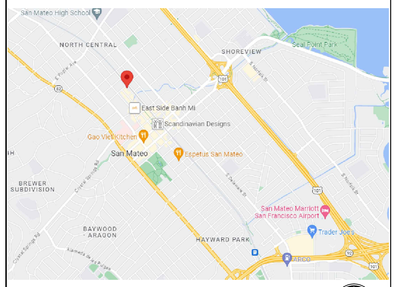
Site Address: 328 TILTON AVE, SAN MATEO			
APN: 032-323-010			
Zoning Classification: C1-2/R5			
Lot Size (Sq. Ft.): 5,600			
Permitted Floor Area Ratio: 3.0			
Maximum Permitted Floor Area (Sq. Ft.): 16,800			
	Existing:	*Proposed:*	
Floor Area (Sq. Ft.):[1]			
Main Structure(s):	2,569	5,782	
Detached Accessory Structures:	510	0	
Exemptions: [2]			
Total Floor Area:	3,079	5,782	
Total Floor Area for Parking Requirements:[3]			
Total Covered Parking Stalls:			
Total Uncovered Parking Stalls:			
Total Bicycle Parking Spaces			
Total Long-Term Bicycle Parking Spaces			
Total Short-Term Bicycle Parking Spaces			
Total Number of Units	4		
Unit Type(s)	No.	Proposed Size	
Studio	0	0	
1-bedroom	2	690	
4-bedroom	2	1,360	
List of All Trees on Site including Species and Size:	MAPLE TREE, 24" DBH		
Total area of new and rehabilitated landscape area (Sq. Ft.):	968		
Cubic Yards of Soil Disturbance: *(required in order to determine if a Stormwater Pollution Prevention Construction Permit is required)*	CUT: 120 FILL: 35 TOTAL EARTHWORK: 85		

1. See Zoning Code Section 27.04.200 (b) (1) for full Floor Area definition.
2. See Zoning Code Section 27.04.200 (b) (2) for full list of Floor Area exclusions.
3. See Zoning Code Section 27.04.200 (d) for full list of Parking Floor Area exclusions (does not apply to general office, retail stores, food stores, drug stores, and shopping center uses)

TILTON APARTMENTS
NEW MULTI-FAMILY APARTMENTS
328 TILTON AVENUE
SAN MATEO, CA 94401

VICINITY MAP (NO SCALE)



PROJECT DIRECTORY

PROPERTY OWNER/APPLICANT:
ANDRIKA PRASAD
328 TILTON AVENUE
SAN MATEO, CA 94401
rmprasad27@yahoo.com

ARCHITECT:
REID LERNER ARCHITECTS
7680 MONTEREY STREET, SUITE 105
GILROY, CA 95020

SURVEYOR/CIVIL ENGINEER:
ZHEN'S LAND SURVEYING CORP.
1121 S GRANT STREET
SAN MATEO, CA 94402

LANDSCAPE ARCHITECT:
AITKEN ASSOCIATES LANDSCAPE ARCHITECTS
8262 RANCHO REAL
GILROY, CA 95020

ARBORIST:
ARBOR RESOURCES
PO BOX 25295
SAN MATEO, CA 94402

PROJECT DATA

APN: 032-323-010
LOT AREA: 5,600 SF (50'X112')

OCCUPANCY GROUP: 'R-2' (MULTIFAMILY) & 'U' (CARPORT)

TYPE OF CONSTRUCTION: VB (SPRINKLERED)

No. OF STORIES: 2 (TWO) 2

BUILDING HEIGHT: 26'-0"

ZONING: C1-2/R5

FLOOD ZONE:

PARKING PROPOSED: 2 STALLS (SEE PARKING ANALYSIS) 1

SCOPE OF WORK

1. BUILD 5,782 SQUARE FEET BUILDING INCLUDING 2,891 SQUARE FEET CARPORT (2) & MULTIFAMILY UNIT (1) WITH PATIO ON GROUND FLOOR AND 2,891 SQUARE FEET MULTIFAMILY UNITS (3) WITH BALCONIES ON UPPER FLOOR. THE UNIT ON THE GROUND FLOOR SHALL BE ADAPTABLE PER CBC-11A.

2. ON-SITE IMPROVEMENTS INCLUDE BUILDING CARPORT, DRIVEWAY, ACCESSIBLE RAMP, PAVED YARD, WALKWAYS, FENCES, LANDSCAPE, AND MINOR GRADING.

3. OFF-SITE IMPROVEMENTS INCLUDE INSTALLING NEW DRIVEWAY APPROACH, NEW SIDEWALK, NEW ADA RAMPS, AND JOINT TRENCH FOR UPGRADING UTILITY SERVICES TO PROPOSED BUILDING.
ANY WORK IN PUBLIC RIGHT OF WAY REQUIRE A PERMIT FROM PUBLIC WORKS DEPARTMENT.

NOTE: ALL EXISTING STRUCTURES, INCLUDING EXISTING HOUSE AND GARAGE, TO BE DEMOLISHED UNDER SEPARATE PERMITS.

DRAWINGS INDEX

DEFERRED SUBMITTAL

1. FIRE SPRINKLER & FIRE ALARM SYSTEM DESIGN

APPLICABLE CODES & REQUIREMENTS

ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND STANDARDS INCLUDING:

2022 CALIFORNIA BUILDING CODE (CBC)

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CGBSC)

2022 CALIFORNIA MECHANICAL CODE (CMC)

2022 CALIFORNIA PLUMBING CODE (CPC)

2022 CALIFORNIA ELECTRICAL CODE (CEC)

2022 CALIFORNIA ENERGY CODE (CEnC)

2022 CALIFORNIA FIRE CODE WITH CITY & COUNTY AMENDMENTS

CITY OF SAN MATEO MUNICIPAL CODE

OBTAIN PERMITS AND INSPECTION AS REQUIRED

ALLOWABLE HEIGHT & AREA ANALYSIS

PARKING ANALYSIS

VEHICLE PARKING:
REQUIRED: 0
THE SUBJECT SITE IS LOCATED WITHIN ½ MILE OF A MAJOR TRANSIT STOP (CALTRAIN SAN MATEO STATION).
PER AB2097, THE SUBJECT SITE IS EXEMPT FROM PARKING REQUIREMENT. 1

PROPOSED: 2 COVERED STALLS

BICYCLE PARKING:
REQUIRED: 6 (PER SMMC 27.64.262) 2
SHORT TERM: 1 (0.15 PER UNIT)
LONG TERM: 5 (1.5 PER UNIT)

PROPOSED: 6
SHORT TERM: 1
LONG TERM: 5

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

LICENSED ARCHITECT REID T. LERNER
No. C 19293
Reid Lerner
REN: 31 AUG 2025
STATE OF CALIFORNIA

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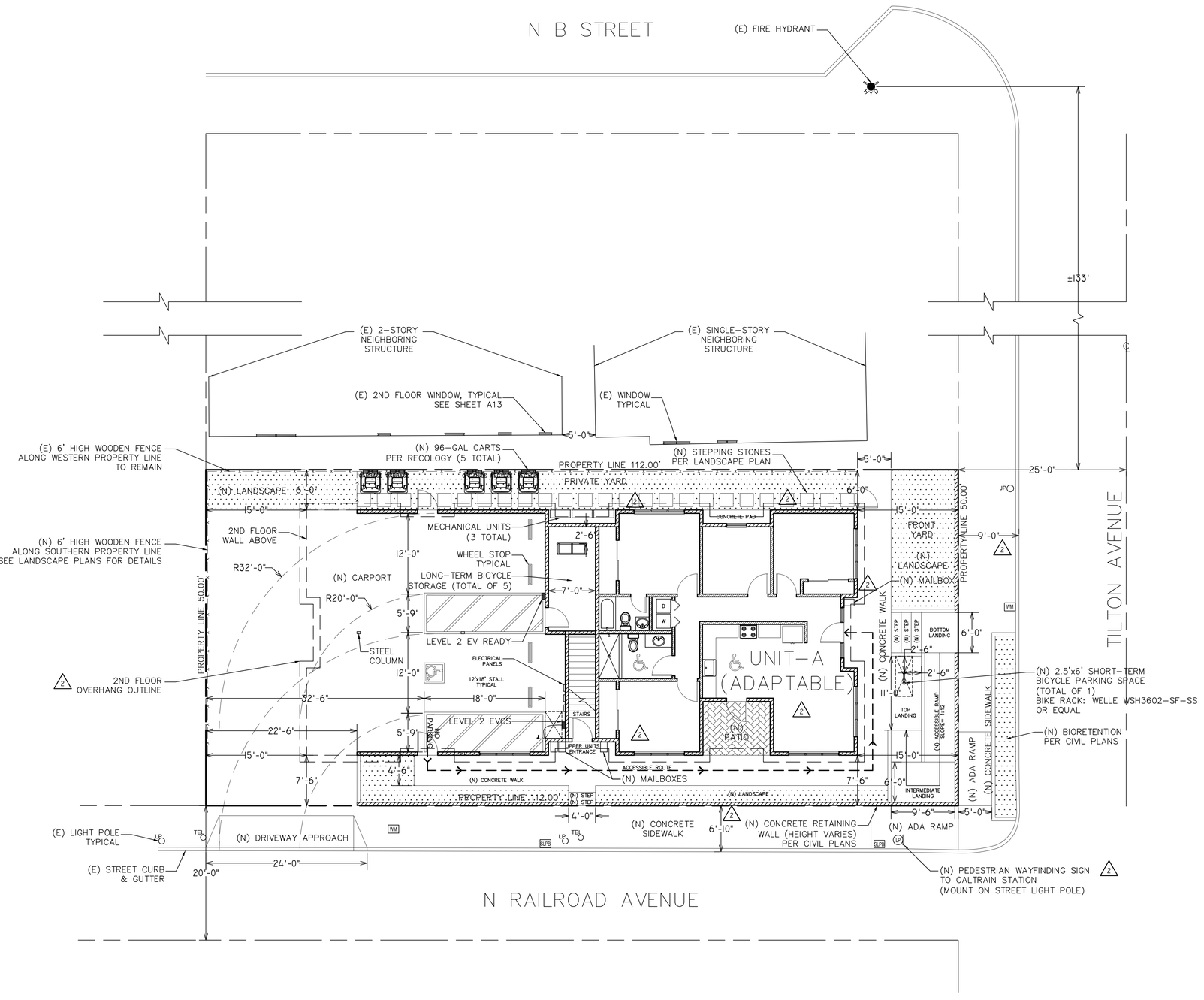
TILTON APARTMENTS
NEW MULTI-FAMILY APARTMENTS
328 TILTON AVENUE
SAN MATEO, CA 94401

COVER SHEET

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A0



PROPOSED SITE PLAN

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

0 8' 16'

TRUE NORTH

PROJECT NORTH

NO.	REVISION	DATE	BY
	PLANCHECK COMMENTS	02-25-24	
	PLANCHECK COMMENTS	06-25-24	
	PLANCHECK COMMENTS	11-22-24	

LICENSED ARCHITECT REID D. LERNER STATE OF CALIFORNIA
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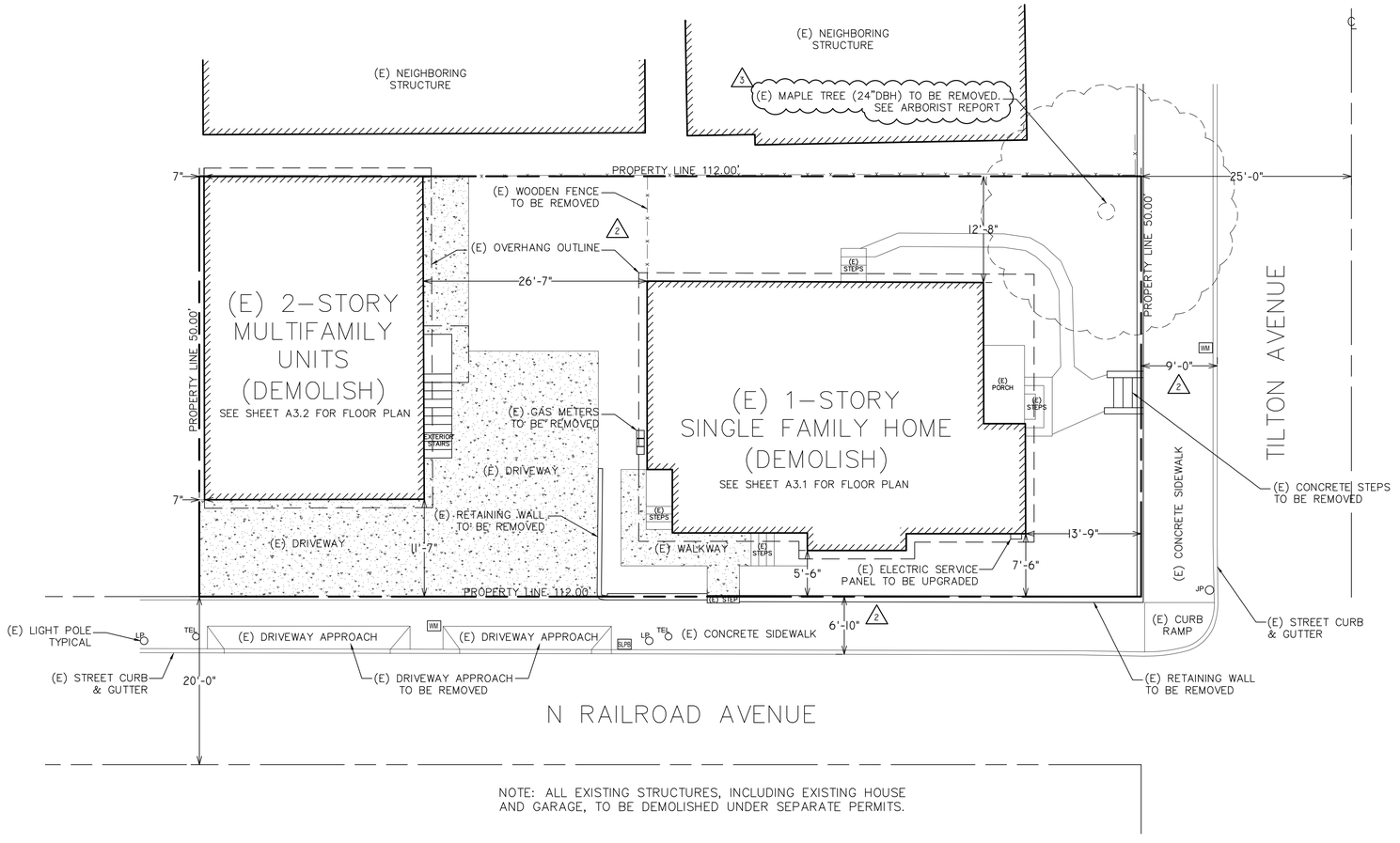
PROPOSED SITE PLAN

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A1



NOTE: ALL EXISTING STRUCTURES, INCLUDING EXISTING HOUSE AND GARAGE, TO BE DEMOLISHED UNDER SEPARATE PERMITS.

EXISTING SITE PLAN

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

0 8' 16'

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

LICENSED ARCHITECT REID T. LERNER No. C 19293 Reid Lerner REN: 31 AUG 2025 STATE OF CALIFORNIA

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TILTON APARTMENTS
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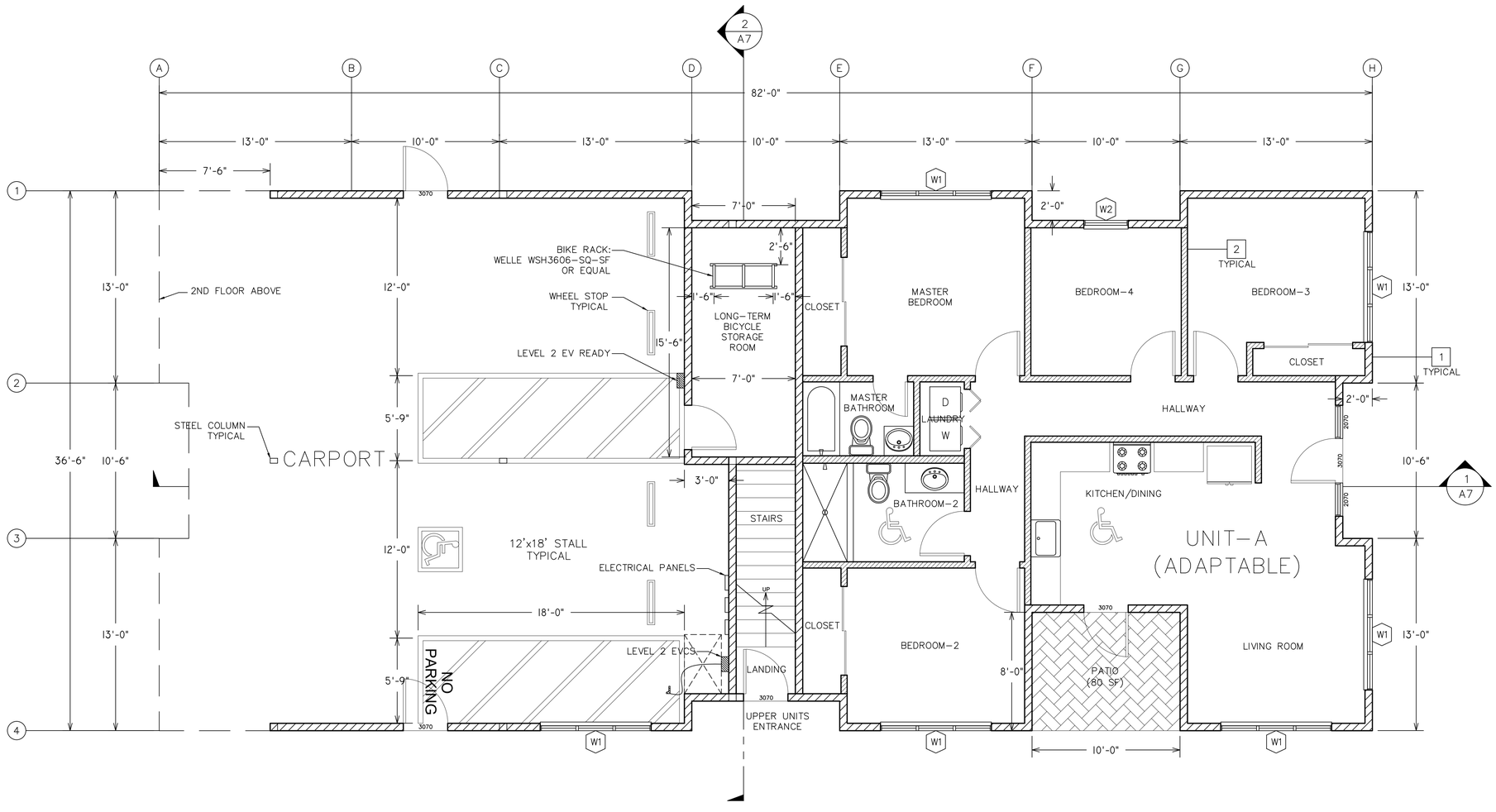
SAN MATEO, CA 94401

EXISTING SITE PLAN

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A1.1



NOTE:
SEE WINDOW SCHEDULE SHEET A14.

WALL SCHEDULE	
LEGEND	DESCRIPTION
1	NEW EXTERIOR WALL: 2X WOOD STUDS WITH GYPSUM WALLBOARD INTERIOR SIDE & WOOD SIDING EXTERIOR SIDE
2	NEW INTERIOR WALL: 2X WOOD STUDS WITH GYPSUM WALLBOARD BOTH SIDES

PROPOSED GROUND FLOOR PLAN

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

0 4' 8'

NO.	REVISION	DATE	BY
	PLANCHECK COMMENTS	02-26-24	
	PLANCHECK COMMENTS	06-28-24	
	PLANCHECK COMMENTS	11-22-24	

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TILTON APARTMENTS
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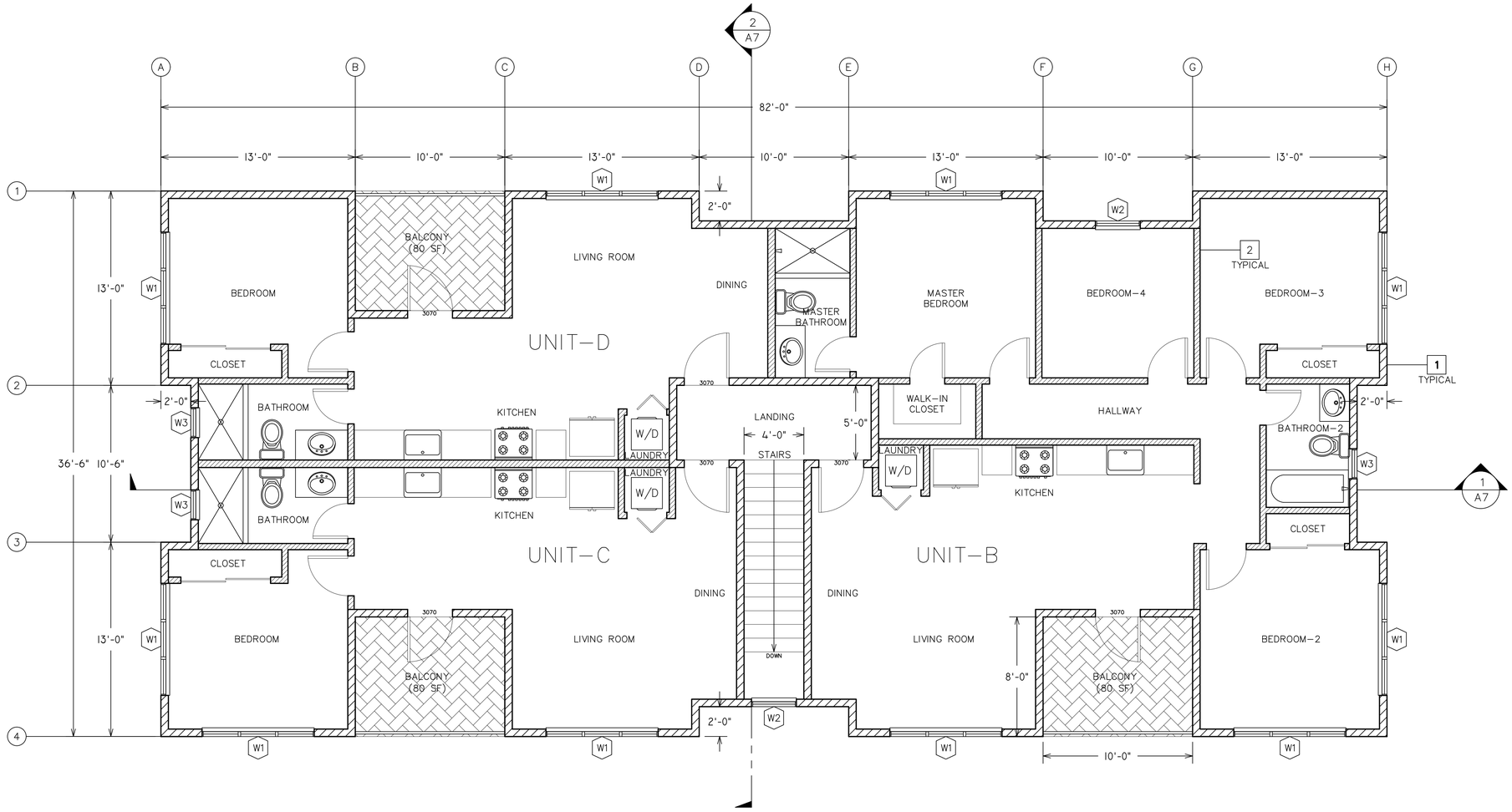
PROPOSED GROUND
FLOOR PLAN

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A2



NOTE:
SEE WINDOW SCHEDULE SHEET A14.

