Mounting Fixtures can be installed individually or connected for a continuous run appearance. IND fixtures are individual fixtures and have no joining holes. IND fixtures cannot be joined. BOR fixtures are used for beginning of row and have joining holes on non-power end of fixture. MOR fixtures are used for middle of row and have joining holes on both ends of fixture. EOR fixtures are used for the end of a row and have no joining holes on power end of fixture. Consult factory for detailed installation instructions.

LED 25°C test environment. Lumen output/wattage has a margin of +/- 5%; 2' or 3' lengths may have a greater wattage deviation. All luminaire configurations tested in accordance with IES LM-79. Diodes tested in accordance with IES LM-80. Lifetime calculated using IES TM-21. Minimum lifetime greater than 60,000 hours. Lifetime Projection L70 = 136,200 hours and L90 = 41,100 hours. MacAdam 3-Step Ellipses. Not all products are Lighting Facts listed. For all available IES files, please visit our website at pinnacle-ltg.com.

CRI, CCT & Lumen Output Two lumen packages available. Standard and High (HO). Custom outputs are available. Specify custom lumens or watts between standard offering listed on CRI, CCT & Output page. 80 CRI is available for 3000K, 3500K, and 4000K. 90 CRI is available for 2700K, 3000K, 3500K, and 4000K. 80 CRI = R9≥19 and 90 CRI = R9≥61.

Voltage Universal (U), 120 volt (1), 277 volt (2) and 347 volt (3) options available. Must specify OL4 in Driver section when 347 volt (3) is selected. Some EDGE Wet configurations will not accommodate all voltage options; consult with factory.

Driver Standard Driver Option is Advance Xitanium 0-10V, 1% = PL2. Electronic driver, Power factor is >0.9 with a THD <20%. Driver Lifetime: 50,000 hours at 25°C ambient operating conditions. Ambient operating range: -20°F/-30°C to 122°F/55°C. For more driver options, see Pinnacle Resource Guide. Some EDGE Wet configurations will not accommodate all driver options.

Circuiting Select from single circuit (1), Multi circuit - For multiple circuiting and zone control, requires factory shop drawing (M), Emergency circuit (E) or Night Light circuit (N). For emergency circuiting situations that require no through wire or circuit separation, Life Safety Circuit should be selected. This will provide a separate power feed and only the Life Safety Circuit in that section. Some EDGE Wet configurations will not accommodate all circuiting options; consult with factory.

Battery & Emergency Select battery or emergency options if required. If battery or emergency option is not required, enter 0. Battery duration is 90 minutes as standard. Test button is integral to fixture. For more Battery options, see Pinnacle Resource Guide.

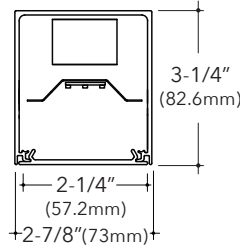
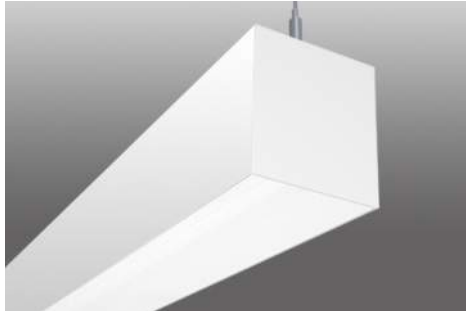
Finish Standard powder-coat textured white, metallic silver, textured black, graphite or bronze painted finish; consult factory for chip of standard paint finishes or for additional custom color and finish options.

Controls Consult Factory

Labels ETL listed conforming to UL 1598 in US and CSA 250 in Canada. IP65 and IK10 rated.

Buy American Act Compliant

Warranty EDGE Wet LED offered with a 5-year limited warranty. Covers LED, driver and fixture.



EDGE EX33

3"x 3" Suspended Direct Linear

Key Features

- 6063-T5 Extruded aluminum housing
- Highly reflective die-formed white painted reflector
- Wiring access available through bottom of housing
- 5-year limited warranty covers LED, driver and fixture
- UL and cUL listed
- Approved for dry/damp location unless otherwise noted
- Maximum weight is 15 lbs. for a standard 4' fixture
- Buy American Act compliant



Example Part #: EX33-A-N-830HO-26'-AC48G1-U-OL2-1-0-W

EX33	-A	-N										
	DIRECT SHIELDING	INDIRECT SHIELDING	CRI, CCT & OUTPUT	LENGTH OR PATTERN	MOUNTING	VOLTAGE	DRIVER	CIRCUITING	BATTERY & EMERGENCY	FINISH	FIXTURE OPTIONS	CONTROLS

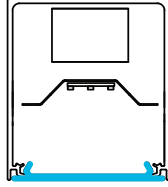
A	N		
DIRECT SHIELDING	INDIRECT SHIELDING	CRI, CCT & OUTPUT	LENGTH OR PATTERN ¹
A - Satine Lens <i>Shielding pg. 2</i>	N - None <i>Shielding pg. 2</i>	27 - 2700K 30 - 3000K 35 - 3500K 40 - 4000K CL - Custom Lumens CW - Custom Watts <i>Lumen Output pg. 2</i> <i>Example: 830HO is 8 = 80 CRI; 30 = 3000K; HO = High Output; Blank = Standard Output</i>	4' - Individual Fixture - Continuous Row S - Square R_X - Rectangle L_X - L Shape U_X - U-Shape M - Mod Layout <i>Length and Pattern pg. 2-3</i>
MOUNTING ²	VOLTAGE	DRIVER	CIRCUITING
AC_G - AC to Grid AC_JB - AC to J Box AC_ST - AC to Structure AC5_G - 5" Non-Power Canopy AC5_JB - 5" Non-Power Canopy SQ_G - 5" Square Canopy SQ_JB - 5" Square Canopy PP_JB - Pendant Pipe to J Box PP_ST - Pendant Pipe to Structure WA - Wall Mount S - Surface <i>Mounting pg. 3</i>	U - Universal (120 thru 277V) 1 - 120V 2 - 277V 3 - 347V <i>Voltage pg. 4</i>	FSD - Factory Select Driver (1%, 0-10v) PL2 - Advance Xitanium (1%, 0-10v) OL4 - Osram 347v (1%, 0-10v) EE1 - eldoLED ECoDrive (1%, 0-10v) ES1 - eldoLED SOLOdrive (0%, 0-10v) LH1 - Lutron Hi-lume (1%, EcoSystem) PS1 - Advance Xitanium (50%/100%) OL2 - Osram (1%, 0-10v) <i>Driver pg. 4</i>	1 - Single Circuit M - Multi Circuit E - Emergency (entire fixture) N - Night Light (entire fixture) <i>Circuiting pg. 5</i>
BATTERY & EMERGENCY ³	FINISH	CONTROLS	
0 - None FSG - Factory Select ALCR GI - Iota ETS DR GB - Bodine GTD P - Bodine 10W Integral (low profile) IC - Iota 10W Integral (low profile) E - Emergency Section N - Night Light Section L - Life Safety Section <i>Battery and Emergency pg. 5</i>	W - White S - Metallic Silver BL - Textured Black BR - Bronze GR - Graphite CC - Custom Color <i>Finish pg. 5</i> Specify Finish	Pinnacle is able to accommodate different control solutions from different manufacturers. Consult Factory for more information.	

¹ Individual fixtures come in 2', 3', 4', 5', 6', 8' & 12' lengths. Continuous row come in 1' increments. For Mod layouts specify pattern shape and overall dimensions. Example: L6x4: L pattern that is 6'x4'. ² Example AC48G9 = 48" AC to G9 grid. Specify AC length, 48", 120, 240". Specify grid: G1=15/16", G9=9/16", GS=Screw Slot. Example AC48G1. Pendant Pipe, specify length 12", 18" 24". Example PP18JB = 18" Pendant Pipe to J Box. ³Enter quantity for Battery and Emergency, Example 2PL.



Direct Shielding

A
Satine Lens



Indirect Shielding

N
None

Output

- Specify either 80 or 90 CRI
- Longer lead-time may apply for 90 CRI. Consult factory
- 80 CRI = R9≥19 and 90 CRI = R9≥61

Custom Output- Lumens OR Wattage

CL _____	Specify CRI, CCT and desired lumens (i.e. CL835500)	Specify lumens between standard offering listed below. Lumens are specified per color temp
CW _____	Specify CRI, CCT and desired wattage (i.e. CW9407)	Specify watts between standard offering listed below

80 CRI

	Color	Output	Watts per foot	Shielding A Satine	
				Lumens/ft	LPW
830	3000K	Standard	4.6	335	72.8
830HO	3000K	High	8.6	612	71.0
835	3500K	Standard	4.6	345	75.0
835HO	3500K	High	8.6	630	73.0
840	4000K	Standard	4.6	352	76.5
840HO	4000K	High	8.6	642	74.4

90 CRI

927	2700K	Standard	4.6	265	57.6
927HO	2700K	High	8.6	484	56.1
930	3000K	Standard	4.6	309	67.2
930HO	3000K	High	8.6	564	65.4
935	3500K	Standard	4.6	311	67.6
935HO	3500K	High	8.6	567	65.7
940	4000K	Standard	4.6	314	68.3
940HO	4000K	High	8.6	573	66.4

Length

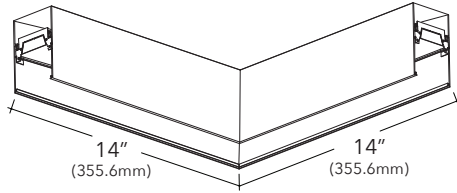
- All individual units cannot be joined, SJT cord and end plates are factory installed and cannot be removed
- For Continuous Runs, add 1/16" (1.6mm) for each end plate or 1/8" (3.2mm) to the overall length of the row
- For patterns, refer to Pattern section on next page

2	3	4	5	6	8	12	—
Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Cont. Run Specify nominal overall row length to the 1'
24-1/8" (612.7mm)							
36-1/8" (917.6mm)							
48-1/8" (1222.4mm)							
60-1/8" (1527.2mm)							
72-1/8" (1831.9mm)							
96-1/8" (2441.6mm)							
144-1/8" (3660.8mm)							

Specify to the 1' >>>

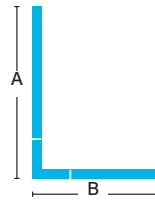
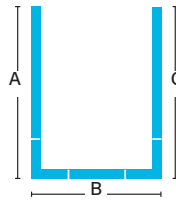
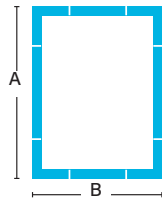
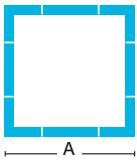


Pattern



- Specify pattern shape and overall dimensions (includes corner dimensions)
- Refer to dimensions table below for available standard lengths
- All connectors are direct only
- 90 degree horizontal corners are 14"x14" (overall, outside dimension)
- Not all drivers available with all patterns; consult factory
- Angles and shapes not shown require Mod Pattern; consult factory

S	R_x	U_x_x	L_x	M
Square Provide A dimension Example: S4' Nominal Length- 4'x4' Minimum Length- 4'4"x4'4"	Rectangle Provide AxB dimensions Example: R4'x4' Nominal Length- 4'x4' Minimum Length- 4'4"x4'4"	U-Shape Provide AxBxC dimensions Example: U3'x4'x3' Nominal Length- 3'x4'x3' Minimum Length- 3'2"x4'4"x3'2"	L-Shape Provide AxB dimensions Example: L3'x3' Nominal Length- 3'x3' Minimum Length- 3'2"x3'2"	ModLayout For patterns or lengths not shown or standard

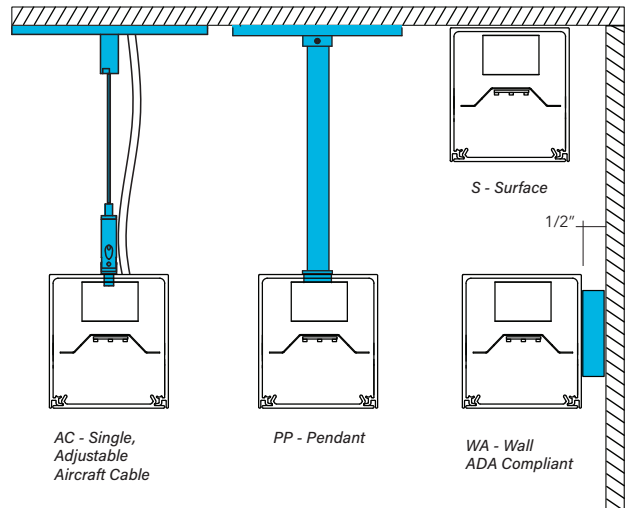


Mounting

- Specify cable length in ordering code (AC48G1)
- Standard 48" adjustable cable. Specify up to 350"
- End plates and standard white power cord attached at factory
- Aircraft Cable (AC) mounts on 4'-0" (1219.2mm) and 8'-0" (2438.4mm) centers
- Aircraft Cable supplied with 5" (127mm) power and 2" (50.8mm) non-power canopies
- 3/8" diameter pendant pipe lengths are 12", 18", and 24"

- Canopies and pendants match fixture finish, power cords are white, grey, or black depending on fixture finish. See Finish section for additional details
- Approved for dry/damp location unless otherwise noted
- Refer to installation instructions during installation at the jobsite
- Maximum fixture weight is 15 lbs for a standard 4' fixture

AC_G1	Aircraft Cable 1" (15/16") T-Bar
AC_G9	Aircraft Cable 9/16" T-Bar
AC_GS	Aircraft Cable Screw Slot T-Bar
AC_JB	Aircraft Cable Junction Box
AC_ST	Aircraft Cable Structure
AC5_G	Aircraft Cable 5" (127mm) Non-Power Canopy
AC5_JB	Aircraft Cable 5" (127mm) Non-Power Canopy
SQ_G	Aircraft Cable 5" (127mm) Square Canopy
SQ_JB	Aircraft Cable 5" (127mm) Square Canopy
PP_JB	Pendant Pipe Junction Box
PP_ST	Pendant Pipe Structure
WA	Wall Mount
S	Surface





Voltage

- Some EX33 configurations will not accommodate all voltage options; consult with factory

U	Universal
1	120 volt
2	277 volt
3	347 volt

Driver

- Standard Driver Option = FSD
- Driver Lifetime: 50,000 hours at 25°C ambient operating conditions
- For more driver options, see Pinnacle Resource Guide
- Some EX33 configurations will not accommodate all driver options; consult with factory

0-10V Drivers	
FSD	Factory Select Driver 1%, 0-10v
PL2	Signify Advance Xitanium 1%, 0-10v
PL4	Advance Xitanium 347v 1%, 0-10v, requires 347v
OL2	Osram Optotronic, 1%, 0-10v
OL4	Osram Optotronic 347v, 1% 0-10v, requires 347v option
EE1	eldoLED ECOdrive 1%, 0-10v Logarithmic
EE2	eldoLED ECOdrive 1%, 0-10v Linear
ES1	eldoLED SOLOdrive 0-10v, 0% Logarithmic
ES2	eldoLED SOLOdrive 0-10v, 0% Linear
DALI Drivers	
EE3	eldoLED SOLOdrive .1%, DALI (logarithmic)
EE4	eldoLED SOLOdrive .1%, DALI (linear)
OD1	Osram Optotronic 1%, DEXAL
OD2	Osram Optotronic 1%, DALI 2 Channel
Lutron Drivers	
LH1	Lutron Hi-lume Soft-on, Fade-to-black 1%, EcoSystem, LDE1
LH4	Lutron Hi-Lume 1%, 2-wire, Lutron-LTEA2W, 120v only
Alternate Drivers	
PS1	Signify Advance Xitanium Step Dimming 50%/100%
EH1	ELV 120v only, 0-10v universal

How to specify Circuiting, Battery and Emergency

- Select fixture circuiting from options below
 - Some EX33 configurations will not accommodate all circuiting options, consult with factory

Circuiting

1	Single Circuit
M	Multi Circuit
E	Emergency Circuit only
N	Night Light Circuit only

- Battery and emergency section options are available in addition to fixture circuit
 - Select battery and emergency section options below; factory shop drawing required
 - Some EX33 configurations will not accommodate all circuiting options, consult with factory

Battery and/or Emergency If Required

0	No battery or specific emergency section required
---	---



Battery

- Select battery section type if required, indicate total QTY. *Example 2PL*
- 90 minute battery runtime; test button is remote to fixture and requires an additional drop
- No battery option available for 2' lengths
- Entire direct fixture housing is on battery for lengths up to 5'
- Half of fixture is on battery for 6' or 8'; 1/3 of fixture is on battery 12' housing lengths
- For more battery options available, see Pinnacle Resource Guide

0	No Battery
_ILL	Iota 10w Integral Lithium, Self Testing
_IRH	Iota 20w Remote
_PLL	Bodine 10w Integral Lithium, Self Testing
_PRH	Bodine 20w Remote

For Approximate Battery Lumen Output

- Multiply battery wattage X fixture LPW shown on Lumen Table
- 92.3 (LPW) x 10 (watts) = 923 battery lumen output

Emergency

- Select emergency section type if required, indicate total QTY. *Example 1E*
- Combine battery and emergency section ordering codes if both options are selected

_FSG	Factory Select ALCR, Automatic Load Control Relay
_GI	Iota ETS DR, Emergency Lighting Control Device
_GB	Bodine GTD, Emergency Lighting Control Device
_E	Emergency circuit section
_N	Night Light circuit section
_L	Life Safety circuit section NO THROUGH WIRE

Combination Section Ordering Examples

- Single circuit, (1) 10w battery, (1) emergency section Ordering Code: 1-1PL1E
- Multi circuit, (2) 10w battery, (2) emergency sections Ordering Code: M-2PL2E
- Single circuit, (1) night light section Ordering Code: 1-1N

Battery OR Emergency Ordering Examples

- Single circuit, 10w Integral Battery Ordering Code: 1-1PL
- Emergency only, 10w Integral Battery Ordering Code: E-1PL
- Single circuit, GTD required Ordering Code: 1-1G

Finish

- Standard powder-coat textured white, metallic silver, textured black, graphite or bronze painted finish; consult factory for chip of standard paint finishes
- Selecting a fixture finish other than white may impact lumen output; consult factory for more information

W	White (<i>white cord/white canopy</i>)
S	Metallic Silver (<i>grey cord/silver canopy</i>)
BL	Textured Black (<i>black cord/black canopy</i>)
BR	Bronze (<i>white cord/bronze canopy</i>)
GR	Graphite (<i>white cord/graphite canopy</i>)
CC	Custom Color (<i>white cord/color match canopy</i>)

Controls

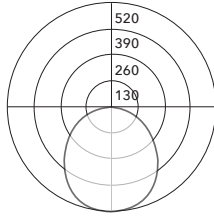
- Pinnacle is able to accommodate different control solutions from different manufacturers. Consult Factory for more information.



Photometrics

Satine Lens

Test #	ITL86382
Catalog #	EX33-A-N-840-4
Lumens	1406 lm
Watts	18.4 W
Efficacy	76 LPW



Candela Distribution

Vert Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	520	520	520	520	520
5	517	516	515	515	515
10	510	505	505	504	504
15	496	492	491	490	488
20	479	471	472	470	468
25	455	446	447	444	441
30	428	419	419	415	413
35	397	389	388	384	382
40	363	357	355	351	348
45	327	321	320	316	315
50	290	285	284	279	279
55	252	249	247	243	243
60	214	210	209	206	206
65	175	172	170	168	168
70	138	135	132	131	131
75	100	98	97	96	96
80	64	62	61	61	61
85	32	31	30	29	29
90	0	0	0	0	0

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5080	4970	4891
55	4819	4722	4644
65	4555	4422	4369
75	4238	4108	4065
85	3981	3724	3595

For all available IES files, please visit our website at pinnacle-ltg.com. Photometry testing in accordance to IESNA-LM-79-08 at an NVLAP accredited testing laboratory. Testing conducted at 25°C ambient conditions

Applications & Certificates

Construction: 6063-T5 Extruded aluminum housing. Highly reflective die-formed white painted reflector.

Shielding: Diffuse snap-in acrylic lens, removable for maintenance.

Mounting: Aircraft cable, Pendant Pipe and Wall mount available. The aircraft cable mounts on 4'-0" (1219.2mm) and 8'-0" (2438.4mm) centers. Aircraft Cable supplied with 5" (127mm) power and 2" (50.8mm) non-power canopies. Pendant Pipe lengths are 12", 18", and 24". Refer to installation instructions for appropriate ceiling detail. Canopies are painted white unless otherwise specified. Maximum fixture weight is 15 lbs. per 4' fixture.

LED: 25°C test environment. Lumen output/wattage has a margin of +/- 5%; 2' or 3' lengths may have a greater wattage deviation. All luminaire configurations tested in accordance with IES LM-79. Diodes tested in accordance with IES LM-80. Minimum lifetime greater than 60,000 hours. L70 = 136,200 hours and L90 = 41,100 hours. MacAdam 3-Step Ellipses. Not all products are Lighting Facts listed. For all available IES files, please visit our website at pinnacle-ltg.com.

CRI, CCT & Output: Two lumen packages available. Standard and High (HO). Custom outputs are available. Specify custom lumens or watts between standard offering listed on CRI, CCT & Output page. 80 CRI is available for 3000K, 3500K, and 4000K. 90 CRI is available for 2700K, 3000K, 3500K, and 4000K. 80 CRI = R9≥19 and 90 CRI = R9≥61.

Voltage: Universal (U), 120 volt (1), 277 volt (2) and 347 volt (3) options available. Must specify OL4 in Driver section when 347 volt (3) is selected. Some EX configurations will not accommodate all voltage options; consult with factory.

Driver: Standard Driver Option is Advance Xitanium 0-10V, 1% = PL2. Electronic driver, Power factor is >0.9 with a THD <20%. Driver Lifetime: 50,000 hours at 25°C ambient operating conditions. Ambient operating range: -20°F/-30°C to 114°F/46°C. For more driver options, see Pinnacle Resource Guide. Some EX configurations will not accommodate all driver options.

Circuiting: Select from single circuit (1), Multi circuit - For multiple circuiting and zone control, requires factory shop drawing (M), Emergency circuit (E), Night Light circuit (N) or Life Safety (L). For emergency circuiting situations that require no through wire or circuit separation, Life Safety Circuit should be selected. This will provide a separate power feed and only the Life Safety Circuit in that section. Some EX configurations will not accommodate all circuiting options; consult with factory.

Battery & Emergency: Select battery or emergency options if required. If battery or emergency option is not required, enter 0. Battery duration is 90 minutes as standard. Test button is remote to fixture. For more Battery options, see Pinnacle Resource Guide.

Finish: Standard powder-coat textured white, metallic silver, textured black, graphite or bronze painted finish; consult factory for chip of standard paint finishes. Pendants and canopies painted white unless specified differently in the options section of the part number. Contact factory for additional custom color and finish options.

Controls: Consult factory.

Labels: UL and cUL Listed. Standard and HO lumen packages are approved for dry/damp location unless otherwise noted.

Fixture Weight: Maximum fixture weight is 15 lbs. per 4' fixture.

Buy American Act Compliant

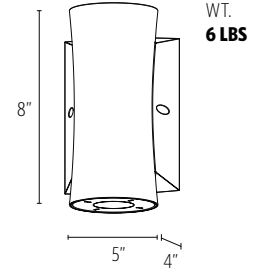
Warranty: EX LED offered with a 5-year limited warranty. Covers LED, driver and fixture.



Vega™

SCONCE / OUTDOOR

- EXCELLENT THERMAL MANAGEMENT IS ACHIEVED THROUGH A DIE-CAST ALUMINUM FIXTURE BODY
- INJECTION MOLDED DIFFUSER SEAMLESSLY THREADS INTO FIXTURE BODY; ACRYLIC IS UV STABLE, F1 RATED AND UL-94 HB FLAME RATED
- VARYING BEAM SPREAD OPTIONS ARE AVAILABLE: NARROW FLOOD [24 DEGREE] OR WIDE FLOOD [50 DEGREE]
- FIELD REPLACEMENT FOR LED ARRAY AND DRIVER
- IP66 PROTECTION RATING AND ETL LISTED FOR WET LOCATION (010A ONLY)
- 3 STEP COLOR BINNING





This product meets the material restrictions of Article 4 of the RoHS Directive (2011/65/EU), including Commission Delegated Directive 2015/863



CATALOG CODES

A	B	08	D	E	F	UNV	DM1	J
SERIES	HANGING SYSTEM	SIZE	REFLECTOR	FINISH	LIGHT SOURCE	VOLTAGE	CONTROL	OPTIONS

SPECIFY CATALOG CODE

A	B	C	D	E
SERIES	HANGING SYSTEM	SIZE	REFLECTOR	FINISH
 VA1 UP OR DOWN ILLUMINATION	S1SA INDOOR ADA COMPLIANT SCONCE 010A OUTDOOR ADA COMPLIANT SCONCE	08	NF NARROW FLOOD [24 DEGREE] WF WIDE FLOOD [50 DEGREE]	POWDER COAT FINISHES BKP BLACK BMP BRASS METALLIC BNP BRONZE BTP BLACK TEXTURED GRP GRAPHITE GLP GOLDTASTIC MWP MATTE WHITE SGP STEEL GRAY SMP SILVER METALLIC SWP SKY WHITE WTP WHITE TEXTURED
 VA2 UP AND DOWN ILLUMINATION			NOTE: CLEAR ACRYLIC DIFFUSER IS STANDARD	

F			G	H	I
LIGHT SOURCE			VOLTAGE	CONTROL	OPTIONS
VA1			UNV 120-277	DM1 0-10V DIMMING 1% NOTE: FIXTURE IS PROVIDED WITH 0-10V DIMMING 1%	ULD DAMP LABEL (S1SA ONLY) MOD MODIFIED LUMINAIRE (CONTACT LOCAL REP)
LED OUTPUT	COLOR TEMP (90+ CRI)	COLOR TEMP (90+ CRI)			
	LED1 27K	927K			
	LED2 30K	930K			
	LED3 35K	935K			
	40K	940K			
VA2					
LED1 27K	927K				
LED2 30K	930K				
	35K	935K			
	40K	940K			

LUMENS AND WATTAGE CHART		
	VA1	VA2
LUMENS DELIVERED	900	1800

SAMPLE CODE: VA1-S1SA-08-NF-WTP-LED1/30K-UNV-DM1

LUMENS AND WATTAGE CHART		VA1	VA2
LED1	LUMENS DELIVERED	900	1800
	SYSTEM WATTAGE	10	20
LED2	LUMENS DELIVERED	1350	2700
	SYSTEM WATTAGE	15	30
LED3	LUMENS DELIVERED	2000	-
	SYSTEM WATTAGE	25	-

MODS, NOTES, & COMMENTS

UP TO 90 LM/W

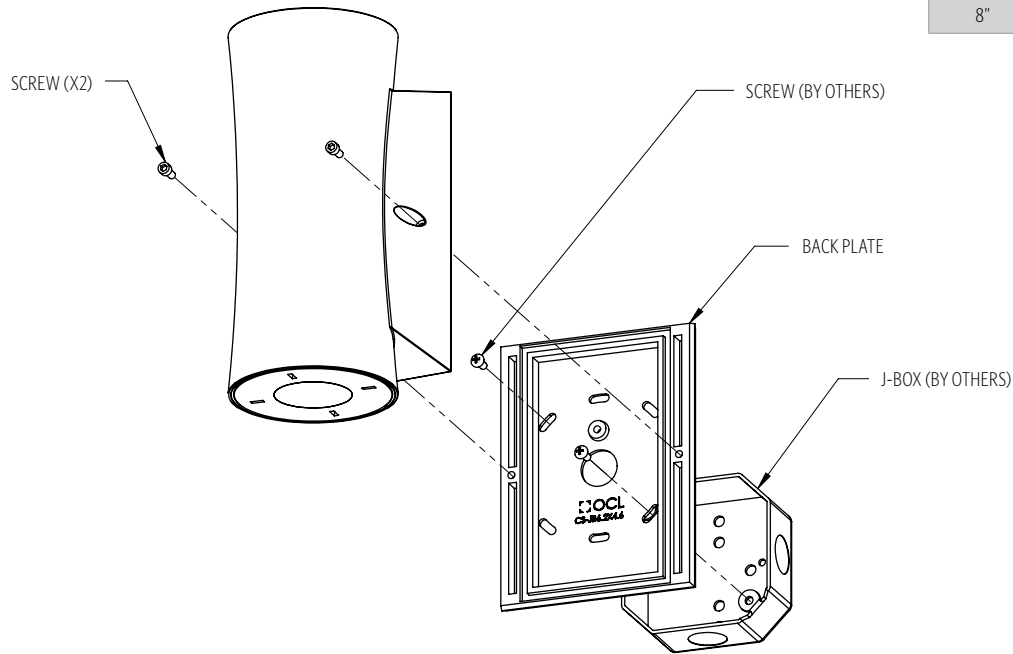
This chart was created for a 35K color temp. Multiply by 0.95 for 27k color temp, 0.97 for 30k color temp, and 1.03 for 40k color temp. Values shown for 80+ CRI. For 90+ CRI lumens use 0.85 multiplier.

HANGING SYSTEM

SISA INDOOR ADA COMPLIANT SCONCE

MOUNTING INFORMATION CHART

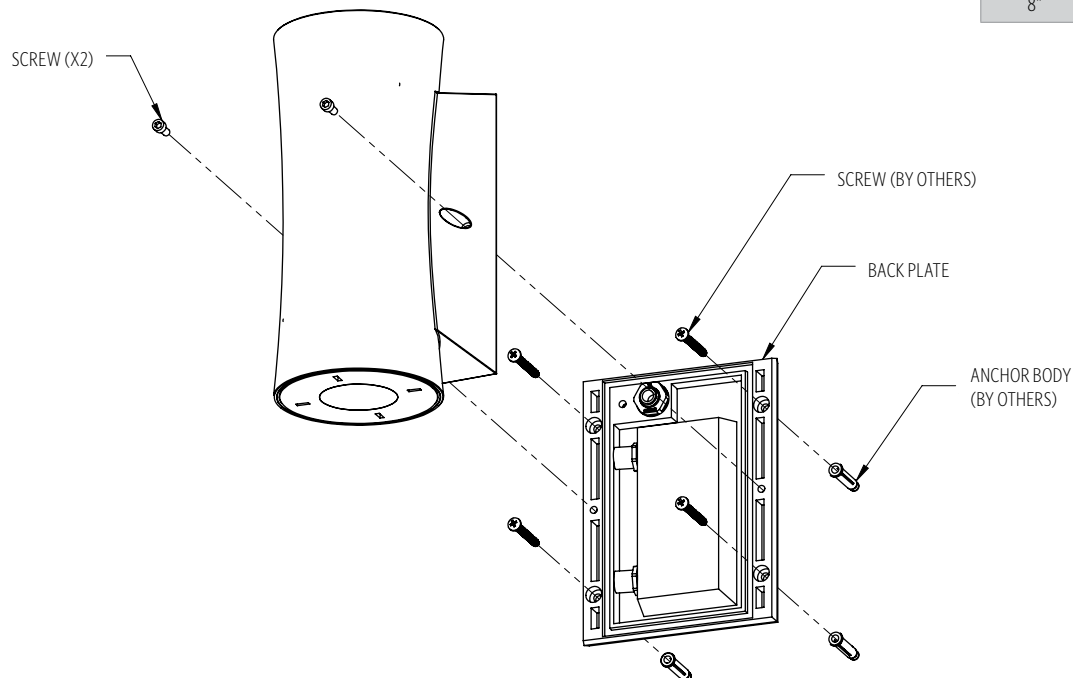
LUMINAIRE HEIGHT	LUMINAIRE WEIGHT	MOUNTING POINTS
8"	6 LBS	1



010A OUTDOOR ADA COMPLIANT SCONCE

MOUNTING INFORMATION CHART

LUMINAIRE HEIGHT	LUMINAIRE WEIGHT	MOUNTING POINTS
8"	6 LBS	1



FINISH

METALLIC POWDER COAT FINISHES:



SOLID POWDER COAT FINISHES:



TEXTURED POWDER COAT FINISHES:



RAL®, Pantone®, or custom finishes are also available.

These colors are for reference only. Please be aware that colors may vary per monitor. Contact your local rep for finish samples or with any questions.

LIGHT SOURCE

LUMENS AND WATTAGE CHART		VA1	VA2
LED1	LUMENS DELIVERED	900	1800
	SYSTEM WATTAGE	10	20
LED2	LUMENS DELIVERED	1350	2700
	SYSTEM WATTAGE	15	30
LED3	LUMENS DELIVERED	2000	-
	SYSTEM WATTAGE	25	-

This chart was created for a 35K color temp. Multiply by 0.95 for 27k color temp, 0.97 for 30k color temp, and 1.03 for 40k color temp. Values shown for 80+ CRI. For 90+ CRI lumens use 0.85 multiplier.

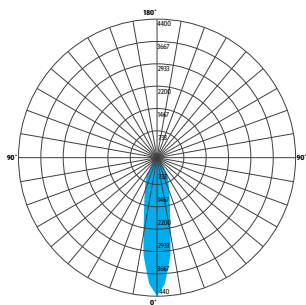
STANDARD COLOR TEMPERATURE OPTIONS	CRI (RA)	
2700K	80+	90+
3000K	80+	90+
3500K	80+	90+
4000K	80+	90+

PHOTOMETRY:

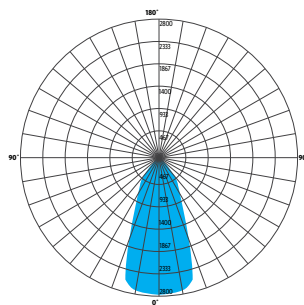
FIXTURE: VAX-0101A-08-NF-BTP
 COLOR TEMP #: 3500K
 EFFICACY: 80 LM/W
 TEST REPORT: TEST NO. 17814.0

For all available IES files, please visit our website at ocl.com.

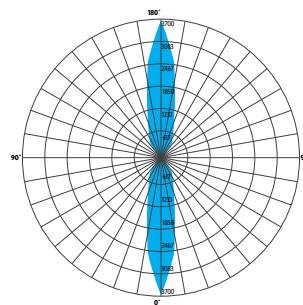
ZONE	VA1 NARROW FLOOD		VA1 WIDE FLOOD		VA2 NARROW FLOOD		VA2 WIDE FLOOD	
	LUMENS	% OF LUMINAIRE	LUMENS	% OF LUMINAIRE	LUMENS	% OF LUMINAIRE	LUMENS	% OF LUMINAIRE
0-30	1275	70.5%	1440	74%	1000	30%	1066	38%
0-60	1795	99.5%	1955	99.5%	1400	53%	1460	53%
0-90	1810	100%	1965	100%	1415	54%	1480	53%
90-180	0	0%	0-	0%	1220	46%	1300	47%
0-180	1810	100%	1965	100%	2630	100%	2780	100%



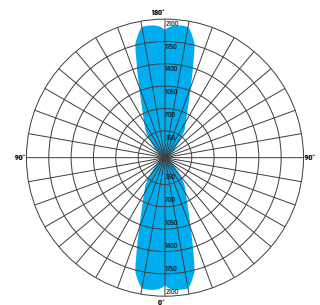
**VA1
NARROW FLOOD**



**VA1
WIDE FLOOD**



**VA2
NARROW FLOOD
UP & DOWN**



**VA2
WIDE FLOOD
UP & DOWN**

CONTROL

DM1 0-10V DIMMING DOWN TO 1%

- 0-10V DIMMING
- 1% MINIMUM DIMMING LEVEL
- ELECTRONIC DRIVER
- POWER FACTOR >0.9
- THD <20%
- MIN AMBIENT OPERATING TEMPERATURE = -31°F
- FIELD REPLACEABLE

OPTIONS

ULD DAMP LABEL LUMINAIRE

- MAY BE USED IN AN OUTDOOR AREA THAT IS PROTECTED FROM DIRECT CONTACT WITH WIND, RAIN, SNOW OR EXCESSIVE MOISTURE

MOD MODIFIED LUMINAIRE

- LUMINAIRE IS MODIFIED FROM STANDARD OPTIONS; CONTACT LOCAL REP FOR MORE INFORMATION

SPECIFICATIONS

CONSTRUCTION

- FIXTURE IS CAST AND MACHINED ALUMINUM
- HARDWARE IS ZINC PLATED OR STAINLESS STEEL

LENSING

- CLEAR ACRYLIC LENS STANDARD

ELECTRICAL

- DIMMING ELECTRONIC DRIVER(S), COMES STANDARD WITH 0-10V DOWN TO 10%
- 0-10V DOWN TO 0.1% AND LUTRON ECOSYSTEM (LDE1) 1% ALSO AVAILABLE AS MODIFICATION
- BRIDGELUX COB
- LUMINAIRE CONNECTS TO BUILDING SUPPLY (120V-277V 50/60HZ) UNLESS DRIVERS ARE REMOTE

LISTING

- ETL LISTED TO UL 1598 FOR DRY LOCATIONS; DAMP LOCATION LISTED IS OPTION

WARRANTY

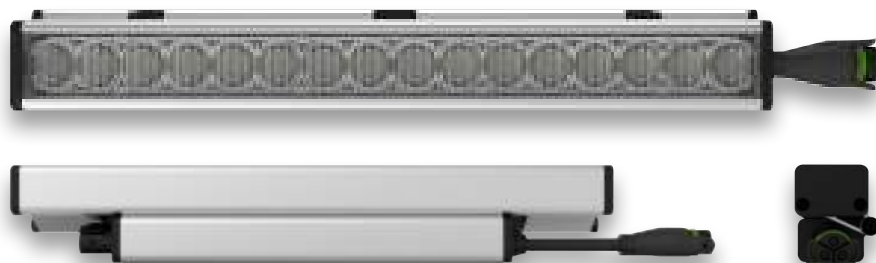
- 5 YEAR; ALL ELECTRICAL COMPONENTS RETAIN THE MANUFACTURER'S WARRANTY

DATE	PROJECT	FIRM	TYPE
------	---------	------	------

THE L50 INCLUDES PATENTED OPTICAL DESIGN THAT DELIVERS THE WIDEST RANGE OF BEAM ANGLE OPTIONS FOR PRECISE COVE, WALL GRAZING, WALL WASHING OR LINE OF LIGHT APPLICATIONS. EXCLUSIVE FLIP TO FLAT™ HINGE DESIGN PROVIDES FLEXIBILITY WHEN MANAGING SMALL COVE DETAILS. TROV OFFERS SMOOTH, FLICKER FREE DIMMING DOWN TO 0%.

FEATURES :

- DIM TO 0%, ELV REVERSE PHASE
- 24 BEAM ANGLES
- MULTI-VOLT
- FLIP TO FLAT™
- 6 CCT OPTIONS
- 80+ AND 90+ CRI OPTIONS
- IP54 INTERIOR AND IP66 EXTERIOR OPTIONS



MODEL/ SIZE	INTERIOR/ EXTERIOR	LENGTH	POWER	CCT	CRI	VOLTAGE	OPTICS
L50	I E	12" 48"	02 04 06 08 10 12	WHITE CCT 22 27 30 35 40 50	MONO COLOR GR**** BL AM RD***	80 90* Blank For Color	MULT (120-277V)
						GRAZING 9 x 9 9 x 17 9 x 29 9 x 59 15 x 15 15 x 23 15 x 35 15 x 65 COVE 120** Asym LINE OF LIGHT LOL	
						25 x 25 25 x 33 25 x 45 25 x 75 39 x 9 55 x 25 40 x 40 40 x 48 40 x 60 40 x 90 45 x 15 70 x 40 70 x 70	

EXAMPLE: L50-I-48-10-27-90-MULT-15x65 *90 CRI not available in 2200K or 5000K **120 is only available with Exterior option. See L35 spec sheet for interior cove options. ***Red is not available in 12W or 10W. ****Green is not available in 12W.

PERFORMANCE	WATTS	OPTIC	LUMEN OUTPUT	EFFICACY
	2W	40°x 60°	141 lm/LF (461 lm/m)	70 lm/W
	4W	40°x 60°	346 lm/LF (1135 lm/m)	87 lm/W
	6W	40°x 60°	551 lm/LF (1809 lm/m)	92 lm/W
	8W	40°x 60°	768 lm/LF (2518 lm/m)	96 lm/W
	10W	40°x 60°	930 lm/LF (3050 lm/m)	93 lm/W
	12W	40°x 60°	1081 lm/LF (3547 lm/m)	90 lm/W

ALL LUMEN DATA IS FROM 4000K 80CRI FIXTURES. PLEASE SEE PHOTOMETRY SPEC SHEET FOR ADDITIONAL LUMEN DATA.

COLOR RENDERING INDEX

80+, 90+

COLOR CONSISTENCY

2-STEP MACADAM ELLIPSE

LUMEN DEPRECIATION / RATED LIFE






WATTS	L70 @ 25C	L70 @ 50C	L90 @ 25C	L90 @ 50C
2W-12W	>150,000	>70,000	>50,000	>25,000

*CALCULATIONS FOR LED FIXTURES ARE BASED ON MEASUREMENTS THAT COMPLY WITH IES LM-80 TESTING PROCEDURES AND IES TM-21 CALCULATOR

* CALCULATIONS FOR LED FIXTURES ARE BASED ON MEASUREMENTS THAT COMPLY WITH IES LM-80 TESTING PROCEDURES AND IES TM-21 CALCULATOR

ELECTRICAL	POWER CONSUMPTION	2W*/LF (6.6W/M) ; 4W/LF (13.2W/M) ; 6W/LF (19.8W/M) ; 8W/LF (26.4W/M) ; 10W/LF (33W/M) ; 12W/FL (39.6W/M) * 3W/LF (9.9W/M) at 220V -277V																																																																												
	MAX FIXTURE RUN LENGTH	<table><tr><td></td><td colspan="2">2W/LF</td><td colspan="2">4W/LF</td><td colspan="2">6W/LF</td><td colspan="2">8W/LF</td><td colspan="2">10W/LF</td><td colspan="2">12W/LF</td></tr><tr><td>Volts</td><td>Max Run all 1'</td><td>Max Run all 4'</td><td>Max Run all 1'</td><td>Max Run all 4'</td><td>Max Run all 1'</td><td>Max Run all 4'</td><td>Max Run all 1'</td><td>Max Run all 4'</td><td>Max Run all 1'</td><td>Max Run all 4'</td><td>Max Run all 1'</td><td>Max Run all 4'</td></tr><tr><td>120</td><td>214</td><td>214</td><td>186</td><td>186</td><td>152</td><td>152</td><td>114</td><td>114</td><td>91</td><td>91</td><td>76</td><td>76</td></tr><tr><td>220</td><td>374</td><td>392</td><td>340</td><td>340</td><td>277</td><td>277</td><td>209</td><td>209</td><td>95</td><td>167</td><td>95</td><td>139</td></tr><tr><td>277</td><td>374</td><td>494</td><td>374</td><td>428</td><td>349</td><td>349</td><td>263</td><td>263</td><td>95</td><td>190</td><td>95</td><td>175</td></tr></table>													2W/LF		4W/LF		6W/LF		8W/LF		10W/LF		12W/LF		Volts	Max Run all 1'	Max Run all 4'	Max Run all 1'	Max Run all 4'	Max Run all 1'	Max Run all 4'	Max Run all 1'	Max Run all 4'	Max Run all 1'	Max Run all 4'	Max Run all 1'	Max Run all 4'	120	214	214	186	186	152	152	114	114	91	91	76	76	220	374	392	340	340	277	277	209	209	95	167	95	139	277	374	494	374	428	349	349	263	263	95	190	95	175
		2W/LF		4W/LF		6W/LF		8W/LF		10W/LF		12W/LF																																																																		
	Volts	Max Run all 1'	Max Run all 4'	Max Run all 1'	Max Run all 4'	Max Run all 1'	Max Run all 4'	Max Run all 1'	Max Run all 4'	Max Run all 1'	Max Run all 4'	Max Run all 1'	Max Run all 4'																																																																	
	120	214	214	186	186	152	152	114	114	91	91	76	76																																																																	
	220	374	392	340	340	277	277	209	209	95	167	95	139																																																																	
	277	374	494	374	428	349	349	263	263	95	190	95	175																																																																	
	POWER FACTOR	4W, 6W, 8W, 10W, 12W >0.9, 2W<0.9																																																																												
	OPERATING VOLTAGE	MULTIVOLT: 110-277VAC, 50/60 Hz																																																																												
	DRIVER	INTEGRAL TO FIXTURE; DE-RATED POWER AND SYNCHRONOUS START-UP AT FULL BRIGHTNESS																																																																												
STARTUP TEMPERATURE	-40°F TO 122°F (-40°C TO 50°C)																																																																													
OPERATING TEMPERATURE	-40°F TO 122°F (-40°C TO 50°C)																																																																													
STORAGE TEMPERATURE	-40°F TO 176°F (-40°C TO 80°C)																																																																													

NOTE: Information on this Spec Sheet is subject to change, please visit ecosenselighting.com/downloads/rise for the most updated information.

DATE	PROJECT	FIRM	TYPE
CONTROL	DIMMING	110-277VAC, ELV TYPE 0.07%-100%, REVERSE PHASE, TRAILING EDGE ETC control systems require 0-10V control using EcoSense LDCM. TROV will not work with ETC phase dimmers.	
PHYSICAL	DIMENSIONS	W 1.6" x H 2" x L 12"/48" ; (41.6mm x 50.5mm x 304.7mm/1201mm)	
	HOUSING /LENS	EXTRUDED ALUMINUM; UV STABILIZED POLYCARBONATE; STAINLESS STEEL FASTENERS; PLASTIC ENDCAPS RUBBER OVERMOLD FOR CABLE ASSEMBLY	
	WEIGHT	1.52LBS / 0.69KG (1FT) ; 4.95LBS / 2.25KG (4FT)	
	CONNECTORS	INTEGRAL MALE/ FEMALE CONNECTORS	
	ENVIRONMENT	INDOOR • ETL CERTIFIED FOR DRY/DAMP LOCATIONS IP54 OUTDOOR • ETL CERTIFIED FOR WET LOCATIONS IP66 IMPACT RATED TO IK10 Not intended to be used in water features such as waterfalls, fountains, etc.	
	BEAM ANGLE	GRAZING, WASHING, COVE, ASYMMETRIC, LINE OF LIGHT	
	MOUNTING OPTIONS	INTEGRAL MOUNTING AND ADJUSTABLE AIMING FROM 0°-180° IN 15° INCREMENTS	
FIXTURE RATING & CERTIFICATIONS	CE, ETL CERTIFIED RoHS COMPLIANT ENERGY STAR COMPLIANT RCM CERTIFIED	    	
		Title 24 JA8-2016 *90 CRI models only	
LIMITED WARRANTY	5 YEARS		

WIRING OPTIONS (MVOLT): 110-277VAC

Power Cable Assembly, TROV, Leader/Jumper, 10 foot.....	CBL-3P-L-UNV-10*
Power Cable Assembly, TROV, Leader/Jumper, 50 foot.....	CBL-3P-L-UNV-50*
Power Cable Assembly, TROV, Jumper, 5 foot.....	CBL-3P-L-UNV-05**
Power Cable Assembly, TROV, Jumper, 1 foot	CBL-3P-L-UNV-01**
Power Cable Assembly, TROV, Male and Female terminator caps.....	CBL-3P-L-UNV-CAPS

*Two (2) terminators are included with the 10' and 50' power cable. One Leader need per circuit/fixture run. Cables are not plenum rated.

** If using the 5' or 1' power cable assembly as a leader to power a run one set of CBL-3P-L-UNV-CAPS will also be need per cable.

0-10V CONTROL OPTIONS

100-120VAC / 277VAC Linear Dimming Control Module 0-10V - Plenum Rated	LDCM-PL-120-277-010V-GR
--	--------------------------------

All products come standard with ELV dimming capabilities. 0-10V Control options required for operation at 0-10V.

OPTIONAL ACCESSORIES**Mounting**

Mounting Track and Clips Set, 48 Inch Track, 8 Clips	MNT-L-TRKCLIP-48	48" track and clips set will work with one 48" fixture or four 12" fixtures. (FOR INTERIOR USE ONLY)
Mounting Track and Clips Set, 12 Inch Track, 2 Clips.....	MNT-L-TRKCLIP-12	12" track will not work with 48" fixtures. (FOR INTERIOR USE ONLY)
Mounting Track Clip, TROV, Set of 2.....	MNT-L-CLIP	Clips needed = 12" fixtures need 1 set of 2 and 48" fixture needs 2 sets of 2.
90 Degree L bracket, TROV, Set of 2.....	MNT-L-LBKT	L-Brackets needed = 12" fixtures need 1 set of 2 and 48" fixture needs 1 set of 2.
Angle Locking Clip, TROV, Pack of 10.....	MNT-L-ANGLOCK	Angle Locks needed = 12" fixtures need 1 and 48" fixtures need 2. (Must order separately)
Mounting, Fine Adjustment Bracket, TROV	MNT-L-FAB	Fine Adjustment Brackets needed = 12" fixtures need 1 and 48" fixtures need 2.
*Fine Adjustment Bracket is highly recommended for Grazing Optics.		
Mounting, Fine Adjustment L-Bracket, TROV	MNT-L-LFAB	Fine Adjustment L-Brackets needed = 12" fixtures need 1 and 48" fixtures need 2.
*Fine Adjustment L-Bracket is recommended for Asymetric Optics when aiming is needed.		

Snap-on Lenses

Snap-on Lens, Frosted, 12 inch, L50	LENS-L50-FROST-12	Snap-on Lenses need = One 12" lens is needed per 12" fixture and one 48" lens is needed per 48" fixture. Snap on Lenses will not work with the asymmetric fixture. Clear lenses can be used to hold colored filters to customize the output color of any TROV fixture, except the ASYM. Color filters supplied by others.
Snap-on Lens, Frosted, 48 inch, L50	LENS-L50-FROST-48	
Snap-on Lens, Clear, 12 inch, L50	LENS-L50-CLEAR-12	
Snap-on Lens, Clear, 48 inch, L50	LENS-L50-CLEAR-48	

Wall Mount Arm

Wall Mount Arm, 6 inch, TROV	WMA-L-CA-06	Wall Mount Arms needed = For individual fixture installations two arms and one end set will be needed per fixture. For continuous run installation one endset will be needed per run. Each end set contains one left and one right end plate. One joining set will be needed per joint. One arm per fixture will be need plus one extra arm to complete the run. For example: A 10ft run made with two 4ft and two 1ft fixtures will contain; 1 x WMA-L-END, 3 x WMA-L-JNR, and 5 x WMA-L-CA-12. Leader cables are not included with wall mount arms, end sets, or joiners sets.
Wall Mount Arm, 12 inch, TROV	WMA-L-CA-12	
Wall Mount Arm, 18 inch, TROV	WMA-L-CA-18	
Wall Mount Arm, 24 inch, TROV	WMA-L-CA-24	
Wall Mount Arm End Plate Set, TROV, Includes Left and Right	WMA-L-END	
Wall Mount Arm Joiner Plate, TROV	WMA-L-JNR	

Louvers

Louver, Asymmetric, 12 inch, L50	LV-L50-ASYM-12	Louvers Needed = One 12" louver is needed per 12" fixture and one 48" louver is needed per 48" fixture. 48" louver is made up of four 12" louvers. Louvers cannot be used with the asymmetric fixture
Louver, Asymmetric, 48 inch, L50	LV-L50-ASYM-48	
Louver, Symmetric, 12 inch, L50	LV-L50-SYM-12	
Louver, Symmetric, 48 inch, L50	LV-L50-SYM-48	
Louver, Honeycomb, 12 inch, L50	LV-L50-HCOMB-12	
Louver, Honeycomb, 48 inch, L50	LV-L50-HCOMB-48	

DATE	PROJECT	FIRM	TYPE
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OPTIONAL ACCESSORIES**Masking Plates**

Masking Plate, 3 inch high, 12 inch, L50 & L35 MP-L50-3H-12
 Masking Plate, 3 inch high, 48 inch, L50 & L35 MP-L50-3H-48

Masking Plates needed = One 12" plates is needed per 12" fixture and one 48" plates is needed per 48" fixture.

Landscape Stake

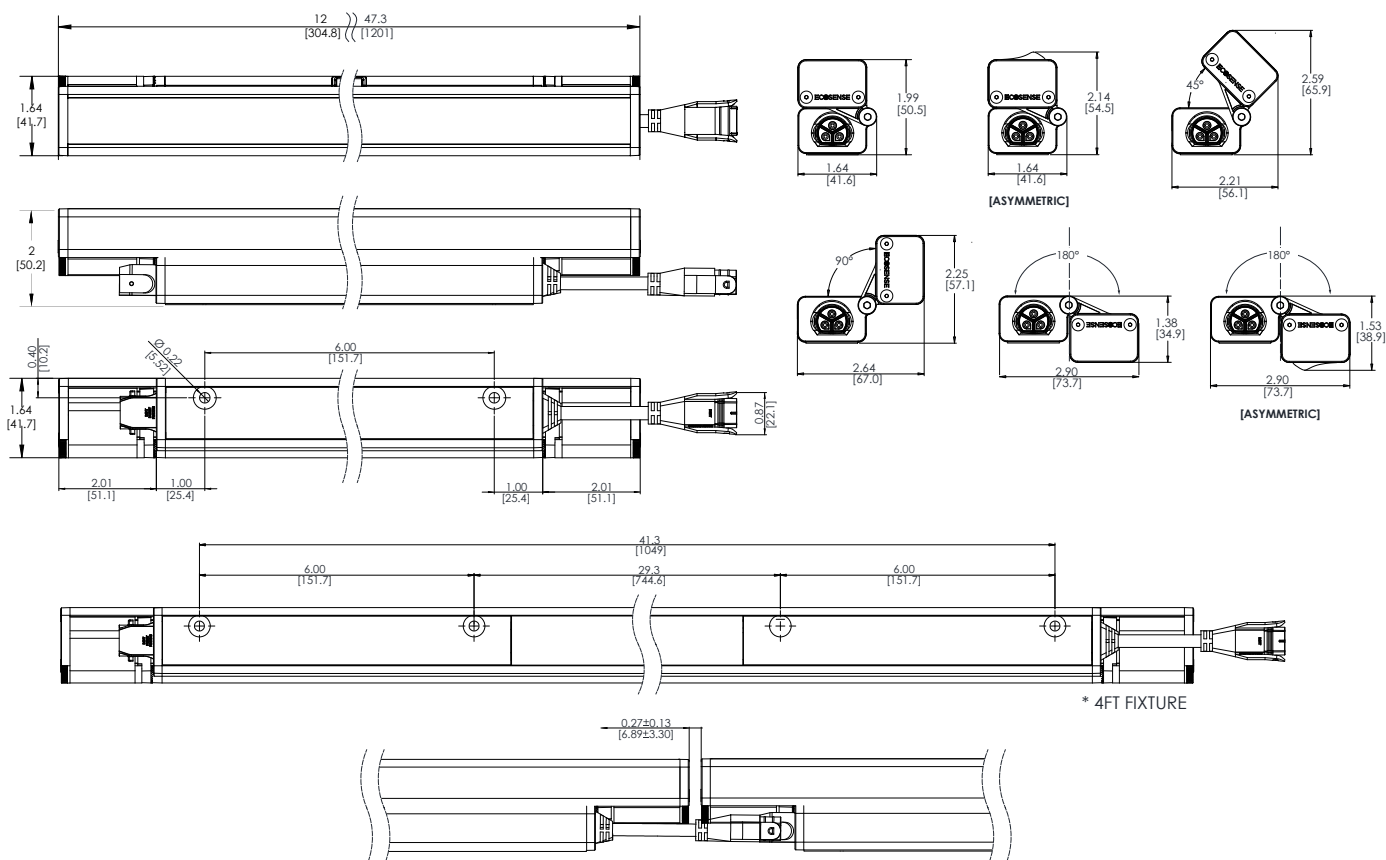
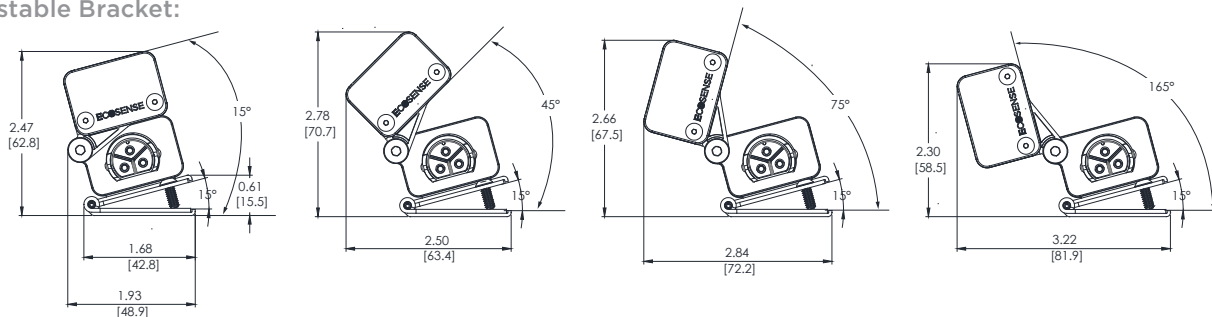
Landscape Stake, 6 inch, TROV, Set of 2 LS-L-STK-06
 Landscape Stake, 12 inch, TROV, Set of 2 LS-L-STK-12
 Landscape Stake, 18 inch, TROV, Set of 2 LS-L-STK-18

Landscape Stakes needed = 12" and 48" fixtures both need one set of 2.

