UNIVERSITY AVE

4 x 6' PLANTING AREA WITH DECOMPOSED GRANITE AND NEW STREET TREE

BUILT-IN BENCH WITH ARMRESTS

ONE SHORT-TERM BIKE RACK SEE L2.1 FOR IMAGE

ACCENT PAVING

4 x 6' PLANTING AREA WITH DECOMPOSED GRANITE AND NEW STREET TREE

ONE SHORT-TERM BIKE RACK SEE L2.1 FOR IMAGE

4 x 6' PLANTING AREA WITH DECOMPOSED GRANITE AND NEW STREET TREE

ONE SHORT-TERM BIKE RACK SEE L2.1 FOR IMAGE

EXISTING TREE TO REMAIN, WITH DECOMPOSED GRANITE AT BASE,TYP.

ACCENT PAVING

ONE SHORT-TERM BIKE RACK SEE L2.1 FOR IMAGE

BUILT-IN BENCH WITH ARMRESTS

EXISTING TREE TO REMAIN, WITH DECOMPOSED GRANITE AT BASE,TYP.

EXISTING BENCH AT BUS STOP TO REMAIN

EXISTING TREE TO REMAIN, WITH DECOMPOSED GRANITE AT BASE, TYP.

RAISED CONCRETE TREATMENT PLANTER, TYP. SEE L2.1 FOR IMAGE

RAISED CONCRETE PLANTER, TYP. SEE L2.1 FOR IMAGE

RAISED CONCRETE TREATMENT PLANTER, TYP. SEE L2.1 FOR IMAGE

OFFICE ENTRY

RESIDENTIAL LOBBY

PROPOSED OFFICE
9,115 SF GROSS

RESIDENTIAL 1 UNIT / 2,552 SF COMMON AREA

ACCENT PAVING

RAISED CONCRETE TREATMENT PLANTER, TYP. SEE L2.1 FOR IMAGE

ELECTRICAL ROOM (514 SF)

RES. TRASH COMPACTOR ROOM

BOLLARD LIGHT, TYP.

WOOD DECK ON PEDESTALS BUILT ON TOP OF THE EXISTING ASPHALT. DO NOT REMOVE ASPHALT AT DECK.

REMOVE ASPHALT AND BASE ROCK, BY HAND, TYP. IN PLANTING AREA WITHIN THE DASHED LINE

PLANTING ON GRADE

PLANTERS ON DECORATIVE GRAVEL OVER EXISTING ASPHALT, TYP.

ACCENT PAVING

RAISED CONCRETE TREATMENT PLANTER, TYP. SEE L2.1 FOR IMAGE

GARAGE STAIRS

BYRON STREET

MIDDLEFIELD ROAD

GARAGE STAIRS

EXISTING TREE TO REMAIN, WITH DECOMPOSED GRANITE AT BASE, TYP.

OFFICE GARDEN
(1,352 SF GROSS / 735 SF USABLE)

GARAGE ENTRY RAMP

EXISTING TREE TO REMAIN, WITH DECOMPOSED GRANITE AT BASE, TYP.

FRONT

FRONT

PLANTING ON GRADE

6' TALL OMEGA OPEN WIRE FENCE

NEW TREES

WOOD GATE

SLOPED CONCRETE WALKWAY

7' TALL, PROPOSED HORIZONTAL WOOD SLAT SCREEN FENCE MOUNTED ON EXISTING CONCRETE WALL (TO REMAIN)

EXISTING OAK TREE ON ADJACENT PROPERTY TO REMAIN , TYP.

PRECAST POTS ON DECORATIVE GRAVEL OVER EXISTING ASPHALT, TYP.

6' TALL OMEGA OPEN WIRE FENCE

CONCRETE WALL, PAINTED WHITE, SMOOTH FINISH

LANDS OF HEIDARI
APN. 120-03-054
(PARCEL ONE)
(DN 21593134)
(LOTS 61 & 62)
(D MAPS 149)
TWO STORY WOOD-FRAME COMMERCIAL BUILDING

LANDS OF CHENG & YI
APN. 120-03-045
(DN 20890120)
(LOTS 50 & 51)
(D MAPS 149)
SINGLE-STORY WOOD-FRAME RESIDENTIAL BUILDING

8' HIGH WOOD FENCE COVERED WITH VEGETATION

WOOD FENCE

LSCP

SMITH DEVELOPMENT

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THE GUZZARDO PARTNERSHIP
Landscape Architects • Land Planners
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San Francisco, CA 94111
T 415 433 4672
F 415 433 5003

ISSUES AND REVISIONS

NO.	DATE	DESCRIPTION
1	12/01/21	PLANNING SUBMITTAL
2	05/13/22	PLANNING RESUBMITTAL
3	08/15/22	PLANNING RESUBMITTAL

PROJECT NUMBER
21003

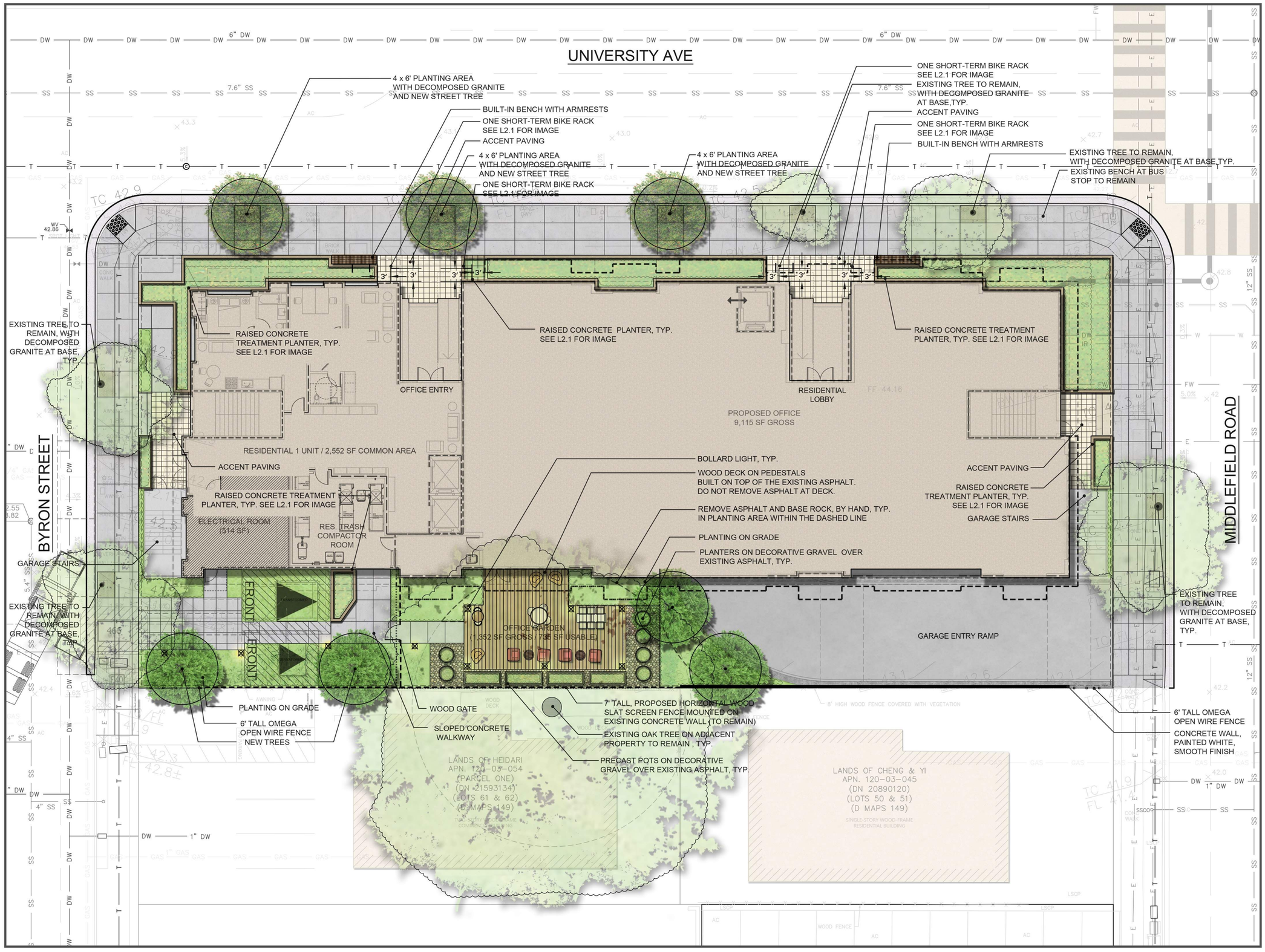
SHEET TITLE
LANDSCAPE PLAN - GROUND FLOOR

SCALE

PROJ NORTH
TN

SCALE: 1" = 10'-0"
0' 5' 10' 20'

SHEET NUMBER
L 1.1



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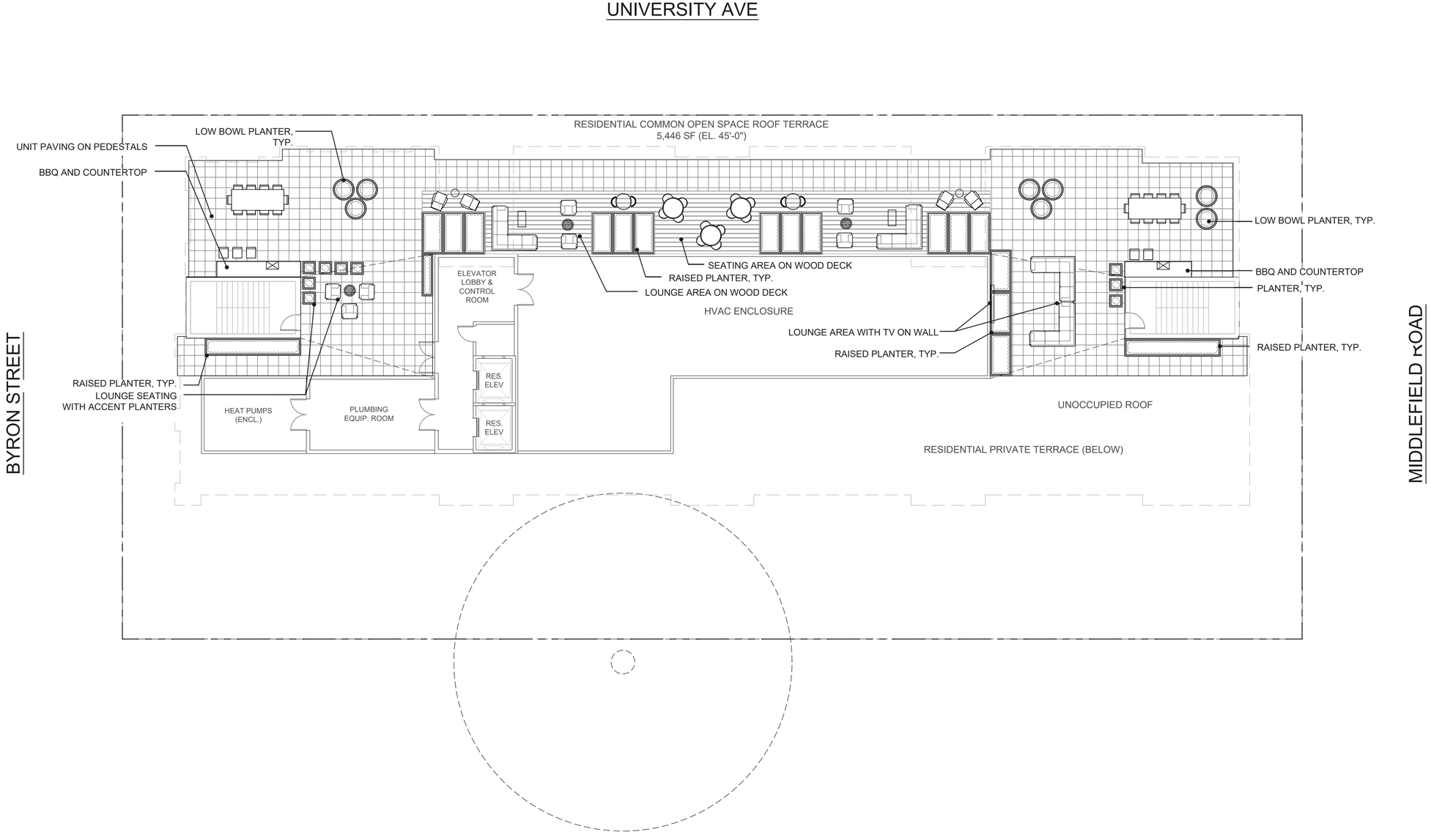
LANDSCAPE PLAN - GROUND FLOOR

SCALE
SCALE: 1" = 10'-0"
0' 5' 10' 20'

PROJ NORTH
TN

SHEET NUMBER
L 1.1A



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21003

SHEET TITLE
LANDSCAPE PLAN - ROOF

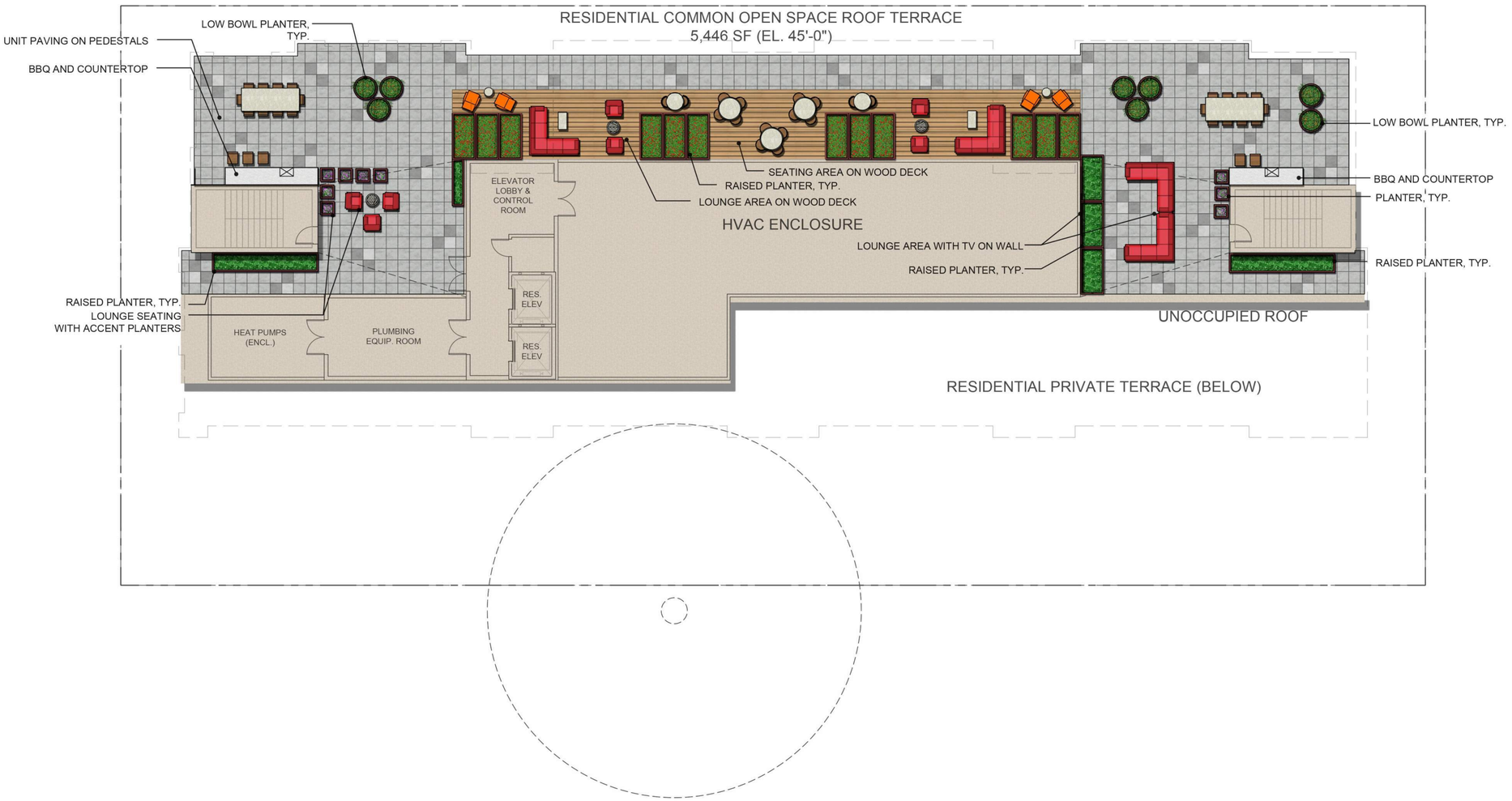
SCALE

PROJ NORTH
TN

SCALE: 1" = 10'-0"
0' 5' 10' 20'

SHEET NUMBER

L 1.2



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NO.	DATE	DESCRIPTION
	05/13/22	PLANNING RESUBMITTAL
3	08/15/22	PLANNING RESUBMITTAL

PROJECT NUMBER
21003

SHEET TITLE
LANDSCAPE PLAN - ROOF

SCALE

PROJ NORTH
TN

SCALE: 1" = 10'-0"
0' 5' 10' 20'

SHEET NUMBER

L 1.2 A

Site

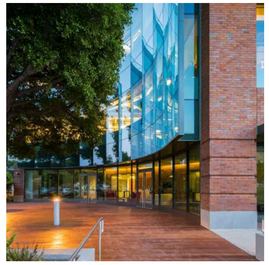
Pedestrian Unit Paver Pattern

Pedestrian Accent Paving Color

Open Wire Omega Fence near Public Rights of Way for Pedestrian and Vehicular Visibility-6' Height

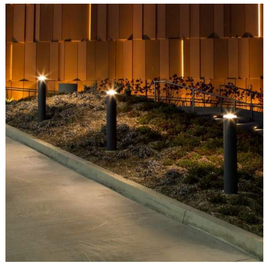
Existing Concrete Foundation Wall (Along Property Line Near Large Coast Live Oak) to Remain

Horizontal Wood Slat Screen Fence - 7' Height



Wood Deck on Grade

Welle Circular Bike Rack-Silver



Bollard Light

Bollard Light

Precast Planter on Decorative Gravel over Existing Asphalt

Precast Planter on Decorative Gravel over Existing Asphalt

Raised Concrete Treatment Planter

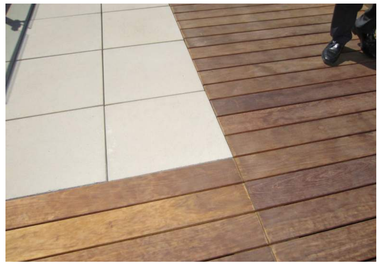
Roof Deck

Light and Raised Planter on Roof Deck

Light and Planter on Roof Deck

Low Bowl Planter on Roof Deck

Low Bowl Planter on Roof Deck



Unit Paving on Pedestals and Wood Deck

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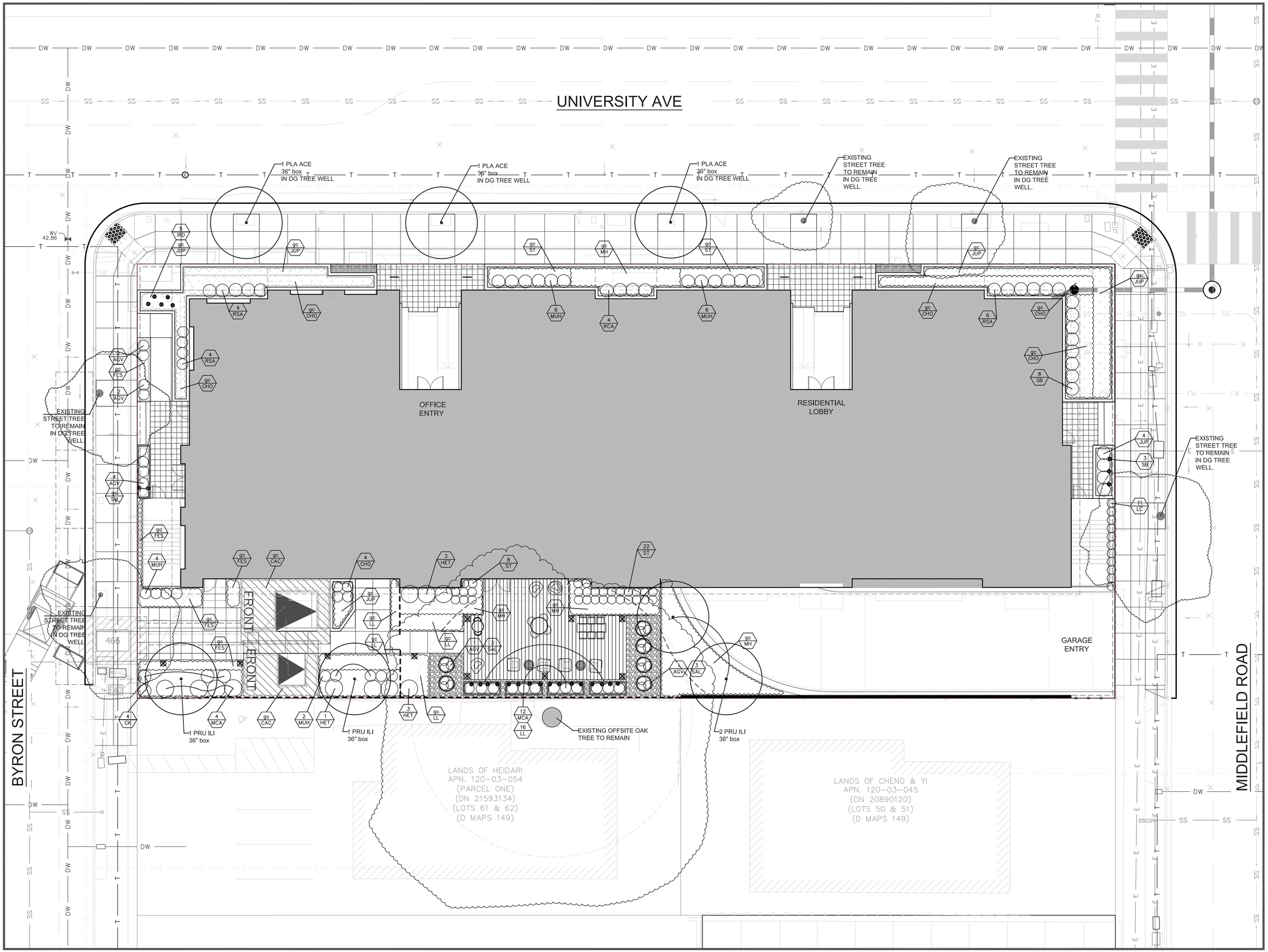
PROJECT NUMBER
21003

SHEET TITLE
LANDSCAPE IMAGERY

SCALE

SHEET NUMBER

L 2.1



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PROJECT NUMBER
21003

SHEET TITLE
PLANTING PLAN - SITE

SCALE
SCALE: 1" = 10'-0"
0' 5' 10' 20'

SHEET NUMBER
L 3.1

PLANT PALETTE

TREES- all 36" box							
KEY	QTY	BOTANICAL NAME	COMMON NAME	COMMENTS/SPACING	WUCOLS	NOTES	
PLA ACE	3	Platanus acerifolia "Columbia"	Columbia London Plane Tree	Standard	Medium	Regionally Appropriate	
PRU ILI	2	Prunus ilicifolia ssp. lyonii	Catalina Cherry	Standard	Low	California Native	
SHRUBS, GROUNDCOVERS AND GRASSES --all 5 gallon size							SUITABLE FOR STORMWATER TRREATMENT
KEY	QTY	BOTANICAL NAME	COMMON NAME	COMMENTS/SPACING	WUCOLS	CALIFORNIA NATIVE	
AGV	24	Anigozanthos 'Gold Velvet'	Gold Kangaroo Paw	24" o.c.	Low	Regionally Appropriate	
APM	22	Arctostaphylos 'Emerald Carpet'	Emerald Carpet Manzanita	36" o.c.	Low	California Native	
CEO	10	Cephalanthus occidentalis	Buttonbush	48" o.c.	Medium	California Native	
CHO	50	Chondropetalum tectorum	Small Cape Rush	36" o.c.	Low	Regionally Appropriate	YES
FES	150	Festuca californica	California Fescue	24" o.c.	Low	California Native	
HET	15	Heteromeles arbutifolia	Toyon	48" o.c.	Low	California Native	
IRD	5	Iris douglasiana	Pacific Coast Iris	12" o.c.	Low	California Native	YES
JUP	104	Juncus patens	Blue Rush	24" o.c.	High	California Native	YES
MCA	17	Myrica californica	California Wax Myrtle	36" o.c.	Medium	California Native	
MUH	57	Muhlenbergia rigens	Deer Grass	24" o.c.	Low	California Native	
RCA	4	Rhamnus californica 'San Bruno'	San Bruno Coffeeberry	48" o.c.	Low	California Native	
RSA	36	Ribes sanguineum	Red Flowering Currant	30" o.c.	Low	California Native	
SAL	12	Salvia clevelandii 'Winfred Gillman'	Cleveland Sage	24" o.c.	Low	California Native	
ACCENT SHRUBS, GRASSES AND PERENNIALS- all one gallon size							
CK	14	Calamagrostis x a. 'Karl Foerster'	Feather Reed Grass	36" o.c.	Medium	CALIFORNIA NATIVE	
LL	50	Lomandra longifolia 'Lime Tuff'	Dwarf Mat Rush	24" o.c.	Low	Regionally Appropriate	
ST	50	Stipa arundinacea	New Zealand Wind Grass	18" o.c.	Low	Regionally Appropriate	
SB	17.	Sisyrinchium bellum	Blue-eyed grass	24" o.c.	VeryLow	CALIFORNIA NATIVE	YES
SM	30	Senecio madraliscae	Blue Chalk Sticks	24" o.c.	VeryLow	CALIFORNIA NATIVE	
GROUNDCOVERS							
MH	153	Mahonia repens	Creeping Oregon Grape	24" o.c.	Low	California Native	

Notes:

- Plants with low WUCOLS ratings are drought tolerant and regionally appropriate species. Plants noted are Native to California. Other plants, not in either of these two categories are well adapted to Palo Alto. Habitat forming column refers to food value of flowers or fruit for small animals, birds, butterflies and other insects in addition to shelter for some insects.
- Do not use chemical 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.stopwaste.org/resource/brochures/bay-friendly-landscape-guidelines-sustainable-practices-landscape-professional for guidance
- Avoid compacting soil in areas that will be unpaved. All planting areas to receive 3" layer of bark mulch.

e

The total quantity of plants proposed is 815. Of these plants, 658 are native which totals 81% Native plantings.