WALL SCHEDULE	
LEGEND	DESCRIPTION
1	NEW EXTERIOR WALL: 2X WOOD STUD WITH GYPSUM WALLBOARD INTERIOR SIDE & WOOD SIDING EXTERIOR SIDE
2	NEW INTERIOR WALL: 2X WOOD STUD WITH GYPSUM WALLBOARD BOTH SIDES

PROPOSED 2ND FLOOR PLAN

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

0 4' 8'

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

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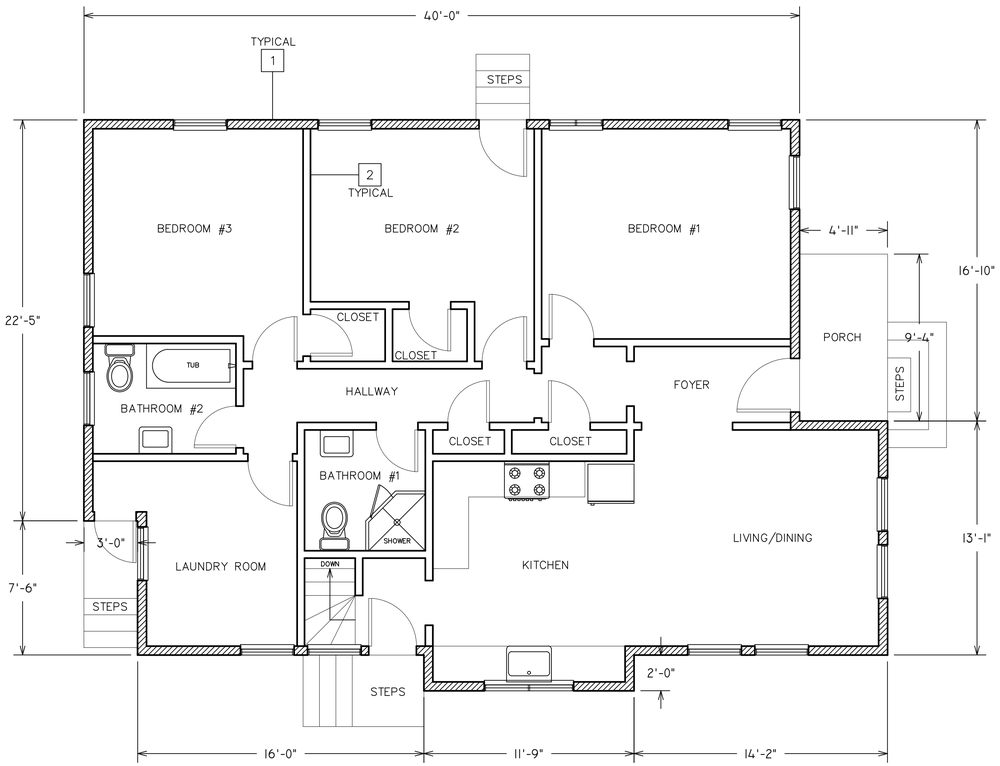
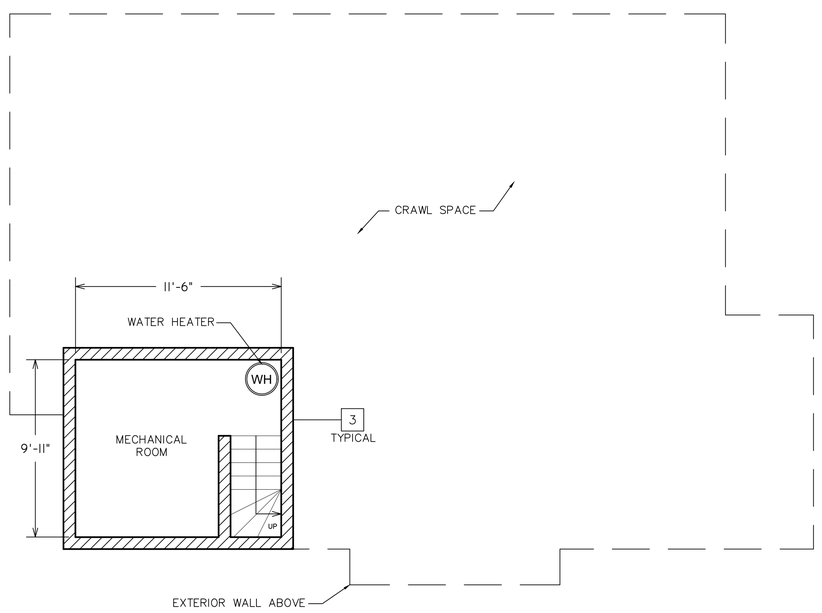
PROPOSED 2ND
FLOOR PLAN

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A3



EXISTING GROUND FLOOR PLAN

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



EXISTING BASEMENT FLOOR PLAN

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

WALL SCHEDULE	
KEY/LEGEND	DESCRIPTION
1	EXISTING EXTERIOR WALL: 2X WOOD STUDS WITH GYPSUM WALLBOARD INTERIOR SIDE & WOOD SIDING EXTERIOR SIDE
2	EXISTING INTERIOR WALL: 2X WOOD STUDS WITH GYPSUM WALLBOARD BOTH SIDES
3	EXISTING BASEMENT WALL: 8" THICK CMU WALL

EXISTING FLOOR PLAN @ SINGLE FAMILY HOME

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

0 4' 8'

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

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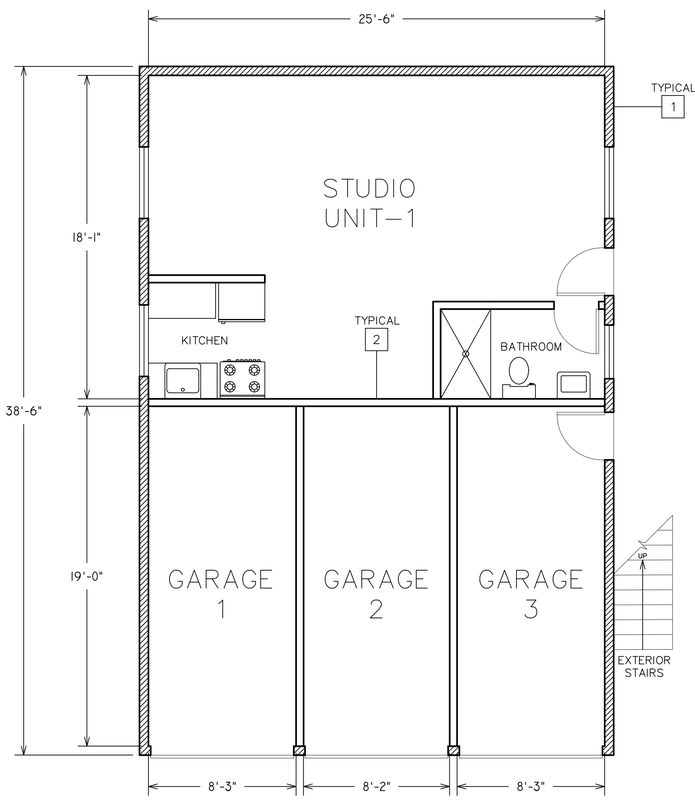
LICENSED ARCHITECT REID T. LERNER No. C 19293 Reid Lerner REN. 31 AUG 2025 STATE OF CALIFORNIA

TILTON APARTMENTS
NEW MULTI-FAMILY APARTMENTS
328 TILTON AVENUE
SAN MATEO, CA 94401

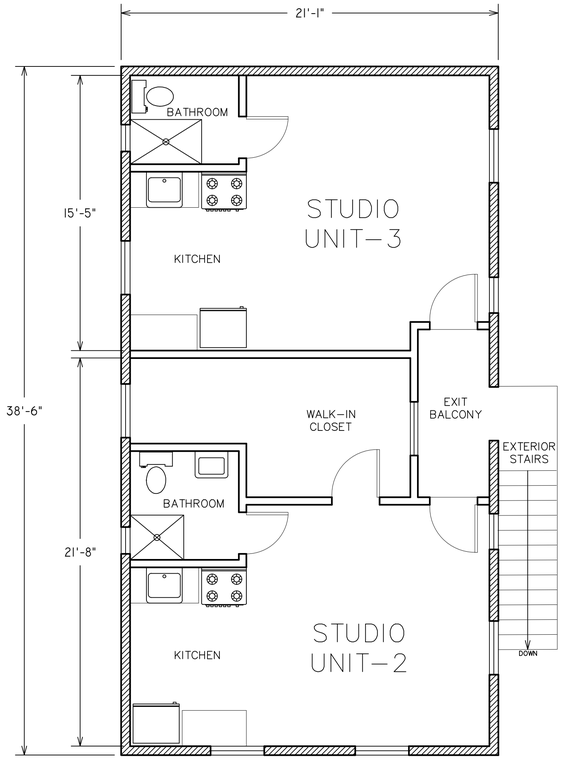
EXISTING FLOOR PLAN
@ SINGLE FAMILY HOME

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A3.1



EXISTING GROUND FLOOR PLAN

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



EXISTING 2ND FLOOR PLAN

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

WALL SCHEDULE	
KEY/ LEGEND	DESCRIPTION
1	EXISTING EXTERIOR WALL: 2X WOOD STUDS WITH GYPSUM WALLBOARD INTERIOR SIDE & STUCCO EXTERIOR SIDE
2	EXISTING INTERIOR WALL: 2X WOOD STUDS WITH GYPSUM WALLBOARD BOTH SIDES

EXISTING FLOOR PLAN @ GARAGE & MULTIFAMILY UNITS

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

0 4' 8'

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

LICENSED ARCHITECT REID T. LERNER No. C 19293 Reid Lerner REN: 31 AUG 2025 STATE OF CALIFORNIA

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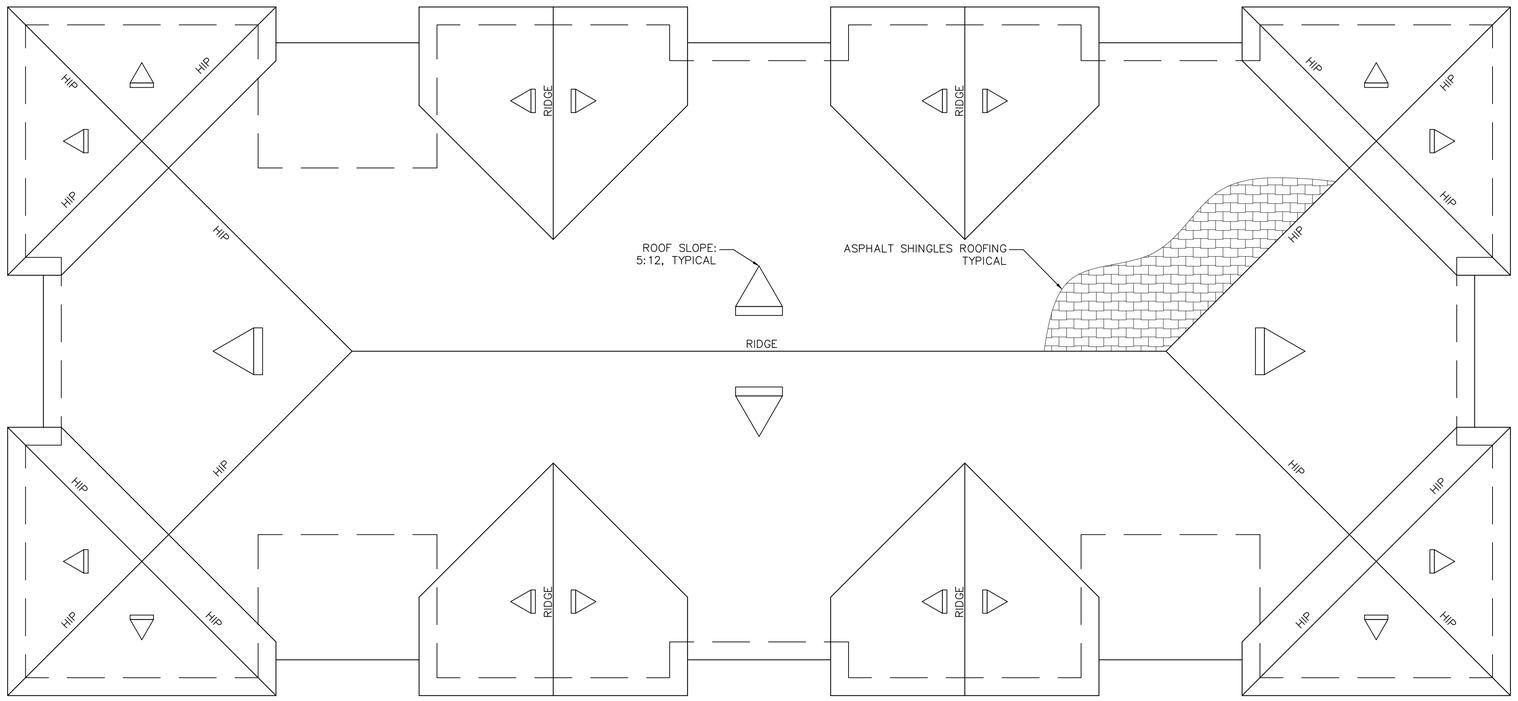
TILTON APARTMENTS
NEW MULTI-FAMILY APARTMENTS
328 TILTON AVENUE
SAN MATEO, CA 94401

EXISTING FLOOR PLAN
@ GARAGE &
MULTIFAMILY UNITS

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A3.2



PROPOSED ROOF PLAN

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

0 4' 8'

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

LICENSED ARCHITECT
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TILTON APARTMENTS
NEW MULTI-FAMILY APARTMENTS
328 TILTON AVENUE
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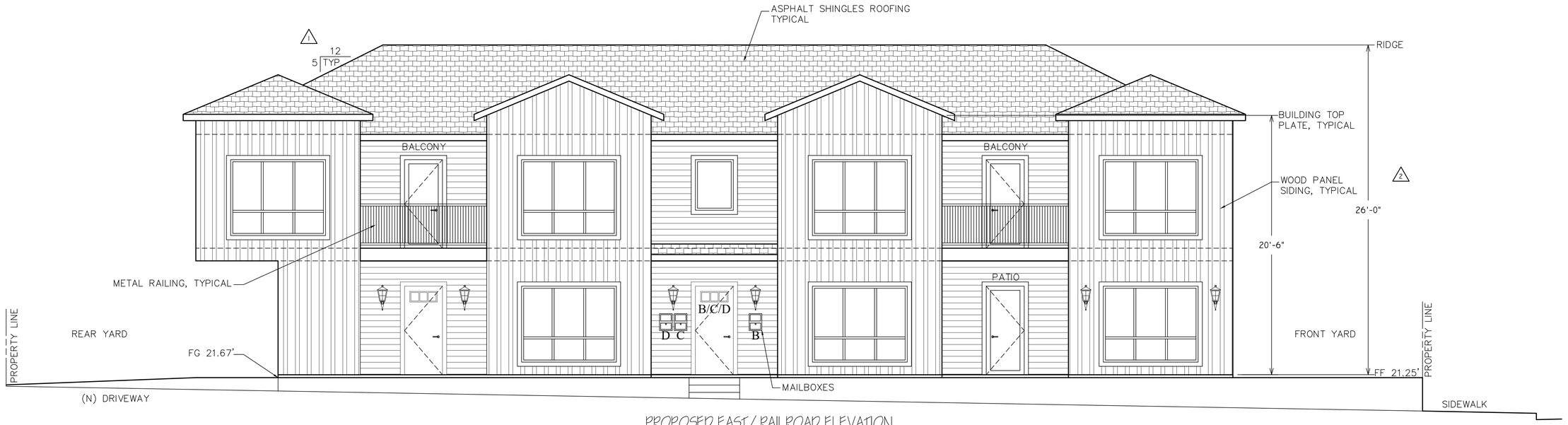
PROPOSED ROOF PLAN

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A4



PROPOSED EAST/ RAILROAD ELEVATION

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

0 4' 8'

1

WEST ELEVATION				
AREA OF EXTERIOR WALL OPENINGS BASED ON FSD (PER TABLE 705.8)				
STORY	FSD (FIRE SEPARATION DISTANCE)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA (SQ. FT.)	PROPOSED OPENING AREA (PER STORY)
1	6'	UP, S	25%	17.8% (146/820)
2	6'	UP, S	25%	23.4% (187/800)
FIRE RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS (PER TABLE 602)				
FSD (FIRE SEPARATION DISTANCE)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP	REQUIRED FIRE RESISTANCE (HOUR)	PROPOSED FIRE RESISTANCE (HOUR)
6'	VB	R-2	1	1 2

PROPOSED WEST ELEVATION

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

0 4' 8'

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

LICENSED ARCHITECT
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STATE OF CALIFORNIA

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TILTON APARTMENTS
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SAN MATEO, CA 94401

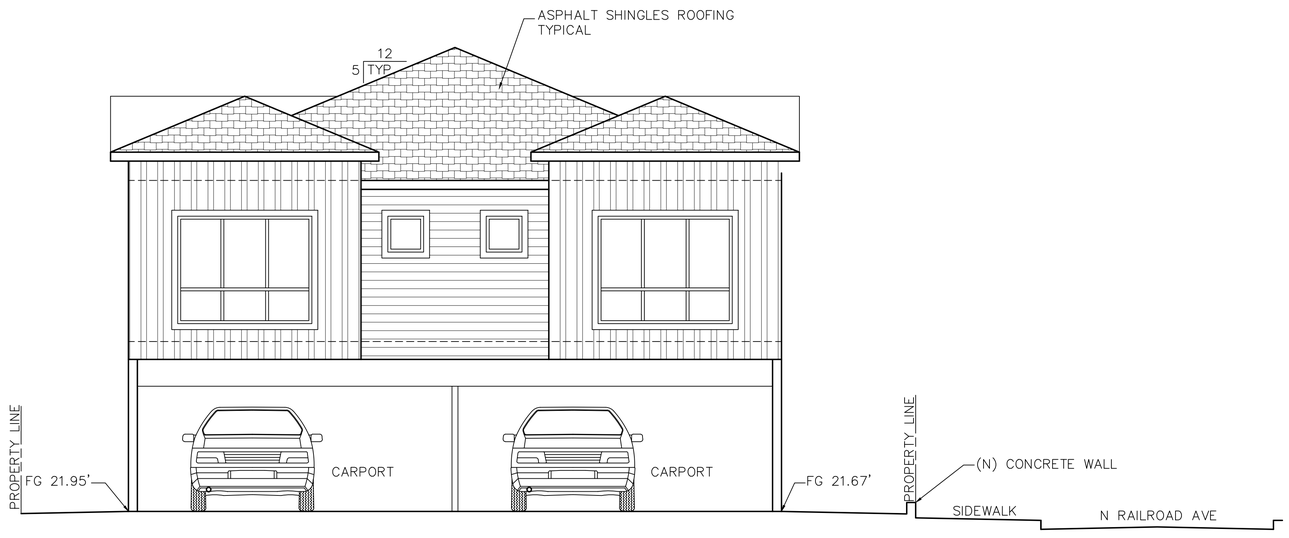
PROPOSED ELEVATIONS

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A5

PROPOSED NORTH/ TILTON AVE ELEVATION

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

0 4' 8'



PROPOSED SOUTH ELEVATION

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

0 4' 8'

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

LICENSED ARCHITECT REID T. LERNER No. C 19293 Reid Lerner REN: 31 AUG 2025 STATE OF CALIFORNIA

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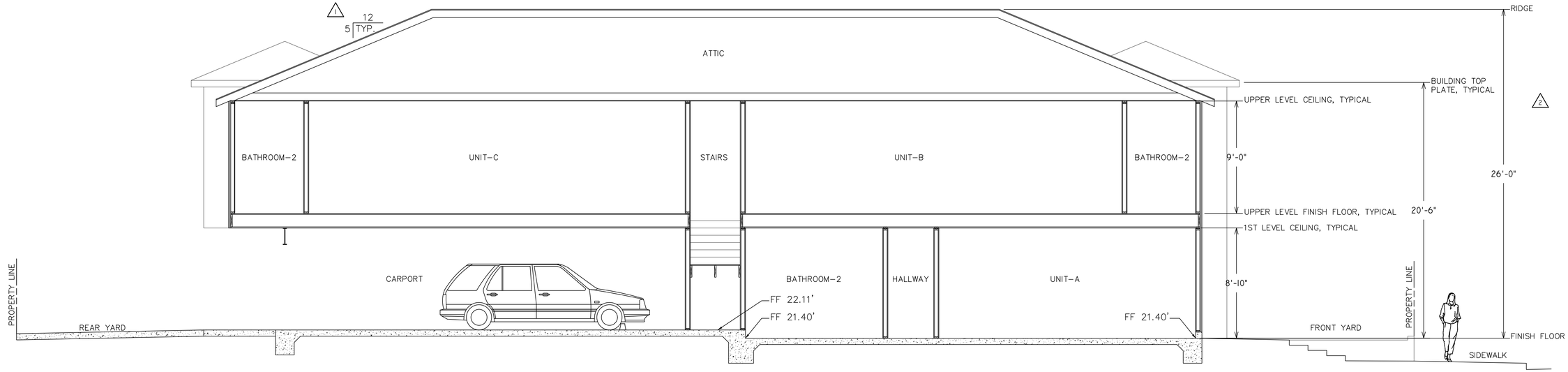
TILTON APARTMENTS
NEW MULTI-FAMILY APARTMENTS
328 TILTON AVENUE
SAN MATEO, CA 94401