Wire Box

Conduit Connection, Wire Box, TROV, Interior Only, L50 CC-L-WIREBOX

Wire box can be used instead of a leader cable to start a run. 1/2" conduit fitting can attach directly to the box on one end and the fixture to the other.

DIMENSIONS + MOUNTING**Fine Adjustable Bracket:**

BeveLED 2.2 Complete - B4SD 4.5" Square Downlight

Project: 388 Cambridge
Fixture Type: F6

F6

USAI[®]
Lighting

Universal and Field Convertible - Trim | Trimless | Millwork



usailighting.com/beveled



FEATURES

- Field Flexibility between trimmed, trimless and millwork
- Dry/damp/wet location rated for bathrooms and showers, including trimless and millwork
- 1% dimming standard + more dimming options
- Clear overspray protector for installation convenience
- Full family platform
- Iconic beveled look

COMPANION FAMILY PRODUCTS



Deep Regress - B4SC
usailighting.com/B4SC



Adjustable - B4SA
usailighting.com/B4SA



Wall Wash - B4SW
usailighting.com/B4SW

DOWNLIGHT PERFORMANCE DATA

LED COLOR CHOICES

DELIVERED* PERFORMANCE:	Classic White						Warm Glow Dimming		Color Select	
	9W	12W	16W	24W	33W	36W	16W	32W	16W	32W
Source Lumens:	1150	1300	1725	2400	3025	4150	1275	2150	1250	2075
Lumens Per Watt:	100	93	93	86	77	100	71	64	64	57
Delivered Lumens:	850	1125	1475	2050	2600	3450	1150	1900	1000	1700
EM Mode Output:	575 Delivered Lumens (nominal)						450 Delivered Lumens		475 Delivered Lumens	

*Based on 3000K, 80+ CRI. Performance varies for each specific beamspread and color temperature. See IES files for exact values at usailighting.com.

CORRELATED COLOR TEMPERATURE MULTIPLIER

	Classic White								Warm Glow Dimming				Color Select					
	2700K		3000K		3500K		4000K		2700K		3000K		2200K	2700K	3500K	4000K	5000K	6000K
Color Rendering Index:	80+	90+	80+	90+	80+	90+	80+	90+	80+	90+	80+	90+	80+	80+	80+	80+	80+	80+
Multiplier for Lumen Output:	0.94	0.78	1.00	0.78	1.00	1.00	1.06	1.06	0.94	0.74	1.00	0.80	0.87	0.96	1.04	1.09	1.13	1.18

THE COMPLETE BEVELED FAMILY PLATFORM

More Ceiling Applications



Sloped Ceiling

BeveLED Block

More Sizes and Shapes



Cylinders

BeveLED Micro

BeveLED Mini

BeveLED 5.0

Armstrong® Ceiling Solutions Compatible



Trimless Acoustical

Connect TechZone

BeveLED Connect

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Created: 11/08/2022

BeveLED 2.2 Complete - B4SD 4.5" Square Downlight

Project: 388 Cambridge
Fixture Type: F6

USAI[®]
Lighting

B4SDF	12C3	30KS	50	S	WH-WH	NC	UNV-D6E	-	-	CB27
Trim Style	Wattage	LED Color	Beam	Lens	Finish	Housing Choices	Voltage & Dimming Driver	EM Battery	Remote Options	Options
F Trimmed with Flange (use with all materials)	 Classic White 09C3 9W LED 12C3 12W LED 16C3 16W LED 24C3 24W LED 33C3 33W LED 36E1 36W LED	27KS 2700K, 80+ CRI 27KH 2700K, 90+ CRI 30KS 3000K, 80+ CRI 30KH 3000K, 90+ CRI 35KS 3500K, 80+ CRI 35KH 3500K, 90+ CRI 40KS 4000K, 80+ CRI 40KH 4000K, 90+ CRI	25 25° beam 30 30° beam 40 40° beam 50 50° beam 60 60° beam 90 90° beam	S Solite (provided standard) SF Solite Frosted BF Borosilicate Frosted	Single Color WH-WH White SC-SC Conduit Silver GR-GR Grey BL-BL Black BZ-BZ Bronze PR-PR Primer Finish QW-QW Antimicrobial Paint, White AC-AC Clear Matte Anodized AB-AB Piano Gloss Black RAL-RAL Custom Color Specify RAL# Dual Tone AC-WH AC bevel, WH flange AC-BL AC bevel, BL flange AC-BZ AC bevel, BZ flange AB-WH AB bevel, WH flange AB-GR AB bevel, GR flange AB-BZ AB bevel, BZ flange Natatorium Protection WH-WH-NT White Natatorium SC-SC-NT Conduit Silver Nat. GR-GR-NT Grey Natatorium BL-BL-NT Black Natatorium BZ-BZ-NT Bronze Natatorium	Integral Dimming Driver Housings FT Flat Housing New Construction FTIC Flat Housing IC Rated (up to 16W max) FTCP Flat Housing Chicago Plenum NCSM New Construction Narrow Width NC New Construction NCIC Insulation Contact Rated / Airtight NCCP Chicago Plenum Remote Dimming Driver Housings FT-RM Flat Housing New Construction FTIC-RM Flat Housing IC Rated (up to 16W maximum) FTCP-RM Flat Housing Chicago Plenum NCSM-RM New Construction Narrow Width NC-RM New Construction NCIC-RM Insulation Contact Rated / Airtight NCCP-RM Chicago Plenum	Universal Voltage 120V-277V No Additional Charge UNV-D6E EldoLED 0-10V, 1% UNV-D6F EldoLED 0-10V, 1% UNV-D4H Lutron H ECO, 1% Fade UNV-D4 Lutron ECO/3-wire 1% UNV-D6A EldoLED 0-10V, 0.1% UNV-D6B EldoLED 0-10V, 0.1% UNV-D7 EldoLED DALI, 0.1% UNV-D28 EldoLED DMX, 0.1% 120V Only No Additional Charge 120V-D19 Phase 2-wire, 1% 347V Only 347V-D15 0-10V dim, 1% 347V only	- None EM Emergency Battery EMW Emergency Battery Wet Location EM5 Remote EM battery requires remote enclosure by others, minimum size 11" L x 6.75" W x 3.25" H	- None MP Junction Box Mounting Plate, 5-1/8" x 5-1/8" ENC Single Driver enclosure, 4-1/8" x 9-11/16" x 2-3/8"	- None (Nailerbars provided standard) CB27 27" C-Channel Bars CB32 32" C-Channel Bars CB52 52" C-Channel Bars
L Trimless Spackle-in (use with sheetrock and plaster only)										
M Millwork Knife-Edge (use with wood and stone)										
	 Warm Glow Dimming 16WG2 16W LED 32WG2 32W LED	2722KS 2700K-2200K, 80+ CRI 2722KH 2700K-2200K, 90+ CRI 3022KS 3000K-2200K, 80+ CRI 3022KH 3000K-2200K, 90+ CRI								
	 Color Select 16CS1 16W LED 32CS1 32W LED	6022KS 6000K-2200K, 80+ CRI								

Part # B4SDF-12C3-30KS-50-S-WH-WH-NC-UNV-D6E-----CB27-

IMPORTANT NOTES

- Color Select tunable white option requires additional 0-10V dimming wires; see wiring diagram for details.
- When NC housing is specified, integral Emergency Battery option is supplied with an integral test switch and is dry/damp/wet location rated.
- When NCSM housing is specified, the integral EM battery is supplied with a remote test switch that is dry/damp only; select EMW option for a gasketed, wet-location rated remote test switch with NCSM housing. EM options require above ceiling access for service with NCSM housings.

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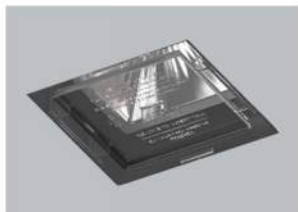
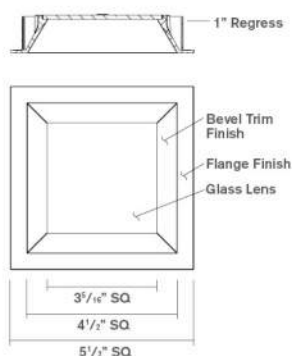
BeveLED 2.2 Complete - B4SD 4.5" Square Downlight

Project: 388 Cambridge
Fixture Type: F6

USAI[®]
Lighting

TRIM DETAILS

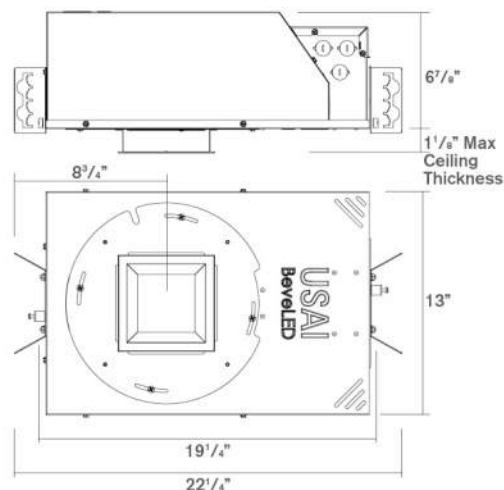
B4SDF - Trimmed



Clear acrylic overspray protector provided standard with every housing to keep out dust and contaminants during construction. Allows for use as work light.

HOUSING DETAILS

B4SDF New Construction - NC



FIELD REPLACEABLE LED LIGHT ENGINE is serviceable through the aperture with a Phillips screwdriver.

USAI CLASSIC WHITE LED COLOR TECHNOLOGY: is tightly binned for fixture-to-fixture color consistency within a 2-Step MacAdam's Ellipse.

TRIM: Die cast aluminum beveled trim has a 4.5" aperture with a 1" regressed bevel and retains a glass lens.

HOUSING: All BeveLED 2.2 fixtures are field-flexible which allows for field changes from trimless or millwork to trimmed with a simple components change with parts from USAI. Housings are fabricated of 20 ga. steel construction with thru wire J-box, 4 in 4 out at min. 90 degrees Celsius, #12 AWG thru branch circuit wiring.

MOUNTING: BeveLED overlap flange fixtures are designed for use in sheetrock, acoustical ceiling tile, and many other ceiling materials. Butterfly brackets and residential grade adjustable nailer bars extendible from 14" to 24" centers with integral nails are provided standard for attachment to building structure. C-channel bars are optionally available for acoustical ceiling applications.

FIXTURE WEIGHT: 16 lbs

CEILING CUT OUT: Square Trimmed with Overlap Flange = 5-1/16" x 5-1/16"

WARRANTY: Based on IESNA LM80-2008, USAI Lighting LED light fixtures have a 50,000 hour rated life at 70% lumen maintenance (L70). USAI Lighting Warranty covers replacement parts for 5 years from date of shipment. Ambient temperatures at fixture location should not exceed 40 degrees C.

LISTINGS: Dry/Damp/Wet location under covered ceilings only. AC and AB trim finishes are dry/damp only. EM Integral test switch is dry/damp/wet rated; EM remote test switch is dry/damp only. Select EMW option for wet location remote test switch. UL2043 rated for use in air handling plenums. NRTL/CSA-US tested to UL standards. IBEW union made. All USAI Lighting products are Buy American Act (BAA) compliant.



NOTES: Not for use in corrosive environment. Use of pressure washer voids warranty.

PHOTOMETRICS: Consult factory or website for IES files. Tested in accordance with IESNA LM79.

BeveLED 2.2 Complete - B4SD 4.5" Square Downlight

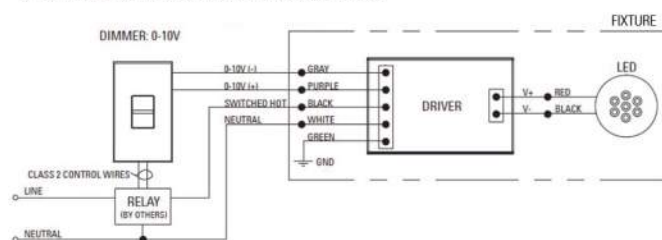
Project: 388 Cambridge
Fixture Type: F6



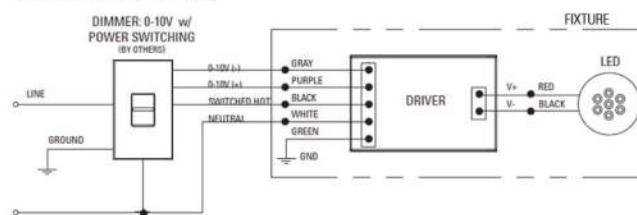
FIELD REPLACEABLE DIMMING DRIVER: An EldoLED ECOdrive 0-10V, 100%-1% linearly programmed solid state electronic constant current integral dimming driver with a high power factor is provided and sources 2mA. This dimming driver is located within the fixture housing and is serviceable from below the ceiling through the aperture. Some ontime delay may be experienced depending on control system used. All dimming drivers comply with IEEE C62.41 surge protection.

Manufacturer	Product	Part Number	Dimmed Light Output Range	Qty Fixtures Per Dimmer*
120V & 277V				Refer to manufacturer's dimmer load rating for maximum and minimum fixture quantities per dimmer.
Lutron	Diva	DVTV/NFTV with PP-20	99% - 1%	
Lutron	Nova T	NTFTV with PP-20	99% - 1%	
Lutron	Energi Savr Node	QSN-4T16-S	100% - 1%	
Lutron	GP Dimming Panels	TVM2 Module	99% - 1%	
Lutron	Interfaces	GRX-TVI w/ GRX3503	100% - 1%	
Sensor Switch	nIO	nIO EZ	100% - 1%	
enlighted	Control Unit	CU-3E-1R	100% - 1%	

0-10V DIMMING WITH RELAY TO SWITCH POWER



0-10V DIMMING (NO RELAY)



BeveLED 2.2 Complete - B4SD 4.5" Square Downlight

Project: 388 Cambridge
Fixture Type: F6



FOR OFFICE ONLY

Complete: B4SDF-12C3-30KS-50-S-WH-WH-NC-UNV-D6E-CB27
BeveLED 2.2 Trim: B4SDF-S-WH-WH-TRM

BeveLED 2.2 Housing: B4SDF-12C3-30KS-50-NC-UNV-D6E-HSG
Mounting: CB27

DOWNLOAD FILES

SPEC SHEETS

[B4SD - SQ DL](#)

↓ IES FILES

PERFORMANCE DATA

[B4SD Photometry](#)

↓ REVIT / BIM

INSTALLATION INSTRUCTIONS

[BeveLED 2.2 FT-FTIC-FTCP Installation Instructions](#)

[BeveLED 2.2 FT-FTIC-FTCP Service Instructions](#)

[BeveLED 2.2 NC-NCIC-NCCP Installation Instructions](#)

[BeveLED 2.2 NC-NCIC-NCCP Service Instructions](#)

[BeveLED 2.2 NCSM Installation Instructions](#)

[BeveLED 2.2 NCSM Service Instructions](#)

DIMMING COMPATIBILITY

[BeveLED 2.2 Dimming Compatibility](#)

BROCHURES

[BeveLED 2.2 Brochure](#)



D-Series Size 1 LED Wall Luminaire



Buy American



Catalog
Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

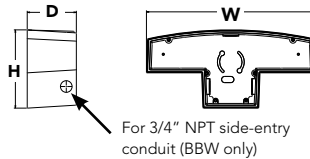
d-series

Specifications Luminaire

Width:	13-3/4" (34.9 cm)	Weight:	12 lbs (5.4 kg)
Depth:	10" (25.4 cm)		
Height:	6-3/8" (16.2 cm)		

Back Box (BBW, E20WC)

Width:	13-3/4" (34.9 cm)	BBW Weight:	5 lbs (2.3 kg)
Depth:	4" (10.2 cm)	E20WC Weight:	10 lbs (4.5 kg)
Height:	6-3/8" (16.2 cm)		



Introduction

The D-Series Wall luminaire is a stylish, fully integrated LED solution for building-mount applications. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

With an expected service life of over 20 years of nighttime use and up to 74% in energy savings over comparable 250W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

Ordering Information

EXAMPLE: DSXW1 LED 20C 1000 40K T3M MVOLT DDBTXD

DSXW1 LED							
Series	LEDs	Drive Current	Color temperature	Distribution	Voltage	Mounting	Control Options
DSXW1 LED	10C 10 LEDs (one engine) 20C 20 LEDs (two engines) ¹	350 350 mA 530 530 mA 700 700 mA 1000 1000 mA (1 A) ¹	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted	T2S Type II Short T2M Type II Medium T3S Type III Short T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium	MVOLT ² 120 ³ 208 ³ 240 ³ 277 ³ 347 ^{3,4} 480 ^{3,4}	Shipped included (blank) Surface mounting bracket BBW Surface-mounted back box (for conduit entry) ⁵	Shipped installed PE Photoelectric cell, button type ⁶ DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately) PIR 180° motion/ambient light sensor, <15' mtg ht ^{1,7} PIRH 180° motion/ambient light sensor, 15-30' mtg ht ^{1,7} PIR1FC3V Motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc ^{1,7} PIRH1FC3V Motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc ^{1,7} E20WC Emergency battery backup (includes external component enclosure), CA Title 20 compliant ^{8,9} F7-EM

Other Options	Finish (required)
Shipped installed SF Single fuse (120, 277 or 347V) ^{3,10} DF Double fuse (208, 240 or 480V) ^{3,10} HS House-side shield ¹¹ SPD Separate surge protection ¹²	Shipped separately ¹¹ BSW Bird-deterrent spikes VG Vandal guard DDL Diffused drop lens DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DBBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

Accessories

Ordered and shipped separately.

DSXWHS U	House-side shield (one per light engine)
DSXWBSW U	Bird-deterrent spikes
DSXWVG U	Vandal guard accessory

NOTES

- 20C 1000 is not available with PIR, PIRH, PIR1FC3V or PIRH1FC3V.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
- Only available with 20C, 700mA or 1000mA. Not available with PIR or PIRH.
- Back box ships installed on fixture. Cannot be field installed. Cannot be ordered as an accessory.
- Photocontrol (PE) requires 120, 208, 240, 277 or 347 voltage option. Not available with motion/ambient light sensors (PIR or PIRH).
- Reference Motion Sensor table on page 3.
- Same as old ELCW. Cold weather (-20C) rated. Not compatible with conduit entry applications. Not available with BBW mounting option. Not available with fusing. Not available with 347 or 480 voltage options. Emergency components located in back box housing. Emergency mode IES files located on product page at www.lithonia.com
- Not available with SPD.
- Not available with E20WC.
- Also available as a separate accessory; see Accessories information.
- Not available with E20WC.



COMMERCIAL OUTDOOR

One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
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DSXW1-LED
 Rev. 3/07/22

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Contact factory for performance data on any configurations not shown here.

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70CRI)					40K (4000 K, 70CRI)					50K (5000 K, 70CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
10C (10 LEDs)	350mA	13W	T2S	1,415	0	0	1	109	1,520	0	0	1	117	1,530	0	0	1	118	894	0	0	1	69
			T2M	1,349	0	0	1	104	1,448	0	0	1	111	1,458	0	0	1	112	852	0	0	1	66
			T3S	1,399	0	0	1	108	1,503	0	0	1	116	1,512	0	0	1	116	884	0	0	1	68
			T3M	1,385	0	0	1	107	1,488	0	0	1	114	1,497	0	0	1	115	876	0	0	1	67
			T4M	1,357	0	0	1	104	1,458	0	0	1	112	1,467	0	0	1	113	858	0	0	1	66
	530 mA	19W	TFTM	1,411	0	0	1	109	1,515	0	0	1	117	1,525	0	0	1	117	892	0	0	1	69
			T2S	2,053	1	0	1	108	2,205	1	0	1	116	2,220	1	0	1	117	1,264	0	0	1	67
			T2M	1,957	1	0	1	103	2,102	1	0	1	111	2,115	1	0	1	111	1,205	0	0	1	63
			T3S	2,031	1	0	1	107	2,181	1	0	1	115	2,194	1	0	1	115	1,250	0	0	1	66
			T3M	2,010	1	0	1	106	2,159	1	0	1	114	2,172	1	0	1	114	1,237	0	0	1	65
	700 mA	26W	T4M	1,970	1	0	1	104	2,115	1	0	1	111	2,129	1	0	1	112	1,212	0	0	1	64
			TFTM	2,047	0	0	1	108	2,198	1	0	1	116	2,212	1	0	1	116	1,260	0	0	1	66
			T2S	2,623	1	0	1	101	2,816	1	0	1	108	2,834	1	0	1	109	1,544	0	0	1	59
			T2M	2,499	1	0	1	96	2,684	1	0	1	103	2,701	1	0	1	104	1,472	0	0	1	57
			T3S	2,593	1	0	1	100	2,785	1	0	1	107	2,802	1	0	1	108	1,527	0	0	1	59
20C (20 LEDs)	350mA	23W	T3M	2,567	1	0	1	99	2,757	1	0	1	106	2,774	1	0	1	107	1,512	0	0	1	58
			T4M	2,515	1	0	1	97	2,701	1	0	1	104	2,718	1	0	1	105	1,481	0	0	1	57
			TFTM	2,614	1	0	1	101	2,808	1	0	1	108	2,825	1	0	1	109	1,539	0	0	1	59
	1000 mA	39W	T2S	3,685	1	0	1	94	3,957	1	0	1	101	3,982	1	0	1	102	2,235	1	0	1	57
			T2M	3,512	1	0	1	90	3,771	1	0	1	97	3,794	1	0	1	97	2,130	1	0	1	55
			T3S	3,644	1	0	1	93	3,913	1	0	1	100	3,938	1	0	1	101	2,210	1	0	1	57
			T3M	3,607	1	0	1	92	3,873	1	0	1	99	3,898	1	0	1	100	2,187	1	0	1	56
			T4M	3,534	1	0	2	91	3,796	1	0	2	97	3,819	1	0	2	98	2,143	1	0	1	55
	530 mA	35W	TFTM	3,673	1	0	1	94	3,945	1	0	1	101	3,969	1	0	1	102	2,228	1	0	1	57
			T2S	2,820	1	0	1	123	3,028	1	0	1	132	3,047	1	0	1	132	1,777	1	0	1	77
			T2M	2,688	1	0	1	117	2,886	1	0	1	125	2,904	1	0	1	126	1,693	1	0	1	74
			T3S	2,789	1	0	1	121	2,994	1	0	1	130	3,014	1	0	1	131	1,757	0	0	1	76
			T3M	2,760	1	0	1	120	2,965	1	0	1	129	2,983	1	0	1	130	1,739	1	0	1	76
	700 mA	46W	T4M	2,704	1	0	1	118	2,905	1	0	1	126	2,922	1	0	1	127	1,704	1	0	1	74
			TFTM	2,811	1	0	1	122	3,019	1	0	1	131	3,038	1	0	1	132	1,771	0	0	1	77
			T2S	4,079	1	0	1	117	4,380	1	0	1	125	4,407	1	0	1	126	2,504	1	0	1	72
			T2M	3,887	1	0	1	111	4,174	1	0	1	119	4,201	1	0	1	120	2,387	1	0	1	68
			T3S	4,033	1	0	1	115	4,331	1	0	1	124	4,359	1	0	1	125	2,477	1	0	1	71
	1000 mA	73W	T3M	3,993	1	0	2	114	4,288	1	0	2	123	4,315	1	0	2	123	2,451	1	0	1	70
			T4M	3,912	1	0	2	112	4,201	1	0	2	120	4,227	1	0	2	121	2,402	1	0	1	69
			TFTM	4,066	1	0	2	116	4,366	1	0	2	125	4,394	1	0	2	126	2,496	1	0	1	71
			T2S	5,188	1	0	1	113	5,572	1	0	1	121	5,607	1	0	1	122	3,065	1	0	1	67
			T2M	4,945	1	0	2	108	5,309	1	0	2	115	5,343	1	0	2	116	2,921	1	0	1	64
	530 mA	35W	T3S	5,131	1	0	2	112	5,510	1	0	2	120	5,544	1	0	2	121	3,031	1	0	1	66
			T3M	5,078	1	0	2	110	5,454	1	0	2	119	5,487	1	0	2	119	3,000	1	0	1	65
			T4M	4,975	1	0	2	108	5,343	1	0	2	116	5,376	1	0	2	117	2,939	1	0	1	64
			TFTM	5,172	1	0	2	112	5,554	1	0	2	121	5,589	1	0	2	122	3,055	1	0	1	66
			T2S	7,204	1	0	2	99	7,736	2	0	2	106	7,784	2	0	2	107	4,429	1	0	1	61
	700 mA	46W	T2M	6,865	1	0	2	94	7,373	2	0	2	101	7,419	2	0	2	102	4,221	1	0	1	58
			T3S	7,125	1	0	2	98	7,651	1	0	2	105	7,698	1	0	2	105	4,380	1	0	1	60
			T3M	7,052	1	0	2	97	7,573	2	0	2	104	7,620	2	0	2	104	4,335	1	0	2	59
			T4M	6,909	1	0	2	95	7,420	1	0	2	102	7,466	1	0	2	102	4,248	1	0	2	58
			TFTM	7,182	1	0	2	98	7,712	1	0	2	106	7,761	1	0	2	106	4,415	1	0	2	60

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	1.00
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the **DSXW1 LED 20C 1000** platform in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.95	0.93	0.88

Electrical Load

LEDs	Drive Current (mA)	System Watts	Current (A)					
			120V	208V	240V	277V	347V	480V
10C	350	14 W	0.13	0.07	0.06	0.06	-	-
	530	20 W	0.19	0.11	0.09	0.08	-	-
	700	27 W	0.25	0.14	0.13	0.11	-	-
	1000	40 W	0.37	0.21	0.19	0.16	-	-
20C	350	24 W	0.23	0.13	0.12	0.10	-	-
	530	36 W	0.33	0.19	0.17	0.14	-	-
	700	47 W	0.44	0.25	0.22	0.19	0.15	0.11
	1000	74 W	0.69	0.40	0.35	0.30	0.23	0.17

Motion Sensor Default Settings

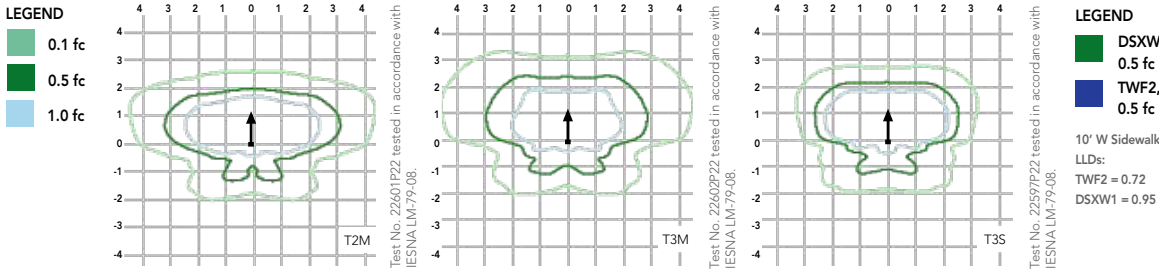
Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*For use when motion sensor is used as dusk to dawn control

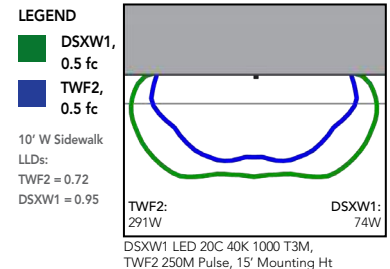
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's [D-Series Wall Size 1 homepage](#).

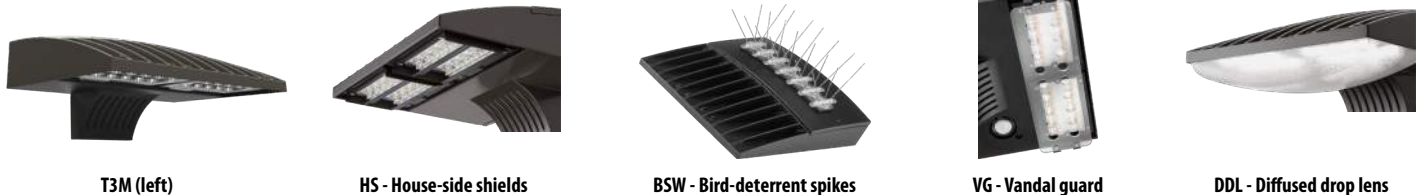
Isfootcandle plots for the DSXW1 LED 20C 1000 40K. Distances are in units of mounting height (15').



Distribution overlay comparison to 250W metal halide.



Options and Accessories



FEATURES & SPECIFICATIONS

INTENDED USE

The energy savings, long life and easy-to-install design of the D-Series Wall Size 1 make it the smart choice for building-mounted doorway and pathway illumination for nearly any facility.

CONSTRUCTION

Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance. The LED driver is mounted to the door to thermally isolate it from the light engines for low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65).

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses provide multiple photometric distributions tailored specifically to building mounted applications. Light engines are available in 3000 K (70 min. CRI), 4000 K (70 min. CRI) or 5000 K (70 min. CRI) configurations.

ELECTRICAL

Light engine(s) consist of 10 high-efficacy LEDs mounted to a metal-core circuit board to maximize heat dissipation and promote long life (L88/100,000 hrs at 25°C). Class 1 electronic drivers have a power factor >90%, THD <20%, and a minimum 2.5KV surge rating. When ordering the SPD option, a separate surge protection device is installed within the luminaire which meets a minimum Category C Low (per ANSI/IEEE C62.41.2).

INSTALLATION

Included universal mounting bracket attaches securely to any 4" round or square outlet box for quick and easy installation. Luminaire has a slotted gasket wireway and attaches to the mounting bracket via corrosion-resistant screws.

LISTINGS

CSA certified to U.S. and Canadian standards. Rated for -40°C minimum ambient.

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN

This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/resources/buy-american for additional information.

WARRANTY

Five-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:

www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.





PACE

ILLUMINATION

F8

NIMBUS

HPGL PENDANT

STANDARD FEATURES

- Heavy gauge spun aluminum housing
- UV stabilized acrylic reflector
- All hardware stainless steel
- 5 year limited warranty
- Dimming driver(s) 0-10V
- Operating temperatures 40 degrees C/104 degrees F
- Buy American Act
- ETL listed and tested to UL Standard No. 1598 and CSA Listed for damp location indoor location



SERIES	MODEL	SIZE	STYLE	VOLT	LIGHT SOURCE	LUMENS	CCT	COLOR	MOUNTING	COMMON OPTIONS	SPECIFIC OPTIONS
HPGL	500	812	DT: Dome Top RT: Round Top	120-277UNV 347-480UNV	2X PLT 32	3840		TAL: Textured Aluminum TBK: Textured Black TBZ: Textured Bronze TWH: Textured White	CBXX: Black Cord & Canopy, Specify Length CWXX: White Cord & Canopy, Specify Length ACXX: Aircraft Cable & Canopy, Specify Length SMXX: Stem & Canopy, Specify Length HHCP-BK: Hook Hanger, Black Cord & Plug HHCP-WH: Hook Hanger, Black Cord & Plug	CFL: Clear Flat Lens PCR: Polycarbonate Refractor RMB: Remote Mount Ballast EM: Emergency Back-up Power Supply DC: Dual Cable Suspension & Curly Cord (FT ONLY) OS: Occupancy Sensor**	EMI: Integral, Suspended Back-up Power Supply WG: Wire Guard SC30: 30 Degree Hang Straight SF: Single Fuse BT = Bluetooth sensor RD = Remote dimming PE = Photocell installed at factory MS = Motion sensor CC = Coil Cord
					2X PLT 42	5120					
					35W*	4500	3500				
						4600	4000				
						4900	5000				
					4X PLT 32	7680					
		4X PLT 42			10240						
		816			35W	4500	3500				
						4600	4000				
						4900	5000				
					50W	5200	3500				
						5440	4000				
						5540	5000				
		70W*			8660	3500					
					9020	4000					
					9120	5000					
		822			8X PLT 32	15360					
					8X PLT 42*	20480					
					105W*	12990	3500				
						13530	4000				
						13680	5000				
					140W*	17320	3500				
						18040	4000				
						18240	5000				
					245W*	30310	3500				
						31570	4000				
		31920				5000					

* Active cooling US patent number 8,708,530 B2 /

** Available only on HPAL and HPGL models /

*** Available only with PDR, DBR, KGD, KPD, and KDB

* Active cooling US patent number 8,708,530 B2 /
** Available only on HPAL and HPGL models /
*** Available only with PDR, DBR, KGD, KPD, and KDB

ORDERING INFORMATION

SERIES	MODEL	SIZE	STYLE	VOLT	LIGHT SOURCE	LUMENS	CCT	COLOR	MOUNTING	COMMON OPTIONS	SPECIFIC OPTIONS

Consult factory for voltage and other lamp options. Product specifications subject to change without notice.

1. Programmable drivers at the PACE factory
2. Color tunable
3. Capable of remote dimming
4. Can be equipped with motion sensors for on/off functioning
5. Can be equipped with light sensors for dusk-to-dawn automatic on/off operation
6. Bluetooth commissioning sensor capability for Android and iOS

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PACE
ILLUMINATION

NIMBUS

HPGL PENDANT

SIZES

Small = 13.2" diameter

Medium = 17" diameter

Large = 23.4" diameter

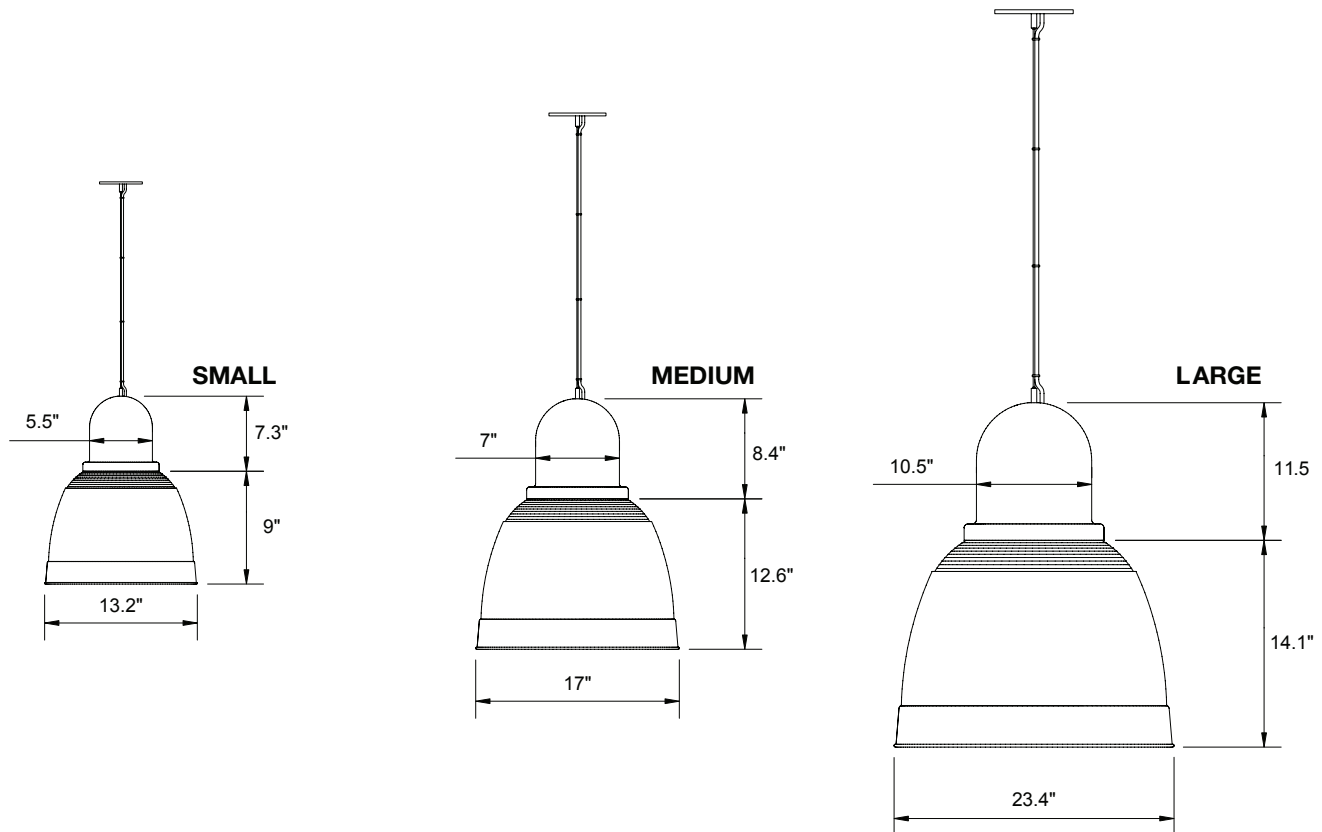
MOUNTING

Air craft cable, cord or stem

COLOR

Textured or smooth polyester powder coat finishes

RAL colors available

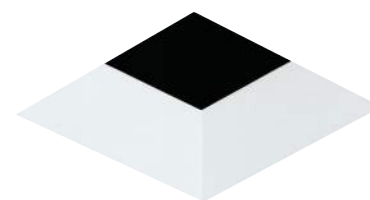


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In the interest of product improvement, Pace reserves the right to make technical and product specification changes without notice. Consult factory for voltage and other lamp options.

ELEMENT™ 3" LED F9

FIXED DOWNLIGHT



SHOWN IN FLANGELESS BEVEL SQUARE

The ELEMENT 3" Next Generation Fixed recessed downlight features a patented high/low lamp positioning which allows the LED to be positioned closer to the aperture for maximum light output and efficiency or higher in the ceiling to minimize glare and flash on the trim. LED options include premium warm dimming, tunable white, Xicato and Xicato Artist Series. Trim options include flanged or flangeless and flangeless in wood ceiling.

- Housing reduced by 60%
- Patented high/low lamp positioning
- 2-step standard
- Standard dimming down to 1%
- Trim reflector options
- Solite Soft Focus lens option

LUMEN MULTIPLIER (CRI/CCT)

CCT	80 CRI MULTIPLIER	90 CRI MULTIPLIER
2700K	0.95	0.80
3000K	1.00	0.85
3500K	1.05	0.90

Lumen output will vary by CCT and CRI.
See photometric charts for output information.

SPECIFICATIONS

	STATIC WHITE		XICATO		WARM DIM		TUNABLE WHITE	
	HIGH OUTPUT	LOW OUTPUT	STANDARD SERIES	ARTIST SERIES	HIGH OUTPUT	LOW OUTPUT	HIGH OUTPUT (5000K)	HIGH OUTPUT (4000K)
DELIVERED LUMENS	1800/1450	1319/1124	1129	945	1300	900	1272	1150
WATTS	17	12	15	15	17	12	18	18
EFFICACY	106/85	110/94	75	63	76	75	72	64
CRI	80+/90+		80+	95+	90+		90+	
CBCP	10° - 19,414 18° - 5,848 25° - 5,416 40° - 3,230 60° - 2,305		21° - 3,184 43° - 2,733 60° - 1,014		18° - N/A 25° - N/A 40° - 1,622 60° - N/A			
CCT	2700K, 3000K, or 3500K		2700K, 3000K, or 3500K ³		3000K - 1800K		5000K - 2700K	4000K - 1800K
COLOR CONSISTENCY	2-step		1 X 2-step		3-step		2-step	
VOLTAGE	120V or 277V							
DIMMING ¹	Standard reverse-phase, forward-phase, TRIAC, and 0-10V dimming (down to 1%) eldoLED 0-10V or DALI-2 (down to 0.1%) Lutron has placed their LTEA (2-Wire) and 0.1% PEQ eco drivers on indefinite hold. Please consult Factory for alternative Lutron drivers (e.g. LDE 1%) or other driver solutions.						eldoLED 0-10V or DALI-2 (down to 0.1%)	
POWER SUPPLY	Constant current driver with +.9 power factor and +80% efficiency							
OPTICS	Field changeable: 10°, 18°, 25°, 40°, or 60° TIR		Field changeable: 21°, 43°, or 60° Reflector		Field changeable: 18°, 25°, 40°, or 60° TIR			
ADJUSTABILITY	High/low lamp positioning; 45° collar rotation							
CEILING APPEARANCE	Flanged, flangeless or flangeless in wood ceiling							
CEILING THICKNESS	Flanged: Up to 2-1/2" Flangeless: No ceiling thickness limitations Flangeless in wood ceiling: 1/2" to 1-1/2" Note: Thicker ceilings impact light cutoff							
CEILING APERTURE	3-7/8" ceiling cutout							
HOUSING	IC Airtight, Non-IC Airtight, Chicago Plenum. IC suitable up to R60 spray foam insulation. Sauna/Steam-room use available only with combination of H Shower trim, LO Low Output housing, and I IC housing rating.							
CONSTRUCTION	Housing: Heavy-Gauge, Cold-Rolled Steel Trim: Die-Cast Aluminum							
FINISH	Housing: Black powder coat Trim: Antique Bronze, Black, Satin Nickel, or White (paintable)							
GENERAL LISTINGS	ETL Listed. Damp Location. Shower version Wet Listed.							
CALIFORNIA TITLE 24	Registered CEC Appliance Database. Can be used to comply with CEC 2019 Title 24 Part 6 (JA8-2016, JA8-2019) (for 90 CRI versions).							
L70	50,000 hours min							
WARRANTY ²	5 years							

Data in chart reflect 3000K/80 CRI values unless noted.

Custom output/custom RAL/custom CCT available, contact Quotes Department

Ordering grids available on page 2.

Accepts two optical controls and an optional trim-mounted lens.

¹See ELEMENT-Lighting.com for dimmer compatibility.

²Visit ELEMENT-Lighting.com for specific warranty limitations and details.

³3500K Xicato module not available for Artist series.

ELEMENT™ 3" LED

FIXED DOWNLIGHT

ORDERING GRIDS

HOUSING

Output TBD based on photometric calc.

PRODUCT	CEILING APPEARANCE	OUTPUT	LAMP	BEAM SPREAD	FUNCTION	HOUSING RATING	DRIVER
E3R ELEMENT 3" ROUND	LF FLANGELESS	-LH HIGH OUTPUT, 17W ²	827 80 CRI, 2700K, 2-STEP	0 10° ⁵	D DOWNLIGHT	I IC AIRTIGHT	INTEGRATED DRIVERS 120V/277V
	FF FLANGED	-LO LOW OUTPUT, 12W ³	830 80 CRI, 3000K, 2-STEP	1 18°		N NON-IC	UNIVERSAL PHASE/0-10V 1%
E3S ELEMENT 3" SQUARE	WC WOOD CEILING ¹		835 80 CRI, 3500K, 2-STEP	2 25°		A AIRTIGHT	(LEAVE BLANK) ⁶
			927 90 CRI, 2700K, 2-STEP	4 40°		C CHICAGO	-ELDO ELDOLED 0.1% 0-10V LINEAR ⁷
			930 90 CRI, 3000K, 2-STEP	6 60°		P PLENUM	-ELDOA ELDOLED 0.1% 0-10V LOGARITHMIC ⁷
			935 90 CRI, 3500K, 2-STEP				-ELDD ELDOLED 0.1% DALI-2 ⁷
			WD 90 CRI, 3000-1800K, WARM DIM, 3-STEP				-ELTO ELDOLED TUNABLE WHITE 0.1% 0-10V LINEAR ^{4,7}
			TW52 90 CRI, 5000K-2700K, TUNABLE WHITE, 2-STEP ⁴				-ELTD ELDOLED TUNABLE WHITE 0.1% DALI-2 ^{4,7}
			TW41 90 CRI, 4000K-1800K, TUNABLE WHITE, 2-STEP ⁴				
		-X XICATO, HIGH OUTPUT, 14W ⁸	I27 80 CRI, 2700K, 1X2-STEP, XICATO	21 21° XICATO			
			I30 80 CRI, 3000K, 1X2-STEP, XICATO	43 43° XICATO			
			I35 80 CRI, 3500K, 1X2-STEP, XICATO	60 60° XICATO			
			A27 95 CRI, 2700K, 1X2-STEP, XICATO ARTIST				
			A30 95 CRI, 3000K, 1X2-STEP, XICATO ARTIST				
					D		

Trims are required and must be ordered separately.

For dimming details, refer to dimmer compatibility chart.

¹WC - Wood ceiling option accommodates flangeless trims only.

²LH - High output available for wet applications. Not available for sauna/steam-room.

³LO - Sauna/steam-room use available only with combination of H shower trim, LO low output housing, and I IC housing rating.

⁴TW52/TW41/ELTO/ELTD - Tunable white only available in high output, only available with ELTO (0-10V, linear), or ELTD (DALI-2). For 0-10V logarithmic dimming consult Quotes Department.

⁵0 - 10° optic has a unique LED module not available with warm dim or tunable white. Changing optics to 18°, 25°, 40° or 60°, will require a new LED module.

⁶Universal dimming is reverse-phase, forward-phase, TRIAC and 0-10V. 277V is only compatible with 0-10V dimming.

⁷ELdoLED drivers not compatible with round flangeless (E3RFLF) or round wood ceiling (E3RWOC) housings.

⁸X - Xicato housings utilize dedicated standard phase, 0-10V, 120V and 277V drivers. If ordering Xicato with standard drivers (non-Lutron or ELdoLED), at the end of the item number please specify:

-010 for 0-10V 120V, **-277** for phase 277V or **-010-277** for 0-10V 277. For example: E3RFLF-XA2743DI-**010** or E3RFLF-XA2743DI-**277** or E3RFLF-XA2743DI-**010-277**. Due to the size of some of the Xicato Reflectors, it may not be feasible to tilt the fixture in the 'low' position. It is still tiltable in the 'high' position.

Lutron has placed their LTEA (2-Wire) and 0.1% PEQ eco drivers on indefinite hold. Please consult Factory for alternative Lutron drivers (e.g. LDE 1%) or other driver solutions.

TRIM

PRODUCT	CEILING APPEARANCE	STYLE	APERTURE	FINISH
E3R ELEMENT 3" ROUND	L FLANGELESS	B BEVEL	-O NO LENS	Z ANTIQUE BRONZE
E3S ELEMENT 3" SQUARE	F FLANGED UP TO 1" CEILING THICKNESS	F FLAT	-H SHOWER ^{1,2}	B BLACK
	F15 FLANGED 1.1"-1.5" CEILING THICKNESS		-L LENSED ²	S SATIN NICKEL
	F20 FLANGED 1.6"-2.0" CEILING THICKNESS			W WHITE
	F25 FLANGED 2.1"-2.5" CEILING THICKNESS			

Wood ceiling option accommodates flangeless trims only.

¹H - Sauna/steam-room use available only with combination of H shower trim, LO low output housing, and I IC housing rating.

²H, L - Lensed products come with Solite Soft Focus lens.

PLASTER PLATES

PRODUCT	
150E3RPPLT-A	3" PLASTER PLATE ROUND DIE-CAST METAL ¹
150E3SPPLT-A	3" PLASTER PLATE SQUARE DIE-CAST METAL ¹
150E3RTPPLT-W	3" PLASTER PLATE ROUND SHEET METAL ²
150E3STPPLT-W	3" PLASTER PLATE SQUARE SHEET METAL ²

Plaster plates are used to convert flanged housings into flangeless housings.

¹Ships standard with flangeless housings. Round not compatible with Lutron Hi-lume or ELdoLED drivers.

²Optional, thinner, meshed sheet-metal mud plates available for minimized plaster feathering to meet installer preference. Round not compatible with Lutron Hi-lume or ELdoLED drivers. Square not compatible with ELdoLED drivers.

PREMIUM LENS HOLDER

PRODUCT	LENSES
240E3LENSHLDR	1 ONE LENS
	2 TWO LENSES
240E3LENSHLDR	

Provides more secure mounting of additional lenses than the lens holder that ships with each fixture.
Not compatible with the 10° beam spread.

REPLACEMENT OPTICS

PRODUCT	BEAM SPREAD
353E4LEDCCOPT	18 18°
	25 25°
	40 40°
	60 60°
353E4LEDCCOPT	

FROSTED BOROSILICATE LENS KIT

PRODUCT	
240E3SBLSP-B	BOROSILICATE LENS KIT E3 SQUARE BEVEL TRIM
240E3SQLSP-B	BOROSILICATE LENS KIT E3 SQUARE FLAT TRIM
240E3RBLSP-B	BOROSILICATE LENS KIT E3 ROUND BEVEL TRIM
240E3RDLSP-B	BOROSILICATE LENS KIT E3 ROUND FLAT TRIM

Includes frosted borosilicate lens, lens spring, and screws to mount to ELEMENT 3" trim.

LENSES / LOUVERS¹

PRODUCT	
140MR16SF	SOLITE SOFT FOCUS LENS
140MR16SB	SANDBLASTED LENS
140MR16LL	LINEAR SPREAD LENS
140MR16DF	DIFFUSER SPREAD LENS
EL2RHCBK	EGGCRATE/HEXCELL LOUVER

¹For additional lenses, louvers, optical controls and accessories, reference ELEMENT-lighting.com/Products/Accessories. ELEMENT allows up to two lenses or louvers per fixture.

REPLACEMENT REFLECTORS¹

PRODUCT	BEAM SPREAD
352LEDXREF	21 21°
	43 43°
	60 60°
352LEDXREF	

352LEDXREF

¹For use with Xicato modules only.