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.

Reference Evapotranspiration (ETo) 43.1

Hydrozone # /Planting Description[a]	Plant Factor (PF)	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU)[e]
Regular Landscape Areas							
Low Water-Use Plants	**0.3**	**Drip**	**0.81**	**0.37**	**3,402**	**1,259**	**33,636**
Moderate Water- Use Plants	**0.5**	**Drip**	**0.81**	**0.62**	**338**	**210**	**5,600**
					(A)	**(B)**	
				Totals	**3,740**	**1,468**	**39,236**
Special Landscape Areas							
					(C)	**(D)**	
				Totals	**0**	**0**	
						ETWU Total	**39,236**
				Maximum Allowed Water Allowance (MAWA)[e]			**44,973**

[a] ***Hydrozone #/Planting Description*** *E.g 1.) front lawn 2.) low water use plantings 3.) medium water use planting*

[b] ***Irrigation Method*** *overhead spray or drip*

[c] ***Irrigation Efficiency*** *0.75 for spray head 0.81 for drip*

[d] ***ETWU*** **(Annual Gallons Required) =** ***Eto x 0.62 x ETAF x Area***
where 0.62 is a conversion factor that converts acre- inches per acre per year to gallons per square foot per year.

[e] ***MAWA (Annual Gallons Allowed) =*** *(Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]*
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

Regular Landscape Areas

Total ETAF x Area (B)	1,468
Total Area (A)	3,740
Average ETAF	**0.40**

All Landscape Areas

Total ETAF x Area (B+D)	1,468
Total Area (A+C)	3,740
Sitewide ETAF (B+D) ÷ (A+C)	**0.40**


Festuca californica


Helictotrichon sempervirens


Heteromeles arbutifolia


Lomandra 'Lime Turf'


Muhlenbergia rigens


Myrica californica

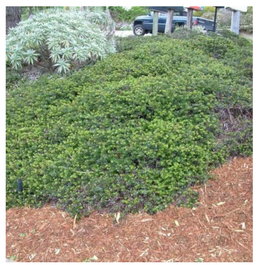

Rhamnus c. 'Mound San Bruno'


Salvia c. 'Winifred Gilman'


Stipa arundinacea


Sysyrinchium angustifolium


Calamagrostis acutiflora 'Stricta'


Arctostaphylos 'Emerald Carpet'


Anigozanthos 'Gold Velvet"


Sisyrinchium bellum


Mahonia repens

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PROJECT NUMBER
21003

SHEET TITLE
PLANTING PALETTE & IMAGERY & WELO CALCULATIONS

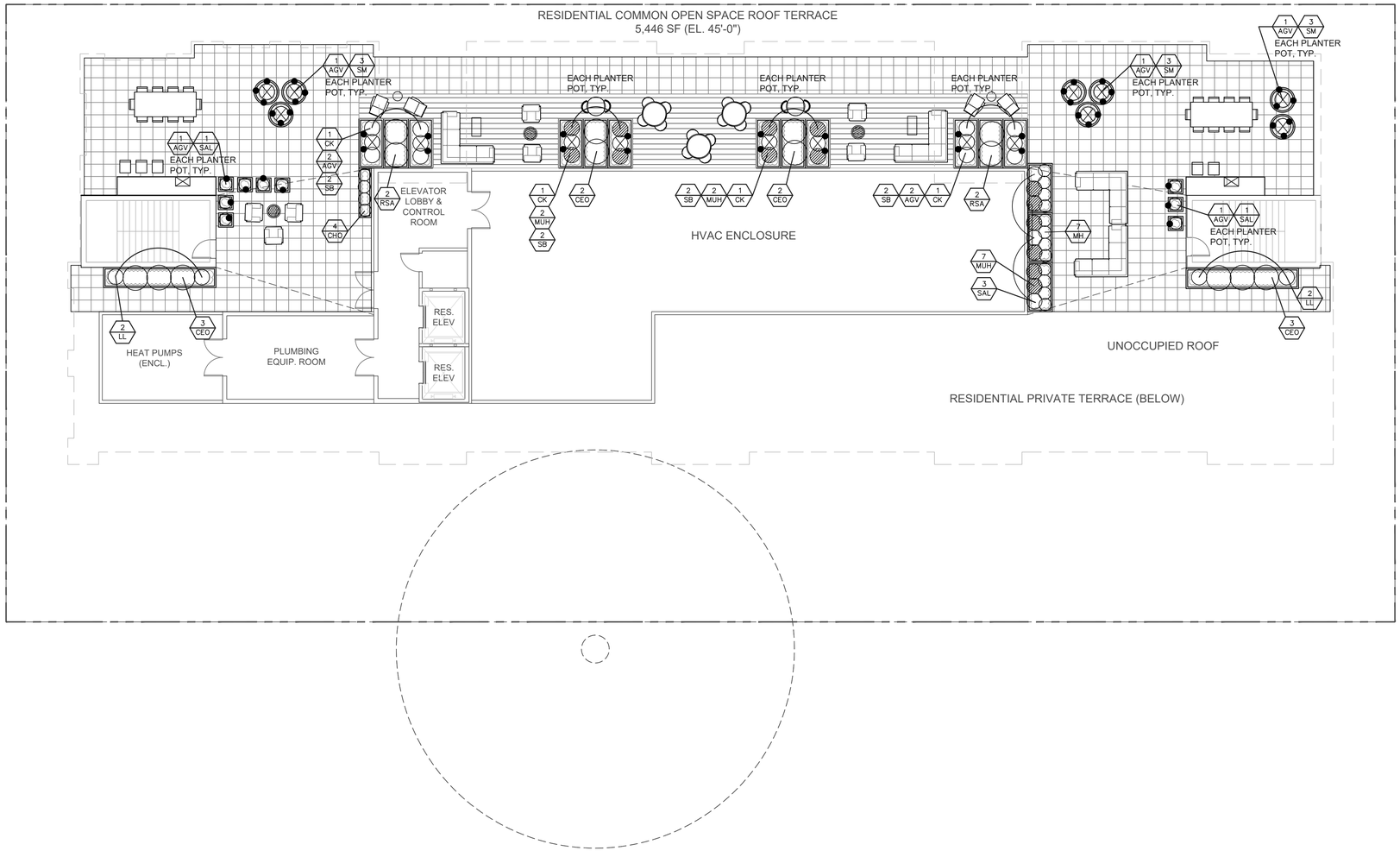
SCALE

SHEET NUMBER
L 3.2

UNIVERSITY AVE

BYRON STREET

MIDDLEFIELD ROAD



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PROJECT NUMBER
21003

SHEET TITLE
PLANTING PLAN - ROOF DECK

SCALE
SCALE: 1" = 10'-0"
0' 5' 10' 20'

PROJ NORTH
TN

SHEET NUMBER
L 3.3

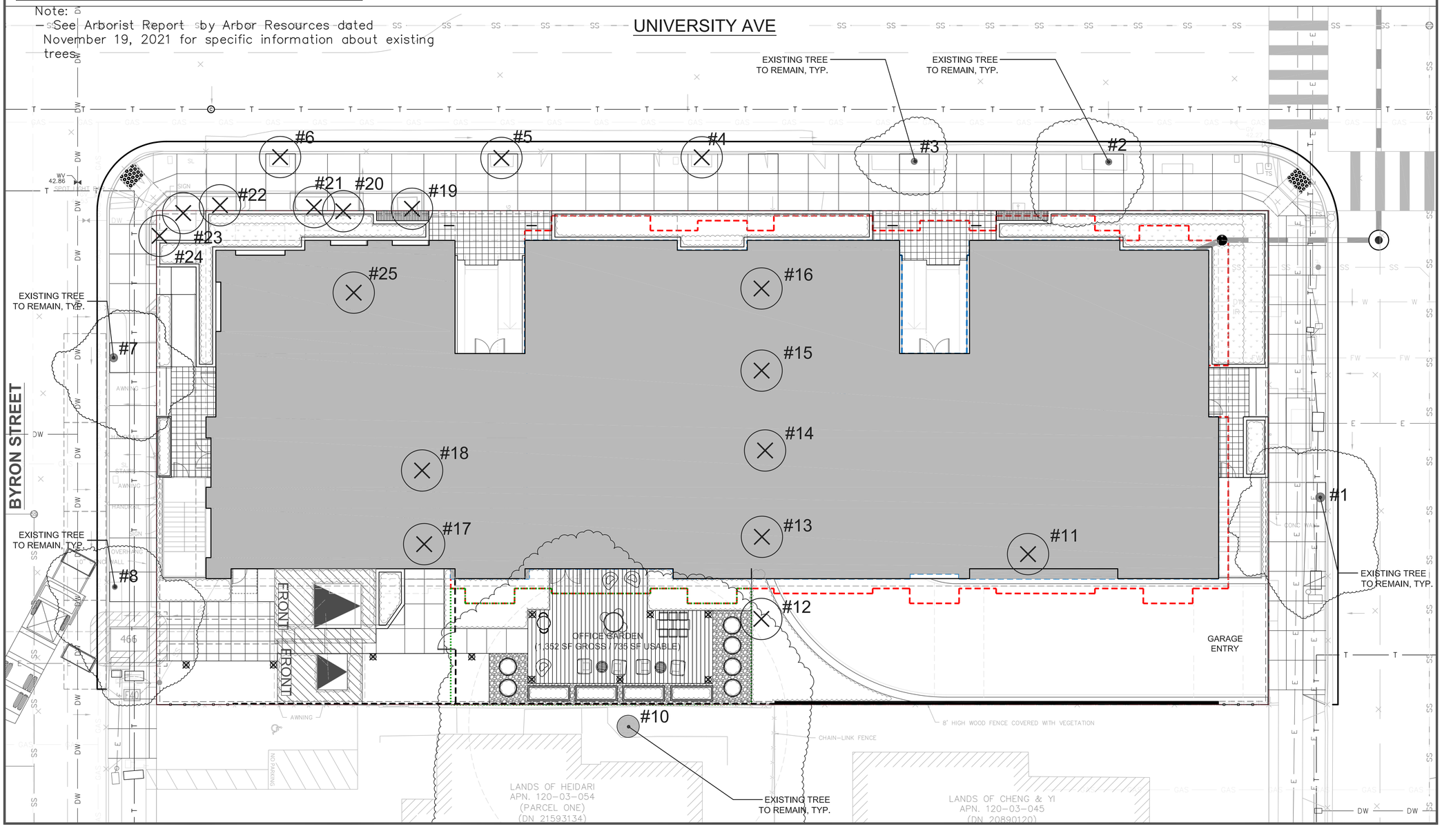
TREE DISPOSITION LEGEND

Total Existing Trees on Site	24
Disposition	Regulated Trees
Tree to be Preserved	0
Tree to be Preserved Off-Site	◯ 6
Total Trees Preserved	6
Removed, Poor Condition	3
Removed, Project Re-Design	15
Total Trees Removed	⊗ 18
Total Proposed Trees	7
Total Trees on Future Site	13

Trees NO. Proposed for Removal	Tree Name	Trunk Diameter (in.)	Canopy Spread (ft.)	Numbers of Replacement Trees Needed (24"Box Size)	Numbers of Alternative Trees Needed (36" Box Size)	Numbers of Alternative Trees Needed (48" Box Size)
#4	Glossy privet (Ligustrum lucidum)	6	10	3	2	
#5	Glossy privet (Ligustrum lucidum)	13	20	3	2	
#6	London plane tree (Platanus × hispanica	10	35	4		2
#11	Olive tree (Olea europaea	8,8	10	3	2	
#13	Raywood ash (Fraxinus a . 'Raywood')	12	15	3	2	
#14	Raywood ash (Fraxinus a . 'Raywood')	11	20	3	2	
#15	Raywood ash (Fraxinus a . 'Raywood')	6	15	3	2	
#16	Raywood ash (Fraxinus a . 'Raywood')	15	20	3	2	
#17	Purple Robe locust (Robinia 'Purple Robe')	6	20	3	2	
#18	Purple Robe locust (Robinia 'Purple Robe')	5	20	3	2	
#19	Crape myrtle (Lagerstroemia indica)	5	10	3	2	
#21	Crape myrtle (Lagerstroemia indica)	6	10	3	2	
#22	Crape myrtle (Lagerstroemia indica)	6	10	3	2	
#23	Crape myrtle (Lagerstroemia indica)	6	10	3	2	
#25	Yew pine (Podocarpus macrophyllus)	8	10	3	2	

Total Numbers of Replacement Trees Needed (24"Box Size)	46			
Total Numbers of Alternative Trees Needed for Replacement (36" Box Size)	28	Total Proposed Tree (36" Box Tree)	7	Total Numbers of Alternative Trees Needed On Site (36" Box Size)	21
Total Numbers of Alternative Trees Needed for Replacement (48" Box Size)	2	Total Proposed Tree (48" Box Tree)	0	Total Numbers of Alternative Trees Needed On Site (48" Box Size)	2

Note:
- See Arborist Report by Arbor Resources dated November 19, 2021 for specific information about existing trees.



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PROJECT NUMBER
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SHEET TITLE
TREE DISPOSITION PLAN - SITE

SCALE
TN
SCALE: 1" = 10'-0"
0' 5' 10' 20'

SHEET NUMBER
L 4.1

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
660 University Avenue

CITY OF PALO ALTO
Planning Division, 250 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: _____

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 and/or 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 dripline? (radius 10 times the trunk diameter) of these trees? YES NO
*If Yes, a **Tree Preservation Report** must be prepared by an ISA certified arborist and submitted for staff review (see TTM , Section 6.25). Attach this report to Sheet T-1, Tree Protection, its 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 tree protection dripline; (2) Plans must denote, as a bold dashed line, a fenced enclosure area out to the dripline, per Sheet T-1 and Detail #605 - http://www.cityofpaloalto.org/trees/forms.htm (See also TTM , 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 criminal and/or civil legal action.

Signature: _____ Print: Paul T. Lettieri Date: 05/13/2022
(Prop. Owner or Agent)

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 in place. A written statement is attached verifying that protective fencing is correctly in place around protected and/or designated trees. YES NO
(N/A if there are no protected trees, check here ☐)

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 ☐).

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.

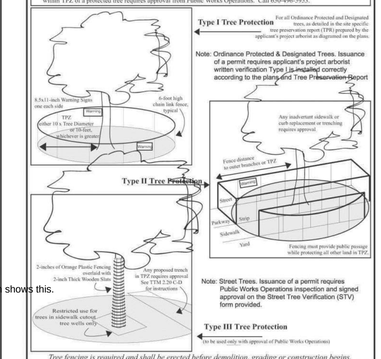
† Palo Alto Tree Technical Manual (TTM) contains instructions for all requirements on this form, available at http://www.cityofpaloalto.org/planning-community-tmr_technical-manual.html

S:Plan/Pads/Arborist/Tree Protection Info/Tree Disclosure Statement — Revised 08/06

Arborist plan shows this.

For written specifications associated with illustrations below, see Public Works Specifications Section 31
Detailed specifications are 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 Sec 2.15(F).
- Restricted trenching area – see Tree Technical Manual Sec 2.20(C-D), any proposed trench or form work within TPZ of a protected tree requires approval from Public Works Operations. Call 650-496-5953.



Tree fencing is required and shall be erected before demolition, grading or construction begins.

Rev	By	Date
#	DWH	12/14/92
01	D.D.	08/04/04
02	D.D.	08/10/06

Scale: NTS

Tree Protection During Construction

City of Palo Alto Standard

Approved by: Dave Dockter
PE No.
Date 2006
Dwg No. 605

Table 2-2 Palo Alto Tree Technical Manual

ARBORIST INSPECTION SCHEDULE

All Checked Items Apply to this project:

1. ☑ **Inspection of Protective Tree Fencing**. The Street Tree Verification Form shall be signed by the City Arborist. For other Protected Trees, the project arborist shall provide a written statement with a photograph verifying that he has conducted a field inspection of the trees and that the protective tree fencing is in place prior to issuance of a demolition, grading, or building permit. (see 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 equipment operators, project arborist, City Arborist, and, if a city maintained irrigation system exists, the Parks Manager (Contact 650-496-6962).
3. ☐ **Inspection of Rough Grading**. The project arborist shall perform an inspection during the course of rough grading adjacent to the TPZ to ensure trees will not be injured by compaction, cut or fill, drainage and trenching, and if required, inspect aeration systems, tree wells, drains and special paving. The contractor shall provide the project arborist at least 48 hours advance notice of such activity.
4. ☐ **Monthly Inspections**. The project arborist shall perform a monthly activity inspection to monitor and advise for conditions and tree health. The City Arborist shall be in receipt of the activity report during the first week of each calendar month or, immediately if there are ***any revisions*** to the approved plans or protection measures. Fax to (650) 329-2154. (see Monthly Inspection Report, Section 1.17).
5. ☐ **Special activity within the Tree Protection Zone**. Work in this area (TPZ - described in #7 below) requires the direct onsite supervision of the project arborist (see Trenching, Excavation and Equipment, TTM Section 2.20 C).
6. ☐ **Landscape Architect Inspection**. For discretionary development projects, prior to temporary or final occupancy the applicant 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 Quality, Section 5.20.1 A) and that the irrigation is functioning consistent with the approved construction plans. The City shall be in receipt of written verification of Landscape Architect approval prior to scheduling the final inspection, unless otherwise approved.
7. ☐ **Other** (please describe) _____

---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

APPENDIX J

PALO ALTO
STREET TREE PROTECTION INSTRUCTIONS
--SECTION 31--

31-1 General
- a. **Tree protection has three primary functions.** 1) to keep the foliage canopy and branching structure clear from contact by equipment, materials and activities; 2) to preserve roots and soil conditions in an intact and non-compacted state and 3) to identify the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved.
- b. **The Tree Protection Zone (TPZ)** is a restricted area around the base of the tree with a radius of ten-times the diameter of the tree's trunk or ten feet; whichever is greater, enclosed by fencing.

31-2 Reference Documents
- a. **Detail 605** – Illustration of situations described below.
- b. **Tree Technical Manual (TTM) Forms** (http://www.cityofpaloalto.org/trees/)
  1. Trenching Restriction Zones (TTM, Section 2.20(C))
  2. Arborist Reporting Protocol (TTM, Section 6.30)
  3. Site Plan Requirements (TTM, Section 6.35)
  4. Tree Disclosure Statement (TTM, Appendix J)
- c. **Street Tree Verification (STV) Form** (http://www.cityofpaloalto.org/trees/forms)

31-3 Execution
- a. **Type I Tree Protection:** The fence shall enclose the entire TPZ of the tree(s) to be protected throughout the life of the construction project. In some parking areas, if fencing is located on paving or concrete that will not be demolished, then the posts may be supported by an appropriate grade level concrete base, if approved by Public Works Operations.
- b. **Type II Tree Protection:** For trees situated within a planting strip, only the planting strip and yard side of the TPZ shall be enclosed with the required chain link protective fencing in order to keep the sidewalk and street open for public use.
- c. **Type III Tree Protection:** To be used only with approval of Public Works Operations. Trees situated in a tree well or sidewalk planter pit, shall be wrapped with 2-inches of orange plastic fencing from the ground to the first branch and overlaid with 2-inch thick wooden slats bound securely (slats shall not be allowed to dig into the bark). During installation of the plastic fencing, caution shall be used to avoid damaging any branches. Major limbs may also require plastic fencing as directed by the City Arborist.
- d. **Size, type and area to be fenced.** All trees to be preserved shall be protected with six (6') foot 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 2-feet at no more than 10-feet spacing. Fencing shall extend to the outer branching, unless specifically approved on the STV Form.
- e. **"Warning" signs.** A warning sign shall be weather proof and prominently displayed on each fence at 20-foot intervals. The sign shall be minimum 8.5-inches x 11-inches and clearly state in half inch tall letters: "WARNING - Tree Protection Zone - This fence shall not be removed and is subject to a fine according to PAMC Section 8.10.110."
- f. **Duration.** Tree fencing shall be erected before demolition, grading or construction begins and remain in place until final inspection of the project, except for work specifically allowed in the TPZ. Work or soil disturbance in the TPZ requires approval by the project arborist or City Arborist (in the case of work around Street Trees). Excavations within the public right of way require a Street Work Permit from Public Works.
- g. **During construction**
  1. All neighbors' trees that overhang the project site shall be protected from impact of any kind.
  2. The applicant shall be responsible for the repair or replacement plus penalty of any publicly owned trees that are damaged during the course of construction, pursuant to Section 8.04.070 of the Palo Alto Municipal Code.
  3. The following tree preservation measures apply to all trees to be retained:
     - a. No storage of material, topsoil, vehicles or equipment shall be permitted within the TPZ.
     - b. The ground under and around the tree canopy area shall not be altered.
     - c. Trees to be retained shall be irrigated, aerated and maintained as necessary to ensure survival.

END OF SECTION

City of Palo Alto 2004 Standard Drawings and Specifications
Street Tree Verification of Protection, PWE, Section 31 — Revised 08/06

City of Palo Alto
Tree Technical Manual

Search: _____ Advanced — Browse By Topic

Home > Planning & Community Environment

- Home
- City-owned Trees
- Privately-owned Trees
- About the Tree Ordinance
- Title 8.10
- Heritage Trees
- Forms
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- FAQs
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- Resources

To purchase the Tree Technical Manual

June, 2001 First Edition

View by section:

- Table of Contents (PDF, 87KB)
- Intent and Purpose (PDF, 1.05MB)
- Introduction - Use of Manual (PDF, 1.05MB)
- Section 1.0 - Definitions (PDF, 96KB)
- 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, 84KB)

View ALL sections:

- Tree Technical Manual - Full (PDF, 1.84MB)

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, 1.85MB)
F: Tree Care Safety Standards, ANSI Z133.1-1994 (Reference source)
G: Pruning Performance Standards, ANSI A300-1995 (Reference source) H: Tree Planting Details, Diagram 504 & 505
I: Tree Disclosure Statement
J: Palo Alto Standard Tree Protection Instructions

City of Palo Alto
Tree Department
Public Works Operations
PO Box 10250 Palo Alto, CA 94303
650/496-5953 FAX: 650/852-9289
treeprotection@CityofPaloAlto.org

Verification of Street Tree Protection

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.

APPLICATION DATE:	
ADDRESS/LOCATION OF STREET TREES TO BE PROTECTED:	
APPLICANT'S NAME:	
APPLICANT'S ADDRESS:	
APPLICANT'S TELEPHONE & FAX NUMBERS:	

This section to be filled out by City Tree Staff

1. The Street Trees at the above address(es) are adequately protected. The type of protection used is:	YES ☐ NO* ☐ * If NO, go to #2 below
Inspected by:	
Date of Inspection:	
2. The Street Trees at the above address are **NOT** adequately protected. The following modifications are required: Indicate how the required modifications were communicated to the applicant.	

Subsequent Inspection

Street trees at above address were found to be adequately protected:	YES ☐ NO* ☐ * If NO, indicate in "Notes" below the disposition of case.
Inpsected by:	
Date of Inspection:	
Notes: List City street trees by species, site, condition and type of tree protection installed. Also note if pictures were taken. Use back of sheet if necessary.	

Return approved sheet to Applicant for demolition or building permit issuance.

S:\FIVO\OPS\Tree\DS\StLTreeProtect — 5/1706

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 www.cityofpaloalto.org/arb/forms

Special Tree Protection Instruction Sheet
City of Palo Alto

T-1

SMITH DEVELOPMENT

660 UNIVERSITY
PALO ALTO, CA 94301

THE GUZZARDO PARTNERSHIP
Landscape Architects • Land Planners
181 Greenwich Street
San Francisco, CA 94111
T 415 433 4672
F 415 433 5003

ISSUES AND REVISIONS

NO.	DATE	DESCRIPTION
1	12/01/21	PLANNING SUBMITTAL
2	05/13/22	PLANNING RESUBMITTAL
3	08/15/22	PLANNING RESUBMITTAL

PROJECT NUMBER
21003

SHEET TITLE
TREE DISPOSITION PLAN - SITE
ARBORIST REPORT

SCALE

SHEET NUMBER
L 4.2

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 appoved 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/.

ARBOR RESOURCES
professional consulting arborists and tree care

TREE PROTECTION REPORT

660 UNIVERSITY AVENUE

PALO ALTO, CALIFORNIA
(511 BYRON ST., 660 & 680 UNIVERSITY AVE.)

Submitted to:

Smith Development
682 Villa Street, Suite G
Mountain View, CA 94041

Prepared by:

David L. Babby
Registered Consulting Arborist® #399
Board-Certified Master Arborist® #WE-4001B

November 19, 2021

p.o. box 25295, san mateo, california 94402 • email: arborresources@comcast.net
office: 650.654.3351 • cell: 650.274.3656 • licensed contractor #796763

1.0 INTRODUCTION

Smith Development is planning to construct a mixed-use, four-story building and two levels of underground parking on three properties[1] aligning the southeast side of University Avenue, between Middlefield Road and Byron Street; the project is titled 660 University Avenue. Two existing buildings and a surface parking lot currently occupy the site and will be demolished. As part of their planning submittal, Smith Development has retained me to prepare this *Tree Protection Report*, and specific tasks assigned to execute are as follows:

- Visit the site on 1/16/21 and 11/9/21 to identify 25 trees which have trunks located within the subject property, along the street frontages up to 30 feet from the property boundaries, and on adjoining properties within close proximity to the boundary.
- Determine each tree's trunk diameter pursuant to the City's *Tree Technical Manual*[2] and the *Guide for Plant Appraisal, 10th Edition*;[3] all diameters represent inches and are rounded to the nearest whole number.
- Estimate each tree's height and average canopy spread (rounded to the nearest fifth).
- Ascertain each tree's health, structural integrity and form, and assign an overall condition rating (e.g. good, fair, poor or dead).
- Rate each tree's suitability for preservation (e.g. high, moderate or low).
- Obtain photographs; see Exhibit C.
- Assign numbers in a sequential pattern from #1 thru 25, and plot on the site map in Exhibit B (base map is a copy of the *Topographic & Boundary Survey* prepared by BKF and dated 2/17/21).
- Affix round metal tags with corresponding, engraved numbers onto the trunks of onsite and street trees (i.e. all but #10).
- Identify which are defined by the PAMC as protected and/or street trees.
- Review the preliminary architectural plans, dated 9/7/21, to ascertain the potential tree disposition and potential impacts.
- Provide preliminary design guidelines and protection measures to help avoid or mitigate potential impacts to retained trees, as well as conform with City requirements.
- Prepare a written report presenting the above information, and submit via email as a PDF document.