PROPOSED ELEVATIONS

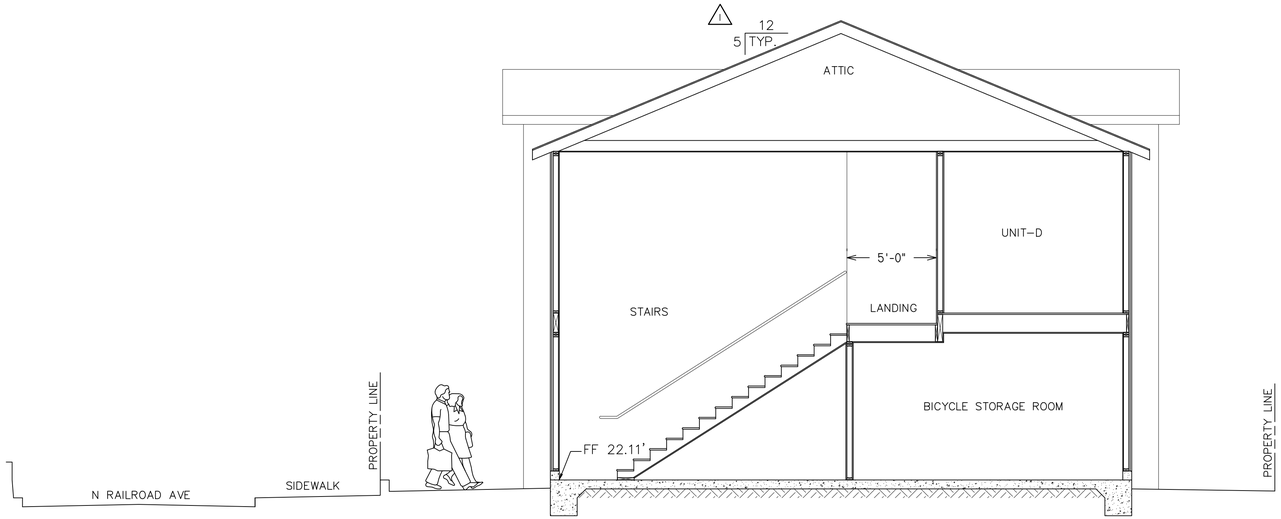
Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A6



BUILDING SECTION-1

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

0 4' 8'



BUILDING SECTION-2

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

0 4' 8'

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

LICENSED ARCHITECT REID T. LERNER No. C 19293 Reid Lerner REN: 31 AUG 2025 STATE OF CALIFORNIA

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TILTON APARTMENTS
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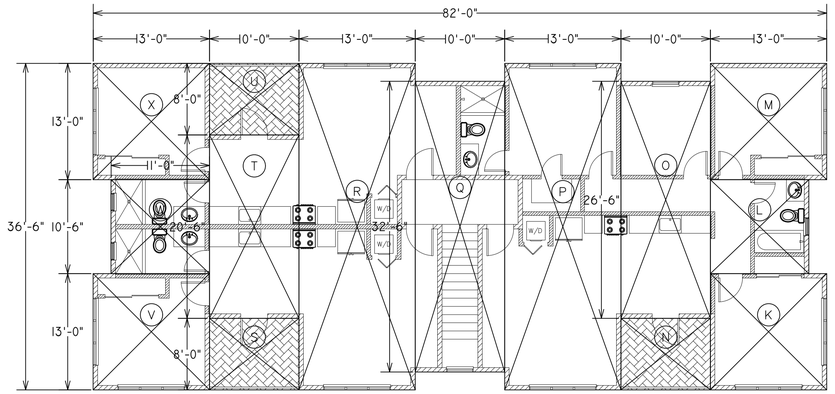
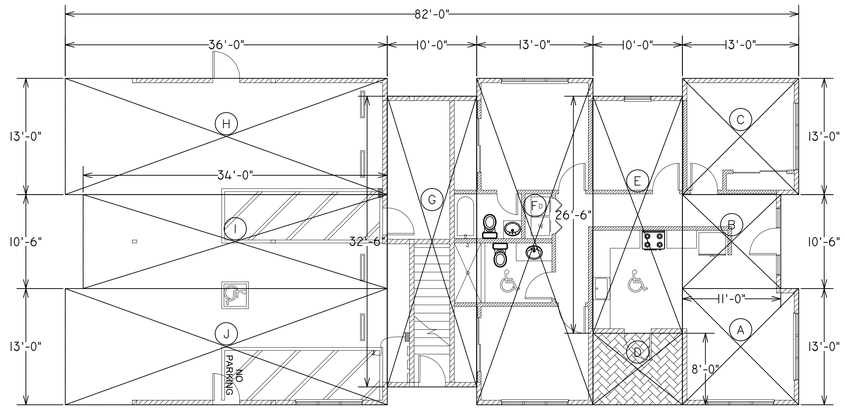
BUILDING SECTIONS

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A7



2ND FLOOR



GROUND FLOOR

FLOOR	SECTION	DIMENSION	AREA (SQUARE FEET)
1	A	13'–0" X 13'–0"	169
	B	11'–0" X 10'–6"	115.5
	C	13'–0" X 13'–0"	169
	D	10'–0" X 8'–0"	80
	E	26'–6" X 10'–0"	265
	F	36'–6" X 13'–0"	474.5
	G	32'–6" X 10'–0"	325
	H	36'–0" X 13'–0"	468
	I	34'–0" X 10'–6"	357
	J	36'–0" X 13'–0"	468
2	K	13'–0" X 13'–0"	169
	L	11'–0" X 10'–6"	115.5
	M	13'–0" X 13'–0"	169
	N	10'–0" X 8'–0"	80
	O	26'–6" X 10'–0"	265
	P	36'–6" X 13'–0"	474.5
	Q	32'–6" X 10'–0"	325
	R	36'–6" X 13'–0"	474.5
	S	10'–0" X 8'–0"	80
	T	20'–6" X 10'–0"	205
	U	10'–0" X 8'–0"	80
	V	13'–0" X 13'–0"	169
	W	11'–0" X 10'–6"	115.5
	X	13'–0" X 13'–0"	169
TOTAL			5,782

FLOOR AREA CALCULATION DIAGRAM

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

0 8' 16'

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-26-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

LICENSED ARCHITECT REID T. LERNER
No. C 19293
Reid Lerner
REN. 31 AUG 2025
STATE OF CALIFORNIA

REID LERNER ARCHITECTS
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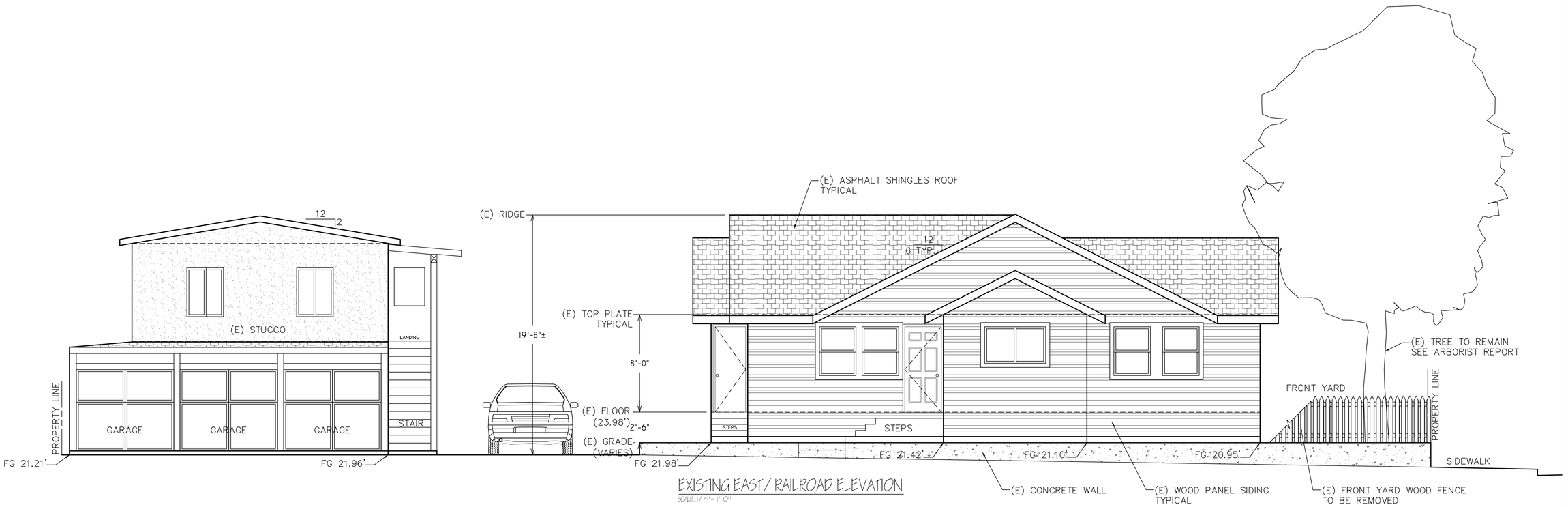
REIDLERNER@YAHOO.COM
7680 MONTEREY ST #105
GILROY, CA 95020

TILTON APARTMENTS
NEW MULTI-FAMILY APARTMENTS
328 TILTON AVENUE
SAN MATEO, CA 94401

FLOOR AREA
CALCULATION DIAGRAM

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A8

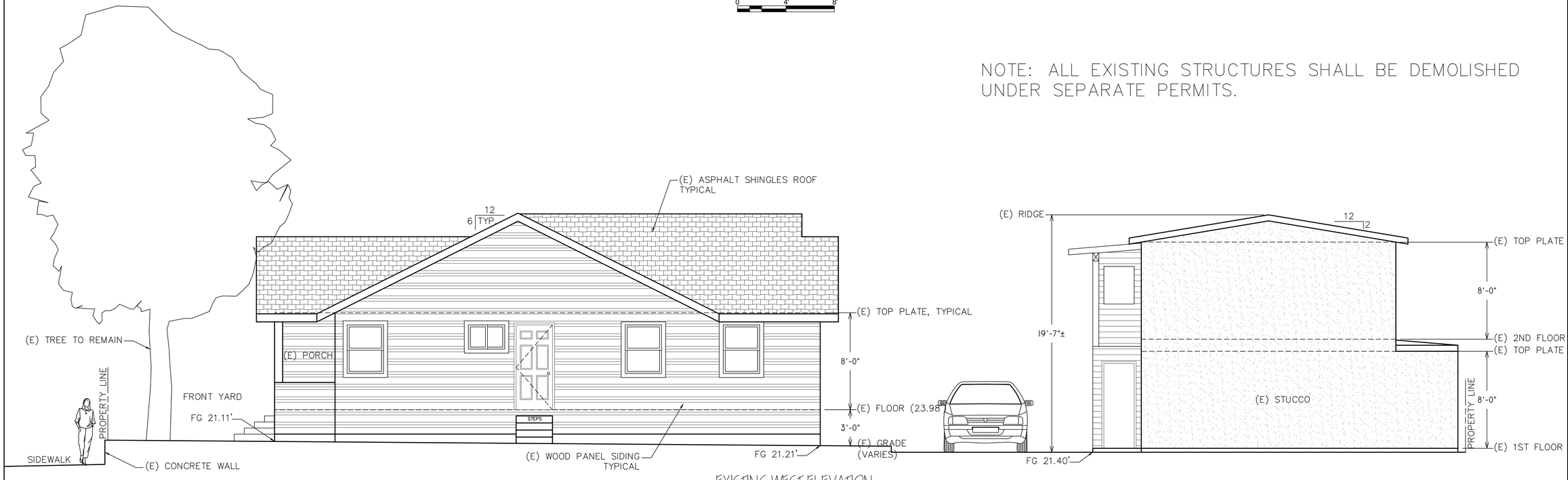


EXISTING EAST / RAILROAD ELEVATION

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

0 4' 8'

NOTE: ALL EXISTING STRUCTURES SHALL BE DEMOLISHED UNDER SEPARATE PERMITS.



EXISTING WEST ELEVATION

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

0 4' 8'

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-25-24	
3	PLANCHECK COMMENTS	11-22-24	

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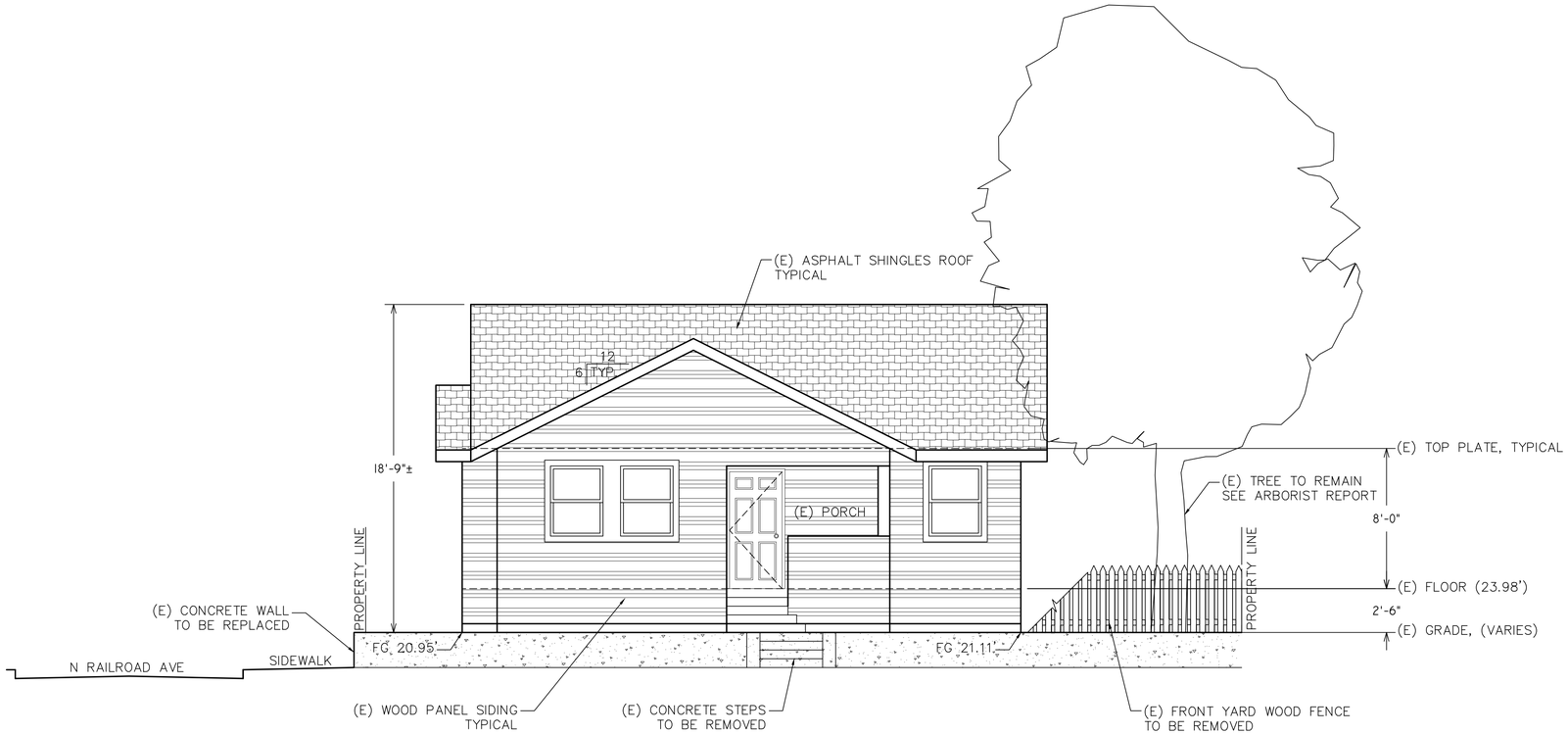
EXISTING ELEVATIONS

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A9

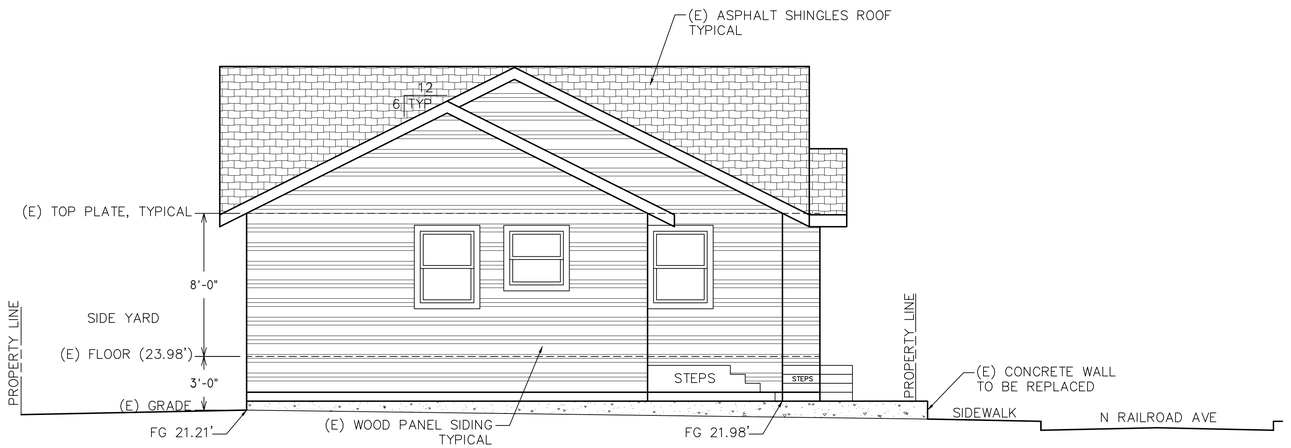


EXISTING NORTH/ TILTON AVE ELEVATION

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

0 4' 8'

NOTE: ALL EXISTING STRUCTURES SHALL BE DEMOLISHED UNDER SEPARATE PERMITS.



EXISTING SOUTH ELEVATION

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

0 4' 8'

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-25-24	
3	PLANCHECK COMMENTS	11-22-24	

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TILTON APARTMENTS
NEW MULTI-FAMILY APARTMENTS
328 TILTON AVENUE
SAN MATEO, CA 94401

EXISTING ELEVATIONS

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A10

STREETSCAPE ELEVATION @ RAILROAD

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

0 4' 8'

PROPOSED WEST ELEVATION

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

0 4' 8'

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

LICENSED ARCHITECT REID T. LERNER No. C 19293 Reid Lerner REN: 31 AUG 2025 STATE OF CALIFORNIA

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TILTON APARTMENTS
NEW MULTI-FAMILY APARTMENTS
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SAN MATEO, CA 94401

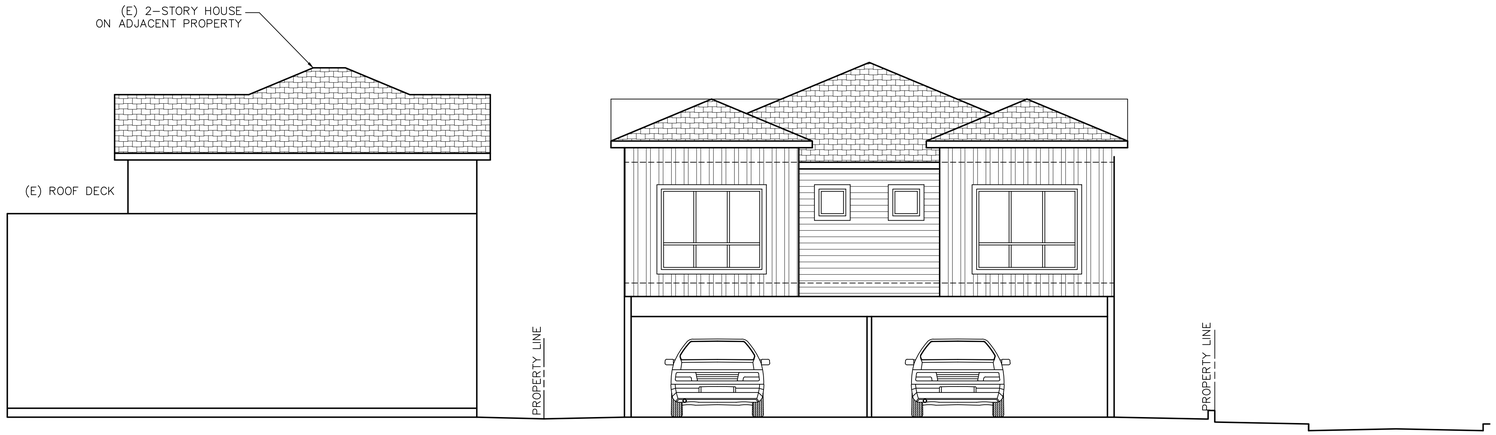
PROPOSED ELEVATIONS

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A11

STREETSCAPE ELEVATION @ TILTON AVE

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

0 4' 8'



PROPOSED SOUTH ELEVATION

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

0 4' 8'

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

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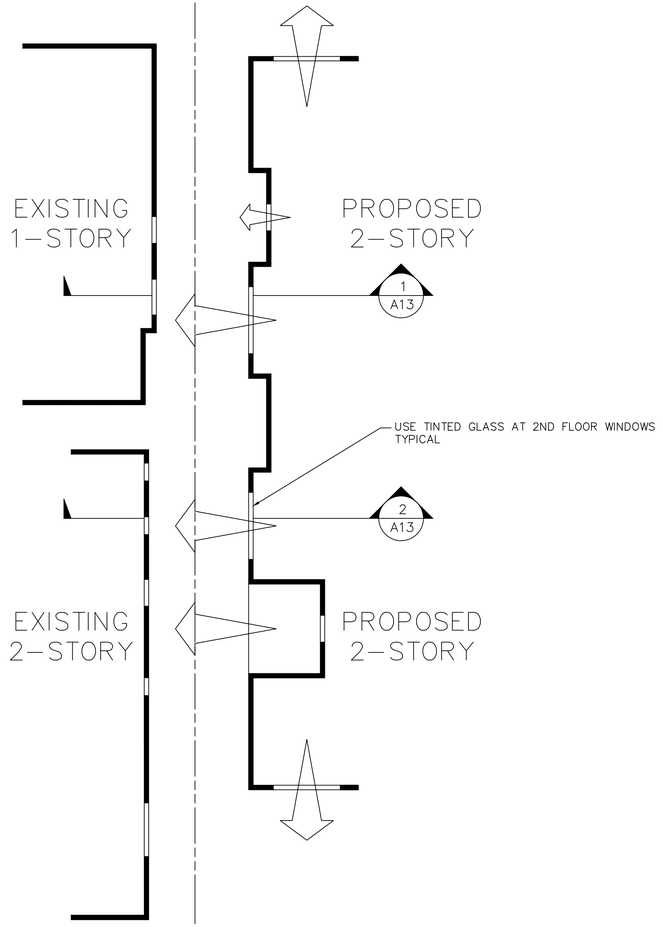
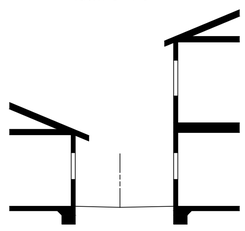
PROPOSED ELEVATIONS

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A12



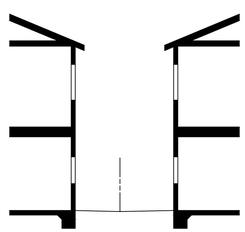
PLAN VIEW

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



SECTION-1

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



SECTION-2

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

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

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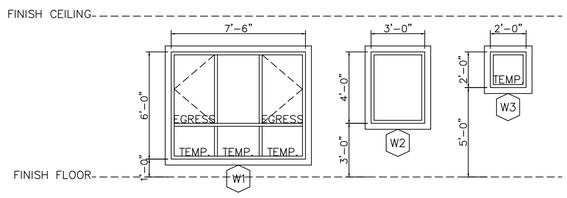
SAN MATEO, CA 94401

WINDOW LOCATION
& PRIVACY DIAGRAM

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A13

WINDOW SCHEDULE									
WINDOW TAG	WIDTH	HEIGHT	OPERATION	GLASS	FRAME MATERIAL	EGRESS	TEMPERED GLASS	LOCATION	NOTES
W1	7'-6"	6'-0"	CASEMENT	LOW-E CLEAR GLASS	ALUMINUM	YES	YES	BEDROOM LIVING ROOM	
W2	3'-0"	4'-0"	CASEMENT	LOW-E CLEAR GLASS	ALUMINUM	YES	NO	BEDROOM	
W3	2'-0"	2'-0"	CASEMENT	LOW-E CLEAR GLASS	ALUMINUM	NO	YES	BATHROOM	

WINDOW SCHEDULE NOTES:
1) CONTRACTOR SHALL VERIFY ALL WINDOW SIZES, ROUGH OPENING, AND QUANTITY IN FIELD PRIOR TO ORDERING.
2) VERIFY ALL WINDOWS, FRAMES, GLAZING, AND HARDWARE WITH OWNER.
3) WINDOW SUBMITTALS TO BE DIRECTED TO THE ARCHITECT OF RECORD FOR REVIEW.
4) EMERGENCY EGRESS FROM SLEEPING ROOMS TO COMPLY WITH FOLLOWING:
MINIMUM NET CLEAR OPENABLE DIMENSION OF 5.7 SF IN AREA (CBC 1031.3.1).
MINIMUM NET CLEAR OPENABLE DIMENSION OF 24 INCHES IN HEIGHT (CBC 1031.3.2).
MINIMUM NET CLEAR OPENABLE DIMENSION 20 INCHES IN WIDTH (CBC 1031.3.2).
BOTTOM OF THE CLEAR OPENING SHALL NOT BE GREATER THAN 44 INCHES MEASURED FROM THE FLOOR (CBC 1031.3.3).
5) WINDOWS MUST HAVE LABELS FOR "U-FACTOR" & "SHGC" PER ENERGY CODE.