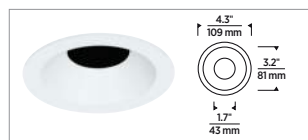


ELEMENT™ 3" LED

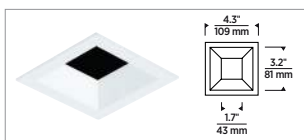
FIXED DOWNLIGHT

TRIMS

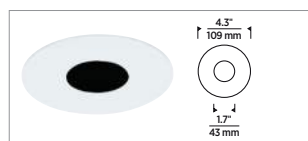
FLANGED



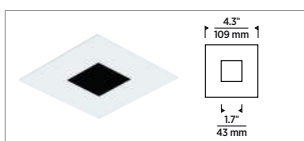
ROUND BEVEL



SQUARE BEVEL



ROUND FLAT

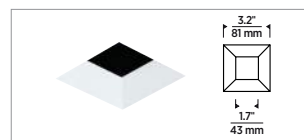


SQUARE FLAT

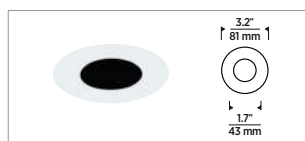
FLANGELESS



ROUND BEVEL



SQUARE BEVEL



ROUND FLAT



SQUARE FLAT

FINISH



ANTIQUE BRONZE



BLACK



SATIN NICKEL

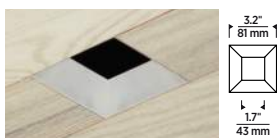


WHITE (PAINTABLE)

FLANGELESS IN WOOD CEILING



ROUND BEVEL (ANTIQUE BRONZE)



SQUARE BEVEL (SATIN NICKEL)



ROUND FLAT (ANTIQUE BRONZE)



SQUARE FLAT (SATIN NICKEL)

LENS OPTION



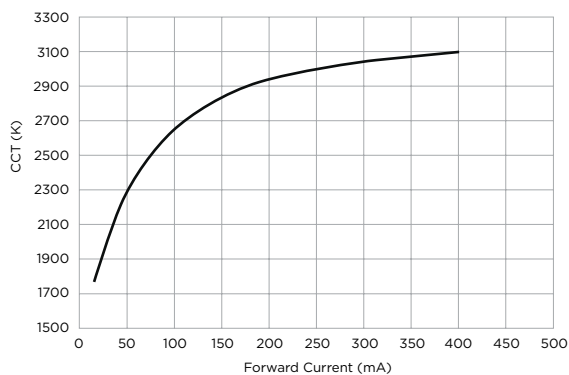
SHOWN WITH AND WITHOUT A LENS (SQUARE FLANGED BEVEL)



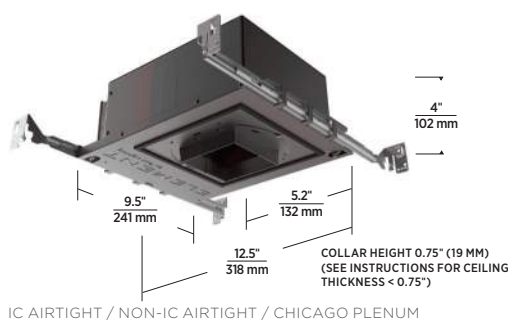
SHOWN WITH AND WITHOUT A LENS (ROUND FLANGELESS BEVEL)

WARM DIM CURVE

CCT vs. Forward Current, $T_c=25^{\circ}\text{C}$



HOUSING



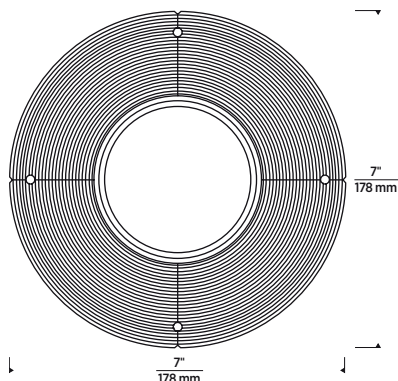
IC AIRTIGHT / NON-IC AIRTIGHT / CHICAGO PLENUM

ELEMENT™ 3" LED

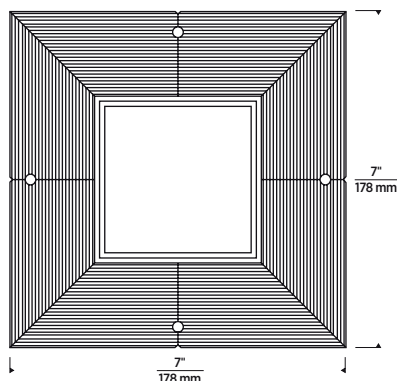
FIXED DOWNLIGHT

PLASTER PLATES

INCLUDED DIE-CAST

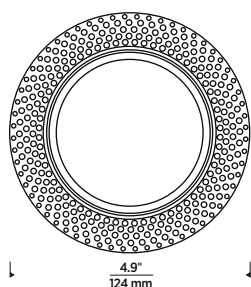


ROUND DIE-CAST (INCLUDED FOR FLANGELESS INSTALLATION)

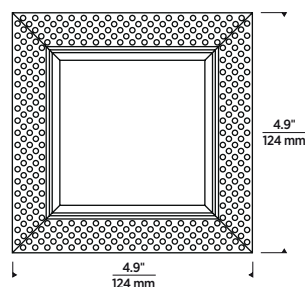


SQUARE DIE-CAST (INCLUDED FOR FLANGELESS INSTALLATION)

OPTIONAL SHEET METAL

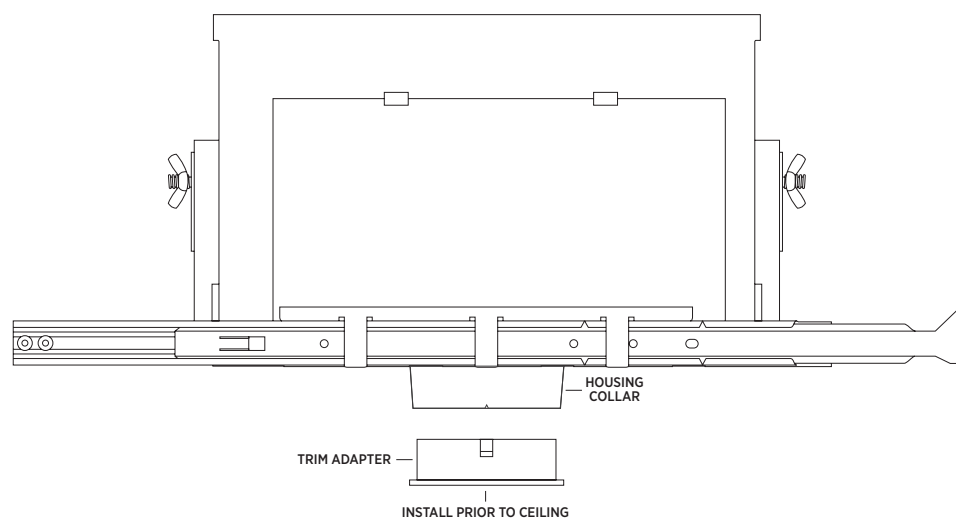


ROUND SHEET METAL (OPTIONAL FOR FLANGELESS INSTALLATION)

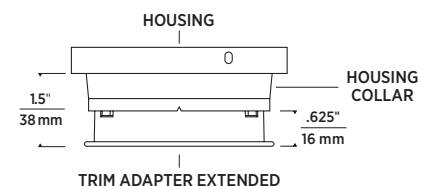
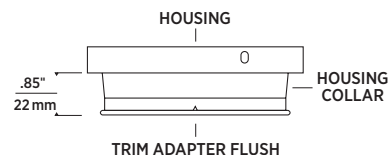


SQUARE SHEET METAL (OPTIONAL FOR FLANGELESS INSTALLATION)

FLANGELESS IN WOOD CEILING TRIM ADAPTER



TRIM ADAPTER INSTALLED



Wood ceiling housings ("WC" designation in the ordering grid) ship with an adjustable trim adapter that inserts into the housing aperture and allows standard ELEMENT 3" flangeless trims to achieve a truly flangeless, flush ceiling appearance in special applications such as wood or stone installation. For use in new construction. Consult installation instructions regarding plenum requirements and ceiling thickness ratios.

ELEMENT™ 3" LED

















FIXED DOWNLIGHT

TRIM-MOUNTED REFLECTORS

ELEMENT Specular Reflectors reduce glare while creating a clean, quiet ceiling appearance. Available finishes include Anodized Silver for a decorative accent or Anodized Black for an ultimate quite ceiling aesthetic. These beautiful trim accessories have been specifically designed to minimize any effect on light performance, color and output. Specular Reflectors are available for both adjustable and fixed downlights and are compatible with ELEMENT 3" trims and housings.

- Can be easily installed or removed
- Assembles to existing trim
- Compatible with fixed and adjustable housings
- Finish Options: Anodized Black (B) or Anodized Silver (S)

SPECIFICATIONS

COMPATIBLE TRIMS		NON-SLOTTED (FOR FIXED)	
	3" round, flanged, bevel		E3TREFNS1 (B OR S)
	3" square, flanged, bevel		E3TREFNS5 (B OR S)
	3" round, flanged, flat		E3TREFNS1 (B OR S)
	3" square, flanged, flat		E3TREFNS3 (B OR S)
	3" round, flangeless, bevel		E3TREFNS2 (B OR S)
	3" square, flangeless, bevel		E3TREFNS6 (B OR S)
	3" round, flangeless, flat		E3TREFNS4 (B OR S)
	3" square, flangeless, flat		E3TREFNS3 (B OR S)

May require lamp to be placed in high position.
Not compatible with lensed trims.

ORDERING GRID

E3 TRIM-MOUNTED REFLECTORS

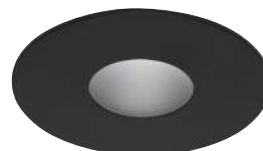
PRODUCT	STYLE	FINISH
E3TREF	NS1 NON-SLOTTED	B ANODIZED BLACK
	NS2 NON-SLOTTED	S ANODIZED SILVER
	NS3 NON-SLOTTED	
	NS4 NON-SLOTTED	
	NS5 NON-SLOTTED	
	NS6 NON-SLOTTED	

E3TREF

Reflectors are placed on top of the inside of the trim or affixed via screws (only if provided).



SHOWN IN ANODIZED BLACK
(BELOW CEILING VIEW)



SHOWN IN ANODIZED SILVER
(BELOW CEILING VIEW)



SHOWN IN ANODIZED SILVER
(BELOW CEILING VIEW)



SHOWN IN ANODIZED BLACK
(TRIM MOUNTED)



SHOWN IN ANODIZED BLACK AND
SILVER (REFLECTOR ONLY)

ELEMENT™ 3" LED

FIXED DOWNLIGHT

PHOTOMETRICS

Description: 3" LED Module
10° Beam - 0° Tilt,
80 CRI, 3000K

Model: E3 Citizen LED

Input Power (Watts): 16.3

Input Power Factor: 0.98

Absolute Luminous
Flux (Lumens): 1337

Lumen Efficacy
(Lumens per Watt): 82

Output difference between CCTs - 5%, CRIs - 15%.

Description: 3" LED Module
18° Beam - 0° Tilt,
80 CRI, 3000K

Model: E3 Citizen LED

Input Power (Watts): 18.1

Input Power Factor: 0.98

Absolute Luminous
Flux (Lumens): 1598

Lumen Efficacy
(Lumens per Watt): 88.1

Description: 3" LED Module
25° Beam - 0° Tilt,
80 CRI, 3000K

Model: E3 Citizen LED

Input Power (Watts): 18.3

Input Power Factor: 0.98

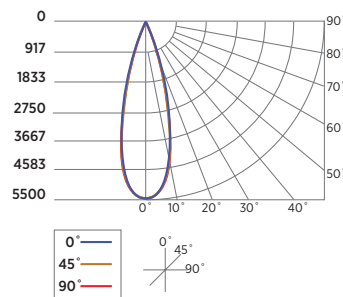
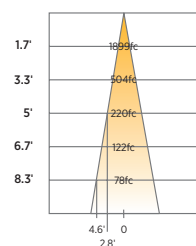
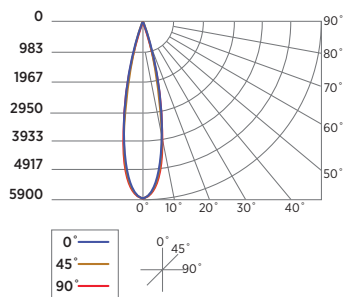
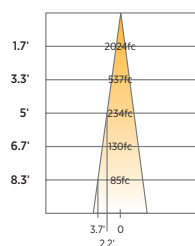
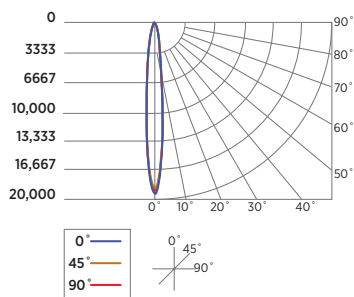
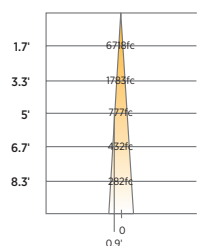
Absolute Luminous
Flux (Lumens): 1754

Lumen Efficacy
(Lumens per Watt): 95.5

ANGLE	0°	45°	90°
0°	19414	19414	19414
5°	10254	10254	10254
10°	3511	3511	3511
15°	1342	1342	1342
20°	383	383	383
25°	126	126	126
30°	84	84	84
35°	54	54	54
40°	31	31	31
45°	22	22	22
50°	18	18	18
55°	11	11	11
60°	6	6	6
65°	3	3	3
70°	2	2	2
75°	0	0	0
80°	0	0	0
85°	0	0	0
90°	0	0	0

ANGLE	0°	45°	90°
0°	5848	5848	5848
5°	5500	5478	5491
10°	3919	3944	3905
15°	2103	2212	2149
20°	1058	1199	1075
25°	507	548	508
30°	250	237	250
35°	148	140	141
40°	93	98	94
45°	51	69	61
50°	33	46	37
55°	21	27	24
60°	4	15	10
65°	2	3	2
70°	2	2	2
75°	0	0	0
80°	0	0	0
85°	0	0	0
90°	0	0	0

ANGLE	0°	45°	90°
0°	5422	5416	5427
5°	4916	4872	4888
10°	3800	3718	3721
15°	2040	2115	2016
20°	870	979	900
25°	400	441	414
30°	190	190	196
35°	103	103	105
40°	60	65	61
45°	27	43	31
50°	16	25	17
55°	7	12	7
60°	2	5	2
65°	2	2	2
70°	1	1	2
75°	0	0	0
80°	0	0	0
85°	0	0	0
90°	0	0	0



ELEMENT™ 3" LED

FIXED DOWNLIGHT

PHOTOMETRICS

Description: 3" LED Module
40° Beam - 0° Tilt,
80 CRI, 3000K

Model: E3 Citizen LED

Input Power (Watts): 16.9

Input Power Factor: 0.98

Absolute Luminous

Flux (Lumens): 1774

Lumen Efficacy

(Lumens per Watt): 104.6

Output difference between CCTs - 5%, CRIs - 15%.

Description: 3" LED Module
60° Beam - 0° Tilt,
80 CRI, 3000K

Model: E3 Citizen LED

Input Power (Watts): 18.4

Input Power Factor: 0.98

Absolute Luminous

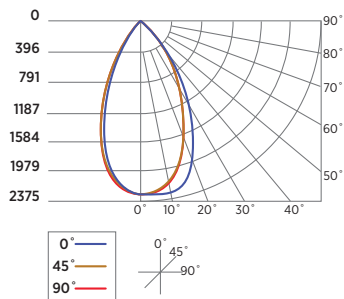
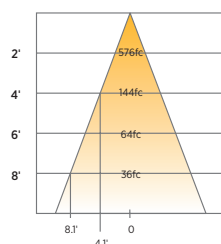
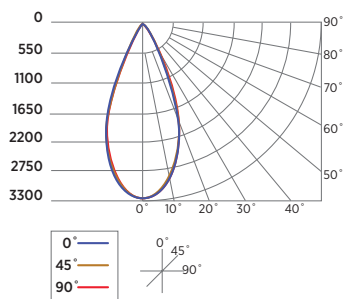
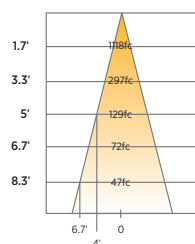
Flux (Lumens): 1536

Lumen Efficacy

(Lumens per Watt): 83.5

ANGLE	0°	45°	90°
0°	3230	3230	3230
5°	3107	3126	3159
10°	2824	2830	2871
15°	2415	2407	2463
20°	1863	1866	1937
25°	1111	1125	1128
30°	490	521	479
35°	221	232	205
40°	115	114	110
45°	65	64	59
50°	30	38	22
55°	14	22	11
60°	6	9	4
65°	1	3	1
70°	1	1	1
75°	1	1	1
80°	0	0	0
85°	0	0	0
90°	0	0	0

ANGLE	0°	45°	90°
0°	2305	2305	2305
5°	2313	2298	2268
10°	2295	2248	2155
15°	2219	2116	1938
20°	1964	1876	1714
25°	1548	1544	1330
30°	1113	1176	1013
35°	749	835	704
40°	450	511	428
45°	230	283	221
50°	94	140	91
55°	38	69	35
60°	18	31	16
65°	8	13	6
70°	0	4	0
75°	0	0	0
80°	0	0	0
85°	0	0	0
90°	0	0	0



ELEMENT™ 3" LED

FIXED DOWNLIGHT

PROJECT INFORMATION

JOB NAME AND INFORMATION

FIXTURE TYPE AND QUANTITY

NOTES

BSS215 | bodhi

3-1/8" wide LED luminaire with drop lens



Project: _____ Type: _____

F11 - Wall .
Confirm length and Finish.



FEATURES

The BSS215 is a linear LED luminaire for general lighting applications. The 3-1/8" wide extruded aluminum housing is capped by a 2" tall, frosted, three-sided lens that produces a wide distribution of diffuse illumination. 1/4" thick machined aluminum end caps finish off the fixture ends.

SPECIFICATIONS

Fixture constructed of an extruded aluminum housing, extruded, frosted acrylic lens and machined aluminum end caps

Model variations offered for surface, wall mount and cable suspended mounting with solid or luminous end options.

Standard finishes as shown below

Available in nominal lengths of 2'-8' single fixtures and continuous runs

Basic continuous run fixtures provided with 18 ga. wiring harness for 6 Amp maximum load (consult factory for runs requiring multiple circuits, sensor integration, etc.)

Standard integral 120-277V driver offered with 0-10V dimming or non-dim (other dimming driver options available)

Integral 120-277V emergency battery backup available for 4' nominal non-dim or 0-10V (consult factory for all other lengths/drivers)

Standard light outputs are 600, 840 or 1135 lumens per foot

LEDs available in 3000K, 3500K, 4000K, 5000K, within a 3 step MacAdam ellipse, all with 80+ CRI typical

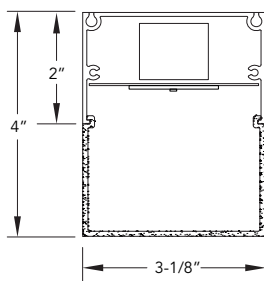
Life: 50,000 hours L₇₀

Passive infrared occupancy sensor available

Limited five year warranty

UL and C-UL listed for dry and damp locations

SECTION



PERFORMANCE

NOMINAL LENGTH	OUTPUT	LUMENS/ft.	WATTS/ft.	LUMINAIRE LUMENS	EFFICACY (LPW)
4'	L: low	600	5.0	2177	117
	R: regular	840	7.8	3100	108
	H: high	1135	11.1	4189	102

Note: All data reflects fixtures with 3500K LEDs and rectangular profile and solid ends



BSS215 -

NOMINAL FIXTURE LENGTH*

2: 22-3/4"
3: 33-3/4"
4: 44-3/4"
5: 55-3/4"
6: 66-3/4"
7: 77-3/4"
8: 88-3/4"

CORRELATED COLOR TEMPERATURE

27: 2700K-80+ CRI
30: 3000K-80+ CRI
35: 3500K-80+ CRI
40: 4000K-80+ CRI

DRIVER

ND: non-dimming
[Dimming]
DM: 0-10V, 1%
HES: Lutron EcoSystem, soft-on/fade-to-black, 1%
H2: Lutron Hi-lume 2-wire forward phase, 1%, (120V ONLY)
EL: eldoLED ECOdrive 0-10V, 1%
ES: eldoLED SOLOdrive 0-10V, 0.1%
ELD: eldoLED ECOdrive DALI, 1%
ESD: eldoLED SOLOdrive DALI, 0.1%

LENS

A: rectangular profile – solid end
B: rectangular profile – luminous end

LIGHT OUTPUT (lumens per foot)

L: low – 600
R: regular – 840
H: high – 1135
CF: consult factory for custom output

MOUNT

SM: surface mount
WD: wall mount – direct
C4: cable mount 4' cable length
C8: cable mount 8' cable length
CF: consult factory for custom mounting

OPTIONS

ED: emergency driver (4' non-dim or 0-10V only)
S1A: occ sensor pos.1, 100%–0% ‡
S1B: occ sensor pos.1, 100%–50% ‡
S2A: occ sensor pos.2, 100%–0% ‡
S2B: occ sensor pos.2, 100%–50% ‡
S3A: occ sensor pos.3, 100%–0% ‡
S3B: occ sensor pos.3, 100%–50% ‡

RUN CONFIGURATION



SN: single
ST: starter
AD: adder
TR: terminator

FINISH

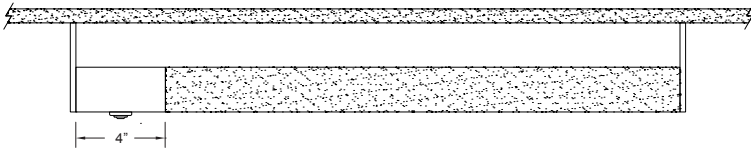
AW: architectural white (semi-matte)
WH: white (semi-gloss)
BL: black (semi-matte)
MB: matte black
ESS: environmental satin silver
BZ: bronze
PR: primer
CF: consult factory for custom finish
SA: satin anodize (may require additional lead time)

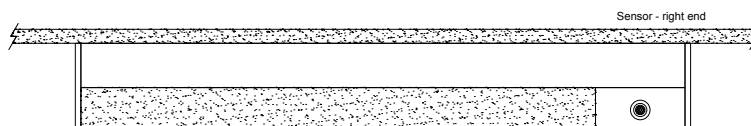
* Actual dimension dependent on run configuration and sensor option
‡ See options section for details

LENS

	ORDERING CODE	DESCRIPTION	SPECIFICATIONS
	A	RECTANGULAR SOLID END	Rectangular profile with full height aluminum end cap
	B	RECTANGULAR LUMINOUS END	Rectangular profile with aluminum end cap and frosted acrylic lens end

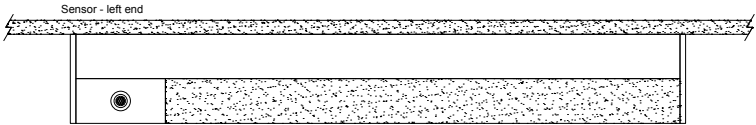
OPTIONS

ORDERING CODE	DESCRIPTION	SPECIFICATIONS
ED	EMERGENCY LED DRIVER	<ul style="list-style-type: none"> Universal 120-277V input voltage emergency driver delivers initial minimum power of 10W for 90 minutes Available for 4' nominal length non-dim or 0-10V fixture only (consult factory for all other lengths/drivers) <p>Note: remote battery backup available for shorter fixture lengths - ordered separately, consult factory for details</p>
	OCCUPANCY SENSOR	<ul style="list-style-type: none"> Passive infrared occupancy sensor with hold-off daylighting adjustment (10-120 foot candles) and time delay adjustment from 30 seconds to 30 minutes Sensor adds 4" to overall fixture length Consult factory for custom output
S1A	Occupancy sensor – position 1, 100% – 0%	Sensor located on the top at an end, with 100% – 0% light output setting
S1B	Occupancy sensor – position 1, 100% – 50%	Sensor located on the top at an end, with 100% – 50% light output setting
		
S2A	Occupancy sensor – position 2, 100% – 0%	Sensor located on the side at the right end, with 100% – 0% light output setting
S2B	Occupancy sensor – position 2, 100% – 50%	Sensor located on the side at the right end, with 100% – 50% light output setting

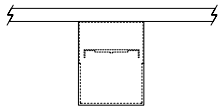
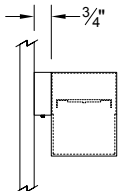
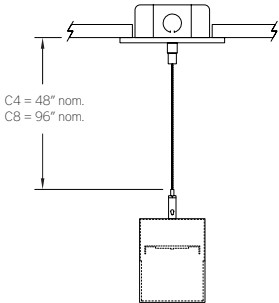


OPTIONS

ORDERING CODE	DESCRIPTION	SPECIFICATIONS
S3A	Occupancy sensor – position 3, 100% – 0%	Sensor located on the side at the left end, with 100% – 0% light output setting
S3B	Occupancy sensor – position 3, 100% – 50%	Sensor located on the side at the left end, with 100% – 50% light output setting



MOUNTING

	ORDERING CODE	DESCRIPTION
	SM	SURFACE MOUNT Use appropriate fastener through Ø3/16" holes in housing
	WD	WALL MOUNT – DIRECT ORIENTATION Mounting option includes: <ul style="list-style-type: none">1-7/8" H x 2-1/2" W aluminum bracket projects the fixture housing 3/4" from the wall surface
	C4 and C8	CABLE MOUNT Mounting option includes: <ul style="list-style-type: none">Ø 1/16"x 48" (C4) or 96" (C8) aircraft cables60" (C4) or 108" (C8) power cable (in coordinating finish)Bracket barsØ 5" white canopiesCeiling couplersSide exit cable grippers

BSS215 | **bodhi**

3-1/8" wide LED luminaire with drop lens

LENGTH/MOUNTING DIMENSIONS

ORDERING CODE	LENGTH A*	LENGTH B*	LENGTH C*	LENGTH D*	LENGTH E*
2	22-3/4"	22-1/2"	22-1/4"	16-3/4"	19-1/2"
3	33-3/4"	33-1/2"	33-1/4"	27-3/4"	30-1/2"
4	44-3/4"	44-1/2"	44-1/4"	38-3/4"	41-1/2"
5	55-3/4"	55-1/2"	55-1/4"	49-3/4"	52-1/2"
6	66-3/4"	66-1/2"	66-1/4"	60-3/4"	63-1/2"
7	77-3/4"	77-1/2"	77-1/4"	71-3/4"	74-1/2"
8	88-3/4"	88-1/2"	88-1/4"	82-3/4"	85-1/2"

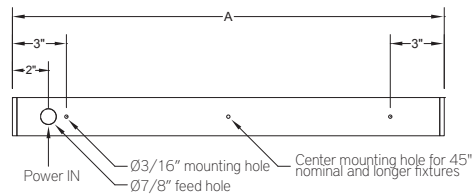
Note: Add 4" to dimension for any fixture using the S1, S2 or S3 occupancy sensor option

RUN CONFIGURATION INFORMATION

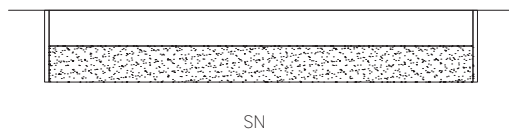
ORDERING CODE	DESCRIPTION
SN	Single
ST	Starter
AD	Adder
TR	Terminator

RUN INFORMATION

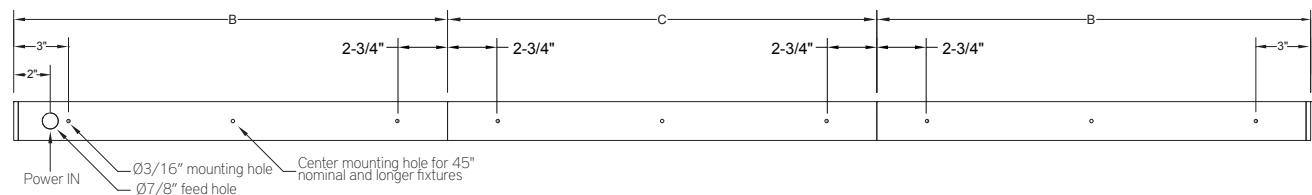
Back Plan - Surface Mount Single Fixture Option



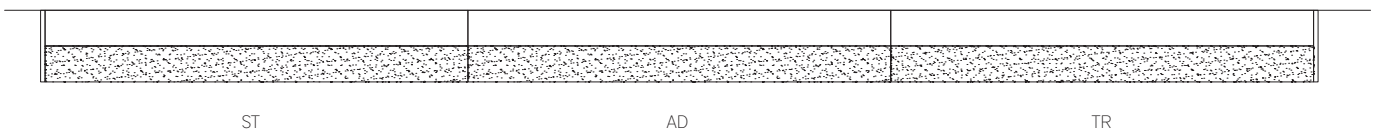
Side View - Surface Mount Single Fixture Option



Back Plan - Surface Mount Continuous Run Option



Side View - Surface Mount Continuous Run Option

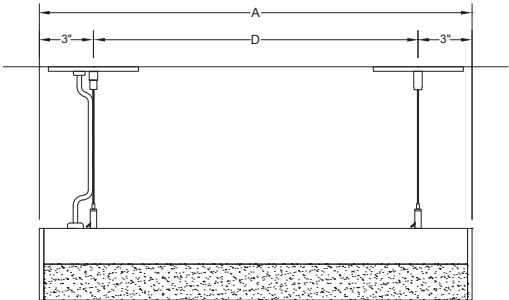


BSS215 | **bodhi**

3-1/8" wide LED luminaire with drop lens

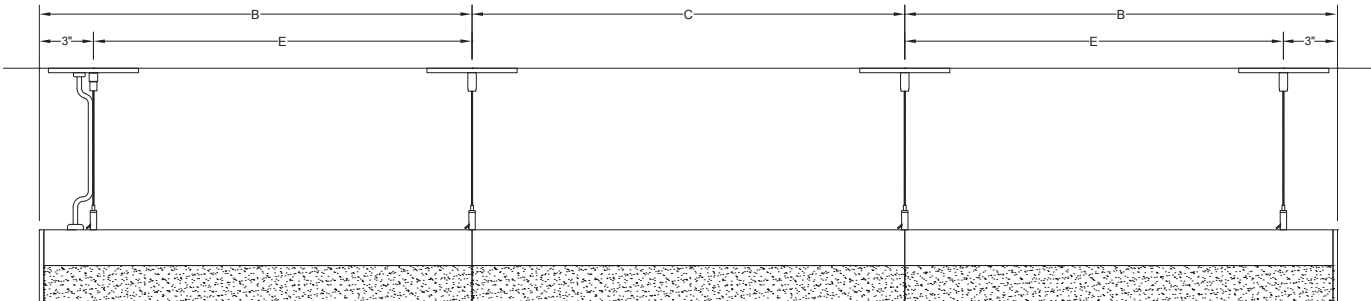
RUN INFORMATION

Side View- Cable Mount Single Fixture Option



SN

Side View - Cable Mount Continuous Run Option



ST

AD

TR

New construction housing with IC housing option available
Trim fixture designed to conceal internal hardware
Trimless fixture features a proprietary aluminum mudding flange
Machined aluminum double gimbals. Adjustable and lockable
2.75" Regressed LED source for enhanced glare control
Lumen range of 1000lm to 5000lm (80+, 90+, and 97+ CRI options)
1% dimming standard with several integral driver options



ORDERING INFORMATION

PROJECT:

TYPE:

CATALOG #:

DATE:

CAT. NO	LUMEN OUTPUT	CRI	COLOR TEMP	BEAM ANGLE	VOLTAGE
3G-RC3	10 - 1000 LUMENS 15 - 1500 LUMENS 22 - 2200 LUMENS 30 - 3000 LUMENS 40 - 4000 LUMENS 50 - 5000 LUMENS ¹	S80 - 80+ CRI H90 - 90+ CRI ² H97 - 97+ CRI ²	27K - 2700K 30K - 3000K 35K - 3500K 40K - 4000K	10D - 10° ³ 20D - 20° 40D - 40° 60D - 60° 90D - 90° *	UNV - 120/277V 120 - 120V 347 - 347V (0-10V ONLY)

* 90D reflector supplied
standard with lens

DRIVER	FLANGE TYPE	GIMBAL FINISH	HOUSING INTERIOR
DIM - 0-10V (STANDARD 100-1%) LE - PHASE DIMMING ⁴ (TRIAC/ELV, 100-1%) LTEA - LUTRON HI-LUME LTEA ⁴ (FWD PHASE, 100-1%) DO1 - 0-10V (eidoLED, 100-0.1%) DALI - DALI (eidoLED, 100-1%) ⁵ DHL2 - LUTRON HI-LUME LDE1 (1% ECOSYSTEM) DMX - DMX (eidoLED, 100-0%)	WT - WHITE TRIM (STANDARD) ST - SILVER TRIM BT - BLACK TRIM CT - CUSTOM XTR - TRIMLESS	NG - NATURAL ALUMINUM BG - BLACK WG - WHITE architect to specify	BK - BLACK (STANDARD) WH - WHITE CF - CUSTOM

HOUSING TYPE	OPTIONS
NC - NEW CONSTRUCTION (NON-IC) IC - IC HOUSING ⁶	CP - CHICAGO PLENUM 2C - 2 CIRCUIT BH - BAR HANGERS SF70 - SOFTENING LENS LS70 - LINEAR SPREAD HXB70 - BLACK HEXCELL LOUVER EMR - EMERGENCY BATTERY ⁷ Maximum 3 optical accessories. See optical accessories page for more options

¹ 5000lm option not available with phase dimming (LE/LTEA) or Lutron Hi-Lume (DHL2) option. 5000lm option not available in 347V.

² 90+ CRI available up to 4000lm. 97+ CRI in 30K and 35K as standard and available up to 3000lm

³ 10 degree reflector available up to 2200lm

⁴ Phase dimming options available in 120V only

⁵ DALI-2 (Type 6) provided as standard. Please consult factory for DALI (Type 8) options

⁶ IC Housing available up to 2200lm

⁷ Emergency battery installed remotely by others. Not accessible through the inside of the fixture

OCTOBER 26, 2022

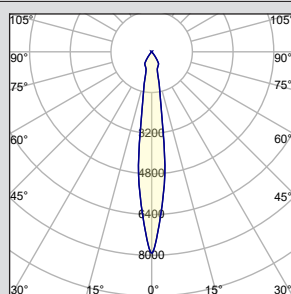
PERFORMANCE CHART BASED ON 20° BEAM AND 3500K SOURCE (PER FIXTURE HEAD)

LUMEN OUTPUT	80+ CRI			90+ CRI			97+ CRI		
	DELIVERED LUMENS	SYSTEM WATTS	EFFICACY (LPW)	DELIVERED LUMENS	SYSTEM WATTS	EFFICACY (LPW)	DELIVERED LUMENS	SYSTEM WATTS	EFFICACY (LPW)
1000LMs	1080	10.3	105	951	10.3	92	886	10.3	86
1500LMs	1444	14.0	103	1271	14	91	1184	14	85
2200LMs	2089	22.0	95	1838	22	84	1713	22	78
3000LMs	2815	31.3	90	2477	31.3	79	2308	31.3	74
4000LMs	3958	43.0	92	3483	43	81	N/A	N/A	N/A
5000LMs	4207	47.3	89	N/A	N/A	N/A	N/A	N/A	N/A

LUMEN OUTPUT ADJUSTMENT FACTORS	CCT	Multiplier
	2700K	0.945
	3000K	0.985
	3500K	1.00
	4000K	1.01

PHOTOMETRY (PER FIXTURE HEAD)

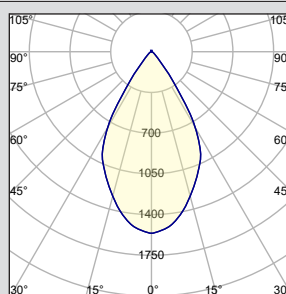
10D - 10° BEAM ANGLE



3G-RC3-15-S80-35K-10D

LUMEN OUTPUT: 1500LMs
 DELIVERED LUMENS: 1313LMs
 SYSTEM WATTS: 14.0W
 EFFICACY: 94LPW
 CRI: 80+
 CCT: 3500K

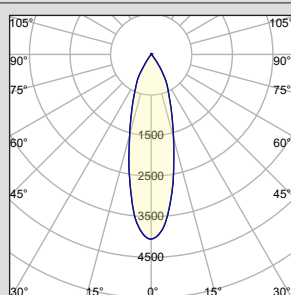
60D - 60° BEAM ANGLE



3G-RC3-15-S80-35K-60D

LUMEN OUTPUT: 1500LMs
 DELIVERED LUMENS: 1440LMs
 SYSTEM WATTS: 14.0W
 EFFICACY: 103LPW
 CRI: 80+
 CCT: 3500K

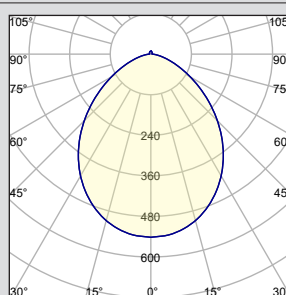
20D - 20° BEAM ANGLE



3G-RC3-15-S80-35K-20D

LUMEN OUTPUT: 1500LMs
 DELIVERED LUMENS: 1444LMs
 SYSTEM WATTS: 14.0W
 EFFICACY: 103LPW
 CRI: 80+
 CCT: 3500K

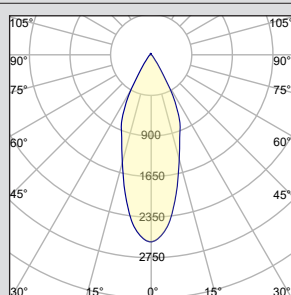
90D - 90° BEAM ANGLE



3G-RC3-15-S80-35K-90D

LUMEN OUTPUT: 1500LMs
 DELIVERED LUMENS: 1281LMs
 SYSTEM WATTS: 14.0W
 EFFICACY: 91LPW
 CRI: 80+
 CCT: 3500K

40D - 40° BEAM ANGLE



3G-RC3-15-S80-35K-40D

LUMEN OUTPUT: 1500LMs
 DELIVERED LUMENS: 1426LMs
 SYSTEM WATTS: 14.0W
 EFFICACY: 102LPW
 CRI: 80+
 CCT: 3500K

TECHNICAL**HOUSING**

New construction housing with IC housing option available
Housing fabricated in cold rolled steel. Standard black powder coated finish
Maximum ceiling thickness of 1". Consult factory for modifications
All housing options designed to be easily converted in field to trim or trimless with minimal components
Housings are rated for #12 AWG, (4 in, 4 out), 90°C conductors and through branch wiring

TRIM

Features a 3/4" removable trim assembly designed to conceal inner hardware

TRIMLESS

Aluminum mudding flange features a unique reveal that emulates drywall
Integral aluminum blocking support provided to ensure fixture is properly secured within ceiling structure

ADJUSTABILITY

Solid aluminum double gimbal with dual axis adjustability
Each double gimbal can be locked in place

OPTICS

Regressed LED source for enhanced glare control
Proprietary anodized, aluminum reflectors are field replaceable (10° reflector not interchangeable)
Available in 10°, 20°, 40°, 60° and 90°

ELECTRICAL

Standard 0-10V, constant current drivers with 100-1% dimming range and >0.9 power factor
Standard 120/277V universal voltage drivers. Optional 347V, 0-10V drivers
120V Forward Phase/Reverse Phase driver option with 100-1% dimming range
eldoLED 0-10V driver option available with 100-0.01% dimming range
eldoLED DALI and Lutron EcoSystem driver options available with 100-1% dimming range
DMX driver option available with 100-0% dimming range
All drivers are integral and easily accessible through fixture aperture

LED SYSTEM

Citizen LED module (field replaceable)
Color consistency <2 SDCM
Standard (80+ CRI). Optional (90+ and 97+ CRI)
Available in 27K, 30K, 35K, and 40K
L90 >50,000 hours
5 Year Warranty

MOUNTING

Trim fixture designed for use in drywall, wood, acoustic ceiling tiles, and other architectural ceiling materials
Trimless fixture designed for use in drywall, mud-in ceiling applications
Butterfly brackets compatible with 1/2" x 1/2" channel, 1/2", 5/8", 3/4" bar hanger, 1/2" EMT, and furring strips (supplied by others)

LISTING

ETL listed and conforms to UL1598 standard. Certified to CSA22.2 NO.250.0. Rated for indoor dry or damp locations

WARRANTY

5 Year Warranty on LED and drivers
Manufacturer 1 Year Warranty for defects in material and workmanship under normal use
Ambient temperature at fixture should not exceed 25°C

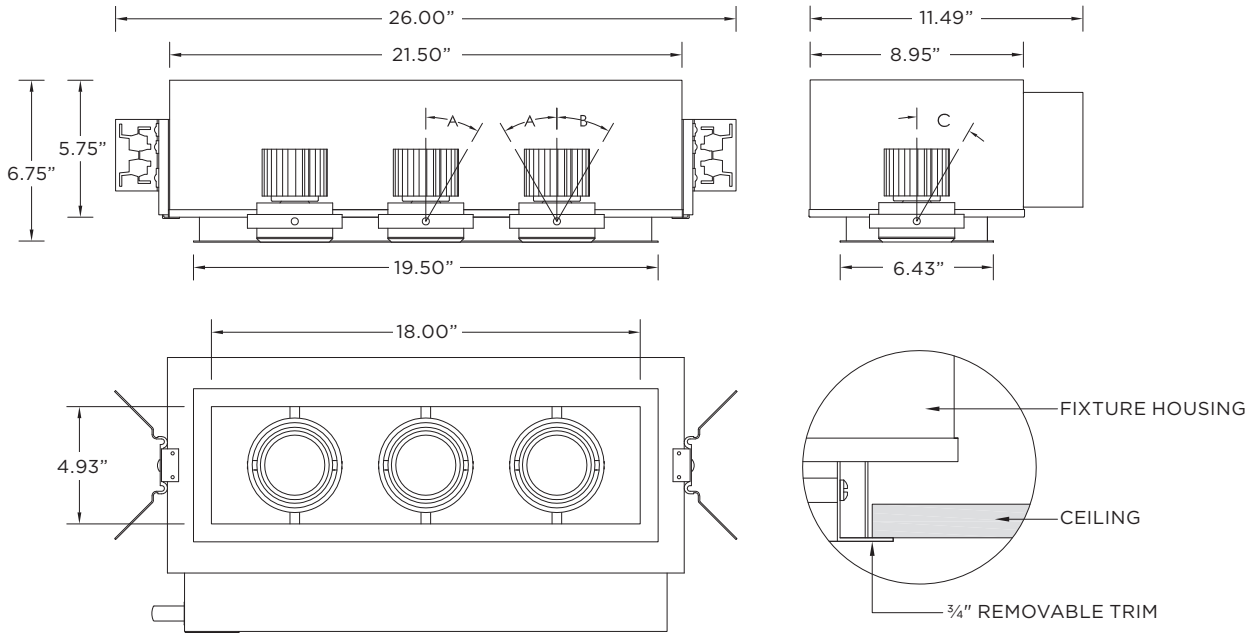
TRIM HOUSING

NC - New Construction (Non-IC)

IC - IC Housing (2200lm max)

CP - Chicago Plenum Housing

LUMEN OUTPUT	A	B	C
Up to 2200lm	45°	45°	45°
3000lm/4000lm	35°	45°	35°
5000lm	20°	45°	30°



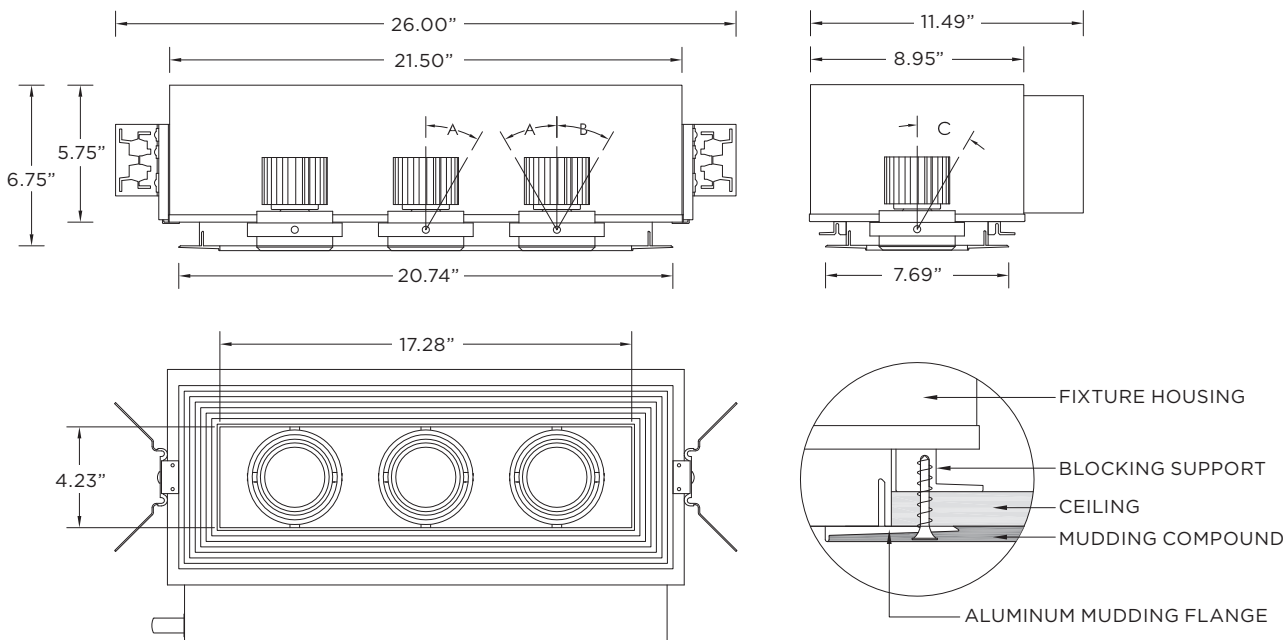
TRIMLESS HOUSING

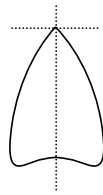
NC - New Construction (Non-IC)

IC - IC Housing (2200lm max)

CP - Chicago Plenum Housing

LUMEN OUTPUT	A	B	C
Up to 2200lm	45°	45°	45°
3000lm/4000lm	35°	45°	35°
5000lm	20°	45°	30°





General Illumination Wall Mount Cylinder

4"

Feature Set

- Batwing distribution with feathered edges provides even illumination on horizontal and vertical surfaces
- Bounding Ray™ optical design
- 45° cutoff to source and source image
- Fully serviceable lensed LED light engine
- 70% lumen maintenance at 60,000 hours
- 2.5 SDCM; 85 CRI typical, 90+ CRI optional
- Fixtures are damp location standard; wet location option (WL), covered ceiling, IP66 option available, covered ceiling not required.
- 20 standard colors in textured and gloss finish; custom or RAL colors also available
- Field configurable surface junction box conduit covers available
- ENERGY STAR® Certified product
- UGR of zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg per CIE 117-1995 Discomfort Glare in Interior Lighting. UGR FAQ ([UGR FAQ](#))

Distribution



Superior Performance

Nominal Lumens	250	500	750	1000	1500	2000	2500	3000	3500	4000	4500	5000
Delivered Lumens	271	573	808	1001	1527	1994	2580	3110	3612	4120	4584	5045
Wattage	3.1	7.2	7.9	8.8	13.7	19.5	25.7	31.2	38.4	35.4	40.1	44.7
Lumens per Watt	87.4	79.6	102.3	113.8	111.5	102.3	100.4	99.7	94.1	116	114	113



Coordinated Apertures | Multiple Layers of Light



General Illumination Layer | EVO



High Center Beam Layer | Incito



EVO + Incito — Multiple Layers of Light

Core



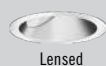
Downlight



Adjustable



Open Wallwash



Lensed Wallwash



Cylinder



Pinhole



Bevel



Hyperbolic

Healthcare



MRI



Surgical Suite



Patient Room

Special Applications



Dynamic



Food Service



Vandal/Tamper



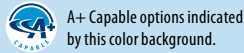
Clean Room



Shower



Steam Room



Luminaire Type:

Catalog Number:

EXAMPLE: EV04WC 35/15 AR MWD LSS MVOLT EZ1 JBX DN DWHG

Series	Color Temperature	Lumens	Reflector Color	Reflector Finish	Distribution	Voltage
EV04WC EVO 4in Wall Mount Round Cylinder Open Downlight	27/ 2700 K	02 250 lumens	AR Clear	LSS Semi-specular	ASYM ² Asymmetric	MVOLT 120V - 277V
	30/ 3000 K	05 500 lumens	PR Pewter	LD Matte diffuse	MD Medium (08 s/mh)	120 120V
	35/ 3500 K	07 750 lumens	WTR Wheat	LS Specular	MWD Medium wide (1.0 s/mh)	277 277V
	40/ 4000 K	10 1000 lumens	GR Gold		WD Wide (1.2 s/mh)	347 ³ 347V
	50/ 5000 K	15 1500 lumens	WR ¹ White painted			
		20 2000 lumens	BR ¹ Black			
		25 2500 lumens	WRAMF ¹ White anti-microbial			
		30 3000 lumens	BZR ¹ Dark Bronze painted			
		35 3500 lumens	TRALTBD ¹ Trim RAL # TBD (TBD for pricing only)			
		40 4000 lumens	TCPC ¹ Trim Custom Paint Color TBD (TBD for pricing only)			
		45 4500 lumens				
		50 5000 lumens				

Driver ⁴	Mounting	Fixture Orientation	Emergency Option
GZ10 0-10V driver dims to 10%	JBX Integral driver, Recessed or Surface J-box	DN Mounted with reflector pointing down	(blank) No emergency options
GZ1 0-10V driver dims to 1%		UP ⁷ Mounted with reflector pointing up	E6W 6W integral emergency battery
EZ10 eldoLED 0-10V ECODrive. Linear dimming to 10% min.	JBXCC Integral driver, Surface J-box with Conduit Covers		E7WCP IOTA® 7W emergency battery (sidecar)
EZ1 eldoLED 0-10V ECODrive. Linear dimming to 1% min.			E10WCP IOTA® 10W emergency battery (sidecar)
EZB eldoLED 0-10V SOLODrive. Logarithmic dimming to <1%.			E15WCP IOTA® 15W emergency battery (sidecar)
EDAB ⁵ eldoLED SOLODrive DALI. Logarithmic dimming to <1%.			
EDXB ^{5,6} eldoLED POWERdrive DMX with RDM (remote device management). Square Law dimming to <1%. Min: 1000LM; Max: 4000LM			
ECOS2 ⁵ Lutron® Hi-Lume® 2-wire forward-phase driver. 120V Only. Minimum dimming level 1%. Min: 1000LM; Max: 2500LM.			
ECOD ⁵ Lutron® EcoSystem® digital Hi-Lume 1% soft-on, fade to black. Max: 4000LM.			
ELV ⁵ Electronic line voltage (120V only)			

Control Interface ⁸	Options	Architectural Colors - Powder Paint ¹³
(blank) No controls	SF Single fuse. Specify 120V or 277V.	DDB Gloss Dark Bronze
NLT nLight® dimming pack.	90CRI High CRI (90+)	DBL Matte Black
NLTER ⁹ nLight® dimming pack for fixtures on emergency circuit	N80 nLight Lumen Compensation	DWH Gloss White
NLTAIR2 nLight® AIR dimming pack.	HAO ¹⁰ HAO High Ambient Option (40°C)	DMB Matte Medium Bronze
NLTAIRER2 ⁹ nLight® AIR dimming pack for fixtures on emergency circuit	WL ¹¹ Wet Location	DNA Gloss Natural Aluminum
	IP66 ^{11,12} Lensed, IP66 rated	DSS Gloss Sandstone
		DGC Gloss Charcoal Grey
		DTG Gloss Tennis Green
		DBR Gloss Bright Red
		DSB Gloss Steel Blue
		DDBT Textured Dark Bronze
		DBLB Textured Black
		DWHG Textured White
		DBNH Textured Bronze
		DNAT Textured Natural Aluminum
		DSST Textured Sandstone
		DSPD Textured Dark Grey
		DSPE Textured Green
		DSPH Textured Light Red
		DWHAMF Gloss White with Anti-microbial finish
		RALTBD Cylinder RAL # TBD (TBD for pricing only)
		CPC Cylinder Custom Paint Color TBD (TBD for pricing only)

ACCESSORIES — order as separate catalog numbers (shipped separately)

GCOLORS KIT Architectural colors chip kit, consisting of powder-coat and plated finishes

ORDERING NOTES	
1. Not Available with Finishes.	8. Field installed. Access required to location of remote mounted device.
2. Requires UP option. Not available with WL or IP66 options.	9. For use with generator supply EM power. Will require an emergency hot feed and normal hot feed.
3. Factory supplied step down transformer must be remote mounted. Access required to location of remote mounted device.	10. Only available up to 2500 lumens; not available with WL or ECOS2.
4. Refer to Tech 240 for compatible dimmers.	11. Not available with UP. Max: 3000LM.
5. Not Available with Control Interfaces.	12. IP66 should be selected if Wet Location is required with UP fixture orientation. Not available with ASYM.
6. Includes terminator resistor.	13. For details on RAL and Custom colors please see Architectural colors .
7. For indoor use, damp location only.	

Optical Assembly

Fully serviceable and upgradeable lensed LED light engine suitable for field maintenance or service from below the ceiling. Optical design is a Bounding Ray™ design with 45° cutoff to source and source image. Top down flash characteristic for superior glare control.

Electrical

The luminaire shall operate from a 50 or 60 Hz ± 3 Hz AC line over a voltage ranging from 120 VAC to 277 VAC. Support 347V via remote-mounted stepdown transformer. The fluctuations of line voltage shall have no visible effect on the luminous output.

The luminaire shall have a power factor of 90% or greater at all standard operating voltages and full luminaire output.

Sound Rated A+. Driver shall be >80% efficient at full load across all input voltages.

Input wires shall be 18AWG, 300V minimum solid copper.

Controls

Luminaire shall be equipped with interface for nLight wired or nLight AIR networks with integral power supply as per specification.

Emergency

Luminaires supplied with a battery pack comply with NFPA 101 (Life Safety code) and deliver constant light output throughout the 90 minutes of code required emergency operation period when there is a normal AC power loss.

Luminaires equipped with a generator transfer device work in conjunction with an auxiliary generator or a central inverter system to power fixtures for safe egress lighting.

Dimming

The luminaire shall be capable of continuous dimming without perceivable stroboscopic flicker as measured by flicker index (ANSI/IES RP-16-10) over a range of 100 – 10%, 100 – 1.0% or 100 – 0.1% of rated lumen output with a smooth shut off function to step to 0%.

eldoLED LED drivers shall conform to IEEE P1789 standards. Alternatively, manufacturers must demonstrate conformance with product literature and testing which demonstrates this performance. Systems that do not meet IEEE P1789 will not be considered.

Driver is inaudible in 24dB environment, and stable when input voltage conditions fluctuate over what is typically experienced in a commercial environment.

Construction

Heaving-gauge aluminum construction.

Extruded body with flangeless reflector allows flow-through passive thermal management.

Surface ceiling mount for direct installation to 4" recessed or surface octagonal junction box.

Optional field configurable conduit covers available. Conduit covers match cylinder in finish and diameter.

Wall mount can be oriented in up or down position. For wet location, specify WLL for lens.

Listings

Fixtures are CSA Certified to meet US and Canadian Standards: All fixtures manufactured in strict accordance with the appropriate and current requirements of the "Standards for Safety" to UL, damp location standard; wet location options available open under covered ceiling (WL) or lensed (WLL).

Luminaire configurations are Energy Star certified through testing in EPA-recognized laboratories, with the results reviewed by an independent, accredited certification organization. Visit www.energystar.gov for specific configurations listed.

Photometrics

LEDs tested to LM-80 standards. Measured by IESNA Standard LM-79-08 in an accredited lab. Lumen output shall not decrease by more than 30% over the minimum operational life of 60,000 hours.

Color appearance from luminaire to luminaire of the same type and in all configurations, shall be consistent both initially and at 6,000 hours and operate within a tolerance of <2.5 MacAdam ellipse as defined by the center of the quadrangles defined in ANSI C78.377-2015.

BUY AMERICAN ACT

This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/buy-american for additional information.