[1] The three property addresses include 511 Byron Street, 660 and 680 University Avenue.
[2] Available for viewing at *www.cityofpaloalto.org/civicax/filebank/blobdload.asp?BlobID=6436.*
[3] Authored by the Council of Tree & Landscape Appraisers, and published by the International Society of Arboriculture (ISA).

2.0 TREE DESCRIPTION

Twenty-five (25) trees of 11 various species were inventoried for this report. They are sequentially numbered as 1 thru 25, and the table below identifies their common names, assigned numbers, counts and overall percentages.

Table 1 - Tree Count and Composition

NAME	TREE NUMBER(S)	COUNT	% OF TOTAL
Chinese pistache	8	1	4%
Coast live oak	10	1	4%
Crape myrtle	19 thru 24	6	24%
European hackberry	1	1	4%
Glossy privet	4 & 5	2	8%
London plane tree	2, 3 & 6	3	12%
Olive tree	11	1	4%
Purple Robe locust	17 & 18	2	8%
Raywood ash	12 thru 16	5	20%
Southern magnolia	7 & 9	2	8%
Yew pine	25	1	4%
	Total	**25**	**100%**

Specific information regarding each tree is presented within the table in Exhibit A. The trees' assigned numbers and approximate locations can be viewed on the site map in Exhibit B, and photographs are presented in Exhibit C.

Nine (9) trees, #1 thru 9, have trunks within the public right-of-way and are defined and regulated by the PAMC as street trees. Tree #1 aligns Middlefield Road, #2 thru 6 align University Avenue, and #7 thru 9 align Byron Street. Of these, #1 thru 8 are along the street frontage of the project site, whereas #9 is along the frontage of the neighboring southeastern property (and included to conform with CPA report standards).

Tree #10 is located offsite in close proximity to the property boundary. Trees #11 thru 25 have trunks situated within the property.

Two (2) trees, #9 and 19, are not shown on the topo survey. I have added their locations onto the map in Exhibit B, but note those represent only roughly approximate locations and should not be construed as being surveyed.

Trees #1-9 and 11-25 are considered ornamentals and not native to the local region. Tree #10, coast live oak, is native and represents the largest, most visible tree inventoried for this project.

Tree #10 (coast live oak)

Tree #10 is the one inventoried tree defined by the CPA as a protected tree (refer to Section 3.0 in this report for additional information). Its trunk diameter is 50 inches[4] at 54 inches above soil grade, is an estimated 60 feet tall, and has a mostly balanced canopy spreading nearly 90 feet across.

As part of the initial site study, Smith Development retained me in January 2021 to evaluate #10's condition, as well as provide development setbacks to adequately protect its root zone and canopy while achieving a reasonable assurance of survival, structural integrity and form. A summary of additional observations obtained on 1/16/21 follows, and photos obtained then can be observed in Exhibit B (page C-3). Information regarding my recommended setbacks and review of potential impacts are presented in Section 5.0.

[4] The diameter represents an approximation using a Biltmore stick.

Overall, the oak appears viable and healthy, and exhibits no symptoms or signs of being infected or infested by harmful pathogens. Shoot growth, color and density appear typical for a coast live oak, and woundwood has favorably closed off the vast majority of prior wounds.

Existing features beneath its canopy and surrounding the trunk appear dated, and based on its generally healthy condition, I conclude the tree has adapted well to current site and growing conditions. Its base is buried by leaf debris, and is situated roughly 6 inches or less from a 2-foot tall wall. Northeast of its trunk is barren soil, surface roots, and a raised deck which nears 2 feet above grade and serves as a walkway. Towards the southwest, this walkway continues by nearly 30 feet from the trunk, steadily descending and serving as an ADA ramp leading to the neighbor's parking lot.

Beneath the section of canopy overhanging the project site is an asphalt parking lot elevated above original grade by roughly 2 feet. There are no signs of roots forming cracks or mounds of the asphalt surface; however, given the dated age of the wall and surrounding features, I suspect roots are present, but highly limited as compared to the more favorable root-growing conditions on the neighboring property. A parking lot medium, particularly as elevated as this one, is quite unsuitable for promoting root growth, and the retaining wall footing (depth unknown) also contributes towards deflecting root growth away from the parking lot.

Its structure also appears intact and stable, consisting of a main trunk dividing into five leaders at 10 feet high; the unions of these are favorably spaced apart, although visual and manual examination of the junction should occur once neighboring site access can be obtained to identify the presence of any defects, or lack thereof. The section of trunk and root collar buried by leaf debris should also be examined at that time.

The canopy is highly elevated above the parking lot and neighboring site, appears to be regularly maintained over its many years (and no immediate pruning items were found). The elevated canopy, however, does unfavorably displace limb and branch weight towards the canopy's edges, and potentially increases the possibility of limb and branch failure (although the regular maintenance provided certainly helps minimize this risk).

3.0 REGULATED TREES

The PAMC regulates specific types of trees on public and private property for the purpose of avoiding their removal or disfigurement without first being reviewed and permitted by the CPA. Three categories within the status of regulated trees include protected trees (PAMC 8.10), street trees (PAMC 8.04.020) and designated trees. Additional Information regarding regulated trees can be viewed on page xiii of the City's *Tree Technical Manual*.

One tree, #10, is defined as a protected tree due to being a coast live oak with a trunk diameter of 50 inches (the threshold for coast live oaks is having a trunk diameters of ≥11.5 inches at 54 inches above grade).

Trees #1 thru 9 are situated within the public right-of-way and defined as street trees.

The designated tree category may apply to a select number of existing trees planted on a commercial or planned development site, for either designated tree landscape or to mitigate tree removal. This category can be enacted by the CPA and applied to any specific tree associated with a proposed development. In the event the City qualifies a specific tree to this category, it may become provisioned to be saved and protected.

4.0 SUITABILITY FOR TREE PRESERVATION

Each tree has been assigned either a high, moderate or low suitability for preservation rating as a means to cumulatively measure its health, structural integrity, anticipated life span, remaining life expectancy, location, size, particular species, tolerance to construction impacts, growing space, and safety to property and persons within striking distance. Descriptions of these ratings are presented below, and the high category comprises 1 tree (4%), the moderate category 15 (or 60%), and the low category 10 (or 16%).

High: Applies to #10.
This coast live oak appears healthy and structurally stable; has no obvious, significant health issues or structural defects; presents a good potential for contributing long-term to the site; and requires only periodic or regular care and monitoring to maintain its longevity and structural integrity.

Moderate: Applies to #1-3, 7, 8, 11 and 17-25.
These trees contribute to the site, but at levels less than those assigned a high suitability; might have health and/or structural issues which may or may not be reasonably addressed and properly mitigated; and frequent care is typically required for their remaining lifespan.

Low: Applies to #4-6, 9, 10, and 12-16.
These trees have significant health and/or structural issues expected to worsen regardless of tree care measures employed (i.e. beyond likely recovery). As a general guideline, they should be removed regardless of future site improvements, and any which are retained require frequent monitoring and care throughout their remaining lifespans to minimize risk to any persons or property within striking distance.

5.0 REVIEW OF POTENTIAL IMPACTS

Implementing the proposed design requires removing trees #11 thru 25 (15 in total) due to being within the building and parking garage footprint. Each represents a relatively small, non-native tree assigned either a low or moderate suitability for preservation.

I also recommend street trees #4 thru 6 are planned for removal due to being in very poor overall condition and assigned a low suitability for preservation; note that because they are publicly-owned street trees, the decision for their removal lies with the CPA. Trees #4 and 5 are relatively small privets with advanced and extensive decline and decay. Tree #6 is a partially uprooted London plane leaning towards the street, and opposite the lean, it has a pronounced buttress root causing extensive and somewhat dramatic hardscape damage. The replacement of these deficient trees will provide the opportunity to significantly improve the future, long-term tree landscape for the site and public.

Trees anticipated for retention include #1-3 and 7-10. Street trees include #1-3 and 7-9, and consider their protection zones as being from their trunks and up to the existing back of sidewalks and street curbs, and 10 feet in all other directions. For those aligning the project site, namely #1-3, 7 and 8, pruning of their canopies will be needed to accommodate shoring installation and constructing the building. My site assessment reveals the trees would not be adversely impacted provided pruning is judiciously performed through limited and highly-selective cuts by a California State licensed tree-service company approved by the CPA.

For #10, the neighboring oak of protected tree status, the architectural design substantially conforms to setbacks provided in January 2021, which stipulates a minimum 30-foot setback from oak's trunk for the future building and parking garage, and a minimum setback of 20 feet for all ground disturbance beneath the existing asphalt surface. The garage and upper building floors are set a few or more feet inside, but careful shoring placement (for driving piles or a drill rig) and pruning can limit impacts.

The 30-foot setback from #10's trunk considers an additional 5 feet towards the tree where pruning would occur for building, scaffolding, manlift clearance, and any shoring

equipment (if applicable). Sections of the canopy requiring pruning to achieve this clearance include a low, 17-inch diameter limb overhanging the lot; an 8-inch diameter branch emerging from a 14-inch diameter limb growing mostly upright at a slight westerly angle; and roughly a dozen smaller branches ranging in size from 1 to 6 inches in diameter. In total, pruning needed would favorably account for only 15-percent of the total canopy, and the tree's form would remain intact.

The 20-foot setback from #10's trunk for ground disturbance applies to any soil compaction, grading, subexcavation, overexcavation, trenching, drilling/auguring, storm drains, swales, etc. Also, the option to remove the existing asphalt surface and establish a planter area within the 20-foot buffer could benefit the oak's root zone; however, digging into existing base material might damage significant roots (and would require further discussion, review and consideration).

Protection for retained street trees #1-3, 7 and 8 should include what the CPA defines as Type III Protection (aka trunk wrap), plus plywood to cover unpaved ground (i.e. planters) within their TPZ. Chain link panels could also be utilized in lieu, or combination of, plywood. For #10, protection would consist of CPA Type I Protection (aka chain link mounted on driven posts).

Additional and more defined mitigation measures are presented within the next section of this report. They should be incorporated into project plans, carefully followed throughout the entire demolition, grading and construction processes, and are subject to revision upon reviewing any revised or future project plans.

6.0 TREE PROTECTION MEASURES

Recommendations presented within this section are based on my review of the preliminary architectural plans, and serve as measures to help mitigate or avoid impacts to trees anticipated for retention. I (hereinafter, "project arborist") should be consulted in the event any cannot be feasibly implemented. Please note, unless otherwise stated, all referenced distances from trunks are intended to be from the closest edge, face of, their outer perimeter at soil grade.

6.1 Design Guidelines

1. Consider each Tree Protection Zone (TPZ) as those minimum distances specified within Section 5.0 of this report. The TPZ is the area where the following minimum activities should be avoided: trenching, soil scraping, compaction, mass and finish-grading, overexcavation, subexcavation, tilling, ripping, swales, bioswales, storm drains, dissipaters, equipment cleaning, removal of underground utilities and vaults, altering existing water/drainage flows, stockpiling and dumping of materials, and equipment and vehicle operation. Where an impact encroaches slightly within a setback, it can be reviewed on a case-by-case basis by the project arborist to determine appropriate mitigation measures.

2. The CPA requires all design changes occurring near retained trees are reviewed by the project arborist prior to resubmitting plans, for purposes of identifying potential impacts and any possible mitigation measures.

3. Per City requirements, incorporate this report into the project plan set, following the CPA T-1 sheet, and copying onto T-2, T-3, etc. until its entirety is shown (and in a manner which all report text can be clearly read on the plan sheets).

4. On all architectural, civil, landscape and electrical site-related plans, show the trunk locations, trunk diameters (as circles to scale), and assigned numbers of all inventoried trees (see map in Exhibit B). Also, add notes instructing contractors to comply with recommendations presented in this report and on Sheet T-1, and to contact the project arborist prior to permitted work being performed within a TPZ.

T-2

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 www.cityofpaloalto.org/arb/forms

Special Tree Protection Instruction Sheet

City of Palo Alto

T-2

SMITH DEVELOPMENT

660 UNIVERSITY
PALO ALTO, CA 94301

THE GUZZARDO PARTNERSHIP
Landscape Architects • Land Planners
181 Greenwich Street
San Francisco, CA 94111
T 415 433 4672
F 415 433 5003

ISSUES AND REVISIONS

NO.	DATE	DESCRIPTION
1	12/01/21	PLANNING SUBMITTAL
2	05/13/22	PLANNING RESUBMITTAL
3	08/15/22	PLANNING RESUBMITTAL

PROJECT NUMBER
21003

SHEET TITLE
TREE DISPOSITION PLAN - SITE ARBORIST REPORT

SCALE

SHEET NUMBER
L 4.3

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 appoved 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/.

5. On a tree disposition plan or tree protection plan (or equivalent), include the following: the above notes, identify which trees are proposed for removal by placing an "X" across their trunks, and identify the Tree Protection Zones and protection fencing types as shown on the map in Exhibit B.

6. Abandon any underground portions of existing and unused lines, pipes and manholes, etc. within a TPZ (prescribe they are cut off at existing soil grade versus being dug up and causing root damage); add this provision onto the demolition plan.

7. Route underground utilities and services beyond TPZs, and per CPA guidelines for street trees, establish at least 10 feet from their trunks. Where this is not feasible, consider the following alternative trenching or installation methods (listed in order of least to most impactful): directionally bore by at least 3.5 to 4 feet below grade, tunnel using a pneumatic air device (e.g. an AirSpade®), or manually dig with a shovel (i.e. no jackhammer); these assume pipe bursting, an optimal method, does not apply to this project. For boring, establish access pits and above-ground infrastructure (e.g. splice boxes, meters and vaults) beyond TPZs.

8. Where within 30 feet from #10's trunk, ensure specifications by the geotechnical, soils and structural engineers do not require compaction, overexcavation, subexcavation or fill beyond 2 feet from the parking garage wall (towards the tree) and 5 feet beyond the building's foundation. Shoring utilized to achieve these setbacks, such as a pile driver or drill rig, shall not be used where significant damage to a tree's canopy would occur (can be determined on a case-by-case basis).

9. Any new walkway or sidewalk proposed on existing unpaved ground within a TPZ should be designed and built entirely above existing soil grade and surface roots (i.e. a no-dig design), including for base material, edging and forms. Also, direct compaction of soil shall be avoided (levels comparable to foot-tamping are acceptable), and soil fill used to bevel the top of walk to existing grade should not exceed 18 to 24 inches from a walk's edge, not be compacted, nor placed closer than 10 feet from a tree's trunk. Tensar® BX Geogrid *(www.tensarcorp.com)* is a material which can help address these limited excavation and compaction requirements.

10. For any retaining or landscape wall within a TPZ, utilize a pier and above-grac beam system, establish the beam spanning between footings to be above-grade (i.e. no-dig design except for footings), and avoid fill and compaction between footings.

11. Design any new bioswales, storm drains and swales well-beyond TPZs.

12. The permanent and temporary drainage design, including downspouts, should n require water being discharged beneath #10's canopy.

13. All electrical routes should be designed and represented on the electrical site plan t be beyond TPZs.

14. Any new light poles should be established beyond tree canopies, or at a minimur only where minor branch clearance is needed. The proximity of tree trunks shou also be considered, and placed as far from them as possible.

15. The future staging area and route(s) of access should be shown on the final site pl and avoided on unpaved areas beneath or near canopies.

16. The erosion control design should represent silt fence and/or straw rolls at locatio beyond TPZs, and at a minimum, not against a tree's trunk. Where within a TPZ, t material should not be embedded into the ground by more than 2 inches, nor requi the severance of surface or shallow roots.

17. Avoid specifying the use of herbicides use within a TPZ; where used on site, th should be labeled for safe use near trees. Also, liming shall not occur or be prescribe within 50 feet from a tree.

18. The landscape design should conform to the following additional guidelines:
    a. Tilling, ripping, surface scraping and compaction within TPZs should be avoide
    b. Irrigation should not strike within 12 inches from trunks of existing trees, n applied against trunks of new trees.
    c. Plant material installed beneath tree canopies should be >12 to 24 inches fro their trunks.

    d. New street tree(s) should be designed to be at least 10 feet from any existing or new utility (per CPA guidelines).
    e. All new trees should be installed, including necessary irrigation, by an experienced California state-licensed landscape contractor (C-27) or tree service company (D-49), and performed to professional industry standards. Only if necessary to stand upright, they should be double-staked (no cross-brace) with rubber tree ties or equivalent, and the support stakes cut below the first main lateral branch. All nursery stakes shall be removed. Root crowns of new trees shall be visible and absent of encircling roots.
    f. Irrigation and lighting features (e.g. main line, laterals, valve boxes, wiring and controllers) should not require trenching inside TPZs, including header/lateral lines. In the event this is not feasible, they may require being installed in a radial direction to, and terminate a specific distance from a trunk (versus crossing past it). In certain instances, a pneumatic air device may be needed to avoid root damage, and any Netafim tubing placed on grade.
    g. Irrigation for new trees should be supplied through an automatic timer, separate from other plant material, and supplied by one to two bubblers (minimum two for a 48-inch box). The bubblers should be placed and staked on the rootball's surface (not against a trunk, in a sleeve or on mulch), at around 1/2 to 1/3 the distance between the trunk and rootball edge. Additionally, an 8-inch tall circular berm formed by soil should established around a rootball's perimeter, and a 3-inch layer of mulch spread over their tops, kept 1-inch from the trunks' bases.
    h. Ground cover beneath canopies of existing trees should be comprised of a 3-inch layer of coarse wood chips or other high-quality mulch (gorilla hair, rock, stone, gravel, black plastic or other synthetic ground cover should be avoided). Mulch should kept off the trees' trunks or visible root collars.
    i. Bender board or other edging material proposed beneath the canopies should be established on top of existing soil grade (such as by using vertical stakes).
    j. Herbicides should be avoided within a TPZ, and where used on site, labeled for safe use near trees. Liming shall not occur within 50 feet from a trunk.

6.2 Before Demolition, Grading and Construction

19. Several weeks prior to mobilizing equipment for demolition, and again (or more) prior to shoring, grading and utility work, conduct a site meeting between the general contractor, applicable subcontractors, and project arborist for purposes of reviewing tree protection, demolition procedures, shoring methodology and vertical clearances needed for the pile driver or drill rig, and excavation for the underground garage, trench routes, limits of grading, supplemental watering, mulching, pruning, routes of access, staging, and other items and protection measures presented in this report.

20. The project arborist must also regularly inspect the project site as outlined on page 2-14 of the *Tree Technical Manual* (Section 2.30 Inspection Schedule), and verify conformance to tree protection measures. Inspections shall occur at least once per month and continue through final inspection, and additional site visits are necessary to observe/advise regarding tree care and/or services. A summary of pertinent observations and recommendations shall coincide with each inspection.

21. Avoid interrupting any existing irrigation. In the event interruption does occur, supplemental with potable water, and discuss the methodology, frequency and amount with the project arborist beforehand.

22. Prior to mobilizing equipment to the site, install tree protection to enclose all unpaved sections of the TPZs. For tree #10, utilize Type I Protection, which include affixing 5- to 6-foot tall chain link onto 2-inch diameter steel posts spaced apart as needed to remain upright. For all street trees, utilize Modified Type III Protection, which consists of wrapping a single straw wattle horizontally around the trunk at roughly 10 feet high and another around its base (loosely); placing boards (2"x4") vertically around the outside, from ground to 10 feet high; then wrapping orange-plastic fencing around the boards two to three times and tying together. Additionally, lay 3/4- to 1-inch thick plywood over unpaved sections of the planters within the TPZs, or if better, chain link panels mounted on concrete blocks or metal stands. All protection shall remain in place until otherwise instructed by the project arborist, and Sheet T-1 for additional information. Note that fencing for #10 will require being temporarily opened for demolition of existing asphalt, and work shall be performed under supervision by the project arborist.

23. Affix warning signs every 10± feet of #10's fencing, and one onto the trunk wrap of each street tree. The signs shall be at least 8-½ by 11 inches in size, and refer to Sheet T-1 for a CPA template.

24. Prior to utility installation and grading, review the staked locations with the project arborist where within or near a TPZ. Also, identify the precise locations of where underground utilities within TPZs will be capped (i.e. where being abandoned).

25. All pruning shall be performed under direction of the project arborist, conducted in accordance with the most recent ANSI A300 standards, and performed by a California licensed tree-service contractor (D-49) with an ISA certified arborist in a supervisory role.

6.3 During Demolition, Grading and Construction

26. Where within the assigned TPZs, all work must performed under the presence of and direct supervision by the project arborist; by foot-traffic only without the travel or operation of heavy equipment, including small tractors; and any approved excavation manually conducted using hand tools only (no jackhammers) and/or utilizing a pneumatic air device operated by a tree service.

27. Great care is needed during demolition and construction to avoid excavating into the ground and disturbing roots within TPZs, and equipment shall not travel over newly exposed ground/roots during the process. Additionally, equipment and truck operators must also be aware of existing trees (both along the street and onsite) to avoid damaging limbs, branches and trunks, as well as the scorching of foliage. Contact the project arborist well in advance of a potential conflict (wrap protection around limbs may be necessary before potential damage occurs).

28. The prescribed removal of any existing plant material within a TPZ must be manually performed, and the work reviewed with the project arborist beforehand.

29. Digging for any bollards or permanent fencing within a TPZ, such as for #10, shall be manually performed using a shovel or post-hole digger. For any root encountered during the process with a diameter ≥2 inches, shift the hole over by 12 inches and repeat the process.

30. Spoils generated during demolition, excavation and trenching must not be piled or spread over unpaved ground within a TPZ. If necessary, temporarily pile on existing concrete, plywood or a tarp.

31. Any authorized digging within a TPZ should retain and protect roots encountered with diameters of ≥2 inches. Once exposed, cover with wet burlap and keep continually moist until they can be assessed by the project arborist; note that roots of street trees must be evaluated by the CPA arborist prior to severing. If authorized by the project arborist and/or CPA arborist for cutting, cleanly severe at 90° to the angle of root growth against the cut line using sharp tools (e.g. loppers or handsaw), and then immediately after, the cut end shall be either buried with soil or kept continually moist by burlap until the dug area is backfilled. Roots encountered with diameters less than the 2-inch threshold can be cleanly severed at a 90° angle to the direction of root growth.

32. All electrical and irrigation routes shall be staked, reviewed and approved by the project arborist prior to trenching occurring within a TPZ.

33. Avoid using tree trunks as winch supports for moving or lifting heavy loads, or for tying rope, cables, chains, signs or other items around.

34. Dust accumulating on trunks and canopies during dry weather periods may need to be periodically washed away (e.g. every three to four months).

35. Where beneath canopies, avoid disposing harmful products (such as cement, paint, chemicals, oil and gasoline) anywhere on site that allows drainage within or near TPZs; do not wash any equipment; and avoid applying herbicides (if applied, they should be labeled for safe use near trees). Liming shall not occur within 50 feet from a trunk.

7.0 ASSUMPTIONS AND LIMITING CONDITIONS

- All information presented herein covers only the inventoried trees listed in Exhibit A, a reflects their size, condition, and areas viewed from the project site and adjoining streets a sidewalks on 1/16/21 (for oak #10) and 11/9/21 (for all others). I hold no opinion towards otl trees on or surrounding the project area.
- The documented condition and suitability ratings of dormant trees are subject to change or they can be observed following their annual regrowth of leaves.
- Observations were performed visually from the ground without probing, coring, dissecting excavating.
- I cannot provide a guarantee or warranty, expressed or implied, that deficiencies or problems any trees or property in question may not arise in the future.
- No assurance can be offered that if all my recommendations and precautionary measu (verbal or in writing) are accepted and followed, that the desired results may be achieved.
- I cannot guarantee or be responsible for the accuracy of information provided by others.
- I assume no responsibility for the means and methods used by any person or compa implementing the recommendations provided in this report.
- The information provided herein represents my opinion. Accordingly, my fee is in no w contingent upon the reporting of a specified finding, conclusion or value.
- Numbers shown on the site map in Exhibit B are solely intended to represent a tree's roug approximate location and should not be construed as surveyed points.
- This report is proprietary to me and may not be copied or reproduced in whole or part with prior written consent. It has been prepared for the sole and exclusive use of the parties to w submitted for the purpose of contracting services provided by David L. Babby.
- If any part of this report or copy thereof be lost or altered, the entire evaluation shall be invali

Prepared By: _____ Date: November 19, 202

David L. Babby
Registered Consulting Arborist® #399
Board-Certified Master Arborist® #WE-6001B
CA Licensed Tree Service Contractor #796763 (C61/D49)

EXHIBIT A:

TREE INVENTORY TABLE

(four sheets)

ARBOR RESOURCES
professional consulting arborists and tree care

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE: Trunk Diameter (in.)	SIZE: Height (ft.)	SIZE: Canopy Spread (ft.)	CONDITION: Health Condition (100%=Best, 0%=Worst)	CONDITION: Structural Integrity (100%=Best, 0%=Worst)	CONDITION: Form (100%=Best, 0%=Worst)	CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	REGULATED: Proposed for Removal	REGULATED: Protected Tree	REGULATED: Street Tree
1	European hackberry (*Celtis australis*)	20	35	35	60%	40%	70%	Fair	Moderate	-	-	X
Comments: Within a 4' wide planter strip between street and sidewalk. Trunk's base abuts curb. Highly elevated canopy. Sidewalk is slightly raised, now and historically. Codominant leaders emerge at 8' high. Has three large, partial girdling roots, one over a buttress roots and can be pruned away.												
2	London plane tree (*Platanus × hispanica*)	15	55	50	60%	70%	50%	Fair	Moderate	-	-	X
Comments: Becoming dormant. Within a narrow 3' wide by 4.5' long planter. Adjacent sidewalk is raised and has been historically, and adjacent curb is cracked. Asymmetrical canopy with excessive limb weight, and growth towards the building is elongated. Surface root in lawn adjoining sidewalk.												
3	London plane tree (*Platanus × hispanica*)	14	50	40	60%	70%	70%	Fair	Moderate	-	-	X
Comments: Becoming dormant. Within a 3' wide by 15' long planter. Adjacent sidewalk is cracked at E corner of planter. Surface root in lawn adjoining sidewalk. Vertical form.												
4	Glossy privet (*Ligustrum lucidum*)	6	15	10	30%	30%	20%	Poor	Low	-	-	X
Comments: Within a 2' wide by 3.5' long planter. Leans NW. Significant decline with deadwood. Prior dominant leader cut at 6' cst, the resulting wound is decaying. Adjacent to light pole. Adjacent concrete raised.												
5	Glossy privet (*Ligustrum lucidum*)	13	20	20	30%	30%	40%	Poor	Low	-	-	X
Comments: Within a 2' wide by 4' long planter. Adjacent curb is buckled and raised, and adjacent sidewalk has been historically raised at multiple locations. Advanced decline with large deadwood. Large decaying wounds at 6' and 9' high. Asymmetrical canopy.												
6	London plane tree (*Platanus × hispanica*)	10	45	35	60%	30%	60%	Poor	Low	-	-	X
Comments: Within a 2.5' wide by 3.5' long planter. Has a 16° NW lean, and opposite the lean is a pronounced buttress root. Sidewalk and curb have been historically raised at multiple locations. Codominant top. Asymmetrical canopy with an extended limb over street, as well as a low branch lying on top of #22.												