WINDOWS ELEVATION (EXTERIOR)
SCALE: 1/ 4"= 1'-0"

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

LICENSED ARCHITECT REID T. LERNER No. C 19293 Reid Lerner REN: 31 AUG 2025 STATE OF CALIFORNIA

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WINDOW SCHEDULE

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	A14

ARBOR RESOURCES
professional consulting arborists and tree care

ARBORIST REPORT

TILTON APARTMENTS
328 TILTON AVENUE
SAN MATEO, CA
(PA-2023-071)

Submitted to:

Reid Lerner Architects
7680 Monterey Street #105
Gilroy, CA 95020

Prepared by:

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

November 11, 2024

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

TABLE OF CONTENTS

EXHIBITS

1.0 INTRODUCTION & ASSIGNMENT

A multi-family apartment building is being planned for construction at 328 Tilton Avenue, San Mateo (APN 032-323-010). The site occupies the south corner of Tilton Avenue and Railroad Avenue, and is currently occupied by two existing structures which are planned for demolition. As there is one heritage tree located on the property where construction activities[1] are proposed within 10 times its trunk diameter, I have been retained by the project architect, Reid Lerner Architects to evaluate the tree, review the proposed design, and prepare this *Arborist Report*. Specific tasks assigned to execute are as follows:

- Visit the site on 10/3/24 and 11/7/24 to identify the heritage tree, measure its trunk diameter at 54 inches above grade,[2] estimate its height and average canopy spread, evaluate its condition, and obtain photos.
- Review the project plan set, dated 6/25/24, prepared by Reid Lerner Architects.
- Provide conclusions as to the extent of impacts and its proposed disposition. Because I am recommending removal, this report is structured as such, and does not include any protection measures.
- Include a copy of the *Topographic Survey*, dated 5/15/23 and prepared by Zhen's Land Surveying Corp., to represent the tree and its approximate dripline (i.e. canopy spread); see Exhibit A.
- Prepare a written report presenting the above information, and submit via email as a PDF document.

For disclosure, I am an independent consulting arborist operating under the name of Arbor Resources, and neither my company or I will execute any tree work recommended in this report (additional disclosures are presented within Section 6.0).

[1] Section 13.40.030(g) defines construction activity as any work associated with or requiring a permit for any new building, building addition, building demolition, grading, excavation or paving. This includes necessary related activities which may or may not be shown on site plans, including, but not limited to the following: storing/staging of materials, site access, parking, placement of temporary structures, debris disposal, additional excavation and landscaping.
[2] Measurements align with the City's *Protected Trees Ordinance Administrative Guidelines*, dated 7/13/21.

2.0 OBSERVATIONS

The subject tree is a large silver maple (*Acer saccharinum*) with a trunk diameter of 26.3 inches measured at 54 above grade. Based on this diameter, it is classified as a heritage tree pursuant to Section 13.40.030(k)(2) of the San Mateo Municipal Code (the threshold being ≥15 inches for all trees other than oaks).

The tree's location can be viewed on the site map in Exhibit A, and photographs are presented in Exhibit B. For directional references, consider project north being towards Tilton Avenue.

The maple is located in the front yard at the property's northwest corner. Its trunk is 15.5 feet northwest from the existing home, and is partly situated beneath high-voltage electrical wires (distribution wires). The subject lot is elevated above the adjacent sidewalk, and is bordered along the north (sidewalk) side by a 1.3-foot tall retaining wall 2 feet from the trunk's base. Ground beneath the canopy and within the property is flat, and contains dead lawn, barren ground, and a narrow concrete walkway 7 feet southwest of the trunk. The tree's rooting area is relatively confined, being entirely or highly concentrated in directions away from the wall.

The site appears high use, and immediate targets beneath and within striking distance of the tree include the following: existing home, sidewalk, street, vehicles and persons occupying the house and traveling along the street/sidewalk, and an adjacent utility pole and phone/cable wires. The high-voltage electrical wires above can also present a threat should branches not remain clear at all times.

The tree is an estimated 45 feet tall, and due to its location beneath high-voltage wires, its height has been regularly reduced, and will continue being so throughout its remaining lifespan. This specific pruning practice is particularly an issue for silver maples, resulting in all ensuing branches (aka watersprouts) being weakly-attached, prone to breaking during storm events, and growing at ever-increasing rates following each pruning cycle.

The canopy is asymmetrical and has an average spread of nearly 45 feet, extending predominantly in directions away from the home (more specifically, 15 feet towards the home, 20 feet over the street, and 50 feet east to west). Along its lower section, foliage consists predominantly of waterspouts due to extensive pruning in the past, and there are some dead branches along the west and east sides. Towards the north, branches grow around the adjacent utility pole, phone and cable wires. Some branches which extend over the home are heavy and bow downward, increasing their possibility for breaking.

Based these observations, I regard the tree's health to be fair, structural integrity as poor, and assign a suitability for preservation rating of poor. The dominant factor regarding the poor suitability involves the tree's unfavorable location beneath high-voltage wires, resulting in an irreparable structure throughout its remaining lifespan. Furthermore, its large size within a relatively confined setting reveals it has outgrown the location.

3.0 IMPACT ANALYSIS

My analysis considers both the canopy and root zone. For the canopy, I do not foresee any significant conflicts posed by constructing the proposed building. The limb structure and form along the building side is already upright, and only small branches would require pruning to achieve a 5-foot clearance from both the building and construction scaffolding.

The root zone, however, would be significantly impacted by introducing the following: a concrete staircase 16 feet east of the trunk; a 5-foot wide, concrete walkway 4.5 feet south of the trunk (this walk will abut and align the new building); and constructing the building's foundation 10 feet south from the trunk, which will also require subexcavation and compaction, likely at least 5 feet beyond the foundation.

For the staircase and walkway, overexcavation needed to form and pour the concrete will result in soil excavation by at least an additional 12 inches towards the trunk, establishing root loss as close as 15 feet towards the east and 3.5 feet towards the south (building side). To construct the building's foundation, subexcavation and compaction is expected to occur

at least 5 feet beyond the proposed foundation; consequently, all roots beneath the future walkway and up to the western property boundary would be removed.

These root impacts are unavoidable and cannot be mitigated. For a large maple tree growing in the particular setting, where the rooting area is already limited and confined to directions away from the retaining wall, a setback of *at least* 10 feet from its trunk is needed to achieve a minimal reasonable assurance of survival and anchoring capacity (a distance within 5 times the trunk's diameter). This setback cannot be achieved towards the south, where root loss will occur up to several feet from the trunk, ultimately jeopardizing the tree's anchoring capacity and longevity (the distance represents only 1.5 times the trunk's diameter).

There is also a substantial amount of digging and trenching needed for a water line and meter, as well as irrigation lines, valves, lighting and flow sensor. Some digging will also occur for installing new plants. Although measures could help reduce impacts, the amount of items within the planter will further contribute to the loss of roots.

4.0 CONCLUSIONS

- The proposed design will result in severe root loss south of the trunk, thus jeopardizing the tree's anchoring capacity and longevity. These impacts are unavoidable and cannot be sufficiently mitigated.
- Due to the severity of inevitable root loss, I recommend the tree is removed for safety purposes rather than be retained, and a new tree of 24-inch box size installed as a replacement (this size is provisioned within Code Section 13.40.110). The species of new tree should be compatible for growing beneath high-voltage wires, such as a Chinese pistache (*Pistacia chinensis*).
- Based on the maple's poor suitability for preservation, poor structural integrity, having outgrown its current location, and being located beneath high-voltage wires, any design modifications to achieve a reasonable level of protection seem extremely unwarranted.

5.0 ASSUMPTIONS AND LIMITING CONDITIONS

- Information presented herein covers only the subject silver maple, and reflects its size, condition and areas viewed from the ground, project site, sidewalk and street on 10/3/24 and 11/7/24.
- Observations were performed visually without probing, coring, dissecting or excavating.
- The assignment pertains solely to the subject tree, and I hold no opinion towards other trees on or surrounding the project area.
- I cannot provide a guarantee or warranty, expressed or implied, that deficiencies or problems of the subject tree or property in question may not arise in the future.
- No assurance can be offered that if all my recommendations and precautionary measures (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 company implementing the recommendations presented in this report.
- The information provided herein represents my opinion. Accordingly, my fee is in no way contingent upon the reporting of a specified finding, conclusion or value.
- I am an independent consulting arborist operating under the name of Arbor Resources, and neither my company or I will engage in executing any work associated with the tree.
- Information presented on the site map in Exhibit A is solely intended to approximately represent the tree's location, size, and protection zone and materials (versus surveyed points).
- This report is proprietary to me and may not be copied or reproduced in whole or part without prior written consent. It has been prepared for the sole and exclusive use of the parties to who 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 invalid.

Prepared By:  Date: November 11, 2024

David L. Babby
Registered Consulting Arborist® #399
Board-Certified Master Arborist® #WE-4001B
CA Licensed Tree Service Contractor #796763 (C61/D49)

ISCA RCA #399 Registered Consulting Arborist

EXHIBIT A:

SITE MAP

(one sheet)

NO.	REVISION	DATE	BY
1	PLANCHECK COMMENTS	02-25-24	
2	PLANCHECK COMMENTS	06-28-24	
3	PLANCHECK COMMENTS	11-22-24	

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GILROY, CA 95020

TILTON APARTMENTS
NEW MULTI-FAMILY APARTMENTS
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SAN MATEO, CA 94401

ARBORIST REPORT & TREE PROTECTION PLAN

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	T-1

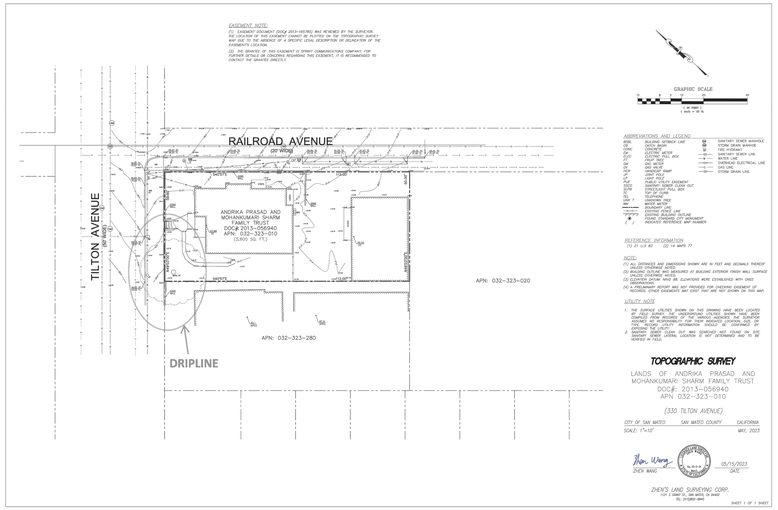
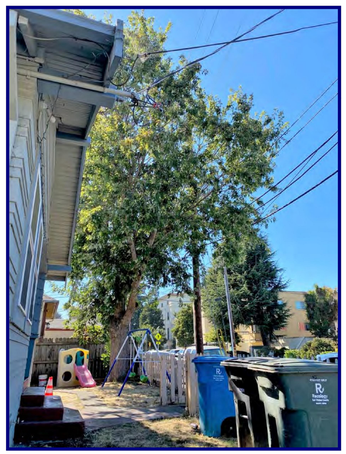


EXHIBIT B:

PHOTOGRAPHS

(three sheets)



Required Tree Planting

Zoning Code, Section 27.71 – Landscape, requires all projects to have a minimum ratio of **1 tree per 400 square feet** of landscaped area. Existing trees that are a minimum of 6 inch diameter may count toward this total.

Landscape Area: 968 sq. ft. ÷ 400 = 2 (a)

Number of existing trees from Tree Evaluation Schedule with a 6 inch or greater diameter **to be preserved:** 0 (b)

Landscape Unit (LU) value of trees **to be removed** from the Tree Evaluation Schedule: 1 (c)

Minimum LU value to be replaced and/or met through payment of in-lieu fees: **[a – b + c = d]** 3 (d)

New Trees:
A "landscape unit" (LU) value equivalent to (d) above, must either be planted on site, or an "in-lieu" fee paid to the city's street tree planting fund. If the LU value shown at (e) is not equal or greater than (d), then an in-lieu fee must be paid to the City's street tree planting fund at the rate defined annually in the City's Comprehensive Fee Schedule for each deficient LU.

New Trees Being Planted*

Quantity	Size	LU Value	Total LU Value
5	15 gallon	1	5
1	24 inch box	2	2
	36 inch box	3	
	48 inch box	4	
	Total LU Value of new trees being proposed:		7 (e)

*New replacement trees shall be in addition to and not substitute requirements for new street trees, parking lot trees or other required trees.

Fees Owed to the City Street Tree Planting Fund:
If (d) is greater than (e), there will be an LU value deficit calculated as follows:

[d – e = ____ x (the annually defined $ per LU value as per Current Comprehensive Fee Schedule) = $_____

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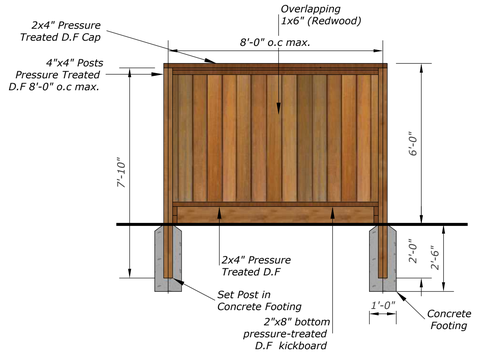
ARBORIST REPORT & REQUIRED TREE PLANTING FORM

Drawn	MM
Checked	RL
Date	10/17/23
Scale	AS NOTED
For	PLANNING REVIEW
Sheet	T-2

-D.1- Solid Wood Fence Detail

6'-0" high Not to Scale

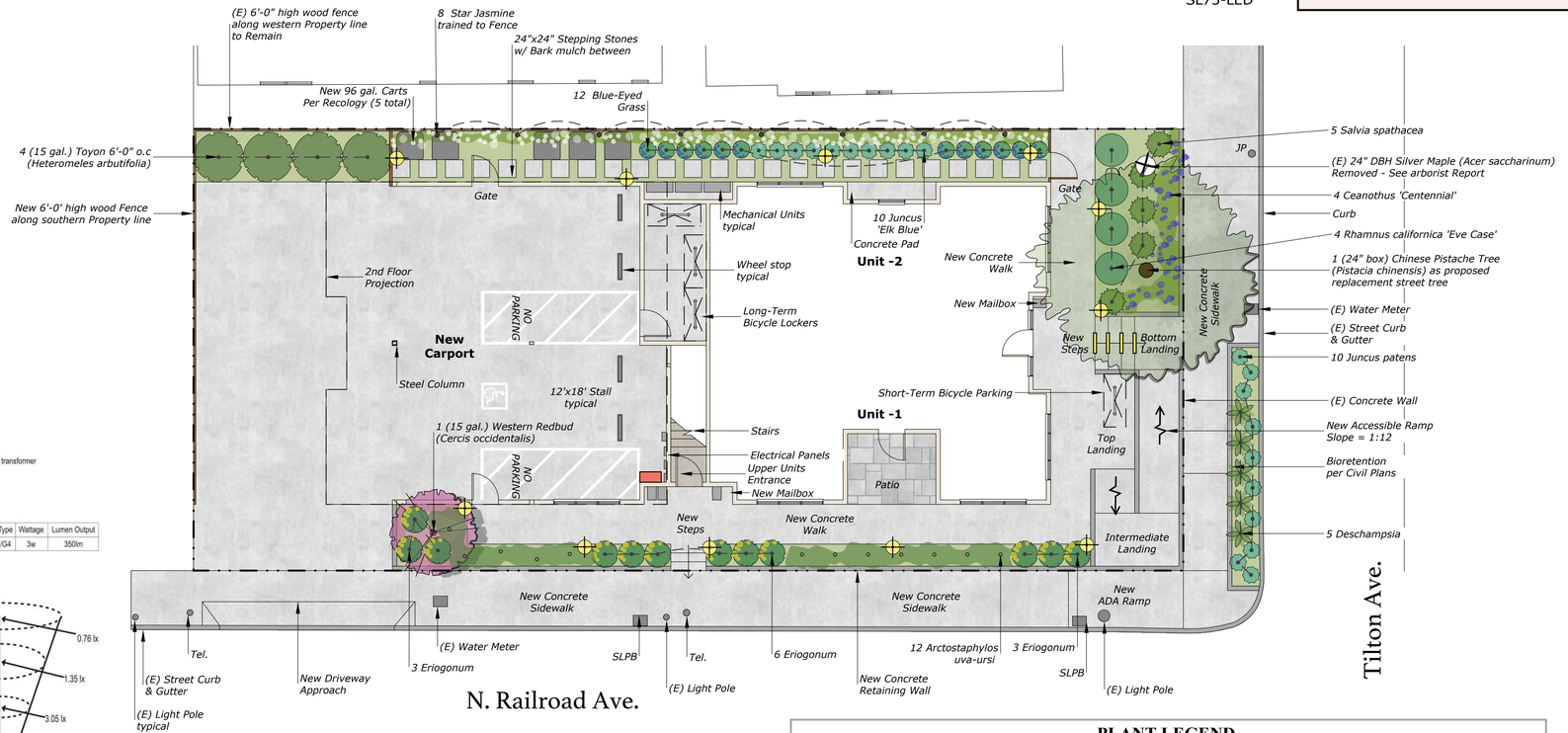


Low Voltage Lights- by Alliance

Symbol	Manufacturer / Model / Description	Qty.
	Alliance iT150 Transformer	1
	Alliance Outdoor Lighting PL200-LED-Walk Light Brass Area Light Fixture. Hat 7" Diameter. Order code: PL200, (AB) Aged Brass, Standard Ground Stake Lamp: LBIPIN-350lm	12
	Alliance Outdoor Lighting SL75 - Ledge Light LED Step Light Fixture. 6.8" H x 3.4" D. Order code: SL75, Brass, (AB) Aged Brass. with Glare Shield Lamp: SL75-LED, 3WI4.5VA, 2700K.	4

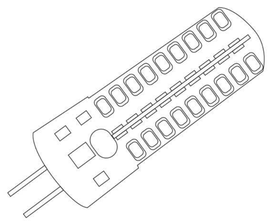
Walk Light
PL200-LED

Ledge Light
SL75-LED



ALLIANCE
Specification Sheet

Model: LBIPIN-LED-350LM (350 LUMEN BIPIN LED)



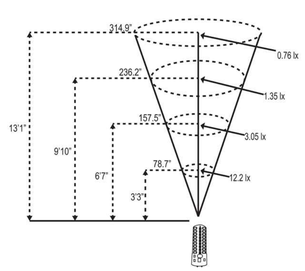
Specifications and Features:

Watts: 3
Base Type: G4/BiPin
Light Output: 350 lumens
Color: Warm White
Color Temperatures: 2700K
Operating Voltage: 8-24v
CRI: ~80
LED Chip Qty: 72 Pieces
Rated Hours: >25,000 hrs
Ambient Operating Temperature: -20°C - +50°C
Transformer Compatibility: Must be powered by magnetic transformer
Warranty: Five year limited warranty on LED components

Lamp Color Options

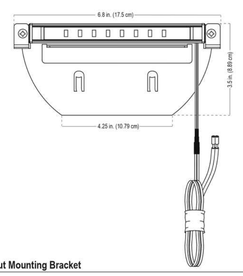
Model #	Color	Color Temp.	Base Type	Wattage	Lumen Output
LBIPIN-LED-350LM	Warm White	2700K	BIPIN/G4	3w	350lm

Notes:



Model: SL75-LED (Integrated LED Edge Light)

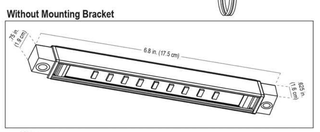
Bracket Width: 6.8 in. (17.5 cm)
Bracket Depth: 3.5 in. (8.8 cm)
LED Housing Height: .625 in. (1.6 cm)
LED Housing Depth: .75 in. (1.9 cm)



Specifications and Features:

Body: Brass fixture, aged brass finish
Mounting Bracket: Stainless steel, aged brass finish
Wire: 10' Foot wire lead, 16 awg (UL listed), brown, Pre-connected to the fixture, Pre-stripped for easy wire connection
Warranty: 10 Year warranty
Integrated LED Strip: 9 Chips
- **Watts:** 3w
- **Beam Angle:** 120°
- **Beam Spread:** Flood
- **Light Output:** 300 Lumens
- **Color:** Warm White
- **Color Temperature:** 2700K
- **Operating Voltage:** 10Vac - 15Vac
- **CRI:** Ra>80
- **Halogen Equivalent:** 20w
- **Rated Hours:** 30,000
- **Ambient Operating Temperature:** -40°C ~ +85°C

Without Mounting Bracket



Notes:

PLANT LEGEND

BOTANICAL	COMMON	SIZE	QTY	WATER	REMARKS
Tree					
Cercis occidentalis	Western Redbud	15 gal	1	Very Low	Ca. Native
Heteromeles arbutifolia	Toyon	15 gal	4	Very Low	Ca. Native
Pistacia chinensis	Chinese Pistache	24" box	1	Low	Replacement Street Tree
Shrub					
Ceanothus 'Centennial'	Centennial Mountain Lilac	1 gal	4	Very Low	Ca. Native
Rhamnus californica 'Eve Case'	Eve Case Compact Coffeeberry	5 gal	4	Very Low	Ca. Native
Salvia spathacea	Hummingbird Sage	1 gal	5	Low	Ca. Native
Ground cover					
Arctostaphylos uva-ursi	Bearberry	1 gal	12	Low	Ca. Native
Trachelospermum jasminoides	Star Jasmine	5 gal	8	Low	
Perennial					
Eriogonum umbellatum	Sulfur Flower	5 gal	14	Low	Ca. Native
Sisyrinchium bellum	Blue-Eyed Grass	1 gal	20	Very Low	Ca. Native
Grass					
Deschampsia cespitosa	Tufted Hair Grass	1 gal	5	Low	Ca. Native
Juncus patens	California Gray Rush	1 gal	10	Medium	Ca. Native
Juncus patens 'Elk Blue'	Elk Blue California Gray Rush	1 gal	10	Low	Ca. Native

Note: 91% of the proposed plants are California native.