Warranty

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note:

Actual performance may differ as a result of end user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a shaded background*
- This luminaire is part of an A+ Certified solution for nLight® control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

EVO - eldoLED Driver Default Dimming Curve			
Nomenclature	Min Dimming	Driver Dim Curve	Control Dim Curve
EZ10	10%	Linear	Linear/Logarithmic
EZ1	1%	Linear	Linear/Logarithmic
EZB	<1%	Logarithmic	Linear
EDAB	<1%	Logarithmic*	Linear
EDXB	<1%	Square	Linear

*Changable through DALI controller

J-box Compatibility Matrix		Cylinder Configurations	
		JBX	JBX w/EDXB Driver
Recommended J-box (by others)	4" Octagonal 4x4x1.5 deep"	✓	✗
	4" Octagonal 4x4x2.125 deep	✓	✓
	4" Square 4x4x1.5 deep	✓	✗

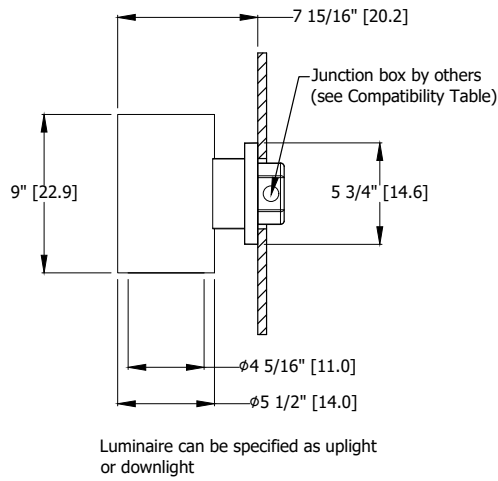
Driver		Control Provided (note: 347V/UVOLT versions provided with 347 option selected)			
Nomenclature	Description	NLT	NLTER	NLTAIR2	NLTAIRER2
GZ10	0-10V driver dims to 10%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
GZ1	0-10V driver dims to 1%	nPP16 D EFP	nPP16 D ER EFP	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ10	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZ1	eldoLED 0-10V ECOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2
EZB	eldoLED 0-10V SOLOdrive	nPS 80 EZ	nPS 80 EZ ER	RPP20 D 24V G2	RPP20 D 24V ER G2

Standard Architectural Color Options for Cylinder Bodies

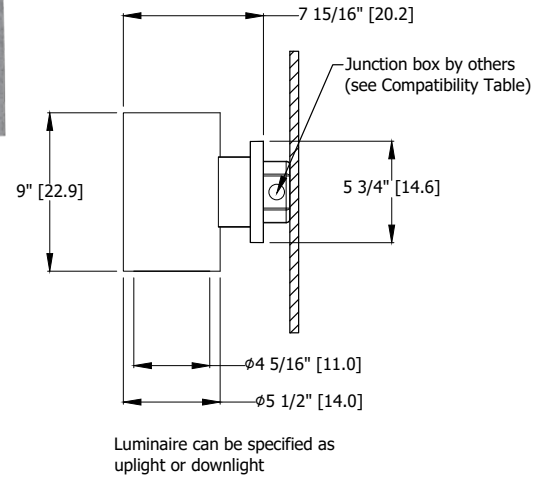
 DSS LITHONIA P12 Sandstone	 DSST TEXTURED P90 Sandstone	 DBR LITHONIA P34 Bright Red	 DSPH TEXTURED P80 Light Red	 DMB LITHONIA P11 Medium Bronze	 DBNH TEXTURED P74 Bronze	 DTG LITHONIA P33 Tennis Green	 DSPE TEXTURED P78 Green
 DSB LITHONIA P49 Steel Blue	 DNA LITHONIA P07 Natural Aluminum	 DNAT TEXTURED P89 Natural Aluminum	 DGC LITHONIA P32 Charcoal Gray	 DSPD TEXTURED P77 Dark Grey	 DDB LITHONIA P50 Dark Bronze	 DDBT TEXTURED P88 Dark Bronze	 DBL LITHONIA P13 Black
 DBLB TEXTURED P75 Black	 DWH LITHONIA P21 White	 DWHG TEXTURED P86 White					

NOTE: These colors were carefully reproduced to give as true a depiction as possible of finished product color. Some colors, however, may vary slightly from actual appearance due to display/printing variations and limitations. Please always contact a Gotham representative for an accurate paint chip sample.

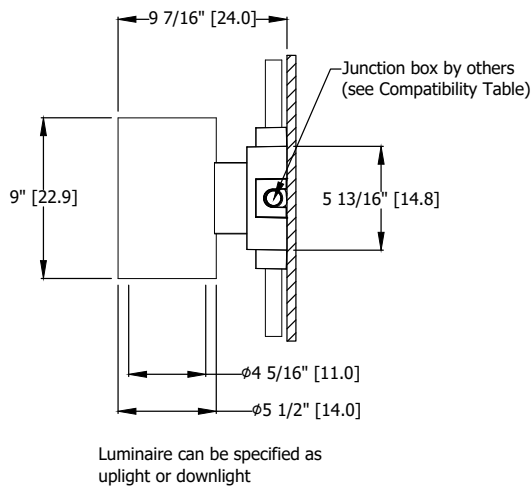
JBX Recessed J-Box



JBX Surface J-Box

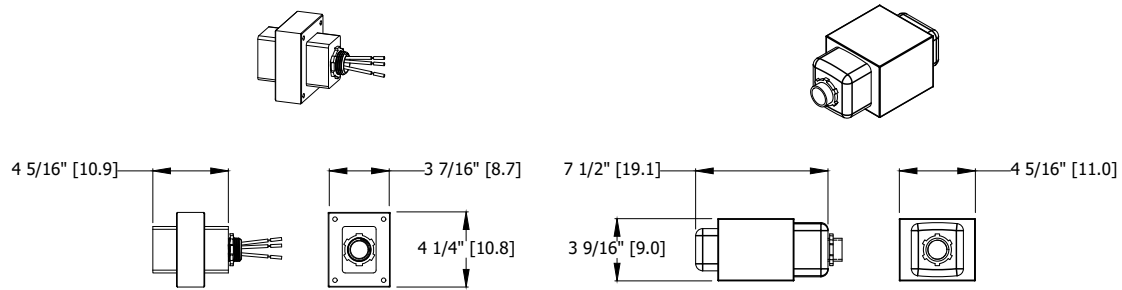


JBXCC Surface J-Box with Conduit Covers



*Dimensions in inches [centimeters]

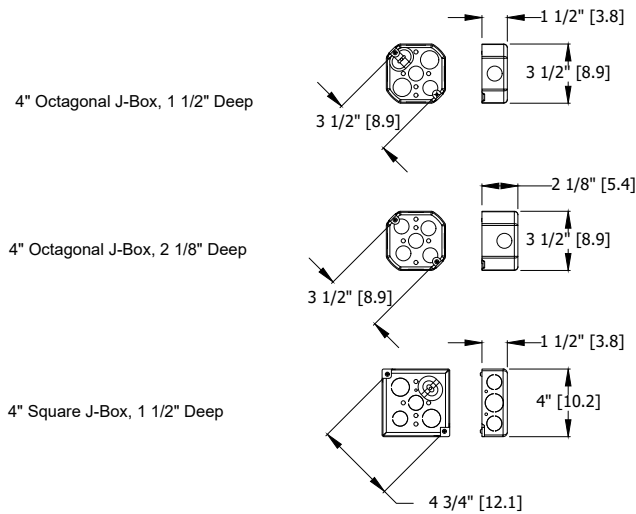
347V Stepdown Transformer



347 Transformer:
Up to 6000LM
Install to accessible
junction box by others

347 Transformer:
8000LM and up
Install to accessible
junction box by others

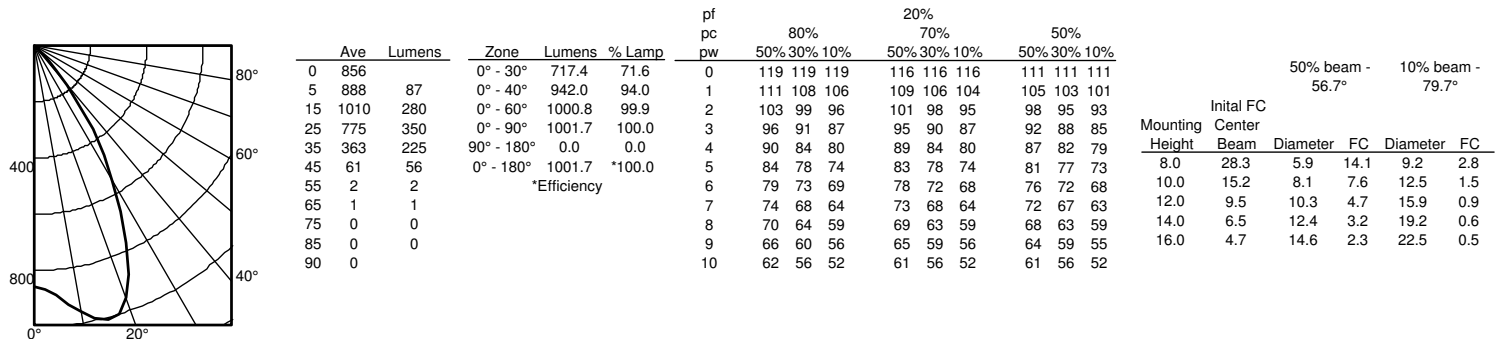
Junction Box Dimensions (by others)



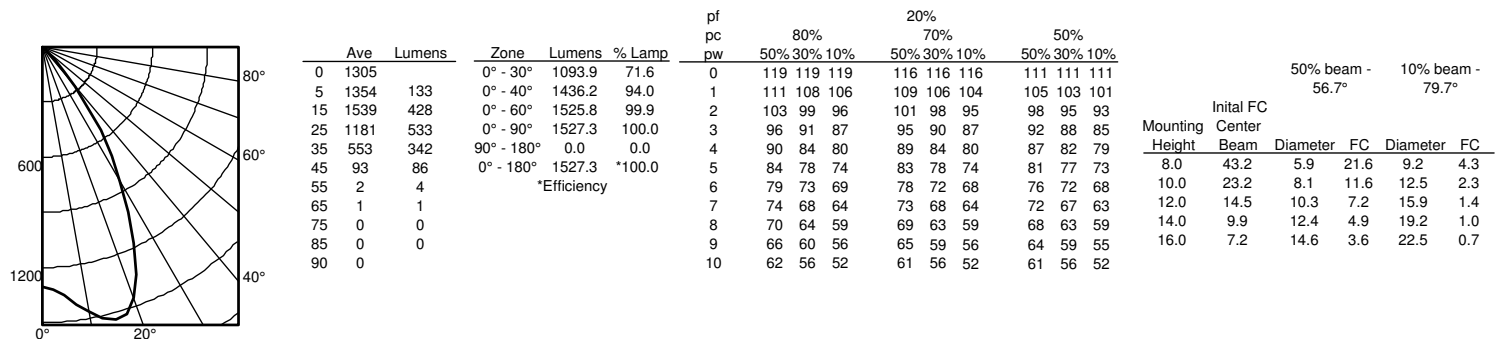
*Dimensions in inches [centimeters]

CONSULT WWW.GOTHAMLIGHTING.COM FOR ADDITIONAL PHOTOMETRY.

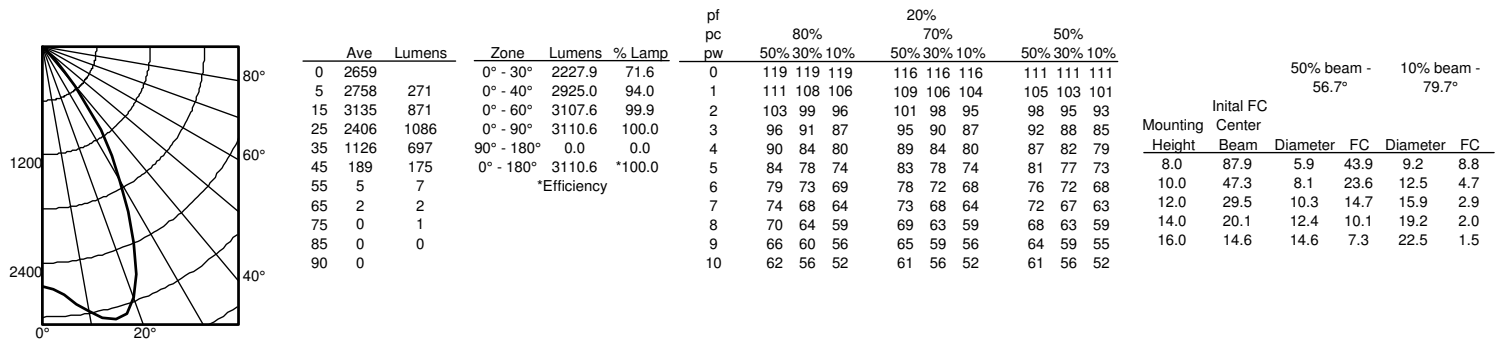
EV04WC 35/10 MWD LS INPUT WATTS: 8.8W, DELIVERED LUMENS: 1001.7LM, LPW = 113.8, 1.08 S/MH, TEST NO. LTL27786P



EV04WC 35/15 MWD LSS INPUT WATTS: 13.7W, DELIVERED LUMENS: 1527.3LM, LPW = 111.4, 1.08 S/MH, TEST NO. LTL27786P



EV04WC 35/30 MWD LSS INPUT WATTS: 31.2W, DELIVERED LUMENS: 3110.6LM, LPW = 99.6, 1.08 S/MH, TEST NO. LTL27786P



Distributions		
Nomenclature	Beam Angle	Field Angle
MD	54	82
MWD	67	89
WD	71	92

Lumen Output Multiplier		
CRI	CCT	Multiplier
80	2700K	0.916
	3000K	0.948
	3500K	1
	4000K	1.032
	5000K	1.1
90	2700K	0.748
	3000K	0.8
	3500K	0.838
	4000K	0.845
	5000K	0.945

Reflector Finish Multiplier	
Reflector Finish	Multiplier
LS - Specular	1
LSS - Semi Specular	0.956
WR - White	0.87
LD - Matte Diffuse	0.85
BR - Black	0.73
BZR - Bronze	0.73



d-series

D-Series DSXF1 LED Floodlight



Catalog
Number

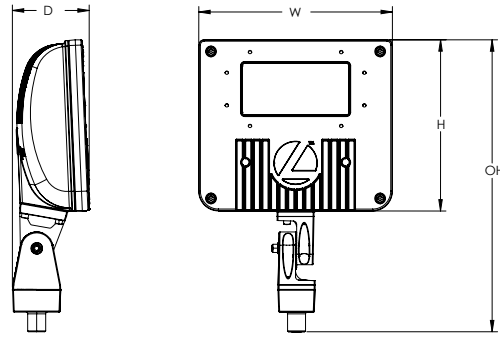
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA:	0.6 ft ² (0.05 m ²)
Depth:	3.52" (8.9 cm)
Width:	8.86" (22.5 cm)
Height:	7.84" (19.9 cm)
Overall Height	13.37" (34.0 cm)
Weight:	7.2 lbs (3.3 kg)



Introduction

The D-Series floodlights feature a site-wide offering to meet specifier's every floodlighting need in application. The D-Series flood offers three sizes delivering 3,000 to 27,000 lumens. Available with seven precision optics, three mountings and three color temperatures, D-Series floodlights offer vast design capabilities while delivering significant energy savings and long life.

The DSXF1 delivers 3,000 to 5,500 lumens, meeting a large breadth of illumination requirements for design and renovation when replacing 70W to 150W HID floodlights. All configurations are assembled in the USA allowing for quick delivery.

Ordering Information

EXAMPLE: DSXF1 LED P1 40K MSP MVOLT THK DDBXD

DSXF1 LED					
Series	Performance Package	Color Temperature	Distribution	Voltage	Mounting
DSXF1 LED	P1 P2	30K 3000K 40K 4000K 50K 5000K	WFL Wide flood (6X6) FL Flood (5X5) MFL Medium flood (4X4) WFR Wide flood rectangular (6X5) HMF Horizontal medium flood (6X4) MSP Medium spot (4X4) NSP Narrow spot (3X3)	MVOLT ¹ 347	Shipped included THK Knuckle with 1/2" NPT threaded pipe IS Integral slipfitter (fits 2-3/8" O.D. tenon) YKC62 Yoke with 2ft 16-3 SO cord

Options	Finish (required)
Shipped installed	
PE Photocontrol, button style ²	DDBXD Dark bronze
DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)	DBLXD Black
SPD10KV Separate surge protection	DNAXD Natural aluminum
	DWHXD White
Shipped separately³	
UBV Upper/bottom visor (universal)	
FV Full visor	
VG Vandal guard	

Accessories³

Ordered and shipped separately.

DSXF1/2TS DDBXD U	Slipfitter for 1-1/4" to 2-3/8" OD tenons; 1/2" THK required (specify finish)
FTS CG6 DDBXD U	Slipfitter for 2-3/8" to 2-7/8" OD tenons; YKC62 required (specify finish)
FRWB DDBXD U	Radius wall bracket, 2-3/8" OD tenon (specify finish)
FSPB DDBXD U	Steel square pole bracket, 2-3/8" OD tenon (specify finish)
DSXF1UBV DDBXD U	Upper/bottom visor accessory (specify finish)
DSXF1FV DDBXD U	Full visor accessory (specify finish)
DSXF1VG U	Vandal guard accessory

For more mounting options, visit our [Floodlighting Accessories](#) pages.

Stock configurations are offered for shorter lead times:

Standard Part Number	Stock Part Number	CI Code
DSXF1 LED P1 40K WFL MVOLT THK DDBXD	DSXF1 LED P1 40K	*240TJH
DSXF1 LED P1 50K WFL MVOLT THK DDBXD	DSXF1 LED P1 50K	*240TJG
DSXF1 LED P2 40K WFL MVOLT THK DDBXD	DSXF1 LED P2 40K	*240TJL
DSXF1 LED P2 50K WFL MVOLT THK DDBXD	DSXF1 LED P2 50K	*240TJJ
DSXF1/2 Slip-fitter Tenon Accessory DDBXD	DSXF1/2TS DDBXD U	*216G5K

NOTES

- MVOLT driver operates on line voltage from 120-277V.
- Requires MVOLT or 347V (not available in 480V).
- Also available as accessories; see Accessories information at left.



Mountings



IS – Adjustable Slipfitter
(Fits 2-3/8" O.D. tenon)



YKC62 - Yoke with 16-350 cord, 2ft



THK - Threaded Knuckle with 1/2" NPT threaded pipe

External Shields



UBV Visor
Top Mounted



UBV Visor
Bottom Mounted



FV - Full Visor

Accessories



VG - Vandal Guard



DSXF1/2TS - THK
Slipfitter Accessory

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown within applicable tolerances. Actual performance may differ as a result of end-user environment and application. Actual wattage may differ by +/- 8% when operating between 120-480V +/- 10%. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Dist. Type	Field Angle		Beam Angle		30K (3000K, 70 CRI)			40K (4000K, 70 CRI)			50K (5000K, 70 CRI)		
			°H	°V	°H	°V	Lumens	LPW	Max Cd	Lumens	LPW	Max Cd	Lumens	LPW	Max Cd
P1	21W	NSP	37	38	18	19	2,601	124	16,316	2,876	137	18,039	2,876	137	18,039
		MSP	51	51	27	28	2,578	123	9,908	2,850	136	10,954	2,850	136	10,954
		MFL	60	60	46	45	2,435	116	4,027	2,692	128	4,452	2,692	128	4,452
		FL	84	91	59	72	2,682	128	2,255	2,965	141	2,494	2,965	141	2,494
		WFL	109	101	86	85	2,766	132	1,494	3,058	146	1,652	3,058	146	1,652
		WFR	103	92	80	71	2,794	133	1,809	3,089	147	2,000	3,089	147	2,000
		HMF	124	63	100	48	2,329	111	2,001	2,575	123	2,212	2,575	123	2,212
P2	42W	NSP	37	38	18	19	4,741	113	29,740	5,242	125	32,881	5,242	125	32,881
		MSP	51	51	27	28	4,699	112	18,060	5,195	124	19,967	5,195	124	19,967
		MFL	60	50	46	45	4,439	106	7,340	4,908	117	8,115	4,908	117	8,115
		FL	84	91	59	72	4,889	116	4,111	5,406	129	4,545	5,405	129	4,545
		WFL	109	101	86	85	4,753	113	2,568	5,573	133	3,011	5,573	133	3,011
		WFR	103	92	80	71	5,094	121	3,297	5,631	134	3,645	5,632	134	3,645
		HMF	124	63	100	48	4,245	101	3,647	4,693	112	4,032	4,693	112	4,032

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient	
0°C	32°F
10°C	50°F
20°C	68°F
25°C	77°F
30°C	86°F
40°C	104°F

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the **DSXF1 LED P2** platform noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

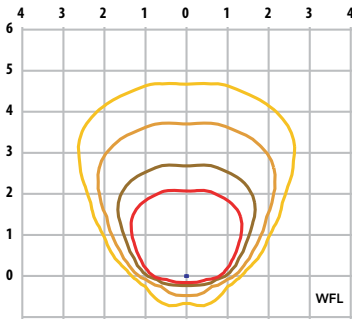
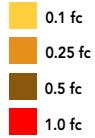
TM-21 Percent Lumen Maintenance	60,000 hrs
Lumen Maintenance Factor	>88%

Electrical Load

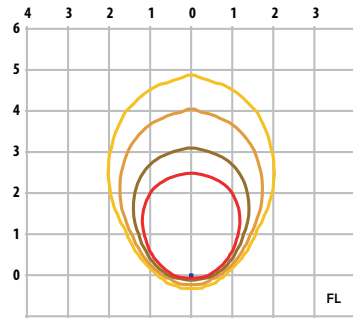
Light Engines	System Watts	Current (A)					
		120	208	240	277	347	480
P1	21W	0.18	0.1	0.09	0.08	0.07	-
P2	42W	0.35	0.20	0.18	0.15	0.12	-

Isofootcandle plots for DSXF1. Distances are in units of mounting height (15ft).

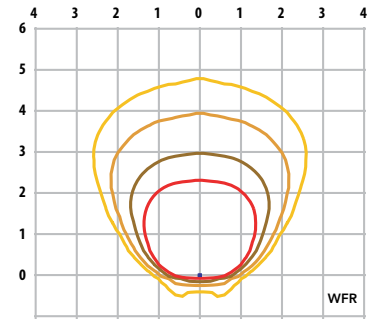
LEGEND



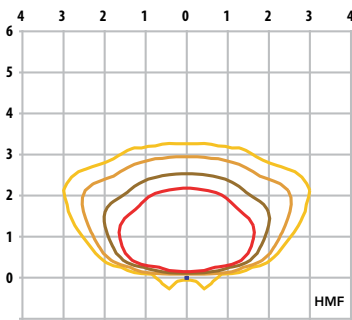
DSXF1 LED P2 40K - Tilted at 45°



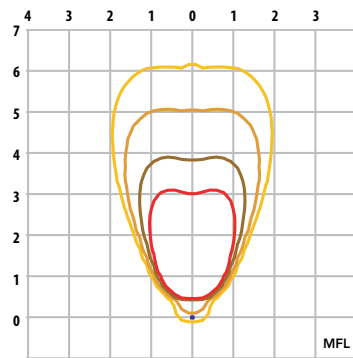
DSXF1 LED P2 40K - Tilted at 45°



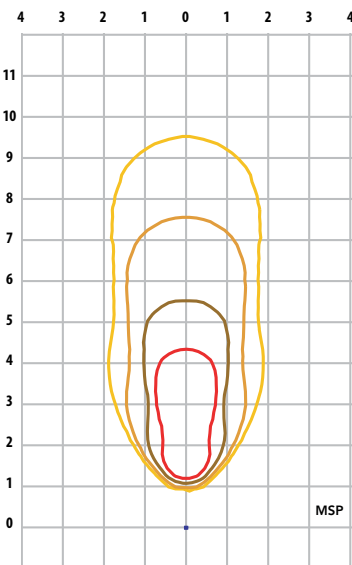
DSXF1 LED P2 40K - Tilted at 45°



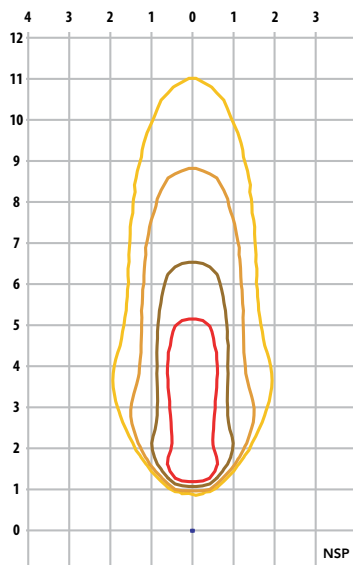
DSXF1 LED P2 40K - Tilted at 45°



DSXF1 LED P2 40K - Tilted at 60°



DSXF1 LED P2 40K - Tilted at 80°

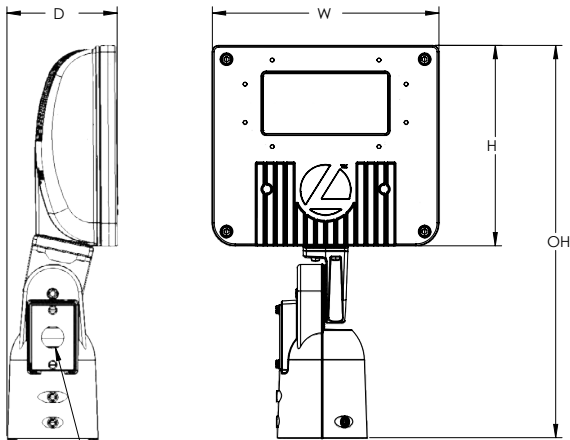


DSXF1 LED P2 40K - Tilted at 80°

MH = 15ft
Grid = 15ft x 15ft

Dimensions

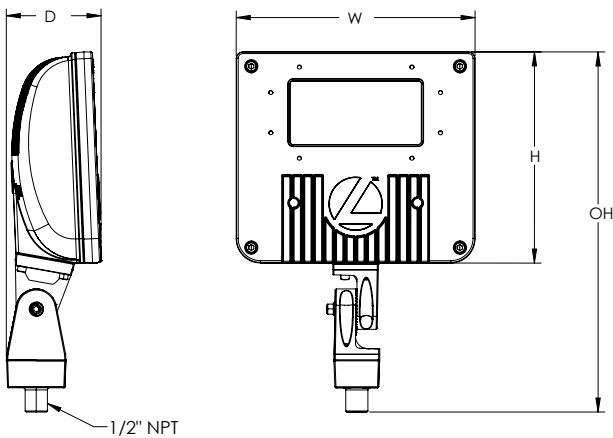
Adjustable Slipfitter (IS)



Width: 8.86" (22.5 cm)
 Depth: 4.32" (11.0 cm)
 Height: 7.84" (19.9 cm) main body
 Overall: 15.35" (39.0 cm) with arm
 Weight: 7.7 lbs

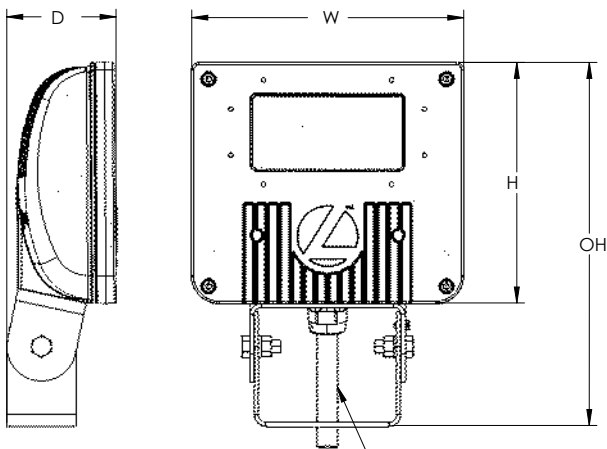
Qty (2) - splice covers included (includes one with 7/8" thru-hole allowing conduit from exterior)

Threaded Knuckle (THK)

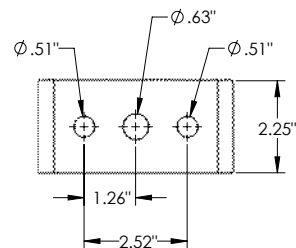


Width: 8.86" (22.5 cm)
 Depth: 3.52" (8.9 cm)
 Height: 7.84" (19.9 cm) main body
 Overall: 13.37" (34.0 cm) with arm
 Weight: 7.2 lbs

Yoke (YKC62)



Yoke (YK) Mounting Detail



Width: 8.86" (22.5 cm)
 Depth: 3.56" (9.0 cm)
 Height: 7.84" (19.9 cm) main body
 Overall: 11.84" (30.0 cm) with arm
 Weight: 7.5 lbs

Note: Standard cord is 16-3 wire, 2 ft cord. Other lengths can be specified.
 Ex: YKC62
 YK = Yoke Mount
 C6 = 16 gage, 3 wire cord
 2 = 2 feet (5 = 5ft, 6 = 6ft, etc.)

Pole Mounting Information

Accessories including bullhorns, cross arms and other adapters are available. For the complete line of accessories available, visit the accessories tab at Lithonia's Outdoor Poles and Arms product page. [Click here to visit Accessories.](#)

FEATURES & SPECIFICATIONS

INTENDED USE

The sleek and compact design of the D-Series floodlights reflects the embedded high performance LED technology while offering a clean aesthetic suitable for specification and general purpose floodlighting applications. Three sizes are available with seven precision optics allowing for maximum design versatility. DSXF1 delivers 3,000 to 5,500 lumens and is ideal for commercial lighting applications including new construction and replacing 70W to 150W HID floodlights. DSXF1 is ideal for security, facade, flagpole, column grazing and signage lighting applications.

CONSTRUCTION

The DSXF1 LED floodlight features rugged die-cast aluminum construction with integral heat sink fins that optimize thermal management through conductive and convective cooling. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. The housing and lens frame are completely sealed against moisture and environmental contaminants providing an IP66 rating. Low EPA (0.8 ft2) for optimized wind loading. DSXF1 is 1.5G vibration rated per ANSI C136.31.

FINISH

Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum, and white. Available in textured and non-textured finishes.

OPTICS

Seven unique precision-molded vacuum-metalized specular reflectors are engineered for superior field-to-beam ratios, uniformity and spacing. Light engines are available in 3000K, 4000K or 5000K (minimum 70 CRI) configurations. Optional visors offer additional versatility when shielding is required.

ELECTRICAL

Light engines consist of chip-on-board (COB) LEDs directly coupled to the housing to maximize heat dissipation and promote long life. LED lumen maintenance is L88/60,000 hours. Class 1 electronic 0-10V continuous dimming drivers ensure system power factor: 90% and THD <20%. Optional 10kV surge protection device meets a minimum Category C low operation (per ANSI/IEEE C62.41.2).

CONTROLS

DSXF2 features MVOLT (120-277V) and 347V button photocontrol.

INSTALLATION

The die-cast integral "IS" mount features an adjustable slipfitter that mounts on a 2 3/8" OD tenon. Includes integral splice compartment offering easy installation and wiring. An extra cover plate with 7/8" through hole is provided to accommodate 1/2" water-tight fitting for power run from outside of the tenon. The "THK" adjustable knuckle mount includes a 1/2-14 NPT pipe thread. A steel yoke "YK" mount is available and includes a water tight cord grip and cord. DSXF1 features a glass lens enclosure that is protected to IP66 and is rated for lighting aimed up above 90°. Suitable for mounting within 4 feet of ground.

LISTINGS

CSA Certified to meet U.S. and Canadian standards. Suitable for wet locations. Rated for -40°C minimum ambient.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN

This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/resources/buy-american for additional information.

WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



400 CAMBRIDGE AVE

ARB RESUBMITTAL FOR MAJOR ARCHITECTURAL REVIEW | OCTOBER 1, 2018



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The 400 Cambridge development includes the assembly of three adjacent parcels to create one 35,000gsf office/retail building with parking to accommodate 15 stalls. The three existing buildings are currently addressed as 380, 400, and 410 Cambridge Avenue, Palo Alto and are located in the Community Commercial Sub District – CC(2) Zoning District. The proposed design introduces a central building entry and lobby on Cambridge Avenue along with individual Ground Level retail space entries. The entire Ground Level is comprised of retail space activating the street front and surrounding neighborhood. Accessibility to the upper office levels is addressed by the introduction of a new passenger elevator accessed from a two-story building lobby.

The proposed architecture unifies the site and creates identity with the introduction of a primary street-front building entry accentuated as a 2-story element in the façade design. The façade both unifies and breaks down the Cambridge Elevation to introduce a massing and scale appropriate to the neighborhood and adjoining structures. The building introduces two prominent masses straddling a central building lobby. The west massing of the building is a 3-story brick structure, while the east massing introduces a 2-story brick arched base capped with a 1-story metal+glass attic or upper floor.

The Cambridge Avenue street frontage includes 3 significant recesses that break-up the overall massing of the building and create interest and events along the public sidewalk. The east-most recess introduces an area for street front tables and chairs which connects to an eastern lot line setback to create an 'L-shaped' micro plaza. These street front events, along with the architecture, help to reduce the perceived size of the building and add interest to the pedestrian experience on the Cambridge Avenue right of way.

The building includes two light wells on the west property line. These setbacks provide additional natural light and air to the adjoining condominiums. The building's east facade is articulated with steel decks and the potential for public art facing onto the adjoining public parking lot. The north facade is setback 10ft from the rear property line, which has a 7ft height fence and landscape screening between the primary and the neighboring lot.



Zoning Summary

Zoning:
Zoning Type: CC(2)
Site Area (SA): 17,500 SF
FAR (Total Site): 2:1
Max. Development Area: 35,000 SF
Allowable Height: 35'-0"

Building Code Summary:
Type of Construction: V-B
Max. Height: 60ft
Allowable No. Stories: 3
Max. Area:

$I_f = \left\lceil \frac{F}{P} - 0.25 \right\rceil_{w/30}$

$A_a = [A_t + (NS \times I_f)]$

$I_f = \left\lceil \frac{165}{510} - 0.25 \right\rceil_{30/30}$

$A_a = [27,000 + (9,000 \times 0.074)]$

$I_f = 0.074$

$A_a = 27,666 \text{ SF (per story)}$

$3 \text{ Stories} = 82,998 \text{ SF Max. Allowed}$

$[82,998 \text{ SF} > 35,000 \text{ SF}]$

Fire resistive rating for exterior walls based on fire separation distance: $X < 5 = 1 \text{ Hr}$ (Table 602)
Max. Area of Exterior Wall Opening: $0\text{ft} < X < 3\text{ft} - \text{Not Permitted}$ (Table 705.8)
Unprotected/sprinklered $5\text{ft} \leq X < 10\text{ft} - 25\%$
 $10\text{ft} \leq X < 15\text{ft} - 45\%$

Scope Summary:
Elevators: (1) Required: 80"x54" Center Opening
68"x54" Side Opening

Exits Required: (2) Exits

Plumbing Fixture Count (per CA CPC):

ITEM		1ST FLOOR		2ND FLOOR		3RD FLOOR	
		REQ'D	PROV'D	REQ'D	PROV'D	REQ'D	PROV'D
WATER CLOSET S	M	1	1**	1	1	1	1
	W	1	1**	3	3	3	3
LAVATORIES	M	1	1	1	2	1	2
	W	1	1	1	2	1	2
URINALS	M	0	0	1	1	1	1
DRINKING FOUNTAINS	-	1	1	1	1	1	1
SHOWER	-	2	2	-	-	-	-

(Unisex) Showers - 11B-213.2.1.
**Provide WC + lav in each unisex shower room (one accessible, one standard shower)
Per Palo Alto Municipal Code (chapter 18.16, Table 6)
Sprinklers Required > 3,600SF or 3+ Stories
Title 24 Envelope: 1" Insulated, thermal broken glass for all new windows

Area Summary (Per Planning Code)

Site:
Lot Area: 17,500 SF
Existing Lot Coverage: 16,375 SF
Proposed Lot Coverage: 14,850 SF

Existing Building Area
First Floor Area -Office: 13,808 SF
-Retail: 1,869 SF
-Total First Floor: 15,677 SF
Second Floor Area -Office: 16,406 SF
Total Building Area 32,083 SF

Proposed Building Area
Total 35,000 SF
(Exceeds existing by 2,917 SF)

Proposed Area By Floor
First Floor Area -Parking: 8,364 SF
-Retail: 4,274 SF
-Common Areas: 1,716 SF
-Total First Floor: 5,990 SF
Second Floor Area -Office: 14,608 SF
Third Floor Area -Office 14,402 SF
Total Building Area 35,000 SF
(Excluding Parking)

Notes to Plan Checker:
A. The proposed project is located within 3 assessor parcels which are further subdivided into 7 underlying lots. The 3 parcels/lots shall be merged, and the underlying lot lines will be removed. Prior to building permit submittal and building permit or grading permit issuance, a Parcel Map or Certificate of Compliance for Lot Merger shall be completed and recorded. See Civil - Existing Conditions in Appendix.

Parking Summary

Off Street Parking:
(California Ave Parking Assessment District, per Palo Alto Municipal Code, Section 18.52.040, Table 2)

Proposed additional building area: 2,917 SF
Proposed retail area: 4,274 SF
Existing retail area: 1,869 SF
Proposed new retail area: 2,405 SF
Proposed new office area: 512 SF
Parking for new retail (2,405 SF/240 SF/space): 10 spaces
Parking for new office (512 SF/310 SF/space): 2 space
Total parking for new building area: 12 spaces
Existing on site parking: 2 spaces
Total required parking: 14 spaces
Total proposed parking (10 retail + 5 office): 15 spaces

Parking Summary (cont.)

Bicycle Parking:
(For California Ave parking Assessment District, per Palo Alto Municipal Code, Section 18.52.040, Table 2)

Retail (A, Intensive): 1 per 2,400 SF
4,274 SF / 2,400 = 1.78 Bicycle Parking Spaces
Long Term = 20% X 1.78 = 0.356
Short Term = 80% X 1.78 = 1.424

General Business Office: 1 per 3,100 SF
29,010 SF / 3,100 = 9.36 Bicycle Parking Spaces
Long Term = 60% X 9.36 = 5.62
Short Term = 40% X 9.36 = 3.75

Req. Long Term: 0.356 + 5.62 = 5.976
Req. Short Term: 1.424 + 3.75 = 5.174

Proposed Long Term: 6 (> 5.976)
Proposed Short Term: 6 (> 5.174)*

*The short term bicycle requirement has been addressed with bicycle racks fronting the building and adjacent to the primary building entry per direction from the Palo Alto Department of Transportation.

Notes to Plan Checker:

A. Off street parking and loading: 10 spaces will be designated for retail business. Additional spaces will be for office use. Garage to remain accessible to public during business hours.

B. Safety light and audible alarm shall be incorporated into operation of garage door/gate.

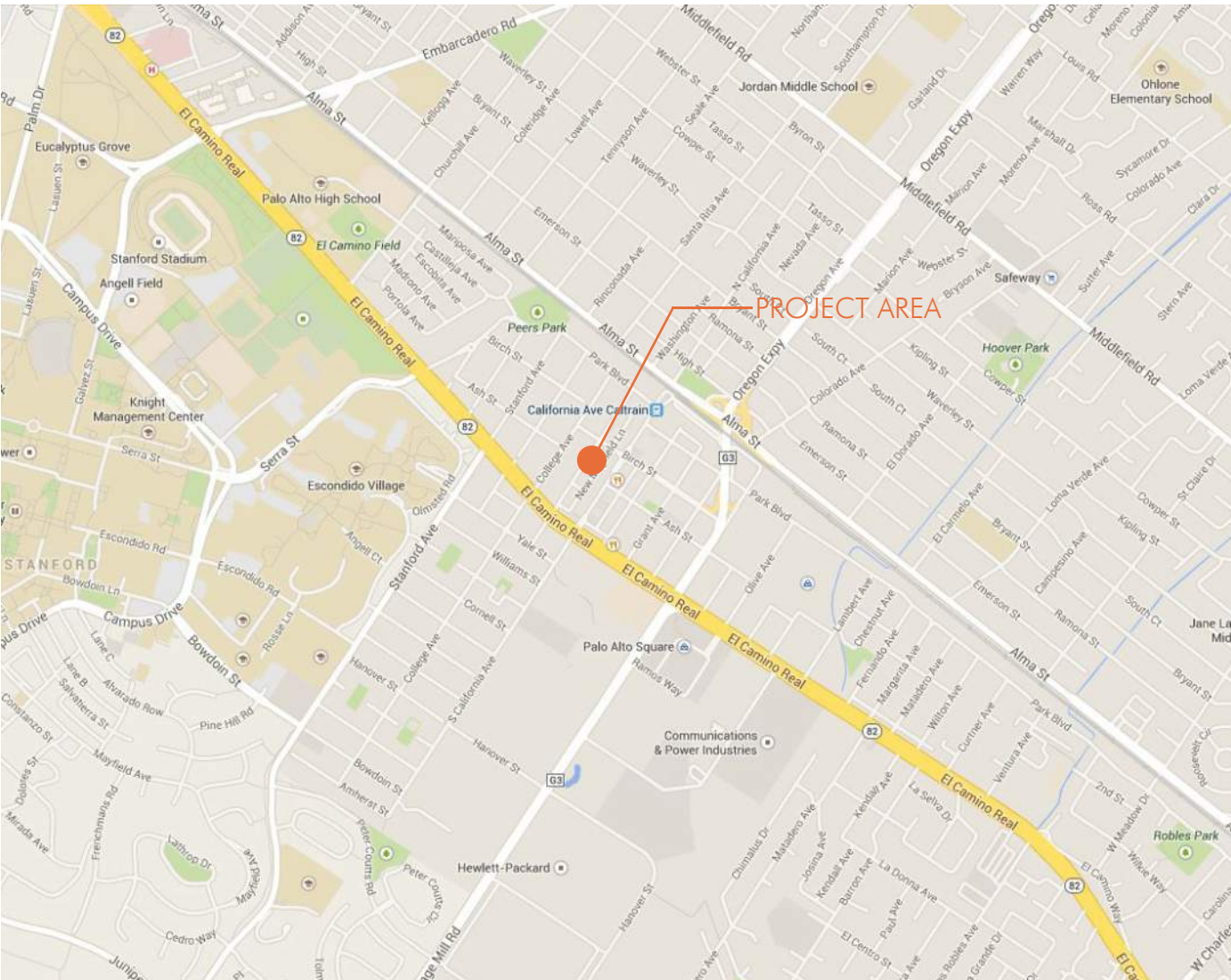
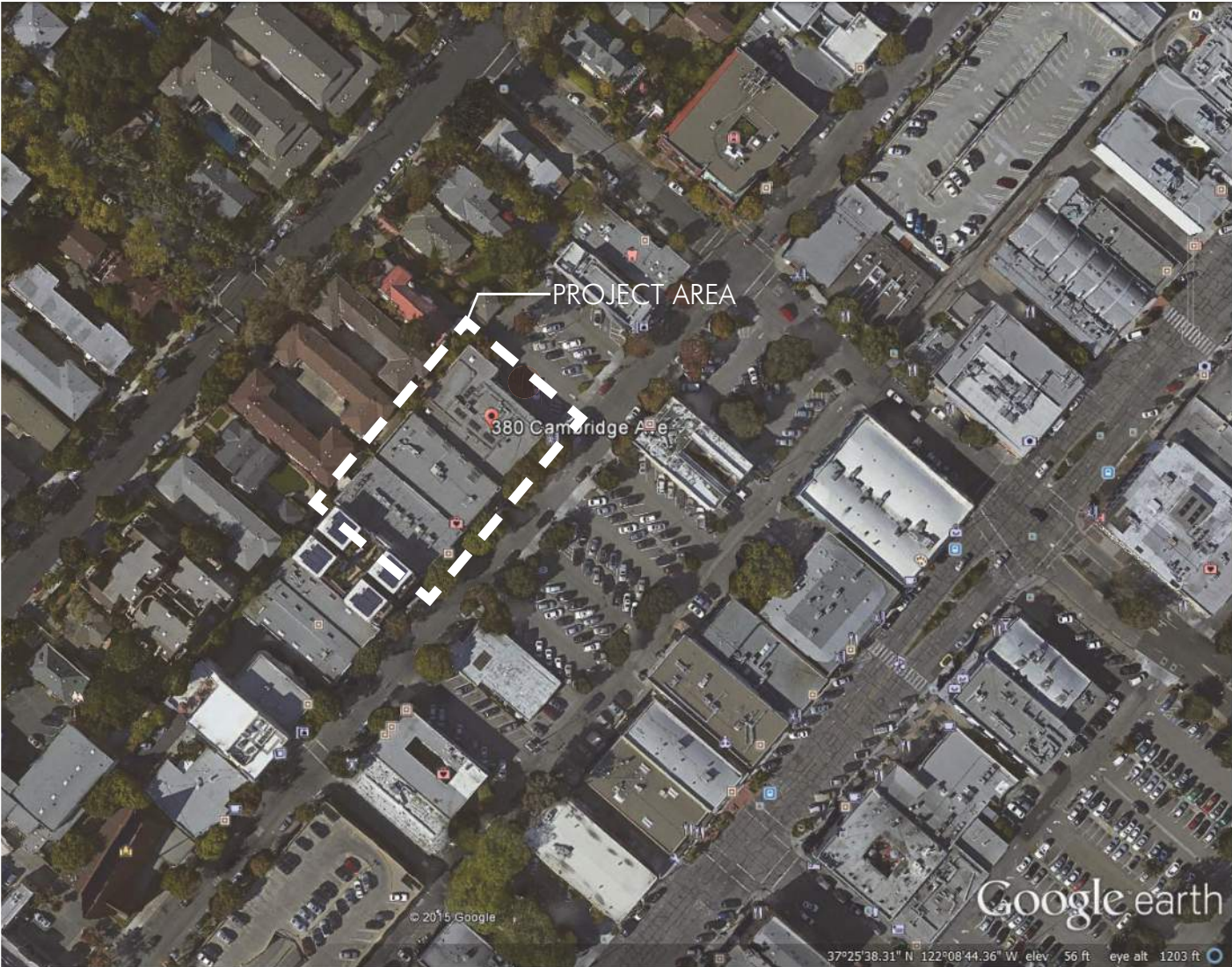
C. It is proposed that the truck loading parking requirements (PMAC 18.52) be met off-site on Cambridge Avenue. The site is not of sufficient size and the first floor plate height does not meet the clearance requirements for an on site truck loading parking stall. See appendix for loading study and diagrams.

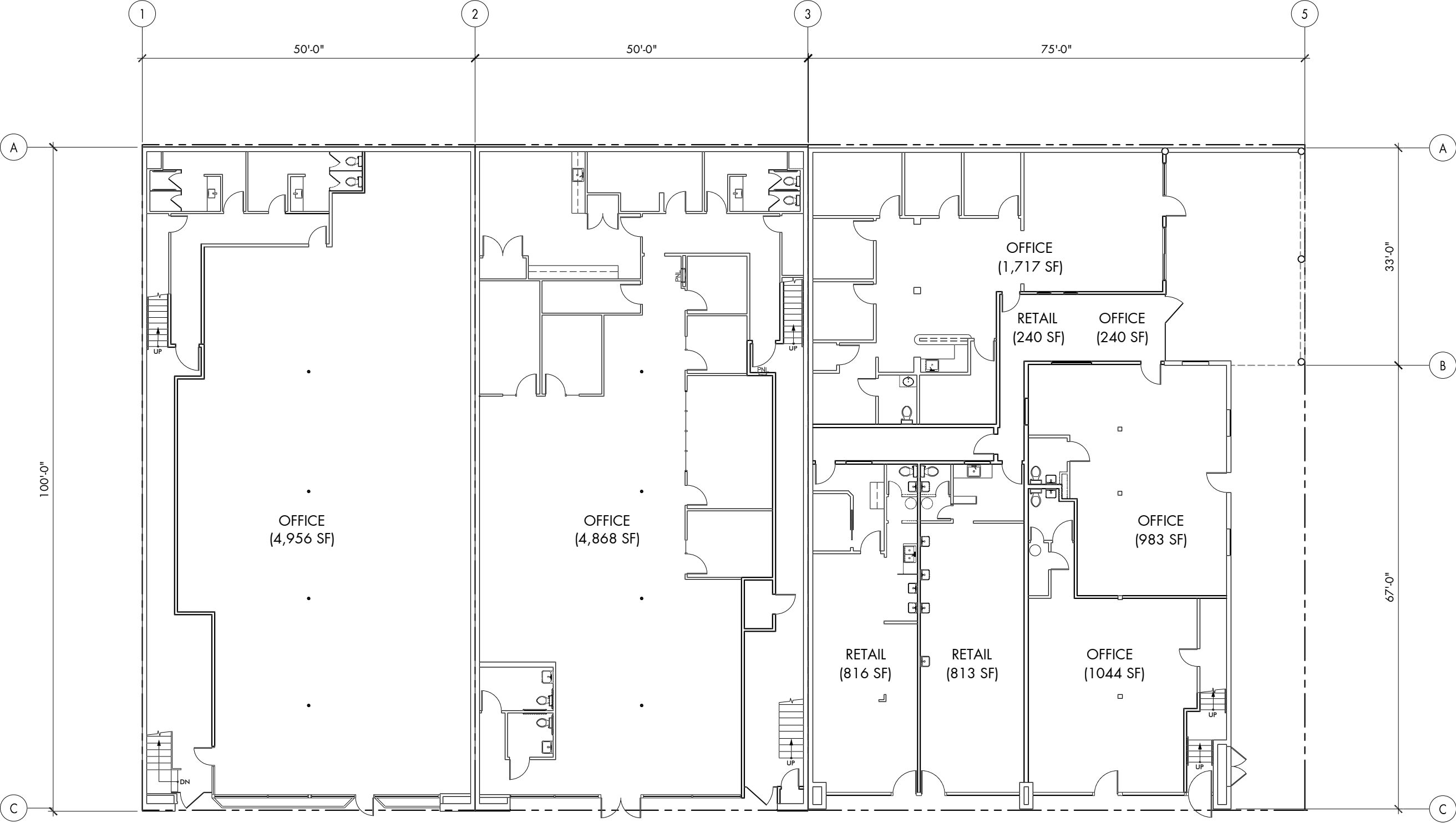
Proposed retail area: 3,350 SF
Existing retail area: 1,869 SF
Proposed new retail area: 1,481 SF

Proposed new office area: 31,714 SF
Existing office area: 30,214 SF
Proposed new office area: 1,500 SF

Parking for new retail: 1,481 SF / 240 SF/space = 7 spaces
Parking for new office: 1,500 / 310 SF/space = 5 spaces

Total parking for new building area: 12 spaces
Existing on site parking: 2 spaces

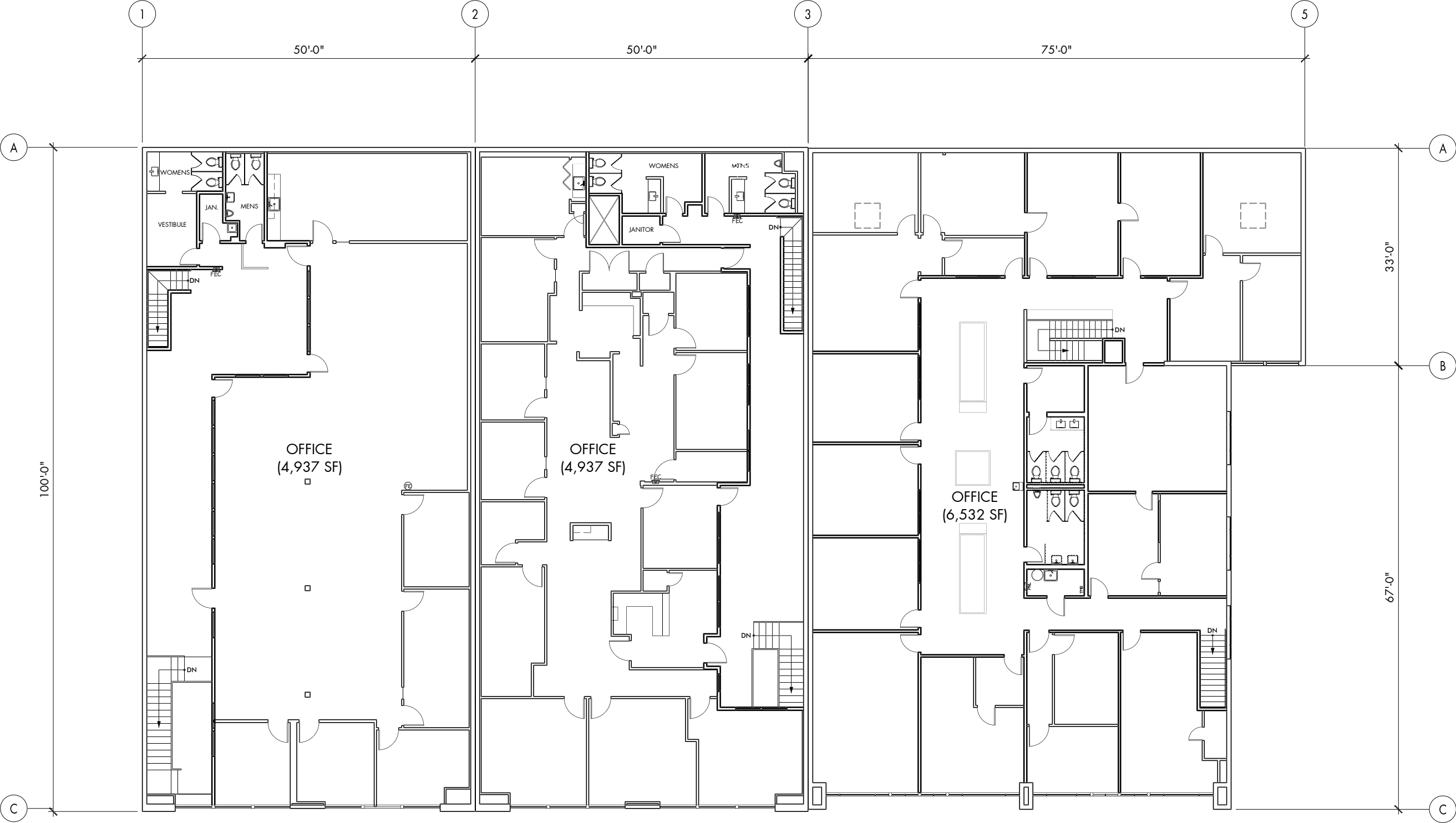




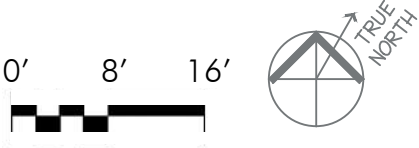
NOTE:
THREE (E) PARCELS TO BE MERGED.
SEE NOTES TO PLAN CHECKER AND CIVIL - EXISTING
CONDITIONS IN APPENDIX.