ARBOR RESOURCES
professional consulting arborists and tree care

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE: Trunk Diameter (in.)	SIZE: Height (ft.)	SIZE: Canopy Spread (ft.)	CONDITION: Health Condition (100%=Best, 0%=Worst)	CONDITION: Structural Integrity (100%=Best, 0%=Worst)	CONDITION: Form (100%=Best, 0%=Worst)	CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	REGULATED: Proposed for Removal	REGULATED: Protected Tree	REGULATED: Street Tree
7	Southern magnolia (*Magnolia grandiflora*)	21	30	35	40%	50%	50%	Poor	Moderate	-	-	X
Comments: Within a ±3.5' wide by 15' long planter. Root crown encompasses entire planter width. Adjacent curb is buckled at multiple locations, including historically. Advanced and extensive decline with large deadwood. Canopy has been reduced in past.												
8	Chinese pistache (*Pistacia chinensis*)	14	25	35	60%	60%	70%	Fair	Moderate	-	-	X
Comments: At the NW edge of a 2' wide by 9' long planter. Adjacent sidewalk historically raised at multiple locations. Large cuts along canopy's bottom. Low canopy over street, and branches are on roof.												
9	Southern magnolia (*Magnolia grandiflora*)	20	35	35	20%	30%	30%	Poor	Low	-	-	X
Comments: Along frontage of the adjoining SE property, its trunk being nearly 22' from the property's fence. Within a narrow 2.5' wide planter. Trunk is 4' from CPA electrical and PacBell vaults. Sidewalk bulbs out near trunk. Canopy has been highly elevated, and a large amount of foliage within its lower canopy consists of watersprouts (which are rapidly-growing, weakly-attached shoots). Has several large girdling roots over a buttress root. Advanced, extensive decline with deadwood.												
10	Coast live oak (*Quercus agrifolia*)	50	60	90	70%	40%	50%	Fair	High	-	X	-
Comments: Offsite on the adjoining SE property. Its base is ~ 6" from a 2' tall wall and buried by leaf litter. Trunk divides into 5 leaders at 10' high and are favorably spaced apart. Canopy is highly elevated over the site (existing parking lot).												
11	Olive tree (*Olea europaea*)	8, 8	15	10	60%	50%	40%	Poor	Moderate	X	-	-
Comments: Canopy is rounded. Sucker growth has creatively been formed into a shrub surrounding the lower trunk. Trunk bifurcates at 2.5' high and forms a narrow attachment.												
12	Raywood ash (*Fraxinus a.* 'Raywood')	2	15	10	60%	40%	20%	Poor	Low	X	-	-
Comments: Dormant. Within a square planter in parking lot. Has a mostly one-sided canopy. Trunk bends.												

T-2

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 www.cityofpaloalto.org/arb/forms

Special Tree Protection Instruction Sheet
City of Palo Alto

T-2

SMITH DEVELOPMENT

660 UNIVERSITY
PALO ALTO, CA 94301

THE GUZZARDO PARTNERSHIP
Landscape Architects • Land Planners
181 Greenwich Street
San Francisco, CA 94111
T 415 433 4672
F 415 433 5003

ISSUES AND REVISIONS

NO.	DATE	DESCRIPTION
1	12/01/21	PLANNING SUBMITTAL
2	05/13/22	PLANNING RESUBMITTAL
3	08/15/22	PLANNING RESUBMITTAL

PROJECT NUMBER
21003

SHEET TITLE
TREE DISPOSITION PLAN - SITE ARBORIST REPORT

SCALE

SHEET NUMBER
L 4.4

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 appoved 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/.

ARBOR RESOURCES
professional consulting arborists and tree care

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE: Trunk Diameter (in.)	SIZE: Height (ft.)	SIZE: Canopy Spread (ft.)	CONDITION: Health Condition (100%=Best, 0%=Worst)	CONDITION: Structural Integrity (100%=Best, 0%=Worst)	CONDITION: Form (100%=Best, 0%=Worst)	CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	Proposed for Removal	REGULATED: Protected Tree	REGULATED: Street Tree
13	Raywood ash (*Fraxinus a.* 'Raywood')	12	20	15	30%	30%	30%	Poor	Low	X	-	-
	Comments: Within a square planter. Trunk bifurcates at 6' high. Significant dieback with deadwood. Adjacent asphalt is cracked and forms a short mound.											
14	Raywood ash (*Fraxinus a.* 'Raywood')	11	20	20	40%	30%	30%	Poor	Low	X	-	-
	Comments: Within a square planter. Has many large decaying cuts. Deadwood. Adjacent asphalt is cracked and slightly raised.											
15	Raywood ash (*Fraxinus a.* 'Raywood')	6	15	15	20%	10%	20%	Poor	Low	X	-	-
	Comments: Within a square planter. Has a large decay column along entire trunk, as well as a large decaying wound at 6' high where a prior leader was cut away. Advanced levels of dieback and deadwood.											
16	Raywood ash (*Fraxinus a.* 'Raywood')	15	25	20	20%	20%	20%	Poor	Low	X	-	-
	Comments: Within a square planter. Has a pronounced U lean. Low limb overhangs adjacent parking space. Significant decay throughout, including along trunk. Deadwood. Adjacent asphalt forms a mound.											
17	Purple Robe locust (*Robinia* 'Purple Robe')	6	35	20	60%	40%	60%	Fair	Moderate	X	-	-
	Comments: Dormant. Has a single support stake which is no longer necessary and should be removed.											
18	Purple Robe locust (*Robinia* 'Purple Robe')	5	25	20	60%	40%	30%	Poor	Moderate	X	-	-
	Comments: Dormant. Has a single support stake which is no longer necessary and should be removed. Excessive limb weight overhanging parking lot. Asymmetrical form away from #17.											
19	Crape myrtle (*Lagerstroemia indica*)	5	10	10	60%	40%	50%	Fair	Moderate	X	-	-
	Comments: Within a 2' raised planter. Dormant. Multiple trunks originate 8" high. Canopy is slightly asymmetrical.											

Site: 660 University Avenue, Palo Alto
Prepared for: Smith Development
Prepared by: David L. Babby, RCA #399
3 of 4 — November 19, 2021

ARBOR RESOURCES
professional consulting arborists and tree care

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE: Trunk Diameter (in.)	SIZE: Height (ft.)	SIZE: Canopy Spread (ft.)	CONDITION: Health Condition (100%=Best, 0%=Worst)	CONDITION: Structural Integrity (100%=Best, 0%=Worst)	CONDITION: Form (100%=Best, 0%=Worst)	CONDITION: Overall Condition (Good/Fair/Poor/Dead)	Suitability for Preservation (High/Moderate/Low)	Proposed for Removal	REGULATED: Protected Tree	REGULATED: Street Tree
20	Crape myrtle (*Lagerstroemia indica*)	3, 3, 2	10	5	60%	40%	50%	Fair	Moderate	X	-	-
	Comments: Within a 2' raised planter. Dormant. Multiple trunks emerge at grade. Canopy is asymmetrical.											
21	Crape myrtle (*Lagerstroemia indica*)	6	15	10	60%	40%	50%	Fair	Moderate	X	-	-
	Comments: Within a 2' raised planter. Dormant. Multiple trunks originate 6" high. Canopy is slightly asymmetrical.											
22	Crape myrtle (*Lagerstroemia indica*)	6	15	10	60%	40%	50%	Fair	Moderate	X	-	-
	Comments: Within a 2' raised planter. Dormant. Multiple trunks originate 5" high. Canopy is slightly asymmetrical. A low limb of #6 is on top of its canopy.											
23	Crape myrtle (*Lagerstroemia indica*)	6	15	10	60%	40%	60%	Fair	Moderate	X	-	-
	Comments: Within a 2' raised planter. Dormant. Multiple trunks originate 5" high. Canopy is slightly asymmetrical.											
24	Crape myrtle (*Lagerstroemia indica*)	4, 3, 2	15	10	60%	40%	60%	Fair	Moderate	X	-	-
	Comments: Within a 2' raised planter. Dormant. Multiple trunks emerge at grade. Canopy is asymmetrical.											
25	Yew pine (*Podocarpus macrophyllus*)	8	10	10	60%	40%	30%	Poor	Moderate	X	-	-
	Comments: Immediately Adjacent to building. Shrub form and shaped into a cube. Trunk bifurcates at 3' high.											

Site: 660 University Avenue, Palo Alto
Prepared for: Smith Development
Prepared by: David L. Babby, RCA #399
4 of 4 — November 19, 2021

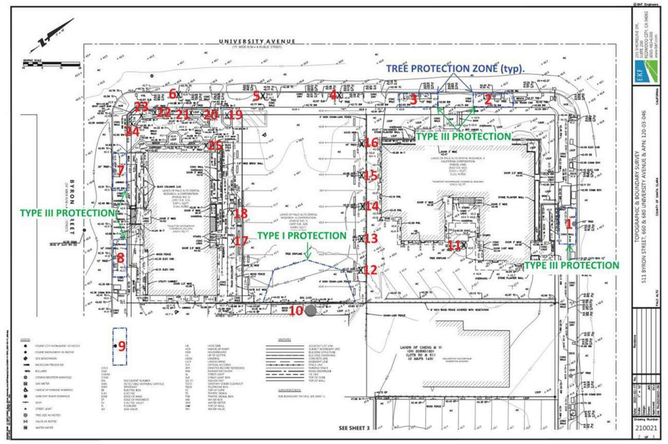
David L. Babby, Registered Consulting Arborist® — *November 19, 2021*

EXHIBIT B:

SITE MAP

(one sheet)

660 University Avenue, Palo Alto
Smith Development



David L. Babby, Registered Consulting Arborist® — *November 19, 2021*

EXHIBIT C:

PHOTOGRAPHS

(five sheets)

Photo Index

660 University Avenue, Palo Alto
Smith Development

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T-2

All other tree-related reports shall be added to the space provided on this sheet (adding as needed)
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Special Tree Protection Instruction Sheet
City of Palo Alto

T-2

SMITH DEVELOPMENT

660 UNIVERSITY
PALO ALTO, CA 94301

THE GUZZARDO PARTNERSHIP
Landscape Architects •Land Planners
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F 415 433 5003

ISSUES AND REVISIONS

NO.	DATE	DESCRIPTION
1	12/01/21	PLANNING SUBMITTAL
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PROJECT NUMBER
21003

SHEET TITLE
TREE DISPOSITION PLAN - SITE
ARBORIST REPORT

SCALE

SHEET NUMBER

L 4.5

LEGEND:

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EX FENCE
- EX SANITARY SEWER LINE
- EX STORM DRAIN LINE
- EX DOMESTIC WATER LINE
- EX COMMUNICATIONS LINE
- EX ELECTRIC LINE
- EX OVERHEAD LINE
- EX GAS LINE
- EX TREE
- EX SANITARY SEWER MANHOLE
- EX COMMUNICATIONS MANHOLE
- EX WATER VALVE
- EX STREET LIGHT
- EX SIGN
- BUILDING TO BE DEMOLISHED
- PAVEMENT TO BE DEMOLISHED
- TREE PROTECTION ZONE SEE ARBORIST REPORT FOR MORE INFORMATION

NOTES:

1. DEACTIVATION AND REMOVAL OF GAS AND ELECTRIC LINES TO BE COORDINATED WITH CPAU PRIOR TO DEMOLITION.
2. ELEVATIONS SHOWN ARE ON NGVD 1929 DATUM.
3. SERVICE DISCONNECTION REQUIREMENT: WATER, GAS, AND ELECTRIC SERVICES AND METERS MUST BE DISCONNECTED WHENEVER A CONTRACTOR IS PLANNING FOR COMPLETE/PARTIAL BUILDING DEMOLITION OR ANY EXCAVATION. WHERE TO APPLY FOR SERVICE DISCONNECTION: THE APPLICANT SHALL FIRST SUBMIT AN "APPLICATION FOR UTILITIES DISCONNECTION PRIOR TO BUILDING DEMOLITION/REMODELING" INCLUDING A SIGNED "DECLARATION CONCERNING TENANCY OF BUILDING" TO CITY OF PALO ALTO UTILITIES CUSTOMER SERVICE CENTER 250 HAMILTON AVE. (CITY HALL) GROUND FLOOR, PALO ALTO, CA 94301. TELEPHONE (650) 329-2161. FORMS ARE AVAILABLE ONLINE.

UNIVERSITY AVENUE
(75' WIDE ROW)

BYRON STREET
(50' WIDE ROW)

MIDDLEFIELD ROAD
(65' WIDE ROW)

WATER LATERAL, METER TO BE DEMOLISHED / ABANDONED BY CPAU

TREE PROTECTION ZONE, TYP

SEWER LATERAL, CLEANOUT TO BE DEMOLISHED/ ABANDONED BY CPAU

GAS LINE, METER TO BE DEMOLISHED/ABANDONED BY CPAU

TELEPHONE BOX TO BE RELOCATED

BOXES TO REMAIN & BE ADJ. TO GRADE

TELEPHONE LINE TO BE DEMOLISHED/ABANDONED

WATER LATERAL, METER, BFP TO BE DEMOLISHED/ ABANDONED BY CPAU

GAS LATERAL, METER TO BE DEMOLISHED/ ABANDONED BY CPAU

SEWER LATERAL, CLEANOUT TO REMAIN AND BE REUSED

SIDEWALK AND CURB LIMIT OF DEMOLITION

ELECTRIC LINE TO BE DEMOLISHED/ABANDONED SEE NOTE 1

SEWER LATERAL TO BE DEMOLISHED/ABANDONED BY CPAU UP TO CLEANOUT

LANDS OF PALO ALTO DENTAL RESEARCH, A CORPORATION
APN. 120-03-042
(PARCEL NO. 1)
(3097 O.R. 324)
5,907± SQ.FT.
0.14± ACRES

TWO-STORY WOOD-FRAME COMMERCIAL BUILDING
2,623± SQ. FT.
TO BE DEMOLISHED

LANDS OF PALO ALTO DENTAL RESEARCH, A CORPORATION
APN. 120-03-043
(PARCEL NO. 2)
(3097 O.R. 324)
6,608± SQ.FT.
0.15± ACRES

LANDS OF PALO ALTO DENTAL RESEARCH, A CALIFORNIA CORPORATION
APN. 120-03-044
(PARCEL ONE)
(8502 O.R. 602)
10,011± SQ.FT.
0.23± ACRES
TWO-STORY WOOD-FRAME COMMERCIAL BUILDING
3,932± SQ. FT.
TO BE DEMOLISHED

LANDS OF HEIDARI
APN. 120-03-054
(PARCEL ONE)
(DN 21593134)
(LOTS 61 & 62)
(D MAPS 149)

LANDS OF CHENG & YI
APN. 120-03-045
(DN 20890120)
(LOTS 50 & 51)
(D MAPS 149)

N38°15'16"E 59.06' | N38°15'16"E 66.06' | N38°15'16"E 225.21' | S38°15'16"W 100.09'

S38°14'59"W 59.05' | S38°14'59"W 66.06' | N38°14'59"E 225.21' | N38°14'59"E 100.09'

N51°45'01"W 100.01' | S51°45'01"E 100.01' | N51°45'01"W 100.01'

GRAPHIC SCALE
10 0 10 20

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660 UNIVERSITY AVENUE
EXISTING CONDITIONS AND DEMOLITION PLAN

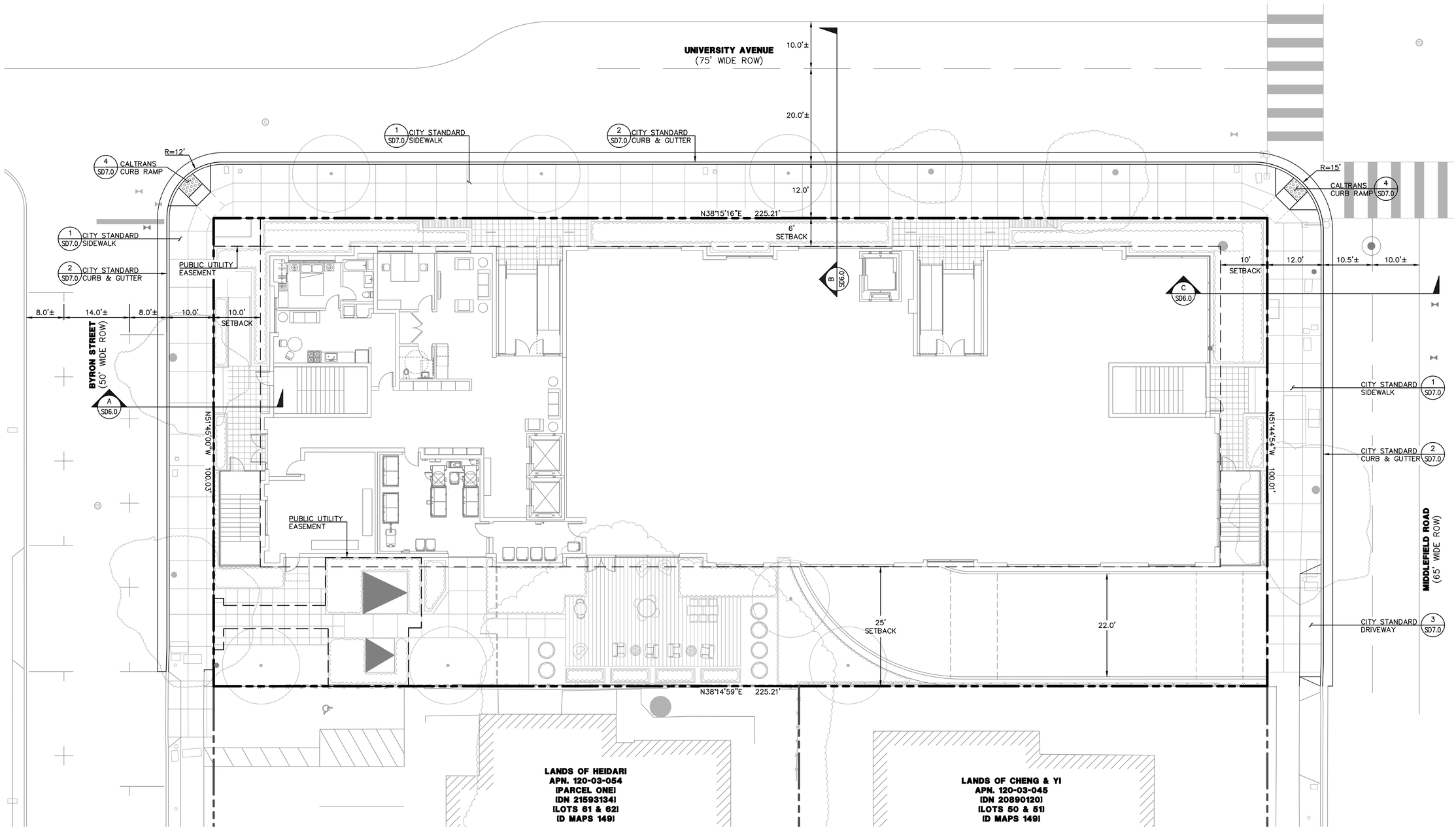
CITY OF PALO ALTO SANTA CLARA COUNTY CALIFORNIA

No.	Revisions
1	PLANNING RESUBMITTAL #1 05.13.2022
2	PLANNING RESUBMITTAL #2 08.15.2022

Date	12/01/2021
Scale	1" = 10'
Design	MS
Drawn	TKI
Approved	TRM
Job No	20212113

Drawing Number:
SD1.0

DRAWING NAME: K:\2021\21213_660_University_Ave\ENG\SD\SD1.0-ExCond_and_Demo_Plan.dwg
PLOT DATE: 08-17-22 PLOTTED BY: inou



GRAPHIC SCALE
10 0 10 20

255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
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660 UNIVERSITY AVENUE
SITE PLAN

CITY OF PALO ALTO SANTA CLARA COUNTY CALIFORNIA

No.	Revisions
1	PLANNING RESUBMITTAL #1 05.13.2022
2	PLANNING RESUBMITTAL #2 08.15.2022

Date	12/01/2021
Scale	1" = 10'
Design	MS
Drawn	TKI
Approved	TRM
Job No	20212113

Drawing Number:
SD2.0

DRAWING NAME: K:\2021\21213_660_University_Ave\ENG\SD\SD2.0-Site_Plan.dwg
PLOT DATE: 08-17-22 PLOTTED BY: inou

LEGEND:

TC X.X / FL X.X — EXISTING GRADE

TC X.X / FL X.X — PROPOSED GRADE

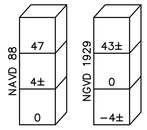
--------- GRADE BREAK

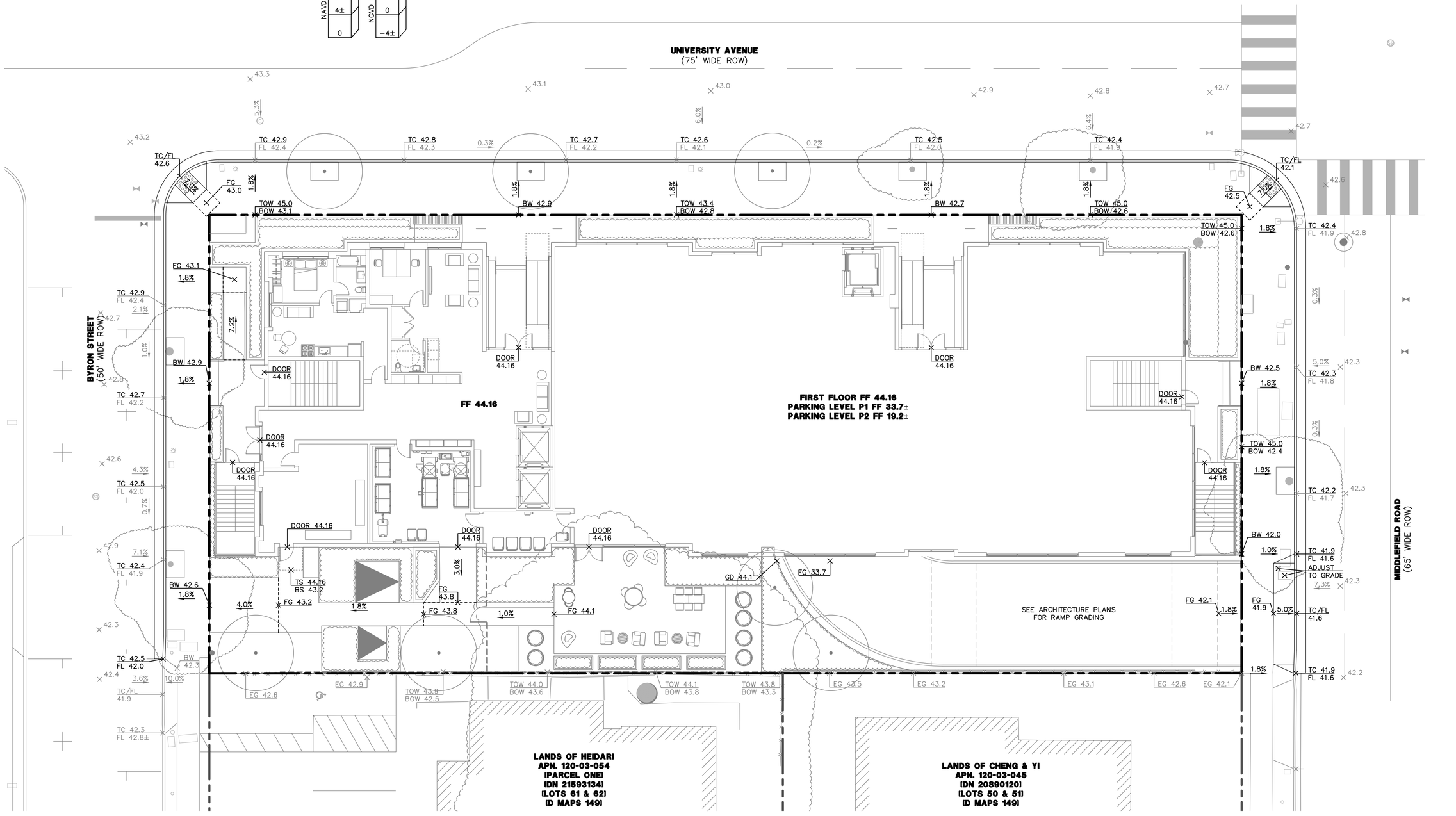
ABBREVIATIONS:

BOW	BOTTOM OF WALL
BS	BOTTOM OF STEP
BW	BACK OF WALK
EG	EXISTING GRADE
FF	FINISHED FLOOR
FG	FINISHED GRADE
FL	FLOW LINE
GD	GROUND
TC	TOP OF CURB
TOW	TOP OF WALL
TS	TOP OF STEP

NOTE:

1. ELEVATIONS SHOWN ARE ON NGVD 1929 DATUM. BASE FLOOD ELEVATION (BFE) FOR PROJECT SITE IS 47 ON NAVD 88 DATUM WHICH IS APPROXIMATELY EQUIVALENT TO 43 ON NGVD 1929 DATUM. SEE GRAPHIC BELOW. PROPOSED FINISHED FLOOR IS 1 FOOT ABOVE BFE, PLUS APPROXIMATELY 2 INCHES TO ACCOUNT FOR CONSTRUCTION TOLERANCE.