At least 4 cu. yds. of compost, six (6) inches deep, shall be applied per 1,000 sq. ft. of landscape area.

A minimum three (3") inch layer of bark mulch shall be applied on all exposed soil surfaces of planting areas.

Refer to L-3 for Planting Details

N

SCALE 1/8" = 1'-0"

0 8 16

*** NOTES (E) = Existing**

REVISIONS	BY

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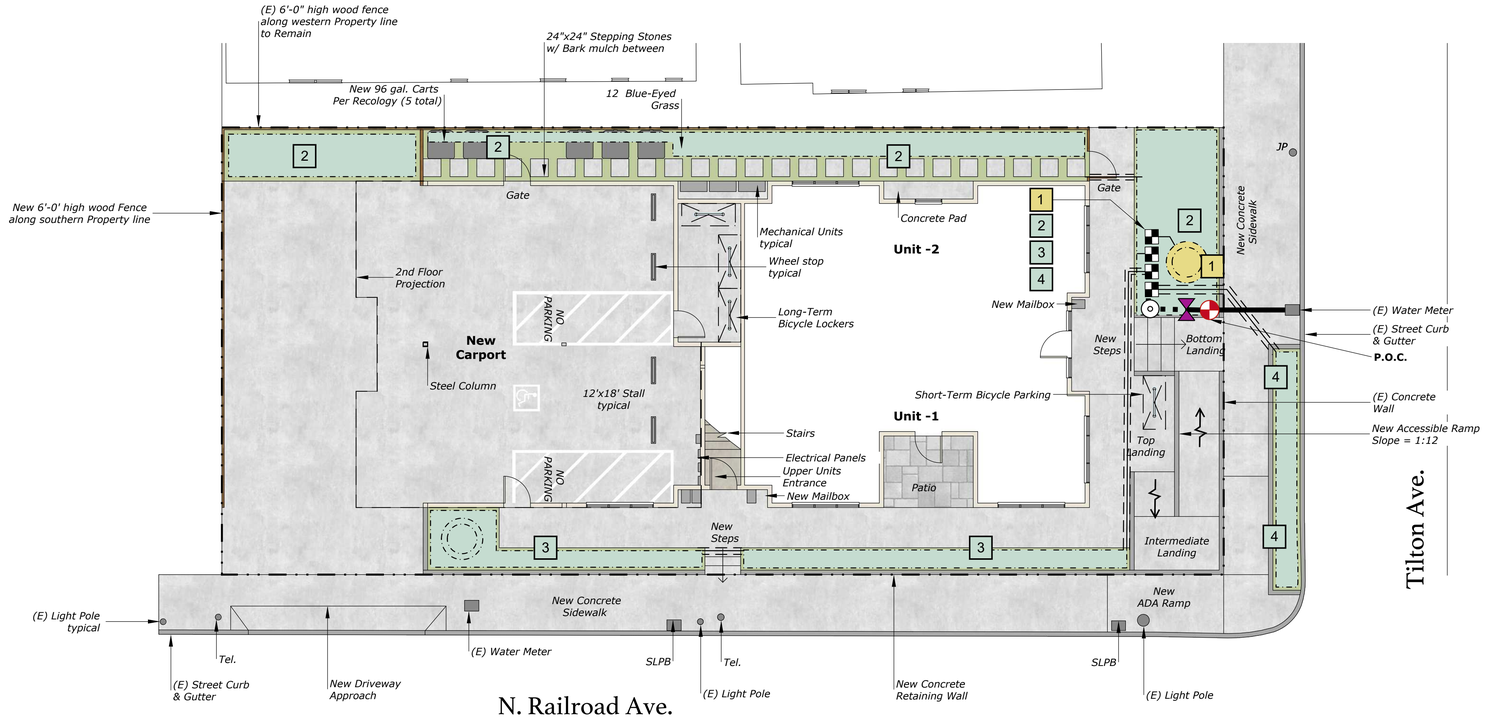
TILTON UNITS
330 Tilton Ave. San Mateo, CA.
PLANTING & LIGHTING PLAN

LICENSED LANDSCAPE ARCHITECT
KAREN JONES AITKEN
No. 2239
Exp. 8-31-25
STATE OF CALIFORNIA

DATE	11-20-24
SCALE	1/8"=1'-0"
DRAWN	AD
JOB	TILTON UNITS

L-1



IRRIGATION NOTES

1. THE IRRIGATION SYSTEM IS TO BE INSTALLED IN CONFORMANCE WITH ALL LOCAL CODES.

2. THIS IRRIGATION DESIGN IS DIAGRAMMATIC IN NATURE AND DOES NOT REPRESENT AN EXACT LAYOUT. THE CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS IN HEAD, VALVE, AND PIPING LAYOUT. FOR GRAPHIC CLARITY, PIPING MAY BE SHOWN OUTSIDE OF PLANTING AREAS BUT SHOULD BE INSTALLED IN BEDS WHENEVER POSSIBLE.

3. REMOTE CONTROL VALVES SHALL BE INSTALLED FLUSH WITH FINISH GRADE AND SHOULD BE INSTALLED IN PLANTING AREAS ONLY. USE EXISTING VALVE BOXES WHEN POSSIBLE.

4. WHERE PIPE PASSES UNDER DRIVING SURFACES, AND WALKS PROVIDE PVC SLEEVES AS NOTED ON PLANS. CONTRACTOR TO USE EXISTING SLEEVING WHEN POSSIBLE AND IS TO LOCATE ON SITE.

5. CONTRACTOR TO CONFIRM THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND STRUCTURES PRIOR TO EXCAVATION OF TRENCHES. CONTRACTOR TO REPAIR ANY DAMAGES CAUSED BY, OR DURING THE PERFORMANCE OF HIS WORK AT NO EXTRA COST TO THE OWNER.

6. A DIAGRAM OF THE IRRIGATION PLAN SHOWING HYDROZONES SHALL BE KEPT WITH THE IRRIGATION CONTROLLER FOR SUBSEQUENT MANAGEMENT PURPOSES.

7. AN IRRIGATION AUDIT REPORT SHALL BE COMPLETED BY A CERTIFIED IRRIGATION AUDITOR AT THE TIME OF FINAL INSPECTION

SOIL PREPARATION, MULCH AND AMENDMENTS

THE FOLLOWING CRITERIA SHALL BE USED IN THE PREPARATION OF ON-SITE SOILS AND FOR MULCHING PROCEDURES:

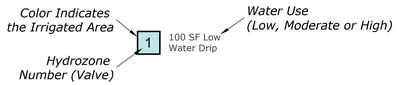
A) PRIOR TO THE PLANTING OF ANY MATERIALS, COMPACTED SOILS SHALL BE TRANSFORMED TO A FRIABLE CONDITION. ON ENGINEERED SLOPES, ONLY AMENDED PLANTING HOLES NEED MEET THIS REQUIREMENT.

B) SOIL AMENDMENTS SHALL BE INCORPORATED ACCORDING TO RECOMMENDATIONS OF THE SOIL REPORT AND WHAT IS APPROPRIATE FOR THE PLANTS SELECTED.

C) FOR LANDSCAPE INSTALLATIONS, COMPOST AT A RATE OF A MINIMUM OF FOUR CUBIC YARDS PER 1,000 SQUARE FEET OF PERMEABLE AREA SHALL BE INCORPORATED TO A DEPTH OF SIX INCHES INTO THE SOIL. SOILS WITH GREATER THAN 6% ORGANIC MATTER IN THE TOP 6 INCHES OF SOIL ARE EXEMPT FROM ADDING COMPOST AND TILLING.

D) A MINIMUM THREE INCH (3") LAYER OF BARK MULCH SHALL BE APPLIED ON ALL EXPOSED SOIL SURFACES OF PLANTING AREAS EXCEPT IN TURF AREAS, CREEPING OR ROOTING GROUNDCOVERS, OR DIRECT SEEDING APPLICATIONS WHERE MULCH IS CONTRAINDICATED.

IRRIGATION KEY	
———	Irrigation Lateral Line: 1 in. PVC Class 200
▬ ▪ ▬ ▪ ▬	Irrigation Mainline: 1 in. PVC Schedule 40
— — — — —	Pipe Sleeve: PVC Class 200 - Typical pipe sleeve for irrigation pipe. Pipe sleeve size shall allow for irrigation piping and their related couplings to easily slide through sleeving material. Extend sleeves 18 inches beyond edges of paving or construction.
	Hunter ICZ-101-25-LF Drip Control Zone Kit. 1" ICV Globe Valve with 1" HY100 filter system. Pressure Regulation: 25psi. Flow Range: .5-15 GPM. 150 mesh stainless steel screen.
	Hunter HFS-150 Flow Sensor for use with ACC controller, 1" Schedule 40 Sensor Body, 24 VAC, 2 amp.
	Hunter Dripline HDL-06-12-CV Hunter Dripline w/ 0.9 GPH emitters every 12 in. Dripline laterals spaced at 12" apart. Install with Hunter PLD barbed or PLD-LOC fittings. Tree Ring Irrigation Dripline w/ 0.9 drip emitters placed every 12 in. Inner ring 12" from plant. Outter ring 30" from plant. Place tie down every 4' in loam and 5' in clay.
C	**Hunter ACC-1200** 12 Station Outdoor Modular Controller. No Module Required. High-End Commercial Use. Metal Cabinet.
WS	**Hunter SOIL-CLIK** The Soil-Clik probe uses proven technology to measure moisture within the root zone. When the probe senses that the soil has reached its desired moisture level, it will shut down irrigation, preventing water waste.
SS	**Hunter Solar-Sync WSS-SEN** Solar, rain freeze sensor with outdoor interface, connects to Hunter PCC, Pro-C, and I-Core Controllers, install as noted. Includes 10 year lithium battery and rubber module cover, and gutter mount bracket. Wireless.
	Gate Valve - Insolation Shut off Valve



Hydrozone - Valves

1	30 SF Med. Water Drip (Tree)	3	242 SF Low Water Drip
2	614 SF Low Water Drip	4	82 SF Low Water Drip (Bioretention)

Total Irrigated Landscape Area Represent 968 sf.

"I have complied with the criteria of the Water Conservation in Landscaping Ordinance and applied them accordingly for the efficient use of water in the landscape & irrigation design plans."

Refer to L-3 for Irrigation Details & Water Calculations

N

SCALE 1/8" = 1'-0"

0 8 16

*** NOTES (E) = Existing**

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IRRIGATION PLAN

LICENSED LANDSCAPE ARCHITECT
KAREN JONES AITKEN
No. 2239
Exp. 8-31-25
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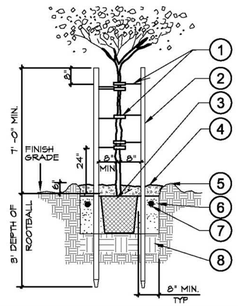
DATE	11-20-24
SCALE	1/8"=1'-0"
DRAWN	AD
JOB	TILTON UNITS

L-2

NOTE:

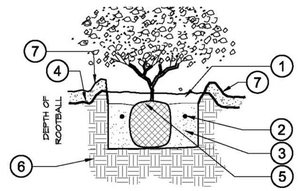
ALL TREES 5' OR CLOSER TO HARDSCAPE SURFACE OR BUILDING SHALL HAVE ROOT-BARRIER PANELS, INSTALLED PER MANUFACTURE SPECIFICATIONS AND EXTEND 10' IN EACH DIRECTION FROM TREE TRUNK. SEE ROOT BARRIER DETAIL ON THIS SHEET.



LEGEND

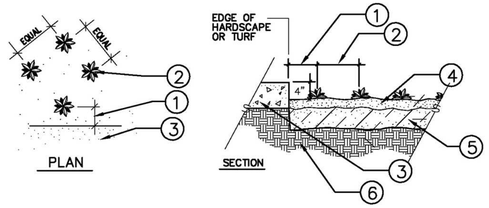
1. "CINCH-TIE" TREE TIE - WRAP WIRE AROUND OUTSIDE OF STAKE. SECURE TO STAKE PER MANUFACTURE'S RECOMMENDATIONS, PLACE BELOW BRANCHING YOKE OF TREE
2. LODGE POLE PINE STAKES: 3 POLES FOR 36" BOX IN TRIANGLE ARRANGEMENT
3. SET TOP OF ROOTBALL 2" ABOVE FINISH GRADE.
4. 2" SHREDDED BARK MULCH, (APPROX. 3' DIA. RING)
5. WATER BASIN (SHRUB AREAS ONLY)
6. BACKFILL MIX- 1/3 SITE SOIL 1/3 SAND, 1/3 GROW MULCH
7. PLANTING FERTILIZER TABLETS (SEE DETAIL/CHART ON THIS SHEET) APPLICATION RATES PER MANUFACTURER SPECIFICATIONS OR SOILS REPORT RECOMMENDATION
8. NATIVE SOIL SUBGRADE EXCAVATE TO CORRECT HEIGHT FOR PLANTING. SCARIFY BOTTOM TO ENSURE ADEQUATE DRAINAGE FOR HEALTHY GROWTH OF PLANT.

TREE PLANTING WITH DOUBLE STAKE



1. WATER BASIN WITH 2" X 2" SHREDDED BARK MULCH.
2. TRI-C MYCO PAKS (SEE DETAIL "E" ON THIS SHEET). APPLICATION RATES PER MANUFACTURER SPECIFICATIONS.
3. BACKFILL MIX- 1/3 SITE SOIL, 1/3 SAND, 1/3 GROW MULCH.
4. FINISH GRADE
5. ROOTBALL 1"-2" ABOVE FINISH GRADE
6. NATIVE SOIL SUBGRADE EXCAVATE TO CORRECT HEIGHT FOR PLANTING. SCARIFY BOTTOM TO ENSURE ADEQUATE DRAINAGE FOR HEALTHY GROWTH OF PLANT.
7. 3" MULCH LAYER

TYPICAL SHRUB PLANTING

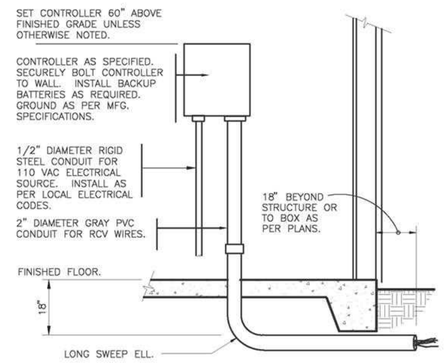


LEGEND

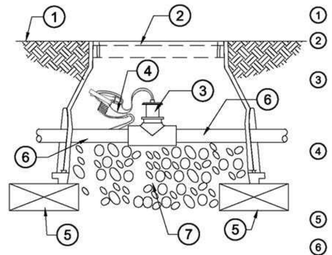
1. 1/2 TIMES O.C.SPACING
2. GROUNDCOVER PLANTS / SEE LEGEND FOR TYPE, SIZE AND SPACING SPEC.
3. HARDSCAPE OR TURF
4. 3" DEEP SHREDDED BARK MULCH LAYER 3/4" MINUS SIZE
5. TILLED AND AMENDED PLANTING BED PER PLANTING NOTES.
6. UNDISTURBED NATIVE SOIL SUBGRADE

NOTE: ESTABLISH FINISH GRADE 2" BELOW FINISH SURFACE OF HARDSCAPE/CURB. ROTOTILL AREAS BEING AMENDED TO A DEPTH OF 6" BLEND AMENDMENTS INTO NATIVE SOIL TO AVOID ANY DISTINCT SOIL HORIZON.

GROUNDCOVER PLANTING DETAIL



INTERIOR WALL MOUNT CONTROLLER



1. FINISH GRADE
2. CARSON VALVE BOX WITH LOCKING LID
3. FLOW SENSOR (SEE IRRIGATION LEGEND FOR MANUFACTURER, MODEL AND SIZE)
4. IRRIGATION CONTROL WIRES WITH MINIMUM 12" COIL OF WIRE
5. (4) BRICKS
6. MAINLINE PIPE FROM MASTER VALVE
7. 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL

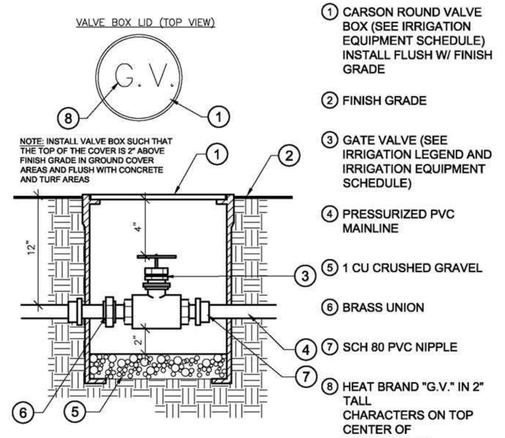
NOTES:

1- FLOW SENSOR WIRE SHALL BE PER THE CONTROLLER MANUFACTURER'S SPECIFICATIONS.

2- INSTALL FLOW SENSOR PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

3- ALL WIRE RUNS SHALL BE CONTINUOUS WITHOUT ANY SPLICES. WIRE CONNECTIONS SHALL BE MADE USING DBR/Y-6 CONNECTORS OR APPROVED EQUAL.

FLOW SENSOR

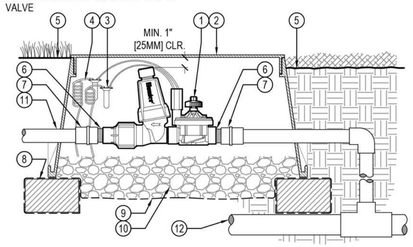


1. CARSON ROUND VALVE BOX (SEE IRRIGATION EQUIPMENT SCHEDULE) INSTALL FLUSH W/ FINISH GRADE
2. FINISH GRADE
3. GATE VALVE (SEE IRRIGATION LEGEND AND IRRIGATION EQUIPMENT SCHEDULE)
4. PRESSURIZED PVC MAINLINE
5. 1 CU CRUSHED GRAVEL
6. BRASS UNION
7. SCH 80 PVC NIPPLE
8. HEAT BRAND "G.V." IN 2" TALL CHARACTERS ON TOP CENTER OF VALVE BOX LID

ISOLATION SHUT OFF VALVE

LEGEND

1. HUNTER REMOTE CONTROL VALVE (ICZ) WITH FILTER REGULATOR
2. IRRIGATION VALVE BOX: HEAT STAMP LID WITH 'RCV' IN 2" LETTERS
3. WATERPROOF CONNECTORS (2)
4. 18"-24" COILED WIRE TO CONTROLLER
5. FINISH GRADE AT ADJACENT SURFACE (TURF OR MULCH)
6. SCH. 80 CLOSE NIPPLE, MATCH SIZE TO VALVE
7. PVC SLIP X FPT ADAPTOR
8. BRICK SUPPORTS (4)
9. FILTER FABRIC - WRAP TWICE AROUND BRICK SUPPORTS
10. 3/4" WASHED GRAVEL - 4" MIN. DEPTH
11. IRRIGATION LATERAL
12. MAINLINE LATERAL AND FITTINGS



DRIP CONTROL ZONE KIT (ICZ-101-LF)

Hunter V.ICZ.01 NO SCALE

MAWA EPPT and ETWU Calculations

Project Name:	Tilton Units
Project Location:	330 Tilton Ave. San Mateo, CA.
Total Landscape Area:	968.0 sq. ft.
Date:	10/17/23

MAWA CALCULATION

MAWA = (Eto)(.62)((.55xLA) + (1-ETAF x SLA))]

MAWA = Maximum Applied Water Allowance (gallons per year)
Eto = Reference Evapotranspiration (inches per year)
.62 = Conversion Factor (to gallons)
0.55 = Et Adjustment Factor (ETAF)
LA = Landscape Area including SLA (square feet)
0.45 = Additional Water Allowance for SLA
SLA = Special Landscape Area (square feet)

Eto =	42.7
Conversion	0.62
ETAF	0.55
LA =	968
SLA =	0
MAWA =	14,094.8 gallons per year
	1,884.3 cubic feet per year

MAWA with EPPT

MAWA = (Eto-Eppt)(.62)((.0.55xLA) + (1-ETAF x SLA)]
Eppt= 25% of Annual precipitation

Eto =	42.7
Eppt=	5
ETAF=	0.55
LA =	968
SLA =	0
MAWA w/ EPPT =	12,467.7 gallons per year
	1,666.8 cubic feet

ETWU CALCULATION

ETWU = (Eto)(.62)((PF/IE)(LA)

ETWU = Estimated Total Water Use Per Year (gallons)
ETo = Reference Evapotranspiration
PF = Plant Factor from WUCOLS (Region 2, Water Use: H 0.7 - 0.9, M 0.4 - 0.6, L 0.1 - 0.3, VL < 0.1, All Turf 0.8)
LA = Landscape Area (High, Medium, and low water use areas)(square feet)
SLA = Special Landscape Area
.62 = Conversion Factor
IE = Irrigation Efficiency (drip spray and bubblers .81, sub surface .81, spray sprinklers .75
ET Adjustment Factor (ETAF) .55 for Residential and .45 for Non Residential

Reference Evapotranspiration (Eto)	42.7	San Mateo, Ca

REGULAR LANDSCAPE AREAS

Hydrozone #/ Plant Description	Irrigation Method	Plant Factor (PF)	Irrigation Efficiency (IE)	ETAF (PF/IE)	Landscape Area (sq. ft)	ETAF x Area	ETWU
1.) Med Water Use/ Tree	Drip	0.5	0.81	0.617283951	30.0	18.5	490.3
2.) Low Water Use/ Shrubs	Drip	0.3	0.81	0.37037037	614.0	227.4	6,020.4
3.) Low Water Use/ Shrubs	Drip	0.3	0.81	0.37037037	242.0	89.6	2,372.9
4.) Low Water Use/ Grasses	Drip	0.3	0.81	0.37037037	82.0	30.4	804.0
					Total sf ft.	Totals	Totals
					968.0	365.9	9,687.5
						ETWU TOTAL	9,687.5
						MAWA	14,094.8

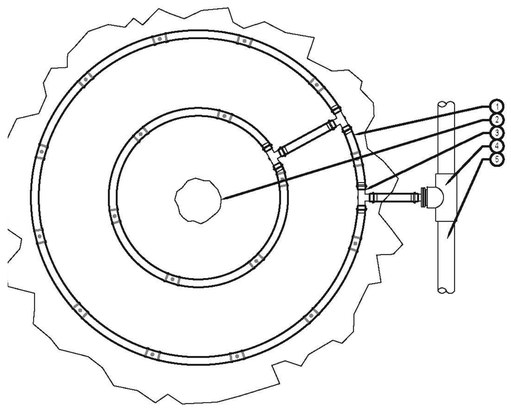
ETAF CALCULATIONS

Regular Landscape Areas	
Total ETAF x Area	365.9
Total Area	968.0
Average ETAF	0.38

Average ETAF for Regular Landscape Areas must be .55 or below for residential areas, and .45 or below for non residential areas.