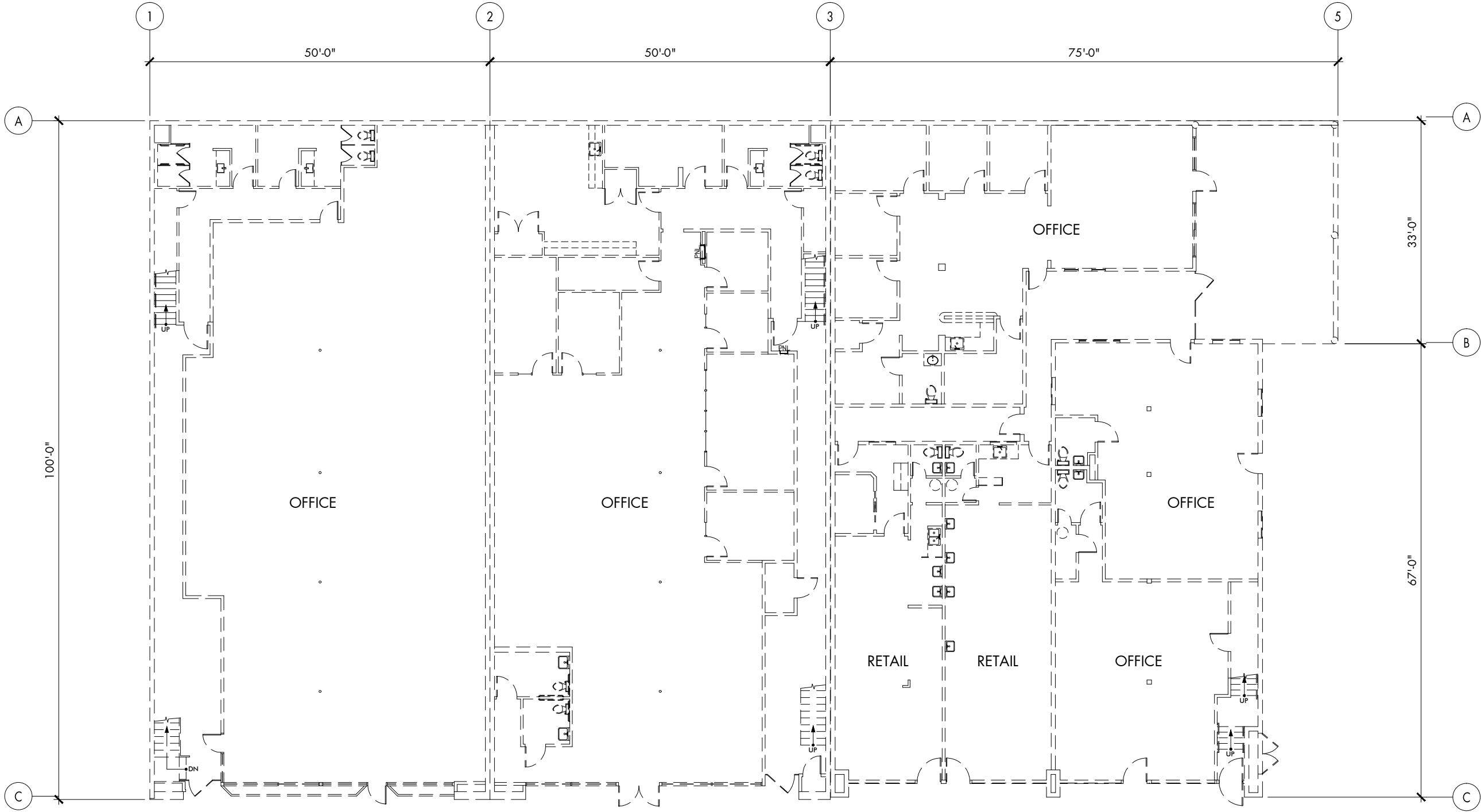
C A M B R I D G E A V E N U E





CAMBRIDGE AVENUE

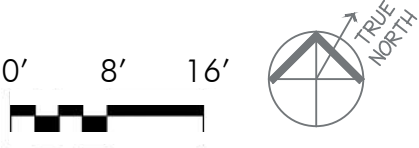


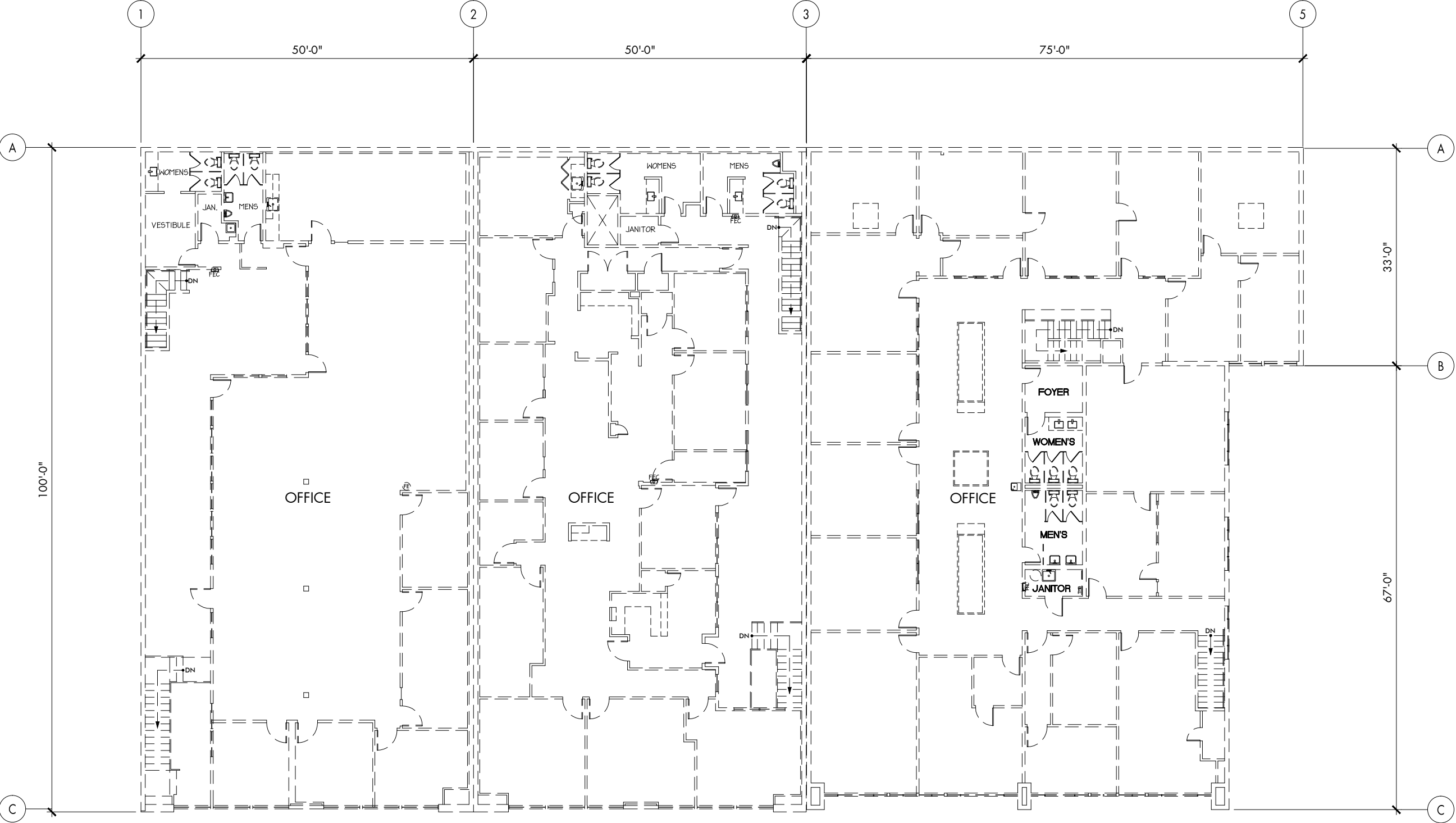


LEGEND

- ==== PARTITION TO BE DEMOLISHED AND REMOVED
- ==> DOOR, FRAME AND HARDWARE TO BE REMOVED.
REMOVE ADJACENT SIDELIGHT, IF APPLICABLE

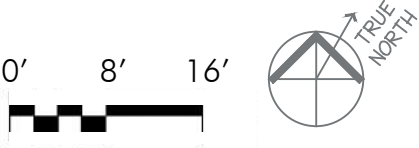
C A M B R I D G E A V E N U E

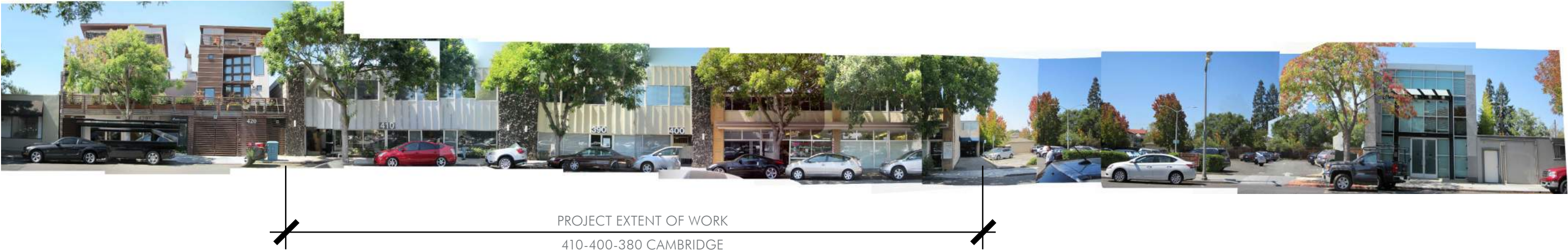


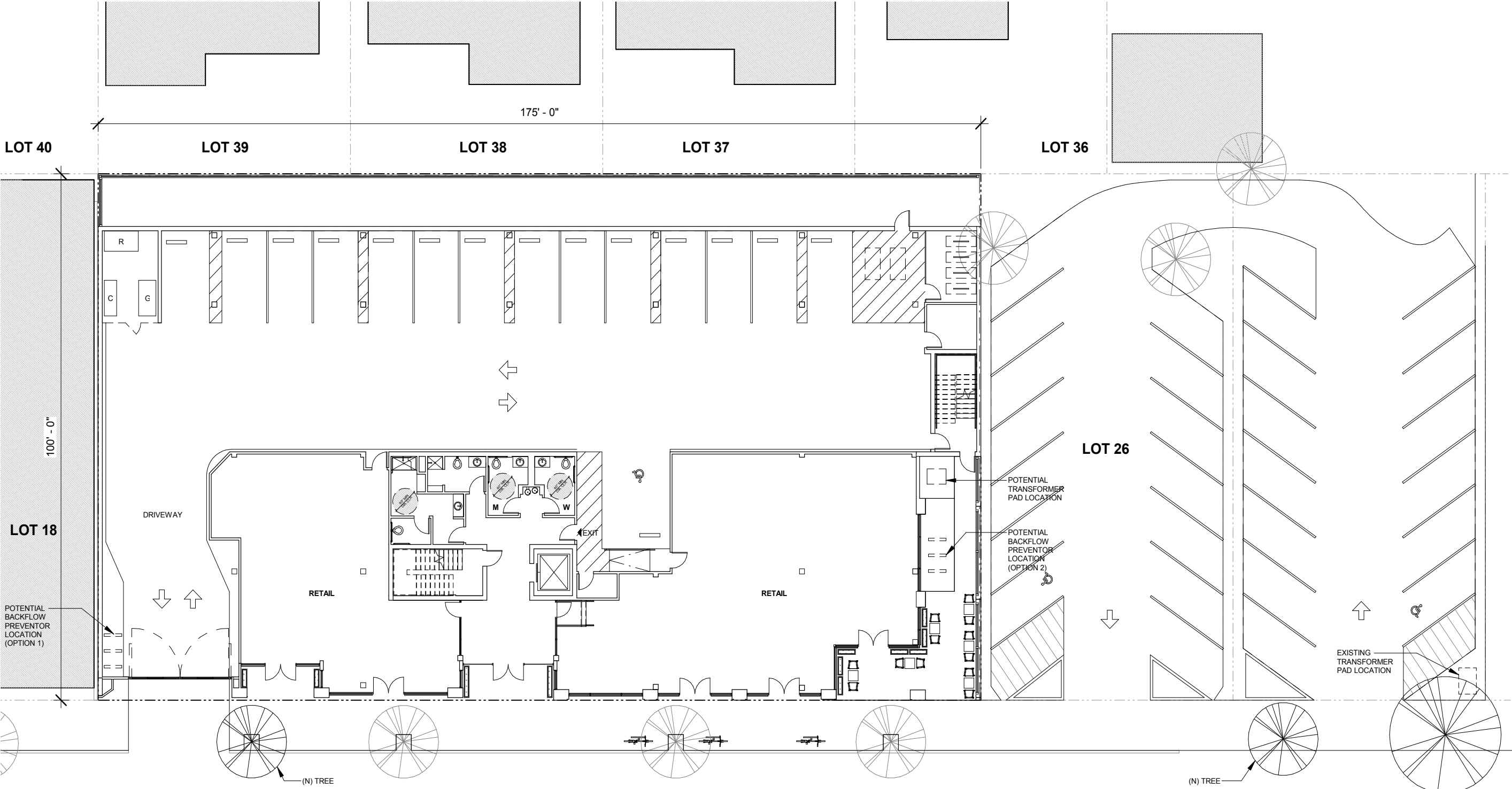


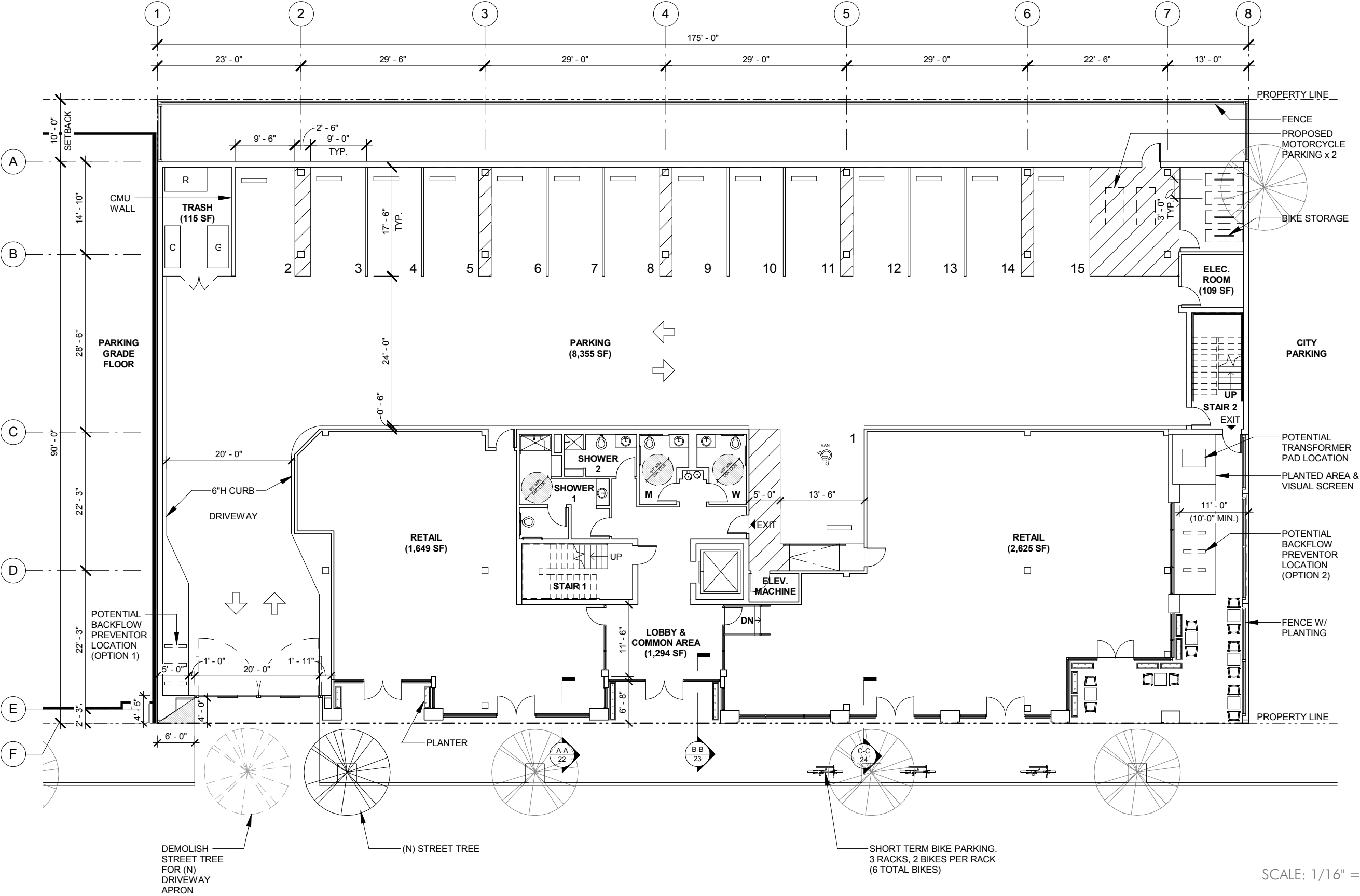
LEGEND

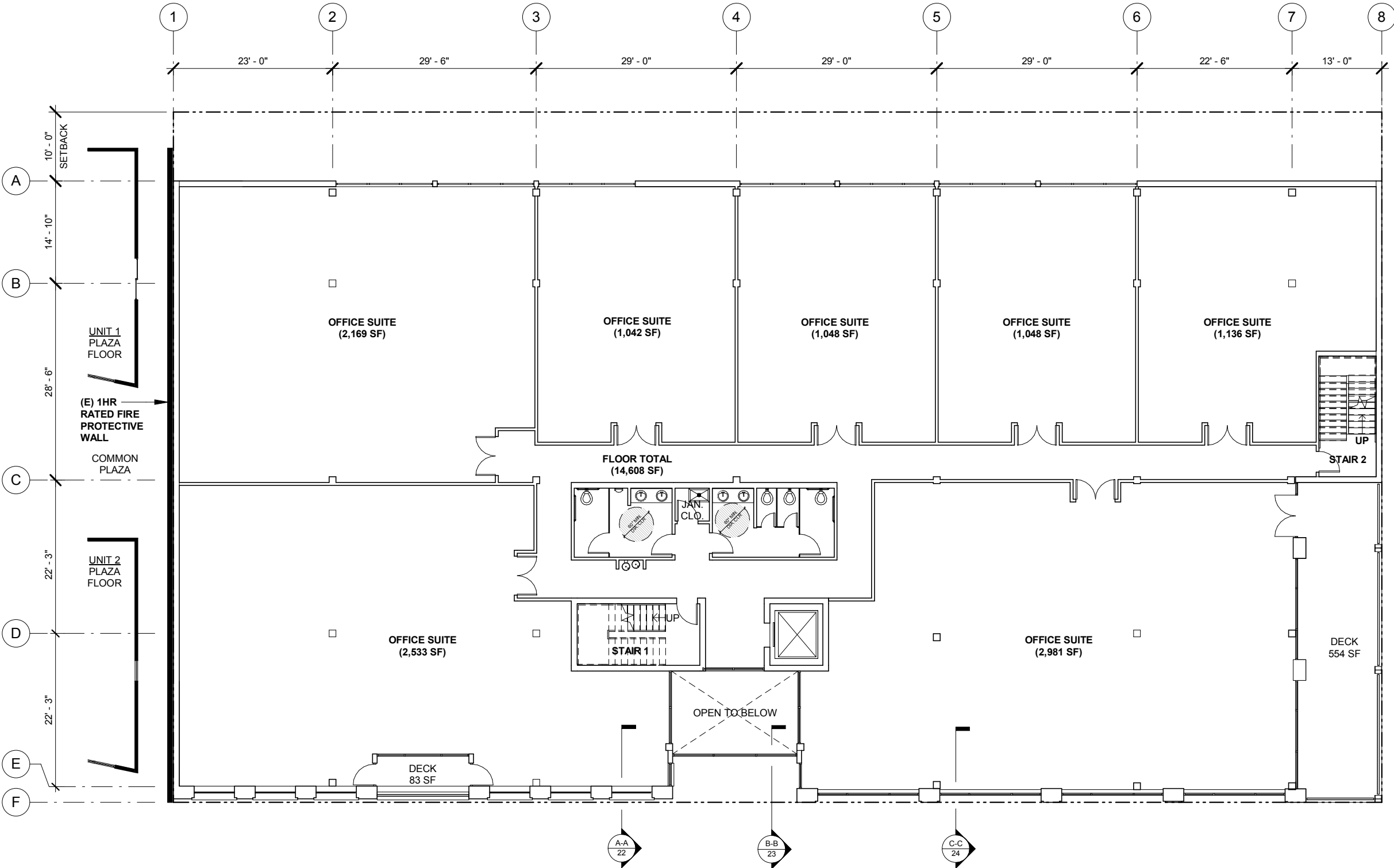
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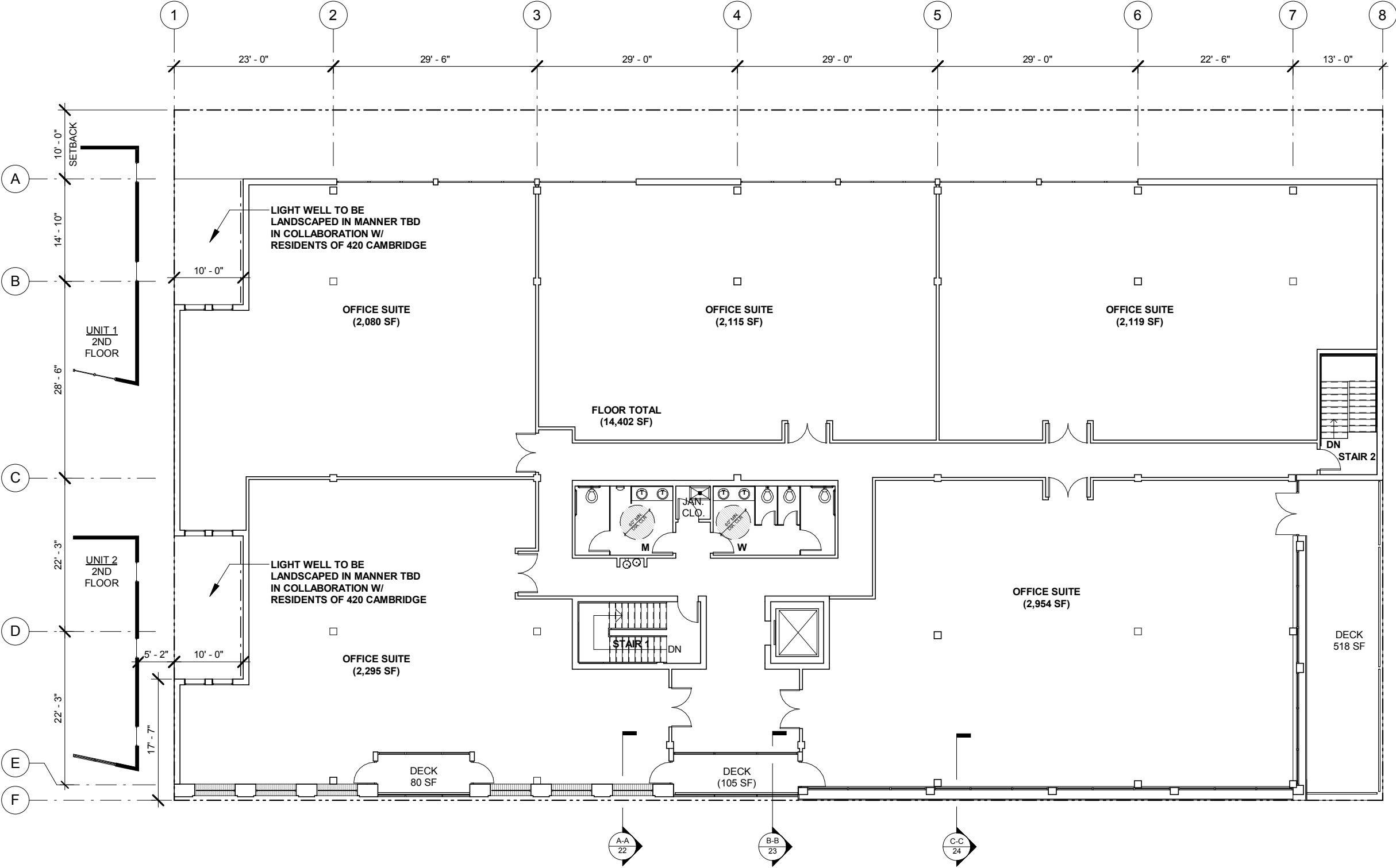


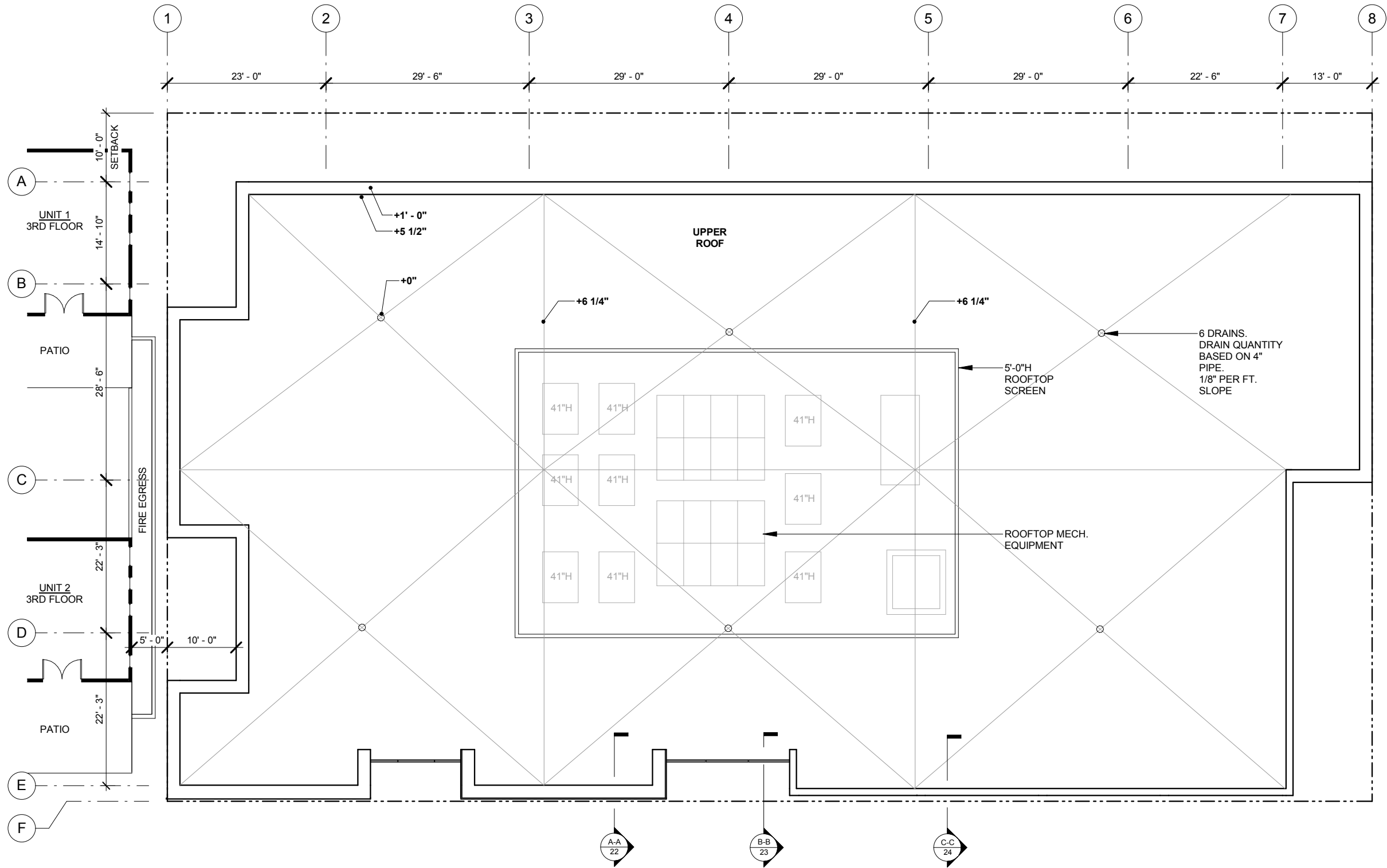


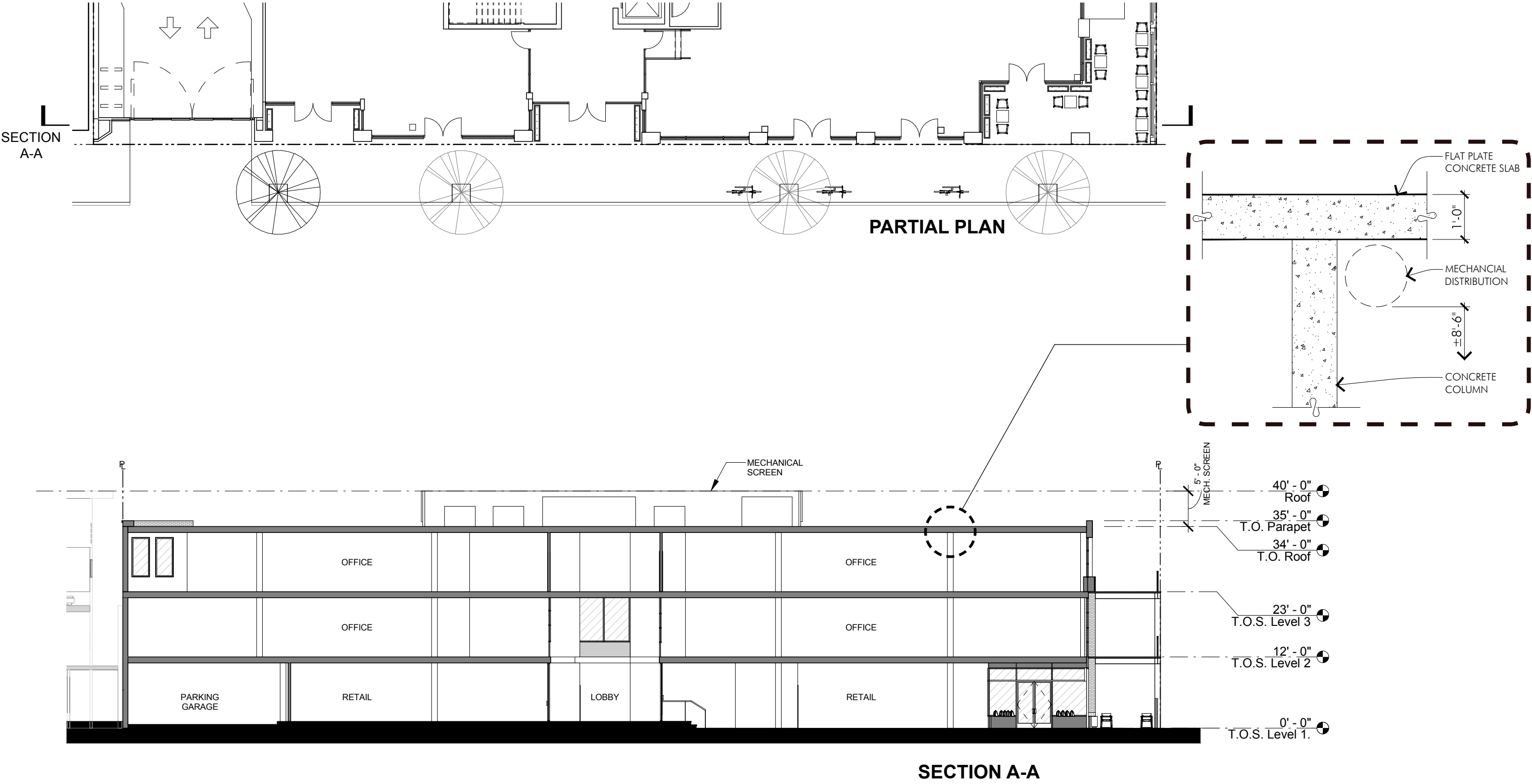


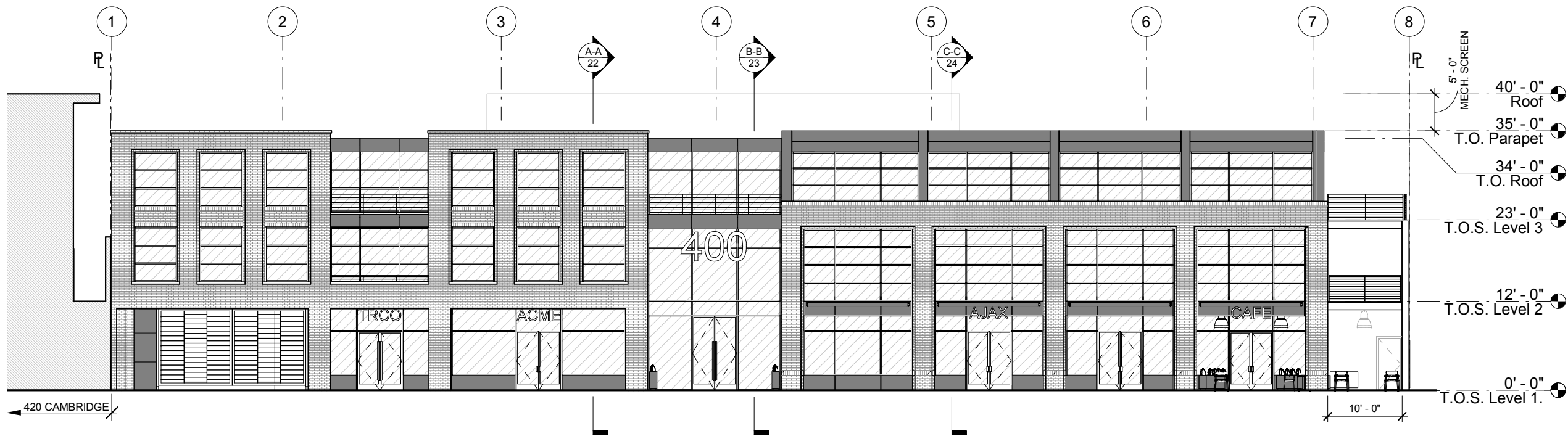
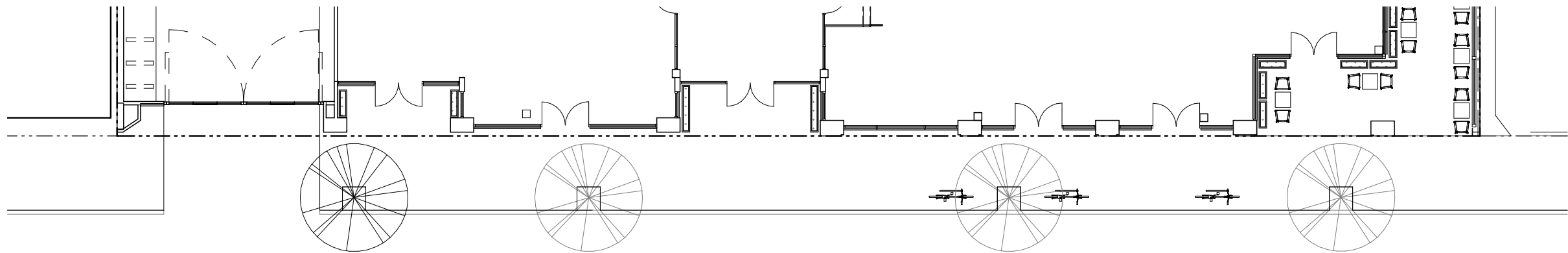


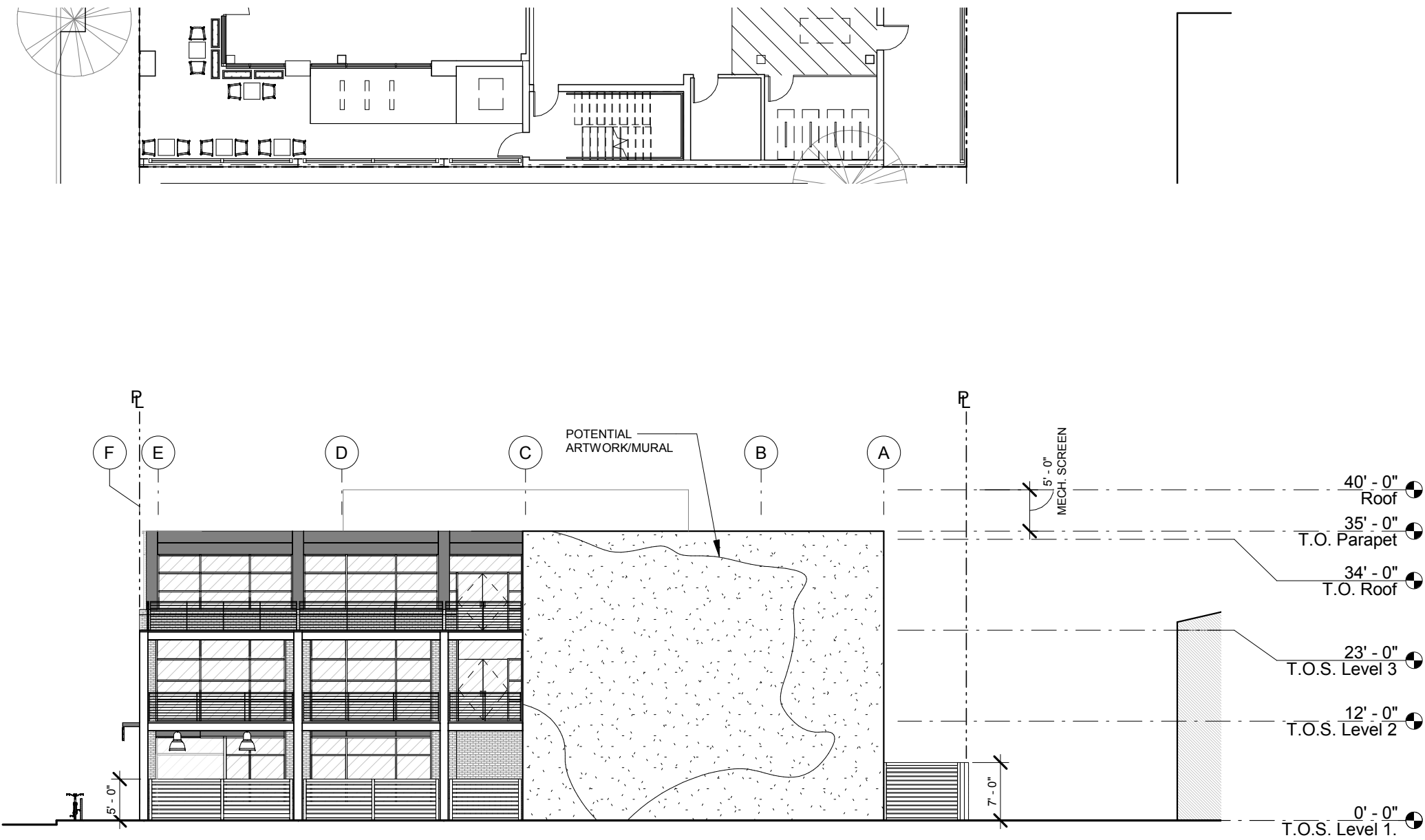


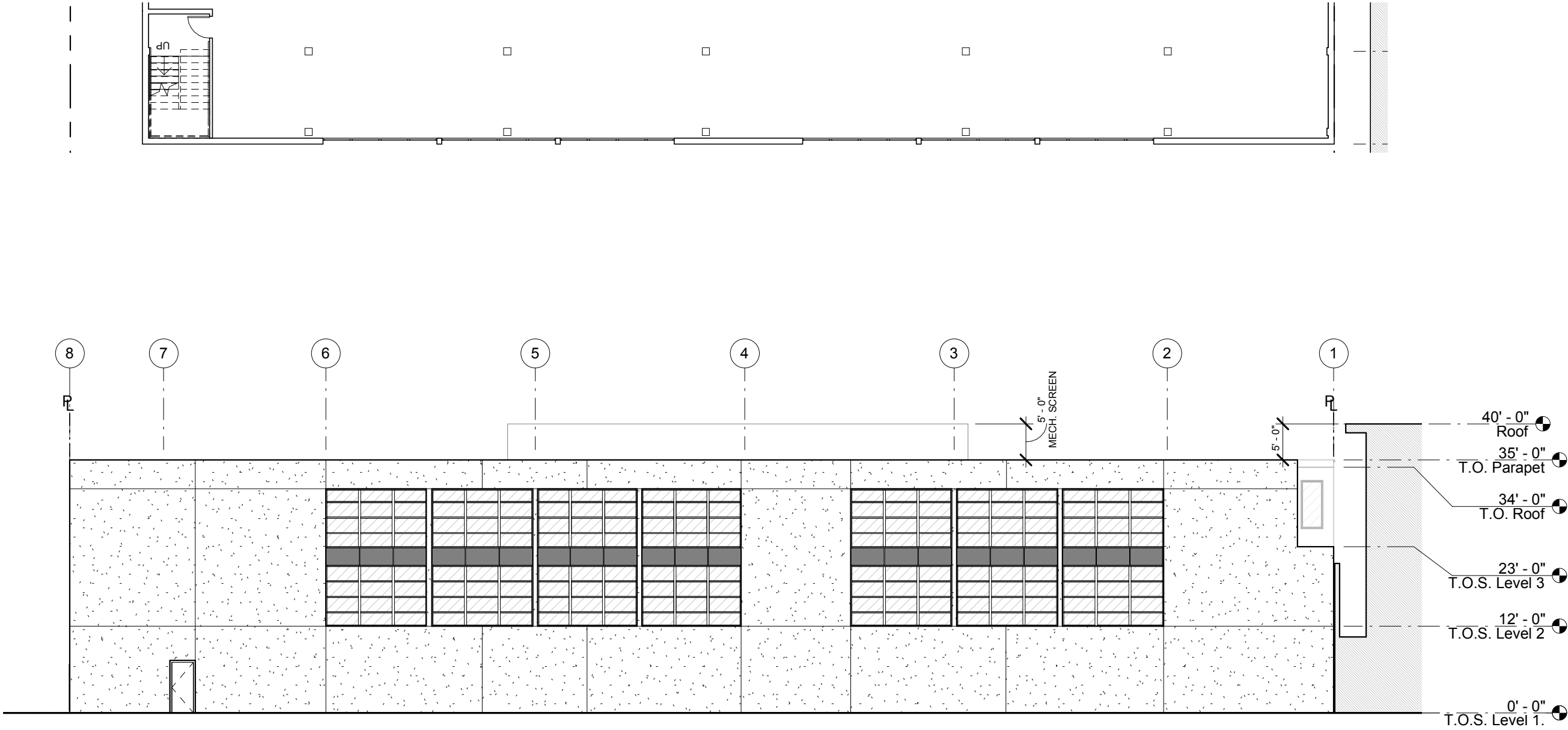


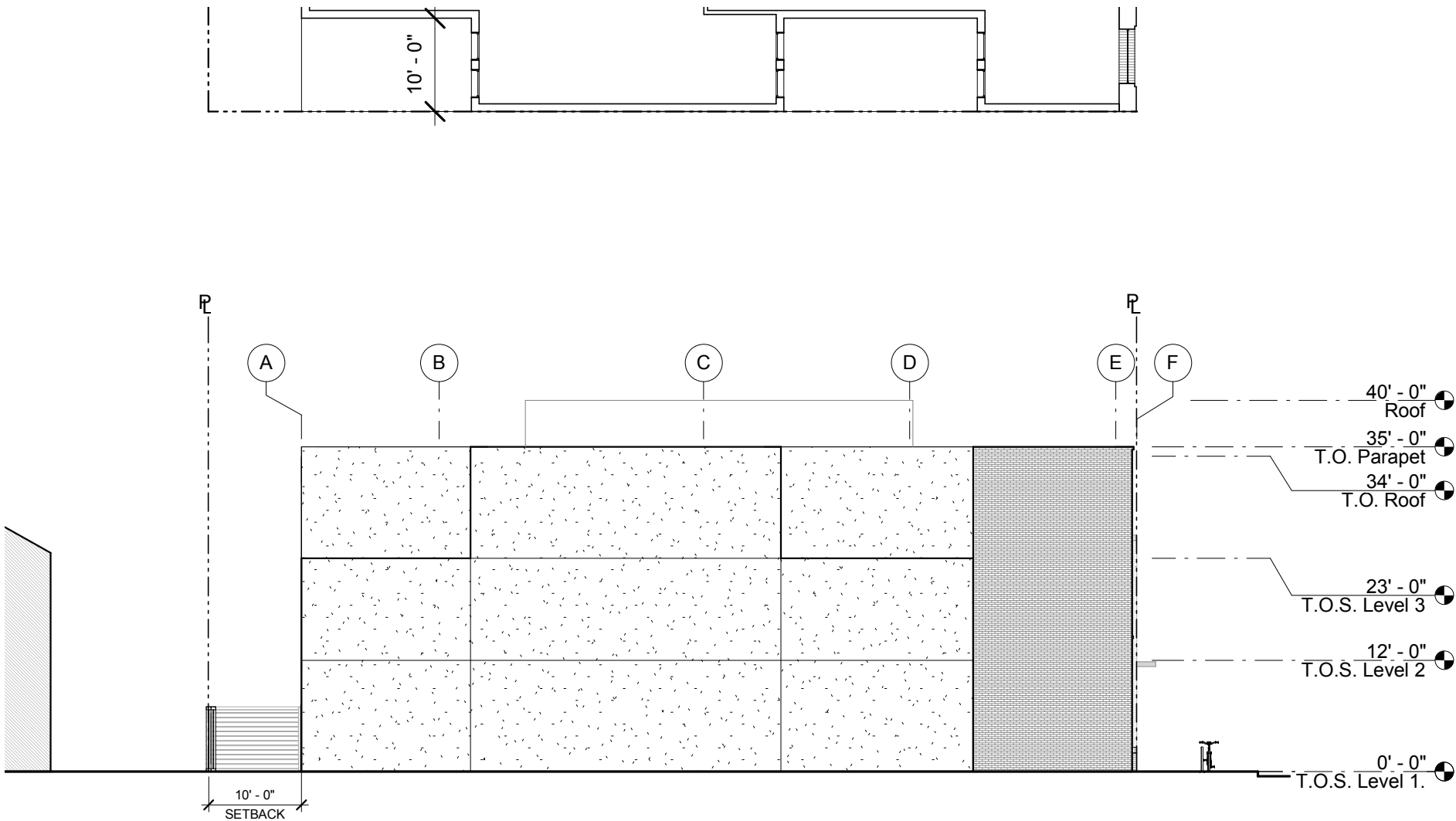


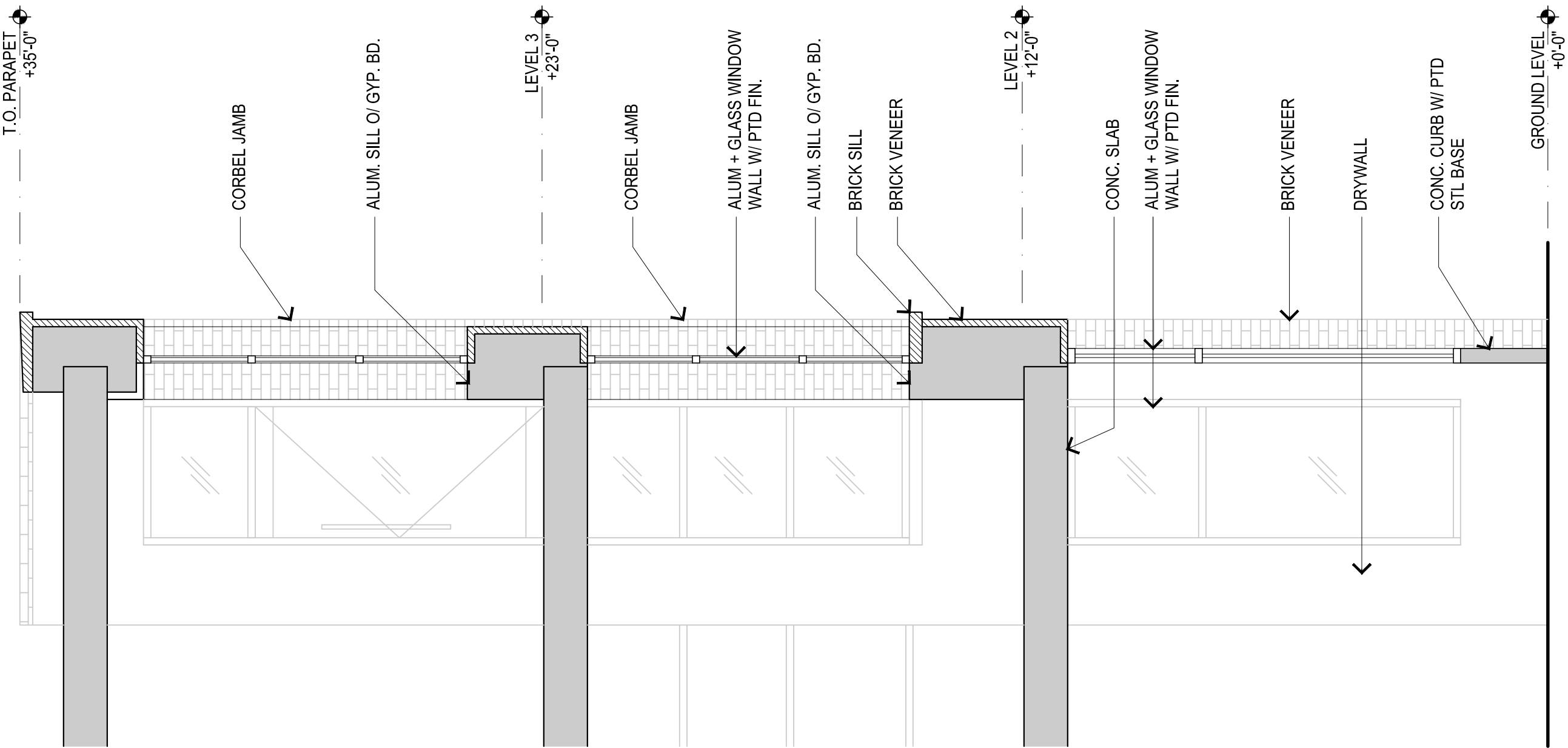




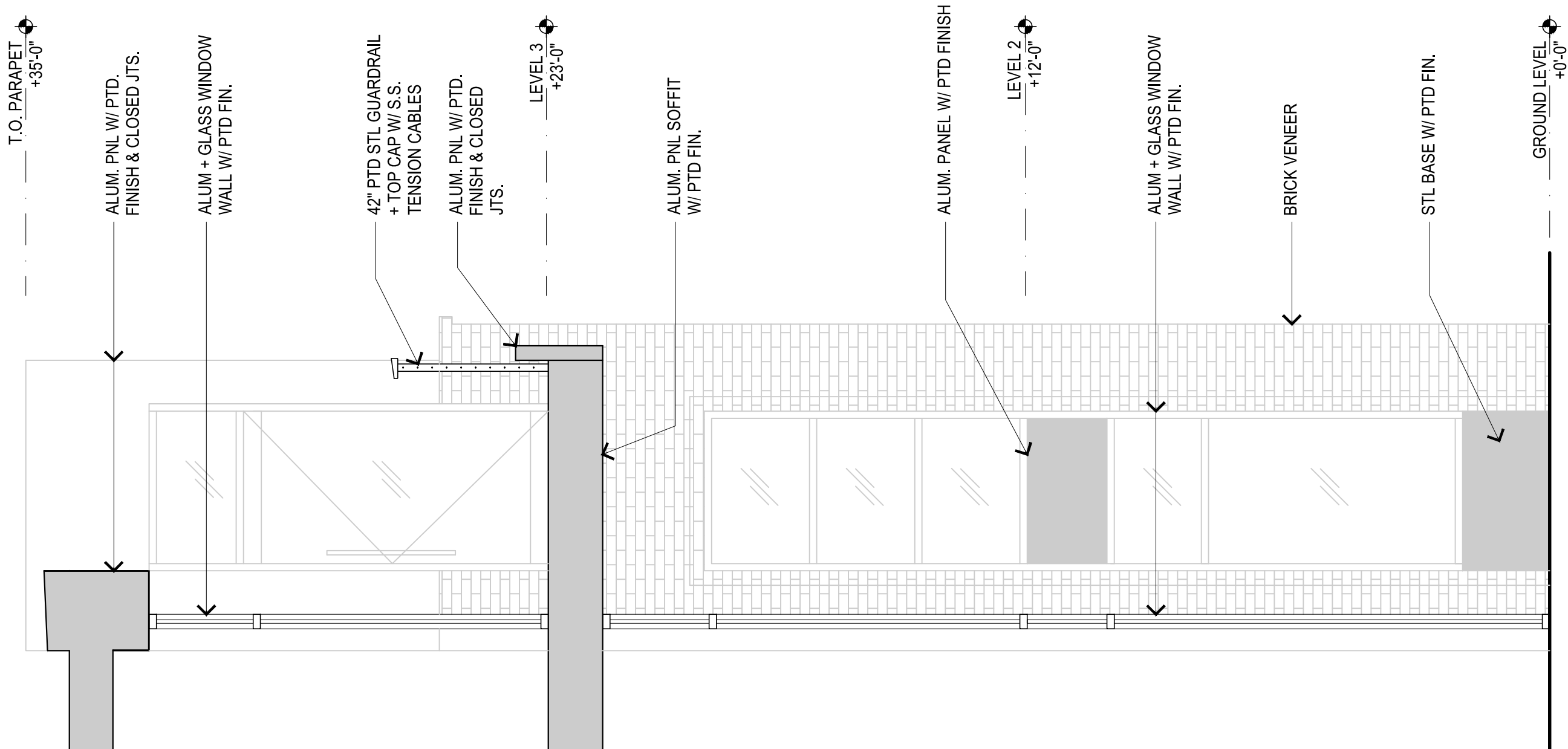




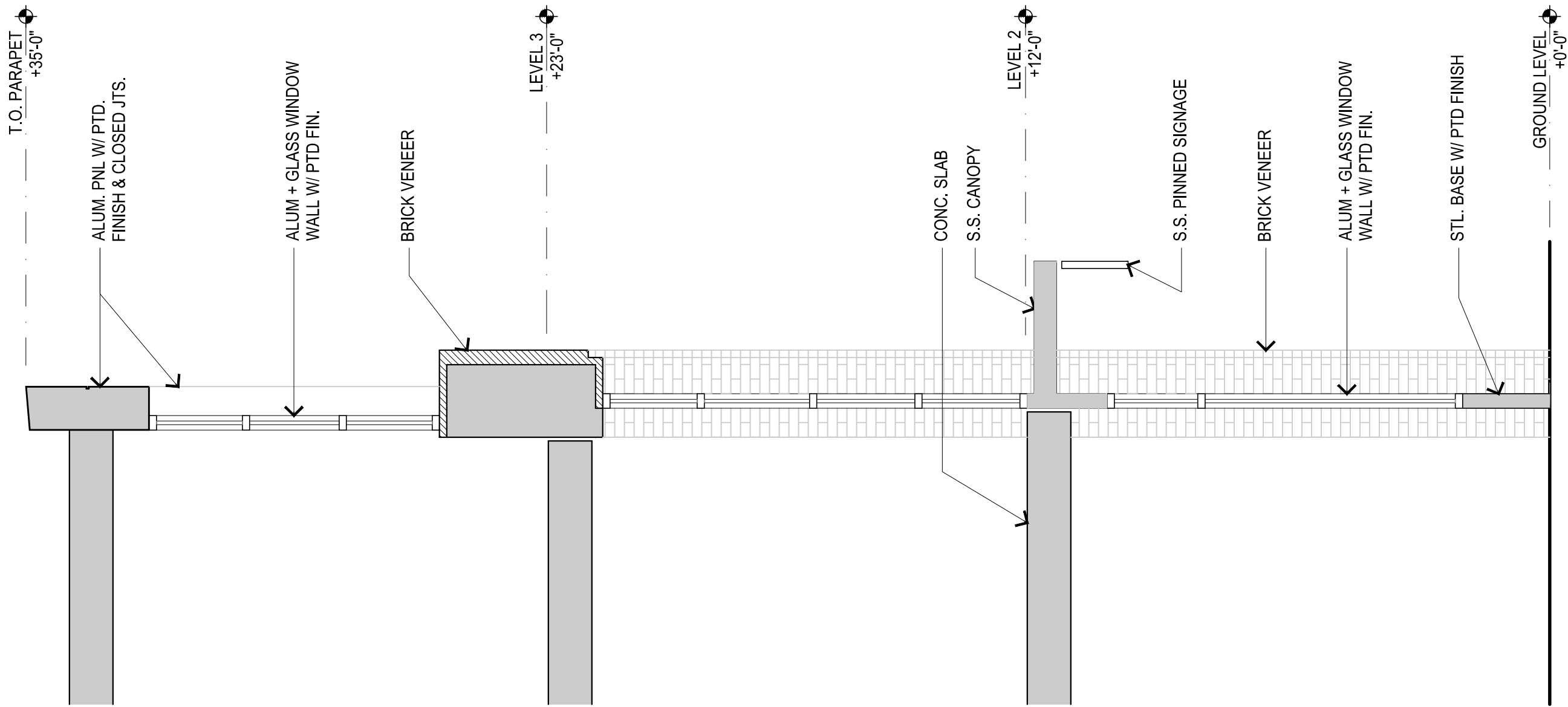




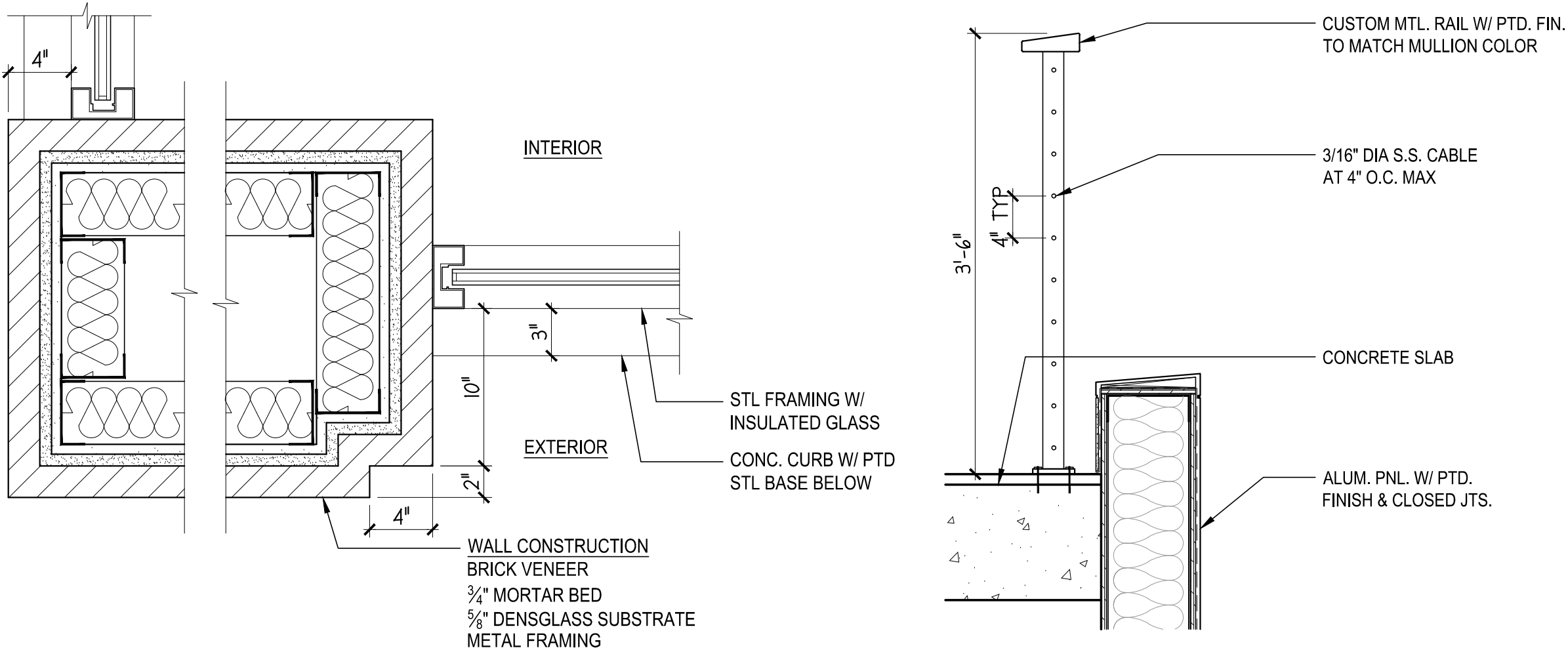
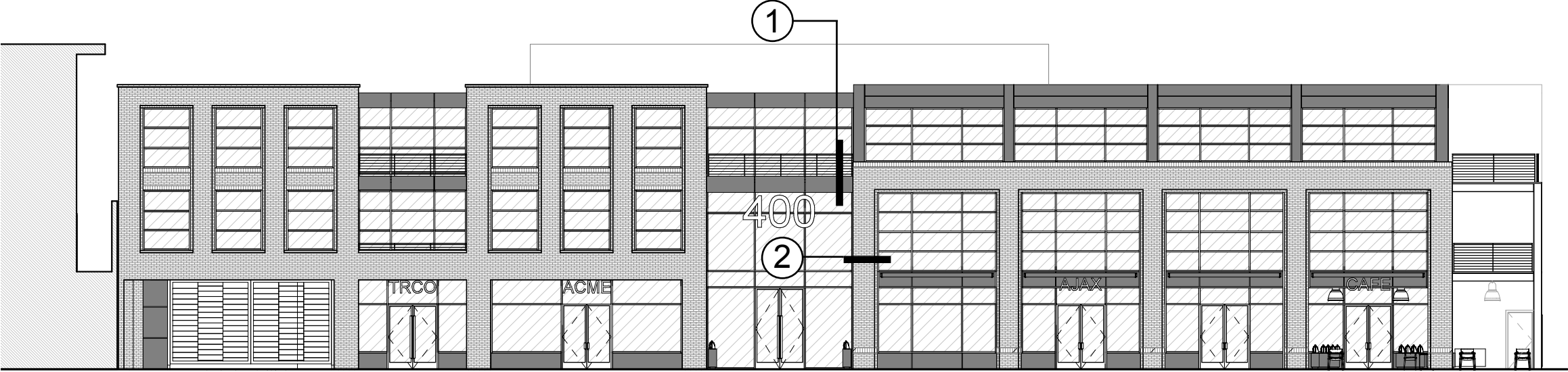
SECTION A-A