GRAPHIC SCALE
10 0 10 20

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660 UNIVERSITY AVENUE
GRADING PLAN

CITY OF PALO ALTO — SANTA CLARA COUNTY — CALIFORNIA

No.	Revisions
1	PLANNING RESUBMITTAL #1 05.13.2022
2	PLANNING RESUBMITTAL #2 08.15.2022

Date	12/01/2021
Scale	1" = 10'
Design	MS
Drawn	TKI
Approved	TRM
Job No	20212113

Drawing Number: SD3.0

DRAWING NAME: K:\2021\212113_660_University_Ave\ENG\SD\SD3.0-Grading_Plan.dwg
PLOT DATE: 08-17-22
PLOTTED BY: inou

LEGEND:

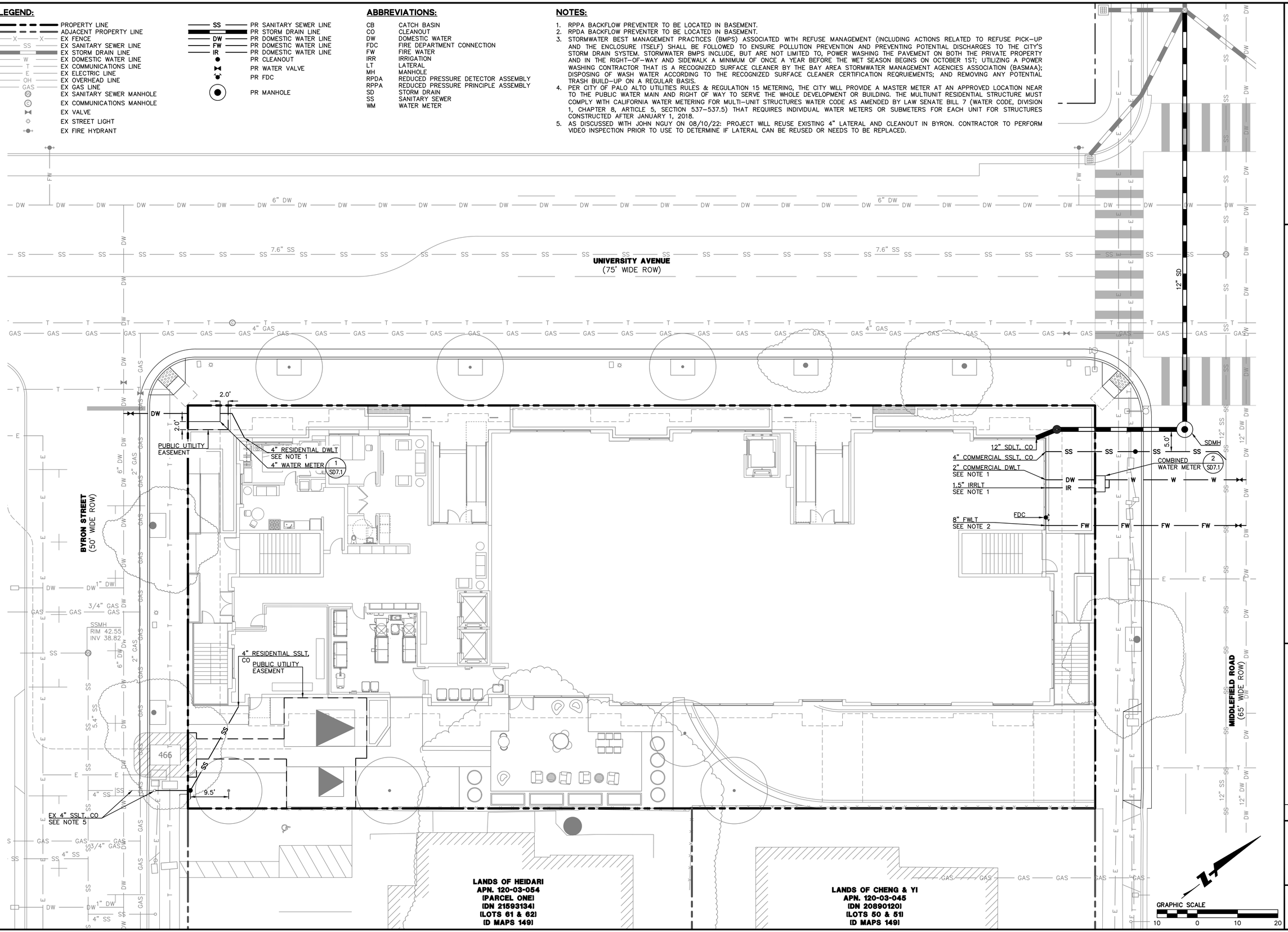
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EX FENCE
- EX SANITARY SEWER LINE
- EX STORM DRAIN LINE
- EX DOMESTIC WATER LINE
- EX COMMUNICATIONS LINE
- EX ELECTRIC LINE
- EX OVERHEAD LINE
- EX GAS LINE
- EX SANITARY SEWER MANHOLE
- EX COMMUNICATIONS MANHOLE
- EX VALVE
- EX STREET LIGHT
- EX FIRE HYDRANT
- PR SANITARY SEWER LINE
- PR STORM DRAIN LINE
- PR DOMESTIC WATER LINE
- PR DOMESTIC WATER LINE
- PR DOMESTIC WATER LINE
- PR CLEANOUT
- PR WATER VALVE
- PR FDC
- PR MANHOLE

ABBREVIATIONS:

CB	CATCH BASIN
CO	CLEANOUT
DW	DOMESTIC WATER
FDC	FIRE DEPARTMENT CONNECTION
FW	FIRE WATER
IRR	IRRIGATION
LT	LATERAL
MH	MANHOLE
RPDA	REDUCED PRESSURE DETECTOR ASSEMBLY
RPPA	REDUCED PRESSURE PRINCIPLE ASSEMBLY
SD	STORM DRAIN
SS	SANITARY SEWER
WM	WATER METER

NOTES:

1. RPPA BACKFLOW PREVENTER TO BE LOCATED IN BASEMENT.
2. RPDA BACKFLOW PREVENTER TO BE LOCATED IN BASEMENT.
3. STORMWATER BEST MANAGEMENT PRACTICES (BMPS) ASSOCIATED WITH REFUSE MANAGEMENT (INCLUDING ACTIONS RELATED TO REFUSE PICK-UP AND THE ENCLOSURE ITSELF) SHALL BE FOLLOWED TO ENSURE POLLUTION PREVENTION AND PREVENTING POTENTIAL DISCHARGES TO THE CITY'S STORM DRAIN SYSTEM. STORMWATER BMPS INCLUDE, BUT ARE NOT LIMITED TO, POWER WASHING THE PAVEMENT ON BOTH THE PRIVATE PROPERTY AND IN THE RIGHT-OF-WAY AND SIDEWALK A MINIMUM OF ONCE A YEAR BEFORE THE WET SEASON BEGINS ON OCTOBER 1ST; UTILIZING A POWER WASHING CONTRACTOR THAT IS A RECOGNIZED SURFACE CLEANER BY THE BAY AREA STORMWATER MANAGEMENT AGENCIES ASSOCIATION (BASMAA); DISPOSING OF WASH WATER ACCORDING TO THE RECOGNIZED SURFACE CLEANER CERTIFICATION REQRUIEMENTS; AND REMOVING ANY POTENTIAL TRASH BUILD-UP ON A REGULAR BASIS.
4. PER CITY OF PALO ALTO UTILITIES RULES & REGULATION 15 METERING, THE CITY WILL PROVIDE A MASTER METER AT AN APPROVED LOCATION NEAR TO THE PUBLIC WATER MAIN AND RIGHT OF WAY TO SERVE THE WHOLE DEVELOPMENT OR BUILDING. THE MULTIUNIT RESIDENTIAL STRUCTURE MUST COMPLY WITH CALIFORNIA WATER METERING FOR MULTI-UNIT STRUCTURES WATER CODE AS AMENDED BY LAW SENATE BILL 7 (WATER CODE, DIVISION 1, CHAPTER 8, ARTICLE 5, SECTION 537-537.5) THAT REQUIRES INDIVIDUAL WATER METERS OR SUBMETERS FOR EACH UNIT FOR STRUCTURES CONSTRUCTED AFTER JANUARY 1, 2018.
5. AS DISCUSSED WITH JOHN NGUY ON 08/10/22: PROJECT WILL REUSE EXISTING 4" LATERAL AND CLEANOUT IN BYRON. CONTRACTOR TO PERFORM VIDEO INSPECTION PRIOR TO USE TO DETERMINE IF LATERAL CAN BE REUSED OR NEEDS TO BE REPLACED.



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660 UNIVERSITY AVENUE UTILITY PLAN

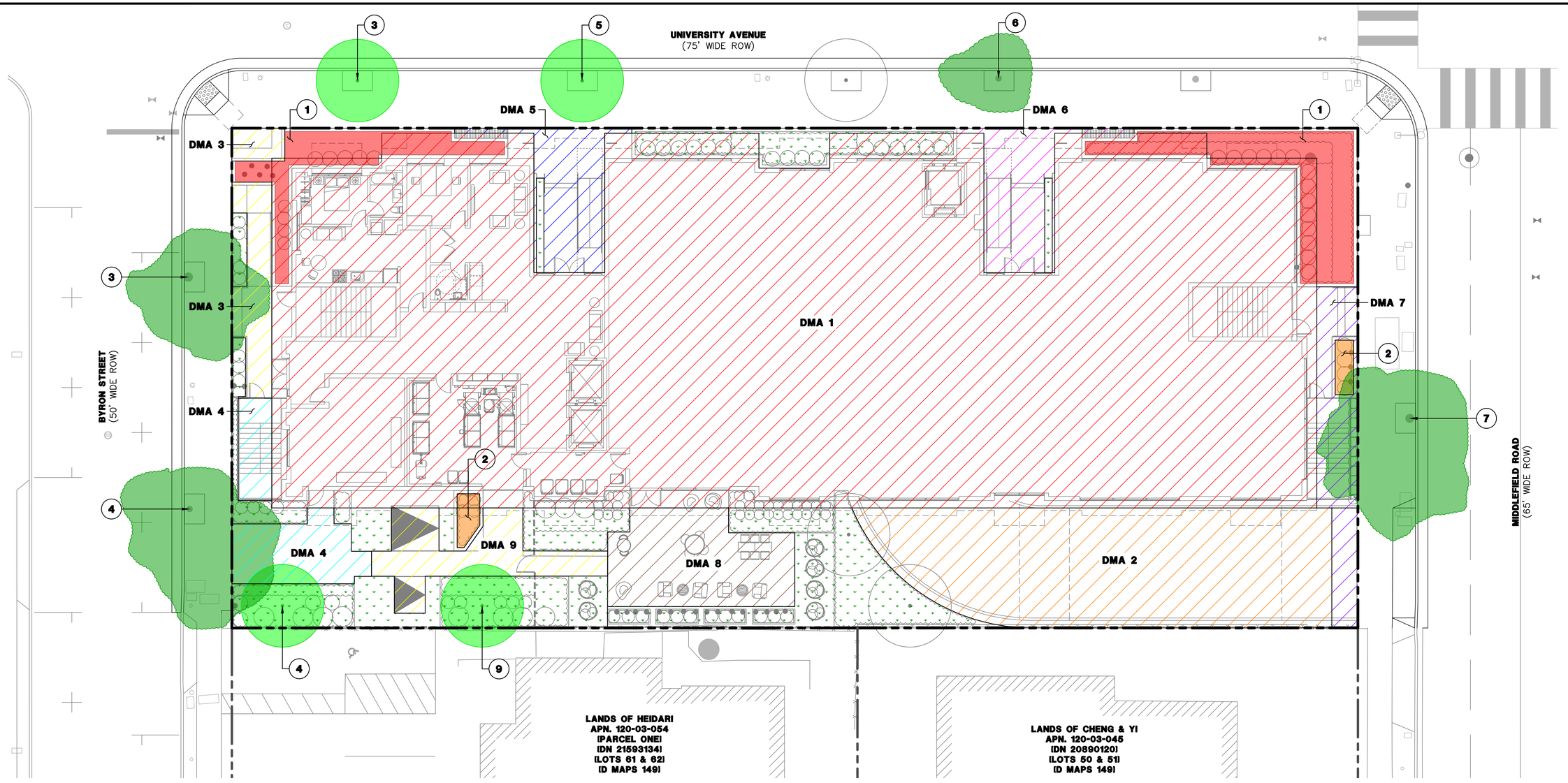
CITY OF PALO ALTO SANTA CLARA COUNTY CALIFORNIA

No.	Revisions
1	PLANNING RESUBMITTAL #1 05.13.2022
2	PLANNING RESUBMITTAL #2 08.15.2022

Date	12/01/2021
Scale	1" = 10'
Design	MS
Drawn	TKI
Approved	TRM
Job No	20212113

Drawing Number: SD4.0

DRAWING NAME: K:\2021\21213.660_University_Ave\ENG\SD\SD4.0-Utility_Plan.dwg
PLOT DATE: 08-17-22
PLOTTED BY: inou



LEGEND

STRA — SELF TREATING/RETAINING AREA

PROPOSED INTERCEPTOR TREE

EXISTING INTERCEPTOR TREE

NOTE:

1. EXISTING TREE CANOPY SHOWN IS APPROXIMATE.

STORMWATER QUALITY SIZING SUMMARY

CATCHMENT ID	CATCHMENT AREA	NUMBER OF PROPOSED TREES	PROPOSED TREE CREDIT	EXISTING TREE CREDIT	CATCHMENT AREA W/TREE CREDIT	BIO-RETENTION AREA	TREATMENT AREA	TREATMENT AREA REQUIRED	MEETS REQUIREMENT?
DMA 1	14,564 SF	–	–	–	14,485 SF	1	861 SF	583 SF	YES
DMA 2	2,064 SF	–	–	–	2,064 SF	2	82 SF	82 SF	YES
DMA 3	337 SF	–	100 SF	500 SF	0 SF	N/A	N/A	N/A	N/A
DMA 4	462 SF	1	100 SF	720 SF	0 SF	N/A	N/A	N/A	N/A
DMA 5	403 SF	1	100 SF	–	297 SF	N/A	186 SF**	149 SF**	YES
DMA 6	402 SF	–	–	220 SF	182 SF	N/A	186 SF**	91 SF**	YES
DMA 7	449 SF	–	–	790 SF	0 SF	N/A	N/A	N/A	N/A
DMA 8*	651 SF	–	–	–	651 SF	N/A	N/A	N/A	N/A
DMA 9**	443 SF	1	100 SF	–	215 SF	N/A	813 SF**	222 SF**	YES

* WOODEN DECK IS PERVIOUS AND CONSIDERED SELF-TREATING.
** DMAS 5, 6, AND 9 DRAIN TO LANDSCAPE AND ARE CONSIDERED SELF-TREATING VIA THE 2:1 (IMPERVIOUS:PERVIOUS) RULE PER SANTA CLARA COUNTY C.3 TECHNICAL GUIDANCE.

GRAPHIC SCALE
10 0 10 20

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660 UNIVERSITY AVENUE
STORMWATER MANAGEMENT PLAN

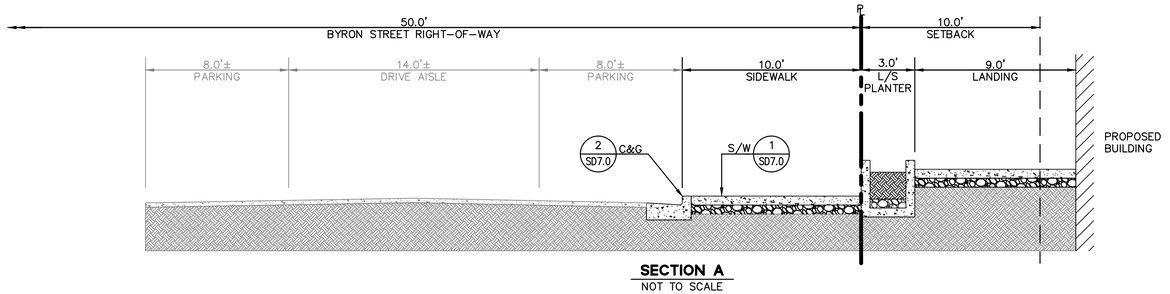
CITY OF PALO ALTO
SANTA CLARA COUNTY
CALIFORNIA

No.	Revisions
1	PLANNING RESUBMITTAL #1 05.13.2022
2	PLANNING RESUBMITTAL #2 08.15.2022

Date 12/01/2021
Scale 1" = 10'
Design MS
Drawn TKI
Approved TRM
Job No 2012113

Drawing Number:
SD5.0

DRAWING NAME: K:\2021\212113_660_University_Ave\ENG\SD\SD5.0-Stormwater_Management_Plan.dwg
PLOT DATE: 08-17-22
PLOTTED BY: inou



SECTION A
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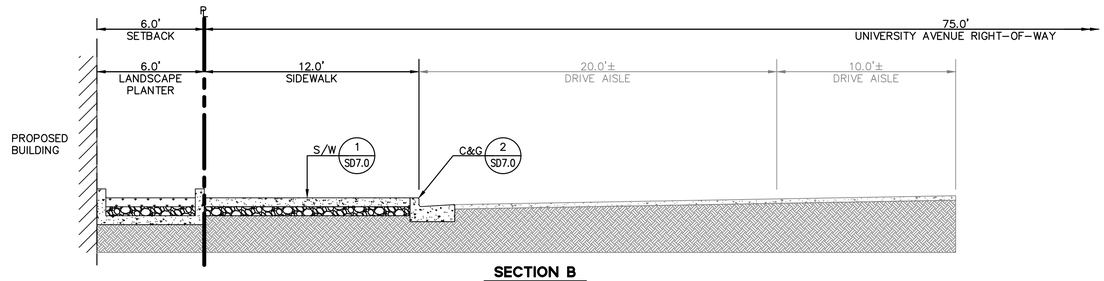

SECTION B
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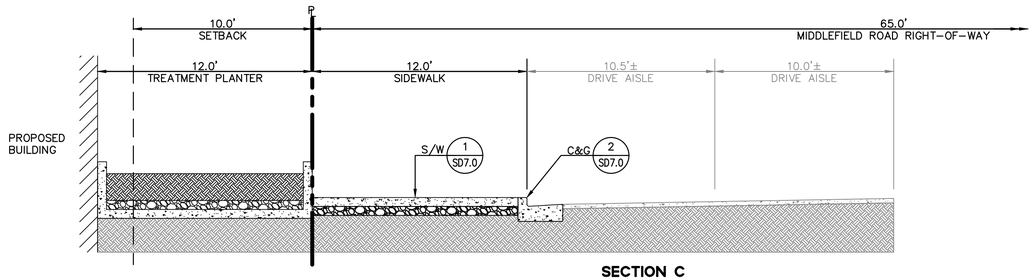

SECTION C
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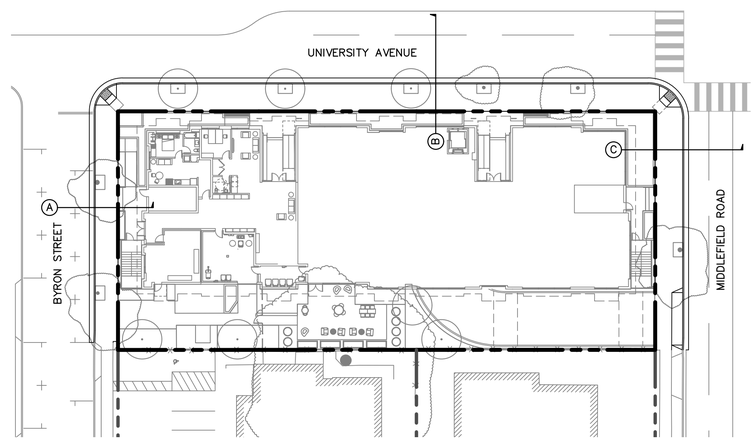

ABBREVIATIONS:

C&G	CURB AND GUTTER
L/S	LANDSCAPE
S/W	SIDEWALK

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660 UNIVERSITY AVENUE
SECTIONS

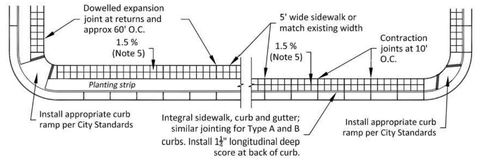
CITY OF PALO ALTO
SANTA CLARA COUNTY
CALIFORNIA

No.	Revisions
1	PLANNING RESUBMITTAL #1 05.13.2022
2	PLANNING RESUBMITTAL #2 08.15.2022

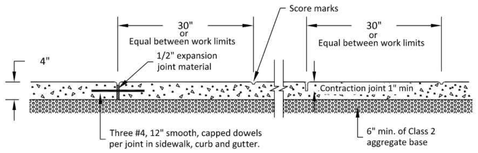
Date	12/01/2021
Scale	1" = 10'
Design	MS
Drawn	TKI
Approved	TRM
Job No	20212113

Drawing Number:
SD6.0

DRAWING NAME: K:\2021\212113_660_University_Ave\ENG\SD\SD6.0-Sections.dwg
PLOT DATE: 08-17-22 PLOTTED BY: inou



TYPICAL CITY BLOCK PLAN



Expansion joint Contraction joint

LONGITUDINAL SECTIONS

NOTES:
1. Sidewalks to be marked in 30" squares.
2. Edges to have a 3/4" radius.
3. Score marks shall be minimum 3/8" deep; contraction joints shall be 1" minimum depth at 10 ft. O.C.
4. Contraction joints may be saw-cut.
5. Sidewalks to have 1.5% slope to street.
6. All new sidewalk shall be doweled at 2 ft. O.C. into existing concrete with #4, 12" long dowels and embedded 6".
7. Saw-cut walk full depth and full width on score marks perpendicular to the curb. No saw-cutting on longitudinal score marks.
8. Install longitudinal deep score along entire back of curb that is monolithic with the sidewalk.

Rev	By	Date
0	DWH	12/14/92
1	MN	01/29/02
2	HQN	01/04/07
3	RTN	08/10/17

Scale: NTS

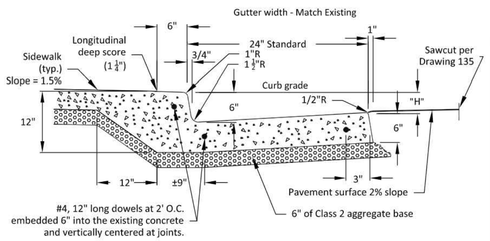
Sidewalk Construction

City of Palo Alto Standard

Approved by:
PE No. 72158
Date 01/10/18
Dwg No. 141

1 - SIDEWALK
NOT TO SCALE

Vertical Curb and Gutter



NOTES:
- Use 1/2" wide felt expansion material at each end of curb returns and a maximum of 60" O.C.
- Use #4, 12" long dowels at each expansion joint and at end of pours (3 dowels for 2 ft. and 3 ft. gutters, 5 dowels for 6 ft. gutters).
- Mark contraction joints 1-1/2" deep at 10 ft. centers.
- Surface finish to be light brooming.
- "H" dim = 5" with 1 ft. gutter;
  "H" dim = 4-1/2" with 2 ft. gutter;
  "H" dim = 4" with 3 ft. gutter
  "H" dim = 3" with 6 ft. gutter;
  Existing gutter widths vary (1 ft., 2 ft., 3 ft., or 6 ft.). Match existing.
- All new Asphalt Concrete patches shall be with 3/8" hot mix.
- No saw-cutting permitted parallel to the face of curb within the width of the gutter pan/
- When possible, pour Type A curb and gutter monolithically with sidewalks, driveways and PCC slabs.
- Install longitudinal deep score along entire back of curb.

Rev	By	Date
1	MN	10/25/04
2	JT	08/14/06
3	HQN	01/04/07
4	RTN	06/10/17

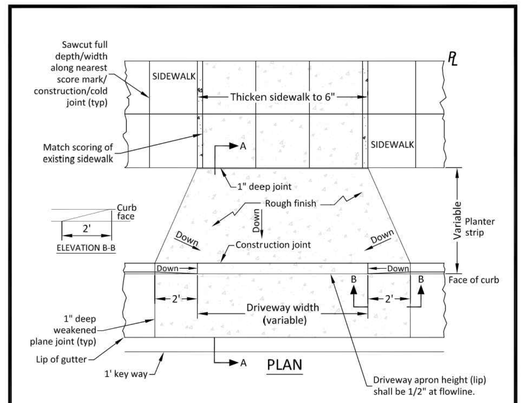
Scale: NTS

Vertical Curb and Gutter Type A Construction Detail

City of Palo Alto Standard

Approved by:
PE No. 72158
Date 01/10/18
Dwg No. 133

2 - CURB AND GUTTER
NOT TO SCALE



NOTE: Refer to Drawing 124 for Notes and Cross-section details and additional notes.

Rev	By	Date
1	MMN	03/19/14
2	RTN	08/14/17

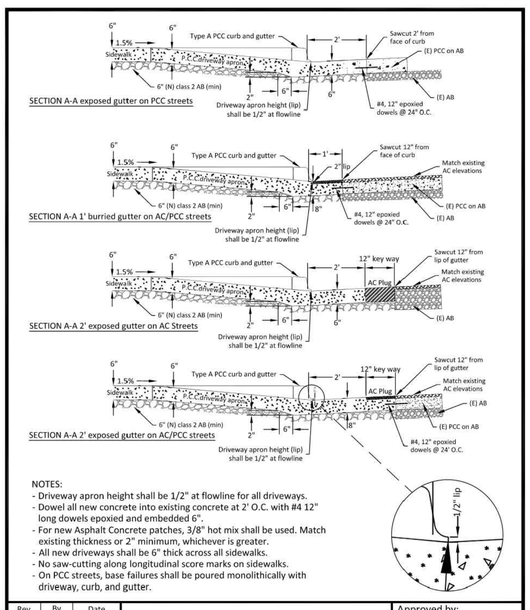
Scale: NTS

Driveway Construction Type A Curb & Gutter

City of Palo Alto Standard

Approved by:
PE No. 72158
Date 01/10/18
Dwg No. 120

3 - DRIVEWAY
NOT TO SCALE



NOTES:
- Driveway apron height shall be 1/2" at flowline for all driveways.
- Dowel all new concrete into existing concrete at 2' O.C. with #4 12" long dowels epoxied and embedded 6".
- For new Asphalt Concrete patches, 3/8" hot mix shall be used. Match existing thickness or 2" minimum, whichever is greater.
- All new driveways shall be 6" thick across all sidewalks.
- No saw-cutting along longitudinal score marks on sidewalks.
- On PCC streets, base failures shall be poured monolithically with driveway, curb, and gutter.