HUNTER DRIPLINE - TREE RING LARGE SPECIMEN

Hunter HM.HDL.10 NOT TO SCALE



LEGEND:

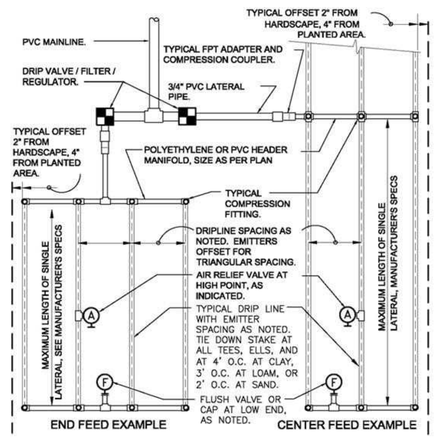
1. HUNTER DRIPLINE (HDL) PER PLAN
2. TREE (SEE PLANTING PLAN)
3. PLD OR PLD-LOC FITTING TYP.
4. PVC TO DRIP LINE TUBING CONNECTION (PLD OR PLD-LOC FITTINGS) TYP.
5. PVC LATERAL LINE

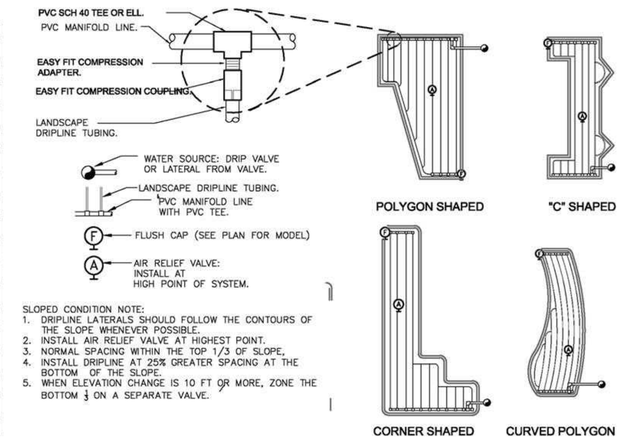
NOTES
AIR RELIEF VALVE (PLD-AVR) INSTALLED IN VALVE BOX AT OPTIMAL HIGHEST POINT FROM CONTROL ZONE KIT. MULTIPLE AIR RELIEF VALVES MAY BE NEEDED TO ACCOMMODATE DIFFERENCES IN GRADE.

ECO-INDICATOR TO BE INSTALLED AT OPTIMAL FURTHI POINT FROM CONTROL ZONE KIT IN CLEAR VIEW WHEN POPPED UP.

FLUSH POINT TO BE INSTALLED AT OPTIMAL FURTHES' POINT FROM CONTROL ZONE KIT TO ALLOW FOR MAXI DEBRIS FLUSH IN SYSTEM.

TYPICAL DRIPLINE LAYOUT





SLOPED CONDITION NOTE:
1. DRIPLINE LATERALS SHOULD FOLLOW THE CONTOURS OF THE SLOPE WHENEVER POSSIBLE.
2. INSTALL AIR RELIEF VALVE AT HIGHEST POINT.
3. NORMAL SPACING WITHIN THE TOP 1/3 OF SLOPE.
4. INSTALL DRIPLINE AT 25% GREATER SPACING AT THE BOTTOM OF THE SLOPE.
5. WHEN ELEVATION CHANGE IS 10 FT OR MORE, ZONE THE BOTTOM ⅓ ON A SEPARATE VALVE.

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IRRIGATION AND PLANTING DETAILS

LICENSED LANDSCAPE ARCHITECT
KAREN JONES AITKEN
No. 2239
Exp. 8-31-25
STATE OF CALIFORNIA

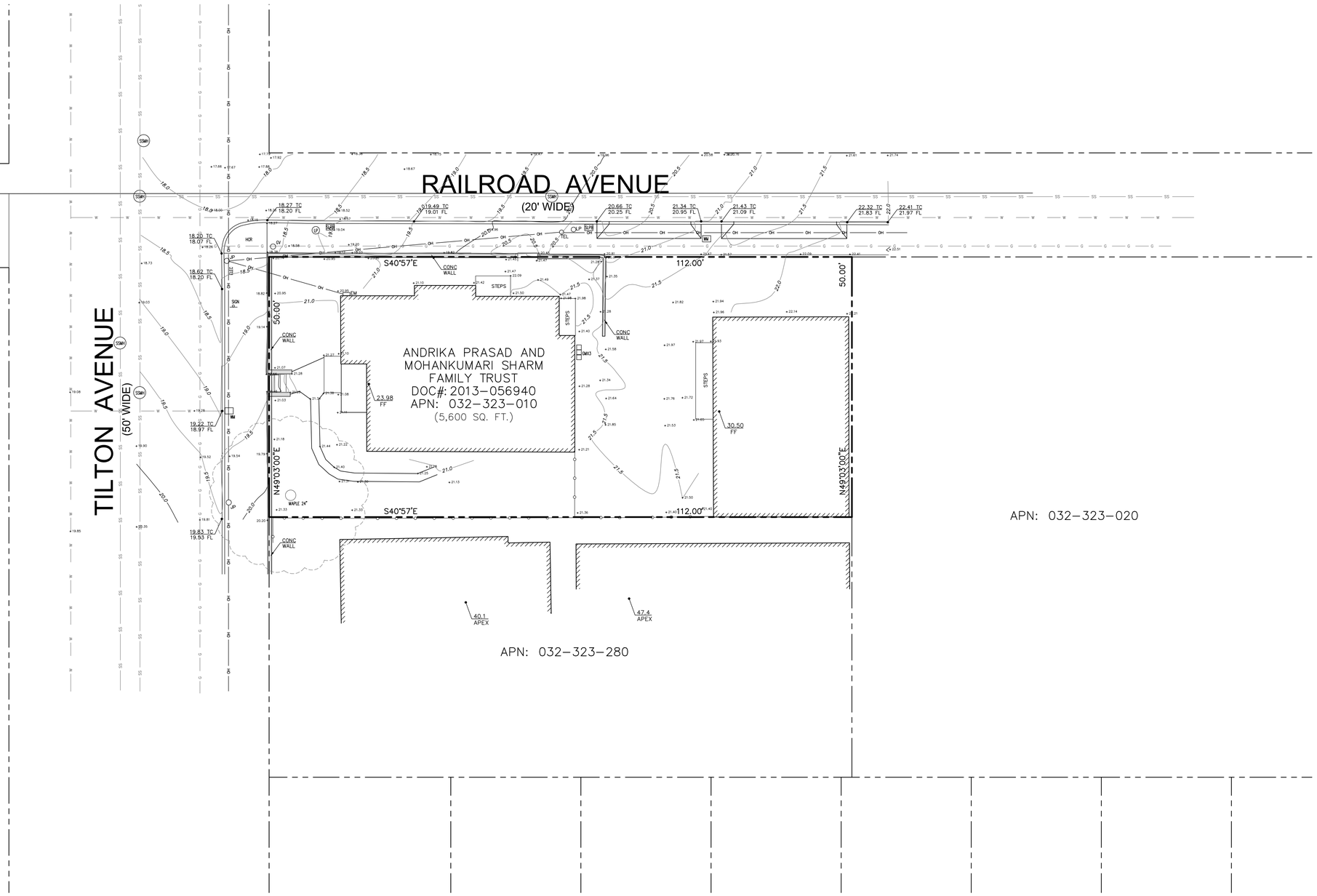
DATE	11-20-24
SCALE	N.T.S
DRAWN	AD
JOB	TILTON UNITS

L-3

EASEMENT NOTE:

(1) EASEMENT DOCUMENT (DOC# 2013-165785) WAS REVIEWED BY THE SURVEYOR. THE LOCATION OF THIS EASEMENT CANNOT BE PLOTTED ON THE TOPOGRAPHIC SURVEY MAP DUE TO THE ABSENCE OF A SPECIFIC LEGAL DESCRIPTION OR DELINEATION OF THE EASEMENT'S LOCATION.

(2) THE GRANTEE OF THIS EASEMENT IS SPRINT COMMUNICATIONS COMPANY. FOR FURTHER DETAILS OR CONCERNS REGARDING THIS EASEMENT, IT IS RECOMMENDED TO CONTACT THE GRANTEE DIRECTLY.



GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

ABBREVIATIONS AND LEGEND

BSBL	BUILDING SETBACK LINE
CB	CATCH BASIN
CONC	CONCRETE
EM	ELECTRIC METER
ELEC	ELECTRIC PULL BOX
FT	FRUIT TREE
GM	GAS METER
GV	GAS VALVE
HCR	HANDICAP RAMP
JP	JOINT POLE
LP	LIGHT POLE
PUE	PUBLIC UTILITY EASEMENT
SSCO	SANITARY SEWER CLEAN OUT
SLPB	STREETLIGHT PULL BOX
TC	TOP OF CURB
TEL	TELEPHONE
UNK T	UNKNOWN TREE
WM	WATER METER
———	BOUNDARY LINE
—o—o—	EXISTING FENCE LINE
⊘ ⊘ ⊘	EXISTING BUILDING OUTLINE
◉	FOUND STANDARD CITY MONUMENT
( )	INDICATES REFERENCE MAP NUMBER

(SSMH)	SANITARY SEWER MANHOLE
(DMH)	STORM DRAIN MANHOE
	FIRE HYDRANT
—SS—	SANITARY SEWER LINE
—W—	WATER LINE
—OH—	OVERHEAD ELECTRICAL LINE
—G—	GAS LINE
—SD—	STORM DRAIN LINE

REFERENCE INFORMATION

(1) 21 LLS 83 (2) 14 MAPS 77

NOTE:

(1) ALL DISTANCES AND DIMENSIONS SHOWN ARE IN FEET AND DECIMALS THEREOF UNLESS OTHERWISE NOTED.
(2) BUILDING OUTLINE WAS MEASURED AT BUILDING EXTERIOR FINISH WALL SURFACE UNLESS OTHERWISE NOTED.
(3) ELEVATION DATUM: NAVD 88. ELEVATIONS WERE ESTABLISHED WITH GNSS OBSERVATIONS.
(4) A PRELIMINARY REPORT WAS NOT PROVIDED FOR CHECKING EASEMENT OF RECORDS. OTHER EASEMENTS MAY EXIST THAT ARE NOT SHOWN ON THIS MAP.

UTILITY NOTE

1. THE SURFACE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN LOCATED BY FIELD SURVEY. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN COMPILED FROM RECORDS OF THE VARIOUS AGENCIES. THE SURVEYOR ASSUMES NO RESPONSIBILITY FOR THEIR INDICATED LOCATION, SIZE, OR TYPE. RECORD UTILITY INFORMATION SHOULD BE CONFIRMED BY EXPOSING THE UTILITY.
2. SANITARY SEWER CLEAN OUT WAS SEARCHED NOT FOUND ON SITE. SANITARY SEWER LATERAL LOCATION IS NOT DETERMINED AND TO BE VERIFIED IN FIELD.

TOPOGRAPHIC SURVEY

LANDS OF ANDRIKA PRASAD AND MOHANKUMARI SHARM FAMILY TRUST
DOC#: 2013-056940
APN 032-323-010

(330 TILTON AVENUE)

CITY OF SAN MATEO SAN MATEO COUNTY CALIFORNIA

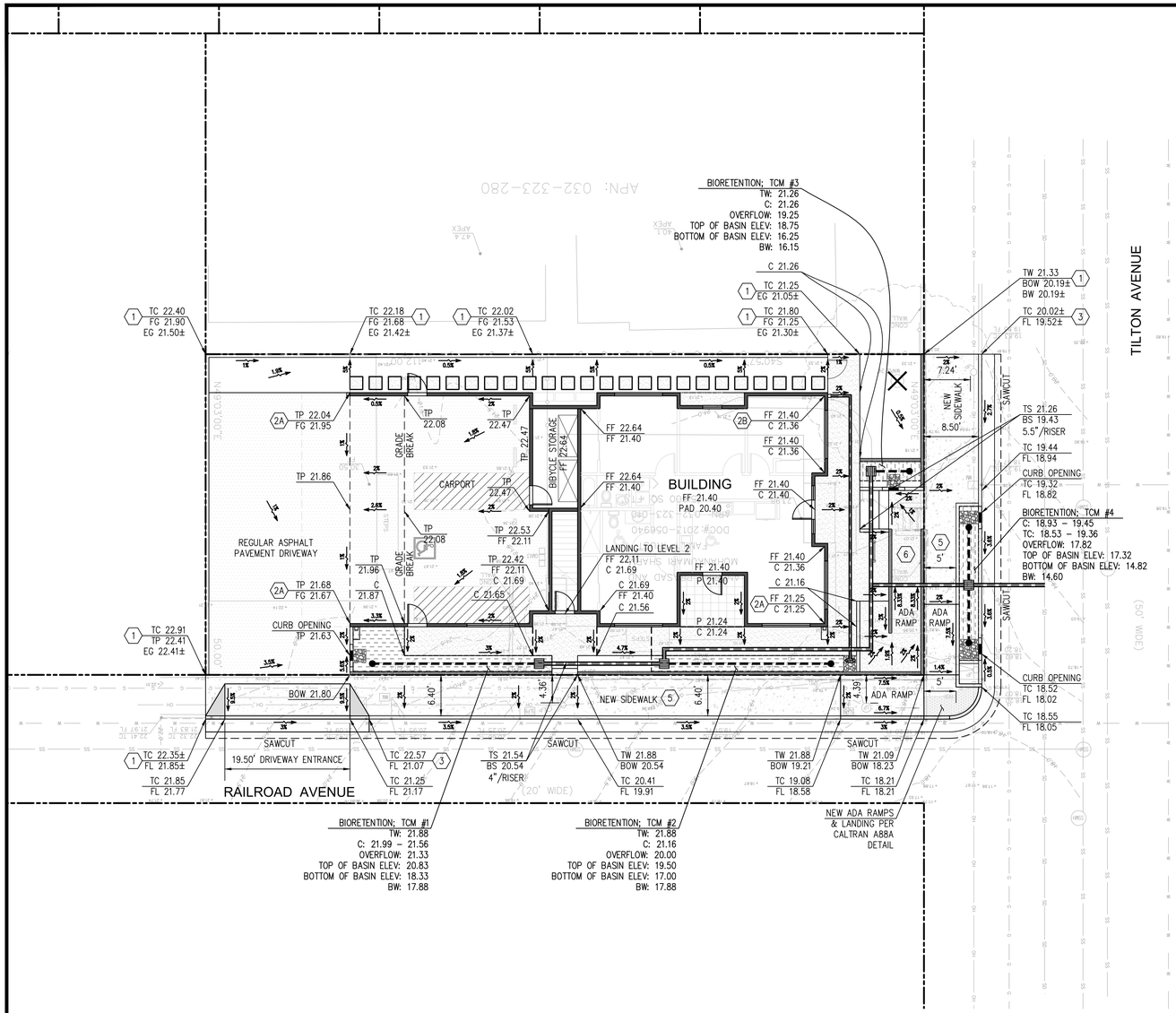
SCALE: 1"=10' MAY, 2023

Zhen Wang
ZHEN WANG

LICENSED LAND SURVEYOR
ZHEN WANG
Exp. 03-31-24
9653
STATE OF CALIFORNIA

05/15/2023
DATE

ZHEN'S LAND SURVEYING CORP.
1121 S GRANT ST., SAN MATEO, CA 94402
TEL: (415)802-9945



GRAPHIC SCALE

10 0 5 10 20

(IN FEET)
1 inch = 10 ft.

SITE DESIGN MEASURES:

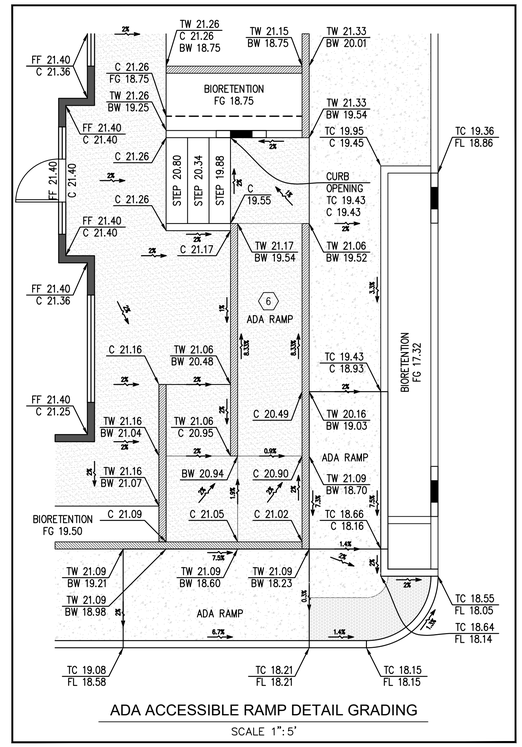
1. DIRECT RUNOFF FROM ROOFS, SIDEWALKS, PATIOS TO LANDSCAPED AREAS.

SOURCE CONTROL MEASURES:

1. BENEFICIAL LANDSCAPING.

PRE & POST DEVELOPMENT PERVIOUS/IMPERVIOUS AREAS:

AREA TYPE	EXISTING (SF)	PROPOSED (SF)
ONSITE LOT AREA	5,600	5,600
OFFSITE IMPROVEMENT AREA	1,813	1,813
TOTAL LAND DISTURBANCE		7,413
ON-SITE		
MAIN BUILDING (ROOF)	1,263	3,234
DETACHED GARAGE	1,002	N/A
PATIO/HARDSCAPE	323	844
DRIVEWAY	906	671
TOTAL IMPERVIOUS AREA	3,494	4,749
NET IMPERVIOUS AREA INCREASE:		1,255
PERVIOUS PAVERS	N/A	N/A
PERVIOUS AREA	2,106	851
TOTAL PERVIOUS AREA	2,106	851
OFF-SITE		
SIDEWALK AND CURB & GUTTER	1,813	1,732
PERVIOUS AREA	0	81



ADA ACCESSIBLE RAMP DETAIL GRADING

SCALE 1": 5'

GENERAL NOTES:

1. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
2. CONTRACTOR SHALL PROTECT ALL PROPERTY CORNERS.
3. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
4. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
5. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDING FOR ALL NATURAL AND PAVED AREAS.
6. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
7. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN GENERAL N.P.D.E.S. PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
8. UTILITY INSTALLATION SHALL BE IN ACCORDANCE WITH CITY OF SAN JOSE UTILITY STANDARDS FOR WATER, GAS & WASTEWATER.
9. CONTRACTOR SHALL REFER TO ARCH. PLANS FOR EXACT LOCATIONS OF UTILITIES SERVICES TO NEW BUILDING. COORDINATE WITH LOCAL UTILITIES COMPANIES FOR SERVICE CONNECTIONS.
10. UTILITY VAULTS, TRANSFORMERS, UTILITY CABINETS, CONCRETE BASES, OR OTHER STRUCTURES CANNOT BE PLACED OVER WATER MAINS/SERVICES. MAINTAIN 1' HORIZONTAL CLEAR SEPARATION FROM THE VAULTS, CABINETS & CONCRETE BASSES TO EXISTING UTILITIES AS FOUND IN THE FIELD. IF THERE IS CONFLICT WITH EXISTING UTILITIES, CABINETS, VAULTS & BASES SHALL BE RELOCATED FROM THE PLAN LOCATION AS NEEDED TO MEET FIELD CONDITIONS. TREES MAY NOT BE PLANTED WITHIN 10' OF EXISTING WATER MAINS/SERVICES OR METERS. MAINTAIN 10' BETWEEN TREES AND WATER SERVICES, MAINS & METERS.
11. CONSTRUCTION ENTRANCES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF GRADING. ALL CONSTRUCTION TRAFFIC ENTERING ONTO THE PAVED ROADS MUST ACROSS THE STABILIZED CONSTRUCTION ENTRANCE WAYS
12. CONTRACTOR SHALL COMPLY THE CITY CLEAN THE BAY TEMPLATE PROCEDURES FOR THE SITE.
13. SANITARY SEWER SHOWN FOR INFORMATION ONLY. SEE BUILDING PLUMBING PLANS FOR APPROVED DESIGN FOR CONSTRUCTION.