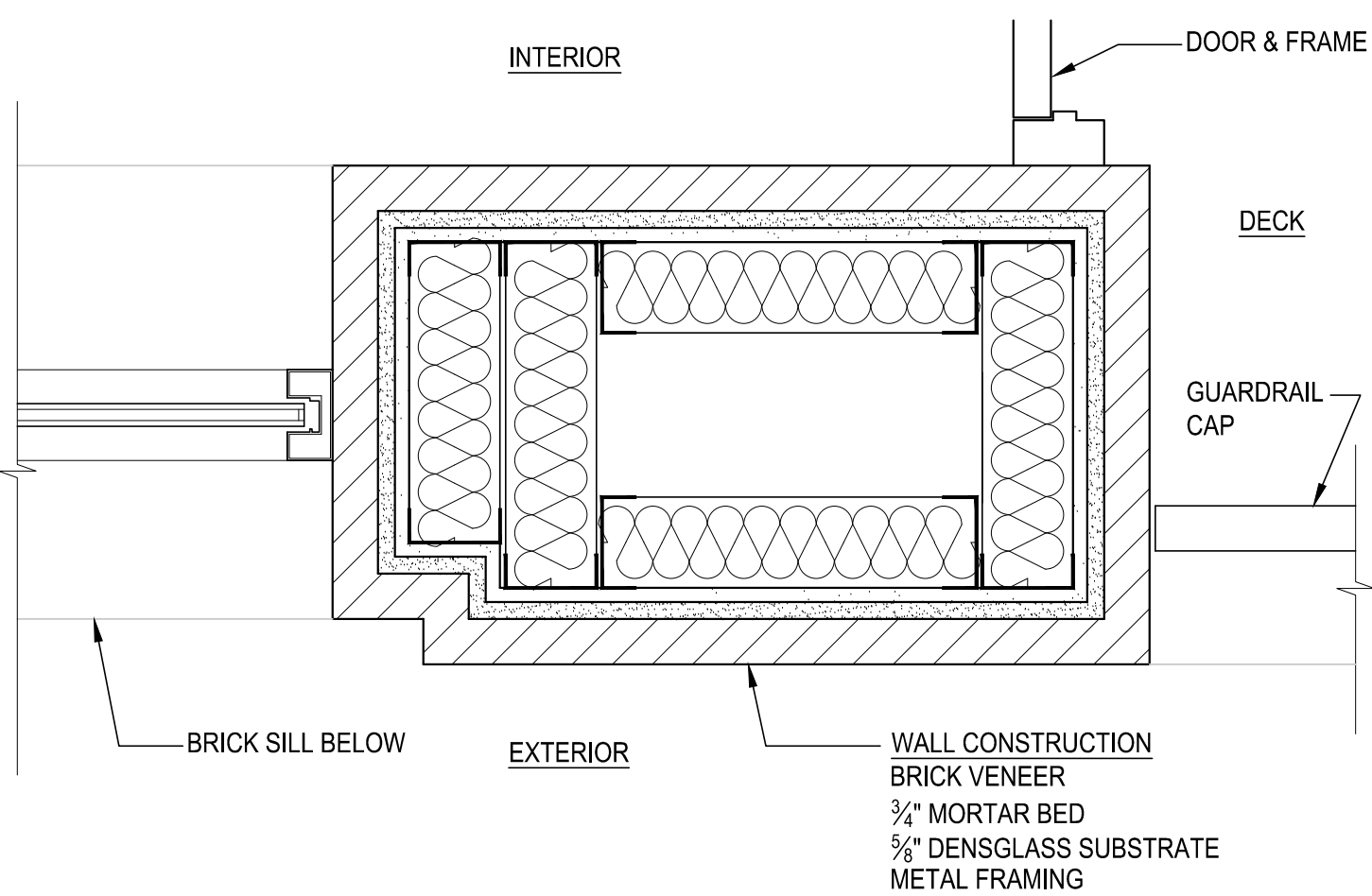
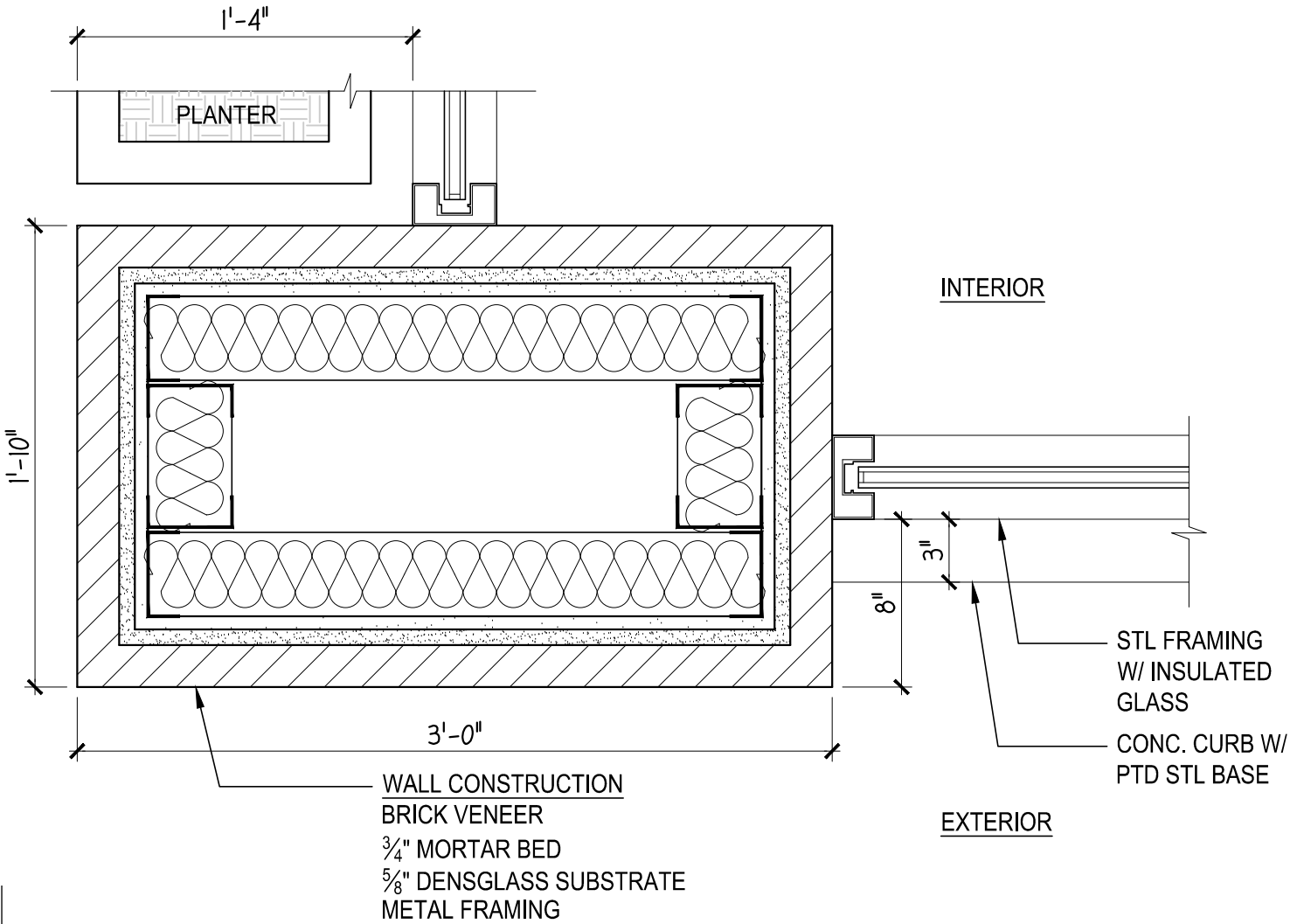
SECTION B-B



SECTION C-C



LOBBY ENTRY COLUMN 1-1/2"=1'-0"	2	DECK RAILING DETAIL 1"=1'-0"	1
------------------------------------	---	---------------------------------	---



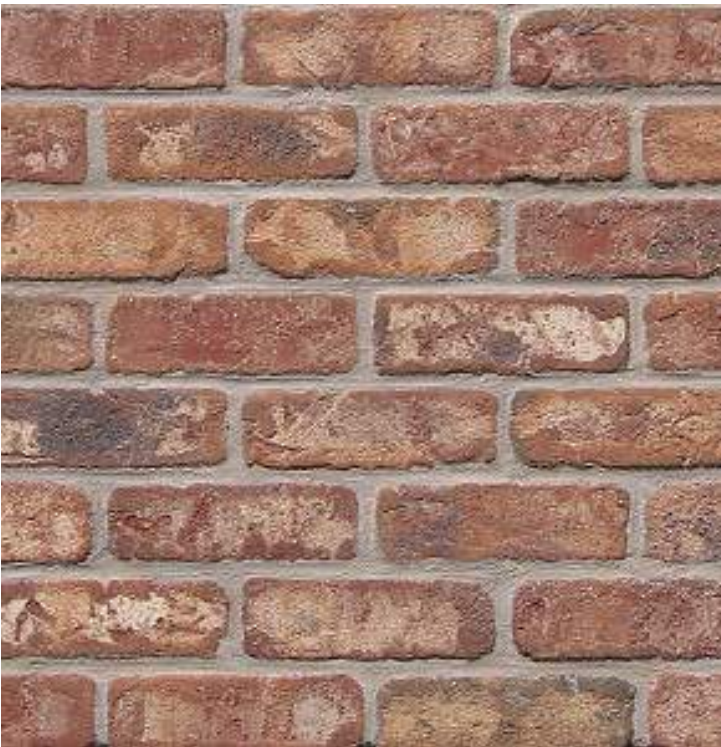
COLUMN AT WINDOW OPENING 3
1-1/2" = 1'-0"



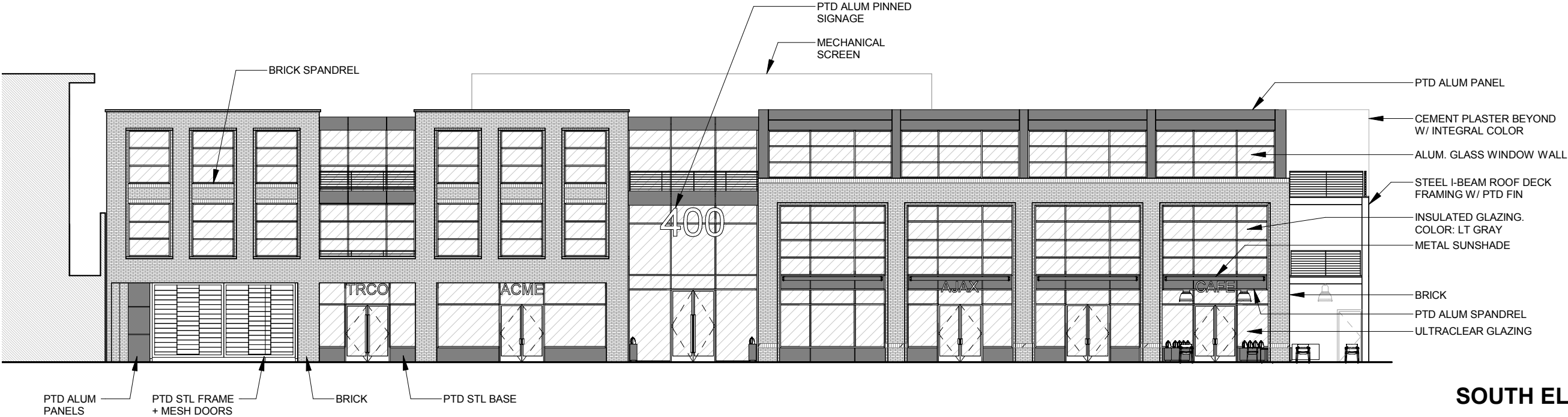
Painted Metal Paneling
PPG, Cosmic Gray Mica



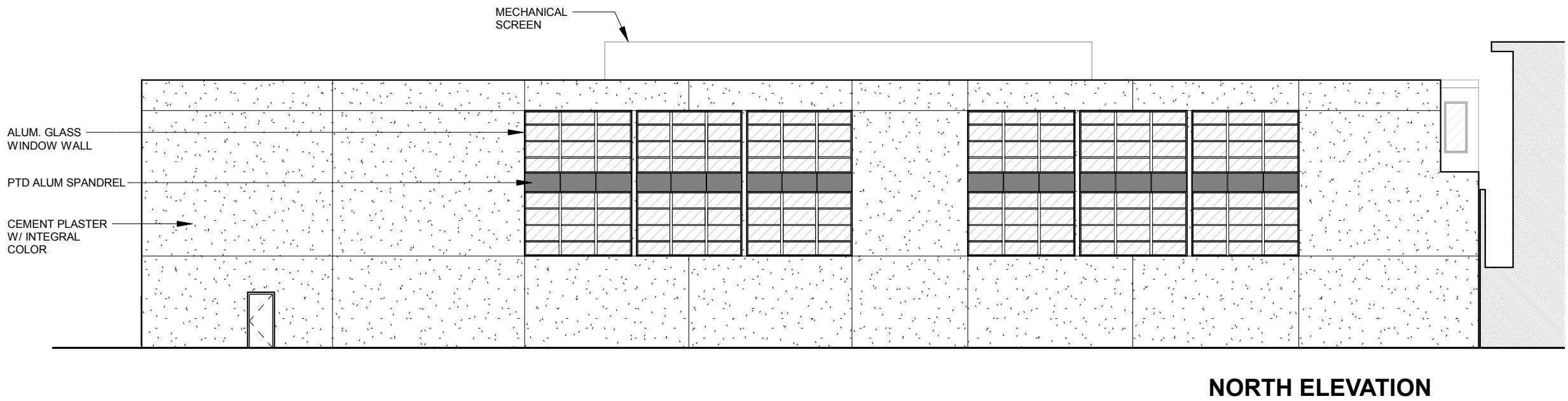
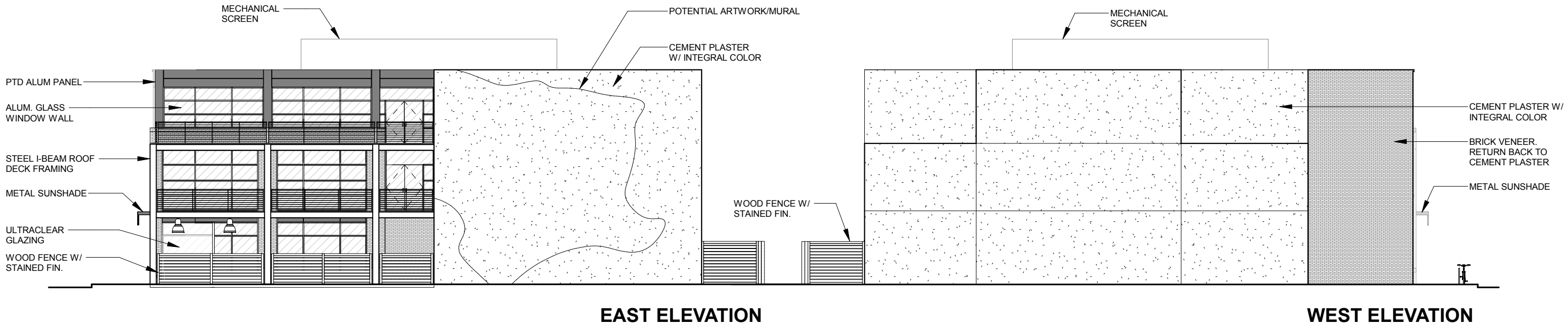
Cement Plaster w/ Smooth Finish

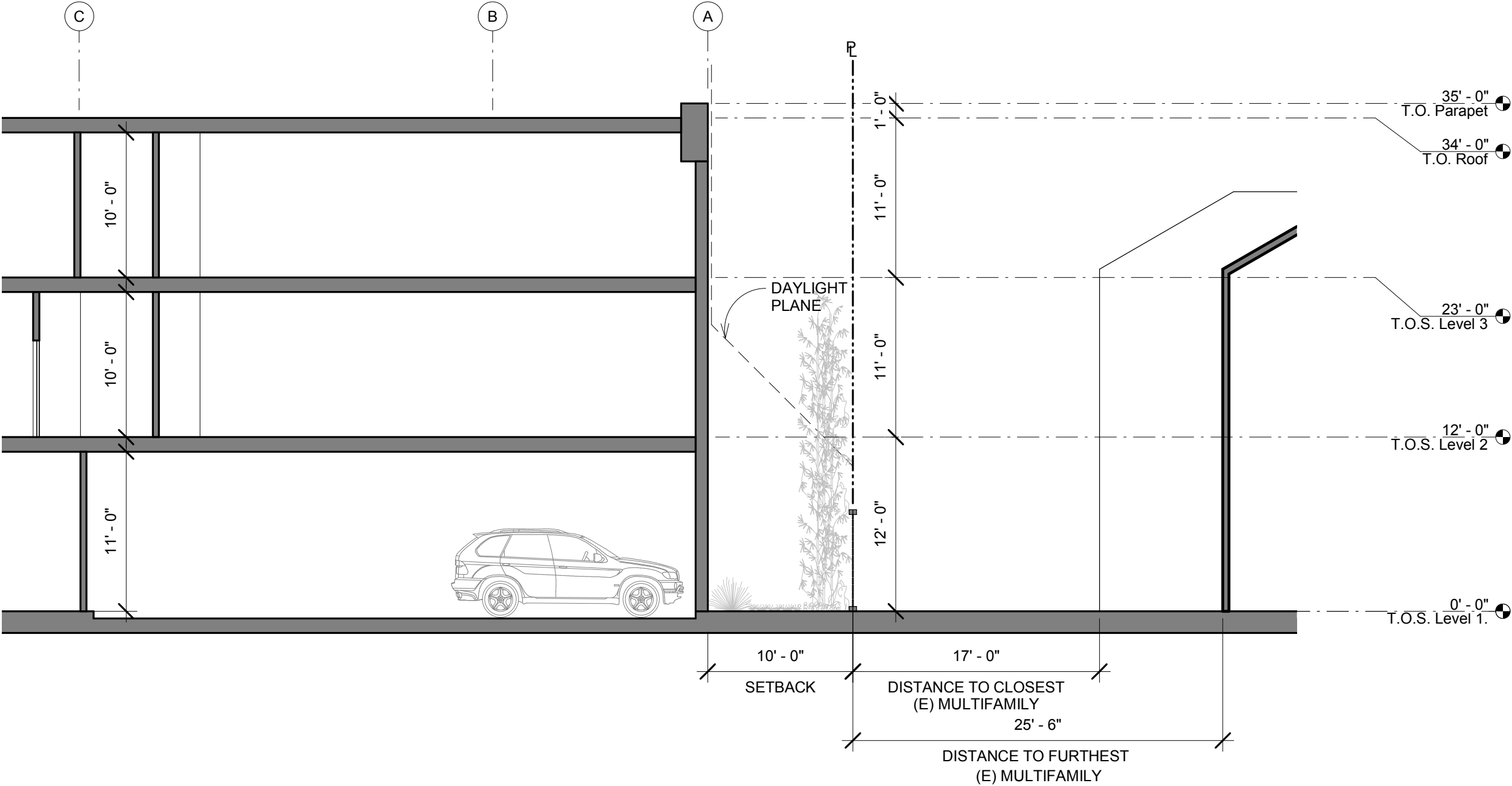


Brick Veneer
McNear, Verona
(Alternate: Muddox Brick, Mission Flashed)



SOUTH ELEVATION





SECTION THROUGH 400 CAMBRIDGE

F1 - Garage Entry Light:

Qty (2) jointed into (1) 16' row:

Exterior rated 8' Linear wall mounted fixture with fully luminous lens, 3500Kelvin.

Pinnacle EX3 WET N 40 12FT S UNV 1D Finish.



F2 - Entry Lighting:

Exterior rated wall mounted cylinder, UP/Down distribution,
wide flood LED, dimmable :

Qty (14)

OLC Lighting – Vega LED # VA2-101A-08-FW-PDTxx-2LD12/35K-xxV-DMO



F3 - Canopy Signage Light:

EcoSense LED linear exterior rated, line voltage, dimmable
L50 – E-48"-08-35K-89-MULT-15x15



F4 - Not Used

F5 - Balcony Soffit Lighting:

Exterior Recessed square LED fixture, 20W, 3500K:

Qty (6) .

USAI Lighting # 1010-W-B1-LSTD4-9020-M2-35KS-30-
NCSM-xxVolt-DIML2



F6 - Security Light

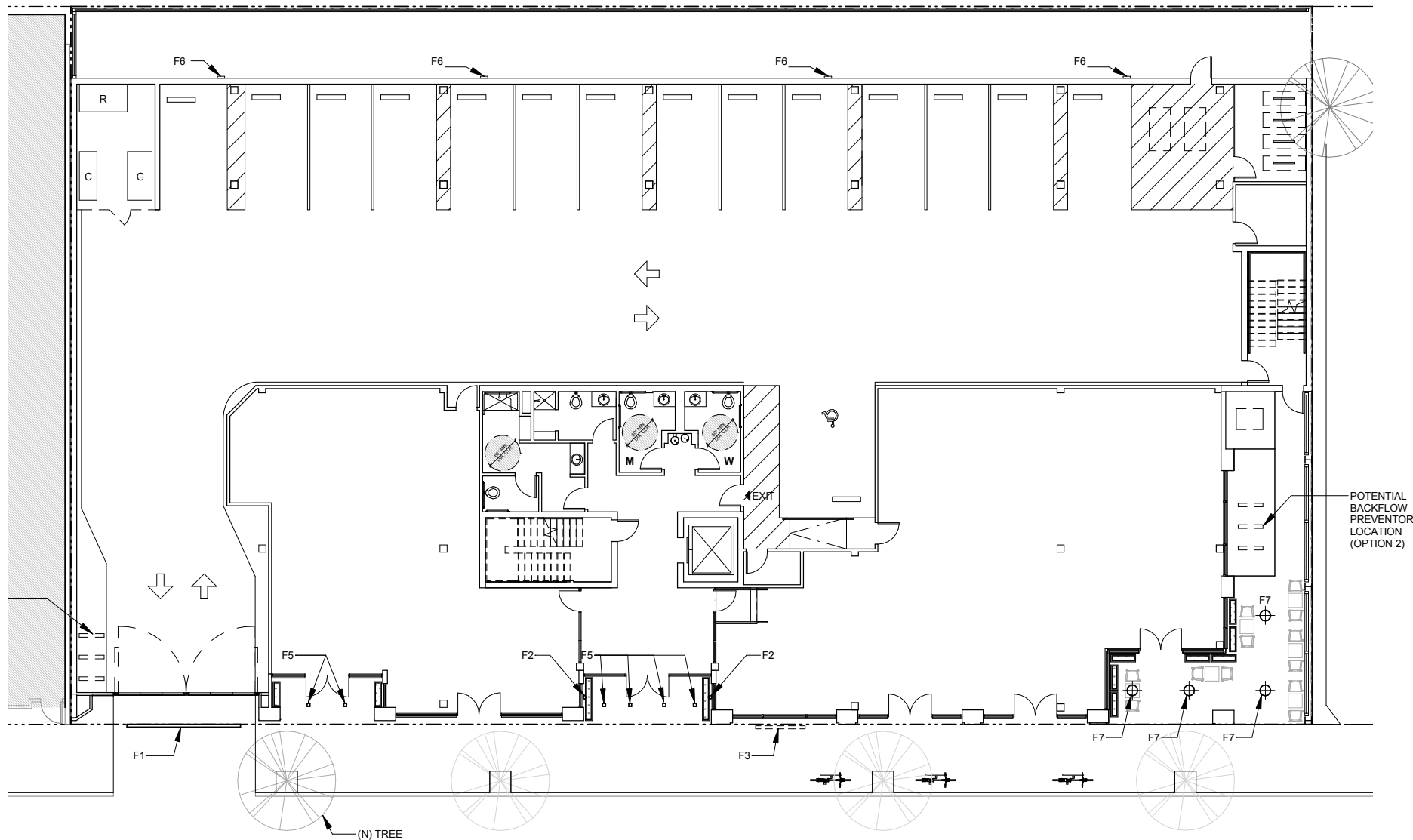
Lithonia D-Series Size 1 LED wall luminaire
DSXW1-LED-10C, Qty (4)



F7 - Exterior Pendant Light

Qty (3)

Pace Illumination, Nimbus; #HPGL 500 816DT 120-277UNV 35W 4500 3500 COLOR CBXX CFL



SCALE: 1" = 20'-0"



Schedule										
Symbol	Label	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	F5	USA Illumination Inc.	1010-B1-S-10-15TD4-9020-MS-30KS-30-NCSM	n/a	n/a	2	1010-B1-S-10-15TD4-9020-MS-30KS-30-IES	623	0.85	21.3
	F7	WAC Lighting	PD-W74615-BZ A121715	PENDANT		1	PD-W74615-BZ-A121715_IES	661	0.85	11.7

THIS DOCUMENTATION ASSURES SPECIFIC LIGHTING CONTROL CAPABILITIES FOR EXISTING PERMANENTLY INSTALLED FIXTURES.

Therefore, the proposed installation:

- ☐ DOES NOT: This proposed installation is a complete lighting control system that is not subject to the specific or general recommendations based on the observation provided, subject to your professional approval.
- ☐ DOES NOT: This proposed installation is a complete lighting control system that is not subject to the specific or general recommendations based on the observation provided, subject to your professional approval.
- ☒ DOES: This proposed installation is a complete lighting control system that is not subject to the specific or general recommendations based on the observation provided, subject to your professional approval.

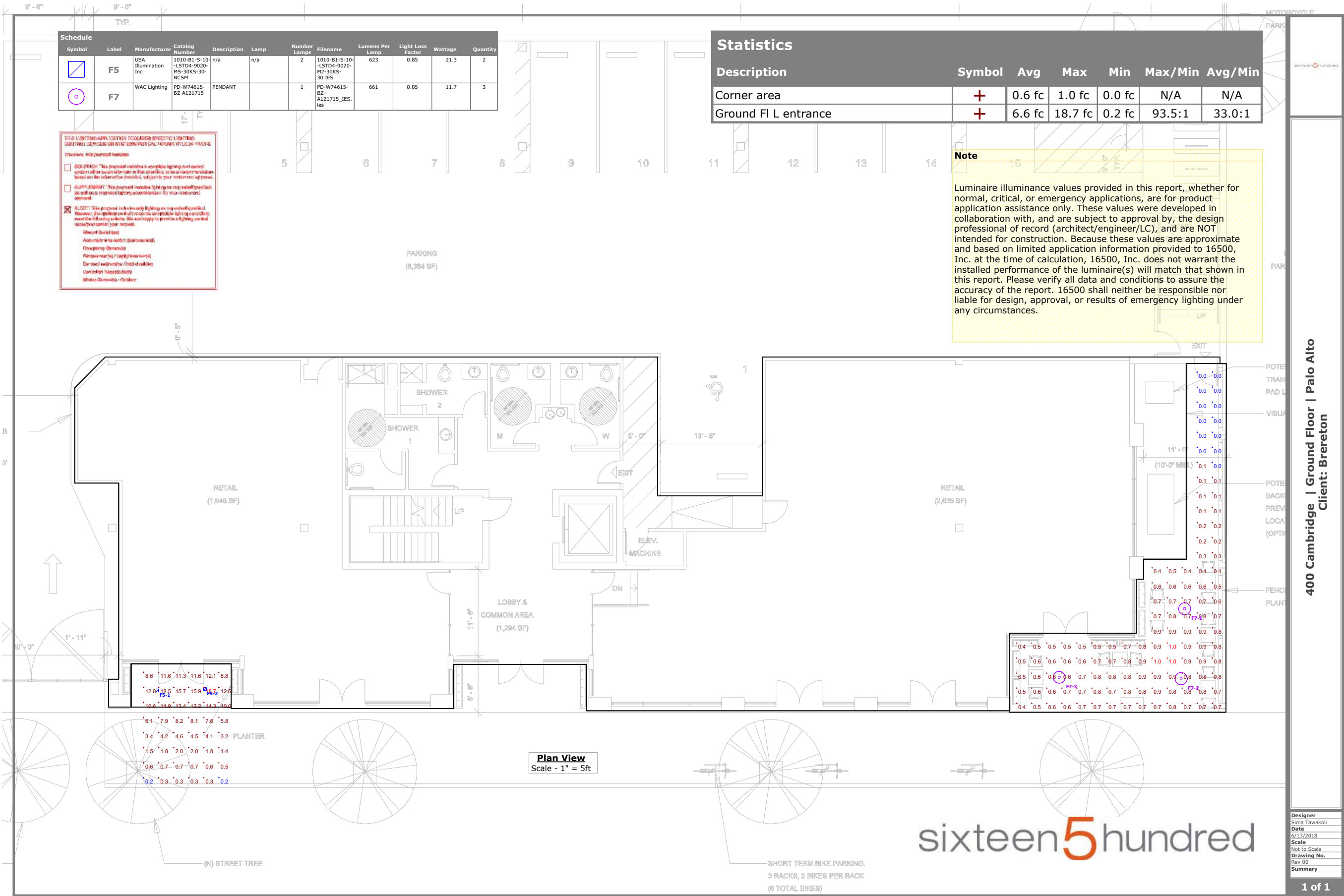
ALERT: This proposed installation is a complete lighting control system that is not subject to the specific or general recommendations based on the observation provided, subject to your professional approval.

ALERT: This proposed installation is a complete lighting control system that is not subject to the specific or general recommendations based on the observation provided, subject to your professional approval.

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Corner area	+	0.6 fc	1.0 fc	0.0 fc	N/A	N/A
Ground Fl L entrance	+	6.6 fc	18.7 fc	0.2 fc	93.5:1	33.0:1

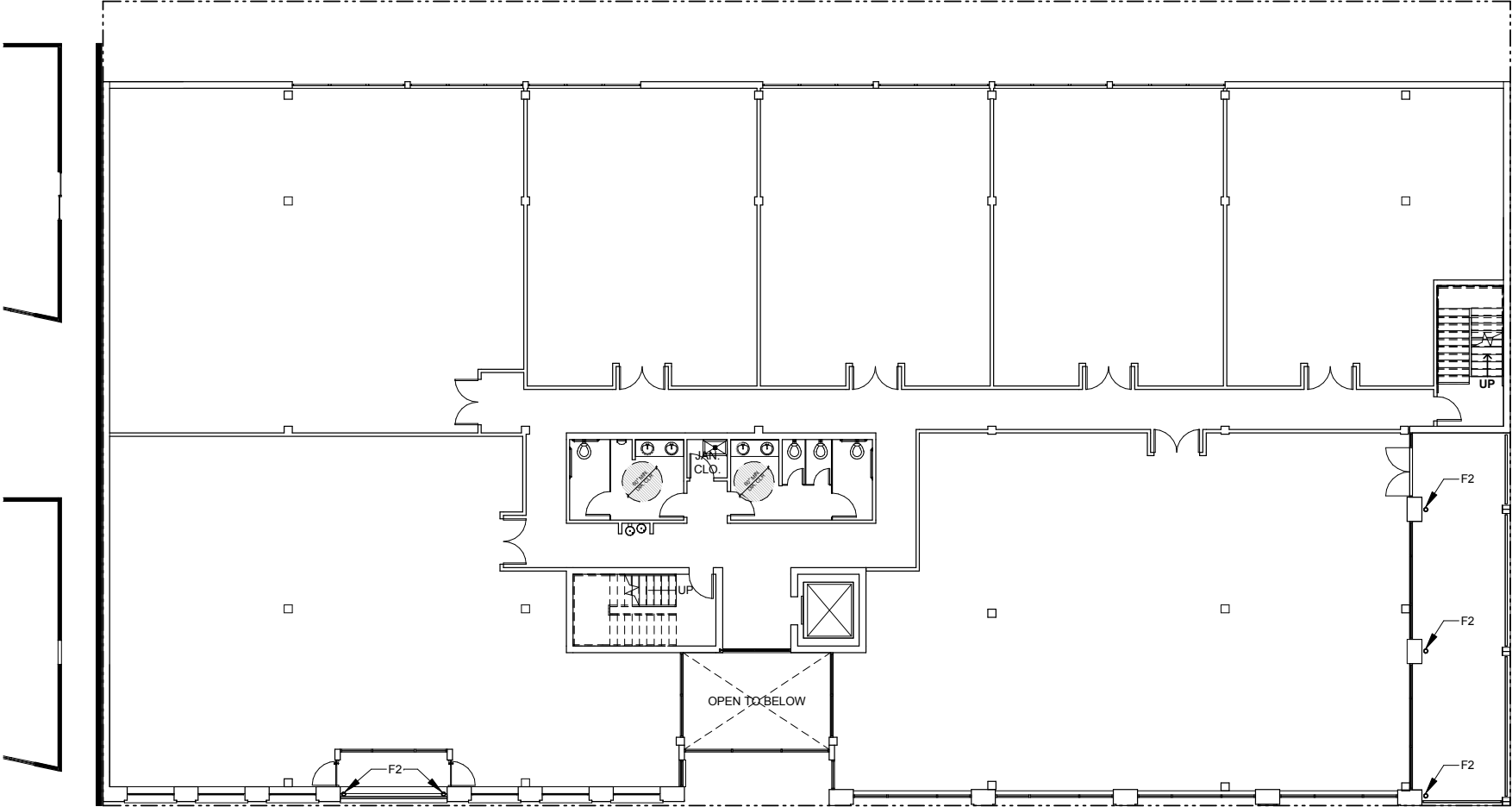
Note

Luminaire illuminance values provided in this report, whether for normal, critical, or emergency applications, are for product application assistance only. These values were developed in collaboration with, and are subject to approval by, the design professional of record (architect/engineer/LC), and are NOT intended for construction. Because these values are approximate and based on limited application information provided to 16500, Inc. at the time of calculation, 16500, Inc. does not warrant the installed performance of the luminaire(s) will match that shown in this report. Please verify all data and conditions to assure the accuracy of the report. 16500 shall neither be responsible nor liable for design, approval, or results of emergency lighting under any circumstances.



400 Cambridge | Ground Floor | Palo Alto
Client: Brereton

Designer
Sima Tawakoli
Date
6/13/2018
Scale
Not to Scale
Drawing No.
Rev 00
Summary



SCALE: 1" = 20'-0"



Lighting Summary



F1 - Garage Entry Light:
Qty (2) jointed into (1) 16' row:
Exterior rated 8' Linear wall mounted fixture with fully luminous lens, 3500Kelvin.
Pinnacle EX3 WET N 40 12FT S UNV 1D Finish.



F2 - Entry Lighting:
Exterior rated wall mounted cylinder, UP/Down distribution, wide flood LED, dimmable :
Qty (14)
OLC Lighting – Vega LED # VA2-101A-08-FW-PDTxx-2LD12/35K-xxV-DMO



F3 - Canopy Signage Light:
EcoSense LED linear exterior rated, line voltage, dimmable
L50 – E-48"-08-35K-89-MULT-15x15

F4 - Not Used



F5 - Balcony Soffit Lighting:
Exterior Recessed square LED fixture, 20W, 3500K:
Qty (6) .
USAI Lighting # 1010-W-B1-LSTD4-9020-M2-35KS-30-NCSM-xxVolt-DIML2



F6 - Security Light
Lithonia D-Series Size 1 LED wall luminaire
DSXW1-LED-10C, Qty (4)



F7 - Exterior Pendant Light
Qty (3)
Pace Illumination, Nimbus; #HPGL 500 816DT 120-277UNV 35W 4500 3500 COLOR CBXX CFL









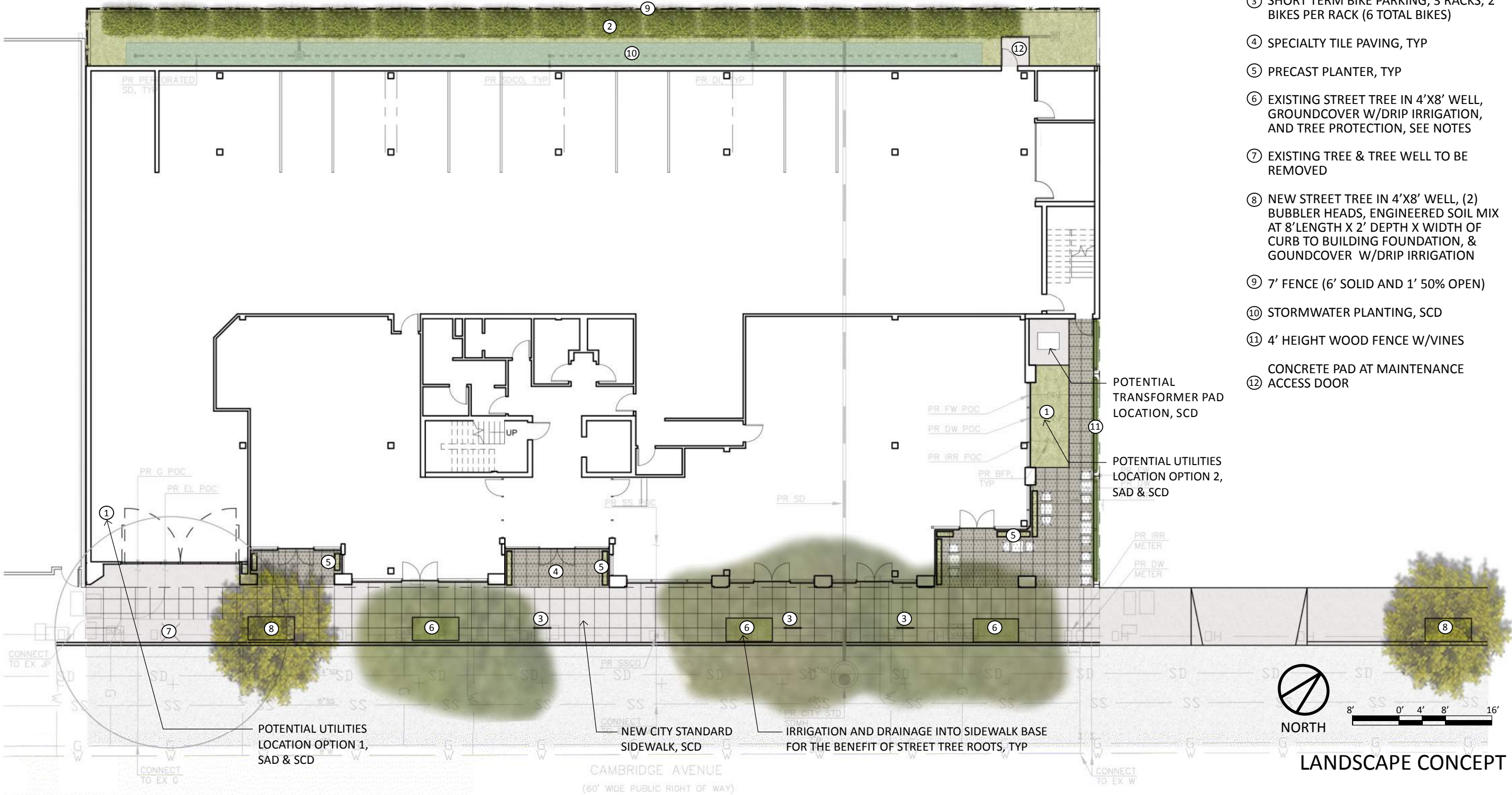




STATEMENT OF DESIGN INTENT:
THE CAMBRIDGE AVENUE LANDSCAPE DESIGN CONCEPT ENHANCES THE PEDESTRIAN EXPERIENCE WITH AMENITIES THAT REFLECT THE ARCHITECTURAL STYLE. THE DESIGN, FURNISHINGS AND PLANT PALLET PROVIDE SCALE AND HIGHLIGHT ARCHITECTURAL FEATURES.

LEGEND

- ① FIRE WATER, DOMESTIC WATER, AND IRRIGATION POINTS OF CONNECTION AND BACKFLOW PREVENTER
- ② SCREEN PLANTING
- ③ SHORT TERM BIKE PARKING, 3 RACKS, 2 BIKES PER RACK (6 TOTAL BIKES)
- ④ SPECIALTY TILE PAVING, TYP
- ⑤ PRECAST PLANTER, TYP
- ⑥ EXISTING STREET TREE IN 4'X8' WELL, GROUNDCOVER W/DRIP IRRIGATION, AND TREE PROTECTION, SEE NOTES
- ⑦ EXISTING TREE & TREE WELL TO BE REMOVED
- ⑧ NEW STREET TREE IN 4'X8' WELL, (2) BUBBLER HEADS, ENGINEERED SOIL MIX AT 8' LENGTH X 2' DEPTH X WIDTH OF CURB TO BUILDING FOUNDATION, & GOUNDCOVER W/DRIP IRRIGATION
- ⑨ 7' FENCE (6' SOLID AND 1' 50% OPEN)
- ⑩ STORMWATER PLANTING, SCD
- ⑪ 4' HEIGHT WOOD FENCE W/VINES
- ⑫ CONCRETE PAD AT MAINTENANCE ACCESS DOOR

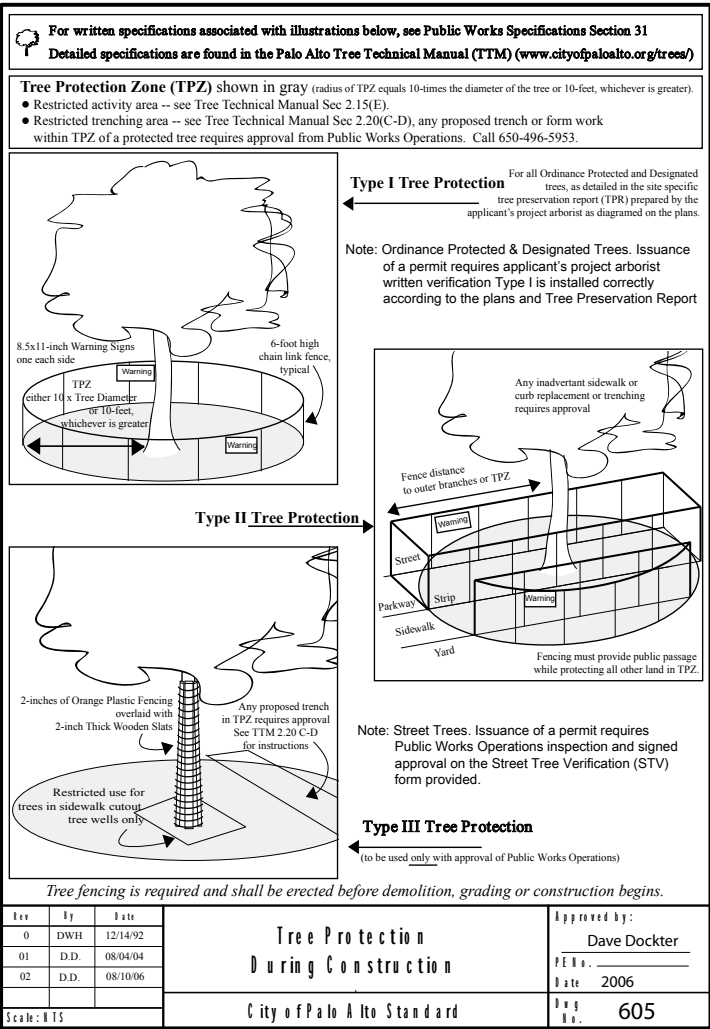
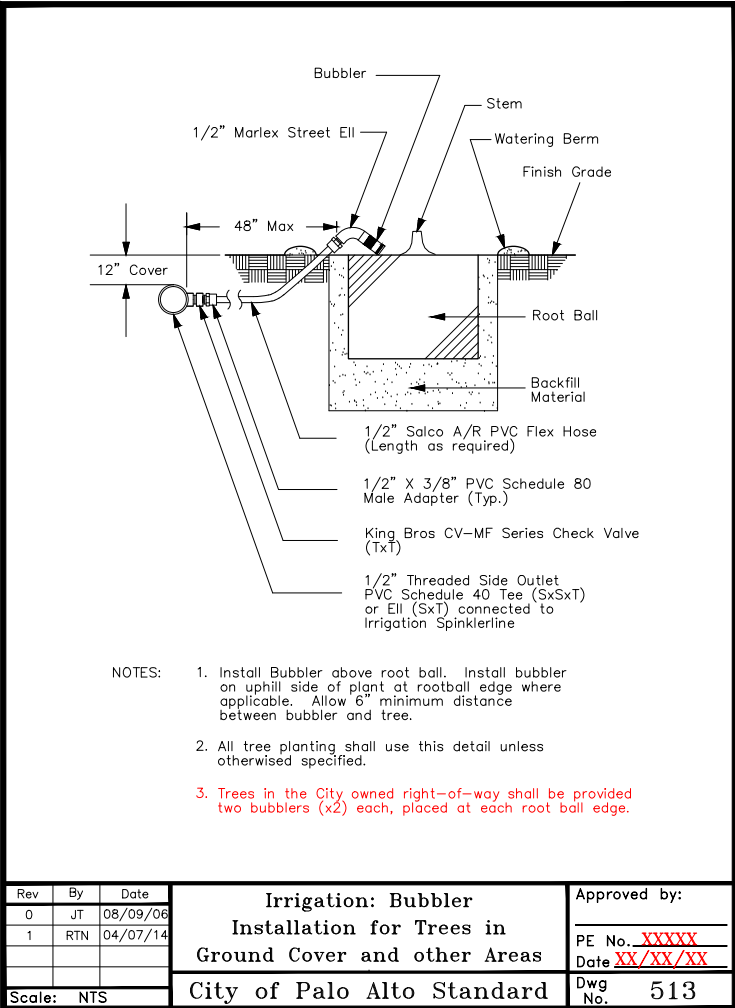
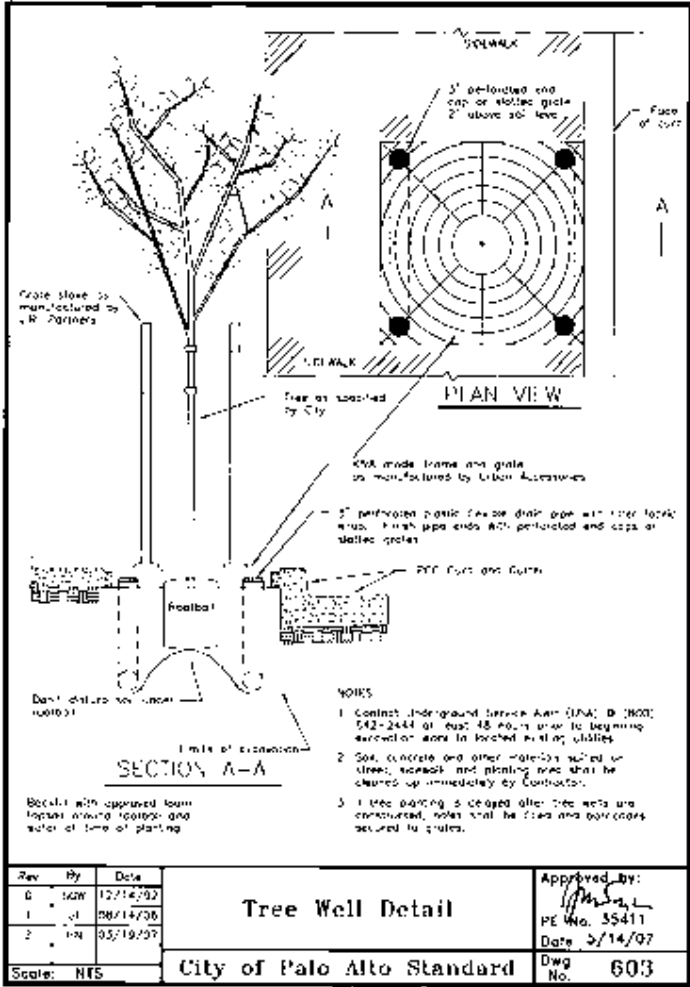


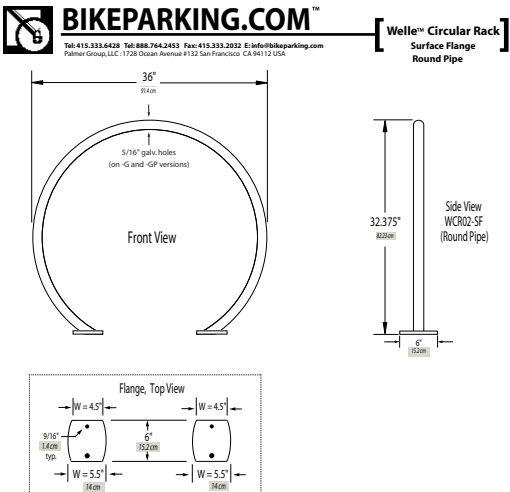
LANDSCAPE CONCEPT

EXISTING TREES			
TAG #	SPECIES	DBH	SPREAD
1	LIQUIDAMBAR STYRACIFLUA	8.5	25
2	PISTACIA CHINENSIS	14.5	45
3	PISTACIA CHINENSIS	15	40
4	PISTACIA CHINENSIS	13.5	40
5	PISTACIA CHINENSIS	15.5	40
6	LIGUSTRUM LUCIDUM	3,3,2,2	10
7	LIGUSTRUM LUCIDUM	3,3,2,2	10
8	LIGUSTRUM LUCIDUM	3,5,2,2,3,5	10
9	RHAMNUS ALTERNUS	4.5	10
10	MELELUCIA CITRINA	5,5,5,2,5,3	10
11	LIGUSTRUM LUCIDUM	3,5,3,3,5,1,5,2	10
12	LIGUSTRUM LUCIDUM	13	10
13	LIGUSTRUM LUCIDUM	2.5	5
14	LIGUSTRUM LUCIDUM	2.5	5

NOTE:
TREE #5 TO BE REMOVED AND REPLACED WITH (2) 24" BOX CHINESE PISTACHE;
(1) 10' FROM THE NEW DRIVEWAY AND (1) OFF SITE TREE ALIGNED WITH THE
NEXT DOOR PARKING LOT SIDEWALK SITE BETWEEN ENTRY APRONS. PER
DEVELOPMENT REVIEW PUBLIC WORKS URBAN FORESTRY COMMENT #8 7.15.2015.