Rev	By	Date
0	RTN	01/25/16

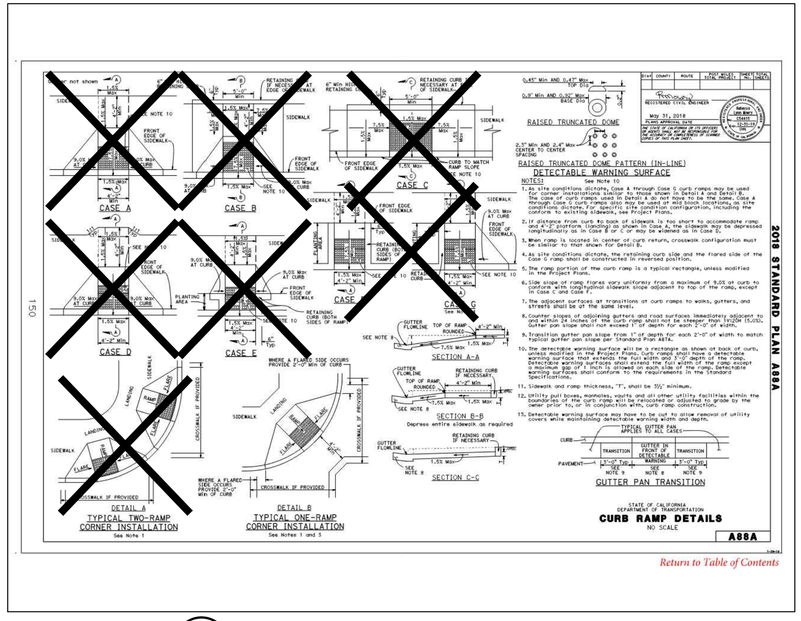
Scale: NTS

Driveway Cross-sections Type A Curb & Gutter

City of Palo Alto Standard

Approved by:
PE No. 72158
Date 01/10/18
Dwg No. 124

3 - DRIVEWAY
NOT TO SCALE



Return to Table of Contents

4 - CURB RAMP
NOT TO SCALE

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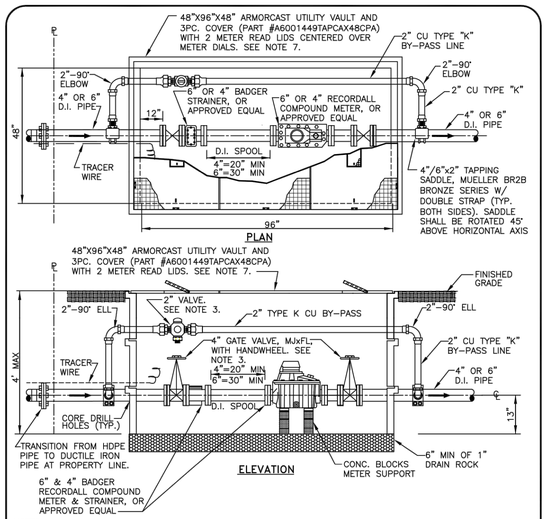
660 UNIVERSITY AVENUE DETAILS

CITY OF PALO ALTO SANTA CLARA COUNTY CALIFORNIA

No.	Revisions
1	PLANNING RESUBMITTAL #1 05.13.2022
2	PLANNING RESUBMITTAL #2 08.15.2022

Date 12/01/2021
Scale 1" = 10'
Design MS
Drawn TKI
Approved TRM
Job No 20212113

Drawing Number:
SD7.0

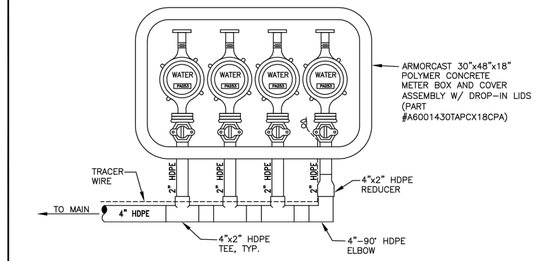


NOTES:

1. FOR WATER PIPE CONNECTION TO MAIN, SEE STANDARD DETAIL WD-03A.
2. BYPASS LINE SERVICE SADDLE CLAMPS FOR DIP LINE SHALL BE MUELLER BR2B BRONZE SERIES WITH DOUBLE STRAP.
3. 2" BALL STRAIGHT CURB VALVE SHALL BE MUELLER B-20287N, OR APPROVED EQUAL. 4" AND 6" GATE VALVES SHALL BE MUELLER A-2361 SERIES, OR APPROVED EQUAL.
4. WATER METERS SHALL NOT BE INSTALLED MORE THAN 4 FEET DEEP.
5. CUSTOMER TO SUPPLY, INSTALL, AND MAINTAIN VAULT TO GRADE PER CITY SPECIFICATIONS.
6. VAULT SHALL BE LOCATED ON PRIVATE PROPERTY NEXT TO THE PROPERTY LINE IN A PUBLIC UTILITY EASEMENT.
7. BOX & LID SHALL HAVE MIN. 10K RATING (TIER 5) FOR SIDEWALK AND PLANTING STRIP APPLICATIONS AND A MIN. 20K RATING (TIER 22) FOR DRIVEWAY AND PARKING LOT APPLICATIONS.

BY	DATE	4" AND 6" WATER METER SET WITH 2" BY-PASS STANDARD DETAIL	APPROVED: MAY 16, 2022	SCALE: NONE
DRAWN J.J.	09/91		Silvia Lee Santos 50674 SILVIA LEE SANTOS ENGINEERING MANAGER R.E. NO.	DWG. NO. STD. WD-04
CHECKED J.J.	05/21	CITY OF PALO ALTO, CALIFORNIA	REVISION: MAY 5, 2021	APPENDIX B
REVIEWED A.P.	05/21			

212



2" QUADRUPLE HEADER

NOTES:

1. APPROVAL FROM UTILITIES DEPARTMENT IS REQUIRED FOR COMBINATION WATER SERVICE CONNECTION.
2. WATER SERVICE SIZE DETERMINED BY TOTAL WATER FLOW RATE DEMAND.
3. WATER METER READING LID SHALL BE CENTERED OVER EACH METER DIAL.
4. ALL BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED ON THE OWNER'S PROPERTY.
5. METER BOX & LIDS SHALL HAVE MINIMUM TIER 22 RATING FOR ALL APPLICATIONS. METER BOXES NOT TO BE INSTALLED IN STREET.

BY	DATE	ARMORCAST METER BOX (30"X48") WITH MULTIPLE HEADERS STANDARD DETAIL	APPROVED: MAY 16, 2022	SCALE: NONE
DRAWN R.E.	6/97		Silvia Lee Santos 50674 SILVIA LEE SANTOS ENGINEERING MANAGER R.E. NO.	DWG. NO. STD. WD-10
CHECKED J.J.	02/20	CITY OF PALO ALTO, CALIFORNIA	REVISION: MAY 5, 2021	APPENDIX B
REVIEWED R.I.	02/20			

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1 - 4" WATER METER
NOT TO SCALE

2 - COMBINED WATER METER
NOT TO SCALE

BKF
255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
www.bkf.com

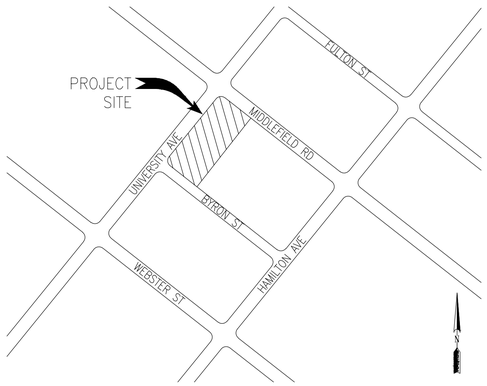
660 UNIVERSITY AVENUE DETAILS

CITY OF PALO ALTO — SANTA CLARA COUNTY — CALIFORNIA

No.	Revisions
1	PLANNING RESUBMITTAL #1 05.13.2022
2	PLANNING RESUBMITTAL #2 08.15.2022

Date	12/01/2021
Scale	1" = 10'
Design	MS
Drawn	TKI
Approved	TRM
Job No	20212113

Drawing Number: SD7.1



VICINITY MAP
N. T. S.

WORK RESPONSIBILITY JOINT TRENCH

	CPAU ELECTRIC	CPAU GAS	TELEPHONE	C.A.T.V.	CONTRACTOR
TRENCHING					
EXCAVATE & BACKFILL	○	○	○	○	●
GAS MATERIAL					
SUPPLY & INSTALL	○	○	○	○	○
*CPAU ELECTRIC CABLE					
SUPPLY & INSTALL	●	○	○	○	○
ELECTRIC CONDUIT					
SUPPLY & INSTALL	○	○	○	○	●
ELECTRIC BOXES					
SUPPLY & INSTALL	○	○	○	○	●
EXCAVATION	○	○	○	○	●
ELECTRIC PADS					
SUPPLY & INSTALL	○	○	○	○	●
EXCAVATION	○	○	○	○	●
ELECTRIC TRANSFORMERS					
SUPPLY & INSTALL	●	○	○	○	○
ELECTRIC INTERRUPTERS					
SUPPLY & INSTALL	○	○	○	○	○
CPAU ELECTRIC SWITCHES					
SUPPLY & INSTALL	○	○	○	○	○
TELEPHONE CONDUIT					
SUPPLY & INSTALL	○	○	○	○	●
TELEPHONE CABLE					
SUPPLY & INSTALL	○	○	●	○	○
TELEPHONE SPLICE BOXES					
SUPPLY & INSTALL	○	○	○	○	●
EXCAVATION	○	○	○	○	●
TELEPHONE S.A.I. PADS					
SUPPLY & INSTALL	○	○	○	○	○
EXCAVATION	○	○	○	○	○
C.A.T.V. CONDUIT					
SUPPLY & INSTALL	○	○	○	○	◉
C.A.T.V. SPLICE BOXES					
SUPPLY & INSTALL	○	○	○	○	◉
EXCAVATION	○	○	○	○	◉
C.L.E.C. FIBER CONDUIT ___ACCEPTED ___DECLINED					
SUPPLY & INSTALL	○	○	○	○	●
C.L.E.C. FIBER SPLICE BOXES ___ACCEPTED ___DECLINED					
SUPPLY & INSTALL	○	○	○	○	●
EXCAVATION	○	○	○	○	●

● WORK TO BE PERFORMED BY THE RESPECTIVE CONTRACTOR & UTILITY COMPANIES
◉ ASSUME CONTRACTOR RESPONSIBILITY UNLESS OTHERWISE SPECIFIED
○ NOT APPLICABLE UNLESS OTHERWISE SPECIFIED
* CPAU TO PULL CABLE INTO ENERGIZED ENCLOSURES
NOTE: FOR A MORE DETAILED WORK RESPONSIBILITY BREAKDOWN, SEE CORRESPONDING MATERIAL LIST.

THESE PLANS WERE PREPARED IN CONJUNCTION WITH THE FOLLOWING PLANS:

	RECEIVED	APPROVED
CIVIL IMPROVEMENT PLANS/GRADING PLANS		
ARCHITECTURAL ELECTRONIC FILE	05-03-2022	PRELIMINARY
APPLICANT DESIGN (GAS)		
APPLICANT DESIGN (ELECTRIC)		
TELEPHONE	06-03-2022	PRELIMINARY
C.A.T.V.		
LANDSCAPE		
LIGHT LOCATIONS		
TRAFFIC SIGNAL LOCATIONS		

RADIUS DESIGN is not responsible for any subsequent changes or revisions.

OTHER UTILITIES SHOWN ARE APPROXIMATE AND BASED ON FIELD SURVEY AND AVAILABLE UTILITY INFORMATION. IT IS THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE ACTUAL LOCATION AND EXTENT OF UTILITIES PRIOR TO THE COMMENCEMENT OF WORK. PHYSICAL VERIFICATION OF UTILITY LOCATIONS SHALL BE PERFORMED BY CAREFUL PROBING OR HAND DIGGING IN ACCORDANCE WITH ARTICLE 6 OF THE CAL/OSHA CONSTRUCTION SAFETY ORDERS.

CONSTRUCTION NOTES

1. ALL TRENCHING, BACKFILLING AND INSTALLATION BY CONTRACTOR MUST COMPLY WITH CITY OF PALO ALTO STANDARDS.
2. ALL WORK MUST COMPLY WITH CITY OF PALO ALTO(CPA), TELEPHONE, C.A.T.V., STANDARDS AND PRACTICES. ALL WORK MUST BE INSPECTED AND APPROVED BY RESPECTIVE INSPECTORS. RANDOM SOIL SAMPLES SHALL BE TAKEN FROM A MINIMUM OF THREE LOCATIONS PER 1,000' OF TRENCH. 100% OF THE SAMPLE MUST PASS THROUGH A ½" SIEVE AND 75% MUST PASS THROUGH A #4 SCREEN. ADDITIONAL SAMPLES MUST BE TAKEN IF EXISTING SOIL CONDITIONS CHANGE AND IS TO BE AT THE DISCRETION OF THE CPA REPRESENTATIVE ON SITE. THE SOILS MUST NOT CONTAIN ANY ROCKS THAT HAVE SHARP EDGES OR THAT MAY OTHERWISE BE ABRASIVE. THE SOILS MUST NOT CONTAIN CLODS LARGER THAN ½" IF TO BE USED AS SHADING, BEDDING OR LEVELING MATERIALS. COMPACTION REQUIREMENTS MUST MEET ANY APPLICABLE CPA, FEDERAL, STATE, COUNTY OR LOCAL REQUIREMENTS. ANY NATIVE SOILS OR IMPORT MATERIALS USED MUST NOT HINDER THOSE EFFORTS.
3. BACKFILL SHALL BE APPROVED BY THE UTILITY COMPANIES AND THE CITY. COMPACTION WILL BE TESTED AND PASSED BY THE SOILS ENGINEER.
4. IF SOIL IS NOT ROCK FREE, ADD 4" DEPTH OF TRENCH FOR SAND BEDDING.
5. VERIFY SPLICE BOX EXCAVATION SIZES WITH SUPPLIER(S).
6. THE TRENCHING CONTRACTOR SHALL COORDINATE THE UTILITY COMPANIES' INSTALLATION.
7. CONTRACTOR SHALL MAKE HIMSELF FAMILIAR WITH THE PROJECT IMPROVEMENT PLANS AND CONDUCT HIS WORK ACCORDINGLY.
8. IT IS THE TRENCHING CONTRACTOR'S RESPONSIBILITY TO PROTECT IN PLACE ALL EXISTING FACILITIES. NO EXTRA PAYMENT WILL BE CONSIDERED FOR CROSSING OTHER SYSTEMS.
9. RADIUS DESIGN ASSUMES NO RESPONSIBILITY FOR THE PROJECT CONDITIONS. THESE DRAWINGS WERE PREPARED USING DATA SUPPLIED BY CPA, TELEPHONE, C.A.T.V., IMPROVEMENT PLANS AND THE CITY'S VARIOUS "AS BUILT" INFORMATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PHYSICALLY REVIEW THE PROJECT PRIOR TO SUBMITTING HIS BID.
10. CONTRACTOR WILL COMPLY WITH ALL LAWS, ORDINANCES AND REGULATIONS. CONTRACTOR SHALL BE FAMILIAR WITH O.S.H.A., INDUSTRIAL SAFETY ORDERS AND SHALL CONDUCT HIS WORK ACCORDINGLY. WHEN WORKING NEAR ENERGIZED OR "HOT" EQUIPMENT, THE UTILITY OWNER SHALL BE NOTIFIED TO SUPPLY THE APPROPRIATE MAN POWER. PUBLIC SAFETY AND TRAFFIC CONTROL MEASURES ARE THE CONTRACTOR'S RESPONSIBILITY.
11. THE CONTRACTOR SHALL PROTECT CONSTRUCTION STAKING. HE SHALL COORDINATE STAKING WITH THE PROJECT'S CIVIL ENGINEER.
12. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) TWO WORKING DAYS PRIOR TO START OF WORK. (800) 227-2600.
13. CONTRACTOR SHALL NOTIFY INSPECTORS OF ANY POTENTIAL CONFLICTS PRIOR TO START OF WORK.
14. THIS PLAN IS TO BE USED FOR SOLE PURPOSE OF DIGGING THE JOINT TRENCH. SEE CPA, AT&T, AND COMCAST PLANS FOR EXACT SIZE AND NUMBER OF CONDUITS INSTALLED IN THE JOINT TRENCH. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE CORRECT NUMBER, SIZE AND TYPES OF CONDUITS ARE INSTALLED PER THE ENGINEERED PLANS BY EACH UTILITY COMPANY.
15. NOTE PLANS ISSUED AT THE PRE-CONSTRUCTION MEETING MAY BE SUBJECT TO REVISIONS, IF FINAL PLANS FROM EACH UTILITY COMPANY WERE NOT AVAILABLE AT THE START OF CONSTRUCTION.
16. WATER, SEWER, DRAINS, SANITARY WASTE, FUELS (INCLUDING DIESEL AND GASOLINE), OIL, PROPANE AND OTHER VOLATILE HEAVIER THAN AIR GASES, SPRINKLER, IRRIGATION, STEAM AND OTHER "WET" FACILITIES SHALL MAINTAIN A MINIMUM OF FOUR FEET FROM THE NEAREST OUTER SURFACE OF CPA DRY FACILITIES WITH NO LESS THAN ONE FOOT OF EARTH (SOIL BARRIER) BETWEEN THE ADJACENT SIDES OF THE INDIVIDUAL TRENCHES.
17. IN THE EXTRAORDINARY CASE THAT THE MINIMUM FOUR FOOT HORIZONTAL SEPARATION CANNOT BE ATTAINED BETWEEN "WET" UTILITIES AND COMPANY DRY FACILITIES, A VARIANCE MAY APPROVED BY THE LOCAL INSPECTION SUPERVISOR AND SUBMITTED TO SERVICE PLANNING SUPPORT PROGRAM MANAGER FOR APPROVAL.
18. THIS JOINT TRENCH PLAN WAS PREPARED BASED ON TOPOGRAPHICAL SURVEY AS PROVIDED BY A CIVIL ENGINEER. THE CONTRACTOR IS CAUTIONED THAT EXPLORATORY WORK IS NECESSARY TO DETERMINE THE ACTUAL LOCATION OF ANY EXISTING UTILITY. RADIUS STRONGLY RECOMMENDS THAT ALL UTILITIES BE PHYSICALLY LOCATED ON THE SITE BEFORE THE ONSET OF SITE WORK. SUBSTRUCTURE LOCATIONS MAY REQUIRE FIELD ADJUSTMENT TO COMPENSATE FOR ACTUAL EXISTING UTILITY LOCATIONS.

CONDUIT NOTES

1. DIRECT BURIED PRIMARY CONDUIT IS NOT AN APPROVED CONSTRUCTION METHOD. PRIMARY CONDUITS SHALL BE CONCRETE ENCASED, UNLESS OTHERWISE APPROVED BY CPAU UTILITIES ENGINEER. APPROVED CONDUIT MATERIALS:
   A. SCHEDULE 40 PVC
   B. TYPE "DB 60" (SECONDARY) OR "DB 120" (PRIMARY) PLASTIC CONDUIT
   C. GALVANIZED RIGID STEEL CONDUIT.
2. EVERY EFFORT MUST BE MADE TO OBTAIN STRAIGHT WATER-TIGHT CONDUIT LINE.
3. SHARP TURNS MUST BE AVOIDED, PER THE TABLE BELOW. NORMALLY, THE PRIMARY DUCT RADIUS IS SPECIFIED. UNLESS APPROVED BY THE PROJECT ENGINEER, FACTORY OFFSETS WILL NOT BE USED.
4. ALL BENDS AND SWEEPS (90 DEGREES) MUST BE ENCASED IN CONCRETE (MINIMUM 3") ALONG THE INSIDE RADIUS.
5. IF THE ELECTRIC UNDERGROUND INSPECTOR DETERMINES THAT THE BOTTOM OF THE TRENCH IS ROCKY, THEN A 2" SAND BEDDING MUST BE INSTALLED BEFORE CONDUIT.
6. BACKFILL IN UNIMPROVED AREAS SHALL BE 12" OF CLEAN NATURAL SAND PER CALTRANS STD SPECS SEC 19-3.025B ON TOP OF THE UPPERMOST CONDUIT, 90% COMPACTION; TOPPED WITH EXCAVATED NATIVE SOIL, 85% COMPACTION.
7. BACKFILL IN IMPROVED AREAS MUST BE IN ACCORDANCE WITH CITY OF PALO ALTO STANDARD SPECIFICATIONS FOR BACKFILLING IN IMPROVED AREAS. (SECTION 21)
8. ALL CONDUITS MUST BE MANDRELLED (STD. DWG DT-SS-U-1025). THIS TEST MUST BE WITNESSED BY THE ELECTRIC UNDERGROUND INSPECTOR.
9. A 3/8" POLYPROPYLENE PULL LINE (MIN. 150 LBS. TEST) MUST BE INSTALLED IN EACH CONDUIT.
10. CONDUIT SPACING SHALL BE MAINTAINED BY SPACERS, APPROVED BY CPA, INSTALLED NO MORE THAN 7' APART. CONDUIT MUST BE SECURELY BOUND TO THE SPACERS.
11. MINIMUM COVER FOR DIRECT BURIED CONDUIT:

-SECONDARY (NOT TRAFFIC)	24"
-COMMUNICATION (NOT TRAFFIC)	24"
-SECONDARY (TRAFFIC)	30"
-COMMUNICATION (TRAFFIC)	30"
-PRIMARY	42"*

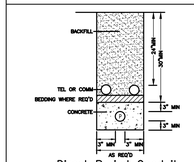
COVER MAY BE REDUCED TO 18" FOR SECONDARY UNDER SIDEWALKS, WITH THE PROJECT ENGINEER'S APPROVAL.

12. HORIZONTAL SPACING BETWEEN SECONDARY, COMMUNICATION, TELEPHONE, AND STREET LIGHTING CABLES OR DUCTS MAY BE RANDOM UNLESS OTHERWISE SPECIFIED.
13. IN EVERY CASE, VERTICAL CLEARANCE BETWEEN ELECTRIC LINES AND UTILITY LINE CROSSINGS MUST BE AT LEAST 12".

* DIRECT PRIMARY CONDUIT IS NO LONGER AN APPROVED CONSTRUCTION METHOD.

ELECTRIC UTILITIES DEPARTMENT COMMENTS & CONDITIONS

1. ALL ELECTRICAL VAULT INSTALLATIONS, REMOVALS AND RELOCATION'S SHALL BE AT CUSTOMER/DEVELOPER'S EXPENSE.
2. PRIMARY CONDUIT SHALL BE CONCRETE ENCASED PER CPA REQUIREMENTS.
3. THE FINAL JOINT TRENCH AND VAULT DETAILS MUST BE APPROVED BY THE CITY'S ELECTRICAL ENGINEERING DEPARTMENT.
4. APPLICANT SHALL NOTIFY THE ELECTRIC UTILITY INSPECTOR PRIOR TO CONSTRUCTION OF ANY ELECTRICAL UTILITY SUBSTRUCTURE.
5. NO STRUCTURES PERMITTED TO BE BUILT WITHIN EXISTING PUBLIC UTILITY EASEMENTS.
6. THE CONTRACTOR SHALL MAINTAIN 12" CLEAR, ABOVE AND BELOW FROM THE EXISTING UTILITIES TO NEW UNDERGROUND FACILITIES.
7. APPLICANTS SHALL PROVIDE PROTECTION FOR UTILITY LINES SUBJECT TO DAMAGE. EXPOSED ELECTRIC CONDUIT OR DUCT SHALL BE INSPECTED BY THE ELECTRICAL UTILITY INSPECTOR PRIOR TO BACKFILLING.
8. ANY EXTENSION OR RELOCATION OF EXISTING DISTRIBUTION LINES OR EQUIPMENT SHALL BE DONE AT CUSTOMER/DEVELOPER'S EXPENSE.



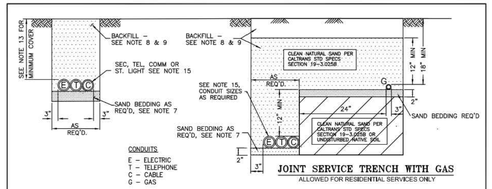
Direct Buried Conduit

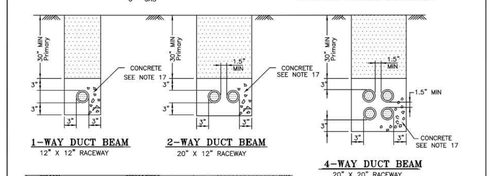
ELECTRIC CONDUIT
MINIMUM BEND RADIUS FOR NEW CONSTRUCTION SERVICE

CONDUIT DIAMETER	VERTICAL RADIUS	HORIZONTAL RADIUS
3"	24"	36"
4"	36"	36"
5"	36"	60"

NOTE:
NO MORE THAN 270 DEGREES OF BENDS ARE ALLOWED BETWEEN PULL BOXES IN A SECONDARY CONDUIT RUN.

NO MORE THAN 180 DEGREES OF BENDS ARE ALLOWED BETWEEN PULL BOXES IN A PRIMARY CONDUIT RUN.





APPROVED ____ 20	ENGINEERING STANDARD	10	7/16	CORRECTED NOTATIONS	TT
	UNDERGROUND DUCT LINES	4	6/13	ADDED JOINT TRENCH & NOTES	TT
ENGINEER (Original Signed and Approved by Engineering Manager)	TYPICAL TRENCH SECTION DETAILS	3	10/09	REVISED MIN PRIMARY COVER	TT
		2	8/08	COMBINED DT-SS-U-1003 DT-SS-U-1005	TT
DRAWN		1	6/06	REVISED NOTES	JT
CHECKED PV	CITY OF PALO ALTO CALIFORNIA	REV	DATE	DESCRIPTION	APPR
		NTS		DT-SS-U-1003	1 OF 4
		SCALE		STANDARD NO.	SHEET NO.