LEGEND

PROPERTY LINE
EX. SPOT ELEVATION
FLOW DIRECTION
GRADE BREAK
FLOW LINE
STORM DRAIN PIPE
DOWNSPOUT WITH SPLASH BLOCK
4" PERFORATED PIPE
STORM DRAIN CLEANOUT
18" WIDE CURB OPENING
STORM DRAIN INLET
REGULAR DUTY ASPHALT PAVEMENT
PATIO/PORCH PER ARCH. PLANS
CONCRETE HRADSCAPE PER ARCH. PLANS
PUBLIC CONCRETE SIDEWALK
TRUNCATED DOMES
ENERGY DISSIPATOR
BIORETENTION
EX TREE TO BE REMOVED

ABBREVIATIONS:

BC	= BOTTOM OF CURB	FG	= FINISHED GRADE	P	= PORCH/PATIO
BOW	= BACK OF SIDEWALK	FL	= FLOWLINE	S	= SLOPE
BW	= BOTTOM OF WALL	FOW	= FRONT OF WALK	SD	= STORM DRAIN
C	= CONCRETE	G	= GARAGE	TC	= TOP OF CURB
EG	= EXISTING GRADE/GROUND	GB	= GRADE BREAK	TG	= TOP OF GRATE
EX	= EXISTING	IE	= INVERT ELEVATION	TP	= TOP OF PAVEMENT
FF	= FINISHED FLOOR	LF	= LINEAL FEET	TYP	= TYPICAL

GRADING NOTES

1. MATCH EXISTING ELEVATION
2A. DOWNSPOUT WITH CONCRETE SPLASH PAD PER DETAIL 1A
2B. RAINWATER LEADER PER DETAIL 1D
3. BEGIN/END CURB & GUTTER PER CITY OF SAN MATEO STANDARD DETAIL
4. BEGIN/END SIDEWALK PER CITY OF SAN MATEO STANDARD DETAIL
5. REMOVE EXISTING DRIVEWAY ENTRANCE AND REPLACE WITH NEW SIDEWALK PER CITY OF SAN MATEO STANDARD DETAIL
6. ADA ACCESSIBLE RAMP WITH HANDRAIL TO UNIT #1. MAX SLOPE NOT TO EXCEED 8.33%. SEE ARCH PLANS FOR RAMP DETAIL

EARTHWORK VOLUME:

(INCLUDES BUILDING PAD)

EARTHWORK QUANTITIES:	VOLUME (CUBIC YARD)
FILL	30
COMPACTION RATE: 15%	30 x 0.15 = 4.5
TOTAL FILL	35 (ROUND UP)
CUT	120 *
TOTAL EARTHWORK	85 (EXPORT)

CONTRACTOR SHALL ESTIMATE THEIR EARTHWORK QUANTITIES WHEN BIDDING ON THIS PROJECT

* INCLUDES BIORETENTION EXCAVATION

REV.	DATE	DESCRIPTION
1	3/25/24	REVISION PER PLANNING COMMENTS, 12/1/23
2	8/2/24	REVISION PER PLANNING COMMENTS, 4/24/24
3	11/20/24	REVISION PER PLAN CHECK COMMENTS

PRELIMINARY
GRADING AND DRAINAGE PLAN
ANDRIKA PRASAD RESIDENCE
328 TILTON AVENUE
SAN MATEO, CA 94401

GREEN
CIVIL ENGINEERING, INC
INFO@GREEN-CE.COM
1900 S. NORFOLK ST. SUITE #350
SAN MATEO, CA 94403

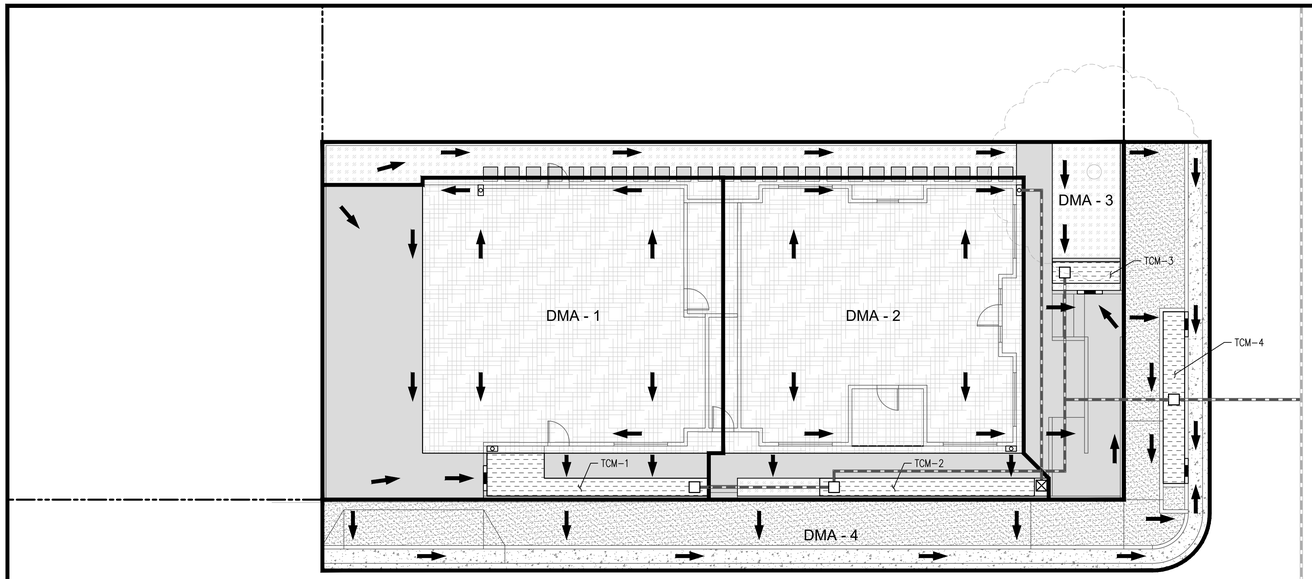
REGISTERED PROFESSIONAL ENGINEER
CHAN HANG (HOWARD) CHEUNG
No. 72068
Exp. 12/31/2024
CIVIL
STATE OF CALIFORNIA

SCALE

VERTICAL: 1"= AS SHOWN
HORIZONTAL: 1"= AS SHOWN

DATE:	3/21/24
DESIGNED:	HCL
DRAWN:	BL
REVIEWED:	HCL
JOB NO.:	20230022

SHEET
C1
1 OF 4 SHEETS



GRAPHIC SCALE

10 0 5 10 20

(IN FEET)
1 inch = 10 ft.

LEGEND:

- # — DESIGNATED DRAINAGE MANAGEMENT AREA (DMA WITH #)
- DESIGNATED TREATMENT CONTROL MEASURE AREA (TCM WITH #)
- ROOF AREA (INCLUDE ROOF EAVE & DOWNSPOUTS)
- ON-SITE IMPERVIOUS ASPHALT OR CONCRETE AREA
- ON-SITE LANDSCAPE AREAS
- OFF-SITE IMPERVIOUS CONCRETE AREA (SIDEWALK)
- OFF-SITE IMPERVIOUS CONCRETE AREA (CURB & GUTTER)
- SD COLLECTION SYSTEM
- CURB OPENINGS
- BUILDING DOWNSPOUTS
- SURFACE FLOW DIRECTION
- OVERFLOW CATCH BASIN
- OUTLET PIPE TO BIORETENTION

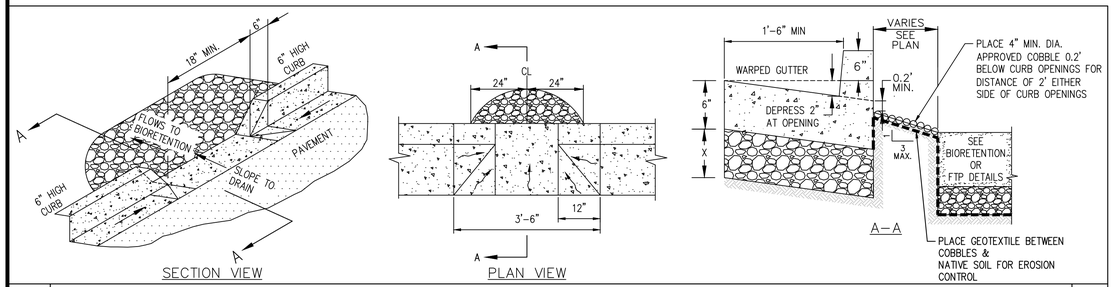
I.B Is the project a "C.3 Regulated Project" per MRP Provision C.3.b? (Use table below to make determination.)

I.B.1 Enter the amount of Impervious surface Retained, Replaced or Created[2] by the project (use DMA Table in Worksheet D):

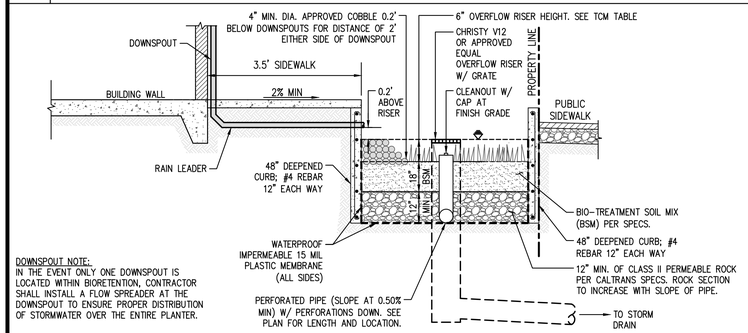
Table I.B.1 Impervious[6] and Pervious[6] Surfaces (Match DMA Summary Table in Worksheet D, if applicable)

	Pre-Project	Post-Project			
Impervious Surfaces (IS) (e.g., sidewalks, driveways, parking areas, patios, roads, rooftops, pools, pathways, etc.)	**I.B.1.a** Existing (Pre-Project) Impervious Surface (sq.ft.)	**I.B.1.b** Existing Impervious Surface to be Retained[3] (sq.ft.)	**I.B.1.c** Existing Impervious Surface to be Replaced[4] (sq.ft.)	**I.B.1.d** New Impervious Surface to be Created[5] (sq.ft.)	**I.B.1.e** Post-Project Impervious Surface (sq.ft.) (=b+c+d)
On-site area (within the parcel/private site boundaries)	3,494	-	3,494	1,275	4,769
Off-site area (e.g., frontage/other area in Public Right of Way)	1,813	-	1,732		1,732
Subtotal:	5,307	-	5,226	1,275	6,501
Total Impervious Surface Replaced and Created: ***(sum of totals for columns I.B.1.c and I.B.1.d):***		**I.B.1.f**	**6,501** sq. ft.		
Pervious Surfaces (PS) (e.g., landscaping, pervious pavement, bioretention areas, parking strips, street trees, etc. - both on-site and off-site)	Existing (Pre-Project) Pervious Surface (sq.ft.)				Post-project Pervious Surface (sq.ft.)
All pervious off-site area (e.g., frontage/Public Right of Way)[6]	-				81
Landscaping area on-site	2,106				831
Pervious Pavement area on-site				**I.B.1.g**	-
Green Roof area on-site					
Subtotal:	2,106		**50% Rule Calculation**		912
Total Project Area (should be equal to **I.A.1**)	7,413		**I.B.1.h** **100** %		7,413

DMA#	TCM#	TREATMENT TYPE	SIZING METHOD	DRAINAGE AREA (SF)	IMPERVIOUS AREA (SF)	PERVIOUS AREA (SF)	% AREA TREATED BY BY LID	BIORETENTION AREA REQUIRED (SF)	BIORETENTION AREA PROVIDED (SF)	BIORETENTION LINED OR UNLINED	OVERFLOW RISER HEIGHT (IN)	STORAGE DEPTH REQUIRED (FT)	STORAGE DEPTH PROVIDED (FT)	LOCATION	CORRESPONDING DETAIL
1	1	BIORETENTION (BELOW GRADE)	FLOW	2,493	2,387	106	33.6%	95.9	106	LINED	6	0.5	0.5	ONSITE	1
2	2	BIORETENTION (BELOW GRADE)	FLOW	1,920	1,811	109	25.9%	72.9	75	LINED	6	0.5	0.5	ONSITE	1
3	3	BIORETENTION (BELOW GRADE)	FLOW	1,187	571	616	16%	25.3	28	LINED	6	0.5	0.5	ONSITE	2
4	4	BIORETENTION (BELOW GRADE)	FLOW	1,813	1,732	81	24.5%	69.6	72	LINED	6	0.5	0.5	OFFSITE	3
				7,413	6,501	912	100%								



3 | CURB OPENING | N.T.S.

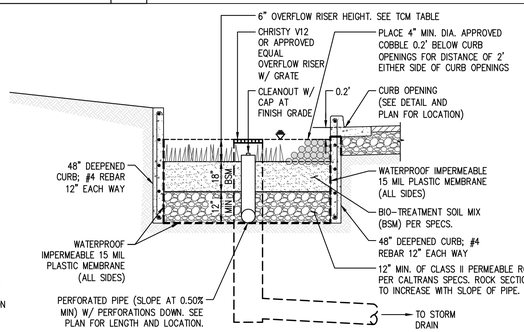


DOWNSPOUT NOTE:
IN THE EVENT ONLY ONE DOWNSPOUT IS LOCATED WITHIN BIORETENTION, CONTRACTOR SHALL INSTALL A FLOW SPREADER AT THE DOWNSPOUT TO ENSURE PROPER DISTRIBUTION OF STORMWATER OVER THE ENTIRE PLANTER.

NOTES:
1. PLACE 3 INCHES OF COMPOSTED, NON-FLOATABLE MULCH IN AREAS BETWEEN STORMWATER PLANTINGS.
2. PROJECT WILL NOT LOCATE TREES DIRECTLY IN LINE WITH OR NEXT TO STORMWATER INLETS (BUBBLE BOX EMITTERS, ETC.) AND WILL OFFSET OR RELOCATE TREES WHERE NECESSARY TO MAXIMIZE RUNOFF DISPERSAL THROUGHOUT BIORETENTION AREAS

TCM-1
TCM-2

1 | BIORETENTION (BELOW GRADE) | N.T.S.



DOWNSPOUT NOTE:
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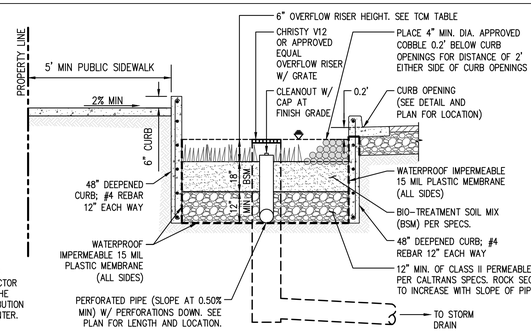
NOTES:
1. PLACE 3 INCHES OF COMPOSTED, NON-FLOATABLE MULCH IN AREAS BETWEEN STORMWATER PLANTINGS.
2. PROJECT WILL NOT LOCATE TREES DIRECTLY IN LINE WITH OR NEXT TO STORMWATER INLETS (BUBBLE BOX EMITTERS, ETC.) AND WILL OFFSET OR RELOCATE TREES WHERE NECESSARY TO MAXIMIZE RUNOFF DISPERSAL THROUGHOUT BIORETENTION AREAS

TCM-3

2 | BIORETENTION (BELOW GRADE) | N.T.S.



DOWNSPOUT NOTE:
IN THE EVENT ONLY ONE DOWNSPOUT IS LOCATED WITHIN BIORETENTION, CONTRACTOR SHALL INSTALL A FLOW SPREADER AT THE DOWNSPOUT TO ENSURE PROPER DISTRIBUTION OF STORMWATER OVER THE ENTIRE PLANTER.

NOTES:
1. PLACE 3 INCHES OF COMPOSTED, NON-FLOATABLE MULCH IN AREAS BETWEEN STORMWATER PLANTINGS.
2. PROJECT WILL NOT LOCATE TREES DIRECTLY IN LINE WITH OR NEXT TO STORMWATER INLETS (BUBBLE BOX EMITTERS, ETC.) AND WILL OFFSET OR RELOCATE TREES WHERE NECESSARY TO MAXIMIZE RUNOFF DISPERSAL THROUGHOUT BIORETENTION AREAS

TCM-4

3 | BIORETENTION (BELOW GRADE) | N.T.S.

REV.	DATE	DESCRIPTION
1	3/25/24	REVISION PER PLANNING COMMENTS, 12/1/23
2	8/2/24	REVISION PER PLANNING COMMENTS, 4/24/24
3	11/20/24	REVISION PER PLAN CHECK COMMENTS

PRELIMINARY STORMWATER CONTROL PLAN

ANDRIKA PRASAD RESIDENCE
328 TILTON AVENUE
SAN MATEO, CA 94401

GREEN
CIVIL ENGINEERING, INC
INFO@GREEN-CE.COM
1900 S. NORFOLK ST. SUITE #350
SAN MATEO, CA 94403

REGISTERED PROFESSIONAL ENGINEER
CHEN HANG WANG
No. 23568
Exp. 12/31/2024
CIVIL
STATE OF CALIFORNIA

SCALE
VERTICAL: 1"= AS SHOWN
HORIZONTAL: 1"= AS SHOWN

DATE:	3/21/24
DESIGNED:	HCL
DRAWN:	BL
REVIEWED:	HCL
JOB NO.:	20230022

SHEET
C2.0
2 OF 4 SHEETS

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Multi-Family Units	
1-2	City application ID:	PA-2023-071	
1-3	Site Address or APN:	328 Tilton Ave, San Mateo	
1-4	Tract or Parcel Map No:		
1-5	Rainfall Region	6	
1-6	Region Mean Annual Precipitation (MAP)	20.10	Click here for map
1-7	Site Mean Annual Precipitation (MAP)	22	

The calculations presented here are based on the **combination flow and volume sizing method** provided in the Countywide Program's C.3 Technical Guidance, Version 5.0 (2016). The steps presented below are explained in Section 5.1 of the Guidance, applicable portions of which are included in this file, in the sheet named "Guidance from Chapter 5".

1-8 ***MAP adjustment factor is automatically calculated as:*** 1.09

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5-3, below.)
Refer to the map in Appendix C of the C.3 Technical Guidance to identify the Rainfall Region for the site.

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: 1

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft.)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	2,387	1.0	2,387
2-3	Pervious surface	106	0.1	11
	Total DMA Area (square feet) =	2,493		

2-4 ***Total Effective Impervious Area (EIA)*** 2,398 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-3. Unit Basin Storage Volumes in Inches for 80 Percent Capture Using 48-Hour Drawdowns, based on runoff coefficient

Region	Station, and Mean Annual Precipitation (Inches)	Runoff Coefficient of 1.0
1	Boulder Creek, 55.9"	2.04"
2	La Honda, 24.4"	0.86"
3	Half Moon Bay, 25.92"	0.82"
4	Palo Alto, 14.6"	0.64"
5	San Francisco, 21.0"	0.73"
6	San Francisco airport, 20.1"	0.85"
7	San Francisco Oceanside, 19.3"	0.72"

3-1 ***Unit basin storage volume from Table 5-3:*** 0.85

(The coefficient for this method is always 1.0, due to the conversion of any landscaping to effective impervious area.)

3-2 ***Adjusted unit basin storage volume:*** 0.93 **Inches**

(The unit basin storage volume [Item 3-1] is adjusted by applying the MAP adjustment factor [Item 1-8].)

3-3 ***Required Capture Volume (in cubic feet):*** 186 **Cubic feet**

(The adjusted unit basin sizing volume [Item 3-2] is multiplied by the DMA EIA [Item 2-4] and converted to cubic feet)

4.0 Calculate the Duration of the Rain Event

4-1 Rainfall intensity 0.2 **Inches per hour**

4-2 Divide Item 3-2 by Item 4-1 4.65 **Hours of Rain Event Duration**

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1 4% of DMA EIA (Item 2-4) 95.904 **Square feet**

5-2 Area 25% smaller than Item 5-1 (i.e., 3% of DMA EIA) 71.928 **Square feet**

5-3 Volume of treated runoff for area in Item 5-2 139.41 **Cubic feet** (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1 Subtract Item 5-3 from Item 3-3 46.47 **Cubic feet** (Amount of runoff to be stored in ponding area)

6-2 Divide Item 6-1 by Item 5-2 0.65 **Feet** (Depth of stored runoff in surface ponding area)

6-3 Convert Item 6-2 from feet to inches 7.75 **Inches** (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth (recommend 6"), skip to Item 8-1. If not, continue to Step 7-1.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

7.0 Optimize Size of Treatment Measure

7-1 Enter an area larger than Item 5-2 106 **Sq.ft.** (enter larger area if you need less ponding depth.)

7-2 Volume of treated runoff for area in Item 7-1 205.45 **Cubic feet** (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)

7-3 Subtract Item 7-2 from Item 3-3 -19.57 **Cubic feet** (Amount of runoff to be stored in ponding area)

7-4 Divide Item 7-3 by Item 7-1 -0.18 **Feet** (Depth of stored runoff in surface ponding area)

7-5 Convert Item 7-4 from ft. to inches -2.22 **Inches** (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

8.0 Surface Area of Treatment Measure for DMA

8-1 Final surface area of treatment 106 **Square feet** (Either Item 5-2 or final amount in Item 7-1)

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Multi-Family Units	
1-2	City application ID:	PA-2023-071	
1-3	Site Address or APN:	328 Tilton Ave, San Mateo	
1-4	Tract or Parcel Map No:		
1-5	Rainfall Region	6	
1-6	Region Mean Annual Precipitation (MAP)	20.10	Click here for map
1-7	Site Mean Annual Precipitation (MAP)	22	

The calculations presented here are based on the **combination flow and volume sizing method** provided in the Countywide Program's C.3 Technical Guidance, Version 5.0 (2016). The steps presented below are explained in Section 5.1 of the Guidance, applicable portions of which are included in this file, in the sheet named "Guidance from Chapter 5".

1-8 ***MAP adjustment factor is automatically calculated as:*** 1.09

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5-3, below.)
Refer to the map in Appendix C of the C.3 Technical Guidance to identify the Rainfall Region for the site.

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: 2

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft.)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	1,811	1.0	1,811
2-3	Pervious surface	109	0.1	11
	Total DMA Area (square feet) =	1,920		

2-4 ***Total Effective Impervious Area (EIA)*** 1,822 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-3. Unit Basin Storage Volumes in Inches for 80 Percent Capture Using 48-Hour Drawdowns, based on runoff coefficient

Region	Station, and Mean Annual Precipitation (Inches)	Runoff Coefficient of 1.0
1	Boulder Creek, 55.9"	2.04"
2	La Honda, 24.4"	0.86"
3	Half Moon Bay, 25.92"	0.82"
4	Palo Alto, 14.6"	0.64"
5	San Francisco, 21.0"	0.73"
6	San Francisco airport, 20.1"	0.85"
7	San Francisco Oceanside, 19.3"	0.72"

3-1 ***Unit basin storage volume from Table 5-3:*** 0.85

(The coefficient for this method is always 1.0, due to the conversion of any landscaping to effective impervious area.)