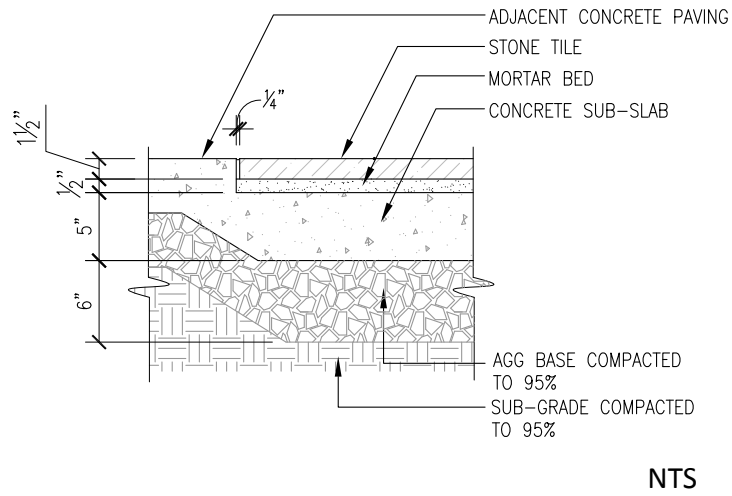
9 FENCE

3 SHORT TERM BIKE PARKING RACK



2 SCREEN

5 PRECAST PLANTERS



4 SPECIALTY TILE PAVING



11 4' HEIGHT WOOD FENCE W/VINES AT NORTH PROPERTY LINE

GRASSES



ANEMONE X HYBRIDA
'HONORINE JOBERT'
JAPANESE ANEMONE



CAREX TUMULICOLA
BERKELEY SEDGE



HEUCHERA MAXIMA
ISLAND ALUMN ROOT



HEUCHERA 'GREEN SPICE'
REEN SPICE CORAL BELLS



OPHIOGON JAPONICUS
'NIGRA'
MONDO GRASS



POLYSTICHUM MUNITUM
WESTERN SWORD FERN



SEDUM PALMERI
PALMER'S SEDUM

VINES



PARTHENOCISSUS
TRICUSPIDATA
BOSTON IVY
(DECIDUOUS)

SCREEN
PLANTING
OPTIONS



DODONEA VISCOSA 'PURPUREA'
PURPLE HOPSEED BUSH
12'-16' HIGH



FARGESIA NITIDA 'GREAT WALL'
CLUMPING BAMBOO
10'-15' HIGH



HIMALAYACALAMUS HOOKERIANUS
BLUE BAMBOO
12'-20' HIGH



PHYLLOSTACHYS AUREA
GOLDEN BAMBOO
15'-30' HIGH

STORMWATER



CAREX TUMULICOLA
BERKELEY SEDGE



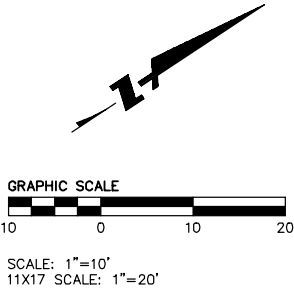
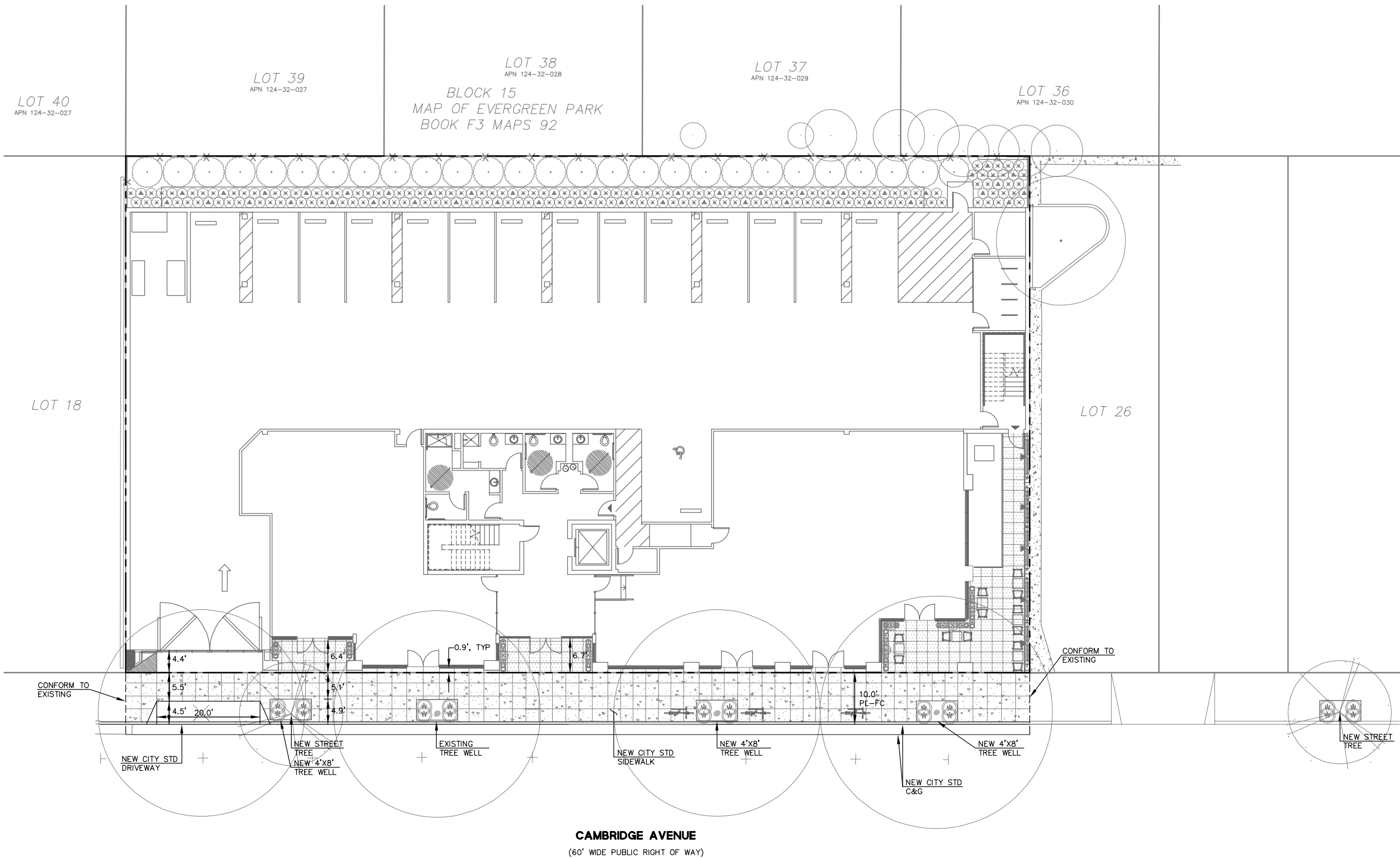
JUNCUS PATENS 'ELK BLUE'
RUSH

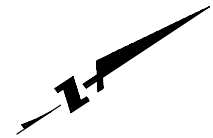
REPLACEMENT
STREET TREES



PISTACIA CHINENSIS 'KEITH DAVEY'
KEITH DAVEY CHINESE

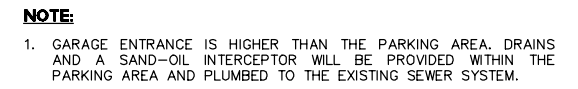
- NOTES:
1. IRRIGATION SYSTEM IS TO BE A FULLY AUTOMATIC WEATHER-BASED SYSTEM USING LOW FLOW DRIP AND BUBBLER DISTRIBUTION.
 2. ALL PLANT MATERIAL USED SHALL BE ODOR/FRAGRANCE FREE.
 3. SEE PLANTING PLAN FOR WATER USE AND CALIFORNIA NATIVE IDENTIFICATION.
 4. ALL PLANTING PLAN SHALL BE IN FULL COMPLIANCE WITH THE CITY OF PALO ALTO WATER EFFICIENT LANDSCAPE ORDINANCE AND OTHER APPLICABLE CODES AND ORDINANCES.





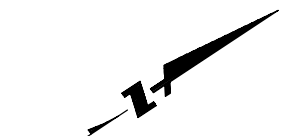
1. PRELIMINARY UTILITY POINTS OF CONNECTION ARE SHOWN. LOCATIONS MAY VARY WITH THE FINAL DETAILED DESIGN.
2. PLANTERS FRONTING CAMBRIDGE AVENUE SHALL BE DRAINED BY CURB-THRU DRAINS DISCHARGING TO THE GUTTER.
3. CONTRACTOR SHALL NOT STAGE, STORE, OR STOCKPILE ANY MATERIAL OR EQUIPMENT WITHIN THE PUBLIC ROAD RIGHT-OF-WAY. APPLICANT HAS BEEN IN CONTACT WITH PALO ALTO UTILITIES (HENRY NGUYEN) ABOUT THE NEED TO UPGRADE THE TRANSFORMER THAT SERVES THE EXISTING THREE BUILDINGS (380 TO 410 CAMBRIDGE). THE CITY HAS PROPOSED THE FOLLOWING THREE OPTIONS IN ORDER OF PREFERENCE:
 - 4. EXISTING: USE EXISTING TRANSFORMER IF THERE IS SUFFICIENT CAPACITY.
 - A.A. MIGRATION: IF THERE IS INSUFFICIENT CAPACITY, MIGRATE SOME USERS OF THE EXISTING TRANSFORMER TO OTHER TRANSFORMERS ON CAMBRIDGE AVENUE TO FREE UP CAPACITY.
 - B.B. NEW: IF MIGRATION IS NOT FEASIBLE, PROVIDE A NEW TRANSFORMER ON THE SITE OF THE PROPOSED DEVELOPMENT. SEE PLAN FOR POTENTIAL TRANSFORMER PAD LOCATION. PAD SIZE AND LOCATION TO BE DETERMINED UPON FINAL DESIGN.

SCALE: 1"=10'
11X17 SCALE: 1"=20'

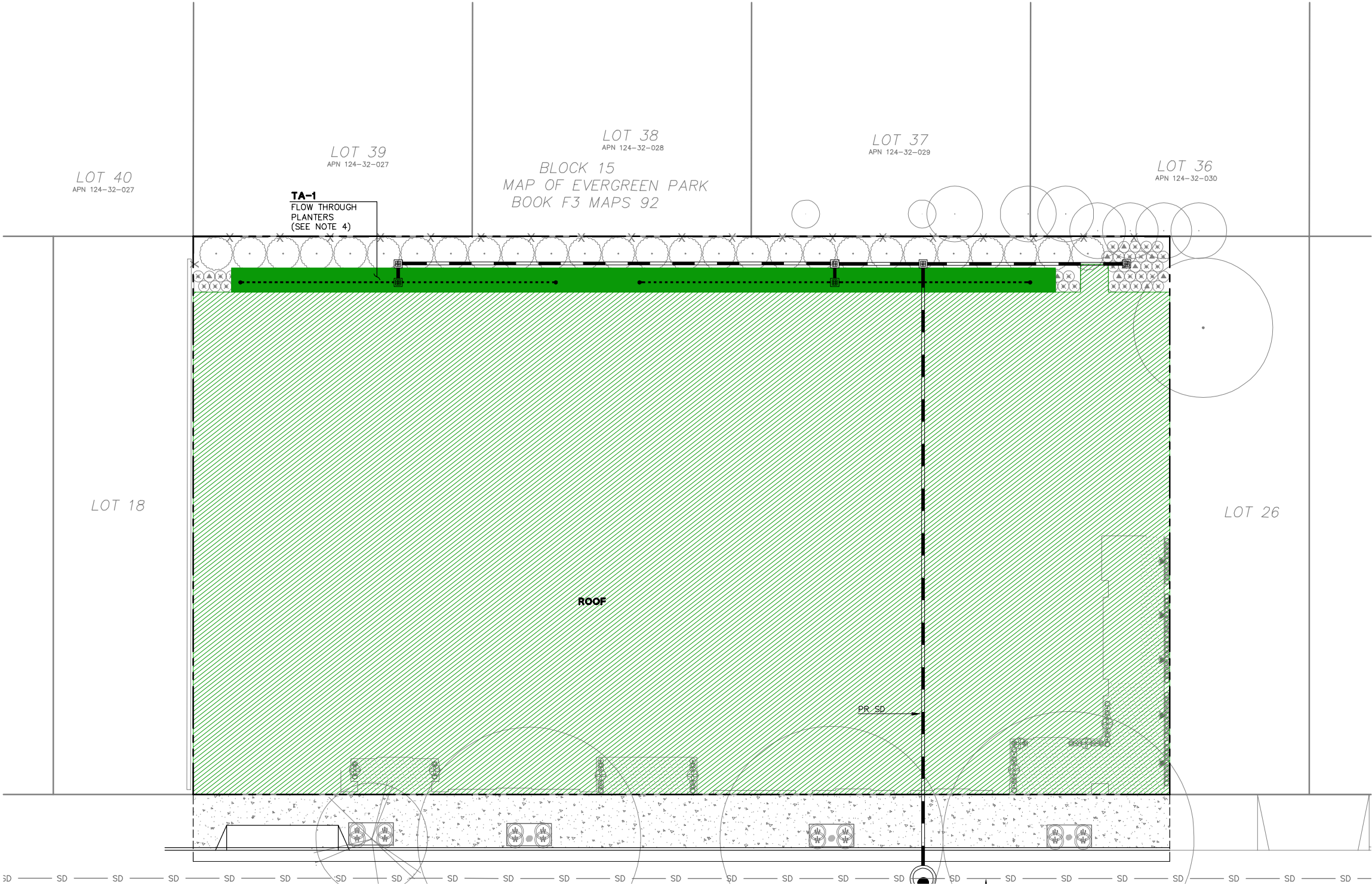


LEGEND:

— — — GRADE BREAK

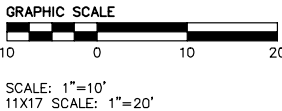
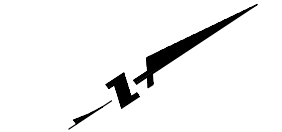


SCALE: 1"=10'
11X17 SCALE: 1"=20'

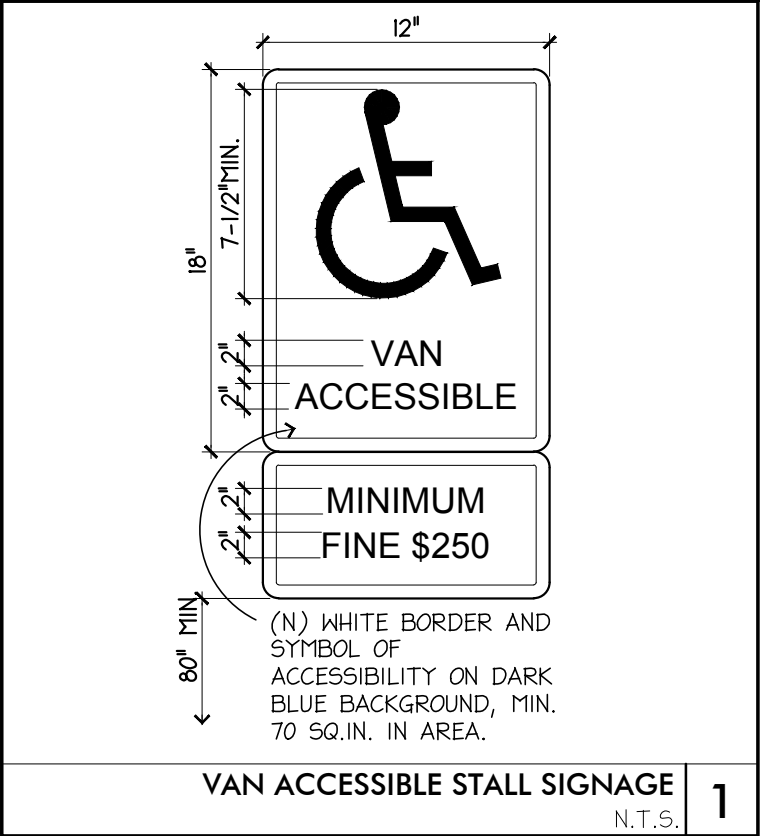
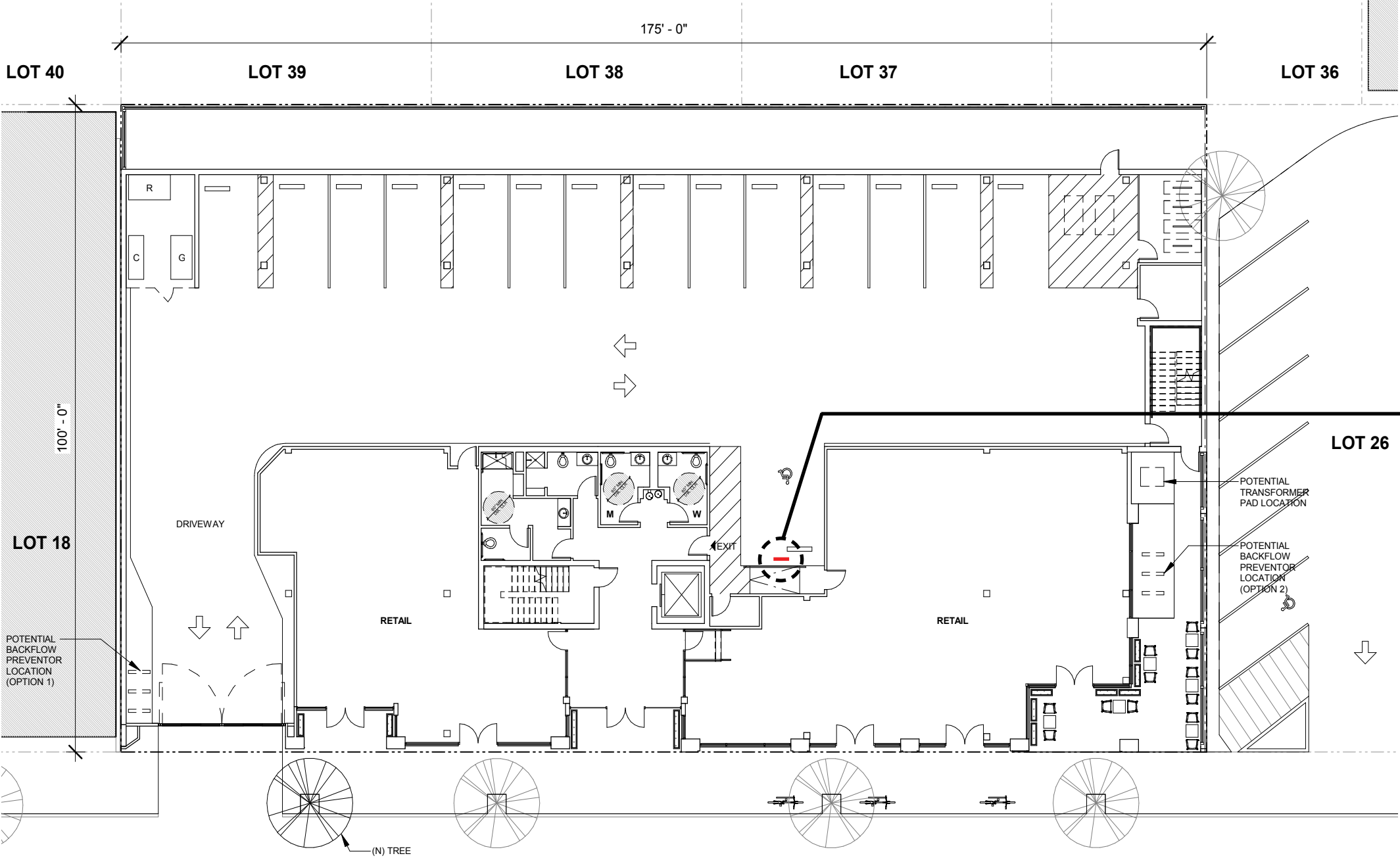


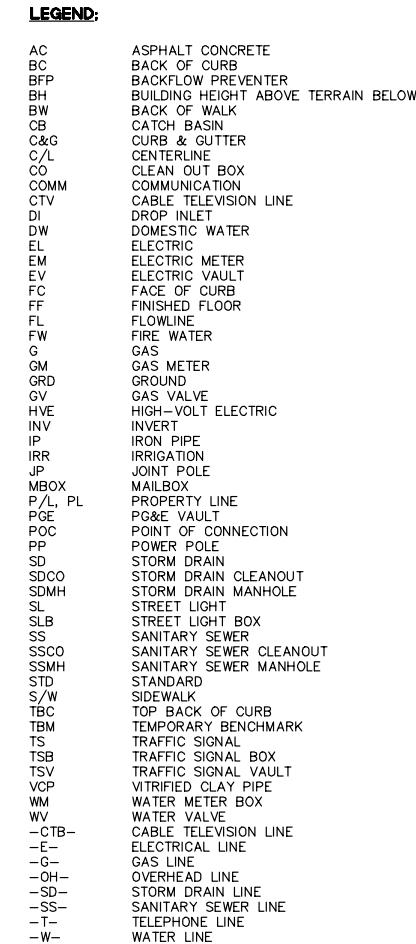
CATCHMENT AREA IDENTIFIER/COLOR	SQ. FT.	TREATMENT AREA IDENTIFIER/COLOR	SQ. FT.	TREATMENT AREA REQUIRED (4%), SQ. FT.	MEETS REQUIREMENT?
CA-1	15,775	TA-1	640	631	YES

- NOTES:**
- TREATMENT AREAS SHOWN ARE DRAWN TO SCALE AND PROVIDE ADEQUATE TREATMENT FOR THE CONTRIBUTING CATCHMENTS.
 - CATCHMENT AND TREATMENT SIZES AND LOCATIONS ARE PRELIMINARY AND SUBJECT TO FINAL ENGINEERING AND PLUMBING DESIGN.
 - STORMWATER RUNOFF FROM EACH ROOF OR DECK WILL BE COLLECTED BY DOWNSPOUTS AND CONVEYED TO FLOW-THROUGH PLANTERS LOCATED AT GROUND LEVEL. DRAINAGE FROM THE GROUND LEVEL FLOW-THROUGH PLANTERS WILL DISCHARGE THROUGH THE SITE STORM DRAIN LATERAL THAT ULTIMATELY CONNECTS TO THE CITY STORM DRAIN SYSTEM.
 - REFER TO LANDSCAPE DETAILS FOR STORMWATER RUNOFF CONVEYANCE FROM ROOF WATER LEADER TO FLOW-THROUGH PLANTER.
 - IMPERVIOUS SURFACES ONSITE WILL DRAIN TO BASMAA APPROVED LID STORMWATER QUALITY TREATMENT STRUCTURES PRIOR TO DISCHARGING FROM THE SITE.



appendix



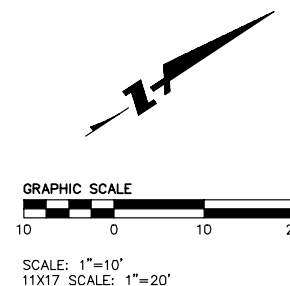


BASIS OF BEARINGS
THE BEARING NORTH 33°16'00" EAST OF THE CENTERLINE OF LELAND AVENUE, AS DETERMINED BY CURB SPLITS AS SHOWN ON THE PARCEL MAP BY SANDIS WHICH WAS FILED FOR RECORD IN BOOK 825 OF MAPS AT PAGE 13, SANTA CLARA COUNTY RECORDS, WAS TAKEN AS THE BASIS OF BEARINGS FOR THIS SURVEY.

BENCHMARK STATEMENT
THE CITY OF PALO ALTO'S BENCHMARK #2516
- A CHISELED SQUARE AT THE SOUTHEAST CORNER OF THE
SOUTHEAST RETURN AT THE INTERSECTION OF EL CAMINO AND
CALIFORNIA.
- ELEVATION = 36.56 FEET
- NGVD 1929 DATUM

NOTE:

1. EXISTING TOPOGRAPHIC INFORMATION SHOWN ON THIS PLAN IS BASED ON ALTA SURVEYS FOR THE 380-410 CAMBRIDGE AVENUE PROPERTIES BY BGT LAND SURVEYING, DATED OCTOBER 2011 AND DECEMBER 2012. A SUPPLEMENTAL FIELD SURVEY WAS PERFORMED BY BKF ENGINEERS IN MAY 2014.



SBCA TREE CONSULTING

1534 Rose Street, Crockett, CA 94525

Phone: (510) 787-3075

Fax: (510) 787-3065

Website: www.sbcatree.com

Steve Batchelder, Consulting Arborist

WC ISA Certified Arborist #228

CUFC Certified Urban Forester #134

CA Contractor License #(C-27) 53367

E-mail: steve@sbcatree.com

Molly Batchelder, Consulting Arborist

WC ISA Certified Arborist #9613A

ISA Tree Risk Assessment Qualified

E-mail: molly@sbcatree.com

Date: Amendment 3, 7-9-15

To: Bob Burke
Greenheart Land Company

Location: 380 – 410 Cambridge Ave., Palo Alto

Assignment: Arborists were asked to survey trees within and adjacent to the three structures.

Appendix 1 – Tree Survey Data

Appendix 2 – Tree Location Map

Appendix 3 – Tree Preservation Guidelines

Photo Supplement – Attached to this report.

Introduction

As required by the City, our report dated as been amended to include “all tree belonging to neighboring properties abutting the project site”.

City Ordinance

According to Palo Alto City Ordinance, Title 8 Municipal Code:

Public/Street Trees - “All public trees are regulated. Public or street trees are all trees growing within the street right-of-way, on public property such as parks, and outside private property...”

Summary

Arborists surveyed four (4) Chinese Pistache (*Pistacia chinensis*) located on Cambridge Ave and one (1) American Sweet Gum (*Liquidambar styraciflua*) located in the adjacent parking lot to the north, that qualify as City **Public/Street Trees**.

The survey also included trees located off site and to the rear of 380-410 Cambridge. These include seven (7) Glossy Privet (*Ligustrum lucidum*), one (1) Italian Buckthorn (*Rhamnus alaternus*) and one (1) Bottle Brush (*Melaleuca citrina*), all of which are located in private properties adjacent to the 380 Cambridge building. It is not expected that the roots of these private trees have grown into the property as the foundations of the structure appears to be at the property line. However, three privets located at 391 College will likely require removal due to proximity to existing structure.

400 CAMBRIDGE AVE

LANDSCAPE - TEXT



380-410 Cambridge, Palo Alto
Greenheart Land Company

Three of the four Public/Street Chinese Pistache trees and the *Liquidambar* will be preserved and protected. The Chinese Pistache located in front of 410 Cambridge will be removed to provide vehicular access to on-site parking. The trees located at 383 College will be designated for preservation during construction activities as well.

Discussion

Four Chinese Pistache – The pistache trees are in fair to good health. Three of the four trees have suffered prior stem breakouts resulting from weak stem attachments (embedded bark). All appear to be suitable for retention and are in need for structural pruning. Structural pruning addresses weak stem attachments, heavy lateral branch end weight and dominance to improve tree safety. The openings in the sidewalk around the trees range from 3 feet by 3 ½ feet to 3 feet by 5.75 feet in length.

Liquidambar – The *Liquidambar* tree is located in the parking lot to the north of the parcels and is closely adjacent to the site. The tree is in fair health and has a good scaffold structure. If construction activities are to occur in close proximity the tree will require protection measures.

Private Trees at 391 College– Three privets located in the backyard of 391 College will likely require removal, along with shrub bougainvillea and bottle brush along the wall.

Private Trees at 383 College – The vegetation located at 383 College consisted of multi stemmed *Rhamnus*, privet and bottlebrush with DBHs 5” or less. Because of the size of the trees and that the foundation of the structure on Cambridge extends to the property line, roots from the trees are not expected to have entered the area. These trees will be protected by the chain link perimeter project fencing placed at the property line.

Treatment of Driveway Area –Treatment of the area will likely require the use of an air-spade for excavation along with the use of under pavement treatments, such as structural soil. Much will depend on location and size of existing Pistache roots. Arborist will monitor all work within Tree Root Protection Zone and make decisions as necessary to assure protection and preservation.

End Report

Submitted by:

Steve Batchelder, Consulting Arborist

ISA Certified Arborist WE 228A

CaUFC Certified Urban Forester #138

Calif. Contractor Lic. (C-27) 533675

SBCA Tree Consulting
1534 Rose St. Crockett, CA 94525
steve@sbcatree.com



Phone (510) 787-3075
Fax (510) 787-3065
www.sbcatree.com

Photo Supplement



Photo 1. Photo left shows the pistache tree at 380 Cambridge which will be removed.



Photo 2. Photo to the right shows one of the limb breakout wounds on a pistache tree.



Photo 3 to the left shows the Liquidambar tree that will be preserved.



Photo 5. Photo to the left shows red arrows pointing to trees #8 and #9 in the background and #10 in the foreground.



Photo 6. Photo to the left shows red arrow pointing to privets #13 and 14. These trees will likely require removal to accommodate building demolition. The bougainvillea and bottlebrush was also likely be lost.

End Photo Supplement



COLUMN HEADING DESCRIPTIONS

- Tag# - Indicates the number tag attached to tree
- Species - Scientific name
- DBH - Diameter measured in inches at 4.5 feet above soil grade
- Height - In feet
- Spread - In feet
- Structure- Tree Structural Safety: E is Excellent, G is Good, F is Fair, P is Poor, H is Hazardous
- Health -Tree Health: E is Excellent, G is Good, F is Fair, P is Poor, D is Dead or Dying
- Maintenance Priority - See action below
- Suitability for Retention - G is Good, F is Fair, P is Poor
- Notes - See below

ABBREVIATIONS AND DEFINITIONS

Action	Structural Pruning (SP), End Weight Reduction Pruning (EWR)
Notes	Embedded Bark (EB) - AKA Included Bark, this is a structural defect where bark is included between the branch attachment so that the wood cannot join. Such defects have a higher propensity for failure.
	Codominant (CD) - A situation where a tree has two or more stems which are of equal diameter and relative amounts of leaf area. Trees with codominant primary scaffolding stems are inherently weaker than stems, which are of unequal diameter and size.
	Codominant w/ Embedded Bark (CDEB) - When bark is embedded between codominant stems, failure potential is very high and pruning to mitigate the defect is recommended.
	Poor Pruning (PP) - Past pruning practices considered unacceptable according to ANSI A300 Best Management Practices, Tree Pruning

Tag #	Species	DBH	Height	Spread	Structure	Health	Maintenance Priority	Suitability for Retention	Notes
1	<i>Liquidambar styraciflua</i>	8.5	30	25	G	F	EWR, SP	G	In parking lot island; Ivy.
2	<i>Pistacia chinensis</i>	14.5	30	45	F	G	SP	G	Scaffold stem breakouts; Large pruning wounds; 3'x5' pavement cutout
3	<i>Pistacia chinensis</i>	15	30	40	F	F	SP	G	Scaffold stem breakouts; CD; Minor pavement uplift; EB in upper scaffold; PP; 3'x4' pavement cutout
4	<i>Pistacia chinensis</i>	13.5	30	40	P	G	SP	G	CDEB; 5'9"x3' pavement cutout
5	<i>Pistacia chinensis</i>	15.5	30	40	F-P	F	SP	G	2 EB breakouts; Pruning wounds; H of some branches; PP; 3.5'x3' pavement cutout

380-410 Cambridge Tree Survey
Greenheart Land Company

Appendix 1
Survey Data

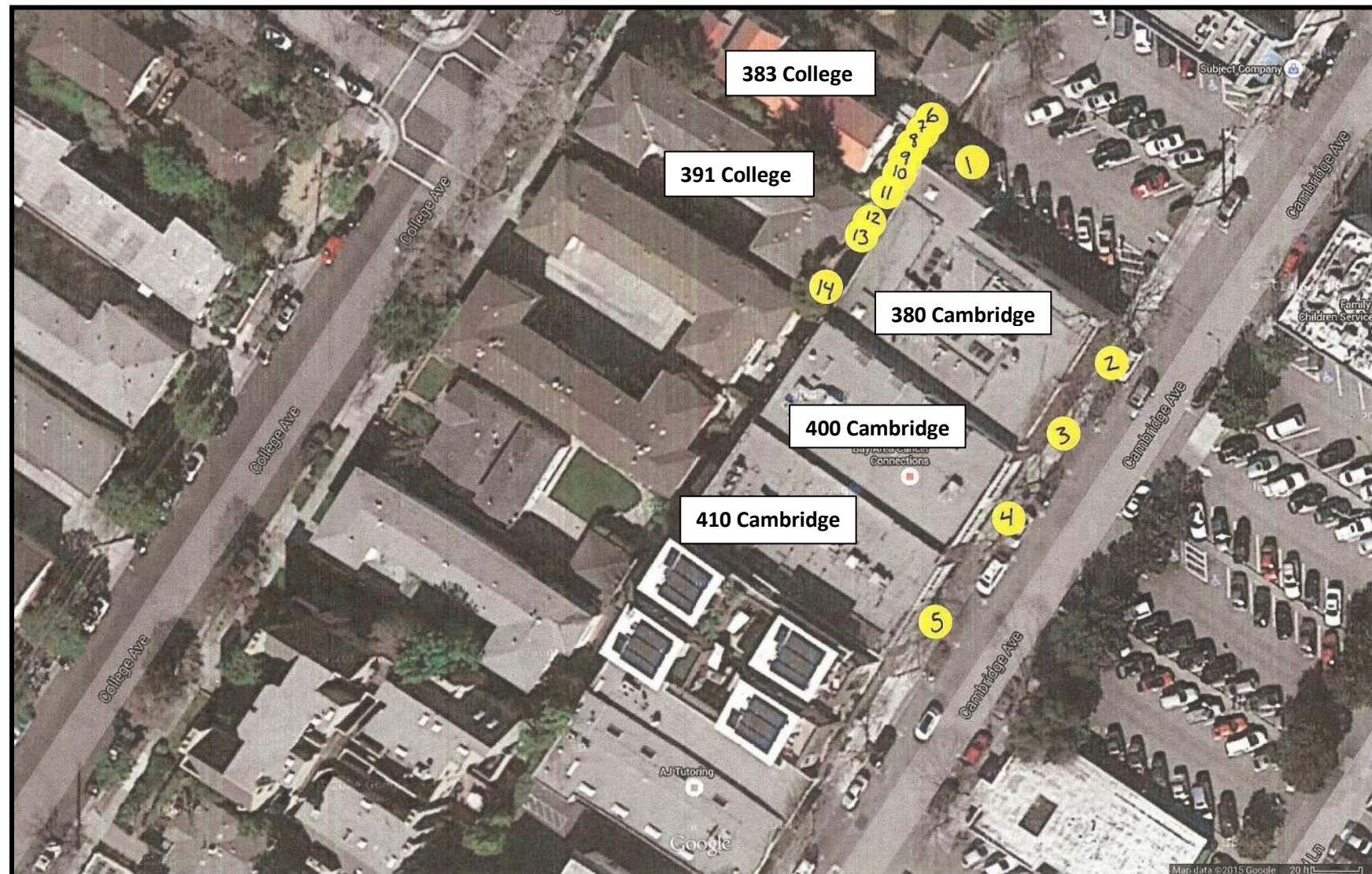
Amended 7-9-15
2 of 2

Tag #	Species	DBH	Height	Spread	Structure	Health	Maintenance Priority	Suitability for Retention	Notes
6	<i>Ligustrum lucidum</i>	3, 3, 2, 2	20	10	P	F	-	-	383 College, 1 foot from fence
7	<i>Ligustrum lucidum</i>	3, 3, 2, 2	20	10	P	F	-	-	383 College, 1 foot from fence
8	<i>Ligustrum lucidum</i>	3.5, 2, 2, 3.5	20	10	P	F	-	-	383 College, 1 foot from fence
9	<i>Rhamnus alternus</i>	4.5	20	10	F	F	-	-	383 College, 1 foot from fence
10	<i>Meleluca citrina</i>	5, 5, 5, 2.5, 3	20	10	P	G	-	-	383 College, 4 feet from fence
11	<i>Ligustrum lucidum</i>	3.5, 3, 3.5, 1.5, 2	20	10	P	F	-	P	383 College, 4 feet from fence,
12	<i>Ligustrum lucidum</i>	13	20	10	P	F	-	P	Likely require removal due to contact with existing structure. Bougainvillea and bottlebrush on wall will also require removal
13	<i>Ligustrum lucidum</i>	2.5	20	5	P	F	-	P	
14	<i>Ligustrum lucidum</i>	2.5	20	5	P	F	-	P	

380-410 Cambridge, Palo Alto
Greenheart Land Company

Appendix 2
Tree Location Map

Amendment 2, 6-3-15
1 of 1



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Tree Preservation Guidelines

These guidelines provide for the care and maintenance of trees before, during and after construction. The goal of tree protection and preservation guidelines is to provide for a successful transition for the trees within the modified site.

Trees to be preserved include three (3) City Chinese Pistache, one (1) City American Sweet Gum as well as all vegetation located at 383 College.

To be most effective, tree preservation and health mitigation measures should commence well before the time the trees are to be adversely impacted.

PRE-CONSTRUCTION ACTIVITIES

These activities should be undertaken prior to initiation of construction activity. In addition to modifications to the project design to reduce tree impacts, all steps that improve the health of trees prior to construction will greatly improve the chance of survival.

Timing of Root Loss – Root loss that occurs in late fall is preferable to cutting tree roots in the spring. Pruning activities are best undertaken in mid to late summer or winter. Pruning both the canopy and roots at the same time should be avoided if possible.

Designate Tree Root Protection Zone—The tree Root Protection Zone (RPZ) designates an area surrounding a tree or grouping of trees that is to be fenced off from all access until designated by a certified arborist. The RPZ is commonly defined as one (1) foot radial distance for every one (1) inch in tree diameter (DBH). Example: A single stem tree measuring 30 inches in diameter, (measured at 54 inches or 4.5 feet above grade) would have a critical root zone with a radius of 30 feet. This is roughly equivalent to the area commonly referred to as the “drip zone.”

Arborist can modify the RPZ distance from the base of the tree based upon site conditions and the level of root presence. It should be understood that tree roots often extend out from the base to more than three times the distance defined by the critical root zone. An arborist should monitor all grading and trenching activity that is within twice the distance of the RPZ. The larger the protection zone that is provided, the greater the likelihood of long-term tree survival.

Trunk and Scaffold Protection – Whenever construction activity must occur inside the tree protection zone, the base of the tree, trunk and scaffold branches must be protected. Protection is generally provided by wrapping the trunk and scaffold branches with 10 wraps of orange plastic construction fencing or use of straw waddles wrapped around the tree. Additional protection can be provided with either straw bales or use of vertical 2x4 boards strapped to the tree.

Root Protection and Root Pruning – Root protection measures must be in place prior to the beginning of construction activities. Necessary root pruning is best accomplished prior to the beginning of construction activities when excavation equipment will be used. After being exposed by hand or air excavation, roots are pruned under arborist supervision. Construction activities are then free to occur outside of the root pruning boundary.



Supplemental Irrigation – Arborist will designate supplemental irrigation based upon the level of root loss, soil conditions, tree health and time of year.

Mulching – Use of four to six inches of organic mulch (wood chips are best) on soil surface will reduce soil compaction and evaporative soil moisture loss. Recommended material is wood chips generated from tree trimming. Fresh redwood, incense cedar and walnut chips are not acceptable, nor is palm generated mulch.

Compost – Compost is often recommended for placement immediately under the mulch. Good quality compost provides nutrient value. Compost must be represented by a recent laboratory analysis to confirm quality.

Pruning – All pruning must comply with ANSI A300 Pruning Standards. Pruning must be minimized, particularly when root loss occurs. Pruning prior to construction should include: Necessary Clearance Pruning, Deadwood Removal and Safety Pruning.

TREE PROTECTION DURING CONSTRUCTION

The level of arborist monitoring of the project can be quite variable, depending upon the degree of encroachment into root systems and the early levels of contractor compliance with the tree protection guidelines.

Pre-Construction Meeting with all Construction Personnel – It is important that construction crew understands the tree protection requirements. All personnel working on site should be provided an orientation to tree preservation measures and rules by the arborist assigned to monitor tree preservation.

Observe Fenced RPZ – This area is off limits to all personnel, equipment, materials storage, or any other activities. Fencing may be relocated only under arborist supervision.

WORK ACTIVITIES OCCURING WITHIN THE DESIGNATED RPZ

Arborist Supervision – All activities occurring inside of the designated RPZ must be approved and an arborist must be present to supervise tree protection and root pruning activities.

Root Protection – The current sidewalk will be sufficient for root protection and should not be disturbed during construction. If the sidewalk is removed and the area cannot be fenced off, the soil will require protection from contaminants and compaction. The effects of foot traffic can be mitigated through the use of six (6) inches of wood chip mulch and ¾ inch plywood placed on top.

When equipment is to be used inside of the designated RPZ, soil must be covered with 12 inches of wood chips and two layers of ¾ inch plywood or one layer of 1 1/8 inch plywood or metal trench plates.

Soil Moisture Control – Water stress is detrimental to tree health, particularly during the spring. Supplemental irrigation is required whenever tree roots are uncovered or severed due to trenching or grading. Open trenches with exposed roots require minimum two layers of damp burlap or other acceptable covering at all times. An arborist will determine the amount of supplemental watering required based upon soil moisture investigation and weather conditions.



Required Method of Trenching Within Critical Root Zone – Carefully hand excavation or tunneling shall be the accepted method for installing underground utilities. The Air Spade can also be used much more efficiently when a large amount of such trenching must be undertaken. Arborist is to supervise any such activity.

POST CONSTRUCTION MITIGATION

All valuable trees which have been impacted in any manner (root loss, soil moisture changes, or necessary pruning) will require mitigation to offset the adverse impact and maintain the level of vigor in the tree prior to being impacted impact. Trees that were not vigorous prior to construction will require extra care.

Monitoring Tree Health – Regular visual inspection of trees will aid in assessing where further mitigation is required. Tree decline should be recorded and referenced against pre-construction health assessment. Leaf and stem insects and fungal pathogens are a sign of poor tree health (low energy reserves).

Monitoring of Soil Moisture – It is important that significant changes in soil moisture levels within tree root zones be identified early, prior to visible evidence of tree decline. Moisture should be monitored by visual inspection using a soil probe or through the use of tensiometers placed at key locations. Supplemental irrigation is best provided during middle and late spring. In cases where trees have suffered root loss, supplemental irrigation will be required for a number of years in the area where roots were severed.

Mitigation of Soil Compaction – The level and depth of soil compaction must be assessed and mitigated as necessary. Mitigation of soil compaction in areas where roots are present must minimize root loss. Tools most suitable to mitigate soil compaction are the water jet or air spade.

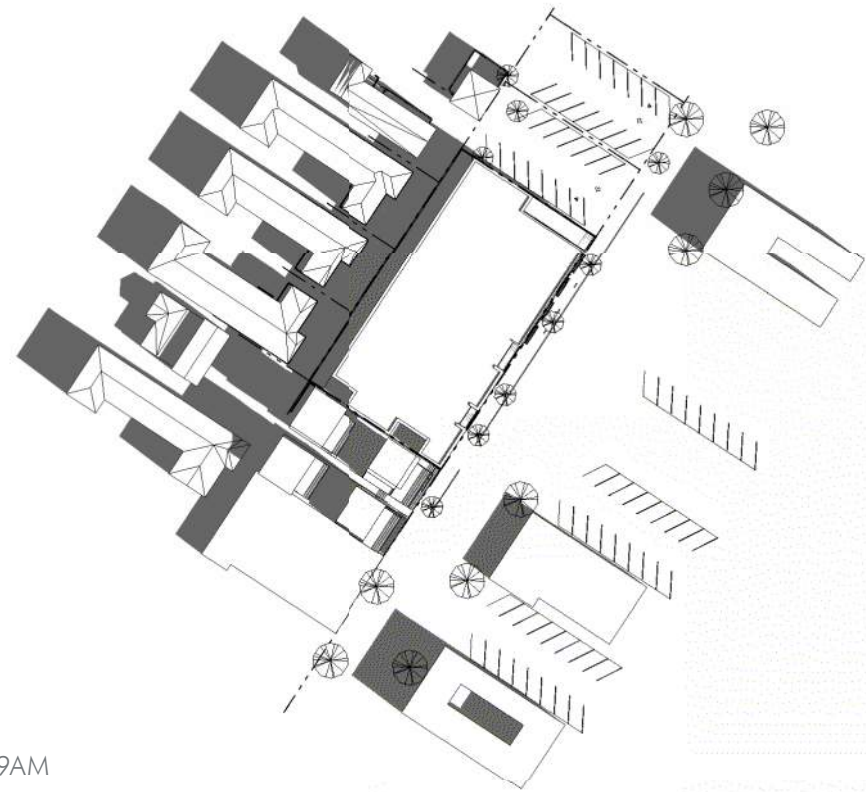
Landscaping – All landscaping planning must take precautions when planting within the designated RPZ. All plant materials should be selected for compatibility with the favored moisture regime of the trees. With native oak trees, this is particularly critical. Irrigation must be designed to comply with the requirements of the tree species and soil conditions. Irrigation lines must minimize root loss and pass under roots when possible. Air spade is recommended for excavation within the designated RPZ.

Continued Mulching – Mulch is extremely beneficial in creating a healthy root environment. A regular program of mulch application is recommended to help retain soil moisture, provide a source of nutrients, and help control weeds. The continued use of good quality compost as a mulch is beneficial as a source of nutrition.

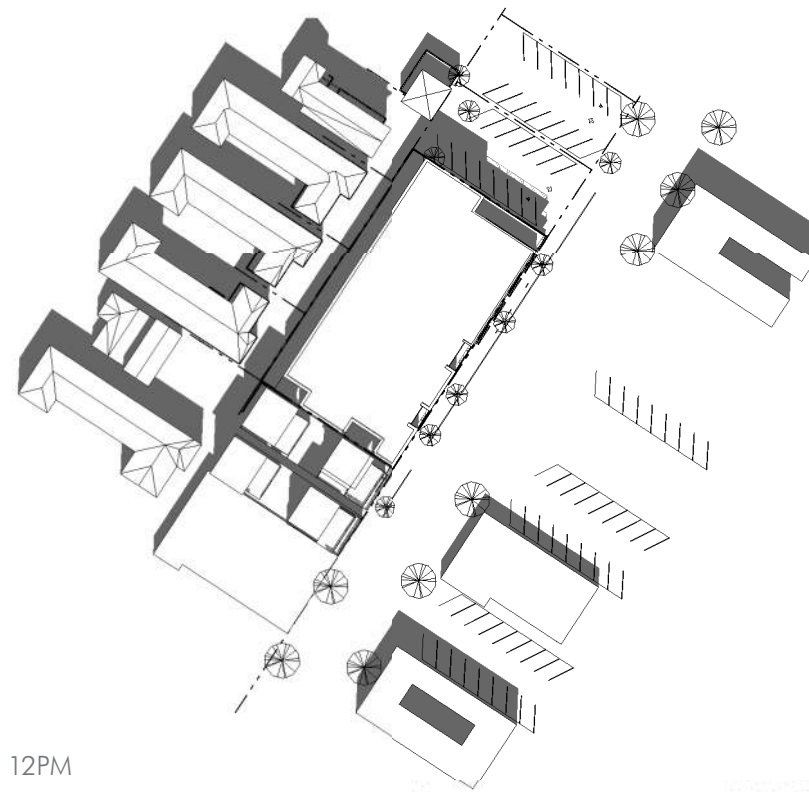
Fertilization – Prior to fertilization, soil analysis and possibly leaf tissue analysis must be undertaken. Trees should be fertilized only when the nutritional limitations have been identified. Leaf tissue analysis is another excellent tool for this determination. Excessive nitrogen fertilization is known to draw sucking insects (aphid, scale, etc.) to the plants and provide nutrition to fungal pathogens in the soil.