CONCRETE TRANSFORMER PAD NOTES:

1. DISTURBED EARTH UNDER THE PAD SHALL BE REPLACED BY SAND OR OTHER SUITABLE MATERIAL COMPACTED TO 95% OF MAXIMUM DRY DENSITY (ASTM D-1557).
2. PLACE 6" DEPTH ONE SACK. PER CUBIC YARD, SLURRY IMMEDIATELY BELOW THE PAD.
3. CONCRETE IS REQUIRED BETWEEN ALL CONDUITS, LEVEL TO TOP OF THE PAD.
4. CONCRETE SHALL BE DESIGNED TO ATTAIN STRENGTH OF 3000 PSI IN 28 DAYS.
5. AFTER PLACING, MOIST CURE CONCRETE FOR 7 DAYS.
6. WOOD FLOAT FINISH TOP OF SLAB. ALL SHARP EDGES AND CORNERS TO BE FINISHED SMOOTH.
7. EXPOSED HORIZONTAL SURFACES TO BE SLOPED SLIGHTLY FOR DRAINAGE.
8. A MINIMUM OF 6 FEET SHALL BE MAINTAINED BETWEEN GROUND RODS.
9. CAP ALL CONDUITS.
10. A MINIMUM OF 3 FEET OF RADIAL CLEARANCE BETWEEN THE TRANSFORMER PAD AND ANY OTHER STRUCTURE SHALL BE PROVIDED.
11. IF THE TRANSFORMER IS TO BE LOCATED IN AN AREA SUBJECTED TO VEHICULAR TRAFFIC, BARRIERS SHALL BE REQUIRED PER DT-SS-C-1005. CITY OF PALO ALTO WILL DETERMINE THE TYPE, NUMBER REQUIRED, AND LOCATION.
12. PLASTIC CONDUITS SHALL BE TERMINATED WITH END BELLS. GALVANIZED STEEL CONDUITS SHALL BE TERMINATED WITH GROUND BUSHINGS. ALL CONDUITS AND ENDS WILL BE TO THE FINAL GRADE OF THE PAD.
13. PRIMARY CONDUIT BENDS SHALL HAVE A MINIMUM RADIUS OF 36".
14. PRIMARY CONDUITS SHALL BE LOCATED IN THE LEFT HALF OF THE CONDUIT OPENING. SECONDARY CONDUITS SHALL OCCUPY THE RIGHT HALF.
15. THE TRANSFORMER PAD SHALL BE LOCATED A MINIMUM OF 3 FEET FROM ANY BUILDING OR OVERHANG.
16. ALL REBAR SHALL BE A-615 GRADE 40. REBAR JOINTS SHALL BE FIRMLY AND SECURELY HELD IN POSITION BY WIRING AT INTERSECTIONS WITH NO. 16 GAGE WIRE.
17. MAXIMUM NUMBER OF CONDUITS ENTERING SECONDARY SLOT SHALL BE FOUR. CONTACT THE ELECTRIC UTILITY PROJECT ENGINEER FOR DESIGN WITH MORE THAN FOUR SECONDARY.
18. GROUND ROD AND CLAMP, 5/8"X8'. SEE CPA STANDARD DRAWING #DT-SS-U-1001.
19. TRANSFORMER ANCHORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS. EXPANSION BOLT SHALL BE "PARABOLT" BY MOLY OR APPROVED EQUAL. MINIMUM EMBEDMENT LENGTH AND EDGE DISTANCE SHALL MEET THE MANUFACTURER'S REQUIREMENTS.
20. A MINIMUM OF 8 FEET CLEARANCE SHALL BE MAINTAINED FROM THE FRONT SIDE OF THE PAD. A MINIMUM OF 3 FEET CLEARANCE SHALL BY MAINTAINED ON UNOPERABLE SIDES AND BACK. ALL MEASUREMENTS ARE TAKEN FROM THE PAD.

OTHER NOTES

1. EASEMENTS MUST BE GRANTED TO THE CITY OF PALO ALTO FOR SWITCH, TRANSFORMERS, AND CONDUIT ON-SIITE.
2. ELECTRIC METERS MUST BE IN AN AREA READILY ACCESSIBLE TO CAPU DURING ALL HOURS.
3. UTILITY VAULTS, TRANSFORMERS, UTILITY CABINETS, CONCRETE BASES, OR OTHER STRUCTURES CAN NOT BE PLACED OVER EXISTING WATER, GAS OR WASTEWATER MAIN/SERVICES. MAINTAIN 1' HORIZONTAL CLEAR SEPARATION FROM THE VAULT/CABINET/CONCRETE BASE TO EXISTING UTILITIES AS FOUND IN THE FIELD. IF THERE IS A CONFLICT WITH EXISTING UTILITIES, CABINETS/VAULTS/BASES SHALL BE RELOCATED FROM THE PLAN LOCATION AS NEEDED TO MEET FIELD CONDITIONS.

GENERAL NOTES:

1. JOINT TRENCH MUST BE INSTALLED ENTIRELY WITHIN AN EASEMENT. EASEMENTS FOR JOINT TRENCH SERVICE LATERALS WITHIN PROJECT ON PRIVATE PROPERTY ARE AT THE DISCRETION OF THE UTILITY COMPANIES.
2. ALL DEPTHS AND RESULTING COVER REQUIREMENTS ARE MEASURED FROM FINAL GRADE.
3. COVER, CLEARANCES, AND SEPARATION SHALL BE AS GREAT AS PRACTICABLE UNDER THE CIRCUMSTANCES, BUT UNDER NO CIRCUMSTANCES SHALL BE LESS THAN THE MINIMUM COVER, CLEARANCE, AND SEPARATION REQUIREMENTS SET FORTH IN GENERAL ORDER 128 AND 49CFR 192.321 , 49CFR 192.325, AND 49CFR 192.327. ALL FACILITIES SHALL BE ANCHORED IN PLACE PRIOR TO COMPACTION, OR OTHER MEANS SHALL BE TAKEN TO ENSURE NO MOTION OF THE FACILITIES. DIMENSIONAL REQUIREMENTS FOR SHADING, LEVELING, AND BACKFILLING SHALL BE DETERMINED SUBSEQUENT TO COMPACTION.
4. TRENCH DIMENSIONS SHOWN ARE TYPICAL. TRENCH SIZES AND CONFIGURATIONS MAY VARY DEPENDING UPON OCCUPANCY AND/OR FIELD CONDITIONS. TRENCH SIZE AND CONFIGURATION MUST AT ALL TIMES BE CONSTRUCTED IN A MANNER THAT ENSURES PROPER CLEARANCES AND COVER REQUIREMENTS ARE MET. ANY "CHANGE" TO THE TRENCH WIDTH AND CONFIGURATIONS AS SHOWN IN THIS EXHIBIT MUST BE DESIGNED TO ENSURE THIS REQUIREMENT.
5. IT IS PREFERRED TO HAVE NON-CPA OWNED STREETLIGHTS AT A LEVEL OTHER THAN THE GAS OR ELECTRIC LEVEL. NON-CPA OWNED STREETLIGHTS MAY BE AT THE ELECTRIC LEVEL OF THE TRENCH AS LONG AS MINIMUM CLEARANCES ARE PROVIDED AND COMPLY WITH ALL SPECIAL NOTES FOR A JOINT TRENCH WITH A SECOND ELECTRIC UTILITY.
6. NON-UTILITY FACILITIES ARE NOT ALLOWED IN ANY JOINT UTILITY TRENCH, E.G., IRRIGATION CONTROL LINES, BUILDING FIRE ALARM SYSTEMS, PRIVATE TELEPHONE SYSTEMS, OUTDOOR ELECTRICAL CABLE, ETC.
7. PROVIDE SEPARATION FROM TRENCH WALL AND OTHER FACILITIES SUFFICIENT TO ENSURE PROPER COMPACTION.
8. MAINTAIN PROPER SEPARATION BETWEEN CPA FACILITIES AND "WET" UTILITY LINES AS DESCRIBED IN CITY OF PALO ALTO STANDARDS.
9. SEPARATIONS SHALL BE MAINTAINED AT ABOVEGROUND TERMINATION POINTS.
10. PROCEDURES FOR APPROVING NATIVE BACKFILL FOR SHADING OF CPA GAS FACILITIES:
    – RANDOM SOIL SAMPLES SHALL BE TAKEN FROM A MINIMUM OF 3 LOCATIONS PER 1,000' OF TRENCH. 100% OF THE SAMPLE MUST PASS THROUGH A 1/2" SIEVE AND 75% MUST PASS THROUGH A #4 SCREEN. ADDITIONAL SAMPLES MUST BE TAKEN IF EXISTING SOIL CONDITIONS CHANGE AND ARE TO BE TAKEN AT THE DISCRETION OF THE CPA REPRESENTATIVE ON SITE.
    – THE SOILS MUST NOT CONTAIN ANY ROCKS THAT HAVE SHARP EDGES OR THAT MAY OTHERWISE BE ABRASIVE.
    – THE SOILS MUST NOT CONTAIN CLODS LARGER THAN 1/2" IF TO BE USED AS SHADING, BEDDING, OR LEVELING MATERIALS.
    – COMPACTION REQUIREMENTS MUST MEET ANY APPLICABLE CPA, FEDERAL, STATE, COUNTY, OR LOCAL REQUIREMENTS.
    – AT NO TIME SHALL THE OVER SATURATION OF NATIVE SOILS BE USED TO ACHIEVE THESE REQUIREMENTS.

THE SIEVES AND SCREENS SHALL BE:
    – 1/2" SIEVE: 8" DIAMETER BY 2" DEEP, STAINLESS STEEL MESH SCREEN.
    – #4 SCREEN: 8" DIAMETER BY 2" DEEP, STAINLESS STEEL MESH SCREEN.

11. PROCEDURES FOR APPROVING NATIVE BACKFILL FOR SHADING AT CPA ELECTRIC FACILITIES:
    – RANDOM SOIL SAMPLES SHALL BE TAKEN FROM A MINIMUM OF 3 LOCATIONS PER 1,000' OF TRENCH. ADDITIONAL SAMPLES MUST BE TAKEN IF EXISTING SOIL CONDITIONS CHANGE AND ARE TO BE TAKEN AT THE DISCRETION OF THE CPA REPRESENTATIVE ON SITE.
    – SHADING MATERIAL CONTAINING LARGE ROCK, PAVING MATERIAL, CINDERS, SHARPLY ANGULAR SUBSTANCES, OR CORROSIVE MATERIAL SHALL NOT BE PLACED IN THE TRENCH WHERE SUCH MATERIAL MAY DAMAGE THE CONDUITS AND/OR PREVENT PROPER COMPACTION OVER OR AROUND THE CONDUITS.
    – NATIVE SOILS CONTAINING CLODS NOT TO EXCEED 6" IN DIAMETER MAY BE INCLUDED IN THE SHADING MATERIAL PROVIDED THE CLODS ARE READILY BREAKABLE BY HAND.

NOTE: SOILS CONSISTING PRIMARILY OF ADOBE, HARD COMPACT (DENSE) CLAY, AND BAY MUDS SHALL NOT BE USED AS SHADING MATERIAL.
    – AT NO TIME SHALL THE OVER SATURATION OF NATIVE SOILS BE USED TO ACHIEVE THESE REQUIREMENTS.
    – REFER TO ENGINEERING DOCUMENT 062288, ITEM 13 ON PAGE 2.

12. COMPETENT NATIVE SOILS ARE PREFERRED TO BE USED FOR SHADING, BEDDING, AND BACKFILLING THROUGHOUT THE TRENCH.
    – WHERE NATIVE SOILS EXCEED 1/2" MINUS AND/OR WHERE GAS IS TO BE PLACED AT THE BOTTOM OF A TRENCH IN AREAS THAT EXCEED 1/2" MINUS SOIL CONDITIONS, OR WHERE THE BOTTOM OF A TRENCH IS CONSIDERED TO CONSIST OF HARD PAN, CPA APPROVED 1/2" MINUS IMPORT MATERIAL SHALL BE USED FOR SHADING AND/OR BEDDING OF GAS FACILITIES.
    – CPA APPROVED IMPORT MATERIAL IS PER CGT ENGINEERING GUIDELINE 4123.
    – IF A LEVELING COURSE IS REQUIRED FOR GAS FACILITIES, THE USE OF NATIVE SOILS IS PREFERRED, BUT IF 1/2" MINUS CONDITIONS ARE NOT ATTAINABLE WITH THE NATIVE SOILS, THEN THE USE OF CPA APPROVED IMPORT MATERIALS IS REQUIRED. BEDDING UNDER GAS FACILITIES WILL BE A MINIMUM OF 2" OF COMPACTED 1/2" MINUS NATIVE SOILS OR CPA APPROVED IMPORT MATERIAL.
    – FOR ELECTRIC FACILITIES, REFER TO NOTE 12. THIS APPLIES TO LEVELING COURSES AS WELL AS SHADING.
    – THE MINIMUM CPA APPROVED BEDDING MATERIAL MAY BE INCREASED AT THE DISCRETION OF CPA WHEN WARRANTED BY EXISTING FIELD CONDITIONS (E.G., ROCKY SOILS, HARD PAN, ETC.).
    – THE USE OF ANY IMPORTED MATERIAL FOR BACKFILLING PURPOSES SHALL BE LIMITED TO THOSE SITUATIONS WHEN NATIVE SOILS DO NOT ALLOW FOR REQUIRED COMPACTION.
13. THE APPLICANT IS RESPONSIBLE FOR THE REMOVAL OF EXCESS SPOIL AND ASSOCIATED COSTS.
14. SERVICE SADDLES ARE THE PREFERRED SERVICE FITTINGS FOR USE THROUGHOUT THE JOINT TRENCH PROJECT. ALL PROJECTS WILL BE DESIGNED AND ESTIMATED USING SERVICE SADDLES. HOWEVER, SERVICE TEES MAY BE USED IF ALL CLEARANCES, SEPARATION, AND COVERAGE REQUIREMENTS ARE MAINTAINED.

UTILITY APPROVALS

UTILITY	APPROVED BY	DATE
PG&E ELECTRIC		
PG&E GAS		
AT&T (PHONE)		
COMCAST (CATV)		
CITY ENGINEER		

FOR RADIUS USE ONLY
QA REVIEW

	INITIALS	REVIEW DATE
INTENT		
COMPOSITE		
PRE-CON		
PRE-CON		

DEVELOPER:

KSH ARCHITECTS
349 SUTTER STREET
SAN FRANCISCO, CA 94108
AMANDA BORDEN
(415) 954-1960
ABORDEN@KSHA.COM

SHEET INDEX

REGISTERED PROFESSIONAL ENGINEER
DAVID B. VOORHIES
No. 26429
Exp. 03-31-24
CIVIL
STATE OF CALIFORNIA

SMITH DEVELOPMENT

660 UNIVERSITY
PALO ALTO, CA 94301

KSH ARCHITECTS
KORTH SUNSERI HAGEY

RADIUS DESIGN LLC
UTILITY DESIGN CONSULTANTS & ENGINEERS
1460 MARIA LANE, SUITE 420, WALNUT CREEK, CA 94596
Tel (925) 269-4575

ISSUES AND REVISIONS

NO.	DATE	DESCRIPTION
	12.01.21	PLANNING SUBMITTAL
	05.13.22	PLANNING RESUBMITTAL #1
	08.15.22	PLANNING RESUBMITTAL #2

PROJECT NUMBER
22-1177

SHEET TITLE
JOINT TRENCH TITLE SHEET

SCALE
N.T.S

PROJ NORTH
TN

SHEET NUMBER
JT-1

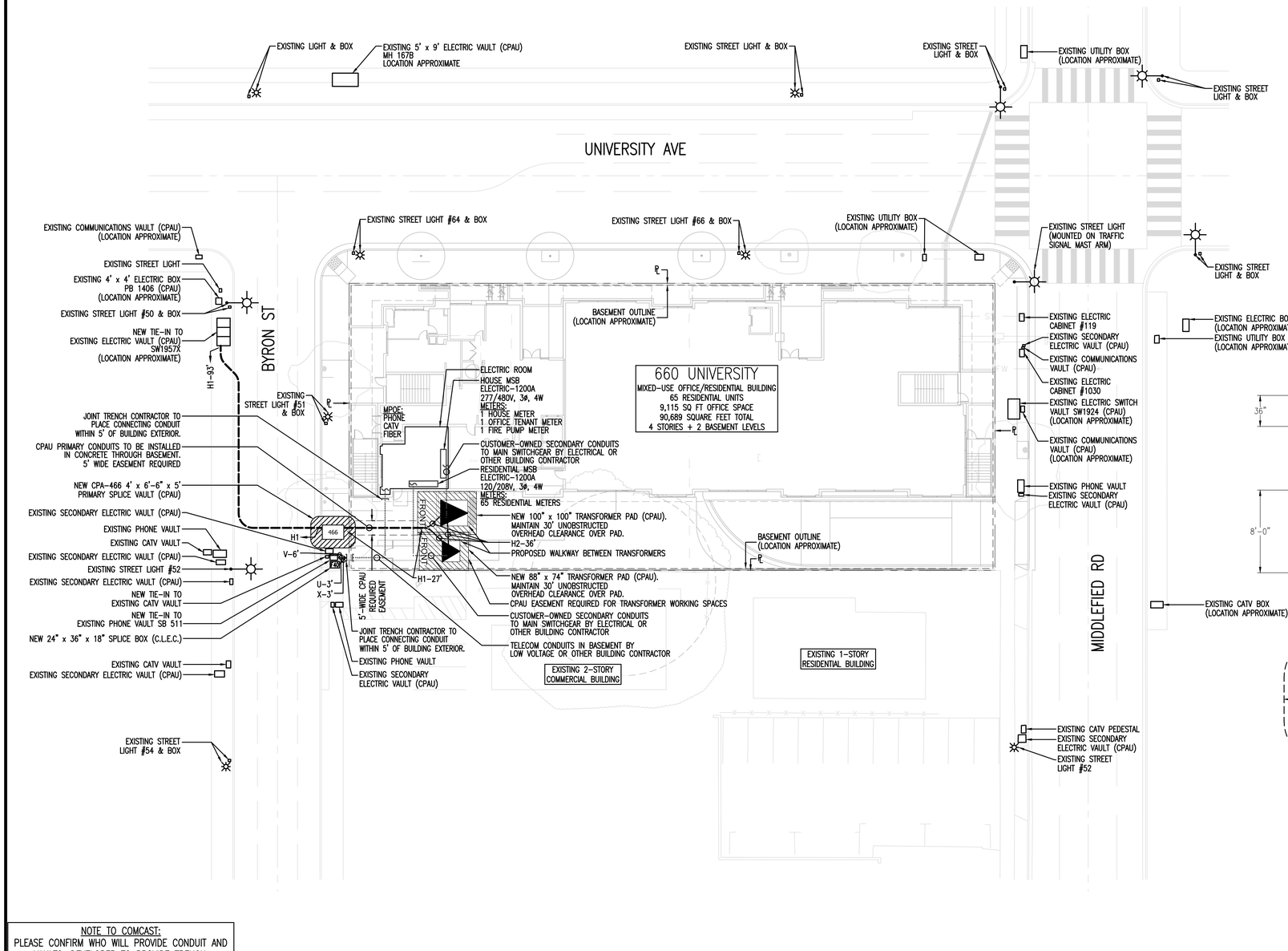
NOTE TO CONTRACTOR:

FOR CONTRACTOR'S WORK RESPONSIBILITY, REFER TO JOINT TRENCH TITLE SHEET (JT-1)

LEGEND:

NEW	DESCRIPTION
	100" x 100" TRANSFORMER PAD (CPAU). MAINTAIN 30' UNOBSTRUCTED OVERHEAD CLEARANCE OVER PAD.
	88" x 74" TRANSFORMER PAD (CPAU). MAINTAIN 30' UNOBSTRUCTED OVERHEAD CLEARANCE OVER PAD.
466	CPA-466 4' x 6'-6" x 5' PRIMARY SPLICE VAULT (CPAU)
40	24" x 36" x 18" SPLICE BOX (C.L.E.C.)

EXISTING	DESCRIPTION
	STREET LIGHT



NOTE TO COMCAST:
PLEASE CONFIRM WHO WILL PROVIDE CONDUIT AND VAULTS. DEVELOPER TO PROVIDE TRENCH.

NOTE TO DEVELOPER: POTHOLE TO DETERMINE THE ACTUAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES DURING DESIGN PHASE. POTHOLE SUBSTRUCTURE LOCATIONS TO CONFIRM THE ACTUAL LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO THE START OF TRENCHING WORK.

SUBSTRUCTURE LOCATIONS MUST BE STAKED BY A LICENSED SURVEYOR PRIOR TO CONSTRUCTION. SEE CONSTRUCTION NOTES ON JOINT TRENCH TITLE SHEET (JT-1) REGARDING EXISTING CONDITIONS.

REFER TO PG&E UTILITY BULLETIN TD-7001B-005 DOCUMENT FOR SMART METER ANTENNA CONSTRUCTION REQUIREMENTS.

NOTE FOR UNDERGROUND ELECTRIC INSTALLATION:
USE OF PVC DB-120 IS NO LONGER APPROVED BY PG&E FOR ANY CONDUIT SIZES, BENDS, AND FITTINGS. RIGID PVC SCHEDULE 40 MUST BE USED IN PLACE OF PVC DB-120 CONDUIT. FOR ALL APPROVED CONDUITS, BENDS, AND FITTINGS, SEE PG&E BULLETIN TD-062288-B006.

SHEET INDEX

REGISTERED PROFESSIONAL ENGINEER
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ISSUES AND REVISIONS

NO.	DATE	DESCRIPTION
	12.01.21	PLANNING SUBMITTAL
	05.13.22	PLANNING RESUBMITTAL #1
	08.15.22	PLANNING RESUBMITTAL #2

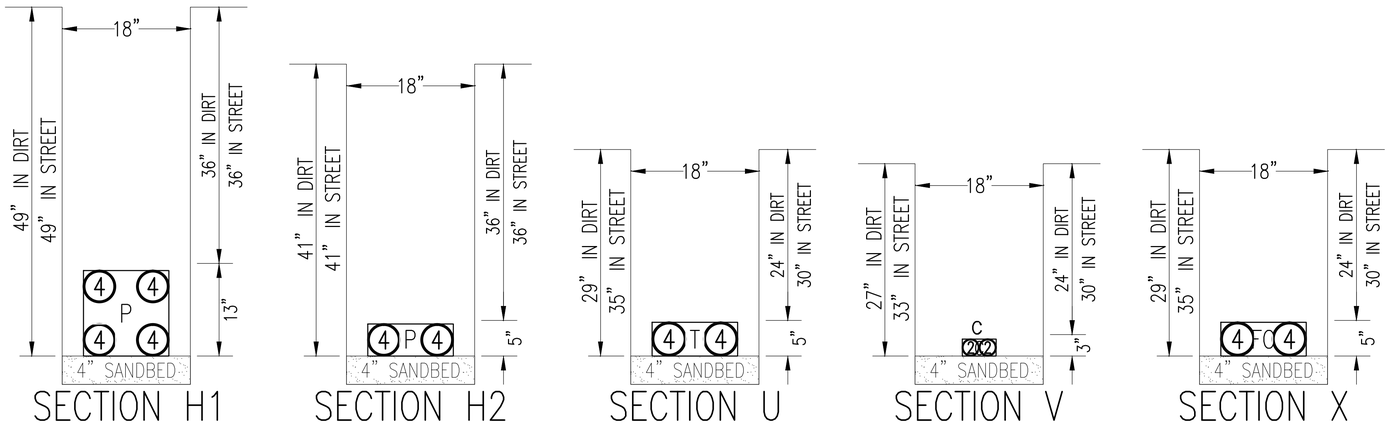
PROJECT NUMBER
22-1177

SHEET TITLE
JOINT TRENCH COMPOSITE

SCALE
1" = 20"

PROJ NORTH
TN

SHEET NUMBER
JT-2



TRENCH OCCUPANCY GUIDE

SECTION	G	T	C	S	P	OTHER
A*†	X	X	X	X	X	
B*†	X	X		X	X	
C*	X		X	X	X	
D*†		X	X	X	X	
E*	X			X	X	
F*†		X		X	X	
G*			X	X	X	
H*				X	X	
I †	X	X	X			
J †	X	X				
K	X		X			
L†		X	X			
M†	X	X	X	X		
N†	X	X		X		
O	X		X	X		
P†		X	X	X		
Q	X			X		
R†		X		X		
S			X	X		
T	X					
U†		X				
V			X			
W				X		
X†						X

*THESE SECTIONS MAY OR MAY NOT CONTAIN SECONDARY CONDUIT
†THESE SECTIONS MAY OR MAY NOT CONTAIN C.L.E.C. FIBER CONDUIT

CONTRACTOR NOTES:

1. THE SYMBOLS [P] [S] [T] [C] [G] [FO] INDICATE OCCUPANCY ONLY. SEE ELECTRIC, GAS, CATV, TELEPHONE, AND FIBER OPTIC PLANS FOR EXACT SIZE AND NUMBER OF CONDUITS.
2. THIS PLAN IS TO BE USED AS A GUIDE FOR TRENCHING WIDTH AND DEPTH AND NOT CONDUIT INSTALLATION.
3. CONTRACTOR TO PROVIDE SEPARATION FROM TRENCH WALL AND OTHER FACILITIES SUFFICIENT TO ENSURE PROPER COMPACTION.
4. CONTRACTOR TO INCLUDE INCIDENTAL TRENCHING IN SPLICE BOX, VAULT, OR TRANSFORMER EXCAVATION IN AREAS WHERE NO ENTRANCE OR EXIT OF TRENCH IS SHOWN.
5. UTILITY COMPANIES RESERVE THE RIGHT TO MAKE FIELD ADJUSTMENTS AS NECESSARY.

SOILS NOTES:

1. RADIUS IS NOT RESPONSIBLE FOR ANY SOILS ENGINEERING TO DETERMINE THE ABILITY TO CONSTRUCT OR THE PROJECT CONDITIONS.
2. RADIUS ASSUMES NO RESPONSIBILITY FOR ADDITIONAL WORK DUE TO ADVERSE JOB SITE CONDITIONS.
3. PG&E WILL REQUIRE SOILS ANALYSIS FOR SUBSURFACE TRANSFORMER (IF APPLICABLE).

MINIMUM SEPARATION AND CLEARANCE REQUIREMENTS FOR JOINT TRENCHES

		DUCT G	DUCT T	DB C	DB S	DB P	DB FO	MIN. COVER
G	GAS	0"	12"	12"	12"	6"	12"	24", 30" IN STREET
T	TELEPHONE (DUCT)	12"	0"	1"	1"	12"	12"	24", 30" IN STREET
T	TELEPHONE (DIRECT BURY)	12"	1"	0"	1"	12"	12"	24", 30" IN STREET
C	C.A.T.V.	12"	1"	1"	0"	12"	12"	24", 30" IN STREET
S	ELECTRIC SECONDARY	6"	12"	12"	12"	1.5"	3"	24", 30" IN STREET
P	ELECTRIC PRIMARY	12"	12"	12"	12"	3"	3"	12", 36", 36" IN STREET
FO	FIBER OPTIC	12"	1"	1"	1"	12"	12"	0"	24", 30" IN STREET

ABBREVIATIONS:

- [P] PRIMARY (PG&E)
- [S] SECONDARY (PG&E)
- [C] CATV (COMCAST)
- [T] PHONE (AT&T)
- [G] GAS (PG&E)
- [FO] FIBER OPTIC (C.L.E.C.)