3-2 ***Adjusted unit basin storage volume:*** 0.93 **Inches**

(The unit basin storage volume [Item 3-1] is adjusted by applying the MAP adjustment factor [Item 1-8].)

3-3 ***Required Capture Volume (in cubic feet):*** 141 **Cubic feet**

(The adjusted unit basin sizing volume [Item 3-2] is multiplied by the DMA EIA [Item 2-4] and converted to cubic feet)

4.0 Calculate the Duration of the Rain Event

4-1 Rainfall intensity 0.2 **Inches per hour**

4-2 Divide Item 3-2 by Item 4-1 4.65 **Hours of Rain Event Duration**

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1 4% of DMA EIA (Item 2-4) 72.876 **Square feet**

5-2 Area 25% smaller than Item 5-1 (i.e., 3% of DMA EIA) 54.657 **Square feet**

5-3 Volume of treated runoff for area in Item 5-2 105.94 **Cubic feet** (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1 Subtract Item 5-3 from Item 3-3 35.31 **Cubic feet** (Amount of runoff to be stored in ponding area)

6-2 Divide Item 6-1 by Item 5-2 0.65 **Feet** (Depth of stored runoff in surface ponding area)

6-3 Convert Item 6-2 from feet to inches 7.75 **Inches** (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth (recommend 6"), skip to Item 8-1. If not, continue to Step 7-1.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

7.0 Optimize Size of Treatment Measure

7-1 Enter an area larger than Item 5-2 75 **Sq.ft.** (enter larger area if you need less ponding depth.)

7-2 Volume of treated runoff for area in Item 7-1 145.37 **Cubic feet** (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)

7-3 Subtract Item 7-2 from Item 3-3 -4.12 **Cubic feet** (Amount of runoff to be stored in ponding area)

7-4 Divide Item 7-3 by Item 7-1 -0.05 **Feet** (Depth of stored runoff in surface ponding area)

7-5 Convert Item 7-4 from ft. to inches -0.66 **Inches** (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

8.0 Surface Area of Treatment Measure for DMA

8-1 Final surface area of treatment 75 **Square feet** (Either Item 5-2 or final amount in Item 7-1)

Combination Flow and Volume 1 August 2017

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Multi-Family Units	
1-2	City application ID:	PA-2023-071	
1-3	Site Address or APN:	328 Tilton Ave, San Mateo	
1-4	Tract or Parcel Map No:		
1-5	Rainfall Region	6	
1-6	Region Mean Annual Precipitation (MAP)	20.10	Click here for map
1-7	Site Mean Annual Precipitation (MAP)	22	

The calculations presented here are based on the **combination flow and volume sizing method** provided in the Countywide Program's C.3 Technical Guidance, Version 5.0 (2016). The steps presented below are explained in Section 5.1 of the Guidance, applicable portions of which are included in this file, in the sheet named "Guidance from Chapter 5".

1-8 ***MAP adjustment factor is automatically calculated as:*** 1.09

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5-3, below.)
Refer to the map in Appendix C of the C.3 Technical Guidance to identify the Rainfall Region for the site.

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: 3

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft.)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	571	1.0	571
2-3	Pervious surface	616	0.1	62
	Total DMA Area (square feet) =	1,187		

2-4 ***Total Effective Impervious Area (EIA)*** 633 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-3. Unit Basin Storage Volumes in Inches for 80 Percent Capture Using 48-Hour Drawdowns, based on runoff coefficient

Region	Station, and Mean Annual Precipitation (Inches)	Runoff Coefficient of 1.0
1	Boulder Creek, 55.9"	2.04"
2	La Honda, 24.4"	0.86"
3	Half Moon Bay, 25.92"	0.82"
4	Palo Alto, 14.6"	0.64"
5	San Francisco, 21.0"	0.73"
6	San Francisco airport, 20.1"	0.85"
7	San Francisco Oceanside, 19.3"	0.72"

3-1 ***Unit basin storage volume from Table 5-3:*** 0.85

(The coefficient for this method is always 1.0, due to the conversion of any landscaping to effective impervious area.)

3-2 ***Adjusted unit basin storage volume:*** 0.93 **Inches**

(The unit basin storage volume [Item 3-1] is adjusted by applying the MAP adjustment factor [Item 1-8].)

3-3 ***Required Capture Volume (in cubic feet):*** 49 **Cubic feet**

(The adjusted unit basin sizing volume [Item 3-2] is multiplied by the DMA EIA [Item 2-4] and converted to cubic feet)

4.0 Calculate the Duration of the Rain Event

4-1 Rainfall intensity 0.2 **Inches per hour**

4-2 Divide Item 3-2 by Item 4-1 4.65 **Hours of Rain Event Duration**

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1 4% of DMA EIA (Item 2-4) 25.304 **Square feet**

5-2 Area 25% smaller than Item 5-1 (i.e., 3% of DMA EIA) 18.978 **Square feet**

5-3 Volume of treated runoff for area in Item 5-2 36.78 **Cubic feet** (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1 Subtract Item 5-3 from Item 3-3 12.26 **Cubic feet** (Amount of runoff to be stored in ponding area)

6-2 Divide Item 6-1 by Item 5-2 0.65 **Feet** (Depth of stored runoff in surface ponding area)

6-3 Convert Item 6-2 from feet to inches 7.75 **Inches** (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth (recommend 6"), skip to Item 8-1. If not, continue to Step 7-1.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

7.0 Optimize Size of Treatment Measure

7-1 Enter an area larger than Item 5-2 28 **Sq.ft.** (enter larger area if you need less ponding depth.)

7-2 Volume of treated runoff for area in Item 7-1 54.27 **Cubic feet** (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)

7-3 Subtract Item 7-2 from Item 3-3 -5.23 **Cubic feet** (Amount of runoff to be stored in ponding area)

7-4 Divide Item 7-3 by Item 7-1 -0.19 **Feet** (Depth of stored runoff in surface ponding area)

7-5 Convert Item 7-4 from ft. to inches -2.24 **Inches** (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

8.0 Surface Area of Treatment Measure for DMA

8-1 Final surface area of treatment 28 **Square feet** (Either Item 5-2 or final amount in Item 7-1)

Combination Flow and Volume 1 August 2017

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	New Multi-Family Units	
1-2	City application ID:	PA-2023-071	
1-3	Site Address or APN:	328 Tilton Ave, San Mateo	
1-4	Tract or Parcel Map No:		
1-5	Rainfall Region	6	
1-6	Region Mean Annual Precipitation (MAP)	20.10	Click here for map
1-7	Site Mean Annual Precipitation (MAP)	22	

The calculations presented here are based on the **combination flow and volume sizing method** provided in the Countywide Program's C.3 Technical Guidance, Version 5.0 (2016). The steps presented below are explained in Section 5.1 of the Guidance, applicable portions of which are included in this file, in the sheet named "Guidance from Chapter 5".

1-8 ***MAP adjustment factor is automatically calculated as:*** 1.09

(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5-3, below.)
Refer to the map in Appendix C of the C.3 Technical Guidance to identify the Rainfall Region for the site.

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: 4

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft.)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	1,732	1.0	1,732
2-3	Pervious surface	81	0.1	8
	Total DMA Area (square feet) =	1,813		

2-4 ***Total Effective Impervious Area (EIA)*** 1,740 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-3. Unit Basin Storage Volumes in Inches for 80 Percent Capture Using 48-Hour Drawdowns, based on runoff coefficient

Region	Station, and Mean Annual Precipitation (Inches)	Runoff Coefficient of 1.0
1	Boulder Creek, 55.9"	2.04"
2	La Honda, 24.4"	0.86"
3	Half Moon Bay, 25.92"	0.82"
4	Palo Alto, 14.6"	0.64"
5	San Francisco, 21.0"	0.73"
6	San Francisco airport, 20.1"	0.85"
7	San Francisco Oceanside, 19.3"	0.72"

3-1 ***Unit basin storage volume from Table 5-3:*** 0.85

(The coefficient for this method is always 1.0, due to the conversion of any landscaping to effective impervious area.)

3-2 ***Adjusted unit basin storage volume:*** 0.93 **Inches**

(The unit basin storage volume [Item 3-1] is adjusted by applying the MAP adjustment factor [Item 1-8].)

3-3 ***Required Capture Volume (in cubic feet):*** 135 **Cubic feet**

(The adjusted unit basin sizing volume [Item 3-2] is multiplied by the DMA EIA [Item 2-4] and converted to cubic feet)

4.0 Calculate the Duration of the Rain Event

4-1 Rainfall intensity 0.2 **Inches per hour**

4-2 Divide Item 3-2 by Item 4-1 4.65 **Hours of Rain Event Duration**

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1 4% of DMA EIA (Item 2-4) 69.604 **Square feet**

5-2 Area 25% smaller than Item 5-1 (i.e., 3% of DMA EIA) 52.203 **Square feet**

5-3 Volume of treated runoff for area in Item 5-2 101.18 **Cubic feet** (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1 Subtract Item 5-3 from Item 3-3 33.73 **Cubic feet** (Amount of runoff to be stored in ponding area)

6-2 Divide Item 6-1 by Item 5-2 0.65 **Feet** (Depth of stored runoff in surface ponding area)

6-3 Convert Item 6-2 from feet to inches 7.75 **Inches** (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth (recommend 6"), skip to Item 8-1. If not, continue to Step 7-1.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

7.0 Optimize Size of Treatment Measure

7-1 Enter an area larger than Item 5-2 72 **Sq.ft.** (enter larger area if you need less ponding depth.)

7-2 Volume of treated runoff for area in Item 7-1 139.55 **Cubic feet** (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)

7-3 Subtract Item 7-2 from Item 3-3 -4.64 **Cubic feet** (Amount of runoff to be stored in ponding area)

7-4 Divide Item 7-3 by Item 7-1 -0.06 **Feet** (Depth of stored runoff in surface ponding area)

7-5 Convert Item 7-4 from ft. to inches -0.77 **Inches** (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.
(Note: Overflow outlet elevation should be set based on the calculated ponding depth.)

8.0 Surface Area of Treatment Measure for DMA

8-1 Final surface area of treatment 72 **Square feet** (Either Item 5-2 or final amount in Item 7-1)

Combination Flow and Volume 1 August 2017

REV.	DATE	DESCRIPTION
1	3/25/24	REVISION PER PLANNING COMMENTS, 12/1/23
2	8/2/24	REVISION PER PLANNING COMMENTS, 4/24/24
3	11/20/24	REVISION PER PLAN CHECK COMMENTS

PRELIMINARY
STORMWATER CONTROL PLAN
ANDRIKA PRASAD RESIDENCE
328 TILTON AVENUE
SAN MATEO, CA 94401

GREEN
CIVIL ENGINEERING,INC
INFO@GREEN-CE.COM
1900 S. NORFOLK ST. SUITE #350
SAN MATEO, CA 94403

REGISTERED PROFESSIONAL ENGINEER
CHAN HANG LOUIS LO
No. 92988
Exp. 12/31/2024
CIVIL
STATE OF CALIFORNIA

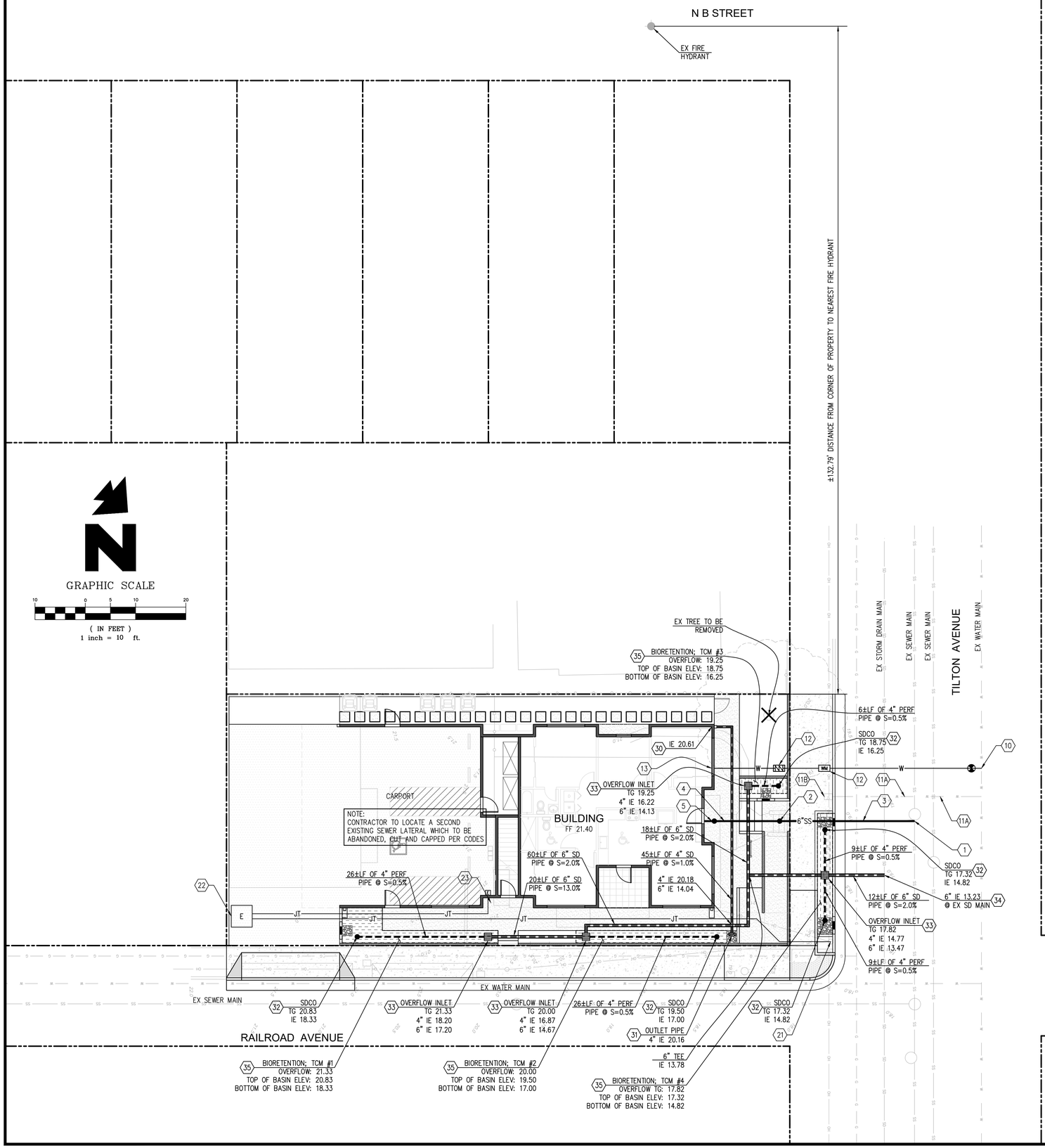
SCALE

VERTICAL: 1"= AS SHOWN

HORIZONTAL: 1"= AS SHOWN

DATE:	3/21/24
DESIGNED:	HCL
DRAWN:	BL
REVIEWED:	HCL
JOB NO.:	20230022

SHEET
C2.1
3 OF 4 SHEETS



GENERAL NOTES:

1. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
2. CONTRACTOR SHALL PROTECT ALL PROPERTY CORNERS.
3. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
4. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
5. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDING FOR ALL NATURAL AND PAVED AREAS.
6. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
7. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN GENERAL N.P.D.E.S. PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
8. UTILITY VAULTS, TRANSFORMERS, UTILITY CABINETS, CONCRETE BASES, OR OTHER STRUCTURES CANNOT BE PLACED OVER WATER MAINS/SERVICES. MAINTAIN 1' HORIZONTAL CLEAR SEPARATION FROM THE VAULTS, CABINETS & CONCRETE BASSES TO EXISTING UTILITIES AS FOUND IN THE FIELD. IF THERE IS CONFLICT WITH EXISTING UTILITIES, CABINETS, VAULTS & BASES SHALL BE RELOCATED FROM THE PLAN LOCATION AS NEEDED TO MEET FIELD CONDITIONS. TREES MAY NOT BE PLANTED WITHIN 10' OF EXISTING WATER MAINS/SERVICES OR METERS. MAINTAIN 10' BETWEEN TREES AND WATER SERVICES, MAINS & METERS.
9. CONTRACTOR SHALL REFER TO ARCH. PLANS FOR EXACT LOCATIONS OF UTILITIES SERVICES TO NEW BUILDING. COORDINATE WITH LOCAL UTILITIES COMPANIES FOR SERVICE CONNECTIONS.
10. PROVIDE MINIMUM 2% SLOPE AT IMPERVIOUS AREA ADJACENT TO BUILDING & MINIMUM 5% SLOPE AT PERVIOUS AREA ADJACENT TO BUILDING.
11. GROUND COVER IS PROVIDED IN AREAS WHERE THERE IS EXPOSED SOIL.
12. UTILITIES SHOWN ON THIS PLAN ARE NOT REVIEWED NOR APPROVED BY PUBLIC WORKS.

LEGEND

PROPERTY LINE	REGULAR DUTY ASPHALT PAVEMENT
EXISTING EASEMENT	PATIO/PORCH PER ARCH. PLANS
STORM DRAIN PIPE	CONCRETE HARDSCAPE PER ARCH. PLANS
6"SS — 4" SANITARY SEWER PIPE	PUBLIC CONCRETE SIDEWALK
W — DOMESTIC WATER LINE	TRUNCATED DOMES
G — GAS LINE	ENERGY DISSIPATOR
JT — JOINT TRENCH	BIORETENTION
SD — EX STORM DRAIN MAIN	WATER METER
SS — EX SANITARY SEWER MAIN	DOWNSPOUT WITH SPLASH BLOCK
W — EX WATER MAIN	CLEANOUT
4" PERFORATED PIPE	WATER VALVE
18" WIDE CURB OPENING	BACKFLOW PREVENTOR
STORM DRAIN INLET	
E — ELECTRICAL VAULT	
EX TREE TO BE REMOVED	

ABBREVIATIONS:

BC	= BOTTOM OF CURB	FG	= FINISHED GRADE	S	= SLOPE
BOW	= BACK OF SIDEWALK	FL	= FLOWLINE	SD	= STORM DRAIN
BW	= BOTTOM OF WALL	G	= GARAGE	TC	= TOP OF CURB
C	= CONCRETE	GB	= GRADE BREAK	TG	= TOP OF GRATE
EG	= EXISTING GRADE/GROUND	IE	= INVERT ELEVATION	TP	= TOP OF PAVEMENT
EX	= EXISTING	LF	= LINEAL FEET	TW	= TOP OF WALL
FF	= FINISHED FLOOR	P	= PORCH/PATIO	TYP	= TYPICAL

APPLICANT SHALL CONTACT CALWATER AND SHALL PROVIDE, DURING BUILDING REVIEW, PROOF OF APPROVAL FROM CALWATER FOR NEW BACKFLOW DEVICES.

UTILITY NOTES

1. CONNECT NEW 6" SEWER LATERAL TO EXISTING SANITATY SEWER MAIN. MATCH EXISTING INVERT ELEVATION
2. INSTALL SANITARY SEWER CLEANOUT WITHIN 5' OF PROPERTY LINE.
3. REMOVE EXISTING SEWER LATERAL AND REPLACE WITH NEW 6" SANITARY SEWER LATERAL TO NEW BUILDING @ 2% SLOPE MINIMUM
4. SANITARY SEWER CLEANOUT AT 2' OUTSIDE OF BUILDING
5. SANITARY SEWER SERVICE ENTRY TO BUILDING. SEE ARCH PLANS FOR EXACT LOCATION AND LINE CONTINUATION TO BUILDING
10. CONNECT NEW WATER SERVICE LINE TO EXISTING WATER MAIN
11A. EXISTING WATER SERVICE LINE TO BE ABANDONED OR REMOVAL PER SAN MATEO WATER COMPANY STANDARD
11B. EXISTING WATER METER TO BE REMOVED BY SAN MATEO WATER COMPANY
12. INSTALL NEW WATER METER BY SAN MATEO WATER COMPANY
13. DOMESTIC WATER LINE POINT OF ENTRY. SEE PLUMBING PLANS FOR WATER LINE SIZE AND LINE CONTINUATION
14. BACKFLOW PREVENTOR; APPLICANT SHALL CONTACT CALWATER AND SHALL PROVIDE, DURING BUILDING REVIEW, PROOF OF APPROVAL FROM CALWATER FOR NEW BACKFLOW DEVICES.
21. EXISTING POWER POLE. ELECTRICAL, TELECOMMUNICATION & CABLE TV SERVICE CONNECTIONS. COORDINATE WITH LOCAL UTILITY COMPANIES PRIOR TO BEGINNING OF WORK. SEE JOINT TRENCH COMPOSITE PLANS BY OTHERS
22. NEW ELECTRICAL TRANSFORMER. SEE JOINT TRENCH COMPOSITE PLANS BY OTHERS
23. JOINT TRENCH (ELECTRICAL, TELECOMMUNICATION AND CABLE TV) SERVICES POINT OF ENTRY. SEE JOINT TRENCH COMPOSITE PLANS BY OTHERS
30. RAINLEADER AT DOWNSPOUT
31. PIPE OUTFALL WITH "T" END SECTION WITH NDS ATRIUM GRATES TO BIORETENTION;
32. STORM DRAIN CLEANOUT
33. 18"X18" DROP INLET
34. CONNECT TO EXISTING STORM DRAIN MAIN. MATCH EXISTING INVERT ELEVATION
35. BIORETENTION BASIN WITH LINER

REV.	DATE	DESCRIPTION
1	3/25/24	REVISION PER PLANNING COMMENTS, 12/1/23
2	8/2/24	REVISION PER PLANNING COMMENTS, 4/24/24
3	11/20/24	REVISION PER PLAN CHECK COMMENTS

PRELIMINARY
STORM DRAIN & UTILITY PLAN
ANDRIKA PRASAD RESIDENCE
328 TILTON AVENUE
SAN MATEO, CA 94401

GREEN
CIVIL ENGINEERING,INC
INFO@GREEN-CE.COM
1900 S. NORFOLK ST. SUITE #350
SAN MATEO, CA 94403

REGISTERED PROFESSIONAL ENGINEER
CHIN HANG WONG
No. 73668
Exp. 12/31/2024
CIVIL
STATE OF CALIFORNIA

SCALE
VERTICAL: 1"= AS SHOWN
HORIZONTAL: 1"= AS SHOWN

DATE:	3/21/24
DESIGNED:	HCL
DRAWN:	BL
REVIEWED:	HCL
JOB NO.:	20230022

SHEET
C3
4 OF 4 SHEETS