Pest Management Program – Healthy trees do not generally have serious pest problems. Stressed trees are attractive hosts to pathogens, which can contribute to decline and eventual death. Pest management is prescribed when monitoring indicates a need and tree health is marginal. **END**

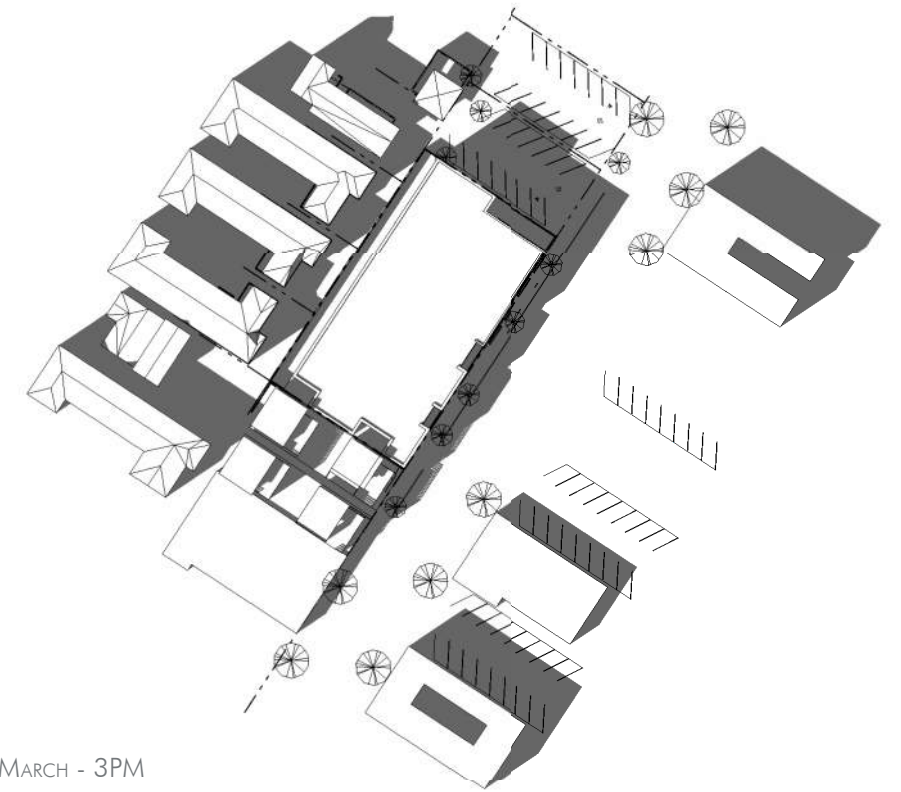




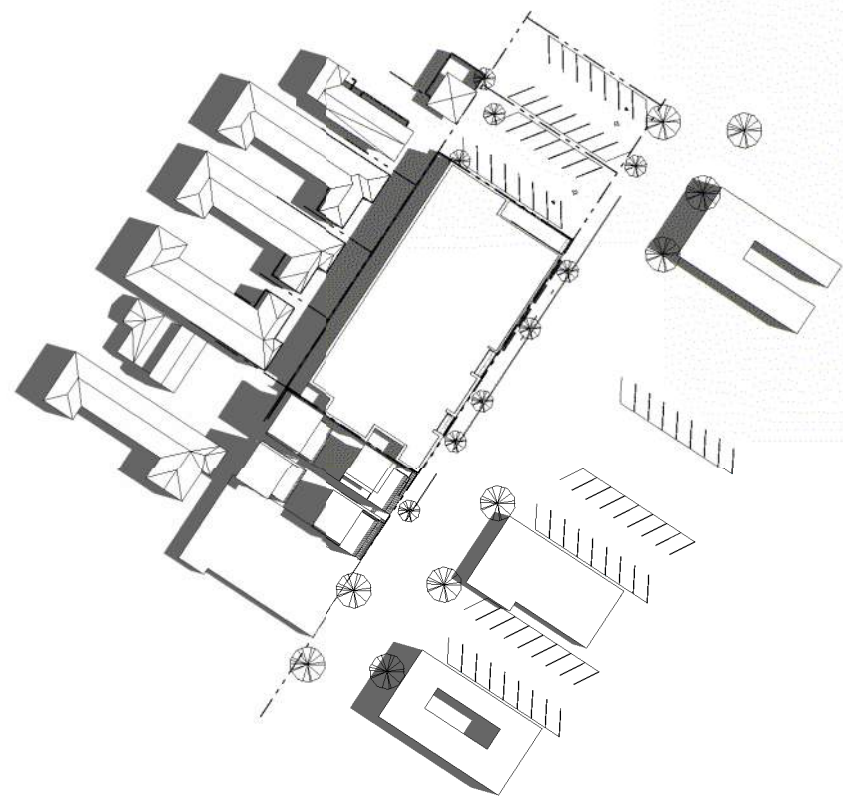
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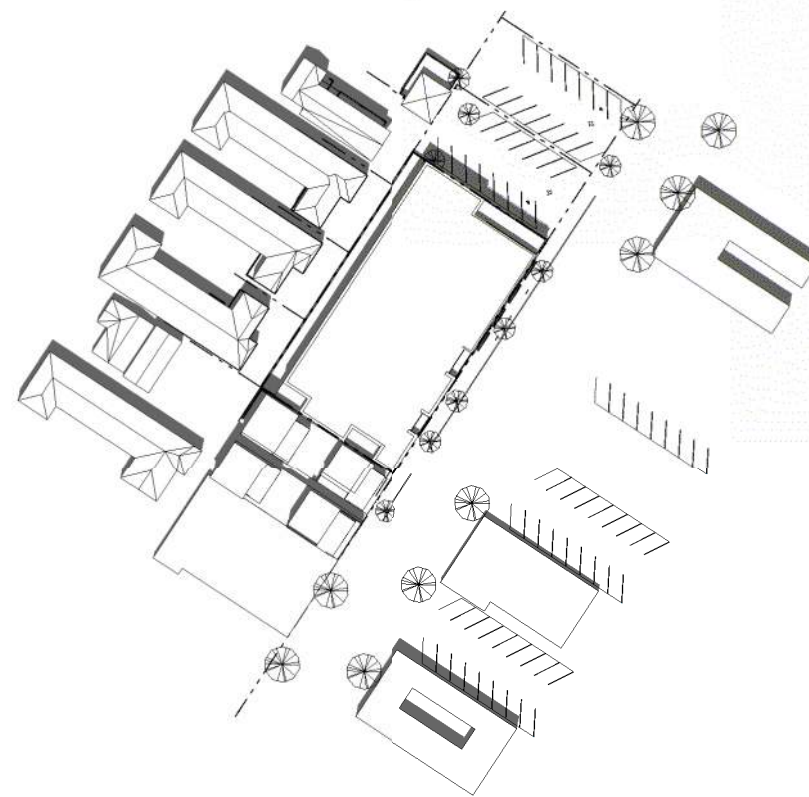
MARCH - 12PM



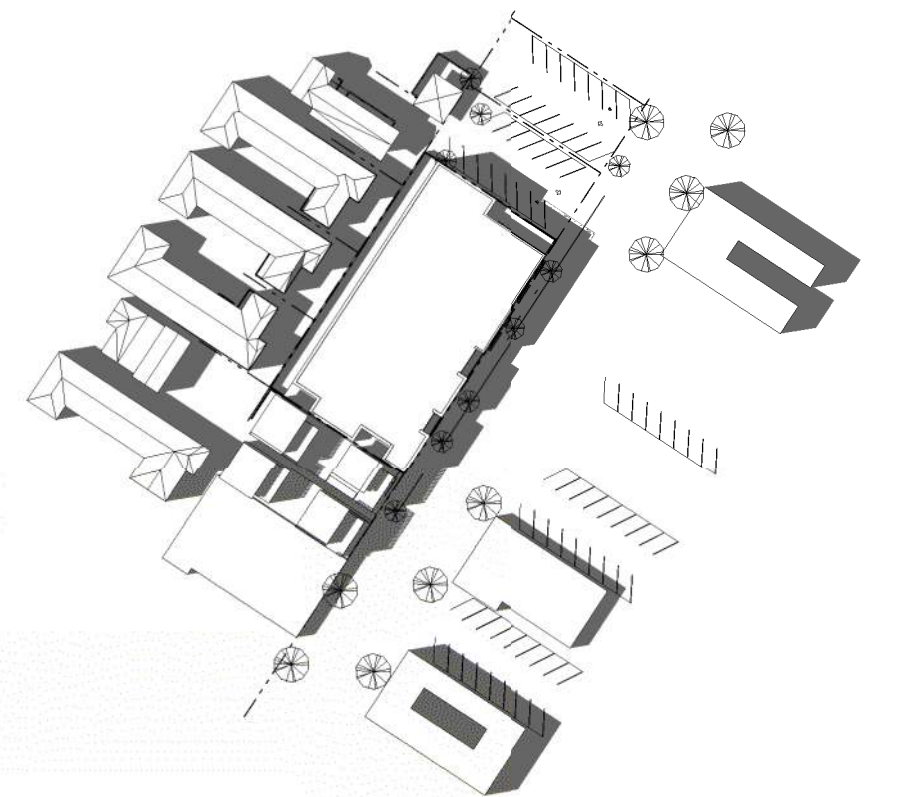
MARCH - 3PM



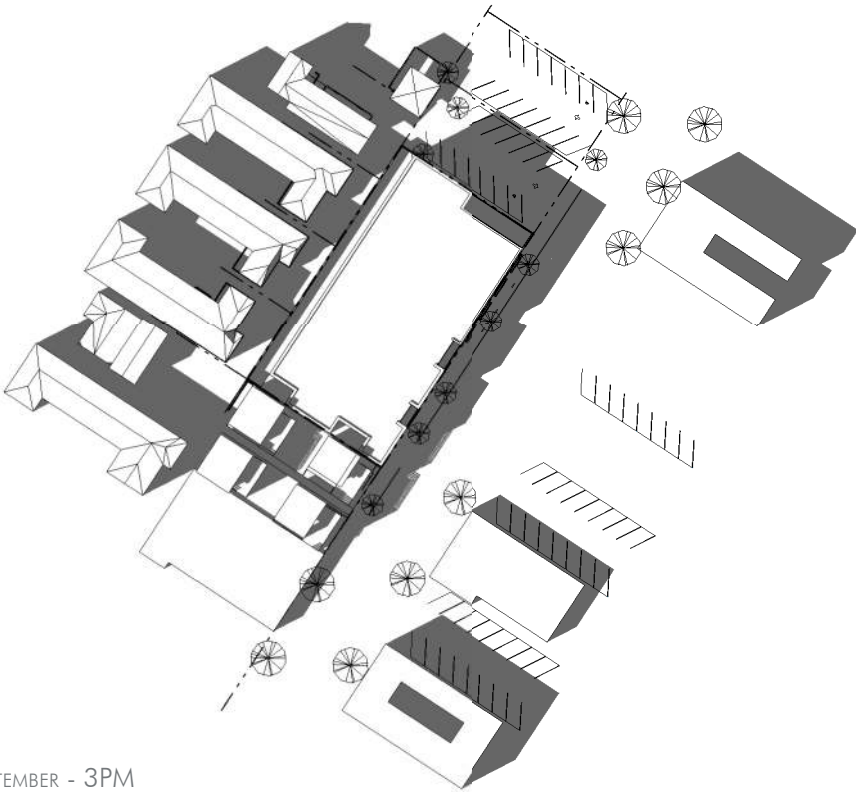
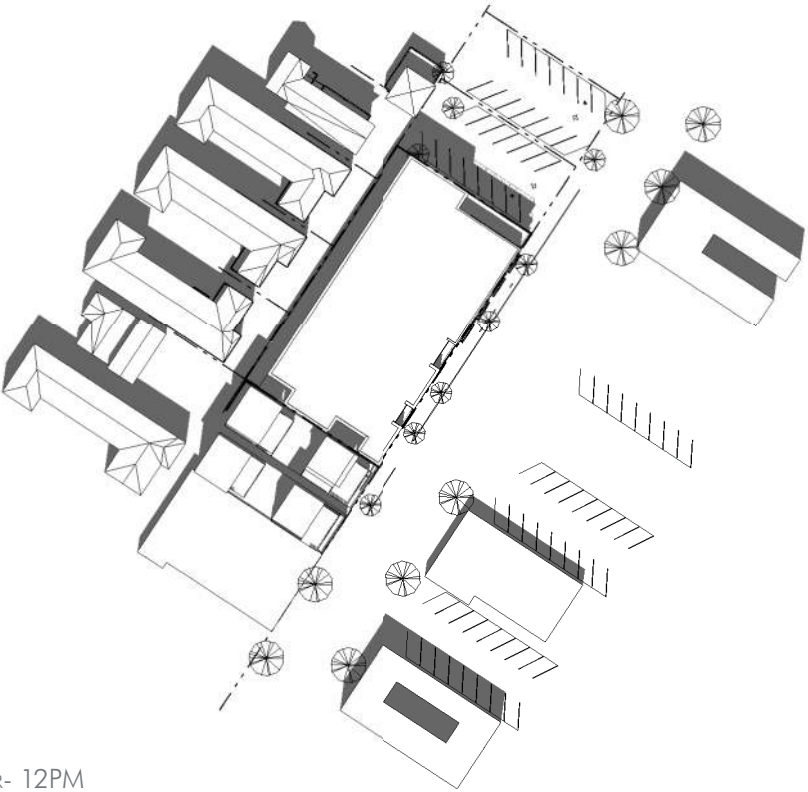
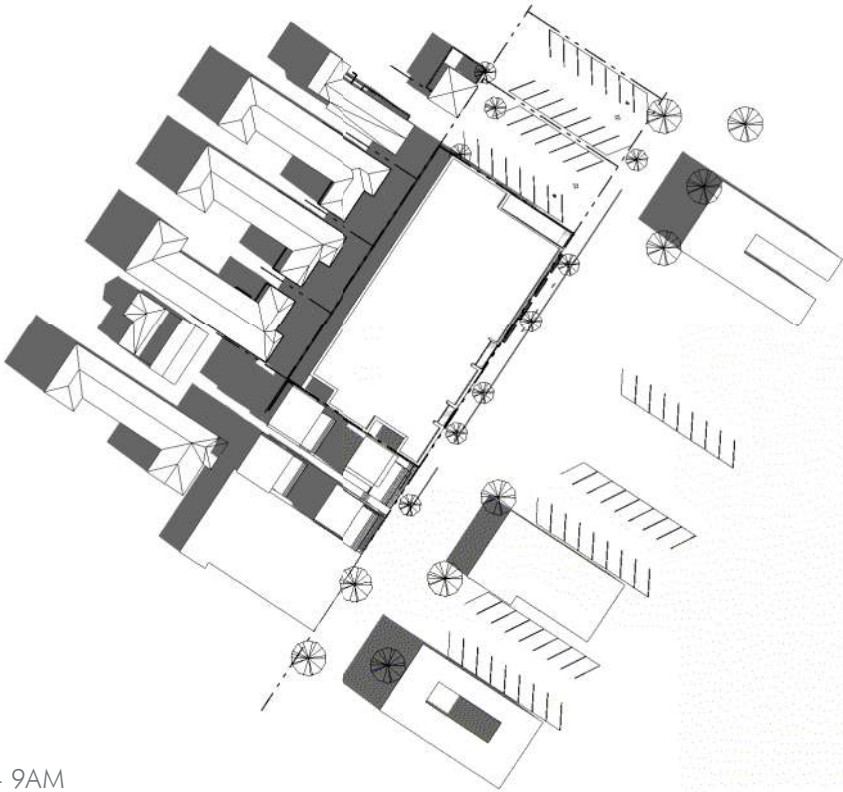
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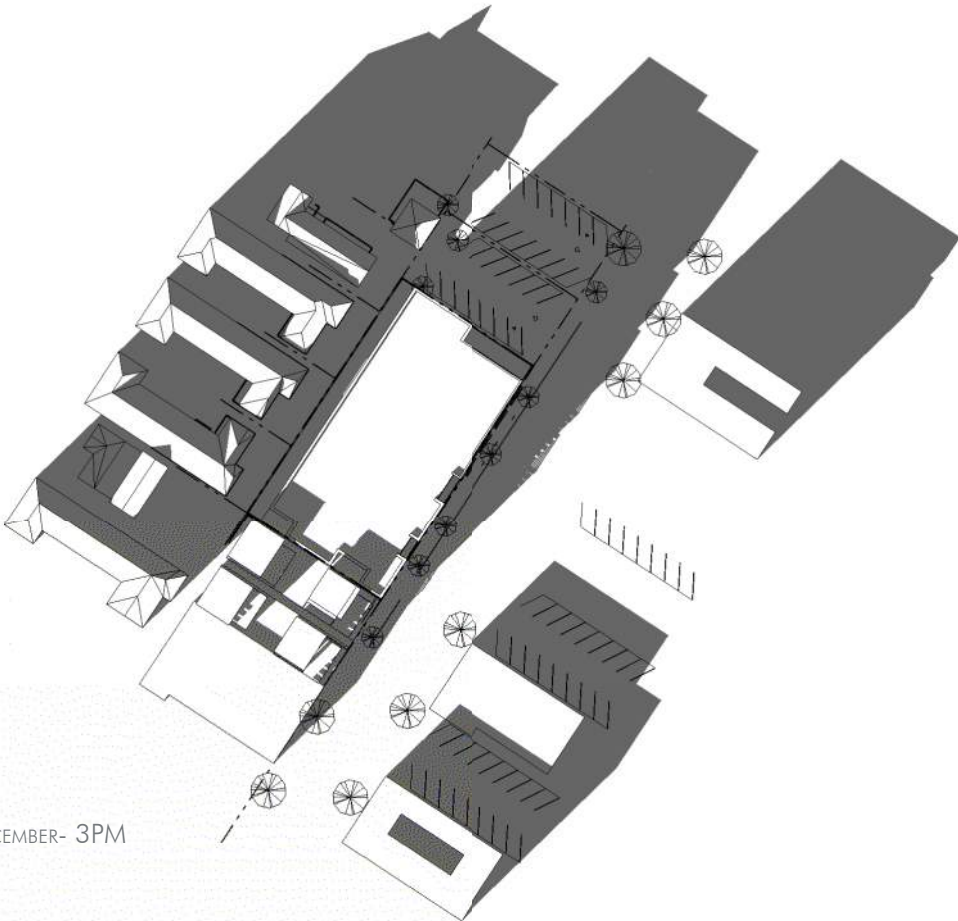
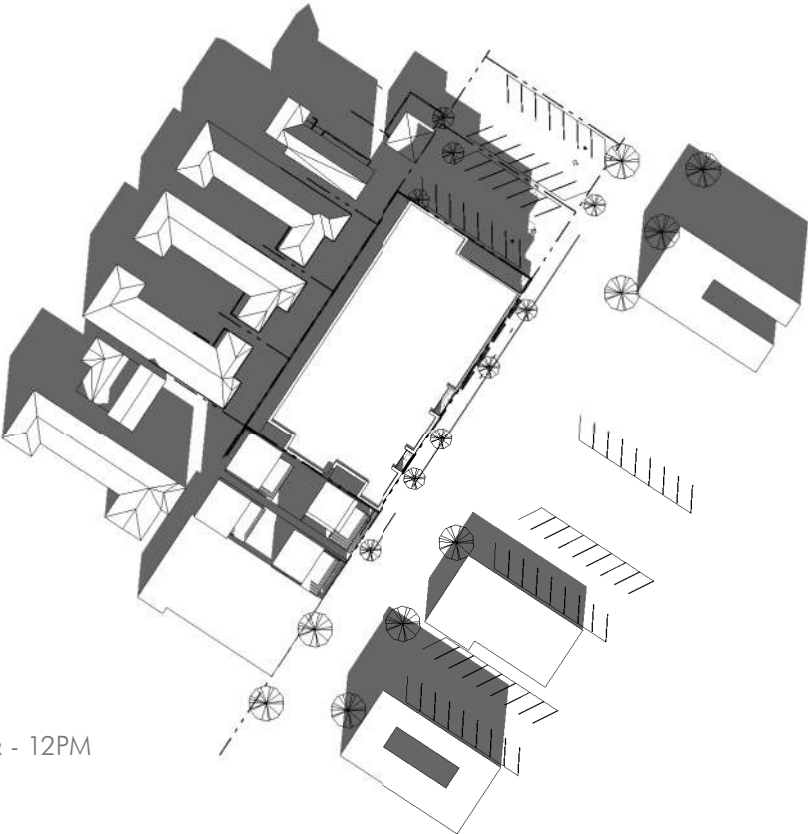
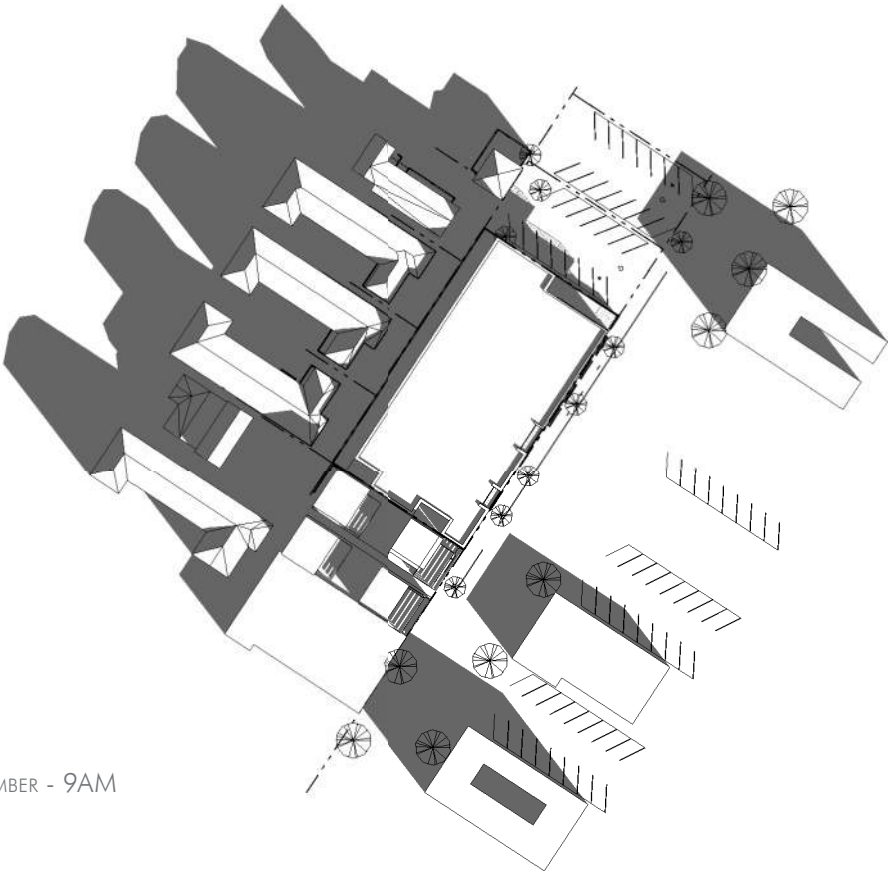
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SEPTEMBER- 12PM

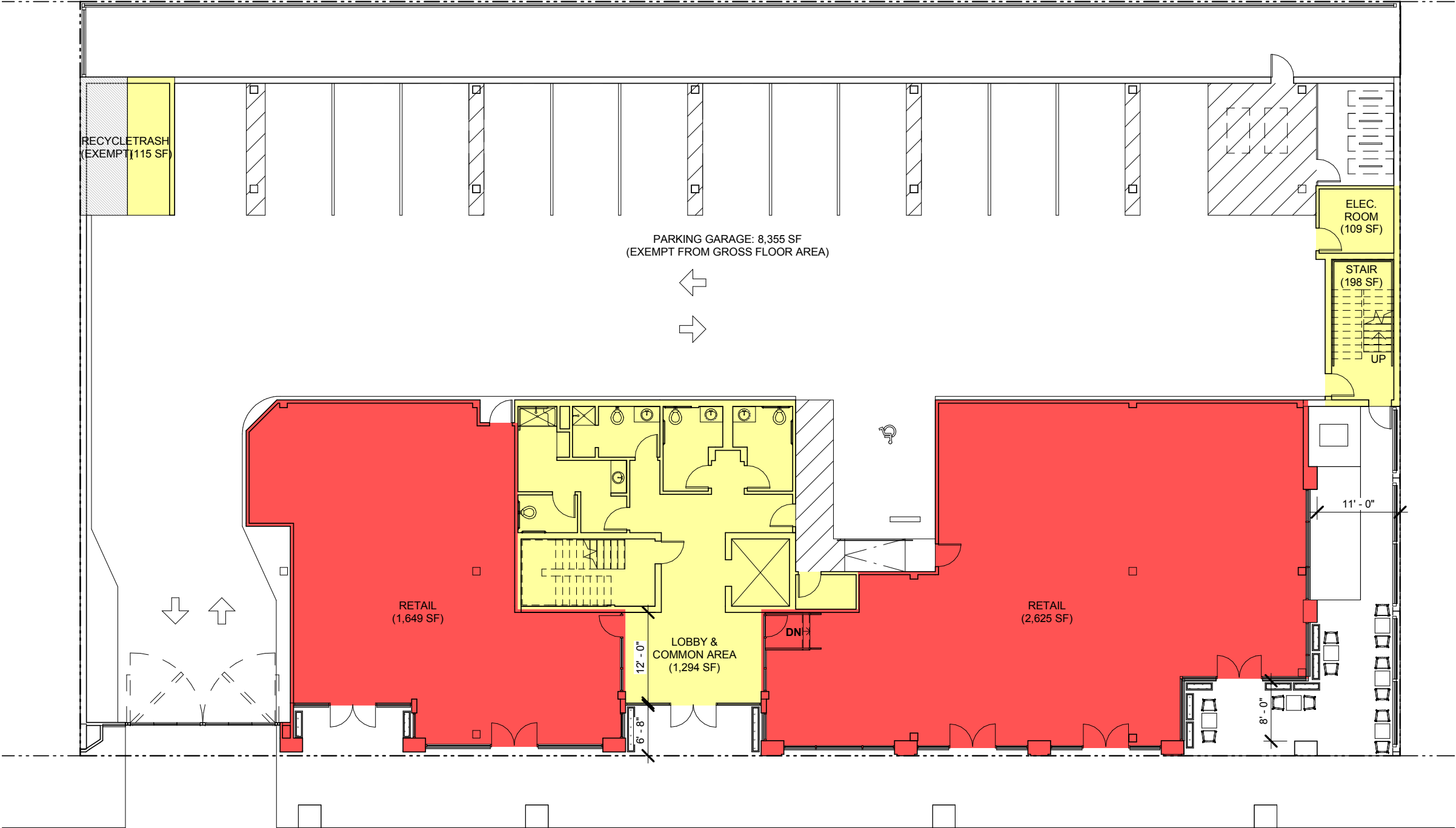
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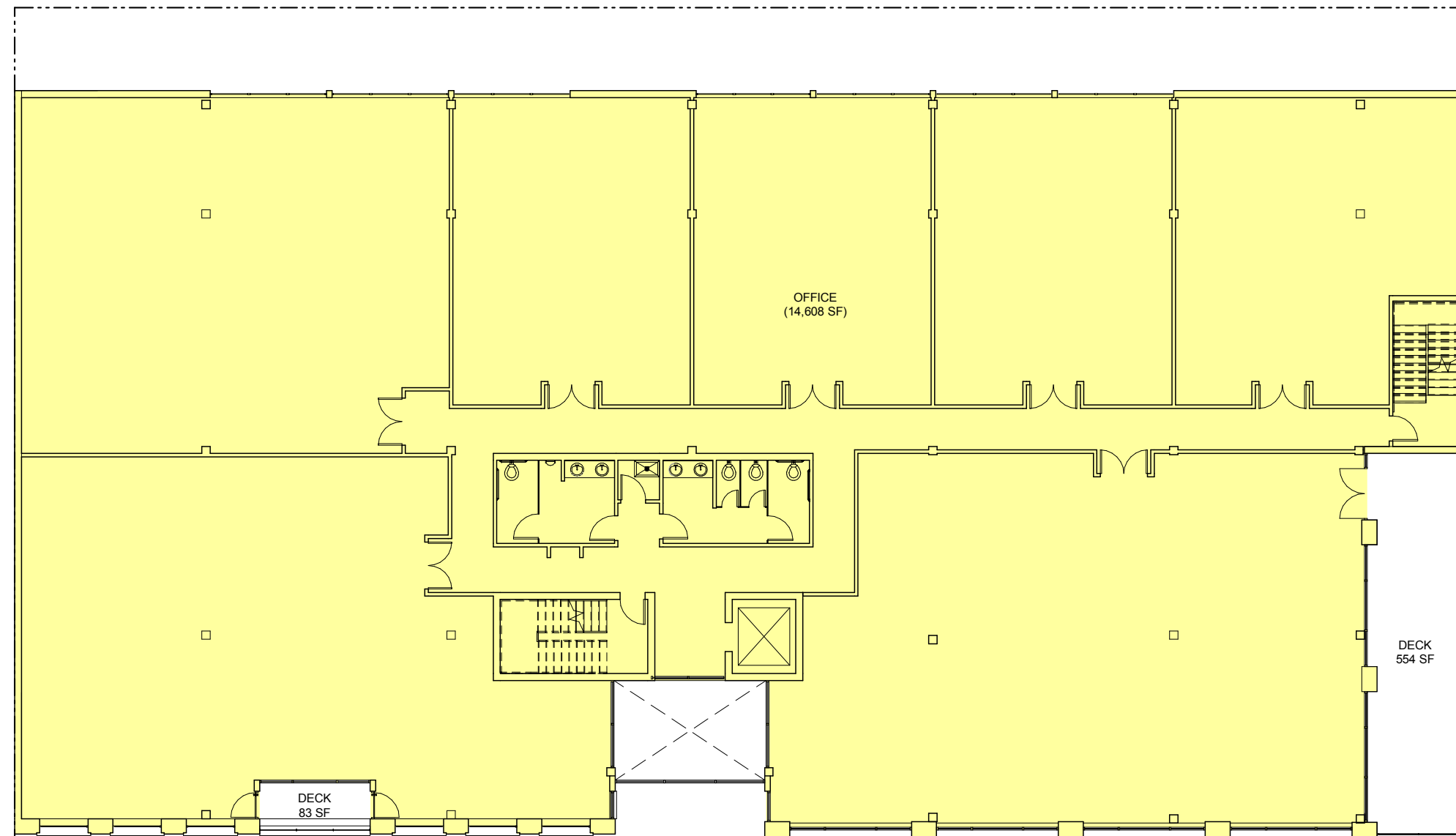


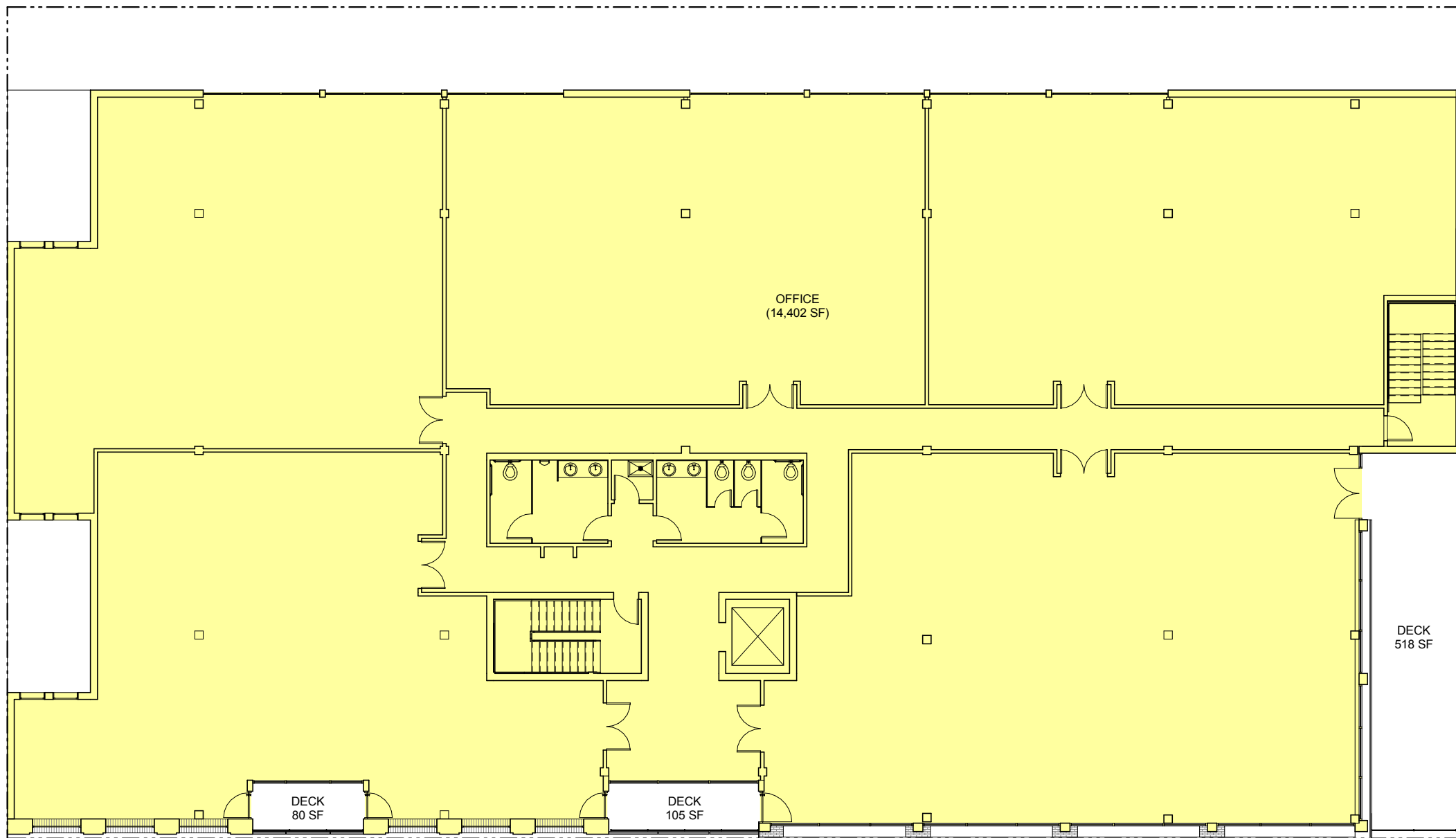
DECEMBER - 9AM

DECEMBER - 12PM

DECEMBER- 3PM







Loading Zone Analysis

An Analysis of how a truck loading zone could be provided on-site has been prepared at the request of the ARB. Watry Design, a noted designer of parking facilities, was engaged to identify the best means to provide on-site truck parking. Over a dozen layouts were considered, and the two presented on in the following pages (1) best comply with city codes and policies, (2) have least complex turning movements, (3) have the least impact on the retail foot print.

Loading Zone Requirements

Pursuant to PAMC 18.52.040 (Table 3) office buildings between 10,000 sf and 99,000 sf are required to have one on-site truck loading zone with the following dimensions: length 45 ft, width 12 ft, and height 15 ft. The applicant requests that this requirement be waived in accordance with the provisions of PAMC 18.52.040 (Table 4).

The findings for such a waiver included (1) site conditions, (2) the availability of alternate means for loading, and (3) conflict with the comprehensive plan. Also to be considered is whether an on-site loading zone would serve its intended purpose.

Site Conditions

For the proposed building to accommodate the required ground floor retail and on-site retail parking and to be financially feasible it is necessary for it to be three full floors. The floor to ceiling height on the first floor is 11 ft and 15 ft is needed for truck clearance. Consequently, a portion of the second floor would need to be raised making it unusable. (Refer to the red outline on the loading zone South Elevations that follows.) Because of the relatively small foot print of the site, the inclusion of a loading zone would have the undesirable effect of reducing the amount of retail space. Further, the floor of the parking area would need to be depressed 4 ft creating ADA access challenges. (Refer to the Loading Zone Cross Section.)

Alternative Loading Options

There are four on-street loading zones on Cambridge to serve the proposed building (which is only 2,900 sf larger than the existing structure) as well as the other uses on Cambridge. (Refer to following map of the California Avenue Parking Assessment District which depicts the loading zones on Cambridge Av.) The closest loading zone to 400 Cambridge is about 100 ft. away. Further, if all of the structures on Cambridge from El Camino Real to Park (a

total of about 157,000 sf) were a single development, two loading zones would be required. Thus, Cambridge is over served.

Conflict with the Comprehensive Plan

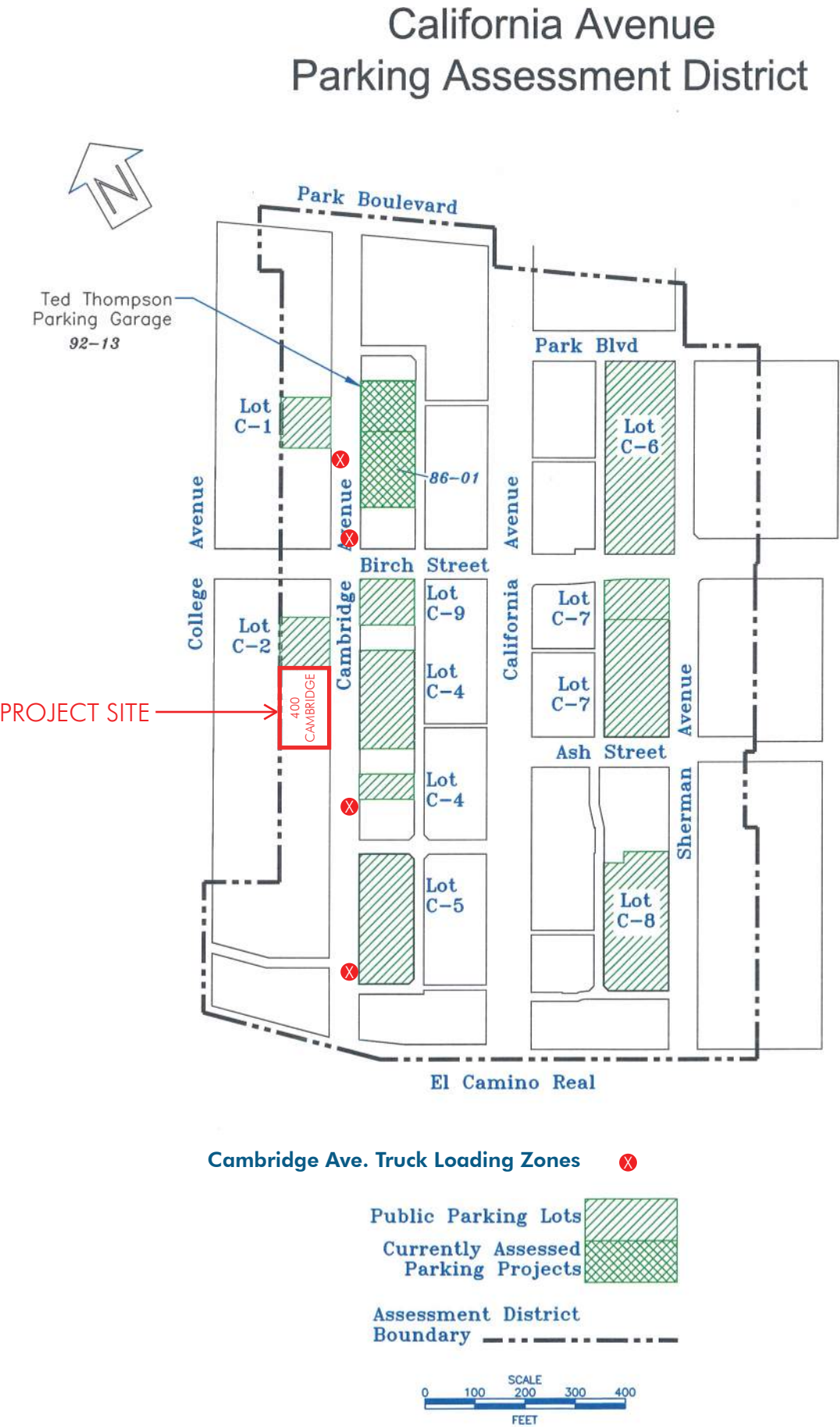
The objective of Comprehensive Plan Program L-4.2 is to “preserve ground floor retail” and to seek “opportunities to expand retail.” The inclusion of on-site loading zone will reduce the amount of proposed ground floor retail by about 24%. In addition, Option 2, which allows for a truck drive-through, would necessitate and additional curb cut, reduce the retail frontage on Cambridge, and compromise the pedestrian experience, which conflicts with Program L-3. “Encourage street frontages that contribute to retail vitality.”

Level of Use

An informal survey of local delivery truck drivers reveals that speed of delivery, ease of parking, and safety are paramount. Consequently, parking in places that require backing up are avoided. Drivers will first seek a convenient loading zone or parking space, but will commonly double park. Entering a structure that requires a complex backing maneuver takes precious time and imposes safety issues. In sum, even if provided an on-site loading area will likely not be used.

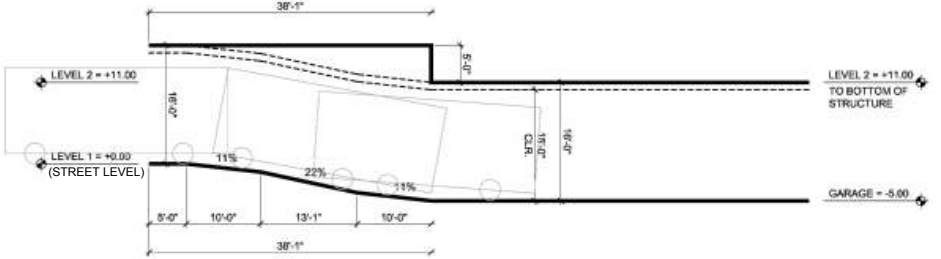
Summary

The building height allowed by zoning and the small size of the site impose significant obstacles for on-site truck parking. Such parking would also have an adverse effect on the amount of retail space and therefore would not comply with the Comprehensive Plan nor the objectives of the recent city council action that seeks to foster retail on Cambridge. In practice, on-site parking would not be used because of the difficult turning movements and the availability of proximate off-site truck zones. Consequently, it would be appropriate to waive the requirement for an on-site loading zone.

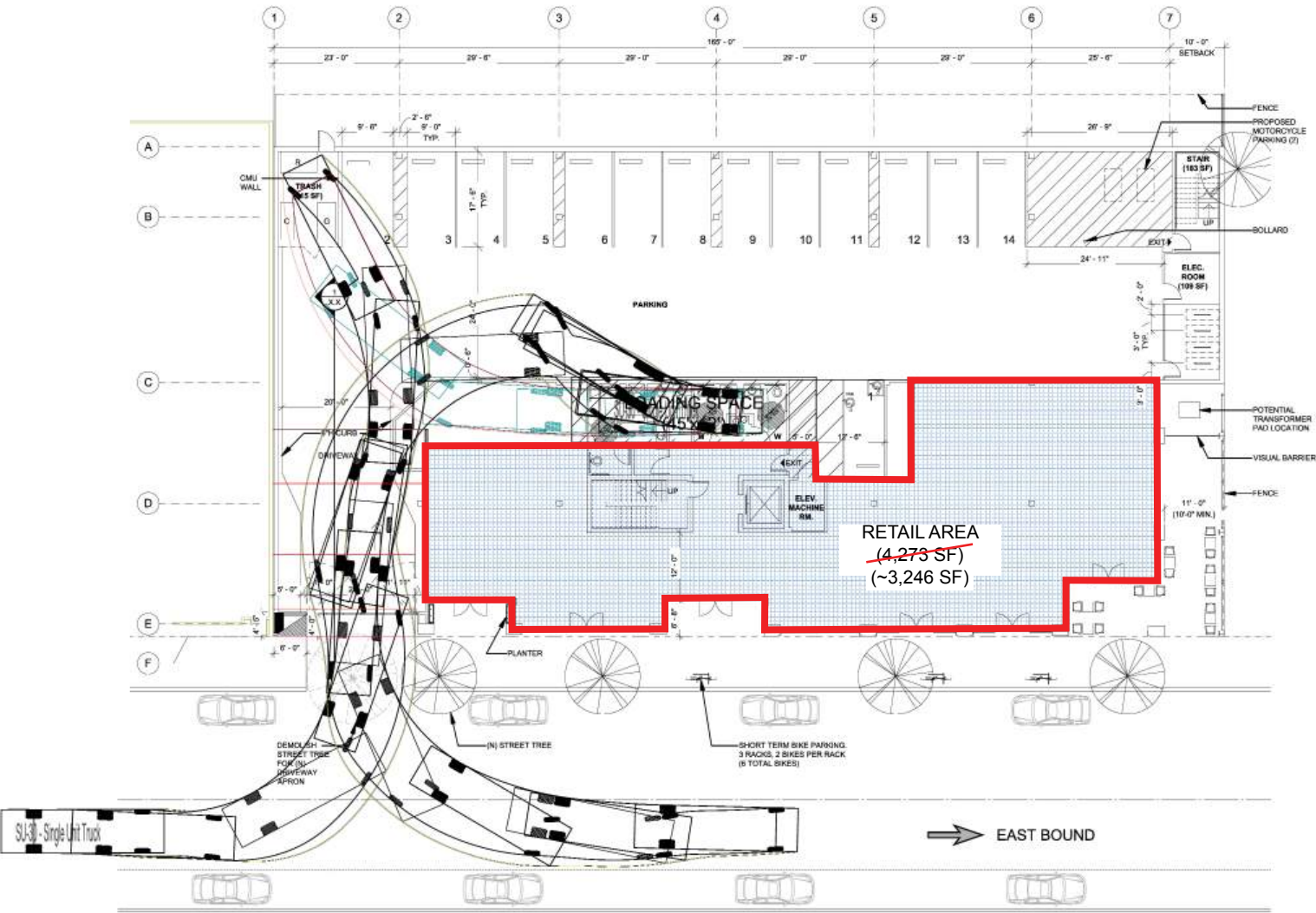




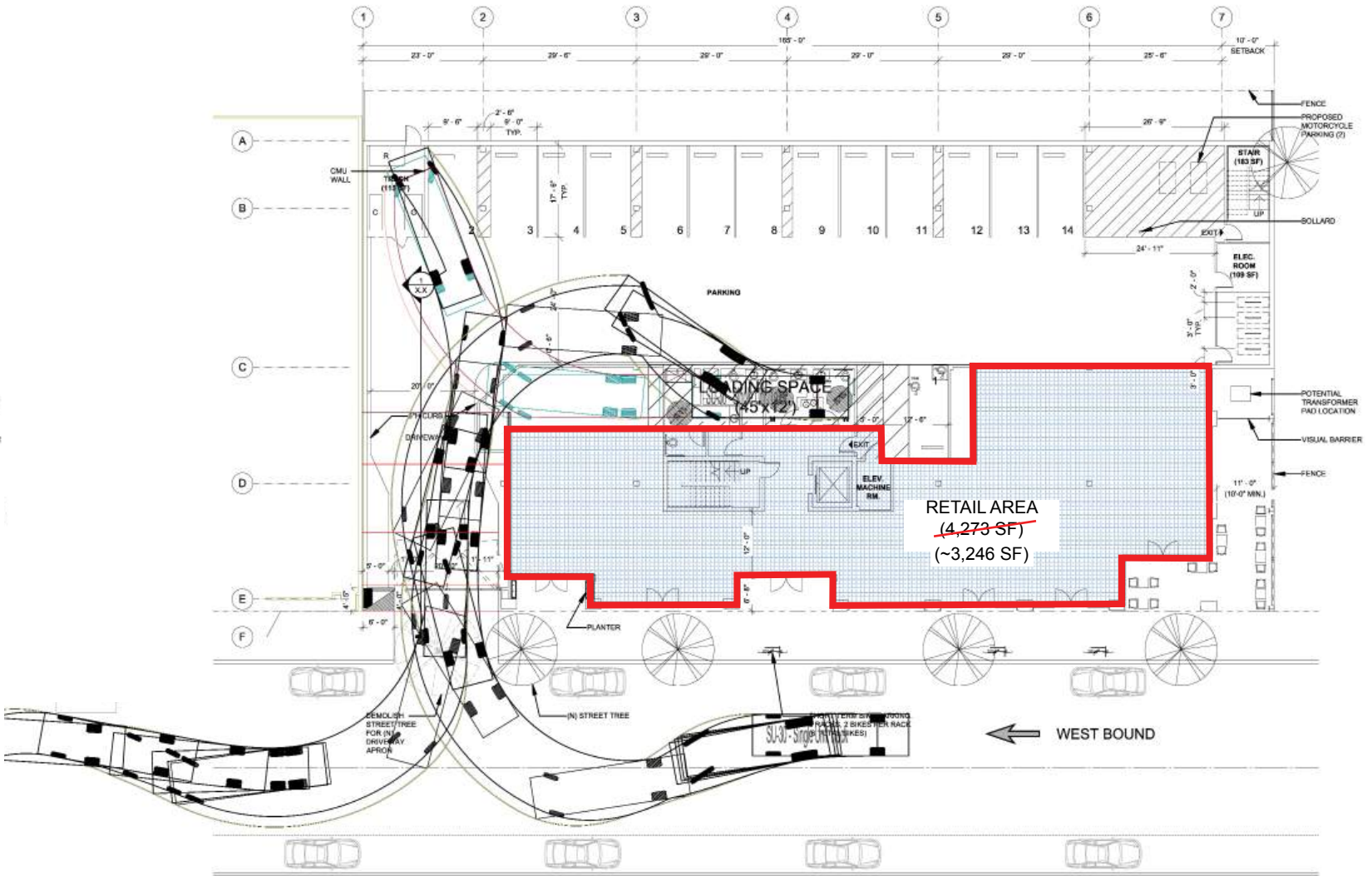
LOADING ZONE - SOUTH ELEVATION



LOADING ZONE - SECTION



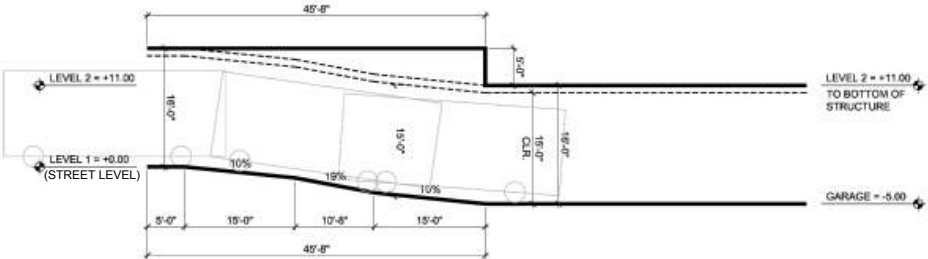
LOADING ZONE - TRAFFIC FLOW (EAST BOUND)



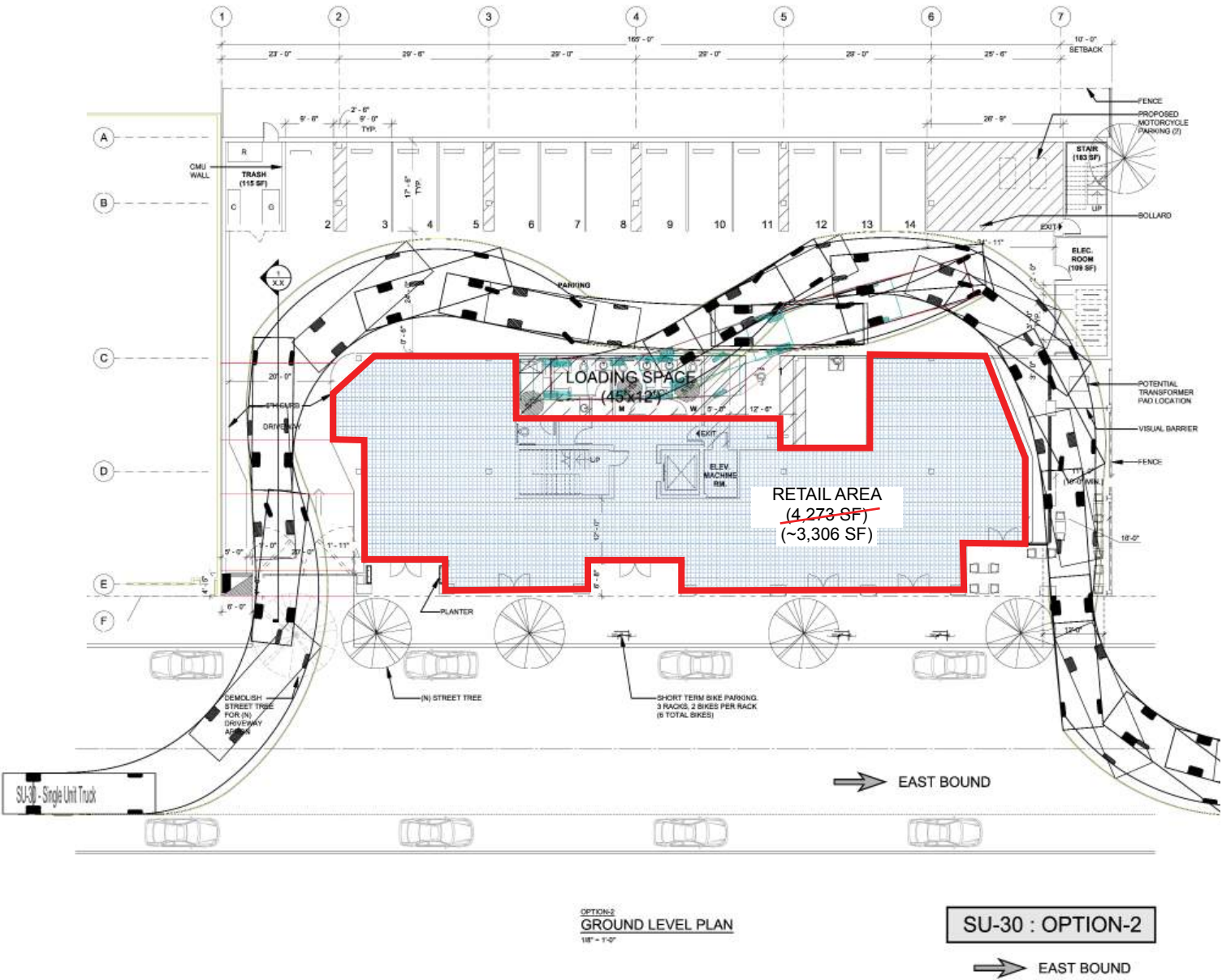
LOADING ZONE - TRAFFIC FLOW (WEST BOUND)



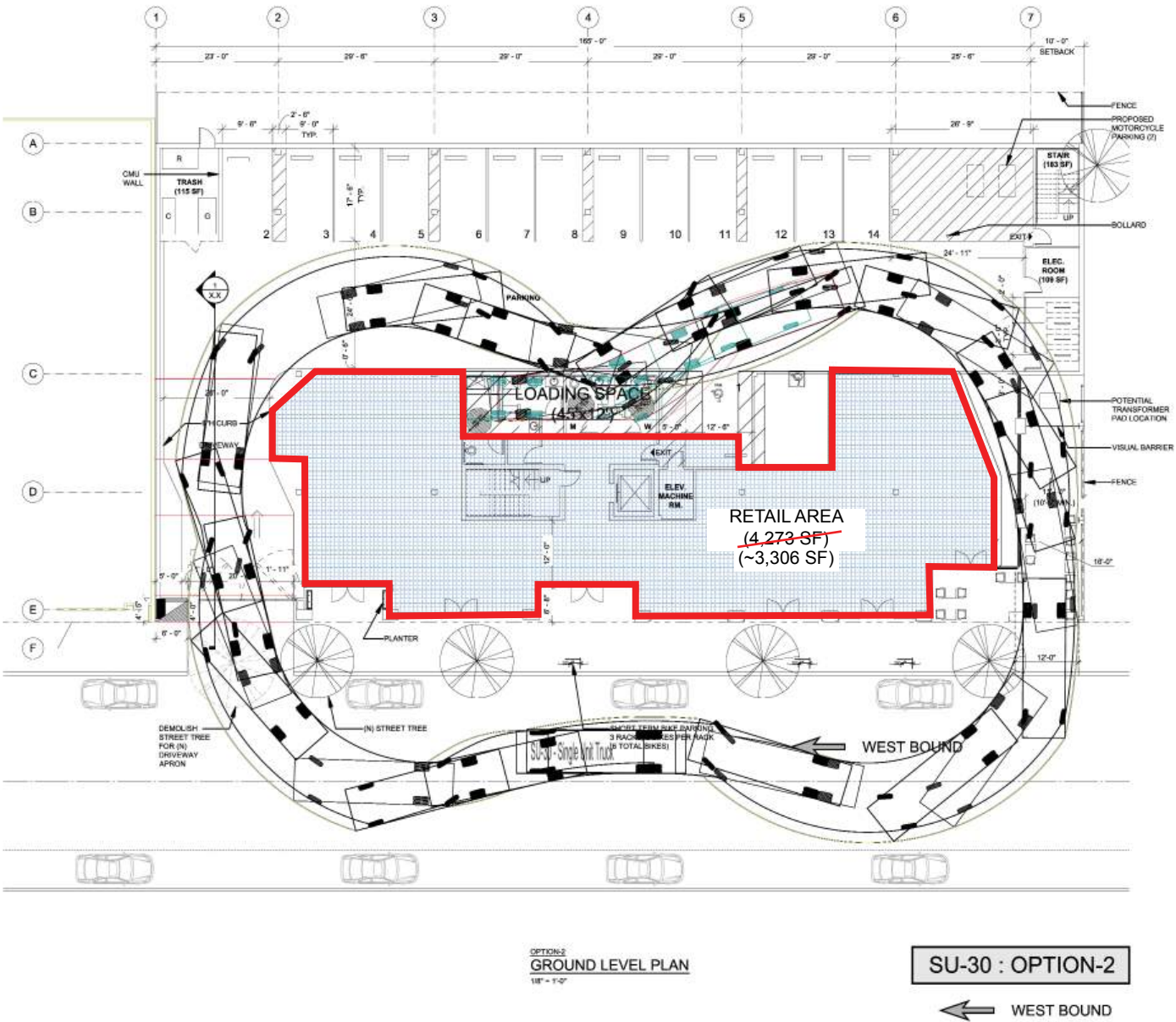
LOADING ZONE - SOUTH ELEVATION



LOADING ZONE - SECTION



LOADING ZONE - TRAFFIC FLOW (EAST BOUND)



LOADING ZONE - TRAFFIC FLOW (WEST BOUND)



Measures taken to mitigate effects of new building on adjacent properties

West Elevation (Two residential condominiums)

- Existing building
 - Building height 28 ft
 - No property line setback
- New building
 - Building height 35 ft
 - Two light wells (10 ft deep)
 - Light wells to be landscaped
 - For additional information, see “400 Cambridge/420 Cambridge Interface Considerations.” See page 69.

North Elevation (Four multi-family buildings)

- Existing building
 - Building height 28 ft
 - No property line setback
- New building
 - Building setback 10 ft
 - 6 ft fence
 - Large scale landscape screening
 - Plant types based on health concerns of adjoining neighbor

East Elevation (City of Palo Alto open parking lot)

- Existing building
 - Partially on property line, partially set back 11 ft
- New building
 - Potential artwork/mural to provide visual interest
 - Exterior cafe seating to activate Cambridge frontage
 - Landscaped property line fence at cafe to soften corner



BACKGROUND

- 400 and 420 Cambridge share a common side property line
- 420 Cambridge is a four story mixed use development with four townhouses above a street level podium
- Two units are adjacent to 400 Cambridge (see following drawings)
- 420 residents have expressed concerns about the potential effects of 400

APPLICANT RESPONSE

- Applicant met with residents
- Applicant analyzed potential issues in great detail
- Applicant proposed alternative mitigation measures
- Residents selected their preferred mitigation measures, which are incorporated into the current design

POTENTIAL ISSUES & PROPOSED MITIGATION

- Privacy: no issues
 - No windows in 400 will face 420
 - No decks or outside areas adjacent to 420 are proposed
- Shading of direct sunlight: no issues
 - Sun sweeps through southern sky and 400 is to the north of 420
 - 420 shades 400 99% of the time
- Natural light
 - Less natural light in:
 - Three of four second floor bedrooms
 - More natural light in:
 - One of four second floor bedrooms (greatly enhanced)
 - All first floor townhouse spaces (slightly enhanced)
 - Mitigation measures incorporated into design (see following drawings)
 - Ten foot deep setbacks at bedroom windows
 - Light wall color to increase light reflectivity
 - Proposed Building height reduced from 42 ft to 35 ft (420 is 40 ft)
- Views
 - Effects
 - First floor (living areas e.g., kitchen): no change
 - Second floor (three of four secondary bedrooms): current views over the roof top of 400 would be eliminated
 - Third floor (master bedroom): no change
 - Mitigation measures to be incorporated into design
 - Ten foot deep setbacks to be landscaped to provide garden view at second floor
 - 420 residents to participate in landscape design