SHEET INDEX

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ISSUES AND REVISIONS

NO.	DATE	DESCRIPTION
	08.15.22	PLANNING RESUBMITTAL #2

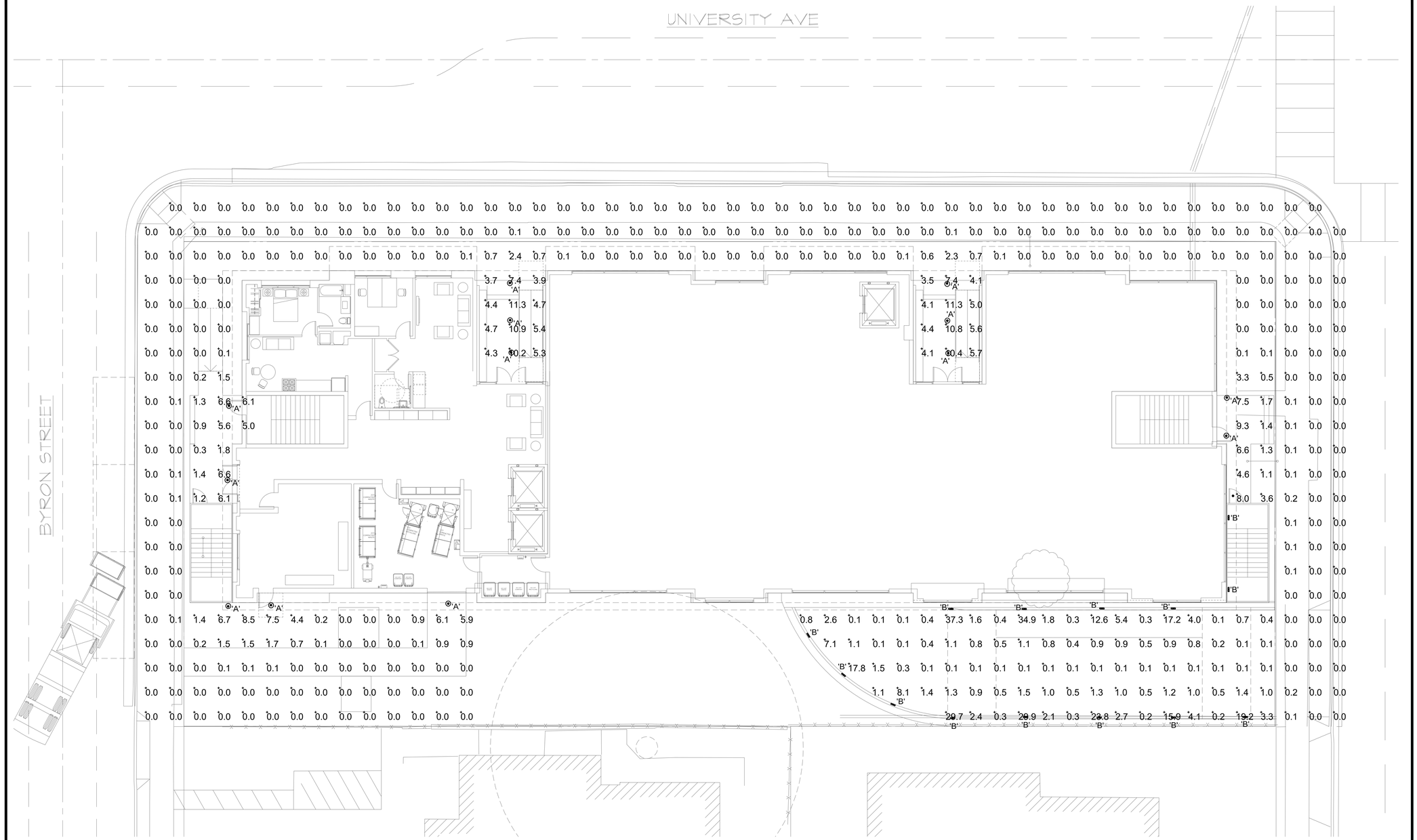
PROJECT NUMBER
22-1177

SHEET TITLE
JOINT TRENCH SECTIONS

SCALE
N.T.S

PROJ NORTH
TN

SHEET NUMBER
JT-3



Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
site	Illuminance	Fc	1.37	37.3	0.0	N.A.	N.A.

Luminaire Schedule								
Symbol	Qty	Label	Arrangement	Description	Tag	LLF	Luminaire Lumens	Luminaire Watts	Total Watts
'B'	14	EC-40571-W27	Single	EC-40571-W27 Rev_2		0.850	664	23.1	323.4
'A'	14	EVO4_27_10_AR_MD_LSS (1)	Single	EVO4 27_10 AR MD LSS		0.850	923	8.8	123.2

1 SITE PHOTOMETRIC PLAN

0 10' 20'

SCALE: 1"=10'-0"

SMITH DEVELOPMENT

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PALO ALTO, CA 94301

KSH ARCHITECTS
KORTH SUNSERI HAGEY

INTERFACE ENGINEERING
PROJECT 2021-1343
CONTACT KRISTINA SANTI
135 Main Street, Suite 400
San Francisco, CA 94105
TEL 415.489.7240
www.interfaceengineering.com

ISSUES AND REVISIONS

NO.	DATE	DESCRIPTION
	05.13.22	PLANNING RESUBMITTAL #1

PROJECT NUMBER
21003

SHEET TITLE
SITE PHOTOMETRIC PLAN

SCALE
1" = 10'-0"

PROJ NORTH
TN

0 10' 20'

SHEET NUMBER
E0.1

gotham® | E V O®

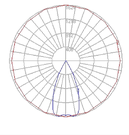
Multiple Layers of Light

Luminaire Type: **A - soffit downlight**

Catalog Number:

Buy American

General Illumination Round Downlight — 4"



OVERVIEW

Feature Set

- Bounding Ray™ optical design
- Unitized optics mechanically attach the light engine to the lower reflector for complete optical alignment.
- 45° cutoff to source and source image
- Fully serviceable and upgradeable lensed LED light engine
- 70% lumen maintenance at 60,000 hours
- 2.5 SDCM; 85 CRI typical, 90+ CRI optional
- Fixtures are wet location, covered ceiling
- Available with 10% dimming, 1% dimming, or dim to dark
- Batwing distribution with feathered edges provides even illumination on horizontal and vertical surfaces
- ENERGY STAR® certified product

Distribution

beam pattern

medium	medium wide	wide
0.9 S.MH	1.0 S.MH	1.2 S.MH

Superior Perfomance

Nominal Lumens	250	500	750	1000	1500	2000	2500	3000	3500
Delivered Lumens	271	573	808	1001	1527	1994	2580	3110	3612
Wattage	3.1	7.2	7.9	8.8	13.7	19.5	25.7	31.2	38.4
Lumens per Watt	87.4	79.6	102.3	113.8	111.5	102.3	100.4	99.7	94.1

COMPLEMENTARY PRODUCTS

Coordinated Apertures I Multiple Layers of Light

General Illumination Layer I EVO

High Center Beam Layer I 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		

GOTHAM ARCHITECTURAL DOWNLIGHTING | 1400 Lester Road Conyers, GA 30012 | P 800-705-SERV (7378) | gothamlighting.com

ORDERING INFORMATION

gotham® | E V O®

4" General Illumination Round Downlight

A+ Capable options indicated by this color background.

Design2Ship Quick Ship Program: Options in green text qualify for Design2Ship — 1 business days from order entry to ship. Refer to Design2Ship Brochure for complete program details. Maximum Order Quantity: 100 units; 50 for Chicago Plenum.

Luminaire Type:

Catalog Number:

EXAMPLE: EVO4 35/25 AR MWD LSS 120 EZ1

Series	Color Temperature	Nominal Lumen Values	Reflector & Flange Color	Trim Style	Distribution	Finish	Voltage
EVO4	27/ 2700 K 30/ 3000 K 35/ 3500 K 40/ 4000 K 50/ 5000 K	02 250 lumens 05 500 lumens 07 750 lumens 10 1000 lumens 15 1500 lumens 20 2000 lumens 25 2500 lumens 30 3000 lumens 35 3500 lumens 40 4000 lumens 45 4500 lumens	AR Clear PR Pewter WTR Wheat GR Gold WR[1] White BR[1] Black WRAMF[1] White Anti-microbial	(blank) Self-flanged FL Flangeless	MD Medium (0.9 s/mh) MWD Medium wide (1.0 s/mh) WD Wide (1.2 s/ mh)	LSS Semi-specular LD Matte-diffuse LS Specular	MVOLT 120 277 347[1,3]

Driver[4]	Control Interface	Options
GZ10 0-10V driver dims to 10% GZ1 0-10V driver dims to 1% EZ10 eldoLED 0-10V ECOdrive. Linear dimming to 10% min. EZ1 eldoLED 0-10V ECOdrive. Linear dimming to 1% min. EZB eldoLED 0-10V SOLOdrive. Logarithmic dimming to <1%. EDAB[1] eldoLED SOLOdrive DALI. Logarithmic dimming to <1%. EDXB[1] eldoLED POWERdrive DMX with RDM (remote device management). Square law dimming to <1%. Minimum 1000 lumens. Includes termination resistor. Refer to DMXR Manual. ECOS2[5] Lutron® Hi-Lume® 2-wire forward-phase driver.120V only. Minimum dimming level 1%. Min: 100OLM, Max: 2500LM ECOD[5] Lutron Ecosystem digital Hi-Lume 1% soft-on, fade to black. Min: 250LLM; Max: 4000LM.	NLT[6] nLight® dimming pack controls NLTER[2,6,13] nLight® dimming pack controls emergency circuit NLTAIR2[2,13] nLight® Air enabled NLTAIRER2[2,10,13] nLight® AIR Dimming Pack Wireless Controls. Controls fixtures on emergency circuit NLTAIREM2[2,13] nLight® AIR Dimming Pack Wireless Controls. Controls fixtures on emergency circuit with battery pack options. EXA1 XPoint Wireless, eldoLED 0-10V ECOdrive. Linear dimming to 1%. Refer to XPoint tech sheet. EXAB XPoint Wireless, eldoLED 0-10V SOLOdrive. Logarithmic dimming to <1%. Refer to XPoint tech sheet.	SF Single Fuse. Specify 120V or 277V TRW[1] White painted flange TRBL[1] Black painted flange EL[1] Emergency battery pack, 10W, with integral test switch ELR[8] Emergency battery pack, 10W, with remote test switch ELSD[8] Emergency battery pack, 10W, with self-diagnostics, integral test switch ELRSD[8] Emergency battery pack, 10W, with self-diagnostics, remote test switch E10WCP[4] Emergency battery pack, 10W Constant Power, CA Title 20 compliant with integral test switch E10WCPR[4] Emergency battery pack, 10W Constant Power, CA Title 20 compliant with remote test switch N80[11] nLight® Lumen Compensation BGTD Bodine generator transfer device. Specify 120V or 277V. 90CRI High CRI (90+) CP[12] Chicago Plenum. Specify 120V or 277V for 5000lm and above. RBL__ RELOC®-ready luminaire connectors enable a simple and consistent factory installed option across all ABL luminaire brands. Refer to RBL for complete nomenclature.

ACCESSORIES — order as separate catalog numbers (shipped separately)

SCA4	Sloped ceiling adapter. Degree of slope must be specified (5D, 10D, 15D, 20D, 25D, 30D). Ex: SCA4 10D. Refer to TECH-190.
CTAEVD4	4" Aperture ceiling thickness adapter (extends mounting frame to accommodate ceiling thickness up to 5").
CTA4-8 YK	4"-8" Aperture ceiling thickness adapter (extends mounting frame to accommodate ceiling thickness up to 5"). For use with CWW/DWW trims, EDXB, CP or nTune options.
ISD BC	0-10V wallbox dimmer. Refer to ISD-BC.

ORDERING NOTES

1. Not available with finishes.
2. Not available with emergency battery pack options.
3. Supplied with factory installed step down transformer.
4. Refer to TECH-240 for compatible dimmers.
5. Not available with nLight® and XPoint options.
6. Must specify voltage.
7. For use with different reflector finish only (i.e. AR, PR, WTR, GR options). Not applicable with WR (white reflector) or FL (flangeless) option.
8. For use with different reflector finish only (i.e. AR, PR, WTR, GR options). Not applicable with BR (black reflector) or FL (flangeless) option.
9. 11" of plenum depth or top access required for battery pack maintenance.
10. ER for use as UL924 Emergency Operation via power sense lead. Will require an emergency hot feed and normal hot feed. EM for use as UL924 Emergency Operation via power interrupt detection.
11. Fixture begins at 80% light level. Must be specified with NLT or NLTER. Only available with EZ10 and EZ1 drivers.
12. Not available with ELR, HAO, EXA1, or EXAB options.
13. Not available DALI or DMX drivers. Not available with CP or N80 options. Not recommended for metal ceiling installations.

GOTHAM ARCHITECTURAL DOWNLIGHTING | 1400 Lester Road Conyers, GA 30012 | P 800-705-SERV (7378) | gothamlighting.com

SPECIFICATIONS

gotham® | E V O®

4" General Illumination Round Downlight

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.
Unitized optics shall have mechanical attachment of the light engine to the lower reflector for complete optical alignment.

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. 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 wireless network with integral power supply as per specification.

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
Luminaire housing shall be constructed of 20-gauge galvanized steel and have telescopic mounting bars with maximum 26" and minimum 15" extension and 4" vertical adjustment.
Luminaires shall be suitable for installation in ceilings up to 1½" thick. (specify ceiling thickness adapter to extend frame to accommodate ceiling thickness up to 2").
Tool-less adjustments shall be possible after installation.
The assembly and manufacturing process for the luminaire shall be designed to assure all internal components are adequately supported to withstand mechanical shock and vibration.
25°C ambient temperature standard (1/2" clearance on all sides from non-combustible materials in non-IC applications, unless marked spacing noted otherwise). For use in insulated ceilings, a 3" clearance on all sides from insulation is required (unless marked spacing noted otherwise).

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, wet location covered ceiling. 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.

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 https://www.acuitybrands.com/resources/buy-american for additional information.

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 a point at the intersection of the CCT line and the black body locus line in CIE chromaticity space.

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

GOTHAM ARCHITECTURAL DOWNLIGHTING | 1400 Lester Road Conyers, GA 30012 | P 800-705-SERV (7378) | gothamlighting.com

Photometry

gotham® | E V O®

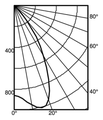
4" General Illumination Round Downlight

UEC-40571
ECO 1 Recessed

Type B - garage entry ramp

LIGMAN LIGHTING USA

EVO4 35/10 MWD LS INPUT WATTS: 8.8W, DELIVERED LUMENS: 1001.7LM, LPW = 113.8, 1.08 S/MH, TEST NO. LTL27788P131

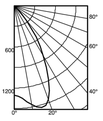


Ave	Lumens	Zone	Lumens	% Lamp
0	856	0° - 30°	717.4	71.6
5	888	0° - 40°	942.0	94.0
15	1010	0° - 60°	1000.8	99.9
25	775	0° - 90°	1001.7	100.0
35	363	90° - 180°	0.0	0.0
45	61	0° - 180°	1001.7	*100.0
55	2	*Efficiency		
65	1			
75	0			
85	0			
90	0			

pf	80%		20%		50%	
pc	80%	30%	10%	70%	30%	10%
pw	50%	30%	10%	50%	30%	10%
0	119	119	119	116	116	116
1	111	108	106	109	106	104
2	103	99	96	101	98	95
3	96	91	87	95	90	87
4	90	84	80	89	84	80
5	84	78	74	83	78	74
6	79	73	69	78	72	68
7	74	68	64	73	68	64
8	70	64	59	69	63	59
9	66	60	56	65	59	56
10	62	56	52	61	56	52

	50% beam - 56.7°	10% beam - 79.7°
Initial FC		
Mounting Height	Center Beam	Diameter FC	Diameter FC
8.0	28.3	5.9	14.1	9.2	2.8
10.0	15.2	8.1	7.6	12.5	1.5
12.0	9.5	10.3	4.7	15.9	0.9
14.0	6.5	12.4	3.2	19.2	0.6
16.0	4.7	14.6	2.3	22.5	0.5

EVO4 35/15 MWD LSS INPUT WATTS: 13.7W, DELIVERED LUMENS: 1527.3LM, LPW = 111.4, 1.08 S/MH, TEST NO. LTL27786P137

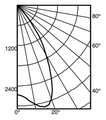


Ave	Lumens	Zone	Lumens	% Lamp
0	1305	0° - 30°	1093.9	71.6
5	1354	0° - 40°	1436.2	94.0
15	1539	0° - 60°	1525.8	99.9
25	1181	0° - 90°	1527.3	100.0
35	553	90° - 180°	0.0	0.0
45	93	0° - 180°	1527.3	*100.0
55	2	*Efficiency		
65	1			
75	0			
85	0			
90	0			

pf	80%		20%		50%	
pc	80%	30%	10%	70%	30%	10%
pw	50%	30%	10%	50%	30%	10%
0	119	119	119	116	116	116
1	111	108	106	109	106	104
2	103	99	96	101	98	95
3	96	91	87	95	90	87
4	90	84	80	89	84	80
5	84	78	74	83	78	74
6	79	73	69	78	72	68
7	74	68	64	73	68	64
8	70	64	59	69	63	59
9	66	60	56	65	59	56
10	62	56	52	61	56	52

	50% beam - 56.7°	10% beam - 79.7°
Initial FC		
Mounting Height	Center Beam	Diameter FC	Diameter FC
8.0	43.2	5.9	21.6	9.2	4.3
10.0	23.2	8.1	11.6	12.5	2.3
12.0	14.5	10.3	7.2	15.9	1.4
14.0	9.9	12.4	4.9	19.2	1.0
16.0	7.2	14.6	3.6	22.5	0.7

EVO4 35/30 MWD LSS INPUT WATTS: 31.2W, DELIVERED LUMENS: 3110.6LM, LPW = 99.6, 1.08 S/MH, TEST NO. LTL27786P155



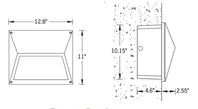
Ave	Lumens	Zone	Lumens	% Lamp
0	2659	0° - 30°	2227.9	71.6
5	2758	0° - 40°	2925.0	94.0
15	3135	0° - 60°	3107.6	99.9
25	2406	0° - 90°	3110.6	100.0
35	1126	90° - 180°	0.0	0.0
45	189	0° - 180°	3110.6	*100.0
55	5	*Efficiency		
65	2			
75	0			
85	0			
90	0			

pf	80%		20%		50%	
pc	80%	30%	10%	70%	30%	10%
pw	50%	30%	10%	50%	30%	10%
0	119	119	119	116	116	116
1	111	108	106	109	106	104
2	103	99	96	101	98	95
3	96	91	87	95	90	87
4	90	84	80	89	84	80
5	84	78	74	83	78	74
6	79	73	69	78	72	68
7	74	68	64	73	68	64
8	70	64	59	69	63	59
9	66	60	56	65	59	56
10	62	56	52	61	56	52

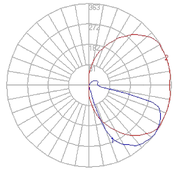
	50% beam - 56.7°	10% beam - 79.7°
Initial FC		
Mounting Height	Center Beam	Diameter FC	Diameter FC
8.0	87.9	5.9	43.9	9.2	8.8
10.0	47.3	8.1	23.6	12.5	4.7
12.0	29.5	10.3	14.7	15.9	2.9
14.0	20.1	12.4	10.1	19.2	2.0
16.0	14.6	14.6	7.3	22.5	1.5

GOTHAM ARCHITECTURAL DOWNLIGHTING | 1400 Lester Road Conyers, GA 30012 | P 800-705-SERV (7378) | gothamlighting.com

23w LED 769 Lumens
IP65 • Suitable For Wet Locations
IK07 • Impact Resistant (Vandal Resistant)
Weight 10.6 lbs



Beam Angle



Robust urban wall semi-recessed pathway and stair luminaire. Designed to deliver edge to edge task levels from a classic form-factor.

A range of square wall recessed luminaires, with a glare free cut-off reflector system. Suitable for indoor and outdoor applications for pathways and ramps. The linear spread lens provides a wide beam spread that evenly illuminates up to 26ft of pathway.

This luminaire is provided with a powdercoated high pressure die-cast aluminum back box and can be pre shipped to the jobsite for concrete pour or masonry applications.

The ECO range has a matching bollard offering to complement the recessed product. See bollard section on the Ligman website.
Complies with ADA requirements.

All Ligman fixtures can be manufactured using a special pre-treatment and coating process that ensures the fixture can be installed in natatoriums as well as environments with high concentrations of chlorine or salt and still maintain the 5 year warranty. For this natatorium rated process please specify NAT in options.

Construction

Aluminum Casting
Less than 0.1% copper content – Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent mechanical strength , clean detailed product lines and excellent heat dissipation.

Pre paint
8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive -Silicon Gasket
Provided with special injection molded "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management
LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman used in conjunction with the driver, controls thermals below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

BUG Rating
B0 - U2 - G1

Surge Suppression
Standard 10kv surge suppressor provided with all fixtures.

Finishing.
All Ligman products go through an extensive finishing process that includes fettling to improve paint adherence.

Paint
UV Stabilized 4.0Mil thick powder coat paint and baked at 200 Deg C. This process ensures that Ligman products are withstand harsh environments. Rated for use in natatoriums.

Inspired by Nature Finishes
Our Inspired by Nature finishing is a unique system of decorative powder coating. Our metal decoration process can easily transform the appearance of metal or aluminum product into a wood grain finish.

This patented technology enables the simulation of wood grain, and even marble or granite finish through the use of decorative powder coating.

The wood grain finish is so realistic that it's almost undistinguishable from real wood, even from a close visual inspection. The system of coating permeates the entire thickness of the coat and as a result, the coating cannot be removed by normal rubbing, chipping, or scratching.

The Coating Process
After pre-treatment the prepared parts are powder coated with a specially formulated polyurethane powder. This powder offers protection against wear, abrasion, impact and corrosion and acts as the relief base color for the finalized metal decoration.

The component is then wrapped with a sheet of non-porous film with the selected decoration pattern printed on it using special high temperature inks.

This printed film transfer is vacuum-sealed to the surface for a complete thermo print and then transferred into a customised oven. The oven transforms the ink into different forms within the paint layer before it becomes solid. Finally, the film is removed, and a vivid timber look on aluminium remains.

Wood grain coating can create beautiful wood-looking products of any sort. There are over 300 combinations of designs currently in use. Wood grains can be made with different colors, designs, etc.

Our powder coatings are certified for indoor and outdoor applications and are backed by a comprehensive warranty. These coatings rise to the highest conceivable standard of performance excellence and design innovation.

Added Benefits
• Resistance to acid-rain, acid-salt room, accelerated aging
• Anti-Graffiti, bike and condensed water resistant
• Anti-Fingerprint, Anti-Slip, Anti-Microbial, Anti-Scratch
• Super durable (UV resistant)
• TGIC free (non-toxic)

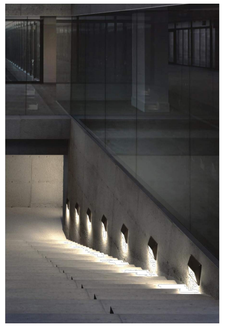
Hardware
Provided Hardware is Marine grade 316 Stainless steel.

Anti Seize Screw Holes
Tapped holes are infused with a special anti seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

Opal Borosilicate Glass Lens
Provided with opal borosilicate impact resistant glass.

Optics & LED
Precise optic design provides exceptional light control and precise distribution of light. LED CRI > 80

Lumen - Maintenance Life
L80 /B10 at 50,000 hours (This means that at least 90% of the LED still achieve 80% of their original flux)



Ligman Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information. Due to the continual improvements in LED technology data and components may change without notice.

UEC-40571
ECO 1 Recessed

LIGMAN LIGHTING USA

PROJECT		DATE			
QUANTITY		TYPE		NOTE	

ORDERING EXAMPLE || UEC-40571 - 23w - W30 - 02 - 120/277V

UEC-40571				
	LAMP	LED COLOR	FINISH COLOR	VOLTAGE
	23w LED 769 Lumens	W27 - 2700K W30 - 3000K W35 - 3500K W40 - 4000K	01 - BLACK RAL 9011 02 - DARK GREY RAL 7043 03 - WHITE RAL 9003 04 - METALLIC SILVER RAL 9006 05 - MATTE SILVER RAL 9006 06 - LIGMAN BRONZE 07 - CUSTOM RAL	120/277v Other - Specify

INSPIRED BY NATURE FINISHES
SW01 - OAK FINISH
SW02 - WALNUT FINISH
SW03- PINE FINISH
SU01 - CONCRETE FINISH
SU02 - SOFTSCAPE FINISH
SU03 - STONE FINISH
SU04 - CORTEN FINISH
THERE IS AN ADDITIONAL COST FOR THESE FINISHES

ADDITIONAL OPTIONS

DIM – 0-10v Dimming
NAT - Natatorium Rated

More Custom Finishes Available Upon Request
Consult factory for pricing and lead times

Example: Inspired by Nature Finish

Intertek

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SMITH DEVELOPMENT

660 UNIVERSITY
PALO ALTO, CA 94301

KSH ARCHITECTS
KORTH SUNSERI HAGEY

INTERFACE ENGINEERING
PROJECT 2021-1343
CONTACT KRISTINA SANTI
135 Main Street, Suite 400
San Francisco, CA 94105
TEL 415.489.7240
www.interfaceengineering.com

ISSUES AND REVISIONS

NO.	DATE	DESCRIPTION
	05.13.22	PLANNING RESUBMITTAL #1
	08.15.22	PLANNING RESUBMITTAL #2

PROJECT NUMBER
21003

SHEET TITLE
LIGHT FIXTURE CUT SHEETS TRASH MANAGEMENT PLAN

SCALE
N.T.S.

SHEET NUMBER
E0.2